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2019

INSTITUTO DE ASTRONOMÍA

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MAPA DE ESTRELLAS PARA EL AÑO 2019

Prefacio, 2019

En el Anuario del Observatorio Astronómico Nacional se publican efemérides astronómicas del Sol, la Luna, planetas y estrellas, sucesos astronómicos como eclipses, ocultaciones y conjunciones; datos astronómicos generales, así como parámetros geométricos y físicos de los planetas y sus satélites.

Para el cálculo de las efemérides y los instantes en que ocurren los sucesos astronómicos, se toma el meridiano efemérico 90° al oeste del meridiano efemérico de Greenwich, y la diferencia entre el tiempo de las efemérides y el Universal se estima en $\Delta T = 69.0$ s. Los instantes para los fenómenos astronómicos y las horas del paso por el meridiano 90° W.G., deberán corregirse por el horario de verano que corresponda al lugar geográfico y la época del año. De acuerdo al Decreto Presidencial sobre Husos Horarios (Ver Hora legal en la República mexicana).

Todos los cálculos de las efemérides astronómicas son referidos al Ecuador y Eclíptica de la época J2000.0, de acuerdo a las resoluciones tomadas por la Unión Astronómica Internacional (UAI) en 1976. Nuestros cálculos se fundamentan en los parámetros astronómicos y elementos orbitales medios, utilizados para otros anuarios astronómicos, como: *Astronomical Almanac*, *EUA*, *National Almanac of Royal Greenwich Observatory*, *Inglaterra*, *Jet Propulsion Laboratory*, *EUA* y *Service des Calculs Bureau des Longitudes*, Francia.

En esta edición, los cálculos son referidos a los fundamentos recomendados por la Unión Astronómica Internacional (2000) para la precesión y nutación, los sistemas de referencia celeste intermedio y el ángulo de rotación de la Tierra CIP, CIO, ICRS, CIRS. La relación entre los orígenes se da a partir de la longitud cero del origen intermedio terrestre y el origen de equinoccio verdadero y del origen del intermedio celeste (CIO), los cuales difieren por el ángulo de rotación de la Tierra (ERA). El ecuador verdadero y el intermedio son coplanares, cuyo polo es el intermedio celeste (CIP)

De acuerdo a las recomendaciones del grupo Working Group on Nomenclature for Fundamental Astronomy de la IAU, las efemérides para los planetas, el Sol y la Luna, se obtuvieron en función de la efemérides JPL Planetary and Lunar Ephemeris DE431/LE431. Para las estrellas se tomaron de los parámetros astronómicos del catálogo The Hipparcos and Tycho Catalog, ESA Hipparcos Space Astrometry Mission, a partir del cual se determinaron las posiciones medias de estrellas y posiciones aparentes de estrellas brillantes.

Para el cálculo de las declinaciones magnéticas se utilizó la décima generación del modelo del campo magnético terrestre adoptado por la “International Association of Geomagnetic and Aeronomy”. Los cálculos corresponden a las determinaciones, teóricas y observadas, para la República Mexicana del Departamento de Geomagnetismo y Exploración del Instituto de Geofísica de la Universidad Nacional Autónoma de México.

Se incluye un mapa de estrellas referidas al año 2019. En el apartado de nomenclatura de estrellas se incluyen los nombres comunes de estrellas además de los números de los catálogos Hipparco (NH) y los números asignados en el Bright Star Catalog de la Universidad de Yale (NBSC). En la tabla de posiciones medias se presentan las coordenadas ascensión recta en unidades (h, m, s), y declinación ($^{\circ}$, $'$, $''$), y en decimales de grado ($^{\circ}$). Debemos señalar que en el futuro próximo las tablas de efemérides se darán en decimales de grado.

Todos los cálculos se efectuaron en los sistemas de cómputo del departamento de Astrofísica Computacional del Instituto de Astronomía, de la Universidad Nacional Autónoma de México.

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Día Juliano, 2019

A las 0^h del meridiano 90° W.G.

d	ds	dj	d	ds	dj	d	ds	dj	d	ds	dj
Enero			21	jue	2458535.75	13	sab	2458586.75	3	lun	2458637.75
1	mar	2458484.75	22	vie	2458536.75	14	dom	2458587.75	4	mar	2458638.75
2	mie	2458485.75	23	sab	2458537.75	15	lun	2458588.75	5	mie	2458639.75
3	jue	2458486.75	24	dom	2458538.75	16	mar	2458589.75	6	jue	2458640.75
4	vie	2458487.75	25	lun	2458539.75	17	mie	2458590.75	7	vie	2458641.75
5	sab	2458488.75	26	mar	2458540.75	18	jue	2458591.75	8	sab	2458642.75
6	dom	2458489.75	27	mie	2458541.75	19	vie	2458592.75	9	dom	2458643.75
7	lun	2458490.75	28	jue	2458542.75	20	sab	2458593.75	10	lun	2458644.75
8	mar	2458491.75	Marzo			21	dom	2458594.75	11	mar	2458645.75
9	mie	2458492.75	1	vie	2458543.75	22	lun	2458595.75	12	mie	2458646.75
10	jue	2458493.75	2	sab	2458544.75	23	mar	2458596.75	13	jue	2458647.75
11	vie	2458494.75	3	dom	2458545.75	24	mie	2458597.75	14	vie	2458648.75
12	sab	2458495.75	4	lun	2458546.75	25	jue	2458598.75	15	sab	2458649.75
13	dom	2458496.75	5	mar	2458547.75	26	vie	2458599.75	16	dom	2458650.75
14	lun	2458497.75	6	mie	2458548.75	27	sab	2458600.75	17	lun	2458651.75
15	mar	2458498.75	7	jue	2458549.75	28	dom	2458601.75	18	mar	2458652.75
16	mie	2458499.75	8	vie	2458550.75	29	lun	2458602.75	19	mie	2458653.75
17	jue	2458500.75	9	sab	2458551.75	30	mar	2458603.75	20	jue	2458654.75
18	vie	2458501.75	10	dom	2458552.75	Mayo			21	vie	2458655.75
19	sab	2458502.75	11	lun	2458553.75	1	mie	2458604.75	22	sab	2458656.75
20	dom	2458503.75	12	mar	2458554.75	2	jue	2458605.75	23	dom	2458657.75
21	lun	2458504.75	13	mie	2458555.75	3	vie	2458606.75	24	lun	2458658.75
22	mar	2458505.75	14	jue	2458556.75	4	sab	2458607.75	25	mar	2458659.75
23	mie	2458506.75	15	vie	2458557.75	5	dom	2458608.75	26	mie	2458660.75
24	jue	2458507.75	16	sab	2458558.75	6	lun	2458609.75	27	jue	2458661.75
25	vie	2458508.75	17	dom	2458559.75	7	mar	2458610.75	28	vie	2458662.75
26	sab	2458509.75	18	lun	2458560.75	8	mie	2458611.75	29	sab	2458663.75
27	dom	2458510.75	19	mar	2458561.75	9	jue	2458612.75	30	dom	2458664.75
28	lun	2458511.75	20	mie	2458562.75	10	vie	2458613.75	Julio		
29	mar	2458512.75	21	jue	2458563.75	11	sab	2458614.75	1	lun	2458665.75
30	mie	2458513.75	22	vie	2458564.75	12	dom	2458615.75	2	mar	2458666.75
31	jue	2458514.75	23	sab	2458565.75	13	lun	2458616.75	3	mie	2458667.75
Febrero			24	dom	2458566.75	14	mar	2458617.75	4	jue	2458668.75
1	vie	2458515.75	25	lun	2458567.75	15	mie	2458618.75	5	vie	2458669.75
2	sab	2458516.75	26	mar	2458568.75	16	jue	2458619.75	6	sab	2458670.75
3	dom	2458517.75	27	mie	2458569.75	17	vie	2458620.75	7	dom	2458671.75
4	lun	2458518.75	28	jue	2458570.75	18	sab	2458621.75	8	lun	2458672.75
5	mar	2458519.75	29	vie	2458571.75	19	dom	2458622.75	9	mar	2458673.75
6	mie	2458520.75	30	sab	2458572.75	20	lun	2458623.75	10	mie	2458674.75
7	jue	2458521.75	31	dom	2458573.75	21	mar	2458624.75	11	jue	2458675.75
8	vie	2458522.75	Abril			22	mie	2458625.75	12	vie	2458676.75
9	sab	2458523.75	1	lun	2458574.75	23	jue	2458626.75	13	sab	2458677.75
10	dom	2458524.75	2	mar	2458575.75	24	vie	2458627.75	14	dom	2458678.75
11	lun	2458525.75	3	mie	2458576.75	25	sab	2458628.75	15	lun	2458679.75
12	mar	2458526.75	4	jue	2458577.75	26	dom	2458629.75	16	mar	2458680.75
13	mie	2458527.75	5	vie	2458578.75	27	lun	2458630.75	17	mie	2458681.75
14	jue	2458528.75	6	sab	2458579.75	28	mar	2458631.75	18	jue	2458682.75
15	vie	2458529.75	7	dom	2458580.75	29	mie	2458632.75	19	vie	2458683.75
16	sab	2458530.75	8	lun	2458581.75	30	jue	2458633.75	20	sab	2458684.75
17	dom	2458531.75	9	mar	2458582.75	31	vie	2458634.75	21	dom	2458685.75
18	lun	2458532.75	10	mie	2458583.75	Junio			22	lun	2458686.75
19	mar	2458533.75	11	jue	2458584.75	1	sab	2458635.75	23	mar	2458687.75
20	mie	2458534.75	12	vie	2458585.75	2	dom	2458636.75	24	mie	2458688.75

d	ds	dj	d	ds	dj	d	ds	dj	d	ds	dj
25	jue	2458689.75	3	mar	2458729.75	14	lun	2458770.75	24	dom	2458811.75
26	vie	2458690.75	4	mie	2458730.75	15	mar	2458771.75	25	lun	2458812.75
27	sab	2458691.75	5	jue	2458731.75	16	mie	2458772.75	26	mar	2458813.75
28	dom	2458692.75	6	vie	2458732.75	17	jue	2458773.75	27	mie	2458814.75
29	lun	2458693.75	7	sab	2458733.75	18	vie	2458774.75	28	jue	2458815.75
30	mar	2458694.75	8	dom	2458734.75	19	sab	2458775.75	29	vie	2458816.75
31	mie	2458695.75	9	lun	2458735.75	20	dom	2458776.75	30	sab	2458817.75
Agosto			10	mar	2458736.75	21	lun	2458777.75	Diciembre		
1	jue	2458696.75	11	mie	2458737.75	22	mar	2458778.75	1	dom	2458818.75
2	vie	2458697.75	12	jue	2458738.75	23	mie	2458779.75	2	lun	2458819.75
3	sab	2458698.75	13	vie	2458739.75	24	jue	2458780.75	3	mar	2458820.75
4	dom	2458699.75	14	sab	2458740.75	25	vie	2458781.75	4	mie	2458821.75
5	lun	2458700.75	15	dom	2458741.75	26	sab	2458782.75	5	jue	2458822.75
6	mar	2458701.75	16	lun	2458742.75	27	dom	2458783.75	6	vie	2458823.75
7	mie	2458702.75	17	mar	2458743.75	28	lun	2458784.75	7	sab	2458824.75
8	jue	2458703.75	18	mie	2458744.75	29	mar	2458785.75	8	dom	2458825.75
9	vie	2458704.75	19	jue	2458745.75	30	mie	2458786.75	9	lun	2458826.75
10	sab	2458705.75	20	vie	2458746.75	31	jue	2458787.75	10	mar	2458827.75
11	dom	2458706.75	21	sab	2458747.75	Noviembre			11	mie	2458828.75
12	lun	2458707.75	22	dom	2458748.75	1	vie	2458788.75	12	jue	2458829.75
13	mar	2458708.75	23	lun	2458749.75	2	sab	2458789.75	13	vie	2458830.75
14	mie	2458709.75	24	mar	2458750.75	3	dom	2458790.75	14	sab	2458831.75
15	jue	2458710.75	25	mie	2458751.75	4	lun	2458791.75	15	dom	2458832.75
16	vie	2458711.75	26	jue	2458752.75	5	mar	2458792.75	16	lun	2458833.75
17	sab	2458712.75	27	vie	2458753.75	6	mie	2458793.75	17	mar	2458834.75
18	dom	2458713.75	28	sab	2458754.75	7	jue	2458794.75	18	mie	2458835.75
19	lun	2458714.75	29	dom	2458755.75	8	vie	2458795.75	19	jue	2458836.75
20	mar	2458715.75	30	lun	2458756.75	9	sab	2458796.75	20	vie	2458837.75
21	mie	2458716.75	Octubre			10	dom	2458797.75	21	sab	2458838.75
22	jue	2458717.75	1	mar	2458757.75	11	lun	2458798.75	22	dom	2458839.75
23	vie	2458718.75	2	mie	2458758.75	12	mar	2458799.75	23	lun	2458840.75
24	sab	2458719.75	3	jue	2458759.75	13	mie	2458800.75	24	mar	2458841.75
25	dom	2458720.75	4	vie	2458760.75	14	jue	2458801.75	25	mie	2458842.75
26	lun	2458721.75	5	sab	2458761.75	15	vie	2458802.75	26	jue	2458843.75
27	mar	2458722.75	6	dom	2458762.75	16	sab	2458803.75	27	vie	2458844.75
28	mie	2458723.75	7	lun	2458763.75	17	dom	2458804.75	28	sab	2458845.75
29	jue	2458724.75	8	mar	2458764.75	18	lun	2458805.75	29	dom	2458846.75
30	vie	2458725.75	9	mie	2458765.75	19	mar	2458806.75	30	lun	2458847.75
31	sab	2458726.75	10	jue	2458766.75	20	mie	2458807.75	31	mar	2458848.75
Septiembre			11	vie	2458767.75	21	jue	2458808.75			
1	dom	2458727.75	12	sab	2458768.75	22	vie	2458809.75			
2	lun	2458728.75	13	dom	2458769.75	23	sab	2458810.75			

Eras y ciclos cronológicos: 2019

Calendario Gregoriano

Cómputo

Letra Dominical	F
Epacta.	24
Ciclo lunar (Número de Oro).VI
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Eras

El año 2019, es el noveno del siglo XXI de la Era Cristiana.

El 14 de enero del año 2019, corresponde al 1 de enero del año 6732 del Periodo Juliano.

El 1 de enero del año 2019 del Calendario Juliano, corresponde al 14 de enero.

El año 2019 corresponde al 2794 de las olimpiadas.

Año	Era	Inicia
2772	Romana	enero 14
2679	Japonesa	enero 1
5780	Judía	septiembre 29
2331	Griega	septiembre 14
1441	Hégira	agosto 31
7528	Bizantina	septiembre 14
	China	febrero 5

Fiestas y aniversarios para el año 2019

Año Nuevo	martes	1 de enero
Epifanía	domingo	6 de enero
Proclamación de la Constitución de 1917	martes	5 de febrero
Septuagésima	domingo	17 de febrero
Día de la Bandera	domingo	24 de febrero
Quinquagésima	domingo	3 de marzo
Carnaval	martes	5 de marzo
Miércoles de ceniza	miércoles	6 de marzo
Aniversario del Natalicio de Benito Juárez	jueves	21 de marzo
Domingo de Ramos	domingo	14 de abril
Viernes Santo	viernes	19 de abril
Pascua	domingo	21 de abril
Día del Trabajo	miércoles	1 de mayo
Aniversario de la Batalla de Puebla	domingo	5 de mayo
Primer día del Ramadán	lunes	6 de mayo
Ascensión	jueves	30 de mayo
Pentecostés	domingo	9 de junio
Trinidad	domingo	16 de junio
Corpus Cristi	jueves	20 de junio
Domingo de Corpus	domingo	23 de junio
San Pedro y San Pablo	sábado	29 de junio
Aniversario de la Muerte de Benito Juárez	jueves	18 de julio
Aniversario de la Muerte de Miguel Hidalgo	martes	30 de julio
Año Nuevo Islámico	domingo	1 de septiembre
Aniversario de la Independencia de México	lunes	16 de septiembre
Año Nuevo Judío	lunes	30 de septiembre
Yom Kipur	miércoles	9 de octubre
Día de la Raza	sábado	12 de octubre
Conmemoración de los Difuntos	sábado	2 de noviembre
Aniversario de la Revolución Mexicana	miércoles	20 de noviembre
Adviento	domingo	1 de diciembre
Navidad	miércoles	25 de diciembre

Estaciones del año, 2019

Hora del meridiano 90° W.G.

mes	día	h	m	longitud eclíptica (°)	Constelación
<u>Invierno</u>					
enero	18	1	44	300	Capricornio
febrero	16	13	12	330	Acuario
<u>Primavera</u>					
marzo	20	15	58	0	Piscis
abril	22	8	33	30	Aries
mayo	23	6	7	60	Tauro
<u>Verano</u>					
junio	21	9	54	90	Geminis
julio	20	16	18	120	Cáncer
agosto	20	21	41	150	Leo
<u>Otoño</u>					
septiembre	23	1	50	180	Virgo
octubre	25	15	51	210	Libra
noviembre	24	10	34	240	Escorpión
<u>Invierno</u>					
diciembre	21	22	19	270	Sagitario

Hora sideral, 2019

A las 0^h del meridiano 90° W.G.

d	dj	h	m	s	d	dj	h	m	s	d	dj	h	m	s
Enero					18	2458532.75	9	51	39.4	7	2458580.75	13	0	53.9
1	2458484.75	6	42	24.7	19	2458533.75	9	55	36.0	8	2458581.75	13	4	50.5
2	2458485.75	6	46	21.3	20	2458534.75	9	59	32.6	9	2458582.75	13	8	47.0
3	2458486.75	6	50	17.9	21	2458535.75	10	3	29.1	10	2458583.75	13	12	43.6
4	2458487.75	6	54	14.4	22	2458536.75	10	7	25.6	11	2458584.75	13	16	40.2
5	2458488.75	6	58	11.0	23	2458537.75	10	11	22.2	12	2458585.75	13	20	36.7
6	2458489.75	7	2	7.5	24	2458538.75	10	15	18.7	13	2458586.75	13	24	33.3
7	2458490.75	7	6	4.1	25	2458539.75	10	19	15.3	14	2458587.75	13	28	29.8
8	2458491.75	7	10	0.7	26	2458540.75	10	23	11.9	15	2458588.75	13	32	26.4
9	2458492.75	7	13	57.2	27	2458541.75	10	27	8.4	16	2458589.75	13	36	22.9
10	2458493.75	7	17	53.8	28	2458542.75	10	31	5.0	17	2458590.75	13	40	19.5
11	2458494.75	7	21	50.3	Marzo					18	2458591.75	13	44	16.0
12	2458495.75	7	25	46.9	1	2458543.75	10	35	1.5	19	2458592.75	13	48	12.6
13	2458496.75	7	29	43.4	2	2458544.75	10	38	58.1	20	2458593.75	13	52	9.1
14	2458497.75	7	33	40.0	3	2458545.75	10	42	54.6	21	2458594.75	13	56	5.7
15	2458498.75	7	37	36.5	4	2458546.75	10	46	51.2	22	2458595.75	14	0	2.3
16	2458499.75	7	41	33.1	5	2458547.75	10	50	47.7	23	2458596.75	14	3	58.8
17	2458500.75	7	45	29.6	6	2458548.75	10	54	44.3	24	2458597.75	14	7	55.4
18	2458501.75	7	49	26.2	7	2458549.75	10	58	40.8	25	2458598.75	14	11	51.9
19	2458502.75	7	53	22.8	8	458550.75	11	2	37.4	26	2458599.75	14	15	48.5
20	2458503.75	7	57	19.3	9	2458551.75	11	6	33.9	27	2458600.75	14	19	45.0
21	2458504.75	8	1	15.9	10	2458552.75	11	10	30.5	28	2458601.75	14	23	41.6
22	2458505.75	8	5	12.5	11	2458553.75	11	14	27.0	29	2458602.75	14	27	38.1
23	2458506.75	8	9	9.0	12	2458554.75	11	18	23.6	30	2458603.75	14	31	34.7
24	2458507.75	8	13	5.6	13	2458555.75	11	22	20.1	Mayo				
25	2458508.75	8	17	2.1	14	2458556.75	11	26	16.7	1	2458604.75	14	35	31.2
26	2458509.75	8	20	58.7	15	2458557.75	11	30	13.3	2	2458605.75	14	39	27.8
27	2458510.75	8	24	55.2	16	2458558.75	11	34	9.8	3	2458606.75	14	43	24.3
28	2458511.75	8	28	51.8	17	2458559.75	11	38	6.4	4	2458607.75	14	47	20.9
29	2458512.75	8	32	48.3	18	2458560.75	11	42	2.9	5	2458608.75	14	51	17.4
30	2458513.75	8	36	44.9	19	2458561.75	11	45	59.5	6	2458609.75	14	55	14.0
31	2458514.75	8	40	41.4	20	2458562.75	11	49	56.0	7	2458610.75	14	59	10.6
febrero					21	2458563.75	11	53	52.6	8	2458611.75	15	3	7.1
1	2458515.75	8	44	38.0	22	2458564.75	11	57	49.1	9	2458612.75	15	7	3.7
2	2458516.75	8	48	34.6	23	2458565.75	12	1	45.7	10	2458613.75	15	11	0.2
3	2458517.75	8	52	31.1	24	2458566.75	12	5	42.2	11	2458614.75	15	14	56.8
4	2458518.75	8	56	27.7	25	2458567.75	12	9	38.8	12	2458615.75	15	18	53.4
5	2458519.75	9	0	24.2	26	2458568.75	12	13	35.3	13	2458616.75	15	22	49.9
6	2458520.75	9	4	20.8	27	2458569.75	12	17	31.9	14	2458617.75	15	26	46.5
7	2458521.75	9	8	17.3	28	2458570.75	12	21	28.4	15	2458618.75	15	30	43.0
8	2458522.75	9	12	13.9	29	2458571.75	12	25	25.0	16	2458619.75	15	34	39.6
9	2458523.75	9	16	10.4	30	2458572.75	12	29	21.6	17	2458620.75	15	38	36.1
10	2458524.75	9	20	7.0	31	2458573.75	12	33	18.1	18	2458621.75	15	42	32.7
11	2458525.75	9	24	3.5	Abril					19	2458622.75	15	46	29.2
12	2458526.75	9	28	0.1	1	2458574.75	12	37	14.7	20	2458623.75	15	50	25.8
13	2458527.75	9	31	56.6	2	2458575.75	12	41	11.2	21	2458624.75	15	54	22.3
14	2458528.75	9	35	53.2	3	2458576.75	12	45	7.7	22	2458625.75	15	58	18.9
15	2458529.75	9	39	49.8	4	2458577.75	12	49	4.3	23	2458626.75	16	2	15.5
16	2458530.75	9	43	46.3	5	2458578.75	12	53	0.8	24	2458627.75	16	6	12.0
17	2458531.75	9	47	42.9	6	2458579.75	12	56	57.4	25	2458628.75	16	10	8.6

Hora sidereal, 2019

A las 0^h del meridiano 90° W.G.

d	dj	h	m	s	d	dj	h	m	s	d	dj	h	m	s
26	2458629.75	16	14	5.1	13	2458677.75	19	23	19.9	31	2458726.75	22	36	31.1
27	2458630.75	16	18	1.7	14	2458678.75	19	27	16.4	Septiembre				
28	2458631.75	16	21	58.2	15	2458679.75	19	31	13.0	1	2458727.75	22	40	27.6
29	2458632.75	16	25	54.8	16	2458680.75	19	35	9.6	2	2458728.75	22	44	24.2
30	2458633.75	16	29	51.4	17	2458681.75	19	39	6.1	3	2458729.75	22	48	20.7
31	2458634.75	16	33	47.9	18	2458682.75	19	43	2.7	4	2458730.75	22	52	17.3
Junio					19	2458683.75	19	46	59.2	5	2458731.75	22	56	13.8
1	2458635.75	16	37	44.5	20	2458684.75	19	50	55.8	6	2458732.75	23	0	10.4
2	2458636.75	16	41	41.0	21	2458685.75	19	54	52.3	7	2458733.75	23	4	7.0
3	2458637.75	16	45	37.6	22	2458686.75	19	58	48.9	8	2458734.75	23	8	3.5
4	2458638.75	16	49	34.1	23	2458687.75	20	2	45.4	9	2458735.75	23	12	0.1
5	2458639.75	16	53	30.7	24	2458688.75	20	6	42.0	10	2458736.75	23	15	56.6
6	2458640.75	16	57	27.3	25	2458689.75	20	10	38.5	11	2458737.75	23	19	53.2
7	2458641.75	17	1	23.8	26	2458690.75	20	14	35.1	12	2458738.75	23	23	49.7
8	2458642.75	17	5	20.4	27	2458691.75	20	18	31.7	13	2458739.75	23	27	46.3
9	2458643.75	17	9	16.9	28	2458692.75	20	22	28.2	14	2458740.75	23	31	42.8
10	2458644.75	17	13	13.5	29	2458693.75	20	26	24.8	15	2458741.75	23	35	39.4
11	2458645.75	17	17	10.1	30	2458694.75	20	30	21.3	16	2458742.75	23	39	35.9
12	2458646.75	17	21	6.6	31	2458695.75	20	34	17.9	17	2458743.75	23	43	32.5
13	2458647.75	17	25	3.2	Agosto					18	2458744.75	23	47	29.0
14	2458648.75	17	28	59.7	1	2458696.75	20	38	14.5	19	2458745.75	23	51	25.6
15	2458649.75	17	32	56.3	2	2458697.75	20	42	11.0	20	2458746.75	23	55	22.1
16	2458650.75	17	36	52.8	3	2458698.75	20	46	7.6	21	2458747.75	23	59	18.7
17	2458651.75	17	40	49.4	4	2458699.75	20	50	4.1	22	2458748.75	0	3	15.2
18	2458652.75	17	44	46.0	5	2458700.75	20	54	0.7	23	2458749.75	0	7	11.8
19	2458653.75	17	48	42.5	6	2458701.75	20	57	57.2	24	2458750.75	0	11	8.4
20	2458654.75	17	52	39.1	7	2458702.75	21	1	53.8	25	2458751.75	0	15	4.9
21	2458655.75	17	56	35.6	8	2458703.75	21	5	50.3	26	2458752.75	0	19	1.5
22	2458656.75	18	0	32.2	9	2458704.75	21	9	46.9	27	2458753.75	0	22	58.0
23	2458657.75	18	4	28.8	10	2458705.75	21	13	43.4	28	2458754.75	0	26	54.6
24	2458658.75	18	8	25.3	11	2458706.75	21	17	40.0	29	2458755.75	0	30	51.1
25	2458659.75	18	12	21.9	12	2458707.75	21	21	36.6	30	2458756.75	0	34	47.7
26	2458660.75	18	16	18.4	13	2458708.75	21	25	33.1	Octubre				
27	2458661.75	18	20	15.0	14	2458709.75	21	29	29.7	1	2458757.75	0	38	44.2
28	2458662.75	18	24	11.5	15	2458710.75	21	33	26.2	2	2458758.75	0	42	40.8
29	2458663.75	18	28	8.1	16	2458711.75	21	37	22.8	3	2458759.75	0	46	37.3
30	2458664.75	18	32	4.6	17	2458712.75	21	41	19.3	4	2458760.75	0	50	33.9
Julio					18	2458713.75	21	45	15.9	5	2458761.75	0	54	30.4
1	2458665.75	18	36	1.2	19	2458714.75	21	49	12.4	6	2458762.75	0	58	27.0
2	2458666.75	18	39	57.8	20	2458715.75	21	53	9.0	7	2458763.75	1	2	23.5
3	2458667.75	18	43	54.3	21	2458716.75	21	57	5.5	8	2458764.75	1	6	20.1
4	2458668.75	18	47	50.9	22	2458717.75	22	1	2.1	9	2458765.75	1	10	16.6
5	2458669.75	18	51	47.4	23	2458718.75	22	4	58.6	10	2458766.75	1	14	13.2
6	2458670.75	18	55	44.0	24	2458719.75	22	8	55.2	11	2458767.75	1	18	9.7
7	2458671.75	18	59	40.6	25	2458720.75	22	12	51.8	12	2458768.75	1	22	6.3
8	2458672.75	19	3	37.1	26	2458721.75	22	16	48.3	13	2458769.75	1	26	2.8
9	2458673.75	19	7	33.7	27	2458722.75	22	20	44.9	14	2458770.75	1	29	59.4
10	2458674.75	19	11	30.2	28	2458723.75	22	24	41.4	15	2458771.75	1	33	55.9
11	2458675.75	19	15	26.8	29	2458724.75	22	28	38.0	16	2458772.75	1	37	52.5
12	2458676.75	19	19	23.3	30	2458725.75	22	32	34.5	17	2458773.75	1	41	49.0

Hora sideral, 2019

A las 0^h del meridiano 90° W.G.

d	dj	h	m	s	d	dj	h	m	s	d	dj	h	m	s
18	2458774.75	1	45	45.6	12	2458799.75	3	24	19.5	7	2458824.75	5	2	53.4
19	2458775.75	1	49	42.2	13	2458800.75	3	28	16.0	8	2458825.75	5	6	49.9
20	2458776.75	1	53	38.7	14	2458801.75	3	32	12.6	9	2458826.75	5	10	46.5
21	2458777.75	1	57	35.3	15	2458802.75	3	36	9.1	10	2458827.75	5	14	43.1
22	2458778.75	2	1	31.8	16	2458803.75	3	40	5.7	11	2458828.75	5	18	39.6
23	2458779.75	2	5	28.4	17	2458804.75	3	44	2.3	12	2458829.75	5	22	36.2
24	2458780.75	2	9	24.9	18	2458805.75	3	47	58.8	13	2458830.75	5	26	32.7
25	2458781.75	2	13	21.5	19	2458806.75	3	51	55.4	14	2458831.75	5	30	29.3
26	2458782.75	2	17	18.0	20	2458807.75	3	55	51.9	15	2458832.75	5	34	25.9
27	2458783.75	2	21	14.6	21	2458808.75	3	59	48.5	16	2458833.75	5	38	22.4
28	2458784.75	2	25	11.1	22	2458809.75	4	3	45.0	17	2458834.75	5	42	19.0
29	2458785.75	2	29	7.7	23	2458810.75	4	7	41.6	18	2458835.75	5	46	15.5
30	2458786.75	2	33	4.3	24	2458811.75	4	11	38.1	19	2458836.75	5	50	12.1
31	2458787.75	2	37	0.8	25	2458812.75	4	15	34.7	20	2458837.75	5	54	8.7
Noviembre					26	2458813.75	4	19	31.3	21	2458838.75	5	58	5.2
1	2458788.75	2	40	57.4	27	2458814.75	4	23	27.8	22	2458839.75	6	2	1.8
2	2458789.75	2	44	53.9	28	2458815.75	4	27	24.4	23	2458840.75	6	5	58.3
3	2458790.75	2	48	50.5	29	2458816.75	4	31	20.9	24	2458841.75	6	9	54.9
4	2458791.75	2	52	47.0	30	2458817.75	4	35	17.5	25	2458842.75	6	13	51.4
5	2458792.75	2	56	43.6	Diciembre					26	2458843.75	6	17	48.0
6	2458793.75	3	0	40.2	1	2458818.75	4	39	14.1	27	2458844.75	6	21	44.6
7	2458794.75	3	4	36.7	2	2458819.75	4	43	10.6	28	2458845.75	6	25	41.1
8	2458795.75	3	8	33.3	3	2458820.75	4	47	7.2	29	2458846.75	6	29	37.7
9	2458796.75	3	12	29.8	4	2458821.75	4	51	3.7	30	2458847.75	6	33	34.3
10	2458797.75	3	16	26.4	5	2458822.75	4	55	0.3	31	2458848.75	6	37	30.8
11	2458798.75	3	20	22.9	6	2458823.75	4	58	56.8					

Sol, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	vh s	δ °	"	vh "	dis UA	h	hp m	s	
ene	1	2458484.50	18	45	43.82	11.0	-23	1	8.65	12.6	0.98331	12	3	28.1
ene	2	2458485.50	18	50	8.69	11.0	-22	56	5.57	13.8	0.98330	12	3	56.4
ene	3	2458486.50	18	54	33.24	11.0	-22	50	35.06	14.9	0.98330	12	4	24.4
ene	4	2458487.50	18	58	57.43	11.0	-22	44	37.28	16.0	0.98330	12	4	52.0
ene	5	2458488.50	19	3	21.23	11.0	-22	38	12.43	17.2	0.98331	12	5	19.2
ene	6	2458489.50	19	7	44.60	11.0	-22	31	20.68	18.3	0.98332	12	5	46.1
ene	7	2458490.50	19	12	7.52	10.9	-22	24	2.23	19.4	0.98333	12	6	12.4
ene	8	2458491.50	19	16	29.95	10.9	-22	16	17.30	20.5	0.98335	12	6	38.3
ene	9	2458492.50	19	20	51.85	10.9	-22	8	6.12	21.6	0.98337	12	7	3.6
ene	10	2458493.50	19	25	13.21	10.9	-21	59	28.91	22.6	0.98340	12	7	28.4
ene	11	2458494.50	19	29	34.00	10.8	-21	50	25.93	23.7	0.98343	12	7	52.7
ene	12	2458495.50	19	33	54.18	10.8	-21	40	57.43	24.7	0.98346	12	8	16.3
ene	13	2458496.50	19	38	13.74	10.8	-21	31	3.70	25.8	0.98350	12	8	39.3
ene	14	2458497.50	19	42	32.66	10.8	-21	20	45.01	26.8	0.98354	12	9	1.7
ene	15	2458498.50	19	46	50.91	10.7	-21	10	1.67	27.8	0.98359	12	9	23.4
ene	16	2458499.50	19	51	8.48	10.7	-20	58	53.97	28.8	0.98365	12	9	44.4
ene	17	2458500.50	19	55	25.35	10.7	-20	47	22.24	29.8	0.98371	12	10	4.7
ene	18	2458501.50	19	59	41.50	10.6	-20	35	26.81	30.8	0.98377	12	10	24.3
ene	19	2458502.50	20	3	56.93	10.6	-20	23	8.02	31.7	0.98384	12	10	43.2
ene	20	2458503.50	20	8	11.62	10.6	-20	10	26.21	32.7	0.98392	12	11	1.3
ene	21	2458504.50	20	12	25.56	10.5	-19	57	21.73	33.6	0.98401	12	11	18.7
ene	22	2458505.50	20	16	38.74	10.5	-19	43	54.92	34.5	0.98410	12	11	35.3
ene	23	2458506.50	20	20	51.15	10.5	-19	30	6.12	35.4	0.98419	12	11	51.1
ene	24	2458507.50	20	25	2.80	10.5	-19	15	55.66	36.3	0.98430	12	12	6.2
ene	25	2458508.50	20	29	13.67	10.4	-19	1	23.90	37.2	0.98441	12	12	20.6
ene	26	2458509.50	20	33	23.77	10.4	-18	46	31.19	38.1	0.98452	12	12	34.1
ene	27	2458510.50	20	37	33.09	10.4	-18	31	17.89	38.9	0.98464	12	12	46.9
ene	28	2458511.50	20	41	41.63	10.3	-18	15	44.39	39.7	0.98477	12	12	58.9
ene	29	2458512.50	20	45	49.39	10.3	-17	59	51.07	40.5	0.98489	12	13	10.1
ene	30	2458513.50	20	49	56.35	10.3	-17	43	38.33	41.3	0.98503	12	13	20.5
ene	31	2458514.50	20	54	2.51	10.2	-17	27	6.58	42.1	0.98517	12	13	30.1
feb	1	2458515.50	20	58	7.87	10.2	-17	10	16.21	42.9	0.98531	12	13	38.9
feb	2	2458516.50	21	2	12.43	10.2	-16	53	7.64	43.6	0.98545	12	13	46.9
feb	3	2458517.50	21	6	16.18	10.1	-16	35	41.29	44.3	0.98560	12	13	54.1
feb	4	2458518.50	21	10	19.12	10.1	-16	17	57.56	45.0	0.98575	12	14	0.4
feb	5	2458519.50	21	14	21.24	10.1	-15	59	56.87	45.7	0.98591	12	14	6.0
feb	6	2458520.50	21	18	22.56	10.0	-15	41	39.65	46.4	0.98606	12	14	10.8
feb	7	2458521.50	21	22	23.06	10.0	-15	23	6.32	47.0	0.98622	12	14	14.7
feb	8	2458522.50	21	26	22.75	10.0	-15	4	17.28	47.7	0.98639	12	14	17.9
feb	9	2458523.50	21	30	21.64	9.9	-14	45	12.98	48.3	0.98655	12	14	20.2
feb	10	2458524.50	21	34	19.74	9.9	-14	25	53.82	48.9	0.98672	12	14	21.7
feb	11	2458525.50	21	38	17.03	9.9	-14	6	20.24	49.5	0.98690	12	14	22.5
feb	12	2458526.50	21	42	13.55	9.8	-13	46	32.66	50.0	0.98707	12	14	22.5
feb	13	2458527.50	21	46	9.29	9.8	-13	26	31.52	50.6	0.98725	12	14	21.6
feb	14	2458528.50	21	50	4.26	9.8	-13	6	17.23	51.1	0.98744	12	14	20.1
feb	15	2458529.50	21	53	58.48	9.7	-12	45	50.23	51.6	0.98763	12	14	17.7

Sol, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	vh s	δ °	"	vh "	dis UA	h	hp m	s	
feb	16	2458530.50	21	57	51.96	9.7	-12	25	10.95	52.1	0.98782	12	14	14.6
feb	17	2458531.50	22	1	44.71	9.7	-12	4	19.81	52.6	0.98802	12	14	10.8
feb	18	2458532.50	22	5	36.74	9.6	-11	43	17.23	53.1	0.98822	12	14	6.3
feb	19	2458533.50	22	9	28.07	9.6	-11	22	3.60	53.5	0.98843	12	14	1.1
feb	20	2458534.50	22	13	18.72	9.6	-11	0	39.32	53.9	0.98864	12	13	55.2
feb	21	2458535.50	22	17	8.72	9.6	-10	39	4.76	54.4	0.98886	12	13	48.6
feb	22	2458536.50	22	20	58.07	9.5	-10	17	20.30	54.7	0.98908	12	13	41.4
feb	23	2458537.50	22	24	46.81	9.5	-9	55	26.31	55.1	0.98930	12	13	33.6
feb	24	2458538.50	22	28	34.95	9.5	-9	33	23.18	55.5	0.98954	12	13	25.2
feb	25	2458539.50	22	32	22.51	9.5	-9	11	11.30	55.8	0.98977	12	13	16.2
feb	26	2458540.50	22	36	9.51	9.4	-8	48	51.07	56.2	0.99001	12	13	6.7
feb	27	2458541.50	22	39	55.97	9.4	-8	26	22.88	56.5	0.99025	12	12	56.6
feb	28	2458542.50	22	43	41.90	9.4	-8	3	47.15	56.8	0.99049	12	12	45.9
mar	1	2458543.50	22	47	27.32	9.4	-7	41	4.28	57.1	0.99074	12	12	34.8
mar	2	2458544.50	22	51	12.24	9.4	-7	18	14.67	57.3	0.99099	12	12	23.2
mar	3	2458545.50	22	54	56.67	9.3	-6	55	18.74	57.6	0.99124	12	12	11.0
mar	4	2458546.50	22	58	40.64	9.3	-6	32	16.88	57.8	0.99149	12	11	58.4
mar	5	2458547.50	23	2	24.15	9.3	-6	9	9.49	58.0	0.99174	12	11	45.4
mar	6	2458548.50	23	6	7.23	9.3	-5	45	56.99	58.2	0.99200	12	11	31.9
mar	7	2458549.50	23	9	49.89	9.3	-5	22	39.77	58.4	0.99225	12	11	18.1
mar	8	2458550.50	23	13	32.14	9.2	-4	59	18.23	58.6	0.99251	12	11	3.8
mar	9	2458551.50	23	17	14.01	9.2	-4	35	52.76	58.7	0.99276	12	10	49.1
mar	10	2458552.50	23	20	55.52	9.2	-4	12	23.76	58.8	0.99302	12	10	34.0
mar	11	2458553.50	23	24	36.67	9.2	-3	48	51.63	59.0	0.99328	12	10	18.6
mar	12	2458554.50	23	28	17.49	9.2	-3	25	16.77	59.1	0.99354	12	10	2.9
mar	13	2458555.50	23	31	58.00	9.2	-3	1	39.56	59.1	0.99380	12	9	46.9
mar	14	2458556.50	23	35	38.21	9.2	-2	38	0.40	59.2	0.99407	12	9	30.5
mar	15	2458557.50	23	39	18.15	9.2	-2	14	19.68	59.2	0.99433	12	9	13.9
mar	16	2458558.50	23	42	57.83	9.1	-1	50	37.80	59.3	0.99460	12	8	57.0
mar	17	2458559.50	23	46	37.27	9.1	-1	26	55.13	59.3	0.99487	12	8	39.9
mar	18	2458560.50	23	50	16.50	9.1	-1	3	12.04	59.3	0.99514	12	8	22.6
mar	19	2458561.50	23	53	55.53	9.1	-0	39	28.90	59.3	0.99541	12	8	5.1
mar	20	2458562.50	23	57	34.39****		-0	15	46.06	59.3	0.99569	12	7	47.4
mar	21	2458563.50	0	1	13.11	9.1	+0	7	56.16	59.2	0.99597	12	7	29.5
mar	22	2458564.50	0	4	51.72	9.1	+0	31	37.44	59.2	0.99625	12	7	11.6
mar	23	2458565.50	0	8	30.24	9.1	+0	55	17.45	59.1	0.99653	12	6	53.6
mar	24	2458566.50	0	12	8.69	9.1	+1	18	55.86	59.0	0.99682	12	6	35.5
mar	25	2458567.50	0	15	47.11	9.1	+1	42	32.36	58.9	0.99711	12	6	17.3
mar	26	2458568.50	0	19	25.51	9.1	+2	6	6.58	58.8	0.99740	12	5	59.2
mar	27	2458569.50	0	23	3.92	9.1	+2	29	38.19	58.7	0.99769	12	5	41.0
mar	28	2458570.50	0	26	42.34	9.1	+2	53	6.83	58.6	0.99798	12	5	22.9
mar	29	2458571.50	0	30	20.81	9.1	+3	16	32.15	58.4	0.99827	12	5	4.8
mar	30	2458572.50	0	33	59.34	9.1	+3	39	53.79	58.2	0.99857	12	4	46.8
mar	31	2458573.50	0	37	37.94	9.1	+4	3	11.39	58.1	0.99886	12	4	28.8
abr	1	2458574.50	0	41	16.64	9.1	+4	26	24.59	57.9	0.99915	12	4	11.0
abr	2	2458575.50	0	44	55.46	9.1	+4	49	33.04	57.6	0.99944	12	3	53.3

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m s	vh s	δ °	"	vh "	dis UA	h	hp m s
abr	3	2458576.50	0	48 34.40	9.1	+5	12	36.37	57.4	0.99973	12 3 35.6
abr	4	2458577.50	0	52 13.49	9.1	+5	35	34.23	57.2	1.00002	12 3 18.2
abr	5	2458578.50	0	55 52.74	9.1	+5	58	26.26	56.9	1.00031	12 3 0.9
abr	6	2458579.50	0	59 32.17	9.2	+6	21	12.10	56.6	1.00060	12 2 43.8
abr	7	2458580.50	1	3 11.79	9.2	+6	43	51.39	56.3	1.00088	12 2 26.9
abr	8	2458581.50	1	6 51.63	9.2	+7	6	23.77	56.0	1.00117	12 2 10.1
abr	9	2458582.50	1	10 31.69	9.2	+7	28	48.88	55.7	1.00145	12 1 53.6
abr	10	2458583.50	1	14 11.99	9.2	+7	51	6.36	55.4	1.00173	12 1 37.4
abr	11	2458584.50	1	17 52.55	9.2	+8	13	15.84	55.0	1.00201	12 1 21.4
abr	12	2458585.50	1	21 33.37	9.2	+8	35	16.96	54.7	1.00229	12 1 5.6
abr	13	2458586.50	1	25 14.47	9.2	+8	57	9.37	54.3	1.00256	12 0 50.2
abr	14	2458587.50	1	28 55.87	9.2	+9	18	52.70	53.9	1.00284	12 0 35.0
abr	15	2458588.50	1	32 37.57	9.3	+9	40	26.62	53.5	1.00311	12 0 20.2
abr	16	2458589.50	1	36 19.61	9.3	+10	1	50.77	53.1	1.00339	12 0 5.7
abr	17	2458590.50	1	40 1.99	9.3	+10	23	4.85	52.7	1.00367	11 59 51.5
abr	18	2458591.50	1	43 44.74	9.3	+10	44	8.53	52.2	1.00394	11 59 37.7
abr	19	2458592.50	1	47 27.88	9.3	+11	5	1.53	51.8	1.00422	11 59 24.3
abr	20	2458593.50	1	51 11.43	9.3	+11	25	43.54	51.3	1.00449	11 59 11.3
abr	21	2458594.50	1	54 55.40	9.4	+11	46	14.27	50.8	1.00477	11 58 58.7
abr	22	2458595.50	1	58 39.82	9.4	+12	6	33.42	50.3	1.00505	11 58 46.6
abr	23	2458596.50	2	2 24.69	9.4	+12	26	40.68	49.8	1.00532	11 58 34.9
abr	24	2458597.50	2	6 10.04	9.4	+12	46	35.73	49.3	1.00560	11 58 23.7
abr	25	2458598.50	2	9 55.88	9.4	+13	6	18.26	48.7	1.00587	11 58 13.0
abr	26	2458599.50	2	13 42.21	9.5	+13	25	47.93	48.2	1.00615	11 58 2.7
abr	27	2458600.50	2	17 29.04	9.5	+13	45	4.43	47.6	1.00642	11 57 53.0
abr	28	2458601.50	2	21 16.39	9.5	+14	4	7.42	47.0	1.00669	11 57 43.8
abr	29	2458602.50	2	25 4.26	9.5	+14	22	56.58	46.5	1.00695	11 57 35.1
abr	30	2458603.50	2	28 52.67	9.5	+14	41	31.58	45.9	1.00722	11 57 27.0
may	1	2458604.50	2	32 41.61	9.6	+14	59	52.10	45.2	1.00748	11 57 19.4
may	2	2458605.50	2	36 31.10	9.6	+15	17	57.80	44.6	1.00774	11 57 12.3
may	3	2458606.50	2	40 21.15	9.6	+15	35	48.37	44.0	1.00799	11 57 5.8
may	4	2458607.50	2	44 11.74	9.6	+15	53	23.48	43.3	1.00824	11 56 59.8
may	5	2458608.50	2	48 2.90	9.7	+16	10	42.80	42.6	1.00849	11 56 54.5
may	6	2458609.50	2	51 54.61	9.7	+16	27	46.02	41.9	1.00873	11 56 49.6
may	7	2458610.50	2	55 46.89	9.7	+16	44	32.81	41.3	1.00897	11 56 45.3
may	8	2458611.50	2	59 39.73	9.7	+17	1	2.84	40.5	1.00921	11 56 41.6
may	9	2458612.50	3	3 33.12	9.7	+17	17	15.80	39.8	1.00944	11 56 38.4
may	10	2458613.50	3	7 27.06	9.8	+17	33	11.36	39.1	1.00967	11 56 35.8
may	11	2458614.50	3	11 21.56	9.8	+17	48	49.20	38.3	1.00989	11 56 33.8
may	12	2458615.50	3	15 16.60	9.8	+18	4	9.00	37.6	1.01011	11 56 32.2
may	13	2458616.50	3	19 12.19	9.8	+18	19	10.47	36.8	1.01033	11 56 31.3
may	14	2458617.50	3	23 8.33	9.9	+18	33	53.32	36.0	1.01055	11 56 30.9
may	15	2458618.50	3	27 5.02	9.9	+18	48	17.27	35.2	1.01076	11 56 31.0
may	16	2458619.50	3	31 2.27	9.9	+19	2	22.05	34.4	1.01097	11 56 31.7
may	17	2458620.50	3	35 0.06	9.9	+19	16	7.42	33.6	1.01118	11 56 32.9
may	18	2458621.50	3	38 58.41	10.0	+19	29	33.13	32.7	1.01139	11 56 34.7

Sol, 2019

Efe­mé­ri­des a las 0^h del me­ri­diano 90° W.G.

mes	día	dj	h	α			°	δ	vh		dis UA	h	hp	
				m	s	s			"	"			m	s
may	19	2458622.50	3	42	57.32	10.0	+19	42	38.96	31.9	1.01159	11	56	37.1
may	20	2458623.50	3	46	56.78	10.0	+19	55	24.65	31.1	1.01180	11	56	40.0
may	21	2458624.50	3	50	56.78	10.0	+20	7	49.98	30.2	1.01200	11	56	43.4
may	22	2458625.50	3	54	57.33	10.0	+20	19	54.72	29.3	1.01220	11	56	47.4
may	23	2458626.50	3	58	58.42	10.1	+20	31	38.61	28.5	1.01239	11	56	51.9
may	24	2458627.50	4	3	0.04	10.1	+20	43	1.43	27.6	1.01259	11	56	57.0
may	25	2458628.50	4	7	2.18	10.1	+20	54	2.93	26.7	1.01278	11	57	2.6
may	26	2458629.50	4	11	4.83	10.1	+21	4	42.90	25.8	1.01297	11	57	8.7
may	27	2458630.50	4	15	7.98	10.2	+21	15	1.11	24.8	1.01315	11	57	15.3
may	28	2458631.50	4	19	11.62	10.2	+21	24	57.32	23.9	1.01333	11	57	22.4
may	29	2458632.50	4	23	15.74	10.2	+21	34	31.34	23.0	1.01350	11	57	29.9
may	30	2458633.50	4	27	20.32	10.2	+21	43	42.96	22.0	1.01368	11	57	38.0
may	31	2458634.50	4	31	25.35	10.2	+21	52	31.96	21.1	1.01384	11	57	46.4
jun	1	2458635.50	4	35	30.81	10.2	+22	0	58.17	20.1	1.01400	11	57	55.4
jun	2	2458636.50	4	39	36.68	10.3	+22	9	1.39	19.2	1.01416	11	58	4.7
jun	3	2458637.50	4	43	42.95	10.3	+22	16	41.45	18.2	1.01431	11	58	14.4
jun	4	2458638.50	4	47	49.59	10.3	+22	23	58.17	17.2	1.01445	11	58	24.4
jun	5	2458639.50	4	51	56.57	10.3	+22	30	51.39	16.2	1.01459	11	58	34.9
jun	6	2458640.50	4	56	3.88	10.3	+22	37	20.95	15.2	1.01473	11	58	45.6
jun	7	2458641.50	5	0	11.48	10.3	+22	43	26.69	14.2	1.01486	11	58	56.6
jun	8	2458642.50	5	4	19.35	10.3	+22	49	8.45	13.2	1.01498	11	59	8.0
jun	9	2458643.50	5	8	27.47	10.3	+22	54	26.09	12.2	1.01510	11	59	19.5
jun	10	2458644.50	5	12	35.82	10.4	+22	59	19.50	11.2	1.01521	11	59	31.3
jun	11	2458645.50	5	16	44.37	10.4	+23	3	48.56	10.2	1.01532	11	59	43.3
jun	12	2458646.50	5	20	53.11	10.4	+23	7	53.18	9.2	1.01542	11	59	55.5
jun	13	2458647.50	5	25	2.01	10.4	+23	11	33.28	8.1	1.01552	12	0	7.9
jun	14	2458648.50	5	29	11.07	10.4	+23	14	48.80	7.1	1.01562	12	0	20.4
jun	15	2458649.50	5	33	20.26	10.4	+23	17	39.69	6.1	1.01572	12	0	33.0
jun	16	2458650.50	5	37	29.55	10.4	+23	20	5.93	5.1	1.01581	12	0	45.7
jun	17	2458651.50	5	41	38.95	10.4	+23	22	7.46	4.0	1.01589	12	0	58.6
jun	18	2458652.50	5	45	48.41	10.4	+23	23	44.28	3.0	1.01598	12	1	11.5
jun	19	2458653.50	5	49	57.92	10.4	+23	24	56.35	2.0	1.01606	12	1	24.4
jun	20	2458654.50	5	54	7.47	10.4	+23	25	43.66	0.9	1.01614	12	1	37.4
jun	21	2458655.50	5	58	17.02	10.4	+23	26	6.20	-0.1	1.01621	12	1	50.4
jun	22	2458656.50	6	2	26.56	10.4	+23	26	3.96	-1.1	1.01628	12	2	3.4
jun	23	2458657.50	6	6	36.07	10.4	+23	25	36.96	-2.2	1.01635	12	2	16.3
jun	24	2458658.50	6	10	45.52	10.4	+23	24	45.21	-3.2	1.01641	12	2	29.2
jun	25	2458659.50	6	14	54.90	10.4	+23	23	28.73	-4.2	1.01647	12	2	42.0
jun	26	2458660.50	6	19	4.18	10.4	+23	21	47.55	-5.2	1.01652	12	2	54.8
jun	27	2458661.50	6	23	13.33	10.4	+23	19	41.73	-6.3	1.01657	12	3	7.4
jun	28	2458662.50	6	27	22.35	10.4	+23	17	11.31	-7.3	1.01662	12	3	19.8
jun	29	2458663.50	6	31	31.19	10.4	+23	14	16.36	-8.3	1.01665	12	3	32.1
jun	30	2458664.50	6	35	39.85	10.4	+23	10	56.96	-9.3	1.01669	12	3	44.2
jul	1	2458665.50	6	39	48.30	10.3	+23	7	13.21	-10.3	1.01671	12	3	56.1
jul	2	2458666.50	6	43	56.50	10.3	+23	3	5.19	-11.3	1.01673	12	4	7.7
jul	3	2458667.50	6	48	4.43	10.3	+22	58	33.03	-12.3	1.01675	12	4	19.1

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	α			vh s	δ °	“ ”		dis UA	hp			
			h	m	s			“	”		h	m	s	
jul	4	2458668.50	6	52	12.06	10.3	+22	53	36.84	-13.3	1.01675	12	4	30.2
jul	5	2458669.50	6	56	19.37	10.3	+22	48	16.73	-14.3	1.01675	12	4	40.9
jul	6	2458670.50	7	0	26.32	10.3	+22	42	32.82	-15.3	1.01675	12	4	51.3
jul	7	2458671.50	7	4	32.90	10.3	+22	36	25.25	-16.3	1.01674	12	5	1.3
jul	8	2458672.50	7	8	39.09	10.2	+22	29	54.14	-17.3	1.01672	12	5	11.0
jul	9	2458673.50	7	12	44.91	10.2	+22	22	59.30	-18.2	1.01670	12	5	20.2
jul	10	2458674.50	7	16	50.10	10.2	+22	15	42.08	-19.2	1.01667	12	5	28.9
jul	11	2458675.50	7	20	55.03	10.2	+22	8	1.55	-20.1	1.01664	12	5	37.3
jul	12	2458676.50	7	24	59.46	10.2	+21	59	58.11	-21.1	1.01661	12	5	45.1
jul	13	2458677.50	7	29	3.43	10.1	+21	51	32.05	-22.0	1.01657	12	5	52.5
jul	14	2458678.50	7	33	6.90	10.1	+21	42	43.58	-22.9	1.01653	12	5	59.5
jul	15	2458679.50	7	37	9.88	10.1	+21	33	32.91	-23.9	1.01648	12	6	5.9
jul	16	2458680.50	7	41	12.35	10.1	+21	24	0.25	-24.8	1.01643	12	6	11.8
jul	17	2458681.50	7	45	14.30	10.1	+21	14	5.82	-25.7	1.01638	12	6	17.2
jul	18	2458682.50	7	49	15.73	10.0	+21	3	49.82	-26.6	1.01632	12	6	22.0
jul	19	2458683.50	7	53	16.62	10.0	+20	53	12.49	-27.4	1.01626	12	6	26.4
jul	20	2458684.50	7	57	16.97	10.0	+20	42	14.03	-28.3	1.01620	12	6	30.2
jul	21	2458685.50	8	1	16.78	10.0	+20	30	54.68	-29.2	1.01613	12	6	33.4
jul	22	2458686.50	8	5	16.03	9.9	+20	19	14.66	-30.0	1.01606	12	6	36.1
jul	23	2458687.50	8	9	14.73	9.9	+20	7	14.22	-30.9	1.01598	12	6	38.3
jul	24	2458688.50	8	13	12.86	9.9	+19	54	53.59	-31.7	1.01590	12	6	39.9
jul	25	2458689.50	8	17	10.43	9.9	+19	42	13.03	-32.5	1.01582	12	6	40.9
jul	26	2458690.50	8	21	7.42	9.9	+19	29	12.78	-33.3	1.01573	12	6	41.3
jul	27	2458691.50	8	25	3.85	9.8	+19	15	53.11	-34.1	1.01564	12	6	41.2
jul	28	2458692.50	8	28	59.69	9.8	+19	2	14.29	-34.9	1.01554	12	6	40.5
jul	29	2458693.50	8	32	54.95	9.8	+18	48	16.59	-35.7	1.01544	12	6	39.2
jul	30	2458694.50	8	36	49.62	9.8	+18	34	0.31	-36.4	1.01533	12	6	37.3
jul	31	2458695.50	8	40	43.69	9.7	+18	19	25.74	-37.2	1.01521	12	6	34.8
ago	1	2458696.50	8	44	37.15	9.7	+18	4	33.17	-37.9	1.01509	12	6	31.7
ago	2	2458697.50	8	48	30.00	9.7	+17	49	22.90	-38.7	1.01497	12	6	28.0
ago	3	2458698.50	8	52	22.24	9.7	+17	33	55.23	-39.4	1.01483	12	6	23.7
ago	4	2458699.50	8	56	13.85	9.6	+17	18	10.46	-40.1	1.01469	12	6	18.7
ago	5	2458700.50	9	0	4.84	9.6	+17	2	8.87	-40.8	1.01455	12	6	13.2
ago	6	2458701.50	9	3	55.21	9.6	+16	45	50.78	-41.4	1.01440	12	6	7.0
ago	7	2458702.50	9	7	44.96	9.5	+16	29	16.50	-42.1	1.01425	12	6	0.2
ago	8	2458703.50	9	11	34.11	9.5	+16	12	26.33	-42.7	1.01409	12	5	52.8
ago	9	2458704.50	9	15	22.65	9.5	+15	55	20.60	-43.4	1.01393	12	5	44.8
ago	10	2458705.50	9	19	10.59	9.5	+15	37	59.62	-44.0	1.01377	12	5	36.1
ago	11	2458706.50	9	22	57.94	9.4	+15	20	23.69	-44.6	1.01360	12	5	26.9
ago	12	2458707.50	9	26	44.71	9.4	+15	2	33.14	-45.2	1.01343	12	5	17.1
ago	13	2458708.50	9	30	30.91	9.4	+14	44	28.27	-45.8	1.01325	12	5	6.8
ago	14	2458709.50	9	34	16.54	9.4	+14	26	9.38	-46.4	1.01307	12	4	55.9
ago	15	2458710.50	9	38	1.63	9.4	+14	7	36.78	-46.9	1.01289	12	4	44.4
ago	16	2458711.50	9	41	46.18	9.3	+13	48	50.75	-47.5	1.01271	12	4	32.4
ago	17	2458712.50	9	45	30.20	9.3	+13	29	51.60	-48.0	1.01253	12	4	19.9
ago	18	2458713.50	9	49	13.72	9.3	+13	10	39.63	-48.5	1.01234	12	4	6.8

Sol, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	α			vh s	°	δ	“ ”		dis UA	hp		
			h	m	s				h	m		s		
ago	19	2458714.50	9	52	56.74	9.3	+12	51	15.13	-49.0	1.01215	12	3	53.3
ago	20	2458715.50	9	56	39.28	9.3	+12	31	38.39	-49.5	1.01196	12	3	39.3
ago	21	2458716.50	10	0	21.36	9.2	+12	11	49.71	-50.0	1.01176	12	3	24.8
ago	22	2458717.50	10	4	2.99	9.2	+11	51	49.41	-50.5	1.01157	12	3	9.9
ago	23	2458718.50	10	7	44.18	9.2	+11	31	37.77	-50.9	1.01137	12	2	54.5
ago	24	2458719.50	10	11	24.95	9.2	+11	11	15.10	-51.4	1.01116	12	2	38.8
ago	25	2458720.50	10	15	5.32	9.2	+10	50	41.73	-51.8	1.01095	12	2	22.6
ago	26	2458721.50	10	18	45.30	9.1	+10	29	57.96	-52.2	1.01074	12	2	6.0
ago	27	2458722.50	10	22	24.89	9.1	+10	9	4.14	-52.6	1.01053	12	1	49.0
ago	28	2458723.50	10	26	4.12	9.1	+9	48	0.58	-53.0	1.01031	12	1	31.7
ago	29	2458724.50	10	29	42.98	9.1	+9	26	47.63	-53.4	1.01009	12	1	14.0
ago	30	2458725.50	10	33	21.50	9.1	+9	5	25.62	-53.8	1.00986	12	0	56.0
ago	31	2458726.50	10	36	59.67	9.1	+8	43	54.90	-54.1	1.00962	12	0	37.6
sep	1	2458727.50	10	40	37.52	9.1	+8	22	15.80	-54.5	1.00939	12	0	18.9
sep	2	2458728.50	10	44	15.05	9.1	+8	0	28.66	-54.8	1.00915	11	59	59.9
sep	3	2458729.50	10	47	52.29	9.0	+7	38	33.82	-55.1	1.00890	11	59	40.6
sep	4	2458730.50	10	51	29.25	9.0	+7	16	31.62	-55.4	1.00865	11	59	21.0
sep	5	2458731.50	10	55	5.93	9.0	+6	54	22.40	-55.7	1.00840	11	59	1.1
sep	6	2458732.50	10	58	42.37	9.0	+6	32	6.50	-55.9	1.00815	11	58	41.0
sep	7	2458733.50	11	2	18.58	9.0	+6	9	44.25	-56.2	1.00789	11	58	20.6
sep	8	2458734.50	11	5	54.57	9.0	+5	47	16.00	-56.4	1.00763	11	58	0.1
sep	9	2458735.50	11	9	30.38	9.0	+5	24	42.07	-56.6	1.00737	11	57	39.3
sep	10	2458736.50	11	13	6.00	9.0	+5	2	2.78	-56.8	1.00711	11	57	18.4
sep	11	2458737.50	11	16	41.47	9.0	+4	39	18.45	-57.0	1.00684	11	56	57.3
sep	12	2458738.50	11	20	16.82	9.0	+4	16	29.40	-57.2	1.00658	11	56	36.1
sep	13	2458739.50	11	23	52.05	9.0	+3	53	35.94	-57.4	1.00631	11	56	14.8
sep	14	2458740.50	11	27	27.20	9.0	+3	30	38.38	-57.6	1.00605	11	55	53.4
sep	15	2458741.50	11	31	2.28	9.0	+3	7	37.03	-57.7	1.00578	11	55	31.9
sep	16	2458742.50	11	34	37.33	9.0	+2	44	32.20	-57.8	1.00551	11	55	10.4
sep	17	2458743.50	11	38	12.36	9.0	+2	21	24.19	-58.0	1.00524	11	54	48.9
sep	18	2458744.50	11	41	47.39	9.0	+1	58	13.31	-58.1	1.00498	11	54	27.4
sep	19	2458745.50	11	45	22.46	9.0	+1	34	59.87	-58.2	1.00471	11	54	5.9
sep	20	2458746.50	11	48	57.59	9.0	+1	11	44.19	-58.2	1.00444	11	53	44.5
sep	21	2458747.50	11	52	32.79	9.0	+0	48	26.58	-58.3	1.00417	11	53	23.1
sep	22	2458748.50	11	56	8.09	9.0	+0	25	7.38	-58.4	1.00389	11	53	1.9
sep	23	2458749.50	11	59	43.50	9.0	+0	1	46.91	-58.4	1.00362	11	52	40.7
sep	24	2458750.50	12	3	19.06	9.0	-0	21	34.48	-58.4	1.00335	11	52	19.7
sep	25	2458751.50	12	6	54.77	9.0	-0	44	56.45	-58.4	1.00307	11	51	58.9
sep	26	2458752.50	12	10	30.64	9.0	-1	8	18.64	-58.4	1.00279	11	51	38.2
sep	27	2458753.50	12	14	6.71	9.0	-1	31	40.69	-58.4	1.00251	11	51	17.7
sep	28	2458754.50	12	17	42.98	9.0	-1	55	2.23	-58.4	1.00223	11	50	57.4
sep	29	2458755.50	12	21	19.48	9.0	-2	18	22.90	-58.3	1.00194	11	50	37.4
sep	30	2458756.50	12	24	56.21	9.0	-2	41	42.33	-58.2	1.00166	11	50	17.6
oct	1	2458757.50	12	28	33.20	9.1	-3	5	0.15	-58.2	1.00137	11	49	58.0
oct	2	2458758.50	12	32	10.47	9.1	-3	28	15.98	-58.1	1.00107	11	49	38.7
oct	3	2458759.50	12	35	48.02	9.1	-3	51	29.44	-57.9	1.00078	11	49	19.7

Sol, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α		vh s	δ °	"	"	vh "	dis UA	hp		
				m	s							h	m	s
oct	4	2458760.50	12	39	25.89	9.1	-4	14	40.15	-57.8	1.00049	11	49	1.0
oct	5	2458761.50	12	43	4.08	9.1	-4	37	47.74	-57.7	1.00019	11	48	42.7
oct	6	2458762.50	12	46	42.62	9.1	-5	0	51.84	-57.5	0.99990	11	48	24.6
oct	7	2458763.50	12	50	21.52	9.1	-5	23	52.07	-57.3	0.99961	11	48	7.0
oct	8	2458764.50	12	54	0.80	9.2	-5	46	48.08	-57.1	0.99931	11	47	49.7
oct	9	2458765.50	12	57	40.49	9.2	-6	9	39.49	-56.9	0.99902	11	47	32.8
oct	10	2458766.50	13	1	20.61	9.2	-6	32	25.96	-56.7	0.99873	11	47	16.4
oct	11	2458767.50	13	5	1.18	9.2	-6	55	7.13	-56.5	0.99844	11	47	0.4
oct	12	2458768.50	13	8	42.22	9.2	-7	17	42.63	-56.2	0.99815	11	46	44.9
oct	13	2458769.50	13	12	23.76	9.3	-7	40	12.13	-56.0	0.99786	11	46	29.9
oct	14	2458770.50	13	16	5.81	9.3	-8	2	35.26	-55.7	0.99757	11	46	15.4
oct	15	2458771.50	13	19	48.40	9.3	-8	24	51.67	-55.4	0.99729	11	46	1.5
oct	16	2458772.50	13	23	31.55	9.3	-8	47	1.02	-55.1	0.99701	11	45	48.1
oct	17	2458773.50	13	27	15.29	9.3	-9	9	2.94	-54.8	0.99673	11	45	35.2
oct	18	2458774.50	13	30	59.62	9.4	-9	30	57.08	-54.4	0.99645	11	45	23.0
oct	19	2458775.50	13	34	44.58	9.4	-9	52	43.08	-54.1	0.99617	11	45	11.4
oct	20	2458776.50	13	38	30.18	9.4	-10	14	20.55	-53.7	0.99590	11	45	0.5
oct	21	2458777.50	13	42	16.44	9.5	-10	35	49.12	-53.3	0.99562	11	44	50.2
oct	22	2458778.50	13	46	3.37	9.5	-10	57	8.41	-52.9	0.99535	11	44	40.5
oct	23	2458779.50	13	49	50.98	9.5	-11	18	18.02	-52.5	0.99508	11	44	31.6
oct	24	2458780.50	13	53	39.30	9.5	-11	39	17.54	-52.0	0.99481	11	44	23.3
oct	25	2458781.50	13	57	28.32	9.6	-12	0	6.56	-51.6	0.99454	11	44	15.8
oct	26	2458782.50	14	1	18.08	9.6	-12	20	44.68	-51.1	0.99427	11	44	9.0
oct	27	2458783.50	14	5	8.57	9.6	-12	41	11.48	-50.6	0.99400	11	44	3.0
oct	28	2458784.50	14	8	59.81	9.7	-13	1	26.54	-50.1	0.99373	11	43	57.7
oct	29	2458785.50	14	12	51.81	9.7	-13	21	29.44	-49.6	0.99346	11	43	53.1
oct	30	2458786.50	14	16	44.57	9.7	-13	41	19.76	-49.1	0.99320	11	43	49.3
oct	31	2458787.50	14	20	38.09	9.8	-14	0	57.07	-48.5	0.99293	11	43	46.3
nov	1	2458788.50	14	24	32.39	9.8	-14	20	20.93	-47.9	0.99266	11	43	44.0
nov	2	2458789.50	14	28	27.48	9.8	-14	39	30.92	-47.3	0.99240	11	43	42.5
nov	3	2458790.50	14	32	23.34	9.9	-14	58	26.62	-46.7	0.99213	11	43	41.9
nov	4	2458791.50	14	36	20.01	9.9	-15	17	7.61	-46.1	0.99187	11	43	42.0
nov	5	2458792.50	14	40	17.47	9.9	-15	35	33.47	-45.4	0.99161	11	43	42.9
nov	6	2458793.50	14	44	15.74	10.0	-15	53	43.81	-44.8	0.99136	11	43	44.6
nov	7	2458794.50	14	48	14.83	10.0	-16	11	38.20	-44.1	0.99110	11	43	47.1
nov	8	2458795.50	14	52	14.73	10.0	-16	29	16.27	-43.4	0.99085	11	43	50.5
nov	9	2458796.50	14	56	15.47	10.1	-16	46	37.62	-42.7	0.99061	11	43	54.7
nov	10	2458797.50	15	0	17.05	10.1	-17	3	41.85	-41.9	0.99036	11	43	59.7
nov	11	2458798.50	15	4	19.46	10.1	-17	20	28.59	-41.2	0.99012	11	44	5.6
nov	12	2458799.50	15	8	22.72	10.2	-17	36	57.46	-40.4	0.98989	11	44	12.3
nov	13	2458800.50	15	12	26.84	10.2	-17	53	8.08	-39.7	0.98966	11	44	19.8
nov	14	2458801.50	15	16	31.81	10.2	-18	9	0.09	-38.9	0.98943	11	44	28.2
nov	15	2458802.50	15	20	37.63	10.3	-18	24	33.12	-38.1	0.98921	11	44	37.5
nov	16	2458803.50	15	24	44.32	10.3	-18	39	46.79	-37.2	0.98899	11	44	47.6
nov	17	2458804.50	15	28	51.86	10.3	-18	54	40.74	-36.4	0.98878	11	44	58.6
nov	18	2458805.50	15	33	0.25	10.4	-19	9	14.60	-35.6	0.98857	11	45	10.4

Sol, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α		vh s	°	δ	vh		dis UA	hp		
				m	s				"	"		h	m	s
nov	19	2458806.50	15	37	9.49	10.4	-19	23	27.98	-34.7	0.98837	11	45	23.1
nov	20	2458807.50	15	41	19.57	10.5	-19	37	20.50	-33.8	0.98817	11	45	36.6
nov	21	2458808.50	15	45	30.48	10.5	-19	50	51.80	-32.9	0.98797	11	45	51.0
nov	22	2458809.50	15	49	42.22	10.5	-20	4	1.50	-32.0	0.98777	11	46	6.2
nov	23	2458810.50	15	53	54.78	10.6	-20	16	49.24	-31.1	0.98758	11	46	22.2
nov	24	2458811.50	15	58	8.14	10.6	-20	29	14.64	-30.1	0.98739	11	46	39.0
nov	25	2458812.50	16	2	22.29	10.6	-20	41	17.36	-29.2	0.98721	11	46	56.6
nov	26	2458813.50	16	6	37.21	10.7	-20	52	57.04	-28.2	0.98702	11	47	14.9
nov	27	2458814.50	16	10	52.87	10.7	-21	4	13.35	-27.2	0.98684	11	47	34.1
nov	28	2458815.50	16	15	9.27	10.7	-21	15	5.94	-26.2	0.98666	11	47	53.9
nov	29	2458816.50	16	19	26.37	10.7	-21	25	34.47	-25.2	0.98648	11	48	14.4
nov	30	2458817.50	16	23	44.15	10.8	-21	35	38.62	-24.1	0.98631	11	48	35.6
dic	1	2458818.50	16	28	2.59	10.8	-21	45	18.07	-23.1	0.98614	11	48	57.5
dic	2	2458819.50	16	32	21.66	10.8	-21	54	32.53	-22.0	0.98597	11	49	20.0
dic	3	2458820.50	16	36	41.35	10.8	-22	3	21.69	-21.0	0.98581	11	49	43.2
dic	4	2458821.50	16	41	1.62	10.9	-22	11	45.28	-19.9	0.98565	11	50	6.9
dic	5	2458822.50	16	45	22.46	10.9	-22	19	43.05	-18.8	0.98550	11	50	31.2
dic	6	2458823.50	16	49	43.84	10.9	-22	27	14.75	-17.7	0.98535	11	50	56.0
dic	7	2458824.50	16	54	5.73	10.9	-22	34	20.14	-16.6	0.98520	11	51	21.3
dic	8	2458825.50	16	58	28.12	11.0	-22	40	59.01	-15.5	0.98506	11	51	47.2
dic	9	2458826.50	17	2	50.98	11.0	-22	47	11.16	-14.4	0.98493	11	52	13.5
dic	10	2458827.50	17	7	14.29	11.0	-22	52	56.40	-13.3	0.98480	11	52	40.2
dic	11	2458828.50	17	11	38.01	11.0	-22	58	14.57	-12.1	0.98467	11	53	7.4
dic	12	2458829.50	17	16	2.13	11.0	-23	3	5.50	-11.0	0.98456	11	53	35.0
dic	13	2458830.50	17	20	26.61	11.0	-23	7	29.04	-9.8	0.98445	11	54	2.9
dic	14	2458831.50	17	24	51.43	11.0	-23	11	25.08	-8.7	0.98434	11	54	31.1
dic	15	2458832.50	17	29	16.56	11.1	-23	14	53.47	-7.5	0.98424	11	54	59.7
dic	16	2458833.50	17	33	41.97	11.1	-23	17	54.11	-6.4	0.98415	11	55	28.5
dic	17	2458834.50	17	38	7.63	11.1	-23	20	26.87	-5.2	0.98406	11	55	57.6
dic	18	2458835.50	17	42	33.51	11.1	-23	22	31.65	-4.0	0.98398	11	56	27.0
dic	19	2458836.50	17	46	59.58	11.1	-23	24	8.38	-2.9	0.98390	11	56	56.5
dic	20	2458837.50	17	51	25.81	11.1	-23	25	16.97	-1.7	0.98383	11	57	26.2
dic	21	2458838.50	17	55	52.16	11.1	-23	25	57.37	-0.5	0.98376	11	57	56.0
dic	22	2458839.50	18	0	18.61	11.1	-23	26	9.55	0.7	0.98370	11	58	25.8
dic	23	2458840.50	18	4	45.11	11.1	-23	25	53.48	1.8	0.98364	11	58	55.8
dic	24	2458841.50	18	9	11.63	11.1	-23	25	9.17	3.0	0.98359	11	59	25.7
dic	25	2458842.50	18	13	38.12	11.1	-23	23	56.62	4.2	0.98354	11	59	55.7
dic	26	2458843.50	18	18	4.55	11.1	-23	22	15.86	5.4	0.98349	12	0	25.5
dic	27	2458844.50	18	22	30.87	11.1	-23	20	6.92	6.5	0.98345	12	0	55.3
dic	28	2458845.50	18	26	57.06	11.1	-23	17	29.87	7.7	0.98341	12	1	24.9
dic	29	2458846.50	18	31	23.06	11.1	-23	14	24.76	8.9	0.98337	12	1	54.4
dic	30	2458847.50	18	35	48.84	11.1	-23	10	51.67	10.0	0.98334	12	2	23.6
dic	31	2458848.50	18	40	14.37	11.1	-23	6	50.71	11.2	0.98331	12	2	52.6
ene	1	2458849.50	18	44	39.61	11.0	-23	2	21.98	12.3	0.98329	18	44	48.6
ene	2	2458850.50	18	49	4.52	10.8	-22	57	25.62	13.1	0.98327	18	49	13.5
ene	3	2458851.50	18	53	22.54	39.4	-22	52	10.09	50.3	0.97478	18	53	31.5
ene	4	2458852.50	19	9	9.09	-19.9	-22	32	3.87	-23.6	1.08993	19	9	18.1

Luna, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	δ °	'	"	dis DT	'	"	fase	hp h
ene	1	2458484.75	14	58	30.02	-11	43	49.45	60.84	15.4	56.5	21.0	8.5
ene	2	2458485.75	15	48	52.25	-15	25	19.69	61.43	15.2	56.0	13.3	9.2
ene	3	2458486.75	16	40	1.46	-18	20	36.54	61.96	15.1	55.5	7.2	10.0
ene	4	2458487.75	17	31	54.25	-20	22	4.50	62.43	15.0	55.1	2.9	10.8
ene	5	2458488.75	18	24	8.85	-21	24	38.56	62.84	14.9	54.7	0.6	11.6
ene	6	2458489.75	19	16	10.81	-21	26	30.10	63.18	14.8	54.4	0.0	12.4
ene	7	2458490.75	20	7	23.01	-20	29	24.26	63.45	14.8	54.2	1.4	13.2
ene	8	2458491.75	20	57	16.25	-18	38	15.13	63.62	14.7	54.0	4.5	14.0
ene	9	2458492.75	21	45	36.65	-16	0	6.97	63.68	14.7	54.0	9.1	14.7
ene	10	2458493.75	22	32	27.94	-12	43	7.18	63.60	14.7	54.1	15.2	15.4
ene	11	2458494.75	23	18	9.79	-8	55	33.58	63.36	14.8	54.3	22.6	16.1
ene	12	2458495.75	0	3	14.59	-4	45	30.22	62.96	14.9	54.6	31.1	16.8
ene	13	2458496.75	0	48	24.16	-0	20	53.52	62.38	15.0	55.1	40.4	17.5
ene	14	2458497.75	1	34	27.25	+4	9	55.99	61.63	15.2	55.8	50.3	18.2
ene	15	2458498.75	2	22	17.01	+8	37	21.49	60.76	15.4	56.6	60.5	18.9
ene	16	2458499.75	3	12	46.97	+12	49	27.92	59.78	15.7	57.5	70.6	19.7
ene	17	2458500.75	4	6	43.31	+16	31	9.82	58.79	15.9	58.5	80.0	20.6
ene	18	2458501.75	5	4	31.10	+19	24	11.75	57.83	16.2	59.5	88.3	21.5
ene	19	2458502.75	6	5	56.48	+21	8	59.49	57.02	16.4	60.3	94.7	22.4
ene	20	2458503.75	7	9	54.24	+21	28	59.71	56.41	16.6	61.0	98.8	23.4
ene	21	2458504.75	8	14	36.76	+20	16	20.50	56.08	16.7	61.3	****	0.4
ene	22	2458505.75	9	18	8.61	+17	35	39.46	56.05	16.7	61.3	98.2	1.4
ene	23	2458506.75	10	19	6.49	+13	43	8.26	56.32	16.6	61.0	93.4	2.4
ene	24	2458507.75	11	16	58.21	+9	1	36.84	56.86	16.5	60.5	86.1	3.3
ene	25	2458508.75	12	11	56.09	+3	54	56.29	57.59	16.3	59.7	77.0	4.1
ene	26	2458509.75	13	4	38.86	-1	15	41.94	58.45	16.0	58.8	66.7	4.9
ene	27	2458510.75	13	55	54.96	-6	13	4.09	59.35	15.8	57.9	55.8	5.7
ene	28	2458511.75	14	46	31.17	-10	43	37.88	60.23	15.6	57.1	45.1	6.5
ene	29	2458512.75	15	37	5.45	-14	36	41.63	61.05	15.3	56.3	34.8	7.3
ene	30	2458513.75	16	28	2.12	-17	43	40.71	61.77	15.2	55.6	25.5	8.1
ene	31	2458514.75	17	19	28.80	-19	57	50.47	62.38	15.0	55.1	17.4	8.8
feb	1	2458515.75	18	11	15.82	-21	14	28.18	62.87	14.9	54.7	10.7	9.6
feb	2	2458516.75	19	2	59.35	-21	31	21.59	63.25	14.8	54.4	5.5	10.4
feb	3	2458517.75	19	54	8.47	-20	49	13.77	63.51	14.8	54.1	2.0	11.2
feb	4	2458518.75	20	44	14.37	-19	11	43.61	63.68	14.7	54.0	0.2	12.0
feb	5	2458519.75	21	32	58.30	-16	44	57.15	63.74	14.7	53.9	0.2	12.7
feb	6	2458520.75	22	20	15.96	-13	36	39.76	63.71	14.7	54.0	2.0	13.5
feb	7	2458521.75	23	6	17.94	-9	55	25.29	63.56	14.7	54.1	5.5	14.2
feb	8	2458522.75	23	51	27.70	-5	50	0.09	63.31	14.8	54.3	10.6	14.9
feb	9	2458523.75	0	36	18.76	-1	29	6.95	62.92	14.9	54.6	17.3	15.5
feb	10	2458524.75	1	21	32.25	+2	58	28.08	62.40	15.0	55.1	25.2	16.2
feb	11	2458525.75	2	7	54.56	+7	23	29.23	61.74	15.2	55.7	34.3	16.9
feb	12	2458526.75	2	56	14.80	+11	35	30.28	60.96	15.4	56.4	44.3	17.7
feb	13	2458527.75	3	47	20.04	+15	22	8.82	60.08	15.6	57.2	54.8	18.5
feb	14	2458528.75	4	41	46.83	+18	28	37.55	59.14	15.8	58.1	65.4	19.3
feb	15	2458529.75	5	39	48.13	+20	38	10.02	58.20	16.1	59.1	75.5	20.2

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Efemérides a las 0^h del meridiano 90° W.G.

mes	dia	dj	h	α m	s	δ	"	dis DT	fase	hp h			
feb	16	2458530.75	6	40	59.05	+21	34	6.26	57.33	16.3	60.0	84.7	21.2
feb	17	2458531.75	7	44	11.31	+21	3	53.76	56.62	16.6	60.7	92.3	22.1
feb	18	2458532.75	8	47	47.53	+19	3	46.14	56.13	16.7	61.2	97.5	23.1
feb	19	2458533.75	9	50	12.85	+15	41	22.93	55.94	16.8	61.5	99.9	0.1
feb	20	2458534.75	10	50	24.88	+11	14	37.66	56.05	16.7	61.3	99.2	1.0
feb	21	2458535.75	11	48	4.26	+6	7	18.85	56.47	16.6	60.9	95.5	1.9
feb	22	2458536.75	12	43	26.34	+0	44	13.53	57.15	16.4	60.1	89.3	2.8
feb	23	2458537.75	13	37	5.63	-4	32	26.05	58.01	16.1	59.2	81.0	3.6
feb	24	2458538.75	14	29	41.77	-9	24	39.04	58.98	15.9	58.3	71.4	4.4
feb	25	2458539.75	15	21	49.76	-13	38	43.28	59.97	15.6	57.3	61.1	5.2
feb	26	2458540.75	16	13	53.83	-17	4	40.72	60.91	15.4	56.4	50.6	6.0
feb	27	2458541.75	17	6	4.02	-19	35	38.60	61.75	15.2	55.7	40.5	6.8
feb	28	2458542.75	17	58	15.53	-21	7	26.25	62.45	15.0	55.0	31.1	7.7
mar	1	2458543.75	18	50	11.35	-21	38	27.57	63.00	14.9	54.6	22.6	8.5
mar	2	2458544.75	19	41	27.95	-21	9	40.32	63.38	14.8	54.2	15.1	9.2
mar	3	2458545.75	20	31	42.61	-19	44	27.59	63.62	14.7	54.0	9.0	10.0
mar	4	2458546.75	21	20	40.07	-17	28	17.40	63.71	14.7	54.0	4.4	10.8
mar	5	2458547.75	22	8	16.38	-14	28	12.28	63.68	14.7	54.0	1.4	11.5
mar	6	2458548.75	22	54	39.94	-10	52	16.88	63.54	14.7	54.1	0.0	12.2
mar	7	2458549.75	23	40	10.09	-6	49	13.66	63.31	14.8	54.3	0.5	12.9
mar	8	2458550.75	0	25	15.08	-2	28	7.75	62.99	14.9	54.6	2.9	13.6
mar	9	2458551.75	1	10	29.74	+2	1	34.72	62.59	15.0	54.9	7.0	14.3
mar	10	2458552.75	1	56	33.45	+6	29	58.04	62.10	15.1	55.4	12.9	15.0
mar	11	2458553.75	2	44	7.78	+10	46	18.87	61.54	15.2	55.9	20.4	15.7
mar	12	2458554.75	3	33	52.91	+14	38	44.82	60.88	15.4	56.5	29.3	16.5
mar	13	2458555.75	4	26	21.65	+17	54	0.49	60.16	15.6	57.1	39.2	17.3
mar	14	2458556.75	5	21	50.61	+20	17	41.99	59.39	15.8	57.9	49.9	18.1
mar	15	2458557.75	6	20	10.08	+21	35	27.49	58.60	16.0	58.7	60.9	19.0
mar	16	2458558.75	7	20	38.15	+21	35	18.88	57.84	16.2	59.4	71.6	20.0
mar	17	2458559.75	8	22	6.36	+20	10	52.03	57.18	16.4	60.1	81.4	20.9
mar	18	2458560.75	9	23	18.71	+17	23	57.14	56.68	16.5	60.7	89.7	21.9
mar	19	2458561.75	10	23	15.14	+13	25	25.37	56.39	16.6	61.0	95.9	22.8
mar	20	2458562.75	11	21	26.04	+8	33	35.11	56.37	16.6	61.0	99.3	23.7
mar	21	2458563.75	12	17	52.43	+3	11	6.86	56.63	16.5	60.7	99.8	0.6
mar	22	2458564.75	13	12	56.21	-2	18	19.98	57.15	16.4	60.1	97.4	1.5
mar	23	2458565.75	14	7	7.87	-7	32	52.27	57.89	16.2	59.4	92.3	2.3
mar	24	2458566.75	15	0	55.92	-12	14	8.22	58.78	15.9	58.5	85.2	3.1
mar	25	2458567.75	15	54	39.24	-16	8	3.12	59.74	15.7	57.5	76.5	3.9
mar	26	2458568.75	16	48	22.87	-19	4	56.12	60.69	15.4	56.6	67.0	4.8
mar	27	2458569.75	17	41	57.38	-20	59	15.35	61.57	15.2	55.8	57.1	5.6
mar	28	2458570.75	18	35	2.22	-21	49	14.25	62.32	15.0	55.1	47.2	6.4
mar	29	2458571.75	19	27	12.42	-21	36	19.83	62.91	14.9	54.6	37.7	7.2
mar	30	2458572.75	20	18	6.26	-20	24	32.77	63.32	14.8	54.3	28.7	8.0
mar	31	2458573.75	21	7	31.29	-18	19	43.74	63.54	14.7	54.1	20.6	8.8
abr	1	2458574.75	21	55	27.29	-15	28	52.42	63.58	14.7	54.1	13.6	9.5
abr	2	2458575.75	22	42	6.02	-11	59	39.72	63.47	14.8	54.2	7.8	10.2

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	δ °	'	"	dis DT	'	"	fase	hp h
abr	3	2458576.75	23	27	49.31	-8	0	15.08	63.23	14.8	54.4	3.5	10.9
abr	4	2458577.75	0	13	6.53	-3	39	17.41	62.88	14.9	54.7	0.8	11.6
abr	5	2458578.75	0	58	32.31	+0	53	54.13	62.46	15.0	55.0	0.0	12.3
abr	6	2458579.75	1	44	44.43	+5	29	6.04	61.99	15.1	55.5	1.2	13.0
abr	7	2458580.75	2	32	21.38	+9	54	55.94	61.49	15.2	55.9	4.4	13.7
abr	8	2458581.75	3	21	58.85	+13	58	45.34	60.95	15.4	56.4	9.5	14.5
abr	9	2458582.75	4	14	4.19	+17	26	47.65	60.41	15.5	56.9	16.5	15.3
abr	10	2458583.75	5	8	48.81	+20	4	42.83	59.85	15.7	57.5	25.1	16.1
abr	11	2458584.75	6	6	0.44	+21	38	55.35	59.28	15.8	58.0	35.1	17.0
abr	12	2458585.75	7	4	59.80	+21	58	34.85	58.72	16.0	58.5	45.9	17.9
abr	13	2458586.75	8	4	46.93	+20	57	52.87	58.20	16.1	59.1	57.1	18.9
abr	14	2458587.75	9	4	17.66	+18	37	44.11	57.73	16.2	59.6	68.2	19.8
abr	15	2458588.75	10	2	42.55	+15	6	6.68	57.37	16.3	59.9	78.5	20.7
abr	16	2458589.75	10	59	38.67	+10	37	0.27	57.15	16.4	60.2	87.3	21.6
abr	17	2458590.75	11	55	9.93	+5	28	40.15	57.12	16.4	60.2	94.2	22.4
abr	18	2458591.75	12	49	39.48	+0	1	42.35	57.29	16.4	60.0	98.5	23.3
abr	19	2458592.75	13	43	39.07	-5	22	43.47	57.68	16.2	59.6	100.0	****
abr	20	2458593.75	14	37	38.93	-10	24	30.94	58.26	16.1	59.0	98.8	1.0
abr	21	2458594.75	15	31	59.22	-14	46	4.82	59.00	15.9	58.3	95.1	1.8
abr	22	2458595.75	16	26	43.88	-18	13	33.83	59.83	15.7	57.5	89.3	2.6
abr	23	2458596.75	17	21	38.51	-20	37	42.22	60.68	15.4	56.6	81.8	3.5
abr	24	2458597.75	18	16	13.60	-21	54	11.13	61.50	15.2	55.9	73.3	4.3
abr	25	2458598.75	19	9	53.13	-22	3	21.81	62.23	15.1	55.2	64.1	5.2
abr	26	2458599.75	20	2	5.30	-21	9	21.20	62.80	14.9	54.7	54.6	6.0
abr	27	2458600.75	20	52	31.17	-19	18	44.57	63.20	14.8	54.4	45.1	6.7
abr	28	2458601.75	21	41	8.29	-16	39	19.84	63.40	14.8	54.2	35.8	7.5
abr	29	2458602.75	22	28	9.77	-13	19	14.24	63.40	14.8	54.2	27.0	8.2
abr	30	2458603.75	23	14	0.95	-9	26	31.62	63.22	14.8	54.4	19.0	8.9
may	1	2458604.75	23	59	15.62	-5	9	17.13	62.89	14.9	54.7	12.1	9.6
may	2	2458605.75	0	44	32.96	-0	36	1.11	62.42	15.0	55.1	6.5	10.3
may	3	2458606.75	1	30	35.10	+4	3	47.64	61.88	15.1	55.6	2.4	11.0
may	4	2458607.75	2	18	4.55	+8	39	8.27	61.29	15.3	56.1	0.3	11.7
may	5	2458608.75	3	7	40.46	+12	57	5.71	60.70	15.4	56.6	0.2	12.5
may	6	2458609.75	3	59	52.50	+16	42	53.55	60.13	15.6	57.2	2.4	13.3
may	7	2458610.75	4	54	52.22	+19	40	40.76	59.61	15.7	57.7	6.8	14.1
may	8	2458611.75	5	52	24.05	+21	35	15.67	59.16	15.8	58.1	13.3	15.0
may	9	2458612.75	6	51	41.65	+22	14	40.25	58.76	15.9	58.5	21.7	15.9
may	10	2458613.75	7	51	36.01	+21	32	49.00	58.44	16.0	58.8	31.6	16.9
may	11	2458614.75	8	50	55.21	+19	30	59.62	58.18	16.1	59.1	42.6	17.8
may	12	2458615.75	9	48	46.34	+16	17	31.13	57.99	16.2	59.3	54.0	18.7
may	13	2458616.75	10	44	47.63	+12	5	54.63	57.88	16.2	59.4	65.3	19.6
may	14	2458617.75	11	39	7.56	+7	12	44.02	57.87	16.2	59.4	75.8	20.4
may	15	2458618.75	12	32	15.83	+1	55	59.06	57.96	16.2	59.3	85.0	21.2
may	16	2458619.75	13	24	52.19	-3	25	52.10	58.18	16.1	59.1	92.2	22.0
may	17	2458620.75	14	17	36.38	-8	34	30.04	58.54	16.0	58.7	97.2	22.9
may	18	2458621.75	15	10	59.21	-13	12	25.64	59.02	15.9	58.2	99.7	23.7

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mes	dia	dj	h	α m	s	δ °	"	dis DT			fase	hp h	
may	19	2458622.75	16	5	14.95	-17	4	0.81	59.62	15.7	57.7	99.7	0.5
may	20	2458623.75	17	0	16.05	-19	56	45.81	60.30	15.5	57.0	97.3	1.4
may	21	2458624.75	17	55	33.01	-21	42	38.51	61.01	15.3	56.4	93.0	2.2
may	22	2458625.75	18	50	21.49	-22	18	51.83	61.71	15.2	55.7	86.9	3.1
may	23	2458626.75	19	43	55.43	-21	47	43.56	62.33	15.0	55.1	79.5	3.9
may	24	2458627.75	20	35	40.41	-20	15	26.18	62.84	14.9	54.7	71.1	4.7
may	25	2458628.75	21	25	21.76	-17	50	25.23	63.19	14.8	54.4	62.1	5.5
may	26	2458629.75	22	13	5.52	-14	41	46.32	63.35	14.8	54.3	52.8	6.2
may	27	2458630.75	22	59	14.73	-10	58	18.27	63.31	14.8	54.3	43.3	6.9
may	28	2458631.75	23	44	24.31	-6	48	16.59	63.07	14.8	54.5	34.0	7.6
may	29	2458632.75	0	29	16.80	-2	19	40.80	62.66	14.9	54.9	25.2	8.3
may	30	2458633.75	1	14	39.24	+2	19	6.37	62.09	15.1	55.4	17.2	8.9
may	31	2458634.75	2	1	20.72	+6	58	28.12	61.42	15.2	56.0	10.3	9.7
jun	1	2458635.75	2	50	9.00	+11	26	44.15	60.69	15.4	56.6	4.9	10.4
jun	2	2458636.75	3	41	44.72	+15	29	37.78	59.96	15.6	57.3	1.3	11.2
jun	3	2458637.75	4	36	31.72	+18	50	29.27	59.29	15.8	58.0	0.0	12.0
jun	4	2458638.75	5	34	24.60	+21	11	45.87	58.72	15.9	58.5	1.1	12.9
jun	5	2458639.75	6	34	39.41	+22	18	3.51	58.27	16.1	59.0	4.7	13.9
jun	6	2458640.75	7	35	57.45	+21	59	58.28	57.97	16.2	59.3	10.7	14.8
jun	7	2458641.75	8	36	47.19	+20	16	56.58	57.81	16.2	59.5	18.8	15.8
jun	8	2458642.75	9	35	54.34	+17	17	23.26	57.79	16.2	59.5	28.6	16.7
jun	9	2458643.75	10	32	41.95	+13	16	10.96	57.87	16.2	59.4	39.6	17.6
jun	10	2458644.75	11	27	12.17	+8	31	16.31	58.05	16.1	59.2	51.1	18.4
jun	11	2458645.75	12	19	55.45	+3	21	4.91	58.30	16.1	59.0	62.4	19.2
jun	12	2458646.75	13	11	36.91	-1	56	42.48	58.62	16.0	58.7	73.0	20.0
jun	13	2458647.75	14	3	4.67	-7	5	26.05	58.99	15.9	58.3	82.3	20.8
jun	14	2458648.75	14	55	0.88	-11	49	22.24	59.43	15.8	57.9	89.9	21.6
jun	15	2458649.75	15	47	53.77	-15	53	51.74	59.92	15.6	57.4	95.5	22.4
jun	16	2458650.75	16	41	50.97	-19	5	59.91	60.45	15.5	56.9	98.9	23.3
jun	17	2458651.75	17	36	35.65	-21	15	47.47	61.02	15.3	56.3	****	0.1
jun	18	2458652.75	18	31	28.97	-22	17	31.06	61.59	15.2	55.8	99.0	1.0
jun	19	2458653.75	19	25	40.48	-22	10	32.18	62.15	15.1	55.3	96.0	1.8
jun	20	2458654.75	20	18	23.20	-20	59	2.87	62.65	14.9	54.9	91.3	2.6
jun	21	2458655.75	21	9	6.71	-18	50	46.72	63.05	14.9	54.5	85.1	3.4
jun	22	2458656.75	21	57	42.98	-15	55	12.92	63.32	14.8	54.3	77.7	4.2
jun	23	2458657.75	22	44	25.12	-12	22	5.29	63.42	14.8	54.2	69.4	4.9
jun	24	2458658.75	23	29	42.45	-8	20	31.25	63.34	14.8	54.3	60.4	5.6
jun	25	2458659.75	0	14	15.17	-3	58	52.74	63.06	14.8	54.5	50.9	6.2
jun	26	2458660.75	0	58	50.46	+0	34	49.87	62.60	15.0	54.9	41.2	6.9
jun	27	2458661.75	1	44	19.86	+5	12	11.74	61.96	15.1	55.5	31.7	7.6
jun	28	2458662.75	2	31	36.72	+9	43	24.91	61.19	15.3	56.2	22.7	8.3
jun	29	2458663.75	3	21	32.05	+13	56	19.18	60.35	15.5	57.0	14.6	9.1
jun	30	2458664.75	4	14	46.61	+17	35	45.67	59.48	15.8	57.8	7.9	9.9
jul	1	2458665.75	5	11	37.88	+20	23	59.68	58.67	16.0	58.6	3.0	10.8
jul	2	2458666.75	6	11	44.81	+22	2	50.32	57.97	16.2	59.3	0.4	11.7
jul	3	2458667.75	7	14	0.21	+22	17	47.03	57.45	16.3	59.9	0.3	12.7

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	'	δ "	'	dis DT	'	fase	hp h	
jul	4	2458668.75	8	16	43.37	+21	2	42.36	57.13	16.4	60.2	3.0	13.7
jul	5	2458669.75	9	18	13.07	+18	22	26.97	57.03	16.4	60.3	8.4	14.6
jul	6	2458670.75	10	17	21.13	+14	31	30.75	57.14	16.4	60.2	16.2	15.6
jul	7	2458671.75	11	13	46.28	+9	49	55.22	57.43	16.3	59.9	25.8	16.4
jul	8	2458672.75	12	7	46.90	+4	38	57.04	57.85	16.2	59.4	36.6	17.3
jul	9	2458673.75	13	0	4.97	-0	41	33.05	58.37	16.1	58.9	47.9	18.1
jul	10	2458674.75	13	51	31.09	-5	54	5.14	58.94	15.9	58.3	59.1	18.9
jul	11	2458675.75	14	42	53.58	-10	43	21.64	59.52	15.7	57.8	69.7	19.7
jul	12	2458676.75	15	34	50.25	-14	55	52.29	60.11	15.6	57.2	79.1	20.5
jul	13	2458677.75	16	27	41.67	-18	19	47.53	60.68	15.4	56.7	87.0	21.3
jul	14	2458678.75	17	21	26.12	-20	45	25.25	61.24	15.3	56.1	93.1	22.1
jul	15	2458679.75	18	15	38.67	-22	6	8.33	61.76	15.2	55.7	97.3	22.9
jul	16	2458680.75	19	9	37.09	-22	19	25.09	62.25	15.1	55.2	99.6	23.8
jul	17	2458681.75	20	2	34.02	-21	27	16.12	62.69	14.9	54.8	99.9	0.6
jul	18	2458682.75	20	53	50.95	-19	35	43.35	63.07	14.8	54.5	98.3	1.4
jul	19	2458683.75	21	43	7.83	-16	53	31.15	63.35	14.8	54.3	94.9	2.1
jul	20	2458684.75	22	30	25.71	-13	30	33.56	63.53	14.8	54.1	89.9	2.9
jul	21	2458685.75	23	16	3.91	-9	36	42.33	63.56	14.7	54.1	83.6	3.6
jul	22	2458686.75	0	0	35.26	-5	21	9.38	63.44	14.8	54.2	76.0	4.2
jul	23	2458687.75	0	44	41.70	-0	52	25.39	63.14	14.8	54.5	67.4	4.9
jul	24	2458688.75	1	29	11.25	+3	41	14.53	62.66	14.9	54.9	58.1	5.6
jul	25	2458689.75	2	14	55.85	+8	11	5.54	62.01	15.1	55.4	48.2	6.3
jul	26	2458690.75	3	2	48.71	+12	26	56.43	61.21	15.3	56.2	38.2	7.0
jul	27	2458691.75	3	53	39.26	+16	16	14.03	60.30	15.5	57.0	28.5	7.8
jul	28	2458692.75	4	48	3.67	+19	23	34.66	59.35	15.8	57.9	19.3	8.6
jul	29	2458693.75	5	46	10.33	+21	31	23.70	58.41	16.0	58.9	11.4	9.5
jul	30	2458694.75	6	47	25.11	+22	22	33.24	57.58	16.3	59.7	5.1	10.5
jul	31	2458695.75	7	50	28.34	+21	44	54.99	56.92	16.5	60.4	1.2	11.5
ago	1	2458696.75	8	53	34.52	+19	36	3.62	56.50	16.6	60.9	0.0	12.5
ago	2	2458697.75	9	55	8.66	+16	5	13.77	56.35	16.6	61.0	1.8	13.4
ago	3	2458698.75	10	54	15.72	+11	31	9.08	56.47	16.6	60.9	6.4	14.3
ago	4	2458699.75	11	50	47.12	+6	17	18.35	56.85	16.5	60.5	13.6	15.2
ago	5	2458700.75	12	45	8.94	+0	47	22.25	57.42	16.3	59.9	22.8	16.1
ago	6	2458701.75	13	38	4.91	-4	37	31.52	58.12	16.1	59.1	33.2	16.9
ago	7	2458702.75	14	30	22.20	-9	39	42.98	58.90	15.9	58.4	44.2	17.7
ago	8	2458703.75	15	22	41.26	-14	4	49.11	59.70	15.7	57.6	55.1	18.5
ago	9	2458704.75	16	15	28.60	-17	41	15.73	60.46	15.5	56.9	65.5	19.3
ago	10	2458705.75	17	8	51.60	-20	20	5.40	61.16	15.3	56.2	75.0	20.1
ago	11	2458706.75	18	2	36.78	-21	55	12.71	61.79	15.2	55.6	83.2	20.9
ago	12	2458707.75	18	56	13.17	-22	23	56.35	62.33	15.0	55.2	89.9	21.8
ago	13	2458708.75	19	49	1.27	-21	47	22.93	62.79	14.9	54.8	95.0	22.6
ago	14	2458709.75	20	40	24.82	-20	10	17.38	63.15	14.8	54.4	98.4	23.4
ago	15	2458710.75	21	30	0.64	-17	40	15.21	63.43	14.8	54.2	99.9	0.1
ago	16	2458711.75	22	17	43.21	-14	26	33.32	63.61	14.7	54.0	99.6	0.9
ago	17	2458712.75	23	3	44.07	-10	39	3.91	63.69	14.7	54.0	97.6	1.6
ago	18	2458713.75	23	48	28.36	-6	27	29.28	63.65	14.7	54.0	93.8	2.3

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mes	dia	dj	h	α m	s	δ °	"	dis DT			fase	hp h	
ago	19	2458714.75	0	32	30.99	-2	1	2.85	63.48	14.8	54.1	88.4	2.9
ago	20	2458715.75	1	16	33.51	+2	31	25.64	63.17	14.8	54.4	81.6	3.6
ago	21	2458716.75	2	1	21.94	+7	1	5.76	62.71	14.9	54.8	73.6	4.3
ago	22	2458717.75	2	47	44.71	+11	18	28.32	62.09	15.1	55.4	64.5	5.0
ago	23	2458718.75	3	36	29.51	+15	12	40.51	61.32	15.3	56.1	54.7	5.7
ago	24	2458719.75	4	28	17.17	+18	30	48.62	60.45	15.5	56.9	44.4	6.5
ago	25	2458720.75	5	23	31.63	+20	57	53.64	59.49	15.8	57.8	34.0	7.4
ago	26	2458721.75	6	22	6.89	+22	17	58.63	58.53	16.0	58.7	24.0	8.3
ago	27	2458722.75	7	23	17.59	+22	16	58.74	57.62	16.3	59.7	15.0	9.2
ago	28	2458723.75	8	25	43.69	+20	46	49.64	56.85	16.5	60.5	7.6	10.2
ago	29	2458724.75	9	27	53.61	+17	49	7.68	56.30	16.6	61.1	2.5	11.2
ago	30	2458725.75	10	28	34.70	+13	36	11.64	56.03	16.7	61.4	0.1	12.1
ago	31	2458726.75	11	27	12.32	+8	28	46.27	56.05	16.7	61.3	0.8	13.0
sep	1	2458727.75	12	23	49.53	+2	51	49.12	56.38	16.6	61.0	4.6	13.9
sep	2	2458728.75	13	18	54.53	-2	49	37.19	56.97	16.4	60.4	10.9	14.8
sep	3	2458729.75	14	13	5.67	-8	13	15.05	57.74	16.2	59.5	19.3	15.6
sep	4	2458730.75	15	6	59.00	-13	0	49.83	58.64	16.0	58.6	29.1	16.4
sep	5	2458731.75	16	0	59.33	-16	58	24.13	59.57	15.7	57.7	39.6	17.3
sep	6	2458732.75	16	55	14.63	-19	56	5.91	60.49	15.5	56.8	50.1	18.1
sep	7	2458733.75	17	49	34.17	-21	47	56.25	61.32	15.3	56.1	60.4	19.0
sep	8	2458734.75	18	43	31.78	-22	31	44.56	62.04	15.1	55.4	69.9	19.8
sep	9	2458735.75	19	36	33.78	-22	8	59.93	62.64	15.0	54.9	78.4	20.6
sep	10	2458736.75	20	28	9.19	-20	44	25.19	63.09	14.8	54.5	85.8	21.4
sep	11	2458737.75	21	17	58.22	-18	25	10.35	63.42	14.8	54.2	91.8	22.2
sep	12	2458738.75	22	5	56.33	-15	19	57.73	63.62	14.7	54.0	96.2	22.9
sep	13	2458739.75	22	52	13.89	-11	38	11.76	63.71	14.7	54.0	99.0	23.6
sep	14	2458740.75	23	37	13.37	-7	29	25.79	63.69	14.7	54.0	****	0.3
sep	15	2458741.75	0	21	25.86	-3	3	6.68	63.57	14.7	54.1	99.2	1.0
sep	16	2458742.75	1	5	28.27	+1	31	25.29	63.34	14.8	54.3	96.6	1.6
sep	17	2458743.75	1	50	1.17	+6	4	44.70	63.01	14.9	54.6	92.3	2.3
sep	18	2458744.75	2	35	46.92	+10	27	0.38	62.56	15.0	55.0	86.3	3.0
sep	19	2458745.75	3	23	27.06	+14	27	30.55	62.00	15.1	55.4	78.8	3.7
sep	20	2458746.75	4	13	37.98	+17	54	21.09	61.33	15.3	56.0	70.1	4.5
sep	21	2458747.75	5	6	43.81	+20	34	22.06	60.56	15.5	56.8	60.3	5.3
sep	22	2458748.75	6	2	47.35	+22	13	44.91	59.71	15.7	57.6	49.8	6.2
sep	23	2458749.75	7	1	22.36	+22	39	42.29	58.83	15.9	58.4	39.0	7.1
sep	24	2458750.75	8	1	33.97	+21	43	8.20	57.97	16.2	59.3	28.3	8.0
sep	25	2458751.75	9	2	11.79	+19	21	31.66	57.20	16.4	60.1	18.5	9.0
sep	26	2458752.75	10	2	11.74	+15	40	48.82	56.58	16.6	60.8	10.2	9.9
sep	27	2458753.75	11	0	54.73	+10	55	18.48	56.20	16.7	61.2	4.0	10.8
sep	28	2458754.75	11	58	12.72	+5	25	48.73	56.10	16.7	61.3	0.6	11.7
sep	29	2458755.75	12	54	22.75	-0	23	15.97	56.30	16.6	61.1	0.2	12.6
sep	30	2458756.75	13	49	54.97	-6	6	59.14	56.78	16.5	60.5	2.8	13.5
oct	1	2458757.75	14	45	20.06	-11	22	28.82	57.50	16.3	59.8	8.1	14.3
oct	2	2458758.75	15	40	58.67	-15	50	49.49	58.38	16.1	58.9	15.5	15.2
oct	3	2458759.75	16	36	54.19	-19	18	7.37	59.35	15.8	57.9	24.4	16.0

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mes	día	dj	h	α m	s	δ °	"	dis DT	·	·	fase	hp h	
oct	4	2458760.75	17	32	50.19	-21	35	56.30	60.32	15.5	57.0	34.1	16.9
oct	5	2458761.75	18	28	14.48	-22	41	13.89	61.24	15.3	56.1	44.2	17.8
oct	6	2458762.75	19	22	28.65	-22	35	45.75	62.03	15.1	55.4	54.2	18.6
oct	7	2458763.75	20	14	59.73	-21	25	1.86	62.68	14.9	54.9	63.8	19.4
oct	8	2458764.75	21	5	28.87	-19	16	56.20	63.17	14.8	54.4	72.7	20.2
oct	9	2458765.75	21	53	54.43	-16	20	31.88	63.48	14.8	54.2	80.7	20.9
oct	10	2458766.75	22	40	30.33	-12	45	9.61	63.62	14.7	54.0	87.6	21.6
oct	11	2458767.75	23	25	42.14	-8	40	3.26	63.63	14.7	54.0	93.1	22.3
oct	12	2458768.75	0	10	3.02	-4	14	18.52	63.50	14.8	54.1	97.1	23.0
oct	13	2458769.75	0	54	10.68	+0	22	54.04	63.28	14.8	54.3	99.5	23.7
oct	14	2458770.75	1	38	45.17	+5	1	59.88	62.96	14.9	54.6	99.9	0.3
oct	15	2458771.75	2	24	26.89	+9	32	40.70	62.57	15.0	54.9	98.5	1.0
oct	16	2458772.75	3	11	54.05	+13	43	39.03	62.12	15.1	55.3	95.2	1.8
oct	17	2458773.75	4	1	38.47	+17	22	32.80	61.60	15.2	55.8	90.0	2.5
oct	18	2458774.75	4	53	59.41	+20	16	11.30	61.03	15.3	56.3	83.1	3.3
oct	19	2458775.75	5	48	56.20	+22	11	23.93	60.41	15.5	56.9	74.7	4.2
oct	20	2458776.75	6	46	3.00	+22	56	31.12	59.74	15.7	57.5	65.0	5.1
oct	21	2458777.75	7	44	30.71	+22	23	26.03	59.05	15.9	58.2	54.3	6.0
oct	22	2458778.75	8	43	19.06	+20	29	30.31	58.36	16.1	58.9	43.2	6.9
oct	23	2458779.75	9	41	34.63	+17	18	37.23	57.73	16.2	59.5	32.1	7.8
oct	24	2458780.75	10	38	46.12	+13	1	4.52	57.19	16.4	60.1	21.7	8.7
oct	25	2458781.75	11	34	49.71	+7	52	34.66	56.82	16.5	60.5	12.7	9.6
oct	26	2458782.75	12	30	4.72	+2	12	53.34	56.65	16.5	60.7	5.8	10.4
oct	27	2458783.75	13	25	3.90	-3	35	39.49	56.73	16.5	60.6	1.5	11.3
oct	28	2458784.75	14	20	22.01	-9	9	51.15	57.06	16.4	60.2	0.0	12.1
oct	29	2458785.75	15	16	24.53	-14	7	34.72	57.63	16.2	59.6	1.4	13.0
oct	30	2458786.75	16	13	17.81	-18	9	56.57	58.39	16.0	58.9	5.4	13.9
oct	31	2458787.75	17	10	43.15	-21	3	15.34	59.28	15.8	58.0	11.5	14.8
nov	1	2458788.75	18	7	58.87	-22	40	21.55	60.21	15.6	57.1	19.2	15.7
nov	2	2458789.75	19	4	11.61	-23	0	50.55	61.11	15.3	56.3	28.0	16.5
nov	3	2458790.75	19	58	32.85	-22	9	56.84	61.93	15.1	55.5	37.5	17.4
nov	4	2458791.75	20	50	32.41	-20	16	32.98	62.60	15.0	54.9	47.1	18.2
nov	5	2458792.75	21	40	3.63	-17	31	2.72	63.09	14.8	54.5	56.7	18.9
nov	6	2458793.75	22	27	20.85	-14	3	48.61	63.40	14.8	54.2	66.0	19.6
nov	7	2458794.75	23	12	53.34	-10	4	29.64	63.51	14.8	54.1	74.6	20.3
nov	8	2458795.75	23	57	19.35	-5	42	0.53	63.44	14.8	54.2	82.4	21.0
nov	9	2458796.75	0	41	21.85	-1	4	57.21	63.22	14.8	54.4	89.1	21.7
nov	10	2458797.75	1	25	45.77	+3	37	46.06	62.87	14.9	54.7	94.3	22.4
nov	11	2458798.75	2	11	15.96	+8	16	18.13	62.43	15.0	55.1	98.0	23.0
nov	12	2458799.75	2	58	34.41	+12	39	20.33	61.93	15.1	55.5	99.8	23.8
nov	13	2458800.75	3	48	15.80	+16	33	54.12	61.41	15.2	56.0	99.6	0.5
nov	14	2458801.75	4	40	40.44	+19	45	41.10	60.88	15.4	56.5	97.4	1.3
nov	15	2458802.75	5	35	45.85	+22	0	11.22	60.36	15.5	57.0	93.0	2.2
nov	16	2458803.75	6	33	0.69	+23	4	42.48	59.85	15.7	57.4	86.6	3.1
nov	17	2458804.75	7	31	27.61	+22	50	47.84	59.37	15.8	57.9	78.4	4.0
nov	18	2458805.75	8	29	57.84	+21	16	13.03	58.91	15.9	58.4	68.7	4.9

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mes	dia	dj	h	α m	s	δ	"	dis DT	fase	hp h			
nov	19	2458806.75	9	27	32.54	+18	25	28.55	58.49	16.0	58.8	58.0	5.8
nov	20	2458807.75	10	23	39.36	+14	28	49.73	58.11	16.1	59.2	46.6	6.7
nov	21	2458808.75	11	18	17.24	+9	40	34.16	57.79	16.2	59.5	35.3	7.5
nov	22	2458809.75	12	11	50.96	+4	17	33.26	57.58	16.3	59.7	24.6	8.3
nov	23	2458810.75	13	5	0.92	-1	21	39.55	57.49	16.3	59.8	15.3	9.2
nov	24	2458811.75	13	58	32.32	-6	57	16.83	57.57	16.3	59.7	7.8	10.0
nov	25	2458812.75	14	53	4.45	-12	8	54.17	57.82	16.2	59.5	2.7	10.8
nov	26	2458813.75	15	48	59.80	-16	36	41.61	58.25	16.1	59.0	0.3	11.7
nov	27	2458814.75	16	46	14.13	-20	3	20.63	58.85	15.9	58.4	0.4	12.6
nov	28	2458815.75	17	44	11.96	-22	16	28.40	59.57	15.7	57.7	3.0	13.5
nov	29	2458816.75	18	41	52.87	-23	10	35.16	60.37	15.5	57.0	7.7	14.4
nov	30	2458817.75	19	38	9.50	-22	47	33.46	61.17	15.3	56.2	14.1	15.2
dic	1	2458818.75	20	32	8.54	-21	15	13.17	61.92	15.1	55.5	21.8	16.1
dic	2	2458819.75	21	23	24.15	-18	44	45.38	62.56	15.0	55.0	30.4	16.9
dic	3	2458820.75	22	11	59.33	-15	28	8.82	63.04	14.9	54.5	39.6	17.6
dic	4	2458821.75	22	58	19.35	-11	36	32.75	63.33	14.8	54.3	49.1	18.3
dic	5	2458822.75	23	43	3.46	-7	19	43.59	63.42	14.8	54.2	58.6	19.0
dic	6	2458823.75	0	26	58.40	-2	46	19.94	63.30	14.8	54.3	67.7	19.7
dic	7	2458824.75	1	10	54.42	+1	55	25.87	63.00	14.9	54.6	76.3	20.3
dic	8	2458825.75	1	55	42.91	+6	36	53.42	62.54	15.0	55.0	84.1	21.0
dic	9	2458826.75	2	42	14.03	+11	7	59.93	61.96	15.1	55.5	90.6	21.7
dic	10	2458827.75	3	31	12.67	+15	16	36.95	61.31	15.3	56.1	95.7	22.5
dic	11	2458828.75	4	23	11.21	+18	48	17.28	60.65	15.4	56.7	98.9	23.3
dic	12	2458829.75	5	18	18.72	+21	27	0.37	60.01	15.6	57.3	****	0.1
dic	13	2458830.75	6	16	10.37	+22	57	18.35	59.44	15.8	57.8	98.8	1.0
dic	14	2458831.75	7	15	44.79	+23	7	32.64	58.96	15.9	58.3	95.3	2.0
dic	15	2458832.75	8	15	37.67	+21	53	9.48	58.58	16.0	58.7	89.4	2.9
dic	16	2458833.75	9	14	28.61	+19	18	6.84	58.31	16.1	59.0	81.5	3.8
dic	17	2458834.75	10	11	26.24	+15	33	45.04	58.14	16.1	59.1	71.9	4.7
dic	18	2458835.75	11	6	18.18	+10	55	59.72	58.06	16.1	59.2	61.0	5.5
dic	19	2458836.75	11	59	25.71	+5	42	38.33	58.05	16.1	59.2	49.6	6.4
dic	20	2458837.75	12	51	31.44	+0	11	43.12	58.12	16.1	59.1	38.2	7.2
dic	21	2458838.75	13	43	27.01	-5	18	58.48	58.25	16.1	59.0	27.5	8.0
dic	22	2458839.75	14	36	2.50	-10	31	49.57	58.47	16.0	58.8	17.9	8.8
dic	23	2458840.75	15	29	56.50	-15	9	25.83	58.78	15.9	58.5	10.2	9.6
dic	24	2458841.75	16	25	25.89	-18	55	16.03	59.18	15.8	58.1	4.5	10.5
dic	25	2458842.75	17	22	17.18	-21	35	18.33	59.68	15.7	57.6	1.1	11.3
dic	26	2458843.75	18	19	44.79	-23	0	13.03	60.26	15.6	57.0	0.0	12.2
dic	27	2458844.75	19	16	41.56	-23	7	14.58	60.89	15.4	56.5	1.2	13.1
dic	28	2458845.75	20	11	59.44	-22	0	31.86	61.54	15.2	55.9	4.4	14.0
dic	29	2458846.75	21	4	50.20	-19	49	35.54	62.16	15.1	55.3	9.5	14.8
dic	30	2458847.75	21	54	55.69	-16	46	39.85	62.70	14.9	54.8	16.0	15.6
dic	31	2458848.75	22	42	26.22	-13	4	16.56	63.12	14.8	54.5	23.7	16.3
ene	1	2458849.75	23	27	52.62	-8	53	47.78	63.37	14.8	54.2	32.2	17.0
ene	2	2458850.75	0	11	58.12	-4	25	0.75	63.44	14.8	54.2	41.4	17.6

Mercurio, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
ene	1	2458484.50	17	33	15.10	-23	10	9.36	1.2960	10.8
ene	2	2458485.50	17	39	36.44	-23	21	14.13	1.3075	10.9
ene	3	2458486.50	17	46	1.20	-23	31	14.18	1.3185	10.9
ene	4	2458487.50	17	52	29.15	-23	40	7.46	1.3288	11.0
ene	5	2458488.50	17	59	0.08	-23	47	52.08	1.3386	11.0
ene	6	2458489.50	18	5	33.78	-23	54	26.27	1.3478	11.1
ene	7	2458490.50	18	12	10.08	-23	59	48.43	1.3564	11.1
ene	8	2458491.50	18	18	48.81	-24	3	57.05	1.3645	11.1
ene	9	2458492.50	18	25	29.80	-24	6	50.71	1.3721	11.2
ene	10	2458493.50	18	32	12.91	-24	8	28.09	1.3791	11.2
ene	11	2458494.50	18	38	57.99	-24	8	47.96	1.3856	11.3
ene	12	2458495.50	18	45	44.90	-24	7	49.16	1.3916	11.3
ene	13	2458496.50	18	52	33.52	-24	5	30.59	1.3971	11.4
ene	14	2458497.50	18	59	23.73	-24	1	51.22	1.4020	11.4
ene	15	2458498.50	19	6	15.39	-23	56	50.07	1.4064	11.5
ene	16	2458499.50	19	13	8.41	-23	50	26.24	1.4103	11.5
ene	17	2458500.50	19	20	2.66	-23	42	38.84	1.4137	11.6
ene	18	2458501.50	19	26	58.05	-23	33	27.07	1.4166	11.6
ene	19	2458502.50	19	33	54.47	-23	22	50.15	1.4189	11.7
ene	20	2458503.50	19	40	51.82	-23	10	47.37	1.4207	11.7
ene	21	2458504.50	19	47	50.00	-22	57	18.03	1.4219	11.8
ene	22	2458505.50	19	54	48.92	-22	42	21.49	1.4227	11.8
ene	23	2458506.50	20	1	48.49	-22	25	57.15	1.4228	11.9
ene	24	2458507.50	20	8	48.62	-22	8	4.43	1.4224	11.9
ene	25	2458508.50	20	15	49.22	-21	48	42.82	1.4215	12.0
ene	26	2458509.50	20	22	50.20	-21	27	51.86	1.4199	12.0
ene	27	2458510.50	20	29	51.48	-21	5	31.18	1.4178	12.1
ene	28	2458511.50	20	36	52.97	-20	41	40.47	1.4150	12.1
ene	29	2458512.50	20	43	54.57	-20	16	19.50	1.4116	12.2
ene	30	2458513.50	20	50	56.18	-19	49	28.14	1.4075	12.2
ene	31	2458514.50	20	57	57.69	-19	21	6.37	1.4028	12.3
feb	1	2458515.50	21	4	59.00	-18	51	14.32	1.3973	12.3
feb	2	2458516.50	21	11	59.96	-18	19	52.28	1.3912	12.4
feb	3	2458517.50	21	19	0.45	-17	47	0.71	1.3842	12.4
feb	4	2458518.50	21	26	0.30	-17	12	40.26	1.3765	12.5
feb	5	2458519.50	21	32	59.33	-16	36	51.89	1.3680	12.5
feb	6	2458520.50	21	39	57.33	-15	59	36.81	1.3586	12.6
feb	7	2458521.50	21	46	54.06	-15	20	56.64	1.3483	12.6
feb	8	2458522.50	21	53	49.23	-14	40	53.42	1.3371	12.7
feb	9	2458523.50	22	0	42.51	-13	59	29.68	1.3250	12.7
feb	10	2458524.50	22	7	33.51	-13	16	48.58	1.3118	12.8
feb	11	2458525.50	22	14	21.77	-12	32	53.97	1.2976	12.8
feb	12	2458526.50	22	21	6.75	-11	47	50.50	1.2824	12.9
feb	13	2458527.50	22	27	47.81	-11	1	43.78	1.2661	12.9
feb	14	2458528.50	22	34	24.22	-10	14	40.45	1.2486	13.0
feb	15	2458529.50	22	40	55.13	-9	26	48.37	1.2301	13.0

Mercurio, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	\circ	δ '	"	dis UA	hp h
feb	16	2458530.50	22	47	19.54	-8	38	16.73	1.2104	13.1
feb	17	2458531.50	22	53	36.33	-7	49	16.13	1.1895	13.1
feb	18	2458532.50	22	59	44.22	-6	59	58.74	1.1675	13.1
feb	19	2458533.50	23	5	41.79	-6	10	38.31	1.1445	13.2
feb	20	2458534.50	23	11	27.46	-5	21	30.25	1.1204	13.2
feb	21	2458535.50	23	16	59.49	-4	32	51.53	1.0953	13.2
feb	22	2458536.50	23	22	16.05	-3	45	0.66	1.0694	13.2
feb	23	2458537.50	23	27	15.15	-2	58	17.50	1.0428	13.3
feb	24	2458538.50	23	31	54.77	-2	13	3.07	1.0155	13.3
feb	25	2458539.50	23	36	12.81	-1	29	39.22	0.9877	13.3
feb	26	2458540.50	23	40	7.20	-0	48	28.35	0.9597	13.3
feb	27	2458541.50	23	43	35.92	-0	9	52.95	0.9315	13.3
feb	28	2458542.50	23	46	37.09	+0	25	44.73	0.9035	13.3
mar	1	2458543.50	23	49	9.01	+0	58	3.16	0.8758	13.2
mar	2	2458544.50	23	51	10.21	+1	26	41.93	0.8486	13.2
mar	3	2458545.50	23	52	39.56	+1	51	22.23	0.8221	13.2
mar	4	2458546.50	23	53	36.30	+2	11	47.29	0.7966	13.1
mar	5	2458547.50	23	54	0.15	+2	27	42.90	0.7722	13.1
mar	6	2458548.50	23	53	51.30	+2	38	57.96	0.7491	13.0
mar	7	2458549.50	23	53	10.53	+2	45	25.03	0.7274	12.9
mar	8	2458550.50	23	51	59.19	+2	47	0.95	0.7073	12.8
mar	9	2458551.50	23	50	19.29	+2	43	47.39	0.6889	12.7
mar	10	2458552.50	23	48	13.43	+2	35	51.33	0.6724	12.6
mar	11	2458553.50	23	45	44.81	+2	23	25.43	0.6577	12.5
mar	12	2458554.50	23	42	57.13	+2	6	48.07	0.6450	12.4
mar	13	2458555.50	23	39	54.55	+1	46	23.18	0.6342	12.3
mar	14	2458556.50	23	36	41.49	+1	22	39.66	0.6254	12.2
mar	15	2458557.50	23	33	22.53	+0	56	10.47	0.6185	12.1
mar	16	2458558.50	23	30	2.25	+0	27	31.50	0.6136	11.9
mar	17	2458559.50	23	26	45.06	-0	2	39.83	0.6105	11.8
mar	18	2458560.50	23	23	35.06	-0	33	46.00	0.6092	11.7
mar	19	2458561.50	23	20	35.96	-1	5	10.73	0.6095	11.6
mar	20	2458562.50	23	17	50.93	-1	36	20.13	0.6114	11.5
mar	21	2458563.50	23	15	22.65	-2	6	43.65	0.6148	11.4
mar	22	2458564.50	23	13	13.18	-2	35	54.64	0.6195	11.3
mar	23	2458565.50	23	11	24.10	-3	3	30.65	0.6255	11.2
mar	24	2458566.50	23	9	56.42	-3	29	13.45	0.6326	11.1
mar	25	2458567.50	23	8	50.74	-3	52	48.89	0.6407	11.0
mar	26	2458568.50	23	8	7.26	-4	14	6.47	0.6497	10.9
mar	27	2458569.50	23	7	45.82	-4	32	58.94	0.6595	10.8
mar	28	2458570.50	23	7	46.05	-4	49	21.83	0.6700	10.8
mar	29	2458571.50	23	8	7.34	-5	3	12.96	0.6812	10.7
mar	30	2458572.50	23	8	48.94	-5	14	31.98	0.6929	10.7
mar	31	2458573.50	23	9	50.02	-5	23	19.99	0.7051	10.6
abr	1	2458574.50	23	11	9.66	-5	29	39.20	0.7177	10.6
abr	2	2458575.50	23	12	46.91	-5	33	32.62	0.7307	10.5

Mercurio, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	dia	dj	h	α m	s	°	δ '	"	dis UA	hp h
abr	3	2458576.50	23	14	40.82	-5	35	3.84	0.7440	10.5
abr	4	2458577.50	23	16	50.46	-5	34	16.81	0.7576	10.5
abr	5	2458578.50	23	19	14.91	-5	31	15.73	0.7714	10.4
abr	6	2458579.50	23	21	53.29	-5	26	4.90	0.7854	10.4
abr	7	2458580.50	23	24	44.77	-5	18	48.65	0.7996	10.4
abr	8	2458581.50	23	27	48.57	-5	9	31.26	0.8139	10.4
abr	9	2458582.50	23	31	3.95	-4	58	16.94	0.8284	10.4
abr	10	2458583.50	23	34	30.24	-4	45	9.77	0.8429	10.4
abr	11	2458584.50	23	38	6.81	-4	30	13.70	0.8575	10.4
abr	12	2458585.50	23	41	53.08	-4	13	32.53	0.8722	10.4
abr	13	2458586.50	23	45	48.55	-3	55	9.89	0.8869	10.4
abr	14	2458587.50	23	49	52.74	-3	35	9.28	0.9017	10.4
abr	15	2458588.50	23	54	5.24	-3	13	34.01	0.9165	10.4
abr	16	2458589.50	23	58	25.67	-2	50	27.25	0.9313	10.4
abr	17	2458590.50	0	2	53.72	-2	25	52.05	0.9461	10.4
abr	18	2458591.50	0	7	29.10	-1	59	51.30	0.9609	10.4
abr	19	2458592.50	0	12	11.58	-1	32	27.78	0.9758	10.4
abr	20	2458593.50	0	17	0.96	-1	3	44.19	0.9906	10.4
abr	21	2458594.50	0	21	57.08	-0	33	43.14	1.0053	10.4
abr	22	2458595.50	0	26	59.82	-0	2	27.16	1.0201	10.4
abr	23	2458596.50	0	32	9.07	+0	30	1.23	1.0348	10.5
abr	24	2458597.50	0	37	24.78	+1	3	39.58	1.0494	10.5
abr	25	2458598.50	0	42	46.93	+1	38	25.46	1.0640	10.5
abr	26	2458599.50	0	48	15.50	+2	14	16.43	1.0785	10.5
abr	27	2458600.50	0	53	50.54	+2	51	10.05	1.0929	10.6
abr	28	2458601.50	0	59	32.11	+3	29	3.86	1.1072	10.6
abr	29	2458602.50	1	5	20.29	+4	7	55.33	1.1214	10.6
abr	30	2458603.50	1	11	15.21	+4	47	41.87	1.1354	10.7
may	1	2458604.50	1	17	17.01	+5	28	20.78	1.1493	10.7
may	2	2458605.50	1	23	25.86	+6	9	49.21	1.1630	10.7
may	3	2458606.50	1	29	41.94	+6	52	4.16	1.1764	10.8
may	4	2458607.50	1	36	5.47	+7	35	2.42	1.1896	10.8
may	5	2458608.50	1	42	36.68	+8	18	40.51	1.2025	10.9
may	6	2458609.50	1	49	15.80	+9	2	54.66	1.2151	10.9
may	7	2458610.50	1	56	3.09	+9	47	40.76	1.2273	10.9
may	8	2458611.50	2	2	58.80	+10	32	54.27	1.2391	11.0
may	9	2458612.50	2	10	3.19	+11	18	30.18	1.2504	11.0
may	10	2458613.50	2	17	16.49	+12	4	22.97	1.2611	11.1
may	11	2458614.50	2	24	38.94	+12	50	26.50	1.2713	11.2
may	12	2458615.50	2	32	10.72	+13	36	33.99	1.2808	11.2
may	13	2458616.50	2	39	52.00	+14	22	37.97	1.2895	11.3
may	14	2458617.50	2	47	42.86	+15	8	30.21	1.2974	11.3
may	15	2458618.50	2	55	43.33	+15	54	1.71	1.3044	11.4
may	16	2458619.50	3	3	53.36	+16	39	2.72	1.3104	11.5
may	17	2458620.50	3	12	12.76	+17	23	22.71	1.3153	11.6
may	18	2458621.50	3	20	41.26	+18	6	50.51	1.3190	11.6

Mercurio, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
may	19	2458622.50	3	29	18.42	+18	49	14.38	1.3215	11.7
may	20	2458623.50	3	38	3.65	+19	30	22.18	1.3227	11.8
may	21	2458624.50	3	46	56.23	+20	10	1.65	1.3226	11.9
may	22	2458625.50	3	55	55.28	+20	48	0.57	1.3210	12.0
may	23	2458626.50	4	4	59.73	+21	24	6.82	1.3180	12.0
may	24	2458627.50	4	14	8.44	+21	58	9.49	1.3136	12.1
may	25	2458628.50	4	23	20.13	+22	29	58.29	1.3078	12.2
may	26	2458629.50	4	32	33.43	+22	59	24.28	1.3005	12.3
may	27	2458630.50	4	41	46.96	+23	26	19.96	1.2919	12.4
may	28	2458631.50	4	50	59.28	+23	50	39.49	1.2819	12.5
may	29	2458632.50	5	0	9.00	+24	12	18.74	1.2708	12.6
may	30	2458633.50	5	9	14.75	+24	31	15.29	1.2585	12.7
may	31	2458634.50	5	18	15.25	+24	47	28.42	1.2452	12.7
jun	1	2458635.50	5	27	9.30	+25	0	58.95	1.2309	12.8
jun	2	2458636.50	5	35	55.81	+25	11	49.09	1.2158	12.9
jun	3	2458637.50	5	44	33.80	+25	20	2.28	1.2000	13.0
jun	4	2458638.50	5	53	2.38	+25	25	42.99	1.1835	13.1
jun	5	2458639.50	6	1	20.78	+25	28	56.53	1.1665	13.1
jun	6	2458640.50	6	9	28.33	+25	29	48.84	1.1490	13.2
jun	7	2458641.50	6	17	24.47	+25	28	26.36	1.1312	13.3
jun	8	2458642.50	6	25	8.69	+25	24	55.90	1.1131	13.3
jun	9	2458643.50	6	32	40.57	+25	19	24.47	1.0947	13.4
jun	10	2458644.50	6	39	59.77	+25	11	59.24	1.0762	13.4
jun	11	2458645.50	6	47	5.98	+25	2	47.42	1.0577	13.5
jun	12	2458646.50	6	53	58.95	+24	51	56.24	1.0390	13.5
jun	13	2458647.50	7	0	38.46	+24	39	32.88	1.0204	13.6
jun	14	2458648.50	7	7	4.32	+24	25	44.44	1.0018	13.6
jun	15	2458649.50	7	13	16.35	+24	10	37.94	0.9833	13.7
jun	16	2458650.50	7	19	14.39	+23	54	20.27	0.9649	13.7
jun	17	2458651.50	7	24	58.29	+23	36	58.22	0.9466	13.7
jun	18	2458652.50	7	30	27.87	+23	18	38.46	0.9285	13.8
jun	19	2458653.50	7	35	42.99	+22	59	27.56	0.9106	13.8
jun	20	2458654.50	7	40	43.47	+22	39	31.99	0.8929	13.8
jun	21	2458655.50	7	45	29.13	+22	18	58.12	0.8754	13.8
jun	22	2458656.50	7	49	59.78	+21	57	52.27	0.8582	13.8
jun	23	2458657.50	7	54	15.21	+21	36	20.71	0.8412	13.8
jun	24	2458658.50	7	58	15.18	+21	14	29.65	0.8246	13.8
jun	25	2458659.50	8	1	59.45	+20	52	25.31	0.8082	13.8
jun	26	2458660.50	8	5	27.77	+20	30	13.89	0.7922	13.8
jun	27	2458661.50	8	8	39.83	+20	8	1.62	0.7765	13.8
jun	28	2458662.50	8	11	35.35	+19	45	54.74	0.7612	13.8
jun	29	2458663.50	8	14	14.01	+19	23	59.56	0.7462	13.8
jun	30	2458664.50	8	16	35.48	+19	2	22.42	0.7317	13.7
jul	1	2458665.50	8	18	39.46	+18	41	9.71	0.7176	13.7
jul	2	2458666.50	8	20	25.60	+18	20	27.90	0.7039	13.7
jul	3	2458667.50	8	21	53.60	+18	0	23.48	0.6907	13.6

Mercurio, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ -	"	dis UA	hp h
jul	4	2458668.50	8	23	3.16	+17	41	2.98	0.6781	13.6
jul	5	2458669.50	8	23	54.05	+17	22	32.93	0.6659	13.5
jul	6	2458670.50	8	24	26.06	+17	4	59.82	0.6544	13.5
jul	7	2458671.50	8	24	39.07	+16	48	30.07	0.6434	13.4
jul	8	2458672.50	8	24	33.08	+16	33	9.92	0.6331	13.3
jul	9	2458673.50	8	24	8.17	+16	19	5.44	0.6235	13.3
jul	10	2458674.50	8	23	24.61	+16	6	22.38	0.6147	13.2
jul	11	2458675.50	8	22	22.81	+15	55	6.06	0.6066	13.1
jul	12	2458676.50	8	21	3.41	+15	45	21.34	0.5994	13.0
jul	13	2458677.50	8	19	27.25	+15	37	12.39	0.5930	12.9
jul	14	2458678.50	8	17	35.42	+15	30	42.64	0.5877	12.8
jul	15	2458679.50	8	15	29.27	+15	25	54.63	0.5832	12.7
jul	16	2458680.50	8	13	10.43	+15	22	49.88	0.5799	12.6
jul	17	2458681.50	8	10	40.78	+15	21	28.83	0.5776	12.5
jul	18	2458682.50	8	8	2.48	+15	21	50.74	0.5765	12.4
jul	19	2458683.50	8	5	17.90	+15	23	53.65	0.5765	12.3
jul	20	2458684.50	8	2	29.64	+15	27	34.39	0.5778	12.2
jul	21	2458685.50	7	59	40.44	+15	32	48.63	0.5803	12.1
jul	22	2458686.50	7	56	53.15	+15	39	30.88	0.5842	12.0
jul	23	2458687.50	7	54	10.68	+15	47	34.66	0.5893	11.9
jul	24	2458688.50	7	51	35.91	+15	56	52.59	0.5958	11.7
jul	25	2458689.50	7	49	11.66	+16	7	16.50	0.6036	11.6
jul	26	2458690.50	7	47	0.62	+16	18	37.62	0.6127	11.5
jul	27	2458691.50	7	45	5.31	+16	30	46.70	0.6232	11.4
jul	28	2458692.50	7	43	28.03	+16	43	34.09	0.6350	11.3
jul	29	2458693.50	7	42	10.84	+16	56	49.89	0.6481	11.3
jul	30	2458694.50	7	41	15.54	+17	10	24.01	0.6625	11.2
jul	31	2458695.50	7	40	43.65	+17	24	6.23	0.6781	11.1
ago	1	2458696.50	7	40	36.47	+17	37	46.22	0.6950	11.0
ago	2	2458697.50	7	40	54.99	+17	51	13.57	0.7131	11.0
ago	3	2458698.50	7	41	40.01	+18	4	17.79	0.7322	10.9
ago	4	2458699.50	7	42	52.07	+18	16	48.29	0.7525	10.9
ago	5	2458700.50	7	44	31.53	+18	28	34.42	0.7737	10.8
ago	6	2458701.50	7	46	38.55	+18	39	25.42	0.7960	10.8
ago	7	2458702.50	7	49	13.10	+18	49	10.47	0.8191	10.8
ago	8	2458703.50	7	52	14.98	+18	57	38.71	0.8429	10.8
ago	9	2458704.50	7	55	43.84	+19	4	39.24	0.8675	10.8
ago	10	2458705.50	7	59	39.15	+19	10	1.25	0.8927	10.8
ago	11	2458706.50	8	4	0.22	+19	13	34.09	0.9184	10.8
ago	12	2458707.50	8	8	46.19	+19	15	7.42	0.9445	10.8
ago	13	2458708.50	8	13	56.06	+19	14	31.39	0.9708	10.8
ago	14	2458709.50	8	19	28.61	+19	11	36.81	0.9972	10.8
ago	15	2458710.50	8	25	22.49	+19	6	15.46	1.0236	10.9
ago	16	2458711.50	8	31	36.16	+18	58	20.24	1.0498	10.9
ago	17	2458712.50	8	38	7.94	+18	47	45.47	1.0757	10.9
ago	18	2458713.50	8	44	56.00	+18	34	27.13	1.1011	11.0

Mercurio, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
ago	19	2458714.50	8	51	58.42	+18	18	22.98	1.1258	11.0
ago	20	2458715.50	8	59	13.17	+17	59	32.74	1.1498	11.1
ago	21	2458716.50	9	6	38.21	+17	37	58.09	1.1728	11.2
ago	22	2458717.50	9	14	11.51	+17	13	42.67	1.1949	11.2
ago	23	2458718.50	9	21	51.05	+16	46	51.89	1.2158	11.3
ago	24	2458719.50	9	29	34.94	+16	17	32.81	1.2355	11.3
ago	25	2458720.50	9	37	21.39	+15	45	53.83	1.2539	11.4
ago	26	2458721.50	9	45	8.79	+15	12	4.38	1.2711	11.5
ago	27	2458722.50	9	52	55.67	+14	36	14.66	1.2870	11.5
ago	28	2458723.50	10	0	40.78	+13	58	35.31	1.3015	11.6
ago	29	2458724.50	10	8	23.02	+13	19	17.12	1.3147	11.7
ago	30	2458725.50	10	16	1.52	+12	38	30.82	1.3267	11.7
ago	31	2458726.50	10	23	35.55	+11	56	26.83	1.3374	11.8
sep	1	2458727.50	10	31	4.54	+11	13	15.19	1.3469	11.8
sep	2	2458728.50	10	38	28.08	+10	29	5.36	1.3553	11.9
sep	3	2458729.50	10	45	45.89	+9	44	6.25	1.3625	12.0
sep	4	2458730.50	10	52	57.78	+8	58	26.09	1.3687	12.0
sep	5	2458731.50	11	0	3.67	+8	12	12.46	1.3739	12.1
sep	6	2458732.50	11	7	3.53	+7	25	32.37	1.3782	12.1
sep	7	2458733.50	11	13	57.42	+6	38	32.21	1.3815	12.2
sep	8	2458734.50	11	20	45.43	+5	51	17.74	1.3840	12.2
sep	9	2458735.50	11	27	27.69	+5	3	54.20	1.3857	12.3
sep	10	2458736.50	11	34	4.38	+4	16	26.33	1.3866	12.3
sep	11	2458737.50	11	40	35.68	+3	28	58.44	1.3868	12.3
sep	12	2458738.50	11	47	1.79	+2	41	34.38	1.3863	12.4
sep	13	2458739.50	11	53	22.93	+1	54	17.67	1.3852	12.4
sep	14	2458740.50	11	59	39.30	+1	7	11.50	1.3834	12.5
sep	15	2458741.50	12	5	51.15	+0	20	18.76	1.3811	12.5
sep	16	2458742.50	12	11	58.68	-0	26	17.93	1.3782	12.5
sep	17	2458743.50	12	18	2.10	-1	12	36.16	1.3747	12.6
sep	18	2458744.50	12	24	1.64	-1	58	33.71	1.3707	12.6
sep	19	2458745.50	12	29	57.49	-2	44	8.55	1.3662	12.6
sep	20	2458746.50	12	35	49.85	-3	29	18.78	1.3613	12.7
sep	21	2458747.50	12	41	38.91	-4	14	2.62	1.3558	12.7
sep	22	2458748.50	12	47	24.83	-4	58	18.42	1.3499	12.7
sep	23	2458749.50	12	53	7.78	-5	42	4.59	1.3436	12.8
sep	24	2458750.50	12	58	47.90	-6	25	19.61	1.3367	12.8
sep	25	2458751.50	13	4	25.33	-7	8	2.01	1.3295	12.8
sep	26	2458752.50	13	10	0.20	-7	50	10.38	1.3218	12.8
sep	27	2458753.50	13	15	32.60	-8	31	43.31	1.3138	12.9
sep	28	2458754.50	13	21	2.63	-9	12	39.43	1.3052	12.9
sep	29	2458755.50	13	26	30.37	-9	52	57.38	1.2963	12.9
sep	30	2458756.50	13	31	55.86	-10	32	35.78	1.2870	13.0
oct	1	2458757.50	13	37	19.15	-11	11	33.26	1.2772	13.0
oct	2	2458758.50	13	42	40.26	-11	49	48.40	1.2670	13.0
oct	3	2458759.50	13	47	59.17	-12	27	19.76	1.2565	13.0

Mercurio, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	\circ	δ "	"	dis UA	hp h
oct	4	2458760.50	13	53	15.87	-13	4	5.85	1.2455	13.0
oct	5	2458761.50	13	58	30.30	-13	40	5.15	1.2341	13.1
oct	6	2458762.50	14	3	42.37	-14	15	16.05	1.2222	13.1
oct	7	2458763.50	14	8	51.98	-14	49	36.88	1.2100	13.1
oct	8	2458764.50	14	13	58.98	-15	23	5.90	1.1973	13.1
oct	9	2458765.50	14	19	3.20	-15	55	41.28	1.1842	13.1
oct	10	2458766.50	14	24	4.42	-16	27	21.07	1.1707	13.2
oct	11	2458767.50	14	29	2.37	-16	58	3.23	1.1568	13.2
oct	12	2458768.50	14	33	56.75	-17	27	45.54	1.1425	13.2
oct	13	2458769.50	14	38	47.18	-17	56	25.69	1.1277	13.2
oct	14	2458770.50	14	43	33.24	-18	24	1.14	1.1125	13.2
oct	15	2458771.50	14	48	14.44	-18	50	29.21	1.0969	13.2
oct	16	2458772.50	14	52	50.19	-19	15	46.95	1.0808	13.2
oct	17	2458773.50	14	57	19.85	-19	39	51.21	1.0644	13.3
oct	18	2458774.50	15	1	42.67	-20	2	38.53	1.0475	13.3
oct	19	2458775.50	15	5	57.78	-20	24	5.11	1.0303	13.3
oct	20	2458776.50	15	10	4.22	-20	44	6.81	1.0126	13.3
oct	21	2458777.50	15	14	0.88	-21	2	39.04	0.9946	13.3
oct	22	2458778.50	15	17	46.52	-21	19	36.72	0.9763	13.3
oct	23	2458779.50	15	21	19.75	-21	34	54.23	0.9576	13.3
oct	24	2458780.50	15	24	39.02	-21	48	25.30	0.9386	13.3
oct	25	2458781.50	15	27	42.60	-22	0	2.94	0.9195	13.2
oct	26	2458782.50	15	30	28.57	-22	9	39.33	0.9001	13.2
oct	27	2458783.50	15	32	54.87	-22	17	5.76	0.8806	13.2
oct	28	2458784.50	15	34	59.22	-22	22	12.54	0.8611	13.2
oct	29	2458785.50	15	36	39.24	-22	24	48.91	0.8416	13.1
oct	30	2458786.50	15	37	52.40	-22	24	43.06	0.8223	13.1
oct	31	2458787.50	15	38	36.15	-22	21	42.17	0.8033	13.0
nov	1	2458788.50	15	38	47.98	-22	15	32.64	0.7847	13.0
nov	2	2458789.50	15	38	25.56	-22	6	0.48	0.7668	12.9
nov	3	2458790.50	15	37	26.92	-21	52	52.03	0.7498	12.8
nov	4	2458791.50	15	35	50.67	-21	35	54.95	0.7338	12.7
nov	5	2458792.50	15	33	36.26	-21	14	59.82	0.7192	12.6
nov	6	2458793.50	15	30	44.26	-20	50	1.98	0.7062	12.5
nov	7	2458794.50	15	27	16.64	-20	21	4.01	0.6950	12.4
nov	8	2458795.50	15	23	17.00	-19	48	18.14	0.6861	12.2
nov	9	2458796.50	15	18	50.67	-19	12	8.60	0.6796	12.1
nov	10	2458797.50	15	14	4.67	-18	33	13.06	0.6758	12.0
nov	11	2458798.50	15	9	7.48	-17	52	22.68	0.6749	11.8
nov	12	2458799.50	15	4	8.54	-17	10	40.31	0.6770	11.7
nov	13	2458800.50	14	59	17.67	-16	29	16.65	0.6823	11.5
nov	14	2458801.50	14	54	44.38	-15	49	25.06	0.6906	11.4
nov	15	2458802.50	14	50	37.20	-15	12	15.54	0.7018	11.2
nov	16	2458803.50	14	47	3.20	-14	38	49.34	0.7159	11.1
nov	17	2458804.50	14	44	7.63	-14	9	54.88	0.7325	11.0
nov	18	2458805.50	14	41	53.91	-13	46	5.54	0.7513	10.9

Mercurio, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	\circ	δ '	"	dis UA	hp h
nov	19	2458806.50	14	40	23.63	-13	27	39.43	0.7720	10.8
nov	20	2458807.50	14	39	36.87	-13	14	40.69	0.7943	10.7
nov	21	2458808.50	14	39	32.47	-13	7	1.80	0.8178	10.7
nov	22	2458809.50	14	40	8.35	-13	4	26.29	0.8423	10.6
nov	23	2458810.50	14	41	21.83	-13	6	31.52	0.8674	10.6
nov	24	2458811.50	14	43	9.91	-13	12	51.06	0.8929	10.5
nov	25	2458812.50	14	45	29.44	-13	22	56.72	0.9185	10.5
nov	26	2458813.50	14	48	17.30	-13	36	20.02	0.9440	10.5
nov	27	2458814.50	14	51	30.49	-13	52	33.33	0.9693	10.5
nov	28	2458815.50	14	55	6.24	-14	11	10.50	0.9942	10.5
nov	29	2458816.50	14	59	1.97	-14	31	47.34	1.0187	10.5
nov	30	2458817.50	15	3	15.40	-14	54	1.78	1.0425	10.5
dic	1	2458818.50	15	7	44.46	-15	17	33.93	1.0658	10.5
dic	2	2458819.50	15	12	27.35	-15	42	5.99	1.0883	10.5
dic	3	2458820.50	15	17	22.49	-16	7	22.20	1.1101	10.5
dic	4	2458821.50	15	22	28.48	-16	33	8.59	1.1312	10.5
dic	5	2458822.50	15	27	44.13	-16	59	12.86	1.1514	10.5
dic	6	2458823.50	15	33	8.41	-17	25	24.20	1.1709	10.6
dic	7	2458824.50	15	38	40.42	-17	51	33.10	1.1896	10.6
dic	8	2458825.50	15	44	19.38	-18	17	31.18	1.2075	10.6
dic	9	2458826.50	15	50	4.64	-18	43	11.10	1.2247	10.7
dic	10	2458827.50	15	55	55.63	-19	8	26.37	1.2411	10.7
dic	11	2458828.50	16	1	51.85	-19	33	11.26	1.2567	10.7
dic	12	2458829.50	16	7	52.88	-19	57	20.69	1.2716	10.8
dic	13	2458830.50	16	13	58.35	-20	20	50.14	1.2858	10.8
dic	14	2458831.50	16	20	7.96	-20	43	35.57	1.2993	10.8
dic	15	2458832.50	16	26	21.41	-21	5	33.35	1.3120	10.9
dic	16	2458833.50	16	32	38.47	-21	26	40.20	1.3241	10.9
dic	17	2458834.50	16	38	58.93	-21	46	53.15	1.3355	10.9
dic	18	2458835.50	16	45	22.60	-22	6	9.48	1.3463	11.0
dic	19	2458836.50	16	51	49.31	-22	24	26.70	1.3564	11.0
dic	20	2458837.50	16	58	18.92	-22	41	42.52	1.3659	11.1
dic	21	2458838.50	17	4	51.29	-22	57	54.83	1.3748	11.1
dic	22	2458839.50	17	11	26.29	-23	13	1.66	1.3830	11.2
dic	23	2458840.50	17	18	3.81	-23	27	1.16	1.3907	11.2
dic	24	2458841.50	17	24	43.74	-23	39	51.61	1.3978	11.2
dic	25	2458842.50	17	31	25.96	-23	51	31.37	1.4043	11.3
dic	26	2458843.50	17	38	10.37	-24	1	58.90	1.4102	11.3
dic	27	2458844.50	17	44	56.87	-24	11	12.72	1.4156	11.4
dic	28	2458845.50	17	51	45.37	-24	19	11.41	1.4204	11.4
dic	29	2458846.50	17	58	35.75	-24	25	53.61	1.4246	11.5
dic	30	2458847.50	18	5	27.93	-24	31	18.04	1.4283	11.5
dic	31	2458848.50	18	12	21.81	-24	35	23.43	1.4314	11.6
ene	1	2458849.50	18	19	17.30	-24	38	8.59	1.4340	18.3
ene	2	2458850.50	18	26	14.28	-24	39	32.36	1.4360	18.4

Venus, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	\circ	δ "	"	dis UA	hp h
ene	1	2458484.50	15	27	59.71	-15	18	39.25	0.6346	8.8
ene	2	2458485.50	15	31	57.62	-15	32	36.73	0.6422	8.8
ene	3	2458486.50	15	35	57.83	-15	46	31.36	0.6498	8.8
ene	4	2458487.50	15	40	0.30	-16	0	21.90	0.6574	8.8
ene	5	2458488.50	15	44	4.98	-16	14	7.12	0.6650	8.8
ene	6	2458489.50	15	48	11.82	-16	27	45.85	0.6726	8.8
ene	7	2458490.50	15	52	20.78	-16	41	16.92	0.6802	8.8
ene	8	2458491.50	15	56	31.81	-16	54	39.17	0.6878	8.8
ene	9	2458492.50	16	0	44.89	-17	7	51.51	0.6954	8.8
ene	10	2458493.50	16	4	59.96	-17	20	52.83	0.7030	8.8
ene	11	2458494.50	16	9	16.99	-17	33	42.06	0.7106	8.8
ene	12	2458495.50	16	13	35.95	-17	46	18.17	0.7182	8.8
ene	13	2458496.50	16	17	56.79	-17	58	40.13	0.7258	8.8
ene	14	2458497.50	16	22	19.49	-18	10	46.94	0.7333	8.8
ene	15	2458498.50	16	26	44.00	-18	22	37.64	0.7409	8.8
ene	16	2458499.50	16	31	10.31	-18	34	11.28	0.7485	8.8
ene	17	2458500.50	16	35	38.36	-18	45	26.93	0.7561	8.8
ene	18	2458501.50	16	40	8.14	-18	56	23.71	0.7637	8.8
ene	19	2458502.50	16	44	39.60	-19	7	0.73	0.7712	8.9
ene	20	2458503.50	16	49	12.71	-19	17	17.14	0.7788	8.9
ene	21	2458504.50	16	53	47.44	-19	27	12.09	0.7863	8.9
ene	22	2458505.50	16	58	23.74	-19	36	44.75	0.7939	8.9
ene	23	2458506.50	17	3	1.58	-19	45	54.29	0.8014	8.9
ene	24	2458507.50	17	7	40.91	-19	54	39.93	0.8089	8.9
ene	25	2458508.50	17	12	21.69	-20	3	0.87	0.8164	8.9
ene	26	2458509.50	17	17	3.88	-20	10	56.35	0.8240	8.9
ene	27	2458510.50	17	21	47.42	-20	18	25.67	0.8314	8.9
ene	28	2458511.50	17	26	32.28	-20	25	28.11	0.8389	9.0
ene	29	2458512.50	17	31	18.40	-20	32	3.02	0.8464	9.0
ene	30	2458513.50	17	36	5.72	-20	38	9.74	0.8538	9.0
ene	31	2458514.50	17	40	54.20	-20	43	47.66	0.8613	9.0
feb	1	2458515.50	17	45	43.76	-20	48	56.18	0.8687	9.0
feb	2	2458516.50	17	50	34.37	-20	53	34.77	0.8761	9.0
feb	3	2458517.50	17	55	25.95	-20	57	42.87	0.8835	9.0
feb	4	2458518.50	18	0	18.46	-21	1	19.98	0.8909	9.1
feb	5	2458519.50	18	5	11.84	-21	4	25.64	0.8983	9.1
feb	6	2458520.50	18	10	6.02	-21	6	59.40	0.9056	9.1
feb	7	2458521.50	18	15	0.96	-21	9	0.86	0.9130	9.1
feb	8	2458522.50	18	19	56.60	-21	10	29.63	0.9203	9.1
feb	9	2458523.50	18	24	52.88	-21	11	25.36	0.9276	9.1
feb	10	2458524.50	18	29	49.74	-21	11	47.75	0.9349	9.2
feb	11	2458525.50	18	34	47.14	-21	11	36.51	0.9421	9.2
feb	12	2458526.50	18	39	45.01	-21	10	51.40	0.9494	9.2
feb	13	2458527.50	18	44	43.31	-21	9	32.20	0.9566	9.2
feb	14	2458528.50	18	49	41.99	-21	7	38.73	0.9639	9.2
feb	15	2458529.50	18	54	40.98	-21	5	10.85	0.9711	9.2

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	\circ	δ '	"	dis UA	hp h
feb	16	2458530.50	18	59	40.24	-21	2	8.43	0.9782	9.3
feb	17	2458531.50	19	4	39.72	-20	58	31.39	0.9854	9.3
feb	18	2458532.50	19	9	39.36	-20	54	19.65	0.9926	9.3
feb	19	2458533.50	19	14	39.12	-20	49	33.16	0.9997	9.3
feb	20	2458534.50	19	19	38.95	-20	44	11.91	1.0068	9.3
feb	21	2458535.50	19	24	38.80	-20	38	15.88	1.0139	9.4
feb	22	2458536.50	19	29	38.62	-20	31	45.11	1.0210	9.4
feb	23	2458537.50	19	34	38.36	-20	24	39.67	1.0281	9.4
feb	24	2458538.50	19	39	37.99	-20	16	59.65	1.0351	9.4
feb	25	2458539.50	19	44	37.45	-20	8	45.18	1.0422	9.4
feb	26	2458540.50	19	49	36.70	-19	59	56.44	1.0492	9.4
feb	27	2458541.50	19	54	35.68	-19	50	33.62	1.0562	9.5
feb	28	2458542.50	19	59	34.35	-19	40	36.94	1.0631	9.5
mar	1	2458543.50	20	4	32.67	-19	30	6.64	1.0701	9.5
mar	2	2458544.50	20	9	30.58	-19	19	3.00	1.0770	9.5
mar	3	2458545.50	20	14	28.06	-19	7	26.30	1.0839	9.5
mar	4	2458546.50	20	19	25.05	-18	55	16.87	1.0907	9.5
mar	5	2458547.50	20	24	21.53	-18	42	35.03	1.0976	9.6
mar	6	2458548.50	20	29	17.45	-18	29	21.16	1.1044	9.6
mar	7	2458549.50	20	34	12.79	-18	15	35.63	1.1112	9.6
mar	8	2458550.50	20	39	7.52	-18	1	18.84	1.1180	9.6
mar	9	2458551.50	20	44	1.60	-17	46	31.22	1.1248	9.6
mar	10	2458552.50	20	48	55.02	-17	31	13.19	1.1315	9.6
mar	11	2458553.50	20	53	47.75	-17	15	25.22	1.1382	9.7
mar	12	2458554.50	20	58	39.78	-16	59	7.79	1.1449	9.7
mar	13	2458555.50	21	3	31.08	-16	42	21.38	1.1516	9.7
mar	14	2458556.50	21	8	21.64	-16	25	6.51	1.1582	9.7
mar	15	2458557.50	21	13	11.45	-16	7	23.69	1.1648	9.7
mar	16	2458558.50	21	18	0.50	-15	49	13.46	1.1714	9.7
mar	17	2458559.50	21	22	48.78	-15	30	36.36	1.1780	9.7
mar	18	2458560.50	21	27	36.28	-15	11	32.93	1.1846	9.8
mar	19	2458561.50	21	32	23.00	-14	52	3.72	1.1911	9.8
mar	20	2458562.50	21	37	8.94	-14	32	9.27	1.1976	9.8
mar	21	2458563.50	21	41	54.10	-14	11	50.15	1.2041	9.8
mar	22	2458564.50	21	46	38.50	-13	51	6.90	1.2106	9.8
mar	23	2458565.50	21	51	22.13	-13	30	0.11	1.2170	9.8
mar	24	2458566.50	21	56	5.00	-13	8	30.36	1.2234	9.8
mar	25	2458567.50	22	0	47.12	-12	46	38.25	1.2298	9.9
mar	26	2458568.50	22	5	28.50	-12	24	24.41	1.2361	9.9
mar	27	2458569.50	22	10	9.13	-12	1	49.47	1.2425	9.9
mar	28	2458570.50	22	14	49.04	-11	38	54.07	1.2488	9.9
mar	29	2458571.50	22	19	28.23	-11	15	38.84	1.2551	9.9
mar	30	2458572.50	22	24	6.70	-10	52	4.43	1.2613	9.9
mar	31	2458573.50	22	28	44.48	-10	28	11.49	1.2675	9.9
abr	1	2458574.50	22	33	21.57	-10	4	0.67	1.2737	9.9
abr	2	2458575.50	22	37	57.99	-9	39	32.64	1.2799	9.9

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
abr	3	2458576.50	22	42	33.76	-9	14	48.03	1.2860	10.0
abr	4	2458577.50	22	47	8.89	-8	49	47.53	1.2921	10.0
abr	5	2458578.50	22	51	43.41	-8	24	31.78	1.2982	10.0
abr	6	2458579.50	22	56	17.33	-7	59	1.46	1.3042	10.0
abr	7	2458580.50	23	0	50.69	-7	33	17.22	1.3103	10.0
abr	8	2458581.50	23	5	23.50	-7	7	19.74	1.3162	10.0
abr	9	2458582.50	23	9	55.78	-6	41	9.68	1.3222	10.0
abr	10	2458583.50	23	14	27.57	-6	14	47.72	1.3281	10.0
abr	11	2458584.50	23	18	58.89	-5	48	14.53	1.3340	10.0
abr	12	2458585.50	23	23	29.77	-5	21	30.78	1.3399	10.0
abr	13	2458586.50	23	28	0.24	-4	54	37.15	1.3457	10.1
abr	14	2458587.50	23	32	30.32	-4	27	34.31	1.3515	10.1
abr	15	2458588.50	23	37	0.05	-4	0	22.91	1.3573	10.1
abr	16	2458589.50	23	41	29.47	-3	33	3.61	1.3631	10.1
abr	17	2458590.50	23	45	58.59	-3	5	37.05	1.3688	10.1
abr	18	2458591.50	23	50	27.48	-2	38	3.87	1.3744	10.1
abr	19	2458592.50	23	54	56.15	-2	10	24.71	1.3801	10.1
abr	20	2458593.50	23	59	24.66	-1	42	40.20	1.3857	10.1
abr	21	2458594.50	0	3	53.04	-1	14	50.99	1.3913	10.1
abr	22	2458595.50	0	8	21.32	-0	46	57.73	1.3969	10.1
abr	23	2458596.50	0	12	49.54	-0	19	1.08	1.4024	10.1
abr	24	2458597.50	0	17	17.73	+0	8	58.29	1.4079	10.2
abr	25	2458598.50	0	21	45.93	+0	36	59.70	1.4133	10.2
abr	26	2458599.50	0	26	14.17	+1	5	2.49	1.4188	10.2
abr	27	2458600.50	0	30	42.49	+1	33	5.97	1.4242	10.2
abr	28	2458601.50	0	35	10.91	+2	1	9.47	1.4295	10.2
abr	29	2458602.50	0	39	39.48	+2	29	12.31	1.4348	10.2
abr	30	2458603.50	0	44	8.23	+2	57	13.80	1.4401	10.2
may	1	2458604.50	0	48	37.20	+3	25	13.26	1.4453	10.2
may	2	2458605.50	0	53	6.41	+3	53	10.02	1.4505	10.2
may	3	2458606.50	0	57	35.91	+4	21	3.38	1.4557	10.2
may	4	2458607.50	1	2	5.72	+4	48	52.67	1.4608	10.2
may	5	2458608.50	1	6	35.89	+5	16	37.19	1.4659	10.3
may	6	2458609.50	1	11	6.44	+5	44	16.25	1.4710	10.3
may	7	2458610.50	1	15	37.42	+6	11	49.17	1.4760	10.3
may	8	2458611.50	1	20	8.85	+6	39	15.24	1.4809	10.3
may	9	2458612.50	1	24	40.76	+7	6	33.76	1.4859	10.3
may	10	2458613.50	1	29	13.19	+7	33	44.02	1.4908	10.3
may	11	2458614.50	1	33	46.17	+8	0	45.34	1.4956	10.3
may	12	2458615.50	1	38	19.73	+8	27	37.00	1.5004	10.3
may	13	2458616.50	1	42	53.91	+8	54	18.31	1.5052	10.3
may	14	2458617.50	1	47	28.73	+9	20	48.57	1.5099	10.3
may	15	2458618.50	1	52	4.24	+9	47	7.11	1.5146	10.4
may	16	2458619.50	1	56	40.46	+10	13	13.25	1.5193	10.4
may	17	2458620.50	2	1	17.44	+10	39	6.30	1.5239	10.4
may	18	2458621.50	2	5	55.21	+11	4	45.60	1.5284	10.4

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
may	19	2458622.50	2	10	33.80	+11	30	10.47	1.5330	10.4
may	20	2458623.50	2	15	13.24	+11	55	20.20	1.5375	10.4
may	21	2458624.50	2	19	53.55	+12	20	14.12	1.5419	10.4
may	22	2458625.50	2	24	34.76	+12	44	51.51	1.5463	10.4
may	23	2458626.50	2	29	16.90	+13	9	11.66	1.5507	10.5
may	24	2458627.50	2	33	59.99	+13	33	13.87	1.5550	10.5
may	25	2458628.50	2	38	44.05	+13	56	57.43	1.5592	10.5
may	26	2458629.50	2	43	29.11	+14	20	21.60	1.5635	10.5
may	27	2458630.50	2	48	15.17	+14	43	25.69	1.5676	10.5
may	28	2458631.50	2	53	2.27	+15	6	8.97	1.5718	10.5
may	29	2458632.50	2	57	50.41	+15	28	30.73	1.5759	10.5
may	30	2458633.50	3	2	39.61	+15	50	30.26	1.5799	10.5
may	31	2458634.50	3	7	29.88	+16	12	6.85	1.5839	10.6
jun	1	2458635.50	3	12	21.24	+16	33	19.78	1.5878	10.6
jun	2	2458636.50	3	17	13.69	+16	54	8.36	1.5917	10.6
jun	3	2458637.50	3	22	7.25	+17	14	31.88	1.5956	10.6
jun	4	2458638.50	3	27	1.90	+17	34	29.64	1.5994	10.6
jun	5	2458639.50	3	31	57.66	+17	54	0.94	1.6031	10.6
jun	6	2458640.50	3	36	54.52	+18	13	5.08	1.6068	10.7
jun	7	2458641.50	3	41	52.48	+18	31	41.38	1.6105	10.7
jun	8	2458642.50	3	46	51.53	+18	49	49.13	1.6141	10.7
jun	9	2458643.50	3	51	51.66	+19	7	27.67	1.6176	10.7
jun	10	2458644.50	3	56	52.88	+19	24	36.33	1.6211	10.7
jun	11	2458645.50	4	1	55.18	+19	41	14.45	1.6245	10.7
jun	12	2458646.50	4	6	58.54	+19	57	21.42	1.6279	10.8
jun	13	2458647.50	4	12	2.95	+20	12	56.61	1.6313	10.8
jun	14	2458648.50	4	17	8.41	+20	27	59.43	1.6346	10.8
jun	15	2458649.50	4	22	14.91	+20	42	29.28	1.6378	10.8
jun	16	2458650.50	4	27	22.41	+20	56	25.61	1.6410	10.8
jun	17	2458651.50	4	32	30.91	+21	9	47.84	1.6442	10.9
jun	18	2458652.50	4	37	40.38	+21	22	35.43	1.6473	10.9
jun	19	2458653.50	4	42	50.80	+21	34	47.84	1.6503	10.9
jun	20	2458654.50	4	48	2.12	+21	46	24.53	1.6533	10.9
jun	21	2458655.50	4	53	14.34	+21	57	25.00	1.6562	10.9
jun	22	2458656.50	4	58	27.40	+22	7	48.76	1.6591	11.0
jun	23	2458657.50	5	3	41.28	+22	17	35.33	1.6619	11.0
jun	24	2458658.50	5	8	55.95	+22	26	44.25	1.6647	11.0
jun	25	2458659.50	5	14	11.35	+22	35	15.09	1.6674	11.0
jun	26	2458660.50	5	19	27.46	+22	43	7.44	1.6701	11.1
jun	27	2458661.50	5	24	44.23	+22	50	20.91	1.6727	11.1
jun	28	2458662.50	5	30	1.61	+22	56	55.15	1.6753	11.1
jun	29	2458663.50	5	35	19.56	+23	2	49.82	1.6778	11.1
jun	30	2458664.50	5	40	38.02	+23	8	4.61	1.6802	11.1
jul	1	2458665.50	5	45	56.96	+23	12	39.25	1.6826	11.2
jul	2	2458666.50	5	51	16.30	+23	16	33.49	1.6849	11.2
jul	3	2458667.50	5	56	36.01	+23	19	47.10	1.6872	11.2

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ "	"	dis UA	hp h
jul	4	2458668.50	6	1	56.01	+23	22	19.87	1.6894	11.2
jul	5	2458669.50	6	7	16.25	+23	24	11.65	1.6916	11.3
jul	6	2458670.50	6	12	36.67	+23	25	22.26	1.6937	11.3
jul	7	2458671.50	6	17	57.22	+23	25	51.59	1.6957	11.3
jul	8	2458672.50	6	23	17.83	+23	25	39.55	1.6977	11.3
jul	9	2458673.50	6	28	38.45	+23	24	46.09	1.6997	11.4
jul	10	2458674.50	6	33	59.03	+23	23	11.19	1.7015	11.4
jul	11	2458675.50	6	39	19.52	+23	20	54.86	1.7033	11.4
jul	12	2458676.50	6	44	39.86	+23	17	57.16	1.7051	11.4
jul	13	2458677.50	6	50	0.01	+23	14	18.16	1.7068	11.4
jul	14	2458678.50	6	55	19.89	+23	9	57.98	1.7084	11.5
jul	15	2458679.50	7	0	39.47	+23	4	56.75	1.7100	11.5
jul	16	2458680.50	7	5	58.69	+22	59	14.63	1.7116	11.5
jul	17	2458681.50	7	11	17.51	+22	52	51.82	1.7131	11.5
jul	18	2458682.50	7	16	35.86	+22	45	48.51	1.7145	11.6
jul	19	2458683.50	7	21	53.71	+22	38	4.95	1.7158	11.6
jul	20	2458684.50	7	27	11.01	+22	29	41.41	1.7171	11.6
jul	21	2458685.50	7	32	27.71	+22	20	38.15	1.7184	11.6
jul	22	2458686.50	7	37	43.77	+22	10	55.51	1.7196	11.6
jul	23	2458687.50	7	42	59.14	+22	0	33.82	1.7207	11.7
jul	24	2458688.50	7	48	13.80	+21	49	33.44	1.7218	11.7
jul	25	2458689.50	7	53	27.70	+21	37	54.76	1.7228	11.7
jul	26	2458690.50	7	58	40.81	+21	25	38.20	1.7238	11.7
jul	27	2458691.50	8	3	53.09	+21	12	44.19	1.7247	11.8
jul	28	2458692.50	8	9	4.51	+20	59	13.19	1.7256	11.8
jul	29	2458693.50	8	14	15.04	+20	45	5.70	1.7263	11.8
jul	30	2458694.50	8	19	24.65	+20	30	22.22	1.7271	11.8
jul	31	2458695.50	8	24	33.30	+20	15	3.28	1.7277	11.8
ago	1	2458696.50	8	29	40.97	+19	59	9.42	1.7284	11.9
ago	2	2458697.50	8	34	47.64	+19	42	41.21	1.7289	11.9
ago	3	2458698.50	8	39	53.27	+19	25	39.22	1.7294	11.9
ago	4	2458699.50	8	44	57.86	+19	8	4.02	1.7298	11.9
ago	5	2458700.50	8	50	1.39	+18	49	56.21	1.7302	11.9
ago	6	2458701.50	8	55	3.84	+18	31	16.39	1.7305	12.0
ago	7	2458702.50	9	0	5.20	+18	12	5.21	1.7308	12.0
ago	8	2458703.50	9	5	5.48	+17	52	23.30	1.7310	12.0
ago	9	2458704.50	9	10	4.67	+17	32	11.31	1.7311	12.0
ago	10	2458705.50	9	15	2.76	+17	11	29.92	1.7312	12.0
ago	11	2458706.50	9	19	59.76	+16	50	19.78	1.7313	12.0
ago	12	2458707.50	9	24	55.67	+16	28	41.58	1.7312	12.1
ago	13	2458708.50	9	29	50.49	+16	6	35.98	1.7312	12.1
ago	14	2458709.50	9	34	44.23	+15	44	3.67	1.7310	12.1
ago	15	2458710.50	9	39	36.90	+15	21	5.34	1.7309	12.1
ago	16	2458711.50	9	44	28.51	+14	57	41.66	1.7306	12.1
ago	17	2458712.50	9	49	19.07	+14	33	53.36	1.7303	12.1
ago	18	2458713.50	9	54	8.60	+14	9	41.12	1.7300	12.1

Venus, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
ago	19	2458714.50	9	58	57.12	+13	45	5.64	1.7296	12.2
ago	20	2458715.50	10	3	44.65	+13	20	7.63	1.7291	12.2
ago	21	2458716.50	10	8	31.21	+12	54	47.79	1.7286	12.2
ago	22	2458717.50	10	13	16.83	+12	29	6.83	1.7280	12.2
ago	23	2458718.50	10	18	1.52	+12	3	5.45	1.7274	12.2
ago	24	2458719.50	10	22	45.31	+11	36	44.38	1.7267	12.2
ago	25	2458720.50	10	27	28.23	+11	10	4.33	1.7260	12.2
ago	26	2458721.50	10	32	10.30	+10	43	6.03	1.7252	12.3
ago	27	2458722.50	10	36	51.55	+10	15	50.22	1.7244	12.3
ago	28	2458723.50	10	41	32.01	+9	48	17.63	1.7235	12.3
ago	29	2458724.50	10	46	11.69	+9	20	29.00	1.7226	12.3
ago	30	2458725.50	10	50	50.64	+8	52	25.08	1.7216	12.3
ago	31	2458726.50	10	55	28.88	+8	24	6.60	1.7205	12.3
sep	1	2458727.50	11	0	6.43	+7	55	34.29	1.7194	12.3
sep	2	2458728.50	11	4	43.34	+7	26	48.88	1.7183	12.3
sep	3	2458729.50	11	9	19.63	+6	57	51.11	1.7171	12.3
sep	4	2458730.50	11	13	55.35	+6	28	41.72	1.7158	12.4
sep	5	2458731.50	11	18	30.52	+5	59	21.43	1.7145	12.4
sep	6	2458732.50	11	23	5.20	+5	29	51.00	1.7131	12.4
sep	7	2458733.50	11	27	39.40	+5	0	11.15	1.7117	12.4
sep	8	2458734.50	11	32	13.17	+4	30	22.63	1.7102	12.4
sep	9	2458735.50	11	36	46.55	+4	0	26.16	1.7087	12.4
sep	10	2458736.50	11	41	19.58	+3	30	22.48	1.7072	12.4
sep	11	2458737.50	11	45	52.30	+3	0	12.31	1.7055	12.4
sep	12	2458738.50	11	50	24.75	+2	29	56.37	1.7039	12.4
sep	13	2458739.50	11	54	56.97	+1	59	35.38	1.7022	12.5
sep	14	2458740.50	11	59	29.01	+1	29	10.06	1.7004	12.5
sep	15	2458741.50	12	4	0.91	+0	58	41.13	1.6986	12.5
sep	16	2458742.50	12	8	32.71	+0	28	9.30	1.6968	12.5
sep	17	2458743.50	12	13	4.46	-0	2	24.72	1.6949	12.5
sep	18	2458744.50	12	17	36.21	-0	33	0.21	1.6929	12.5
sep	19	2458745.50	12	22	8.00	-1	3	36.46	1.6910	12.5
sep	20	2458746.50	12	26	39.86	-1	34	12.74	1.6889	12.5
sep	21	2458747.50	12	31	11.86	-2	4	48.34	1.6868	12.5
sep	22	2458748.50	12	35	44.03	-2	35	22.53	1.6847	12.5
sep	23	2458749.50	12	40	16.41	-3	5	54.58	1.6825	12.6
sep	24	2458750.50	12	44	49.04	-3	36	23.74	1.6803	12.6
sep	25	2458751.50	12	49	21.97	-4	6	49.27	1.6781	12.6
sep	26	2458752.50	12	53	55.24	-4	37	10.42	1.6758	12.6
sep	27	2458753.50	12	58	28.88	-5	7	26.43	1.6734	12.6
sep	28	2458754.50	13	3	2.93	-5	37	36.54	1.6710	12.6
sep	29	2458755.50	13	7	37.45	-6	7	40.00	1.6686	12.6
sep	30	2458756.50	13	12	12.46	-6	37	36.05	1.6661	12.6
oct	1	2458757.50	13	16	48.01	-7	7	23.93	1.6636	12.6
oct	2	2458758.50	13	21	24.13	-7	37	2.86	1.6610	12.6
oct	3	2458759.50	13	26	0.87	-8	6	32.08	1.6584	12.7

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	\circ	δ "	"	dis UA	hp h
oct	4	2458760.50	13	30	38.26	-8	35	50.80	1.6557	12.7
oct	5	2458761.50	13	35	16.32	-9	4	58.26	1.6530	12.7
oct	6	2458762.50	13	39	55.11	-9	33	53.66	1.6503	12.7
oct	7	2458763.50	13	44	34.66	-10	2	36.22	1.6475	12.7
oct	8	2458764.50	13	49	15.00	-10	31	5.17	1.6447	12.7
oct	9	2458765.50	13	53	56.16	-10	59	19.72	1.6418	12.7
oct	10	2458766.50	13	58	38.18	-11	27	19.10	1.6389	12.7
oct	11	2458767.50	14	3	21.10	-11	55	2.51	1.6359	12.8
oct	12	2458768.50	14	8	4.95	-12	22	29.20	1.6330	12.8
oct	13	2458769.50	14	12	49.77	-12	49	38.37	1.6299	12.8
oct	14	2458770.50	14	17	35.58	-13	16	29.25	1.6269	12.8
oct	15	2458771.50	14	22	22.41	-13	43	1.07	1.6238	12.8
oct	16	2458772.50	14	27	10.30	-14	9	13.04	1.6206	12.8
oct	17	2458773.50	14	31	59.28	-14	35	4.39	1.6175	12.8
oct	18	2458774.50	14	36	49.36	-15	0	34.35	1.6142	12.9
oct	19	2458775.50	14	41	40.58	-15	25	42.12	1.6110	12.9
oct	20	2458776.50	14	46	32.95	-15	50	26.92	1.6077	12.9
oct	21	2458777.50	14	51	26.49	-16	14	47.97	1.6044	12.9
oct	22	2458778.50	14	56	21.23	-16	38	44.47	1.6010	12.9
oct	23	2458779.50	15	1	17.17	-17	2	15.64	1.5976	12.9
oct	24	2458780.50	15	6	14.34	-17	25	20.66	1.5942	12.9
oct	25	2458781.50	15	11	12.73	-17	47	58.76	1.5907	13.0
oct	26	2458782.50	15	16	12.36	-18	10	9.13	1.5872	13.0
oct	27	2458783.50	15	21	13.23	-18	31	50.99	1.5837	13.0
oct	28	2458784.50	15	26	15.35	-18	53	3.56	1.5801	13.0
oct	29	2458785.50	15	31	18.73	-19	13	46.08	1.5765	13.0
oct	30	2458786.50	15	36	23.34	-19	33	57.77	1.5728	13.1
oct	31	2458787.50	15	41	29.19	-19	53	37.88	1.5691	13.1
nov	1	2458788.50	15	46	36.27	-20	12	45.64	1.5654	13.1
nov	2	2458789.50	15	51	44.56	-20	31	20.31	1.5616	13.1
nov	3	2458790.50	15	56	54.05	-20	49	21.15	1.5579	13.1
nov	4	2458791.50	16	2	4.71	-21	6	47.43	1.5540	13.2
nov	5	2458792.50	16	7	16.54	-21	23	38.45	1.5501	13.2
nov	6	2458793.50	16	12	29.50	-21	39	53.51	1.5462	13.2
nov	7	2458794.50	16	17	43.58	-21	55	31.94	1.5423	13.2
nov	8	2458795.50	16	22	58.75	-22	10	33.08	1.5383	13.2
nov	9	2458796.50	16	28	14.98	-22	24	56.30	1.5343	13.3
nov	10	2458797.50	16	33	32.24	-22	38	40.98	1.5303	13.3
nov	11	2458798.50	16	38	50.49	-22	51	46.54	1.5262	13.3
nov	12	2458799.50	16	44	9.71	-23	4	12.40	1.5221	13.3
nov	13	2458800.50	16	49	29.85	-23	15	58.03	1.5180	13.4
nov	14	2458801.50	16	54	50.88	-23	27	2.91	1.5138	13.4
nov	15	2458802.50	17	0	12.74	-23	37	26.55	1.5097	13.4
nov	16	2458803.50	17	5	35.39	-23	47	8.47	1.5054	13.4
nov	17	2458804.50	17	10	58.79	-23	56	8.24	1.5012	13.4
nov	18	2458805.50	17	16	22.88	-24	4	25.43	1.4969	13.5

Venus, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	\circ	δ '	"	dis UA	hp h
nov	19	2458806.50	17	21	47.60	-24	11	59.66	1.4926	13.5
nov	20	2458807.50	17	27	12.90	-24	18	50.54	1.4882	13.5
nov	21	2458808.50	17	32	38.72	-24	24	57.73	1.4839	13.5
nov	22	2458809.50	17	38	5.00	-24	30	20.93	1.4794	13.6
nov	23	2458810.50	17	43	31.69	-24	34	59.86	1.4750	13.6
nov	24	2458811.50	17	48	58.72	-24	38	54.26	1.4705	13.6
nov	25	2458812.50	17	54	26.02	-24	42	3.95	1.4660	13.6
nov	26	2458813.50	17	59	53.53	-24	44	28.76	1.4615	13.7
nov	27	2458814.50	18	5	21.17	-24	46	8.55	1.4569	13.7
nov	28	2458815.50	18	10	48.88	-24	47	3.23	1.4523	13.7
nov	29	2458816.50	18	16	16.58	-24	47	12.75	1.4477	13.7
nov	30	2458817.50	18	21	44.19	-24	46	37.07	1.4430	13.8
dic	1	2458818.50	18	27	11.65	-24	45	16.19	1.4383	13.8
dic	2	2458819.50	18	32	38.88	-24	43	10.15	1.4336	13.8
dic	3	2458820.50	18	38	5.81	-24	40	19.03	1.4288	13.8
dic	4	2458821.50	18	43	32.37	-24	36	42.95	1.4241	13.9
dic	5	2458822.50	18	48	58.50	-24	32	22.04	1.4192	13.9
dic	6	2458823.50	18	54	24.12	-24	27	16.50	1.4144	13.9
dic	7	2458824.50	18	59	49.17	-24	21	26.54	1.4095	13.9
dic	8	2458825.50	19	5	13.59	-24	14	52.43	1.4046	14.0
dic	9	2458826.50	19	10	37.32	-24	7	34.45	1.3997	14.0
dic	10	2458827.50	19	16	0.29	-23	59	32.94	1.3947	14.0
dic	11	2458828.50	19	21	22.46	-23	50	48.24	1.3897	14.0
dic	12	2458829.50	19	26	43.76	-23	41	20.76	1.3847	14.1
dic	13	2458830.50	19	32	4.14	-23	31	10.92	1.3796	14.1
dic	14	2458831.50	19	37	23.56	-23	20	19.16	1.3745	14.1
dic	15	2458832.50	19	42	41.95	-23	8	45.95	1.3694	14.1
dic	16	2458833.50	19	47	59.29	-22	56	31.78	1.3643	14.2
dic	17	2458834.50	19	53	15.51	-22	43	37.17	1.3591	14.2
dic	18	2458835.50	19	58	30.59	-22	30	2.64	1.3539	14.2
dic	19	2458836.50	20	3	44.49	-22	15	48.74	1.3487	14.2
dic	20	2458837.50	20	8	57.17	-22	0	56.05	1.3434	14.2
dic	21	2458838.50	20	14	8.60	-21	45	25.15	1.3381	14.3
dic	22	2458839.50	20	19	18.76	-21	29	16.66	1.3328	14.3
dic	23	2458840.50	20	24	27.61	-21	12	31.24	1.3275	14.3
dic	24	2458841.50	20	29	35.14	-20	55	9.53	1.3221	14.3
dic	25	2458842.50	20	34	41.31	-20	37	12.24	1.3167	14.3
dic	26	2458843.50	20	39	46.10	-20	18	40.06	1.3113	14.4
dic	27	2458844.50	20	44	49.48	-19	59	33.71	1.3058	14.4
dic	28	2458845.50	20	49	51.45	-19	39	53.91	1.3003	14.4
dic	29	2458846.50	20	54	51.98	-19	19	41.41	1.2948	14.4
dic	30	2458847.50	20	59	51.06	-18	58	56.94	1.2892	14.4
dic	31	2458848.50	21	4	48.67	-18	37	41.26	1.2836	14.5
ene	1	2458849.50	21	9	44.82	-18	15	55.12	1.2780	21.2
ene	2	2458850.50	21	14	39.50	-17	53	39.30	1.2724	21.2

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
ene	1	2458484.50	0	0	14.08	-0	17	58.16	1.2611	17.3
ene	2	2458485.50	0	2	39.90	-0	0	40.89	1.2695	17.3
ene	3	2458486.50	0	5	5.87	+0	16	36.10	1.2779	17.2
ene	4	2458487.50	0	7	31.98	+0	33	52.66	1.2864	17.2
ene	5	2458488.50	0	9	58.23	+0	51	8.67	1.2949	17.2
ene	6	2458489.50	0	12	24.64	+1	8	24.00	1.3034	17.2
ene	7	2458490.50	0	14	51.19	+1	25	38.50	1.3118	17.1
ene	8	2458491.50	0	17	17.89	+1	42	52.04	1.3204	17.1
ene	9	2458492.50	0	19	44.74	+2	0	4.47	1.3289	17.1
ene	10	2458493.50	0	22	11.73	+2	17	15.67	1.3374	17.1
ene	11	2458494.50	0	24	38.88	+2	34	25.48	1.3459	17.0
ene	12	2458495.50	0	27	6.17	+2	51	33.77	1.3545	17.0
ene	13	2458496.50	0	29	33.62	+3	8	40.40	1.3630	17.0
ene	14	2458497.50	0	32	1.22	+3	25	45.24	1.3716	17.0
ene	15	2458498.50	0	34	28.97	+3	42	48.13	1.3801	16.9
ene	16	2458499.50	0	36	56.88	+3	59	48.95	1.3887	16.9
ene	17	2458500.50	0	39	24.94	+4	16	47.55	1.3973	16.9
ene	18	2458501.50	0	41	53.16	+4	33	43.79	1.4059	16.9
ene	19	2458502.50	0	44	21.54	+4	50	37.52	1.4145	16.8
ene	20	2458503.50	0	46	50.07	+5	7	28.61	1.4231	16.8
ene	21	2458504.50	0	49	18.76	+5	24	16.89	1.4317	16.8
ene	22	2458505.50	0	51	47.61	+5	41	2.23	1.4403	16.8
ene	23	2458506.50	0	54	16.62	+5	57	44.49	1.4489	16.8
ene	24	2458507.50	0	56	45.80	+6	14	23.56	1.4575	16.7
ene	25	2458508.50	0	59	15.16	+6	30	59.32	1.4661	16.7
ene	26	2458509.50	1	1	44.70	+6	47	31.69	1.4748	16.7
ene	27	2458510.50	1	4	14.43	+7	4	0.56	1.4834	16.7
ene	28	2458511.50	1	6	44.37	+7	20	25.84	1.4921	16.6
ene	29	2458512.50	1	9	14.51	+7	36	47.42	1.5007	16.6
ene	30	2458513.50	1	11	44.86	+7	53	5.19	1.5093	16.6
ene	31	2458514.50	1	14	15.43	+8	9	19.05	1.5180	16.6
feb	1	2458515.50	1	16	46.22	+8	25	28.88	1.5266	16.5
feb	2	2458516.50	1	19	17.23	+8	41	34.55	1.5353	16.5
feb	3	2458517.50	1	21	48.47	+8	57	35.94	1.5439	16.5
feb	4	2458518.50	1	24	19.93	+9	13	32.93	1.5526	16.5
feb	5	2458519.50	1	26	51.62	+9	29	25.38	1.5612	16.4
feb	6	2458520.50	1	29	23.54	+9	45	13.18	1.5699	16.4
feb	7	2458521.50	1	31	55.69	+10	0	56.19	1.5785	16.4
feb	8	2458522.50	1	34	28.08	+10	16	34.29	1.5872	16.4
feb	9	2458523.50	1	37	0.70	+10	32	7.35	1.5958	16.3
feb	10	2458524.50	1	39	33.56	+10	47	35.25	1.6044	16.3
feb	11	2458525.50	1	42	6.66	+11	2	57.85	1.6130	16.3
feb	12	2458526.50	1	44	40.00	+11	18	15.05	1.6217	16.3
feb	13	2458527.50	1	47	13.58	+11	33	26.69	1.6303	16.3
feb	14	2458528.50	1	49	47.41	+11	48	32.67	1.6389	16.2
feb	15	2458529.50	1	52	21.48	+12	3	32.86	1.6475	16.2

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ -	"	dis UA	hp h
feb	16	2458530.50	1	54	55.79	+12	18	27.11	1.6560	16.2
feb	17	2458531.50	1	57	30.34	+12	33	15.30	1.6646	16.2
feb	18	2458532.50	2	0	5.14	+12	47	57.29	1.6732	16.1
feb	19	2458533.50	2	2	40.17	+13	2	32.94	1.6818	16.1
feb	20	2458534.50	2	5	15.45	+13	17	2.13	1.6903	16.1
feb	21	2458535.50	2	7	50.97	+13	31	24.74	1.6989	16.1
feb	22	2458536.50	2	10	26.75	+13	45	40.68	1.7074	16.1
feb	23	2458537.50	2	13	2.79	+13	59	49.85	1.7159	16.0
feb	24	2458538.50	2	15	39.09	+14	13	52.17	1.7244	16.0
feb	25	2458539.50	2	18	15.67	+14	27	47.56	1.7329	16.0
feb	26	2458540.50	2	20	52.52	+14	41	35.91	1.7414	16.0
feb	27	2458541.50	2	23	29.65	+14	55	17.14	1.7499	15.9
feb	28	2458542.50	2	26	7.07	+15	8	51.15	1.7584	15.9
mar	1	2458543.50	2	28	44.76	+15	22	17.83	1.7669	15.9
mar	2	2458544.50	2	31	22.74	+15	35	37.07	1.7753	15.9
mar	3	2458545.50	2	34	1.00	+15	48	48.77	1.7838	15.9
mar	4	2458546.50	2	36	39.55	+16	1	52.82	1.7922	15.8
mar	5	2458547.50	2	39	18.38	+16	14	49.11	1.8006	15.8
mar	6	2458548.50	2	41	57.50	+16	27	37.54	1.8090	15.8
mar	7	2458549.50	2	44	36.91	+16	40	17.99	1.8174	15.8
mar	8	2458550.50	2	47	16.60	+16	52	50.35	1.8257	15.7
mar	9	2458551.50	2	49	56.57	+17	5	14.53	1.8340	15.7
mar	10	2458552.50	2	52	36.83	+17	17	30.41	1.8424	15.7
mar	11	2458553.50	2	55	17.37	+17	29	37.89	1.8507	15.7
mar	12	2458554.50	2	57	58.20	+17	41	36.87	1.8589	15.7
mar	13	2458555.50	3	0	39.30	+17	53	27.24	1.8672	15.6
mar	14	2458556.50	3	3	20.68	+18	5	8.91	1.8754	15.6
mar	15	2458557.50	3	6	2.33	+18	16	41.76	1.8837	15.6
mar	16	2458558.50	3	8	44.25	+18	28	5.69	1.8919	15.6
mar	17	2458559.50	3	11	26.44	+18	39	20.59	1.9000	15.6
mar	18	2458560.50	3	14	8.88	+18	50	26.34	1.9082	15.5
mar	19	2458561.50	3	16	51.58	+19	1	22.83	1.9163	15.5
mar	20	2458562.50	3	19	34.53	+19	12	9.96	1.9244	15.5
mar	21	2458563.50	3	22	17.74	+19	22	47.64	1.9325	15.5
mar	22	2458564.50	3	25	1.20	+19	33	15.77	1.9406	15.5
mar	23	2458565.50	3	27	44.92	+19	43	34.30	1.9486	15.4
mar	24	2458566.50	3	30	28.91	+19	53	43.15	1.9566	15.4
mar	25	2458567.50	3	33	13.15	+20	3	42.26	1.9646	15.4
mar	26	2458568.50	3	35	57.65	+20	13	31.56	1.9726	15.4
mar	27	2458569.50	3	38	42.41	+20	23	11.00	1.9805	15.4
mar	28	2458570.50	3	41	27.43	+20	32	40.48	1.9885	15.3
mar	29	2458571.50	3	44	12.70	+20	41	59.93	1.9964	15.3
mar	30	2458572.50	3	46	58.23	+20	51	9.28	2.0042	15.3
mar	31	2458573.50	3	49	43.99	+21	0	8.46	2.0121	15.3
abr	1	2458574.50	3	52	30.01	+21	8	57.37	2.0199	15.3
abr	2	2458575.50	3	55	16.26	+21	17	35.95	2.0277	15.2

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
abr	3	2458576.50	3	58	2.75	+21	26	4.12	2.0354	15.2
abr	4	2458577.50	4	0	49.47	+21	34	21.81	2.0432	15.2
abr	5	2458578.50	4	3	36.42	+21	42	28.95	2.0509	15.2
abr	6	2458579.50	4	6	23.60	+21	50	25.46	2.0585	15.2
abr	7	2458580.50	4	9	10.99	+21	58	11.28	2.0662	15.1
abr	8	2458581.50	4	11	58.60	+22	5	46.34	2.0738	15.1
abr	9	2458582.50	4	14	46.41	+22	13	10.60	2.0813	15.1
abr	10	2458583.50	4	17	34.43	+22	20	23.97	2.0889	15.1
abr	11	2458584.50	4	20	22.64	+22	27	26.41	2.0964	15.1
abr	12	2458585.50	4	23	11.03	+22	34	17.85	2.1039	15.0
abr	13	2458586.50	4	25	59.59	+22	40	58.22	2.1113	15.0
abr	14	2458587.50	4	28	48.31	+22	47	27.46	2.1187	15.0
abr	15	2458588.50	4	31	37.20	+22	53	45.50	2.1261	15.0
abr	16	2458589.50	4	34	26.22	+22	59	52.27	2.1334	15.0
abr	17	2458590.50	4	37	15.39	+23	5	47.72	2.1407	14.9
abr	18	2458591.50	4	40	4.70	+23	11	31.79	2.1480	14.9
abr	19	2458592.50	4	42	54.14	+23	17	4.45	2.1552	14.9
abr	20	2458593.50	4	45	43.71	+23	22	25.66	2.1624	14.9
abr	21	2458594.50	4	48	33.41	+23	27	35.40	2.1696	14.9
abr	22	2458595.50	4	51	23.23	+23	32	33.65	2.1767	14.9
abr	23	2458596.50	4	54	13.17	+23	37	20.39	2.1838	14.8
abr	24	2458597.50	4	57	3.22	+23	41	55.59	2.1908	14.8
abr	25	2458598.50	4	59	53.38	+23	46	19.23	2.1978	14.8
abr	26	2458599.50	5	2	43.63	+23	50	31.28	2.2048	14.8
abr	27	2458600.50	5	5	33.97	+23	54	31.71	2.2118	14.8
abr	28	2458601.50	5	8	24.40	+23	58	20.50	2.2187	14.7
abr	29	2458602.50	5	11	14.90	+24	1	57.61	2.2255	14.7
abr	30	2458603.50	5	14	5.48	+24	5	23.02	2.2324	14.7
may	1	2458604.50	5	16	56.11	+24	8	36.72	2.2391	14.7
may	2	2458605.50	5	19	46.81	+24	11	38.68	2.2459	14.7
may	3	2458606.50	5	22	37.56	+24	14	28.88	2.2526	14.7
may	4	2458607.50	5	25	28.34	+24	17	7.32	2.2593	14.6
may	5	2458608.50	5	28	19.17	+24	19	33.98	2.2659	14.6
may	6	2458609.50	5	31	10.02	+24	21	48.87	2.2725	14.6
may	7	2458610.50	5	34	0.88	+24	23	51.98	2.2790	14.6
may	8	2458611.50	5	36	51.75	+24	25	43.31	2.2855	14.6
may	9	2458612.50	5	39	42.62	+24	27	22.87	2.2919	14.5
may	10	2458613.50	5	42	33.47	+24	28	50.64	2.2983	14.5
may	11	2458614.50	5	45	24.29	+24	30	6.64	2.3047	14.5
may	12	2458615.50	5	48	15.07	+24	31	10.84	2.3110	14.5
may	13	2458616.50	5	51	5.80	+24	32	3.26	2.3173	14.5
may	14	2458617.50	5	53	56.46	+24	32	43.88	2.3235	14.5
may	15	2458618.50	5	56	47.06	+24	33	12.70	2.3297	14.4
may	16	2458619.50	5	59	37.59	+24	33	29.74	2.3358	14.4
may	17	2458620.50	6	2	28.03	+24	33	35.02	2.3419	14.4
may	18	2458621.50	6	5	18.39	+24	33	28.56	2.3479	14.4

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
may	19	2458622.50	6	8	8.66	+24	33	10.40	2.3539	14.4
may	20	2458623.50	6	10	58.84	+24	32	40.57	2.3599	14.3
may	21	2458624.50	6	13	48.90	+24	31	59.11	2.3658	14.3
may	22	2458625.50	6	16	38.86	+24	31	6.04	2.3716	14.3
may	23	2458626.50	6	19	28.70	+24	30	1.41	2.3774	14.3
may	24	2458627.50	6	22	18.42	+24	28	45.23	2.3832	14.3
may	25	2458628.50	6	25	8.00	+24	27	17.54	2.3889	14.2
may	26	2458629.50	6	27	57.45	+24	25	38.37	2.3946	14.2
may	27	2458630.50	6	30	46.75	+24	23	47.75	2.4002	14.2
may	28	2458631.50	6	33	35.91	+24	21	45.71	2.4058	14.2
may	29	2458632.50	6	36	24.90	+24	19	32.30	2.4113	14.2
may	30	2458633.50	6	39	13.74	+24	17	7.53	2.4168	14.2
may	31	2458634.50	6	42	2.41	+24	14	31.47	2.4222	14.1
jun	1	2458635.50	6	44	50.90	+24	11	44.15	2.4276	14.1
jun	2	2458636.50	6	47	39.22	+24	8	45.63	2.4329	14.1
jun	3	2458637.50	6	50	27.35	+24	5	35.96	2.4382	14.1
jun	4	2458638.50	6	53	15.28	+24	2	15.20	2.4434	14.1
jun	5	2458639.50	6	56	3.01	+23	58	43.41	2.4486	14.0
jun	6	2458640.50	6	58	50.53	+23	55	0.65	2.4537	14.0
jun	7	2458641.50	7	1	37.82	+23	51	6.98	2.4588	14.0
jun	8	2458642.50	7	4	24.88	+23	47	2.46	2.4638	14.0
jun	9	2458643.50	7	7	11.70	+23	42	47.13	2.4687	14.0
jun	10	2458644.50	7	9	58.26	+23	38	21.04	2.4736	13.9
jun	11	2458645.50	7	12	44.57	+23	33	44.25	2.4785	13.9
jun	12	2458646.50	7	15	30.62	+23	28	56.81	2.4833	13.9
jun	13	2458647.50	7	18	16.40	+23	23	58.80	2.4880	13.9
jun	14	2458648.50	7	21	1.92	+23	18	50.27	2.4927	13.9
jun	15	2458649.50	7	23	47.17	+23	13	31.30	2.4973	13.8
jun	16	2458650.50	7	26	32.15	+23	8	1.98	2.5019	13.8
jun	17	2458651.50	7	29	16.85	+23	2	22.38	2.5064	13.8
jun	18	2458652.50	7	32	1.26	+22	56	32.58	2.5109	13.8
jun	19	2458653.50	7	34	45.40	+22	50	32.66	2.5153	13.8
jun	20	2458654.50	7	37	29.24	+22	44	22.68	2.5197	13.7
jun	21	2458655.50	7	40	12.80	+22	38	2.72	2.5240	13.7
jun	22	2458656.50	7	42	56.06	+22	31	32.85	2.5282	13.7
jun	23	2458657.50	7	45	39.02	+22	24	53.13	2.5324	13.7
jun	24	2458658.50	7	48	21.69	+22	18	3.65	2.5366	13.7
jun	25	2458659.50	7	51	4.06	+22	11	4.47	2.5407	13.6
jun	26	2458660.50	7	53	46.13	+22	3	55.66	2.5447	13.6
jun	27	2458661.50	7	56	27.90	+21	56	37.30	2.5487	13.6
jun	28	2458662.50	7	59	9.37	+21	49	9.47	2.5526	13.6
jun	29	2458663.50	8	1	50.54	+21	41	32.25	2.5564	13.6
jun	30	2458664.50	8	4	31.40	+21	33	45.72	2.5602	13.5
jul	1	2458665.50	8	7	11.95	+21	25	49.97	2.5640	13.5
jul	2	2458666.50	8	9	52.20	+21	17	45.10	2.5677	13.5
jul	3	2458667.50	8	12	32.12	+21	9	31.21	2.5713	13.5

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
jul	4	2458668.50	8	15	11.73	+21	1	8.39	2.5748	13.5
jul	5	2458669.50	8	17	51.02	+20	52	36.73	2.5784	13.4
jul	6	2458670.50	8	20	29.97	+20	43	56.32	2.5818	13.4
jul	7	2458671.50	8	23	8.58	+20	35	7.24	2.5852	13.4
jul	8	2458672.50	8	25	46.87	+20	26	9.57	2.5885	13.4
jul	9	2458673.50	8	28	24.81	+20	17	3.39	2.5918	13.3
jul	10	2458674.50	8	31	2.42	+20	7	48.80	2.5950	13.3
jul	11	2458675.50	8	33	39.69	+19	58	25.87	2.5981	13.3
jul	12	2458676.50	8	36	16.64	+19	48	54.71	2.6012	13.3
jul	13	2458677.50	8	38	53.24	+19	39	15.42	2.6042	13.3
jul	14	2458678.50	8	41	29.52	+19	29	28.09	2.6072	13.2
jul	15	2458679.50	8	44	5.47	+19	19	32.81	2.6101	13.2
jul	16	2458680.50	8	46	41.08	+19	9	29.70	2.6129	13.2
jul	17	2458681.50	8	49	16.36	+18	59	18.82	2.6157	13.2
jul	18	2458682.50	8	51	51.32	+18	49	0.29	2.6184	13.1
jul	19	2458683.50	8	54	25.95	+18	38	34.17	2.6210	13.1
jul	20	2458684.50	8	57	0.26	+18	28	0.56	2.6236	13.1
jul	21	2458685.50	8	59	34.24	+18	17	19.54	2.6262	13.1
jul	22	2458686.50	9	2	7.91	+18	6	31.19	2.6287	13.1
jul	23	2458687.50	9	4	41.26	+17	55	35.60	2.6311	13.0
jul	24	2458688.50	9	7	14.30	+17	44	32.84	2.6334	13.0
jul	25	2458689.50	9	9	47.04	+17	33	23.01	2.6357	13.0
jul	26	2458690.50	9	12	19.47	+17	22	6.20	2.6380	13.0
jul	27	2458691.50	9	14	51.61	+17	10	42.48	2.6401	12.9
jul	28	2458692.50	9	17	23.44	+16	59	11.96	2.6422	12.9
jul	29	2458693.50	9	19	54.98	+16	47	34.74	2.6443	12.9
jul	30	2458694.50	9	22	26.23	+16	35	50.91	2.6462	12.9
jul	31	2458695.50	9	24	57.19	+16	24	0.59	2.6482	12.8
ago	1	2458696.50	9	27	27.84	+16	12	3.87	2.6500	12.8
ago	2	2458697.50	9	29	58.21	+16	0	0.87	2.6518	12.8
ago	3	2458698.50	9	32	28.27	+15	47	51.68	2.6535	12.8
ago	4	2458699.50	9	34	58.04	+15	35	36.38	2.6552	12.7
ago	5	2458700.50	9	37	27.52	+15	23	15.06	2.6567	12.7
ago	6	2458701.50	9	39	56.71	+15	10	47.82	2.6583	12.7
ago	7	2458702.50	9	42	25.62	+14	58	14.75	2.6597	12.7
ago	8	2458703.50	9	44	54.25	+14	45	35.94	2.6611	12.7
ago	9	2458704.50	9	47	22.60	+14	32	51.50	2.6624	12.6
ago	10	2458705.50	9	49	50.68	+14	20	1.52	2.6637	12.6
ago	11	2458706.50	9	52	18.49	+14	7	6.11	2.6649	12.6
ago	12	2458707.50	9	54	46.04	+13	54	5.37	2.6660	12.6
ago	13	2458708.50	9	57	13.32	+13	40	59.38	2.6671	12.5
ago	14	2458709.50	9	59	40.35	+13	27	48.23	2.6681	12.5
ago	15	2458710.50	10	2	7.13	+13	14	32.03	2.6690	12.5
ago	16	2458711.50	10	4	33.67	+13	1	10.85	2.6699	12.5
ago	17	2458712.50	10	6	59.96	+12	47	44.77	2.6707	12.4
ago	18	2458713.50	10	9	26.02	+12	34	13.88	2.6714	12.4

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ -	"	dis UA	hp h
ago	19	2458714.50	10	11	51.85	+12	20	38.25	2.6721	12.4
ago	20	2458715.50	10	14	17.46	+12	6	57.98	2.6727	12.4
ago	21	2458716.50	10	16	42.86	+11	53	13.13	2.6733	12.3
ago	22	2458717.50	10	19	8.05	+11	39	23.79	2.6738	12.3
ago	23	2458718.50	10	21	33.04	+11	25	30.05	2.6742	12.3
ago	24	2458719.50	10	23	57.84	+11	11	31.99	2.6746	12.3
ago	25	2458720.50	10	26	22.45	+10	57	29.70	2.6748	12.2
ago	26	2458721.50	10	28	46.87	+10	43	23.28	2.6751	12.2
ago	27	2458722.50	10	31	11.11	+10	29	12.83	2.6752	12.2
ago	28	2458723.50	10	33	35.17	+10	14	58.46	2.6753	12.1
ago	29	2458724.50	10	35	59.06	+10	0	40.26	2.6753	12.1
ago	30	2458725.50	10	38	22.77	+9	46	18.34	2.6753	12.1
ago	31	2458726.50	10	40	46.31	+9	31	52.81	2.6752	12.1
sep	1	2458727.50	10	43	9.68	+9	17	23.76	2.6750	12.0
sep	2	2458728.50	10	45	32.89	+9	2	51.25	2.6747	12.0
sep	3	2458729.50	10	47	55.94	+8	48	15.34	2.6744	12.0
sep	4	2458730.50	10	50	18.84	+8	33	36.13	2.6740	12.0
sep	5	2458731.50	10	52	41.60	+8	18	53.71	2.6736	11.9
sep	6	2458732.50	10	55	4.22	+8	4	8.22	2.6731	11.9
sep	7	2458733.50	10	57	26.70	+7	49	19.77	2.6725	11.9
sep	8	2458734.50	10	59	49.06	+7	34	28.45	2.6718	11.9
sep	9	2458735.50	11	2	11.29	+7	19	34.35	2.6711	11.8
sep	10	2458736.50	11	4	33.40	+7	4	37.57	2.6703	11.8
sep	11	2458737.50	11	6	55.40	+6	49	38.19	2.6694	11.8
sep	12	2458738.50	11	9	17.30	+6	34	36.30	2.6685	11.8
sep	13	2458739.50	11	11	39.10	+6	19	31.97	2.6675	11.7
sep	14	2458740.50	11	14	0.80	+6	4	25.29	2.6665	11.7
sep	15	2458741.50	11	16	22.42	+5	49	16.34	2.6654	11.7
sep	16	2458742.50	11	18	43.97	+5	34	5.19	2.6642	11.7
sep	17	2458743.50	11	21	5.45	+5	18	51.92	2.6630	11.6
sep	18	2458744.50	11	23	26.87	+5	3	36.61	2.6616	11.6
sep	19	2458745.50	11	25	48.25	+4	48	19.33	2.6603	11.6
sep	20	2458746.50	11	28	9.57	+4	33	0.17	2.6588	11.5
sep	21	2458747.50	11	30	30.86	+4	17	39.22	2.6573	11.5
sep	22	2458748.50	11	32	52.13	+4	2	16.56	2.6557	11.5
sep	23	2458749.50	11	35	13.36	+3	46	52.28	2.6541	11.5
sep	24	2458750.50	11	37	34.58	+3	31	26.49	2.6524	11.4
sep	25	2458751.50	11	39	55.78	+3	15	59.28	2.6506	11.4
sep	26	2458752.50	11	42	16.97	+3	0	30.75	2.6488	11.4
sep	27	2458753.50	11	44	38.15	+2	45	1.02	2.6469	11.4
sep	28	2458754.50	11	46	59.33	+2	29	30.16	2.6449	11.3
sep	29	2458755.50	11	49	20.51	+2	13	58.28	2.6428	11.3
sep	30	2458756.50	11	51	41.70	+1	58	25.46	2.6407	11.3
oct	1	2458757.50	11	54	2.91	+1	42	51.81	2.6385	11.3
oct	2	2458758.50	11	56	24.14	+1	27	17.41	2.6363	11.2
oct	3	2458759.50	11	58	45.39	+1	11	42.37	2.6340	11.2

Marte, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
oct	4	2458760.50	12	1	6.68	+0	56	6.80	2.6316	11.2
oct	5	2458761.50	12	3	28.00	+0	40	30.79	2.6291	11.1
oct	6	2458762.50	12	5	49.36	+0	24	54.45	2.6266	11.1
oct	7	2458763.50	12	8	10.77	+0	9	17.88	2.6241	11.1
oct	8	2458764.50	12	10	32.23	-0	6	18.83	2.6214	11.1
oct	9	2458765.50	12	12	53.75	-0	21	55.60	2.6187	11.0
oct	10	2458766.50	12	15	15.34	-0	37	32.31	2.6159	11.0
oct	11	2458767.50	12	17	37.01	-0	53	8.90	2.6131	11.0
oct	12	2458768.50	12	19	58.76	-1	8	45.28	2.6102	11.0
oct	13	2458769.50	12	22	20.60	-1	24	21.36	2.6072	10.9
oct	14	2458770.50	12	24	42.54	-1	39	57.07	2.6042	10.9
oct	15	2458771.50	12	27	4.59	-1	55	32.32	2.6011	10.9
oct	16	2458772.50	12	29	26.76	-2	11	7.03	2.5980	10.9
oct	17	2458773.50	12	31	49.05	-2	26	41.12	2.5948	10.8
oct	18	2458774.50	12	34	11.48	-2	42	14.50	2.5915	10.8
oct	19	2458775.50	12	36	34.05	-2	57	47.08	2.5882	10.8
oct	20	2458776.50	12	38	56.76	-3	13	18.76	2.5848	10.8
oct	21	2458777.50	12	41	19.62	-3	28	49.45	2.5813	10.7
oct	22	2458778.50	12	43	42.64	-3	44	19.05	2.5778	10.7
oct	23	2458779.50	12	46	5.82	-3	59	47.45	2.5742	10.7
oct	24	2458780.50	12	48	29.17	-4	15	14.54	2.5705	10.7
oct	25	2458781.50	12	50	52.68	-4	30	40.21	2.5668	10.6
oct	26	2458782.50	12	53	16.37	-4	46	4.36	2.5630	10.6
oct	27	2458783.50	12	55	40.25	-5	1	26.88	2.5592	10.6
oct	28	2458784.50	12	58	4.31	-5	16	47.69	2.5553	10.5
oct	29	2458785.50	13	0	28.57	-5	32	6.67	2.5513	10.5
oct	30	2458786.50	13	2	53.03	-5	47	23.72	2.5473	10.5
oct	31	2458787.50	13	5	17.68	-6	2	38.72	2.5432	10.5
nov	1	2458788.50	13	7	42.55	-6	17	51.57	2.5390	10.4
nov	2	2458789.50	13	10	7.62	-6	33	2.13	2.5348	10.4
nov	3	2458790.50	13	12	32.91	-6	48	10.31	2.5305	10.4
nov	4	2458791.50	13	14	58.42	-7	3	15.99	2.5262	10.4
nov	5	2458792.50	13	17	24.15	-7	18	19.06	2.5218	10.3
nov	6	2458793.50	13	19	50.12	-7	33	19.42	2.5173	10.3
nov	7	2458794.50	13	22	16.33	-7	48	16.98	2.5128	10.3
nov	8	2458795.50	13	24	42.78	-8	3	11.63	2.5082	10.3
nov	9	2458796.50	13	27	9.48	-8	18	3.27	2.5036	10.2
nov	10	2458797.50	13	29	36.45	-8	32	51.82	2.4989	10.2
nov	11	2458798.50	13	32	3.68	-8	47	37.17	2.4942	10.2
nov	12	2458799.50	13	34	31.20	-9	2	19.25	2.4894	10.2
nov	13	2458800.50	13	36	58.99	-9	16	57.95	2.4845	10.1
nov	14	2458801.50	13	39	27.08	-9	31	33.18	2.4796	10.1
nov	15	2458802.50	13	41	55.47	-9	46	4.85	2.4746	10.1
nov	16	2458803.50	13	44	24.16	-10	0	32.85	2.4696	10.1
nov	17	2458804.50	13	46	53.16	-10	14	57.08	2.4645	10.0
nov	18	2458805.50	13	49	22.47	-10	29	17.43	2.4594	10.0

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	\circ	δ -	"	dis UA	hp h
nov	19	2458806.50	13	51	52.10	-10	43	33.78	2.4542	10.0
nov	20	2458807.50	13	54	22.05	-10	57	46.01	2.4490	10.0
nov	21	2458808.50	13	56	52.32	-11	11	54.01	2.4437	10.0
nov	22	2458809.50	13	59	22.92	-11	25	57.65	2.4383	9.9
nov	23	2458810.50	14	1	53.86	-11	39	56.83	2.4329	9.9
nov	24	2458811.50	14	4	25.14	-11	53	51.44	2.4274	9.9
nov	25	2458812.50	14	6	56.76	-12	7	41.35	2.4219	9.9
nov	26	2458813.50	14	9	28.72	-12	21	26.45	2.4163	9.8
nov	27	2458814.50	14	12	1.04	-12	35	6.63	2.4107	9.8
nov	28	2458815.50	14	14	33.70	-12	48	41.76	2.4050	9.8
nov	29	2458816.50	14	17	6.72	-13	2	11.71	2.3993	9.8
nov	30	2458817.50	14	19	40.09	-13	15	36.36	2.3935	9.7
dic	1	2458818.50	14	22	13.81	-13	28	55.57	2.3877	9.7
dic	2	2458819.50	14	24	47.89	-13	42	9.22	2.3818	9.7
dic	3	2458820.50	14	27	22.33	-13	55	17.20	2.3759	9.7
dic	4	2458821.50	14	29	57.14	-14	8	19.39	2.3699	9.6
dic	5	2458822.50	14	32	32.31	-14	21	15.67	2.3638	9.6
dic	6	2458823.50	14	35	7.87	-14	34	5.94	2.3578	9.6
dic	7	2458824.50	14	37	43.80	-14	46	50.08	2.3516	9.6
dic	8	2458825.50	14	40	20.12	-14	59	27.99	2.3455	9.6
dic	9	2458826.50	14	42	56.82	-15	11	59.57	2.3392	9.5
dic	10	2458827.50	14	45	33.93	-15	24	24.71	2.3330	9.5
dic	11	2458828.50	14	48	11.43	-15	36	43.32	2.3267	9.5
dic	12	2458829.50	14	50	49.33	-15	48	55.29	2.3203	9.5
dic	13	2458830.50	14	53	27.65	-16	1	0.52	2.3139	9.4
dic	14	2458831.50	14	56	6.37	-16	12	58.90	2.3075	9.4
dic	15	2458832.50	14	58	45.51	-16	24	50.31	2.3010	9.4
dic	16	2458833.50	15	1	25.05	-16	36	34.64	2.2945	9.4
dic	17	2458834.50	15	4	5.01	-16	48	11.76	2.2879	9.4
dic	18	2458835.50	15	6	45.39	-16	59	41.56	2.2813	9.3
dic	19	2458836.50	15	9	26.18	-17	11	3.90	2.2746	9.3
dic	20	2458837.50	15	12	7.40	-17	22	18.66	2.2679	9.3
dic	21	2458838.50	15	14	49.03	-17	33	25.74	2.2612	9.3
dic	22	2458839.50	15	17	31.09	-17	44	25.02	2.2544	9.3
dic	23	2458840.50	15	20	13.56	-17	55	16.37	2.2476	9.2
dic	24	2458841.50	15	22	56.46	-18	5	59.69	2.2407	9.2
dic	25	2458842.50	15	25	39.77	-18	16	34.86	2.2338	9.2
dic	26	2458843.50	15	28	23.49	-18	27	1.74	2.2269	9.2
dic	27	2458844.50	15	31	7.62	-18	37	20.22	2.2199	9.2
dic	28	2458845.50	15	33	52.16	-18	47	30.16	2.2129	9.1
dic	29	2458846.50	15	36	37.10	-18	57	31.45	2.2058	9.1
dic	30	2458847.50	15	39	22.45	-19	7	23.96	2.1987	9.1
dic	31	2458848.50	15	42	8.19	-19	17	7.56	2.1916	9.1
ene	1	2458849.50	15	44	54.34	-19	26	42.16	2.1844	15.7
ene	2	2458850.50	15	47	40.88	-19	36	7.63	2.1772	15.8

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
ene	1	2458484.50	16	41	22.35	-21	34	18.99	6.1935	10.0
ene	2	2458485.50	16	42	15.97	-21	36	1.16	6.1854	9.9
ene	3	2458486.50	16	43	9.40	-21	37	41.81	6.1771	9.9
ene	4	2458487.50	16	44	2.64	-21	39	20.91	6.1686	9.8
ene	5	2458488.50	16	44	55.67	-21	40	58.48	6.1599	9.8
ene	6	2458489.50	16	45	48.49	-21	42	34.51	6.1511	9.7
ene	7	2458490.50	16	46	41.10	-21	44	9.00	6.1420	9.7
ene	8	2458491.50	16	47	33.48	-21	45	41.94	6.1328	9.6
ene	9	2458492.50	16	48	25.62	-21	47	13.33	6.1233	9.6
ene	10	2458493.50	16	49	17.52	-21	48	43.17	6.1137	9.5
ene	11	2458494.50	16	50	9.16	-21	50	11.45	6.1039	9.5
ene	12	2458495.50	16	51	0.56	-21	51	38.17	6.0939	9.4
ene	13	2458496.50	16	51	51.68	-21	53	3.34	6.0837	9.4
ene	14	2458497.50	16	52	42.54	-21	54	26.95	6.0734	9.3
ene	15	2458498.50	16	53	33.13	-21	55	49.03	6.0629	9.3
ene	16	2458499.50	16	54	23.43	-21	57	9.56	6.0522	9.2
ene	17	2458500.50	16	55	13.45	-21	58	28.58	6.0413	9.2
ene	18	2458501.50	16	56	3.18	-21	59	46.10	6.0303	9.1
ene	19	2458502.50	16	56	52.61	-22	1	2.14	6.0191	9.1
ene	20	2458503.50	16	57	41.73	-22	2	16.71	6.0077	9.0
ene	21	2458504.50	16	58	30.53	-22	3	29.83	5.9962	9.0
ene	22	2458505.50	16	59	19.01	-22	4	41.49	5.9845	8.9
ene	23	2458506.50	17	0	7.16	-22	5	51.69	5.9726	8.8
ene	24	2458507.50	17	0	54.96	-22	7	0.44	5.9606	8.8
ene	25	2458508.50	17	1	42.43	-22	8	7.72	5.9485	8.7
ene	26	2458509.50	17	2	29.54	-22	9	13.55	5.9362	8.7
ene	27	2458510.50	17	3	16.29	-22	10	17.94	5.9237	8.6
ene	28	2458511.50	17	4	2.69	-22	11	20.92	5.9111	8.6
ene	29	2458512.50	17	4	48.71	-22	12	22.49	5.8984	8.5
ene	30	2458513.50	17	5	34.35	-22	13	22.68	5.8855	8.5
ene	31	2458514.50	17	6	19.60	-22	14	21.50	5.8724	8.4
feb	1	2458515.50	17	7	4.46	-22	15	18.97	5.8592	8.4
feb	2	2458516.50	17	7	48.90	-22	16	15.09	5.8459	8.3
feb	3	2458517.50	17	8	32.94	-22	17	9.88	5.8324	8.3
feb	4	2458518.50	17	9	16.54	-22	18	3.35	5.8189	8.2
feb	5	2458519.50	17	9	59.71	-22	18	55.50	5.8051	8.2
feb	6	2458520.50	17	10	42.44	-22	19	46.33	5.7913	8.1
feb	7	2458521.50	17	11	24.71	-22	20	35.86	5.7773	8.1
feb	8	2458522.50	17	12	6.53	-22	21	24.09	5.7632	8.0
feb	9	2458523.50	17	12	47.88	-22	22	11.04	5.7490	7.9
feb	10	2458524.50	17	13	28.77	-22	22	56.73	5.7347	7.9
feb	11	2458525.50	17	14	9.17	-22	23	41.15	5.7203	7.8
feb	12	2458526.50	17	14	49.09	-22	24	24.35	5.7058	7.8
feb	13	2458527.50	17	15	28.51	-22	25	6.33	5.6911	7.7
feb	14	2458528.50	17	16	7.44	-22	25	47.13	5.6764	7.7
feb	15	2458529.50	17	16	45.87	-22	26	26.76	5.6615	7.6

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ -	"	dis UA	hp h
feb	16	2458530.50	17	17	23.78	-22	27	5.26	5.6466	7.6
feb	17	2458531.50	17	18	1.17	-22	27	42.65	5.6316	7.5
feb	18	2458532.50	17	18	38.03	-22	28	18.95	5.6165	7.4
feb	19	2458533.50	17	19	14.36	-22	28	54.16	5.6013	7.4
feb	20	2458534.50	17	19	50.13	-22	29	28.28	5.5860	7.3
feb	21	2458535.50	17	20	25.36	-22	30	1.33	5.5706	7.3
feb	22	2458536.50	17	21	0.03	-22	30	33.31	5.5552	7.2
feb	23	2458537.50	17	21	34.13	-22	31	4.25	5.5397	7.2
feb	24	2458538.50	17	22	7.66	-22	31	34.16	5.5241	7.1
feb	25	2458539.50	17	22	40.62	-22	32	3.07	5.5085	7.1
feb	26	2458540.50	17	23	12.99	-22	32	31.00	5.4927	7.0
feb	27	2458541.50	17	23	44.77	-22	32	57.99	5.4770	6.9
feb	28	2458542.50	17	24	15.94	-22	33	24.05	5.4611	6.9
mar	1	2458543.50	17	24	46.50	-22	33	49.19	5.4452	6.8
mar	2	2458544.50	17	25	16.44	-22	34	13.44	5.4293	6.8
mar	3	2458545.50	17	25	45.74	-22	34	36.81	5.4133	6.7
mar	4	2458546.50	17	26	14.41	-22	34	59.30	5.3973	6.7
mar	5	2458547.50	17	26	42.42	-22	35	20.92	5.3812	6.6
mar	6	2458548.50	17	27	9.79	-22	35	41.70	5.3651	6.5
mar	7	2458549.50	17	27	36.48	-22	36	1.64	5.3490	6.5
mar	8	2458550.50	17	28	2.51	-22	36	20.74	5.3328	6.4
mar	9	2458551.50	17	28	27.87	-22	36	39.04	5.3166	6.4
mar	10	2458552.50	17	28	52.54	-22	36	56.54	5.3004	6.3
mar	11	2458553.50	17	29	16.53	-22	37	13.26	5.2842	6.2
mar	12	2458554.50	17	29	39.82	-22	37	29.23	5.2680	6.2
mar	13	2458555.50	17	30	2.42	-22	37	44.47	5.2517	6.1
mar	14	2458556.50	17	30	24.32	-22	37	59.01	5.2355	6.1
mar	15	2458557.50	17	30	45.50	-22	38	12.86	5.2193	6.0
mar	16	2458558.50	17	31	5.97	-22	38	26.06	5.2030	5.9
mar	17	2458559.50	17	31	25.72	-22	38	38.62	5.1868	5.9
mar	18	2458560.50	17	31	44.74	-22	38	50.55	5.1706	5.8
mar	19	2458561.50	17	32	3.03	-22	39	1.86	5.1544	5.8
mar	20	2458562.50	17	32	20.57	-22	39	12.55	5.1383	5.7
mar	21	2458563.50	17	32	37.37	-22	39	22.62	5.1221	5.6
mar	22	2458564.50	17	32	53.42	-22	39	32.08	5.1060	5.6
mar	23	2458565.50	17	33	8.72	-22	39	40.95	5.0899	5.5
mar	24	2458566.50	17	33	23.27	-22	39	49.24	5.0739	5.5
mar	25	2458567.50	17	33	37.05	-22	39	56.99	5.0579	5.4
mar	26	2458568.50	17	33	50.07	-22	40	4.21	5.0419	5.3
mar	27	2458569.50	17	34	2.32	-22	40	10.92	5.0260	5.3
mar	28	2458570.50	17	34	13.78	-22	40	17.12	5.0102	5.2
mar	29	2458571.50	17	34	24.46	-22	40	22.84	4.9944	5.1
mar	30	2458572.50	17	34	34.35	-22	40	28.06	4.9786	5.1
mar	31	2458573.50	17	34	43.44	-22	40	32.80	4.9630	5.0
abr	1	2458574.50	17	34	51.73	-22	40	37.06	4.9474	5.0
abr	2	2458575.50	17	34	59.21	-22	40	40.84	4.9319	4.9

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
abr	3	2458576.50	17	35	5.89	-22	40	44.14	4.9164	4.8
abr	4	2458577.50	17	35	11.75	-22	40	46.96	4.9011	4.8
abr	5	2458578.50	17	35	16.80	-22	40	49.31	4.8858	4.7
abr	6	2458579.50	17	35	21.04	-22	40	51.20	4.8706	4.6
abr	7	2458580.50	17	35	24.47	-22	40	52.62	4.8556	4.6
abr	8	2458581.50	17	35	27.08	-22	40	53.59	4.8406	4.5
abr	9	2458582.50	17	35	28.88	-22	40	54.13	4.8257	4.4
abr	10	2458583.50	17	35	29.86	-22	40	54.24	4.8110	4.4
abr	11	2458584.50	17	35	30.03	-22	40	53.94	4.7964	4.3
abr	12	2458585.50	17	35	29.39	-22	40	53.24	4.7819	4.2
abr	13	2458586.50	17	35	27.93	-22	40	52.14	4.7675	4.2
abr	14	2458587.50	17	35	25.66	-22	40	50.65	4.7532	4.1
abr	15	2458588.50	17	35	22.58	-22	40	48.75	4.7391	4.0
abr	16	2458589.50	17	35	18.68	-22	40	46.45	4.7252	4.0
abr	17	2458590.50	17	35	13.98	-22	40	43.72	4.7113	3.9
abr	18	2458591.50	17	35	8.47	-22	40	40.57	4.6977	3.8
abr	19	2458592.50	17	35	2.16	-22	40	36.98	4.6841	3.8
abr	20	2458593.50	17	34	55.05	-22	40	32.97	4.6708	3.7
abr	21	2458594.50	17	34	47.16	-22	40	28.54	4.6576	3.6
abr	22	2458595.50	17	34	38.47	-22	40	23.70	4.6445	3.6
abr	23	2458596.50	17	34	28.99	-22	40	18.45	4.6316	3.5
abr	24	2458597.50	17	34	18.74	-22	40	12.79	4.6189	3.4
abr	25	2458598.50	17	34	7.69	-22	40	6.72	4.6064	3.4
abr	26	2458599.50	17	33	55.87	-22	40	0.23	4.5941	3.3
abr	27	2458600.50	17	33	43.28	-22	39	53.31	4.5819	3.2
abr	28	2458601.50	17	33	29.91	-22	39	45.94	4.5699	3.2
abr	29	2458602.50	17	33	15.79	-22	39	38.12	4.5582	3.1
abr	30	2458603.50	17	33	0.90	-22	39	29.83	4.5466	3.0
may	1	2458604.50	17	32	45.27	-22	39	21.06	4.5352	3.0
may	2	2458605.50	17	32	28.90	-22	39	11.80	4.5240	2.9
may	3	2458606.50	17	32	11.81	-22	39	2.05	4.5131	2.8
may	4	2458607.50	17	31	54.00	-22	38	51.79	4.5023	2.7
may	5	2458608.50	17	31	35.48	-22	38	41.04	4.4918	2.7
may	6	2458609.50	17	31	16.27	-22	38	29.78	4.4815	2.6
may	7	2458610.50	17	30	56.38	-22	38	18.03	4.4714	2.5
may	8	2458611.50	17	30	35.82	-22	38	5.79	4.4616	2.5
may	9	2458612.50	17	30	14.60	-22	37	53.06	4.4520	2.4
may	10	2458613.50	17	29	52.75	-22	37	39.85	4.4426	2.3
may	11	2458614.50	17	29	30.26	-22	37	26.14	4.4335	2.2
may	12	2458615.50	17	29	7.15	-22	37	11.93	4.4246	2.2
may	13	2458616.50	17	28	43.45	-22	36	57.20	4.4159	2.1
may	14	2458617.50	17	28	19.15	-22	36	41.93	4.4076	2.0
may	15	2458618.50	17	27	54.29	-22	36	26.13	4.3994	2.0
may	16	2458619.50	17	27	28.87	-22	36	9.78	4.3916	1.9
may	17	2458620.50	17	27	2.92	-22	35	52.88	4.3839	1.8
may	18	2458621.50	17	26	36.46	-22	35	35.45	4.3766	1.7

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ -	"	dis UA	hp h
may	19	2458622.50	17	26	9.49	-22	35	17.48	4.3695	1.7
may	20	2458623.50	17	25	42.04	-22	34	58.99	4.3627	1.6
may	21	2458624.50	17	25	14.12	-22	34	39.98	4.3561	1.5
may	22	2458625.50	17	24	45.74	-22	34	20.45	4.3498	1.4
may	23	2458626.50	17	24	16.93	-22	34	0.40	4.3438	1.4
may	24	2458627.50	17	23	47.70	-22	33	39.83	4.3381	1.3
may	25	2458628.50	17	23	18.07	-22	33	18.73	4.3326	1.2
may	26	2458629.50	17	22	48.06	-22	32	57.09	4.3274	1.1
may	27	2458630.50	17	22	17.69	-22	32	34.92	4.3225	1.1
may	28	2458631.50	17	21	46.97	-22	32	12.22	4.3179	1.0
may	29	2458632.50	17	21	15.93	-22	31	48.99	4.3136	0.9
may	30	2458633.50	17	20	44.60	-22	31	25.24	4.3095	0.8
may	31	2458634.50	17	20	12.99	-22	31	0.97	4.3058	0.8
jun	1	2458635.50	17	19	41.14	-22	30	36.20	4.3023	0.7
jun	2	2458636.50	17	19	9.05	-22	30	10.95	4.2992	0.6
jun	3	2458637.50	17	18	36.77	-22	29	45.25	4.2963	0.5
jun	4	2458638.50	17	18	4.30	-22	29	19.12	4.2937	0.5
jun	5	2458639.50	17	17	31.68	-22	28	52.59	4.2915	0.4
jun	6	2458640.50	17	16	58.93	-22	28	25.67	4.2895	0.3
jun	7	2458641.50	17	16	26.06	-22	27	58.40	4.2878	0.3
jun	8	2458642.50	17	15	53.11	-22	27	30.77	4.2864	0.2
jun	9	2458643.50	17	15	20.09	-22	27	2.81	4.2854	0.1
jun	10	2458644.50	17	14	47.03	-22	26	34.52	4.2846	0.0
jun	11	2458645.50	17	14	13.96	-22	26	5.92	4.2841	24.0
jun	12	2458646.50	17	13	40.90	-22	25	37.03	4.2839	23.9
jun	13	2458647.50	17	13	7.87	-22	25	7.88	4.2840	23.8
jun	14	2458648.50	17	12	34.89	-22	24	38.51	4.2844	23.7
jun	15	2458649.50	17	12	2.00	-22	24	8.94	4.2851	23.7
jun	16	2458650.50	17	11	29.21	-22	23	39.21	4.2861	23.6
jun	17	2458651.50	17	10	56.55	-22	23	9.36	4.2874	23.5
jun	18	2458652.50	17	10	24.02	-22	22	39.41	4.2890	23.4
jun	19	2458653.50	17	9	51.66	-22	22	9.39	4.2909	23.4
jun	20	2458654.50	17	9	19.49	-22	21	39.33	4.2930	23.3
jun	21	2458655.50	17	8	47.51	-22	21	9.25	4.2955	23.2
jun	22	2458656.50	17	8	15.77	-22	20	39.18	4.2982	23.1
jun	23	2458657.50	17	7	44.27	-22	20	9.13	4.3013	23.1
jun	24	2458658.50	17	7	13.03	-22	19	39.15	4.3046	23.0
jun	25	2458659.50	17	6	42.09	-22	19	9.25	4.3082	22.9
jun	26	2458660.50	17	6	11.46	-22	18	39.47	4.3121	22.8
jun	27	2458661.50	17	5	41.16	-22	18	9.84	4.3163	22.8
jun	28	2458662.50	17	5	11.21	-22	17	40.41	4.3207	22.7
jun	29	2458663.50	17	4	41.65	-22	17	11.22	4.3255	22.6
jun	30	2458664.50	17	4	12.48	-22	16	42.31	4.3305	22.5
jul	1	2458665.50	17	3	43.73	-22	16	13.73	4.3358	22.5
jul	2	2458666.50	17	3	15.42	-22	15	45.53	4.3413	22.4
jul	3	2458667.50	17	2	47.56	-22	15	17.75	4.3472	22.3

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
jul	4	2458668.50	17	2	20.18	-22	14	50.44	4.3533	22.2
jul	5	2458669.50	17	1	53.29	-22	14	23.62	4.3596	22.2
jul	6	2458670.50	17	1	26.90	-22	13	57.32	4.3663	22.1
jul	7	2458671.50	17	1	1.04	-22	13	31.57	4.3731	22.0
jul	8	2458672.50	17	0	35.71	-22	13	6.39	4.3803	21.9
jul	9	2458673.50	17	0	10.95	-22	12	41.82	4.3877	21.9
jul	10	2458674.50	16	59	46.76	-22	12	17.89	4.3953	21.8
jul	11	2458675.50	16	59	23.17	-22	11	54.65	4.4032	21.7
jul	12	2458676.50	16	59	0.17	-22	11	32.13	4.4113	21.7
jul	13	2458677.50	16	58	37.79	-22	11	10.37	4.4197	21.6
jul	14	2458678.50	16	58	16.05	-22	10	49.42	4.4283	21.5
jul	15	2458679.50	16	57	54.93	-22	10	29.30	4.4371	21.4
jul	16	2458680.50	16	57	34.47	-22	10	10.03	4.4461	21.4
jul	17	2458681.50	16	57	14.66	-22	9	51.66	4.4554	21.3
jul	18	2458682.50	16	56	55.52	-22	9	34.18	4.4649	21.2
jul	19	2458683.50	16	56	37.05	-22	9	17.63	4.4746	21.2
jul	20	2458684.50	16	56	19.27	-22	9	2.03	4.4845	21.1
jul	21	2458685.50	16	56	2.18	-22	8	47.39	4.4947	21.0
jul	22	2458686.50	16	55	45.79	-22	8	33.73	4.5050	20.9
jul	23	2458687.50	16	55	30.12	-22	8	21.07	4.5155	20.9
jul	24	2458688.50	16	55	15.18	-22	8	9.44	4.5263	20.8
jul	25	2458689.50	16	55	0.96	-22	7	58.86	4.5372	20.7
jul	26	2458690.50	16	54	47.48	-22	7	49.36	4.5483	20.7
jul	27	2458691.50	16	54	34.76	-22	7	40.96	4.5596	20.6
jul	28	2458692.50	16	54	22.79	-22	7	33.70	4.5711	20.5
jul	29	2458693.50	16	54	11.58	-22	7	27.60	4.5828	20.5
jul	30	2458694.50	16	54	1.15	-22	7	22.68	4.5946	20.4
jul	31	2458695.50	16	53	51.48	-22	7	18.98	4.6066	20.3
ago	1	2458696.50	16	53	42.60	-22	7	16.49	4.6188	20.3
ago	2	2458697.50	16	53	34.49	-22	7	15.23	4.6312	20.2
ago	3	2458698.50	16	53	27.16	-22	7	15.19	4.6437	20.1
ago	4	2458699.50	16	53	20.63	-22	7	16.37	4.6563	20.1
ago	5	2458700.50	16	53	14.89	-22	7	18.77	4.6691	20.0
ago	6	2458701.50	16	53	9.94	-22	7	22.40	4.6821	19.9
ago	7	2458702.50	16	53	5.79	-22	7	27.27	4.6951	19.9
ago	8	2458703.50	16	53	2.45	-22	7	33.40	4.7084	19.8
ago	9	2458704.50	16	52	59.90	-22	7	40.80	4.7217	19.7
ago	10	2458705.50	16	52	58.16	-22	7	49.47	4.7352	19.7
ago	11	2458706.50	16	52	57.21	-22	7	59.41	4.7488	19.6
ago	12	2458707.50	16	52	57.07	-22	8	10.62	4.7625	19.5
ago	13	2458708.50	16	52	57.71	-22	8	23.09	4.7763	19.5
ago	14	2458709.50	16	52	59.15	-22	8	36.82	4.7902	19.4
ago	15	2458710.50	16	53	1.38	-22	8	51.79	4.8042	19.3
ago	16	2458711.50	16	53	4.40	-22	9	7.98	4.8184	19.3
ago	17	2458712.50	16	53	8.21	-22	9	25.39	4.8326	19.2
ago	18	2458713.50	16	53	12.80	-22	9	44.00	4.8469	19.1

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
ago	19	2458714.50	16	53	18.18	-22	10	3.79	4.8613	19.1
ago	20	2458715.50	16	53	24.35	-22	10	24.77	4.8758	19.0
ago	21	2458716.50	16	53	31.30	-22	10	46.92	4.8904	18.9
ago	22	2458717.50	16	53	39.03	-22	11	10.23	4.9050	18.9
ago	23	2458718.50	16	53	47.54	-22	11	34.70	4.9197	18.8
ago	24	2458719.50	16	53	56.84	-22	12	0.32	4.9345	18.8
ago	25	2458720.50	16	54	6.91	-22	12	27.09	4.9494	18.7
ago	26	2458721.50	16	54	17.76	-22	12	55.00	4.9643	18.6
ago	27	2458722.50	16	54	29.38	-22	13	24.04	4.9792	18.6
ago	28	2458723.50	16	54	41.76	-22	13	54.21	4.9942	18.5
ago	29	2458724.50	16	54	54.91	-22	14	25.46	5.0093	18.4
ago	30	2458725.50	16	55	8.81	-22	14	57.79	5.0244	18.4
ago	31	2458726.50	16	55	23.47	-22	15	31.14	5.0396	18.3
sep	1	2458727.50	16	55	38.88	-22	16	5.50	5.0547	18.3
sep	2	2458728.50	16	55	55.04	-22	16	40.83	5.0700	18.2
sep	3	2458729.50	16	56	11.94	-22	17	17.12	5.0852	18.1
sep	4	2458730.50	16	56	29.58	-22	17	54.36	5.1004	18.1
sep	5	2458731.50	16	56	47.96	-22	18	32.54	5.1157	18.0
sep	6	2458732.50	16	57	7.06	-22	19	11.62	5.1310	17.9
sep	7	2458733.50	16	57	26.89	-22	19	51.60	5.1463	17.9
sep	8	2458734.50	16	57	47.43	-22	20	32.45	5.1616	17.8
sep	9	2458735.50	16	58	8.68	-22	21	14.13	5.1769	17.8
sep	10	2458736.50	16	58	30.62	-22	21	56.61	5.1922	17.7
sep	11	2458737.50	16	58	53.26	-22	22	39.86	5.2075	17.7
sep	12	2458738.50	16	59	16.58	-22	23	23.84	5.2228	17.6
sep	13	2458739.50	16	59	40.59	-22	24	8.52	5.2380	17.5
sep	14	2458740.50	17	0	5.26	-22	24	53.86	5.2533	17.5
sep	15	2458741.50	17	0	30.61	-22	25	39.84	5.2685	17.4
sep	16	2458742.50	17	0	56.62	-22	26	26.41	5.2837	17.4
sep	17	2458743.50	17	1	23.28	-22	27	13.57	5.2989	17.3
sep	18	2458744.50	17	1	50.61	-22	28	1.27	5.3141	17.2
sep	19	2458745.50	17	2	18.58	-22	28	49.50	5.3292	17.2
sep	20	2458746.50	17	2	47.20	-22	29	38.23	5.3443	17.1
sep	21	2458747.50	17	3	16.45	-22	30	27.44	5.3593	17.1
sep	22	2458748.50	17	3	46.34	-22	31	17.12	5.3743	17.0
sep	23	2458749.50	17	4	16.86	-22	32	7.23	5.3893	17.0
sep	24	2458750.50	17	4	48.00	-22	32	57.75	5.4042	16.9
sep	25	2458751.50	17	5	19.75	-22	33	48.65	5.4191	16.8
sep	26	2458752.50	17	5	52.11	-22	34	39.88	5.4339	16.8
sep	27	2458753.50	17	6	25.06	-22	35	31.41	5.4486	16.7
sep	28	2458754.50	17	6	58.61	-22	36	23.19	5.4633	16.7
sep	29	2458755.50	17	7	32.75	-22	37	15.19	5.4779	16.6
sep	30	2458756.50	17	8	7.48	-22	38	7.36	5.4925	16.6
oct	1	2458757.50	17	8	42.78	-22	38	59.69	5.5069	16.5
oct	2	2458758.50	17	9	18.66	-22	39	52.16	5.5213	16.4
oct	3	2458759.50	17	9	55.10	-22	40	44.74	5.5356	16.4

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mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
oct	4	2458760.50	17	10	32.10	-22	41	37.40	5.5498	16.3
oct	5	2458761.50	17	11	9.65	-22	42	30.12	5.5640	16.3
oct	6	2458762.50	17	11	47.73	-22	43	22.87	5.5780	16.2
oct	7	2458763.50	17	12	26.35	-22	44	15.59	5.5920	16.2
oct	8	2458764.50	17	13	5.49	-22	45	8.26	5.6058	16.1
oct	9	2458765.50	17	13	45.14	-22	46	0.83	5.6196	16.1
oct	10	2458766.50	17	14	25.30	-22	46	53.27	5.6333	16.0
oct	11	2458767.50	17	15	5.96	-22	47	45.54	5.6468	15.9
oct	12	2458768.50	17	15	47.12	-22	48	37.60	5.6603	15.9
oct	13	2458769.50	17	16	28.77	-22	49	29.43	5.6736	15.8
oct	14	2458770.50	17	17	10.90	-22	50	20.98	5.6868	15.8
oct	15	2458771.50	17	17	53.50	-22	51	12.24	5.7000	15.7
oct	16	2458772.50	17	18	36.59	-22	52	3.17	5.7130	15.7
oct	17	2458773.50	17	19	20.14	-22	52	53.76	5.7258	15.6
oct	18	2458774.50	17	20	4.15	-22	53	43.98	5.7386	15.6
oct	19	2458775.50	17	20	48.62	-22	54	33.82	5.7512	15.5
oct	20	2458776.50	17	21	33.54	-22	55	23.24	5.7638	15.5
oct	21	2458777.50	17	22	18.90	-22	56	12.23	5.7761	15.4
oct	22	2458778.50	17	23	4.69	-22	57	0.76	5.7884	15.4
oct	23	2458779.50	17	23	50.91	-22	57	48.78	5.8005	15.3
oct	24	2458780.50	17	24	37.55	-22	58	36.27	5.8125	15.3
oct	25	2458781.50	17	25	24.61	-22	59	23.18	5.8244	15.2
oct	26	2458782.50	17	26	12.08	-23	0	9.47	5.8361	15.1
oct	27	2458783.50	17	26	59.95	-23	0	55.12	5.8476	15.1
oct	28	2458784.50	17	27	48.22	-23	1	40.10	5.8591	15.0
oct	29	2458785.50	17	28	36.89	-23	2	24.39	5.8703	15.0
oct	30	2458786.50	17	29	25.94	-23	3	7.97	5.8815	14.9
oct	31	2458787.50	17	30	15.37	-23	3	50.83	5.8924	14.9
nov	1	2458788.50	17	31	5.18	-23	4	32.95	5.9032	14.8
nov	2	2458789.50	17	31	55.34	-23	5	14.30	5.9139	14.8
nov	3	2458790.50	17	32	45.86	-23	5	54.85	5.9244	14.7
nov	4	2458791.50	17	33	36.72	-23	6	34.57	5.9347	14.7
nov	5	2458792.50	17	34	27.92	-23	7	13.42	5.9449	14.6
nov	6	2458793.50	17	35	19.45	-23	7	51.38	5.9549	14.6
nov	7	2458794.50	17	36	11.30	-23	8	28.42	5.9647	14.5
nov	8	2458795.50	17	37	3.47	-23	9	4.51	5.9744	14.5
nov	9	2458796.50	17	37	55.95	-23	9	39.61	5.9839	14.4
nov	10	2458797.50	17	38	48.74	-23	10	13.71	5.9932	14.4
nov	11	2458798.50	17	39	41.82	-23	10	46.79	6.0023	14.3
nov	12	2458799.50	17	40	35.21	-23	11	18.84	6.0113	14.3
nov	13	2458800.50	17	41	28.88	-23	11	49.82	6.0201	14.2
nov	14	2458801.50	17	42	22.84	-23	12	19.74	6.0287	14.2
nov	15	2458802.50	17	43	17.07	-23	12	48.58	6.0372	14.1
nov	16	2458803.50	17	44	11.58	-23	13	16.34	6.0454	14.1
nov	17	2458804.50	17	45	6.36	-23	13	42.98	6.0535	14.0
nov	18	2458805.50	17	46	1.39	-23	14	8.51	6.0614	14.0

Júpiter, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
nov	19	2458806.50	17	46	56.68	-23	14	32.89	6.0691	13.9
nov	20	2458807.50	17	47	52.20	-23	14	56.10	6.0767	13.9
nov	21	2458808.50	17	48	47.97	-23	15	18.12	6.0840	13.8
nov	22	2458809.50	17	49	43.97	-23	15	38.90	6.0911	13.8
nov	23	2458810.50	17	50	40.20	-23	15	58.44	6.0981	13.7
nov	24	2458811.50	17	51	36.66	-23	16	16.72	6.1049	13.7
nov	25	2458812.50	17	52	33.33	-23	16	33.72	6.1114	13.6
nov	26	2458813.50	17	53	30.22	-23	16	49.44	6.1178	13.6
nov	27	2458814.50	17	54	27.31	-23	17	3.87	6.1240	13.5
nov	28	2458815.50	17	55	24.60	-23	17	17.02	6.1299	13.5
nov	29	2458816.50	17	56	22.09	-23	17	28.87	6.1357	13.4
nov	30	2458817.50	17	57	19.75	-23	17	39.41	6.1413	13.4
dic	1	2458818.50	17	58	17.58	-23	17	48.62	6.1466	13.3
dic	2	2458819.50	17	59	15.58	-23	17	56.48	6.1518	13.3
dic	3	2458820.50	18	0	13.73	-23	18	2.98	6.1568	13.2
dic	4	2458821.50	18	1	12.03	-23	18	8.09	6.1615	13.2
dic	5	2458822.50	18	2	10.48	-23	18	11.80	6.1661	13.1
dic	6	2458823.50	18	3	9.07	-23	18	14.10	6.1704	13.1
dic	7	2458824.50	18	4	7.79	-23	18	14.98	6.1745	13.0
dic	8	2458825.50	18	5	6.64	-23	18	14.43	6.1784	13.0
dic	9	2458826.50	18	6	5.61	-23	18	12.44	6.1822	12.9
dic	10	2458827.50	18	7	4.70	-23	18	9.01	6.1857	12.9
dic	11	2458828.50	18	8	3.90	-23	18	4.14	6.1890	12.8
dic	12	2458829.50	18	9	3.21	-23	17	57.84	6.1920	12.8
dic	13	2458830.50	18	10	2.62	-23	17	50.11	6.1949	12.7
dic	14	2458831.50	18	11	2.12	-23	17	40.95	6.1976	12.7
dic	15	2458832.50	18	12	1.71	-23	17	30.36	6.2000	12.6
dic	16	2458833.50	18	13	1.38	-23	17	18.34	6.2023	12.6
dic	17	2458834.50	18	14	1.13	-23	17	4.86	6.2043	12.5
dic	18	2458835.50	18	15	0.94	-23	16	49.93	6.2061	12.5
dic	19	2458836.50	18	16	0.81	-23	16	33.52	6.2077	12.4
dic	20	2458837.50	18	17	0.74	-23	16	15.63	6.2091	12.4
dic	21	2458838.50	18	18	0.73	-23	15	56.25	6.2103	12.3
dic	22	2458839.50	18	19	0.76	-23	15	35.39	6.2113	12.3
dic	23	2458840.50	18	20	0.84	-23	15	13.06	6.2120	12.2
dic	24	2458841.50	18	21	0.95	-23	14	49.26	6.2125	12.2
dic	25	2458842.50	18	22	1.10	-23	14	24.00	6.2128	12.1
dic	26	2458843.50	18	23	1.27	-23	13	57.29	6.2129	12.1
dic	27	2458844.50	18	24	1.47	-23	13	29.06	6.2128	12.0
dic	28	2458845.50	18	25	1.48	-23	12	58.83	6.2125	12.0
dic	29	2458846.50	18	26	1.75	-23	12	28.59	6.2119	11.9
dic	30	2458847.50	18	27	1.92	-23	11	56.17	6.2111	11.9
dic	31	2458848.50	18	28	2.07	-23	11	22.29	6.2101	11.8
ene	1	2458849.50	18	29	2.19	-23	10	46.96	6.2089	18.5
ene	2	2458850.50	18	30	2.28	-23	10	10.19	6.2075	18.5

Saturno, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
ene	1	2458484.50	18	49	17.95	-22	28	1.10	11.0433	12.1
ene	2	2458485.50	18	49	48.56	-22	27	28.39	11.0435	12.1
ene	3	2458486.50	18	50	19.13	-22	26	56.34	11.0434	12.0
ene	4	2458487.50	18	50	49.76	-22	26	23.60	11.0430	11.9
ene	5	2458488.50	18	51	20.36	-22	25	50.31	11.0423	11.9
ene	6	2458489.50	18	51	50.95	-22	25	16.62	11.0414	11.8
ene	7	2458490.50	18	52	21.51	-22	24	42.56	11.0403	11.8
ene	8	2458491.50	18	52	52.04	-22	24	8.13	11.0389	11.7
ene	9	2458492.50	18	53	22.54	-22	23	33.35	11.0372	11.7
ene	10	2458493.50	18	53	53.00	-22	22	58.21	11.0352	11.6
ene	11	2458494.50	18	54	23.40	-22	22	22.71	11.0330	11.5
ene	12	2458495.50	18	54	53.76	-22	21	46.87	11.0305	11.5
ene	13	2458496.50	18	55	24.06	-22	21	10.68	11.0278	11.4
ene	14	2458497.50	18	55	54.30	-22	20	34.15	11.0248	11.4
ene	15	2458498.50	18	56	24.48	-22	19	57.29	11.0215	11.3
ene	16	2458499.50	18	56	54.59	-22	19	20.11	11.0180	11.3
ene	17	2458500.50	18	57	24.62	-22	18	42.62	11.0143	11.2
ene	18	2458501.50	18	57	54.59	-22	18	4.84	11.0103	11.1
ene	19	2458502.50	18	58	24.47	-22	17	26.80	11.0060	11.1
ene	20	2458503.50	18	58	54.26	-22	16	48.51	11.0015	11.0
ene	21	2458504.50	18	59	23.97	-22	16	9.99	10.9967	11.0
ene	22	2458505.50	18	59	53.57	-22	15	31.25	10.9917	10.9
ene	23	2458506.50	19	0	23.07	-22	14	52.28	10.9864	10.9
ene	24	2458507.50	19	0	52.45	-22	14	13.10	10.9809	10.8
ene	25	2458508.50	19	1	21.72	-22	13	33.69	10.9751	10.7
ene	26	2458509.50	19	1	50.88	-22	12	54.06	10.9691	10.7
ene	27	2458510.50	19	2	19.92	-22	12	14.21	10.9629	10.6
ene	28	2458511.50	19	2	48.83	-22	11	34.18	10.9564	10.6
ene	29	2458512.50	19	3	17.62	-22	10	53.96	10.9496	10.5
ene	30	2458513.50	19	3	46.27	-22	10	13.59	10.9427	10.5
ene	31	2458514.50	19	4	14.79	-22	9	33.09	10.9354	10.4
feb	1	2458515.50	19	4	43.16	-22	8	52.47	10.9280	10.3
feb	2	2458516.50	19	5	11.39	-22	8	11.75	10.9203	10.3
feb	3	2458517.50	19	5	39.45	-22	7	30.95	10.9124	10.2
feb	4	2458518.50	19	6	7.36	-22	6	50.07	10.9042	10.2
feb	5	2458519.50	19	6	35.09	-22	6	9.13	10.8958	10.1
feb	6	2458520.50	19	7	2.66	-22	5	28.13	10.8872	10.0
feb	7	2458521.50	19	7	30.04	-22	4	47.09	10.8783	10.0
feb	8	2458522.50	19	7	57.24	-22	4	6.01	10.8693	9.9
feb	9	2458523.50	19	8	24.25	-22	3	24.90	10.8600	9.9
feb	10	2458524.50	19	8	51.07	-22	2	43.77	10.8505	9.8
feb	11	2458525.50	19	9	17.70	-22	2	2.64	10.8407	9.8
feb	12	2458526.50	19	9	44.13	-22	1	21.51	10.8308	9.7
feb	13	2458527.50	19	10	10.35	-22	0	40.41	10.8207	9.6
feb	14	2458528.50	19	10	36.37	-21	59	59.36	10.8103	9.6
feb	15	2458529.50	19	11	2.18	-21	59	18.38	10.7997	9.5

Saturno, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
feb	16	2458530.50	19	11	27.77	-21	58	37.50	10.7890	9.5
feb	17	2458531.50	19	11	53.15	-21	57	56.74	10.7780	9.4
feb	18	2458532.50	19	12	18.29	-21	57	16.11	10.7668	9.3
feb	19	2458533.50	19	12	43.21	-21	56	35.62	10.7555	9.3
feb	20	2458534.50	19	13	7.88	-21	55	55.29	10.7439	9.2
feb	21	2458535.50	19	13	32.32	-21	55	15.11	10.7322	9.2
feb	22	2458536.50	19	13	56.51	-21	54	35.08	10.7203	9.1
feb	23	2458537.50	19	14	20.45	-21	53	55.22	10.7082	9.0
feb	24	2458538.50	19	14	44.15	-21	53	15.53	10.6959	9.0
feb	25	2458539.50	19	15	7.60	-21	52	36.04	10.6834	8.9
feb	26	2458540.50	19	15	30.79	-21	51	56.78	10.6708	8.9
feb	27	2458541.50	19	15	53.72	-21	51	17.77	10.6580	8.8
feb	28	2458542.50	19	16	16.38	-21	50	39.04	10.6450	8.8
mar	1	2458543.50	19	16	38.77	-21	50	0.59	10.6318	8.7
mar	2	2458544.50	19	17	0.88	-21	49	22.46	10.6185	8.6
mar	3	2458545.50	19	17	22.71	-21	48	44.65	10.6050	8.6
mar	4	2458546.50	19	17	44.26	-21	48	7.18	10.5914	8.5
mar	5	2458547.50	19	18	5.50	-21	47	30.06	10.5776	8.5
mar	6	2458548.50	19	18	26.46	-21	46	53.30	10.5636	8.4
mar	7	2458549.50	19	18	47.11	-21	46	16.91	10.5495	8.3
mar	8	2458550.50	19	19	7.45	-21	45	40.90	10.5353	8.3
mar	9	2458551.50	19	19	27.49	-21	45	5.28	10.5209	8.2
mar	10	2458552.50	19	19	47.21	-21	44	30.06	10.5064	8.2
mar	11	2458553.50	19	20	6.63	-21	43	55.26	10.4918	8.1
mar	12	2458554.50	19	20	25.72	-21	43	20.90	10.4770	8.0
mar	13	2458555.50	19	20	44.50	-21	42	47.00	10.4621	8.0
mar	14	2458556.50	19	21	2.95	-21	42	13.58	10.4471	7.9
mar	15	2458557.50	19	21	21.08	-21	41	40.66	10.4320	7.9
mar	16	2458558.50	19	21	38.87	-21	41	8.26	10.4168	7.8
mar	17	2458559.50	19	21	56.33	-21	40	36.41	10.4014	7.7
mar	18	2458560.50	19	22	13.45	-21	40	5.12	10.3860	7.7
mar	19	2458561.50	19	22	30.22	-21	39	34.40	10.3704	7.6
mar	20	2458562.50	19	22	46.65	-21	39	4.24	10.3548	7.5
mar	21	2458563.50	19	23	2.72	-21	38	34.65	10.3391	7.5
mar	22	2458564.50	19	23	18.45	-21	38	5.63	10.3233	7.4
mar	23	2458565.50	19	23	33.82	-21	37	37.18	10.3074	7.4
mar	24	2458566.50	19	23	48.84	-21	37	9.34	10.2914	7.3
mar	25	2458567.50	19	24	3.50	-21	36	42.11	10.2753	7.2
mar	26	2458568.50	19	24	17.80	-21	36	15.53	10.2592	7.2
mar	27	2458569.50	19	24	31.74	-21	35	49.61	10.2430	7.1
mar	28	2458570.50	19	24	45.31	-21	35	24.37	10.2267	7.1
mar	29	2458571.50	19	24	58.51	-21	34	59.84	10.2104	7.0
mar	30	2458572.50	19	25	11.33	-21	34	36.02	10.1940	6.9
mar	31	2458573.50	19	25	23.77	-21	34	12.91	10.1776	6.9
abr	1	2458574.50	19	25	35.83	-21	33	50.54	10.1611	6.8
abr	2	2458575.50	19	25	47.50	-21	33	28.90	10.1445	6.7

Saturno, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
abr	3	2458576.50	19	25	58.77	-21	33	8.01	10.1280	6.7
abr	4	2458577.50	19	26	9.66	-21	32	47.86	10.1114	6.6
abr	5	2458578.50	19	26	20.15	-21	32	28.46	10.0947	6.6
abr	6	2458579.50	19	26	30.25	-21	32	9.82	10.0781	6.5
abr	7	2458580.50	19	26	39.95	-21	31	51.96	10.0614	6.4
abr	8	2458581.50	19	26	49.26	-21	31	34.87	10.0447	6.4
abr	9	2458582.50	19	26	58.16	-21	31	18.57	10.0280	6.3
abr	10	2458583.50	19	27	6.67	-21	31	3.09	10.0113	6.2
abr	11	2458584.50	19	27	14.77	-21	30	48.43	9.9946	6.2
abr	12	2458585.50	19	27	22.47	-21	30	34.62	9.9779	6.1
abr	13	2458586.50	19	27	29.76	-21	30	21.67	9.9612	6.0
abr	14	2458587.50	19	27	36.65	-21	30	9.58	9.9446	6.0
abr	15	2458588.50	19	27	43.12	-21	29	58.35	9.9279	5.9
abr	16	2458589.50	19	27	49.18	-21	29	47.99	9.9113	5.9
abr	17	2458590.50	19	27	54.82	-21	29	38.48	9.8947	5.8
abr	18	2458591.50	19	28	0.06	-21	29	29.82	9.8781	5.7
abr	19	2458592.50	19	28	4.88	-21	29	22.01	9.8616	5.7
abr	20	2458593.50	19	28	9.29	-21	29	15.05	9.8451	5.6
abr	21	2458594.50	19	28	13.29	-21	29	8.96	9.8286	5.5
abr	22	2458595.50	19	28	16.89	-21	29	3.74	9.8122	5.5
abr	23	2458596.50	19	28	20.07	-21	28	59.41	9.7958	5.4
abr	24	2458597.50	19	28	22.83	-21	28	55.99	9.7795	5.3
abr	25	2458598.50	19	28	25.18	-21	28	53.48	9.7633	5.3
abr	26	2458599.50	19	28	27.12	-21	28	51.89	9.7471	5.2
abr	27	2458600.50	19	28	28.63	-21	28	51.20	9.7311	5.1
abr	28	2458601.50	19	28	29.73	-21	28	51.44	9.7150	5.1
abr	29	2458602.50	19	28	30.40	-21	28	52.58	9.6991	5.0
abr	30	2458603.50	19	28	30.65	-21	28	54.62	9.6832	4.9
may	1	2458604.50	19	28	30.49	-21	28	57.56	9.6675	4.9
may	2	2458605.50	19	28	29.90	-21	29	1.39	9.6518	4.8
may	3	2458606.50	19	28	28.90	-21	29	6.11	9.6362	4.8
may	4	2458607.50	19	28	27.48	-21	29	11.72	9.6208	4.7
may	5	2458608.50	19	28	25.65	-21	29	18.20	9.6054	4.6
may	6	2458609.50	19	28	23.42	-21	29	25.57	9.5902	4.6
may	7	2458610.50	19	28	20.77	-21	29	33.82	9.5751	4.5
may	8	2458611.50	19	28	17.71	-21	29	42.97	9.5601	4.4
may	9	2458612.50	19	28	14.25	-21	29	53.02	9.5452	4.4
may	10	2458613.50	19	28	10.39	-21	30	3.96	9.5305	4.3
may	11	2458614.50	19	28	6.12	-21	30	15.80	9.5159	4.2
may	12	2458615.50	19	28	1.44	-21	30	28.52	9.5015	4.2
may	13	2458616.50	19	27	56.37	-21	30	42.11	9.4872	4.1
may	14	2458617.50	19	27	50.89	-21	30	56.55	9.4730	4.0
may	15	2458618.50	19	27	45.03	-21	31	11.82	9.4590	4.0
may	16	2458619.50	19	27	38.77	-21	31	27.90	9.4452	3.9
may	17	2458620.50	19	27	32.13	-21	31	44.78	9.4315	3.8
may	18	2458621.50	19	27	25.12	-21	32	2.47	9.4180	3.7

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ -	"	dis UA	hp h
may	19	2458622.50	19	27	17.72	-21	32	20.95	9.4047	3.7
may	20	2458623.50	19	27	9.96	-21	32	40.23	9.3915	3.6
may	21	2458624.50	19	27	1.82	-21	33	0.30	9.3786	3.5
may	22	2458625.50	19	26	53.31	-21	33	21.18	9.3658	3.5
may	23	2458626.50	19	26	44.44	-21	33	42.83	9.3532	3.4
may	24	2458627.50	19	26	35.20	-21	34	5.26	9.3407	3.3
may	25	2458628.50	19	26	25.61	-21	34	28.45	9.3285	3.3
may	26	2458629.50	19	26	15.65	-21	34	52.37	9.3165	3.2
may	27	2458630.50	19	26	5.34	-21	35	17.02	9.3047	3.1
may	28	2458631.50	19	25	54.68	-21	35	42.37	9.2931	3.1
may	29	2458632.50	19	25	43.68	-21	36	8.40	9.2816	3.0
may	30	2458633.50	19	25	32.34	-21	36	35.10	9.2705	2.9
may	31	2458634.50	19	25	20.67	-21	37	2.44	9.2595	2.9
jun	1	2458635.50	19	25	8.68	-21	37	30.41	9.2487	2.8
jun	2	2458636.50	19	24	56.37	-21	37	59.01	9.2382	2.7
jun	3	2458637.50	19	24	43.74	-21	38	28.21	9.2279	2.7
jun	4	2458638.50	19	24	30.81	-21	38	58.02	9.2179	2.6
jun	5	2458639.50	19	24	17.59	-21	39	28.42	9.2080	2.5
jun	6	2458640.50	19	24	4.06	-21	39	59.40	9.1985	2.4
jun	7	2458641.50	19	23	50.25	-21	40	30.96	9.1891	2.4
jun	8	2458642.50	19	23	36.15	-21	41	3.07	9.1800	2.3
jun	9	2458643.50	19	23	21.78	-21	41	35.71	9.1712	2.2
jun	10	2458644.50	19	23	7.13	-21	42	8.83	9.1626	2.2
jun	11	2458645.50	19	22	52.23	-21	42	42.42	9.1543	2.1
jun	12	2458646.50	19	22	37.07	-21	43	16.45	9.1462	2.0
jun	13	2458647.50	19	22	21.67	-21	43	50.89	9.1384	2.0
jun	14	2458648.50	19	22	6.03	-21	44	25.72	9.1308	1.9
jun	15	2458649.50	19	21	50.17	-21	45	0.95	9.1235	1.8
jun	16	2458650.50	19	21	34.09	-21	45	36.55	9.1165	1.7
jun	17	2458651.50	19	21	17.79	-21	46	12.51	9.1098	1.7
jun	18	2458652.50	19	21	1.30	-21	46	48.83	9.1033	1.6
jun	19	2458653.50	19	20	44.60	-21	47	25.49	9.0971	1.5
jun	20	2458654.50	19	20	27.71	-21	48	2.47	9.0911	1.5
jun	21	2458655.50	19	20	10.63	-21	48	39.75	9.0855	1.4
jun	22	2458656.50	19	19	53.38	-21	49	17.30	9.0801	1.3
jun	23	2458657.50	19	19	35.95	-21	49	55.10	9.0750	1.3
jun	24	2458658.50	19	19	18.36	-21	50	33.12	9.0702	1.2
jun	25	2458659.50	19	19	0.62	-21	51	11.34	9.0656	1.1
jun	26	2458660.50	19	18	42.73	-21	51	49.73	9.0614	1.0
jun	27	2458661.50	19	18	24.71	-21	52	28.27	9.0574	1.0
jun	28	2458662.50	19	18	6.57	-21	53	6.94	9.0538	0.9
jun	29	2458663.50	19	17	48.31	-21	53	45.72	9.0504	0.8
jun	30	2458664.50	19	17	29.95	-21	54	24.59	9.0473	0.8
jul	1	2458665.50	19	17	11.50	-21	55	3.55	9.0445	0.7
jul	2	2458666.50	19	16	52.96	-21	55	42.58	9.0420	0.6
jul	3	2458667.50	19	16	34.35	-21	56	21.68	9.0398	0.5

Saturno, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
jul	4	2458668.50	19	16	15.66	-21	57	0.83	9.0379	0.5
jul	5	2458669.50	19	15	56.92	-21	57	40.01	9.0363	0.4
jul	6	2458670.50	19	15	38.13	-21	58	19.19	9.0350	0.3
jul	7	2458671.50	19	15	19.30	-21	58	58.35	9.0340	0.3
jul	8	2458672.50	19	15	0.43	-21	59	37.44	9.0333	0.2
jul	9	2458673.50	19	14	41.55	-22	0	16.45	9.0329	0.1
jul	10	2458674.50	19	14	22.66	-22	0	55.35	9.0328	0.0
jul	11	2458675.50	19	14	3.77	-22	1	34.12	9.0330	24.0
jul	12	2458676.50	19	13	44.90	-22	2	12.76	9.0335	23.9
jul	13	2458677.50	19	13	26.06	-22	2	51.25	9.0343	23.8
jul	14	2458678.50	19	13	7.25	-22	3	29.59	9.0353	23.8
jul	15	2458679.50	19	12	48.47	-22	4	7.78	9.0367	23.7
jul	16	2458680.50	19	12	29.75	-22	4	45.79	9.0384	23.6
jul	17	2458681.50	19	12	11.08	-22	5	23.62	9.0404	23.6
jul	18	2458682.50	19	11	52.48	-22	6	1.24	9.0426	23.5
jul	19	2458683.50	19	11	33.95	-22	6	38.64	9.0452	23.4
jul	20	2458684.50	19	11	15.50	-22	7	15.79	9.0480	23.3
jul	21	2458685.50	19	10	57.14	-22	7	52.69	9.0512	23.3
jul	22	2458686.50	19	10	38.89	-22	8	29.29	9.0546	23.2
jul	23	2458687.50	19	10	20.74	-22	9	5.60	9.0583	23.1
jul	24	2458688.50	19	10	2.71	-22	9	41.58	9.0623	23.1
jul	25	2458689.50	19	9	44.81	-22	10	17.23	9.0666	23.0
jul	26	2458690.50	19	9	27.06	-22	10	52.53	9.0712	22.9
jul	27	2458691.50	19	9	9.45	-22	11	27.48	9.0761	22.8
jul	28	2458692.50	19	8	52.00	-22	12	2.06	9.0813	22.8
jul	29	2458693.50	19	8	34.73	-22	12	36.28	9.0867	22.7
jul	30	2458694.50	19	8	17.63	-22	13	10.14	9.0924	22.6
jul	31	2458695.50	19	8	0.71	-22	13	43.62	9.0984	22.6
ago	1	2458696.50	19	7	43.99	-22	14	16.73	9.1047	22.5
ago	2	2458697.50	19	7	27.46	-22	14	49.44	9.1112	22.4
ago	3	2458698.50	19	7	11.15	-22	15	21.74	9.1181	22.4
ago	4	2458699.50	19	6	55.05	-22	15	53.59	9.1252	22.3
ago	5	2458700.50	19	6	39.17	-22	16	24.98	9.1325	22.2
ago	6	2458701.50	19	6	23.53	-22	16	55.90	9.1401	22.1
ago	7	2458702.50	19	6	8.14	-22	17	26.33	9.1480	22.1
ago	8	2458703.50	19	5	53.01	-22	17	56.27	9.1562	22.0
ago	9	2458704.50	19	5	38.13	-22	18	25.72	9.1646	21.9
ago	10	2458705.50	19	5	23.53	-22	18	54.70	9.1732	21.9
ago	11	2458706.50	19	5	9.20	-22	19	23.19	9.1821	21.8
ago	12	2458707.50	19	4	55.14	-22	19	51.20	9.1913	21.7
ago	13	2458708.50	19	4	41.38	-22	20	18.72	9.2007	21.7
ago	14	2458709.50	19	4	27.90	-22	20	45.74	9.2103	21.6
ago	15	2458710.50	19	4	14.72	-22	21	12.25	9.2201	21.5
ago	16	2458711.50	19	4	1.84	-22	21	38.24	9.2302	21.4
ago	17	2458712.50	19	3	49.27	-22	22	3.70	9.2406	21.4
ago	18	2458713.50	19	3	37.01	-22	22	28.62	9.2511	21.3

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ -	"	dis UA	hp h
ago	19	2458714.50	19	3	25.07	-22	22	52.99	9.2619	21.2
ago	20	2458715.50	19	3	13.46	-22	23	16.79	9.2729	21.2
ago	21	2458716.50	19	3	2.18	-22	23	40.03	9.2841	21.1
ago	22	2458717.50	19	2	51.24	-22	24	2.70	9.2955	21.0
ago	23	2458718.50	19	2	40.65	-22	24	24.80	9.3072	21.0
ago	24	2458719.50	19	2	30.41	-22	24	46.33	9.3190	20.9
ago	25	2458720.50	19	2	20.52	-22	25	7.29	9.3311	20.8
ago	26	2458721.50	19	2	11.00	-22	25	27.69	9.3433	20.8
ago	27	2458722.50	19	2	1.84	-22	25	47.53	9.3557	20.7
ago	28	2458723.50	19	1	53.05	-22	26	6.82	9.3684	20.6
ago	29	2458724.50	19	1	44.63	-22	26	25.55	9.3812	20.6
ago	30	2458725.50	19	1	36.59	-22	26	43.71	9.3942	20.5
ago	31	2458726.50	19	1	28.93	-22	27	1.27	9.4074	20.4
sep	1	2458727.50	19	1	21.65	-22	27	18.24	9.4207	20.3
sep	2	2458728.50	19	1	14.76	-22	27	34.58	9.4343	20.3
sep	3	2458729.50	19	1	8.27	-22	27	50.30	9.4480	20.2
sep	4	2458730.50	19	1	2.18	-22	28	5.40	9.4618	20.1
sep	5	2458731.50	19	0	56.50	-22	28	19.89	9.4758	20.1
sep	6	2458732.50	19	0	51.22	-22	28	33.78	9.4900	20.0
sep	7	2458733.50	19	0	46.34	-22	28	47.07	9.5043	19.9
sep	8	2458734.50	19	0	41.88	-22	28	59.77	9.5187	19.9
sep	9	2458735.50	19	0	37.82	-22	29	11.89	9.5333	19.8
sep	10	2458736.50	19	0	34.18	-22	29	23.41	9.5480	19.7
sep	11	2458737.50	19	0	30.94	-22	29	34.33	9.5629	19.7
sep	12	2458738.50	19	0	28.12	-22	29	44.64	9.5779	19.6
sep	13	2458739.50	19	0	25.71	-22	29	54.34	9.5929	19.5
sep	14	2458740.50	19	0	23.71	-22	30	3.42	9.6082	19.5
sep	15	2458741.50	19	0	22.12	-22	30	11.87	9.6235	19.4
sep	16	2458742.50	19	0	20.96	-22	30	19.69	9.6389	19.3
sep	17	2458743.50	19	0	20.22	-22	30	26.88	9.6544	19.3
sep	18	2458744.50	19	0	19.89	-22	30	33.42	9.6700	19.2
sep	19	2458745.50	19	0	20.00	-22	30	39.33	9.6858	19.1
sep	20	2458746.50	19	0	20.52	-22	30	44.61	9.7016	19.1
sep	21	2458747.50	19	0	21.48	-22	30	49.27	9.7174	19.0
sep	22	2458748.50	19	0	22.86	-22	30	53.30	9.7334	19.0
sep	23	2458749.50	19	0	24.66	-22	30	56.72	9.7495	18.9
sep	24	2458750.50	19	0	26.89	-22	30	59.53	9.7656	18.8
sep	25	2458751.50	19	0	29.55	-22	31	1.74	9.7818	18.8
sep	26	2458752.50	19	0	32.63	-22	31	3.32	9.7980	18.7
sep	27	2458753.50	19	0	36.13	-22	31	4.28	9.8143	18.6
sep	28	2458754.50	19	0	40.05	-22	31	4.59	9.8307	18.6
sep	29	2458755.50	19	0	44.39	-22	31	4.25	9.8471	18.5
sep	30	2458756.50	19	0	49.17	-22	31	3.23	9.8635	18.4
oct	1	2458757.50	19	0	54.36	-22	31	1.55	9.8800	18.4
oct	2	2458758.50	19	0	59.99	-22	30	59.21	9.8965	18.3
oct	3	2458759.50	19	1	6.04	-22	30	56.23	9.9130	18.2

Saturno, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
oct	4	2458760.50	19	1	12.51	-22	30	52.61	9.9296	18.2
oct	5	2458761.50	19	1	19.41	-22	30	48.36	9.9462	18.1
oct	6	2458762.50	19	1	26.72	-22	30	43.47	9.9627	18.0
oct	7	2458763.50	19	1	34.44	-22	30	37.96	9.9793	18.0
oct	8	2458764.50	19	1	42.57	-22	30	31.81	9.9959	17.9
oct	9	2458765.50	19	1	51.10	-22	30	25.02	10.0125	17.9
oct	10	2458766.50	19	2	0.04	-22	30	17.57	10.0291	17.8
oct	11	2458767.50	19	2	9.39	-22	30	9.47	10.0457	17.7
oct	12	2458768.50	19	2	19.13	-22	30	0.71	10.0622	17.7
oct	13	2458769.50	19	2	29.28	-22	29	51.27	10.0788	17.6
oct	14	2458770.50	19	2	39.82	-22	29	41.16	10.0953	17.5
oct	15	2458771.50	19	2	50.76	-22	29	30.37	10.1118	17.5
oct	16	2458772.50	19	3	2.09	-22	29	18.91	10.1282	17.4
oct	17	2458773.50	19	3	13.82	-22	29	6.78	10.1447	17.4
oct	18	2458774.50	19	3	25.94	-22	28	53.98	10.1610	17.3
oct	19	2458775.50	19	3	38.45	-22	28	40.52	10.1774	17.2
oct	20	2458776.50	19	3	51.34	-22	28	26.41	10.1936	17.2
oct	21	2458777.50	19	4	4.61	-22	28	11.64	10.2099	17.1
oct	22	2458778.50	19	4	18.26	-22	27	56.23	10.2261	17.0
oct	23	2458779.50	19	4	32.29	-22	27	40.16	10.2422	17.0
oct	24	2458780.50	19	4	46.68	-22	27	23.43	10.2582	16.9
oct	25	2458781.50	19	5	1.44	-22	27	6.02	10.2742	16.9
oct	26	2458782.50	19	5	16.57	-22	26	47.92	10.2901	16.8
oct	27	2458783.50	19	5	32.06	-22	26	29.11	10.3059	16.7
oct	28	2458784.50	19	5	47.91	-22	26	9.60	10.3216	16.7
oct	29	2458785.50	19	6	4.13	-22	25	49.38	10.3373	16.6
oct	30	2458786.50	19	6	20.70	-22	25	28.48	10.3528	16.6
oct	31	2458787.50	19	6	37.62	-22	25	6.89	10.3683	16.5
nov	1	2458788.50	19	6	54.90	-22	24	44.63	10.3836	16.4
nov	2	2458789.50	19	7	12.51	-22	24	21.70	10.3989	16.4
nov	3	2458790.50	19	7	30.46	-22	23	58.11	10.4140	16.3
nov	4	2458791.50	19	7	48.74	-22	23	33.85	10.4290	16.3
nov	5	2458792.50	19	8	7.35	-22	23	8.91	10.4439	16.2
nov	6	2458793.50	19	8	26.28	-22	22	43.28	10.4587	16.1
nov	7	2458794.50	19	8	45.53	-22	22	16.97	10.4734	16.1
nov	8	2458795.50	19	9	5.08	-22	21	49.96	10.4879	16.0
nov	9	2458796.50	19	9	24.95	-22	21	22.25	10.5023	15.9
nov	10	2458797.50	19	9	45.13	-22	20	53.84	10.5165	15.9
nov	11	2458798.50	19	10	5.61	-22	20	24.72	10.5306	15.8
nov	12	2458799.50	19	10	26.39	-22	19	54.89	10.5446	15.8
nov	13	2458800.50	19	10	47.47	-22	19	24.37	10.5584	15.7
nov	14	2458801.50	19	11	8.84	-22	18	53.15	10.5721	15.6
nov	15	2458802.50	19	11	30.50	-22	18	21.25	10.5856	15.6
nov	16	2458803.50	19	11	52.45	-22	17	48.67	10.5990	15.5
nov	17	2458804.50	19	12	14.67	-22	17	15.42	10.6122	15.5
nov	18	2458805.50	19	12	37.17	-22	16	41.50	10.6253	15.4

Saturno, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
nov	19	2458806.50	19	12	59.94	-22	16	6.91	10.6382	15.4
nov	20	2458807.50	19	13	22.97	-22	15	31.65	10.6509	15.3
nov	21	2458808.50	19	13	46.26	-22	14	55.70	10.6634	15.2
nov	22	2458809.50	19	14	9.80	-22	14	19.06	10.6758	15.2
nov	23	2458810.50	19	14	33.60	-22	13	41.71	10.6880	15.1
nov	24	2458811.50	19	14	57.65	-22	13	3.65	10.7000	15.1
nov	25	2458812.50	19	15	21.95	-22	12	24.89	10.7118	15.0
nov	26	2458813.50	19	15	46.49	-22	11	45.43	10.7235	14.9
nov	27	2458814.50	19	16	11.26	-22	11	5.28	10.7349	14.9
nov	28	2458815.50	19	16	36.28	-22	10	24.47	10.7461	14.8
nov	29	2458816.50	19	17	1.51	-22	9	43.00	10.7572	14.8
nov	30	2458817.50	19	17	26.97	-22	9	0.88	10.7680	14.7
dic	1	2458818.50	19	17	52.64	-22	8	18.10	10.7787	14.6
dic	2	2458819.50	19	18	18.52	-22	7	34.68	10.7891	14.6
dic	3	2458820.50	19	18	44.59	-22	6	50.60	10.7993	14.5
dic	4	2458821.50	19	19	10.86	-22	6	5.86	10.8094	14.5
dic	5	2458822.50	19	19	37.33	-22	5	20.46	10.8192	14.4
dic	6	2458823.50	19	20	3.98	-22	4	34.39	10.8288	14.4
dic	7	2458824.50	19	20	30.81	-22	3	47.67	10.8381	14.3
dic	8	2458825.50	19	20	57.82	-22	3	0.28	10.8473	14.2
dic	9	2458826.50	19	21	25.01	-22	2	12.24	10.8562	14.2
dic	10	2458827.50	19	21	52.37	-22	1	23.55	10.8649	14.1
dic	11	2458828.50	19	22	19.90	-22	0	34.22	10.8734	14.1
dic	12	2458829.50	19	22	47.58	-21	59	44.26	10.8817	14.0
dic	13	2458830.50	19	23	15.43	-21	58	53.69	10.8897	13.9
dic	14	2458831.50	19	23	43.43	-21	58	2.52	10.8975	13.9
dic	15	2458832.50	19	24	11.57	-21	57	10.76	10.9050	13.8
dic	16	2458833.50	19	24	39.85	-21	56	18.41	10.9124	13.8
dic	17	2458834.50	19	25	8.27	-21	55	25.48	10.9195	13.7
dic	18	2458835.50	19	25	36.81	-21	54	31.95	10.9263	13.7
dic	19	2458836.50	19	26	5.48	-21	53	37.83	10.9329	13.6
dic	20	2458837.50	19	26	34.27	-21	52	43.11	10.9393	13.5
dic	21	2458838.50	19	27	3.17	-21	51	47.78	10.9455	13.5
dic	22	2458839.50	19	27	32.20	-21	50	51.86	10.9513	13.4
dic	23	2458840.50	19	28	1.33	-21	49	55.36	10.9570	13.4
dic	24	2458841.50	19	28	30.57	-21	48	58.28	10.9624	13.3
dic	25	2458842.50	19	28	59.91	-21	48	0.67	10.9675	13.3
dic	26	2458843.50	19	29	29.35	-21	47	2.52	10.9724	13.2
dic	27	2458844.50	19	29	58.87	-21	46	3.85	10.9770	13.1
dic	28	2458845.50	19	30	28.48	-21	45	4.68	10.9814	13.1
dic	29	2458846.50	19	30	58.15	-21	44	5.01	10.9856	13.0
dic	30	2458847.50	19	31	27.90	-21	43	4.84	10.9894	13.0
dic	31	2458848.50	19	31	57.70	-21	42	4.18	10.9930	12.9
ene	1	2458849.50	19	32	27.57	-21	41	3.03	10.9964	19.5
ene	2	2458850.50	19	32	57.48	-21	40	1.39	10.9995	19.5

Urano, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
ene	1	2458484.50	1	47	7.99	+10	28	54.89	19.5306	19.1
ene	2	2458485.50	1	47	6.88	+10	28	50.78	19.5469	19.0
ene	3	2458486.50	1	47	5.96	+10	28	47.80	19.5634	18.9
ene	4	2458487.50	1	47	5.24	+10	28	45.94	19.5799	18.9
ene	5	2458488.50	1	47	4.73	+10	28	45.21	19.5965	18.8
ene	6	2458489.50	1	47	4.41	+10	28	45.61	19.6132	18.7
ene	7	2458490.50	1	47	4.29	+10	28	47.13	19.6300	18.7
ene	8	2458491.50	1	47	4.37	+10	28	49.77	19.6468	18.6
ene	9	2458492.50	1	47	4.65	+10	28	53.52	19.6637	18.6
ene	10	2458493.50	1	47	5.12	+10	28	58.39	19.6807	18.5
ene	11	2458494.50	1	47	5.80	+10	29	4.37	19.6977	18.4
ene	12	2458495.50	1	47	6.67	+10	29	11.46	19.7147	18.4
ene	13	2458496.50	1	47	7.74	+10	29	19.67	19.7317	18.3
ene	14	2458497.50	1	47	9.01	+10	29	28.98	19.7488	18.2
ene	15	2458498.50	1	47	10.48	+10	29	39.41	19.7660	18.2
ene	16	2458499.50	1	47	12.16	+10	29	50.96	19.7831	18.1
ene	17	2458500.50	1	47	14.03	+10	30	3.63	19.8003	18.0
ene	18	2458501.50	1	47	16.11	+10	30	17.43	19.8174	18.0
ene	19	2458502.50	1	47	18.38	+10	30	32.36	19.8346	17.9
ene	20	2458503.50	1	47	20.86	+10	30	48.39	19.8518	17.8
ene	21	2458504.50	1	47	23.52	+10	31	5.53	19.8689	17.8
ene	22	2458505.50	1	47	26.39	+10	31	23.75	19.8861	17.7
ene	23	2458506.50	1	47	29.44	+10	31	43.03	19.9032	17.6
ene	24	2458507.50	1	47	32.68	+10	32	3.36	19.9204	17.6
ene	25	2458508.50	1	47	36.11	+10	32	24.74	19.9375	17.5
ene	26	2458509.50	1	47	39.73	+10	32	47.17	19.9545	17.4
ene	27	2458510.50	1	47	43.55	+10	33	10.65	19.9716	17.4
ene	28	2458511.50	1	47	47.56	+10	33	35.20	19.9885	17.3
ene	29	2458512.50	1	47	51.76	+10	34	0.80	20.0055	17.3
ene	30	2458513.50	1	47	56.16	+10	34	27.47	20.0224	17.2
ene	31	2458514.50	1	48	0.74	+10	34	55.19	20.0392	17.1
feb	1	2458515.50	1	48	5.52	+10	35	23.96	20.0560	17.1
feb	2	2458516.50	1	48	10.48	+10	35	53.77	20.0727	17.0
feb	3	2458517.50	1	48	15.63	+10	36	24.60	20.0894	16.9
feb	4	2458518.50	1	48	20.96	+10	36	56.43	20.1059	16.9
feb	5	2458519.50	1	48	26.47	+10	37	29.27	20.1224	16.8
feb	6	2458520.50	1	48	32.16	+10	38	3.08	20.1388	16.7
feb	7	2458521.50	1	48	38.03	+10	38	37.87	20.1552	16.7
feb	8	2458522.50	1	48	44.07	+10	39	13.63	20.1714	16.6
feb	9	2458523.50	1	48	50.30	+10	39	50.33	20.1875	16.5
feb	10	2458524.50	1	48	56.69	+10	40	27.98	20.2035	16.5
feb	11	2458525.50	1	49	3.27	+10	41	6.57	20.2194	16.4
feb	12	2458526.50	1	49	10.01	+10	41	46.10	20.2352	16.4
feb	13	2458527.50	1	49	16.93	+10	42	26.56	20.2508	16.3
feb	14	2458528.50	1	49	24.02	+10	43	7.94	20.2664	16.2
feb	15	2458529.50	1	49	31.27	+10	43	50.24	20.2818	16.2

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ -	"	dis UA	hp h
feb	16	2458530.50	1	49	38.70	+10	44	33.44	20.2971	16.1
feb	17	2458531.50	1	49	46.28	+10	45	17.53	20.3122	16.0
feb	18	2458532.50	1	49	54.03	+10	46	2.48	20.3272	16.0
feb	19	2458533.50	1	50	1.93	+10	46	48.26	20.3421	15.9
feb	20	2458534.50	1	50	9.98	+10	47	34.85	20.3568	15.8
feb	21	2458535.50	1	50	18.18	+10	48	22.24	20.3714	15.8
feb	22	2458536.50	1	50	26.53	+10	49	10.42	20.3858	15.7
feb	23	2458537.50	1	50	35.03	+10	49	59.38	20.4001	15.7
feb	24	2458538.50	1	50	43.69	+10	50	49.13	20.4141	15.6
feb	25	2458539.50	1	50	52.49	+10	51	39.66	20.4281	15.5
feb	26	2458540.50	1	51	1.44	+10	52	30.97	20.4418	15.5
feb	27	2458541.50	1	51	10.54	+10	53	23.06	20.4554	15.4
feb	28	2458542.50	1	51	19.78	+10	54	15.89	20.4688	15.3
mar	1	2458543.50	1	51	29.17	+10	55	9.47	20.4821	15.3
mar	2	2458544.50	1	51	38.68	+10	56	3.77	20.4951	15.2
mar	3	2458545.50	1	51	48.33	+10	56	58.76	20.5079	15.1
mar	4	2458546.50	1	51	58.12	+10	57	54.44	20.5206	15.1
mar	5	2458547.50	1	52	8.03	+10	58	50.79	20.5331	15.0
mar	6	2458548.50	1	52	18.07	+10	59	47.79	20.5453	15.0
mar	7	2458549.50	1	52	28.23	+11	0	45.41	20.5574	14.9
mar	8	2458550.50	1	52	38.51	+11	1	43.66	20.5693	14.8
mar	9	2458551.50	1	52	48.92	+11	2	42.52	20.5809	14.8
mar	10	2458552.50	1	52	59.44	+11	3	41.98	20.5924	14.7
mar	11	2458553.50	1	53	10.09	+11	4	42.02	20.6036	14.6
mar	12	2458554.50	1	53	20.84	+11	5	42.65	20.6146	14.6
mar	13	2458555.50	1	53	31.72	+11	6	43.85	20.6254	14.5
mar	14	2458556.50	1	53	42.70	+11	7	45.60	20.6359	14.5
mar	15	2458557.50	1	53	53.79	+11	8	47.90	20.6463	14.4
mar	16	2458558.50	1	54	4.98	+11	9	50.72	20.6564	14.3
mar	17	2458559.50	1	54	16.27	+11	10	54.05	20.6663	14.3
mar	18	2458560.50	1	54	27.66	+11	11	57.84	20.6759	14.2
mar	19	2458561.50	1	54	39.14	+11	13	2.09	20.6853	14.1
mar	20	2458562.50	1	54	50.71	+11	14	6.76	20.6945	14.1
mar	21	2458563.50	1	55	2.37	+11	15	11.84	20.7034	14.0
mar	22	2458564.50	1	55	14.11	+11	16	17.32	20.7121	14.0
mar	23	2458565.50	1	55	25.94	+11	17	23.19	20.7206	13.9
mar	24	2458566.50	1	55	37.86	+11	18	29.47	20.7288	13.8
mar	25	2458567.50	1	55	49.86	+11	19	36.14	20.7368	13.8
mar	26	2458568.50	1	56	1.95	+11	20	43.19	20.7445	13.7
mar	27	2458569.50	1	56	14.11	+11	21	50.61	20.7520	13.6
mar	28	2458570.50	1	56	26.35	+11	22	58.39	20.7592	13.6
mar	29	2458571.50	1	56	38.65	+11	24	6.49	20.7661	13.5
mar	30	2458572.50	1	56	51.03	+11	25	14.90	20.7729	13.5
mar	31	2458573.50	1	57	3.47	+11	26	23.60	20.7793	13.4
abr	1	2458574.50	1	57	15.97	+11	27	32.58	20.7855	13.3
abr	2	2458575.50	1	57	28.54	+11	28	41.80	20.7915	13.3

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
abr	3	2458576.50	1	57	41.15	+11	29	51.27	20.7971	13.2
abr	4	2458577.50	1	57	53.83	+11	31	0.95	20.8025	13.1
abr	5	2458578.50	1	58	6.55	+11	32	10.84	20.8077	13.1
abr	6	2458579.50	1	58	19.33	+11	33	20.94	20.8126	13.0
abr	7	2458580.50	1	58	32.16	+11	34	31.21	20.8172	13.0
abr	8	2458581.50	1	58	45.03	+11	35	41.67	20.8215	12.9
abr	9	2458582.50	1	58	57.95	+11	36	52.30	20.8256	12.8
abr	10	2458583.50	1	59	10.91	+11	38	3.08	20.8294	12.8
abr	11	2458584.50	1	59	23.90	+11	39	14.01	20.8329	12.7
abr	12	2458585.50	1	59	36.94	+11	40	25.06	20.8362	12.7
abr	13	2458586.50	1	59	50.00	+11	41	36.22	20.8392	12.6
abr	14	2458587.50	2	0	3.09	+11	42	47.45	20.8419	12.5
abr	15	2458588.50	2	0	16.20	+11	43	58.73	20.8444	12.5
abr	16	2458589.50	2	0	29.33	+11	45	10.04	20.8466	12.4
abr	17	2458590.50	2	0	42.47	+11	46	21.36	20.8485	12.3
abr	18	2458591.50	2	0	55.64	+11	47	32.68	20.8501	12.3
abr	19	2458592.50	2	1	8.82	+11	48	43.99	20.8515	12.2
abr	20	2458593.50	2	1	22.01	+11	49	55.29	20.8526	12.2
abr	21	2458594.50	2	1	35.23	+11	51	6.58	20.8534	12.1
abr	22	2458595.50	2	1	48.46	+11	52	17.77	20.8540	12.0
abr	23	2458596.50	2	2	1.67	+11	53	28.21	20.8542	12.0
abr	24	2458597.50	2	2	14.87	+11	54	39.99	20.8543	11.9
abr	25	2458598.50	2	2	28.10	+11	55	51.31	20.8540	11.8
abr	26	2458599.50	2	2	41.34	+11	57	2.43	20.8535	11.8
abr	27	2458600.50	2	2	54.56	+11	58	13.42	20.8527	11.7
abr	28	2458601.50	2	3	7.78	+11	59	24.28	20.8516	11.7
abr	29	2458602.50	2	3	20.98	+12	0	34.99	20.8502	11.6
abr	30	2458603.50	2	3	34.17	+12	1	45.55	20.8486	11.5
may	1	2458604.50	2	3	47.34	+12	2	55.95	20.8467	11.5
may	2	2458605.50	2	4	0.49	+12	4	6.16	20.8446	11.4
may	3	2458606.50	2	4	13.63	+12	5	16.18	20.8422	11.3
may	4	2458607.50	2	4	26.74	+12	6	26.00	20.8395	11.3
may	5	2458608.50	2	4	39.82	+12	7	35.62	20.8365	11.2
may	6	2458609.50	2	4	52.89	+12	8	45.02	20.8333	11.2
may	7	2458610.50	2	5	5.92	+12	9	54.21	20.8298	11.1
may	8	2458611.50	2	5	18.92	+12	11	3.15	20.8260	11.0
may	9	2458612.50	2	5	31.88	+12	12	11.85	20.8220	11.0
may	10	2458613.50	2	5	44.81	+12	13	20.28	20.8177	10.9
may	11	2458614.50	2	5	57.69	+12	14	28.41	20.8131	10.9
may	12	2458615.50	2	6	10.53	+12	15	36.22	20.8083	10.8
may	13	2458616.50	2	6	23.31	+12	16	43.70	20.8032	10.7
may	14	2458617.50	2	6	36.04	+12	17	50.81	20.7979	10.7
may	15	2458618.50	2	6	48.71	+12	18	57.56	20.7923	10.6
may	16	2458619.50	2	7	1.33	+12	20	3.94	20.7865	10.5
may	17	2458620.50	2	7	13.90	+12	21	9.94	20.7804	10.5
may	18	2458621.50	2	7	26.41	+12	22	15.57	20.7741	10.4

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
may	19	2458622.50	2	7	38.86	+12	23	20.82	20.7675	10.4
may	20	2458623.50	2	7	51.25	+12	24	25.69	20.7607	10.3
may	21	2458624.50	2	8	3.58	+12	25	30.16	20.7536	10.2
may	22	2458625.50	2	8	15.84	+12	26	34.22	20.7463	10.2
may	23	2458626.50	2	8	28.03	+12	27	37.86	20.7388	10.1
may	24	2458627.50	2	8	40.15	+12	28	41.04	20.7310	10.0
may	25	2458628.50	2	8	52.19	+12	29	43.77	20.7229	10.0
may	26	2458629.50	2	9	4.14	+12	30	46.01	20.7147	9.9
may	27	2458630.50	2	9	16.02	+12	31	47.76	20.7062	9.9
may	28	2458631.50	2	9	27.81	+12	32	49.01	20.6975	9.8
may	29	2458632.50	2	9	39.52	+12	33	49.74	20.6885	9.7
may	30	2458633.50	2	9	51.14	+12	34	49.95	20.6793	9.7
may	31	2458634.50	2	10	2.67	+12	35	49.62	20.6699	9.6
jun	1	2458635.50	2	10	14.11	+12	36	48.76	20.6602	9.5
jun	2	2458636.50	2	10	25.46	+12	37	47.35	20.6504	9.5
jun	3	2458637.50	2	10	36.71	+12	38	45.40	20.6403	9.4
jun	4	2458638.50	2	10	47.87	+12	39	42.89	20.6300	9.4
jun	5	2458639.50	2	10	58.93	+12	40	39.82	20.6195	9.3
jun	6	2458640.50	2	11	9.88	+12	41	36.16	20.6088	9.2
jun	7	2458641.50	2	11	20.72	+12	42	31.90	20.5979	9.2
jun	8	2458642.50	2	11	31.46	+12	43	27.01	20.5867	9.1
jun	9	2458643.50	2	11	42.07	+12	44	21.47	20.5754	9.0
jun	10	2458644.50	2	11	52.57	+12	45	15.27	20.5639	9.0
jun	11	2458645.50	2	12	2.96	+12	46	8.40	20.5522	8.9
jun	12	2458646.50	2	12	13.22	+12	47	0.85	20.5402	8.9
jun	13	2458647.50	2	12	23.37	+12	47	52.62	20.5281	8.8
jun	14	2458648.50	2	12	33.39	+12	48	43.72	20.5159	8.7
jun	15	2458649.50	2	12	43.30	+12	49	34.15	20.5034	8.7
jun	16	2458650.50	2	12	53.09	+12	50	23.90	20.4907	8.6
jun	17	2458651.50	2	13	2.75	+12	51	12.97	20.4779	8.5
jun	18	2458652.50	2	13	12.28	+12	52	1.34	20.4649	8.5
jun	19	2458653.50	2	13	21.68	+12	52	49.01	20.4518	8.4
jun	20	2458654.50	2	13	30.95	+12	53	35.96	20.4384	8.3
jun	21	2458655.50	2	13	40.08	+12	54	22.17	20.4249	8.3
jun	22	2458656.50	2	13	49.08	+12	55	7.63	20.4113	8.2
jun	23	2458657.50	2	13	57.93	+12	55	52.32	20.3975	8.2
jun	24	2458658.50	2	14	6.64	+12	56	36.25	20.3835	8.1
jun	25	2458659.50	2	14	15.21	+12	57	19.39	20.3694	8.0
jun	26	2458660.50	2	14	23.63	+12	58	1.75	20.3551	8.0
jun	27	2458661.50	2	14	31.91	+12	58	43.32	20.3407	7.9
jun	28	2458662.50	2	14	40.04	+12	59	24.09	20.3262	7.8
jun	29	2458663.50	2	14	48.02	+13	0	4.07	20.3115	7.8
jun	30	2458664.50	2	14	55.86	+13	0	43.24	20.2966	7.7
jul	1	2458665.50	2	15	3.54	+13	1	21.63	20.2817	7.7
jul	2	2458666.50	2	15	11.07	+13	1	59.20	20.2666	7.6
jul	3	2458667.50	2	15	18.44	+13	2	35.96	20.2514	7.5

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
jul	4	2458668.50	2	15	25.66	+13	3	11.88	20.2361	7.5
jul	5	2458669.50	2	15	32.70	+13	3	46.95	20.2207	7.4
jul	6	2458670.50	2	15	39.59	+13	4	21.15	20.2051	7.3
jul	7	2458671.50	2	15	46.30	+13	4	54.46	20.1895	7.3
jul	8	2458672.50	2	15	52.85	+13	5	26.87	20.1738	7.2
jul	9	2458673.50	2	15	59.22	+13	5	58.39	20.1579	7.1
jul	10	2458674.50	2	16	5.43	+13	6	29.01	20.1420	7.1
jul	11	2458675.50	2	16	11.48	+13	6	58.75	20.1260	7.0
jul	12	2458676.50	2	16	17.35	+13	7	27.60	20.1099	6.9
jul	13	2458677.50	2	16	23.06	+13	7	55.58	20.0937	6.9
jul	14	2458678.50	2	16	28.59	+13	8	22.67	20.0775	6.8
jul	15	2458679.50	2	16	33.96	+13	8	48.88	20.0612	6.8
jul	16	2458680.50	2	16	39.15	+13	9	14.19	20.0448	6.7
jul	17	2458681.50	2	16	44.16	+13	9	38.59	20.0283	6.6
jul	18	2458682.50	2	16	48.99	+13	10	2.08	20.0118	6.6
jul	19	2458683.50	2	16	53.65	+13	10	24.64	19.9953	6.5
jul	20	2458684.50	2	16	58.12	+13	10	46.27	19.9787	6.4
jul	21	2458685.50	2	17	2.41	+13	11	6.95	19.9620	6.4
jul	22	2458686.50	2	17	6.51	+13	11	26.69	19.9453	6.3
jul	23	2458687.50	2	17	10.44	+13	11	45.48	19.9286	6.2
jul	24	2458688.50	2	17	14.18	+13	12	3.32	19.9118	6.2
jul	25	2458689.50	2	17	17.73	+13	12	20.21	19.8950	6.1
jul	26	2458690.50	2	17	21.11	+13	12	36.16	19.8782	6.0
jul	27	2458691.50	2	17	24.29	+13	12	51.17	19.8614	6.0
jul	28	2458692.50	2	17	27.30	+13	13	5.23	19.8445	5.9
jul	29	2458693.50	2	17	30.12	+13	13	18.36	19.8276	5.9
jul	30	2458694.50	2	17	32.75	+13	13	30.54	19.8108	5.8
jul	31	2458695.50	2	17	35.19	+13	13	41.77	19.7939	5.7
ago	1	2458696.50	2	17	37.44	+13	13	52.04	19.7770	5.7
ago	2	2458697.50	2	17	39.50	+13	14	1.32	19.7602	5.6
ago	3	2458698.50	2	17	41.36	+13	14	9.61	19.7433	5.5
ago	4	2458699.50	2	17	43.02	+13	14	16.90	19.7265	5.5
ago	5	2458700.50	2	17	44.49	+13	14	23.19	19.7097	5.4
ago	6	2458701.50	2	17	45.77	+13	14	28.49	19.6930	5.3
ago	7	2458702.50	2	17	46.85	+13	14	32.81	19.6762	5.3
ago	8	2458703.50	2	17	47.75	+13	14	36.16	19.6595	5.2
ago	9	2458704.50	2	17	48.46	+13	14	38.56	19.6429	5.1
ago	10	2458705.50	2	17	48.98	+13	14	40.00	19.6263	5.1
ago	11	2458706.50	2	17	49.31	+13	14	40.50	19.6097	5.0
ago	12	2458707.50	2	17	49.45	+13	14	40.04	19.5932	4.9
ago	13	2458708.50	2	17	49.40	+13	14	38.62	19.5768	4.9
ago	14	2458709.50	2	17	49.16	+13	14	36.24	19.5604	4.8
ago	15	2458710.50	2	17	48.72	+13	14	32.89	19.5441	4.7
ago	16	2458711.50	2	17	48.09	+13	14	28.57	19.5279	4.7
ago	17	2458712.50	2	17	47.27	+13	14	23.29	19.5118	4.6
ago	18	2458713.50	2	17	46.26	+13	14	17.04	19.4957	4.5

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
ago	19	2458714.50	2	17	45.06	+13	14	9.82	19.4798	4.5
ago	20	2458715.50	2	17	43.66	+13	14	1.64	19.4639	4.4
ago	21	2458716.50	2	17	42.09	+13	13	52.52	19.4481	4.3
ago	22	2458717.50	2	17	40.32	+13	13	42.44	19.4324	4.3
ago	23	2458718.50	2	17	38.37	+13	13	31.44	19.4169	4.2
ago	24	2458719.50	2	17	36.24	+13	13	19.51	19.4014	4.1
ago	25	2458720.50	2	17	33.92	+13	13	6.66	19.3861	4.1
ago	26	2458721.50	2	17	31.42	+13	12	52.91	19.3709	4.0
ago	27	2458722.50	2	17	28.73	+13	12	38.24	19.3558	3.9
ago	28	2458723.50	2	17	25.86	+13	12	22.66	19.3408	3.9
ago	29	2458724.50	2	17	22.81	+13	12	6.15	19.3260	3.8
ago	30	2458725.50	2	17	19.57	+13	11	48.72	19.3113	3.7
ago	31	2458726.50	2	17	16.14	+13	11	30.36	19.2968	3.7
sep	1	2458727.50	2	17	12.53	+13	11	11.07	19.2824	3.6
sep	2	2458728.50	2	17	8.75	+13	10	50.86	19.2682	3.5
sep	3	2458729.50	2	17	4.79	+13	10	29.77	19.2541	3.5
sep	4	2458730.50	2	17	0.66	+13	10	7.80	19.2402	3.4
sep	5	2458731.50	2	16	56.36	+13	9	44.98	19.2264	3.3
sep	6	2458732.50	2	16	51.90	+13	9	21.33	19.2129	3.3
sep	7	2458733.50	2	16	47.27	+13	8	56.84	19.1995	3.2
sep	8	2458734.50	2	16	42.47	+13	8	31.53	19.1863	3.1
sep	9	2458735.50	2	16	37.51	+13	8	5.41	19.1732	3.1
sep	10	2458736.50	2	16	32.38	+13	7	38.47	19.1604	3.0
sep	11	2458737.50	2	16	27.09	+13	7	10.72	19.1478	2.9
sep	12	2458738.50	2	16	21.65	+13	6	42.16	19.1353	2.9
sep	13	2458739.50	2	16	16.04	+13	6	12.81	19.1231	2.8
sep	14	2458740.50	2	16	10.28	+13	5	42.67	19.1110	2.7
sep	15	2458741.50	2	16	4.36	+13	5	11.75	19.0992	2.7
sep	16	2458742.50	2	15	58.30	+13	4	40.07	19.0876	2.6
sep	17	2458743.50	2	15	52.09	+13	4	7.64	19.0762	2.5
sep	18	2458744.50	2	15	45.73	+13	3	34.49	19.0650	2.5
sep	19	2458745.50	2	15	39.24	+13	3	0.61	19.0540	2.4
sep	20	2458746.50	2	15	32.60	+13	2	26.05	19.0433	2.3
sep	21	2458747.50	2	15	25.83	+13	1	50.80	19.0328	2.3
sep	22	2458748.50	2	15	18.93	+13	1	14.89	19.0225	2.2
sep	23	2458749.50	2	15	11.90	+13	0	38.33	19.0125	2.1
sep	24	2458750.50	2	15	4.73	+13	0	1.12	19.0027	2.1
sep	25	2458751.50	2	14	57.44	+12	59	23.27	18.9931	2.0
sep	26	2458752.50	2	14	50.02	+12	58	44.78	18.9838	1.9
sep	27	2458753.50	2	14	42.47	+12	58	5.65	18.9748	1.9
sep	28	2458754.50	2	14	34.80	+12	57	25.89	18.9660	1.8
sep	29	2458755.50	2	14	27.01	+12	56	45.53	18.9574	1.7
sep	30	2458756.50	2	14	19.12	+12	56	4.58	18.9492	1.7
oct	1	2458757.50	2	14	11.11	+12	55	23.09	18.9411	1.6
oct	2	2458758.50	2	14	3.01	+12	54	41.07	18.9334	1.5
oct	3	2458759.50	2	13	54.81	+12	53	58.56	18.9259	1.5

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
oct	4	2458760.50	2	13	46.51	+12	53	15.58	18.9187	1.4
oct	5	2458761.50	2	13	38.12	+12	52	32.14	18.9118	1.3
oct	6	2458762.50	2	13	29.64	+12	51	48.24	18.9052	1.3
oct	7	2458763.50	2	13	21.08	+12	51	3.91	18.8988	1.2
oct	8	2458764.50	2	13	12.42	+12	50	19.16	18.8927	1.1
oct	9	2458765.50	2	13	3.69	+12	49	33.99	18.8869	1.0
oct	10	2458766.50	2	12	54.88	+12	48	48.43	18.8814	1.0
oct	11	2458767.50	2	12	45.99	+12	48	2.49	18.8762	0.9
oct	12	2458768.50	2	12	37.04	+12	47	16.19	18.8712	0.8
oct	13	2458769.50	2	12	28.01	+12	46	29.55	18.8666	0.8
oct	14	2458770.50	2	12	18.93	+12	45	42.60	18.8622	0.7
oct	15	2458771.50	2	12	9.79	+12	44	55.35	18.8582	0.6
oct	16	2458772.50	2	12	0.60	+12	44	7.84	18.8544	0.6
oct	17	2458773.50	2	11	51.37	+12	43	20.08	18.8510	0.5
oct	18	2458774.50	2	11	42.09	+12	42	32.11	18.8478	0.4
oct	19	2458775.50	2	11	32.77	+12	41	43.94	18.8449	0.4
oct	20	2458776.50	2	11	23.41	+12	40	55.59	18.8424	0.3
oct	21	2458777.50	2	11	14.01	+12	40	7.08	18.8401	0.2
oct	22	2458778.50	2	11	4.59	+12	39	18.41	18.8381	0.2
oct	23	2458779.50	2	10	55.13	+12	38	29.61	18.8365	0.1
oct	24	2458780.50	2	10	45.65	+12	37	40.67	18.8351	0.0
oct	25	2458781.50	2	10	36.14	+12	36	51.62	18.8341	24.0
oct	26	2458782.50	2	10	26.62	+12	36	2.47	18.8334	23.9
oct	27	2458783.50	2	10	17.09	+12	35	13.25	18.8329	23.8
oct	28	2458784.50	2	10	7.55	+12	34	24.00	18.8328	23.7
oct	29	2458785.50	2	9	58.02	+12	33	34.76	18.8330	23.7
oct	30	2458786.50	2	9	48.49	+12	32	45.55	18.8335	23.6
oct	31	2458787.50	2	9	38.98	+12	31	56.41	18.8344	23.5
nov	1	2458788.50	2	9	29.47	+12	31	7.35	18.8355	23.5
nov	2	2458789.50	2	9	19.99	+12	30	18.39	18.8369	23.4
nov	3	2458790.50	2	9	10.52	+12	29	29.55	18.8387	23.3
nov	4	2458791.50	2	9	1.08	+12	28	40.85	18.8407	23.3
nov	5	2458792.50	2	8	51.66	+12	27	52.29	18.8431	23.2
nov	6	2458793.50	2	8	42.27	+12	27	3.89	18.8458	23.1
nov	7	2458794.50	2	8	32.92	+12	26	15.69	18.8487	23.1
nov	8	2458795.50	2	8	23.60	+12	25	27.68	18.8520	23.0
nov	9	2458796.50	2	8	14.33	+12	24	39.91	18.8556	22.9
nov	10	2458797.50	2	8	5.11	+12	23	52.40	18.8595	22.9
nov	11	2458798.50	2	7	55.94	+12	23	5.16	18.8637	22.8
nov	12	2458799.50	2	7	46.84	+12	22	18.23	18.8681	22.7
nov	13	2458800.50	2	7	37.79	+12	21	31.64	18.8729	22.7
nov	14	2458801.50	2	7	28.81	+12	20	45.40	18.8780	22.6
nov	15	2458802.50	2	7	19.90	+12	19	59.54	18.8834	22.5
nov	16	2458803.50	2	7	11.06	+12	19	14.09	18.8890	22.5
nov	17	2458804.50	2	7	2.30	+12	18	29.05	18.8950	22.4
nov	18	2458805.50	2	6	53.62	+12	17	44.44	18.9012	22.3

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ -	"	dis UA	hp h
nov	19	2458806.50	2	6	45.02	+12	17	0.27	18.9078	22.2
nov	20	2458807.50	2	6	36.50	+12	16	16.54	18.9146	22.2
nov	21	2458808.50	2	6	28.06	+12	15	33.28	18.9217	22.1
nov	22	2458809.50	2	6	19.72	+12	14	50.50	18.9291	22.0
nov	23	2458810.50	2	6	11.47	+12	14	8.22	18.9368	22.0
nov	24	2458811.50	2	6	3.33	+12	13	26.47	18.9447	21.9
nov	25	2458812.50	2	5	55.30	+12	12	45.29	18.9530	21.8
nov	26	2458813.50	2	5	47.37	+12	12	4.71	18.9615	21.8
nov	27	2458814.50	2	5	39.57	+12	11	24.75	18.9702	21.7
nov	28	2458815.50	2	5	31.88	+12	10	45.45	18.9793	21.6
nov	29	2458816.50	2	5	24.32	+12	10	6.80	18.9886	21.6
nov	30	2458817.50	2	5	16.88	+12	9	28.82	18.9982	21.5
dic	1	2458818.50	2	5	9.56	+12	8	51.53	19.0080	21.4
dic	2	2458819.50	2	5	2.37	+12	8	14.93	19.0181	21.4
dic	3	2458820.50	2	4	55.31	+12	7	39.04	19.0284	21.3
dic	4	2458821.50	2	4	48.39	+12	7	3.86	19.0390	21.2
dic	5	2458822.50	2	4	41.60	+12	6	29.42	19.0498	21.2
dic	6	2458823.50	2	4	34.96	+12	5	55.74	19.0608	21.1
dic	7	2458824.50	2	4	28.45	+12	5	22.82	19.0721	21.0
dic	8	2458825.50	2	4	22.10	+12	4	50.69	19.0836	21.0
dic	9	2458826.50	2	4	15.90	+12	4	19.37	19.0954	20.9
dic	10	2458827.50	2	4	9.85	+12	3	48.89	19.1074	20.8
dic	11	2458828.50	2	4	3.96	+12	3	19.25	19.1196	20.8
dic	12	2458829.50	2	3	58.24	+12	2	50.48	19.1320	20.7
dic	13	2458830.50	2	3	52.67	+12	2	22.58	19.1446	20.6
dic	14	2458831.50	2	3	47.27	+12	1	55.58	19.1574	20.6
dic	15	2458832.50	2	3	42.02	+12	1	29.47	19.1704	20.5
dic	16	2458833.50	2	3	36.95	+12	1	4.25	19.1836	20.4
dic	17	2458834.50	2	3	32.03	+12	0	39.92	19.1971	20.4
dic	18	2458835.50	2	3	27.29	+12	0	16.50	19.2107	20.3
dic	19	2458836.50	2	3	22.71	+11	59	53.97	19.2245	20.2
dic	20	2458837.50	2	3	18.31	+11	59	32.38	19.2385	20.2
dic	21	2458838.50	2	3	14.09	+11	59	11.72	19.2526	20.1
dic	22	2458839.50	2	3	10.05	+11	58	52.02	19.2670	20.0
dic	23	2458840.50	2	3	6.19	+11	58	33.32	19.2815	20.0
dic	24	2458841.50	2	3	2.52	+11	58	15.61	19.2961	19.9
dic	25	2458842.50	2	2	59.03	+11	57	58.93	19.3110	19.8
dic	26	2458843.50	2	2	55.74	+11	57	43.27	19.3259	19.8
dic	27	2458844.50	2	2	52.63	+11	57	28.63	19.3411	19.7
dic	28	2458845.50	2	2	49.71	+11	57	15.03	19.3563	19.6
dic	29	2458846.50	2	2	46.99	+11	57	2.45	19.3718	19.6
dic	30	2458847.50	2	2	44.45	+11	56	50.89	19.3873	19.5
dic	31	2458848.50	2	2	42.10	+11	56	40.37	19.4030	19.4
ene	1	2458849.50	2	2	39.95	+11	56	30.88	19.4188	2.0
ene	2	2458850.50	2	2	37.99	+11	56	22.43	19.4347	2.0

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	\circ	δ "	"	dis UA	hp h
ene	1	2458484.50	23	2	50.70	-7	9	28.70	30.3594	16.3
ene	2	2458485.50	23	2	55.29	-7	8	58.78	30.3749	16.3
ene	3	2458486.50	23	3	0.00	-7	8	28.17	30.3903	16.2
ene	4	2458487.50	23	3	4.82	-7	7	56.88	30.4055	16.1
ene	5	2458488.50	23	3	9.75	-7	7	24.94	30.4206	16.1
ene	6	2458489.50	23	3	14.79	-7	6	52.34	30.4356	16.0
ene	7	2458490.50	23	3	19.93	-7	6	19.11	30.4504	16.0
ene	8	2458491.50	23	3	25.18	-7	5	45.26	30.4650	15.9
ene	9	2458492.50	23	3	30.53	-7	5	10.79	30.4795	15.8
ene	10	2458493.50	23	3	35.97	-7	4	35.72	30.4938	15.8
ene	11	2458494.50	23	3	41.52	-7	4	0.06	30.5079	15.7
ene	12	2458495.50	23	3	47.16	-7	3	23.80	30.5219	15.6
ene	13	2458496.50	23	3	52.90	-7	2	46.96	30.5356	15.6
ene	14	2458497.50	23	3	58.74	-7	2	9.53	30.5492	15.5
ene	15	2458498.50	23	4	4.67	-7	1	31.53	30.5626	15.4
ene	16	2458499.50	23	4	10.69	-7	0	52.95	30.5759	15.4
ene	17	2458500.50	23	4	16.81	-7	0	13.80	30.5889	15.3
ene	18	2458501.50	23	4	23.02	-6	59	34.10	30.6017	15.2
ene	19	2458502.50	23	4	29.32	-6	58	53.85	30.6143	15.2
ene	20	2458503.50	23	4	35.71	-6	58	13.07	30.6267	15.1
ene	21	2458504.50	23	4	42.19	-6	57	31.80	30.6389	15.1
ene	22	2458505.50	23	4	48.74	-6	56	50.04	30.6509	15.0
ene	23	2458506.50	23	4	55.38	-6	56	7.82	30.6627	14.9
ene	24	2458507.50	23	5	2.09	-6	55	25.15	30.6742	14.9
ene	25	2458508.50	23	5	8.87	-6	54	42.02	30.6856	14.8
ene	26	2458509.50	23	5	15.74	-6	53	58.43	30.6967	14.7
ene	27	2458510.50	23	5	22.67	-6	53	14.38	30.7076	14.7
ene	28	2458511.50	23	5	29.69	-6	52	29.87	30.7182	14.6
ene	29	2458512.50	23	5	36.78	-6	51	44.91	30.7287	14.5
ene	30	2458513.50	23	5	43.94	-6	50	59.52	30.7389	14.5
ene	31	2458514.50	23	5	51.18	-6	50	13.71	30.7488	14.4
feb	1	2458515.50	23	5	58.48	-6	49	27.49	30.7585	14.4
feb	2	2458516.50	23	6	5.85	-6	48	40.89	30.7680	14.3
feb	3	2458517.50	23	6	13.28	-6	47	53.91	30.7772	14.2
feb	4	2458518.50	23	6	20.78	-6	47	6.59	30.7861	14.2
feb	5	2458519.50	23	6	28.33	-6	46	18.92	30.7948	14.1
feb	6	2458520.50	23	6	35.94	-6	45	30.92	30.8033	14.0
feb	7	2458521.50	23	6	43.60	-6	44	42.61	30.8115	14.0
feb	8	2458522.50	23	6	51.31	-6	43	53.99	30.8194	13.9
feb	9	2458523.50	23	6	59.08	-6	43	5.06	30.8271	13.8
feb	10	2458524.50	23	7	6.90	-6	42	15.84	30.8345	13.8
feb	11	2458525.50	23	7	14.76	-6	41	26.34	30.8416	13.7
feb	12	2458526.50	23	7	22.68	-6	40	36.55	30.8485	13.7
feb	13	2458527.50	23	7	30.64	-6	39	46.49	30.8551	13.6
feb	14	2458528.50	23	7	38.64	-6	38	56.17	30.8614	13.5
feb	15	2458529.50	23	7	46.69	-6	38	5.60	30.8674	13.5

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
feb	16	2458530.50	23	7	54.78	-6	37	14.80	30.8732	13.4
feb	17	2458531.50	23	8	2.91	-6	36	23.80	30.8787	13.3
feb	18	2458532.50	23	8	11.07	-6	35	32.62	30.8839	13.3
feb	19	2458533.50	23	8	19.26	-6	34	41.27	30.8889	13.2
feb	20	2458534.50	23	8	27.48	-6	33	49.78	30.8936	13.1
feb	21	2458535.50	23	8	35.72	-6	32	58.15	30.8980	13.1
feb	22	2458536.50	23	8	43.99	-6	32	6.38	30.9021	13.0
feb	23	2458537.50	23	8	52.29	-6	31	14.46	30.9059	13.0
feb	24	2458538.50	23	9	0.61	-6	30	22.41	30.9095	12.9
feb	25	2458539.50	23	9	8.96	-6	29	30.22	30.9127	12.8
feb	26	2458540.50	23	9	17.33	-6	28	37.91	30.9157	12.8
feb	27	2458541.50	23	9	25.72	-6	27	45.49	30.9184	12.7
feb	28	2458542.50	23	9	34.13	-6	26	52.99	30.9208	12.6
mar	1	2458543.50	23	9	42.55	-6	26	0.42	30.9229	12.6
mar	2	2458544.50	23	9	50.99	-6	25	7.80	30.9248	12.5
mar	3	2458545.50	23	9	59.44	-6	24	15.15	30.9263	12.5
mar	4	2458546.50	23	10	7.89	-6	23	22.48	30.9276	12.4
mar	5	2458547.50	23	10	16.36	-6	22	29.83	30.9286	12.3
mar	6	2458548.50	23	10	24.82	-6	21	37.27	30.9293	12.3
mar	7	2458549.50	23	10	33.28	-6	20	44.93	30.9297	12.2
mar	8	2458550.50	23	10	41.72	-6	19	52.19	30.9298	12.1
mar	9	2458551.50	23	10	50.18	-6	18	59.45	30.9296	12.1
mar	10	2458552.50	23	10	58.63	-6	18	6.83	30.9291	12.0
mar	11	2458553.50	23	11	7.09	-6	17	14.30	30.9284	11.9
mar	12	2458554.50	23	11	15.53	-6	16	21.83	30.9273	11.9
mar	13	2458555.50	23	11	23.97	-6	15	29.43	30.9260	11.8
mar	14	2458556.50	23	11	32.41	-6	14	37.12	30.9244	11.8
mar	15	2458557.50	23	11	40.83	-6	13	44.91	30.9225	11.7
mar	16	2458558.50	23	11	49.23	-6	12	52.81	30.9203	11.6
mar	17	2458559.50	23	11	57.62	-6	12	0.86	30.9178	11.6
mar	18	2458560.50	23	12	5.99	-6	11	9.07	30.9151	11.5
mar	19	2458561.50	23	12	14.34	-6	10	17.45	30.9120	11.4
mar	20	2458562.50	23	12	22.65	-6	9	26.03	30.9087	11.4
mar	21	2458563.50	23	12	30.95	-6	8	34.79	30.9052	11.3
mar	22	2458564.50	23	12	39.21	-6	7	43.75	30.9013	11.2
mar	23	2458565.50	23	12	47.45	-6	6	52.89	30.8972	11.2
mar	24	2458566.50	23	12	55.66	-6	6	2.22	30.8928	11.1
mar	25	2458567.50	23	13	3.84	-6	5	11.75	30.8881	11.1
mar	26	2458568.50	23	13	12.00	-6	4	21.49	30.8831	11.0
mar	27	2458569.50	23	13	20.12	-6	3	31.47	30.8779	10.9
mar	28	2458570.50	23	13	28.20	-6	2	41.69	30.8724	10.9
mar	29	2458571.50	23	13	36.25	-6	1	52.19	30.8667	10.8
mar	30	2458572.50	23	13	44.26	-6	1	2.96	30.8607	10.7
mar	31	2458573.50	23	13	52.23	-6	0	14.04	30.8544	10.7
abr	1	2458574.50	23	14	0.14	-5	59	25.43	30.8478	10.6
abr	2	2458575.50	23	14	8.02	-5	58	37.14	30.8410	10.5

Neptuno, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	\circ	δ "	"	dis UA	hp h
abr	3	2458576.50	23	14	15.84	-5	57	49.18	30.8340	10.5
abr	4	2458577.50	23	14	23.61	-5	57	1.56	30.8266	10.4
abr	5	2458578.50	23	14	31.34	-5	56	14.28	30.8190	10.4
abr	6	2458579.50	23	14	39.01	-5	55	27.36	30.8112	10.3
abr	7	2458580.50	23	14	46.62	-5	54	40.78	30.8031	10.2
abr	8	2458581.50	23	14	54.18	-5	53	54.57	30.7948	10.2
abr	9	2458582.50	23	15	1.69	-5	53	8.73	30.7862	10.1
abr	10	2458583.50	23	15	9.14	-5	52	23.27	30.7774	10.0
abr	11	2458584.50	23	15	16.54	-5	51	38.21	30.7684	10.0
abr	12	2458585.50	23	15	23.87	-5	50	53.56	30.7591	9.9
abr	13	2458586.50	23	15	31.13	-5	50	9.35	30.7495	9.8
abr	14	2458587.50	23	15	38.33	-5	49	25.59	30.7398	9.8
abr	15	2458588.50	23	15	45.46	-5	48	42.30	30.7298	9.7
abr	16	2458589.50	23	15	52.52	-5	47	59.48	30.7196	9.7
abr	17	2458590.50	23	15	59.51	-5	47	17.15	30.7092	9.6
abr	18	2458591.50	23	16	6.42	-5	46	35.30	30.6985	9.5
abr	19	2458592.50	23	16	13.26	-5	45	53.93	30.6877	9.5
abr	20	2458593.50	23	16	20.02	-5	45	13.03	30.6766	9.4
abr	21	2458594.50	23	16	26.72	-5	44	32.61	30.6653	9.3
abr	22	2458595.50	23	16	33.34	-5	43	52.68	30.6538	9.3
abr	23	2458596.50	23	16	39.88	-5	43	13.25	30.6422	9.2
abr	24	2458597.50	23	16	46.35	-5	42	34.33	30.6303	9.1
abr	25	2458598.50	23	16	52.74	-5	41	55.96	30.6182	9.1
abr	26	2458599.50	23	16	59.04	-5	41	18.13	30.6059	9.0
abr	27	2458600.50	23	17	5.26	-5	40	40.86	30.5934	9.0
abr	28	2458601.50	23	17	11.40	-5	40	4.17	30.5808	8.9
abr	29	2458602.50	23	17	17.44	-5	39	28.06	30.5679	8.8
abr	30	2458603.50	23	17	23.40	-5	38	52.54	30.5549	8.8
may	1	2458604.50	23	17	29.26	-5	38	17.61	30.5417	8.7
may	2	2458605.50	23	17	35.03	-5	37	43.27	30.5283	8.6
may	3	2458606.50	23	17	40.71	-5	37	9.53	30.5148	8.6
may	4	2458607.50	23	17	46.30	-5	36	36.40	30.5011	8.5
may	5	2458608.50	23	17	51.80	-5	36	3.86	30.4872	8.4
may	6	2458609.50	23	17	57.20	-5	35	31.94	30.4732	8.4
may	7	2458610.50	23	18	2.51	-5	35	0.62	30.4590	8.3
may	8	2458611.50	23	18	7.72	-5	34	29.93	30.4447	8.3
may	9	2458612.50	23	18	12.84	-5	33	59.89	30.4302	8.2
may	10	2458613.50	23	18	17.85	-5	33	30.49	30.4156	8.1
may	11	2458614.50	23	18	22.76	-5	33	1.77	30.4008	8.1
may	12	2458615.50	23	18	27.57	-5	32	33.74	30.3859	8.0
may	13	2458616.50	23	18	32.27	-5	32	6.40	30.3709	7.9
may	14	2458617.50	23	18	36.87	-5	31	39.75	30.3558	7.9
may	15	2458618.50	23	18	41.36	-5	31	13.79	30.3405	7.8
may	16	2458619.50	23	18	45.74	-5	30	48.52	30.3251	7.7
may	17	2458620.50	23	18	50.02	-5	30	23.93	30.3096	7.7
may	18	2458621.50	23	18	54.19	-5	30	0.01	30.2941	7.6

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ -	"	dis UA	hp h
may	19	2458622.50	23	18	58.26	-5	29	36.77	30.2784	7.5
may	20	2458623.50	23	19	2.22	-5	29	14.21	30.2626	7.5
may	21	2458624.50	23	19	6.07	-5	28	52.35	30.2467	7.4
may	22	2458625.50	23	19	9.82	-5	28	31.21	30.2307	7.3
may	23	2458626.50	23	19	13.45	-5	28	10.78	30.2146	7.3
may	24	2458627.50	23	19	16.98	-5	27	51.09	30.1985	7.2
may	25	2458628.50	23	19	20.38	-5	27	32.14	30.1823	7.2
may	26	2458629.50	23	19	23.68	-5	27	13.93	30.1660	7.1
may	27	2458630.50	23	19	26.85	-5	26	56.47	30.1496	7.0
may	28	2458631.50	23	19	29.91	-5	26	39.75	30.1332	7.0
may	29	2458632.50	23	19	32.86	-5	26	23.79	30.1167	6.9
may	30	2458633.50	23	19	35.68	-5	26	8.57	30.1001	6.8
may	31	2458634.50	23	19	38.39	-5	25	54.09	30.0835	6.8
jun	1	2458635.50	23	19	40.99	-5	25	40.35	30.0668	6.7
jun	2	2458636.50	23	19	43.47	-5	25	27.35	30.0501	6.6
jun	3	2458637.50	23	19	45.83	-5	25	15.09	30.0334	6.6
jun	4	2458638.50	23	19	48.08	-5	25	3.58	30.0167	6.5
jun	5	2458639.50	23	19	50.21	-5	24	52.82	29.9999	6.4
jun	6	2458640.50	23	19	52.22	-5	24	42.82	29.9831	6.4
jun	7	2458641.50	23	19	54.12	-5	24	33.60	29.9662	6.3
jun	8	2458642.50	23	19	55.89	-5	24	25.18	29.9494	6.2
jun	9	2458643.50	23	19	57.53	-5	24	17.54	29.9325	6.2
jun	10	2458644.50	23	19	59.05	-5	24	10.69	29.9157	6.1
jun	11	2458645.50	23	20	0.45	-5	24	4.63	29.8988	6.0
jun	12	2458646.50	23	20	1.73	-5	23	59.34	29.8820	6.0
jun	13	2458647.50	23	20	2.88	-5	23	54.80	29.8652	5.9
jun	14	2458648.50	23	20	3.92	-5	23	51.02	29.8484	5.9
jun	15	2458649.50	23	20	4.84	-5	23	47.98	29.8316	5.8
jun	16	2458650.50	23	20	5.65	-5	23	45.69	29.8148	5.7
jun	17	2458651.50	23	20	6.33	-5	23	44.15	29.7981	5.7
jun	18	2458652.50	23	20	6.90	-5	23	43.37	29.7814	5.6
jun	19	2458653.50	23	20	7.35	-5	23	43.36	29.7647	5.5
jun	20	2458654.50	23	20	7.68	-5	23	44.12	29.7481	5.5
jun	21	2458655.50	23	20	7.88	-5	23	45.65	29.7315	5.4
jun	22	2458656.50	23	20	7.96	-5	23	47.96	29.7150	5.3
jun	23	2458657.50	23	20	7.92	-5	23	51.04	29.6985	5.3
jun	24	2458658.50	23	20	7.76	-5	23	54.89	29.6821	5.2
jun	25	2458659.50	23	20	7.48	-5	23	59.50	29.6658	5.1
jun	26	2458660.50	23	20	7.07	-5	24	4.87	29.6495	5.1
jun	27	2458661.50	23	20	6.55	-5	24	10.98	29.6333	5.0
jun	28	2458662.50	23	20	5.91	-5	24	17.83	29.6172	4.9
jun	29	2458663.50	23	20	5.15	-5	24	25.42	29.6011	4.9
jun	30	2458664.50	23	20	4.28	-5	24	33.73	29.5852	4.8
jul	1	2458665.50	23	20	3.29	-5	24	42.76	29.5693	4.7
jul	2	2458666.50	23	20	2.18	-5	24	52.51	29.5536	4.7
jul	3	2458667.50	23	20	0.96	-5	25	2.99	29.5379	4.6

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
jul	4	2458668.50	23	19	59.63	-5	25	14.21	29.5224	4.5
jul	5	2458669.50	23	19	58.17	-5	25	26.17	29.5070	4.5
jul	6	2458670.50	23	19	56.60	-5	25	38.88	29.4917	4.4
jul	7	2458671.50	23	19	54.91	-5	25	52.32	29.4765	4.3
jul	8	2458672.50	23	19	53.10	-5	26	6.49	29.4614	4.3
jul	9	2458673.50	23	19	51.18	-5	26	21.36	29.4465	4.2
jul	10	2458674.50	23	19	49.14	-5	26	36.92	29.4317	4.1
jul	11	2458675.50	23	19	47.00	-5	26	53.15	29.4170	4.1
jul	12	2458676.50	23	19	44.75	-5	27	10.05	29.4025	4.0
jul	13	2458677.50	23	19	42.40	-5	27	27.60	29.3882	3.9
jul	14	2458678.50	23	19	39.94	-5	27	45.80	29.3740	3.9
jul	15	2458679.50	23	19	37.37	-5	28	4.66	29.3599	3.8
jul	16	2458680.50	23	19	34.70	-5	28	24.17	29.3460	3.7
jul	17	2458681.50	23	19	31.92	-5	28	44.33	29.3323	3.7
jul	18	2458682.50	23	19	29.04	-5	29	5.15	29.3187	3.6
jul	19	2458683.50	23	19	26.05	-5	29	26.61	29.3054	3.5
jul	20	2458684.50	23	19	22.96	-5	29	48.71	29.2921	3.5
jul	21	2458685.50	23	19	19.77	-5	30	11.44	29.2791	3.4
jul	22	2458686.50	23	19	16.47	-5	30	34.79	29.2662	3.3
jul	23	2458687.50	23	19	13.08	-5	30	58.74	29.2536	3.3
jul	24	2458688.50	23	19	9.58	-5	31	23.28	29.2411	3.2
jul	25	2458689.50	23	19	6.00	-5	31	48.40	29.2288	3.1
jul	26	2458690.50	23	19	2.31	-5	32	14.08	29.2167	3.1
jul	27	2458691.50	23	18	58.54	-5	32	40.31	29.2048	3.0
jul	28	2458692.50	23	18	54.68	-5	33	7.08	29.1932	2.9
jul	29	2458693.50	23	18	50.73	-5	33	34.38	29.1817	2.9
jul	30	2458694.50	23	18	46.69	-5	34	2.22	29.1704	2.8
jul	31	2458695.50	23	18	42.56	-5	34	30.58	29.1594	2.7
ago	1	2458696.50	23	18	38.34	-5	34	59.48	29.1486	2.7
ago	2	2458697.50	23	18	34.04	-5	35	28.91	29.1380	2.6
ago	3	2458698.50	23	18	29.65	-5	35	58.86	29.1276	2.5
ago	4	2458699.50	23	18	25.18	-5	36	29.32	29.1175	2.5
ago	5	2458700.50	23	18	20.62	-5	37	0.26	29.1076	2.4
ago	6	2458701.50	23	18	15.98	-5	37	31.65	29.0979	2.3
ago	7	2458702.50	23	18	11.27	-5	38	3.48	29.0885	2.3
ago	8	2458703.50	23	18	6.49	-5	38	35.73	29.0794	2.2
ago	9	2458704.50	23	18	1.64	-5	39	8.38	29.0704	2.1
ago	10	2458705.50	23	17	56.72	-5	39	41.42	29.0618	2.1
ago	11	2458706.50	23	17	51.74	-5	40	14.86	29.0533	2.0
ago	12	2458707.50	23	17	46.69	-5	40	48.68	29.0452	1.9
ago	13	2458708.50	23	17	41.57	-5	41	22.88	29.0372	1.9
ago	14	2458709.50	23	17	36.39	-5	41	57.45	29.0296	1.8
ago	15	2458710.50	23	17	31.14	-5	42	32.39	29.0222	1.7
ago	16	2458711.50	23	17	25.84	-5	43	7.68	29.0150	1.7
ago	17	2458712.50	23	17	20.47	-5	43	43.30	29.0082	1.6
ago	18	2458713.50	23	17	15.05	-5	44	19.24	29.0016	1.5

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Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ -	"	dis UA	hp h
ago	19	2458714.50	23	17	9.57	-5	44	55.49	28.9952	1.5
ago	20	2458715.50	23	17	4.04	-5	45	32.02	28.9892	1.4
ago	21	2458716.50	23	16	58.46	-5	46	8.82	28.9834	1.3
ago	22	2458717.50	23	16	52.84	-5	46	45.87	28.9778	1.3
ago	23	2458718.50	23	16	47.17	-5	47	23.14	28.9726	1.2
ago	24	2458719.50	23	16	41.46	-5	48	0.64	28.9676	1.1
ago	25	2458720.50	23	16	35.71	-5	48	38.33	28.9630	1.1
ago	26	2458721.50	23	16	29.92	-5	49	16.22	28.9586	1.0
ago	27	2458722.50	23	16	24.10	-5	49	54.30	28.9545	0.9
ago	28	2458723.50	23	16	18.24	-5	50	32.57	28.9506	0.9
ago	29	2458724.50	23	16	12.35	-5	51	11.01	28.9471	0.8
ago	30	2458725.50	23	16	6.42	-5	51	49.63	28.9439	0.7
ago	31	2458726.50	23	16	0.46	-5	52	28.40	28.9409	0.7
sep	1	2458727.50	23	15	54.47	-5	53	7.31	28.9383	0.6
sep	2	2458728.50	23	15	48.46	-5	53	46.32	28.9359	0.5
sep	3	2458729.50	23	15	42.43	-5	54	25.40	28.9338	0.5
sep	4	2458730.50	23	15	36.38	-5	55	4.53	28.9321	0.4
sep	5	2458731.50	23	15	30.32	-5	55	43.69	28.9306	0.3
sep	6	2458732.50	23	15	24.25	-5	56	22.87	28.9294	0.3
sep	7	2458733.50	23	15	18.17	-5	57	2.07	28.9285	0.2
sep	8	2458734.50	23	15	12.08	-5	57	41.28	28.9280	0.1
sep	9	2458735.50	23	15	5.99	-5	58	20.48	28.9277	0.1
sep	10	2458736.50	23	14	59.89	-5	58	59.67	28.9277	24.0
sep	11	2458737.50	23	14	53.78	-5	59	38.84	28.9280	23.9
sep	12	2458738.50	23	14	47.68	-6	0	17.97	28.9286	23.8
sep	13	2458739.50	23	14	41.57	-6	0	57.06	28.9295	23.8
sep	14	2458740.50	23	14	35.47	-6	1	36.07	28.9307	23.7
sep	15	2458741.50	23	14	29.38	-6	2	15.00	28.9322	23.6
sep	16	2458742.50	23	14	23.29	-6	2	53.81	28.9340	23.6
sep	17	2458743.50	23	14	17.22	-6	3	32.50	28.9361	23.5
sep	18	2458744.50	23	14	11.16	-6	4	11.04	28.9384	23.4
sep	19	2458745.50	23	14	5.12	-6	4	49.42	28.9411	23.4
sep	20	2458746.50	23	13	59.09	-6	5	27.62	28.9441	23.3
sep	21	2458747.50	23	13	53.10	-6	6	5.62	28.9474	23.2
sep	22	2458748.50	23	13	47.13	-6	6	43.41	28.9509	23.2
sep	23	2458749.50	23	13	41.18	-6	7	20.99	28.9548	23.1
sep	24	2458750.50	23	13	35.27	-6	7	58.35	28.9589	23.0
sep	25	2458751.50	23	13	29.38	-6	8	35.49	28.9634	23.0
sep	26	2458752.50	23	13	23.52	-6	9	12.39	28.9681	22.9
sep	27	2458753.50	23	13	17.70	-6	9	49.06	28.9731	22.8
sep	28	2458754.50	23	13	11.91	-6	10	25.46	28.9784	22.8
sep	29	2458755.50	23	13	6.15	-6	11	1.56	28.9840	22.7
sep	30	2458756.50	23	13	0.44	-6	11	37.35	28.9899	22.6
oct	1	2458757.50	23	12	54.78	-6	12	12.79	28.9961	22.6
oct	2	2458758.50	23	12	49.16	-6	12	47.86	29.0026	22.5
oct	3	2458759.50	23	12	43.61	-6	13	22.56	29.0093	22.4

Neptuno, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
oct	4	2458760.50	23	12	38.10	-6	13	56.87	29.0163	22.4
oct	5	2458761.50	23	12	32.65	-6	14	30.79	29.0236	22.3
oct	6	2458762.50	23	12	27.26	-6	15	4.32	29.0312	22.2
oct	7	2458763.50	23	12	21.92	-6	15	37.45	29.0390	22.2
oct	8	2458764.50	23	12	16.65	-6	16	10.17	29.0471	22.1
oct	9	2458765.50	23	12	11.43	-6	16	42.47	29.0554	22.0
oct	10	2458766.50	23	12	6.28	-6	17	14.33	29.0641	22.0
oct	11	2458767.50	23	12	1.19	-6	17	45.74	29.0730	21.9
oct	12	2458768.50	23	11	56.16	-6	18	16.69	29.0821	21.8
oct	13	2458769.50	23	11	51.21	-6	18	47.15	29.0915	21.8
oct	14	2458770.50	23	11	46.33	-6	19	17.12	29.1011	21.7
oct	15	2458771.50	23	11	41.53	-6	19	46.56	29.1110	21.6
oct	16	2458772.50	23	11	36.80	-6	20	15.48	29.1212	21.6
oct	17	2458773.50	23	11	32.15	-6	20	43.85	29.1316	21.5
oct	18	2458774.50	23	11	27.59	-6	21	11.66	29.1422	21.4
oct	19	2458775.50	23	11	23.11	-6	21	38.91	29.1531	21.4
oct	20	2458776.50	23	11	18.72	-6	22	5.60	29.1642	21.3
oct	21	2458777.50	23	11	14.41	-6	22	31.71	29.1755	21.2
oct	22	2458778.50	23	11	10.18	-6	22	57.25	29.1871	21.2
oct	23	2458779.50	23	11	6.05	-6	23	22.22	29.1989	21.1
oct	24	2458780.50	23	11	2.00	-6	23	46.60	29.2109	21.0
oct	25	2458781.50	23	10	58.04	-6	24	10.39	29.2231	21.0
oct	26	2458782.50	23	10	54.18	-6	24	33.56	29.2356	20.9
oct	27	2458783.50	23	10	50.40	-6	24	56.10	29.2482	20.8
oct	28	2458784.50	23	10	46.73	-6	25	17.98	29.2611	20.8
oct	29	2458785.50	23	10	43.16	-6	25	39.17	29.2742	20.7
oct	30	2458786.50	23	10	39.70	-6	25	59.68	29.2874	20.6
oct	31	2458787.50	23	10	36.34	-6	26	19.49	29.3009	20.6
nov	1	2458788.50	23	10	33.09	-6	26	38.61	29.3146	20.5
nov	2	2458789.50	23	10	29.95	-6	26	57.05	29.3284	20.4
nov	3	2458790.50	23	10	26.91	-6	27	14.79	29.3424	20.4
nov	4	2458791.50	23	10	23.98	-6	27	31.83	29.3566	20.3
nov	5	2458792.50	23	10	21.16	-6	27	48.19	29.3710	20.2
nov	6	2458793.50	23	10	18.44	-6	28	3.83	29.3855	20.2
nov	7	2458794.50	23	10	15.83	-6	28	18.77	29.4002	20.1
nov	8	2458795.50	23	10	13.34	-6	28	32.97	29.4151	20.0
nov	9	2458796.50	23	10	10.96	-6	28	46.45	29.4301	20.0
nov	10	2458797.50	23	10	8.69	-6	28	59.18	29.4452	19.9
nov	11	2458798.50	23	10	6.54	-6	29	11.15	29.4605	19.8
nov	12	2458799.50	23	10	4.51	-6	29	22.35	29.4760	19.8
nov	13	2458800.50	23	10	2.60	-6	29	32.78	29.4916	19.7
nov	14	2458801.50	23	10	0.81	-6	29	42.43	29.5073	19.6
nov	15	2458802.50	23	9	59.14	-6	29	51.30	29.5231	19.6
nov	16	2458803.50	23	9	57.59	-6	29	59.39	29.5390	19.5
nov	17	2458804.50	23	9	56.17	-6	30	6.70	29.5551	19.4
nov	18	2458805.50	23	9	54.87	-6	30	13.25	29.5713	19.4

Neptuno, 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ -	"	dis UA	hp h
nov	19	2458806.50	23	9	53.68	-6	30	19.03	29.5876	19.3
nov	20	2458807.50	23	9	52.62	-6	30	24.04	29.6040	19.2
nov	21	2458808.50	23	9	51.68	-6	30	28.28	29.6205	19.2
nov	22	2458809.50	23	9	50.86	-6	30	31.74	29.6371	19.1
nov	23	2458810.50	23	9	50.17	-6	30	34.40	29.6537	19.0
nov	24	2458811.50	23	9	49.60	-6	30	36.26	29.6705	19.0
nov	25	2458812.50	23	9	49.16	-6	30	37.29	29.6873	18.9
nov	26	2458813.50	23	9	48.85	-6	30	37.48	29.7042	18.8
nov	27	2458814.50	23	9	48.68	-6	30	36.85	29.7212	18.8
nov	28	2458815.50	23	9	48.63	-6	30	35.39	29.7382	18.7
nov	29	2458816.50	23	9	48.72	-6	30	33.11	29.7553	18.6
nov	30	2458817.50	23	9	48.93	-6	30	30.03	29.7725	18.6
dic	1	2458818.50	23	9	49.27	-6	30	26.15	29.7896	18.5
dic	2	2458819.50	23	9	49.74	-6	30	21.47	29.8069	18.4
dic	3	2458820.50	23	9	50.33	-6	30	15.99	29.8241	18.4
dic	4	2458821.50	23	9	51.05	-6	30	9.71	29.8414	18.3
dic	5	2458822.50	23	9	51.90	-6	30	2.64	29.8587	18.2
dic	6	2458823.50	23	9	52.88	-6	29	54.76	29.8760	18.2
dic	7	2458824.50	23	9	53.98	-6	29	46.07	29.8933	18.1
dic	8	2458825.50	23	9	55.21	-6	29	36.56	29.9107	18.1
dic	9	2458826.50	23	9	56.57	-6	29	26.25	29.9280	18.0
dic	10	2458827.50	23	9	58.07	-6	29	15.11	29.9453	17.9
dic	11	2458828.50	23	9	59.69	-6	29	3.15	29.9626	17.9
dic	12	2458829.50	23	10	1.44	-6	28	50.39	29.9799	17.8
dic	13	2458830.50	23	10	3.32	-6	28	36.82	29.9972	17.7
dic	14	2458831.50	23	10	5.33	-6	28	22.45	30.0145	17.7
dic	15	2458832.50	23	10	7.46	-6	28	7.31	30.0317	17.6
dic	16	2458833.50	23	10	9.72	-6	27	51.39	30.0489	17.5
dic	17	2458834.50	23	10	12.10	-6	27	34.72	30.0661	17.5
dic	18	2458835.50	23	10	14.61	-6	27	17.29	30.0832	17.4
dic	19	2458836.50	23	10	17.23	-6	26	59.10	30.1003	17.3
dic	20	2458837.50	23	10	19.98	-6	26	40.14	30.1173	17.3
dic	21	2458838.50	23	10	22.85	-6	26	20.41	30.1342	17.2
dic	22	2458839.50	23	10	25.85	-6	25	59.89	30.1511	17.1
dic	23	2458840.50	23	10	28.97	-6	25	38.59	30.1679	17.1
dic	24	2458841.50	23	10	32.22	-6	25	16.52	30.1847	17.0
dic	25	2458842.50	23	10	35.60	-6	24	53.67	30.2013	16.9
dic	26	2458843.50	23	10	39.09	-6	24	30.07	30.2179	16.9
dic	27	2458844.50	23	10	42.71	-6	24	5.72	30.2344	16.8
dic	28	2458845.50	23	10	46.44	-6	23	40.66	30.2508	16.8
dic	29	2458846.50	23	10	50.29	-6	23	14.87	30.2671	16.7
dic	30	2458847.50	23	10	54.26	-6	22	48.39	30.2833	16.6
dic	31	2458848.50	23	10	58.34	-6	22	21.20	30.2993	16.6
ene	1	2458849.50	23	11	2.53	-6	21	53.32	30.3153	23.2
ene	2	2458850.50	23	11	6.83	-6	21	24.74	30.3311	23.2

Plutón (planeta enano), 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
ene	1	2458484.50	19	29	8.91	-21	57	37.64	34.6786	12.8
ene	2	2458485.50	19	29	17.52	-21	57	24.81	34.6822	12.7
ene	3	2458486.50	19	29	26.15	-21	57	11.90	34.6856	12.7
ene	4	2458487.50	19	29	34.81	-21	56	58.93	34.6886	12.6
ene	5	2458488.50	19	29	43.48	-21	56	45.91	34.6914	12.5
ene	6	2458489.50	19	29	52.16	-21	56	32.86	34.6938	12.5
ene	7	2458490.50	19	30	0.86	-21	56	19.76	34.6960	12.4
ene	8	2458491.50	19	30	9.56	-21	56	6.64	34.6978	12.3
ene	9	2458492.50	19	30	18.27	-21	55	53.48	34.6994	12.3
ene	10	2458493.50	19	30	26.99	-21	55	40.30	34.7007	12.2
ene	11	2458494.50	19	30	35.74	-21	55	27.20	34.7016	12.1
ene	12	2458495.50	19	30	44.33	-21	55	14.20	34.7023	12.1
ene	13	2458496.50	19	30	53.07	-21	55	0.67	34.7027	12.0
ene	14	2458497.50	19	31	1.77	-21	54	47.33	34.7028	12.0
ene	15	2458498.50	19	31	10.47	-21	54	33.99	34.7026	11.9
ene	16	2458499.50	19	31	19.16	-21	54	20.62	34.7021	11.8
ene	17	2458500.50	19	31	27.84	-21	54	7.25	34.7013	11.8
ene	18	2458501.50	19	31	36.52	-21	53	53.87	34.7002	11.7
ene	19	2458502.50	19	31	45.18	-21	53	40.50	34.6988	11.6
ene	20	2458503.50	19	31	53.83	-21	53	27.15	34.6972	11.6
ene	21	2458504.50	19	32	2.46	-21	53	13.85	34.6952	11.5
ene	22	2458505.50	19	32	11.06	-21	53	0.59	34.6930	11.4
ene	23	2458506.50	19	32	19.65	-21	52	47.38	34.6905	11.4
ene	24	2458507.50	19	32	28.20	-21	52	34.20	34.6877	11.3
ene	25	2458508.50	19	32	36.72	-21	52	21.05	34.6846	11.3
ene	26	2458509.50	19	32	45.22	-21	52	7.92	34.6812	11.2
ene	27	2458510.50	19	32	53.68	-21	51	54.81	34.6775	11.1
ene	28	2458511.50	19	33	2.12	-21	51	41.73	34.6736	11.1
ene	29	2458512.50	19	33	10.52	-21	51	28.69	34.6693	11.0
ene	30	2458513.50	19	33	18.90	-21	51	15.70	34.6648	10.9
ene	31	2458514.50	19	33	27.23	-21	51	2.77	34.6600	10.9
feb	1	2458515.50	19	33	35.53	-21	50	49.93	34.6549	10.8
feb	2	2458516.50	19	33	43.79	-21	50	37.16	34.6496	10.8
feb	3	2458517.50	19	33	52.01	-21	50	24.49	34.6440	10.7
feb	4	2458518.50	19	34	0.17	-21	50	11.92	34.6381	10.6
feb	5	2458519.50	19	34	8.29	-21	49	59.45	34.6319	10.6
feb	6	2458520.50	19	34	16.35	-21	49	47.07	34.6255	10.5
feb	7	2458521.50	19	34	24.36	-21	49	34.80	34.6188	10.4
feb	8	2458522.50	19	34	32.32	-21	49	22.63	34.6118	10.4
feb	9	2458523.50	19	34	40.22	-21	49	10.56	34.6046	10.3
feb	10	2458524.50	19	34	48.05	-21	48	58.58	34.5971	10.2
feb	11	2458525.50	19	34	55.83	-21	48	46.71	34.5893	10.2
feb	12	2458526.50	19	35	3.56	-21	48	34.94	34.5813	10.1
feb	13	2458527.50	19	35	11.22	-21	48	23.28	34.5731	10.1
feb	14	2458528.50	19	35	18.81	-21	48	11.75	34.5646	10.0
feb	15	2458529.50	19	35	26.35	-21	48	0.35	34.5558	9.9

Plutón (planeta enano), 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
feb	16	2458530.50	19	35	33.82	-21	47	49.10	34.5468	9.9
feb	17	2458531.50	19	35	41.22	-21	47	38.02	34.5376	9.8
feb	18	2458532.50	19	35	48.55	-21	47	27.10	34.5281	9.7
feb	19	2458533.50	19	35	55.80	-21	47	16.37	34.5185	9.7
feb	20	2458534.50	19	36	2.98	-21	47	5.80	34.5085	9.6
feb	21	2458535.50	19	36	10.07	-21	46	55.40	34.4984	9.5
feb	22	2458536.50	19	36	17.08	-21	46	45.15	34.4880	9.5
feb	23	2458537.50	19	36	24.02	-21	46	35.04	34.4774	9.4
feb	24	2458538.50	19	36	30.87	-21	46	25.08	34.4666	9.4
feb	25	2458539.50	19	36	37.65	-21	46	15.29	34.4556	9.3
feb	26	2458540.50	19	36	44.35	-21	46	5.67	34.4443	9.2
feb	27	2458541.50	19	36	50.96	-21	45	56.23	34.4329	9.2
feb	28	2458542.50	19	36	57.49	-21	45	47.00	34.4212	9.1
mar	1	2458543.50	19	37	3.93	-21	45	37.97	34.4094	9.0
mar	2	2458544.50	19	37	10.28	-21	45	29.16	34.3973	9.0
mar	3	2458545.50	19	37	16.54	-21	45	20.57	34.3851	8.9
mar	4	2458546.50	19	37	22.70	-21	45	12.19	34.3727	8.8
mar	5	2458547.50	19	37	28.77	-21	45	4.04	34.3600	8.8
mar	6	2458548.50	19	37	34.74	-21	44	56.11	34.3472	8.7
mar	7	2458549.50	19	37	40.60	-21	44	48.40	34.3342	8.6
mar	8	2458550.50	19	37	46.37	-21	44	40.90	34.3211	8.6
mar	9	2458551.50	19	37	52.04	-21	44	33.62	34.3077	8.5
mar	10	2458552.50	19	37	57.60	-21	44	26.56	34.2943	8.5
mar	11	2458553.50	19	38	3.07	-21	44	19.71	34.2806	8.4
mar	12	2458554.50	19	38	8.43	-21	44	13.09	34.2668	8.3
mar	13	2458555.50	19	38	13.69	-21	44	6.70	34.2528	8.3
mar	14	2458556.50	19	38	18.85	-21	44	0.55	34.2387	8.2
mar	15	2458557.50	19	38	23.91	-21	43	54.65	34.2244	8.1
mar	16	2458558.50	19	38	28.85	-21	43	49.02	34.2100	8.1
mar	17	2458559.50	19	38	33.69	-21	43	43.67	34.1955	8.0
mar	18	2458560.50	19	38	38.42	-21	43	38.59	34.1809	7.9
mar	19	2458561.50	19	38	43.03	-21	43	33.80	34.1661	7.9
mar	20	2458562.50	19	38	47.53	-21	43	29.27	34.1512	7.8
mar	21	2458563.50	19	38	51.91	-21	43	24.99	34.1362	7.7
mar	22	2458564.50	19	38	56.17	-21	43	20.97	34.1210	7.7
mar	23	2458565.50	19	39	0.32	-21	43	17.18	34.1058	7.6
mar	24	2458566.50	19	39	4.36	-21	43	13.65	34.0904	7.6
mar	25	2458567.50	19	39	8.29	-21	43	10.38	34.0750	7.5
mar	26	2458568.50	19	39	12.11	-21	43	7.38	34.0595	7.4
mar	27	2458569.50	19	39	15.81	-21	43	4.66	34.0438	7.4
mar	28	2458570.50	19	39	19.39	-21	43	2.24	34.0281	7.3
mar	29	2458571.50	19	39	22.86	-21	43	0.12	34.0123	7.2
mar	30	2458572.50	19	39	26.20	-21	42	58.29	33.9965	7.2
mar	31	2458573.50	19	39	29.42	-21	42	56.77	33.9805	7.1
abr	1	2458574.50	19	39	32.52	-21	42	55.55	33.9645	7.0
abr	2	2458575.50	19	39	35.49	-21	42	54.63	33.9484	7.0

Plutón (planeta enano), 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
abr	3	2458576.50	19	39	38.34	-21	42	54.00	33.9323	6.9
abr	4	2458577.50	19	39	41.06	-21	42	53.66	33.9161	6.8
abr	5	2458578.50	19	39	43.66	-21	42	53.61	33.8999	6.8
abr	6	2458579.50	19	39	46.14	-21	42	53.83	33.8836	6.7
abr	7	2458580.50	19	39	48.49	-21	42	54.34	33.8673	6.6
abr	8	2458581.50	19	39	50.72	-21	42	55.13	33.8510	6.6
abr	9	2458582.50	19	39	52.82	-21	42	56.22	33.8346	6.5
abr	10	2458583.50	19	39	54.81	-21	42	57.60	33.8182	6.5
abr	11	2458584.50	19	39	56.67	-21	42	59.29	33.8018	6.4
abr	12	2458585.50	19	39	58.41	-21	43	1.29	33.7854	6.3
abr	13	2458586.50	19	40	0.02	-21	43	3.62	33.7690	6.3
abr	14	2458587.50	19	40	1.50	-21	43	6.27	33.7526	6.2
abr	15	2458588.50	19	40	2.86	-21	43	9.24	33.7362	6.1
abr	16	2458589.50	19	40	4.09	-21	43	12.53	33.7198	6.1
abr	17	2458590.50	19	40	5.19	-21	43	16.12	33.7034	6.0
abr	18	2458591.50	19	40	6.16	-21	43	20.00	33.6870	5.9
abr	19	2458592.50	19	40	7.00	-21	43	24.16	33.6707	5.9
abr	20	2458593.50	19	40	7.72	-21	43	28.60	33.6544	5.8
abr	21	2458594.50	19	40	8.32	-21	43	33.32	33.6381	5.7
abr	22	2458595.50	19	40	8.80	-21	43	38.34	33.6219	5.7
abr	23	2458596.50	19	40	9.16	-21	43	43.65	33.6057	5.6
abr	24	2458597.50	19	40	9.39	-21	43	49.28	33.5895	5.5
abr	25	2458598.50	19	40	9.50	-21	43	55.23	33.5734	5.5
abr	26	2458599.50	19	40	9.49	-21	44	1.50	33.5574	5.4
abr	27	2458600.50	19	40	9.34	-21	44	8.08	33.5414	5.3
abr	28	2458601.50	19	40	9.08	-21	44	14.97	33.5255	5.3
abr	29	2458602.50	19	40	8.68	-21	44	22.16	33.5096	5.2
abr	30	2458603.50	19	40	8.16	-21	44	29.66	33.4938	5.1
may	1	2458604.50	19	40	7.52	-21	44	37.44	33.4781	5.1
may	2	2458605.50	19	40	6.75	-21	44	45.51	33.4625	5.0
may	3	2458606.50	19	40	5.85	-21	44	53.86	33.4470	4.9
may	4	2458607.50	19	40	4.84	-21	45	2.49	33.4316	4.9
may	5	2458608.50	19	40	3.71	-21	45	11.38	33.4163	4.8
may	6	2458609.50	19	40	2.46	-21	45	20.55	33.4010	4.7
may	7	2458610.50	19	40	1.09	-21	45	30.00	33.3859	4.7
may	8	2458611.50	19	39	59.61	-21	45	39.73	33.3709	4.6
may	9	2458612.50	19	39	58.01	-21	45	49.76	33.3561	4.5
may	10	2458613.50	19	39	56.30	-21	46	0.08	33.3413	4.5
may	11	2458614.50	19	39	54.47	-21	46	10.70	33.3267	4.4
may	12	2458615.50	19	39	52.52	-21	46	21.62	33.3122	4.3
may	13	2458616.50	19	39	50.45	-21	46	32.81	33.2979	4.3
may	14	2458617.50	19	39	48.27	-21	46	44.28	33.2837	4.2
may	15	2458618.50	19	39	45.97	-21	46	55.99	33.2696	4.2
may	16	2458619.50	19	39	43.56	-21	47	7.95	33.2557	4.1
may	17	2458620.50	19	39	41.04	-21	47	20.15	33.2419	4.0
may	18	2458621.50	19	39	38.42	-21	47	32.57	33.2283	4.0

Plutón (planeta enano), 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
may	19	2458622.50	19	39	35.69	-21	47	45.24	33.2149	3.9
may	20	2458623.50	19	39	32.86	-21	47	58.15	33.2016	3.8
may	21	2458624.50	19	39	29.92	-21	48	11.32	33.1885	3.8
may	22	2458625.50	19	39	26.89	-21	48	24.74	33.1756	3.7
may	23	2458626.50	19	39	23.75	-21	48	38.41	33.1629	3.6
may	24	2458627.50	19	39	20.50	-21	48	52.34	33.1503	3.6
may	25	2458628.50	19	39	17.15	-21	49	6.52	33.1379	3.5
may	26	2458629.50	19	39	13.70	-21	49	20.93	33.1257	3.4
may	27	2458630.50	19	39	10.15	-21	49	35.57	33.1137	3.4
may	28	2458631.50	19	39	6.50	-21	49	50.43	33.1019	3.3
may	29	2458632.50	19	39	2.75	-21	50	5.50	33.0903	3.2
may	30	2458633.50	19	38	58.91	-21	50	20.77	33.0788	3.2
may	31	2458634.50	19	38	54.97	-21	50	36.23	33.0676	3.1
jun	1	2458635.50	19	38	50.94	-21	50	51.88	33.0566	3.0
jun	2	2458636.50	19	38	46.83	-21	51	7.71	33.0459	3.0
jun	3	2458637.50	19	38	42.63	-21	51	23.73	33.0353	2.9
jun	4	2458638.50	19	38	38.35	-21	51	39.94	33.0250	2.8
jun	5	2458639.50	19	38	33.99	-21	51	56.35	33.0149	2.8
jun	6	2458640.50	19	38	29.54	-21	52	12.95	33.0050	2.7
jun	7	2458641.50	19	38	25.01	-21	52	29.76	32.9953	2.6
jun	8	2458642.50	19	38	20.40	-21	52	46.76	32.9859	2.6
jun	9	2458643.50	19	38	15.71	-21	53	3.94	32.9767	2.5
jun	10	2458644.50	19	38	10.94	-21	53	21.29	32.9678	2.4
jun	11	2458645.50	19	38	6.10	-21	53	38.79	32.9591	2.3
jun	12	2458646.50	19	38	1.18	-21	53	56.41	32.9507	2.3
jun	13	2458647.50	19	37	56.19	-21	54	14.17	32.9425	2.2
jun	14	2458648.50	19	37	51.13	-21	54	32.04	32.9345	2.1
jun	15	2458649.50	19	37	46.01	-21	54	50.04	32.9268	2.1
jun	16	2458650.50	19	37	40.83	-21	55	8.16	32.9194	2.0
jun	17	2458651.50	19	37	35.60	-21	55	26.42	32.9122	1.9
jun	18	2458652.50	19	37	30.30	-21	55	44.80	32.9053	1.9
jun	19	2458653.50	19	37	24.94	-21	56	3.32	32.8986	1.8
jun	20	2458654.50	19	37	19.53	-21	56	21.97	32.8922	1.7
jun	21	2458655.50	19	37	14.06	-21	56	40.74	32.8860	1.7
jun	22	2458656.50	19	37	8.53	-21	56	59.63	32.8802	1.6
jun	23	2458657.50	19	37	2.95	-21	57	18.61	32.8746	1.5
jun	24	2458658.50	19	36	57.32	-21	57	37.69	32.8692	1.5
jun	25	2458659.50	19	36	51.64	-21	57	56.84	32.8642	1.4
jun	26	2458660.50	19	36	45.91	-21	58	16.07	32.8594	1.3
jun	27	2458661.50	19	36	40.14	-21	58	35.36	32.8549	1.3
jun	28	2458662.50	19	36	34.33	-21	58	54.69	32.8506	1.2
jun	29	2458663.50	19	36	28.49	-21	59	14.08	32.8467	1.1
jun	30	2458664.50	19	36	22.61	-21	59	33.51	32.8430	1.1
jul	1	2458665.50	19	36	16.70	-21	59	53.00	32.8396	1.0
jul	2	2458666.50	19	36	10.76	-22	0	12.53	32.8365	0.9
jul	3	2458667.50	19	36	4.80	-22	0	32.12	32.8337	0.9

Plutón (planeta enano), 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
jul	4	2458668.50	19	35	58.80	-22	0	51.78	32.8312	0.8
jul	5	2458669.50	19	35	52.78	-22	1	11.48	32.8289	0.7
jul	6	2458670.50	19	35	46.74	-22	1	31.24	32.8270	0.7
jul	7	2458671.50	19	35	40.66	-22	1	51.01	32.8253	0.6
jul	8	2458672.50	19	35	34.57	-22	2	10.80	32.8240	0.5
jul	9	2458673.50	19	35	28.46	-22	2	30.58	32.8229	0.5
jul	10	2458674.50	19	35	22.34	-22	2	50.33	32.8221	0.4
jul	11	2458675.50	19	35	16.21	-22	3	10.06	32.8216	0.3
jul	12	2458676.50	19	35	10.07	-22	3	29.77	32.8214	0.3
jul	13	2458677.50	19	35	3.93	-22	3	49.46	32.8215	0.2
jul	14	2458678.50	19	34	57.79	-22	4	9.13	32.8219	0.1
jul	15	2458679.50	19	34	51.65	-22	4	28.78	32.8225	0.1
jul	16	2458680.50	19	34	45.51	-22	4	48.42	32.8235	24.0
jul	17	2458681.50	19	34	39.38	-22	5	8.04	32.8248	23.9
jul	18	2458682.50	19	34	33.24	-22	5	27.64	32.8263	23.9
jul	19	2458683.50	19	34	27.11	-22	5	47.21	32.8281	23.8
jul	20	2458684.50	19	34	20.99	-22	6	6.74	32.8302	23.7
jul	21	2458685.50	19	34	14.87	-22	6	26.21	32.8327	23.7
jul	22	2458686.50	19	34	8.77	-22	6	45.62	32.8354	23.6
jul	23	2458687.50	19	34	2.68	-22	7	4.95	32.8383	23.5
jul	24	2458688.50	19	33	56.60	-22	7	24.20	32.8416	23.5
jul	25	2458689.50	19	33	50.55	-22	7	43.36	32.8452	23.4
jul	26	2458690.50	19	33	44.52	-22	8	2.42	32.8490	23.3
jul	27	2458691.50	19	33	38.52	-22	8	21.39	32.8532	23.3
jul	28	2458692.50	19	33	32.55	-22	8	40.26	32.8576	23.2
jul	29	2458693.50	19	33	26.62	-22	8	59.03	32.8623	23.1
jul	30	2458694.50	19	33	20.71	-22	9	17.71	32.8673	23.0
jul	31	2458695.50	19	33	14.84	-22	9	36.32	32.8726	23.0
ago	1	2458696.50	19	33	9.01	-22	9	54.83	32.8782	22.9
ago	2	2458697.50	19	33	3.21	-22	10	13.26	32.8840	22.8
ago	3	2458698.50	19	32	57.45	-22	10	31.58	32.8902	22.8
ago	4	2458699.50	19	32	51.73	-22	10	49.77	32.8966	22.7
ago	5	2458700.50	19	32	46.05	-22	11	7.82	32.9032	22.6
ago	6	2458701.50	19	32	40.41	-22	11	25.71	32.9102	22.6
ago	7	2458702.50	19	32	34.83	-22	11	43.44	32.9174	22.5
ago	8	2458703.50	19	32	29.31	-22	12	1.01	32.9249	22.4
ago	9	2458704.50	19	32	23.84	-22	12	18.43	32.9327	22.4
ago	10	2458705.50	19	32	18.43	-22	12	35.69	32.9407	22.3
ago	11	2458706.50	19	32	13.08	-22	12	52.81	32.9490	22.2
ago	12	2458707.50	19	32	7.79	-22	13	9.78	32.9575	22.2
ago	13	2458708.50	19	32	2.56	-22	13	26.61	32.9664	22.1
ago	14	2458709.50	19	31	57.40	-22	13	43.29	32.9754	22.0
ago	15	2458710.50	19	31	52.29	-22	13	59.81	32.9847	22.0
ago	16	2458711.50	19	31	47.26	-22	14	16.17	32.9943	21.9
ago	17	2458712.50	19	31	42.29	-22	14	32.35	33.0041	21.8
ago	18	2458713.50	19	31	37.38	-22	14	48.35	33.0142	21.8

Plutón (planeta enano), 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	\circ	δ -	"	dis UA	hp h
ago	19	2458714.50	19	31	32.55	-22	15	4.15	33.0245	21.7
ago	20	2458715.50	19	31	27.80	-22	15	19.75	33.0350	21.6
ago	21	2458716.50	19	31	23.12	-22	15	35.15	33.0458	21.6
ago	22	2458717.50	19	31	18.51	-22	15	50.33	33.0568	21.5
ago	23	2458718.50	19	31	14.00	-22	16	5.31	33.0680	21.4
ago	24	2458719.50	19	31	9.56	-22	16	20.07	33.0795	21.4
ago	25	2458720.50	19	31	5.22	-22	16	34.63	33.0912	21.3
ago	26	2458721.50	19	31	0.96	-22	16	48.98	33.1032	21.2
ago	27	2458722.50	19	30	56.79	-22	17	3.14	33.1153	21.2
ago	28	2458723.50	19	30	52.71	-22	17	17.11	33.1277	21.1
ago	29	2458724.50	19	30	48.72	-22	17	30.88	33.1402	21.0
ago	30	2458725.50	19	30	44.82	-22	17	44.45	33.1530	21.0
ago	31	2458726.50	19	30	41.00	-22	17	57.80	33.1660	20.9
sep	1	2458727.50	19	30	37.28	-22	18	10.92	33.1792	20.8
sep	2	2458728.50	19	30	33.66	-22	18	23.78	33.1926	20.8
sep	3	2458729.50	19	30	30.13	-22	18	36.38	33.2062	20.7
sep	4	2458730.50	19	30	26.71	-22	18	48.72	33.2200	20.6
sep	5	2458731.50	19	30	23.40	-22	19	0.82	33.2340	20.6
sep	6	2458732.50	19	30	20.19	-22	19	12.67	33.2481	20.5
sep	7	2458733.50	19	30	17.09	-22	19	24.29	33.2625	20.4
sep	8	2458734.50	19	30	14.09	-22	19	35.67	33.2770	20.4
sep	9	2458735.50	19	30	11.20	-22	19	46.83	33.2917	20.3
sep	10	2458736.50	19	30	8.42	-22	19	57.76	33.3065	20.2
sep	11	2458737.50	19	30	5.74	-22	20	8.45	33.3215	20.2
sep	12	2458738.50	19	30	3.17	-22	20	18.90	33.3367	20.1
sep	13	2458739.50	19	30	0.71	-22	20	29.09	33.3520	20.0
sep	14	2458740.50	19	29	58.36	-22	20	39.03	33.3674	20.0
sep	15	2458741.50	19	29	56.12	-22	20	48.71	33.3831	19.9
sep	16	2458742.50	19	29	53.99	-22	20	58.12	33.3988	19.8
sep	17	2458743.50	19	29	51.98	-22	21	7.25	33.4147	19.8
sep	18	2458744.50	19	29	50.09	-22	21	16.10	33.4307	19.7
sep	19	2458745.50	19	29	48.31	-22	21	24.67	33.4469	19.6
sep	20	2458746.50	19	29	46.66	-22	21	32.97	33.4631	19.6
sep	21	2458747.50	19	29	45.12	-22	21	41.00	33.4795	19.5
sep	22	2458748.50	19	29	43.71	-22	21	48.77	33.4960	19.4
sep	23	2458749.50	19	29	42.42	-22	21	56.29	33.5126	19.4
sep	24	2458750.50	19	29	41.25	-22	22	3.55	33.5294	19.3
sep	25	2458751.50	19	29	40.21	-22	22	10.56	33.5462	19.2
sep	26	2458752.50	19	29	39.28	-22	22	17.33	33.5631	19.2
sep	27	2458753.50	19	29	38.47	-22	22	23.83	33.5801	19.1
sep	28	2458754.50	19	29	37.78	-22	22	30.05	33.5972	19.0
sep	29	2458755.50	19	29	37.22	-22	22	35.98	33.6144	19.0
sep	30	2458756.50	19	29	36.78	-22	22	41.61	33.6317	18.9
oct	1	2458757.50	19	29	36.47	-22	22	46.93	33.6490	18.8
oct	2	2458758.50	19	29	36.28	-22	22	51.96	33.6664	18.8
oct	3	2458759.50	19	29	36.23	-22	22	56.70	33.6839	18.7

Plutón (planeta enano), 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	\circ	δ '	"	dis UA	hp h
oct	4	2458760.50	19	29	36.31	-22	23	1.17	33.7014	18.7
oct	5	2458761.50	19	29	36.52	-22	23	5.37	33.7190	18.6
oct	6	2458762.50	19	29	36.85	-22	23	9.31	33.7366	18.5
oct	7	2458763.50	19	29	37.31	-22	23	13.00	33.7543	18.5
oct	8	2458764.50	19	29	37.90	-22	23	16.42	33.7719	18.4
oct	9	2458765.50	19	29	38.61	-22	23	19.57	33.7897	18.3
oct	10	2458766.50	19	29	39.44	-22	23	22.45	33.8074	18.3
oct	11	2458767.50	19	29	40.40	-22	23	25.05	33.8252	18.2
oct	12	2458768.50	19	29	41.49	-22	23	27.36	33.8430	18.1
oct	13	2458769.50	19	29	42.70	-22	23	29.39	33.8607	18.1
oct	14	2458770.50	19	29	44.03	-22	23	31.13	33.8785	18.0
oct	15	2458771.50	19	29	45.50	-22	23	32.57	33.8964	17.9
oct	16	2458772.50	19	29	47.10	-22	23	33.72	33.9141	17.9
oct	17	2458773.50	19	29	48.82	-22	23	34.58	33.9319	17.8
oct	18	2458774.50	19	29	50.67	-22	23	35.16	33.9497	17.7
oct	19	2458775.50	19	29	52.66	-22	23	35.47	33.9675	17.7
oct	20	2458776.50	19	29	54.77	-22	23	35.51	33.9852	17.6
oct	21	2458777.50	19	29	57.01	-22	23	35.30	34.0029	17.5
oct	22	2458778.50	19	29	59.37	-22	23	34.84	34.0206	17.5
oct	23	2458779.50	19	30	1.86	-22	23	34.12	34.0383	17.4
oct	24	2458780.50	19	30	4.47	-22	23	33.15	34.0559	17.3
oct	25	2458781.50	19	30	7.20	-22	23	31.90	34.0734	17.3
oct	26	2458782.50	19	30	10.05	-22	23	30.37	34.0909	17.2
oct	27	2458783.50	19	30	13.02	-22	23	28.56	34.1083	17.1
oct	28	2458784.50	19	30	16.12	-22	23	26.44	34.1257	17.1
oct	29	2458785.50	19	30	19.35	-22	23	24.03	34.1430	17.0
oct	30	2458786.50	19	30	22.70	-22	23	21.35	34.1603	17.0
oct	31	2458787.50	19	30	26.18	-22	23	18.39	34.1774	16.9
nov	1	2458788.50	19	30	29.78	-22	23	15.19	34.1945	16.8
nov	2	2458789.50	19	30	33.50	-22	23	11.74	34.2115	16.8
nov	3	2458790.50	19	30	37.34	-22	23	8.05	34.2284	16.7
nov	4	2458791.50	19	30	41.30	-22	23	4.12	34.2452	16.6
nov	5	2458792.50	19	30	45.37	-22	22	59.94	34.2618	16.6
nov	6	2458793.50	19	30	49.55	-22	22	55.52	34.2784	16.5
nov	7	2458794.50	19	30	53.85	-22	22	50.85	34.2949	16.4
nov	8	2458795.50	19	30	58.26	-22	22	45.92	34.3112	16.4
nov	9	2458796.50	19	31	2.78	-22	22	40.73	34.3274	16.3
nov	10	2458797.50	19	31	7.41	-22	22	35.28	34.3435	16.2
nov	11	2458798.50	19	31	12.16	-22	22	29.56	34.3595	16.2
nov	12	2458799.50	19	31	17.01	-22	22	23.59	34.3753	16.1
nov	13	2458800.50	19	31	21.98	-22	22	17.37	34.3910	16.1
nov	14	2458801.50	19	31	27.06	-22	22	10.90	34.4066	16.0
nov	15	2458802.50	19	31	32.25	-22	22	4.19	34.4220	15.9
nov	16	2458803.50	19	31	37.54	-22	21	57.26	34.4372	15.9
nov	17	2458804.50	19	31	42.94	-22	21	50.11	34.4523	15.8
nov	18	2458805.50	19	31	48.45	-22	21	42.75	34.4673	15.7

Plutón (planeta enano), 2019

Efemérides a las 0^h del meridiano 90° W.G.

mes	día	dj	h	α m	s	°	δ '	"	dis UA	hp h
nov	19	2458806.50	19	31	54.05	-22	21	35.19	34.4820	15.7
nov	20	2458807.50	19	31	59.75	-22	21	27.41	34.4966	15.6
nov	21	2458808.50	19	32	5.55	-22	21	19.42	34.5111	15.5
nov	22	2458809.50	19	32	11.44	-22	21	11.20	34.5253	15.5
nov	23	2458810.50	19	32	17.43	-22	21	2.75	34.5394	15.4
nov	24	2458811.50	19	32	23.52	-22	20	54.05	34.5533	15.3
nov	25	2458812.50	19	32	29.70	-22	20	45.12	34.5670	15.3
nov	26	2458813.50	19	32	35.98	-22	20	35.95	34.5805	15.2
nov	27	2458814.50	19	32	42.36	-22	20	26.58	34.5938	15.2
nov	28	2458815.50	19	32	48.83	-22	20	17.01	34.6069	15.1
nov	29	2458816.50	19	32	55.39	-22	20	7.25	34.6198	15.0
nov	30	2458817.50	19	33	2.03	-22	19	57.31	34.6325	15.0
dic	1	2458818.50	19	33	8.76	-22	19	47.20	34.6449	14.9
dic	2	2458819.50	19	33	15.57	-22	19	36.91	34.6572	14.8
dic	3	2458820.50	19	33	22.46	-22	19	26.45	34.6692	14.8
dic	4	2458821.50	19	33	29.43	-22	19	15.80	34.6810	14.7
dic	5	2458822.50	19	33	36.47	-22	19	4.97	34.6926	14.6
dic	6	2458823.50	19	33	43.58	-22	18	53.96	34.7040	14.6
dic	7	2458824.50	19	33	50.77	-22	18	42.76	34.7151	14.5
dic	8	2458825.50	19	33	58.04	-22	18	31.37	34.7260	14.5
dic	9	2458826.50	19	34	5.37	-22	18	19.81	34.7366	14.4
dic	10	2458827.50	19	34	12.78	-22	18	8.06	34.7470	14.3
dic	11	2458828.50	19	34	20.25	-22	17	56.14	34.7572	14.3
dic	12	2458829.50	19	34	27.80	-22	17	44.07	34.7671	14.2
dic	13	2458830.50	19	34	35.41	-22	17	31.85	34.7768	14.1
dic	14	2458831.50	19	34	43.09	-22	17	19.50	34.7862	14.1
dic	15	2458832.50	19	34	50.83	-22	17	7.03	34.7954	14.0
dic	16	2458833.50	19	34	58.62	-22	16	54.44	34.8043	13.9
dic	17	2458834.50	19	35	6.47	-22	16	41.73	34.8129	13.9
dic	18	2458835.50	19	35	14.37	-22	16	28.89	34.8213	13.8
dic	19	2458836.50	19	35	22.32	-22	16	15.92	34.8295	13.8
dic	20	2458837.50	19	35	30.32	-22	16	2.81	34.8373	13.7
dic	21	2458838.50	19	35	38.37	-22	15	49.56	34.8449	13.6
dic	22	2458839.50	19	35	46.47	-22	15	36.16	34.8522	13.6
dic	23	2458840.50	19	35	54.62	-22	15	22.64	34.8593	13.5
dic	24	2458841.50	19	36	2.82	-22	15	8.99	34.8661	13.4
dic	25	2458842.50	19	36	11.06	-22	14	55.24	34.8726	13.4
dic	26	2458843.50	19	36	19.35	-22	14	41.40	34.8788	13.3
dic	27	2458844.50	19	36	27.67	-22	14	27.48	34.8847	13.2
dic	28	2458845.50	19	36	36.03	-22	14	13.49	34.8904	13.2
dic	29	2458846.50	19	36	44.42	-22	13	59.44	34.8957	13.1
dic	30	2458847.50	19	36	52.84	-22	13	45.31	34.9008	13.1
dic	31	2458848.50	19	37	1.28	-22	13	31.12	34.9056	13.0
ene	1	2458849.50	19	37	9.75	-22	13	16.85	34.9101	19.6
ene	2	2458850.50	19	37	18.25	-22	13	2.51	34.9144	19.6

Satélite de los planetas, 2019

Planeta	Satélite	Periodo orbital (días)	Semi eje mayor (10 ³ km)	Excentricidad de la órbita	Inclinación de la órbita		Masa (kg)	Radio (km)	Albedo
Tie	1 Luna	27.321661	384.400	0.05490	18.2-28.58	p	1.23000371E-02	1737.40	0.11 0.07
Mar	1 Fobos	0.31891011	9.376	0.01510	1.075	p	1.6720E-08	7.81	irr 0.07
Mar	2 Deimos	1.26244080	23.458	0.00020	1.788	p	2.4300E-09	10.35	irr
Júp	1 Io	1.76914	421.800	0.00410	0.036	p	4.7040E-05	1821.35	irr 0.62
Júp	2 Europa	3.55118	671.100	0.00940	0.466	p	2.5280E-05	1562.00	irr 0.68
Júp	3 Ganímedes	7.15455	1070.400	0.00130	0.177	p	7.8050E-05	2632.30	0.44
Júp	4 Calixto	16.88902	1882.700	0.00740	0.192	p	5.6670E-05	2409.30	0.19
Júp	5 Amaltea	0.49818	181.400	0.00320	0.380	p	1.1000E-09	92.09	irr 0.09
Júp	6 Himalia	250.56000	11461.000	0.16230	27.496	p	2.2000E-09	85.00	0.04
Júp	7 Elara	259.64000	11471.000	0.21740	26.627	p	4.5800E-10	40.00	0.04
Júp	8 Pasífae	743.63000	23624.000	0.40900	151.431	p	1.5800E-10	18.00	0.04
Júp	9 Sinope	758.90000	23939.000	0.24950	158.109	p	3.9500E-11	14.00	0.04
Júp	10 Lisistea	259.20000	11717.000	0.11240	28.302	p	3.3100E-11	12.00	0.04
Júp	11 Carmé	734.14000	23404.000	0.25330	164.907	p	6.9400E-11	15.00	0.04
Júp	12 Ananque	629.77000	21276.000	0.24350	148.889	p	1.5800E-11	10.00	0.04
Júp	13 Leda	240.92000	11165.000	0.16360	27.457	p	5.7600E-12	5.00	0.04
Júp	14 Tebe	0.67500	221.900	0.01760	1.080	p	7.8900E-10	50.52	irr 0.05
Júp	15 Adrastea	0.29800	129.000	0.00180	0.054	p	3.9500E-12	8.52	irr 0.10
Júp	16 Metis	0.29500	128.000	0.00120	0.019	p	6.3100E-11	23.70	irr 0.06
Júp	17 Calirre	736.00000	24596.240	0.20600	143.000	e		4.30	0.04
Júp	18 Temixto	130.00000	7450.000	0.20000	46.000	e		4.00	0.04
Júp	19 Megaclito	734.10000	23439.080	0.52770	151.700	e		2.70	0.04
Júp	20 Taiguet	650.10000	21671.850	0.24600	163.545	e		2.50	0.04
Júp	21 Caldena	591.70000	20299.460	0.15530	165.620	e		1.90	0.04
Júp	22 Harpalika	617.30000	20917.720	0.20030	149.288	e		2.20	0.04
Júp	23 Kalica	767.00000	r24135.610	0.31770	165.792	e		2.60	0.04
Júp	24 Iocasta	606.30000	r20642.860	0.26860	149.906	e		2.60	0.04
Júp	25 Erinoma	661.10000	r21867.750	0.34650	160.909	e		1.60	0.04
Júp	26 Isunoa	704.90000	r22804.700	0.28090	165.039	e		1.90	0.04
Júp	27 Praxiodica	624.60000	r21098.100	0.14580	146.353	e		3.40	0.04
Júp	28 Autonoa	778.00000	r24413.090	0.45860	153.056	e		2.00	0.04
Júp	29 Tiona	610.00000	r20769.900	0.28830	148.286	e		2.00	0.04
Júp	30 Hermipe	624.60000	r21047.990	0.24790	149.785	e		2.00	0.04
Júp	31 Gitna	679.30000	r22274.410	0.31120	164.343	e		1.50	0.04
Júp	32 Euridome	752.40000	r23830.940	0.32550	150.430	e		1.50	0.04
Júp	33 Euanda	620.90000	r20983.140	0.14270	146.030	e		1.50	0.04
Júp	36 Esponda	690.30000	r22548.240	0.51890	155.220	e		1.00	0.04
Júp	37 Kala	679.40000	r22300.640	0.32500	164.794	e		1.00	0.04
Júp	39 Egémona	715.00000	r23006.330	0.24940	152.330	e		1.50	0.04
Júp	41 Oda	747.00000	r23743.830	0.40510	159.408	e		2.00	0.04
Júp	43 Arca	748.70000	r23765.120	0.22370	163.254	e		1.50	0.04
Júp	45 Élica	601.40000	r20540.270	0.13750	154.587	e		2.00	0.04
Júp	46 Carpo	455.07000	r17056.040	0.29490	55.147	e		1.50	0.04
Júp	47 Euquelade	735.27000	r 23485.28	0.28280	164.000	e		2.00	0.04
Júp	53 Dia	287.00000	12118.000	0.21100	28.230			1.00	0.04
Sat	1 Mimas	0.94242	185.539	0.01960	1.574	p	6.6100E-08	198.62	irr 0.60
Sat	2 Encélado	1.37022	238.042	0.00000	0.003	p	1.9000E-07	252.15	irr 1.00
Sat	3 Tetis	1.88780	294.672	0.00010	1.091	p	1.0900E-06	531.05	irr 0.80
Sat	4 Dione	2.73692	377.415	0.00220	0.026	p	1.9300E-06	560.45	irr 0.60
Sat	5 Rea	4.51750	527.068	0.00020	0.333	p	4.0600E-06	763.50	irr 0.60
Sat	6 Titán	15.94545	1221.865	0.02880	0.306	p	2.3660E-04	2574.73	0.20
Sat	7 Hiperión	21.27666	1500.933	0.02320	0.615	p	1.0000E-08	145.69	irr 0.25
Sat	8 Iapetos	79.33112	3560.854	0.02930	8.298	p	3.1770E-06	734.84	irr 0.20
Sat	9 Febe	546.41400	r12893.240	0.17560	173.730	e	1.4540E-08	106.67	irr 0.08
Sat	10 Jano	0.69500	151.460	0.00680	0.163	p	3.3380E-09	91.28	irr 0.71
Sat	11 Epimeteo	0.69400	151.410	0.00980	0.351	p	9.2630E-10	58.75	irr 0.73
Sat	12 Elena	2.74000	377.400	0.00000	0.212	p	4.4800E-11	18.63	irr 1.67

Satélite de los planetas, 2019

Planeta	Satélite	Periodo orbital (días)	Semi eje mayor (10 ³ km)	Excentricidad de la órbita	Inclinación de la órbita	Masa (kg)	Radio (km)	Albedo
Sat	13	Telesto	1.88800	294.660	0.00100	1.158 p	1.2650E-11	13.25 irr 1.00
Sat	14	Calipso	1.88800	294.660	0.00100	1.473 p	6.3250E-12	12.09 irr 0.70
Sat	15	Atlas	0.60200	137.670	0.00120	0.003 p	1.1610E-11	17.05 irr 0.40
Sat	16	Prometeo	0.61300	139.380	0.00220	0.008 p	2.8060E-10	51.11 irr 0.60
Sat	17	Pandora	0.62900	141.720	0.00420	0.050 p	2.4120E-10	43.08 irr 0.50
Sat	18	Pan	0.57500	133.585	0.00000	0.000 p	8.7070E-12	14.98 irr 0.50
Sat	19	Aimir	1315.13000	r23128.000	0.33380	173.496 p		10.00 0.08
Sat	20	Paalia	686.95000	15204.000	0.33250	46.230 p		13.00 0.08
Sat	21	Tarrus	926.35000	18243.000	0.52820	33.725 p		7.00 0.08
Sat	22	Ijira	451.42000	11408.000	0.27210	47.483 p		6.00 0.08
Sat	24	Quivio	449.22000	11384.000	0.33250	46.766 p		8.00 0.08
Sat	26	Alborer	783.46000	16393.000	0.47970	34.059 p		16.00 0.08
Sat	29	Sarmac	895.51000	18182.000	0.28010	45.809 p		21.00 0.08
Ura	1	Ariel	2.52038	190.900	0.00120	0.041 p	1.5600E-05	578.90 irr 0.39
Ura	2	Umbriel	4.14418	266.000	0.00390	0.128 p	1.3500E-05	584.70 0.21
Ura	3	Titania	8.70587	436.300	0.00110	0.079 p	4.0600E-05	788.90 0.27
Ura	4	Oberón	13.46323	583.500	0.00140	0.068 p	3.4700E-05	761.40 0.23
Ura	5	Miranda	1.41348	129.900	0.00130	4.338 p	8.0000E-06	235.88 irr 0.32
Ura	7	Ofelia	0.37640	53.800	0.00990	0.104 p	6.2100E-10	21.40 0.07
Ura	8	Bianca	0.43458	59.200	0.00090	0.193 p	1.0700E-09	25.70 0.07
Ura	9	Crésida	0.46357	61.800	0.00040	0.006 p	3.9500E-09	39.80 0.07
Ura	10	Desdémona	0.47365	62.700	0.00010	0.113 p	2.0500E-09	32.00 0.07
Ura	11	Julietta	0.49307	64.400	0.00070	0.065 p	6.4200E-09	46.80 0.07
Ura	12	Porcia	0.51320	66.100	0.00010	0.059 p	1.9200E-08	67.60 0.07
Ura	13	Rosalinda	0.55846	69.900	0.00010	0.279 p	2.9300E-09	36.00 0.07
Ura	14	Belinda	0.62353	75.300	0.00010	0.031 p	4.1100E-09	40.30 0.07
Ura	15	Pucle	0.76183	86.000	0.18000	0.319 p	3.3300E-08	81.00 0.07
Ura	16	Calibán	579.73000	r 7231.000	0.52000	141.530 e	8.4500E-09	36.00 0.04
Ura	17	Sicorax	1288.33000	r12179.000		159.420 e	6.1900E-08	75.00 0.04
Nep	1	Tritón	5.87685	r 354.759	0.00000	156.865 p	2.0890E-04	1353.00 0.72
Nep	2	Nereida	360.13000	5513.818	0.75070	7.090 p	3.0100E-07	170.00 0.16
Nep	5	Despina	0.33466	52.526	0.00014	0.070 p	2.0500E-08	74.00 0.09
Nep	6	Galatea	0.42875	61.953	0.00012	0.050 p	3.6600E-08	79.00 0.08
Nep	7	Larisa	0.55465	73.548	0.00139	0.200 p	4.8300E-08	96.00 0.09
Nep	8	Proteo	1.12200	117.646	0.00050	0.075 p	4.9140E-07	209.23 irr 0.10
Plu	1	Caronte	6.38723	19.571	0.00000	96.145 t	1.1650E-01	606.00 0.37

r movimiento retrogrado
 irr forma irregular
 p inclinación de la órbita relativa al ecuador del planeta
 e inclinación de la órbita relativa a la eclíptica
 t inclinación de la órbita relativa al ecuador terrestre

Parámetros orbitales y físicos, 2019

Parámetros de las órbitas de los planetas

(a las 0h del meridiano 90° W.G. del 7 de enero del 2017)

Planetas	Semieje mayor en UA	Revolución en años trópicos	Excentricidad	Inclinación °	Aplanamiento geométrico (x10 ⁻³)
Mercurio	0.3870983	0.251	0.2056272	7.00400	0
Venus	0.7233267	0.615	0.0067404	3.39442	0
Tierra	0.9999985	1.000	0.0167015	0.00217	3.354
Marte	1.5237182	1.881	0.0935073	1.82839	6.772
Júpiter	5.202041	11.862	0.0489192	1.30373	5.000
Saturno	9.558687	29.458	0.0530788	2.48732	64.874
Urano	19.10948	84.013	0.0508390	0.77193	97.462
Neptuno	29.96013	164.749	0.0064668	1.77232	22.927

Parámetros físicos de la Luna y los planetas

	radio	masa	densidad	período de rotación	semidiámetro mínimo
	km	kg	g/cm ³	días	"
Luna	1737.4	7.3458 x 10 ²²	3.34	+ 27.32166	2010.7
Mercurio	2439.7	3.3010 x 10 ²³	5.43	+ 58.6462	12.3
Venus	6051.8	4.8673 x 10 ²⁴	5.24	- 243.0185	63.0
Tierra	6378.1	5.9721 x 10 ²⁴	5.513	+ 0.99726963	
Marte	3396.2	6.4169 x 10 ²³	3.93	+ 1.02595676	25.1
Júpiter	71492.0	1.8981 x 10 ²⁷	1.33	+ 0.41354	49.9
Saturno	60268.0	5.6831 x 10 ²⁶	0.69	+ 0.44401	20.7
Urano	25559.0	8.6890 x 10 ²⁵	1.27	- 0.71833	4.1
Neptuno	24764.0	1.0241 x 10 ²⁶	1.64	+ 0.67125	2.4
Plutón	1195.0	1.3041 x 10 ²²	1.82	- 6.3872	0.11

* Movimiento de rotación retrógrado

Sistema de constantes y parámetros, 2019

Unión Astronómica Internacional (IAU 1976)

Tiempos y épocas de referencia

Duración del año en 1990

Año	d	d	h	m	s
Trópico (equinoccio a equinoccio)	365.242190	365	05	48	45.19
Sideral (estrella fija a estrella fija)	365.256363	365	06	09	10
Anomalístico (perihelio a perihelio)	365.259636	365	06	13	53
Eclipsar (nodo lunar a nodo lunar)	346.620078	346	14	52	52
Juliano	365.25	365	06	00	00

Duración del mes

Sinódico (luna nueva a luna nueva)	29.53059	29	12	44	03
Trópico (equinoccio a equinoccio)	27.32158	27	07	43	05
Sideral (estrella fija a estrella fija)	27.32166	27	07	43	12
Anomalístico (perigeo a perigeo)	27.55455	27	13	18	33
Draconítico (nodo a nodo)	27.21222	27	05	36	

Duración del día

	Día sideral medio			segundos siderales	
	d	h	m	s	s
Un día del tiempo solar medio	1.00273790935	24	03	56.555367	86636.555367
	Día solar medio			segundos solares	
	d	h	m	s	s
Un día del tiempo sideral medio	0.99726956633	23	56	04.09054	86164.09054

Épocas de referencia para los años Juliano (J) y Beseliano (B)

Año Juliano	DJ
J1900.0	2415020.0
J1950.0	2433282.5
J2000.0	2451545.0
J2050.0	2469807.5
J2100.0	2488070.0
B1850.0	2396758.203
B1900.0	2415020.313
B1950.0	2433282.423
B1975.0	2442413.478
B2000.0	2451544.533
B2025.0	2460675.588
B2050.0	2469806.643
B2100.0	2488068.753
1900 enero 0.5	2415020.0
1925 enero 0.5	2424151.0
1950 enero 0.5	2433282.0
2000 enero 0.5	2451544.0
2050 enero 0.5	2469807.0
2100 enero 0.5	2488069.0

Sistema de constantes y parámetros, 2019

Unión Astronómica Internacional (IAU 1976)

Parámetros del Sol, la Tierra y la Luna

Sol	
Radio	6.96×10^8 m
Semidiámetro a la distancia media	$15' 59.63'' = 959.63''$
Masa	1.9891×10^{33} g
Densidad media	1.41 g cm ⁻³
Gravedad superficial	$29,398$ cm s ⁻²
Inclinación del ecuador solar (respecto de la eclíptica)	$7^\circ 15'$
Longitud del Nodo Ascendente (T en siglos desde J2000.0)	$75^\circ 46' + 84' T$
Período sinódico de rotación (f: latitud en el Sol)	$(26.90 + 5.2 \text{ sen} 2f)$ días
Período sideral de rotación (para longitudes heliográficas)	25.38 días
Apex	$a = 18\text{h } 10' \quad \delta = +37^\circ$
Rapidez en el sistema local de reposo	1.94×10^4 m/s, (0.0112 au/d)

Tierra

Órbita	
Paralaje solar	$8.794148''$
Constante de Aberración (J2000)	$20.49552''$
Tiempo luz a 1 AU	499.004782 s
Unidad astronómica de longitud (AU)	$1.49597870 \times 10^{11}$ m
Proporciones entre las masas:	
Sol/Tierra	332946.0
Sol/(Tierra más Luna)	328900.5
Tierra/Luna	0.0123002
Excentricidad media	0.016708617
Oblicuidad media de la Eclíptica	$23^\circ 26' 21.448''$
Variación anual en rotación en la Eclíptica	$0.4704''$
Distancia media de la Tierra al Sol	1.0000010178 UA
Rapidez orbital media	29.7859 km/s
Aceleración centrípeta media	0.00594 m/s ²

Período de rotación respecto a estrellas fijas:

En tiempo solar medio	$24 \text{ h } 0 \text{ m } 0.0084 \text{ s}$
En tiempo sideral medio	$23 \text{ h } 56 \text{ m } 4.0989 \text{ s}$
Variación de la rotación	$15.04106717866910 \text{ ''/s} = 7.29211510 \times 10^{-5} \text{ rad s}^{-1}$

Precesión ("/año)

(T dado en siglos desde J2000)

Precesión general en longitud	$50.290966'' + 0.0222226'' T$
Precesión lunisolar en longitud	$50.387784'' + 0.0049263'' T$
Precesión planetaria	$-0.0188626'' - 0.0476128'' T$

Sistema de constantes y parámetros, 2019

Unión Astronómica Internacional (IAU 1976)

Figura y campo de gravedad	
Radio ecuatorial (a)	6378140 m
Radio polar (b)	6356755 m
Masa	$5.9742 \cdot 10^{24}$ g
Densidad media	5.52 g/cm ³
Factor dinámico (J ₂)	$0.00108263 \cdot 10^{-11}$ años ⁻¹
Gravedad normal (g)	$g = 9.80621 - 0.02593 \cos(2f) + 0.00003 \cos(4f)$ m/s ²

Constante de gravitación geocéntrica	$3.986005 \cdot 10^{14}$ m ³ s ⁻²
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Luna

Radio medio	1738 km
Semidiámetro a la distancia media	15' 32.6"
Masa	$7.3483 \cdot 10^{22}$ kg
Densidad media	3.34 g/cm ³
Gravedad superficial	1.62 m/s ² = 0.17g

Orbita de la Luna en torno a la Tierra

Movimiento sideral medio	$2.661699489 \cdot 10^{-6}$ rad/s
Distancia media de la Tierra a la Luna	$3.844 \cdot 10^5$ km = 60.27 radios terrestres = 0.002570 UA
Paralaje horizontal ecuatorial (a la distancia media)	57' 02.608" = 3422.608"
Distancia media del centro de la Tierra al baricentro Tierra-Luna	$4.671 \cdot 10^3$ km
Excentricidad media	0.05490
Inclinación media (respecto de la Eclíptica)	5.145396°
Inclinación media (respecto del ecuador de la Luna)	$6^\circ 41'$
Límites de la declinación geocéntrica	$+29^\circ$ - 29°
Periodo de revolución del nodo	6798d
Periodo de revolución del perigeo	3232d
Periodo Saros	223 lunaciones = 19 pasos del Sol por el Nodo 6585 1/3 días
Rapidez orbital media	1023 m/s = 0.000591 UA/día
Aceleración centripeta media	0.00272 m/s ² = 0.0003 g

Nomenclatura de las estrellas brillantes, 2019

Nombres de estrellas				Nombres de estrellas			
Propios	Clasificación Bayer		NBSC	Propios	Clasificación Bayer		NBSC
Acamar	θ	Eri	897	Algemeyla	β	CMi	2845
Achernar	α	Eri	472	Algemeysa	α	CMi	2943
Achird	η	Cas	219	Algorab	δ	Crv	4757
Acrux	α	Cru	4730	Alhajoth	α	Aur	1708
Acubens	α	Cnc	3572	Al Hammam	ζ	Peg	8634
Adhafera	ζ	Leo	4031	Alhena	γ	Gem	2421
Adhara	ϵ	CMa	2618	Alioth	ϵ	UMa	4905
Adhil	ξ	And	390	Al Kaffal Jidmah	γ	Cet	804
Adib	α	Dra	5291	Alkaid	η	UMa	5191
Agena	β	Cen	5267	Al Kalbal Asad	α	Leo	3982
Ain	ϵ	Tau	1409	Alkalurops	μ	Boo	5733
Ain al Rami	ν	Sgr	7116	Al Kaphrab	χ	UMa	4518
Ak	α	UMa	4301	Alkes	α	Crt	4287
Akrab	β	Sco	5984	Alkhiba	α	Crv	4623
Aladfar	η	Lyr	7298	Al Kirdah	ξ	Cep	8417
Alamak	γ	And	603	Almaak	γ	And	603
Al Anchatal Nahr	τ	Eri	850	Almaaz	ϵ	Aur	1605
Al Anf	ϵ	Peg	8308	Al Minliar al Asad	κ	Leo	3731
Al Anz	ϵ	Aur	1605	Al Minliar al Shuja	σ	Hya	3418
Alaraph	α	Vir	5056	Almuredin	ϵ	Vir	4932
Alaraph	β	Vir	4540	Alnair	α	Gru	8425
Alascha	λ	Sco	6527	Al Nasl	γ	Sgr	6746
Al Athfar	μ	Lyr	6903	Alnath	α	Ari	617
Al Atik	\omicron	Per	1131	Alnilam	ϵ	Ori	1903
Al Baldah	π	Sgr	7264	Alnitak	ζ	Ori	1948
Al Bali	ϵ	Aqr	7950	Al Niyat	σ	Sco	6084
Albireo	β	Cyg	7417	Al Niyat	τ	Sco	6165
Al Chiba	α	Crv	4623	Alphard	α	Hya	3748
Alcor	80	UMa	5062	Alphecca	α	CrB	5793
Alcyone	ν	Tau	1165	Alpheratz	α	And	15
Aldebarán	α	Tau	1457	Alphirk	β	Cep	8238
Alderamin	α	Cep	8162	Alrai	γ	Cep	8974
Aldhafara	ζ	Leo	4031	Alrami	α	Sgr	7348
Al Dhiba	ι	Dra	5744	Al Rescha	α	Psc	595
Aldhibah	ζ	Dra	6396	Alruccabah	α	UMi	424
Al Dihi	ι	Dra	5744	Al Rukbahal Daj	ω	Cyg	7851
Aldib	δ	Dra	7310	Alsafi	σ	Dra	7462
Al Dibah	ζ	Dra	6396	Alsah	α	Sge	7479
Alfard	α	Hya	3748	Al Sanamal Nakah	β	Cas	21
Alfecca	α	CrA	7254	Alsciaukat	31	Lyn	3275
Alfirk	β	Cep	8238	Alshain	β	Aql	7602
Alga	θ	Ser	7141	Alshat	ν	Cap	7773
Algebar	β	Ori	1713	Alshemali	μ	leo	3905
Algedi Prima	α	Cap	7747	Al Sheratain	β	Ari	553
Algedi Secunda	α	Cap	7754	Alsu hail	λ	Vel	3634
Algeiba	γ	Leo	4057	Al Suhailal Muhlif	γ	Vel	3206
Algenib	γ	Peg	39	Altair	α	Aql	7557
Algenib	α	Per	1017	Altairs	δ	Dra	7310
Algenubi	ϵ	Leo	3873	AlTarf	β	Cnc	3249
Algieba	γ	Leo	4058	Alterf	λ	Leo	3773
Algol	β	Per	936	Aludra	η	CMa	2827

Nomenclatura de las estrellas brillantes, 2019

Nombres de estrellas			Nombres de estrellas		
Propios	Clasificación Bayer	NBSC	Propios	Clasificación Bayer	NBSC
Alula Australia	ξ UMa	4374	Cebalrai	β Oph	6603
Alula Borealis	ν UMa	4377	Ceginus	γ Boo	5435
Alwaid	β Dra	6536	Celaeno	16 Tau	1140
Al Wazor	δ CMa	2693	Chara	β CVn	4785
Alya	θ Ser	7141	Chertan	θ Leo	4359
Alzirr	ξ Gem	2484	Cor Caroli	α CVn	4915
Ancha	θ Aqr	8499	Cor Tauri	α Tau	1457
Angetenar	τ Eri	850	Cursa	β Eri	1666
Ankaa	α Phe	99	Dabih Major	β Cap	7776
Anser	α Vul	7405	Demon Star	β per	936
Antares	α Sco	6134	Deneb	α Cyg	7924
Arcturus	α Boo	5340	Deneb	ε Aql	7176
Arich	γ Vir	4825	Deneb	ε Del	7852
Arietis	α Ari	617	Deneb	η Cet	334
Arkab Posterior	β Sgr	7343	Deneb	ζ Aql	7235
Arkab Prior	β Sgr	7337	Deneb Algedi	δ Cap	8322
Arneb	α Lep	1865	Denebkaitos	ι Cet	74
Arnai	γ Cep	8974	Denebola	β Leo	4534
Ascella	ζ Sgr	7194	Dhur	δ Leo	4357
Asellus Australis	δ Cnc	3461	Diadem	α Com	4968
Asellus Borealis	γ Cnc	3449	Diphda	β Cet	188
Asellus Primus	θ Boo	5404	Dschubba	δ Sco	5953
Asellus Secundus	ι Boo	5350	Dubhe	α UMa	4301
Asellus Tertius	κ Boo	5329	Ed Asich	ι Dra	5744
Asmidiske	ι Car	3699	El Acola	ξ UMa	4374
Asmidiske	ξ Pup	3045	Elacrab	β Sco	5984
Asuia	ψ Dra	6636	El Kaprah	κ UMa	3594
Atik	ο Per	1131	El Karidab	δ Sgr	6859
Atlas	27 Tau	1178	El Khereb	τ Peg	8880
Atria	α Tri	544	Elkhiffa Australis	α Lib	5530
Auva	δ Vir	4910	Elkhiffa Borealis	β Lib	5685
Avior	ε Car	3307	El Koprak	χ UMa	4518
Azelfafage	π Cyg	8301	El Nath	β Tau	1791
Azha	η Eri	874	El Phekrab	μ UMa	4069
Baham	θ Peg	8450	Enif	ε Peg	8308
Baten Kaitos	ζ Cet	539	Erakis	μ Cep	8316
Becrux	β Cru	4853	Etamin	γ Dra	6705
Beid	ο Eri	1298	Fomalhaut	α Psa	8728
Bellatrix	γ Ori	1790	Fornacis	α For	963
Benetnash	η UMa	5191	Fumal Samakah	β Psc	8773
Betelgeuse	α Ori	2061	Furud	ζ CMa	2282
Botein	δ Ari	951	Gacrux	γ Cru	4763
Brachiu	γ Sco	1809	Gemma	α CrB	5793
Bunda	ξ Agr	8264	Genam	ξ Dra	6688
Caja	ω Her	6117	Gianfar	λ Dra	4434
Calx	μ Gem	2298	Giedi Prima	α Cap	7747
Canopus	α Car	2326	Giedi Secunda	α Cap	7754
Capella	α Aur	1708	Gienah	γ Crv	4662
Castor	α Gem	2890	Gienah	ε Cyg	7949
Castula	ν Cas	253	Gildun	δ UMi	6789
Castula	ν Cas	265	Gomeisa	β CMi	2845

Nomenclatura de las estrellas brillantes, 2019

Nombres de estrellas				Nombres de estrellas			
Propios	Clasificación Bayer		NBSC	Propios	Clasificación Bayer		NBSC
Gorgonea Cuarta	ω	Per	947	Merope	23	Tau	1156
Gorgonea Tertia	ρ	Per	921	Mesartim	γ	Ari	545
Hadar	β	Cen	5267	Minelauva	β	Vir	4540
Haedus	ζ	Aur	1612	Minkar	ϵ	Crv	4630
Hamal	α	Ari	617	Mintaka	δ	Ori	1852
Hassaleh	ι	Aur	1577	Mira	\circ	Cet	681
Hatysa	ι	Ori	1895	Mirach	β	And	337
Head of Hydrus	α	Hyi	691	Miram	η	Per	834
Heka	λ	Ori	1879	Mirphak	α	Per	2294
Hércules	β	Gem	2990	Mirza	β	CMA	2286
Heze	ζ	Vir	5107	Misam	κ	Per	941
Hoedus II	ν	Aur	1641	Mizar	ζ	UMa	5055
Homam	ζ	Peg	8634	Mufrid	η	Boo	5235
Hyadum I	γ	Tau	1346	Muscida	\circ	UMa	3323
Hyadum II	δ	Tau	1373	Muscida	π	UMa	3403
Isis	γ	CMA	2657	Naos	ζ	Pup	3165
Izar	ϵ	Boo	5506	Nashira	γ	Cap	8278
Jabbah	ν	Sco	6027	Nicolaus	α	Del	7906
Jed	δ	Oph	6056	Nihal	β	Lep	1829
Jugum	γ	Lyr	7178	Nodus I	ζ	Dra	6396
Kaffaljidhma	γ	Cet	804	Nunki	σ	Sgr	7121
Kaus Australis	ϵ	Sgr	6879	Nusakan	β	CrB	5747
Kaus Borealis	λ	Sgr	6913	Oculus Boreus	ϵ	Tau	1409
Keid	\circ	Eri	1325	Peacock	α	Pav	7790
Kitalphar	α	Equ	8131	Phact	α	Col	1956
Kocab	β	UMi	5563	Phad	γ	UMa	4554
Kornephoros	β	Her	6148	Pherkad	γ	UMi	5735
Kraz	β	Crv	4786	Pherkad Minor	λ	UMi	5714
Ksora	δ	Cas	403	Pleione	28	Tau	1180
Kuma	ν	Dra	6555	Polaris	α	UMi	424
Lesath	υ	Sco	6508	Pullux	β	Gem	2990
Maasym	λ	Her	6526	Praecipua	46	LMi	4247
Maia	20	Tau	1149	Praepes	η	Gem	2216
Maiaplacidus	β	Car	3685	Praesaepes	ϵ	Cnc	3429
Marfak	θ	Cas	343	Prima Giedi	α	Cap	7747
Marfak	κ	Her	6008	Procyon	α	CMi	2943
Marfak	μ	Cas	321	Propus	ι	Gem	2821
Marfic	λ	Oph	6149	Rana	δ	Eri	1136
Markab	α	Peg	8781	Rasalgethi	α	Her	6406
Matar	η	Peg	8650	Rasalhague	α	Oph	6556
Mebsuta	ϵ	Gem	2473	Ras Elased Austral	ϵ	Leo	3873
Megrez	δ	UMa	4660	Regulus	α	Leo	3982
Mekbuda	ζ	Gem	2650	Rigel	β	Ori	1713
Menchib	ξ	Per	1228	Rigil Kent	α	Cen	5459
Menkalinan	β	Aur	2088	Rijilal Awwa	μ	Vir	5487
Menkar	α	Cet	911	Rotanev	β	Del	7882
Menkar	λ	Cet	896	Ruchbah	ϵ	Cas	542
Menkent	θ	Cen	5288	Saad el Sund	β	Aqr	8232
Merak	β	UMa	4295	Sabik	η	Oph	6378
Meres	β	Boo	5602	Sadalachbia	γ	Aqr	8518
Meridiana	β	CrA	7259	Sadalbari	μ	Peg	8684

Nomenclatura de las estrellas brillantes, 2019

Nombres de estrellas			Nombres de estrellas		
Propios	Clasificación Bayer	NBSC	Propios	Clasificación Bayer	NBSC
Sadalmelik	α Aqr	8414	Talitha	ι UMa	3569
Sadir	γ Cyg	7796	Tarazed	γ Aql	7525
Saidak	80 UMa	5062	Tayeta	19 Tau	1845
Saiph	κ Ori	2004	Tegmen	ζ Cnc	3208
Saiph	η Ori	1788	Terebellum	β Sgr	7604
Sargas	θ Sco	6553	Theemim	υ Eri	1464
Sarin	δ Her	6410	Thuban	α Dra	5291
Sartan	α Cnc	3572	Torcularis Septentr.	\circ Psc	510
Sceptrum	53 Eri	1481	Tyl	ϵ Dra	7582
Scheat	β Peg	8775	Unukalhai	α Ser	5854
Scheat	δ Aqr	8709	Vega	α Lyr	7001
Segin	ϵ Cas	542	Vindemiatrix	ϵ Vir	4932
Shaula	λ Sco	6527	Wasat	δ Gem	2777
Schedir	α Cas	168	Wazn	β Col	2040
Sheliak	β Lyr	7106	Yed Posterior	ϵ Oph	5985
Sirius	α CMa	2491	Zaniah	η Vir	4689
Situla	κ Aqr	8610	Zaurak	γ Eri	1231
Spica	α Vir	5056	Zibal	ζ Eri	984
Subra	\circ Leo	3852	Zuben Elakrab	γ Lib	5787
Superba	λ CVn	4846	Zuben Elakribi	δ Lib	5586
Syrma	ι Vir	5338	Zuben Hakrabi	ζ Lib	5848
Tabit	π Ori	1543	Zuben Hakrabi	υ Lib	5794
Tabit	υ Ori	1855			

Nombre de estrellas (Catálogo Hiparco), 2019

Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
171	9088	85 Peg	2210	105	η Scl	3903	239	AZ Phe	5586	352	τ Psc
154	9089	30 Psc	2224	106	48 Psc	3949	242	ρ Phe	5594	353	34 Cet
154	9089	YY Psc	2355	114	GN And	4129	246	V357 And	5688	354	V761 Cas
183	9091	ζ Scl	2353	117	12 Cet	4147	248	20 Cet	5661	359	AI Scl
186	9092	31 Psc	2388	119	BB Phe	4084	252	λ ¹ Tuc	5742	360	φ Psc
194	9093	32 Psc	2474	121	13 Cas	4292	253	υ ¹ Cas	5737	361	ζ Psc
194	9093	c Psc	2505	123	λ Cas	4267	254	66 Psc	5743	362	ζ Psc
274	9097	V639 Cas	2472	125	λ ¹ Phe	4257	255	21 Cet	5778	364	87 Psc
301	9098	2 Cet	2484	126	β ¹ Tuc	4200	257	BQ Tuc	5926	365	V762 Cas
302	9099	V398 Cep	2487	127	β ² Tuc	4288	258	36 And	5799	366	37 Cet
330	9100	9 Cas	2599	130	κ Cas	4366	262	k Psc	5824	367	88 Psc
355	9103	3 Cet	2568	131	52 Psc	4427	264	γ Cas	5833	368	38 Cet
418	9110	V567 Cas	2548	132	51 Psc	4422	265	υ ² Cas	5862	370	v Phe
443	3	33 Psc	2707	137	16 Cas	4371	267	φ ³ Cet	5951	373	39 Cet
476	4	86 Peg	2629	139	θ Tuc	4436	269	μ And	5896	377	κ Tuc
518	5	V640 Cas	2762	142	13 Cet	4293	270	λ ² Tuc	6061	378	f Psc
531	7	10 Cas	2787	143	14 Cet	4463	271	η And	6242	382	φ Cas
664	14	AP Psc	2802	147	λ ² Phe	4510	274	h Psc	6193	383	υ Psc
677	15	α And	2865	149	PY And	4587	279	φ ⁴ Cet	6312	384	35 Cas
696	18	CF Cet	2852	151	BG Cet	4577	280	α Scl	6226	385	42 Cet
746	21	β Cas	2920	153	ζ Cas	4655	284	WW Psc	6315	389	l Psc
729	22	87 Peg	2912	154	π And	4770	288	ξ Scl	6411	390	ξ And
761	24	κ ¹ Scl	2903	155	53 Psc	4903	290	39 And	6429	393	43 Cet
765	25	ε Phe	3031	163	ε And	4889	291	σ Psc	6514	395	47 And
813	26	34 Psc	3092	165	δ And	4852	293	σ Scl	6692	399	ψ Cas
841	27	22 And	3093	166	54 Psc	4906	294	ε Psc	6539	401	44 Cet
814	30	γ ³ Oct	3138	167	55 Psc	4914	296	25 Cet	6537	402	θ Cet
910	33	6 Cet	3179	168	α Cas	4979	301	26 Cet	6686	403	δ Cas
930	34	κ ² Scl	3142	170	Z Scl	5074	307	73 Psc	6670	412	46 Cet
950	35	θ Scl	3231	175	32 And	5081	308	72 Psc	6706	413	ρ Psc
1067	39	γ Peg	3300	179	ξ Cas	5131	310	ψ ¹ Psc	6732	414	94 Psc
1086	41	23 And	3245	180	μ Phe	5132	311	ψ ¹ Psc	6813	417	ω And
1168	45	x Peg	3277	183	ξ Phe	5141	313	77 Psc	6748	421	47 Cet
1158	46	AD Cet	3414	184	π Cas	5121	315	27 Cet	6759	423	R Scl
1170	48	AE Cet	3356	185	λ ¹ Scl	5164	317	28 Cet	11767	424	α UMi
1196	50	UU Psc	3330	187	ρ Tuc	5204	319	75 Psc	7078	427	38 Cas
1319	59	36 Psc	3419	188	β Cet	5336	321	μ Cas	6867	429	γ Phe
1366	63	θ And	3405	191	η Phe	5165	322	β Phe	6999	430	49 And
1415	65	AO Cas	3572	192	21 Cas	5193	323	AW Scl	6888	431	WZ Scl
1473	68	σ And	3504	193	o Cas	5317	324	41 And	6981	432	97 Psc
1501	70	26 And	3455	194	φ ¹ Cet	5319	327	78 Psc	6960	433	48 Cet
1562	74	ι Cet	3456	195	λ ² Scl	5310	328	ψ ² Psc	7007	434	μ Psc
1599	77	ζ Tuc	3559	203	18 Cet	5296	329	30 Cet	6952	435	AW Phe
1645	80	d Psc	3721	208	23 Cas	5346	330	e Psc	7097	437	η Psc
1686	82	ρ And	3632	211	57 Psc	5300	331	υ Phe	7083	440	δ Phe
1647	83	π Tuc	3675	213	58 Psc	5268	332	ι Tuc	7294	442	x Cas
1708	84	ι Scl	3685	214	59 Psc	5364	334	η Cet	7321	446	KK And
1728	85	T Cet	3693	215	ζ And	5434	335	φ And	7345	451	49 Cet
1772	86	42 Psc	3697	216	60 Psc	5518	336	31 Cas	7493	454	OP And
1803	88	BE Cet	3730	217	61 Psc	5447	337	β And	7436	455	101 Psc
1830	89	AV Scl	3821	219	η Cas	5348	338	ζ Phe	7650	456	40 Cas
1901	90	R And	3801	223	v Cas	5454	339	ψ ³ Psc	7513	458	υ And
1921	91	V746 Cas	3786	224	δ Psc	5493	340	44 And	7450	459	50 Cet
1960	93	12 Cas	3810	225	64 Psc	5542	343	θ Cas	7463	462	τ Scl
2006	97	44 Psc	3881	226	v And	5589	345	RU Cas	7535	463	π Psc
2021	98	β Hyi	3885	230	65 Psc	5485	346	32 Cet	7607	464	υ Per
2081	99	α Phe	3919	234	GO And	5510	347	33 Cet	7651	465	GY And
2072	100	κ Phe	3909	235	φ ² Cet	5550	348	45 And	7719	469	x And
2100	101	10 Cet	3781	236	λ Hyi	5544	349	g Psc	7588	472	α Eri
2219	103	TV Psc	3965	238	V526 Cas	5571	351	x Psc	7740	475	105 Psc

Número de estrellas (Catálogo Hiparco), 2019

Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
7818	477	τ And	9440	594	π For	11072	695	κ For	12486	794	ι Eri
7965	478	V557 Cas	9487	595	α Psc	11279	696	V554 Per	12777	799	13 Per
8016	480	42 Cas	9487	596	113 Psc	11313	699	65 And	12777	799	θ Per
7939	481	V772 Cas	9570	599	ε Tri	11249	702	ξ Ari	12768	800	14 Per
7751	487	p Eri	9459	602	x Phe	11261	704	71 Cet	12719	801	35 Ari
7884	489	v Psc	9640	603	γ ¹ And	11001	705	δ Hyi	12484	802	ζ Hor
8046	491	44 Cas	9640	604	γ ² And	11569	707	ι Cas	12706	804	86 Cet
7981	493	107 Psc	9621	605	10 Ari	11345	708	ρ Cet	12706	804	γ Cet
8068	496	φ Per	9589	607	60 Cet	11465	709	66 And	12394	806	ε Hyi
7955	497	π Scl	9631	610	61 Cet	11348	710	AB Cet	12784	808	36 Ari
8115	499	V773 Cas	9677	612	v For	11432	712	11 Tri	12803	809	o Ari
7978	506	q ¹ Eri	9836	613	κ Ari	11258	714	λ Hor	12803	809	37 Ari
8159	508	109 Psc	9809	614	WZ Psc	11095	715	κ Hyi	12653	810	ι Hor
8102	509	τ Cet	9859	615	11 Ari	11486	717	12 Tri	12770	811	π Cet
8198	510	o Psc	9884	617	α Ari	11484	718	73 Cet	12770	811	89 Cet
8209	514	ε Scl	9990	618	V472 Per	11484	718	ξ ² Cet	12832	812	38 Ari
8271	515	VY Psc	9977	620	58 And	11548	720	13 Tri	12832	812	UV Ari
7879	516	τ ¹ Hyi	10064	622	β Tri	11407	721	κ Eri	12828	813	μ Cet
8241	520	q ² Eri	10053	623	14 Ari	11293	722	TZ Hor	12828	813	87 Cet
8387	522	4 Ari	10227	627	5 Per	11477	724	φ For	13133	815	RZ Cas
8544	530	1 Ari	10176	628	59 And	11678	729	26 Ari	12843	818	τ ¹ Eri
8497	531	x Cet	10180	629	59 And	11678	729	UU Ari	12843	818	1 Eri
8704	533	V436 Per	10155	631	15 Ari	11698	731	27 Ari	13061	824	39 Ari
8714	536	2 Per	10203	633	16 Ari	11644	733	TY For	13178	825	V480 Per
8645	539	ζ Cet	10220	634	5 Tri	11784	736	14 Tri	13108	828	40 Ari
8593	541	BD Phe	10212	635	64 Cet	11791	739	75 Cet	13367	829	SU Cas
8886	542	ε Cas	10234	639	63 Cet	11783	740	σ Cet	13121	830	VZ Ari
8814	543	55 And	10438	640	55 Cas	11783	740	76 Cet	13064	832	Z Eri
8796	544	α Tri	10280	642	TZ Tri	11843	741	29 Ari	12871	833	γ Hor
8832	545	γ ¹ Ari	10340	643	60 And	11867	744	λ ¹ For	13268	834	η Per
8778	547	BK Cet	10366	645	6 Per	11918	749	ω For	13268	834	15 Per
9009	548	ω Cas	10306	646	η Ari	12086	750	15 Tri	13040	835	η ¹ For
8833	549	ξ Psc	10328	648	19 Ari	12002	752	77 Cet	13165	836	42 Ari
8366	550	τ ² Hyi	10324	649	ξ ¹ Cet	12093	754	78 Cet	13165	836	π Ari
8903	553	β Ari	10305	650	66 Cet	12093	754	v Cet	12876	837	ζ Hyi
8837	555	ψ Phe	10320	652	μ For	12193	758	R Tri	13209	838	41 Ari
9021	557	56 And	10633	654	V551 Per	12107	759	80 Cet	13254	840	16 Per
8882	558	φ Phe	10559	655	7 Tri	12153	763	31 Ari	13147	841	β For
8993	559	7 Ari	10540	656	20 Ari	12184	764	30 Ari	13328	843	17 Per
9110	563	ι Ari	10535	657	21 Ari	12189	765	30 Ari	13197	844	γ ¹ For
9061	565	56 Cet	10644	660	δ Tri	12122	767	ι ¹ For	13202	845	γ ² For
9007	566	x Eri	10718	661	8 Per	12247	771	81 Cet	13327	847	σ Ari
9222	568	3 Per	10729	662	x Per	12186	772	λ ² For	13327	847	43 Ari
9153	569	λ Ari	10687	663	W And	12332	773	32 Ari	13225	848	η ² For
8928	570	η ² Hyi	10670	664	γ Tri	12332	773	v Ari	13288	850	τ ² Eri
9480	575	48 Cas	10642	666	67 Cet	11757	776	μ Hyi	13288	850	2 Eri
9598	580	50 Cas	10418	667	π ¹ Hyi	12288	777	ι ² For	13265	851	η ³ For
9727	581	47 Cas	10732	669	θ Ari	12225	778	η Hor	13141	852	v Hor
9353	582	112 Psc	10819	670	62 And	12387	779	δ Cet	13531	854	18 Per
9326	583	57 Cet	10602	674	φ Eri	12387	779	82 Cet	13531	854	τ Per
9347	585	υ Cet	10793	675	10 Tri	12387	779	δ Cet	13531	854	τ Per
9347	585	59 Cet	10513	678	π ² Hyi	12390	781	ε Cet	13490	855	20 Per
9564	586	52 Cas	10826	681	o Cet	12390	781	83 Cet	13402	857	EP Eri
9372	587	AR Cet	10944	682	63 And	12489	782	33 Ari	13473	863	ψ For
9573	589	53 Cas	11060	685	9 Per	12692	785	11 Per	13654	867	45 Ari
9505	590	g Per	11060	685	V474 Per	12623	788	12 Per	13654	867	RZ Ari
9505	590	4 Per	11021	689	69 Cet	12413	789	s Eri	13502	868	R Hor
9236	591	α Hyi	11174	690	V440 Per	12530	790	84 Cet	13702	869	46 Ari
9763	592	49 Cas	11046	691	70 Cet	12640	793	μ Ari	13702	869	ρ Ari
8991	593	σ Hyi	11220	694	64 And	12640	793	34 Ari	13244	872	v Hyi

Nombre de estrellas (Catálogo Hiparco), 2019

Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
13775	873	LT Per	14668	941	27 Per	16319	1032	V805 Cas	17529	1135	41 Per
13775	873	21 Per	14668	941	κ Per	16228	1035	CS Cam	17378	1136	δ Eri
13701	874	3 Eri	14677	944	55 Ari	16083	1038	2 Tau	17378	1136	δ Eri
13701	874	η Eri	14817	947	ω Per	16083	1038	ξ Tau	17378	1136	23 Eri
13756	877	EH Cet	14817	947	28 Per	16083	1038	ξ Tau	17489	1140	16 Tau
13834	878	47 Ari	14838	951	57 Ari	16281	1040	CE Cam	17499	1142	17 Tau
13879	879	π Per	14838	951	δ Ari	15987	1042	x^1 For	17351	1143	h Eri
13879	879	22 Per	14893	954	56 Ari	16244	1044	34 Per	17527	1144	18 Tau
13905	882	24 Per	14893	954	SX Ari	16181	1048	66 Ari	17531	1145	19 Tau
13782	883	4 Eri	14915	958	EL Cet	16335	1052	σ Per	17531	1145	q Tau
13914	887	48 Ari	14954	962	94 Cet	16335	1052	35 Per	17457	1146	24 Eri
13914	887	ϵ Ari	14879	963	α For	16112	1054	x^2 For	17959	1148	γ Cam
13914	888	48 Ari	15110	972	58 Ari	16156	1058	x^3 For	17573	1149	20 Tau
13914	888	ϵ Ari	15110	972	ζ Ari	16322	1061	4 Tau	17506	1150	25 Eri
13835	889	6 Eri	15204	976	V423 Per	16322	1061	s Tau	17579	1151	21 Tau
13954	896	91 Cet	14930	977	TW Hor	16470	1063	V396 Per	17588	1152	22 Tau
13954	896	λ Cet	15241	978	V573 Per	16369	1066	5 Tau	17563	1153	u Tau
13847	897	θ^2 Eri	14521	981	BN Hyi	16369	1066	f Tau	17563	1153	29 Tau
13847	897	θ^1 Eri	15338	982	30 Per	16499	1069	36 Per	17884	1155	BE Cam
13847	898	θ^2 Eri	15197	984	ζ Eri	16341	1070	v Eri	17608	1156	23 Tau
13847	898	θ^1 Eri	15197	984	13 Eri	16341	1070	17 Eri	17608	1156	V971 Tau
13951	899	5 Eri	15520	985	BK Cam	16516	1072	KP Per	17593	1162	π Eri
13942	901	ζ For	15404	987	29 Per	16591	1078	IW Per	17593	1162	26 Eri
14040	904	7 Eri	15244	988	14 Eri	16511	1079	t Tau	17593	1162	π Eri
14040	904	CV Eri	15444	989	31 Per	16511	1079	6 Tau	17702	1165	η Tau
14109	905	49 Ari	15383	992	95 Cet	16339	1081	TU Hor	17702	1165	25 Tau
14060	907	8 Eri	15382	994	15 Eri	16245	1083	κ Ret	17846	1170	V376 Per
14060	907	ρ^1 Eri	15514	995	59 Ari	16537	1084	18 Eri	17618	1171	σ For
13884	909	β Hor	15457	996	κ^1 Cet	16537	1084	ϵ Eri	17651	1173	27 Eri
14143	910	93 Cet	15457	996	κ^1 Cet	16537	1084	ϵ Eri	17651	1173	τ^6 Eri
14135	911	α Cet	15457	996	96 Cet	16664	1086	7 Tau	17771	1174	30 Tau
14135	911	92 Cet	15557	1000	60 Ari	16826	1087	ψ Per	17771	1174	e Tau
14135	911	α Cet	15648	1002	32 Per	16826	1087	ψ Per	17440	1175	β Ret
14086	914	ϵ For	15648	1002	1 Per	16826	1087	37 Per	17886	1177	42 Per
14328	915	γ Per	15474	1003	τ^4 Eri	16611	1088	τ^5 Eri	17886	1177	V467 Per
14328	915	γ Per	15474	1003	16 Eri	16611	1088	19 Eri	17886	1177	n Per
14328	915	23 Per	15474	1003	τ^4 Eri	16846	1099	V711 Tau	17847	1178	27 Tau
14168	917	9 Eri	15479	1004	AI For	16803	1100	20 Eri	17851	1180	BU Tau
14168	917	ρ^2 Eri	15627	1005	τ^1 Ari	16803	1100	EG Eri	17851	1180	28 Tau
14382	918	k Per	15627	1005	61 Ari	16852	1101	10 Tau	17717	1181	τ^7 Eri
14146	919	τ^3 Eri	15627	1005	τ^1 Ari	17296	1105	BD Cam	17717	1181	28 Eri
14146	919	11 Eri	15330	1006	ζ^1 Ret	16870	1106	y Eri	17738	1184	ρ For
14354	921	25 Per	15619	1007	97 Cet	17027	1111	21 Eri	18033	1194	V766 Tau
14354	921	ρ Per	15619	1007	κ^2 Cet	17007	1114	τ For	17874	1195	g Eri
14354	921	ρ Per	15510	1008	e Eri	17103	1115	12 Tau	18089	1199	31 Tau
14293	925	10 Eri	15510	1008	82 Eri	17181	1118	11 Tau	18141	1202	30 Eri
14293	925	ρ^3 Eri	15890	1009	CQ Cam	17167	1121	22 Eri	18246	1203	ζ Per
14376	927	52 Ari	15371	1010	ζ^2 Ret	17167	1121	FY Eri	18246	1203	44 Per
14376	927	52 Ari	15770	1011	V575 Per	17358	1122	δ Per	17678	1208	γ Hyi
14376	928	52 Ari	15696	1012	62 Ari	17358	1122	δ Per	18350	1209	X Per
14376	928	52 Ari	15737	1015	63 Ari	17358	1122	39 Per	18453	1210	43 Per
14240	934	μ Hor	15737	1015	τ^2 Ari	17313	1123	o Per	18255	1211	32 Eri
14576	936	β Per	15863	1017	33 Per	17313	1123	40 Per	18255	1212	32 Eri
14576	936	β Per	15863	1017	α Per	17309	1126	13 Tau	18216	1213	τ^8 Eri
14576	936	26 Per	15861	1022	64 Ari	17448	1131	o Per	18216	1213	τ^8 Eri
14632	937	ι Per	15201	1025	ι Hyi	17448	1131	38 Per	18216	1213	33 Eri
14514	938	53 Ari	15870	1027	65 Ari	17448	1131	o Per	18213	1214	i Eri
14514	938	UW Ari	15988	1029	V576 Per	17408	1132	14 Tau	18339	1217	DO Eri
14131	939	θ Hyi	15900	1030	o Tau	17304	1134	δ For	18471	1218	32 Tau
14586	940	54 Ari	15900	1030	1 Tau	17529	1135	v Per	18532	1220	45 Per

Número de estrellas (Catálogo Hiparco), 2019

Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
18532	1220	ε Per	19811	1306	f Per	20542	1380	δ ² Tau	21248	1453	50 Eri
18532	1220	ε Per	19811	1306	52 Per	20522	1381	66 Tau	21476	1454	58 Per
18485	1221	V817 Tau	19719	1309	46 Tau	20522	1381	r Tau	20297	1456	v Men
18485	1221	33 Tau	19740	1311	47 Tau	20507	1383	42 Eri	21421	1457	87 Tau
18547	1223	V386 Per	19725	1312	GY Eri	20507	1383	ξ Eri	21421	1457	α Tau
18455	1225	DL Eri	19777	1318	39 Eri	20635	1387	κ ¹ Tau	21421	1457	α Tau
18614	1228	ξ Per	19877	1319	48 Tau	20635	1387	65 Tau	21402	1458	88 Tau
18614	1228	ξ Per	19860	1320	μ Tau	20641	1388	67 Tau	21402	1458	d Tau
18614	1228	46 Per	19860	1320	49 Tau	20641	1388	κ ² Tau	21444	1463	v Eri
18543	1231	γ Eri	19855	1321	V891 Tau	20648	1389	68 Tau	21444	1463	48 Eri
18543	1231	γ Eri	19859	1322	V774 Tau	20648	1389	V776 Tau	21444	1463	v Eri
18543	1231	34 Eri	20070	1324	b Per	20648	1389	δ ³ Tau	21393	1464	52 Eri
18724	1239	35 Tau	20070	1324	b Per	20661	1391	70 Tau	21393	1464	u ² Eri
18724	1239	λ Tau	19849	1325	40 Eri	20711	1392	υ Tau	21281	1465	α Dor
18724	1239	λ Tau	19849	1325	o ² Eri	20711	1392	69 Tau	21281	1465	α Dor
18673	1240	36 Eri	19747	1326	α Hor	20711	1392	υ Tau	21730	1466	2 Cam
18673	1240	τ ⁹ Eri	19990	1329	ω ² Tau	20535	1393	d Eri	21727	1467	3 Cam
18673	1240	τ ⁹ Eri	19990	1329	ω Tau	20535	1393	υ ³ Eri	21604	1471	HU Tau
18788	1244	35 Eri	19990	1329	50 Tau	20535	1393	43 Eri	21588	1472	89 Tau
18597	1247	δ Ret	20087	1331	51 Tau	20713	1394	71 Tau	21589	1473	c Tau
18691	1250	XY Dor	19780	1336	α Ret	20713	1394	V777 Tau	21589	1473	90 Tau
18907	1251	38 Tau	19893	1338	γ Dor	20384	1395	η Ret	21547	1474	51 Eri
18907	1251	v Tau	19893	1338	γ Dor	20732	1396	π Tau	21547	1474	c Eri
19009	1252	36 Tau	20171	1339	V102 Tau	20732	1396	73 Tau	21673	1478	91 Tau
18957	1253	40 Tau	20171	1339	53 Tau	20715	1397	V114 Tau	21673	1478	σ ¹ Tau
18957	1253	V113 Tau	20186	1341	56 Tau	20789	1399	72 Tau	21683	1479	σ ² Tau
19038	1256	37 Tau	20186	1341	V724 Tau	20877	1407	75 Tau	21683	1479	92 Tau
19167	1261	λ Per	20252	1343	54 Per	20873	1408	76 Tau	21594	1481	53 Eri
19167	1261	47 Per	20075	1345	GZ Eri	20889	1409	ε Tau	21594	1481	1 Eri
19076	1262	39 Tau	20205	1346	γ Tau	20889	1409	74 Tau	21735	1484	93 Tau
18744	1264	γ Ret	20205	1346	54 Tau	20885	1411	θ ¹ Tau	21479	1492	R Dor
18744	1264	γ Ret	20042	1347	υ ⁴ Eri	20885	1411	77 Tau	21928	1494	59 Per
18772	1266	ι Ret	20042	1347	41 Eri	20894	1412	78 Tau	21763	1496	54 Eri
19171	1268	GS Tau	20250	1348	φ Tau	20894	1412	θ ² Tau	21763	1496	DM Eri
19171	1268	41 Tau	20250	1348	52 Tau	20894	1412	θ ² Tau	21881	1497	94 Tau
19205	1269	ψ Tau	20354	1350	V469 Per	20901	1414	b Tau	21881	1497	τ Tau
19205	1269	42 Tau	20354	1350	53 Per	20901	1414	79 Tau	21961	1499	95 Tau
19343	1273	48 Per	20354	1350	d Per	21148	1417	1 Cam	21770	1502	α Cae
19343	1273	c Per	20219	1351	V483 Tau	21148	1417	DL Cam	21861	1503	β Cae
19343	1273	MX Per	20219	1351	h Tau	20963	1420	V114 Tau	21986	1505	55 Eri
19302	1277	49 Per	20219	1351	57 Tau	20995	1422	80 Tau	21986	1505	DW Eri
19335	1278	V582 Per	19921	1355	ε Ret	20922	1423	DU Eri	21986	1506	55 Eri
19335	1278	50 Per	20261	1356	58 Tau	20049	1426	δ Men	21986	1506	DW Eri
19388	1283	43 Tau	20261	1356	V696 Tau	21039	1428	81 Tau	22024	1508	56 Eri
19388	1283	ω ¹ Tau	19917	1357	TT Ret	20856	1429	RV Cae	22024	1508	DX Eri
19513	1287	IM Tau	20263	1362	EK Eri	21036	1430	83 Tau	22287	1511	4 Cam
19513	1287	44 Tau	20271	1363	EM Eri	21137	1432	85 Tau	21914	1516	λ nc
19513	1287	p Tau	20400	1368	60 Tau	21242	1434	57 Per	22109	1520	μ Eri
19398	1288	GU Eri	20400	1368	V775 Tau	21242	1434	m Per	22109	1520	57 Eri
20860	1289	V408 Cep	20430	1369	x Tau	21139	1437	45 Eri	22040	1530	κ Dor
19483	1290	37 Eri	20430	1369	59 Tau	21192	1441	DZ Eri	22263	1532	58 Eri
19554	1292	45 Tau	20020	1372	θ Ret	21060	1443	δ Cae	22453	1533	1 Aur
19672	1297	V113 Tau	20455	1373	δ ¹ Tau	21273	1444	ρ Tau	22441	1537	96 Tau
19587	1298	o ¹ Eri	20455	1373	61 Tau	21273	1444	86 Tau	22325	1538	59 Eri
19587	1298	38 Eri	20493	1375	V114 Tau	21273	1444	ρ Tau	22280	1539	ζ Cae
19587	1298	o ¹ Eri	20484	1376	63 Tau	21278	1449	EH Eri	21949	1541	μ Men
19571	1300	GW Eri	20579	1377	55 Per	21278	1449	46 Eri	22783	1542	9 Cam
19515	1302	δ Hor	20533	1378	62 Tau	21296	1451	DV Eri	22783	1542	α Cam
19812	1303	51 Per	20591	1379	56 Per	21296	1451	47 Eri	22449	1543	π ³ Ori
19812	1303	μ Per	20542	1380	64 Tau	21248	1453	υ ¹ Eri	22449	1543	1 Ori

Número de estrellas (Catálogo Hiparco), 2019

Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
22509	1544	2 Ori	23743	1623	BM Cam	24645	1707	R Aur	25428	1791	β Tau
22509	1544	π ² Ori	23743	1623	12 Cam	24608	1708	13 Aur	25428	1791	112 Tau
22565	1547	97 Tau	22871	1629	η Men	24608	1708	α Aur	25194	1793	SW Col
22565	1547	V480 Tau	23474	1634	1 Lep	24512	1711	108 Tau	25410	1798	113 Tau
22565	1547	i Tau	23783	1637	9 Aur	24575	1712	AE Aur	25098	1801	κ πc
22479	1549	60 Eri	23783	1637	V398 Aur	24436	1713	β Ori	25769	1802	17 Cam
22678	1551	2 Aur	23607	1638	V103 Ori	24436	1713	19 Ori	25541	1805	24 Aur
22549	1552	3 Ori	23607	1638	11 Ori	24436	1713	β Ori	25 541	1805	φ Aur
22549	1552	π ⁴ Ori	23767	1641	10 Aur	23148	1716	ξ Men	25499	1808	115 Tau
22854	1555	5 Cam	23767	1641	η Aur	24555	1718	18 Ori	25539	1810	o Tau
22667	1556	o ¹ Ori	24254	1643	BN Cam	24836	1719	DV Cam	25539	1810	114 Tau
22667	1556	o ¹ Ori	23680	1648	W Ori	24836	1719	15 Cam	25473	1811	ψ Ori
22667	1556	4 Ori	23482	1649	η ¹ πc	24738	1722	PU Aur	25473	1811	ψ ² Ori
22701	1560	61 Eri	23395	1652	γ ¹ Cae	24727	1726	16 Aur	25473	1811	ψ Ori
22701	1560	ω Eri	23596	1653	γ ² Cae	24740	1728	17 Aur	25473	1811	30 Ori
22730	1562	5 Ori	23596	1653	X Cae	24740	1728	AR Aur	25555	1814	116 Tau
22531	1563	ι πc	23685	1654	ε Lep	24813	1729	λ Aur	25583	1816	117 Tau
22534	1564	ι πc	23685	1654	2 Lep	24813	1729	15 Aur	25303	1818	θ πc
22797	1567	π05 Ori	23835	1656	104 Tau	24799	1732	IQ Aur	25695	1821	118 Tau
22797	1567	π ⁵ Ori	23835	1656	m Tau	24832	1734	18 Aur	25973	1828	18 Cam
22797	1567	8 Ori	23794	1657	EN Eri	24674	1735	20 Ori	25606	1829	β Lep
23040	1568	7 Cam	23794	1657	66 Eri	24674	1735	τ Ori	25606	1829	9 Lep
22833	1569	6 Ori	23871	1658	106 Tau	24822	1739	n Tau	25737	1834	31 Ori
22833	1569	g Ori	23871	1658	1 Tau	24822	1739	109 Tau	25737	1834	CI Ori
22845	1570	π ¹ Ori	23900	1659	103 Tau	24879	1740	19 Aur	25429	1836	λ Dor
22845	1570	7 Ori	23883	1660	105 Tau	24659	1743	o Col	25785	1837	CK Ori
23015	1577	ι Aur	23883	1660	V115 Tau	24372	1744	θ Dor	25813	1839	32 Ori
23015	1577	3 Aur	23852	1662	13 Ori	24817	1746	21 Ori	25861	1842	33 Ori
22957	1580	o ² Ori	23649	1663	η ² πc	25048	1749	20 Aur	25861	1842	n ¹ Ori
22957	1580	9 Ori	23879	1664	14 Ori	25048	1749	ρ Aur	25984	1843	x Aur
22881	1581	R Eri	23879	1664	i Ori	25197	1751	16 Cam	25984	1843	25 Aur
22958	1582	b Eri	23875	1666	β Eri	24827	1754	TX Lep	25945	1845	119 Tau
22958	1582	62 Eri	23875	1666	67 Eri	24845	1756	λ Lep	25945	1845	CE Tau
23068	1586	99 Tau	24019	1670	V115 Tau	24845	1756	6 Lep	25853	1849	10 Lep
23216	1588	8 Cam	23983	1672	16 Ori	24873	1757	7 Lep	25930	1852	δ Ori
23088	1590	k Tau	23983	1672	h Ori	24873	1757	v Lep	25930	1852	δ Ori
23088	1590	98 Tau	23941	1673	68 Eri	25011	1761	V136 Ori	25930	1852	34 Ori
23179	1592	4 Aur	23693	1674	ζ Dor	25044	1765	22 Ori	25923	1855	v Ori
23261	1599	5 Aur	24010	1676	15 Ori	25044	1765	o Ori	25923	1855	36 Ori
23123	1601	10 Ori	23467	1677	β Men	24829	1767	ζ πc	26408	1857	19 Cam
23123	1601	π ⁶ Ori	24348	1678	14 Cam	25192	1768	22 Aur	26064	1858	120 Tau
23268	1602	6 Aur	23972	1679	λ Eri	25142	1770	23 Ori	26064	1858	V960 Tau
23522	1603	10 Cam	23972	1679	69 Eri	25292	1773	σ Aur	25859	1862	ε Col
23522	1603	β Cam	23972	1679	λ Eri	25292	1773	21 Aur	26093	1864	35 Ori
23416	1605	ε Aur	24340	1689	μ Aur	25216	1774	110 Tau	25985	1865	11 Lep
23416	1605	ε Aur	24340	1689	11 Aur	25278	1780	V111 Tau	25985	1865	α Lep
23416	1605	7 Aur	24196	1690	V108 Ori	25278	1780	111 Tau	26063	1868	VV Ori
23203	1607	R Lep	24169	1693	RX Lep	25202	1783	8 Lep	26126	1872	38 Ori
23221	1608	63 Eri	23840	1695	WZ Dor	25247	1784	29 Ori	26126	1872	n ² Ori
23231	1611	64 Eri	24244	1696	ι Lep	25247	1784	e Ori	26248	1875	121 Tau
23231	1611	S Eri	24244	1696	3 Lep	25282	1787	p Ori	26176	1876	37 Ori
23453	1612	8 Aur	24331	1698	ρ Ori	25282	1787	27 Ori	26176	1876	φ ¹ Ori
23453	1612	ζ Aur	24331	1698	17 Ori	25281	1788	η Ori	26207	1879	λ Ori
23453	1612	ζ Aur	24305	1702	μ Lep	25281	1788	28 Ori	26207	1879	39 Ori
23364	1617	ψ Eri	24305	1702	μ Lep	25281	1788	η Ori	26207	1880	λ Ori
23364	1617	65 Eri	24305	1702	5 Lep	25302	1789	V108 Ori	26207	1880	39 Ori
23497	1620	ι Tau	24327	1705	κ Lep	25302	1789	25 Ori	26233	1890	V104 Ori
23497	1620	102 Tau	24327	1705	4 Lep	25302	1789	ψ ¹ Ori	26237	1892	c Ori
23734	1622	BV Cam	24504	1706	KW Aur	25336	1790	24 Ori	26237	1892	42 Ori
23734	1622	11 Cam	24504	1706	14 Aur	25336	1790	γ Ori	26220	1893	41 Ori

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Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
26220	1893	V101 Ori	27196	1971	27 Aur	28358	2077	δ Aur	29388	2176	41 Aur
26220	1893	θ ¹ Ori	26868	1973	WZ Col	28358	2077	33 Aur	29034	2177	θ Col
26220	1893	θ ¹ Ori	27181	1977	Y Tau	28237	2084	139 Tau	29064	2181	π ² Col
26220	1894	41 Ori	27072	1983	γ Lep	28103	2085	η Lep	29379	2185	5 Gem
26220	1894	V101 Ori	27072	1983	13 Lep	28103	2085	16 Lep	29416	2190	TV Gem
26220	1894	θ ¹ Ori	27265	1985	129 Tau	28010	2087	ξ Col	29433	2193	68 Ori
26220	1894	θ ¹ Ori	27316	1989	131 Tau	28360	2088	β Aur	28909	2194	η ¹ Dor
26221	1895	41 Ori	27338	1990	130 Tau	28360	2088	34 Aur	29323	2195	V653 Mon
26221	1895	θ ¹ Ori	26264	1991	ι Men	28360	2088	β Aur	29450	2197	6 Gem
26224	1896	41 Ori	26264	1991	ι Men	28404	2091	35 Aur	29450	2197	BU Gem
26224	1896	θ ¹ Ori	27592	1992	29 Cam	28404	2091	π Aur	29434	2198	f ¹ Ori
26235	1897	θ ² Ori	27364	1993	133 Tau	28404	2091	π Aur	29434	2198	69 Ori
26235	1897	43 Ori	27483	1995	29 Aur	28098	2092	σ Col	29426	2199	ξ Ori
26241	1899	44 Ori	27483	1995	τ Aur	28380	2095	37 Aur	29426	2199	70 Ori
26241	1899	ι Ori	27204	1996	μ Col	28380	2095	θ Aur	29730	2201	40 Cam
26263	1900	V137 Ori	27288	1998	ζ Lep	28380	2095	θ Aur	29401	2202	V638 Mon
26268	1901	45 Ori	27288	1998	14 Lep	28271	2100	V100 Ori	29263	2203	AF Col
26311	1903	ε Ori	27386	1999	52 Ori	28271	2100	59 Ori	29276	2212	δ πc
26311	1903	46 Ori	27341	2001	V103 Ori	28499	2101	V444 Aur	29276	2212	δ πc
26311	1903	ε Ori	27468	2002	132 Tau	28499	2101	36 Aur	29488	2213	IP CMa
26382	1905	122 Tau	27366	2004	κ Ori	28296	2103	60 Ori	29919	2215	UW Lyn
26366	1907	40 Ori	27366	2004	53 Ori	28199	2106	γ Col	29919	2215	1 Lyn
26366	1907	φ ² Ori	27731	2006	30 Cam	28321	2107	V474 Mon	29655	2216	η Gem
26451	1910	ζ Tau	27511	2010	134 Tau	28321	2107	1 Mon	29655	2216	η Gem
26451	1910	123 Tau	27639	2011	31 Aur	28325	2108	2 Mon	29655	2216	7 Gem
26451	1910	ζ Tau	27639	2011	υ Aur	28677	2119	38 Aur	29696	2219	44 Aur
26536	1914	26 Aur	27673	2012	32 Aur	28328	2120	η Col	29696	2219	κ Aur
26069	1922	β Dor	27673	2012	ν Aur	28614	2124	61 Ori	29650	2220	71 Ori
26069	1922	β Dor	27100	2015	δ Dor	28614	2124	μ Ori	29134	2221	ν Dor
26606	1924	V433 Aur	27581	2016	135 Tau	27566	2125	κ Men	29704	2223	f ² Ori
26412	1926	v ¹ Col	27661	2018	V440 Aur	28574	2128	3 Mon	29704	2223	72 Ori
26300	1927	YX πc	27321	2020	β πc	28691	2130	64 Ori	29651	2227	5 Mon
26640	1928	125 Tau	26394	2022	π Men	28823	2132	39 Aur	29651	2227	γ Mon
26549	1931	σ Ori	27971	2027	31 Cam	28734	2134	1 Gem	29884	2228	42 Aur
26549	1931	48 Ori	27971	2027	TU Cam	28716	2135	x ² Ori	29736	2229	73 Ori
26594	1934	47 Ori	27949	2029	ξ Aur	28716	2135	x ² Ori	29789	2230	8 Gem
26594	1934	ω Ori	27949	2029	30 Aur	28716	2135	62 Ori	30060	2238	UZ Lyn
26594	1934	ω Ori	27658	2031	55 Ori	28744	2142	V696 Mon	30060	2238	2 Lyn
26460	1935	v ² Col	27743	2033	V809 Tau	28946	2143	40 Aur	29949	2239	43 Aur
26563	1937	d Ori	27743	2033	137 Tau	28812	2144	63 Ori	29840	2240	9 Gem
26563	1937	49 Ori	27830	2034	136 Tau	28814	2145	66 Ori	29840	2240	PX Gem
26718	1939	NO Aur	27654	2035	δ Lep	28930	2146	V394 Aur	29800	2241	74 Ori
26942	1941	24 Cam	27654	2035	15 Lep	28816	2148	SS Lep	29800	2241	k Ori
27046	1943	23 Cam	27750	2037	56 Ori	28816	2148	17 Lep	29353	2245	η ² Dor
26777	1946	126 Tau	27628	2040	β Col	28756	2149	72 Col	29850	2247	75 Ori
26727	1948	ζ Ori	27530	2042	γ πc	28596	2151	SW πc	29850	2247	1 Ori
26727	1948	50 Ori	27913	2047	54 Ori	29246	2152	37 Cam	29885	2255	6 Mon
26727	1949	ζ Ori	27913	2047	x ¹ Ori	28910	2155	θ Lep	29807	2256	κ Col
26727	1949	50 Ori	27965	2052	57 Ori	28910	2155	18 Lep	30272	2257	4 Lyn
25918	1953	γ Men	28162	2054	V403 Aur	28874	2156	S Lep	30019	2258	V115 Ori
26634	1956	α Col	27810	2056	λ Col	29038	2159	v Ori	29271	2261	α Men
26728	1957	V105 Ori	27810	2056	λ Col	29038	2159	67 Ori	30247	2264	45 Aur
26964	1961	V731 Tau	25776	2059	31 Men	28973	2161	XZ Lep	30073	2273	7 Mon
26885	1963	51 Ori	25776	2059	TZ Men	29490	2165	36 Cam	30122	2282	ζ CMa
26885	1963	b Ori	27989	2061	58 Ori	28984	2166	YY Lep	30122	2282	1 CMa
26169	1964	WX Men	27989	2061	α Ori	29048	2168	19 Lep	30214	2284	FR CMa
26865	1968	12 Lep	27989	2061	α Ori	28957	2171	π ¹ Col	30343	2286	μ Gem
27249	1969	26 Cam	27369	2062	λ Men	29225	2173	3 Gem	30343	2286	13 Gem
26953	1970	V119 Ori	28041	2063	U Ori	29225	2173	PU Gem	30343	2286	μ Gem
27196	1971	o Aur	27534	2064	ε Dor	29388	2175	41 Aur	30520	2289	ψ ¹ Aur

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Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
30520	2289	ψ^1 Aur	31681	2421	24 Gem	32921	2529	d Gem	33856	2646	σ CMa
30520	2289	46 Aur	31681	2421	γ Gem	32838	2534	V592 Mon	33971	2648	19 Mon
30651	2291	RR Lyn	31646	2422	V640 Mon	32759	2538	κ CMa	33971	2648	V637 Mon
30679	2293	5 Lyn	31564	2423	6 CMa	32759	2538	κ CMa	34088	2650	43 Gem
30324	2294	β CMa	31564	2423	ν^1 CMa	32759	2538	13 CMa	34088	2650	ζ Gem
30324	2294	β CMa	31737	2425	53 Aur	33041	2539	OX Aur	34088	2650	ζ Gem
30324	2294	2 CMa	31832	2427	ψ^2 Aur	33041	2539	59 Aur	33977	2653	σ^2 CMa
30277	2296	δ Col	31832	2427	50 Aur	33018	2540	θ Gem	33977	2653	24 CMa
30419	2298	8 Mon	31592	2429	7 CMa	33018	2540	34 Gem	33977	2653	σ^2 CMa
30419	2298	ϵ Mon	31592	2429	ν^2 CMa	33064	2541	60 Aur	34045	2657	γ CMa
30422	2299	ϵ Mon	31697	2432	V731 Mon	32810	2545	HZ CMa	34045	2657	23 CMa
30422	2299	8 Mon	31852	2438	54 Aur	33133	2547	61 Aur	34182	2659	44 Gem
30407	2301	V721 Mon	31766	2442	V689 Mon	33133	2547	ψ^8 Aur	34081	2666	C Pup
30426	2306	IU CMa	31700	2443	ν^3 CMa	32607	2550	α π c	34234	2670	V569 Mon
30564	2308	BL Ori	31700	2443	8 CMa	32768	2553	τ Pup	34356	2671	R Gem
30541	2310	T Mon	31685	2451	ν Pup	33269	2557	V352 Aur	34059	2672	H Pup
30342	2320	ν π c	32019	2453	25 Gem	31897	2559	ζ Men	34000	2674	V450 Car
30438	2326	α Car	31978	2456	S Mon	33449	2560	15 Lyn	34301	2678	FN CMa
30769	2330	16 Gem	31978	2456	15 Mon	33202	2564	e Gem	34248	2680	IL CMa
31039	2331	6 Lyn	32173	2459	55 Aur	33202	2564	38 Gem	34105	2683	V386 Car
30827	2332	RT Aur	32173	2459	ψ^4 Aur	33040	2567	KX CMa	34440	2684	45 Gem
30827	2332	48 Aur	32104	2466	26 Gem	33377	2568	ψ^9 Aur	33384	2689	θ Men
30972	2338	47 Aur	32438	2470	12 Lyn	33277	2569	37 Gem	34360	2690	FV CMa
30883	2343	ν Gem	32246	2473	27 Gem	33092	2571	EY CMa	34444	2693	δ CMa
30883	2343	18 Gem	32246	2473	ϵ Gem	33092	2571	15 CMa	34444	2693	25 CMa
30772	2344	10 Mon	32489	2477	13 Lyn	33160	2574	θ CMa	34752	2696	63 Aur
30591	2348	G Pup	32249	2478	30 Gem	33160	2574	14 CMa	34693	2697	46 Gem
30321	2352	π^1 Dor	32311	2480	28 Gem	33152	2580	σ^1 CMa	34693	2697	τ Gem
30867	2356	β Mon	32480	2483	56 Aur	33152	2580	16 CMa	34722	2700	47 Gem
30867	2356	11 Mon	32480	2483	ψ^5 Aur	33152	2580	σ^1 CMa	34622	2701	20 Mon
30867	2357	β Mon	32362	2484	ξ Gem	33165	2583	EZ CMa	34495	2702	A Pup
30867	2357	11 Mon	32362	2484	31 Gem	33485	2585	ψ^1 Aur	34912	2703	UY Lyn
30867	2358	β Mon	32562	2487	57 Aur	33485	2585	16 Lyn	34579	2704	LZ CMa
30867	2358	11 Mon	32562	2487	ψ^6 Aur	33248	2588	17 CMa	34819	2706	48 Gem
30788	2361	λ CMa	32404	2489	32 Gem	33302	2590	π CMa	34724	2707	21 Mon
30840	2364	IY CMa	32864	2490	42 Cam	33302	2590	19 CMa	34724	2707	V571 Mon
31105	2371	19 Gem	32349	2491	9 CMa	33189	2591	NP Pup	34769	2714	22 Mon
31173	2372	WW Aur	32349	2491	α CMa	33345	2593	μ CMa	34769	2714	δ Mon
31359	2376	BQ Lyn	32292	2492	10 CMa	33345	2593	18 CMa	35146	2715	18 Lyn
31359	2376	7 Lyn	32292	2492	FT CMa	33347	2596	ι CMa	34909	2717	51 Gem
30565	2377	π^2 Dor	32463	2494	16 Mon	33347	2596	20 CMa	34909	2717	BQ Gem
31159	2382	12 Mon	32385	2501	HP CMa	33347	2596	ι CMa	34798	2718	26 CMa
31216	2385	13 Mon	32533	2503	17 Mon	33614	2600	62 Aur	34798	2718	MM CMa
31125	2387	4 CMa	32492	2504	11 CMa	33595	2601	39 Gem	34814	2724	HN CMa
31125	2387	ξ^1 CMa	32578	2506	18 Mon	32912	2602	ι Vol	35025	2725	52 Gem
31125	2387	ξ^1 CMa	32504	2509	12 CMa	33447	2603	HH CMa	34817	2726	V363 Pup
31205	2392	HR CMa	32504	2509	HK CMa	33650	2605	40 Gem	34802	2727	E Pup
31099	2393	SX Col	32434	2510	V339 Pup	37391	2609	OV Cep	34924	2734	GY CMa
31676	2394	8 Lyn	33104	2511	43 Cam	33715	2615	41 Gem	34473	2735	γ^1 Vol
31434	2398	49 Aur	32740	2512	IS Gem	33579	2618	ϵ CMa	34481	2736	γ^2 Vol
31665	2402	11 Lyn	32844	2516	ψ^7 Aur	33579	2618	21 CMa	35152	2738	53 Gem
31385	2404	14 Mon	32844	2516	58 Aur	33558	2619	t Pup	34834	2740	I Pup
31579	2405	UU Aur	32682	2517	V715 Mon	33721	2628	FU CMa	34834	2740	QW Pup
31068	2410	AE π c	32537	2518	x Pup	33927	2630	42 Gem	34937	2741	GG CMa
31137	2412	μ π c	32753	2519	33 Gem	33927	2630	ω Gem	36547	2742	VZ Cam
31416	2414	ξ^2 CMa	32753	2519	OV Gem	33927	2630	ω Gem	35080	2744	24 Mon
31416	2414	5 CMa	33048	2520	14 Lyn	33929	2631	NP Gem	34981	2745	27 CMa
31771	2419	51 Aur	32814	2525	35 Gem	33804	2640	LS CMa	34981	2745	EW CMa
31789	2420	ψ^3 Aur	32531	2526	V448 Car	33856	2646	σ CMa	34899	2746	OU Pup
31789	2420	52 Aur	32921	2529	36 Gem	33856	2646	22 CMa	34899	2746	I Pup

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Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
34922	2748	1 Pup	36186	2853	NR CMa	37949	2975	51 Cam	38835	3102	11 Pup
34922	2748	L02 Pup	36284	2854	γ CMi	37934	2977	BC Cam	38835	3102	j Pup
35037	2749	ω CMa	36284	2854	4 CMi	37934	2977	49 Cam	38945	3103	BU CMi
35037	2749	28 CMa	36168	2855	FY CMa	37704	2983	76 Gem	39261	3109	AX Cam
35037	2749	ω CMa	36393	2857	64 Gem	37704	2983	c Gem	39261	3109	53 Cam
35341	2753	64 Aur	36429	2861	b Gem	37740	2985	κ Gem	38962	3110	14 CMi
35029	2761	PR Pup	36429	2861	65 Gem	37740	2985	77 Gem	38872	3116	N Pup
35350	2763	54 Gem	36425	2864	6 CMi	37705	2989	AZ CMi	38827	3117	x Car
35350	2763	λ Gem	36363	2875	y Pup	37826	2990	β Gem	38827	3117	x Car
35210	2764	145 CMa	36377	2878	σ Pup	37826	2990	78 Gem	39348	3119	AE Lyn
35735	2772	47 Cam	36377	2878	σ Pup	37811	2991	79 Gem	39348	3119	54 Cam
35264	2773	π Pup	36641	2880	δ ¹ CMi	37648	2993	1 Pup	38917	3121	O Pup
35264	2773	π Pup	36641	2880	7 CMi	37677	2996	3 Pup	39079	3122	27 Mon
35550	2777	δ Gem	36760	2886	68 Gem	37677	2996	1 Pup	39023	3123	12 Pup
35550	2777	55 Gem	36723	2887	δ ² CMi	37908	3003	g Gem	39191	3124	ω ¹ Cnc
35412	2781	29 CMa	36723	2887	8 CMi	37908	3003	81 Gem	39191	3124	2 Cnc
35412	2781	UW CMa	36608	2889	PS Pup	37751	3004	V390 Pup	38834	3126	V341 Car
35415	2782	30 CMa	36850	2890	66 Gem	37921	3008	11 CMi	39177	3128	3 Cnc
35415	2782	τ CMa	36850	2890	α Gem	37842	3009	PV Pup	38957	3129	V Pup
35415	2782	τ CMa	36850	2890	66 Gem	37842	3009	2 Pup	39263	3132	ω ² Cnc
35783	2783	19 Lyn	36850	2891	66 Gem	37843	3010	2 Pup	39263	3132	4 Cnc
35785	2784	19 Lyn	36850	2891	α Gem	38016	3013	π Gem	39236	3134	5 Cnc
35363	2787	NV Pup	36850	2891	66 Gem	38016	3013	80 Gem	39172	3135	V695 Mon
35487	2788	R CMa	36965	2898	CC Lyn	37891	3015	4 Pup	39211	3141	28 Mon
35406	2790	v ² Pup	36812	2901	δ ³ CMi	37819	3017	c Pup	39211	3141	V645 Mon
35406	2790	NW Pup	36812	2901	9 CMi	38106	3021	82 Gem	38994	3147	V374 Car
35393	2791	F Pup	36773	2902	KQ Pup	37915	3022	V392 Pup	39424	3149	x Gem
35710	2793	65 Aur	36962	2905	69 Gem	37504	3024	ζ Vol	39153	3151	PY Pup
35699	2795	56 Gem	36962	2905	υ Gem	38031	3026	QY Pup	39070	3153	V460 Car
35611	2800	HQ CMa	36728	2907	V376 Pup	38048	3029	5 Pup	39225	3157	V461 Car
35626	2802	MZ CMa	36778	2911	OW Pup	37982	3032	OX Pup	39360	3162	V336 Pup
35228	2803	δ Vol	36778	2911	z Pup	38070	3034	o Pup	39567	3163	8 Cnc
35907	2805	66 Aur	36039	2919	ε Men	38070	3034	o Pup	39429	3165	ζ Pup
35846	2808	57 Gem	36981	2921	V378 Pup	38074	3041	T Pup	39722	3167	28 Lyn
35842	2810	58 Gem	37204	2924	70 Gem	38211	3044	6 Pup	39524	3168	14 Pup
35941	2816	59 Gem	37088	2927	25 Mon	38170	3045	ξ Pup	39659	3169	9 Cnc
35933	2817	OT Gem	37036	2928	PT Pup	38170	3045	7 Pup	39659	3169	μ ¹ Cnc
36145	2818	21 Lyn	37406	2929	23 Lyn	38089	3046	Q Pup	39659	3169	BL Cnc
35795	2819	NO CMa	37265	2930	71 Gem	38167	3049	V397 Pup	39487	3170	MZ Pup
35987	2820	1 CMi	37265	2930	o Gem	38164	3055	P Pup	39847	3173	27 Lyn
36046	2821	60 Gem	37096	2937	f Pup	38159	3058	QS Pup	39780	3176	μ Cnc
36046	2821	ι Gem	37300	2938	f Gem	38373	3059	13 CMi	39780	3176	10 Cnc
35951	2825	FW CMa	37300	2938	74 Gem	38373	3059	ζ CMi	39780	3176	μ ² Cnc
35904	2827	η CMa	37279	2943	α CMi	38406	3061	BC CMi	39584	3179	MX Vel
35904	2827	η CMa	37279	2943	10 CMi	38372	3063	8 Pup	39874	3184	12 Cnc
35904	2827	31 CMa	37173	2944	PU Pup	38382	3064	9 Pup	39757	3185	ρ Pup
36041	2828	2 CMi	37173	2944	m Pup	38623	3065	25 Lyn	39757	3185	ρ Pup
36041	2828	ε CMi	37609	2946	24 Lyn	38639	3066	26 Lyn	39757	3185	15 Pup
36156	2837	61 Gem	37174	2957	MY Pup	38538	3067	φ Gem	39530	3186	V375 Car
35960	2842	V368 Pup	37297	2961	n ¹ Pup	38538	3067	83 Gem	39863	3188	ζ Mon
35960	2843	V368 Pup	37322	2963	d ² Pup	38427	3073	10 Pup	39863	3188	29 Mon
36188	2845	3 CMi	37329	2964	d ³ Pup	38370	3078	QU Pup	40023	3191	14 Cnc
36188	2845	β CMi	37521	2967	NZ Gem	38414	3080	a Pup	40023	3191	ψ Cnc
36188	2845	β CMi	37447	2970	26 Mon	38455	3084	b Pup	39906	3192	16 Pup
36238	2846	63 Gem	37447	2970	α Mon	38455	3084	QZ Pup	39866	3195	PQ Pup
36439	2849	22 Lyn	37248	2971	V390 Car	38722	3086	85 Gem	40035	3202	18 Pup
36265	2851	5 CMi	37629	2973	75 Gem	38438	3088	V372 Car	39919	3203	NN Vel
36265	2851	η CMi	37629	2973	σ Gem	38518	3090	J Pup	39953	3207	γ ² Vel
36366	2852	62 Gem	37629	2973	σ Gem	38848	3095	1 Cnc	39953	3207	γ ² Vel
36366	2852	ρ Gem	37415	2974	R Pup	38792	3099	PX Pup	39953	3207	γ Vel

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NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
40167	3208	16 Cnc	41400	3319	BP Cnc	42515	3438	β Pyx	43409	3518	γ Pyx
40167	3208	ζ ² Cnc	41375	3321	2 Hya	42540	3439	NY Vel	43584	3519	51 Cnc
40167	3208	ζ ¹ Cnc	41375	3321	LM Hya	42459	3440	HW Vel	43584	3519	o ¹ Cnc
40167	3209	16 Cnc	41250	3322	V438 Pup	42662	3441	9 Hya	43347	3520	g Vel
40167	3209	ζ ² Cnc	41704	3323	o UMa	42504	3442	NZ Vel	43575	3521	BO Cnc
40167	3209	ζ ¹ Cnc	41704	3323	1 UMa	42570	3445	b Vel	43575	3521	53 Cnc
40167	3210	16 Cnc	41361	3327	NO Pup	42536	3447	o Vel	43587	3522	ρ ¹ Cnc
40167	3210	ζ ² Cnc	41361	3328	NO Pup	42536	3447	o Vel	43587	3522	55 Cnc
40167	3210	ζ ¹ Cnc	41574	3329	28 Cnc	42806	3449	43 Cnc	43496	3523	15 Hya
40084	3211	19 Pup	41574	3329	CX Cnc	42806	3449	γ Cnc	42794	3524	RS Cha
39970	3213	IS Vel	41578	3333	29 Cnc	42795	3450	45 Cnc	43413	3527	f Vel
40240	3215	15 Cnc	41003	3334	η Vol	42624	3452	n Vel	43413	3527	KX Vel
40240	3215	BM Cnc	41475	3335	VV Pyx	42799	3454	η Hya	43685	3528	CY Lyn
39794	3223	ε Vol	41564	3337	LO Hya	42799	3454	7 Hya	43903	3531	6 UMa
40091	3225	NS Pup	40888	3340	θ Cha	42799	3454	η Hya	43721	3532	57 Cnc
40091	3225	h ¹ Pup	41515	3343	XY Pyx	42679	3456	LN Vel	43834	3540	ρ ² Cnc
40259	3229	20 Pup	41312	3347	β Vol	42568	3457	V343 Car	43834	3540	58 Cnc
40155	3232	AH Vel	41483	3350	GU Vel	42568	3457	d Car	43811	3541	X Cnc
40646	3235	29 Lyn	41483	3350	F Vel	42835	3459	F Hya	43813	3547	16 Hya
40274	3237	MX Pup	42080	3354	2 UMa	42425	3460	θ Vol	43813	3547	ζ Hya
40274	3237	r Pup	41816	3355	30 Cnc	42911	3461	δ Cnc	43851	3550	60 Cnc
40321	3240	OS Pup	41816	3355	υ ¹ Cnc	42911	3461	47 Cnc	43822	3552	17 Hya
40326	3243	h ² Pup	41822	3357	31 Cnc	42712	3462	HX Vel	43822	3553	17 Hya
40285	3244	NO Vel	41822	3357	θ Cnc	42954	3464	46 Cnc	43932	3555	o ² Cnc
40534	3248	R Cnc	41726	3364	AB Pyx	42917	3465	b Cnc	43932	3555	59 Cnc
40526	3249	β Cnc	41975	3365	32 Lyn	42917	3465	BI Cnc	43825	3556	δ Pyx
40526	3249	17 Cnc	41909	3366	η Cnc	42917	3465	49 Cnc	43970	3561	o Cnc
40875	3254	30 Lyn	41909	3366	33 Cnc	42715	3466	KT Vel	43970	3561	62 Cnc
40604	3257	21 Pup	41940	3369	32 Cnc	42726	3467	HY Vel	43807	3562	IY Vel
40843	3262	x Cnc	41940	3369	υ ² Cnc	42828	3468	α Pyx	44031	3563	61 Cnc
40843	3262	18 Cnc	41904	3372	34 Cnc	42931	3469	10 Hya	44001	3565	o Cnc
40766	3265	HQ Hya	42090	3377	33 Lyn	42951	3472	MX Hya	44001	3565	63 Cnc
40881	3268	19 Cnc	41939	3385	VX Pyx	43100	3474	48 Cnc	43763	3568	V473 Car
40881	3268	λ Cnc	42133	3387	35 Cnc	43100	3474	ι Cnc	44127	3569	9 UMa
40706	3270	q Pup	42438	3391	3 UMa	43103	3475	48 Cnc	44127	3569	ι UMa
41075	3275	31 Lyn	42438	3391	π ¹ UMa	43103	3475	ι Cnc	43783	3571	c Car
40945	3282	w Pup	42146	3398	3 Hya	42834	3476	D Vel	44066	3572	α Cnc
41117	3284	20 Cnc	42146	3398	HV Hya	42884	3477	d Vel	44066	3572	65 Cnc
41117	3284	d ¹ Cnc	42527	3403	π ² UMa	43121	3481	50 Cnc	43878	3574	H Vel
41067	3289	22 Pup	42527	3403	4 UMa	43109	3482	ε Hya	44154	3575	64 Cnc
41163	3290	21 Cnc	42265	3406	36 Cnc	43109	3482	11 Hya	44154	3575	o ³ Cnc
41039	3294	B Vel	42265	3406	c Cnc	43109	3482	ε Hya	44390	3576	8 UMa
41107	3296	V436 Pup	42088	3407	C Vel	43067	3484	D Hya	44390	3576	ρ UMa
41211	3297	1 Hya	42313	3410	4 Hya	43067	3484	12 Hya	44126	3577	FZ Cnc
41319	3299	25 Cnc	42313	3410	δ Hya	42913	3485	δ Vel	44248	3579	10 UMa
41319	3299	d ² Cnc	42353	3412	37 Cnc	43023	3487	a Vel	43937	3582	V376 Car
40817	3301	κ ¹ Vol	42177	3413	HV Vel	43114	3490	AI Pyx	43937	3582	b ¹ Car
40834	3302	κ ² Vol	42134	3414	e ² Car	43234	3492	ρ Hya	44307	3587	66 Cnc
41377	3304	ρ ¹ Cnc	42129	3415	e ¹ Car	43234	3492	13 Hya	44093	3588	FZ Vel
41377	3304	22 Cnc	42402	3418	σ Hya	43082	3494	OP Vel	44342	3589	67 Cnc
41037	3307	ε Car	42402	3418	5 Hya	43105	3498	V344 Car	44191	3591	w Vel
41404	3310	23 Cnc	42334	3420	η Pyx	43105	3498	f Car	44213	3593	IU Vel
41404	3310	φ ² Cnc	42604	3422	34 Lyn	43305	3500	14 Hya	44471	3594	κ UMa
41404	3311	23 Cnc	42312	3426	e Vel	43305	3500	KX Hya	44471	3594	12 UMa
41404	3311	φ ² Cnc	42516	3427	39 Cnc	42637	3502	η Cha	44405	3595	69 Cnc
41389	3312	24 Cnc	42556	3429	41 Cnc	43644	3505	5 UMa	44405	3595	v Cnc
41389	3313	24 Cnc	42556	3429	ε Cnc	43644	3505	b UMa	44143	3598	b ² Car
41307	3314	C Hya	42509	3431	a Hya	43531	3508	35 Lyn	44299	3600	IZ Vel
40702	3318	α Cha	42509	3431	6 Hya	43454	3510	54 Cnc	44512	3601	70 Cnc
41400	3319	27 Cnc	42483	3433	ζ Pyx	43354	3517	HZ Vel	44337	3605	OY Vel

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Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
44857	3609	11 UMa	45915	3698	CG UMa	47080	3815	11 LMi	48341	3899	6 Sex
44857	3609	σ^1 UMa	45556	3699	ι Car	47080	3815	SV LMi	48390	3900	g Leo
44659	3613	18 Hya	45631	3703	K Vel	46806	3816	R Car	48390	3900	22 Leo
44659	3613	ω Hya	45860	3705	40 Lyn	47096	3818	7 Leo	47956	3902	v Cha
44511	3614	c Vel	45860	3705	α Lyn	46950	3819	L Vel	48356	3903	u^1 Hya
44382	3615	α Vol	45751	3706	26 Hya	46974	3825	h Car	48356	3903	39 Hya
45038	3616	13 UMa	45675	3708	LR Vel	47189	3826	8 Leo	48455	3905	μ Leo
45038	3616	σ^2 UMa	45811	3709	27 Hya	47205	3827	10 Leo	48455	3905	24 Leo
44738	3618	NS Hya	45615	3713	V478 Car	47300	3829	42 Lyn	48414	3906	7 Sex
44901	3619	15 UMa	45902	3718	θ Pyx	47145	3831	IM Vel	48437	3909	8 Sex
44901	3619	f UMa	46247	3722	EZ UMa	47249	3832	34 Hya	48437	3909	γ Sex
44818	3621	72 Cnc	45999	3724	KU Hya	47310	3834	2 Sex	48374	3912	m Vel
44818	3621	τ Cnc	45856	3728	k Car	47175	3836	M Vel	48682	3917	SY UMa
44798	3623	κ Cnc	46146	3731	κ Leo	47654	3839	27 UMa	48682	3917	31 UMa
44798	3623	76 Cnc	46146	3731	1 Leo	47267	3842	y Vel	48469	3920	QZ Vel
44798	3623	κ Cnc	46026	3733	λ Pyx	47431	3845	ι Hya	48527	3924	V335 Vel
45075	3624	τ UMa	45941	3734	κ Vel	47431	3845	35 Hya	48833	3928	19 LMi
45075	3624	14 UMa	46221	3738	28 Hya	47427	3846	OW Hya	48883	3937	27 Leo
44892	3626	75 Cnc	46365	3744	29 Hya	47427	3846	37 Hya	48883	3937	v Leo
44946	3627	ξ Cnc	46390	3748	α Hya	47452	3849	38 Hya	48774	3940	ϕ Vel
44946	3627	77 Cnc	46390	3748	30 Hya	47452	3849	κ Hya	48799	3941	IV Vel
44824	3628	κ Pyx	46371	3749	G Hya	47544	3850	DR Leo	48990	3945	12 Sex
44883	3630	19 Hya	46283	3753	I Vel	47570	3851	43 Lyn	48943	3946	OY Hya
44816	3634	λ Vel	46454	3754	2 Leo	47508	3852	14 Leo	48926	3947	η Ant
44816	3634	λ Vel	46454	3754	ω Leo	47508	3852	o Leo	48782	3949	V492 Car
45058	3639	RS Cnc	46457	3755	3 Leo	47550	3853	13 Leo	49029	3950	29 Leo
45033	3640	79 Cnc	46733	3757	23 UMa	47391	3856	m Car	49029	3950	π Leo
44961	3641	20 Hya	46733	3757	h UMa	47631	3857	13 LMi	49081	3951	20 LMi
44626	3642	V345 Car	46509	3759	τ^1 Hya	47522	3858	I Hya	49220	3952	EO Leo
45001	3644	ϵ Pyx	46509	3759	31 Hya	46928	3860	ζ Cha	49329	3961	13 Sex
45333	3648	16 UMa	46652	3764	7 LMi	46928	3860	ζ Cha	49402	3970	40 Hya
45333	3648	c UMa	46515	3765	ϵ Ant	47701	3861	f Leo	49402	3970	u^2 Hya
45170	3650	π^1 Cnc	47013	3768	22 UMa	47701	3861	15 Leo	49530	3973	14 Sex
45170	3650	81 Cnc	46735	3769	8 LMi	47911	3865	28 UMa	49593	3974	21 LMi
45290	3652	36 Lyn	46977	3771	d UMa	47723	3866	16 Leo	49583	3975	η Leo
45085	3654	GX Vel	46977	3771	24 UMa	47723	3866	ψ Leo	49583	3975	30 Leo
45184	3655	21 Hya	46977	3771	DK UMa	47965	3870	CS UMa	49477	3978	R Vel
45184	3655	KW Hya	46750	3773	4 Leo	47758	3871	θ Ant	49637	3980	31 Leo
45080	3659	V357 Car	46750	3773	λ Leo	47694	3872	IP Vel	49641	3981	α Sex
45080	3659	a Car	46853	3775	25 UMa	47908	3873	17 Leo	49641	3981	15 Sex
45455	3660	17 UMa	46853	3775	θ UMa	47908	3873	ϵ Leo	49669	3982	α Leo
45189	3661	KL Vel	46774	3779	6 Leo	47717	3875	O Vel	49669	3982	32 Leo
45493	3662	DD UMa	46657	3780	ζ^1 Ant	47959	3877	18 Leo	49065	3983	μ Cha
45493	3662	18 UMa	46657	3781	ζ^1 Ant	48029	3880	19 Leo	49812	3989	17 Sex
45493	3662	e UMa	46771	3782	ξ Leo	48036	3882	R Leo	49712	3990	Q Vel
45101	3663	i Car	46771	3782	5 Leo	47893	3883	V487 Car	49841	3994	41 Hya
45336	3665	22 Hya	46651	3786	ψ Vel	47854	3884	1 Car	49841	3994	λ Hya
45336	3665	θ Hya	46776	3787	32 Hya	47854	3884	1 Car	49865	3996	18 Sex
45410	3669	π Cnc	46776	3787	τ^2 Hya	48319	3888	u UMa	49929	3998	34 Leo
45410	3669	82 Cnc	46734	3789	ζ^2 Ant	48319	3888	u UMa	49751	3999	S Car
45410	3669	π^2 Cnc	46904	3791	9 LMi	48319	3888	29 UMa	50027	4004	19 Sex
45344	3674	z Vel	46620	3793	V482 Car	48218	3889	DG Leo	49926	4007	V368 Car
43908	3678	ζ Oct	46107	3795	ι Cha	48218	3889	20 Leo	50222	4008	U UMa
45527	3681	23 Hya	46810	3798	S Ant	48002	3890	u Car	49934	4009	QY Car
45439	3682	l Vel	47006	3799	26 UMa	48002	3891	u Car	50218	4014	22 LMi
45526	3683	24 Hya	46952	3800	10 LMi	48273	3893	4 Sex	50070	4017	LW Vel
45448	3684	k Vel	46952	3800	SU LMi	48402	3894	ϕ UMa	50191	4023	q Vel
45238	3685	β Car	46701	3803	N Vel	48402	3894	30 UMa	50303	4024	23 LMi
45688	3690	38 Lyn	46701	3803	N Vel	48324	3896	23 Leo	50448	4026	32 UMa
45496	3696	g Car	46982	3814	33 Hya	48224	3898	u Vel	50316	4027	24 LMi

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Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
50319	4030	35 Leo	51624	4133	ρ Leo	52943	4232	v Hya	54539	4335	52 UMa
50335	4031	ζ Leo	51624	4133	ρ Leo	52633	4234	δ ² Cha	54463	4337	x Car
50335	4031	36 Leo	51624	4133	47 Leo	53043	4235	43 UMa	54463	4337	V382 Car
50372	4033	33 UMa	51685	4137	34 LMi	53064	4236	42 UMa	54461	4338	V371 Car
50372	4033	λ UMa	51576	4140	p Car	52980	4237	41 Sex	54682	4343	β Crt
50333	4035	37 Leo	51576	4140	PP Car	53261	4246	44 UMa	54682	4343	11 Crt
50099	4037	ω Car	51814	4141	37 UMa	53229	4247	46 LMi	54751	4352	V533 Car
50384	4039	39 Leo	51635	4143	t Vel	53295	4248	45 UMa	54849	4356	p ⁵ Leo
50414	4042	22 Sex	51718	4145	44 Hya	53295	4248	ω UMa	54849	4356	69 Leo
50414	4042	ε Sex	51775	4146	48 Leo	53154	4250	V524 Car	54872	4357	68 Leo
50332	4045	GY Vel	51676	4147	V369 Car	53252	4251	b ³ Hya	54872	4357	δ Leo
50685	4047	EN UMa	51802	4148	49 Leo	53273	4253	p ¹ Leo	54879	4359	70 Leo
50456	4049	AG Ant	51802	4148	TX Leo	53355	4254	48 LMi	54879	4359	θ Leo
50371	4050	V337 Car	51914	4150	35 LMi	53253	4257	u Car	54951	4362	FN Leo
50371	4050	q Car	51821	4153	U Ant	53426	4258	46 UMa	54951	4362	72 Leo
50564	4054	40 Leo	51905	4156	φ ² Hya	53417	4259	54 Leo	55016	4365	n Leo
50583	4057	41 Leo	51849	4159	r Car	53417	4260	54 Leo	55016	4365	73 Leo
50583	4057	γ ² Leo	52009	4163	U Hya	53379	4263	KQ Vel	55084	4368	φ Leo
50583	4057	γ ¹ Leo	51912	4164	t ¹ Car	53423	4265	55 Leo	55084	4368	74 Leo
50583	4058	41 Leo	52098	4166	37 LMi	53449	4267	VY Leo	55106	4369	SV Crt
50583	4058	γ ² Leo	51986	4167	p Vel	53449	4267	56 Leo	55137	4371	75 Leo
50583	4058	γ ¹ Leo	52139	4168	38 LMi	53492	4270	50 LMi	55203	4374	53 UMa
50555	4063	GZ Vel	52004	4169	V370 Car	53394	4271	T Car	55203	4374	ξ UMa
50684	4064	RS Sex	52085	4171	φ ³ Hya	53502	4273	ι Ant	55203	4374	ξ UMa
50684	4064	23 Sex	52085	4171	φ Hya	53530	4274	IW Vel	55203	4375	53 UMa
50801	4069	μ UMa	52043	4173	V514 Car	53589	4276	U Car	55203	4375	ξ UMa
50801	4069	34 UMa	51839	4174	γ Cha	53721	4277	47 UMa	55203	4375	ξ UMa
50755	4070	42 Leo	52353	4178	38 UMa	53740	4287	7 Crt	55219	4377	v UMa
50933	4072	ET UMa	52154	4180	x Vel	53740	4287	α Crt	55219	4377	54 UMa
50676	4074	J Vel	52316	4182	33 Sex	53838	4288	49 UMa	55140	4379	V535 Car
50860	4075	27 LMi	52366	4184	RX LMi	53807	4291	58 Leo	55266	4380	55 UMa
50851	4077	43 Leo	52221	4185	V364 Car	53773	4293	i Vel	55249	4381	76 Leo
50799	4080	r Vel	52478	4187	39 UMa	53824	4294	59 Leo	55282	4382	δ Crt
50935	4081	28 LMi	52308	4188	V429 Car	53824	4294	c Leo	55282	4382	12 Crt
50885	4082	SS Sex	52422	4189	40 LMi	53910	4295	β UMa	55434	4386	σ Leo
50885	4082	25 Sex	52457	4192	41 LMi	53910	4295	48 UMa	55434	4386	77 Leo
51008	4088	44 Leo	52452	4193	35 Sex	53907	4299	61 Leo	55425	4390	π Cen
51008	4088	DE Leo	52577	4195	VY UMa	53907	4299	p ² Leo	55560	4392	56 UMa
51056	4090	30 LMi	52370	4196	V518 Car	53954	4300	60 Leo	55598	4395	λ Crt
51069	4094	42 Hya	52405	4198	V519 Car	53954	4300	b Leo	55598	4395	13 Crt
51069	4094	μ Hya	52419	4199	θ Car	54061	4301	50 UMa	55642	4399	78 Leo
51233	4100	31 LMi	52468	4200	w Car	54061	4301	α UMa	55642	4399	ι Leo
51233	4100	β LMi	52468	4200	V520 Car	54049	4306	62 Leo	55650	4400	79 Leo
51213	4101	CX Leo	52584	4201	36 Sex	54049	4306	p ³ Leo	55687	4402	14 Crt
51213	4101	45 Leo	52685	4202	41 UMa	54136	4309	51 UMa	55687	4402	ε Crt
51172	4104	α Ant	52638	4203	42 LMi	54182	4310	63 Leo	55705	4405	γ Crt
51401	4106	35 UMa	52340	4206	DR Cha	54182	4310	x Leo	55705	4405	15 Crt
51192	4110	V399 Car	52686	4208	51 Leo	53702	4312	η Oct	55765	4408	81 Leo
51459	4112	36 UMa	52686	4208	m Leo	54204	4314	x ¹ Hya	55791	4410	80 Leo
51420	4113	32 LMi	52689	4209	k Leo	54255	4317	x ² Hya	55846	4414	83 Leo
51232	4114	s Car	52689	4209	52 Leo	54255	4317	x ² Hya	55874	4416	16 Crt
51362	4116	δ Sex	52737	4214	b ¹ Hya	54336	4319	65 Leo	55874	4416	κ Crt
51362	4116	29 Sex	52727	4216	μ Vel	54336	4319	p ⁴ Leo	55945	4418	ι Leo
51376	4118	δ Ant	52882	4223	43 LMi	54388	4322	64 Leo	55945	4418	84 Leo
51437	4119	β Sex	52911	4227	l Leo	54301	4325	z Car	55953	4420	QT Hya
51437	4119	30 Sex	52911	4227	53 Leo	54360	4327	V815 Cen	56034	4422	57 UMa
51437	4119	β Sex	52827	4228	V522 Car	54540	4330	EP UMa	56080	4426	85 Leo
51556	4124	33 LMi	52913	4229	40 Sex	54487	4332	67 Leo	56135	4430	EE UMa
51585	4127	46 Leo	52959	4230	44 LMi	54522	4333	CO UMa	56148	4431	58 UMa
51585	4127	ES Leo	52595	4231	δ ¹ Cha	54539	4335	ψ UMa	56127	4432	87 Leo

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Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
56127	4432	e Leo	57632	4534	94 Leo	59608	4650	12 Vir	60904	4752	17 Com
56146	4433	86 Leo	57632	4534	β Leo	59654	4652	D Cen	60904	4752	AI Com
56211	4434	λ Dra	57632	4534	β Leo	59678	4653	DL Cru	60941	4753	18 Com
56211	4434	1 Dra	57669	4537	j Cen	59747	4656	δ Cru	60979	4755	V928 Cen
56242	4437	88 Leo	57757	4540	5 Vir	59747	4656	δ Cru	60957	4756	20 Com
56201	4438	V809 Cen	57757	4540	β Vir	59774	4660	69 UMa	60965	4757	7 Crv
56243	4441	o ¹ Cen	57803	4546	B Cen	59774	4660	δ UMa	60965	4757	δ Crv
56243	4441	o ¹ Cen	57936	4552	β Hya	59803	4662	γ Crv	60978	4760	74 UMa
56250	4442	o ² Cen	57936	4552	β Hya	59803	4662	4 Crv	60988	4761	7 CVn
56250	4442	o ² Cen	58001	4554	γ UMa	59819	4663	6 Com	60992	4762	75 UMa
56280	4443	17 Crt	58001	4554	64 UMa	59796	4665	DK Dra	61084	4763	γ Cru
56280	4444	17 Crt	58110	4559	6 Vir	59831	4666	2 CVn	60998	4765	CQ Dra
56343	4450	ξ Hya	58112	4560	65 UMa	59847	4667	7 Com	60998	4765	4 Dra
56445	4455	89 Leo	58112	4560	DN UMa	59929	4671	ε μs	61071	4766	UU Com
56473	4456	90 Leo	58117	4561	65 UMa	59929	4671	ε μs	61071	4766	21 Com
56480	4460	A Cen	58159	4564	95 Leo	60000	4674	β Cha	61136	4768	BG Cru
56583	4461	2 Dra	58159	4564	o Leo	60009	4679	ζ Cru	61136	4768	35 Cru
56518	4463	V763 Cen	58181	4566	66 UMa	60030	4681	13 Vir	61199	4773	γ μs
56518	4463	c ¹ Cen	58188	4567	η Crt	60059	4682	F Cen	61174	4775	η Crv
56573	4466	c ² Cen	58188	4567	30 Crt	60066	4684	FM Com	61174	4775	8 Crv
56561	4467	λ Cen	58272	4571	LV Hya	60087	4685	8 Com	61246	4777	20 Vir
56633	4468	21 Crt	58484	4583	ε Cha	60098	4688	9 Com	61295	4780	22 Com
56633	4468	θ Crt	58510	4585	7 Vir	60129	4689	η Vir	61318	4781	21 Vir
56647	4471	91 Leo	58510	4585	b Vir	60129	4689	15 Vir	61318	4781	q Vir
56647	4471	v Leo	58545	4586	FR Cam	60122	4690	3 CVn	61317	4785	8 CVn
56700	4476	c ³ Cen	58590	4589	8 Vir	60172	4695	c Vir	61317	4785	β CVn
56770	4477	59 UMa	58590	4589	π Vir	60172	4695	16 Vir	61359	4786	β Crv
56675	4479	π Cha	58587	4590	TY Crv	60189	4696	5 Crv	61359	4786	9 Crv
56789	4480	60 UMa	58587	4590	31 Crt	60189	4696	ζ Crv	61281	4787	κ Dra
56779	4483	ω Vir	58684	4594	67 UMa	60202	4697	11 Com	61281	4787	κ Dra
56779	4483	ω Vir	58684	4594	DP UMa	60260	4700	ε Cru	61281	4787	5 Dra
56779	4483	1 Vir	58758	4599	θ ¹ Cru	60212	4701	70 UMa	61394	4789	23 Com
56802	4488	ι Crt	58858	4602	2 Com	60320	4703	ζ ² μs	61415	4791	24 Com
56802	4488	24 Crt	58867	4603	θ ² Cru	60329	4704	ζ ¹ μs	61418	4792	24 Com
56899	4491	VX Crt	58867	4603	θ ² Cru	60351	4707	12 Com	61384	4795	6 Dra
56862	4492	GT μs	58905	4605	κ Cha	60353	4708	17 Vir	61496	4797	TU Crv
56922	4494	o Hya	58948	4608	9 Vir	60425	4711	6 Crv	61585	4798	α μs
56975	4495	92 Leo	58948	4608	o Vir	60449	4712	x ¹ Cen	61585	4798	a μs
56997	4496	61 UMa	59072	4616	η Cru	60467	4715	AI CVn	61558	4799	25 Vir
56970	4497	V914 Cen	59173	4618	V863 Cen	60467	4715	4 CVn	61558	4799	f Vir
57029	4501	62 UMa	59184	4620	E Cen	60485	4716	5 CVn	61532	4800	T UMa
57111	4504	3 Dra	59196	4621	δ Cen	60514	4717	GN Com	61571	4801	25 Com
57175	4511	V810 Cen	59196	4621	δ Cen	60514	4717	13 Com	61622	4802	τ Cen
57283	4514	27 Crt	59199	4623	α Crv	60610	4724	x ² Cen	61703	4806	KY μs
57283	4514	ζ Crt	59199	4623	1 Crv	60584	4726	71 UMa	61658	4807	FW Vir
57328	4515	2 Vir	59229	4624	V788 Cen	60646	4728	6 CVn	61667	4808	R Vir
57328	4515	ξ Vir	59232	4625	V817 Cen	60718	4730	α ¹ Cru	61692	4811	9 CVn
57380	4517	v Vir	59285	4626	10 Vir	60718	4730	α ² Cru	61740	4813	26 Vir
57380	4517	3 Vir	59309	4629	11 Vir	60718	4731	α ¹ Cru	61740	4813	x Vir
57380	4517	v Vir	59316	4630	2 Crv	60718	4731	α ² Cru	61796	4814	FH μs
57399	4518	x UMa	59316	4630	ε Crv	60710	4732	G Cen	61724	4815	26 Com
57399	4518	63 UMa	59352	4632	3 Com	60697	4733	14 Com	61748	4816	AX CVn
57363	4520	λ μs	59394	4635	3 Crv	60742	4737	γ Com	61789	4817	1 Cen
57512	4526	V918 Cen	59449	4638	ρ Cen	60742	4737	15 Com	61932	4819	γ Cen
57565	4527	93 Leo	59468	4640	4 Com	60746	4738	16 Com	61981	4820	R μs
57565	4527	DQ Leo	59458	4641	68 UMa	60781	4739	BL Cru	61910	4821	VV Crv
57562	4528	4 Vir	59501	4643	5 Com	60823	4743	σ Cen	61910	4822	VV Crv
57581	4530	μ μs	59551	4645	S μs	60795	4745	73 UMa	61966	4823	CH Cru
57581	4530	μ μs	59504	4646	CO Cam	60813	4746	FT Vir	61966	4823	39 Cru
57613	4532	II Hya	59588	4647	V335 Hya	60855	4748	u Cen	61937	4824	GG Vir

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Estrella				Estrella				Estrella				Estrella			
NH	NBSC	nombre		NH	NBSC	nombre		NH	NBSC	nombre		NH	NBSC	nombre	
61937	4824	27	Vir	63210	4913	H	Cen	64792	5011	59	Vir	66607	5115	DY	Cha
61941	4825	γ	Vir	63210	4913	V945	Cen	64792	5011	e	Vir	66458	5127	25	CVn
61941	4825	29	Vir	63121	4914	12	CVn	64852	5015	σ	Vir	66657	5132	ϵ	Cen
61941	4826	γ	Vir	63121	4914	α^1	CVn	64852	5015	60	Vir	66657	5132	ϵ	Cen
61941	4826	29	Vir	63125	4915	α^2	CVn	64844	5017	20	CVn	66666	5134	V744	Cen
61960	4828	ρ	Vir	63125	4915	12	CVn	64844	5017	AO	CVn	66645	5135	V765	Cen
61960	4828	30	Vir	63125	4915	α^2	CVn	64924	5019	61	Vir	66821	5141	Q	Cen
61960	4828	ρ	Vir	63076	4916	8	Dra	64962	5020	γ	Hya	66634	5142	82	UMa
61968	4829	d^1	Vir	63355	4920	36	Com	64962	5020	46	Hya	66727	5144	1	Boo
61968	4829	31	Vir	63414	4921	k	Vir	64906	5023	21	CVn	66825	5147	T	Cen
62027	4830	BZ	Cru	63414	4921	44	Vir	64906	5023	BK	CVn	66763	5149	2	Boo
62012	4831	w	Cen	63613	4923	δ	μ s	65112	5026	V964	Cen	66803	5150	m	Vir
61936	4833	76	UMa	63462	4924	37	Com	65109	5028	ι	Cen	66803	5150	82	Vir
62268	4842	ι	Cru	63494	4925	46	Vir	65072	5032	23	CVn	66700	5153	CQ	UMa
62322	4844	β	μ s	63432	4928	9	Dra	65271	5035	J	Cen	66738	5154	83	UMa
62207	4845	10	CVn	63533	4929	38	Com	65241	5040	64	Vir	66738	5154	IQ	UMa
62223	4846	Y	CVn	63688	4930	LS	μ s	65387	5041	m	Cen	67036	5158	V827	Cen
62267	4847	32	Vir	63503	4931	78	UMa	65468	5042	ι	μ s	66936	5159	84	Vir
62267	4847	FM	Vir	63608	4932	ϵ	Vir	65301	5044	63	Vir	67057	5165	83	Vir
62267	4847	d^2	Vir	63608	4932	47	Vir	65323	5047	65	Vir	67153	5168	1	Cen
62325	4849	33	Vir	63724	4933	ξ^1	Cen	65420	5050	66	Vir	67153	5168	i	Cen
62356	4851	27	Com	63750	4937	48	Vir	65628	5051	ι	μ s	67139	5170	85	Vir
62434	4853	β	Cru	63820	4938	V789	Cen	65376	5052	CL	CVn	67261	5171	V766	Cen
62434	4853	β	Cru	63945	4940	f	Cen	65378	5054	79	UMa	67234	5172	M	Cen
62376	4854	EP	Vir	64004	4942	ξ^2	Cen	65378	5054	ζ	UMa	67172	5173	86	Vir
62394	4855	34	Vir	63901	4943	14	CVn	65378	5055	79	UMa	67244	5174	z	Cen
62443	4858	35	Vir	63948	4946	39	Com	65378	5055	ζ	UMa	67288	5181	87	Vir
62478	4861	28	Com	63950	4949	40	Com	65474	5056	α	Vir	67239	5182	3	Boo
62423	4863	7	Dra	63950	4949	FS	Com	65474	5056	67	Vir	67275	5185	ι	Boo
62541	4865	29	Com	64094	4952	θ	μ s	65474	5056	α	Vir	67275	5185	4	Boo
62516	4866	11	CVn	64094	4952	θ	μ s	65477	5062	80	UMa	67231	5187	84	UMa
62576	4869	30	Com	64022	4954	41	Com	65581	5064	68	Vir	67231	5187	CR	UMa
63031	4870	ι	Oct	64078	4955	49	Vir	65581	5064	i	Vir	67464	5190	v	Cen
62683	4874	p	Cen	64122	4957	g	Vir	65755	5066	EZ	μ s	67464	5190	v	Cen
62732	4876	DS	Cru	64166	4958	45	Hya	65639	5068	69	Vir	67301	5191	η	UMa
62757	4878	37	Vir	64166	4958	ψ	Hya	65810	5071	K	Cen	67301	5191	85	UMa
62763	4883	31	Com	64224	4961	50	Vir	65721	5072	70	Vir	67457	5192	2	Cen
62807	4884	32	Com	64238	4963	51	Vir	65835	5080	R	Hya	67457	5192	V806	Cen
62867	4888	e	Cen	64238	4963	θ	Vir	65790	5081	71	Vir	67472	5193	μ	Cen
62896	4889	n	Cen	64320	4965	V824	Cen	66121	5082	S	Cha	67472	5193	μ	Cen
62931	4890	κ	Cru	64217	4967	15	CVn	66753	5084	κ	Oct	67494	5196	89	Vir
62875	4891	38	Vir	64241	4968	42	Com	65892	5088	72	Vir	67410	5199	R	CVn
62886	4894	35	Com	64241	4968	α	Com	65936	5089	d	Cen	67459	5200	u	Boo
62986	4895	S	Cru	64241	4969	42	Com	66015	5094	73	Vir	67459	5200	5	Boo
63007	4897	λ	Cru	64241	4969	α	Com	66015	5094	HX	Vir	67480	5201	e	Boo
63007	4897	λ	Cru	64246	4971	17	CVn	66006	5095	l	Vir	67480	5201	6	Boo
63003	4898	μ^1	Cru	64425	4975	V831	Cen	66006	5095	74	Vir	67669	5210	V983	Cen
63005	4899	μ^2	Cru	64407	4981	53	Vir	66091	5099	75	Vir	67669	5210	3	Cen
63005	4899	μ^2	Cru	64394	4983	β	Com	66098	5100	76	Vir	67669	5211	V983	Cen
62933	4900	41	Vir	64394	4983	43	Com	66098	5100	h	Vir	67669	5211	3	Cen
62985	4902	ψ	Vir	64520	4990	54	Vir	66100	5101	S	Vir	67665	5219	AW	CVn
62985	4902	40	Vir	64520	4990	LM	Vir	66200	5105	78	Vir	67786	5221	h	Cen
62985	4902	ψ	Vir	64661	4993	η	μ s	66200	5105	o	Vir	67786	5221	4	Cen
62956	4905	ϵ	UMa	64661	4993	η	μ s	66200	5105	CW	Vir	67819	5222	y	Cen
62956	4905	ϵ	UMa	64577	4995	55	Vir	66249	5107	ζ	Vir	67861	5223	V767	Cen
62956	4905	77	UMa	64607	4998	LN	Vir	66249	5107	79	Vir	67787	5225	7	Boo
63024	4909	TU	CVn	64725	5001	57	Vir	66198	5109	81	UMa	67627	5226	i	Dra
63090	4910	δ	Vir	64692	5004	19	CVn	66257	5110	BH	CVn	67627	5226	10	Dra
63090	4910	43	Vir	64769	5005	DK	Vir	66320	5111	80	Vir	67627	5226	CU	Dra
63159	4912	LN	Hya	64803	5006	r	Cen	66234	5112	24	CVn	68002	5231	ζ	Cen

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Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
67929	5232	p Vir	69701	5338	99 Vir	71683	5459	α^1 Cen	72487	5533	38 Boo
67929	5232	90 Vir	69701	5338	ι Vir	71681	5460	α^2 Cen	72631	5535	11 Lib
67927	5235	η Boo	70638	5339	δ Oct	71908	5463	α Cir	72524	5538	39 Boo
67927	5235	8 Boo	69673	5340	16 Boo	71908	5463	α Cir	72965	5539	ζ Cir
67848	5238	86 UMa	69673	5340	α Boo	71618	5468	33 Boo	73223	5540	R Aps
68092	5244	92 Vir	69713	5350	21 Boo	71860	5469	α Lup	72800	5543	V101 Cen
68103	5247	9 Boo	69713	5350	ι Boo	71860	5469	α Lup	72659	5544	ξ Boo
68245	5248	φ Cen	69713	5350	ι Boo	72370	5470	α Aps	72659	5544	37 Boo
68282	5249	υ^1 Cen	69732	5351	19 Boo	71762	5475	29 Boo	72659	5544	ξ Boo
68269	5250	47 Hya	69732	5351	λ Boo	71762	5475	π^2 Boo	73771	5545	π^2 Oct
68276	5255	10 Boo	69829	5352	CY Boo	71762	5475	π^1 Boo	72929	5548	12 Lib
68390	5257	48 Hya	69996	5354	ι Lup	71762	5476	29 Boo	73129	5551	θ Cir
68523	5260	υ^2 Cen	69929	5355	CS Vir	71762	5476	π^2 Boo	73129	5551	θ Cir
68815	5261	0 Aps	70069	5358	v Cen	71762	5476	π^1 Boo	72848	5553	DE Boo
68815	5261	θ Aps	69974	5359	100 Vir	71795	5477	ζ Boo	72934	5554	ξ^1 Lib
68478	5263	11 Boo	69974	5359	λ Vir	71795	5477	30 Boo	72934	5554	13 Lib
68520	5264	τ Vir	69879	5361	A Boo	71795	5478	ζ Boo	73095	5556	c Lup
68520	5264	93 Vir	69989	5365	18 Boo	71795	5478	30 Boo	74296	5557	ω Oct
68702	5267	β Cen	70012	5366	υ Vir	71832	5480	31 Boo	72607	5563	β UMi
68702	5267	β Cen	70012	5366	102 Vir	71837	5481	32 Boo	72607	5563	7 UMi
68673	5269	V828 Cen	70090	5367	ψ Cen	71974	5484	4 Lib	73133	5564	15 Lib
68842	5278	V992 Cen	70027	5370	20 Boo	72010	5485	c^1 Cen	73133	5564	ξ^2 Lib
68862	5285	x Cen	70270	5375	HX Lup	71957	5487	μ Vir	73165	5570	16 Lib
68862	5285	x Cen	70300	5378	V761 Cen	71957	5487	107 Vir	73273	5571	β Lup
68895	5287	π Hya	70300	5378	a Cen	72121	5488	BU Cir	73334	5576	κ Cen
68895	5287	49 Hya	70306	5381	51 Hya	72104	5489	c^2 Cen	73284	5577	59 Hya
68933	5288	5 Cen	70306	5381	k Hya	71995	5490	W Boo	73249	5578	17 Lib
68933	5288	θ Cen	70336	5383	2 Lib	71995	5490	34 Boo	73310	5582	18 Lib
68940	5290	95 Vir	70574	5395	τ^1 Lup	75736	5491	BP Oct	73473	5586	δ Lib
68756	5291	α Dra	70574	5395	τ^1 Lup	71876	5492	DL Dra	73473	5586	19 Lib
68756	5291	11 Dra	70576	5396	τ^2 Lup	72290	5495	b Lup	73473	5586	δ Lib
69122	5292	V883 Cen	70497	5404	θ Boo	72197	5497	54 Hya	73369	5588	40 Boo
69174	5296	V869 Cen	70497	5404	23 Boo	72197	5497	m Hya	73199	5589	RR UMi
69127	5298	96 Vir	70602	5405	22 Boo	72438	5500	CO Cir	73566	5591	60 Hya
69038	5299	BY Boo	70602	5405	f Boo	72154	5501	108 Vir	73776	5593	η Cir
69068	5300	CF Boo	70680	5406	104 Vir	72125	5502	o Boo	73454	5597	BX Boo
69068	5300	13 Boo	70753	5407	52 Hya	72125	5502	35 Boo	73568	5600	ω Boo
69269	5301	ET Vir	70753	5407	1 Hya	72194	5503	5 Lib	73568	5600	41 Boo
69896	5303	η Aps	70755	5409	105 Vir	72105	5505	36 Boo	73620	5601	110 Vir
69226	5304	12 Boo	70755	5409	φ Vir	72105	5505	ϵ Boo	73555	5602	β Boo
69226	5304	d Boo	70794	5410	106 Vir	72105	5506	36 Boo	73555	5602	42 Boo
68956	5305	3 UMi	70791	5420	g Boo	72105	5506	ϵ Boo	73714	5603	γ Sco
69491	5311	V716 Cen	70791	5420	24 Boo	72220	5511	109 Vir	73714	5603	σ Lib
69415	5312	50 Hya	71116	5421	V Cen	72208	5512	EK Boo	73714	5603	20 Lib
69389	5313	CU Vir	71121	5425	σ Lup	72323	5514	55 Hya	73714	5603	σ Lib
69427	5315	κ Vir	71121	5425	σ Lup	72357	5516	56 Hya	73764	5604	GM Lup
69427	5315	98 Vir	71053	5429	ρ Boo	72378	5517	57 Hya	73807	5605	π Lup
69618	5316	V795 Cen	71053	5429	25 Boo	72432	5519	V768 Cen	73807	5606	π Lup
69112	5321	4 UMi	70692	5430	5 UMi	72489	5523	μ Lib	73745	5616	ψ Boo
69536	5323	14 Boo	71115	5434	26 Boo	72489	5523	7 Lib	73745	5616	43 Boo
69754	5326	R Cen	71075	5435	γ Boo	73540	5525	π^1 Oct	73695	5618	44 Boo
69481	5328	17 Boo	71075	5435	27 Boo	72571	5526	58 Hya	73695	5618	i Boo
69481	5328	κ^1 Boo	71075	5435	γ Boo	72571	5526	E Hya	73695	5618	i Boo
69483	5329	κ^2 Boo	71040	5437	ER Dra	72773	5527	AX Cir	73937	5619	HZ Lup
69483	5329	17 Boo	71352	5440	η Cen	72683	5528	o Lup	73945	5622	21 Lib
69483	5329	κ^2 Boo	71168	5441	CP Boo	72603	5530	α^1 Lib	73945	5622	v Lib
69612	5330	15 Boo	71284	5447	σ Boo	72603	5530	8 Lib	74066	5624	HR Lup
69614	5331	FS Vir	71284	5447	28 Boo	72622	5531	9 Lib	74117	5626	λ Lup
70248	5336	ϵ Aps	71280	5452	CH Boo	72622	5531	α^2 Lib	73841	5627	47 Boo
70248	5336	ϵ Aps	71536	5453	ρ Lup	72487	5533	h Boo	73841	5627	k Boo

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Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
73996	5634	45 Boo	75312	5727	η CrB	76337	5795	15 Ser	77336	5870	υ Ser
73996	5634	c Boo	75312	5727	2 CrB	76552	5797	ω Lup	77645	5873	V360 Nor
74087	5638	46 Boo	75312	5728	η CrB	76427	5799	14 Ser	77450	5879	35 Ser
74087	5638	b Boo	75312	5728	2 CrB	76307	5800	μ CrB	77450	5879	κ Ser
74582	5644	X TrA	76996	5729	ρ Oct	76307	5800	6 CrB	77442	5880	R CrB
74376	5646	κ^1 Lup	76013	5730	κ^1 Aps	76425	5802	16 Ser	77516	5881	μ Ser
74380	5647	κ^2 Lup	76013	5730	μ^1 Aps	76424	5804	τ^5 Ser	77516	5881	32 Ser
74395	5649	ζ Lup	75411	5733	μ^1 Boo	76424	5804	18 Ser	77634	5883	x Lup
74449	5651	e Lup	75411	5733	51 Boo	76600	5812	τ Lib	77634	5883	5 Lup
74392	5652	ι^1 Lib	75415	5734	μ^2 Boo	76600	5812	40 Lib	77635	5885	1 Sco
74392	5652	24 Lib	75415	5734	51 Boo	76628	5814	41 Lib	77635	5885	b Sco
74386	5654	FL Ser	75097	5735	γ UMi	76705	5820	3 Lup	77578	5888	ω Ser
74493	5656	ι^2 Lib	75530	5739	9 Ser	76705	5820	ψ^1 Lup	77578	5888	34 Ser
74493	5656	25 Lib	75530	5739	τ^1 Ser	76534	5823	54 Boo	77512	5889	10 CrB
74500	5657	23 Lib	75730	5743	32 Lib	76534	5823	ϕ Boo	77512	5889	δ CrB
74604	5660	1 Lup	75730	5743	ζ^1 Lib	76742	5824	42 Lib	77512	5889	δ CrB
74604	5660	i Lup	75458	5744	ι Dra	76829	5825	g Lup	77982	5891	κ TrA
74600	5662	26 Lib	75458	5744	12 Dra	76008	5826	15 UMi	77622	5892	ϵ Ser
74778	5664	δ Cir	75761	5746	10 Ser	76008	5826	θ UMi	77622	5892	37 Ser
74778	5664	δ Cir	75695	5747	3 CrB	76669	5833	ζ^1 CrB	77615	5894	R Ser
74837	5666	ϵ Cir	75695	5747	β CrB	76669	5833	7 CrB	77660	5895	36 Ser
74824	5670	β Cir	75695	5747	β CrB	76669	5833	ζ^2 CrB	77660	5895	b Ser
74946	5671	γ TrA	75944	5750	ζ^3 Lib	76669	5834	ζ^1 CrB	77952	5897	β TrA
74649	5675	3 Ser	75944	5750	34 Lib	76669	5834	7 CrB	77661	5899	ρ Ser
74596	5676	x Boo	75973	5763	52 Boo	76669	5834	ζ^2 CrB	77655	5901	11 CrB
74596	5676	48 Boo	75973	5763	ν^1 Boo	76939	5837	h Lup	77655	5901	κ CrB
74689	5679	4 Ser	76126	5764	35 Lib	76880	5838	43 Lib	77811	5902	45 Lib
74666	5681	49 Boo	76126	5764	ζ^4 Lib	76880	5838	κ Lib	77811	5902	λ Lib
74666	5681	δ Boo	76126	5764	ζ Lib	76945	5839	4 Lup	77055	5903	16 UMi
74911	5683	μ Lup	76069	5770	12 Ser	76945	5839	ψ^2 Lup	77055	5903	ζ UMi
74785	5685	β Lib	76069	5770	τ^2 Ser	76810	5840	19 Ser	77840	5904	2 Sco
74785	5685	27 Lib	76440	5771	ϵ TrA	76810	5840	τ^6 Ser	77859	5907	V104 Sco
74857	5686	2 Lup	76133	5772	11 Ser	76852	5842	ι Ser	77853	5908	46 Lib
74857	5686	f Lup	76041	5774	53 Boo	76852	5842	21 Ser	77853	5908	θ Lib
74950	5687	GG Lup	76041	5774	ν^2 Boo	76866	5843	x Ser	77801	5911	39 Ser
74975	5694	MQ Ser	76259	5775	36 Lib	76866	5843	20 Ser	77909	5912	V927 Sco
74975	5694	5 Ser	76297	5776	γ Lup	76866	5843	x Ser	77909	5912	3 Sco
75141	5695	δ Lup	76297	5776	γ Lup	76878	5845	22 Ser	77760	5914	x Her
75206	5698	ν^1 Lup	76219	5777	37 Lib	76878	5845	τ^7 Ser	77760	5914	1 Her
75181	5699	ν^2 Lup	76127	5778	θ CrB	77060	5848	44 Lib	77939	5915	47 Lib
75110	5701	28 Lib	76127	5778	4 CrB	77060	5848	η Lib	77984	5917	4 Sco
75118	5703	o Lib	76127	5778	θ CrB	76952	5849	γ CrB	77910	5919	FP Ser
75118	5703	29 Lib	76243	5780	IU Lib	76952	5849	8 CrB	77910	5919	40 Ser
75323	5704	γ Cir	76371	5781	d Lup	76952	5849	γ CrB	78105	5925	ξ^1 Lup
75323	5704	γ Cir	76371	5781	KT Lup	77052	5853	23 Ser	78106	5926	ξ^2 Lup
75177	5705	ϕ^1 Lup	76750	5782	κ^2 Aps	77052	5853	ψ Ser	78104	5928	5 Sco
75264	5708	ϵ Lup	76333	5787	38 Lib	77070	5854	α Ser	78104	5928	ρ Sco
75049	5709	1 CrB	76333	5787	γ Lib	77070	5854	24 Ser	77907	5932	2 Her
75049	5709	o CrB	76276	5788	δ Ser	77048	5855	9 CrB	78072	5933	41 Ser
75119	5710	6 Ser	76276	5788	δ Ser	77048	5855	π CrB	78072	5933	γ Ser
75304	5712	ϕ^2 Lup	76276	5788	13 Ser	76957	5857	BP Boo	78012	5936	12 CrB
74793	5714	11 UMi	76276	5789	δ Ser	77111	5858	26 Ser	78012	5936	λ CrB
75230	5717	7 Ser	76276	5789	δ Ser	77111	5858	τ^8 Ser	77986	5938	4 Her
75178	5718	50 Boo	76276	5789	13 Ser	77227	5863	25 Ser	77986	5938	V839 Her
75439	5719	υ Lup	76267	5793	α CrB	77227	5863	PT Ser	78476	5939	S TrA
75342	5721	8 Ser	76267	5793	α CrB	77233	5867	β Ser	78132	5940	ϕ Ser
75379	5723	ϵ Lib	76267	5793	5 CrB	77233	5867	28 Ser	78207	5941	48 Lib
75379	5723	31 Lib	76470	5794	υ Lib	77257	5868	λ Ser	78207	5941	FX Lib
75501	5724	k Lup	76470	5794	39 Lib	77257	5868	27 Ser	78246	5942	V913 Sco
75665	5725	LX TrA	76337	5795	τ^3 Ser	77336	5870	31 Ser	78265	5944	π Sco

Número de estrellas (Catálogo Hiparco), 2019

Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
78265	5944	π Sco	79374	6027	ν Sco	80197	6107	20 CrB	81305	6164	V918 Sco
78265	5944	6 Sco	79374	6027	14 Sco	80197	6107	ν^1 CrB	81266	6165	τ Sco
78159	5947	ϵ CrB	79404	6028	13 Sco	80214	6108	21 CrB	81266	6165	23 Sco
78159	5947	13 CrB	79404	6028	c^2 Sco	80214	6108	ν^2 CrB	81126	6168	35 Her
78384	5948	η Lup	79399	6029	c^1 Sco	80645	6109	ι TrA	81126	6168	σ Her
78401	5953	7 Sco	79399	6029	12 Sco	80351	6111	21 Her	81300	6171	12 Oph
78401	5953	δ Sco	79664	6030	δ TrA	80351	6111	\omicron Her	81300	6171	V213 Oph
78400	5954	49 Lib	79375	6031	ψ Sco	80473	6112	5 Oph	81710	6172	η^1 TrA
78322	5958	T CrB	79375	6031	15 Sco	80473	6112	ρ Oph	81472	6174	V100 Sco
78436	5959	50 Lib	79387	6033	16 Sco	80473	6113	5 Oph	81377	6175	ζ Oph
78180	5960	CL Dra	79332	6035	q Her	80473	6113	ρ Oph	81377	6175	ζ Oph
78662	5961	ι^1 Nor	79349	6039	LQ Her	80582	6115	ϵ Nor	81377	6175	13 Oph
78639	5962	η Nor	79349	6039	10 Her	79822	6116	η UMi	81337	6176	V773 Her
78481	5966	5 Her	79530	6042	V105 Sco	79822	6116	21 UMi	81290	6184	16 Dra
78481	5966	r Her	79653	6045	θ Nor	80463	6117	24 Her	81292	6185	17 Dra
78459	5968	15 CrB	79488	6047	9 Her	80463	6117	ω Her	81292	6186	17 Dra
78459	5968	ρ CrB	79540	6048	x Sco	80463	6117	ω Her	81634	6194	36 Her
78493	5971	ι CrB	79540	6048	17 Sco	80569	6118	x Oph	81641	6195	37 Her
78493	5971	14 CrB	79754	6055	V368 Nor	80569	6118	x Oph	81497	6200	42 Her
78554	5972	π Ser	79593	6056	δ Oph	80569	6118	7 Oph	82129	6204	LP TrA
78554	5972	44 Ser	79593	6056	1 Oph	80488	6119	U Her	81734	6205	14 Oph
78685	5976	43 Ser	79790	6058	γ^1 Nor	80788	6120	V378 Nor	81693	6212	40 Her
78727	5977	ξ Sco	79672	6060	18 Sco	80460	6123	25 Her	81693	6212	ζ Her
78727	5978	ξ Sco	79932	6062	S Nor	80375	6127	DQ Dra	81729	6213	39 Her
78914	5980	δ Nor	79607	6063	TZ CrB	80620	6128	V210 Oph	82273	6217	α TrA
78592	5982	υ Her	79607	6063	σ CrB	80628	6129	3 Oph	81833	6220	44 Her
78592	5982	6 Her	79607	6063	17 CrB	80628	6129	υ Oph	81833	6220	η Her
78820	5984	8 Sco	79607	6064	TZ CrB	80782	6131	QU Nor	81660	6223	g Dra
78820	5984	β^1 Sco	79607	6064	σ CrB	80331	6132	η Dra	81660	6223	18 Dra
78821	5985	8 Sco	79607	6064	17 CrB	80331	6132	14 Dra	82037	6224	16 Oph
78821	5985	β^2 Sco	79666	6065	16 Her	80763	6134	α Sco	82140	6225	25 Sco
78527	5986	13 Dra	79881	6070	d Sco	80763	6134	21 Sco	82073	6228	i Her
78527	5986	θ Dra	79963	6071	λ Nor	80763	6134	α Sco	82073	6228	43 Her
78918	5987	θ Lup	80000	6072	γ^2 Nor	83255	6139	CW Oct	82363	6229	η Ara
78877	5988	V929 Sco	79757	6074	υ CrB	80815	6141	i Sco	82162	6232	19 Oph
78933	5993	9 Sco	79757	6074	18 CrB	80815	6141	22 Sco	82216	6234	1 Her
78933	5993	ω^1 Sco	79882	6075	ϵ Oph	80945	6142	V105 Sco	82216	6234	V776 Her
79153	5994	ι^2 Nor	79882	6075	2 Oph	80704	6146	30 Her	82216	6234	45 Her
78990	5997	ω^2 Sco	79280	6079	19 UMi	80704	6146	g Her	82339	6240	V101 Oph
78990	5997	10 Sco	80079	6081	\omicron Sco	80704	6146	g Her	82396	6241	ϵ Sco
79080	5999	V856 Sco	80079	6081	19 Sco	80894	6147	ϕ Oph	82396	6241	26 Sco
79005	6002	11 Sco	79420	6082	20 UMi	80894	6147	8 Oph	82172	6242	V636 Her
79007	6004	45 Ser	80112	6084	σ Sco	80816	6148	27 Her	82369	6243	20 Oph
79043	6008	7 Her	80112	6084	20 Sco	80816	6148	β Her	82493	6245	V973 Sco
79043	6008	κ Her	80112	6084	σ Sco	80883	6149	10 Oph	82514	6247	μ^1 Sco
79045	6009	7 Her	79804	6086	AT Dra	80883	6149	λ Oph	82514	6247	μ^1 Sco
79072	6010	47 Ser	79992	6092	22 Her	81252	6151	θ TrA	82543	6249	V919 Sco
79072	6010	FS Ser	79992	6092	τ Her	80843	6152	s Her	82402	6250	47 Her
79102	6013	8 Her	79992	6092	τ Her	80975	6153	ω Oph	82402	6250	k Her
79119	6018	16 CrB	80179	6093	50 Ser	80975	6153	ω Oph	82545	6252	μ^2 Sco
79119	6018	τ CrB	80179	6093	σ Ser	80975	6153	9 Oph	82321	6254	52 Her
79497	6019	ζ Nor	80170	6095	20 Her	81122	6155	μ Nor	82321	6254	V637 Her
80047	6020	δ^1 Aps	80170	6095	γ Her	81122	6155	μ Nor	82480	6255	21 Oph
80047	6020	δ^1 Aps	80170	6095	γ Her	80809	6156	34 Her	82650	6257	V106 Sco
80057	6021	δ^2 Aps	80686	6098	ζ TrA	81007	6158	28 Her	82422	6258	50 Her
79490	6022	V367 Nor	81065	6102	γ Aps	81007	6158	n Her	82669	6261	V900 Sco
79101	6023	ϕ Her	80181	6103	19 CrB	81008	6159	h Her	82671	6262	ζ^1 Sco
79101	6023	ϕ Her	80181	6103	ξ CrB	81008	6159	29 Her	82671	6262	ζ^1 Sco
79101	6023	11 Her	80343	6104	ψ Oph	80650	6161	15 Dra	82526	6268	49 Her
79509	6024	κ Nor	80343	6104	4 Oph	81852	6163	β Aps	82526	6268	V823 Her

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Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
82504	6270	51 Her	84401	6397	V107 Sco	85340	6486	44 Oph	86414	6588	85 Her
82729	6271	ζ ² Sco	84405	6401	36 Oph	85423	6492	d Oph	86414	6588	ι Her
82868	6274	V846 Ara	84405	6402	36 Oph	85423	6492	45 Oph	86736	6595	58 Oph
83150	6276	MX TrA	84345	6406	64 Her	85302	6495	V640 Her	86201	6596	ω Dra
82587	6279	53 Her	84345	6406	α ¹ Her	85355	6498	49 Oph	86201	6596	28 Dra
82730	6280	23 Oph	84345	6406	α Her	85355	6498	σ Oph	86667	6602	83 Her
82673	6281	ι Oph	84345	6406	α ² Her	85727	6500	δ Ara	86742	6603	60 Oph
82673	6281	25 Oph	84345	6407	64 Her	85751	6505	V862 Ara	86742	6603	β Oph
82911	6283	V861 Sco	84345	6407	α ¹ Her	85696	6508	34 Sco	86731	6608	84 Her
83081	6285	ζ Ara	84345	6407	α Her	85696	6508	υ Sco	86831	6609	61 Oph
82960	6288	27 Sco	84345	6407	α ² Her	85379	6509	x Her	86809	6611	V624 Her
82798	6290	V644 Her	84379	6410	65 Her	85379	6509	77 Her	87073	6615	ι Sco
82925	6291	24 Oph	84379	6410	δ Her	85792	6510	α Ara	87072	6616	X Sgr
82780	6292	56 Her	84979	6411	ι Aps	85792	6510	α Ara	87072	6616	3 Sgr
82802	6293	54 Her	84479	6412	V236 Oph	85755	6519	c Oph	87163	6621	V389 Sgr
83153	6295	ε ¹ Ara	84500	6414	U Oph	85755	6519	51 Oph	87314	6622	V539 Ara
83000	6299	27 Oph	84514	6415	41 Oph	85839	6522	V949 Sco	86974	6623	μ Her
83000	6299	κ Oph	84969	6417	ζ Aps	85693	6526	76 Her	86974	6623	86 Her
83000	6299	κ Oph	84380	6418	67 Her	85693	6526	λ Her	86946	6626	V826 Her
83323	6304	V828 Ara	84380	6418	π Her	85927	6527	λ Sco	87108	6629	62 Oph
82987	6305	57 Her	84650	6422	V107 Sco	85927	6527	λ Sco	87108	6629	γ Oph
83196	6310	26 Oph	84626	6424	ο Oph	85927	6527	35 Sco	87294	6631	ι Sco
83431	6314	ε ² Ara	84626	6424	39 Oph	85790	6533	78 Her	86614	6636	ψ ¹ Dra
82860	6315	h Dra	84625	6425	39 Oph	86011	6535	V103 Sco	86614	6636	31 Dra
82860	6315	19 Dra	84625	6425	ο Oph	85670	6536	β Dra	86620	6637	ψ ¹ Dra
83262	6318	30 Oph	85760	6429	NO Aps	85670	6536	23 Dra	86620	6637	31 Dra
82898	6319	20 Dra	84573	6431	u Her	86092	6537	σ Ara	87194	6644	87 Her
83331	6321	29 Oph	84573	6431	u Her	85934	6543	V642 Her	87460	6647	V957 Sco
82080	6322	ε UMi	84573	6431	68 Her	86060	6545	V212 Oph	87212	6656	30 Dra
82080	6322	22 UMi	84671	6433	e Oph	86060	6545	52 Oph	87495	6661	Y Oph
82080	6322	ε UMi	84704	6434	V211 Oph	85998	6548	f Oph	87616	6662	V906 Sco
83207	6324	ε Her	84606	6436	e Her	85998	6548	53 Oph	87624	6663	V951 Sco
83207	6324	58 Her	84606	6436	69 Her	86305	6549	π Ara	87280	6664	88 Her
83308	6326	V451 Her	84893	6445	40 Oph	86228	6553	θ Sco	87280	6664	V744 Her
83491	6327	V923 Sco	84893	6445	ξ Oph	85819	6554	24 Dra	87280	6664	z Her
83313	6332	59 Her	84880	6446	53 Ser	85819	6554	v ¹ Dra	87706	6672	63 Oph
83313	6332	d Her	84880	6446	v Ser	85829	6555	v ² Dra	87655	6676	V238 Oph
83574	6334	k Sco	84496	6448	VW Dra	85829	6555	25 Dra	87563	6677	f Her
83574	6334	V107 Sco	85020	6450	V975 Sco	86032	6556	55 Oph	87563	6677	90 Her
83462	6346	V931 Her	85079	6451	ι Ara	86032	6556	α Oph	87812	6684	V205 Oph
83462	6346	61 Her	85079	6451	ι Ara	86263	6561	ξ Ser	87747	6685	89 Her
83706	6347	V107 Sco	84833	6452	V656 Her	86263	6561	55 Ser	87747	6685	V441 Her
83601	6349	V221 Oph	84970	6453	θ Oph	85805	6566	27 Dra	87585	6688	32 Dra
83613	6355	60 Her	84970	6453	θ Oph	85805	6566	f Dra	87585	6688	ξ Dra
83608	6369	21 Dra	84970	6453	42 Oph	86284	6567	μ Oph	87808	6695	θ Her
83608	6369	μ Dra	84887	6457	70 Her	86284	6567	57 Oph	87808	6695	91 Her
83608	6370	21 Dra	84862	6458	72 Her	86486	6569	λ Ara	88048	6698	64 Oph
83608	6370	μ Dra	84862	6458	w Her	86254	6571	79 Her	88048	6698	v Oph
84105	6374	V854 Ara	85084	6459	43 Oph	86036	6573	26 Dra	88116	6700	4 Sgr
83838	6377	c Her	85258	6461	β Ara	86182	6574	82 Her	87234	6701	35 Dra
84012	6378	η Oph	85267	6462	γ Ara	86182	6574	y Her	87850	6702	OP Her
84012	6378	35 Oph	84835	6464	74 Her	86628	6576	V626 Ara	87933	6703	ξ Her
84143	6380	η Sco	85312	6468	κ Ara	86670	6580	κ Sco	87933	6703	92 Her
84311	6384	V829 Ara	84949	6469	V819 Her	86670	6580	κ Sco	87933	6703	ξ Her
84054	6391	V620 Her	85157	6480	73 Her	86565	6581	ο Ser	87833	6705	33 Dra
84054	6391	63 Her	85112	6484	ρ Her	86565	6581	56 Ser	87833	6705	γ Dra
84332	6392	V915 Sco	85112	6484	75 Her	86565	6581	ο Ser	87998	6707	94 Her
84177	6393	37 Oph	85112	6485	ρ Her	86929	6582	η Pav	87998	6707	v Her
83895	6396	22 Dra	85112	6485	75 Her	86796	6585	μ Ara	87998	6707	v Her
83895	6396	ζ Dra	85340	6486	b Oph	86414	6588	ι Her	88148	6709	V212 Oph

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Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
88175	6710	ζ Ser	89341	6812	13 Sgr	90830	6934	δ ¹ Tel	92175	7063	β Sct
88175	6710	57 Ser	89172	6815	104 Her	90642	6935	c Ser	92202	7066	R Sct
88149	6712	66 Oph	89172	6815	V669 Her	90642	6935	60 Ser	92382	7068	η ² CrA
88149	6712	V204 Oph	89369	6816	14 Sgr	90853	6938	δ ² Tel	92161	7069	111 Her
88128	6713	93 Her	89605	6819	QV Tel	90344	6945	42 Dra	92609	7074	λ Pav
88192	6714	67 Oph	89439	6822	15 Sgr	90836	6947	U Sgr	92609	7074	λ Pav
88258	6715	6 Sgr	89440	6823	16 Sgr	90982	6951	θ CrA	92390	7078	29 Sgr
88030	6718	V771 Her	89470	6825	V438 Sgr	90968	6952	κ ² CrA	92133	7084	CX Dra
88172	6720	V974 Her	90133	6829	φ Oct	90969	6953	κ ¹ CrA	92646	7087	κ Tel
92824	6721	x Oct	89642	6832	η Sgr	90844	6957	61 Ser	92480	7088	30 Sgr
88290	6723	68 Oph	89642	6832	η Sgr	90858	6958	MV Ser	92442	7089	S Sct
88380	6724	7 Sgr	89637	6833	RS Sgr	90913	6959	V450 Sct	92398	7100	v ¹ Lyr
87728	6725	34 Dra	89527	6834	V239 Oph	91004	6961	24 Sgr	92398	7100	8 Lyr
87728	6725	ψ ² Dra	89348	6850	36 Dra	91066	6965	25 Sgr	92524	7101	8 Aql
88267	6729	95 Her	90098	6855	ξ Pav	90971	6967	V239 Oph	92405	7102	9 Lyr
88267	6730	95 Her	89931	6859	19 Sgr	91132	6969	V419 Sgr	92405	7102	v ² Lyr
88404	6733	τ Oph	89931	6859	δ Sgr	90970	6971	V532 Lyr	92405	7102	v Lyr
88404	6733	69 Oph	89773	6860	105 Her	91117	6973	α Sct	92649	7105	V440 Sgr
88404	6734	τ Oph	89980	6861	V402 Sgr	90905	6978	d Dra	92420	7106	β Lyr
88404	6734	69 Oph	89968	6863	Y Sgr	90905	6978	45 Dra	92420	7106	β Lyr
88469	6736	9 Sgr	89448	6865	37 Dra	91792	6982	ζ Pav	92420	7106	10 Lyr
88331	6738	V820 Her	89918	6866	74 Oph	91494	6991	V718 CrA	93015	7107	κ Pav
88331	6738	96 Her	89861	6868	106 Her	91322	6993	e Ser	93015	7107	κ Pav
88346	6741	97 Her	89962	6869	58 Ser	91262	7001	3 Lyr	92593	7109	V822 Her
88567	6742	γ ¹ Sgr	89962	6869	η Sgr	91262	7001	α Lyr	92614	7113	112 Her
88567	6742	W Sgr	90074	6870	V405 Sgr	91262	7001	α Lyr	92747	7114	33 Sgr
88714	6743	θ Ara	89826	6872	1 Lyr	91389	7002	X Oph	92761	7116	v ¹ Sgr
88866	6745	π Pav	89826	6872	κ Lyr	91250	7003	V533 Lyr	92761	7116	32 Sgr
88635	6746	10 Sgr	89977	6873	NW Ser	91373	7009	XY Lyr	92845	7120	v ² Sgr
88635	6746	γ ² Sgr	89925	6876	108 Her	91689	7011	26 Sgr	92845	7120	35 Sgr
88635	6746	γ Sgr	89935	6877	107 Her	91726	7020	δ Sct	92855	7121	34 Sgr
88522	6747	V986 Oph	89935	6877	t Her	91726	7020	δ Sct	92855	7121	σ Sgr
88601	6752	V239 Oph	90185	6879	20 Sgr	91875	7021	λ CrA	92112	7124	50 Dra
88601	6752	70 Oph	90185	6879	ε Sgr	91781	7023	V387 Sgr	92512	7125	o Dra
88528	6754	V831 Her	90135	6884	ζ Sct	91845	7032	ε Sct	92512	7125	o Dra
89042	6761	ι Pav	90260	6888	18 Sgr	92294	7036	θ Pav	92512	7125	47 Dra
88657	6765	98 Her	90139	6895	109 Her	92041	7039	27 Sgr	93163	7127	ω Pav
88765	6770	71 Oph	90289	6896	21 Sgr	92041	7039	φ Sgr	92989	7129	V686 CrA
88771	6771	72 Oph	90422	6897	α Tel	91975	7040	4 Aql	92728	7131	δ ¹ Lyr
88905	6773	V379 Sgr	90313	6902	V229 Oph	92079	7045	V440 Sgr	92728	7131	11 Lyr
88745	6775	b Her	90191	6903	μ Lyr	92111	7046	28 Sgr	92818	7133	113 Her
88745	6775	99 Her	90191	6903	2 Lyr	91755	7049	c Dra	93148	7134	λ Tel
88794	6779	o Her	90568	6905	ζ Tel	91755	7049	46 Dra	92791	7139	12 Lyr
88794	6779	o Her	90496	6913	22 Sgr	92226	7050	μ CrA	92791	7139	δ ² Lyr
88794	6779	103 Her	90496	6913	λ Sgr	91919	7051	4 Lyr	92791	7139	δ ² Lyr
88818	6781	100 Her	90797	6916	v Pav	91919	7051	ε ¹ Lyr	92946	7141	θ ¹ Ser
88817	6782	100 Her	90797	6916	v Pav	91919	7052	4 Lyr	92946	7141	63 Ser
89112	6783	ε Tel	90441	6918	d Ser	91919	7052	ε ¹ Lyr	92951	7142	θ ² Ser
88886	6787	102 Her	90441	6918	59 Ser	91926	7053	ε ² Lyr	92951	7142	63 Ser
85822	6789	23 UMi	90441	6918	d Ser	91926	7053	5 Lyr	93057	7145	ξ ¹ Sgr
85822	6789	δ UMi	89908	6920	43 Dra	91926	7054	ε ² Lyr	93057	7145	36 Sgr
88899	6794	101 Her	89908	6920	φ Dra	91926	7054	5 Lyr	92934	7147	V828 Her
88964	6795	73 Oph	89908	6920	φ Dra	91971	7056	ζ ¹ Lyr	93026	7149	η Sct
89178	6802	V404 Sgr	90156	6923	b Dra	91971	7056	6 Lyr	93085	7150	37 Sgr
89290	6804	V692 CrA	90156	6923	39 Dra	91973	7057	ζ ² Lyr	93085	7150	ξ ² Sgr
88127	6809	40 Dra	89937	6927	x Dra	91973	7057	7 Lyr	93174	7152	ε CrA
88136	6810	41 Dra	89937	6927	44 Dra	92036	7058	V535 Her	93174	7152	ε CrA
85699	6811	24 UMi	90610	6929	V403 Sgr	92117	7059	5 Aql	92862	7157	R Lyr
89341	6812	μ Sgr	90595	6930	γ Sct	92043	7061	110 Her	92862	7157	13 Lyr
89341	6812	μ Sgr	90651	6932	V432 Sct	92308	7062	η ¹ CrA	93051	7158	64 Ser

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Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
93124	7165	FF Aql	94141	7264	π Sgr	94648	7352	τ Dra	96302	7441	9 Cyg
93179	7167	V128 Aql	94141	7264	41 Sgr	94648	7352	60 Dra	96198	7442	V174 Cyg
93179	7167	10 Aql	94068	7266	19 Aql	95260	7358	3 Vul	96483	7446	κ Aql
93203	7172	11 Aql	94724	7274	τ Pav	95260	7358	V377 Vul	96483	7446	39 Aql
93104	7174	V542 Lyr	94013	7275	V176 Cyg	95477	7362	x^1 Sgr	96468	7447	41 Aql
92997	7175	48 Dra	94385	7279	20 Aql	95477	7362	47 Sgr	96468	7447	ι Aql
93244	7176	13 Aql	94311	7283	V471 Lyr	95503	7363	49 Sgr	96387	7457	11 Cyg
93244	7176	ϵ Aql	94311	7283	19 Lyr	95503	7363	x^3 Sgr	96458	7458	U Vul
93194	7178	14 Lyr	94377	7285	V338 Sge	95398	7369	2 Sge	96556	7460	42 Aql
93194	7178	γ Lyr	94477	7287	V128 Aql	95081	7371	58 Dra	96721	7461	QQ Tel
93177	7179	V543 Lyr	94477	7287	21 Aql	95081	7371	π Dra	96100	7462	61 Dra
92782	7180	u Dra	94140	7290	55 Dra	95372	7372	2 Cyg	96100	7462	σ Dra
92782	7180	52 Dra	94643	7292	42 Sgr	95447	7373	b Aql	96516	7463	4 Sge
93270	7183	V387 Vul	94643	7292	ψ Sgr	95447	7373	31 Aql	96516	7463	ϵ Sge
93210	7185	V545 Lyr	94302	7295	53 Dra	95564	7375	50 Sgr	96739	7464	V409 Sgr
93542	7188	ζ CrA	94730	7296	RY Sgr	95501	7377	30 Aql	96441	7469	13 Cyg
93279	7192	λ Lyr	94481	7298	η Lyr	95501	7377	6 Aql	96441	7469	θ Cyg
93279	7192	15 Lyr	94481	7298	20 Lyr	95498	7385	4 Vul	96729	7470	53 Sgr
93429	7193	i Aql	94620	7301	1 Sge	95585	7387	v Aql	96665	7474	σ Aql
93429	7193	12 Aql	94727	7303	22 Aql	95585	7387	32 Aql	96665	7474	44 Aql
93506	7194	38 Sgr	94820	7304	43 Sgr	95560	7390	5 Vul	96665	7474	σ Aql
93506	7194	ζ Sgr	94820	7304	d Sgr	95932	7393	μ Tel	96688	7475	V340 Sge
93552	7197	V701 CrA	94703	7306	1 Vul	84535	7394	λ UMi	96808	7476	54 Sgr
93309	7201	V547 Lyr	94685	7308	V473 Lyr	84535	7394	λ UMi	96808	7476	e ¹ Sgr
93526	7209	14 Aql	94490	7309	54 Dra	95556	7395	4 Cyg	96683	7478	12 Cyg
93526	7209	g Aql	94376	7310	57 Dra	95556	7395	V174 Cyg	96683	7478	ϕ Cyg
93815	7213	p Tel	94376	7310	δ Dra	95793	7400	c Aql	96757	7479	a Sge
93408	7215	16 Lyr	94083	7312	59 Dra	95793	7400	35 Aql	96757	7479	5 Sge
93683	7217	39 Sgr	94713	7314	21 Lyr	95820	7402	U Aql	96807	7480	45 Aql
93683	7217	o Sgr	94713	7314	θ Lyr	95673	7403	V558 Lyr	96693	7483	14 Cyg
93340	7218	49 Dra	94834	7315	ω^1 Aql	95771	7405	a Vul	96620	7484	V114 Cyg
93666	7220	V Aql	94834	7315	25 Aql	95771	7405	6 Vul	96840	7486	QS Aql
93603	7222	LT Vul	94827	7318	ES Vul	95785	7406	8 Vul	96837	7488	β Sge
93187	7224	EE Dra	94827	7318	2 Vul	95656	7408	ι^1 Cyg	96837	7488	6 Sge
93717	7225	15 Aql	94885	7319	23 Aql	95656	7408	7 Cyg	96950	7489	e ² Sgr
93717	7225	h Aql	94913	7321	24 Aql	95818	7409	7 Vul	96950	7489	55 Sgr
93825	7226	γ CrA	94910	7326	U Sge	95937	7414	e Aql	96931	7493	46 Aql
93825	7227	γ CrA	94779	7328	κ Cyg	95937	7414	36 Aql	96957	7497	x Aql
104382	7228	σ Oct	94779	7328	1 Cyg	95929	7415	V923 Aql	96957	7497	47 Aql
104382	7228	σ Oct	95261	7329	η Tel	96178	7416	PW Tel	96988	7501	V127 Cyg
93864	7234	40 Sgr	94982	7331	V120 Aql	95947	7417	6 Cyg	96895	7503	16 Cyg
93864	7234	τ Sgr	94982	7331	28 Aql	95947	7417	β^1 Cyg	97077	7506	10 Vul
93747	7235	17 Aql	95002	7332	ω^2 Aql	95951	7418	6 Cyg	97091	7508	PS Vul
93747	7235	ζ Aql	95002	7332	29 Aql	95951	7418	β^2 Cyg	96919	7509	V135 Cyg
93805	7236	16 Aql	95066	7333	26 Aql	95853	7420	ι^2 Cyg	97421	7510	v Tel
93805	7236	λ Aql	95066	7333	f Aql	95853	7420	10 Cyg	97139	7511	48 Aql
93887	7241	V419 Sgr	95073	7336	27 Aql	95853	7420	ι Cyg	97139	7511	ψ Aql
94005	7242	δ CrA	95073	7336	d Aql	96234	7422	V408 Sgr	97290	7515	f Sgr
93820	7243	R Aql	95241	7337	β^1 Sgr	96341	7424	ι Tel	97290	7515	56 Sgr
93867	7248	Y Aql	95159	7339	V419 Sgr	96052	7426	8 Cyg	97118	7517	15 Cyg
93867	7248	18 Aql	95168	7340	ρ^1 Sgr	96003	7428	V181 Cyg	97150	7518	SU Cyg
93996	7249	V402 Sgr	95168	7340	44 Sgr	96229	7429	μ Aql	97229	7519	49 Aql
93713	7251	51 Dra	95168	7340	ρ^1 Sgr	96229	7429	38 Aql	97229	7519	u Aql
94114	7254	a CrA	95176	7342	46 Sgr	96327	7430	37 Aql	97142	7520	V209 Cyg
93808	7258	V550 Lyr	95176	7342	u Sgr	96406	7431	h ¹ Sgr	97151	7523	V973 Cyg
94160	7259	β CrA	95176	7342	v Sgr	96406	7431	51 Sgr	97674	7524	NZ Pav
93917	7261	17 Lyr	95294	7343	β^2 Sgr	96275	7437	9 Vul	97278	7525	50 Aql
93903	7262	ι Lyr	95188	7344	45 Sgr	96440	7439	V433 Sgr	97278	7525	γ Aql
93903	7262	ι Lyr	95188	7344	ρ^2 Sgr	96465	7440	52 Sgr	97165	7528	δ Cyg
93903	7262	18 Lyr	95347	7348	a Sgr	96465	7440	h ² Sgr	97165	7528	18 Cyg

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Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
97295	7534	17 Cyg	98103	7610	ϕ Aql	99303	7708	b ² Cyg	100469	7779	κ^1 Sgr
97365	7536	7 Sge	98103	7610	61 Aql	99303	7708	V162 Cyg	100250	7786	V158 Cyg
97365	7536	δ Sge	98624	7612	μ^2 Pav	99303	7708	28 Cyg	100591	7787	κ^2 Sgr
97365	7536	δ Sge	98068	7613	22 Cyg	99457	7709	BE Cap	100435	7789	25 Vul
97473	7544	π Aql	98258	7614	g Sgr	99473	7710	θ Aql	100751	7790	α Pav
97473	7544	52 Aql	98258	7614	61 Sgr	99473	7710	65 Aql	100221	7792	DE Dra
97496	7546	8 Sge	98110	7615	21 Cyg	99404	7711	18 Vul	100221	7792	71 Dra
97496	7546	ζ Sge	98110	7615	η Cyg	99529	7712	ξ^1 Cap	100453	7796	37 Cyg
97485	7551	V176 Cyg	98353	7618	60 Sgr	99529	7712	1 Cap	100453	7796	γ Cyg
97749	7552	V396 Sgr	98055	7619	24 Cyg	99572	7715	ξ Cap	100261	7804	AC Dra
97650	7553	51 Aql	98055	7619	ψ Cyg	99572	7715	ξ^2 Cap	100587	7806	39 Cyg
97607	7554	V133 Aql	98234	7622	11 Sge	99572	7715	2 Cap	100574	7807	V211 Cyg
97572	7556	V379 Vul	98412	7623	θ^1 Sgr	99518	7718	19 Vul	100881	7814	10 Cap
97649	7557	53 Aql	98421	7624	θ^2 Sgr	99531	7719	20 Vul	100881	7814	π Cap
97649	7557	α Aql	98608	7625	v Pav	99631	7720	66 Aql	100977	7821	68 Aql
97675	7560	o Aql	98337	7635	12 Sge	99742	7724	67 Aql	101027	7822	11 Cap
97675	7560	54 Aql	98337	7635	γ Sge	99742	7724	ρ Aql	101027	7822	ρ Cap
97783	7561	57 Sgr	98375	7641	14 Vul	99500	7727	68 Dra	100907	7826	40 Cyg
97326	7563	CN Dra	98438	7645	13 Sge	99920	7728	V443 Sgr	100859	7828	43 Cyg
97629	7564	x Cyg	98438	7645	VZ Sgr	99639	7730	30 Cyg	100859	7828	V212 Cyg
97629	7564	x Cyg	98425	7647	V174 Cyg	99738	7731	21 Vul	101120	7829	o Cap
97679	7565	V395 Vul	98425	7647	25 Cyg	99738	7731	v Vul	101120	7829	12 Cap
97679	7565	12 Vul	98633	7649	63 Sgr	99675	7735	31 Cyg	101123	7830	12 Cap
97630	7566	19 Cyg	98688	7650	V387 Sgr	99675	7735	o ¹ Cyg	101123	7830	o Cap
97630	7566	V150 Cyg	98688	7650	c Sgr	99675	7735	V695 Cyg	101101	7831	69 Aql
97634	7567	V380 Cyg	98688	7650	62 Sgr	99770	7736	V164 Cyg	101076	7834	41 Cyg
97651	7568	V209 Cyg	98379	7651	V210 Cyg	99770	7736	b ³ Cyg	101067	7835	42 Cyg
97804	7570	η Aql	98543	7653	15 Vul	99770	7736	29 Cyg	101160	7836	1 δ
97804	7570	55 Aql	98543	7653	NT Vul	99918	7738	3 Cap	101138	7844	V201 Cyg
97804	7570	η Aql	98636	7657	16 Vul	99824	7739	QR Vul	101138	7844	o ¹ Cyg
97849	7571	V505 Sgr	98571	7660	26 Cyg	99655	7740	33 Cyg	101138	7844	45 Cyg
97787	7572	V146 Aql	98571	7660	e Cyg	99853	7741	22 Vul	101477	7846	v Mic
97796	7574	9 Sge	99240	7665	δ Pav	99853	7741	QS Vul	101214	7847	44 Cyg
97796	7574	QZ Sge	98844	7667	62 Aql	99874	7744	23 Vul	101612	7848	ϕ^1 Pav
97871	7575	V129 Aql	98823	7669	63 Aql	99913	7746	18 Sge	101093	7850	2 Cep
97635	7576	20 Cyg	98823	7669	τ Aql	100027	7747	5 Cap	101093	7850	θ Cep
97635	7576	d Cyg	98910	7671	V140 Aql	100027	7747	α^1 Cap	101243	7851	o ² Cyg
97944	7578	V420 Sgr	98819	7672	15 Sge	100062	7748	4 Cap	101243	7851	46 Cyg
98032	7581	ι Sgr	99120	7673	ξ Tel	99255	7750	1 Cep	101421	7852	2 δ
97433	7582	63 Dra	98953	7675	65 Sgr	99255	7750	κ Cep	101421	7852	ϵ δ
97433	7582	ϵ Dra	98583	7676	e Dra	99848	7751	V148 Cyg	101483	7858	3 δ
97928	7584	56 Aql	98583	7676	64 Dra	99848	7751	o ² Cyg	101483	7858	η δ
98495	7590	ϵ Pav	98863	7678	V176 Cyg	99848	7751	32 Cyg	101773	7859	ρ Pav
97886	7592	13 Vul	98920	7679	η Sge	99951	7753	24 Vul	101773	7859	ρ Pav
97966	7593	57 Aql	98920	7679	16 Sge	100064	7754	6 Cap	102162	7863	μ^1 Oct
97967	7594	57 Aql	98954	7680	V147 Aql	100064	7754	α^2 Cap	102125	7864	μ^2 Oct
97938	7595	ξ Aql	98658	7682	65 Dra	100195	7761	7 Cap	101474	7866	V212 Cyg
97938	7595	59 Aql	98702	7685	ρ Dra	100195	7761	σ Cap	101474	7866	47 Cyg
97980	7596	58 Aql	98702	7685	67 Dra	100044	7763	P Cyg	101772	7869	α Ind
98066	7597	ω Sgr	98401	7686	69 Dra	100044	7763	34 Cyg	101475	7870	V201 Cyg
98066	7597	58 Sgr	99080	7688	17 Vul	100044	7763	P Cyg	101589	7871	ζ δ
97845	7600	V819 Cyg	99031	7689	b ¹ Cyg	100108	7769	36 Cyg	101589	7871	4 δ
98036	7602	60 Aql	99031	7689	V200 Cyg	100122	7770	35 Cyg	101692	7873	70 Aql
98036	7602	β Aql	99031	7689	27 Cyg	100310	7773	v Cap	101641	7874	26 Vul
98478	7603	μ^1 Pav	99171	7690	64 Aql	100310	7773	8 Cap	101983	7875	ϕ^2 Pav
98162	7604	59 Sgr	99221	7694	AV Cap	100325	7775	β^2 Cap	101260	7879	AF Dra
98162	7604	b Sgr	99176	7696	V344 Sge	100345	7776	9 Cap	101260	7879	73 Dra
97870	7608	23 Cyg	98962	7701	66 Dra	100345	7776	β^1 Cap	101716	7880	27 Vul
98085	7609	S Sge	99352	7705	17 Sge	100345	7776	β Cap	102157	7881	u Pav
98085	7609	10 Sge	99352	7705	θ Sge	100142	7777	V177 Cyg	101769	7882	β δ

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Estrella				Estrella				Estrella				Estrella			
NH	NBSC	nombre		NH	NBSC	nombre		NH	NBSC	nombre		NH	NBSC	nombre	
101769	7882	6	δ	102790	7952	ζ	Ind	104019	8060	22	Cap	105269	8157	V133	Cyg
101800	7883	ι	δ	102633	7953	13	δ	103828	8062	V198	Cyg	105412	8160	16	Aqr
101800	7883	5	δ	102571	7956	T	Cyg	104031	8066	3	Equ	105199	8162	α	Cep
101847	7884	1	Aql	102422	7957	η	Cep	104177	8069	η	Mic	105199	8162	5	Cep
101847	7884	71	Aql	102422	7957	3	Cep	104148	8070	δ	Mic	105413	8163	9	Equ
101765	7885	48	Cyg	102589	7963	54	Cyg	104139	8075	23	Cap	105259	8164	V381	Cep
101810	7886	EU	δ	102589	7963	λ	Cyg	104139	8075	θ	Cap	105515	8167	ι	Cap
101923	7889	τ	Cap	102589	7963	λ	Cyg	104101	8077	4	Equ	105515	8167	ι	Cap
101923	7889	τ ²	Cap	102831	7965	α	Mic	104060	8079	ξ	Cyg	105515	8167	32	Cap
101923	7889	14	Cap	102950	7968	ι	Ind	104060	8079	62	Cyg	105268	8171	V382	Cep
101867	7891	29	Vul	102805	7973	15	δ	104234	8080	24	Cap	105268	8171	6	Cep
101882	7892	8	δ	102819	7974	14	δ	104185	8084	DT	Cyg	105502	8173	1	Peg
101882	7892	θ	δ	102724	7977	V166	Cyg	104214	8085	61	Cyg	105574	8175	17	Aqr
101868	7894	28	Vul	102724	7977	55	Cyg	104214	8085	V180	Cyg	105570	8178	β	Equ
101916	7896	κ	δ	102989	7979	β	Mic	104217	8086	61	Cyg	105570	8178	10	Equ
101916	7896	7	δ	102978	7980	18	Cap	104365	8087	x	Cap	105696	8180	θ ²	Mic
101936	7897	1	Aqr	102978	7980	ω	Cap	104365	8087	25	Cap	105858	8181	γ	Pav
101984	7900	15	Cap	102945	7982	4	Aqr	104194	8089	f ²	Cyg	105665	8183	33	Cap
101984	7900	υ	Cap	102827	7983	V213	Cyg	104194	8089	63	Cyg	105668	8187	18	Aqr
100965	7901	75	Dra	102843	7984	56	Cyg	104452	8091	27	Cap	105841	8188	γ	Ind
101958	7906	α	δ	103005	7985	5	Aqr	104755	8092	o	Pav	105729	8192	20	Aqr
101958	7906	9	δ	103227	7986	β	Ind	104459	8093	v	Aqr	105761	8195	19	Aqr
101082	7908	74	Dra	102949	7988	T	Vul	104459	8093	13	Aqr	106044	8196	SX	Pav
101949	7911	V213	Cyg	103045	7990	6	Aqr	104371	8094	V389	Cyg	105767	8199	21	Aqr
102395	7913	β	Pav	103045	7990	μ	Aqr	104521	8097	γ	Equ	105881	8204	34	Cap
102080	7918	10	δ	103004	7995	31	Vul	104521	8097	γ	Equ	105881	8204	ζ	Cap
102333	7920	η	Ind	103168	7997	BY	Mic	104521	8097	5	Equ	105733	8206	V193	Cyg
102066	7921	49	Cyg	103226	8000	19	Cap	104538	8098	6	Equ	105928	8207	35	Cap
102158	7923	LU	δ	103089	8001	57	Cyg	104634	8102	EW	Aqr	105811	8209	V215	Cyg
102098	7924	50	Cyg	102208	8002	76	Dra	104483	8103	V214	Cyg	105811	8209	69	Cyg
102098	7924	α	Cyg	103261	8006	EM	Aqr	104451	8113	T	Cep	105860	8210	IK	Peg
102098	7924	α	Cyg	103191	8007	BW	Vul	104732	8115	ζ	Cyg	106039	8213	b	Cap
102195	7927	V568	Cyg	103200	8008	32	Vul	104732	8115	64	Cyg	106039	8213	36	Cap
102281	7928	δ	δ	103294	8011	17	δ	104858	8123	δ	Equ	106067	8214	5	PsA
102281	7928	11	δ	103298	8012	16	δ	104858	8123	7	Equ	105942	8215	70	Cyg
102281	7928	δ	δ	103401	8015	7	Aqr	104963	8127	φ	Cap	105966	8217	35	Vul
102177	7929	51	Cyg	103312	8020	V214	Cyg	104963	8127	28	Cap	106062	8223	NV	Peg
102276	7932	X	Cyg	104043	8021	α	Oct	104974	8128	29	Cap	105949	8224	V426	Cep
102773	7934	σ	Pav	104043	8021	α	Oct	104887	8130	65	Cyg	106140	8225	2	Peg
102485	7936	16	Cap	103545	8024	DV	Aqr	104887	8130	τ	Cyg	105972	8227	7	Cep
102485	7936	ψ	Cap	103413	8028	v	Cyg	104887	8130	τ	Cyg	106093	8228	g	Cyg
102487	7937	17	Cap	103413	8028	58	Cyg	104987	8131	α	Equ	106093	8228	71	Cyg
102388	7939	30	Vul	103527	8030	18	δ	104987	8131	8	Equ	106327	8229	ξ	Gru
102258	7940	V379	Cep	103511	8032	33	Vul	105140	8135	ε	Mic	106340	8230	6	PsA
102440	7941	U	δ	103616	8033	AO	Cap	105143	8137	30	Cap	106278	8232	22	Aqr
102453	7942	52	Cyg	103616	8033	20	Cap	105168	8139	31	Cap	106278	8232	β	Aqr
102693	7943	ι	Mic	103569	8034	ε	Equ	105319	8140	θ	Ind	106032	8238	8	Cep
102358	7944	V414	Cep	103569	8034	1	Equ	105164	8141	15	Aqr	106032	8238	β	Cep
102253	7945	4	Cep	103738	8039	γ	Mic	105102	8143	67	Cyg	106032	8238	β	Cep
102531	7947	γ ¹	δ	103682	8041	11	Aqr	105102	8143	σ	Cyg	106559	8245	37	Cap
102531	7947	12	δ	103632	8047	f ¹	Cyg	105334	8145	T	Ind	106481	8252	ρ	Cyg
102532	7948	12	δ	103632	8047	V832	Cyg	105138	8146	υ	Cyg	106481	8252	73	Cyg
102532	7948	γ ²	δ	103632	8047	59	Cyg	105138	8146	66	Cyg	106654	8253	8	PsA
102488	7949	53	Cyg	103882	8048	ζ	Mic	105138	8146	υ	Cyg	107089	8254	v	Oct
102488	7949	ε	Cyg	103732	8053	V193	Cyg	105382	8151	θ ¹	Mic	106551	8255	72	Cyg
102618	7950	2	Aqr	103732	8053	60	Cyg	105382	8151	θ ¹	Mic	106703	8256	7	PsA
102618	7950	ε	Aqr	104085	8055	μ	Ind	105091	8153	V421	Cep	106723	8260	39	Cap
102624	7951	3	Aqr	103981	8058	12	Aqr	105186	8154	68	Cyg	106723	8260	ε	Cap
102624	7951	k	Aqr	103981	8059	12	Aqr	105186	8154	V180	Cyg	106723	8260	ε	Cap
102624	7951	EN	Aqr	104019	8060	η	Cap	105678	8156	Y	Pav	106642	8262	W	Cyg

Número de estrellas (Catálogo Hiparco), 2019

Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
106786	8264	ξ Aqr	107608	8326	10 PsA	108917	8417	ξ Cep	110273	8512	ρ Aqr
106786	8264	23 Aqr	107608	8326	θ PsA	109139	8418	33 Aqr	110298	8513	30 Peg
106783	8265	3 Peg	107575	8328	11 Peg	109139	8418	ι Aqr	110618	8515	v Ind
106711	8266	74 Cyg	107835	8333	o Ind	109056	8419	23 Peg	110391	8516	47 Aqr
106787	8267	5 Peg	107418	8334	v Cep	109033	8421	HT Lac	110346	8517	PT Peg
106856	8270	4 Peg	107418	8334	10 Cep	109268	8425	α Gru	110395	8518	48 Aqr
106752	8272	CP Cyg	107418	8334	v Cep	109005	8426	20 Cep	110395	8518	γ Aqr
106897	8276	NZ Peg	107533	8335	81 Cyg	109082	8427	V365 Lac	110386	8520	31 Peg
106944	8277	d Aqr	107533	8335	π ² Cyg	109017	8428	19 Cep	110386	8520	IN Peg
106944	8277	25 Aqr	107586	8339	12 Cep	109176	8430	24 Peg	110478	8521	π ¹ Gru
106985	8278	40 Cap	107763	8343	14 Peg	109176	8430	ι Peg	110478	8521	π ¹ Gru
106985	8278	γ Cap	107788	8344	13 Peg	109285	8431	μ PsA	110371	8522	32 Peg
106801	8279	V337 Cep	107856	8349	V161 Cyg	109285	8431	14 PsA	110351	8523	2 Lac
106801	8279	9 Cep	107956	8350	HO Peg	109289	8433	υ PsA	110506	8524	π ² Gru
107843	8280	λ Oct	108036	8351	51 Cap	109124	8434	V444 Cep	110408	8528	V405 Lac
107095	8283	42 Cap	108036	8351	μ Cap	109212	8436	OY Peg	110529	8529	49 Aqr
106999	8284	75 Cyg	108085	8353	γ Gru	109240	8438	25 Peg	110548	8532	33 Peg
107128	8285	41 Cap	107975	8354	15 Peg	109332	8439	35 Aqr	110578	8533	51 Aqr
107144	8287	26 Aqr	108022	8356	OQ Peg	109205	8443	V399 Lac	110602	8534	50 Aqr
107188	8288	43 Cap	108022	8356	16 Peg	109422	8447	τ PsA	110538	8538	3 Lac
107188	8288	κ Cap	108281	8362	π Ind	109422	8447	15 PsA	110538	8538	β Lac
107151	8289	7 Peg	108347	8367	BZ Gru	109303	8448	AR Lac	110672	8539	π Aqr
107097	8291	76 Cyg	108431	8368	δ Ind	109352	8449	π ¹ Peg	110672	8539	52 Aqr
112355	8294	CG Oct	108478	8369	κ ¹ Ind	109352	8449	27 Peg	110672	8539	π Aqr
107232	8295	44 Cap	108478	8369	BG Ind	109427	8450	26 Peg	110838	8540	δ Tuc
107129	8297	V460 Cyg	108165	8371	13 Cep	109427	8450	θ Peg	110609	8541	4 Lac
107140	8298	V133 Cyg	108339	8373	17 Peg	109472	8452	38 Aqr	110778	8544	53 Aqr
107162	8300	77 Cyg	108348	8377	V217 Cyg	109472	8452	e Aqr	110778	8545	53 Aqr
107136	8301	π ¹ Cyg	108494	8378	BW Cap	109410	8454	π Peg	110785	8548	34 Peg
107136	8301	80 Cyg	108317	8383	VV Cep	109410	8454	29 Peg	110882	8551	35 Peg
107302	8302	45 Cap	108612	8385	18 Peg	109410	8454	π ² Peg	110936	8552	v Gru
107380	8305	9 PsA	108661	8386	η PsA	109458	8459	28 Peg	110997	8556	δ ¹ Gru
107380	8305	ι PsA	108661	8386	12 PsA	109624	8462	39 Aqr	110960	8558	ζ ¹ Aqr
107253	8307	79 Cyg	108870	8387	ε Ind	109492	8465	ζ Cep	110960	8558	55 Aqr
107315	8308	ε Peg	108691	8390	28 Aqr	109492	8465	ζ Cep	110960	8558	ζ ² Aqr
107315	8308	8 Peg	108693	8392	20 Peg	109492	8465	21 Cep	110960	8559	ζ ¹ Aqr
107315	8308	ε Peg	108699	8393	19 Peg	109400	8468	24 Cep	110960	8559	55 Aqr
107310	8309	78 Cyg	108797	8396	DX Aqr	109556	8469	λ Cep	110960	8559	ζ ² Aqr
107310	8309	μ ² Cyg	108797	8396	29 Aqr	109556	8469	22 Cep	111043	8560	δ ² Gru
107310	8309	μ ¹ Cyg	108535	8400	16 Cep	110078	8471	ψ Oct	111043	8560	δ ² Gru
107310	8310	78 Cyg	108868	8401	30 Aqr	109789	8478	λ PsA	110817	8561	26 Cep
107310	8310	μ ² Cyg	108874	8402	o Aqr	109789	8478	16 PsA	110986	8562	36 Peg
107310	8310	μ ¹ Cyg	108874	8402	31 Aqr	109786	8480	41 Aqr	111062	8566	37 Peg
107382	8311	c Cap	108874	8402	o Aqr	110256	8481	BO Oct	111086	8567	56 Aqr
107382	8311	46 Cap	108875	8404	21 Peg	110256	8481	ε Oct	111138	8570	ζ PsA
107348	8313	9 Peg	108952	8405	13 PsA	109908	8486	μ ¹ Gru	110991	8571	δ Cep
107350	8314	HN Peg	108772	8406	14 Cep	109973	8488	μ ² Gru	110991	8571	δ Cep
107354	8315	10 Peg	108772	8406	LZ Cep	109857	8494	23 Cep	110991	8571	27 Cep
107354	8315	κ Peg	108845	8407	V194 Cyg	109857	8494	ε Cep	111022	8572	V412 Lac
107259	8316	μ Cep	108975	8408	UU PsA	109857	8494	ε Cep	111022	8572	5 Lac
107259	8316	μ Cep	109081	8409	κ ² Ind	110000	8496	42 Aqr	111123	8573	57 Aqr
107119	8317	11 Cep	108991	8410	32 Aqr	109937	8498	1 Lac	111123	8573	σ Aqr
107487	8318	47 Cap	109111	8411	λ Gru	110003	8499	43 Aqr	111068	8574	38 Peg
107487	8318	AG Cap	109068	8413	v Peg	110003	8499	θ Aqr	111072	8575	V350 Lac
107517	8319	48 Cap	109068	8413	22 Peg	110130	8502	α Tuc	111188	8576	β PsA
107517	8319	λ Cap	109074	8414	α Aqr	110023	8504	44 Aqr	111188	8576	17 PsA
107472	8321	12 Peg	109074	8414	34 Aqr	111196	8505	υ Oct	110787	8578	28 Cep
107556	8322	49 Cap	108924	8416	MO Cep	110179	8508	45 Aqr	110787	8578	ρ ¹ Cep
107556	8322	δ Cap	108924	8416	18 Cep	110103	8511	25 Cep	111104	8579	6 Lac
107556	8322	δ Cap	108917	8417	17 Cep	110273	8512	46 Aqr	111310	8582	v Tuc

Nombre de estrellas (Catálogo Hiparco), 2019

Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
111310	8582	v Tuc	112615	8676	70 Aqr	113797	8770	V638 Cas	115102	8863	γ Scl
111200	8583	58 Aqr	112716	8679	τ Aqr	113889	8773	4 Psc	115065	8864	9 And
111191	8584	GX Peg	112716	8679	71 Aqr	113889	8773	β Psc	115065	8864	AN And
111169	8585	7 Lac	112716	8679	τ ² Aqr	113957	8774	κ Gru	115115	8865	ψ ³ Aqr
111169	8585	α Lac	112748	8684	μ Peg	113881	8775	53 Peg	115115	8865	95 Aqr
111278	8586	39 Peg	112748	8684	48 Peg	113881	8775	β Peg	115126	8866	94 Aqr
111394	8590	60 Aqr	112778	8690	V360 Lac	113881	8775	β Peg	115142	8868	96 Aqr
111056	8591	ρ Cep	112778	8690	14 Lac	113853	8777	V387 Cep	115088	8872	34 Cep
111056	8591	29 Cep	112862	8693	21 PsA	113919	8780	3 And	115088	8872	o Cep
111449	8592	59 Aqr	112724	8694	32 Cep	113963	8781	54 Peg	115152	8874	11 And
111449	8592	υ Aqr	112724	8694	ι Cep	113963	8781	α Peg	115191	8876	10 And
111497	8597	62 Aqr	112948	8695	22 PsA	113996	8782	83 Aqr	115227	8878	7 Psc
111497	8597	η Aqr	112948	8695	γ PsA	113996	8782	h Aqr	115250	8880	τ Peg
111594	8600	σ ¹ Gru	112935	8697	49 Peg	114131	8787	θ Gru	115250	8880	ι Peg
111643	8602	σ ² Gru	112935	8697	σ Peg	114119	8789	86 Aqr	115250	8880	62 Peg
111546	8603	8 Lac	112961	8698	λ Aqr	114119	8789	c ¹ Aqr	115271	8882	63 Peg
111710	8610	63 Aqr	112961	8698	73 Aqr	114132	8790	υ Gru	115280	8885	12 And
111710	8610	κ Aqr	112961	8698	λ Aqr	114144	8795	55 Peg	115355	8887	64 Peg
111833	8611	CC Gru	112917	8699	15 Lac	114155	8796	56 Peg	115433	8889	DR Tuc
111674	8613	9 Lac	113044	8700	τ ¹ Gru	114104	8797	1 Cas	115404	8890	97 Aqr
111532	8615	31 Cep	113137	8701	ρ Ind	114187	8798	V343 Peg	115407	8891	65 Peg
111809	8616	VZ PsA	112997	8703	IM Peg	114189	8799	V342 Peg	115438	8892	b ¹ Aqr
111810	8618	40 Peg	113031	8704	74 Aqr	114200	8804	4 And	115438	8892	98 Aqr
111795	8621	V416 Lac	113031	8704	HI Aqr	114210	8805	5 And	115444	8893	66 Peg
111841	8622	10 Lac	113009	8706	V377 Lac	114273	8807	5 Psc	115591	8903	67 Peg
111884	8624	41 Peg	113136	8709	δ Aqr	114341	8812	c ² Aqr	115590	8904	4 Cas
111797	8627	30 Cep	113136	8709	76 Aqr	114341	8812	88 Aqr	115623	8905	υ Peg
111954	8628	ε PsA	113127	8710	78 Aqr	114347	8815	57 Peg	115623	8905	68 Peg
111954	8628	18 PsA	113148	8711	77 Aqr	114347	8815	GZ Peg	115669	8906	b ² Aqr
112405	8630	β Oct	113131	8714	HR Peg	114375	8817	89 Aqr	115669	8906	99 Aqr
111944	8632	11 Lac	113167	8715	1 Psc	114407	8818	DL Gru	115713	8907	o Gru
112029	8634	ζ Peg	113186	8717	ρ Peg	114222	8819	33 Cep	115738	8911	8 Psc
112029	8634	42 Peg	113186	8717	50 Peg	114222	8819	π Cep	115738	8911	κ Psc
112122	8636	β Gru	113246	8720	δ PsA	114421	8820	ι Gru	115738	8911	κ Psc
112122	8636	β Gru	113246	8720	23 PsA	114389	8821	58 Peg	115768	8912	9 Psc
112102	8637	19 PsA	113283	8721	TW PsA	114365	8822	2 Cas	115755	8913	V388 And
112031	8640	12 Lac	113307	8722	τ ³ Gru	114430	8825	6 And	115755	8913	13 And
112031	8640	DD Lac	113281	8725	EN Lac	114520	8826	59 Peg	115806	8915	69 Peg
112051	8641	o Peg	113281	8725	16 Lac	114526	8827	60 Peg	115806	8915	HV Peg
112051	8641	43 Peg	113288	8726	V424 Lac	114570	8830	7 And	115830	8916	10 Psc
112203	8644	ρ Gru	113368	8728	α PsA	114724	8834	90 Aqr	115830	8916	θ Psc
112179	8647	67 Aqr	113368	8728	24 PsA	114724	8834	φ Aqr	115908	8919	CG Tuc
112211	8649	g Aqr	113357	8729	51 Peg	114855	8841	ψ ¹ Aqr	115919	8923	70 Peg
112211	8649	66 Aqr	113327	8731	EW Lac	114855	8841	91 Aqr	115990	8926	AR Cas
112158	8650	η Peg	113503	8739	52 Peg	114844	8842	61 Peg	116076	8930	14 And
112158	8650	44 Peg	113532	8740	WX PsA	114996	8848	γ Tuc	116118	8932	100 Aqr
112374	8655	η Gru	113521	8742	2 Psc	114939	8850	92 Aqr	116119	8933	V354 Peg
112242	8656	13 Lac	113638	8747	ζ Gru	114939	8850	x Aqr	116146	8934	13 Psc
112358	8660	45 Peg	113610	8750	3 Psc	114939	8850	x Aqr	116231	8937	β Scl
112781	8663	ξ Oct	113561	8752	V509 Cas	114831	8851	V388 Cep	116247	8939	101 Aqr
112781	8663	ξ Oct	113674	8757	81 Aqr	114971	8852	6 Psc	116247	8939	b ³ Aqr
112447	8665	46 Peg	113640	8758	V378 And	114971	8852	γ Psc	116264	8940	HW Peg
112447	8665	ξ Peg	113726	8762	1 And	114904	8854	V649 Cas	116264	8940	71 Peg
112440	8667	47 Peg	113726	8762	o And	115033	8858	ψ ² Aqr	116310	8943	72 Peg
112440	8667	λ Peg	113726	8762	o And	115033	8858	ψ ² Aqr	116323	8944	14 Psc
112529	8670	68 Aqr	113781	8763	82 Aqr	115033	8858	93 Aqr	116354	8947	15 And
112542	8673	69 Aqr	113788	8766	2 And	115054	8859	φ Gru	116355	8948	73 Peg
112542	8673	τ ¹ Aqr	113860	8767	π PsA	115022	8860	8 And	116389	8949	ι Phe
112623	8675	ε Gru	113860	8767	π PsA	115036	8861	ET And	116389	8949	ι Phe
112615	8676	FM Aqr	113802	8768	LN And	115836	8862	τ Oct	116495	8954	16 Psc

Nombre de estrellas (Catálogo Hiparco), 2019

Estrella			Estrella			Estrella			Estrella		
NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre	NH	NBSC	nombre
116592	8960	74 Peg	116928	8984	18 Psc	117447	9018	V566 Cas	117863	9045	ρ Cas
116584	8961	λ And	116971	8988	105 Aqr	117447	9018	6 Cas	117887	9047	XZ Psc
116584	8961	λ And	116971	8988	ω ² Aqr	117491	9022	21 Psc	117927	9048	26 Psc
116584	8961	16 And	116948	8989	V816 Cas	117503	9024	OU And	117931	9049	AL Scl
116611	8963	KS Peg	117020	8991	77 Peg	117500	9025	79 Peg	117957	9052	V373 Cas
116611	8963	75 Peg	117054	8992	R Aqr	117628	9030	HH Peg	118027	9056	V Cep
116631	8965	17 And	117073	8997	78 Peg	117628	9030	80 Peg	118114	9061	γ ² Oct
116631	8965	ι And	117089	8998	i ¹ Aqr	117629	9031	ET Aqr	118121	9062	η Tuc
116737	8966	θ Phe	117089	8998	106 Aqr	117629	9031	i ³ Aqr	118131	9064	ψ Peg
116709	8967	18 And	117218	9002	i ² Aqr	117629	9031	108 Aqr	118131	9064	84 Peg
116758	8968	102 Aqr	117218	9002	107 Aqr	117689	9032	γ ¹ Oct	118178	9065	1 Cet
116758	8968	ω ¹ Aqr	117221	9003	ψ And	117683	9033	22 Psc	118188	9066	R Cas
116771	8969	17 Psc	117221	9003	20 And	117718	9036	φ Peg	118209	9067	27 Psc
116771	8969	ι Psc	117245	9004	TX Psc	117718	9036	81 Peg	118234	9069	π Phe
116727	8974	35 Cep	117245	9004	19 Psc	117718	9036	φ Peg	118214	9070	LQ And
116727	8974	γ Cep	117315	9006	σ Phe	117730	9039	HT Peg	118243	9071	σ Cas
116820	8975	μ Scl	117301	9008	τ Cas	117730	9039	82 Peg	118243	9071	8 Cas
116805	8976	19 And	117301	9008	5 Cas	117761	9041	24 Psc	118268	9072	28 Psc
116805	8976	κ And	117375	9012	20 Psc	117774	9042	25 Psc	118268	9072	ω Psc
116889	8980	103 Aqr	117452	9016	δ Scl	117863	9045	7 Cas	118277	9073	BU Scl
116901	8982	104 Aqr	117430	9017	V650 Cas	117863	9045	ρ Cas	118322	9076	ε Tuc
116928	8984	λ Psc									

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
118243	0	0	0.4	+55	51	48.4	0.001789	+55.863435	4.88	-0.071	-0.05	B1V...
118268	0	0	18.8	+6	58	16.5	0.078475	+6.971241	4.03	0.419	0.49	F4IV
118322	0	0	55.0	-65	28	7.4	0.229078	-65.468720	4.49	-0.075	-0.04	B9IV
122	0	2	34.3	-76	57	29.4	0.642894	-76.958165	4.78	1.254	1.26	K2III
154	0	2	57.6	-5	54	20.8	0.740006	-5.905770	4.37	1.631	2.35	M3III
301	0	4	44.2	-17	13	39.0	1.184289	-17.227511	4.55	-0.047	-0.03	B9IVn
355	0	5	30.0	-10	24	3.9	1.374812	-10.401080	4.99	1.619	1.64	K3Ibvar
443	0	6	20.0	-5	35	55.1	1.583393	-5.598635	4.61	1.029	1.04	K1III
677	0	9	24.0	+29	11	52.8	2.349903	+29.197991	2.07	-0.038	-0.10	B9p
746	0	10	13.8	+59	15	26.0	2.557631	+59.257227	2.28	0.380	0.40	F2III-IV
765	0	10	23.7	-45	38	23.9	2.598622	-45.639981	3.88	1.013	1.00	K0III
910	0	12	15.3	-15	21	39.8	3.063849	-15.361063	4.89	0.487	0.59	F5V
1067	0	14	14.5	+15	17	30.8	3.560560	+15.291890	2.83	-0.190	-0.22	B2IV
1168	0	15	36.9	+20	18	54.0	3.903647	+20.315011	4.79	1.572	1.93	M2III
1170	0	15	37.7	-18	49	29.9	3.907251	-18.824972	4.44	1.640	1.96	M1III
1366	0	18	7.0	+38	47	23.1	4.529032	+38.789752	4.61	0.059	0.07	A2V
1473	0	19	21.1	+36	53	35.4	4.837917	+36.893159	4.51	0.054	0.06	A2V
1562	0	20	25.3	-8	42	57.6	5.105235	-8.716004	3.56	1.214	1.13	K2III
1599	0	21	4.5	-64	45	37.1	5.268860	-64.760298	4.23	0.576	0.65	F9V
2021	0	26	45.1	-77	8	40.7	6.687959	-77.144638	2.82	0.618	0.68	G2IV
2072	0	27	9.5	-43	34	18.7	6.789420	-43.571849	3.93	0.175	0.20	A7V
2081	0	27	14.7	-42	12	0.5	6.811073	-42.200126	2.40	1.083	1.11	K0III...
2210	0	28	53.5	-32	53	59.1	7.223034	-32.899742	4.86	1.634	2.32	M2/M3III
2472	0	32	21.1	-48	41	45.3	8.087886	-48.695922	4.76	0.018	0.01	A0V
2484	0	32	25.8	-62	51	3.7	8.107381	-62.851037	4.36	-0.064	-0.02	B9V
2487	0	32	26.6	-62	51	30.0	8.110766	-62.858334	4.53	0.147	0.14	A2V
2505	0	32	51.5	+54	37	46.8	8.214786	+54.629665	4.74	-0.098	-0.08	B8Vn
2599	0	34	7.4	+63	2	20.9	8.530871	+63.039144	4.17	0.130	0.17	B1Ia
2912	0	37	55.7	+33	49	35.1	9.481894	+33.826416	4.34	-0.123	-0.08	B5V
2920	0	38	4.1	+54	0	14.2	9.517115	+54.003943	3.69	-0.196	-0.23	B2IV
3031	0	39	35.4	+29	25	2.3	9.897650	+29.417319	4.34	0.871	0.92	G5III...
3092	0	40	22.5	+30	58	2.9	10.093757	+30.967466	3.27	1.268	1.23	K3III...
3179	0	41	37.5	+56	38	38.2	10.406458	+56.643951	2.24	1.170	1.13	K0II-IIIvar
3245	0	42	14.6	-45	58	41.8	10.560627	-45.978265	4.59	0.953	0.95	G8III
3300	0	43	9.7	+50	37	9.0	10.790529	+50.619154	4.80	-0.105	-0.10	B2.5V
3405	0	44	13.4	-57	21	23.1	11.055990	-57.356415	4.36	0.024	0.02	A0IV
3414	0	44	33.3	+47	7	51.2	11.138827	+47.130882	4.95	0.170	0.19	A5V
3419	0	44	34.0	-17	52	47.6	11.141799	-17.879892	2.04	1.019	1.00	K0III
3455	0	45	10.4	-10	30	13.3	11.293340	-10.503697	4.77	0.998	0.98	K0IIIvar
3504	0	45	49.2	+48	23	26.7	11.455203	+48.390746	4.48	-0.069	0.00	B5III
3693	0	48	22.6	+24	22	22.5	12.094041	+24.372906	4.08	1.100	1.06	K1II
3786	0	49	41.7	+7	41	27.0	12.423953	+7.690846	4.44	1.500	1.58	K5III
3801	0	49	56.9	+51	4	26.9	12.487163	+51.074138	4.90	-0.091	-0.07	B9II
3821	0	50	17.9	+57	55	5.2	12.574397	+57.918106	3.46	0.587	0.66	G0V SB
3881	0	50	53.8	+41	11	5.1	12.724148	+41.184737	4.53	-0.136	-0.14	B5V SB
4147	0	54	0.3	-1	2	19.5	13.501409	-1.038760	4.78	1.550	1.66	M0III
4151	0	54	14.9	+61	13	49.7	13.562262	+61.230474	4.80	0.540	0.61	F8V
4292	0	56	10.4	+59	4	40.2	14.043530	+59.077832	4.83	1.216	1.19	K2III
4422	0	57	50.4	+59	17	9.5	14.460144	+59.285973	4.62	0.957	1.01	G8III-IV
4427	0	57	54.1	+60	49	18.8	14.475291	+60.821879	2.15	-0.046	-0.02	B0IV:evar
4436	0	57	50.6	+38	36	16.9	14.460646	+38.604706	3.86	0.130	0.14	A5V
4463	0	58	15.1	+23	31	21.0	14.562943	+23.522505	4.40	0.940	0.94	G8III-IV
4577	0	59	32.6	-29	15	8.9	14.885907	-29.252466	4.30	-0.154	-0.12	B7IIIp
4906	1	3	57.4	+7	59	40.8	15.989353	+7.994679	4.27	0.952	0.98	K0III
5165	1	6	57.0	-46	36	51.3	16.737337	-46.614245	3.32	0.885	0.90	G8IIvar
5348	1	9	12.0	-55	8	30.9	17.300005	-55.141916	3.94	-0.120	-0.08	B6V +B0V
5364	1	9	34.2	-10	4	45.8	17.392702	-10.079382	3.46	1.161	1.11	K2III
5372	1	11	48.4	+86	21	37.8	17.951482	+86.360499	4.24	1.213	1.16	K2II-III
5434	1	10	38.6	+47	20	42.8	17.660743	+47.345222	4.26	0.012	-0.02	B7III

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α		δ		V	U-V	B-V	Espectro
	NH	h	m	s	°	'	"	°	°					
5447	1	10	49.8	+35	43	24.3	17.707512	+35.723413	2.07	1.576	1.74		M0IIIvar	
5542	1	12	18.2	+55	15	11.0	18.075714	+55.253060	4.34	0.170	0.19		A7Vvar	
5571	1	12	30.3	+21	8	16.1	18.126384	+21.137817	4.66	1.024	0.99		K0III	
5586	1	12	44.4	+30	11	33.4	18.184944	+30.192625	4.51	1.092	1.05		K0III-IV...	
5742	1	14	48.7	+24	41	11.3	18.703035	+24.686480	4.67	1.047	1.02		K0III...	
5862	1	16	3.7	-45	25	40.8	19.015567	-45.428009	4.97	0.571	0.62		F8V	
5896	1	16	25.7	-68	46	21.4	19.107041	-68.772624	4.25	0.480	0.55		F6IV	
6193	1	20	32.6	+27	21	57.5	20.135774	+27.365983	4.74	0.032	0.10		A3V	
6242	1	21	19.4	+58	20	0.5	20.330833	+58.333473	4.95	0.683	0.93		F0Ia	
6411	1	23	29.8	+45	37	49.2	20.874330	+45.630333	4.87	1.077	1.04		K0III-IV	
6537	1	24	59.9	-8	4	59.4	21.249620	-8.083153	3.60	1.065	1.05		K0III	
6670	1	26	34.8	-14	29	52.5	21.644844	-14.497926	4.90	1.231	1.29		K2III	
6686	1	27	6.5	+60	20	9.3	21.777106	+60.335912	2.66	0.160	0.19		A5Vv SB	
6692	1	27	20.3	+68	13	51.7	21.834381	+68.231031	4.72	1.047	1.01		K0III	
6813	1	28	49.9	+45	30	24.0	22.208096	+45.506674	4.83	0.421	0.49		F5IV	
6867	1	29	12.6	-43	13	8.0	22.302418	-43.218882	3.41	1.542	1.73		K5II-III	
7007	1	31	12.5	+6	14	37.4	22.802263	+6.243711	4.84	1.372	1.42		K4III	
7083	1	32	3.7	-48	58	18.8	23.015233	-48.971887	3.93	0.972	1.00		K0III-IV	
7097	1	32	31.8	+15	26	44.6	23.132490	+15.445710	3.62	0.974	0.94		G8III	
7294	1	35	13.3	+59	19	52.8	23.805409	+59.331337	4.68	0.991	1.01		K0III	
7513	1	37	57.0	+41	30	8.1	24.487390	+41.502254	4.10	0.536	0.58		F8V	
7588	1	38	26.2	-57	8	17.6	24.609351	-57.138231	0.45	-0.158	-0.17		B3Vp	
7607	1	39	12.0	+48	43	34.5	24.799932	+48.726241	3.59	1.275	1.23		K3III	
7818	1	41	44.3	+40	40	30.2	25.434761	+40.675052	4.96	-0.068	-0.06		B8III	
7884	1	42	26.9	+5	35	8.2	25.612086	+5.585607	4.45	1.347	1.37		K3III	
7918	1	42	58.9	+42	42	36.9	25.745335	+42.710261	4.96	0.618	0.67		G2V	
7999	1	43	42.7	-3	35	33.6	25.928013	-3.592678	4.98	1.378	1.26		K3II-III	
8068	1	44	53.6	+50	47	10.1	26.223510	+50.786150	4.01	-0.098	-0.08		B2Vpe	
8102	1	44	58.4	-15	50	7.3	26.243381	-15.835349	3.49	0.727	0.82		G8V	
8198	1	46	25.6	+9	15	18.4	26.606489	+9.255099	4.26	0.942	0.93		K0III	
8497	1	50	32.6	-10	35	26.4	27.635803	-10.590671	4.66	0.333	0.38		F3III	
8645	1	52	25.4	-10	14	21.9	28.105904	-10.239404	3.74	1.136	1.07		K2III	
8796	1	54	11.9	+29	40	22.8	28.549683	+29.673010	3.42	0.488	0.55		F6IV	
8832	1	54	36.2	+19	23	19.2	28.651001	+19.388674	3.88	-0.047	-0.03		A1p Si	
8833	1	54	34.0	+3	16	58.9	28.641811	+3.283035	4.61	0.928	0.93		K0III SB	
8837	1	54	25.5	-46	12	28.1	28.606357	-46.207796	4.39	1.597	2.49		M4III SB	
8886	1	55	49.2	+63	45	54.5	28.954846	+63.765129	3.35	-0.150	-0.12		B2pvar	
8903	1	55	43.3	+20	54	9.2	28.930312	+20.902551	2.64	0.165	0.18		A5V...	
8928	1	55	25.9	-67	33	6.4	28.857927	-67.551789	4.68	0.931	0.95		G5III	
9007	1	56	42.9	-51	30	45.0	29.178802	-51.512490	3.69	0.844	0.90		G5IV	
9009	1	57	32.7	+68	46	47.8	29.386121	+68.779937	4.97	-0.084	-0.06		B8III	
9061	1	57	35.0	-22	25	56.2	29.395686	-22.432284	4.92	1.434	1.45		K3III	
9095	1	57	56.4	-47	17	26.4	29.484820	-47.290662	4.82	0.864	0.89		G8III	
9153	1	59	1.2	+23	41	25.2	29.754882	+23.690334	4.79	0.290	0.33		F0V	
9236	1	59	23.0	-61	28	31.8	29.845940	-61.475502	2.86	0.290	0.34		F0V	
9347	2	0	55.4	-20	59	2.7	30.230918	-20.984083	3.99	1.554	1.79		K5/M0III	
9480	2	3	35.7	+71	0	1.0	30.898743	+71.000291	4.49	0.164	0.20		A3IV	
9487	2	3	3.5	+2	51	25.7	30.764440	+2.857140	3.82	0.024	0.05		A2	
9505	2	3	36.8	+54	34	50.9	30.903436	+54.580807	4.99	-0.071	-0.02		B8III	
9598	2	5	8.4	+72	30	51.8	31.285081	+72.514380	3.95	-0.002	0.03		A2V	
9640	2	5	6.3	+42	25	20.5	31.276103	+42.422355	2.10	1.370	1.37		B8V	
9677	2	5	21.8	-29	12	14.3	31.341014	-29.203967	4.68	-0.156	-0.12		B9.5p (Si)	
9884	2	8	16.6	+23	33	13.4	32.069266	+23.553734	2.01	1.151	1.13		K2III	
9977	2	9	40.3	+37	57	2.2	32.417900	+37.950607	4.78	0.120	0.16		A5IV-V	
10053	2	10	32.2	+26	1	52.5	32.634254	+26.031252	4.98	0.339	0.40		F2III	
10064	2	10	42.6	+35	4	42.9	32.677653	+35.078586	3.00	0.140	0.17		A5III	
10280	2	13	30.5	+30	23	36.6	33.377044	+30.393513	4.94	0.770	0.81		F5V comp SB	
10324	2	14	2.2	+8	56	14.2	33.508970	+8.937269	4.36	0.878	0.90		G8II:	
10340	2	14	27.2	+44	19	19.6	33.613501	+44.322116	4.84	1.476	1.49		K4III	

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
10602	2	17	12.3	-51	25	21.1	34.301395	-51.422534	3.56	-0.120	-0.11	B8IV-V
10644	2	18	15.0	+34	18	44.7	34.562688	+34.312414	4.84	0.607	0.76	G0V
10670	2	18	28.8	+33	56	11.0	34.619972	+33.936379	4.03	0.019	-0.02	A1Vnn
11001	2	22	6.1	-68	34	15.7	35.525420	-68.571025	4.08	0.034	0.04	A3V
11313	2	26	56.1	+50	21	56.6	36.733877	+50.365719	4.73	1.532	1.58	K4III
11345	2	26	53.6	-12	12	12.3	36.723200	-12.203415	4.88	-0.027	-0.01	A0V
11407	2	27	42.0	-47	37	1.2	36.924886	-47.617004	4.24	-0.136	-0.11	B5IV
11484	2	29	11.9	+8	32	47.3	37.299588	+8.546459	4.30	-0.053	-0.06	B9III
11569	2	30	42.0	+67	29	19.7	37.674815	+67.488817	4.46	0.153	0.17	A5p Sr
11767	2	56	24.1	+89	20	45.7	44.100340	+89.346018	1.97	0.636	0.70	F7:IIb-IIv SB
11783	2	33	0.7	-15	9	36.4	38.252902	-15.160117	4.74	0.454	0.55	F5V
11918	2	34	41.9	-28	8	51.0	38.674713	-28.147492	4.96	-0.050	-0.04	B9V
12093	2	36	54.0	+5	40	38.5	39.225020	+5.677353	4.87	0.880	0.89	G8III
12387	2	40	29.0	+0	24	41.9	40.120975	+0.411643	4.08	-0.212	-0.22	B2IV
12390	2	40	30.5	-11	47	25.2	40.127114	-11.790322	4.83	0.447	0.53	F5V
12394	2	39	53.8	-68	11	1.4	39.974006	-68.183724	4.12	-0.061	-0.07	B9III
12413	2	40	32.6	-42	48	31.2	40.135675	-42.808664	4.74	0.061	0.09	A2V
12486	2	41	26.2	-39	46	21.7	40.359094	-39.772706	4.11	1.006	1.05	K0III
12623	2	43	29.2	+40	16	30.7	40.871724	+40.275206	4.91	0.582	0.62	F9V
12706	2	44	18.8	+3	19	1.2	41.078222	+3.316993	3.47	0.093	0.10	A3V
12719	2	44	36.1	+27	47	20.4	41.150249	+27.788995	4.65	-0.122	-0.12	B3V
12770	2	45	3.1	-13	46	37.2	41.262809	-13.777014	4.24	-0.122	-0.11	B7IV
12777	2	45	32.5	+49	18	34.5	41.385598	+49.309593	4.10	0.514	0.59	F7V
12828	2	45	60.0	+10	11	43.6	41.499822	+10.195431	4.27	0.311	0.37	F1III-IV
12843	2	46	0.8	-18	29	27.4	41.503423	-18.490939	4.47	0.481	0.54	F5/F6V
12876	2	45	51.0	-67	32	6.0	41.462708	-67.534994	4.83	0.058	0.08	A2IV/V
13061	2	49	4.5	+29	19	36.9	42.268808	+29.326928	4.52	1.112	1.04	K1III
13147	2	49	54.4	-32	19	29.4	42.476578	-32.324846	4.45	0.981	1.00	G8III
13209	2	51	8.2	+27	20	22.9	42.784111	+27.339707	3.61	-0.100	-0.08	B8Vn
13244	2	50	22.3	-74	59	14.0	42.592926	-74.987212	4.76	1.337	1.27	K3III
13254	2	51	49.3	+38	23	51.6	42.955604	+38.397678	4.22	0.343	0.41	F2III
13268	2	52	8.0	+55	58	29.9	43.033338	+55.974986	3.77	1.690	1.64	K3Ib comp SB
13288	2	51	55.4	-20	55	28.4	42.980943	-20.924567	4.76	0.906	0.91	K0III
13328	2	52	43.3	+35	8	19.4	43.180394	+35.138734	4.56	1.554	1.67	K5III
13531	2	55	39.1	+52	50	27.1	43.913059	+52.840870	3.93	0.758	0.80	G4III...
13701	2	57	22.9	-8	49	17.7	44.345296	-8.821577	3.89	1.088	1.08	K1III-IV
13847	2	59	0.0	-40	13	38.4	44.750100	-40.227329	2.88	0.128	0.17	A4III+...
13879	3	0	0.9	+39	44	22.0	45.003817	+39.739455	4.68	0.065	0.11	A2Vn
13884	2	59	10.2	-63	59	39.0	44.792351	-63.994170	4.98	0.126	0.14	A5III
13905	3	0	16.5	+35	15	36.1	45.068903	+35.260016	4.94	1.235	1.19	K2III
13914	3	0	19.9	+21	25	2.0	45.082753	+21.417214	4.63	0.048	0.05	A2Vs
13954	3	0	45.8	+8	59	2.2	45.190694	+8.983948	4.71	-0.109	-0.09	B6III
14135	3	3	18.1	+4	9	54.4	45.825216	+4.165107	2.54	1.630	1.97	M2III
14146	3	3	15.1	-23	32	56.3	45.812917	-23.548983	4.08	0.163	0.18	A4V
14328	3	6	13.3	+53	34	52.7	46.555275	+53.581295	2.91	0.716	0.77	G8III+...
14354	3	6	26.0	+38	54	52.1	46.608261	+38.914465	3.32	1.528	2.76	M3IIIvar
14382	3	7	1.2	+56	46	50.6	46.754896	+56.780718	4.77	1.018	0.99	K0II-III
14576	3	9	26.7	+41	1	45.8	47.361234	+41.029379	2.09	-0.003	0.02	B8V
14632	3	10	29.1	+49	41	10.2	47.621341	+49.686169	4.05	0.595	0.65	G0V
14668	3	10	49.2	+44	55	48.1	47.704954	+44.930032	3.79	0.980	0.94	K0III
14817	3	12	33.3	+39	41	3.3	48.138848	+39.684259	4.61	1.115	1.09	K1III
14838	3	12	44.9	+19	47	57.1	48.187051	+19.799187	4.35	1.033	0.96	K2IIIvar
14862	3	14	6.0	+74	27	55.6	48.525158	+74.465450	4.85	0.035	0.05	A2Vnn
14879	3	12	54.3	-28	54	42.5	48.226287	-28.911811	3.80	0.543	0.63	F8V
15110	3	16	1.6	+21	6	55.5	49.006527	+21.115414	4.87	-0.007	0.02	A1V
15197	3	16	46.9	-8	44	54.2	49.195534	-8.748386	4.80	0.232	0.28	A5m
15382	3	19	13.9	-22	26	27.1	49.807718	-22.440848	4.86	0.904	0.91	K0III
15416	3	19	57.3	+34	17	33.4	49.988894	+34.292607	4.85	1.491	1.41	K2II
15457	3	20	23.2	+3	26	25.9	50.096615	+3.440519	4.84	0.681	0.73	G5Vvar

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α		δ		V	U-V	B-V	Espectro
	NH	h	m	s	°	'	"	°	°					
15474	3	20	23.1	-21	41	16.5	50.096151	-21.687906	3.70	1.614	2.42		M3/M4III	
15510	3	20	42.4	-42	59	46.2	50.176764	-42.996162	4.26	0.711	0.79		G8V	
15520	3	21	43.6	+65	43	18.0	50.431518	+65.721666	4.74	-0.108	-0.12		B2.5Vne	
15549	3	21	31.4	+29	7	4.1	50.380979	+29.117794	4.47	1.555	1.61		K2II-III	
15648	3	22	45.4	+43	23	55.1	50.689124	+43.398648	4.96	0.051	0.06		A3V	
15863	3	25	43.5	+49	55	44.3	51.431217	+49.928961	1.79	0.481	0.63		F5Ib	
15900	3	25	51.9	+9	5	46.5	51.466204	+9.096238	3.61	0.887	0.90		G8III	
16083	3	28	13.7	+9	47	57.8	52.057099	+9.799402	3.73	-0.082	-0.07		B9Vn	
16147	3	29	26.8	+49	7	45.3	52.361739	+49.129259	4.99	-0.091	-0.07		B5V	
16228	3	30	39.8	+60	0	23.2	52.665921	+60.006441	4.21	0.419	0.58		B9Ia	
16244	3	30	46.3	+49	34	29.4	52.692846	+49.574833	4.67	-0.096	-0.07		B3V	
16245	3	29	43.4	-62	52	9.3	52.430863	-62.869244	4.71	0.410	0.49		F5IV-V	
16281	3	31	29.0	+58	56	40.4	52.871011	+58.944552	4.55	0.489	0.79		A0Ia SB:	
16335	3	31	57.5	+48	3	39.3	52.989617	+48.060909	4.36	1.367	1.42		K3III	
16341	3	31	35.2	-5	0	34.0	52.896647	-5.009449	4.74	-0.092	-0.07		B9Vs	
16369	3	31	57.1	+13	0	7.9	52.988066	+13.002208	4.14	1.112	1.01		K0II-III...	
16537	3	33	51.0	-9	23	36.1	53.462590	-9.393370	3.72	0.881	0.94		K2V	
16611	3	34	39.0	-21	34	6.8	53.662471	-21.568559	4.26	-0.106	-0.09		B9V	
16826	3	37	53.0	+48	15	21.0	54.471039	+48.255821	4.32	-0.058	0.07		B5Ve	
16852	3	37	52.2	+0	27	44.2	54.467442	+0.462286	4.29	0.575	0.66		F9V	
16870	3	37	47.7	-40	12	41.0	54.448824	-40.211384	4.57	1.023	1.07		K0III	
17304	3	43	1.5	-31	52	37.4	55.756121	-31.877058	4.99	-0.159	-0.15		B5III	
17313	3	43	37.1	+34	1	33.9	55.904685	+34.026081	4.97	-0.048	-0.03		K0.5V	
17351	3	43	33.5	-37	15	10.5	55.889387	-37.252904	4.59	1.191	1.12		K2IIICN...	
17358	3	44	19.3	+47	50	53.4	56.080434	+47.848160	3.01	-0.125	-0.07		B5III SB	
17378	3	44	11.0	-9	41	54.7	56.045958	-9.698520	3.52	0.915	0.94		K0IV	
17440	3	44	27.0	-64	44	45.3	56.112474	-64.745911	3.84	1.133	1.11		K0IV SB	
17448	3	45	32.8	+32	20	54.7	56.386641	+32.348516	3.84	0.022	0.12		B1III	
17499	3	46	2.2	+24	10	23.6	56.509330	+24.173210	3.72	-0.105	-0.09		B6III	
17529	3	46	31.5	+42	38	18.7	56.631365	+42.638517	3.77	0.425	0.52		F5IIvar	
17531	3	46	22.4	+24	31	37.3	56.593185	+24.527035	4.30	-0.110	-0.08		B6V	
17573	3	46	59.5	+24	25	38.1	56.747712	+24.427243	3.87	-0.063	-0.02		B8III	
17587	3	47	45.7	+63	24	16.4	56.940501	+63.404548	4.78	0.747	0.79		A3V...	
17593	3	47	3.9	-12	2	29.7	56.766279	-12.041596	4.43	1.604	1.89		M1III	
17608	3	47	29.2	+24	0	27.6	56.871836	+24.007669	4.14	-0.051	0.02		B6IV	
17651	3	47	41.3	-23	11	35.6	56.921893	-23.193220	4.22	0.434	0.51		F3/F5V	
17678	3	46	57.5	-74	10	43.9	56.739538	-74.178862	3.26	1.590	1.94		M2III	
17702	3	48	38.8	+24	9	50.3	57.161851	+24.163985	2.85	-0.086	-0.01		B7III	
17797	3	49	19.1	-37	33	41.3	57.329546	-37.561484	4.30	-0.038	-0.02		A+...	
17847	3	50	19.5	+24	6	41.7	57.581377	+24.111587	3.62	-0.070	-0.03		B8III	
17874	3	50	11.1	-36	8	31.8	57.546086	-36.142174	4.17	0.927	0.92		G8III	
17884	3	51	19.6	+65	35	2.5	57.831711	+65.584041	4.39	1.870	2.58		M1III	
17959	3	52	26.9	+71	23	23.2	58.112168	+71.389788	4.59	0.064	0.13		A2IVn	
18216	3	54	32.5	-24	33	20.2	58.635555	-24.555613	4.64	-0.136	-0.13		B5V	
18246	3	55	21.7	+31	56	24.0	58.840570	+31.939991	2.84	0.271	0.18		B1Ib	
18255	3	55	16.3	-2	53	54.0	58.818121	-2.898330	4.46	0.672	0.73		G8III	
18488	3	58	48.9	+61	9	50.0	59.703940	+61.163900	4.99	1.435	1.53		K3I-II	
18505	3	59	9.7	+63	7	38.1	59.790376	+63.127262	4.95	-0.074	-0.01		B9.5V	
18532	3	59	10.1	+40	3	53.9	59.792022	+40.064958	2.90	-0.199	-0.19		B0.5V	
18543	3	58	56.4	-13	27	15.3	59.735045	-13.454240	2.97	1.588	1.78		M1IIIb Ca-1	
18597	3	59	3.5	-61	20	44.0	59.764634	-61.345549	4.56	1.590	1.85		M2III	
18614	4	0	14.1	+35	50	43.7	60.058828	+35.845475	3.98	0.016	0.16		O7.5Iab:	
18673	4	0	45.4	-23	57	43.2	60.189178	-23.961995	4.62	-0.121	-0.07		Ap Si	
18724	4	1	45.8	+12	32	38.6	60.440743	+12.544045	3.41	-0.099	-0.08		B3V +A	
18744	4	1	11.0	-62	6	18.9	60.295780	-62.105253	4.48	1.500	2.42		M4III	
18772	4	1	37.4	-61	1	28.7	60.405625	-61.024639	4.97	1.386	1.41		K4III	
18907	4	4	11.7	+6	2	31.4	61.048902	+6.042048	3.91	0.032	0.03		A1V	
19018	4	6	5.4	+59	12	27.3	61.522559	+59.207595	5.00	0.495	0.69		FOII	
19038	4	5	51.1	+22	8	1.3	61.462829	+22.133693	4.36	1.064	1.02		K0III	

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
19167	4	8	2.7	+50	24	8.3	62.011253	+50.402302	4.25	-0.011	0.08	A0IVn
19343	4	10	5.1	+47	45	45.7	62.521125	+47.762708	3.96	-0.025	0.08	B3Ve
19515	4	11	30.1	-41	56	36.9	62.875232	-41.943574	4.93	0.334	0.41	A9V
19587	4	12	49.1	-6	47	16.8	63.204713	-6.788007	4.04	0.327	0.38	F2II-III
19740	4	15	0.1	+9	18	42.8	63.750580	+9.311883	4.84	0.799	0.86	G5III
19747	4	14	38.9	-42	14	49.9	63.662222	-42.247197	3.85	1.085	1.09	K1III
19777	4	15	19.4	-10	12	32.8	63.830885	-10.209110	4.87	1.156	1.12	K3III
19780	4	14	40.8	-62	25	31.4	63.670056	-62.425393	3.33	0.915	0.91	G7III
19811	4	16	13.3	+40	31	52.8	64.055278	+40.531320	4.67	1.007	1.07	G5II comp
19812	4	16	20.2	+48	27	25.1	64.084172	+48.456976	4.12	0.935	0.93	G0Ib...
19849	4	16	10.2	-7	37	26.1	64.042306	-7.623925	4.43	0.820	0.89	K1V
19860	4	16	35.7	+8	56	23.2	64.148783	+8.939787	4.27	-0.054	-0.02	B3IV
19893	4	16	32.3	-51	26	17.5	64.134739	-51.438181	4.26	0.312	0.37	F4III
19921	4	16	49.4	-59	15	20.8	64.205841	-59.255778	4.44	1.078	1.05	K2IV
19990	4	18	24.4	+20	37	30.2	64.601617	+20.625049	4.93	0.259	0.30	A3m
20042	4	18	38.0	-33	45	6.4	64.658242	-33.751774	3.55	-0.108	-0.09	B9V
20070	4	19	43.1	+50	20	29.4	64.929414	+50.341497	4.60	0.043	0.16	A2V
20205	4	20	54.3	+15	40	23.6	65.226375	+15.673228	3.65	0.981	0.95	G8III
20250	4	21	33.4	+27	23	44.8	65.389039	+27.395789	4.97	1.150	1.35	K1III
20252	4	21	40.9	+34	36	43.6	65.420261	+34.612105	4.93	0.950	0.94	G8III
20354	4	22	58.2	+46	32	36.9	65.742363	+46.543581	4.80	-0.022	0.03	B4IV
20455	4	24	3.7	+17	35	12.2	66.015489	+17.586716	3.77	0.983	0.93	G8III
20535	4	24	46.2	-33	58	21.2	66.192601	-33.972562	3.97	1.468	1.53	K4III
20542	4	25	13.4	+17	29	16.1	66.305666	+17.487804	4.80	0.154	0.18	A7V
20635	4	26	32.1	+22	20	12.9	66.633622	+22.336929	4.21	0.136	0.16	A7IV-V
20648	4	26	37.2	+17	58	15.5	66.655095	+17.970985	4.30	0.049	0.08	A2IV
20711	4	27	28.6	+22	51	22.4	66.869352	+22.856219	4.28	0.263	0.32	A8Vn
20713	4	27	27.5	+15	39	39.5	66.864778	+15.660967	4.48	0.262	0.33	F0V...
20732	4	27	42.6	+14	45	23.0	66.927534	+14.756384	4.69	0.979	0.96	G8III
20877	4	29	33.4	+16	24	6.3	67.389136	+16.401741	4.96	1.137	1.12	K2IIIvar
20885	4	29	41.5	+16	0	14.4	67.422798	+16.004010	3.84	0.952	1.02	G7III
20889	4	29	45.5	+19	13	19.6	67.439449	+19.222118	3.53	1.014	1.04	K0III
20894	4	29	46.7	+15	54	45.4	67.444506	+15.912611	3.40	0.179	0.21	A7III
21029	4	31	40.7	+16	14	5.7	67.919747	+16.234919	4.78	0.170	0.19	A6IV
21139	4	32	52.6	-0	0	12.8	68.219176	-0.003565	4.91	1.320	1.25	K3II-III
21248	4	34	16.5	-29	43	41.4	68.568671	-29.728157	4.49	0.972	1.00	K0III
21273	4	34	57.4	+14	53	2.0	68.739358	+14.883881	4.65	0.255	0.28	A8V
21281	4	34	25.2	-55	0	18.8	68.605016	-55.005220	3.30	-0.079	-0.08	A0V:
21393	4	36	18.6	-30	31	24.5	69.077360	-30.523486	3.81	0.957	0.93	G8III
21402	4	36	43.6	+10	11	57.5	69.181827	+10.199312	4.25	0.184	0.21	A5m
21421	4	37	2.5	+16	32	49.0	69.260404	+16.546944	0.87	1.538	1.67	K5III
21444	4	37	17.7	-3	18	50.2	69.323649	-3.313947	3.93	-0.210	-0.20	B2III SB
21476	4	38	2.8	+41	18	10.8	69.511544	+41.302991	4.25	1.171	1.13	G8II comp
21589	4	39	15.0	+12	32	54.4	69.812409	+12.548452	4.27	0.122	0.15	A6V
21594	4	39	4.4	-14	16	2.2	69.768538	-14.267266	3.86	1.082	1.09	K1III
21644	4	39	48.2	-12	5	8.9	69.950722	-12.085808	4.99	0.074	0.13	A0V
21683	4	40	23.6	+15	57	18.2	70.098135	+15.955063	4.67	0.147	0.19	A5Vn
21763	4	41	17.7	-19	38	7.1	70.323946	-19.635293	4.32	1.599	2.27	M3/M4III
21770	4	41	11.5	-41	49	38.8	70.297758	-41.827433	4.44	0.342	0.40	F2V
21881	4	43	25.1	+22	59	33.6	70.854462	+22.992671	4.27	-0.112	-0.10	B3V
22109	4	46	28.7	-3	13	13.0	71.619694	-3.220290	4.01	-0.148	-0.13	B5IV
22449	4	50	54.0	+6	59	37.7	72.725072	+6.993806	3.19	0.484	0.53	F6V
22453	4	51	13.6	+37	31	15.1	72.806689	+37.520865	4.89	1.447	1.51	K4II
22509	4	51	40.6	+8	55	55.6	72.919059	+8.932121	4.35	0.010	0.04	A1Vn
22549	4	52	14.8	+5	38	13.1	73.061500	+5.636965	3.68	-0.157	-0.16	B2III SB
22667	4	53	38.3	+14	16	53.7	73.409381	+14.281573	4.71	1.773	2.63	M3Sv
22678	4	53	56.5	+36	44	3.5	73.485415	+36.734313	4.79	1.414	1.46	K3III
22701	4	53	51.2	-5	25	17.2	73.463420	-5.421449	4.36	0.257	0.33	A9IV
22783	4	56	0.1	+66	22	23.1	74.000380	+66.373076	4.26	-0.008	0.09	O9.5Ia SB:

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
22797	4	55	16.1	+2	28	16.1	73.817169	+2.471152	3.71	-0.179	-0.18	B2III SB
22845	4	55	58.2	+10	10	49.1	73.992575	+10.180302	4.64	0.085	0.11	A0V
22957	4	57	28.2	+13	32	37.4	74.367295	+13.543710	4.06	1.158	1.16	K2III
23015	4	58	16.0	+33	11	42.6	74.566586	+33.195161	2.69	1.490	1.46	K3IIvar
23040	4	58	51.4	+53	46	52.0	74.713959	+53.781114	4.43	-0.017	0.06	A1V
23123	4	59	33.6	+1	44	33.0	74.890034	+1.742494	4.47	1.369	1.32	K2IIvar
23179	5	0	35.0	+37	55	4.2	75.145937	+37.917834	4.93	0.037	0.06	A1V
23231	5	0	50.2	-12	30	35.9	75.208959	-12.509978	4.78	0.267	0.33	F0V
23362	5	2	16.4	-20	1	29.1	75.568274	-20.024761	4.91	-0.047	-0.04	B9V
23364	5	2	23.1	-7	8	48.2	75.596361	-7.146723	4.80	-0.164	-0.18	B3V
23416	5	3	22.3	+43	51	0.6	75.842991	+43.850162	3.03	0.537	0.61	F0Ia
23453	5	3	50.7	+41	6	8.5	75.961134	+41.102361	3.69	1.154	1.12	K4II comp
23497	5	4	15.8	+21	36	58.1	76.065833	+21.616141	4.62	0.155	0.19	A7V
23522	5	5	9.6	+60	28	5.8	76.290122	+60.468287	4.03	0.921	0.89	G0Ib
23595	5	5	6.5	-35	27	26.3	76.277221	-35.457315	4.55	1.177	1.19	K2III
23607	5	5	41.1	+15	25	46.8	76.421262	+15.429673	4.65	-0.064	0.02	A0p Si
23685	5	6	17.2	-22	20	45.7	76.571770	-22.346036	3.19	1.460	1.50	K4III
23693	5	5	50.8	-57	26	47.7	76.461855	-57.446576	4.71	0.526	0.60	F7V
23767	5	7	53.1	+41	15	32.0	76.971392	+41.258882	3.18	-0.148	-0.17	B3V
23783	5	8	12.5	+51	37	17.2	77.052224	+51.621437	4.98	0.343	0.40	F0V
23835	5	8	36.3	+18	40	10.4	77.151130	+18.669552	4.91	0.657	0.74	G4V
23875	5	8	48.6	-5	3	45.4	77.202376	-5.062598	2.78	0.161	0.16	A3IIIvar
23972	5	10	4.8	-8	43	49.5	77.520099	-8.730423	4.25	-0.187	-0.16	B2IVn
24010	5	10	49.0	+15	37	13.9	77.704174	+15.620514	4.81	0.313	0.40	F2IV
24244	5	13	12.5	-11	50	49.8	78.302218	-11.847175	4.45	-0.099	-0.08	B8V
24305	5	13	48.5	-16	11	1.1	78.452102	-16.183628	3.29	-0.110	-0.09	B9IV: HgMn
24327	5	14	8.0	-12	55	10.3	78.533136	-12.919514	4.36	-0.094	-0.07	B7V
24331	5	14	18.7	+2	52	58.9	78.577983	+2.883022	4.46	1.166	1.12	K3III...
24340	5	14	45.9	+38	30	20.5	78.691409	+38.505693	4.82	0.189	0.23	A4m
24372	5	13	44.8	-67	9	47.8	78.436804	-67.163290	4.81	1.274	1.22	K2III
24436	5	15	28.5	-8	10	49.7	78.868948	-8.180474	0.18	-0.030	0.03	B8Ia
24608	5	18	8.0	+46	0	56.5	79.533196	+46.015699	0.08	0.795	0.83	M1: comp
24659	5	18	11.3	-34	52	37.9	79.547225	-34.877201	4.81	0.987	1.00	K0/K1III/IV
24674	5	18	33.2	-6	49	29.0	79.638541	-6.824722	3.59	-0.115	-0.10	B5III
24727	5	19	27.5	+33	23	24.5	79.864387	+33.390127	4.54	1.252	1.32	K3III...
24813	5	20	30.9	+40	6	51.6	80.128838	+40.114326	4.69	0.630	0.70	G0V
24822	5	20	27.0	+22	6	53.8	80.112493	+22.114958	4.96	0.937	0.92	G8III
24845	5	20	28.5	-13	9	28.7	80.118624	-13.157981	4.29	-0.235	-0.26	B0.5IV
24927	5	21	16.9	-21	13	17.0	80.320464	-21.221376	4.70	-0.048	-0.03	A0V
25044	5	22	45.5	-0	21	52.8	80.689713	-0.364666	4.72	-0.168	-0.17	B2IV-V
25142	5	23	51.5	+3	33	42.3	80.964768	+3.561745	4.99	-0.096	-0.14	B1V
25247	5	24	53.2	-7	47	29.5	81.221811	-7.791528	4.13	0.943	0.97	G8III
25278	5	25	33.8	+17	24	0.0	81.390929	+17.400004	5.00	0.544	0.62	F8V SB
25281	5	25	27.5	-2	22	50.3	81.364550	-2.380639	3.35	-0.240	-0.16	B1V +B2
25302	5	25	45.6	+1	51	46.2	81.440044	+1.862832	4.89	-0.200	-0.19	B1V:pe
25336	5	26	10.7	+6	21	57.0	81.544464	+6.365832	1.64	-0.224	-0.22	B2III
25428	5	27	31.6	+28	37	19.6	81.881504	+28.622109	1.65	-0.130	-0.09	B7III
25473	5	27	51.6	+3	6	39.9	81.964903	+3.111078	4.59	-0.199	-0.21	B2IV
25539	5	28	48.4	+21	57	6.9	82.201799	+21.951927	4.88	-0.140	-0.13	B2.5IV
25606	5	29	4.9	-20	44	42.4	82.270367	-20.745120	2.81	0.807	0.86	G5II
25737	5	30	43.4	-1	4	42.0	82.681011	-1.078324	4.71	1.592	1.70	K5III
25813	5	31	49.7	+5	57	41.4	82.957109	+5.961513	4.20	-0.143	-0.14	B5V
25859	5	31	54.3	-35	27	26.2	82.976412	-35.457273	3.86	1.130	1.09	K1II/III
25923	5	32	52.5	-7	17	18.7	83.218745	-7.288525	4.62	-0.261	-0.28	B0V
25930	5	33	0.2	-0	17	10.0	83.250920	-0.286101	2.25	-0.175	-0.21	O9.5II
25945	5	33	21.4	+18	36	25.4	83.339189	+18.607066	4.32	2.060	2.54	M2Ib
25984	5	33	59.9	+32	12	16.5	83.499633	+32.204584	4.71	0.281	0.51	B5Iab
25985	5	33	35.5	-17	48	34.6	83.397736	-17.809600	2.58	0.211	0.32	F0Ib
26069	5	33	47.8	-62	28	38.4	83.449150	-62.477335	3.76	0.640	0.69	F6Ia

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
26176	5	35	53.5	+9	30	4.4	83.972988	+9.501212	4.39	-0.157	-0.13	B0IV...
26199	5	35	59.9	-5	59	25.6	83.999633	-5.990454	4.78	-0.248	-0.27	B0.5V
26207	5	36	12.8	+9	56	44.3	84.053187	+9.945645	3.39	-0.160	-0.13	O...
26220	5	36	13.3	-5	22	33.1	84.055546	-5.375850	4.98	0.000	0.00	O7
26235	5	36	20.4	-5	24	16.7	84.084999	-5.404642	4.98	-0.097	0.03	O9.5Vpe
26237	5	36	20.9	-4	49	37.2	84.087207	-4.826991	4.58	-0.183	-0.19	B2III...
26241	5	36	23.3	-5	53	54.7	84.096903	-5.898519	2.75	-0.210	-0.22	O9III
26311	5	37	12.2	-1	11	27.3	84.300934	-1.190916	1.69	-0.184	-0.16	B0Ia
26366	5	37	58.7	+9	17	58.8	84.494623	+9.299667	4.09	0.951	1.02	G8III-IV
26451	5	38	48.7	+21	9	9.9	84.702791	+21.152744	2.97	-0.148	-0.15	B4IIp
26549	5	39	43.5	-2	35	24.9	84.931451	-2.590253	3.77	-0.190	-0.25	O9.5V...
26563	5	39	49.7	-7	12	12.0	84.957217	-7.203339	4.77	0.139	0.16	A4V
26594	5	40	13.0	+4	7	51.8	85.054038	+4.131066	4.50	-0.098	-0.02	B3IIIe
26634	5	40	21.3	-34	3	53.2	85.088920	-34.064783	2.65	-0.120	-0.07	B7IV
26727	5	41	44.6	-1	56	1.3	85.435850	-1.933691	1.74	-0.199	-0.18	O9.5Ib SB
26736	5	41	50.2	-1	7	11.9	85.458970	-1.119966	4.95	-0.197	-0.21	B2IV-V
26777	5	42	25.4	+16	32	33.5	85.605779	+16.542649	4.84	-0.125	-0.10	B3IV...
26885	5	43	29.2	+1	28	57.4	85.871582	+1.482598	4.90	1.144	1.17	K1III
27072	5	45	16.6	-22	26	35.7	86.319109	-22.443243	3.59	0.481	0.57	F7V
27100	5	44	48.6	-65	43	41.9	86.202452	-65.728296	4.34	0.217	0.27	A7V
27288	5	47	50.4	-14	48	57.6	86.959956	-14.815993	3.55	0.104	0.11	A2Vann
27321	5	47	44.9	-51	3	36.6	86.936898	-51.060157	3.85	0.171	0.18	A3V
27366	5	48	40.9	-9	39	50.5	87.170458	-9.664036	2.07	-0.168	-0.14	B0.5Iavar
27468	5	50	12.8	+24	34	20.7	87.553466	+24.572405	4.88	1.021	1.04	G8IIIvar
27483	5	50	31.6	+39	11	8.6	87.631463	+39.185735	4.51	0.949	0.95	G8III
27511	5	50	38.7	+12	39	21.3	87.661225	+12.655916	4.89	-0.068	-0.05	B9IV
27530	5	50	11.0	-56	9	44.4	87.545765	-56.162327	4.50	1.075	1.06	K1III
27628	5	51	38.9	-35	45	43.1	87.912021	-35.761973	3.12	1.146	1.10	K1.5III
27639	5	52	22.3	+37	18	33.3	88.092852	+37.309253	4.72	1.621	1.90	M1III
27654	5	52	9.6	-20	52	43.4	88.040159	-20.878736	3.76	0.984	1.05	G8III/IV
27673	5	52	50.6	+39	9	7.9	88.210659	+39.152190	3.97	1.132	1.07	K0III
27750	5	53	27.2	+1	51	30.3	88.363431	+1.858418	4.76	1.382	1.31	K2IIvar
27810	5	53	49.4	-33	47	53.1	88.455806	-33.798092	4.88	-0.154	-0.14	B5V
27830	5	54	33.2	+27	36	54.3	88.638428	+27.615077	4.56	-0.008	0.00	A0V
27890	5	54	15.1	-63	5	1.4	88.562749	-63.083726	4.65	1.022	1.03	K1III/IV
27913	5	55	32.3	+20	16	40.9	88.884687	+20.278018	4.39	0.594	0.66	G0V
27949	5	56	28.9	+55	42	32.7	89.120474	+55.709093	4.96	0.052	0.09	A2V
27989	5	56	13.7	+7	24	33.0	89.056991	+7.409157	0.45	1.500	2.32	M2Ib
28010	5	56	10.2	-37	7	7.8	89.042569	-37.118829	4.97	1.102	1.03	K1IIICN...
28103	5	57	17.6	-14	9	55.6	89.323381	-14.165447	3.71	0.337	0.39	F1V
28199	5	58	13.7	-35	16	56.0	89.557188	-35.282217	4.36	-0.165	-0.16	B2.5IV
28237	5	59	12.3	+25	57	16.4	89.801168	+25.954564	4.81	-0.088	-0.04	B1Ib
28328	5	59	44.7	-42	48	53.8	89.936062	-42.814937	3.96	1.146	1.06	K0III
28358	6	1	8.0	+54	17	1.5	90.283374	+54.283762	3.72	1.010	0.99	K0III
28360	6	0	57.6	+44	56	50.3	90.239869	+44.947311	1.90	0.077	0.05	A2V
28380	6	1	3.1	+37	12	43.2	90.262788	+37.211997	2.65	-0.083	-0.06	A0p Si
28404	6	1	23.0	+45	56	11.0	90.345662	+45.936382	4.30	1.701	2.51	M3IIvar
28413	6	1	1.9	-3	4	29.7	90.257955	-3.074911	4.53	1.202	1.26	K2IIIvar
28574	6	2	45.5	-10	35	56.4	90.689536	-10.599001	4.92	-0.128	-0.08	B5III
28614	6	3	27.4	+9	38	44.5	90.864145	+9.645687	4.12	0.170	0.19	Am...
28716	6	5	4.7	+20	8	10.7	91.269533	+20.136305	4.64	0.236	0.41	B2Iavar
28734	6	5	18.4	+23	15	37.6	91.326485	+23.260451	4.16	0.835	0.88	G7III
28816	6	5	51.4	-16	29	13.3	91.464021	-16.487020	4.92	0.196	0.21	Ap shell
28910	6	7	2.3	-14	56	17.9	91.759604	-14.938307	4.67	0.046	0.04	A0V
29034	6	8	11.8	-37	15	23.9	92.049104	-37.256643	5.00	-0.095	-0.08	B8:IV
29038	6	8	41.1	+14	45	52.2	92.171430	+14.764505	4.42	-0.164	-0.17	B3IV
29276	6	10	40.7	-54	58	24.9	92.669698	-54.973576	4.72	-0.229	-0.24	B0.5IV
29426	6	13	2.9	+14	12	9.9	93.262200	+14.202739	4.45	-0.180	-0.16	B3IV
29434	6	13	10.8	+16	7	27.6	93.294824	+16.124341	4.95	-0.149	-0.12	B5Vn

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α		δ		V	U-V	B-V	Espectro
	NH	h	m	s	°	'	"	°	°					
29651	6	15	48.4	-6	16	55.7	93.951730	-6.282143	3.99	1.319	1.27		K3III	
29655	6	16	3.3	+22	29	57.9	94.013687	+22.499423	3.31	1.600	2.70		M3III	
29696	6	16	37.2	+29	29	20.6	94.155121	+29.489069	4.32	1.021	1.04		G8IIIvar	
29735	6	16	38.5	-13	43	34.1	94.160450	-13.726139	5.00	-0.078	-0.05		B9V	
29807	6	17	14.8	-35	8	52.9	94.311663	-35.148035	4.37	0.978	0.94		G8II	
29997	6	20	59.4	+69	18	35.3	95.247702	+69.309807	4.76	0.025	0.05		A0Vn	
30060	6	21	20.5	+59	0	5.1	95.335489	+59.001410	4.44	0.032	0.05		A2Vs	
30093	6	20	58.2	-2	57	15.1	95.242516	-2.954186	4.91	1.613	1.90		M1III	
30122	6	21	3.7	-30	4	23.3	95.265566	-30.073132	3.02	-0.160	-0.20		B2.5V	
30277	6	22	49.6	-33	26	50.3	95.706748	-33.447314	3.85	0.858	0.88		G7II	
30324	6	23	33.5	-17	58	0.7	95.889705	-17.966856	1.98	-0.240	-0.24		B1II/III	
30343	6	24	8.4	+22	30	6.7	96.034978	+22.501854	2.87	1.621	2.30		M3IIIvar	
30419	6	24	48.1	+4	34	53.2	96.200359	+4.581444	4.39	0.215	0.25		A5IV	
30438	6	24	23.1	-52	42	25.0	96.096244	-52.706956	-0.62	0.164	0.23		F0Ib	
30520	6	26	23.9	+49	16	32.7	96.599707	+49.275757	4.92	1.905	1.94		K5Iabvar	
30788	6	28	53.6	-32	35	36.3	97.223397	-32.593416	4.47	-0.169	-0.16		B4V	
30867	6	29	45.8	-7	2	48.9	97.440918	-7.046925	3.76	-0.113	-0.11		B3Ve	
30883	6	30	7.2	+20	11	53.2	97.530148	+20.198103	4.13	-0.115	-0.10		B6III	
31125	6	32	40.1	-23	26	1.0	98.167242	-23.433616	4.34	-0.245	-0.24		B1III	
31216	6	33	57.5	+7	19	1.8	98.489521	+7.317156	4.47	0.023	0.09		A0Ib	
31407	6	35	24.4	-52	59	31.7	98.851553	-52.992146	4.35	-0.021	0.06		B9III	
31416	6	35	52.4	-22	58	53.2	98.968527	-22.981432	4.54	-0.035	-0.01		A0III	
31592	6	37	32.1	-19	16	25.5	99.383706	-19.273762	3.95	1.037	1.02		K1III+...	
31681	6	38	50.2	+16	22	51.0	99.709180	+16.380842	1.93	0.001	0.04		A0IV	
31685	6	38	21.5	-43	12	50.0	99.589550	-43.213898	3.17	-0.103	-0.07		B8III SB	
31700	6	38	44.9	-18	15	20.1	99.687060	-18.255588	4.42	1.137	1.12		K0II/III	
31827	6	40	10.2	-14	9	52.3	100.042518	-14.164522	4.82	1.459	1.45		K2III	
31832	6	40	43.3	+42	28	11.0	100.180263	+42.469711	4.80	1.236	1.17		K3III	
31978	6	42	3.1	+9	52	34.3	100.512813	+9.876186	4.66	-0.233	-0.22		O7	
32246	6	45	7.9	+25	6	36.3	101.282712	+25.110096	3.06	1.377	1.22		A3mA6-A9	
32249	6	45	5.2	+13	12	24.4	101.271843	+13.206772	4.49	1.167	1.11		K1III	
32349	6	46	0.4	-16	44	39.4	101.501831	-16.744267	-1.44	0.009	-0.02		A0m...	
32362	6	46	23.0	+12	52	22.7	101.595827	+12.872981	3.35	0.443	0.48		F5IV	
32438	6	47	57.2	+59	25	10.1	101.988359	+59.419475	4.86	0.084	0.10		A3V	
32533	6	48	23.3	+8	0	52.9	102.097261	+8.014687	4.77	1.396	1.36		K4III	
32578	6	48	52.7	+2	23	21.7	102.219375	+2.389353	4.48	1.099	1.06		K0III	
32607	6	48	23.4	-61	57	46.0	102.097510	-61.962765	3.24	0.225	0.28		A7IV	
32759	6	50	34.2	-32	31	55.4	102.642434	-32.532043	3.50	-0.116	-0.10		B1.5IVne	
32761	6	50	16.7	-53	38	45.2	102.569686	-53.645877	4.41	0.899	0.92		G6II	
32768	6	50	25.2	-50	38	18.6	102.605022	-50.638496	2.94	1.207	1.14		K0III...	
32844	6	52	8.5	+41	45	22.7	103.035552	+41.756309	4.99	1.256	1.23		K3III	
32855	6	51	34.9	-34	23	28.9	102.895547	-34.391374	4.99	1.379	1.28		K2/K3III	
33018	6	54	4.3	+33	56	9.3	103.518106	+33.935916	3.60	0.102	0.14		A3III	
33092	6	54	23.5	-20	14	58.4	103.597968	-20.249556	4.82	-0.212	-0.21		B1Ib	
33152	6	54	56.5	-24	12	35.2	103.735511	-24.209769	3.89	1.740	1.58		K3Iab	
33160	6	55	5.8	-12	3	51.6	103.773986	-12.064341	4.08	1.418	1.49		K4III	
33202	6	55	44.6	+13	9	5.4	103.935823	+13.151512	4.73	0.321	0.36		F0Vp	
33302	6	56	28.2	-20	9	45.2	104.117415	-20.162559	4.66	0.374	0.46		F2IV/V	
33345	6	57	0.3	-14	4	11.7	104.251121	-14.069906	5.00	1.182	1.30		B9.5V	
33347	6	57	0.4	-17	4	50.7	104.251736	-17.080753	4.36	-0.063	0.01		B3Ib/II	
33357	6	56	47.2	-48	44	51.4	104.196484	-48.747598	4.94	1.668	2.05		M1III	
33449	6	58	57.6	+58	23	41.5	104.739887	+58.394851	4.35	0.850	0.85		G5III-IV	
33485	6	59	2.3	+45	4	0.3	104.759570	+45.066750	4.90	0.027	0.05		A2Vn	
33579	6	59	23.5	-28	59	59.0	104.848116	-28.999710	1.50	-0.211	-0.20		B2II	
33694	7	2	52.9	+76	56	54.8	105.720365	+76.948564	4.55	1.365	1.35		K4III	
33856	7	2	29.8	-27	57	49.9	105.624053	-27.963860	3.49	1.729	1.82		K4III	
33971	7	3	52.9	-4	16	7.9	105.970236	-4.268859	4.99	-0.195	-0.19		B1V	
33977	7	3	50.3	-23	51	46.5	105.959766	-23.862926	3.02	-0.077	-0.03		B3Ia	
34045	7	4	38.4	-15	39	48.1	106.160123	-15.663356	4.11	-0.112	-0.09		B8II	

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
34059	7	4	24.0	-49	36	47.3	106.100146	-49.613141	4.92	0.140	0.15	A4IV
34088	7	5	15.9	+20	32	24.2	106.316062	+20.540062	4.01	0.899	0.90	G3Ibv SB
34444	7	9	11.1	-26	25	31.0	107.296137	-26.425272	1.83	0.671	0.67	F8Ia
34481	7	8	34.6	-70	31	49.3	107.144050	-70.530373	3.78	1.006	0.94	G8IIIvar
34495	7	9	30.4	-39	41	16.4	107.376550	-39.687885	4.83	-0.179	-0.17	B3IV/V
34622	7	11	11.8	-4	16	7.9	107.799111	-4.268871	4.91	1.020	1.03	K0III
34693	7	12	22.7	+30	12	41.3	108.094638	+30.211466	4.41	1.261	1.25	K2III
34752	7	12	59.6	+39	17	12.7	108.248421	+39.286873	4.91	1.451	1.48	K4II-III
34769	7	12	51.6	-0	31	35.2	108.214957	-0.526431	4.15	-0.005	0.02	A2V
34834	7	13	7.0	-46	47	33.5	108.279116	-46.792636	4.49	0.324	0.40	F0IV
34899	7	13	48.4	-45	13	2.8	108.451504	-45.217445	4.87	-0.003	0.02	Ap
34922	7	14	8.1	-44	40	20.4	108.533561	-44.672321	4.42	1.331	3.46	M5e
34981	7	15	2.9	-26	23	14.0	108.762159	-26.387218	4.42	-0.170	-0.12	B3III
35020	7	15	10.4	-48	18	24.4	108.793353	-48.306769	4.75	-0.091	-0.07	B8/B9V
35037	7	15	36.1	-26	48	27.4	108.900570	-26.807607	4.01	-0.150	-0.08	B2IV/Ve
35205	7	17	21.9	-27	55	0.3	109.341267	-27.916738	4.66	1.589	2.11	M2III
35210	7	17	26.2	-23	21	4.9	109.359038	-23.351373	4.83	1.601	1.77	K4III
35228	7	16	49.0	-67	59	34.1	109.203971	-67.992810	3.97	0.760	0.78	F6II
35264	7	17	49.9	-37	8	0.4	109.457891	-37.133433	2.71	1.616	1.65	K3Ib
35350	7	19	12.7	+16	30	13.2	109.803090	+16.503653	3.58	0.106	0.12	A3V...
35363	7	19	0.0	-36	46	13.7	109.750024	-36.770474	4.65	-0.099	0.11	B2V+...
35384	7	20	0.6	+49	25	40.7	110.002346	+49.427979	5.00	0.087	0.16	A4III n
35412	7	19	29.1	-24	35	43.4	109.871308	-24.595399	4.88	-0.160	-0.06	O7f
35415	7	19	31.0	-24	59	27.9	109.879243	-24.991082	4.37	-0.132	-0.10	O9Ib
35550	7	21	17.2	+21	56	41.4	110.321506	+21.944842	3.50	0.374	0.44	F0IV...
35727	7	23	5.1	-19	3	17.8	110.771115	-19.054937	4.94	-0.039	0.01	B5II/III
35904	7	24	52.0	-29	20	31.8	111.216661	-29.342176	2.45	-0.083	0.01	B5Ia
36041	7	26	42.8	+9	14	10.3	111.678298	+9.236191	4.99	0.991	0.96	G8III
36046	7	26	56.1	+27	45	27.7	111.733852	+27.757693	3.78	1.024	1.01	G9III+...
36145	7	28	10.8	+49	10	15.0	112.044907	+49.170844	4.61	-0.001	0.02	A1V
36188	7	28	12.4	+8	14	54.9	112.051824	+8.248587	2.89	-0.097	-0.07	B8Vvar
36284	7	29	13.4	+8	53	4.7	112.306021	+8.884626	4.33	1.425	1.48	K3III SB
36366	7	30	21.8	+31	44	39.1	112.590932	+31.744192	4.16	0.320	0.40	F0V...
36377	7	29	51.0	-43	20	30.2	112.462327	-43.341731	3.25	1.509	1.54	K5III SB
36425	7	30	52.8	+11	57	53.2	112.720168	+11.964775	4.55	1.276	1.21	K2III
36431	7	30	41.1	-23	3	57.3	112.671359	-23.065914	4.85	0.243	0.35	A6Ib/II
36514	7	31	28.1	-31	0	15.4	112.867135	-31.004288	4.65	0.904	0.89	G2Ib...
36547	7	35	3.5	+82	22	6.1	113.764505	+82.368359	4.92	1.633	2.66	M4IIIa
36773	7	34	41.7	-14	34	2.1	113.673782	-14.567259	4.82	1.362	1.37	A4Ia
36795	7	34	53.3	-22	20	21.5	113.721984	-22.339293	4.44	0.521	0.60	F6V
36850	7	35	50.3	+31	50	37.2	113.959614	+31.843657	1.58	0.034	0.05	A2Vm
36917	7	36	9.9	-28	24	48.5	114.041146	-28.413474	4.65	-0.111	-0.12	B8V
36942	7	36	8.6	-52	34	40.8	114.036012	-52.578004	4.93	1.373	1.39	K3III
36962	7	37	7.3	+26	51	2.8	114.280351	+26.850776	4.06	1.540	1.66	K5III
37096	7	38	5.4	-35	0	48.0	114.522659	-35.013333	4.53	-0.081	-0.08	B8IV/V
37173	7	39	6.8	-25	24	36.6	114.778166	-25.410155	4.69	-0.100	-0.07	B8IV
37229	7	39	37.8	-26	50	57.3	114.907657	-26.849249	3.80	-0.159	-0.15	B5IV
37265	7	40	26.1	+34	32	16.5	115.108717	+34.537914	4.89	0.413	0.47	F3III
37279	7	40	19.3	+5	10	24.7	115.080287	+5.173531	0.40	0.432	0.49	F5IV-V
37297	7	40	8.6	-38	21	13.4	115.035749	-38.353717	4.84	-0.189	-0.17	B3V
37379	7	41	16.7	-15	18	37.1	115.319650	-15.310301	4.98	1.543	1.49	K3III
37447	7	42	10.7	-9	35	52.2	115.544643	-9.597842	3.94	1.022	1.01	K0III
37504	7	41	34.2	-72	39	9.4	115.392305	-72.652611	3.93	1.033	1.02	K0III
37609	7	44	38.8	+58	39	45.2	116.161550	+58.662569	4.93	0.104	0.17	A3IVn
37629	7	44	31.7	+28	50	4.9	116.131974	+28.834695	4.23	1.118	1.12	K1III SB
37648	7	44	19.6	-28	27	29.8	116.081823	-28.458273	4.63	1.632	1.76	K5III
37677	7	44	35.5	-29	0	8.9	116.147715	-29.002469	3.94	0.160	0.34	A2Iab
37740	7	45	37.4	+24	20	58.8	116.405648	+24.349664	3.57	0.932	0.90	G8III
37819	7	45	57.0	-38	1	0.5	116.487517	-38.016812	3.62	1.706	1.82	K4III

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
37826	7	46	30.4	+27	58	39.2	116.626523	+27.977558	1.16	0.991	0.97	K0IIIvar
37908	7	47	15.1	+18	27	39.7	116.812808	+18.461041	4.89	1.425	1.54	K5III
38070	7	48	53.8	-25	59	11.8	117.224229	-25.986624	4.40	-0.070	0.13	B1IV:nne
38089	7	48	55.0	-47	7	39.7	117.229047	-47.127691	4.69	1.039	1.03	K0III
38164	7	49	49.9	-46	25	23.1	117.458124	-46.423077	4.10	-0.160	-0.17	B0III
38170	7	50	6.9	-24	54	35.2	117.528635	-24.909782	3.34	1.218	1.08	G6Ia
38414	7	52	53.3	-40	37	37.0	118.221969	-40.626943	3.71	1.012	1.04	G5III...
38455	7	53	20.1	-38	54	51.0	118.333636	-38.914159	4.49	-0.188	-0.18	B2V
38500	7	53	36.6	-49	39	52.1	118.402462	-49.664476	4.63	-0.228	-0.24	B1.5Vp
38518	7	53	52.5	-48	9	16.3	118.468897	-48.154520	4.22	-0.130	-0.11	B0.5Ib
38538	7	54	41.2	+26	42	49.6	118.671853	+26.713784	4.97	0.098	0.14	A3V
38827	7	57	16.4	-53	2	7.1	119.318479	-53.035312	3.46	-0.177	-0.17	B3IVp
38835	7	57	41.9	-22	55	59.5	119.424377	-22.933200	4.20	0.718	0.75	F7/F8II
38901	7	58	26.8	-30	23	16.8	119.611522	-30.388000	4.76	0.151	0.24	A7III
38957	7	58	48.1	-49	17	54.7	119.700312	-49.298535	4.47	-0.180	-0.14	B1Vp +B2
39079	8	0	42.6	-3	44	2.2	120.177371	-3.733953	4.93	1.205	1.22	K2III
39095	8	0	44.5	-18	27	13.7	120.185336	-18.453813	4.61	0.087	0.11	A1V
39138	8	0	34.5	-63	37	18.5	120.143877	-63.621805	4.81	-0.173	-0.16	B3V
39211	8	2	12.8	-1	26	52.8	120.553395	-1.447996	4.69	1.475	1.54	K4III
39311	8	3	16.8	+2	16	47.1	120.819802	+2.279748	4.39	1.252	1.27	K2III
39424	8	4	42.7	+27	44	17.5	121.178082	+27.738192	4.94	1.130	1.09	K2III
39429	8	4	16.2	-40	3	32.1	121.067435	-40.058927	2.21	-0.269	-0.22	O5IAf
39757	8	8	22.5	-24	21	41.6	122.093701	-24.361569	2.83	0.458	0.42	F2mF5IIp
39794	8	7	59.1	-68	40	27.8	121.996370	-68.674393	4.35	-0.113	-0.10	B6IV
39847	8	9	54.9	+51	26	55.2	122.478870	+51.448668	4.78	0.048	0.10	A2V
39863	8	9	34.4	-3	2	30.3	122.393402	-3.041758	4.36	0.970	0.92	G2Ib
39903	8	9	19.9	-61	21	43.4	122.333002	-61.362047	4.74	0.437	0.53	F5V
39906	8	9	53.9	-19	18	11.3	122.474499	-19.303146	4.40	-0.160	-0.14	B5V
39953	8	10	8.0	-47	23	41.2	122.533398	-47.394784	1.75	-0.145	-0.14	WC8 +O9I
40084	8	12	11.2	-12	59	9.5	123.046628	-12.985960	4.72	0.939	0.93	K0III
40091	8	12	3.3	-39	40	39.1	123.013792	-39.677525	4.44	1.590	1.62	K4III
40096	8	12	5.4	-43	2	46.6	123.022649	-43.046271	4.73	0.164	0.30	A7Ib
40167	8	13	19.6	+17	35	15.1	123.331822	+17.587524	4.67	0.531	0.60	G0V
40259	8	14	13.7	-15	50	53.0	123.557269	-15.848056	4.99	1.066	1.02	G5Ib/II
40274	8	14	13.7	-35	57	33.5	123.557119	-35.959313	4.78	-0.110	-0.01	B2ne
40326	8	14	44.5	-40	24	29.9	123.685409	-40.408313	4.42	1.170	1.15	K1II/III
40526	8	17	34.3	+9	7	27.0	124.392823	+9.124176	3.53	1.481	1.47	K4III
40702	8	17	59.6	-76	58	50.6	124.498326	-76.980716	4.05	0.413	0.49	F5III
40706	8	19	17.1	-36	43	14.1	124.821371	-36.720570	4.44	0.222	0.25	A4m...
40888	8	20	1.4	-77	32	47.9	125.005969	-77.546635	4.34	1.161	1.10	K0III-IV
40945	8	22	9.1	-33	7	2.2	125.538051	-33.117291	4.83	1.419	1.35	K2/K3III
41037	8	22	54.7	-59	34	21.6	125.728084	-59.572661	1.86	1.196	1.16	K3III+B2V
41039	8	23	7.7	-48	33	13.3	125.782104	-48.553690	4.79	-0.146	-0.12	B1V
41075	8	24	9.8	+43	7	26.3	126.040847	+43.123981	4.25	1.550	1.61	K5III
41307	8	26	38.1	-3	58	16.2	126.658559	-3.971172	3.91	-0.012	-0.02	A0V
41312	8	25	56.6	-66	12	8.0	126.485815	-66.202224	3.77	1.132	1.10	K2IIIvar
41704	8	31	52.1	+60	39	4.0	127.967203	+60.651106	3.35	0.856	0.87	G4II-III
42134	8	35	47.3	-58	4	38.0	128.947044	-58.077221	4.84	0.981	0.98	K0III
42312	8	38	19.8	-43	3	29.0	129.582522	-43.058062	4.11	0.109	0.20	A6II
42313	8	38	41.2	+5	38	4.7	129.671739	+5.634643	4.14	0.003	0.02	A1Vnn
42402	8	39	46.5	+3	16	18.6	129.943827	+3.271846	4.45	1.216	1.12	K2III
42483	8	40	31.1	-29	37	53.0	130.129401	-29.631391	4.86	0.900	0.99	G5III
42509	8	40	56.9	-12	32	43.1	130.237060	-12.545309	4.98	1.415	1.40	K3III
42515	8	40	52.0	-35	22	42.3	130.216597	-35.378410	3.97	0.936	0.91	G5II/III
42527	8	41	53.9	+64	15	28.6	130.474484	+64.257933	4.59	1.179	1.18	K2III
42536	8	40	51.1	-52	59	30.0	130.212912	-52.991668	3.60	-0.168	-0.16	B3IV
42568	8	41	2.8	-59	49	51.8	130.261604	-59.831043	4.31	-0.117	-0.08	B1.5III
42570	8	41	16.4	-46	43	7.8	130.318413	-46.718831	3.77	0.670	0.92	F3Ia
42624	8	41	51.5	-47	23	14.7	130.464665	-47.387409	4.74	0.137	0.25	A5II

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
42662	8	42	37.6	-16	0	52.1	130.656762	-16.014467	4.87	1.063	1.04	K0IIICN...
42726	8	42	58.9	-53	11	4.6	130.745513	-53.184598	4.83	-0.173	-0.18	B3IV
42799	8	44	14.6	+3	19	39.2	131.060652	+3.327544	4.30	-0.192	-0.20	B3V...
42806	8	44	24.7	+21	23	49.7	131.102777	+21.397134	4.66	0.010	0.03	A1IV
42828	8	44	22.6	-33	15	27.1	131.094122	-33.257528	3.68	-0.180	-0.17	B1.5III
42835	8	44	37.8	-7	18	18.0	131.157507	-7.304996	4.63	0.840	0.85	G2Ib
42884	8	45	5.8	-42	43	14.3	131.274062	-42.720642	4.05	0.874	0.89	G5III
42911	8	45	47.4	+18	4	53.1	131.447615	+18.081408	3.94	1.083	1.01	K0III
42913	8	45	14.5	-54	46	51.4	131.310556	-54.780946	1.93	0.043	0.05	A1V
43023	8	46	41.3	-46	6	48.8	131.672261	-46.113546	3.87	0.015	0.09	A1III
43067	8	47	17.8	-13	37	11.9	131.824222	-13.619969	4.32	0.900	0.91	G8III
43103	8	47	52.4	+28	41	14.2	131.968240	+28.687284	4.03	1.007	0.96	G8Iab:
43105	8	47	12.8	-56	50	31.2	131.803201	-56.841987	4.50	-0.169	-0.16	B3Vne
43109	8	47	48.3	+6	20	46.4	131.951358	+6.346215	3.38	0.685	0.78	G0III-IV
43234	8	49	27.9	+5	45	52.9	132.366070	+5.764691	4.35	-0.044	-0.03	A0Vn
43347	8	50	28.1	-45	22	52.2	132.617242	-45.381168	4.94	0.043	0.06	A2III
43409	8	51	21.6	-27	46	58.9	132.840045	-27.783016	4.02	1.272	1.24	K3III
43783	8	55	29.2	-60	43	10.3	133.871811	-60.719523	3.84	-0.104	-0.08	B8III
43813	8	56	25.4	+5	52	13.0	134.105767	+5.870280	3.11	0.978	0.96	G8III-IV
43825	8	56	21.8	-27	45	28.1	134.090816	-27.757802	4.87	0.142	0.16	A3IV
43878	8	56	54.6	-52	47	56.4	134.227455	-52.799000	4.68	-0.115	-0.11	B5V
43937	8	57	27.0	-59	18	18.4	134.362462	-59.305098	4.93	-0.182	-0.21	B2IV-V
44066	8	59	33.1	+11	46	52.0	134.887910	+11.781123	4.26	0.141	0.14	A5m
44127	9	0	32.0	+47	57	50.2	135.133355	+47.963945	3.12	0.223	0.25	A7IV
44191	9	0	49.1	-41	19	48.7	135.204762	-41.330204	4.45	0.646	0.75	Fp
44248	9	1	53.8	+41	42	16.3	135.474185	+41.704540	3.96	0.463	0.53	F5V
44382	9	2	45.0	-66	28	27.2	135.687462	-66.474214	4.00	0.145	0.15	Am
44390	9	4	16.6	+67	33	6.6	136.069013	+67.551838	4.74	1.542	2.15	M3III
44471	9	4	56.9	+47	4	41.0	136.236929	+47.078052	3.57	0.007	0.03	A1Vn
44511	9	4	49.7	-47	10	33.7	136.207025	-47.176025	3.75	1.174	1.11	K2III
44599	9	5	11.1	-72	40	52.3	136.296435	-72.681188	4.47	0.607	0.67	F6II-III
44626	9	5	47.4	-70	37	1.5	136.447449	-70.617079	4.66	-0.149	-0.13	B2IVe
44659	9	6	59.9	+5	0	48.1	136.749473	+5.013368	4.99	1.189	1.17	K2II-III
44700	9	7	45.8	+38	22	22.9	136.940883	+38.373035	4.56	1.037	0.97	G8Ib-II
44816	9	8	42.9	-43	30	43.2	137.178553	-43.512004	2.23	1.665	1.69	K4Ib-II
44824	9	8	54.3	-25	56	17.0	137.226153	-25.938065	4.62	1.594	1.66	K4/K5III
44901	9	10	14.1	+51	31	28.5	137.558901	+51.524593	4.46	0.288	0.30	Am
45038	9	12	4.9	+67	3	11.2	138.020581	+67.053104	4.80	0.489	0.57	F7IV-V
45075	9	12	30.3	+63	25	57.8	138.126121	+63.432731	4.67	0.381	0.45	Am
45080	9	11	28.9	-59	2	50.0	137.870274	-59.047230	3.43	-0.190	-0.17	B2IV
45085	9	11	46.9	-44	56	54.1	137.945496	-44.948354	4.99	0.222	0.36	B5Ia
45101	9	11	43.2	-62	23	50.6	137.930011	-62.397389	3.96	-0.180	-0.18	B3IV
45238	9	13	24.4	-69	47	51.6	138.351508	-69.797678	1.67	0.070	0.02	A2IV
45336	9	15	22.6	+2	13	51.7	138.844330	+2.231039	3.89	-0.060	-0.07	B9.5V
45439	9	16	22.9	-38	39	6.9	139.095380	-38.651909	4.92	1.084	1.06	K1III
45448	9	16	32.0	-37	29	42.5	139.133212	-37.495141	4.63	0.473	0.52	F3/F5V
45493	9	17	34.8	+53	56	24.0	139.394950	+53.939998	4.80	0.199	0.26	A5V
45496	9	16	45.1	-57	37	25.0	139.187953	-57.623615	4.34	1.602	1.83	M1III
45556	9	17	36.7	-59	21	27.0	139.402931	-59.357489	2.21	0.189	0.28	A8Ib
45688	9	20	3.1	+36	43	8.2	140.012848	+36.718943	3.82	0.066	0.12	A1V
45751	9	20	42.7	-12	3	28.8	140.178063	-12.058003	4.77	0.927	0.91	G8III
45811	9	21	26.1	-9	38	21.4	140.358888	-9.639276	4.80	0.913	0.92	F5V+...
45856	9	21	24.8	-62	29	17.3	140.353454	-62.488133	4.79	0.926	0.96	G6III
45860	9	22	14.2	+34	18	32.4	140.559338	+34.309001	3.14	1.550	1.65	M0IIIvar
45902	9	22	21.4	-26	2	57.2	140.589317	-26.049216	4.71	1.633	1.91	M0III
45941	9	22	43.1	-55	5	40.1	140.679531	-55.094480	2.47	-0.141	-0.17	B2IV
46026	9	24	2.9	-28	55	4.8	141.012287	-28.917997	4.71	0.892	0.91	G8III
46146	9	25	47.2	+26	5	50.5	141.446480	+26.097350	4.47	1.222	1.20	K2III
46371	9	28	12.0	-22	25	48.2	142.049939	-22.430063	4.72	1.154	1.11	K1III

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
46390	9	28	32.7	-8	44	38.3	142.136336	-8.743967	1.99	1.440	1.39	K3III
46509	9	30	8.2	-2	51	17.9	142.534168	-2.854986	4.59	0.411	0.52	F6V
46515	9	30	3.1	-36	2	14.3	142.512867	-36.037313	4.51	1.408	1.37	K3III
46651	9	31	28.2	-40	33	10.5	142.867631	-40.552921	3.60	0.371	0.43	F2IV
46701	9	31	48.9	-57	7	15.2	142.953799	-57.120887	3.16	1.538	1.59	K5III
46733	9	33	2.7	+62	58	30.9	143.261291	+62.975245	3.65	0.360	0.41	F0IV
46750	9	32	49.8	+22	52	51.6	143.207373	+22.880998	4.32	1.541	1.63	K5IIIvar
46771	9	32	59.7	+11	12	45.2	143.248665	+11.212552	4.99	1.046	0.89	K0IIIvar
46776	9	32	58.5	-1	16	17.4	143.243867	-1.271502	4.54	0.109	0.16	A3V
46853	9	34	9.0	+51	35	14.1	143.537512	+51.587259	3.17	0.475	0.56	F6IV
46952	9	35	24.7	+36	18	35.8	143.852883	+36.309955	4.54	0.914	0.91	G8III
46974	9	35	0.6	-59	19	1.8	143.752567	-59.317172	4.08	-0.013	0.01	B5II
46977	9	36	10.3	+69	44	35.3	144.042992	+69.743149	4.54	0.781	0.83	G4III-IV
47006	9	36	8.9	+51	57	49.0	144.037110	+51.963608	4.47	0.027	0.08	A2V
47029	9	36	16.4	+39	32	2.0	144.068378	+39.533892	4.81	0.992	1.00	K0III
47175	9	37	31.5	-49	26	34.5	144.381208	-49.442927	4.34	0.173	0.18	A5V
47193	9	39	43.5	+81	14	16.2	144.931204	+81.237822	4.28	1.488	1.46	K3III
47205	9	38	14.3	+6	44	51.3	144.559703	+6.747578	5.00	1.051	1.03	K1IIIvar
47310	9	39	28.2	+4	33	37.4	144.867629	+4.560395	4.68	1.310	1.35	K3III
47391	9	39	53.4	-61	25	0.3	144.972569	-61.416762	4.51	-0.070	-0.06	B9V
47431	9	40	51.1	-1	13	55.8	145.212774	-1.232159	3.90	1.313	1.29	K3IIIvar
47508	9	42	11.4	+9	48	9.9	145.547322	+9.802744	3.52	0.516	0.59	A5V+...
47522	9	42	10.4	-23	40	51.1	145.543532	-23.680872	4.76	-0.117	-0.10	B5V
47592	9	43	7.3	-24	0	13.5	145.780266	-24.003753	4.93	0.534	0.58	G0V
47758	9	45	4.3	-27	51	33.9	146.267974	-27.859412	4.78	0.516	0.61	A7V+...
47854	9	45	47.0	-62	35	53.7	146.445650	-62.598237	3.69	1.010	1.03	G5Iab/Ib
47908	9	46	57.3	+23	41	0.9	146.738582	+23.683591	2.97	0.808	0.81	G0II
48002	9	47	35.3	-65	9	46.2	146.897143	-65.162836	2.92	0.273	0.42	A9
48319	9	52	21.6	+58	56	45.4	148.089886	+58.945943	3.78	0.291	0.39	F0IV
48356	9	52	25.0	-14	56	19.5	148.104154	-14.938754	4.11	0.918	0.92	G6/G8III
48374	9	52	26.0	-46	38	22.6	148.108264	-46.639624	4.58	1.172	1.10	G5Ib
48402	9	53	25.2	+53	58	19.9	148.355027	+53.972203	4.55	0.038	0.09	A3IV
48455	9	53	52.1	+25	54	51.4	148.467122	+25.914279	3.88	1.222	1.13	K0III
48559	9	55	5.4	-26	1	29.0	148.772495	-26.024735	4.87	1.199	1.19	K2III
48615	9	55	47.4	-19	6	8.8	148.947658	-19.102432	4.94	1.559	1.75	K5III
48774	9	57	32.9	-54	39	40.0	149.387249	-54.661101	3.52	-0.067	-0.04	B5Ib
49029	10	1	14.5	+7	56	59.8	150.310568	+7.949935	4.68	1.589	1.96	M2III
49402	10	6	4.5	-13	9	35.3	151.518604	-13.159809	4.60	-0.087	-0.07	B8V
49583	10	8	23.6	+16	40	0.7	152.098233	+16.666861	3.48	-0.031	0.06	A0Ib
49593	10	8	34.4	+35	8	55.9	152.143412	+35.148865	4.49	0.190	0.19	A7V
49637	10	8	56.3	+9	54	4.4	152.234375	+9.901231	4.39	1.448	1.51	K4III
49641	10	8	56.1	-0	28	3.3	152.233778	-0.467585	4.48	-0.032	-0.01	A0III
49669	10	9	24.5	+11	52	16.3	152.352031	+11.871206	1.36	-0.087	-0.10	B7V
49712	10	9	40.8	-51	54	26.6	152.419805	-51.907378	4.85	-0.120	-0.10	B3IV
49841	10	11	32.3	-12	27	4.1	152.884733	-12.451136	3.61	1.007	0.96	K0III
50099	10	14	11.9	-70	8	6.0	153.549742	-70.134987	3.29	-0.074	-0.03	B8III
50191	10	15	33.4	-42	13	8.5	153.889232	-42.219041	3.85	0.051	0.03	A2V
50335	10	17	46.3	+23	19	10.1	154.442812	+23.319465	3.43	0.307	0.39	F0III
50371	10	17	44.2	-61	25	48.4	154.434153	-61.430111	3.39	1.541	1.45	K3II
50372	10	18	15.9	+42	48	58.4	154.566142	+42.816234	3.45	0.029	0.05	A2IV
50555	10	20	20.9	-55	7	39.5	155.087067	-55.127645	4.59	1.600	1.50	K3II
50564	10	20	47.7	+19	22	16.7	155.198618	+19.371317	4.78	0.452	0.53	F6IV
50583	10	21	2.7	+19	44	31.9	155.261174	+19.742181	2.01	1.128	1.17	K0III
50676	10	21	38.5	-56	8	30.6	155.410508	-56.141833	4.50	-0.102	-0.08	B3III
50799	10	23	9.9	-41	44	54.7	155.791383	-41.748536	4.82	1.095	1.06	K1IIIvar
50801	10	23	29.0	+41	24	2.7	155.870860	+41.400763	3.06	1.603	1.77	M0III SB
50847	10	23	32.9	-67	0	1.6	155.887242	-67.000447	4.97	-0.128	-0.12	B8V
50933	10	25	30.8	+65	28	1.2	156.378524	+65.466999	4.94	-0.052	-0.02	A0sp...
50954	10	24	46.6	-74	7	51.7	156.194358	-74.131028	3.99	0.369	0.43	F2IV

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
51056	10	27	1.6	+33	41	46.2	156.756464	+33.696175	4.72	0.260	0.31	F0V
51069	10	27	2.1	-16	56	10.9	156.758603	-16.936369	3.83	1.456	1.47	K4III
51172	10	28	2.8	-31	10	3.2	157.011493	-31.167559	4.28	1.429	1.47	K4III
51192	10	28	8.3	-57	44	19.1	157.034477	-57.738650	4.65	0.474	0.69	A6Ia
51232	10	28	35.9	-58	50	21.6	157.149540	-58.839342	3.81	0.317	0.41	F2II
51233	10	29	0.3	+36	36	23.8	157.251167	+36.606621	4.20	0.908	0.89	G8III-IV
51438	10	30	49.6	-72	5	36.0	157.706786	-72.093337	4.72	0.042	0.06	A2III
51459	10	31	51.7	+55	52	47.5	157.965249	+55.879856	4.82	0.541	0.58	F8V
51495	10	31	29.3	-73	19	19.0	157.871879	-73.321949	4.94	1.677	1.71	K4/K5III
51523	10	32	7.5	-53	48	53.7	158.031199	-53.814920	4.89	0.500	0.58	F6V
51576	10	32	43.3	-61	47	9.5	158.180382	-61.785968	3.30	-0.089	0.02	B4Vne
51624	10	33	50.2	+9	12	20.5	158.459091	+9.205700	3.84	-0.148	-0.13	B1Ib SB
51658	10	34	21.7	+40	19	28.8	158.590536	+40.324656	4.72	0.222	0.23	A7IV
51808	10	36	41.8	+75	36	41.6	159.173971	+75.611557	4.86	0.957	0.94	K0III
51839	10	35	41.0	-78	42	32.3	158.920995	-78.708977	4.11	1.580	1.71	M0III
51849	10	36	20.5	-57	39	32.2	159.085377	-57.658957	4.45	1.604	1.62	K3/K4II
51979	10	38	8.7	-27	30	50.9	159.536452	-27.514126	4.87	1.626	1.89	M1III
51986	10	38	7.6	-48	19	38.1	159.531532	-48.327243	3.84	0.300	0.35	A3m+...
52009	10	38	31.1	-13	29	11.1	159.629587	-13.486419	4.89	2.800	2.27	C
52085	10	39	32.0	-16	58	41.7	159.883439	-16.978261	4.91	0.922	0.85	G8III
52098	10	39	48.8	+31	52	27.9	159.953177	+31.874406	4.68	0.823	0.82	G0II
52102	10	39	29.8	-59	17	5.4	159.874115	-59.284840	4.69	1.562	1.63	K4/K5III:
52154	10	40	5.2	-55	42	18.7	160.021726	-55.705186	4.29	1.025	0.96	G2II
52370	10	42	55.9	-64	34	7.6	160.732931	-64.568766	4.76	-0.139	-0.13	B3V
52419	10	43	39.4	-64	29	48.8	160.914176	-64.496899	2.74	-0.220	-0.24	B0Vp
52468	10	44	17.1	-60	40	9.2	161.071338	-60.669211	4.58	1.700	1.79	K3Ib
52502	10	44	49.5	-64	3	49.3	161.206335	-64.063700	4.80	-0.134	-0.12	B5Vn
52633	10	45	56.7	-80	38	35.0	161.486188	-80.643060	4.45	-0.188	-0.19	B2.5IV
52727	10	47	36.7	-49	31	25.2	161.903074	-49.523654	2.69	0.901	0.91	G5III SB
52736	10	47	34.1	-64	29	11.5	161.892117	-64.486530	4.87	-0.149	-0.18	B3IV
52943	10	50	35.3	-16	17	45.9	162.647029	-16.296084	3.11	1.232	1.22	K0/K1III
53229	10	54	23.8	+34	6	33.3	163.599305	+34.109255	3.79	1.040	1.07	K0III-IV
53253	10	54	17.5	-58	57	25.2	163.573018	-58.957010	3.78	0.945	0.96	K0III-IV...
53295	10	55	5.6	+43	5	8.5	163.773541	+43.085684	4.66	-0.039	0.01	A1Vs
53417	10	56	39.9	+24	38	43.0	164.166370	+24.645288	4.30	0.016	0.07	A1
53502	10	57	37.8	-37	14	34.6	164.407395	-37.242931	4.60	1.006	0.99	K0III
53740	11	0	43.5	-18	24	10.6	165.181443	-18.402942	4.08	1.079	1.06	K1III
53773	11	1	3.2	-42	19	50.7	165.263273	-42.330745	4.37	0.116	0.13	A3IV
53807	11	1	34.0	+3	30	44.8	165.391800	+3.512439	4.84	1.144	1.13	K1III
53824	11	1	45.4	+5	59	46.8	165.439103	+5.996339	4.98	0.166	0.18	A5III
53907	11	2	49.3	-2	35	23.6	165.705624	-2.589899	4.73	1.593	1.77	K5III
53910	11	3	0.3	+56	16	38.9	165.751420	+56.277484	2.34	0.033	0.02	A1V
53954	11	3	22.1	+20	4	29.6	165.841949	+20.074881	4.42	0.053	0.03	A1m
54061	11	4	54.9	+61	38	43.8	166.228650	+61.645492	1.81	1.061	1.03	F7V comp
54182	11	6	1.3	+7	13	49.0	166.505434	+7.230265	4.62	0.332	0.39	F2III-IVvar
54204	11	6	16.4	-27	23	57.0	166.568412	-27.399164	4.92	0.369	0.43	F3IV/V
54301	11	7	20.8	-62	31	46.9	166.836684	-62.529700	4.62	0.988	0.97	G8III
54463	11	9	25.8	-59	4	51.2	167.357297	-59.080885	3.93	1.225	1.19	G0Ia0
54539	11	10	45.2	+44	23	32.5	167.688126	+44.392353	3.00	1.144	1.09	K1III
54682	11	12	37.2	-22	55	57.2	168.154864	-22.932568	4.46	0.025	0.04	A1V
54751	11	13	26.6	-60	25	26.0	168.360936	-60.423875	4.59	0.541	0.70	A6Ia
54872	11	15	8.6	+20	24	59.7	168.785688	+20.416586	2.56	0.128	0.12	A4V
54879	11	15	15.7	+15	19	21.7	168.815332	+15.322708	3.33	-0.003	0.01	A2V
54951	11	16	14.3	+22	59	20.2	169.059477	+22.988935	4.56	1.657	2.27	M3III
55084	11	17	39.2	-3	45	30.4	169.413312	-3.758441	4.45	0.210	0.25	A7IVn
55203	0	0	60.0	+0	6	30.7	0.249792	+0.108535	3.79	0.606	0.68	G0V
55219	11	19	31.7	+32	59	15.6	169.881914	+32.987653	3.49	1.400	1.37	K3III SB
55266	11	20	11.3	+38	4	42.0	170.047232	+38.078325	4.76	0.113	0.11	A2V
55282	11	20	19.0	-14	53	3.4	170.079272	-14.884280	3.56	1.112	1.12	K0III

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α		δ		V	U-V	B-V	Espectro
	NH	h	m	s	°	'	"	°	°					
55425	11	21	54.2	-54	35	52.9	170.475642	-54.598035	3.90	-0.157	-0.16	B5Vn		
55434	11	22	8.5	+5	55	20.0	170.535321	+5.922233	4.05	-0.058	-0.06	B9.5Vs		
55560	11	23	53.4	+43	22	31.7	170.972469	+43.375476	4.99	0.998	0.94	G8II		
55588	11	24	9.6	-36	16	19.0	171.039916	-36.271948	5.00	1.464	1.47	K4III		
55642	11	24	56.3	+10	25	18.7	171.234730	+10.421851	4.00	0.423	0.47	F2IV SB		
55687	11	25	35.7	-10	57	59.3	171.398946	-10.966468	4.81	1.556	1.67	K5III		
55705	11	25	51.5	-17	47	28.6	171.464524	-17.791290	4.06	0.216	0.24	A9V		
55945	11	28	56.4	+2	44	55.3	172.234950	+2.748701	4.95	1.000	0.95	G8II-III		
56127	11	31	18.7	-3	6	40.5	172.827887	-3.111251	4.77	1.529	1.62	K4III		
56211	11	32	32.4	+69	13	23.7	173.135066	+69.223249	3.82	1.613	1.79	M0IIIvar		
56280	11	33	14.6	-29	22	4.8	173.310788	-29.367999	4.93	0.540	0.61	F8V		
56343	11	33	57.9	-31	57	56.4	173.491120	-31.965663	3.54	0.947	0.92	G8III		
56480	11	35	41.6	-54	22	18.8	173.923201	-54.371901	4.62	-0.077	-0.06	B9V		
56561	11	36	41.4	-63	7	40.2	174.172620	-63.127831	3.11	-0.044	-0.01	B9II:		
56633	11	37	40.3	-9	54	36.8	174.418060	-9.910229	4.70	-0.073	-0.06	B9.5Vn		
56647	11	37	56.8	-0	55	53.5	174.486847	-0.931520	4.30	0.983	0.98	G9III		
56922	11	41	11.1	-34	51	10.2	175.296442	-34.852820	4.70	-0.070	-0.05	B9V		
56986	11	41	49.5	-62	11	53.8	175.456408	-62.198272	4.93	1.111	1.11	G3Ib		
57175	11	44	27.6	-62	35	51.6	176.115114	-62.597660	5.00	0.784	0.87	F9Ia		
57283	11	45	45.2	-18	27	32.8	176.438360	-18.459120	4.71	0.958	0.94	G8III		
57328	11	46	17.3	+8	8	58.8	176.572092	+8.149668	4.84	0.174	0.19	A4V		
57363	11	46	32.3	-66	50	12.9	176.634778	-66.836915	3.63	0.160	0.17	A7III		
57380	11	46	51.7	+6	25	12.2	176.715245	+6.420046	4.04	1.501	1.79	M0III		
57399	11	47	4.4	+47	40	16.4	176.768216	+47.671213	3.69	1.181	1.15	K0III		
57439	11	47	28.0	-61	17	12.7	176.866757	-61.286848	4.11	0.895	0.88	G0II		
57443	11	47	27.1	-40	36	23.4	176.862929	-40.606499	4.89	0.664	0.73	G3/G5V		
57565	11	48	59.4	+20	6	37.8	177.247342	+20.110511	4.50	0.547	0.69	A comp SB		
57581	11	49	11.6	-66	55	24.3	177.298285	-66.923403	4.75	1.522	1.62	K4III		
57632	11	50	3.2	+14	27	46.9	177.513150	+14.463014	2.14	0.090	0.10	A3Vvar		
57669	11	50	38.7	-63	53	48.8	177.661192	-63.896889	4.30	-0.149	-0.09	B3V		
57696	11	50	53.5	-70	20	3.3	177.722907	-70.334241	4.98	1.360	1.31	G5Ib		
57757	11	51	42.7	+1	39	17.2	177.927810	+1.654775	3.59	0.518	0.61	F8V		
57803	11	52	7.5	-45	16	55.1	178.031453	-45.281980	4.47	1.283	1.24	K4III		
57851	11	52	49.2	-65	18	51.9	178.204908	-65.314420	4.89	-0.123	-0.11	B4V		
57936	11	53	53.9	-34	0	59.8	178.474474	-34.016601	4.29	-0.100	-0.07	Ap Si		
58001	11	54	50.9	+53	35	10.8	178.712126	+53.586320	2.41	0.044	0.06	A0V SB		
58484	12	0	37.3	-78	19	49.5	180.155524	-78.330420	4.88	-0.054	-0.02	B9Vn		
58590	12	1	52.3	+6	30	20.3	180.468008	+6.505627	4.65	0.122	0.14	A5V		
58758	12	4	1.8	-63	25	17.1	181.007513	-63.421419	4.32	0.280	0.36	Am		
58867	12	5	20.2	-63	16	27.2	181.334180	-63.274222	4.72	-0.081	-0.06	B2IV		
58948	12	6	12.1	+8	37	29.3	181.550405	+8.624800	4.12	0.967	0.96	G8III		
59072	12	7	54.7	-64	43	20.7	181.978047	-64.722414	4.14	0.353	0.41	F2III		
59173	12	9	6.3	-50	46	11.2	182.276244	-50.769791	4.46	-0.163	-0.16	B2IIIne		
59196	12	9	22.6	-50	49	51.3	182.344107	-50.830914	2.58	-0.128	-0.12	B2IVne		
59199	12	9	25.4	-24	50	15.2	182.355752	-24.837544	4.02	0.334	0.40	F0IV/V		
59316	12	11	7.8	-22	43	41.3	182.782639	-22.728127	3.02	1.326	1.23	K2III		
59449	12	12	40.8	-52	28	37.0	183.169861	-52.476943	3.97	-0.156	-0.17	B3V		
59747	12	16	11.5	-58	51	26.2	184.047965	-58.857268	2.79	-0.193	-0.25	B2IV		
59774	12	16	23.0	+56	55	27.8	184.095753	+56.924386	3.32	0.077	0.03	A3Vvar		
59803	12	16	48.7	-17	39	0.2	184.202864	-17.650067	2.58	-0.107	-0.10	B8III		
59847	12	17	19.6	+23	50	13.7	184.331677	+23.837134	4.93	0.957	0.94	K0III		
59856	12	17	28.7	+32	57	9.6	184.369779	+32.952676	4.99	1.140	1.12	K1III		
59929	12	18	38.5	-68	4	8.7	184.660444	-68.069077	4.06	1.603	2.82	M5III		
60000	12	19	32.0	-79	25	13.2	184.883152	-79.420338	4.24	-0.123	-0.11	B5Vn		
60009	12	19	30.5	-64	6	40.6	184.877195	-64.111291	4.06	-0.168	-0.18	B2.5V		
60129	12	20	54.3	-0	46	30.1	185.226076	-0.775035	3.89	0.026	0.03	A2IV		
60172	12	21	20.4	+3	12	14.9	185.335036	+3.204143	4.97	1.172	1.19	K1III		
60202	12	21	42.1	+17	41	7.0	185.425226	+17.685283	4.72	1.010	1.02	G8III		
60260	12	22	25.5	-60	30	31.3	185.606193	-60.508683	3.59	1.389	1.39	K3/K4III		

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α		δ		V	U-V	B-V	Espectro
	NH	h	m	s	°	'	"	°	°					
60351	12	23	29.0	+25	44	17.2	185.870773	+25.738123	4.78	0.515	0.61	F8:p...		
60485	12	24	58.0	+51	27	15.9	186.241573	+51.454404	4.76	0.877	0.89	G7III		
60697	12	27	22.4	+27	9	37.4	186.843434	+27.160392	4.92	0.277	0.28	F0p		
60710	12	27	35.5	-51	33	30.5	186.897926	-51.558468	4.82	-0.141	-0.16	B3Vn		
60718	12	27	41.8	-63	12	25.0	186.924271	-63.206947	0.77	-0.243	-0.26	B0.5IV		
60742	12	27	54.4	+28	9	36.8	186.976789	+28.160220	4.35	1.128	1.04	K2IIICN+...		
60746	12	27	57.7	+26	43	4.4	186.990240	+26.717893	4.98	0.088	0.05	A4V		
60823	12	29	6.2	-50	20	18.2	187.275686	-50.338395	3.91	-0.192	-0.20	B3V		
60965	12	30	52.5	-16	37	25.6	187.718922	-16.623780	2.94	-0.012	-0.04	B9.5V		
61084	12	32	15.5	-57	13	19.8	188.064775	-57.222159	1.59	1.600	2.37	M4III		
61174	12	33	4.7	-16	18	13.6	188.269461	-16.303768	4.30	0.388	0.44	F2V		
61199	12	33	39.4	-72	14	25.5	188.414176	-72.240424	3.84	-0.157	-0.14	B5V		
61281	12	34	18.3	+69	40	51.4	188.576155	+69.680950	3.85	-0.116	-0.02	B6IIIp		
61317	12	34	39.9	+41	15	6.3	188.666064	+41.251758	4.24	0.588	0.67	G0V		
61359	12	35	24.9	-23	30	15.6	188.853751	-23.504345	2.65	0.893	0.88	G5II		
61384	12	35	32.9	+69	54	52.2	188.887225	+69.914501	4.95	1.312	1.27	K2III		
61394	12	35	49.3	+22	31	19.8	188.955360	+22.522168	4.80	0.012	0.03	A0IV		
61585	12	38	22.1	-69	14	33.7	189.591945	-69.242696	2.69	-0.176	-0.23	B2IV-V		
61622	12	38	46.6	-48	38	54.1	189.694369	-48.648367	3.85	0.049	0.06	A2V		
61740	12	40	15.2	-8	6	9.4	190.063541	-8.102606	4.66	1.240	1.15	K2III		
61789	12	40	56.2	-40	5	39.4	190.234361	-40.094291	4.63	-0.082	-0.06	B8II/III		
61932	12	42	36.1	-49	3	59.8	190.650350	-49.066607	2.20	-0.023	-0.01	A1IV		
61941	12	42	38.9	-1	33	20.7	190.662105	-1.555746	2.74	0.368	0.43	FOV+...		
61960	12	42	52.3	+10	7	42.4	190.717737	+10.128450	4.88	0.076	0.08	A0V		
61966	12	43	4.7	-59	47	33.0	190.769534	-59.792512	4.91	-0.044	-0.02	B6IV		
62012	12	43	40.7	-48	55	11.6	190.919733	-48.919893	4.66	1.075	1.03	K0III		
62268	12	46	47.7	-61	5	16.8	191.698890	-61.088009	4.69	1.049	1.03	K1III		
62322	12	47	29.8	-68	12	52.0	191.874249	-68.214447	3.04	-0.178	-0.19	B2V		
62327	12	47	30.6	-56	35	42.6	191.877515	-56.595161	4.62	-0.150	-0.16	B3V		
62434	12	48	52.4	-59	47	41.9	192.218450	-59.794967	1.25	-0.238	-0.27	B0.5III		
62683	12	51	45.0	-34	6	18.8	192.937384	-34.105216	4.90	-0.031	-0.01	B9V		
62763	12	52	38.8	+27	26	5.7	193.161661	+27.434930	4.93	0.681	0.70	G0III		
62867	12	54	13.7	-49	2	56.5	193.556876	-49.049026	4.33	1.344	1.33	K3/K4III		
62886	12	54	15.3	+21	8	21.1	193.563692	+21.139207	4.89	0.904	0.91	G8III		
62896	12	54	31.4	-40	17	4.3	193.630884	-40.284529	4.25	0.224	0.27	A4IV		
62956	12	54	52.9	+55	51	15.4	193.720431	+55.854287	1.76	-0.022	-0.04	A0p		
62985	12	55	22.1	-9	38	40.4	193.842220	-9.644542	4.77	1.590	2.18	M3IIIvar		
63003	12	55	45.1	-57	17	0.3	193.938122	-57.283403	4.03	-0.180	-0.26	B2IV-V		
63007	12	55	49.5	-59	15	7.8	193.956154	-59.252179	4.62	-0.153	-0.15	B4Vn		
63090	12	56	35.2	+3	17	30.8	194.146530	+3.291880	3.39	1.571	2.24	M3III		
63125	12	56	56.2	+38	12	48.3	194.234221	+38.213426	2.89	-0.115	-0.13	A0spe...		
63355	12	59	53.3	+17	18	17.0	194.971884	+17.304729	4.76	1.568	1.79	M0III		
63462	13	1	12.3	+30	40	48.9	195.301380	+30.680241	4.88	1.165	1.13	K1IIIp		
63503	13	1	33.6	+56	15	42.0	195.390017	+56.261658	4.93	0.368	0.45	F2V		
63608	13	3	8.8	+10	51	17.1	195.786762	+10.854757	2.85	0.934	0.83	G8IIIvar		
63613	13	3	38.6	-71	39	12.4	195.910651	-71.653447	3.61	1.190	1.17	K2III		
63724	13	4	41.6	-49	37	53.9	196.173367	-49.631639	4.83	0.029	0.05	A0V		
63945	13	7	25.1	-48	34	2.4	196.854444	-48.567320	4.71	-0.148	-0.14	B5V		
64004	13	8	3.5	-50	0	36.6	197.014717	-50.010177	4.27	-0.182	-0.18	B1.5V		
64022	13	8	6.8	+27	31	13.9	197.028218	+27.520526	4.80	1.482	1.55	K5III		
64166	13	10	6.5	-23	13	18.7	197.527187	-23.221859	4.94	1.048	1.02	K0III		
64238	13	10	57.7	-5	38	33.5	197.740278	-5.642636	4.38	-0.008	0.01	A1V		
64241	13	10	56.1	+17	25	36.1	197.733870	+17.426697	4.32	0.455	0.53	F5V		
64394	13	12	46.9	+27	46	47.5	198.195338	+27.779850	4.23	0.572	0.67	G0V		
64408	13	13	8.8	-37	54	21.2	198.286681	-37.905899	4.85	0.693	0.73	G3V		
64425	13	13	31.6	-60	1	25.5	198.381533	-60.023763	4.58	-0.073	-0.07	B8V		
64540	13	14	35.8	+40	3	0.2	198.649279	+40.050068	4.94	1.061	1.03	K0III		
64583	13	15	28.5	-59	12	24.8	198.868543	-59.206879	4.90	0.489	0.56	F7IV		
64661	13	16	35.7	-67	59	50.2	199.148643	-67.997281	4.79	-0.078	-0.09	B8V		

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α		δ		V	U-V	B-V	Espectro
	NH	h	m	s	°	'	"	°	°					
64820	13	18	33.2	-66	53	8.9	199.638352	-66.885800	4.86	1.480	1.50		K2Ib/II	
64844	13	18	24.8	+40	28	13.4	199.603511	+40.470396	4.72	0.306	0.31		F3III	
64852	13	18	35.4	+5	22	3.5	199.647489	+5.367631	4.78	1.638	1.97		M2III	
64924	13	19	25.7	-18	25	9.1	199.857084	-18.419197	4.74	0.709	0.75		G5V	
64962	13	19	59.1	-23	16	25.7	199.996427	-23.273815	2.99	0.920	0.90		G8III	
65109	13	21	42.0	-36	48	52.5	200.424814	-36.814580	2.75	0.068	0.02		A2V	
65271	13	23	54.5	-61	5	23.7	200.977162	-61.089925	4.52	-0.141	-0.13		B3V	
65378	13	24	42.5	+54	49	26.3	201.176885	+54.823970	2.23	0.057	0.07		A2V	
65387	13	25	20.3	-64	38	13.2	201.334668	-64.636994	4.52	0.822	0.87		G5III-IV	
65474	13	26	13.4	-11	15	45.1	201.555661	-11.262529	0.98	-0.235	-0.25		B1V	
65477	13	26	0.2	+54	53	12.5	201.500912	+54.886816	3.99	0.169	0.19		A5V SB	
65639	13	28	29.7	-16	4	26.7	202.123952	-16.074096	4.76	1.096	1.02		K1IIICN...	
65721	13	29	23.0	+13	40	30.6	202.345977	+13.675156	4.97	0.714	0.77		G5V	
65936	13	32	10.9	-39	30	26.4	203.045518	-39.507347	3.90	1.186	1.10		G8II/III	
66006	13	32	58.8	-6	21	21.1	203.245116	-6.355873	4.68	1.606	2.06		M3III	
66200	13	35	7.3	+3	33	33.9	203.780332	+3.559421	4.92	0.029	0.03		A1p SrCrEu	
66234	13	35	14.9	+48	55	0.3	203.812148	+48.916752	4.68	0.132	0.10		A5V	
66249	13	35	41.3	-0	41	41.5	203.922055	-0.694861	3.38	0.114	0.12		A3V	
66257	13	35	39.9	+37	4	59.0	203.916401	+37.083063	4.91	0.404	0.55		F2IV SB	
66458	13	38	19.5	+36	11	46.5	204.581302	+36.196245	4.82	0.239	0.31		A7III	
66657	13	41	8.1	-53	33	53.0	205.283889	-53.564727	2.29	-0.171	-0.23		B1III	
66738	13	41	28.5	+54	35	0.3	205.368791	+54.583429	4.63	1.630	1.97		M2IIIvar	
66821	13	43	0.5	-54	39	26.8	205.751922	-54.657445	4.99	-0.055	-0.03		B8Vn+...	
67153	13	46	48.1	-33	8	29.8	206.700252	-33.141604	4.23	0.390	0.44		F3V	
67234	13	47	54.1	-51	31	47.2	206.975482	-51.529778	4.64	0.955	0.93		G8/K0III	
67275	13	48	11.3	+17	21	37.6	207.047212	+17.360439	4.50	0.508	0.51		F7V	
67301	13	48	18.4	+49	12	59.2	207.076750	+49.216458	1.85	-0.099	-0.08		B3V SB	
67457	13	50	34.9	-34	32	50.5	207.645294	-34.547372	4.19	1.520	3.00		M5III	
67459	13	50	25.1	+15	42	6.6	207.604468	+15.701846	4.05	1.520	1.60		K5IIIvar	
67464	13	50	40.9	-41	47	2.7	207.670499	-41.784072	3.41	-0.225	-0.24		B2IV	
67472	13	50	47.9	-42	34	12.2	207.699774	-42.570063	3.47	-0.170	-0.21		B2IV-Ve	
67480	13	50	38.1	+21	10	4.7	207.658904	+21.167966	4.92	1.432	1.38		K4III	
67494	13	50	56.1	-18	13	50.0	207.733582	-18.230558	4.96	1.059	1.09		K0III	
67627	13	52	0.1	+64	37	38.5	208.000466	+64.627354	4.58	1.572	2.35		M3III	
67665	13	52	39.0	+34	20	53.8	208.162520	+34.348285	4.76	1.611	1.63		K5III	
67669	13	52	57.5	-33	5	24.0	208.239477	-33.089998	4.32	-0.146	-0.12		B5	
67786	13	54	20.2	-32	1	23.2	208.584222	-32.023104	4.75	-0.111	-0.10		B4IV	
67927	13	55	36.8	+18	18	2.3	208.903267	+18.300632	2.68	0.580	0.65		G0IV	
68002	13	56	45.9	-47	23	0.6	209.191434	-47.383512	2.55	-0.176	-0.18		B2.5IV	
68191	13	59	4.8	-63	46	52.5	209.769912	-63.781254	4.71	1.075	1.05		K4III	
68245	13	59	27.9	-42	11	42.4	209.866089	-42.195122	3.83	-0.224	-0.23		B2IV	
68282	13	59	53.5	-44	53	52.3	209.973055	-44.897865	3.87	-0.208	-0.22		B2IV-V	
68520	14	2	38.4	+1	27	3.4	210.660084	+1.450934	4.23	0.121	0.14		A3V	
68523	14	2	57.0	-45	41	49.1	210.737545	-45.696970	4.34	0.598	0.65		F6II	
68702	14	5	13.0	-60	27	57.9	211.304120	-60.466082	0.61	-0.231	-0.25		B1III	
68756	14	4	55.1	+64	16	59.1	211.229509	+64.283072	3.67	-0.049	-0.08		A0III SB	
68862	14	7	14.7	-41	16	19.7	211.811063	-41.272132	4.36	-0.198	-0.21		B2V	
68895	14	7	29.2	-26	46	31.6	211.871708	-26.775443	3.25	1.091	1.10		K2III	
68933	14	7	50.2	-36	27	54.1	211.959084	-36.465025	2.06	1.011	1.01		K0IIIb	
69112	14	8	48.1	+77	27	21.1	212.200249	+77.455862	4.80	1.368	1.34		K3III	
69191	14	11	13.4	-53	31	51.0	212.805935	-53.530835	4.74	0.938	0.92		G8III	
69226	14	11	17.3	+25	0	0.1	212.821968	+25.000026	4.82	0.541	0.57		F9IVw	
69269	14	11	54.6	-16	23	35.8	212.977438	-16.393275	4.93	1.684	1.94		M1III	
69389	14	13	15.1	+2	19	6.5	213.312945	+2.318461	4.99	-0.118	-0.11		B9p Si	
69427	14	13	56.3	-10	21	48.9	213.484642	-10.363586	4.18	1.323	1.35		K3III	
69483	14	14	10.9	+51	41	57.7	213.545310	+51.699359	4.53	0.233	0.23		A8IV	
69673	14	16	33.0	+19	4	53.4	214.137680	+19.081487	-0.05	1.239	1.22		K2IIIp	
69701	14	17	2.3	-6	5	33.7	214.259726	-6.092689	4.07	0.511	0.59		F7V	
69713	14	16	51.3	+51	16	40.4	214.213778	+51.277878	4.75	0.236	0.19		A9V	

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α		δ		V	U-V	B-V	Espectro
	NH	h	m	s	°	'	"	°	°					
69732	14	17	7.4	+45	59	57.8	214.280969	+45.999398	4.18	0.087	0.04	A0sh		
69879	14	18	49.2	+35	25	12.9	214.705166	+35.420247	4.80	1.057	1.00	K1III		
69896	14	20	48.3	-81	5	49.8	215.201209	-81.097156	4.89	0.243	0.24	A2m...		
69974	14	20	10.1	-13	27	35.8	215.041976	-13.459937	4.52	0.128	0.11	A1V		
69996	14	20	39.7	-46	8	49.2	215.165326	-46.147011	3.55	-0.184	-0.18	B2.5IV		
70027	14	20	40.6	+16	13	6.4	215.169282	+16.218431	4.84	1.228	1.16	K3III		
70069	14	21	42.1	-56	28	30.6	215.425530	-56.475169	4.30	0.082	0.21	B6Ib		
70090	14	21	45.0	-37	58	26.2	215.437505	-37.973949	4.05	-0.030	-0.02	A0IV		
70104	14	21	57.8	-45	16	33.6	215.490787	-45.276005	4.78	0.310	0.36	F0IV		
70264	14	24	1.8	-58	32	49.3	216.007450	-58.547017	4.76	0.795	0.83	G8/K1+F/G		
70300	14	24	14.8	-39	35	59.4	216.061528	-39.599844	4.41	-0.185	-0.20	B2V		
70306	14	24	13.5	-27	50	33.2	216.056169	-27.842558	4.78	1.300	1.31	K3III		
70327	14	24	20.3	+8	21	31.4	216.084524	+8.358719	4.86	0.010	0.07	A0V		
70497	14	25	51.6	+51	45	40.2	216.465022	+51.761175	4.04	0.497	0.59	F7V		
70574	14	27	23.9	-45	18	30.7	216.849407	-45.308530	4.56	-0.147	-0.14	B2IV		
70576	14	27	26.6	-45	27	58.8	216.860784	-45.466328	4.33	0.434	0.58	A7:+...		
70638	14	30	16.8	-83	45	16.1	217.569912	-83.754467	4.31	1.300	1.30	K2III		
70692	14	27	30.4	+75	36	33.5	216.876754	+75.609297	4.25	1.431	1.42	K4III		
70753	14	29	19.3	-29	34	41.6	217.330248	-29.578234	4.97	-0.074	-0.05	B7/B8V		
70755	14	29	12.5	-2	18	52.0	217.302194	-2.314451	4.81	0.693	0.73	G2III		
71053	14	32	40.2	+30	17	11.9	218.167464	+30.286643	3.57	1.298	1.22	K3III		
71075	14	32	51.7	+38	13	25.3	218.215603	+38.223697	3.04	0.191	0.17	A7IIIvar		
71121	14	33	56.5	-50	32	32.6	218.485578	-50.542390	4.44	-0.177	-0.18	B2III		
71284	14	35	31.7	+29	39	40.5	218.882275	+29.661246	4.47	0.364	0.41	F3Vvvar		
71352	14	36	45.2	-42	14	32.3	219.188275	-42.242310	2.33	-0.157	-0.17	B1Vn+A		
71536	14	39	12.6	-49	30	34.5	219.802308	-49.509570	4.05	-0.152	-0.16	B5V		
71681	14	40	55.4	-60	54	54.0	220.230758	-60.915010	1.35	0.900	0.88	K1V		
71683	14	40	56.6	-60	54	51.8	220.235787	-60.914402	-0.01	0.710	0.69	G2V		
71762	14	41	38.6	+16	20	8.1	220.410747	+16.335596	4.49	-0.002	0.02	B9p MnHg		
71795	14	42	4.9	+13	38	44.1	220.520254	+13.645583	3.78	0.044	0.06	A3IVn		
71832	14	42	36.3	+8	4	45.4	220.651131	+8.079291	4.86	0.992	0.96	G8IIIvar		
71860	14	43	14.1	-47	28	14.5	220.808899	-47.470683	2.30	-0.154	-0.21	B1.5III		
71865	14	43	10.7	-37	52	33.7	220.794453	-37.876021	4.01	-0.157	-0.18	B2.5V		
71908	14	44	6.3	-65	3	30.8	221.026328	-65.058551	3.18	0.256	0.26	F1Vp		
71957	14	44	5.4	-5	44	31.2	221.022557	-5.742004	3.87	0.385	0.47	F2III		
71995	14	44	16.8	+26	26	44.9	221.069935	+26.445801	4.80	1.672	2.13	M3III		
72010	14	44	51.4	-35	15	23.2	221.214040	-35.256457	4.06	1.356	1.35	K3III		
72104	14	46	11.3	-35	16	23.7	221.547226	-35.273253	4.92	0.013	0.02	A0V		
72105	14	45	50.3	+26	59	34.3	221.459629	+26.992861	2.35	0.966	0.95	A0		
72125	14	46	9.1	+16	52	57.4	221.537844	+16.882619	4.60	0.972	0.94	K0III		
72220	14	47	14.2	+1	48	42.2	221.809004	+1.811712	3.73	-0.005	0.01	A0V		
72370	14	50	22.5	-79	7	30.5	222.593723	-79.125138	3.83	1.433	1.42	K5III		
72571	14	51	26.3	-28	2	25.6	222.859591	-28.040456	4.42	1.366	1.43	K3III		
72607	14	50	40.1	+74	4	32.8	222.666982	+74.075770	2.07	1.465	1.46	K4IIIvar		
72622	14	51	57.6	-16	7	18.2	222.990108	-16.121721	2.75	0.147	0.16	A3IV		
72631	14	52	1.9	-2	22	45.7	223.007754	-2.379358	4.93	0.988	0.97	G8...		
72659	14	52	17.4	+19	1	14.3	223.072534	+19.020641	4.54	0.720	0.82	G8V+K4V		
72683	14	52	55.2	-43	39	17.3	223.229820	-43.654792	4.32	-0.154	-0.14	B5IV		
73165	14	58	12.2	-4	25	29.4	224.550912	-4.424824	4.47	0.318	0.38	F0V		
73199	14	57	53.9	+65	51	18.5	224.474782	+65.855140	4.63	1.590	2.85	M5III		
73273	14	59	49.0	-43	12	40.3	224.954306	-43.211191	2.68	-0.184	-0.23	B2III		
73334	15	0	26.3	-42	10	52.0	225.109410	-42.181123	3.13	-0.208	-0.21	B2IV		
73473	15	2	1.0	-8	35	42.7	225.504167	-8.595205	4.91	0.000	0.07	B9.5V		
73555	15	2	40.8	+40	18	52.0	225.670151	+40.314439	3.49	0.956	0.89	G8III		
73568	15	2	57.8	+24	55	55.1	225.740743	+24.931981	4.80	1.506	1.54	K4III		
73620	15	3	53.2	+2	0	56.8	225.971848	+2.015774	4.39	1.026	1.04	K0III		
73695	15	4	25.9	+47	34	43.7	226.107750	+47.578805	4.83	0.647	0.71	G2V+G2V		
73714	15	5	13.0	-25	21	26.6	226.303959	-25.357384	3.25	1.674	2.23	M3/M4III		
73745	15	5	16.9	+26	52	21.1	226.320360	+26.872524	4.52	1.240	1.23	K2III		

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
73807	15	6	27.3	-47	7	34.1	226.613742	-47.126144	3.91	-0.144	-0.15	B5
73996	15	8	9.5	+24	47	39.1	227.039494	+24.794186	4.93	0.429	0.51	F5V
74117	15	10	9.9	-45	21	12.6	227.541304	-45.353498	4.07	-0.162	-0.18	B3V
74376	15	13	18.0	-48	48	37.8	228.324911	-48.810488	3.88	-0.029	-0.02	B9V
74392	15	13	20.2	-19	51	51.3	228.334132	-19.864238	4.54	-0.071	-0.06	Asp...
74395	15	13	41.8	-52	10	18.9	228.424149	-52.171911	3.41	0.918	0.91	G8III
74449	15	14	8.7	-44	34	21.5	228.536076	-44.572634	4.83	-0.177	-0.19	B3IV
74604	15	15	49.3	-31	35	26.1	228.955382	-31.590593	4.91	0.374	0.48	F3III
74666	15	16	17.3	+33	14	34.7	229.072286	+33.242986	3.46	0.961	0.96	G8III
74785	15	18	3.5	-9	27	13.3	229.514651	-9.453686	2.61	-0.071	-0.08	B8V
74824	15	19	3.3	-58	52	20.4	229.763908	-58.872336	4.07	0.088	0.08	A3V
74837	15	19	18.9	-63	40	50.6	229.828752	-63.680731	4.85	1.260	1.20	K2.5III
74857	15	19	1.3	-30	13	8.5	229.755479	-30.219031	4.35	1.100	1.03	K1II/III
74911	15	19	53.9	-47	56	43.8	229.974739	-47.945500	4.27	-0.086	-0.07	B8V
74946	15	20	45.5	-68	44	58.4	230.189496	-68.749545	2.87	0.014	0.04	A1V
75097	15	20	42.7	+71	45	52.6	230.178084	+71.764611	3.00	0.058	0.12	A3II-III
75141	15	22	39.5	-40	43	0.0	230.664655	-40.716680	3.22	-0.227	-0.23	B1.5IV
75177	15	23	3.0	-36	19	50.6	230.762314	-36.330728	3.57	1.534	1.59	K5III
75206	15	23	30.3	-47	59	50.1	230.876261	-47.997255	4.99	0.515	0.59	F8V
75264	15	24	0.8	-44	45	29.8	231.003277	-44.758275	3.37	-0.191	-0.20	B2IV-V
75304	15	24	24.5	-36	55	37.2	231.101892	-36.926989	4.54	-0.155	-0.16	B4V
75312	15	24	0.7	+30	13	6.2	231.002760	+30.218398	4.99	0.577	0.65	G2V
75323	15	24	56.8	-59	23	21.2	231.236491	-59.389231	4.48	0.169	0.18	B5III+F8
75379	15	25	15.5	-10	23	28.1	231.314405	-10.391137	4.92	0.453	0.52	F5IV
75411	15	25	13.6	+37	18	34.7	231.306836	+37.309645	4.31	0.309	0.35	F0V
75458	15	25	22.0	+58	53	53.8	231.341529	+58.898282	3.29	1.166	1.07	K2III
75501	15	26	36.5	-38	48	4.6	231.651918	-38.801268	4.60	0.000	0.02	A0V
75695	15	28	38.0	+29	2	22.0	232.158277	+29.039445	3.66	0.319	0.37	F0p
76008	15	30	52.4	+77	17	1.5	232.718426	+77.283740	5.00	1.545	1.61	K5III
76041	15	32	28.9	+40	50	2.3	233.120420	+40.833984	4.98	0.086	0.15	A5V
76127	15	33	43.0	+31	17	39.4	233.429107	+31.294269	4.14	-0.127	-0.12	B6Vnn
76219	15	35	14.8	-10	7	48.4	233.811655	-10.130098	4.61	1.000	1.02	K1IV
76267	15	35	30.8	+26	39	0.2	233.878479	+26.650065	2.22	0.032	0.05	A0V
76276	15	35	44.1	+10	28	29.3	233.933753	+10.474810	3.80	0.268	0.30	F0IV
76297	15	36	26.8	-41	13	50.8	234.111691	-41.230770	2.80	-0.216	-0.22	B2IV
76333	15	36	37.2	-14	51	11.8	234.154984	-14.853265	3.91	1.007	1.02	K0III
76371	15	37	14.3	-45	1	19.5	234.309435	-45.022085	4.55	-0.175	-0.20	B3IVp
76440	15	38	31.6	-66	22	49.8	234.631744	-66.380508	4.11	1.161	1.12	K0III
76470	15	38	12.7	-28	11	53.8	234.553006	-28.198271	3.60	1.361	1.36	K3III
76552	15	39	22.4	-42	37	47.2	234.843475	-42.629790	4.34	1.412	1.42	K4.5III
76600	15	39	51.5	-29	50	25.6	234.964513	-29.840439	3.66	-0.177	-0.18	B2.5V
76669	15	40	6.8	+36	34	24.3	235.028169	+36.573425	4.64	-0.103	-0.09	B7V+...
76705	15	41	0.6	-34	28	26.8	235.252455	-34.474102	4.66	0.964	0.97	G8/K0III
76742	15	41	26.3	-23	52	48.1	235.359502	-23.880041	4.97	1.302	1.25	K3III
76829	15	42	32.2	-44	43	27.1	235.634355	-44.724191	4.64	0.413	0.47	F5IV-V
76852	15	42	25.3	+19	36	31.3	235.605255	+19.608684	4.51	0.062	0.07	A1V
76880	15	43	4.4	-19	44	26.4	235.768350	-19.740675	4.75	1.574	1.74	K5III
76945	15	43	55.9	-34	46	17.5	235.982822	-34.771537	4.75	-0.151	-0.15	B5V
76952	15	43	33.7	+26	14	5.6	235.890499	+26.234892	3.81	0.020	0.04	A1Vs
77055	15	43	24.1	+77	44	1.3	235.850389	+77.733683	4.29	0.038	0.05	A3Vn
77070	15	45	13.8	+6	21	55.7	236.307406	+6.365473	2.63	1.167	1.09	K2III
77233	15	47	5.3	+15	21	43.0	236.772122	+15.361948	3.65	0.073	0.09	A3V
77257	15	47	23.5	+7	17	35.4	236.847771	+7.293156	4.42	0.604	0.66	G0Vvar
77450	15	49	37.1	+18	4	56.8	237.404525	+18.082435	4.09	1.616	1.73	M1III
77512	15	50	24.7	+26	0	35.0	237.603107	+26.009731	4.59	0.794	0.82	G5III-IV
77516	15	50	38.4	-3	29	19.0	237.659824	-3.488621	3.54	-0.036	-0.03	A0V
77622	15	51	47.4	+4	25	13.0	237.947373	+4.420277	3.71	0.147	0.13	A2m
77634	15	52	12.2	-33	41	5.9	238.050706	-33.684984	3.97	-0.045	-0.05	B9.5III-IV
77635	15	52	9.3	-25	48	32.8	238.038883	-25.809119	4.63	-0.072	-0.04	B1.5Vn

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
77655	15	51	58.1	+35	35	52.1	237.991896	+35.597802	4.79	0.996	0.97	K0III-IV
77661	15	52	7.3	+20	55	13.4	238.030549	+20.920381	4.74	1.534	1.60	K5III
77760	15	53	21.0	+42	23	52.3	238.337621	+42.397868	4.60	0.563	0.63	F9V
77840	15	54	47.2	-25	23	2.1	238.696578	-25.383909	4.59	-0.073	-0.06	B2.5Vn
77853	15	54	56.3	-16	47	6.4	238.734666	-16.785105	4.13	1.003	1.02	K0III
77952	15	56	52.7	-63	29	19.8	239.219436	-63.488828	2.83	0.315	0.36	F2III
78072	15	57	21.3	+15	35	56.6	239.338742	+15.599053	3.85	0.478	0.54	F6V
78104	15	58	5.6	-29	16	10.2	239.523134	-29.269504	3.87	-0.199	-0.18	B2IV/V
78159	15	58	23.7	+26	49	20.9	239.598863	+26.822461	4.14	1.231	1.17	K3III
78180	15	58	15.3	+54	41	43.0	239.563838	+54.695270	4.96	0.269	0.29	F0IV
78207	15	59	17.0	-14	20	3.2	239.820987	-14.334234	4.95	-0.080	-0.06	B8Ia/Iab
78265	16	0	2.1	-26	10	7.5	240.008756	-26.168741	2.89	-0.180	-0.18	B1V+B2V
78323	16	0	50.3	-41	47	55.4	240.209617	-41.798723	4.99	0.988	0.97	G8III
78384	16	1	25.2	-38	27	2.9	240.354917	-38.450805	3.42	-0.206	-0.23	B2.5IV
78401	16	1	29.4	-22	40	32.9	240.372410	-22.675804	2.29	-0.117	-0.09	B0.2IV
78493	16	2	13.5	+29	47	51.0	240.556106	+29.797511	4.98	-0.050	-0.03	A0p...
78527	16	2	15.4	+58	30	49.2	240.564277	+58.513672	4.01	0.528	0.55	F8IV-V
78554	16	3	8.1	+22	45	5.2	240.783799	+22.751437	4.82	0.066	0.09	A3V
78592	16	3	24.4	+45	59	0.2	240.851690	+45.983380	4.72	-0.094	-0.06	B9III
78639	16	4	39.4	-49	16	56.2	241.164050	-49.282282	4.65	0.902	0.91	G8III
78650	16	4	31.5	-25	55	5.1	241.131377	-25.918091	4.96	1.234	1.25	K3III
78655	16	4	42.3	-38	39	19.1	241.176325	-38.655292	4.90	-0.146	-0.15	B6III/IV
78662	16	5	8.0	-57	49	40.7	241.283163	-57.827974	4.63	0.252	0.30	A7IV
78727	0	0	60.0	+0	6	30.7	0.249792	+0.108535	4.16	0.460	0.53	F6IV
78820	16	6	34.4	-19	51	26.5	241.643447	-19.857375	2.56	-0.065	-0.04	B0.5V
78821	16	6	34.7	-19	51	13.3	241.644624	-19.853684	4.90	-0.024	0.00	B2V
78914	16	7	52.5	-45	13	27.4	241.968901	-45.224276	4.73	0.230	0.20	Am
78918	16	7	52.7	-36	51	13.4	241.969423	-36.853731	4.22	-0.184	-0.19	B2.5Vn
78933	16	7	57.0	-20	43	13.9	241.987654	-20.720535	3.93	-0.046	0.01	B1V
78990	16	8	33.1	-20	55	11.9	242.137995	-20.919974	4.31	0.831	0.85	G6/G8III
79043	16	8	57.4	+16	59	46.4	242.239079	+16.996213	5.00	0.931	0.93	G8III
79101	16	9	23.1	+44	53	4.6	242.346231	+44.884601	4.23	-0.045	-0.02	B9MNp...
79119	16	9	41.1	+36	26	32.8	242.421382	+36.442432	4.73	1.015	1.00	K0III-IV
79374	16	13	7.9	-19	30	35.6	243.282890	-19.509881	4.00	0.076	0.14	B2IV
79375	16	13	4.0	-10	6	48.4	243.266849	-10.113454	4.93	0.087	0.09	A3IV
79404	16	13	30.5	-27	58	31.4	243.376998	-27.975389	4.58	-0.172	-0.15	B2V
79509	16	15	1.6	-54	40	44.1	243.756476	-54.678911	4.95	1.017	0.99	G4III
79593	16	15	22.1	-3	44	35.4	243.842280	-3.743170	2.73	1.584	1.82	M1III
79664	16	17	13.7	-63	43	59.5	244.306898	-63.733191	3.86	1.105	1.03	G5II
79790	16	18	29.0	-50	6	53.9	244.620728	-50.114975	4.97	0.788	0.88	F9Ia
79822	16	16	57.4	+75	42	34.9	244.239351	+75.709690	4.95	0.393	0.46	F5V
79881	16	19	30.7	-28	39	39.3	244.877752	-28.660910	4.80	0.008	-0.01	A0V:
79882	16	19	21.3	-4	44	19.2	244.838711	-4.738656	3.23	0.966	0.96	G8III
79992	16	20	19.7	+46	16	3.8	245.081933	+46.267729	3.91	-0.151	-0.19	B5IV
80000	16	21	18.4	-50	12	5.1	245.326631	-50.201420	4.01	1.080	1.03	G8III
80047	16	23	19.5	-78	44	27.7	245.831136	-78.741025	4.68	1.680	2.67	M5III
80079	16	21	48.8	-24	12	53.1	245.453154	-24.214742	4.55	0.758	0.80	A4II/III
80112	16	22	22.6	-25	38	16.8	245.594213	-25.637996	2.90	0.299	0.31	B1III
80170	16	22	46.9	+19	6	30.7	245.695293	+19.108519	3.74	0.299	0.34	A9III
80179	16	23	3.7	+0	59	4.3	245.765319	+0.984539	4.82	0.338	0.39	F0V
80181	16	22	51.4	+30	50	52.0	245.714342	+30.847785	4.86	0.970	0.93	K0III
80331	16	24	15.6	+61	28	13.6	246.064853	+61.470434	2.73	0.910	0.84	G8III
80343	16	25	14.8	-20	4	53.2	246.311685	-20.081439	4.48	0.996	0.99	K0III
80463	16	26	19.0	+13	59	22.6	246.579156	+13.989606	4.57	0.002	0.02	B9pCr
80473	16	26	45.4	-23	29	25.9	246.689310	-23.490518	4.57	0.227	0.25	B2V
80569	16	28	9.4	-18	29	56.2	247.039098	-18.498958	4.22	0.217	0.24	B2Vne
80582	16	28	37.2	-47	35	50.5	247.154965	-47.597349	4.46	-0.070	-0.04	B4V
80628	16	28	51.6	-8	24	50.6	247.214949	-8.414063	4.62	0.185	0.20	A3m
80650	16	27	57.2	+68	43	33.2	246.988452	+68.725902	4.94	-0.051	0.02	A0III

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'	"	°				
80686	16	30	35.3	-70	7	31.9	247.647116	-70.125530	4.90	0.555	0.64	F9V
80704	16	29	17.0	+41	50	22.8	247.320945	+41.839661	4.83	1.289	3.61	M6III:var
80763	16	30	36.4	-26	28	25.2	247.651542	-26.473660	1.06	1.865	2.90	M1Ib+B2.5V
80815	16	31	23.7	-25	9	23.6	247.848870	-25.156552	4.79	-0.116	-0.12	B3V
80816	16	31	3.5	+21	26	53.8	247.764730	+21.448280	2.78	0.947	0.94	G8III
80883	16	31	53.9	+1	56	33.4	247.974603	+1.942605	3.82	0.022	0.03	A2V
80894	16	32	15.5	-16	39	13.4	248.064450	-16.653730	4.29	0.924	0.89	G8/K0III
80911	16	32	39.6	-34	44	42.4	248.165019	-34.745115	4.24	-0.168	-0.17	B2III-IV
80975	16	33	17.7	-21	30	23.5	248.323737	-21.506533	4.45	0.130	0.12	Ap
81008	16	33	31.1	+11	26	50.7	248.379558	+11.447416	4.84	1.495	1.58	K4III
81065	16	36	30.1	-78	56	12.9	249.125452	-78.936923	3.86	0.923	0.92	K0IV SB
81122	16	35	28.5	-44	5	5.1	248.868586	-44.084762	4.86	0.045	0.18	B0Ia
81126	16	34	44.0	+42	23	52.0	248.683150	+42.397776	4.20	-0.013	0.02	B9Vvar
81266	16	37	6.0	-28	15	17.3	249.274835	-28.254817	2.82	-0.206	-0.24	B0V
81304	16	37	39.7	-35	17	37.3	249.415319	-35.293703	4.18	1.535	1.72	K5III
81377	16	38	14.1	-10	36	18.3	249.558596	-10.605093	2.54	0.038	0.10	O9.5V
81497	16	39	16.7	+48	53	27.3	249.819477	+48.890930	4.86	1.562	2.03	M2.5III
81660	16	41	3.5	+64	33	8.2	250.264614	+64.552278	4.84	1.212	1.19	K1p
81693	16	42	1.3	+31	34	5.6	250.505440	+31.568233	2.81	0.650	0.70	F9IV
81724	16	42	42.2	-17	46	42.0	250.675707	-17.778339	4.91	1.095	1.13	G8II/III
81833	16	43	33.9	+38	53	10.0	250.891343	+38.886110	3.48	0.916	0.89	G8III-IV
81852	16	45	54.4	-77	33	16.2	251.476662	-77.554503	4.23	1.060	1.04	K0III
82020	16	45	40.2	+56	44	51.3	251.417336	+56.747572	4.84	0.375	0.44	F2V
82080	16	44	2.4	+82	0	8.7	251.010108	+82.002404	4.21	0.897	0.91	G5IIIvar
82273	16	50	44.8	-69	3	38.4	252.686467	-69.060664	1.91	1.447	1.45	K2IIb-IIIa
82321	16	49	48.5	+45	57	0.7	252.452221	+45.950190	4.82	0.087	0.10	A2p...
82363	16	51	28.7	-59	4	25.9	252.869515	-59.073866	3.77	1.562	1.67	K5III
82369	16	50	54.8	-10	48	57.3	252.728524	-10.815916	4.64	0.478	0.55	F7IV
82396	16	51	25.8	-34	19	36.9	252.857332	-34.326915	2.29	1.144	1.10	K2IIIb
82514	16	53	11.7	-38	4	44.4	253.298699	-38.078988	3.00	-0.200	-0.20	B1.5IV+B
82545	16	53	39.6	-38	2	56.2	253.414931	-38.048945	3.56	-0.210	-0.21	B2IV
82671	16	55	22.5	-42	23	33.2	253.843684	-42.392550	4.70	0.444	0.71	B1Iae
82673	16	54	55.9	+10	8	4.4	253.732815	+10.134558	4.39	-0.088	-0.13	B8V
82729	16	55	57.6	-42	23	34.1	253.989813	-42.392810	3.62	1.393	1.37	K4III
82860	16	56	8.4	+65	6	18.7	254.034945	+65.105201	4.88	0.481	0.56	F6Vvar
83000	16	58	35.5	+9	20	45.7	254.647992	+9.346034	3.19	1.160	1.10	K2IIIvar
83081	17	0	14.4	-56	1	7.3	255.060010	-56.018685	3.12	1.552	1.60	K5III
83153	17	1	8.6	-53	11	17.7	255.285901	-53.188243	4.06	1.452	1.42	K4III
83207	17	1	2.2	+30	53	55.6	255.259054	+30.898766	3.92	-0.018	-0.04	A0V
83262	17	2	5.4	-4	15	1.6	255.522359	-4.250440	4.82	1.483	1.49	K4III
83430	17	4	1.5	+14	3	54.5	256.006339	+14.065151	4.97	1.600	2.08	M3III
83574	17	6	6.5	-34	8	54.7	256.526950	-34.148530	4.83	0.257	0.38	B2Iab
83608	17	5	44.5	+54	26	41.6	256.435332	+54.444899	4.91	0.471	0.54	F5
83613	17	6	17.0	+12	42	55.3	256.570787	+12.715354	4.89	0.125	0.11	A4IV
83895	17	8	50.8	+65	41	26.7	257.211724	+65.690751	3.17	-0.120	-0.14	B6III
84012	17	11	29.9	-15	44	50.7	257.874440	-15.747430	2.43	0.059	0.06	A2.5Va
84143	17	13	33.2	-43	15	46.6	258.388217	-43.262935	3.32	0.441	0.47	F3p
84345	17	15	32.2	+14	22	9.8	258.884370	+14.369383	2.78	1.164	1.13	M5IIvar
84379	17	15	50.0	+24	49	2.5	258.958357	+24.817367	3.12	0.080	0.06	A3IVv SB
84380	17	15	43.6	+36	47	17.5	258.931757	+36.788184	3.16	1.437	1.31	K3IIvar
84405	17	16	33.0	-26	37	47.4	259.137689	-26.629839	4.33	0.855	0.92	K2:III:
84514	17	17	36.8	-0	27	57.0	259.403318	-0.465839	4.72	1.119	1.09	K2III
84573	17	18	2.8	+33	4	48.5	259.511776	+33.080145	4.80	-0.166	-0.17	B1.5Vp
84606	17	18	20.6	+37	16	19.5	259.585980	+37.272074	4.64	0.043	0.07	A2V
84880	17	21	55.5	-12	51	54.2	260.481373	-12.865063	4.32	0.037	0.07	A0/A1V
84893	17	22	10.6	-21	7	55.8	260.544235	-21.132157	4.39	0.394	0.47	F2/F3V
84969	17	24	2.2	-67	47	17.3	261.009309	-67.788150	4.76	1.194	1.18	K1III
84970	17	23	12.5	-25	1	2.3	260.802106	-25.017303	3.27	-0.186	-0.21	B2IV
85112	17	24	21.3	+37	7	44.5	261.088944	+37.129028	4.15	-0.011	0.01	B9.5III

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α		δ		V	U-V	B-V	Espectro
	NH	h	m	s	°	'	"	°	°					
85258	17	26	55.5	-55	32	45.6	261.731084	-55.546008	2.84	1.479	1.50		K3Ib-II	
85267	17	27	2.4	-56	23	37.5	261.759864	-56.393753	3.31	-0.150	-0.12		B1Ib	
85340	17	27	33.7	-24	11	29.6	261.890582	-24.191544	4.16	0.283	0.30		A3IV:m	
85355	17	27	29.0	+4	7	29.4	261.870706	+4.124825	4.34	1.480	1.44		K3Iivar	
85365	17	27	40.0	-5	6	8.4	261.916704	-5.102333	4.53	0.385	0.46		F3V	
85423	17	28	36.1	-29	52	58.4	262.150264	-29.882901	4.28	0.402	0.45		F3III	
85670	17	30	52.5	+52	17	15.3	262.718576	+52.287592	2.79	0.954	0.93		G2II	
85693	17	31	31.6	+26	5	49.6	262.881770	+26.097104	4.41	1.434	1.39		K3IIIvar	
85696	17	32	5.5	-37	18	34.1	263.022793	-37.309466	2.70	-0.179	-0.23		B2IV	
85727	17	32	51.8	-60	41	51.5	263.215721	-60.697629	3.60	-0.104	-0.10		B8V	
85755	17	32	36.4	-23	58	33.6	263.151690	-23.976006	4.78	0.016	0.08		A0V	
85792	17	33	21.1	-49	53	22.1	263.337806	-49.889459	2.84	-0.136	-0.15		B2Vne	
85819	17	32	33.7	+55	10	17.4	263.140358	+55.171489	4.89	0.251	0.28		Am...	
85822	17	26	1.3	+86	34	19.8	261.505455	+86.572177	4.35	0.021	0.04		A1Vn	
85829	17	32	39.1	+55	9	37.1	263.163103	+55.160293	4.86	0.279	0.30		Am	
85927	17	34	56.0	-37	6	58.1	263.733495	-37.116143	1.62	-0.231	-0.24		B1.5IV+...	
86032	17	35	50.4	+12	32	49.9	263.960010	+12.547182	2.08	0.155	0.17		A5III	
86092	17	37	6.8	-46	31	1.4	264.278361	-46.517056	4.56	-0.020	0.01		A0V	
86170	17	37	53.5	-38	38	49.5	264.472810	-38.647078	4.26	1.075	1.09		G8/K0III/IV	
86201	17	36	50.4	+68	44	55.7	264.209954	+68.748809	4.77	0.430	0.49		F5V	
86228	17	38	43.3	-43	0	29.6	264.680304	-43.008221	1.86	0.406	0.48		F1II	
86263	17	38	42.2	-15	24	33.2	264.676009	-15.409226	3.54	0.262	0.29		F0IIIp	
86284	17	38	54.3	-8	7	44.8	264.726455	-8.129107	4.58	0.132	0.22		B8II-IIIMNp	
86414	17	40	1.0	+45	59	48.4	265.003970	+45.996773	3.82	-0.179	-0.21		B3V SB	
86486	17	41	54.3	-49	25	31.7	265.476241	-49.425475	4.76	0.415	0.49		F3IV	
86565	17	42	30.7	-12	53	2.9	265.627766	-12.884142	4.24	0.086	0.10		A2Va	
86614	17	41	35.8	+72	8	19.5	265.399260	+72.138740	4.57	0.434	0.50		F5IV-V	
86670	17	43	50.3	-39	2	17.1	265.959484	-39.038088	2.39	-0.171	-0.22		B1.5III	
86736	17	44	35.9	-21	41	27.6	266.149745	-21.691002	4.86	0.469	0.54		F6/F7V	
86742	17	44	26.2	+4	33	38.1	266.109063	+4.560583	2.76	1.168	1.10		K2III	
86929	17	47	39.0	-64	43	49.7	266.912434	-64.730479	3.61	1.161	1.09		K1III	
86974	17	47	13.4	+27	42	37.2	266.805761	+27.710333	3.42	0.750	0.71		G5IV	
87072	17	48	47.3	-27	50	11.2	267.197101	-27.836443	4.53	0.600	0.76		F7II	
87073	17	48	57.0	-40	7	57.3	267.237339	-40.132585	2.99	0.509	0.64		F3Ia	
87108	17	48	52.3	+2	42	4.9	267.217714	+2.701366	3.75	0.043	0.05		A0V	
87220	17	50	26.5	-31	42	29.1	267.610451	-31.708070	4.79	-0.028	0.01		B8Ib/II	
87261	17	51	11.1	-37	2	51.5	267.796441	-37.047637	3.19	1.192	1.15		K0/K1III	
87294	17	51	33.0	-40	5	41.2	267.887420	-40.094772	4.78	0.259	0.41		A6Ib	
87585	17	53	52.0	+56	52	12.3	268.466689	+56.870091	3.73	1.177	1.11		K2III	
87808	17	56	55.3	+37	14	56.3	269.230541	+37.248964	3.86	1.350	1.17		K1Iivar	
87833	17	57	3.6	+51	29	14.2	269.264882	+51.487270	2.24	1.521	1.54		K5III	
87846	17	58	12.8	-44	20	36.7	269.553431	-44.343535	4.85	1.176	1.15		K2III	
87933	17	58	31.4	+29	14	48.8	269.630726	+29.246900	3.70	0.935	0.89		K0III	
87936	17	59	11.0	-41	43	1.5	269.795723	-41.717092	4.88	1.617	1.88		M0III	
87998	17	59	14.9	+30	11	19.5	269.812271	+30.188763	4.41	0.380	0.51		F2II	
88048	18	0	6.0	-9	46	28.1	270.025063	-9.774474	3.32	0.987	0.95		K0III	
88060	18	0	20.4	-30	15	11.5	270.085117	-30.253204	5.00	1.654	2.00		K5/M0III	
88116	18	0	59.0	-23	48	58.4	270.245805	-23.816224	4.74	-0.030	-0.01		B9V	
88128	18	0	55.5	+16	45	3.9	270.231315	+16.751095	4.67	1.254	1.12		K0II-III	
88149	18	1	13.8	+4	22	8.0	270.307338	+4.368899	4.79	-0.100	-0.08		B2Ve	
88175	18	1	30.8	-3	41	24.1	270.378517	-3.690038	4.62	0.390	0.45		F3V	
88192	18	1	37.3	+2	55	55.4	270.405551	+2.932061	3.93	0.029	0.10		B5Ib	
88267	18	2	20.1	+21	35	48.9	270.583572	+21.596906	4.26	0.406	0.47		G5	
88290	18	2	44.6	+1	18	21.8	270.685730	+1.306068	4.42	0.046	0.06		A2Vn	
88404	18	4	8.6	-8	10	43.8	271.035973	-8.178843	4.77	0.410	0.45		F5V+...	
88567	18	6	16.0	-29	34	38.8	271.566507	-29.577439	4.66	0.774	0.81		G0Ib/II	
88601	18	6	26.3	+2	29	51.5	271.609436	+2.497636	4.03	0.860	0.96		K0V SB	
88635	18	7	3.6	-30	25	19.3	271.765178	-30.422039	2.98	0.981	0.99		K0III	
88657	18	6	51.2	+22	13	18.8	271.713311	+22.221902	4.96	1.656	2.18		M3IIIa+...	

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
88714	18	8	8.9	-50	5	16.9	272.037208	-50.088028	3.65	-0.101	-0.06	B2Ib
88726	18	8	14.5	-43	25	20.0	272.060414	-43.422221	4.92	0.255	0.29	A5V
88765	18	8	14.3	+8	44	15.8	272.059679	+8.737715	4.64	0.951	0.92	G8III-IV
88771	18	8	16.5	+9	34	4.7	272.068603	+9.567984	3.71	0.159	0.18	A4IVs
88788	18	8	4.0	+43	27	54.9	272.016751	+43.465255	5.00	0.913	0.91	G8III...
88794	18	8	18.2	+28	45	58.6	272.075874	+28.766282	3.84	-0.018	-0.02	B9.5V
88839	18	9	19.1	-28	27	11.3	272.329471	-28.453146	4.55	0.938	1.00	K0IIICNpvar
88866	18	10	27.4	-63	39	54.7	272.614166	-63.665184	4.33	0.228	0.23	Am
88886	18	9	35.5	+20	49	7.9	272.398090	+20.818868	4.37	-0.164	-0.19	B2IV
89112	18	12	40.6	-45	56	56.3	273.169057	-45.948963	4.52	1.009	0.95	G5III
89153	18	12	54.7	-23	41	44.0	273.227964	-23.695556	4.96	1.055	1.02	K0II
89172	18	12	38.2	+31	24	40.7	273.159176	+31.411297	4.96	1.643	2.16	M3III
89341	18	14	55.8	-21	3	7.4	273.732377	-21.052050	3.84	0.195	0.21	B2III:
89348	18	14	0.6	+64	24	14.7	273.502443	+64.404094	4.99	0.440	0.51	F5V
89642	18	18	56.8	-36	45	14.2	274.736533	-36.753949	3.10	1.582	2.24	M2III
89678	18	19	16.4	-27	2	1.8	274.818324	-27.033826	4.66	1.629	1.62	K3III
89826	18	20	32.7	+36	4	27.6	275.136389	+36.074331	4.33	1.162	1.10	K2IIIvar
89861	18	21	7.4	+21	58	14.8	275.280943	+21.970768	4.92	1.594	1.82	M1III
89908	18	20	28.5	+71	20	51.9	275.118839	+71.347762	4.22	-0.093	-0.11	A0p (Si)
89918	18	21	50.5	+3	23	14.3	275.460344	+3.387311	4.85	0.911	0.90	G8III
89931	18	22	14.5	-29	49	4.9	275.560429	-29.818024	2.72	1.380	1.35	K3III
89937	18	20	42.2	+72	44	26.9	275.175917	+72.740799	3.55	0.489	0.62	F7Vvar
89962	18	22	19.1	-2	53	32.5	275.579756	-2.892356	3.23	0.941	0.96	K0III-IV
90098	18	25	1.3	-61	28	57.0	276.255245	-61.482487	4.35	1.462	1.50	M1III SB
90135	18	24	43.7	-8	55	21.6	276.181972	-8.922659	4.66	0.932	0.94	K0III
90139	18	24	31.8	+21	46	47.4	276.132373	+21.779820	3.85	1.168	1.13	K2III
90156	18	24	11.7	+58	48	44.8	276.048647	+58.812447	4.98	0.082	0.05	A3V
90185	18	25	27.9	-34	22	24.8	276.366345	-34.373565	1.79	-0.031	0.01	B9.5III
90289	18	26	30.7	-20	31	46.5	276.627906	-20.529581	4.81	1.310	1.27	A1/A2V
90344	18	26	2.5	+65	34	32.3	276.510226	+65.575627	4.82	1.179	1.16	K2III
90422	18	28	25.1	-45	57	20.4	277.104486	-45.955666	3.49	-0.179	-0.18	B3IV
90496	18	29	10.4	-25	24	33.2	277.293362	-25.409225	2.82	1.025	1.04	K1IIIb
90568	18	30	19.9	-49	3	28.3	277.582791	-49.057873	4.10	0.995	1.02	G8/K0III
90595	18	30	18.5	-14	33	6.4	277.577151	-14.551780	4.67	0.076	0.10	A1IV/V
90797	18	33	11.4	-62	15	47.9	278.297648	-62.263313	4.63	-0.116	-0.11	B8III
90830	18	33	12.0	-45	53	58.7	278.299971	-45.899641	4.92	-0.101	-0.08	B6IV
90905	18	32	54.7	+57	3	39.7	278.227876	+57.061015	4.77	0.611	0.67	F7Ib
90982	18	34	53.6	-42	17	47.4	278.723484	-42.296488	4.62	0.994	0.95	G5III
91117	18	36	16.1	-8	13	44.2	279.066986	-8.228942	3.85	1.317	1.28	K2III
91262	18	37	36.0	+38	48	10.2	279.399847	+38.802843	0.03	-0.001	-0.01	A0Vvar
91726	18	43	20.5	-9	1	56.6	280.835253	-9.032381	4.70	0.358	0.40	F2IIIp d Del
91792	18	45	18.1	-71	24	29.5	281.325588	-71.408192	4.01	1.134	1.14	K2III
91845	18	44	34.9	-8	15	15.9	281.145605	-8.254416	4.88	1.112	1.07	G8II
91918	18	45	37.6	-35	37	15.5	281.406769	-35.620971	4.86	-0.168	-0.19	B2V
91919	18	44	59.1	+39	41	29.3	281.246297	+39.691472	4.67	0.170	0.19	F1V
91926	18	45	1.6	+39	38	2.6	281.256593	+39.634043	4.59	0.180	0.20	A8Vn
91971	18	45	26.7	+37	37	35.4	281.361134	+37.626487	4.34	0.192	0.18	Am
92024	18	47	21.3	-64	51	0.9	281.838866	-64.850248	4.78	0.199	0.21	A7V
92041	18	46	52.4	-26	58	8.4	281.718348	-26.969013	3.17	-0.107	-0.10	B8.5III
92043	18	46	30.1	+20	33	58.1	281.625381	+20.566144	4.19	0.483	0.55	F6V
92088	18	46	51.6	+26	41	2.8	281.715168	+26.684120	4.83	1.199	1.16	K3III
92161	18	47	53.0	+18	12	16.1	281.970674	+18.204485	4.34	0.148	0.16	A5III
92175	18	48	12.5	-4	43	31.9	282.052185	-4.725530	4.22	1.087	1.09	G5II...
92420	18	50	48.0	+33	23	10.8	282.700005	+33.386339	3.52	0.003	0.02	A8:V comp SB
92512	18	51	29.3	+59	24	45.4	282.872086	+59.412605	4.63	1.185	1.20	K0II-III SB
92609	18	54	1.0	-62	9	45.9	283.504228	-62.162736	4.22	-0.150	-0.14	B2II-III
92689	18	53	42.5	+50	43	59.4	283.427165	+50.733162	4.92	0.903	0.88	G8III
92761	18	55	20.7	-22	43	9.0	283.836395	-22.719178	4.86	1.412	1.35	K1II
92782	18	54	9.2	+71	19	22.4	283.538134	+71.322889	4.82	1.151	1.10	K0III

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
92791	18	55	11.2	+36	55	27.7	283.796727	+36.924359	4.22	1.575	2.60	M4IIvar
92818	18	55	34.3	+22	40	15.4	283.892850	+22.670954	4.57	0.782	0.86	G4III+...
92845	18	56	17.8	-22	38	43.3	284.074182	-22.645372	5.00	1.348	1.25	K1Ib/II
92855	18	56	28.4	-26	16	14.9	284.118252	-26.270813	2.05	-0.134	-0.13	B2.5V
92862	18	55	55.7	+43	58	21.4	283.982105	+43.972620	4.08	1.397	3.14	M5IIIvar
92946	18	57	11.3	+4	13	49.2	284.297167	+4.230325	4.62	0.161	0.20	A5V
92951	18	57	12.8	+4	13	44.0	284.303339	+4.228897	4.98	0.204	0.22	A5Vn
93015	18	58	57.0	-67	12	22.5	284.737527	-67.206250	4.40	0.530	0.59	F5Ib-II:
93026	18	58	6.3	-5	49	10.4	284.526157	-5.819553	4.83	1.057	1.03	K1III
93085	18	58	53.5	-21	4	45.9	284.723021	-21.079403	3.52	1.151	1.09	G8/K0II/III
93148	19	0	1.1	-52	54	39.4	285.004456	-52.910933	4.85	-0.051	-0.03	A0V
93174	19	0	2.1	-37	4	48.6	285.008948	-37.080156	4.83	0.396	0.44	F3IV/V
93194	18	59	40.4	+32	43	2.4	284.918335	+32.717343	3.25	-0.049	-0.03	B9III
93244	19	0	30.5	+15	5	45.7	285.126899	+15.096015	4.02	1.082	1.00	K2III
93279	19	0	45.0	+32	10	25.8	285.187385	+32.173835	4.94	1.465	1.32	K3III
93408	19	1	59.5	+46	57	47.6	285.497788	+46.963216	5.00	0.186	0.23	A7V
93429	19	2	43.3	-5	42	36.8	285.680254	-5.710235	4.02	1.079	1.08	K1IIIvar
93506	19	3	51.0	-29	51	1.9	285.962643	-29.850518	2.60	0.062	0.06	A3IV
93542	19	4	29.5	-42	3	55.9	286.123084	-42.065525	4.74	-0.027	-0.02	A0Vn
93683	19	5	51.0	-21	42	40.8	286.462507	-21.711320	3.76	1.012	0.98	K0III
93747	19	6	18.4	+13	53	37.4	286.576570	+13.893718	2.99	0.014	-0.01	A0Vn
93805	19	7	17.0	-4	51	6.8	286.820780	-4.851876	3.43	-0.096	-0.09	B9Vn
93825	19	7	44.0	-37	2	1.2	286.933534	-37.033655	4.23	0.523	0.59	F7IV-V
93864	19	8	9.3	-27	38	25.0	287.038937	-27.640269	3.32	1.169	1.15	K1/K2III
94005	19	9	42.2	-40	27	52.7	287.425977	-40.464651	4.57	1.070	1.06	K1III
94114	19	10	47.8	-37	52	20.3	287.699012	-37.872305	4.11	0.042	0.03	A0/A1V
94141	19	10	55.3	-20	59	27.7	287.730487	-20.991024	2.88	0.377	0.44	F2II/III
94160	19	11	22.0	-39	18	29.0	287.841869	-39.308044	4.10	1.163	1.11	K0II/IIICN.
94376	19	12	33.3	+67	41	45.0	288.138686	+67.695839	3.07	0.990	0.94	G9III
94481	19	14	25.3	+39	10	49.6	288.605489	+39.180445	4.43	-0.150	-0.19	B2.5IV
94490	19	14	16.0	+57	44	21.3	288.566462	+57.739237	5.00	1.156	1.12	K2III
94643	19	16	44.1	-25	13	17.2	289.183562	-25.221455	4.86	0.569	0.67	K0/K1III+..
94648	19	15	9.9	+73	23	27.9	288.791303	+73.391087	4.45	1.257	1.15	K3III
94703	19	17	3.3	+21	25	33.7	289.263935	+21.426016	4.76	-0.058	-0.05	B4IV
94713	19	17	2.7	+38	10	9.8	289.261323	+38.169391	4.35	1.258	1.13	K0II
94779	19	17	33.2	+53	24	18.2	289.388212	+53.405065	3.80	0.950	0.85	K0III
94820	19	18	46.4	-18	54	59.9	289.693484	-18.916644	4.88	1.013	0.99	K0III
95066	19	21	35.3	-5	22	40.5	290.397138	-5.377922	4.98	0.937	0.93	G8III-IV...
95081	19	20	45.9	+65	45	7.9	290.191055	+65.752201	4.60	0.033	0.01	A2IIIs
95168	19	22	48.1	-17	48	32.3	290.700480	-17.808959	3.92	0.228	0.25	F0III/IV
95176	19	22	50.5	-15	55	0.9	290.710580	-15.916915	4.52	0.079	0.34	F2p
95241	19	24	2.1	-44	25	13.7	291.008873	-44.420484	3.96	-0.085	-0.07	B9V
95294	19	24	37.4	-44	45	40.4	291.155812	-44.761211	4.27	0.350	0.42	F2III
95347	19	25	14.0	-40	34	38.9	291.308352	-40.577458	3.96	-0.105	-0.10	B8V
95372	19	24	53.7	+29	39	37.9	291.223830	+29.660520	4.99	-0.120	-0.11	B3IV
95501	19	26	28.9	+3	9	18.0	291.620237	+3.154994	3.36	0.319	0.38	F0IV
95585	19	27	30.9	+0	22	43.6	291.878694	+0.378784	4.64	0.576	0.75	F2Ib
95771	19	29	31.0	+24	42	19.7	292.379241	+24.705464	4.44	1.502	1.68	M0comp
95853	19	30	11.8	+51	46	19.2	292.549261	+51.771996	3.76	0.148	0.18	A5Vn
95947	19	31	30.5	+28	0	6.0	292.876919	+28.001673	3.05	1.088	1.05	K3II+...
96052	19	32	29.8	+34	29	43.5	293.124226	+34.495417	4.74	-0.150	-0.12	B3IV
96100	19	32	19.1	+69	41	39.1	293.079682	+69.694201	4.67	0.786	0.85	K0V
96229	19	35	2.5	+7	25	17.8	293.760360	+7.421615	4.45	1.176	1.14	K3III
96275	19	35	26.3	+19	49	1.7	293.859516	+19.817133	5.00	-0.093	-0.08	B8IIIIn
96341	19	36	39.4	-48	3	19.0	294.164280	-48.055288	4.88	1.096	1.06	G9III
96441	19	36	57.9	+50	16	1.2	294.241254	+50.266996	4.49	0.395	0.44	F4V
96465	19	37	53.5	-24	50	20.6	294.472839	-24.839042	4.59	-0.075	-0.06	B8/B9V
96468	19	37	43.8	-1	14	31.3	294.432309	-1.242039	4.36	-0.079	-0.06	B5III
96483	19	37	56.3	-6	58	57.8	294.484654	-6.982734	4.93	-0.046	0.03	B0.5III

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α		δ		V	U-V	B-V	Espectro
	NH	h	m	s	°	'	"	°	°					
96683	19	40	8.8	+30	11	57.4	295.036771	+30.199287	4.68	0.971	0.89	G8III-IV...		
96757	19	40	58.1	+18	3	35.6	295.242015	+18.059881	4.39	0.777	0.77	G0II		
96837	19	41	55.5	+17	31	20.5	295.481173	+17.522362	4.39	1.041	0.96	G8II		
97118	19	44	58.8	+37	24	8.6	296.245055	+37.402395	4.89	0.948	0.94	G8III		
97165	19	45	35.0	+45	10	45.1	296.395975	+45.179199	2.86	-0.002	-0.02	B9.5III		
97278	19	47	11.2	+10	39	43.1	296.796579	+10.661980	2.72	1.507	1.44	K3II		
97290	19	47	29.9	-19	42	46.0	296.874400	-19.712783	4.87	1.061	1.03	K0III		
97295	19	47	10.0	+33	46	26.1	296.791824	+33.773903	5.00	0.476	0.55	F5		
97365	19	48	15.4	+18	35	0.8	297.064212	+18.583547	3.68	1.313	1.27	M2II +B6		
97433	19	48	5.8	+70	19	2.9	297.024332	+70.317477	3.84	0.888	0.88	G8III		
97649	19	51	44.1	+8	55	15.9	297.933577	+8.921085	0.76	0.221	0.27	A7IV-V		
97679	19	51	54.5	+22	39	38.5	297.977042	+22.660696	4.90	-0.153	-0.12	B2.5V		
97804	19	53	27.9	+1	3	25.1	298.366308	+1.056980	3.87	0.630	0.73	F6IbvSB		
97886	19	54	17.4	+24	7	53.6	298.572636	+24.131551	4.57	-0.047	-0.02	B9.5III		
97938	19	55	11.6	+8	30	47.1	298.798153	+8.513096	4.71	1.023	1.03	K0III		
98032	19	56	36.1	-41	48	55.5	299.150382	-41.815413	4.12	1.063	1.09	K0III		
98036	19	56	16.2	+6	27	24.0	299.067649	+6.456657	3.71	0.855	0.89	G8IVvar		
98055	19	56	8.0	+52	29	28.9	299.033320	+52.491348	4.91	0.124	0.12	A4Vn		
98066	19	57	1.8	-26	14	46.7	299.257673	-26.246297	4.70	0.748	0.79	G3/G5III		
98068	19	56	33.6	+38	32	21.9	299.139974	+38.539416	4.95	-0.086	-0.07	B5IV		
98073	19	56	17.6	+58	53	54.7	299.073292	+58.898519	4.98	1.584	1.56	K5II-III		
98110	19	57	2.3	+35	8	10.2	299.259483	+35.136170	3.89	1.019	0.98	K0IIIvar		
98162	19	58	8.4	-27	7	0.2	299.535132	-27.116723	4.54	1.462	1.39	K3III		
98337	19	59	37.5	+19	32	46.3	299.906060	+19.546208	3.51	1.571	1.65	K5III		
98353	20	0	8.3	-26	8	29.6	300.034570	-26.141549	4.84	0.882	0.91	G8II/III		
98412	20	1	0.1	-35	13	19.3	300.250274	-35.222024	4.37	-0.150	-0.15	B2.5IV		
98495	20	2	48.8	-72	51	22.5	300.703336	-72.856257	3.97	-0.032	-0.04	A0V		
98543	20	1	54.2	+27	48	30.5	300.476024	+27.808478	4.66	0.184	0.19	A4III		
98608	20	3	22.6	-59	19	14.6	300.844016	-59.320725	4.95	1.356	3.25	M6III		
98688	20	3	51.2	-27	39	15.0	300.963395	-27.654168	4.43	1.640	2.50	M4III		
98702	20	2	53.9	+67	55	45.4	300.724690	+67.929264	4.51	1.313	1.23	K3III		
98761	20	4	50.9	-37	53	6.7	301.212074	-37.885184	4.77	1.417	1.40	K4III		
98842	20	5	33.5	-32	0	0.3	301.389758	-32.000072	4.99	1.208	1.17	K1III/IV		
99120	20	8	52.2	-52	49	23.5	302.217608	-52.823188	4.93	1.591	1.83	M1II		
99240	20	10	37.3	-66	7	48.2	302.655251	-66.130068	3.55	0.751	0.76	G5IV-Vvar		
99255	20	8	11.9	+77	46	9.4	302.049407	+77.769284	4.38	-0.046	-0.06	B9III		
99303	20	10	9.1	+36	53	52.5	302.537870	+36.897925	4.93	-0.139	-0.13	B2.5V		
99473	20	12	18.6	-0	45	44.6	303.077435	-0.762391	3.24	-0.066	-0.06	B9.5III		
99639	20	13	54.8	+46	52	31.6	303.478481	+46.875436	4.80	0.100	0.19	A5III _n		
99655	20	13	51.0	+56	37	40.6	303.462441	+56.627931	4.28	0.114	0.14	A3IV-V _n		
99675	20	14	14.8	+46	48	4.4	303.561470	+46.801220	3.80	1.270	1.15	K2II+...		
99742	20	15	10.7	+15	15	29.2	303.794770	+15.258120	4.94	0.072	0.09	A2V		
99770	20	15	15.9	+36	52	1.0	303.816116	+36.866940	4.93	0.151	0.21	A2V		
99824	20	16	5.5	+25	39	9.0	304.022870	+25.652496	4.79	-0.181	-0.22	B3V		
99848	20	16	4.5	+47	46	29.3	304.018724	+47.774819	3.96	1.451	1.45	K3Ib-IIcomp		
99874	20	16	34.6	+27	52	30.1	304.144301	+27.875035	4.50	1.258	1.30	K3III		
100027	20	18	43.6	-12	26	48.0	304.681654	-12.446659	4.30	0.928	1.05	G3Ib		
100044	20	18	30.3	+38	5	39.9	304.626430	+38.094426	4.77	0.377	0.44	B2pe		
100064	20	19	8.0	-12	28	59.3	304.783520	-12.483128	3.58	0.883	0.92	G6/G8III		
100310	20	21	44.6	-12	41	47.2	305.435788	-12.696440	4.77	-0.047	-0.06	B9IV		
100345	20	22	6.3	-14	43	6.4	305.526177	-14.718433	3.05	0.790	0.90	A5:n		
100453	20	22	55.7	+40	19	11.7	305.732133	+40.319925	2.23	0.673	0.65	F8Ib		
100587	20	24	38.4	+32	15	14.5	306.159812	+32.254032	4.43	1.331	1.31	K3III		
100751	20	27	10.7	-56	40	15.0	306.794434	-56.670846	1.94	-0.118	-0.10	B2IV		
101027	20	29	58.2	-17	44	52.4	307.492427	-17.747876	4.77	0.386	0.44	F3V		
101076	20	30	11.6	+30	26	4.4	307.548178	+30.434547	4.01	0.404	0.46	F5II		
101093	20	29	54.3	+63	3	36.0	307.476357	+63.060009	4.21	0.199	0.20	A7III		
101101	20	30	40.1	-2	49	10.3	307.666978	-2.819521	4.91	1.160	1.12	K2III		
101138	20	30	39.8	+49	1	4.1	307.665748	+49.017819	4.94	-0.087	-0.06	B2.5IV		

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
101421	20	34	8.6	+11	22	14.0	308.536017	+11.370553	4.03	-0.123	-0.10	B6III
101474	20	34	39.7	+35	19	6.6	308.665507	+35.318493	4.61	1.593	1.78	K2Ibcomp
101589	20	36	13.2	+14	44	33.0	309.055119	+14.742495	4.64	0.120	0.14	A3V
101612	20	37	10.8	-60	30	51.6	309.294965	-60.514323	4.75	0.291	0.34	F1III
101692	20	37	44.5	-2	28	52.6	309.435333	-2.481288	4.91	1.606	1.66	K5II
101769	20	38	27.8	+14	39	49.9	309.615857	+14.663866	3.64	0.425	0.50	F5IV
101772	20	38	55.8	-47	13	19.2	309.732527	-47.222010	3.11	0.998	0.98	K0III
101773	20	39	12.4	-61	27	40.1	309.801601	-61.461128	4.86	0.447	0.52	FmdeltaDel
101847	20	39	20.6	-1	2	9.1	309.835949	-1.035870	4.31	0.949	0.91	G8IIISB
101867	20	39	23.6	+21	16	14.0	309.848377	+21.270547	4.81	-0.030	-0.01	A0V
101958	20	40	32.6	+15	58	54.9	310.135882	+15.981914	3.77	-0.057	-0.01	B9V
102098	20	42	5.8	+45	21	2.7	310.524265	+45.350750	1.25	0.092	0.16	A2Ia
102281	20	44	22.1	+15	8	43.9	311.092281	+15.145527	4.43	0.302	0.34	A7IIpdDel
102333	20	45	27.6	-51	50	59.2	311.365012	-51.849790	4.51	0.278	0.30	A6:var
102388	20	45	43.2	+25	20	28.7	311.429858	+25.341311	4.92	1.183	1.11	K2III
102395	20	46	41.5	-66	7	52.7	311.672917	-66.131299	3.42	0.163	0.20	A5IV
102422	20	45	41.0	+61	54	54.0	311.420785	+61.915006	3.41	0.912	0.94	K0IV
102431	20	45	50.1	+57	39	0.7	311.458822	+57.650207	4.52	0.535	0.58	F8IV-V
102453	20	46	28.1	+30	47	30.4	311.617022	+30.791789	4.22	1.051	1.01	K0III
102485	20	47	14.8	-25	11	58.6	311.811581	-25.199601	4.13	0.426	0.49	F5V
102488	20	47	0.1	+34	2	39.1	311.750277	+34.044203	2.48	1.021	1.00	K0III
102532	20	47	33.8	+16	11	43.9	311.890785	+16.195531	4.27	1.042	1.03	K1IV
102571	20	47	57.5	+34	26	47.9	311.989512	+34.446642	4.93	1.294	1.25	K3IIIvar
102589	20	48	10.2	+36	33	47.6	312.042344	+36.563223	4.53	-0.083	-0.12	B6IV
102618	20	48	43.8	-9	25	23.8	312.182362	-9.423273	3.78	0.000	-0.01	A1V
102624	20	48	45.9	-4	57	18.8	312.191128	-4.955208	4.43	1.639	2.21	M3IIIvar
102724	20	49	36.2	+46	11	13.9	312.400772	+46.187191	4.81	0.571	0.59	B3Ia
102790	20	50	49.0	-46	9	11.9	312.704128	-46.153298	4.90	1.494	1.57	K5III
102831	20	51	10.8	-33	42	22.7	312.795155	-33.706307	4.89	1.004	0.97	G8III
102978	20	52	58.9	-26	50	41.9	313.245295	-26.844986	4.12	1.633	1.76	K4III
103004	20	52	57.8	+27	10	15.1	313.240751	+27.170855	4.56	0.835	0.87	G8III
103045	20	53	42.2	-8	54	32.6	313.425962	-8.909069	4.73	0.325	0.36	A3m
103089	20	53	56.2	+44	27	42.5	313.484063	+44.461818	4.80	-0.134	-0.16	B5V
103227	20	56	19.1	-58	22	44.6	314.079746	-58.379043	3.67	1.250	1.11	K0III
103413	20	57	54.1	+41	14	34.5	314.475348	+41.242922	3.94	0.027	0.01	A1Vn
103632	21	0	29.4	+47	35	52.0	315.122468	+47.597764	4.74	-0.084	-0.06	B1ne
103738	21	2	28.9	-32	10	49.4	315.620494	-32.180393	4.67	0.890	0.90	G8III
104019	21	5	30.7	-19	46	36.2	316.377865	-19.776736	4.82	0.169	0.18	A5V
104060	21	5	38.5	+44	0	22.9	316.410320	+44.006350	3.72	1.609	1.63	K5IbvSB
104139	21	7	2.4	-17	9	15.5	316.760098	-17.154309	4.08	-0.010	0.00	A1V
104194	21	7	16.4	+47	43	38.8	316.818520	+47.727433	4.56	1.569	1.54	K4II
104234	21	8	15.9	-24	55	36.5	317.066089	-24.926811	4.49	1.604	1.81	K5/M0III
104459	21	10	39.2	-11	17	30.2	317.663526	-11.291718	4.50	0.926	0.92	G8III
104521	21	11	17.4	+10	12	39.7	317.822379	+10.211028	4.70	0.262	0.26	F0p
104732	21	13	46.0	+30	18	27.5	318.441842	+30.307627	3.21	0.990	0.97	G8IISB
104858	21	15	25.8	+10	5	12.9	318.857411	+10.086904	4.47	0.529	0.57	F5V+...
104887	21	15	34.3	+38	7	45.2	318.893001	+38.129226	3.74	0.393	0.46	F1IV
104987	21	16	47.9	+5	19	45.6	319.199505	+5.329337	3.92	0.549	0.62	G0III+...
105102	21	18	11.0	+39	28	37.7	319.545733	+39.477131	4.22	0.098	0.25	B9Iab
105138	21	18	43.2	+34	58	46.4	319.680195	+34.979565	4.41	-0.103	-0.09	B2Vne
105140	21	19	6.9	-32	5	23.9	319.778822	-32.089967	4.71	0.070	0.09	A0V
105199	21	19	2.6	+62	40	7.0	319.760886	+62.668619	2.45	0.257	0.26	A7IV-V
105319	21	21	14.7	-53	21	59.3	320.311094	-53.366483	4.39	0.191	0.21	A5V
105382	21	22	0.1	-40	43	32.9	320.500237	-40.725806	4.80	0.029	0.07	A2p
105502	21	22	59.3	+19	53	19.5	320.747228	+19.888763	4.08	1.108	1.05	K1III
105515	21	23	19.8	-16	45	1.9	320.832366	-16.750528	4.28	0.888	0.89	G8III
105858	21	28	1.9	-65	16	35.4	322.007737	-65.276500	4.21	0.494	0.61	F6V
105881	21	27	46.6	-22	19	33.3	321.944169	-22.325929	3.77	1.002	0.88	G4Ibp...
106032	21	28	54.2	+70	38	47.5	322.226035	+70.646519	3.23	-0.201	-0.25	B2IIIvSB

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
106039	21	29	49.9	-21	43	16.7	322.457904	-21.721311	4.50	0.889	0.89	K0III
106140	21	30	49.9	+23	43	30.3	322.708087	+23.725077	4.52	1.618	1.82	M1III
106278	21	32	35.0	-5	29	4.2	323.145961	-5.484508	2.90	0.828	0.82	G0Ib
106481	21	34	42.9	+45	40	43.2	323.678949	+45.678668	3.98	0.885	0.94	G8III
106551	21	35	34.4	+38	37	19.7	323.893492	+38.622143	4.87	1.085	1.06	K1III
106723	21	38	10.1	-19	22	39.9	324.542273	-19.377750	4.51	-0.180	-0.17	B3V:p
106786	21	38	47.3	-7	45	57.2	324.697011	-7.765900	4.68	0.175	0.19	A7V
106801	21	38	26.6	+62	10	13.2	324.610838	+62.170335	4.76	0.246	0.38	B2Ib
106985	21	41	10.1	-16	34	24.1	325.292106	-16.573352	3.69	0.320	0.32	A7III:mp...
107089	21	43	34.5	-77	18	6.4	325.893678	-77.301776	3.73	1.008	0.98	K0III
107119	21	42	12.0	+71	24	5.0	325.550094	+71.401400	4.55	1.108	1.07	K0III
107136	21	42	47.3	+51	16	45.0	325.697103	+51.279176	4.69	-0.119	-0.12	B3IV
107188	21	43	44.7	-18	46	35.8	325.936044	-18.776604	4.72	0.868	0.91	G8III
107259	21	44	6.3	+58	52	11.9	326.026331	+58.869959	4.23	2.242	3.57	M2Ia
107310	21	45	0.9	+28	49	53.2	326.253941	+28.831435	4.49	0.512	0.58	F6V
107315	21	45	8.6	+9	57	54.6	326.285883	+9.965175	2.38	1.520	1.42	K2Ibvar
107348	21	45	26.1	+17	26	24.7	326.358841	+17.440196	4.34	1.161	1.05	G5Ib
107354	21	45	31.8	+25	44	7.4	326.382479	+25.735377	4.14	0.425	0.48	F5IV
107380	21	46	6.2	-32	56	9.3	326.525703	-32.935915	4.35	-0.053	-0.05	B9.5V
107418	21	46	0.7	+61	12	40.4	326.502943	+61.211232	4.25	0.474	0.73	A2Iavar
107533	21	47	30.9	+49	24	1.3	326.878946	+49.400367	4.23	-0.120	-0.13	B3III
107556	21	48	6.9	-16	2	16.8	327.028574	-16.037994	2.85	0.180	0.35	A5mF2(IV)
108085	21	55	6.2	-37	16	20.1	328.775709	-37.272249	3.00	-0.084	-0.10	B8III
108431	21	59	13.9	-54	53	56.2	329.807857	-54.898940	4.40	0.297	0.35	F0IV
108870	22	4	50.4	-56	42	17.7	331.209859	-56.704923	4.69	1.056	1.15	K5V
108874	22	4	19.3	-2	3	37.9	331.080385	-2.060539	4.74	-0.100	-0.03	B7IVe
108917	22	4	21.4	+64	43	24.3	331.089139	+64.723407	4.26	0.379	0.44	Am
109068	22	6	39.7	+5	9	16.2	331.665528	+5.154507	4.86	1.443	1.45	K4III
109074	22	6	47.1	-0	13	28.0	331.696118	-0.224458	2.95	0.969	0.92	G2Ib
109111	22	7	17.0	-39	26	54.6	331.820754	-39.448500	4.47	1.349	1.31	M0III
109139	22	7	29.3	-13	46	27.8	331.871953	-13.774393	4.29	-0.075	-0.06	B8V
109176	22	7	55.2	+25	26	27.5	331.980077	+25.440972	3.77	0.435	0.51	F5V
109268	22	9	27.2	-46	51	56.8	332.363188	-46.865768	1.73	-0.070	-0.05	B7IV
109285	22	9	30.9	-32	53	33.3	332.378942	-32.892585	4.50	0.054	0.06	A2V
109289	22	9	34.1	-33	56	53.0	332.391963	-33.948059	4.99	1.499	1.50	K4III
109400	22	10	10.6	+72	26	15.0	332.544304	+72.437495	4.79	0.919	0.91	G8III
109410	22	10	51.3	+33	16	28.2	332.713850	+33.274490	4.28	0.471	0.52	F5III
109422	22	11	17.0	-32	27	6.8	332.820899	-32.451902	4.94	0.489	0.54	F6V
109427	22	11	11.0	+6	17	40.1	332.795833	+6.294460	3.52	0.086	0.09	A2V
109492	22	11	32.0	+58	17	52.1	332.883413	+58.297818	3.39	1.558	1.58	K1IbvSB
109754	22	14	43.1	+39	48	43.9	333.679579	+39.812208	4.50	1.385	1.36	K3III
109857	22	15	45.6	+57	8	28.6	333.939809	+57.141289	4.18	0.278	0.33	F0IV
109908	22	16	47.0	-41	14	56.4	334.195684	-41.248996	4.79	0.790	0.83	G8III+...
109937	22	16	49.3	+37	50	46.9	334.205484	+37.846374	4.14	1.447	1.33	K3III
110003	22	17	51.7	-7	41	8.1	334.465319	-7.685581	4.17	0.979	0.95	G8III-IV
110130	22	19	49.2	-60	9	41.8	334.955147	-60.161599	2.87	1.390	1.37	K3III
110351	22	21	50.1	+46	38	6.8	335.458580	+46.635231	4.55	-0.100	-0.10	B6V
110371	22	22	13.5	+28	25	45.4	335.556112	+28.429279	4.78	-0.010	0.06	B9III
110386	22	22	28.7	+12	18	14.3	335.619530	+12.303979	4.82	-0.132	-0.16	B2IV-V
110395	22	22	39.7	-1	17	18.6	335.665615	-1.288488	3.86	-0.057	-0.06	AOV
110538	22	24	19.8	+52	19	37.8	336.082668	+52.327166	4.42	1.015	1.03	G9III
110609	22	25	18.6	+49	34	32.5	336.327608	+49.575701	4.55	0.092	0.18	B9Iab
110672	22	26	16.3	+1	28	36.9	336.568075	+1.476910	4.80	-0.171	-0.18	B1Ve
110838	22	28	41.9	-64	51	59.0	337.174461	-64.866388	4.51	-0.029	-0.01	B8V
110882	22	28	50.7	+4	47	38.2	337.211387	+4.793950	4.78	1.039	1.07	K0III
110960	22	29	50.1	+0	4	49.4	337.458787	+0.080386	3.65	0.406	0.50	F3III-IV
110991	22	29	53.9	+58	30	55.5	337.474725	+58.515407	4.07	0.778	0.81	G2Ibvar
110997	22	30	25.6	-43	23	43.2	337.606781	-43.395342	3.97	1.022	0.98	G6/G8III
111022	22	30	20.8	+47	48	25.7	337.586614	+47.807131	4.34	1.679	1.90	M0II

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
111043	22	30	54.8	-43	38	56.0	337.728533	-43.648880	4.12	1.570	2.49	M4.5IIIa
111104	22	31	19.9	+43	13	25.6	337.833101	+43.223782	4.52	-0.086	-0.09	B2IV
111123	22	31	40.6	-10	34	39.4	337.919234	-10.577611	4.82	-0.053	-0.04	A0IVs
111169	22	32	5.9	+50	22	59.4	338.024703	+50.383164	3.76	0.031	0.05	A1V
111188	22	32	36.5	-32	14	43.9	338.152239	-32.245533	4.29	0.011	0.03	A1V
111310	22	34	18.1	-61	52	52.7	338.575415	-61.881310	4.91	1.612	2.50	M4III
111497	22	36	21.5	-0	0	59.4	339.089409	-0.016503	4.04	-0.083	-0.07	B9IV-Vn
111674	22	38	10.7	+51	38	46.3	339.544674	+51.646181	4.64	0.254	0.28	A8IV
111841	22	40	8.4	+39	9	7.8	340.034842	+39.152179	4.89	-0.207	-0.23	O9V
111944	22	41	22.4	+44	22	42.6	340.343246	+44.378502	4.50	1.318	1.25	K3III
111954	22	41	43.8	-26	56	29.2	340.432481	-26.941440	4.18	-0.105	-0.07	B8V
112029	22	42	26.1	+10	56	1.0	340.608758	+10.933606	3.41	-0.086	-0.06	B8.5V
112051	22	42	40.5	+29	24	35.6	340.668656	+29.409875	4.80	-0.013	0.02	A1IV
112122	22	43	49.4	-46	46	55.5	340.955789	-46.782096	2.07	1.610	2.60	M5III
112158	22	43	55.1	+30	19	25.1	340.979682	+30.323641	2.93	0.852	0.87	G2II-III..
112203	22	44	37.4	-41	18	44.0	341.155856	-41.312231	4.84	1.027	1.01	K0III
112211	22	44	38.0	-18	43	40.4	341.158413	-18.727890	4.68	1.358	1.35	K3III
112374	22	46	49.0	-53	23	49.4	341.704232	-53.397066	4.84	1.180	1.21	K2IIICNIV
112405	22	47	56.5	-81	16	42.7	341.985288	-81.278535	4.13	0.208	0.24	A9IV/V
112440	22	47	28.3	+23	40	7.2	341.868100	+23.668673	3.97	1.070	0.99	G8II-III
112447	22	47	40.1	+12	16	23.8	341.917008	+12.273291	4.20	0.502	0.60	F7V
112519	22	47	21.2	+83	15	26.0	341.838296	+83.257228	4.77	1.257	1.25	K3III
112623	22	49	43.4	-51	12	49.8	342.430657	-51.213837	3.49	0.083	0.10	A3V
112716	22	50	37.3	-13	29	21.5	342.655495	-13.489318	4.05	1.570	1.72	K5III
112724	22	50	22.8	+66	18	11.7	342.594816	+66.303239	3.50	1.053	1.06	K0III
112748	22	50	56.8	+24	42	17.7	342.736585	+24.704921	3.51	0.933	0.89	M2III
112917	22	52	55.0	+43	24	59.0	343.229330	+43.416394	4.95	1.559	1.71	M0III
112948	22	53	36.3	-32	46	18.1	343.401126	-32.771686	4.46	-0.037	-0.01	A0III
112961	22	53	37.8	-7	28	31.7	343.407675	-7.475473	3.73	1.626	2.07	M2IIIvar
113116	22	54	11.2	+84	27	1.5	343.546472	+84.450416	4.70	1.418	1.38	K4III
113136	22	55	41.0	-15	43	0.2	343.920647	-15.716735	3.27	0.066	0.08	A3V
113186	22	56	12.6	+8	55	14.2	344.052528	+8.920619	4.91	-0.003	0.00	A1V
113246	22	57	1.4	-32	26	6.2	344.255851	-32.435068	4.20	0.952	0.96	G8III
113288	22	57	17.6	+49	50	16.7	344.323204	+49.837971	4.99	1.778	1.87	K5Ibvar
113368	22	58	43.4	-29	31	6.7	344.680970	-29.518525	1.17	0.145	0.16	A3V
113638	23	2	1.3	-52	38	57.1	345.505254	-52.649195	4.11	0.960	1.01	G8III
113726	23	2	49.3	+42	25	52.0	345.705588	+42.431103	3.62	-0.099	-0.05	B6pvSB
113881	23	4	43.3	+28	11	20.0	346.180554	+28.188884	2.44	1.655	2.31	M2II-IIIvar
113889	23	4	52.2	+3	55	31.2	346.217322	+3.925344	4.48	-0.115	-0.09	B6Ve
113919	23	5	3.8	+50	9	30.2	346.265916	+50.158391	4.64	1.058	1.02	K0III
113963	23	5	44.0	+15	18	37.7	346.433358	+15.310484	2.49	-0.002	0.00	B9.5III
114104	23	7	26.7	+59	31	31.4	346.861111	+59.525398	4.84	-0.060	-0.02	B0.5IV
114119	23	7	43.5	-23	38	14.8	346.931213	-23.637445	4.48	0.892	0.92	G8III
114131	23	7	58.2	-43	24	53.1	346.992526	-43.414743	4.28	0.423	0.44	F5me...
114144	23	7	59.2	+9	30	54.4	346.996804	+9.515121	4.54	1.559	1.79	M2III
114155	23	8	3.9	+25	34	25.6	347.016128	+25.573785	4.76	1.285	1.30	K0IIp
114222	23	8	31.4	+75	29	35.1	347.130675	+75.493079	4.41	0.802	0.84	G2III
114341	23	10	29.0	-21	3	58.6	347.620855	-21.066279	3.68	1.202	1.16	K1III
114375	23	10	57.2	-22	21	5.9	347.738355	-22.351647	4.71	0.674	0.75	A3IV:
114421	23	11	27.3	-45	8	26.9	347.863790	-45.140801	3.88	0.998	0.95	K0IIISB
114570	23	13	26.9	+49	30	46.8	348.362223	+49.512992	4.53	0.302	0.35	F0V
114724	23	15	19.9	-5	56	37.1	348.832945	-5.943644	4.22	1.545	1.89	M2III
114855	23	16	54.7	-8	58	52.5	349.227997	-8.981253	4.24	1.107	1.06	K0III
114939	23	17	51.5	-7	37	11.7	349.464642	-7.619927	4.93	1.613	2.56	M3III
114971	23	18	10.6	+3	23	20.7	349.544217	+3.389077	3.70	0.916	0.97	G7III
114996	23	18	33.3	-58	7	42.9	349.638699	-58.128581	3.99	0.410	0.50	F1III
115022	23	18	39.2	+49	7	19.5	349.663410	+49.122072	4.82	1.668	2.14	M2III
115033	23	18	54.9	-9	4	32.9	349.728945	-9.075813	4.41	-0.144	-0.14	B5Vn
115088	23	19	26.1	+68	13	5.9	349.858659	+68.218310	4.75	0.836	0.86	K0III

Posiciones medias de estrellas brillantes, 2019

Estrella	α			δ			α	δ	V	U-V	B-V	Espectro
	NH	h	m	s	°	'						
115102	23	19	52.3	-32	25	32.3	349.968111	-32.425626	4.41	1.109	1.08	K1III
115115	23	19	58.5	-9	30	14.2	349.993568	-9.503951	4.99	-0.022	0.00	A0V
115250	23	21	36.3	+23	50	50.2	350.401240	+23.847264	4.58	0.180	0.23	A5V
115438	23	23	59.5	-19	59	38.2	350.997985	-19.993951	3.96	1.082	1.10	K0III
115590	23	25	42.7	+62	23	24.1	351.428115	+62.390025	4.96	1.676	1.94	M1III
115623	23	26	21.3	+23	30	41.9	351.588893	+23.511635	4.42	0.617	0.67	F8IV
115669	23	27	4.1	-20	32	5.9	351.767035	-20.534978	4.38	1.460	1.52	K4III
115738	23	27	55.9	+1	21	45.1	351.983057	+1.362531	4.95	0.036	0.01	A0p
115830	23	28	57.5	+6	29	10.5	352.239493	+6.486264	4.27	1.062	1.03	K1III
115919	23	30	8.5	+12	52	5.8	352.535601	+12.868276	4.54	0.939	0.93	G8III
115990	23	30	56.5	+58	39	23.7	352.735239	+58.656580	4.89	-0.122	-0.11	B3IV
116231	23	34	0.7	-37	42	36.9	353.502910	-37.710252	4.38	-0.095	-0.09	B9.5IVMNpe.
116247	23	34	17.7	-20	48	23.9	353.573761	-20.806631	4.70	0.020	0.03	A0V
116310	23	34	55.4	+31	25	58.9	353.731029	+31.433037	4.97	1.383	1.36	K4III
116389	23	36	7.1	-42	30	25.5	354.029714	-42.507095	4.69	0.078	0.10	A2V
116584	23	38	31.5	+46	33	50.0	354.631129	+46.563877	3.81	0.984	0.96	G8III-IV
116602	23	38	53.6	-45	23	3.7	354.723212	-45.384367	4.74	0.082	0.08	A2V
116631	23	39	5.9	+43	22	34.1	354.774639	+43.376129	4.29	-0.083	-0.06	B8V
116727	23	40	10.0	+77	44	27.9	355.041549	+77.741085	3.21	1.031	0.99	K1IV
116758	23	40	47.7	-14	6	51.7	355.198555	-14.114349	4.97	0.257	0.29	A7IV
116771	23	40	57.3	+5	43	55.3	355.238618	+5.732035	4.13	0.507	0.59	F7V
116805	23	41	22.5	+44	26	31.1	355.343687	+44.441986	4.15	-0.071	-0.06	B9IVn
116901	23	42	46.4	-17	42	30.0	355.693417	-17.708322	4.82	0.822	0.81	G2Ib/II
116928	23	43	2.5	+1	53	14.7	355.760509	+1.887411	4.49	0.200	0.22	A7V
116971	23	43	43.9	-14	26	13.3	355.933000	-14.437027	4.49	-0.032	-0.04	B9V
117073	23	44	58.6	+29	28	10.3	356.243960	+29.469516	4.93	0.935	0.93	K0III
117221	23	47	0.4	+46	31	42.9	356.751676	+46.528589	4.97	1.086	1.05	G5Ib
117245	23	47	23.3	+3	35	42.1	356.847201	+3.595031	4.95	2.508	2.57	C5II
117301	23	48	1.2	+58	45	38.4	357.005127	+58.760675	4.88	1.122	1.08	K1III
117452	23	49	56.3	-28	1	20.7	357.484524	-28.022419	4.59	0.001	-0.01	A0V
117863	23	55	22.1	+57	36	28.3	358.841899	+57.607871	4.51	1.190	1.15	F8Iavar
118121	23	58	35.7	-64	11	24.1	359.648817	-64.190035	5.00	0.060	0.07	A1V
118131	23	58	45.3	+25	14	59.1	359.688879	+25.249756	4.63	1.584	2.21	M3III
118209	23	59	40.3	-3	26	52.2	359.917745	-3.447846	4.88	0.930	0.92	G9III

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

950						1599					
V			Sp			V			Sp		
5.24			F3/5V			4.23			F9V		
		α	α_c	δ	Hp			α	α_c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	0.21123	0.19526	-35.03228	17.50	ene	1	0.35032	0.33435	-64.77047	17.64
ene	8	0.21120	0.19521	-35.03225	17.04	ene	8	0.35025	0.33425	-64.77031	17.18
ene	15	0.21117	0.19516	-35.03225	16.58	ene	15	0.35017	0.33416	-64.77014	16.72
ene	22	0.21115	0.19511	-35.03210	16.12	ene	22	0.35011	0.33407	-64.76980	16.26
ene	29	0.21112	0.19507	-35.03200	15.66	ene	29	0.35004	0.33399	-64.76949	15.80
feb	5	0.21110	0.19503	-35.03176	15.20	feb	5	0.34999	0.33392	-64.76904	15.34
feb	12	0.21108	0.19500	-35.03157	14.74	feb	12	0.34993	0.33386	-64.76861	14.88
feb	19	0.21107	0.19497	-35.03122	14.28	feb	19	0.34990	0.33380	-64.76801	14.42
feb	26	0.21105	0.19494	-35.03093	13.82	feb	26	0.34986	0.33375	-64.76748	13.96
mar	5	0.21105	0.19492	-35.03052	13.36	mar	5	0.34984	0.33372	-64.76682	13.50
mar	12	0.21104	0.19491	-35.03016	12.90	mar	12	0.34982	0.33369	-64.76621	13.04
mar	19	0.21105	0.19491	-35.02967	12.44	mar	19	0.34982	0.33368	-64.76547	12.58
mar	26	0.21105	0.19490	-35.02923	11.98	mar	26	0.34982	0.33367	-64.76481	12.12
abr	2	0.21107	0.19491	-35.02871	11.52	abr	2	0.34985	0.33368	-64.76407	11.66
abr	9	0.21109	0.19492	-35.02824	11.06	abr	9	0.34986	0.33369	-64.76340	11.20
abr	16	0.21112	0.19494	-35.02766	10.60	abr	16	0.34991	0.33372	-64.76263	10.74
abr	23	0.21115	0.19496	-35.02715	10.14	abr	23	0.34995	0.33376	-64.76196	10.28
abr	30	0.21120	0.19498	-35.02658	9.68	abr	30	0.35002	0.33381	-64.76125	9.82
may	7	0.21124	0.19501	-35.02607	9.22	may	7	0.35008	0.33386	-64.76063	9.36
may	14	0.21130	0.19505	-35.02549	8.77	may	14	0.35018	0.33393	-64.75996	8.90
may	21	0.21135	0.19509	-35.02499	8.31	may	21	0.35026	0.33400	-64.75940	8.44
may	28	0.21141	0.19513	-35.02447	7.85	may	28	0.35036	0.33408	-64.75884	7.98
jun	4	0.21147	0.19517	-35.02402	7.39	jun	4	0.35046	0.33416	-64.75838	7.52
jun	11	0.21154	0.19522	-35.02354	6.93	jun	11	0.35058	0.33426	-64.75792	7.06
jun	18	0.21161	0.19527	-35.02314	6.47	jun	18	0.35068	0.33434	-64.75756	6.60
jun	25	0.21168	0.19532	-35.02276	6.01	jun	25	0.35081	0.33445	-64.75725	6.14
jul	2	0.21175	0.19537	-35.02245	5.55	jul	2	0.35092	0.33454	-64.75703	5.68
jul	9	0.21182	0.19542	-35.02216	5.09	jul	9	0.35105	0.33464	-64.75686	5.23
jul	16	0.21189	0.19547	-35.02194	4.63	jul	16	0.35116	0.33473	-64.75678	4.77
jul	23	0.21196	0.19552	-35.02179	4.17	jul	23	0.35127	0.33484	-64.75678	4.31
jul	30	0.21202	0.19556	-35.02168	3.71	jul	30	0.35138	0.33492	-64.75685	3.85
ago	6	0.21208	0.19561	-35.02163	3.25	ago	6	0.35149	0.33502	-64.75699	3.39
ago	13	0.21213	0.19564	-35.02163	2.79	ago	13	0.35158	0.33509	-64.75719	2.93
ago	20	0.21218	0.19568	-35.02173	2.33	ago	20	0.35167	0.33516	-64.75750	2.47
ago	27	0.21222	0.19571	-35.02184	1.87	ago	27	0.35174	0.33522	-64.75784	2.01
sep	3	0.21226	0.19573	-35.02203	1.41	sep	3	0.35181	0.33528	-64.75825	1.55
sep	10	0.21229	0.19575	-35.02223	0.95	sep	10	0.35186	0.33532	-64.75868	1.09
sep	17	0.21231	0.19576	-35.02254	0.49	sep	17	0.35190	0.33535	-64.75921	0.63
sep	24	0.21233	0.19577	-35.02281	0.03	sep	24	0.35192	0.33536	-64.75971	0.17
oct	1	0.21234	0.19577	-35.02318	23.57	oct	1	0.35194	0.33537	-64.76029	23.71
oct	8	0.21235	0.19576	-35.02349	23.11	oct	8	0.35195	0.33536	-64.76080	23.25
oct	15	0.21234	0.19575	-35.02392	22.65	oct	15	0.35193	0.33534	-64.76141	22.79
oct	22	0.21234	0.19573	-35.02426	22.19	oct	22	0.35191	0.33530	-64.76192	22.33
oct	29	0.21232	0.19570	-35.02467	21.73	oct	29	0.35188	0.33526	-64.76248	21.87
nov	5	0.21231	0.19567	-35.02499	21.27	nov	5	0.35184	0.33520	-64.76293	21.41
nov	12	0.21228	0.19563	-35.02540	20.81	nov	12	0.35178	0.33513	-64.76343	20.95
nov	19	0.21227	0.19559	-35.02567	20.35	nov	19	0.35173	0.33505	-64.76378	20.49
nov	26	0.21223	0.19555	-35.02601	19.89	nov	26	0.35166	0.33497	-64.76416	20.03
dic	3	0.21221	0.19550	-35.02622	19.43	dic	3	0.35159	0.33488	-64.76438	19.57
dic	10	0.21218	0.19545	-35.02649	18.97	dic	10	0.35151	0.33478	-64.76463	19.11
dic	17	0.21216	0.19540	-35.02660	18.51	dic	17	0.35144	0.33469	-64.76469	18.65
dic	24	0.21212	0.19535	-35.02676	18.05	dic	24	0.35136	0.33459	-64.76477	18.19

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

2021						3419					
		V		Sp				V		Sp	
		2.82		G2IV				2.04		KOIII	
		α	α_c	δ	Hp			α	α_c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	0.44472	0.42875	-77.15498	17.74	ene	1	0.74210	0.72613	-17.88667	18.04
ene	8	0.44456	0.42856	-77.15478	17.28	ene	8	0.74208	0.72609	-17.88675	17.58
ene	15	0.44440	0.42839	-77.15456	16.82	ene	15	0.74205	0.72604	-17.88687	17.12
ene	22	0.44425	0.42821	-77.15417	16.36	ene	22	0.74204	0.72600	-17.88685	16.66
ene	29	0.44411	0.42806	-77.15380	15.90	ene	29	0.74201	0.72596	-17.88690	16.20
feb	5	0.44399	0.42791	-77.15329	15.44	feb	5	0.74199	0.72592	-17.88683	15.74
feb	12	0.44387	0.42779	-77.15280	14.98	feb	12	0.74196	0.72588	-17.88681	15.28
feb	19	0.44378	0.42768	-77.15215	14.52	feb	19	0.74195	0.72585	-17.88665	14.82
feb	26	0.44369	0.42759	-77.15156	14.06	feb	26	0.74193	0.72583	-17.88655	14.36
mar	5	0.44364	0.42751	-77.15085	13.60	mar	5	0.74193	0.72580	-17.88633	13.90
mar	12	0.44359	0.42746	-77.15019	13.14	mar	12	0.74191	0.72578	-17.88617	13.44
mar	19	0.44358	0.42743	-77.14941	12.68	mar	19	0.74192	0.72577	-17.88586	12.98
mar	26	0.44356	0.42741	-77.14871	12.22	mar	26	0.74191	0.72576	-17.88562	12.52
abr	2	0.44359	0.42743	-77.14792	11.76	abr	2	0.74193	0.72576	-17.88527	12.06
abr	9	0.44362	0.42745	-77.14722	11.30	abr	9	0.74193	0.72576	-17.88497	11.60
abr	16	0.44369	0.42750	-77.14644	10.84	abr	16	0.74196	0.72577	-17.88454	11.14
abr	23	0.44376	0.42756	-77.14575	10.38	abr	23	0.74198	0.72578	-17.88417	10.68
abr	30	0.44387	0.42765	-77.14503	9.92	abr	30	0.74201	0.72580	-17.88372	10.22
may	7	0.44397	0.42775	-77.14440	9.46	may	7	0.74204	0.72582	-17.88332	9.76
may	14	0.44413	0.42788	-77.14374	9.00	may	14	0.74209	0.72585	-17.88282	9.30
may	21	0.44426	0.42800	-77.14319	8.54	may	21	0.74214	0.72588	-17.88238	8.84
may	28	0.44444	0.42816	-77.14265	8.08	may	28	0.74219	0.72591	-17.88190	8.38
jun	4	0.44460	0.42831	-77.14221	7.62	jun	4	0.74224	0.72594	-17.88147	7.92
jun	11	0.44481	0.42849	-77.14177	7.16	jun	11	0.74230	0.72598	-17.88098	7.46
jun	18	0.44500	0.42866	-77.14145	6.70	jun	18	0.74236	0.72602	-17.88055	7.00
jun	25	0.44522	0.42885	-77.14118	6.24	jun	25	0.74243	0.72606	-17.88012	6.54
jul	2	0.44541	0.42903	-77.14101	5.78	jul	2	0.74249	0.72611	-17.87975	6.08
jul	9	0.44564	0.42924	-77.14089	5.32	jul	9	0.74255	0.72615	-17.87936	5.62
jul	16	0.44583	0.42941	-77.14086	4.86	jul	16	0.74261	0.72619	-17.87902	5.16
jul	23	0.44605	0.42961	-77.14092	4.40	jul	23	0.74267	0.72623	-17.87874	4.70
jul	30	0.44623	0.42977	-77.14105	3.94	jul	30	0.74273	0.72627	-17.87849	4.24
ago	6	0.44643	0.42996	-77.14125	3.48	ago	6	0.74279	0.72632	-17.87827	3.78
ago	13	0.44659	0.43010	-77.14151	3.02	ago	13	0.74284	0.72635	-17.87810	3.32
ago	20	0.44675	0.43025	-77.14188	2.56	ago	20	0.74288	0.72638	-17.87801	2.86
ago	27	0.44688	0.43036	-77.14227	2.10	ago	27	0.74293	0.72641	-17.87794	2.40
sep	3	0.44701	0.43048	-77.14275	1.64	sep	3	0.74297	0.72644	-17.87793	1.94
sep	10	0.44710	0.43056	-77.14323	1.18	sep	10	0.74300	0.72646	-17.87794	1.48
sep	17	0.44718	0.43063	-77.14382	0.72	sep	17	0.74302	0.72648	-17.87805	1.02
sep	24	0.44722	0.43065	-77.14437	0.26	sep	24	0.74305	0.72649	-17.87815	0.56
oct	1	0.44725	0.43068	-77.14500	23.80	oct	1	0.74306	0.72649	-17.87833	0.10
oct	8	0.44725	0.43066	-77.14556	23.34	oct	8	0.74308	0.72649	-17.87848	23.64
oct	15	0.44722	0.43063	-77.14620	22.88	oct	15	0.74308	0.72649	-17.87874	23.18
oct	22	0.44717	0.43056	-77.14674	22.42	oct	22	0.74309	0.72648	-17.87894	22.72
oct	29	0.44710	0.43048	-77.14733	21.96	oct	29	0.74308	0.72646	-17.87922	22.26
nov	5	0.44701	0.43037	-77.14779	21.50	nov	5	0.74308	0.72644	-17.87944	21.80
nov	12	0.44690	0.43025	-77.14830	21.04	nov	12	0.74306	0.72642	-17.87975	21.34
nov	19	0.44677	0.43010	-77.14865	20.58	nov	19	0.74306	0.72639	-17.87996	20.88
nov	26	0.44663	0.42994	-77.14903	20.12	nov	26	0.74304	0.72635	-17.88026	20.42
dic	3	0.44648	0.42977	-77.14924	19.66	dic	3	0.74303	0.72631	-17.88044	19.96
dic	10	0.44631	0.42959	-77.14947	19.20	dic	10	0.74300	0.72627	-17.88072	19.50
dic	17	0.44616	0.42940	-77.14951	18.74	dic	17	0.74299	0.72623	-17.88086	19.04
dic	24	0.44598	0.42921	-77.14956	18.28	dic	24	0.74296	0.72619	-17.88107	18.58

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

3909						5364					
V			Sp			V			Sp		
5.17			F7IV-V			3.46			K2III		
		α	α _c	δ	Hp			α	α _c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	0.85106	0.83508	-10.54572	18.14	ene	1	1.15888	1.14291	-10.08539	18.45
ene	8	0.85104	0.83504	-10.54581	17.68	ene	8	1.15887	1.14287	-10.08550	17.99
ene	15	0.85101	0.83499	-10.54596	17.22	ene	15	1.15883	1.14282	-10.08565	17.53
ene	22	0.85099	0.83495	-10.54598	16.76	ene	22	1.15882	1.14278	-10.08569	17.07
ene	29	0.85096	0.83491	-10.54607	16.30	ene	29	1.15879	1.14274	-10.08578	16.61
feb	5	0.85094	0.83487	-10.54606	15.84	feb	5	1.15877	1.14270	-10.08578	16.15
feb	12	0.85092	0.83484	-10.54611	15.38	feb	12	1.15874	1.14266	-10.08584	15.69
feb	19	0.85091	0.83481	-10.54601	14.92	feb	19	1.15873	1.14263	-10.08575	15.23
feb	26	0.85088	0.83478	-10.54599	14.46	feb	26	1.15870	1.14259	-10.08574	14.77
mar	5	0.85088	0.83475	-10.54585	14.00	mar	5	1.15869	1.14257	-10.08561	14.31
mar	12	0.85086	0.83474	-10.54577	13.54	mar	12	1.15867	1.14255	-10.08554	13.85
mar	19	0.85087	0.83472	-10.54555	13.08	mar	19	1.15867	1.14253	-10.08533	13.39
mar	26	0.85086	0.83471	-10.54540	12.62	mar	26	1.15867	1.14251	-10.08518	12.93
abr	2	0.85087	0.83471	-10.54513	12.16	abr	2	1.15867	1.14251	-10.08492	12.47
abr	9	0.85088	0.83471	-10.54492	11.70	abr	9	1.15867	1.14250	-10.08472	12.01
abr	16	0.85090	0.83471	-10.54456	11.24	abr	16	1.15870	1.14251	-10.08437	11.55
abr	23	0.85092	0.83472	-10.54427	10.78	abr	23	1.15871	1.14251	-10.08409	11.09
abr	30	0.85096	0.83474	-10.54389	10.32	abr	30	1.15874	1.14253	-10.08371	10.63
may	7	0.85098	0.83476	-10.54356	9.86	may	7	1.15877	1.14254	-10.08338	10.17
may	14	0.85103	0.83479	-10.54312	9.40	may	14	1.15881	1.14256	-10.08294	9.71
may	21	0.85107	0.83481	-10.54273	8.94	may	21	1.15885	1.14259	-10.08256	9.25
may	28	0.85112	0.83484	-10.54229	8.48	may	28	1.15890	1.14262	-10.08211	8.79
jun	4	0.85117	0.83488	-10.54189	8.03	jun	4	1.15895	1.14265	-10.08172	8.33
jun	11	0.85124	0.83491	-10.54143	7.57	jun	11	1.15901	1.14268	-10.08124	7.87
jun	18	0.85129	0.83495	-10.54102	7.11	jun	18	1.15906	1.14272	-10.08083	7.41
jun	25	0.85135	0.83499	-10.54059	6.65	jun	25	1.15912	1.14276	-10.08040	6.95
jul	2	0.85141	0.83503	-10.54021	6.19	jul	2	1.15918	1.14280	-10.08001	6.49
jul	9	0.85148	0.83508	-10.53980	5.73	jul	9	1.15924	1.14284	-10.07959	6.03
jul	16	0.85154	0.83512	-10.53945	5.27	jul	16	1.15931	1.14288	-10.07923	5.57
jul	23	0.85160	0.83516	-10.53913	4.81	jul	23	1.15936	1.14292	-10.07889	5.11
jul	30	0.85165	0.83519	-10.53884	4.35	jul	30	1.15942	1.14296	-10.07860	4.65
ago	6	0.85171	0.83523	-10.53858	3.89	ago	6	1.15948	1.14301	-10.07831	4.19
ago	13	0.85176	0.83527	-10.53835	3.43	ago	13	1.15953	1.14304	-10.07808	3.73
ago	20	0.85180	0.83530	-10.53820	2.97	ago	20	1.15958	1.14308	-10.07791	3.27
ago	27	0.85185	0.83533	-10.53806	2.51	ago	27	1.15963	1.14311	-10.07776	2.81
sep	3	0.85188	0.83536	-10.53798	2.05	sep	3	1.15966	1.14314	-10.07766	2.35
sep	10	0.85192	0.83538	-10.53790	1.59	sep	10	1.15970	1.14316	-10.07758	1.89
sep	17	0.85194	0.83539	-10.53794	1.13	sep	17	1.15973	1.14318	-10.07760	1.43
sep	24	0.85197	0.83541	-10.53795	0.67	sep	24	1.15976	1.14320	-10.07761	0.97
oct	1	0.85198	0.83541	-10.53805	0.21	oct	1	1.15978	1.14321	-10.07769	0.51
oct	8	0.85200	0.83541	-10.53812	23.75	oct	8	1.15980	1.14321	-10.07776	0.05
oct	15	0.85200	0.83541	-10.53830	23.29	oct	15	1.15981	1.14321	-10.07793	23.59
oct	22	0.85201	0.83540	-10.53842	22.83	oct	22	1.15982	1.14321	-10.07806	23.13
oct	29	0.85201	0.83539	-10.53864	22.37	oct	29	1.15982	1.14320	-10.07827	22.67
nov	5	0.85201	0.83537	-10.53878	21.91	nov	5	1.15982	1.14318	-10.07842	22.21
nov	12	0.85199	0.83534	-10.53904	21.45	nov	12	1.15981	1.14316	-10.07868	21.75
nov	19	0.85199	0.83532	-10.53920	20.99	nov	19	1.15981	1.14314	-10.07885	21.29
nov	26	0.85197	0.83528	-10.53945	20.53	nov	26	1.15979	1.14311	-10.07910	20.83
dic	3	0.85196	0.83525	-10.53960	20.07	dic	3	1.15979	1.14307	-10.07926	20.37
dic	10	0.85194	0.83521	-10.53985	19.61	dic	10	1.15976	1.14304	-10.07952	19.91
dic	17	0.85192	0.83517	-10.53998	19.15	dic	17	1.15976	1.14300	-10.07965	19.45
dic	24	0.85190	0.83513	-10.54019	18.69	dic	24	1.15973	1.14296	-10.07987	18.99

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

6537						7884					
V			Sp			V			Sp		
3.60			K0III			4.45			K3III		
		α	α_c	δ	Hp			α	α_c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	1.41604	1.40007	-8.08893	18.71	ene	1	1.70689	1.69092	5.58117	19.00
ene	8	1.41603	1.40003	-8.08904	18.25	ene	8	1.70688	1.69088	5.58107	18.54
ene	15	1.41599	1.39998	-8.08920	17.79	ene	15	1.70685	1.69084	5.58091	18.08
ene	22	1.41598	1.39994	-8.08926	17.33	ene	22	1.70683	1.69079	5.58083	17.62
ene	29	1.41595	1.39990	-8.08937	16.87	ene	29	1.70680	1.69075	5.58068	17.16
feb	5	1.41593	1.39986	-8.08939	16.41	feb	5	1.70678	1.69071	5.58061	16.70
feb	12	1.41589	1.39982	-8.08945	15.95	feb	12	1.70674	1.69066	5.58046	16.24
feb	19	1.41588	1.39978	-8.08940	15.49	feb	19	1.70673	1.69063	5.58042	15.78
feb	26	1.41585	1.39975	-8.08940	15.03	feb	26	1.70670	1.69059	5.58031	15.32
mar	5	1.41584	1.39972	-8.08929	14.57	mar	5	1.70668	1.69056	5.58029	14.86
mar	12	1.41582	1.39969	-8.08925	14.11	mar	12	1.70666	1.69053	5.58021	14.40
mar	19	1.41582	1.39967	-8.08906	13.65	mar	19	1.70665	1.69051	5.58025	13.94
mar	26	1.41581	1.39966	-8.08894	13.19	mar	26	1.70664	1.69049	5.58022	13.48
abr	2	1.41581	1.39964	-8.08871	12.73	abr	2	1.70664	1.69047	5.58030	13.02
abr	9	1.41581	1.39964	-8.08853	12.27	abr	9	1.70664	1.69047	5.58031	12.56
abr	16	1.41583	1.39964	-8.08821	11.81	abr	16	1.70665	1.69046	5.58045	12.10
abr	23	1.41584	1.39964	-8.08795	11.35	abr	23	1.70666	1.69046	5.58055	11.64
abr	30	1.41587	1.39965	-8.08759	10.89	abr	30	1.70668	1.69047	5.58076	11.18
may	7	1.41589	1.39966	-8.08729	10.43	may	7	1.70671	1.69048	5.58091	10.72
may	14	1.41593	1.39968	-8.08686	9.97	may	14	1.70674	1.69050	5.58120	10.26
may	21	1.41597	1.39971	-8.08650	9.51	may	21	1.70678	1.69052	5.58143	9.80
may	28	1.41601	1.39973	-8.08607	9.05	may	28	1.70682	1.69054	5.58175	9.34
jun	4	1.41606	1.39976	-8.08569	8.59	jun	4	1.70687	1.69057	5.58202	8.88
jun	11	1.41612	1.39979	-8.08522	8.13	jun	11	1.70692	1.69060	5.58240	8.42
jun	18	1.41617	1.39983	-8.08481	7.67	jun	18	1.70698	1.69064	5.58273	7.96
jun	25	1.41623	1.39987	-8.08438	7.21	jun	25	1.70704	1.69067	5.58311	7.50
jul	2	1.41629	1.39991	-8.08399	6.75	jul	2	1.70709	1.69071	5.58345	7.04
jul	9	1.41635	1.39995	-8.08357	6.29	jul	9	1.70716	1.69075	5.58386	6.58
jul	16	1.41641	1.39999	-8.08320	5.83	jul	16	1.70722	1.69079	5.58422	6.12
jul	23	1.41647	1.40003	-8.08285	5.37	jul	23	1.70727	1.69084	5.58459	5.66
jul	30	1.41653	1.40007	-8.08254	4.91	jul	30	1.70733	1.69088	5.58493	5.20
ago	6	1.41658	1.40011	-8.08224	4.45	ago	6	1.70739	1.69092	5.58529	4.74
ago	13	1.41664	1.40015	-8.08199	3.99	ago	13	1.70745	1.69096	5.58561	4.28
ago	20	1.41669	1.40019	-8.08179	3.53	ago	20	1.70750	1.69100	5.58589	3.82
ago	27	1.41674	1.40022	-8.08163	3.07	ago	27	1.70755	1.69103	5.58615	3.36
sep	3	1.41678	1.40025	-8.08150	2.61	sep	3	1.70759	1.69106	5.58640	2.90
sep	10	1.41682	1.40028	-8.08140	2.15	sep	10	1.70764	1.69109	5.58663	2.44
sep	17	1.41685	1.40030	-8.08139	1.69	sep	17	1.70767	1.69112	5.58677	1.98
sep	24	1.41688	1.40032	-8.08138	1.23	sep	24	1.70770	1.69114	5.58693	1.52
oct	1	1.41690	1.40033	-8.08144	0.77	oct	1	1.70773	1.69116	5.58703	1.06
oct	8	1.41693	1.40034	-8.08149	0.31	oct	8	1.70776	1.69117	5.58714	0.60
oct	15	1.41693	1.40034	-8.08164	23.85	oct	15	1.70777	1.69118	5.58714	0.14
oct	22	1.41695	1.40034	-8.08175	23.39	oct	22	1.70779	1.69118	5.58719	23.68
oct	29	1.41695	1.40033	-8.08194	22.93	oct	29	1.70779	1.69118	5.58716	23.22
nov	5	1.41696	1.40032	-8.08208	22.47	nov	5	1.70781	1.69117	5.58717	22.76
nov	12	1.41695	1.40030	-8.08232	22.01	nov	12	1.70780	1.69115	5.58707	22.30
nov	19	1.41695	1.40028	-8.08248	21.55	nov	19	1.70781	1.69114	5.58705	21.84
nov	26	1.41694	1.40025	-8.08272	21.09	nov	26	1.70780	1.69111	5.58693	21.38
dic	3	1.41694	1.40022	-8.08288	20.63	dic	3	1.70780	1.69109	5.58688	20.92
dic	10	1.41691	1.40019	-8.08313	20.17	dic	10	1.70778	1.69105	5.58672	20.46
dic	17	1.41691	1.40015	-8.08327	19.71	dic	17	1.70778	1.69102	5.58667	20.00
dic	24	1.41688	1.40011	-8.08349	19.25	dic	24	1.70775	1.69098	5.58651	19.54

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

8102						10320					
		V		Sp				V		Sp	
		3.49		G8V				5.27		AOV	
		α	α _c	δ	Hp			α	α _c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	1.74903	1.73306	-15.84203	19.04	ene	1	2.22899	2.21301	-30.64058	19.52
ene	8	1.74901	1.73301	-15.84216	18.58	ene	8	2.22896	2.21296	-30.64077	19.06
ene	15	1.74898	1.73296	-15.84231	18.12	ene	15	2.22892	2.21291	-30.64096	18.60
ene	22	1.74896	1.73292	-15.84235	17.66	ene	22	2.22890	2.21286	-30.64102	18.14
ene	29	1.74892	1.73287	-15.84244	17.20	ene	29	2.22886	2.21281	-30.64110	17.68
feb	5	1.74890	1.73283	-15.84242	16.74	feb	5	2.22883	2.21275	-30.64106	17.22
feb	12	1.74886	1.73278	-15.84244	16.28	feb	12	2.22878	2.21271	-30.64104	16.76
feb	19	1.74884	1.73274	-15.84232	15.82	feb	19	2.22876	2.21266	-30.64087	16.30
feb	26	1.74881	1.73271	-15.84226	15.36	feb	26	2.22872	2.21261	-30.64074	15.84
mar	5	1.74880	1.73267	-15.84208	14.90	mar	5	2.22869	2.21257	-30.64048	15.38
mar	12	1.74877	1.73264	-15.84196	14.44	mar	12	2.22866	2.21253	-30.64025	14.92
mar	19	1.74876	1.73262	-15.84168	13.98	mar	19	2.22864	2.21250	-30.63987	14.46
mar	26	1.74875	1.73260	-15.84147	13.52	mar	26	2.22862	2.21247	-30.63955	14.00
abr	2	1.74875	1.73258	-15.84115	13.06	abr	2	2.22861	2.21244	-30.63910	13.54
abr	9	1.74874	1.73257	-15.84088	12.60	abr	9	2.22859	2.21242	-30.63871	13.08
abr	16	1.74875	1.73257	-15.84047	12.14	abr	16	2.22860	2.21241	-30.63817	12.62
abr	23	1.74876	1.73257	-15.84013	11.68	abr	23	2.22860	2.21240	-30.63770	12.16
abr	30	1.74878	1.73257	-15.83968	11.22	abr	30	2.22861	2.21240	-30.63713	11.70
may	7	1.74880	1.73258	-15.83930	10.76	may	7	2.22863	2.21240	-30.63662	11.24
may	14	1.74884	1.73260	-15.83879	10.30	may	14	2.22866	2.21241	-30.63599	10.78
may	21	1.74887	1.73261	-15.83836	9.84	may	21	2.22869	2.21243	-30.63546	10.32
may	28	1.74892	1.73264	-15.83786	9.38	may	28	2.22873	2.21244	-30.63485	9.86
jun	4	1.74896	1.73266	-15.83742	8.92	jun	4	2.22877	2.21247	-30.63432	9.40
jun	11	1.74902	1.73269	-15.83689	8.46	jun	11	2.22882	2.21250	-30.63370	8.94
jun	18	1.74907	1.73273	-15.83645	8.00	jun	18	2.22887	2.21253	-30.63319	8.48
jun	25	1.74913	1.73276	-15.83598	7.54	jun	25	2.22893	2.21257	-30.63265	8.02
jul	2	1.74918	1.73280	-15.83557	7.08	jul	2	2.22899	2.21261	-30.63220	7.56
jul	9	1.74925	1.73285	-15.83512	6.62	jul	9	2.22905	2.21265	-30.63171	7.10
jul	16	1.74931	1.73288	-15.83475	6.16	jul	16	2.22912	2.21269	-30.63132	6.64
jul	23	1.74937	1.73293	-15.83440	5.70	jul	23	2.22918	2.21274	-30.63096	6.18
jul	30	1.74943	1.73297	-15.83410	5.24	jul	30	2.22925	2.21279	-30.63068	5.72
ago	6	1.74948	1.73301	-15.83382	4.78	ago	6	2.22931	2.21284	-30.63041	5.26
ago	13	1.74954	1.73305	-15.83360	4.32	ago	13	2.22938	2.21288	-30.63023	4.80
ago	20	1.74959	1.73309	-15.83344	3.86	ago	20	2.22943	2.21293	-30.63012	4.34
ago	27	1.74964	1.73312	-15.83332	3.40	ago	27	2.22949	2.21297	-30.63008	3.88
sep	3	1.74969	1.73316	-15.83324	2.94	sep	3	2.22955	2.21302	-30.63008	3.42
sep	10	1.74973	1.73319	-15.83321	2.48	sep	10	2.22960	2.21306	-30.63015	2.96
sep	17	1.74976	1.73321	-15.83327	2.02	sep	17	2.22964	2.21309	-30.63031	2.50
sep	24	1.74980	1.73323	-15.83334	1.56	sep	24	2.22968	2.21312	-30.63051	2.04
oct	1	1.74982	1.73325	-15.83347	1.10	oct	1	2.22972	2.21315	-30.63077	1.58
oct	8	1.74985	1.73326	-15.83360	0.64	oct	8	2.22975	2.21316	-30.63105	1.12
oct	15	1.74986	1.73327	-15.83384	0.18	oct	15	2.22977	2.21318	-30.63142	0.66
oct	22	1.74988	1.73327	-15.83404	23.72	oct	22	2.22979	2.21319	-30.63178	0.20
oct	29	1.74988	1.73326	-15.83431	23.26	oct	29	2.22981	2.21319	-30.63221	23.74
nov	5	1.74989	1.73325	-15.83454	22.80	nov	5	2.22982	2.21318	-30.63259	23.28
nov	12	1.74989	1.73324	-15.83486	22.34	nov	12	2.22982	2.21317	-30.63306	22.82
nov	19	1.74989	1.73322	-15.83510	21.88	nov	19	2.22982	2.21315	-30.63346	22.36
nov	26	1.74988	1.73319	-15.83542	21.42	nov	26	2.22981	2.21313	-30.63391	21.90
dic	3	1.74987	1.73316	-15.83564	20.96	dic	3	2.22981	2.21310	-30.63427	21.44
dic	10	1.74985	1.73312	-15.83595	20.50	dic	10	2.22979	2.21306	-30.63470	20.98
dic	17	1.74984	1.73309	-15.83613	20.04	dic	17	2.22978	2.21302	-30.63499	20.52
dic	24	1.74982	1.73304	-15.83639	19.58	dic	24	2.22975	2.21298	-30.63534	20.06

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

10670						15510					
V			Sp			V			Sp		
4.03			A1Vnn			4.26			G8V		
α		α _c	δ		Hp	α		α _c	δ		Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	2.30745	2.29148	33.93457	19.60	ene	1	3.34488	3.32891	-43.00348	20.64
ene	8	2.30743	2.29143	33.93461	19.14	ene	8	3.34485	3.32885	-43.00381	20.18
ene	15	2.30739	2.29138	33.93457	18.68	ene	15	3.34481	3.32880	-43.00410	19.72
ene	22	2.30737	2.29133	33.93456	18.22	ene	22	3.34477	3.32874	-43.00429	19.26
ene	29	2.30733	2.29128	33.93445	17.76	ene	29	3.34473	3.32868	-43.00445	18.80
feb	5	2.30730	2.29122	33.93435	17.30	feb	5	3.34468	3.32861	-43.00451	18.34
feb	12	2.30725	2.29117	33.93416	16.84	feb	12	3.34463	3.32855	-43.00455	17.88
feb	19	2.30722	2.29112	33.93402	16.38	feb	19	3.34459	3.32849	-43.00445	17.42
feb	26	2.30718	2.29107	33.93378	15.92	feb	26	3.34453	3.32843	-43.00435	16.96
mar	5	2.30716	2.29103	33.93359	15.46	mar	5	3.34449	3.32837	-43.00413	16.50
mar	12	2.30712	2.29099	33.93329	15.00	mar	12	3.34444	3.32831	-43.00391	16.04
mar	19	2.30710	2.29096	33.93310	14.54	mar	19	3.34440	3.32826	-43.00354	15.58
mar	26	2.30708	2.29093	33.93280	14.08	mar	26	3.34436	3.32821	-43.00320	15.12
abr	2	2.30707	2.29091	33.93259	13.62	abr	2	3.34433	3.32817	-43.00274	14.66
abr	9	2.30706	2.29089	33.93230	13.16	abr	9	3.34430	3.32813	-43.00231	14.20
abr	16	2.30707	2.29088	33.93213	12.70	abr	16	3.34429	3.32810	-43.00173	13.74
abr	23	2.30707	2.29087	33.93189	12.24	abr	23	3.34427	3.32807	-43.00121	13.28
abr	30	2.30709	2.29087	33.93176	11.78	abr	30	3.34426	3.32805	-43.00058	12.82
may	7	2.30711	2.29088	33.93157	11.32	may	7	3.34426	3.32804	-43.00001	12.36
may	14	2.30714	2.29090	33.93152	10.86	may	14	3.34428	3.32803	-42.99931	11.90
may	21	2.30718	2.29092	33.93141	10.40	may	21	3.34429	3.32803	-42.99870	11.44
may	28	2.30723	2.29094	33.93142	9.94	may	28	3.34432	3.32804	-42.99800	10.98
jun	4	2.30727	2.29098	33.93139	9.48	jun	4	3.34434	3.32805	-42.99739	10.52
jun	11	2.30733	2.29101	33.93150	9.02	jun	11	3.34439	3.32807	-42.99668	10.06
jun	18	2.30739	2.29105	33.93157	8.56	jun	18	3.34443	3.32809	-42.99609	9.60
jun	25	2.30745	2.29109	33.93174	8.10	jun	25	3.34449	3.32813	-42.99544	9.14
jul	2	2.30752	2.29114	33.93188	7.64	jul	2	3.34454	3.32816	-42.99490	8.68
jul	9	2.30759	2.29119	33.93215	7.18	jul	9	3.34461	3.32821	-42.99431	8.22
jul	16	2.30766	2.29124	33.93238	6.72	jul	16	3.34467	3.32825	-42.99385	7.76
jul	23	2.30773	2.29129	33.93268	6.26	jul	23	3.34474	3.32830	-42.99339	7.30
jul	30	2.30780	2.29134	33.93296	5.80	jul	30	3.34481	3.32835	-42.99304	6.84
ago	6	2.30786	2.29139	33.93333	5.34	ago	6	3.34488	3.32841	-42.99269	6.38
ago	13	2.30794	2.29144	33.93367	4.88	ago	13	3.34496	3.32847	-42.99246	5.92
ago	20	2.30799	2.29149	33.93404	4.42	ago	20	3.34503	3.32853	-42.99228	5.46
ago	27	2.30806	2.29154	33.93440	3.96	ago	27	3.34510	3.32858	-42.99221	5.00
sep	3	2.30811	2.29158	33.93480	3.50	sep	3	3.34517	3.32864	-42.99217	4.54
sep	10	2.30817	2.29163	33.93520	3.04	sep	10	3.34524	3.32869	-42.99223	4.08
sep	17	2.30821	2.29166	33.93556	2.58	sep	17	3.34529	3.32875	-42.99237	3.62
sep	24	2.30826	2.29170	33.93594	2.12	sep	24	3.34535	3.32879	-42.99260	3.16
oct	1	2.30829	2.29173	33.93632	1.66	oct	1	3.34541	3.32884	-42.99287	2.70
oct	8	2.30834	2.29175	33.93670	1.20	oct	8	3.34546	3.32887	-42.99321	2.24
oct	15	2.30836	2.29177	33.93702	0.74	oct	15	3.34550	3.32891	-42.99363	1.78
oct	22	2.30839	2.29178	33.93738	0.28	oct	22	3.34554	3.32893	-42.99407	1.32
oct	29	2.30841	2.29179	33.93768	23.82	oct	29	3.34557	3.32895	-42.99457	0.86
nov	5	2.30843	2.29179	33.93801	23.36	nov	5	3.34560	3.32896	-42.99508	0.40
nov	12	2.30844	2.29179	33.93825	22.90	nov	12	3.34561	3.32896	-42.99565	23.94
nov	19	2.30845	2.29178	33.93854	22.44	nov	19	3.34563	3.32895	-42.99618	23.48
nov	26	2.30845	2.29176	33.93874	21.98	nov	26	3.34563	3.32894	-42.99676	23.02
dic	3	2.30845	2.29174	33.93898	21.52	dic	3	3.34563	3.32892	-42.99726	22.56
dic	10	2.30843	2.29171	33.93910	21.06	dic	10	3.34562	3.32889	-42.99782	22.10
dic	17	2.30843	2.29168	33.93929	20.60	dic	17	3.34561	3.32886	-42.99827	21.64
dic	24	2.30841	2.29164	33.93936	20.14	dic	24	3.34559	3.32882	-42.99875	21.18

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

17378						23693					
		V		Sp				V		Sp	
		3.52		KOIV				4.71		F7V	
		α	α_c	δ	Hp			α	α_c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	3.73603	3.72006	-9.70333	21.03	ene	1	5.09785	5.08188	-57.45106	22.39
ene	8	3.73603	3.72003	-9.70356	20.57	ene	8	5.09782	5.08183	-57.45164	21.93
ene	15	3.73600	3.71999	-9.70378	20.11	ene	15	5.09778	5.08177	-57.45214	21.47
ene	22	3.73599	3.71995	-9.70394	19.65	ene	22	5.09773	5.08170	-57.45260	21.01
ene	29	3.73595	3.71990	-9.70410	19.19	ene	29	5.09767	5.08162	-57.45300	20.55
feb	5	3.73593	3.71986	-9.70420	18.73	feb	5	5.09761	5.08154	-57.45333	20.09
feb	12	3.73589	3.71981	-9.70431	18.27	feb	12	5.09754	5.08146	-57.45359	19.63
feb	19	3.73587	3.71976	-9.70433	17.81	feb	19	5.09747	5.08137	-57.45376	19.17
feb	26	3.73583	3.71972	-9.70437	17.35	feb	26	5.09739	5.08128	-57.45389	18.71
mar	5	3.73580	3.71967	-9.70432	16.89	mar	5	5.09731	5.08118	-57.45391	18.25
mar	12	3.73576	3.71963	-9.70430	16.43	mar	12	5.09722	5.08110	-57.45389	17.79
mar	19	3.73573	3.71959	-9.70417	15.97	mar	19	5.09715	5.08100	-57.45375	17.33
mar	26	3.73570	3.71955	-9.70408	15.51	mar	26	5.09706	5.08091	-57.45359	16.87
abr	2	3.73568	3.71951	-9.70388	15.05	abr	2	5.09699	5.08083	-57.45331	16.41
abr	9	3.73565	3.71948	-9.70372	14.59	abr	9	5.09692	5.08075	-57.45302	15.95
abr	16	3.73564	3.71946	-9.70344	14.13	abr	16	5.09685	5.08067	-57.45259	15.49
abr	23	3.73563	3.71943	-9.70322	13.67	abr	23	5.09679	5.08060	-57.45219	15.03
abr	30	3.73563	3.71942	-9.70288	13.21	abr	30	5.09675	5.08053	-57.45166	14.57
may	7	3.73563	3.71940	-9.70260	12.75	may	7	5.09670	5.08048	-57.45116	14.11
may	14	3.73564	3.71940	-9.70219	12.29	may	14	5.09667	5.08042	-57.45052	13.65
may	21	3.73565	3.71939	-9.70186	11.83	may	21	5.09664	5.08038	-57.44995	13.19
may	28	3.73568	3.71939	-9.70142	11.37	may	28	5.09663	5.08035	-57.44925	12.73
jun	4	3.73570	3.71940	-9.70106	10.91	jun	4	5.09662	5.08033	-57.44863	12.27
jun	11	3.73574	3.71942	-9.70057	10.45	jun	11	5.09663	5.08031	-57.44788	11.81
jun	18	3.73577	3.71943	-9.70018	9.99	jun	18	5.09665	5.08030	-57.44725	11.35
jun	25	3.73582	3.71945	-9.69971	9.53	jun	25	5.09667	5.08031	-57.44651	10.89
jul	2	3.73586	3.71948	-9.69932	9.07	jul	2	5.09670	5.08032	-57.44589	10.43
jul	9	3.73591	3.71951	-9.69884	8.61	jul	9	5.09675	5.08035	-57.44517	9.97
jul	16	3.73597	3.71954	-9.69847	8.15	jul	16	5.09680	5.08038	-57.44460	9.51
jul	23	3.73602	3.71958	-9.69805	7.69	jul	23	5.09686	5.08042	-57.44397	9.05
jul	30	3.73608	3.71962	-9.69773	7.23	jul	30	5.09692	5.08047	-57.44348	8.59
ago	6	3.73613	3.71966	-9.69735	6.77	ago	6	5.09700	5.08053	-57.44295	8.13
ago	13	3.73619	3.71970	-9.69709	6.31	ago	13	5.09708	5.08058	-57.44257	7.67
ago	20	3.73625	3.71975	-9.69682	5.85	ago	20	5.09716	5.08066	-57.44219	7.21
ago	27	3.73631	3.71979	-9.69664	5.39	ago	27	5.09724	5.08072	-57.44195	6.75
sep	3	3.73636	3.71983	-9.69644	4.93	sep	3	5.09733	5.08080	-57.44172	6.29
sep	10	3.73642	3.71988	-9.69634	4.47	sep	10	5.09742	5.08087	-57.44164	5.83
sep	17	3.73646	3.71992	-9.69628	4.01	sep	17	5.09750	5.08095	-57.44160	5.37
sep	24	3.73652	3.71995	-9.69629	3.55	sep	24	5.09759	5.08103	-57.44170	4.91
oct	1	3.73656	3.71999	-9.69631	3.09	oct	1	5.09767	5.08110	-57.44183	4.45
oct	8	3.73661	3.72002	-9.69639	2.63	oct	8	5.09776	5.08117	-57.44208	3.99
oct	15	3.73664	3.72005	-9.69654	2.17	oct	15	5.09783	5.08124	-57.44240	3.53
oct	22	3.73668	3.72007	-9.69671	1.71	oct	22	5.09790	5.08129	-57.44281	3.07
oct	29	3.73671	3.72009	-9.69692	1.25	oct	29	5.09797	5.08135	-57.44327	2.61
nov	5	3.73675	3.72011	-9.69714	0.79	nov	5	5.09803	5.08139	-57.44379	2.15
nov	12	3.73676	3.72012	-9.69742	0.33	nov	12	5.09807	5.08143	-57.44437	1.69
nov	19	3.73679	3.72012	-9.69769	23.87	nov	19	5.09812	5.08144	-57.44499	1.23
nov	26	3.73680	3.72012	-9.69800	23.41	nov	26	5.09815	5.08146	-57.44564	0.77
dic	3	3.73682	3.72011	-9.69826	22.95	dic	3	5.09817	5.08146	-57.44628	0.31
dic	10	3.73682	3.72009	-9.69859	22.49	dic	10	5.09818	5.08146	-57.44697	23.85
dic	17	3.73683	3.72007	-9.69884	22.03	dic	17	5.09819	5.08143	-57.44760	23.39
dic	24	3.73682	3.72005	-9.69915	21.57	dic	24	5.09818	5.08140	-57.44827	22.93

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

27288						27654					
V			Sp			V			Sp		
3.55			A2Vann			3.76			G8III/IV		
α		α _c	δ		Hp	α		α _c	δ		Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	5.79712	5.78114	-14.81826	23.09	ene	1	5.86918	5.85320	-20.88086	23.16
ene	8	5.79713	5.78113	-14.81866	22.63	ene	8	5.86918	5.85319	-20.88132	22.70
ene	15	5.79712	5.78111	-14.81900	22.17	ene	15	5.86917	5.85316	-20.88172	22.24
ene	22	5.79712	5.78108	-14.81934	21.71	ene	22	5.86917	5.85313	-20.88212	21.78
ene	29	5.79710	5.78105	-14.81963	21.25	ene	29	5.86915	5.85310	-20.88245	21.32
feb	5	5.79708	5.78101	-14.81989	20.79	feb	5	5.86914	5.85306	-20.88276	20.86
feb	12	5.79705	5.78097	-14.82010	20.33	feb	12	5.86910	5.85302	-20.88301	20.40
feb	19	5.79703	5.78092	-14.82027	19.87	feb	19	5.86908	5.85298	-20.88323	19.94
feb	26	5.79699	5.78088	-14.82041	19.41	feb	26	5.86904	5.85293	-20.88340	19.48
mar	5	5.79696	5.78083	-14.82049	18.95	mar	5	5.86900	5.85288	-20.88350	19.02
mar	12	5.79691	5.78079	-14.82055	18.49	mar	12	5.86896	5.85283	-20.88358	18.56
mar	19	5.79688	5.78073	-14.82054	18.03	mar	19	5.86892	5.85278	-20.88358	18.10
mar	26	5.79684	5.78069	-14.82052	17.57	mar	26	5.86888	5.85273	-20.88357	17.64
abr	2	5.79680	5.78064	-14.82042	17.11	abr	2	5.86884	5.85268	-20.88346	17.18
abr	9	5.79676	5.78059	-14.82032	16.65	abr	9	5.86880	5.85263	-20.88335	16.72
abr	16	5.79674	5.78055	-14.82013	16.19	abr	16	5.86877	5.85258	-20.88315	16.26
abr	23	5.79671	5.78051	-14.81996	15.73	abr	23	5.86874	5.85254	-20.88296	15.80
abr	30	5.79668	5.78047	-14.81969	15.27	abr	30	5.86871	5.85250	-20.88266	15.34
may	7	5.79666	5.78044	-14.81946	14.81	may	7	5.86869	5.85246	-20.88240	14.88
may	14	5.79665	5.78041	-14.81910	14.35	may	14	5.86868	5.85243	-20.88201	14.42
may	21	5.79664	5.78038	-14.81881	13.89	may	21	5.86866	5.85240	-20.88168	13.96
may	28	5.79664	5.78036	-14.81840	13.43	may	28	5.86866	5.85238	-20.88123	13.50
jun	4	5.79664	5.78034	-14.81806	12.97	jun	4	5.86866	5.85236	-20.88085	13.04
jun	11	5.79665	5.78033	-14.81760	12.51	jun	11	5.86867	5.85235	-20.88034	12.58
jun	18	5.79667	5.78033	-14.81723	12.05	jun	18	5.86868	5.85234	-20.87992	12.12
jun	25	5.79669	5.78033	-14.81675	11.59	jun	25	5.86870	5.85234	-20.87939	11.66
jul	2	5.79671	5.78033	-14.81636	11.13	jul	2	5.86872	5.85234	-20.87896	11.20
jul	9	5.79674	5.78034	-14.81586	10.67	jul	9	5.86875	5.85235	-20.87842	10.74
jul	16	5.79678	5.78036	-14.81549	10.21	jul	16	5.86879	5.85237	-20.87800	10.28
jul	23	5.79682	5.78038	-14.81503	9.75	jul	23	5.86883	5.85239	-20.87750	9.82
jul	30	5.79686	5.78040	-14.81469	9.29	jul	30	5.86887	5.85241	-20.87711	9.36
ago	6	5.79691	5.78043	-14.81426	8.83	ago	6	5.86891	5.85244	-20.87665	8.90
ago	13	5.79696	5.78047	-14.81397	8.37	ago	13	5.86896	5.85247	-20.87633	8.44
ago	20	5.79700	5.78050	-14.81364	7.91	ago	20	5.86901	5.85251	-20.87597	7.98
ago	27	5.79706	5.78054	-14.81344	7.45	ago	27	5.86907	5.85255	-20.87575	7.52
sep	3	5.79711	5.78058	-14.81319	6.99	sep	3	5.86912	5.85259	-20.87548	7.06
sep	10	5.79717	5.78063	-14.81307	6.53	sep	10	5.86918	5.85264	-20.87535	6.60
sep	17	5.79722	5.78067	-14.81295	6.07	sep	17	5.86923	5.85268	-20.87523	6.14
sep	24	5.79728	5.78072	-14.81296	5.61	sep	24	5.86929	5.85273	-20.87523	5.68
oct	1	5.79733	5.78076	-14.81295	5.15	oct	1	5.86935	5.85278	-20.87523	5.22
oct	8	5.79740	5.78081	-14.81305	4.69	oct	8	5.86941	5.85282	-20.87535	4.76
oct	15	5.79744	5.78085	-14.81318	4.23	oct	15	5.86946	5.85287	-20.87550	4.30
oct	22	5.79750	5.78089	-14.81340	3.77	oct	22	5.86952	5.85291	-20.87574	3.84
oct	29	5.79755	5.78093	-14.81363	3.31	oct	29	5.86957	5.85295	-20.87601	3.38
nov	5	5.79760	5.78096	-14.81393	2.85	nov	5	5.86962	5.85298	-20.87635	2.92
nov	12	5.79764	5.78099	-14.81426	2.39	nov	12	5.86966	5.85301	-20.87672	2.46
nov	19	5.79769	5.78102	-14.81463	1.93	nov	19	5.86971	5.85304	-20.87714	2.00
nov	26	5.79773	5.78104	-14.81502	1.47	nov	26	5.86975	5.85306	-20.87759	1.54
dic	3	5.79777	5.78105	-14.81542	1.01	dic	3	5.86979	5.85308	-20.87805	1.08
dic	10	5.79779	5.78106	-14.81585	0.55	dic	10	5.86981	5.85309	-20.87854	0.62
dic	17	5.79782	5.78106	-14.81626	0.09	dic	17	5.86984	5.85309	-20.87901	0.16
dic	24	5.79783	5.78106	-14.81670	23.63	dic	24	5.86986	5.85308	-20.87950	23.70

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

28103						29271					
V			Sp			V			Sp		
3.71			F1V			5.08			G5V		
		α	α _c	δ	Hp			α	α _c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	5.95468	5.93871	-14.16750	23.25	ene	1	6.16285	6.14688	-74.76082	23.46
ene	8	5.95469	5.93869	-14.16790	22.79	ene	8	6.16279	6.14680	-74.76150	23.00
ene	15	5.95468	5.93867	-14.16824	22.33	ene	15	6.16273	6.14672	-74.76211	22.54
ene	22	5.95468	5.93864	-14.16858	21.87	ene	22	6.16263	6.14659	-74.76271	22.08
ene	29	5.95466	5.93861	-14.16887	21.41	ene	29	6.16253	6.14648	-74.76324	21.62
feb	5	5.95465	5.93858	-14.16913	20.95	feb	5	6.16240	6.14633	-74.76373	21.16
feb	12	5.95462	5.93854	-14.16935	20.49	feb	12	6.16226	6.14618	-74.76415	20.70
feb	19	5.95460	5.93850	-14.16953	20.03	feb	19	6.16210	6.14600	-74.76451	20.24
feb	26	5.95456	5.93845	-14.16968	19.57	feb	26	6.16194	6.14584	-74.76480	19.78
mar	5	5.95453	5.93841	-14.16976	19.11	mar	5	6.16177	6.14564	-74.76502	19.32
mar	12	5.95449	5.93836	-14.16983	18.65	mar	12	6.16159	6.14547	-74.76517	18.86
mar	19	5.95445	5.93831	-14.16983	18.19	mar	19	6.16141	6.14526	-74.76523	18.39
mar	26	5.95441	5.93826	-14.16982	17.73	mar	26	6.16123	6.14508	-74.76524	17.93
abr	2	5.95438	5.93821	-14.16972	17.27	abr	2	6.16105	6.14488	-74.76515	17.47
abr	9	5.95434	5.93817	-14.16964	16.81	abr	9	6.16088	6.14471	-74.76502	17.01
abr	16	5.95431	5.93812	-14.16946	16.35	abr	16	6.16070	6.14452	-74.76478	16.55
abr	23	5.95428	5.93808	-14.16930	15.89	abr	23	6.16055	6.14435	-74.76453	16.09
abr	30	5.95426	5.93804	-14.16904	15.43	abr	30	6.16039	6.14418	-74.76415	15.63
may	7	5.95423	5.93801	-14.16882	14.97	may	7	6.16026	6.14404	-74.76377	15.17
may	14	5.95422	5.93798	-14.16848	14.51	may	14	6.16013	6.14389	-74.76326	14.71
may	21	5.95421	5.93795	-14.16820	14.05	may	21	6.16003	6.14377	-74.76280	14.25
may	28	5.95421	5.93793	-14.16781	13.59	may	28	6.15993	6.14365	-74.76220	13.79
jun	4	5.95421	5.93791	-14.16747	13.13	jun	4	6.15986	6.14356	-74.76165	13.33
jun	11	5.95422	5.93790	-14.16702	12.67	jun	11	6.15980	6.14348	-74.76097	12.87
jun	18	5.95423	5.93789	-14.16666	12.21	jun	18	6.15976	6.14342	-74.76037	12.41
jun	25	5.95425	5.93789	-14.16619	11.75	jun	25	6.15974	6.14338	-74.75966	11.95
jul	2	5.95427	5.93789	-14.16582	11.29	jul	2	6.15975	6.14337	-74.75904	11.49
jul	9	5.95430	5.93790	-14.16533	10.83	jul	9	6.15977	6.14336	-74.75831	11.03
jul	16	5.95434	5.93791	-14.16496	10.37	jul	16	6.15981	6.14338	-74.75770	10.57
jul	23	5.95437	5.93793	-14.16451	9.91	jul	23	6.15987	6.14343	-74.75702	10.11
jul	30	5.95441	5.93796	-14.16417	9.45	jul	30	6.15994	6.14348	-74.75647	9.65
ago	6	5.95446	5.93799	-14.16375	8.99	ago	6	6.16004	6.14356	-74.75584	9.19
ago	13	5.95451	5.93802	-14.16346	8.53	ago	13	6.16014	6.14365	-74.75537	8.73
ago	20	5.95455	5.93805	-14.16313	8.07	ago	20	6.16027	6.14377	-74.75487	8.27
ago	27	5.95461	5.93809	-14.16293	7.61	ago	27	6.16040	6.14389	-74.75453	7.81
sep	3	5.95466	5.93813	-14.16267	7.15	sep	3	6.16055	6.14403	-74.75415	7.35
sep	10	5.95472	5.93818	-14.16256	6.69	sep	10	6.16071	6.14416	-74.75395	6.89
sep	17	5.95477	5.93822	-14.16243	6.23	sep	17	6.16087	6.14432	-74.75376	6.44
sep	24	5.95483	5.93827	-14.16243	5.77	sep	24	6.16103	6.14447	-74.75372	5.98
oct	1	5.95488	5.93831	-14.16242	5.31	oct	1	6.16120	6.14463	-74.75370	5.52
oct	8	5.95494	5.93836	-14.16252	4.85	oct	8	6.16136	6.14478	-74.75384	5.06
oct	15	5.95499	5.93840	-14.16264	4.39	oct	15	6.16153	6.14494	-74.75401	4.60
oct	22	5.95505	5.93844	-14.16285	3.93	oct	22	6.16168	6.14507	-74.75432	4.14
oct	29	5.95510	5.93848	-14.16308	3.47	oct	29	6.16183	6.14521	-74.75466	3.68
nov	5	5.95515	5.93851	-14.16337	3.01	nov	5	6.16195	6.14531	-74.75511	3.22
nov	12	5.95519	5.93855	-14.16369	2.55	nov	12	6.16208	6.14543	-74.75560	2.76
nov	19	5.95525	5.93857	-14.16407	2.09	nov	19	6.16217	6.14550	-74.75618	2.30
nov	26	5.95528	5.93859	-14.16445	1.63	nov	26	6.16226	6.14558	-74.75679	1.84
dic	3	5.95532	5.93861	-14.16485	1.17	dic	3	6.16232	6.14561	-74.75743	1.38
dic	10	5.95535	5.93862	-14.16527	0.71	dic	10	6.16237	6.14564	-74.75811	0.92
dic	17	5.95538	5.93862	-14.16569	0.25	dic	17	6.16238	6.14563	-74.75879	0.46
dic	24	5.95540	5.93862	-14.16612	23.79	dic	24	6.16239	6.14562	-74.75950	24.00

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

32361						34834					
V			Sp			V			Sp		
8.81			A5			4.49			FOIV		
		α	α_c	δ	Hp			α	α_c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	6.77852	6.76255	46.84219	0.07	ene	1	7.21881	7.20284	-46.79216	0.51
ene	8	6.77856	6.76256	46.84246	23.61	ene	8	7.21883	7.20283	-46.79286	0.05
ene	15	6.77856	6.76255	46.84279	23.15	ene	15	7.21883	7.20282	-46.79349	23.59
ene	22	6.77858	6.76254	46.84307	22.69	ene	22	7.21883	7.20280	-46.79415	23.13
ene	29	6.77857	6.76252	46.84340	22.23	ene	29	7.21882	7.20277	-46.79473	22.67
feb	5	6.77857	6.76250	46.84369	21.77	feb	5	7.21880	7.20273	-46.79531	22.21
feb	12	6.77854	6.76246	46.84400	21.31	feb	12	7.21876	7.20269	-46.79580	21.75
feb	19	6.77852	6.76242	46.84425	20.85	feb	19	7.21873	7.20263	-46.79629	21.29
feb	26	6.77848	6.76237	46.84449	20.39	feb	26	7.21869	7.20258	-46.79669	20.83
mar	5	6.77844	6.76232	46.84471	19.93	mar	5	7.21864	7.20251	-46.79703	20.37
mar	12	6.77839	6.76226	46.84488	19.47	mar	12	7.21858	7.20246	-46.79731	19.91
mar	19	6.77835	6.76220	46.84502	19.01	mar	19	7.21853	7.20238	-46.79752	19.45
mar	26	6.77829	6.76214	46.84510	18.55	mar	26	7.21847	7.20232	-46.79768	18.99
abr	2	6.77825	6.76208	46.84517	18.09	abr	2	7.21841	7.20224	-46.79775	18.53
abr	9	6.77818	6.76201	46.84516	17.63	abr	9	7.21835	7.20218	-46.79777	18.07
abr	16	6.77815	6.76196	46.84514	17.17	abr	16	7.21829	7.20210	-46.79770	17.61
abr	23	6.77810	6.76190	46.84504	16.71	abr	23	7.21823	7.20204	-46.79760	17.15
abr	30	6.77806	6.76185	46.84497	16.25	abr	30	7.21818	7.20197	-46.79739	16.69
may	7	6.77802	6.76180	46.84479	15.79	may	7	7.21813	7.20190	-46.79715	16.23
may	14	6.77800	6.76176	46.84465	15.33	may	14	7.21809	7.20184	-46.79681	15.77
may	21	6.77798	6.76172	46.84441	14.87	may	21	7.21805	7.20179	-46.79648	15.31
may	28	6.77797	6.76169	46.84423	14.41	may	28	7.21801	7.20173	-46.79603	14.85
jun	4	6.77796	6.76166	46.84395	13.95	jun	4	7.21798	7.20168	-46.79559	14.39
jun	11	6.77797	6.76164	46.84374	13.49	jun	11	7.21796	7.20164	-46.79504	13.93
jun	18	6.77797	6.76163	46.84344	13.03	jun	18	7.21795	7.20161	-46.79454	13.47
jun	25	6.77799	6.76163	46.84322	12.57	jun	25	7.21794	7.20158	-46.79392	13.01
jul	2	6.77801	6.76163	46.84290	12.11	jul	2	7.21794	7.20156	-46.79337	12.55
jul	9	6.77805	6.76165	46.84269	11.65	jul	9	7.21795	7.20155	-46.79270	12.09
jul	16	6.77809	6.76167	46.84238	11.19	jul	16	7.21796	7.20154	-46.79214	11.63
jul	23	6.77813	6.76169	46.84218	10.73	jul	23	7.21798	7.20154	-46.79148	11.17
jul	30	6.77818	6.76173	46.84188	10.27	jul	30	7.21801	7.20155	-46.79093	10.71
ago	6	6.77824	6.76177	46.84171	9.81	ago	6	7.21804	7.20157	-46.79030	10.25
ago	13	6.77831	6.76181	46.84144	9.35	ago	13	7.21808	7.20159	-46.78981	9.79
ago	20	6.77836	6.76186	46.84129	8.89	ago	20	7.21812	7.20162	-46.78926	9.33
ago	27	6.77844	6.76192	46.84105	8.43	ago	27	7.21818	7.20166	-46.78885	8.87
sep	3	6.77851	6.76198	46.84094	7.97	sep	3	7.21823	7.20170	-46.78840	8.41
sep	10	6.77859	6.76205	46.84075	7.51	sep	10	7.21829	7.20175	-46.78812	7.95
sep	17	6.77866	6.76211	46.84066	7.05	sep	17	7.21835	7.20181	-46.78782	7.49
sep	24	6.77874	6.76218	46.84051	6.59	sep	24	7.21842	7.20186	-46.78768	7.03
oct	1	6.77882	6.76225	46.84046	6.13	oct	1	7.21849	7.20192	-46.78754	6.57
oct	8	6.77891	6.76232	46.84037	5.67	oct	8	7.21857	7.20198	-46.78756	6.11
oct	15	6.77898	6.76239	46.84037	5.21	oct	15	7.21864	7.20204	-46.78760	5.65
oct	22	6.77907	6.76246	46.84032	4.75	oct	22	7.21871	7.20210	-46.78780	5.19
oct	29	6.77915	6.76253	46.84036	4.29	oct	29	7.21878	7.20216	-46.78801	4.73
nov	5	6.77924	6.76260	46.84039	3.83	nov	5	7.21886	7.20222	-46.78836	4.27
nov	12	6.77931	6.76266	46.84049	3.37	nov	12	7.21892	7.20227	-46.78873	3.81
nov	19	6.77939	6.76272	46.84057	2.91	nov	19	7.21899	7.20232	-46.78922	3.35
nov	26	6.77946	6.76277	46.84072	2.45	nov	26	7.21905	7.20236	-46.78973	2.89
dic	3	6.77954	6.76282	46.84089	1.99	dic	3	7.21911	7.20239	-46.79032	2.43
dic	10	6.77958	6.76286	46.84109	1.53	dic	10	7.21915	7.20242	-46.79093	1.97
dic	17	6.77965	6.76289	46.84131	1.07	dic	17	7.21920	7.20244	-46.79158	1.51
dic	24	6.77969	6.76292	46.84156	0.61	dic	24	7.21923	7.20246	-46.79225	1.05

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

36795						44382											
V			Sp			V			Sp								
4.44			F6V			4.00			Am								
α		α _c		δ		α		α _c		δ		Hp					
m	d	h	h	°	h	m	d	h	h	°	h	m	d	h			
ene	1	7.58132	7.56534	-22.33856	0.87	ene	1	9.04655	9.03058	-66.46897	2.34	ene	1	9.04655	9.03058	-66.46897	2.34
ene	8	7.58134	7.56535	-22.33912	0.41	ene	8	9.04661	9.03061	-66.46971	1.88	ene	8	9.04661	9.03061	-66.46971	1.88
ene	15	7.58135	7.56534	-22.33959	23.95	ene	15	9.04665	9.03064	-66.47039	1.42	ene	15	9.04665	9.03064	-66.47039	1.42
ene	22	7.58137	7.56533	-22.34011	23.49	ene	22	9.04668	9.03064	-66.47118	0.96	ene	22	9.04668	9.03064	-66.47118	0.96
ene	29	7.58137	7.56532	-22.34054	23.03	ene	29	9.04670	9.03065	-66.47189	0.50	ene	29	9.04670	9.03065	-66.47189	0.50
feb	5	7.58137	7.56530	-22.34098	22.57	feb	5	9.04670	9.03063	-66.47266	0.04	feb	5	9.04670	9.03063	-66.47266	0.04
feb	12	7.58135	7.56527	-22.34134	22.11	feb	12	9.04668	9.03060	-66.47334	23.58	feb	12	9.04668	9.03060	-66.47334	23.58
feb	19	7.58134	7.56524	-22.34171	21.65	feb	19	9.04666	9.03056	-66.47408	23.12	feb	19	9.04666	9.03056	-66.47408	23.12
feb	26	7.58131	7.56520	-22.34200	21.19	feb	26	9.04662	9.03051	-66.47473	22.66	feb	26	9.04662	9.03051	-66.47473	22.66
mar	5	7.58129	7.56516	-22.34226	20.73	mar	5	9.04656	9.03044	-66.47538	22.20	mar	5	9.04656	9.03044	-66.47538	22.20
mar	12	7.58125	7.56512	-22.34245	20.27	mar	12	9.04650	9.03037	-66.47593	21.74	mar	12	9.04650	9.03037	-66.47593	21.74
mar	19	7.58122	7.56507	-22.34261	19.81	mar	19	9.04643	9.03028	-66.47649	21.28	mar	19	9.04643	9.03028	-66.47649	21.28
mar	26	7.58118	7.56503	-22.34273	19.35	mar	26	9.04635	9.03020	-66.47696	20.82	mar	26	9.04635	9.03020	-66.47696	20.82
abr	2	7.58114	7.56498	-22.34278	18.89	abr	2	9.04626	9.03009	-66.47739	20.36	abr	2	9.04626	9.03009	-66.47739	20.36
abr	9	7.58110	7.56493	-22.34279	18.43	abr	9	9.04617	9.03000	-66.47772	19.90	abr	9	9.04617	9.03000	-66.47772	19.90
abr	16	7.58107	7.56488	-22.34274	17.97	abr	16	9.04607	9.02988	-66.47802	19.44	abr	16	9.04607	9.02988	-66.47802	19.44
abr	23	7.58103	7.56483	-22.34267	17.51	abr	23	9.04597	9.02977	-66.47823	18.98	abr	23	9.04597	9.02977	-66.47823	18.98
abr	30	7.58099	7.56478	-22.34251	17.05	abr	30	9.04587	9.02965	-66.47837	18.52	abr	30	9.04587	9.02965	-66.47837	18.52
may	7	7.58096	7.56473	-22.34235	16.59	may	7	9.04577	9.02954	-66.47844	18.06	may	7	9.04577	9.02954	-66.47844	18.06
may	14	7.58093	7.56469	-22.34210	16.13	may	14	9.04566	9.02942	-66.47843	17.60	may	14	9.04566	9.02942	-66.47843	17.60
may	21	7.58091	7.56465	-22.34188	15.67	may	21	9.04557	9.02931	-66.47837	17.14	may	21	9.04557	9.02931	-66.47837	17.14
may	28	7.58089	7.56461	-22.34154	15.21	may	28	9.04547	9.02919	-66.47820	16.68	may	28	9.04547	9.02919	-66.47820	16.68
jun	4	7.58087	7.56457	-22.34123	14.75	jun	4	9.04539	9.02909	-66.47800	16.22	jun	4	9.04539	9.02909	-66.47800	16.22
jun	11	7.58086	7.56454	-22.34083	14.29	jun	11	9.04530	9.02898	-66.47769	15.76	jun	11	9.04530	9.02898	-66.47769	15.76
jun	18	7.58086	7.56452	-22.34048	13.83	jun	18	9.04523	9.02889	-66.47737	15.30	jun	18	9.04523	9.02889	-66.47737	15.30
jun	25	7.58086	7.56449	-22.34002	13.37	jun	25	9.04516	9.02880	-66.47693	14.84	jun	25	9.04516	9.02880	-66.47693	14.84
jul	2	7.58086	7.56448	-22.33963	12.91	jul	2	9.04510	9.02872	-66.47649	14.38	jul	2	9.04510	9.02872	-66.47649	14.38
jul	9	7.58087	7.56447	-22.33914	12.45	jul	9	9.04505	9.02865	-66.47595	13.92	jul	9	9.04505	9.02865	-66.47595	13.92
jul	16	7.58089	7.56446	-22.33874	11.99	jul	16	9.04501	9.02859	-66.47544	13.46	jul	16	9.04501	9.02859	-66.47544	13.46
jul	23	7.58090	7.56446	-22.33825	11.53	jul	23	9.04498	9.02854	-66.47482	13.00	jul	23	9.04498	9.02854	-66.47482	13.00
jul	30	7.58093	7.56447	-22.33786	11.07	jul	30	9.04496	9.02851	-66.47425	12.54	jul	30	9.04496	9.02851	-66.47425	12.54
ago	6	7.58095	7.56448	-22.33738	10.62	ago	6	9.04495	9.02848	-66.47359	12.08	ago	6	9.04495	9.02848	-66.47359	12.08
ago	13	7.58099	7.56450	-22.33704	10.16	ago	13	9.04496	9.02847	-66.47301	11.62	ago	13	9.04496	9.02847	-66.47301	11.62
ago	20	7.58102	7.56452	-22.33662	9.70	ago	20	9.04498	9.02847	-66.47235	11.16	ago	20	9.04498	9.02847	-66.47235	11.16
ago	27	7.58106	7.56455	-22.33635	9.24	ago	27	9.04501	9.02849	-66.47179	10.70	ago	27	9.04501	9.02849	-66.47179	10.70
sep	3	7.58110	7.56458	-22.33601	8.78	sep	3	9.04505	9.02852	-66.47117	10.24	sep	3	9.04505	9.02852	-66.47117	10.24
sep	10	7.58116	7.56461	-22.33583	8.32	sep	10	9.04511	9.02857	-66.47068	9.78	sep	10	9.04511	9.02857	-66.47068	9.78
sep	17	7.58120	7.56465	-22.33560	7.86	sep	17	9.04517	9.02862	-66.47014	9.32	sep	17	9.04517	9.02862	-66.47014	9.32
sep	24	7.58126	7.56469	-22.33554	7.40	sep	24	9.04525	9.02869	-66.46976	8.86	sep	24	9.04525	9.02869	-66.46976	8.86
oct	1	7.58131	7.56474	-22.33544	6.94	oct	1	9.04533	9.02876	-66.46934	8.40	oct	1	9.04533	9.02876	-66.46934	8.40
oct	8	7.58137	7.56478	-22.33549	6.48	oct	8	9.04543	9.02884	-66.46910	7.94	oct	8	9.04543	9.02884	-66.46910	7.94
oct	15	7.58142	7.56483	-22.33554	6.02	oct	15	9.04553	9.02894	-66.46884	7.48	oct	15	9.04553	9.02894	-66.46884	7.48
oct	22	7.58149	7.56488	-22.33573	5.56	oct	22	9.04565	9.02904	-66.46876	7.02	oct	22	9.04565	9.02904	-66.46876	7.02
oct	29	7.58154	7.56492	-22.33590	5.10	oct	29	9.04576	9.02914	-66.46868	6.56	oct	29	9.04576	9.02914	-66.46868	6.56
nov	5	7.58161	7.56497	-22.33621	4.64	nov	5	9.04588	9.02924	-66.46878	6.10	nov	5	9.04588	9.02924	-66.46878	6.10
nov	12	7.58166	7.56501	-22.33651	4.18	nov	12	9.04599	9.02934	-66.46888	5.64	nov	12	9.04599	9.02934	-66.46888	5.64
nov	19	7.58172	7.56505	-22.33693	3.72	nov	19	9.04611	9.02944	-66.46916	5.18	nov	19	9.04611	9.02944	-66.46916	5.18
nov	26	7.58177	7.56509	-22.33734	3.26	nov	26	9.04623	9.02954	-66.46945	4.72	nov	26	9.04623	9.02954	-66.46945	4.72
dic	3	7.58183	7.56512	-22.33782	2.80	dic	3	9.04634	9.02963	-66.46989	4.26	dic	3	9.04634	9.02963	-66.46989	4.26
dic	10	7.58187	7.56515	-22.33830	2.34	dic	10	9.04644	9.02972	-66.47034	3.80	dic	10	9.04644	9.02972	-66.47034	3.80
dic	17	7.58193	7.56517	-22.33883	1.88	dic	17	9.04654	9.02978	-66.47092	3.34	dic	17	9.04654	9.02978	-66.47092	3.34
dic	24	7.58196	7.56519	-22.33935	1.42	dic	24	9.04662	9.02985	-66.47151	2.88	dic	24	9.04662	9.02985	-66.47151	2.88

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

45238						50954					
V			Sp			V			Sp		
1.67			A2IV			3.99			F2IV		
		α	α_c	δ	Hp			α	α_c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	9.22434	9.20837	-69.79200	2.52	ene	1	10.41375	10.39778	-74.12297	3.71
ene	8	9.22441	9.20841	-69.79273	2.06	ene	8	10.41389	10.39789	-74.12359	3.25
ene	15	9.22446	9.20845	-69.79339	1.60	ene	15	10.41399	10.39798	-74.12417	2.79
ene	22	9.22450	9.20846	-69.79418	1.14	ene	22	10.41408	10.39805	-74.12491	2.33
ene	29	9.22452	9.20847	-69.79489	0.68	ene	29	10.41415	10.39810	-74.12557	1.87
feb	5	9.22453	9.20846	-69.79567	0.22	feb	5	10.41421	10.39814	-74.12635	1.41
feb	12	9.22451	9.20843	-69.79636	23.76	feb	12	10.41424	10.39816	-74.12705	0.95
feb	19	9.22449	9.20838	-69.79712	23.30	feb	19	10.41426	10.39816	-74.12786	0.49
feb	26	9.22444	9.20833	-69.79778	22.84	feb	26	10.41426	10.39815	-74.12858	0.03
mar	5	9.22439	9.20826	-69.79846	22.38	mar	5	10.41423	10.39811	-74.12934	23.57
mar	12	9.22431	9.20819	-69.79904	21.92	mar	12	10.41419	10.39807	-74.13002	23.11
mar	19	9.22423	9.20809	-69.79963	21.46	mar	19	10.41414	10.39799	-74.13075	22.65
mar	26	9.22414	9.20799	-69.80013	21.00	mar	26	10.41407	10.39792	-74.13138	22.19
abr	2	9.22404	9.20788	-69.80059	20.54	abr	2	10.41398	10.39782	-74.13201	21.73
abr	9	9.22394	9.20777	-69.80096	20.08	abr	9	10.41389	10.39772	-74.13254	21.27
abr	16	9.22383	9.20764	-69.80130	19.62	abr	16	10.41377	10.39759	-74.13308	20.81
abr	23	9.22371	9.20752	-69.80156	19.16	abr	23	10.41366	10.39747	-74.13352	20.35
abr	30	9.22359	9.20738	-69.80174	18.70	abr	30	10.41353	10.39732	-74.13392	19.89
may	7	9.22348	9.20725	-69.80184	18.24	may	7	10.41340	10.39718	-74.13422	19.43
may	14	9.22336	9.20711	-69.80187	17.78	may	14	10.41326	10.39701	-74.13449	18.97
may	21	9.22325	9.20699	-69.80185	17.32	may	21	10.41313	10.39687	-74.13466	18.51
may	28	9.22313	9.20685	-69.80172	16.86	may	28	10.41298	10.39670	-74.13476	18.05
jun	4	9.22303	9.20673	-69.80155	16.40	jun	4	10.41285	10.39655	-74.13479	17.59
jun	11	9.22292	9.20660	-69.80128	15.94	jun	11	10.41270	10.39637	-74.13474	17.13
jun	18	9.22283	9.20649	-69.80099	15.48	jun	18	10.41257	10.39623	-74.13464	16.67
jun	25	9.22274	9.20638	-69.80058	15.02	jun	25	10.41243	10.39607	-74.13443	16.21
jul	2	9.22267	9.20629	-69.80017	14.56	jul	2	10.41231	10.39594	-74.13418	15.75
jul	9	9.22260	9.20620	-69.79965	14.10	jul	9	10.41219	10.39579	-74.13384	15.29
jul	16	9.22255	9.20613	-69.79916	13.64	jul	16	10.41209	10.39567	-74.13348	14.83
jul	23	9.22250	9.20606	-69.79855	13.18	jul	23	10.41199	10.39555	-74.13300	14.37
jul	30	9.22248	9.20602	-69.79799	12.72	jul	30	10.41192	10.39546	-74.13253	13.91
ago	6	9.22245	9.20598	-69.79733	12.26	ago	6	10.41184	10.39537	-74.13196	13.45
ago	13	9.22246	9.20597	-69.79675	11.80	ago	13	10.41180	10.39531	-74.13144	12.99
ago	20	9.22246	9.20596	-69.79608	11.34	ago	20	10.41175	10.39525	-74.13080	12.53
ago	27	9.22250	9.20598	-69.79551	10.88	ago	27	10.41175	10.39523	-74.13023	12.07
sep	3	9.22253	9.20601	-69.79487	10.42	sep	3	10.41174	10.39521	-74.12958	11.61
sep	10	9.22259	9.20605	-69.79437	9.96	sep	10	10.41177	10.39523	-74.12902	11.15
sep	17	9.22266	9.20611	-69.79380	9.50	sep	17	10.41180	10.39526	-74.12839	10.69
sep	24	9.22275	9.20618	-69.79339	9.04	sep	24	10.41187	10.39531	-74.12787	10.23
oct	1	9.22283	9.20626	-69.79294	8.58	oct	1	10.41194	10.39537	-74.12732	9.77
oct	8	9.22294	9.20636	-69.79267	8.12	oct	8	10.41205	10.39546	-74.12690	9.31
oct	15	9.22305	9.20646	-69.79237	7.66	oct	15	10.41215	10.39556	-74.12645	8.85
oct	22	9.22318	9.20657	-69.79226	7.20	oct	22	10.41229	10.39568	-74.12616	8.39
oct	29	9.22331	9.20669	-69.79214	6.74	oct	29	10.41243	10.39581	-74.12586	7.93
nov	5	9.22344	9.20680	-69.79220	6.28	nov	5	10.41258	10.39594	-74.12573	7.47
nov	12	9.22358	9.20693	-69.79226	5.82	nov	12	10.41274	10.39609	-74.12559	7.01
nov	19	9.22371	9.20704	-69.79250	5.36	nov	19	10.41291	10.39624	-74.12565	6.55
nov	26	9.22384	9.20716	-69.79276	4.90	nov	26	10.41308	10.39639	-74.12570	6.09
dic	3	9.22397	9.20726	-69.79316	4.44	dic	3	10.41325	10.39654	-74.12593	5.63
dic	10	9.22409	9.20736	-69.79358	3.98	dic	10	10.41342	10.39669	-74.12616	5.17
dic	17	9.22420	9.20744	-69.79413	3.52	dic	17	10.41358	10.39682	-74.12656	4.71
dic	24	9.22430	9.20753	-69.79470	3.06	dic	24	10.41373	10.39696	-74.12696	4.25

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

51814						53910					
V			Sp			V			Sp		
5.16			F1V			2.34			A1V		
		α	α_c	δ	Hp			α	α_c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	10.60612	10.59015	56.98082	3.90	ene	1	11.04946	11.03348	56.27683	4.34
ene	8	10.60622	10.59022	56.98084	3.44	ene	8	11.04956	11.03356	56.27678	3.88
ene	15	10.60630	10.59029	56.98102	2.98	ene	15	11.04964	11.03363	56.27690	3.42
ene	22	10.60638	10.59035	56.98117	2.52	ene	22	11.04973	11.03369	56.27699	2.96
ene	29	10.60645	10.59040	56.98147	2.06	ene	29	11.04980	11.03375	56.27724	2.50
feb	5	10.60651	10.59044	56.98176	1.60	feb	5	11.04987	11.03380	56.27748	2.04
feb	12	10.60655	10.59047	56.98219	1.14	feb	12	11.04992	11.03384	56.27787	1.58
feb	19	10.60660	10.59050	56.98255	0.68	feb	19	11.04997	11.03387	56.27820	1.12
feb	26	10.60662	10.59051	56.98303	0.22	feb	26	11.05000	11.03389	56.27866	0.66
mar	5	10.60664	10.59051	56.98348	23.76	mar	5	11.05003	11.03391	56.27909	0.20
mar	12	10.60663	10.59050	56.98401	23.30	mar	12	11.05003	11.03390	56.27963	23.74
mar	19	10.60663	10.59049	56.98445	22.84	mar	19	11.05004	11.03390	56.28007	23.28
mar	26	10.60660	10.59045	56.98496	22.38	mar	26	11.05002	11.03387	56.28059	22.82
abr	2	10.60659	10.59042	56.98540	21.92	abr	2	11.05001	11.03385	56.28106	22.36
abr	9	10.60654	10.59037	56.98588	21.46	abr	9	11.04998	11.03381	56.28157	21.90
abr	16	10.60651	10.59032	56.98624	21.00	abr	16	11.04995	11.03376	56.28196	21.44
abr	23	10.60646	10.59026	56.98662	20.54	abr	23	11.04991	11.03371	56.28238	20.98
abr	30	10.60641	10.59020	56.98692	20.08	abr	30	11.04987	11.03365	56.28273	20.52
may	7	10.60635	10.59013	56.98721	19.62	may	7	11.04981	11.03359	56.28307	20.06
may	14	10.60631	10.59006	56.98739	19.16	may	14	11.04977	11.03353	56.28331	19.60
may	21	10.60624	10.58998	56.98753	18.70	may	21	11.04971	11.03345	56.28351	19.14
may	28	10.60620	10.58992	56.98762	18.24	may	28	11.04967	11.03338	56.28365	18.68
jun	4	10.60614	10.58984	56.98765	17.78	jun	4	11.04960	11.03331	56.28375	18.22
jun	11	10.60610	10.58977	56.98761	17.32	jun	11	11.04956	11.03324	56.28376	17.76
jun	18	10.60604	10.58970	56.98749	16.86	jun	18	11.04951	11.03317	56.28370	17.30
jun	25	10.60601	10.58964	56.98736	16.40	jun	25	11.04947	11.03311	56.28361	16.84
jul	2	10.60596	10.58958	56.98714	15.94	jul	2	11.04942	11.03304	56.28345	16.38
jul	9	10.60593	10.58953	56.98688	15.48	jul	9	11.04939	11.03299	56.28323	15.92
jul	16	10.60590	10.58948	56.98653	15.02	jul	16	11.04935	11.03293	56.28293	15.46
jul	23	10.60588	10.58944	56.98620	14.56	jul	23	11.04933	11.03289	56.28264	15.00
jul	30	10.60586	10.58941	56.98578	14.10	jul	30	11.04930	11.03284	56.28225	14.54
ago	6	10.60586	10.58939	56.98535	13.64	ago	6	11.04929	11.03281	56.28184	14.08
ago	13	10.60586	10.58936	56.98483	13.18	ago	13	11.04927	11.03278	56.28135	13.62
ago	20	10.60586	10.58936	56.98437	12.72	ago	20	11.04927	11.03277	56.28090	13.16
ago	27	10.60587	10.58935	56.98380	12.26	ago	27	11.04927	11.03275	56.28034	12.70
sep	3	10.60589	10.58936	56.98327	11.80	sep	3	11.04928	11.03275	56.27981	12.24
sep	10	10.60592	10.58938	56.98265	11.34	sep	10	11.04930	11.03275	56.27919	11.78
sep	17	10.60595	10.58940	56.98212	10.88	sep	17	11.04931	11.03277	56.27864	11.32
sep	24	10.60599	10.58943	56.98148	10.42	sep	24	11.04935	11.03278	56.27800	10.86
oct	1	10.60604	10.58947	56.98093	9.96	oct	1	11.04938	11.03282	56.27742	10.40
oct	8	10.60610	10.58951	56.98029	9.50	oct	8	11.04944	11.03285	56.27675	9.94
oct	15	10.60616	10.58957	56.97978	9.04	oct	15	11.04949	11.03289	56.27620	9.48
oct	22	10.60623	10.58962	56.97918	8.58	oct	22	11.04955	11.03294	56.27556	9.02
oct	29	10.60631	10.58969	56.97869	8.12	oct	29	11.04962	11.03300	56.27502	8.56
nov	5	10.60640	10.58976	56.97814	7.66	nov	5	11.04971	11.03306	56.27442	8.10
nov	12	10.60649	10.58984	56.97774	7.20	nov	12	11.04978	11.03313	56.27396	7.64
nov	19	10.60659	10.58992	56.97727	6.74	nov	19	11.04988	11.03320	56.27343	7.18
nov	26	10.60668	10.59000	56.97695	6.28	nov	26	11.04997	11.03328	56.27304	6.72
dic	3	10.60680	10.59008	56.97660	5.82	dic	3	11.05008	11.03336	56.27263	6.26
dic	10	10.60689	10.59017	56.97641	5.36	dic	10	11.05017	11.03344	56.27237	5.80
dic	17	10.60701	10.59025	56.97619	4.90	dic	17	11.05028	11.03353	56.27207	5.35
dic	24	10.60710	10.59033	56.97612	4.44	dic	24	11.05038	11.03360	56.27193	4.89

Posiciones aparentes de estrellas brillantes, 2019

(a las 0^h del meridiano 90° W.G.)

54872						58001								
V			Sp			V			Sp					
2.56			A4V			2.41			A0V					
α		α _c		δ		α		α _c		δ		Hp		
m	d	h	h	°	h	m	d	h	h	°	h	m	d	h
ene	1	11.25179	11.23582	20.41844	4.54	ene	1	11.91345	11.89748	53.58591	5.21	ene	1	11.91345
ene	8	11.25186	11.23586	20.41811	4.09	ene	8	11.91355	11.89755	53.58573	4.75	ene	8	11.91355
ene	15	11.25191	11.23590	20.41793	3.63	ene	15	11.91364	11.89763	53.58571	4.29	ene	15	11.91364
ene	22	11.25198	11.23594	20.41768	3.17	ene	22	11.91373	11.89769	53.58566	3.83	ene	22	11.91373
ene	29	11.25202	11.23597	20.41758	2.71	ene	29	11.91381	11.89776	53.58579	3.37	ene	29	11.91381
feb	5	11.25207	11.23600	20.41745	2.25	feb	5	11.91389	11.89782	53.58592	2.91	feb	5	11.91389
feb	12	11.25210	11.23602	20.41746	1.79	feb	12	11.91394	11.89787	53.58621	2.45	feb	12	11.91394
feb	19	11.25214	11.23604	20.41741	1.33	feb	19	11.91401	11.89791	53.58645	1.99	feb	19	11.91401
feb	26	11.25216	11.23605	20.41749	0.87	feb	26	11.91405	11.89794	53.58684	1.53	feb	26	11.91405
mar	5	11.25219	11.23606	20.41755	0.41	mar	5	11.91409	11.89797	53.58721	1.07	mar	5	11.91409
mar	12	11.25219	11.23606	20.41772	23.95	mar	12	11.91411	11.89799	53.58772	0.61	mar	12	11.91411
mar	19	11.25220	11.23606	20.41782	23.49	mar	19	11.91414	11.89799	53.58813	0.15	mar	19	11.91414
mar	26	11.25220	11.23605	20.41803	23.03	mar	26	11.91414	11.89799	53.58866	23.69	mar	26	11.91414
abr	2	11.25220	11.23603	20.41820	22.57	abr	2	11.91415	11.89798	53.58913	23.23	abr	2	11.91415
abr	9	11.25218	11.23601	20.41846	22.11	abr	9	11.91413	11.89796	53.58968	22.77	abr	9	11.91413
abr	16	11.25218	11.23599	20.41863	21.65	abr	16	11.91412	11.89793	53.59012	22.31	abr	16	11.91412
abr	23	11.25215	11.23596	20.41887	21.19	abr	23	11.91409	11.89789	53.59061	21.85	abr	23	11.91409
abr	30	11.25214	11.23592	20.41907	20.73	abr	30	11.91406	11.89785	53.59102	21.39	abr	30	11.91406
may	7	11.25211	11.23589	20.41931	20.27	may	7	11.91402	11.89780	53.59146	20.93	may	7	11.91402
may	14	11.25210	11.23585	20.41948	19.81	may	14	11.91399	11.89774	53.59178	20.47	may	14	11.91399
may	21	11.25207	11.23581	20.41967	19.35	may	21	11.91394	11.89768	53.59210	20.01	may	21	11.91394
may	28	11.25205	11.23577	20.41984	18.89	may	28	11.91390	11.89762	53.59234	19.55	may	28	11.91390
jun	4	11.25202	11.23572	20.42000	18.43	jun	4	11.91385	11.89755	53.59256	19.09	jun	4	11.91385
jun	11	11.25200	11.23568	20.42011	17.97	jun	11	11.91381	11.89749	53.59267	18.63	jun	11	11.91381
jun	18	11.25198	11.23564	20.42020	17.51	jun	18	11.91376	11.89742	53.59275	18.17	jun	18	11.91376
jun	25	11.25196	11.23560	20.42029	17.05	jun	25	11.91372	11.89736	53.59276	17.71	jun	25	11.91372
jul	2	11.25194	11.23556	20.42034	16.59	jul	2	11.91367	11.89729	53.59273	17.25	jul	2	11.91367
jul	9	11.25192	11.23552	20.42037	16.13	jul	9	11.91363	11.89723	53.59260	16.79	jul	9	11.91363
jul	16	11.25191	11.23548	20.42035	15.67	jul	16	11.91359	11.89716	53.59242	16.33	jul	16	11.91359
jul	23	11.25189	11.23545	20.42034	15.21	jul	23	11.91355	11.89711	53.59221	15.87	jul	23	11.91355
jul	30	11.25188	11.23542	20.42028	14.75	jul	30	11.91351	11.89706	53.59192	15.41	jul	30	11.91351
ago	6	11.25187	11.23540	20.42021	14.29	ago	6	11.91349	11.89702	53.59159	14.95	ago	6	11.91349
ago	13	11.25187	11.23538	20.42006	13.83	ago	13	11.91346	11.89697	53.59117	14.49	ago	13	11.91346
ago	20	11.25186	11.23536	20.41996	13.37	ago	20	11.91344	11.89694	53.59077	14.03	ago	20	11.91344
ago	27	11.25187	11.23535	20.41977	12.91	ago	27	11.91342	11.89691	53.59028	13.57	ago	27	11.91342
sep	3	11.25187	11.23534	20.41959	12.45	sep	3	11.91342	11.89689	53.58977	13.11	sep	3	11.91342
sep	10	11.25188	11.23534	20.41932	11.99	sep	10	11.91342	11.89687	53.58918	12.65	sep	10	11.91342
sep	17	11.25189	11.23534	20.41911	11.53	sep	17	11.91342	11.89687	53.58865	12.19	sep	17	11.91342
sep	24	11.25191	11.23535	20.41879	11.07	sep	24	11.91343	11.89686	53.58801	11.73	sep	24	11.91343
oct	1	11.25194	11.23537	20.41850	10.61	oct	1	11.91344	11.89688	53.58741	11.27	oct	1	11.91344
oct	8	11.25197	11.23538	20.41811	10.15	oct	8	11.91348	11.89689	53.58672	10.81	oct	8	11.91348
oct	15	11.25200	11.23541	20.41780	9.69	oct	15	11.91351	11.89691	53.58613	10.35	oct	15	11.91351
oct	22	11.25204	11.23543	20.41737	9.23	oct	22	11.91355	11.89694	53.58543	9.89	oct	22	11.91355
oct	29	11.25208	11.23547	20.41700	8.77	oct	29	11.91360	11.89698	53.58483	9.43	oct	29	11.91360
nov	5	11.25214	11.23550	20.41652	8.31	nov	5	11.91367	11.89703	53.58415	8.97	nov	5	11.91367
nov	12	11.25219	11.23554	20.41615	7.85	nov	12	11.91373	11.89708	53.58360	8.51	nov	12	11.91373
nov	19	11.25226	11.23558	20.41566	7.39	nov	19	11.91381	11.89713	53.58297	8.05	nov	19	11.91381
nov	26	11.25231	11.23563	20.41527	6.93	nov	26	11.91388	11.89720	53.58247	7.59	nov	26	11.91388
dic	3	11.25239	11.23567	20.41480	6.47	dic	3	11.91398	11.89726	53.58192	7.13	dic	3	11.91398
dic	10	11.25244	11.23572	20.41444	6.01	dic	10	11.91406	11.89733	53.58154	6.67	dic	10	11.91406
dic	17	11.25252	11.23577	20.41400	5.55	dic	17	11.91416	11.89741	53.58111	6.21	dic	17	11.91416
dic	24	11.25258	11.23581	20.41367	5.09	dic	24	11.91425	11.89748	53.58083	5.75	dic	24	11.91425

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

58803						58948					
V			Sp			V			Sp		
5.15			F6V			4.12			G8III		
α		α _c	δ		Hp	α		α _c	δ		Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	12.07739	12.06142	-42.53514	5.37	ene	1	12.10273	12.08675	8.62799	5.40
ene	8	12.07747	12.06148	-42.53562	4.91	ene	8	12.10279	12.08680	8.62757	4.94
ene	15	12.07754	12.06153	-42.53606	4.45	ene	15	12.10285	12.08684	8.62727	4.48
ene	22	12.07762	12.06158	-42.53664	3.99	ene	22	12.10292	12.08688	8.62689	4.02
ene	29	12.07767	12.06162	-42.53715	3.53	ene	29	12.10296	12.08691	8.62665	3.56
feb	5	12.07774	12.06166	-42.53777	3.07	feb	5	12.10302	12.08695	8.62637	3.10
feb	12	12.07778	12.06170	-42.53830	2.61	feb	12	12.10306	12.08698	8.62622	2.64
feb	19	12.07783	12.06173	-42.53896	2.15	feb	19	12.10310	12.08700	8.62601	2.18
feb	26	12.07786	12.06175	-42.53951	1.69	feb	26	12.10313	12.08702	8.62594	1.72
mar	5	12.07790	12.06177	-42.54013	1.23	mar	5	12.10316	12.08704	8.62583	1.26
mar	12	12.07791	12.06179	-42.54065	0.77	mar	12	12.10318	12.08705	8.62586	0.80
mar	19	12.07793	12.06179	-42.54126	0.31	mar	19	12.10320	12.08706	8.62581	0.34
mar	26	12.07794	12.06179	-42.54175	23.85	mar	26	12.10321	12.08705	8.62589	23.88
abr	2	12.07795	12.06178	-42.54228	23.39	abr	2	12.10322	12.08705	8.62593	23.42
abr	9	12.07794	12.06177	-42.54270	22.93	abr	9	12.10321	12.08704	8.62608	22.96
abr	16	12.07794	12.06175	-42.54318	22.47	abr	16	12.10321	12.08702	8.62615	22.50
abr	23	12.07792	12.06173	-42.54354	22.01	abr	23	12.10320	12.08701	8.62632	22.04
abr	30	12.07791	12.06169	-42.54392	21.55	abr	30	12.10320	12.08698	8.62645	21.58
may	7	12.07788	12.06166	-42.54418	21.09	may	7	12.10318	12.08695	8.62664	21.12
may	14	12.07786	12.06162	-42.54448	20.63	may	14	12.10317	12.08692	8.62677	20.66
may	21	12.07784	12.06158	-42.54467	20.17	may	21	12.10315	12.08689	8.62695	20.20
may	28	12.07781	12.06152	-42.54484	19.71	may	28	12.10313	12.08685	8.62710	19.74
jun	4	12.07777	12.06148	-42.54492	19.25	jun	4	12.10311	12.08681	8.62728	19.28
jun	11	12.07774	12.06142	-42.54500	18.79	jun	11	12.10309	12.08677	8.62740	18.82
jun	18	12.07771	12.06137	-42.54499	18.33	jun	18	12.10307	12.08673	8.62755	18.36
jun	25	12.07767	12.06131	-42.54495	17.87	jun	25	12.10305	12.08669	8.62768	17.90
jul	2	12.07764	12.06126	-42.54483	17.41	jul	2	12.10303	12.08665	8.62781	17.44
jul	9	12.07760	12.06120	-42.54469	16.95	jul	9	12.10301	12.08661	8.62790	16.98
jul	16	12.07757	12.06115	-42.54450	16.49	jul	16	12.10300	12.08657	8.62797	16.52
jul	23	12.07753	12.06109	-42.54424	16.03	jul	23	12.10297	12.08654	8.62806	16.06
jul	30	12.07750	12.06105	-42.54396	15.57	jul	30	12.10296	12.08650	8.62811	15.60
ago	6	12.07747	12.06100	-42.54363	15.11	ago	6	12.10294	12.08647	8.62814	15.14
ago	13	12.07745	12.06096	-42.54330	14.65	ago	13	12.10293	12.08644	8.62812	14.68
ago	20	12.07742	12.06092	-42.54289	14.19	ago	20	12.10292	12.08642	8.62814	14.22
ago	27	12.07741	12.06089	-42.54251	13.73	ago	27	12.10291	12.08639	8.62808	13.76
sep	3	12.07739	12.06086	-42.54208	13.27	sep	3	12.10290	12.08638	8.62803	13.30
sep	10	12.07739	12.06085	-42.54170	12.81	sep	10	12.10291	12.08637	8.62790	12.84
sep	17	12.07738	12.06083	-42.54125	12.35	sep	17	12.10290	12.08636	8.62782	12.38
sep	24	12.07739	12.06083	-42.54088	11.89	sep	24	12.10292	12.08635	8.62764	11.92
oct	1	12.07740	12.06083	-42.54047	11.43	oct	1	12.10292	12.08635	8.62747	11.46
oct	8	12.07743	12.06084	-42.54018	10.97	oct	8	12.10295	12.08636	8.62720	11.00
oct	15	12.07745	12.06086	-42.53982	10.51	oct	15	12.10296	12.08637	8.62699	10.54
oct	22	12.07749	12.06088	-42.53960	10.05	oct	22	12.10300	12.08639	8.62666	10.08
oct	29	12.07753	12.06091	-42.53936	9.59	oct	29	12.10303	12.08641	8.62637	9.62
nov	5	12.07759	12.06095	-42.53926	9.13	nov	5	12.10308	12.08644	8.62597	9.16
nov	12	12.07764	12.06099	-42.53912	8.67	nov	12	12.10311	12.08647	8.62565	8.70
nov	19	12.07771	12.06104	-42.53916	8.21	nov	19	12.10317	12.08650	8.62520	8.24
nov	26	12.07777	12.06109	-42.53917	7.75	nov	26	12.10322	12.08654	8.62483	7.78
dic	3	12.07786	12.06114	-42.53935	7.29	dic	3	12.10329	12.08658	8.62435	7.32
dic	10	12.07793	12.06120	-42.53949	6.83	dic	10	12.10334	12.08662	8.62397	6.86
dic	17	12.07801	12.06126	-42.53981	6.37	dic	17	12.10342	12.08666	8.62348	6.40
dic	24	12.07809	12.06132	-42.54010	5.91	dic	24	12.10348	12.08670	8.62309	5.94

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

59774						61084					
V			Sp			V			Sp		
3.32			A3Vvar			1.59			M4III		
		α	α_c	δ	Hp			α	α_c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	12.27233	12.25636	56.92386	5.57	ene	1	12.53706	12.52109	-57.21290	5.83
ene	8	12.27244	12.25644	56.92364	5.11	ene	8	12.53717	12.52117	-57.21328	5.37
ene	15	12.27253	12.25652	56.92359	4.65	ene	15	12.53725	12.52124	-57.21366	4.91
ene	22	12.27263	12.25660	56.92352	4.19	ene	22	12.53735	12.52132	-57.21419	4.45
ene	29	12.27272	12.25667	56.92363	3.73	ene	29	12.53743	12.52138	-57.21467	3.99
feb	5	12.27281	12.25674	56.92374	3.27	feb	5	12.53752	12.52145	-57.21527	3.53
feb	12	12.27288	12.25680	56.92401	2.81	feb	12	12.53758	12.52150	-57.21582	3.07
feb	19	12.27295	12.25685	56.92425	2.35	feb	19	12.53765	12.52155	-57.21651	2.61
feb	26	12.27300	12.25689	56.92464	1.89	feb	26	12.53770	12.52159	-57.21711	2.15
mar	5	12.27306	12.25693	56.92502	1.43	mar	5	12.53775	12.52163	-57.21780	1.69
mar	12	12.27308	12.25696	56.92553	0.97	mar	12	12.53778	12.52165	-57.21840	1.23
mar	19	12.27312	12.25697	56.92596	0.51	mar	19	12.53782	12.52167	-57.21911	0.77
mar	26	12.27312	12.25697	56.92651	0.05	mar	26	12.53783	12.52168	-57.21971	0.31
abr	2	12.27314	12.25697	56.92701	23.59	abr	2	12.53785	12.52168	-57.22037	23.85
abr	9	12.27312	12.25695	56.92759	23.13	abr	9	12.53784	12.52167	-57.22093	23.39
abr	16	12.27312	12.25693	56.92806	22.67	abr	16	12.53785	12.52166	-57.22155	22.93
abr	23	12.27309	12.25689	56.92859	22.21	abr	23	12.53783	12.52164	-57.22205	22.47
abr	30	12.27307	12.25685	56.92904	21.75	abr	30	12.53782	12.52160	-57.22258	22.01
may	7	12.27302	12.25680	56.92953	21.29	may	7	12.53779	12.52157	-57.22300	21.55
may	14	12.27299	12.25675	56.92988	20.83	may	14	12.53776	12.52152	-57.22346	21.09
may	21	12.27294	12.25668	56.93025	20.37	may	21	12.53773	12.52147	-57.22379	20.63
may	28	12.27290	12.25662	56.93053	19.91	may	28	12.53769	12.52140	-57.22412	20.17
jun	4	12.27284	12.25654	56.93080	19.45	jun	4	12.53764	12.52134	-57.22434	19.71
jun	11	12.27280	12.25648	56.93094	18.99	jun	11	12.53759	12.52127	-57.22456	19.25
jun	18	12.27274	12.25640	56.93106	18.53	jun	18	12.53755	12.52121	-57.22467	18.79
jun	25	12.27269	12.25633	56.93110	18.07	jun	25	12.53749	12.52113	-57.22475	18.33
jul	2	12.27263	12.25625	56.93110	17.61	jul	2	12.53744	12.52106	-57.22473	17.87
jul	9	12.27259	12.25619	56.93100	17.15	jul	9	12.53738	12.52098	-57.22469	17.41
jul	16	12.27254	12.25612	56.93084	16.69	jul	16	12.53733	12.52091	-57.22457	16.95
jul	23	12.27249	12.25605	56.93064	16.23	jul	23	12.53727	12.52083	-57.22438	16.49
jul	30	12.27245	12.25599	56.93038	15.77	jul	30	12.53722	12.52076	-57.22413	16.03
ago	6	12.27241	12.25594	56.93004	15.31	ago	6	12.53716	12.52069	-57.22384	15.57
ago	13	12.27237	12.25588	56.92964	14.85	ago	13	12.53712	12.52063	-57.22351	15.11
ago	20	12.27234	12.25584	56.92923	14.39	ago	20	12.53707	12.52057	-57.22310	14.65
ago	27	12.27232	12.25580	56.92874	13.93	ago	27	12.53704	12.52052	-57.22268	14.19
sep	3	12.27230	12.25577	56.92822	13.47	sep	3	12.53700	12.52047	-57.22221	13.73
sep	10	12.27229	12.25575	56.92762	13.01	sep	10	12.53698	12.52044	-57.22176	13.27
sep	17	12.27228	12.25573	56.92706	12.55	sep	17	12.53696	12.52041	-57.22124	12.81
sep	24	12.27228	12.25572	56.92641	12.09	sep	24	12.53696	12.52040	-57.22076	12.35
oct	1	12.27230	12.25573	56.92578	11.63	oct	1	12.53696	12.52039	-57.22025	11.89
oct	8	12.27232	12.25573	56.92506	11.17	oct	8	12.53698	12.52040	-57.21982	11.43
oct	15	12.27234	12.25575	56.92444	10.71	oct	15	12.53700	12.52041	-57.21933	10.97
oct	22	12.27238	12.25577	56.92372	10.25	oct	22	12.53704	12.52043	-57.21896	10.51
oct	29	12.27243	12.25581	56.92307	9.79	oct	29	12.53708	12.52047	-57.21856	10.05
nov	5	12.27249	12.25585	56.92235	9.33	nov	5	12.53715	12.52051	-57.21830	9.59
nov	12	12.27255	12.25590	56.92176	8.87	nov	12	12.53721	12.52056	-57.21800	9.13
nov	19	12.27263	12.25595	56.92110	8.41	nov	19	12.53729	12.52062	-57.21787	8.67
nov	26	12.27270	12.25602	56.92055	7.95	nov	26	12.53737	12.52069	-57.21772	8.21
dic	3	12.27280	12.25608	56.91997	7.49	dic	3	12.53747	12.52076	-57.21774	7.75
dic	10	12.27288	12.25616	56.91955	7.03	dic	10	12.53756	12.52083	-57.21773	7.29
dic	17	12.27299	12.25623	56.91907	6.57	dic	17	12.53767	12.52091	-57.21791	6.83
dic	24	12.27308	12.25631	56.91876	6.11	dic	24	12.53776	12.52099	-57.21807	6.37

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

62896						63608					
V			Sp			V			Sp		
4.25			A4IV			2.85			G8IIIvar		
α		α _c	δ		Hp	α		α _c	δ		Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	12.90802	12.89205	-40.27649	6.20	ene	1	13.05173	13.03576	10.85789	6.34
ene	8	12.90811	12.89211	-40.27688	5.74	ene	8	13.05180	13.03580	10.85745	5.88
ene	15	12.90817	12.89216	-40.27725	5.28	ene	15	13.05186	13.03585	10.85711	5.43
ene	22	12.90826	12.89222	-40.27774	4.82	ene	22	13.05193	13.03589	10.85672	4.97
ene	29	12.90832	12.89227	-40.27817	4.36	ene	29	13.05198	13.03593	10.85645	4.51
feb	5	12.90839	12.89232	-40.27871	3.90	feb	5	13.05205	13.03597	10.85616	4.05
feb	12	12.90844	12.89236	-40.27918	3.44	feb	12	13.05209	13.03601	10.85600	3.59
feb	19	12.90851	12.89240	-40.27976	2.98	feb	19	13.05215	13.03604	10.85578	3.13
feb	26	12.90855	12.89244	-40.28026	2.52	feb	26	13.05218	13.03608	10.85571	2.67
mar	5	12.90859	12.89247	-40.28083	2.06	mar	5	13.05223	13.03610	10.85561	2.21
mar	12	12.90862	12.89250	-40.28130	1.60	mar	12	13.05225	13.03612	10.85564	1.75
mar	19	12.90866	12.89251	-40.28187	1.14	mar	19	13.05229	13.03614	10.85562	1.29
mar	26	12.90868	12.89253	-40.28233	0.68	mar	26	13.05230	13.03615	10.85572	0.83
abr	2	12.90870	12.89253	-40.28285	0.22	abr	2	13.05232	13.03616	10.85578	0.37
abr	9	12.90870	12.89253	-40.28325	23.76	abr	9	13.05233	13.03616	10.85597	23.91
abr	16	12.90872	12.89253	-40.28373	23.30	abr	16	13.05234	13.03615	10.85607	23.45
abr	23	12.90872	12.89252	-40.28409	22.84	abr	23	13.05234	13.03614	10.85628	22.99
abr	30	12.90871	12.89250	-40.28448	22.38	abr	30	13.05234	13.03613	10.85644	22.53
may	7	12.90870	12.89248	-40.28477	21.92	may	7	13.05233	13.03611	10.85669	22.07
may	14	12.90869	12.89245	-40.28510	21.46	may	14	13.05233	13.03609	10.85685	21.61
may	21	12.90868	12.89242	-40.28532	21.00	may	21	13.05232	13.03606	10.85708	21.15
may	28	12.90866	12.89238	-40.28555	20.54	may	28	13.05231	13.03603	10.85726	20.69
jun	4	12.90863	12.89234	-40.28568	20.08	jun	4	13.05229	13.03599	10.85750	20.23
jun	11	12.90861	12.89229	-40.28583	19.62	jun	11	13.05228	13.03596	10.85764	19.77
jun	18	12.90858	12.89224	-40.28589	19.16	jun	18	13.05226	13.03592	10.85783	19.31
jun	25	12.90855	12.89219	-40.28593	18.70	jun	25	13.05224	13.03588	10.85798	18.85
jul	2	12.90852	12.89214	-40.28588	18.24	jul	2	13.05222	13.03584	10.85815	18.39
jul	9	12.90849	12.89208	-40.28584	17.78	jul	9	13.05220	13.03580	10.85824	17.93
jul	16	12.90846	12.89203	-40.28573	17.32	jul	16	13.05218	13.03576	10.85834	17.47
jul	23	12.90842	12.89198	-40.28557	16.86	jul	23	13.05215	13.03571	10.85842	17.01
jul	30	12.90838	12.89193	-40.28536	16.40	jul	30	13.05213	13.03567	10.85849	16.55
ago	6	12.90835	12.89188	-40.28513	15.94	ago	6	13.05211	13.03564	10.85850	16.09
ago	13	12.90832	12.89183	-40.28488	15.48	ago	13	13.05209	13.03560	10.85849	15.63
ago	20	12.90829	12.89178	-40.28456	15.02	ago	20	13.05207	13.03557	10.85849	15.17
ago	27	12.90826	12.89175	-40.28424	14.56	ago	27	13.05205	13.03554	10.85843	14.71
sep	3	12.90824	12.89171	-40.28389	14.10	sep	3	13.05204	13.03551	10.85835	14.25
sep	10	12.90823	12.89169	-40.28356	13.64	sep	10	13.05203	13.03549	10.85821	13.79
sep	17	12.90821	12.89166	-40.28316	13.18	sep	17	13.05202	13.03547	10.85809	13.33
sep	24	12.90821	12.89164	-40.28282	12.72	sep	24	13.05202	13.03545	10.85790	12.87
oct	1	12.90820	12.89163	-40.28245	12.26	oct	1	13.05201	13.03544	10.85770	12.41
oct	8	12.90822	12.89163	-40.28216	11.80	oct	8	13.05203	13.03544	10.85742	11.95
oct	15	12.90822	12.89163	-40.28182	11.34	oct	15	13.05203	13.03544	10.85718	11.49
oct	22	12.90826	12.89165	-40.28158	10.88	oct	22	13.05205	13.03544	10.85683	11.03
oct	29	12.90828	12.89166	-40.28132	10.42	oct	29	13.05207	13.03545	10.85651	10.57
nov	5	12.90833	12.89169	-40.28119	9.96	nov	5	13.05211	13.03547	10.85608	10.11
nov	12	12.90837	12.89172	-40.28101	9.50	nov	12	13.05214	13.03549	10.85573	9.65
nov	19	12.90843	12.89176	-40.28099	9.04	nov	19	13.05219	13.03551	10.85526	9.19
nov	26	12.90849	12.89180	-40.28094	8.58	nov	26	13.05223	13.03554	10.85486	8.73
dic	3	12.90856	12.89185	-40.28105	8.12	dic	3	13.05229	13.03558	10.85435	8.27
dic	10	12.90863	12.89190	-40.28112	7.66	dic	10	13.05234	13.03561	10.85394	7.81
dic	17	12.90871	12.89195	-40.28135	7.20	dic	17	13.05241	13.03565	10.85343	7.35
dic	24	12.90878	12.89201	-40.28155	6.74	dic	24	13.05247	13.03569	10.85302	6.89

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

64394						66249					
V			Sp			V			Sp		
4.23			GOV			3.38			A3V		
α		α _c	δ		Hp	α		α _c	δ		Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	13.21230	13.19632	27.78125	6.51	ene	1	13.59403	13.57806	-0.69063	6.89
ene	8	13.21237	13.19637	27.78083	6.05	ene	8	13.59410	13.57810	-0.69107	6.43
ene	15	13.21243	13.19642	27.78053	5.59	ene	15	13.59416	13.57815	-0.69143	5.97
ene	22	13.21251	13.19647	27.78021	5.13	ene	22	13.59423	13.57819	-0.69185	5.51
ene	29	13.21257	13.19652	27.78002	4.67	ene	29	13.59428	13.57823	-0.69218	5.05
feb	5	13.21263	13.19656	27.77984	4.21	feb	5	13.59435	13.57828	-0.69254	4.59
feb	12	13.21269	13.19661	27.77980	3.75	feb	12	13.59439	13.57832	-0.69279	4.13
feb	19	13.21275	13.19664	27.77972	3.29	feb	19	13.59445	13.57835	-0.69310	3.67
feb	26	13.21279	13.19668	27.77980	2.83	feb	26	13.59449	13.57839	-0.69328	3.21
mar	5	13.21284	13.19671	27.77987	2.37	mar	5	13.59454	13.57842	-0.69350	2.75
mar	12	13.21286	13.19674	27.78008	1.91	mar	12	13.59457	13.57844	-0.69359	2.29
mar	19	13.21290	13.19676	27.78024	1.45	mar	19	13.59461	13.57847	-0.69375	1.83
mar	26	13.21292	13.19677	27.78053	0.99	mar	26	13.59463	13.57848	-0.69377	1.37
abr	2	13.21295	13.19678	27.78078	0.53	abr	2	13.59466	13.57850	-0.69384	0.91
abr	9	13.21295	13.19678	27.78115	0.07	abr	9	13.59467	13.57850	-0.69379	0.45
abr	16	13.21297	13.19678	27.78144	23.61	abr	16	13.59469	13.57851	-0.69381	23.99
abr	23	13.21296	13.19677	27.78183	23.15	abr	23	13.59470	13.57850	-0.69372	23.53
abr	30	13.21297	13.19675	27.78216	22.69	abr	30	13.59471	13.57850	-0.69368	23.07
may	7	13.21296	13.19673	27.78257	22.23	may	7	13.59471	13.57848	-0.69354	22.61
may	14	13.21295	13.19671	27.78287	21.77	may	14	13.59471	13.57847	-0.69348	22.15
may	21	13.21294	13.19668	27.78323	21.31	may	21	13.59471	13.57845	-0.69333	21.69
may	28	13.21292	13.19664	27.78353	20.85	may	28	13.59470	13.57842	-0.69323	21.23
jun	4	13.21290	13.19660	27.78386	20.39	jun	4	13.59469	13.57839	-0.69306	20.77
jun	11	13.21288	13.19656	27.78408	19.93	jun	11	13.59468	13.57836	-0.69297	20.31
jun	18	13.21286	13.19652	27.78433	19.47	jun	18	13.59467	13.57832	-0.69281	19.85
jun	25	13.21284	13.19648	27.78451	19.01	jun	25	13.59465	13.57829	-0.69270	19.39
jul	2	13.21281	13.19643	27.78469	18.55	jul	2	13.59463	13.57825	-0.69254	18.93
jul	9	13.21278	13.19638	27.78478	18.09	jul	9	13.59461	13.57821	-0.69245	18.47
jul	16	13.21276	13.19633	27.78485	17.63	jul	16	13.59459	13.57817	-0.69232	18.01
jul	23	13.21273	13.19629	27.78489	17.17	jul	23	13.59456	13.57812	-0.69221	17.55
jul	30	13.21270	13.19624	27.78489	16.71	jul	30	13.59454	13.57808	-0.69210	17.09
ago	6	13.21267	13.19620	27.78482	16.25	ago	6	13.59452	13.57805	-0.69203	16.63
ago	13	13.21265	13.19616	27.78470	15.79	ago	13	13.59450	13.57801	-0.69196	16.17
ago	20	13.21262	13.19612	27.78458	15.33	ago	20	13.59447	13.57797	-0.69189	15.71
ago	27	13.21260	13.19609	27.78439	14.87	ago	27	13.59445	13.57793	-0.69185	15.25
sep	3	13.21258	13.19606	27.78416	14.41	sep	3	13.59443	13.57790	-0.69183	14.79
sep	10	13.21257	13.19603	27.78386	13.95	sep	10	13.59442	13.57788	-0.69185	14.33
sep	17	13.21255	13.19601	27.78358	13.49	sep	17	13.59440	13.57785	-0.69185	13.87
sep	24	13.21255	13.19599	27.78321	13.03	sep	24	13.59439	13.57783	-0.69191	13.41
oct	1	13.21254	13.19597	27.78284	12.57	oct	1	13.59438	13.57781	-0.69198	12.95
oct	8	13.21255	13.19596	27.78237	12.11	oct	8	13.59439	13.57780	-0.69212	12.49
oct	15	13.21255	13.19596	27.78196	11.65	oct	15	13.59439	13.57780	-0.69222	12.03
oct	22	13.21257	13.19596	27.78144	11.19	oct	22	13.59441	13.57780	-0.69242	11.57
oct	29	13.21259	13.19597	27.78095	10.73	oct	29	13.59442	13.57780	-0.69261	11.11
nov	5	13.21263	13.19599	27.78037	10.27	nov	5	13.59445	13.57781	-0.69290	10.65
nov	12	13.21266	13.19601	27.77988	9.81	nov	12	13.59447	13.57783	-0.69314	10.19
nov	19	13.21270	13.19603	27.77928	9.35	nov	19	13.59452	13.57785	-0.69349	9.73
nov	26	13.21275	13.19606	27.77876	8.89	nov	26	13.59456	13.57787	-0.69379	9.27
dic	3	13.21281	13.19609	27.77816	8.43	dic	3	13.59461	13.57790	-0.69421	8.81
dic	10	13.21286	13.19613	27.77768	7.97	dic	10	13.59466	13.57793	-0.69454	8.35
dic	17	13.21293	13.19618	27.77711	7.51	dic	17	13.59472	13.57797	-0.69500	7.89
dic	24	13.21299	13.19622	27.77666	7.05	dic	24	13.59478	13.57801	-0.69537	7.43

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

67494						68895					
V			Sp			V			Sp		
4.96			K0III			3.25			K2III		
α		α _c	δ		Hp	α		α _c	δ		Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	13.84808	13.83211	-18.22469	7.14	ene	1	14.12389	14.10792	-26.76892	7.42
ene	8	13.84815	13.83215	-18.22506	6.68	ene	8	14.12397	14.10797	-26.76923	6.96
ene	15	13.84821	13.83220	-18.22540	6.22	ene	15	14.12403	14.10802	-26.76952	6.50
ene	22	13.84829	13.83225	-18.22581	5.76	ene	22	14.12411	14.10807	-26.76990	6.04
ene	29	13.84834	13.83229	-18.22616	5.30	ene	29	14.12417	14.10812	-26.77023	5.58
feb	5	13.84841	13.83234	-18.22657	4.84	feb	5	14.12424	14.10817	-26.77064	5.12
feb	12	13.84846	13.83238	-18.22690	4.38	feb	12	14.12430	14.10822	-26.77098	4.66
feb	19	13.84852	13.83242	-18.22731	3.92	feb	19	14.12437	14.10826	-26.77140	4.20
feb	26	13.84857	13.83246	-18.22761	3.46	feb	26	14.12441	14.10831	-26.77174	3.74
mar	5	13.84862	13.83250	-18.22797	3.00	mar	5	14.12447	14.10835	-26.77215	3.28
mar	12	13.84865	13.83253	-18.22822	2.54	mar	12	14.12451	14.10838	-26.77245	2.82
mar	19	13.84870	13.83255	-18.22855	2.08	mar	19	14.12456	14.10841	-26.77285	2.36
mar	26	13.84873	13.83257	-18.22876	1.62	mar	26	14.12459	14.10844	-26.77313	1.90
abr	2	13.84876	13.83259	-18.22903	1.16	abr	2	14.12463	14.10846	-26.77348	1.44
abr	9	13.84877	13.83260	-18.22918	0.70	abr	9	14.12465	14.10848	-26.77371	0.98
abr	16	13.84880	13.83261	-18.22941	0.24	abr	16	14.12468	14.10849	-26.77403	0.52
abr	23	13.84881	13.83261	-18.22951	23.78	abr	23	14.12470	14.10850	-26.77424	0.06
abr	30	13.84882	13.83261	-18.22968	23.32	abr	30	14.12471	14.10850	-26.77450	23.60
may	7	13.84882	13.83260	-18.22973	22.86	may	7	14.12472	14.10849	-26.77465	23.14
may	14	13.84883	13.83259	-18.22986	22.40	may	14	14.12473	14.10848	-26.77488	22.68
may	21	13.84883	13.83257	-18.22989	21.94	may	21	14.12473	14.10847	-26.77499	22.22
may	28	13.84883	13.83255	-18.22996	21.48	may	28	14.12473	14.10845	-26.77515	21.76
jun	4	13.84882	13.83252	-18.22993	21.02	jun	4	14.12472	14.10842	-26.77522	21.30
jun	11	13.84881	13.83249	-18.22998	20.56	jun	11	14.12471	14.10839	-26.77535	20.84
jun	18	13.84880	13.83245	-18.22993	20.10	jun	18	14.12470	14.10836	-26.77537	20.38
jun	25	13.84878	13.83242	-18.22992	19.64	jun	25	14.12468	14.10832	-26.77543	19.92
jul	2	13.84876	13.83238	-18.22983	19.18	jul	2	14.12467	14.10829	-26.77540	19.46
jul	9	13.84874	13.83234	-18.22980	18.72	jul	9	14.12464	14.10824	-26.77542	19.00
jul	16	13.84872	13.83230	-18.22970	18.26	jul	16	14.12462	14.10820	-26.77536	18.54
jul	23	13.84869	13.83225	-18.22961	17.80	jul	23	14.12459	14.10815	-26.77530	18.08
jul	30	13.84867	13.83221	-18.22948	17.34	jul	30	14.12456	14.10811	-26.77519	17.62
ago	6	13.84864	13.83217	-18.22938	16.88	ago	6	14.12453	14.10806	-26.77510	17.16
ago	13	13.84862	13.83212	-18.22924	16.42	ago	13	14.12451	14.10802	-26.77496	16.70
ago	20	13.84858	13.83208	-18.22910	15.96	ago	20	14.12447	14.10797	-26.77480	16.24
ago	27	13.84856	13.83205	-18.22894	15.50	ago	27	14.12445	14.10793	-26.77462	15.78
sep	3	13.84854	13.83201	-18.22881	15.04	sep	3	14.12442	14.10789	-26.77445	15.32
sep	10	13.84852	13.83198	-18.22868	14.58	sep	10	14.12440	14.10786	-26.77427	14.86
sep	17	13.84850	13.83195	-18.22852	14.12	sep	17	14.12437	14.10782	-26.77406	14.40
sep	24	13.84849	13.83193	-18.22840	13.66	sep	24	14.12436	14.10779	-26.77387	13.94
oct	1	13.84848	13.83191	-18.22829	13.20	oct	1	14.12434	14.10777	-26.77368	13.48
oct	8	13.84848	13.83189	-18.22823	12.74	oct	8	14.12434	14.10775	-26.77353	13.02
oct	15	13.84848	13.83189	-18.22813	12.28	oct	15	14.12433	14.10774	-26.77334	12.56
oct	22	13.84849	13.83188	-18.22813	11.82	oct	22	14.12435	14.10774	-26.77323	12.10
oct	29	13.84850	13.83188	-18.22809	11.36	oct	29	14.12435	14.10773	-26.77310	11.64
nov	5	13.84853	13.83189	-18.22816	10.90	nov	5	14.12438	14.10774	-26.77306	11.18
nov	12	13.84856	13.83191	-18.22818	10.44	nov	12	14.12440	14.10775	-26.77298	10.72
nov	19	13.84860	13.83193	-18.22833	9.98	nov	19	14.12445	14.10777	-26.77301	10.26
nov	26	13.84864	13.83195	-18.22845	9.52	nov	26	14.12448	14.10780	-26.77302	9.80
dic	3	13.84870	13.83198	-18.22869	9.06	dic	3	14.12454	14.10783	-26.77316	9.34
dic	10	13.84874	13.83202	-18.22887	8.60	dic	10	14.12459	14.10786	-26.77324	8.88
dic	17	13.84881	13.83205	-18.22919	8.14	dic	17	14.12466	14.10790	-26.77347	8.42
dic	24	13.84887	13.83209	-18.22944	7.68	dic	24	14.12471	14.10794	-26.77364	7.96

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

68933						71957					
V			Sp			V			Sp		
2.06			K0IIIb			3.87			F2III		
α		α _c	δ		Hp	α		α _c	δ		Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	14.12969	14.11372	-36.45762	7.42	ene	1	14.73394	14.71797	-5.73765	8.03
ene	8	14.12977	14.11377	-36.45788	6.96	ene	8	14.73401	14.71801	-5.73804	7.57
ene	15	14.12984	14.11383	-36.45814	6.50	ene	15	14.73406	14.71805	-5.73838	7.11
ene	22	14.12992	14.11389	-36.45850	6.04	ene	22	14.73413	14.71810	-5.73877	6.65
ene	29	14.12999	14.11394	-36.45882	5.58	ene	29	14.73419	14.71814	-5.73909	6.19
feb	5	14.13007	14.11400	-36.45923	5.12	feb	5	14.73426	14.71819	-5.73945	5.73
feb	12	14.13013	14.11405	-36.45958	4.66	feb	12	14.73431	14.71823	-5.73972	5.27
feb	19	14.13020	14.11410	-36.46004	4.20	feb	19	14.73438	14.71827	-5.74003	4.81
feb	26	14.13025	14.11415	-36.46043	3.74	feb	26	14.73442	14.71832	-5.74024	4.35
mar	5	14.13031	14.11419	-36.46089	3.28	mar	5	14.73448	14.71836	-5.74049	3.89
mar	12	14.13036	14.11423	-36.46127	2.82	mar	12	14.73452	14.71839	-5.74062	3.43
mar	19	14.13041	14.11426	-36.46174	2.36	mar	19	14.73457	14.71843	-5.74081	2.97
mar	26	14.13045	14.11429	-36.46211	1.90	mar	26	14.73461	14.71846	-5.74087	2.51
abr	2	14.13049	14.11432	-36.46255	1.44	abr	2	14.73465	14.71848	-5.74099	2.05
abr	9	14.13051	14.11434	-36.46289	0.98	abr	9	14.73467	14.71850	-5.74098	1.59
abr	16	14.13054	14.11435	-36.46332	0.52	abr	16	14.73471	14.71852	-5.74104	1.13
abr	23	14.13056	14.11436	-36.46363	0.06	abr	23	14.73473	14.71853	-5.74099	0.67
abr	30	14.13057	14.11436	-36.46400	23.60	abr	30	14.73475	14.71854	-5.74099	0.21
may	7	14.13058	14.11436	-36.46426	23.14	may	7	14.73476	14.71854	-5.74088	23.75
may	14	14.13059	14.11434	-36.46460	22.68	may	14	14.73478	14.71853	-5.74087	23.29
may	21	14.13059	14.11433	-36.46482	22.22	may	21	14.73479	14.71853	-5.74074	22.83
may	28	14.13059	14.11431	-36.46508	21.76	may	28	14.73479	14.71851	-5.74069	22.37
jun	4	14.13058	14.11428	-36.46524	21.30	jun	4	14.73479	14.71849	-5.74054	21.91
jun	11	14.13057	14.11425	-36.46546	20.84	jun	11	14.73479	14.71847	-5.74048	21.45
jun	18	14.13055	14.11421	-36.46557	20.38	jun	18	14.73478	14.71844	-5.74034	20.99
jun	25	14.13053	14.11417	-36.46569	19.92	jun	25	14.73477	14.71841	-5.74026	20.53
jul	2	14.13051	14.11413	-36.46573	19.46	jul	2	14.73476	14.71838	-5.74011	20.07
jul	9	14.13048	14.11408	-36.46580	19.00	jul	9	14.73474	14.71834	-5.74005	19.61
jul	16	14.13046	14.11403	-36.46578	18.54	jul	16	14.73473	14.71830	-5.73992	19.15
jul	23	14.13042	14.11398	-36.46575	18.08	jul	23	14.73470	14.71826	-5.73984	18.69
jul	30	14.13039	14.11393	-36.46565	17.62	jul	30	14.73468	14.71822	-5.73972	18.23
ago	6	14.13035	14.11388	-36.46557	17.16	ago	6	14.73465	14.71818	-5.73966	17.77
ago	13	14.13032	14.11383	-36.46542	16.70	ago	13	14.73463	14.71814	-5.73957	17.31
ago	20	14.13028	14.11378	-36.46524	16.24	ago	20	14.73460	14.71810	-5.73951	16.85
ago	27	14.13025	14.11373	-36.46502	15.78	ago	27	14.73457	14.71806	-5.73943	16.39
sep	3	14.13021	14.11369	-36.46481	15.32	sep	3	14.73454	14.71802	-5.73940	15.93
sep	10	14.13019	14.11365	-36.46457	14.86	sep	10	14.73452	14.71798	-5.73938	15.47
sep	17	14.13016	14.11361	-36.46429	14.40	sep	17	14.73449	14.71794	-5.73935	15.01
sep	24	14.13015	14.11358	-36.46403	13.94	sep	24	14.73448	14.71791	-5.73935	14.55
oct	1	14.13012	14.11356	-36.46375	13.48	oct	1	14.73446	14.71789	-5.73938	14.09
oct	8	14.13013	14.11354	-36.46350	13.02	oct	8	14.73445	14.71786	-5.73945	13.63
oct	15	14.13011	14.11352	-36.46321	12.56	oct	15	14.73444	14.71785	-5.73951	13.17
oct	22	14.13013	14.11352	-36.46299	12.10	oct	22	14.73444	14.71783	-5.73962	12.71
oct	29	14.13014	14.11352	-36.46276	11.64	oct	29	14.73444	14.71782	-5.73974	12.25
nov	5	14.13017	14.11353	-36.46261	11.18	nov	5	14.73446	14.71782	-5.73993	11.79
nov	12	14.13019	14.11354	-36.46242	10.72	nov	12	14.73447	14.71782	-5.74010	11.33
nov	19	14.13024	14.11356	-36.46235	10.26	nov	19	14.73450	14.71783	-5.74036	10.87
nov	26	14.13027	14.11359	-36.46225	9.80	nov	26	14.73453	14.71784	-5.74059	10.41
dic	3	14.13034	14.11362	-36.46229	9.35	dic	3	14.73458	14.71786	-5.74093	9.95
dic	10	14.13039	14.11366	-36.46228	8.89	dic	10	14.73461	14.71789	-5.74120	9.49
dic	17	14.13046	14.11371	-36.46242	8.43	dic	17	14.73467	14.71791	-5.74158	9.03
dic	24	14.13053	14.11375	-36.46252	7.97	dic	24	14.73472	14.71795	-5.74189	8.57

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

73714						74824					
V			Sp			V			Sp		
3.25			M3/M4III			4.07			A3V		
α		α _c	δ		Hp	α		α _c	δ		Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	15.08592	15.06995	-25.35175	8.38	ene	1	15.31615	15.30018	-58.86488	8.61
ene	8	15.08599	15.07000	-25.35198	7.92	ene	8	15.31626	15.30027	-58.86482	8.15
ene	15	15.08605	15.07004	-25.35221	7.46	ene	15	15.31635	15.30034	-58.86481	7.69
ene	22	15.08613	15.07009	-25.35250	7.00	ene	22	15.31648	15.30044	-58.86489	7.23
ene	29	15.08619	15.07014	-25.35276	6.54	ene	29	15.31657	15.30052	-58.86498	6.77
feb	5	15.08626	15.07019	-25.35308	6.08	feb	5	15.31669	15.30062	-58.86517	6.31
feb	12	15.08632	15.07024	-25.35335	5.62	feb	12	15.31678	15.30071	-58.86536	5.85
feb	19	15.08639	15.07029	-25.35369	5.16	feb	19	15.31690	15.30080	-58.86567	5.39
feb	26	15.08645	15.07034	-25.35395	4.70	feb	26	15.31699	15.30089	-58.86595	4.93
mar	5	15.08651	15.07039	-25.35428	4.24	mar	5	15.31710	15.30097	-58.86633	4.47
mar	12	15.08656	15.07043	-25.35452	3.78	mar	12	15.31718	15.30105	-58.86668	4.01
mar	19	15.08662	15.07047	-25.35484	3.32	mar	19	15.31728	15.30113	-58.86714	3.55
mar	26	15.08666	15.07051	-25.35505	2.86	mar	26	15.31735	15.30120	-58.86754	3.09
abr	2	15.08671	15.07054	-25.35534	2.40	abr	2	15.31743	15.30127	-58.86805	2.63
abr	9	15.08674	15.07057	-25.35552	1.94	abr	9	15.31749	15.30132	-58.86848	2.17
abr	16	15.08678	15.07060	-25.35578	1.48	abr	16	15.31756	15.30137	-58.86903	1.71
abr	23	15.08681	15.07061	-25.35593	1.02	abr	23	15.31761	15.30142	-58.86948	1.25
abr	30	15.08684	15.07063	-25.35616	0.56	abr	30	15.31766	15.30145	-58.87002	0.79
may	7	15.08686	15.07063	-25.35627	0.10	may	7	15.31770	15.30147	-58.87048	0.33
may	14	15.08688	15.07064	-25.35647	23.64	may	14	15.31773	15.30149	-58.87103	23.87
may	21	15.08690	15.07064	-25.35656	23.18	may	21	15.31775	15.30149	-58.87146	23.41
may	28	15.08691	15.07062	-25.35672	22.72	may	28	15.31777	15.30149	-58.87198	22.95
jun	4	15.08691	15.07061	-25.35677	22.26	jun	4	15.31777	15.30147	-58.87238	22.49
jun	11	15.08691	15.07059	-25.35692	21.80	jun	11	15.31777	15.30145	-58.87286	22.03
jun	18	15.08691	15.07057	-25.35695	21.34	jun	18	15.31776	15.30142	-58.87321	21.57
jun	25	15.08690	15.07054	-25.35703	20.88	jun	25	15.31774	15.30137	-58.87361	21.11
jul	2	15.08689	15.07051	-25.35703	20.42	jul	2	15.31771	15.30133	-58.87388	20.65
jul	9	15.08687	15.07047	-25.35710	19.96	jul	9	15.31767	15.30127	-58.87421	20.19
jul	16	15.08686	15.07043	-25.35707	19.50	jul	16	15.31764	15.30121	-58.87441	19.73
jul	23	15.08683	15.07039	-25.35708	19.04	jul	23	15.31758	15.30114	-58.87462	19.27
jul	30	15.08680	15.07035	-25.35701	18.58	jul	30	15.31753	15.30107	-58.87471	18.81
ago	6	15.08677	15.07030	-25.35699	18.12	ago	6	15.31746	15.30099	-58.87483	18.35
ago	13	15.08675	15.07026	-25.35690	17.66	ago	13	15.31741	15.30092	-58.87482	17.89
ago	20	15.08671	15.07021	-25.35683	17.20	ago	20	15.31734	15.30083	-58.87480	17.43
ago	27	15.08668	15.07016	-25.35670	16.74	ago	27	15.31728	15.30076	-58.87467	16.97
sep	3	15.08664	15.07012	-25.35660	16.28	sep	3	15.31720	15.30068	-58.87454	16.51
sep	10	15.08662	15.07008	-25.35648	15.82	sep	10	15.31715	15.30061	-58.87433	16.05
sep	17	15.08658	15.07004	-25.35633	15.36	sep	17	15.31708	15.30053	-58.87407	15.59
sep	24	15.08656	15.07000	-25.35618	14.90	sep	24	15.31704	15.30047	-58.87376	15.13
oct	1	15.08654	15.06997	-25.35605	14.44	oct	1	15.31698	15.30041	-58.87343	14.67
oct	8	15.08653	15.06994	-25.35593	13.98	oct	8	15.31695	15.30037	-58.87306	14.21
oct	15	15.08651	15.06992	-25.35578	13.52	oct	15	15.31691	15.30032	-58.87265	13.75
oct	22	15.08651	15.06990	-25.35567	13.06	oct	22	15.31690	15.30029	-58.87224	13.29
oct	29	15.08650	15.06989	-25.35556	12.60	oct	29	15.31688	15.30027	-58.87180	12.83
nov	5	15.08652	15.06988	-25.35552	12.14	nov	5	15.31690	15.30026	-58.87141	12.37
nov	12	15.08653	15.06988	-25.35545	11.68	nov	12	15.31690	15.30026	-58.87096	11.91
nov	19	15.08656	15.06989	-25.35545	11.22	nov	19	15.31695	15.30027	-58.87059	11.45
nov	26	15.08659	15.06990	-25.35543	10.76	nov	26	15.31698	15.30029	-58.87020	10.99
dic	3	15.08663	15.06992	-25.35552	10.30	dic	3	15.31705	15.30033	-58.86991	10.53
dic	10	15.08667	15.06994	-25.35556	9.84	dic	10	15.31710	15.30037	-58.86958	10.07
dic	17	15.08673	15.06997	-25.35572	9.38	dic	17	15.31719	15.30043	-58.86938	9.61
dic	24	15.08678	15.07001	-25.35584	8.92	dic	24	15.31726	15.30049	-58.86915	9.15

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

75458						76440					
V			Sp			V			Sp		
3.29			K2III			4.11			K0III		
α		α _c	δ		Hp	α		α _c	δ		Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	15.42188	15.40591	58.89817	8.72	ene	1	15.64032	15.62435	-66.37329	8.93
ene	8	15.42197	15.40597	58.89758	8.26	ene	8	15.64045	15.62445	-66.37313	8.47
ene	15	15.42205	15.40604	58.89708	7.80	ene	15	15.64056	15.62455	-66.37302	8.01
ene	22	15.42214	15.40611	58.89661	7.34	ene	22	15.64071	15.62467	-66.37299	7.55
ene	29	15.42224	15.40619	58.89626	6.88	ene	29	15.64083	15.62478	-66.37300	7.09
feb	5	15.42234	15.40626	58.89596	6.42	feb	5	15.64097	15.62490	-66.37310	6.63
feb	12	15.42243	15.40635	58.89580	5.96	feb	12	15.64109	15.62502	-66.37322	6.17
feb	19	15.42253	15.40643	58.89567	5.50	feb	19	15.64124	15.62514	-66.37345	5.71
feb	26	15.42262	15.40652	58.89569	5.04	feb	26	15.64136	15.62526	-66.37368	5.25
mar	5	15.42272	15.40659	58.89574	4.58	mar	5	15.64150	15.62538	-66.37401	4.79
mar	12	15.42280	15.40667	58.89596	4.12	mar	12	15.64161	15.62548	-66.37432	4.34
mar	19	15.42288	15.40674	58.89617	3.66	mar	19	15.64174	15.62559	-66.37475	3.88
mar	26	15.42295	15.40680	58.89654	3.20	mar	26	15.64184	15.62569	-66.37514	3.42
abr	2	15.42302	15.40686	58.89690	2.74	abr	2	15.64195	15.62578	-66.37563	2.96
abr	9	15.42308	15.40691	58.89742	2.28	abr	9	15.64203	15.62586	-66.37607	2.50
abr	16	15.42313	15.40694	58.89788	1.82	abr	16	15.64213	15.62594	-66.37663	2.04
abr	23	15.42317	15.40697	58.89847	1.36	abr	23	15.64220	15.62600	-66.37711	1.58
abr	30	15.42320	15.40699	58.89900	0.90	abr	30	15.64227	15.62605	-66.37768	1.12
may	7	15.42322	15.40699	58.89965	0.44	may	7	15.64232	15.62609	-66.37818	0.66
may	14	15.42323	15.40699	58.90020	23.98	may	14	15.64237	15.62612	-66.37878	0.20
may	21	15.42323	15.40697	58.90084	23.52	may	21	15.64240	15.62614	-66.37927	23.74
may	28	15.42323	15.40695	58.90138	23.06	may	28	15.64243	15.62614	-66.37985	23.28
jun	4	15.42321	15.40691	58.90200	22.60	jun	4	15.64243	15.62614	-66.38031	22.82
jun	11	15.42319	15.40687	58.90248	22.14	jun	11	15.64244	15.62611	-66.38087	22.36
jun	18	15.42316	15.40681	58.90301	21.68	jun	18	15.64243	15.62609	-66.38130	21.90
jun	25	15.42312	15.40676	58.90342	21.22	jun	25	15.64240	15.62604	-66.38177	21.44
jul	2	15.42307	15.40669	58.90387	20.76	jul	2	15.64237	15.62599	-66.38213	20.98
jul	9	15.42302	15.40662	58.90416	20.30	jul	9	15.64232	15.62592	-66.38255	20.52
jul	16	15.42296	15.40654	58.90447	19.84	jul	16	15.64228	15.62585	-66.38282	20.06
jul	23	15.42290	15.40646	58.90466	19.38	jul	23	15.64220	15.62577	-66.38311	19.60
jul	30	15.42283	15.40637	58.90485	18.92	jul	30	15.64214	15.62568	-66.38328	19.14
ago	6	15.42276	15.40629	58.90489	18.46	ago	6	15.64206	15.62558	-66.38347	18.68
ago	13	15.42269	15.40620	58.90491	18.00	ago	13	15.64198	15.62549	-66.38353	18.22
ago	20	15.42262	15.40612	58.90484	17.54	ago	20	15.64188	15.62538	-66.38357	17.76
ago	27	15.42254	15.40602	58.90475	17.08	ago	27	15.64180	15.62529	-66.38349	17.30
sep	3	15.42247	15.40594	58.90452	16.62	sep	3	15.64171	15.62518	-66.38341	16.84
sep	10	15.42240	15.40586	58.90426	16.16	sep	10	15.64163	15.62509	-66.38323	16.38
sep	17	15.42233	15.40578	58.90393	15.70	sep	17	15.64153	15.62499	-66.38301	15.92
sep	24	15.42226	15.40570	58.90355	15.24	sep	24	15.64147	15.62491	-66.38271	15.46
oct	1	15.42220	15.40563	58.90308	14.78	oct	1	15.64139	15.62482	-66.38238	15.00
oct	8	15.42215	15.40557	58.90255	14.32	oct	8	15.64134	15.62476	-66.38201	14.54
oct	15	15.42211	15.40551	58.90200	13.86	oct	15	15.64128	15.62469	-66.38158	14.08
oct	22	15.42207	15.40546	58.90139	13.40	oct	22	15.64126	15.62465	-66.38113	13.62
oct	29	15.42204	15.40542	58.90074	12.94	oct	29	15.64122	15.62461	-66.38066	13.16
nov	5	15.42203	15.40539	58.90002	12.48	nov	5	15.64123	15.62459	-66.38020	12.70
nov	12	15.42202	15.40537	58.89933	12.02	nov	12	15.64123	15.62458	-66.37970	12.24
nov	19	15.42202	15.40535	58.89858	11.56	nov	19	15.64127	15.62459	-66.37925	11.78
nov	26	15.42204	15.40535	58.89785	11.10	nov	26	15.64130	15.62461	-66.37878	11.32
dic	3	15.42207	15.40536	58.89706	10.64	dic	3	15.64137	15.62465	-66.37839	10.86
dic	10	15.42211	15.40538	58.89636	10.18	dic	10	15.64142	15.62470	-66.37797	10.40
dic	17	15.42216	15.40540	58.89560	9.72	dic	17	15.64152	15.62477	-66.37767	9.94
dic	24	15.42222	15.40545	58.89495	9.26	dic	24	15.64161	15.62484	-66.37734	9.48

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

77622						81724					
V			Sp			V			Sp		
3.71			A2m			4.91			G8II/III		
		α	α_c	δ	Hp			α	α_c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	15.86220	15.84623	4.42302	9.16	ene	1	16.71060	16.69463	-17.77517	10.00
ene	8	15.86226	15.84626	4.42261	8.70	ene	8	16.71065	16.69466	-17.77534	9.54
ene	15	15.86231	15.84630	4.42222	8.24	ene	15	16.71070	16.69469	-17.77553	9.08
ene	22	15.86238	15.84634	4.42183	7.78	ene	22	16.71077	16.69473	-17.77572	8.62
ene	29	15.86243	15.84638	4.42149	7.32	ene	29	16.71082	16.69477	-17.77591	8.16
feb	5	15.86249	15.84642	4.42115	6.86	feb	5	16.71088	16.69481	-17.77612	7.70
feb	12	15.86255	15.84647	4.42089	6.40	feb	12	16.71094	16.69486	-17.77630	7.24
feb	19	15.86261	15.84651	4.42063	5.94	feb	19	16.71101	16.69491	-17.77649	6.78
feb	26	15.86267	15.84656	4.42045	5.48	feb	26	16.71106	16.69496	-17.77664	6.32
mar	5	15.86273	15.84660	4.42027	5.02	mar	5	16.71113	16.69501	-17.77682	5.86
mar	12	15.86277	15.84665	4.42020	4.56	mar	12	16.71118	16.69506	-17.77693	5.40
mar	19	15.86283	15.84669	4.42011	4.10	mar	19	16.71125	16.69510	-17.77708	4.94
mar	26	15.86288	15.84673	4.42014	3.64	mar	26	16.71130	16.69515	-17.77715	4.48
abr	2	15.86293	15.84676	4.42014	3.18	abr	2	16.71136	16.69519	-17.77727	4.02
abr	9	15.86296	15.84679	4.42026	2.72	abr	9	16.71140	16.69524	-17.77730	3.57
abr	16	15.86301	15.84682	4.42033	2.26	abr	16	16.71146	16.69527	-17.77739	3.11
abr	23	15.86304	15.84684	4.42052	1.80	abr	23	16.71150	16.69531	-17.77738	2.65
abr	30	15.86307	15.84686	4.42065	1.34	abr	30	16.71155	16.69534	-17.77744	2.19
may	7	15.86310	15.84687	4.42089	0.88	may	7	16.71159	16.69536	-17.77740	1.73
may	14	15.86313	15.84688	4.42105	0.42	may	14	16.71163	16.69538	-17.77746	1.27
may	21	15.86314	15.84688	4.42132	23.96	may	21	16.71166	16.69540	-17.77740	0.81
may	28	15.86316	15.84688	4.42151	23.50	may	28	16.71169	16.69541	-17.77744	0.35
jun	4	15.86317	15.84687	4.42180	23.04	jun	4	16.71171	16.69541	-17.77737	23.89
jun	11	15.86318	15.84686	4.42198	22.58	jun	11	16.71173	16.69541	-17.77741	23.43
jun	18	15.86318	15.84684	4.42225	22.12	jun	18	16.71175	16.69540	-17.77735	22.97
jun	25	15.86318	15.84682	4.42243	21.66	jun	25	16.71175	16.69539	-17.77737	22.51
jul	2	15.86317	15.84679	4.42268	21.20	jul	2	16.71176	16.69538	-17.77731	22.05
jul	9	15.86316	15.84676	4.42282	20.74	jul	9	16.71176	16.69536	-17.77735	21.59
jul	16	15.86315	15.84673	4.42303	20.28	jul	16	16.71175	16.69533	-17.77729	21.13
jul	23	15.86313	15.84669	4.42316	19.82	jul	23	16.71174	16.69530	-17.77731	20.67
jul	30	15.86311	15.84665	4.42334	19.36	jul	30	16.71172	16.69526	-17.77725	20.21
ago	6	15.86308	15.84661	4.42341	18.90	ago	6	16.71170	16.69523	-17.77728	19.75
ago	13	15.86306	15.84657	4.42352	18.44	ago	13	16.71168	16.69519	-17.77723	19.29
ago	20	15.86303	15.84653	4.42357	17.98	ago	20	16.71165	16.69515	-17.77724	18.83
ago	27	15.86300	15.84648	4.42365	17.52	ago	27	16.71162	16.69510	-17.77717	18.37
sep	3	15.86296	15.84644	4.42363	17.06	sep	3	16.71158	16.69506	-17.77719	17.91
sep	10	15.86294	15.84640	4.42363	16.60	sep	10	16.71155	16.69501	-17.77714	17.45
sep	17	15.86290	15.84635	4.42359	16.14	sep	17	16.71151	16.69497	-17.77712	16.99
sep	24	15.86288	15.84631	4.42354	15.68	sep	24	16.71148	16.69492	-17.77706	16.53
oct	1	15.86285	15.84628	4.42343	15.22	oct	1	16.71145	16.69488	-17.77706	16.07
oct	8	15.86283	15.84624	4.42330	14.76	oct	8	16.71143	16.69484	-17.77703	15.61
oct	15	15.86280	15.84621	4.42315	14.30	oct	15	16.71139	16.69480	-17.77701	15.15
oct	22	15.86279	15.84619	4.42296	13.84	oct	22	16.71138	16.69477	-17.77698	14.69
oct	29	15.86278	15.84616	4.42274	13.38	oct	29	16.71136	16.69474	-17.77698	14.23
nov	5	15.86279	15.84615	4.42247	12.92	nov	5	16.71136	16.69471	-17.77700	13.77
nov	12	15.86278	15.84613	4.42221	12.46	nov	12	16.71134	16.69469	-17.77701	13.31
nov	19	15.86280	15.84613	4.42188	12.00	nov	19	16.71136	16.69468	-17.77705	12.85
nov	26	15.86281	15.84613	4.42155	11.54	nov	26	16.71136	16.69467	-17.77709	12.39
dic	3	15.86285	15.84613	4.42115	11.08	dic	3	16.71139	16.69467	-17.77717	11.93
dic	10	15.86287	15.84614	4.42080	10.62	dic	10	16.71140	16.69468	-17.77726	11.47
dic	17	15.86292	15.84616	4.42037	10.16	dic	17	16.71144	16.69469	-17.77741	11.01
dic	24	15.86295	15.84618	4.41999	9.70	dic	24	16.71147	16.69470	-17.77753	10.55

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

81833						82396					
V			Sp			V			Sp		
3.48			G8III-IV			2.29			K2IIIb		
α		α_c	δ		Hp	α		α_c	δ		Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	16.72518	16.70920	38.88676	10.02	ene	1	16.85589	16.83992	-34.32318	10.15
ene	8	16.72523	16.70923	38.88613	9.56	ene	8	16.85596	16.83996	-34.32316	9.69
ene	15	16.72527	16.70926	38.88553	9.10	ene	15	16.85600	16.83999	-34.32318	9.23
ene	22	16.72534	16.70930	38.88499	8.64	ene	22	16.85608	16.84004	-34.32321	8.77
ene	29	16.72539	16.70934	38.88449	8.18	ene	29	16.85614	16.84009	-34.32327	8.31
feb	5	16.72546	16.70939	38.88405	7.72	feb	5	16.85621	16.84014	-34.32335	7.85
feb	12	16.72552	16.70944	38.88370	7.26	feb	12	16.85627	16.84019	-34.32344	7.39
feb	19	16.72559	16.70949	38.88340	6.80	feb	19	16.85635	16.84025	-34.32356	6.93
feb	26	16.72566	16.70955	38.88321	6.34	feb	26	16.85641	16.84031	-34.32367	6.47
mar	5	16.72573	16.70960	38.88306	5.88	mar	5	16.85649	16.84037	-34.32382	6.01
mar	12	16.72579	16.70966	38.88304	5.42	mar	12	16.85655	16.84042	-34.32394	5.55
mar	19	16.72586	16.70971	38.88306	4.96	mar	19	16.85663	16.84048	-34.32411	5.09
mar	26	16.72592	16.70977	38.88322	4.50	mar	26	16.85669	16.84053	-34.32423	4.63
abr	2	16.72598	16.70982	38.88338	4.04	abr	2	16.85676	16.84059	-34.32442	4.17
abr	9	16.72603	16.70986	38.88369	3.58	abr	9	16.85681	16.84064	-34.32454	3.71
abr	16	16.72609	16.70990	38.88399	3.12	abr	16	16.85687	16.84069	-34.32474	3.25
abr	23	16.72613	16.70994	38.88442	2.66	abr	23	16.85692	16.84073	-34.32487	2.79
abr	30	16.72618	16.70997	38.88482	2.20	abr	30	16.85698	16.84076	-34.32507	2.33
may	7	16.72621	16.70999	38.88535	1.74	may	7	16.85702	16.84080	-34.32519	1.87
may	14	16.72625	16.71001	38.88581	1.28	may	14	16.85707	16.84083	-34.32542	1.41
may	21	16.72628	16.71002	38.88639	0.82	may	21	16.85711	16.84085	-34.32554	0.95
may	28	16.72630	16.71002	38.88689	0.36	may	28	16.85714	16.84086	-34.32576	0.49
jun	4	16.72631	16.71001	38.88749	23.90	jun	4	16.85717	16.84087	-34.32588	0.03
jun	11	16.72632	16.71000	38.88797	23.44	jun	11	16.85719	16.84087	-34.32611	23.57
jun	18	16.72633	16.70998	38.88855	22.98	jun	18	16.85721	16.84087	-34.32623	23.11
jun	25	16.72632	16.70996	38.88901	22.52	jun	25	16.85722	16.84086	-34.32644	22.65
jul	2	16.72631	16.70993	38.88955	22.06	jul	2	16.85723	16.84085	-34.32655	22.19
jul	9	16.72630	16.70990	38.88993	21.60	jul	9	16.85723	16.84083	-34.32676	21.73
jul	16	16.72628	16.70986	38.89038	21.14	jul	16	16.85722	16.84080	-34.32685	21.27
jul	23	16.72625	16.70981	38.89071	20.68	jul	23	16.85721	16.84077	-34.32702	20.81
jul	30	16.72622	16.70976	38.89107	20.22	jul	30	16.85719	16.84073	-34.32709	20.35
ago	6	16.72619	16.70971	38.89128	19.76	ago	6	16.85716	16.84069	-34.32723	19.89
ago	13	16.72615	16.70966	38.89152	19.30	ago	13	16.85714	16.84065	-34.32727	19.43
ago	20	16.72610	16.70960	38.89164	18.84	ago	20	16.85710	16.84060	-34.32736	18.97
ago	27	16.72606	16.70954	38.89178	18.38	ago	27	16.85707	16.84055	-34.32735	18.51
sep	3	16.72601	16.70948	38.89177	17.92	sep	3	16.85702	16.84050	-34.32740	18.05
sep	10	16.72596	16.70942	38.89176	17.46	sep	10	16.85699	16.84045	-34.32735	17.59
sep	17	16.72591	16.70936	38.89165	17.00	sep	17	16.85694	16.84040	-34.32733	17.13
sep	24	16.72586	16.70930	38.89153	16.54	sep	24	16.85691	16.84035	-34.32723	16.67
oct	1	16.72581	16.70924	38.89129	16.08	oct	1	16.85687	16.84030	-34.32717	16.21
oct	8	16.72577	16.70919	38.89101	15.62	oct	8	16.85684	16.84025	-34.32705	15.75
oct	15	16.72573	16.70914	38.89068	15.16	oct	15	16.85680	16.84021	-34.32693	15.29
oct	22	16.72570	16.70909	38.89030	14.70	oct	22	16.85678	16.84017	-34.32678	14.83
oct	29	16.72567	16.70905	38.88985	14.24	oct	29	16.85675	16.84014	-34.32664	14.37
nov	5	16.72565	16.70901	38.88934	13.78	nov	5	16.85675	16.84011	-34.32649	13.91
nov	12	16.72563	16.70898	38.88881	13.32	nov	12	16.85673	16.84009	-34.32633	13.45
nov	19	16.72562	16.70895	38.88823	12.86	nov	19	16.85675	16.84007	-34.32619	12.99
nov	26	16.72562	16.70893	38.88762	12.40	nov	26	16.85675	16.84006	-34.32604	12.53
dic	3	16.72563	16.70892	38.88695	11.94	dic	3	16.85678	16.84006	-34.32594	12.07
dic	10	16.72564	16.70892	38.88632	11.48	dic	10	16.85679	16.84007	-34.32581	11.61
dic	17	16.72567	16.70892	38.88563	11.02	dic	17	16.85684	16.84008	-34.32575	11.15
dic	24	16.72570	16.70893	38.88499	10.56	dic	24	16.85687	16.84010	-34.32565	10.69

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

86796						91262					
V			Sp			V			Sp		
5.12			G5V			0.03			AOVvar		
		α	α_c	δ	Hp			α	α_c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	17.75993	17.74395	-51.83984	11.05	ene	1	18.62573	18.60975	38.80300	11.92
ene	8	17.75999	17.74399	-51.83954	10.59	ene	8	18.62575	18.60975	38.80239	11.46
ene	15	17.76004	17.74403	-51.83931	10.13	ene	15	18.62577	18.60976	38.80174	11.00
ene	22	17.76012	17.74409	-51.83907	9.67	ene	22	18.62581	18.60977	38.80116	10.54
ene	29	17.76019	17.74414	-51.83889	9.21	ene	29	18.62584	18.60979	38.80057	10.08
feb	5	17.76028	17.74421	-51.83872	8.75	feb	5	18.62589	18.60982	38.80003	9.62
feb	12	17.76035	17.74427	-51.83860	8.29	feb	12	18.62593	18.60986	38.79953	9.16
feb	19	17.76045	17.74435	-51.83850	7.83	feb	19	18.62599	18.60989	38.79911	8.70
feb	26	17.76053	17.74442	-51.83843	7.37	feb	26	18.62604	18.60994	38.79875	8.24
mar	5	17.76063	17.74450	-51.83841	6.91	mar	5	18.62611	18.60998	38.79845	7.78
mar	12	17.76070	17.74458	-51.83840	6.45	mar	12	18.62617	18.61004	38.79823	7.32
mar	19	17.76081	17.74466	-51.83845	5.99	mar	19	18.62624	18.61009	38.79810	6.86
mar	26	17.76089	17.74474	-51.83849	5.53	mar	26	18.62630	18.61015	38.79806	6.40
abr	2	17.76098	17.74482	-51.83860	5.07	abr	2	18.62637	18.61020	38.79807	5.94
abr	9	17.76106	17.74489	-51.83870	4.61	abr	9	18.62643	18.61026	38.79820	5.48
abr	16	17.76116	17.74497	-51.83888	4.15	abr	16	18.62650	18.61031	38.79838	5.02
abr	23	17.76123	17.74503	-51.83902	3.69	abr	23	18.62656	18.61036	38.79867	4.56
abr	30	17.76132	17.74510	-51.83925	3.24	abr	30	18.62662	18.61040	38.79897	4.10
may	7	17.76138	17.74516	-51.83944	2.78	may	7	18.62667	18.61045	38.79939	3.64
may	14	17.76146	17.74521	-51.83974	2.32	may	14	18.62673	18.61048	38.79981	3.18
may	21	17.76152	17.74526	-51.83997	1.86	may	21	18.62678	18.61052	38.80034	2.72
may	28	17.76158	17.74530	-51.84030	1.40	may	28	18.62682	18.61054	38.80083	2.26
jun	4	17.76162	17.74533	-51.84056	0.94	jun	4	18.62686	18.61057	38.80143	1.80
jun	11	17.76167	17.74535	-51.84094	0.48	jun	11	18.62690	18.61058	38.80196	1.34
jun	18	17.76171	17.74537	-51.84122	0.02	jun	18	18.62693	18.61059	38.80259	0.88
jun	25	17.76174	17.74537	-51.84161	23.56	jun	25	18.62695	18.61059	38.80313	0.42
jul	2	17.76175	17.74537	-51.84190	23.10	jul	2	18.62696	18.61058	38.80377	23.96
jul	9	17.76176	17.74536	-51.84230	22.64	jul	9	18.62697	18.61057	38.80429	23.50
jul	16	17.76177	17.74535	-51.84258	22.18	jul	16	18.62697	18.61055	38.80489	23.04
jul	23	17.76176	17.74532	-51.84294	21.72	jul	23	18.62697	18.61053	38.80536	22.58
jul	30	17.76174	17.74529	-51.84320	21.26	jul	30	18.62695	18.61050	38.80591	22.12
ago	6	17.76172	17.74525	-51.84353	20.80	ago	6	18.62693	18.61046	38.80632	21.66
ago	13	17.76169	17.74520	-51.84374	20.34	ago	13	18.62691	18.61042	38.80678	21.20
ago	20	17.76165	17.74515	-51.84400	19.88	ago	20	18.62688	18.61038	38.80710	20.74
ago	27	17.76161	17.74509	-51.84413	19.42	ago	27	18.62684	18.61033	38.80747	20.28
sep	3	17.76155	17.74503	-51.84433	18.96	sep	3	18.62680	18.61027	38.80768	19.82
sep	10	17.76151	17.74496	-51.84439	18.50	sep	10	18.62676	18.61022	38.80793	19.36
sep	17	17.76144	17.74489	-51.84447	18.04	sep	17	18.62670	18.61016	38.80804	18.90
sep	24	17.76139	17.74483	-51.84444	17.58	sep	24	18.62666	18.61010	38.80817	18.44
oct	1	17.76133	17.74476	-51.84444	17.12	oct	1	18.62660	18.61003	38.80816	17.98
oct	8	17.76128	17.74470	-51.84433	16.66	oct	8	18.62656	18.60997	38.80815	17.52
oct	15	17.76122	17.74463	-51.84421	16.20	oct	15	18.62650	18.60991	38.80802	17.06
oct	22	17.76119	17.74458	-51.84401	15.74	oct	22	18.62646	18.60985	38.80789	16.60
oct	29	17.76114	17.74452	-51.84381	15.28	oct	29	18.62641	18.60979	38.80763	16.14
nov	5	17.76112	17.74448	-51.84356	14.82	nov	5	18.62637	18.60973	38.80735	15.68
nov	12	17.76108	17.74443	-51.84329	14.36	nov	12	18.62633	18.60968	38.80699	15.22
nov	19	17.76108	17.74440	-51.84298	13.90	nov	19	18.62631	18.60963	38.80660	14.76
nov	26	17.76106	17.74438	-51.84267	13.44	nov	26	18.62628	18.60959	38.80613	14.30
dic	3	17.76108	17.74437	-51.84235	12.98	dic	3	18.62626	18.60955	38.80562	13.84
dic	10	17.76108	17.74436	-51.84202	12.52	dic	10	18.62625	18.60952	38.80507	13.38
dic	17	17.76112	17.74437	-51.84171	12.06	dic	17	18.62625	18.60949	38.80450	12.92
dic	24	17.76115	17.74438	-51.84138	11.60	dic	24	18.62625	18.60948	38.80390	12.46

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

92262						99240					
V			Sp			V			Sp		
6.86			F6V			3.55			G5IV-Vvar		
α		α _c	δ		Hp	α		α _c	δ		Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	18.82061	18.80464	-14.68580	12.11	ene	1	20.17475	20.15878	-66.13334	13.47
ene	8	18.82064	18.80464	-14.68588	11.65	ene	8	20.17477	20.15877	-66.13281	13.01
ene	15	18.82066	18.80465	-14.68602	11.19	ene	15	20.17478	20.15877	-66.13233	12.55
ene	22	18.82071	18.80467	-14.68609	10.73	ene	22	20.17483	20.15879	-66.13176	12.09
ene	29	18.82074	18.80469	-14.68621	10.27	ene	29	20.17486	20.15881	-66.13127	11.63
feb	5	18.82079	18.80472	-14.68628	9.81	feb	5	20.17493	20.15886	-66.13072	11.17
feb	12	18.82083	18.80475	-14.68638	9.35	feb	12	20.17499	20.15891	-66.13024	10.71
feb	19	18.82088	18.80478	-14.68642	8.89	feb	19	20.17509	20.15899	-66.12971	10.25
feb	26	18.82093	18.80482	-14.68647	8.43	feb	26	20.17517	20.15906	-66.12925	9.79
mar	5	18.82099	18.80487	-14.68650	7.97	mar	5	20.17527	20.15915	-66.12879	9.33
mar	12	18.82104	18.80491	-14.68650	7.51	mar	12	20.17536	20.15924	-66.12839	8.87
mar	19	18.82110	18.80496	-14.68648	7.05	mar	19	20.17549	20.15935	-66.12798	8.41
mar	26	18.82116	18.80500	-14.68643	6.59	mar	26	20.17560	20.15945	-66.12764	7.95
abr	2	18.82122	18.80505	-14.68638	6.13	abr	2	20.17573	20.15957	-66.12734	7.49
abr	9	18.82127	18.80510	-14.68628	5.67	abr	9	20.17585	20.15968	-66.12708	7.03
abr	16	18.82134	18.80515	-14.68620	5.21	abr	16	20.17599	20.15980	-66.12687	6.57
abr	23	18.82139	18.80519	-14.68605	4.76	abr	23	20.17612	20.15992	-66.12669	6.11
abr	30	18.82145	18.80524	-14.68595	4.30	abr	30	20.17626	20.16004	-66.12660	5.65
may	7	18.82150	18.80528	-14.68578	3.84	may	7	20.17638	20.16015	-66.12653	5.19
may	14	18.82156	18.80532	-14.68567	3.38	may	14	20.17652	20.16028	-66.12655	4.73
may	21	18.82161	18.80535	-14.68547	2.92	may	21	20.17664	20.16038	-66.12657	4.27
may	28	18.82166	18.80538	-14.68537	2.46	may	28	20.17677	20.16049	-66.12671	3.81
jun	4	18.82170	18.80541	-14.68518	2.00	jun	4	20.17688	20.16058	-66.12685	3.35
jun	11	18.82175	18.80543	-14.68509	1.54	jun	11	20.17700	20.16068	-66.12709	2.89
jun	18	18.82179	18.80544	-14.68491	1.08	jun	18	20.17710	20.16076	-66.12731	2.43
jun	25	18.82182	18.80546	-14.68484	0.62	jun	25	20.17720	20.16084	-66.12766	1.97
jul	2	18.82184	18.80546	-14.68469	0.16	jul	2	20.17727	20.16089	-66.12798	1.51
jul	9	18.82187	18.80546	-14.68465	23.70	jul	9	20.17735	20.16095	-66.12842	1.05
jul	16	18.82188	18.80546	-14.68452	23.24	jul	16	20.17741	20.16099	-66.12879	0.59
jul	23	18.82189	18.80545	-14.68452	22.78	jul	23	20.17745	20.16101	-66.12929	0.13
jul	30	18.82189	18.80543	-14.68442	22.32	jul	30	20.17748	20.16102	-66.12971	23.67
ago	6	18.82189	18.80542	-14.68445	21.86	ago	6	20.17750	20.16103	-66.13024	23.21
ago	13	18.82188	18.80539	-14.68438	21.40	ago	13	20.17751	20.16102	-66.13067	22.75
ago	20	18.82186	18.80536	-14.68443	20.94	ago	20	20.17749	20.16099	-66.13121	22.29
ago	27	18.82185	18.80533	-14.68438	20.48	ago	27	20.17747	20.16095	-66.13162	21.83
sep	3	18.82182	18.80529	-14.68445	20.02	sep	3	20.17743	20.16090	-66.13212	21.37
sep	10	18.82180	18.80525	-14.68443	19.56	sep	10	20.17738	20.16084	-66.13249	20.91
sep	17	18.82176	18.80521	-14.68451	19.10	sep	17	20.17731	20.16077	-66.13292	20.45
sep	24	18.82173	18.80517	-14.68449	18.64	sep	24	20.17725	20.16069	-66.13320	19.99
oct	1	18.82169	18.80512	-14.68458	18.18	oct	1	20.17717	20.16060	-66.13353	19.53
oct	8	18.82166	18.80508	-14.68459	17.72	oct	8	20.17710	20.16051	-66.13372	19.07
oct	15	18.82162	18.80503	-14.68467	17.26	oct	15	20.17700	20.16041	-66.13392	18.61
oct	22	18.82159	18.80498	-14.68468	16.80	oct	22	20.17692	20.16031	-66.13398	18.15
oct	29	18.82156	18.80494	-14.68476	16.34	oct	29	20.17682	20.16020	-66.13405	17.69
nov	5	18.82154	18.80490	-14.68480	15.88	nov	5	20.17675	20.16011	-66.13397	17.23
nov	12	18.82151	18.80486	-14.68488	15.42	nov	12	20.17666	20.16001	-66.13390	16.77
nov	19	18.82150	18.80483	-14.68492	14.96	nov	19	20.17660	20.15993	-66.13369	16.31
nov	26	18.82148	18.80480	-14.68500	14.50	nov	26	20.17652	20.15984	-66.13348	15.85
dic	3	18.82149	18.80477	-14.68508	14.04	dic	3	20.17648	20.15977	-66.13316	15.39
dic	10	18.82148	18.80475	-14.68517	13.58	dic	10	20.17643	20.15970	-66.13284	14.93
dic	17	18.82150	18.80474	-14.68525	13.12	dic	17	20.17641	20.15966	-66.13242	14.47
dic	24	18.82150	18.80473	-14.68534	12.66	dic	24	20.17638	20.15961	-66.13199	14.01

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

102485						105199					
V			Sp			V			Sp		
4.13			F5V			2.45			A7IV-V		
		α	α_c	δ	Hp			α	α_c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	20.78627	20.77030	-25.20324	14.08	ene	1	21.31657	21.30059	62.66919	14.61
ene	8	20.78628	20.77028	-25.20313	13.62	ene	8	21.31652	21.30052	62.66870	14.15
ene	15	20.78628	20.77027	-25.20310	13.16	ene	15	21.31648	21.30047	62.66808	13.69
ene	22	20.78630	20.77026	-25.20296	12.70	ene	22	21.31646	21.30042	62.66753	13.23
ene	29	20.78631	20.77026	-25.20289	12.24	ene	29	21.31644	21.30039	62.66686	12.77
feb	5	20.78634	20.77027	-25.20273	11.78	feb	5	21.31643	21.30036	62.66624	12.31
feb	12	20.78636	20.77028	-25.20262	11.32	feb	12	21.31643	21.30036	62.66555	11.85
feb	19	20.78640	20.77030	-25.20241	10.86	feb	19	21.31646	21.30035	62.66496	11.39
feb	26	20.78643	20.77032	-25.20226	10.40	feb	26	21.31648	21.30037	62.66432	10.93
mar	5	20.78647	20.77035	-25.20205	9.94	mar	5	21.31652	21.30040	62.66376	10.47
mar	12	20.78651	20.77038	-25.20188	9.48	mar	12	21.31657	21.30044	62.66319	10.01
mar	19	20.78657	20.77042	-25.20163	9.02	mar	19	21.31663	21.30049	62.66276	9.55
mar	26	20.78661	20.77046	-25.20141	8.56	mar	26	21.31670	21.30055	62.66233	9.09
abr	2	20.78667	20.77050	-25.20116	8.10	abr	2	21.31678	21.30062	62.66200	8.63
abr	9	20.78672	20.77055	-25.20093	7.64	abr	9	21.31687	21.30070	62.66172	8.17
abr	16	20.78679	20.77060	-25.20066	7.18	abr	16	21.31696	21.30077	62.66157	7.71
abr	23	20.78684	20.77065	-25.20039	6.72	abr	23	21.31706	21.30086	62.66148	7.25
abr	30	20.78691	20.77070	-25.20014	6.26	abr	30	21.31716	21.30094	62.66147	6.79
may	7	20.78697	20.77075	-25.19989	5.80	may	7	21.31726	21.30104	62.66154	6.33
may	14	20.78704	20.77080	-25.19965	5.34	may	14	21.31736	21.30112	62.66171	5.87
may	21	20.78710	20.77084	-25.19940	4.88	may	21	21.31747	21.30121	62.66197	5.41
may	28	20.78717	20.77089	-25.19920	4.42	may	28	21.31756	21.30128	62.66227	4.95
jun	4	20.78723	20.77093	-25.19899	3.96	jun	4	21.31766	21.30136	62.66267	4.49
jun	11	20.78730	20.77097	-25.19884	3.50	jun	11	21.31775	21.30142	62.66312	4.03
jun	18	20.78735	20.77101	-25.19865	3.04	jun	18	21.31783	21.30149	62.66366	3.57
jun	25	20.78741	20.77104	-25.19857	2.58	jun	25	21.31790	21.30154	62.66419	3.11
jul	2	20.78745	20.77107	-25.19844	2.12	jul	2	21.31798	21.30160	62.66482	2.65
jul	9	20.78750	20.77110	-25.19841	1.66	jul	9	21.31803	21.30163	62.66543	2.19
jul	16	20.78754	20.77112	-25.19834	1.20	jul	16	21.31808	21.30166	62.66614	1.73
jul	23	20.78757	20.77113	-25.19838	0.74	jul	23	21.31811	21.30167	62.66678	1.27
jul	30	20.78760	20.77114	-25.19837	0.28	jul	30	21.31814	21.30169	62.66751	0.81
ago	6	20.78762	20.77114	-25.19847	23.82	ago	6	21.31815	21.30168	62.66818	0.35
ago	13	20.78763	20.77114	-25.19850	23.36	ago	13	21.31816	21.30167	62.66892	23.89
ago	20	20.78763	20.77113	-25.19865	22.90	ago	20	21.31814	21.30164	62.66955	23.43
ago	27	20.78763	20.77112	-25.19872	22.44	ago	27	21.31813	21.30161	62.67026	22.97
sep	3	20.78762	20.77110	-25.19891	21.98	sep	3	21.31810	21.30157	62.67086	22.51
sep	10	20.78762	20.77107	-25.19901	21.52	sep	10	21.31806	21.30152	62.67151	22.05
sep	17	20.78759	20.77104	-25.19922	21.06	sep	17	21.31801	21.30146	62.67202	21.59
sep	24	20.78757	20.77101	-25.19933	20.60	sep	24	21.31796	21.30139	62.67259	21.13
oct	1	20.78754	20.77097	-25.19953	20.14	oct	1	21.31788	21.30132	62.67302	20.67
oct	8	20.78752	20.77093	-25.19964	19.68	oct	8	21.31782	21.30123	62.67349	20.21
oct	15	20.78748	20.77089	-25.19984	19.22	oct	15	21.31774	21.30114	62.67378	19.75
oct	22	20.78745	20.77084	-25.19992	18.76	oct	22	21.31766	21.30105	62.67413	19.29
oct	29	20.78741	20.77079	-25.20008	18.30	oct	29	21.31757	21.30095	62.67430	18.83
nov	5	20.78739	20.77075	-25.20014	17.84	nov	5	21.31749	21.30085	62.67449	18.37
nov	12	20.78735	20.77070	-25.20027	17.38	nov	12	21.31740	21.30075	62.67451	17.91
nov	19	20.78733	20.77065	-25.20029	16.92	nov	19	21.31732	21.30064	62.67455	17.45
nov	26	20.78729	20.77061	-25.20037	16.46	nov	26	21.31723	21.30054	62.67443	16.99
dic	3	20.78728	20.77057	-25.20037	16.00	dic	3	21.31715	21.30044	62.67429	16.53
dic	10	20.78725	20.77053	-25.20041	15.54	dic	10	21.31707	21.30034	62.67401	16.07
dic	17	20.78725	20.77050	-25.20037	15.08	dic	17	21.31700	21.30025	62.67373	15.61
dic	24	20.78724	20.77047	-25.20036	14.62	dic	24	21.31694	21.30016	62.67332	15.15

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

105858						108870					
V			Sp			V			Sp		
4.21			F6V			4.69			K5V		
		α	α_c	δ	Hp			α	α_c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	21.46527	21.44930	-65.28306	14.76	ene	1	22.07910	22.06313	-56.71165	15.37
ene	8	21.46525	21.44926	-65.28257	14.30	ene	8	22.07908	22.06309	-56.71129	14.91
ene	15	21.46523	21.44922	-65.28213	13.84	ene	15	22.07906	22.06305	-56.71097	14.45
ene	22	21.46524	21.44920	-65.28154	13.38	ene	22	22.07906	22.06302	-56.71049	13.99
ene	29	21.46524	21.44919	-65.28103	12.92	ene	29	22.07905	22.06300	-56.71009	13.53
feb	5	21.46527	21.44919	-65.28042	12.46	feb	5	22.07907	22.06299	-56.70957	13.07
feb	12	21.46528	21.44921	-65.27988	12.00	feb	12	22.07907	22.06299	-56.70910	12.61
feb	19	21.46534	21.44924	-65.27923	11.54	feb	19	22.07910	22.06300	-56.70852	12.15
feb	26	21.46538	21.44927	-65.27867	11.08	feb	26	22.07913	22.06302	-56.70801	11.69
mar	5	21.46545	21.44932	-65.27805	10.62	mar	5	22.07917	22.06305	-56.70744	11.23
mar	12	21.46551	21.44938	-65.27751	10.16	mar	12	22.07921	22.06308	-56.70692	10.77
mar	19	21.46560	21.44945	-65.27692	9.70	mar	19	22.07927	22.06313	-56.70633	10.31
mar	26	21.46568	21.44953	-65.27640	9.24	mar	26	22.07932	22.06317	-56.70581	9.85
abr	2	21.46578	21.44962	-65.27588	8.78	abr	2	22.07940	22.06323	-56.70527	9.39
abr	9	21.46587	21.44970	-65.27543	8.32	abr	9	22.07946	22.06329	-56.70480	8.93
abr	16	21.46600	21.44981	-65.27498	7.86	abr	16	22.07955	22.06336	-56.70429	8.47
abr	23	21.46610	21.44990	-65.27459	7.40	abr	23	22.07963	22.06343	-56.70385	8.01
abr	30	21.46623	21.45002	-65.27425	6.94	abr	30	22.07973	22.06351	-56.70343	7.55
may	7	21.46634	21.45012	-65.27397	6.48	may	7	22.07981	22.06359	-56.70308	7.09
may	14	21.46648	21.45023	-65.27374	6.02	may	14	22.07992	22.06368	-56.70274	6.63
may	21	21.46660	21.45034	-65.27355	5.56	may	21	22.08001	22.06375	-56.70245	6.17
may	28	21.46673	21.45045	-65.27345	5.10	may	28	22.08012	22.06384	-56.70224	5.71
jun	4	21.46684	21.45055	-65.27338	4.64	jun	4	22.08022	22.06392	-56.70207	5.25
jun	11	21.46698	21.45066	-65.27341	4.18	jun	11	22.08033	22.06400	-56.70196	4.79
jun	18	21.46709	21.45074	-65.27345	3.72	jun	18	22.08042	22.06408	-56.70189	4.33
jun	25	21.46720	21.45084	-65.27361	3.26	jun	25	22.08052	22.06416	-56.70192	3.87
jul	2	21.46730	21.45092	-65.27377	2.80	jul	2	22.08060	22.06422	-56.70198	3.41
jul	9	21.46740	21.45100	-65.27405	2.34	jul	9	22.08070	22.06429	-56.70212	2.95
jul	16	21.46748	21.45106	-65.27431	1.88	jul	16	22.08077	22.06435	-56.70228	2.49
jul	23	21.46756	21.45112	-65.27470	1.42	jul	23	22.08084	22.06440	-56.70256	2.03
jul	30	21.46761	21.45116	-65.27505	0.96	jul	30	22.08090	22.06444	-56.70282	1.57
ago	6	21.46767	21.45119	-65.27552	0.50	ago	6	22.08096	22.06449	-56.70319	1.12
ago	13	21.46770	21.45121	-65.27593	0.04	ago	13	22.08100	22.06451	-56.70352	0.66
ago	20	21.46772	21.45122	-65.27645	23.58	ago	20	22.08103	22.06453	-56.70398	0.20
ago	27	21.46773	21.45121	-65.27690	23.12	ago	27	22.08105	22.06454	-56.70438	23.74
sep	3	21.46772	21.45120	-65.27744	22.66	sep	3	22.08106	22.06454	-56.70488	23.28
sep	10	21.46771	21.45116	-65.27787	22.20	sep	10	22.08107	22.06453	-56.70530	22.82
sep	17	21.46767	21.45112	-65.27840	21.74	sep	17	22.08105	22.06451	-56.70583	22.36
sep	24	21.46763	21.45106	-65.27880	21.28	sep	24	22.08104	22.06447	-56.70624	21.90
oct	1	21.46757	21.45100	-65.27926	20.82	oct	1	22.08101	22.06444	-56.70673	21.44
oct	8	21.46751	21.45093	-65.27959	20.36	oct	8	22.08098	22.06439	-56.70710	20.98
oct	15	21.46743	21.45084	-65.27996	19.90	oct	15	22.08093	22.06434	-56.70754	20.52
oct	22	21.46736	21.45075	-65.28018	19.44	oct	22	22.08089	22.06428	-56.70784	20.06
oct	29	21.46727	21.45066	-65.28044	18.98	oct	29	22.08083	22.06421	-56.70818	19.60
nov	5	21.46720	21.45056	-65.28053	18.52	nov	5	22.08078	22.06414	-56.70838	19.14
nov	12	21.46711	21.45046	-65.28065	18.06	nov	12	22.08072	22.06407	-56.70861	18.68
nov	19	21.46704	21.45037	-65.28060	17.60	nov	19	22.08067	22.06400	-56.70869	18.22
nov	26	21.46695	21.45027	-65.28056	17.14	nov	26	22.08061	22.06392	-56.70878	17.76
dic	3	21.46690	21.45018	-65.28038	16.68	dic	3	22.08057	22.06385	-56.70873	17.30
dic	10	21.46682	21.45009	-65.28021	16.22	dic	10	22.08051	22.06378	-56.70870	16.84
dic	17	21.46678	21.45002	-65.27989	15.76	dic	17	22.08048	22.06372	-56.70852	16.38
dic	24	21.46672	21.44994	-65.27957	15.30	dic	24	22.08043	22.06366	-56.70834	15.92

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

111449						112440					
V			Sp			V			Sp		
5.21			F7V			3.97			G8II-III		
		α	α_c	δ	Hp			α	α_c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	22.59499	22.57902	-20.61360	15.89	ene	1	22.79041	22.77444	23.66654	16.08
ene	8	22.59499	22.57899	-20.61357	15.43	ene	8	22.79039	22.77439	23.66631	15.62
ene	15	22.59497	22.57896	-20.61360	14.97	ene	15	22.79037	22.77436	23.66595	15.16
ene	22	22.59497	22.57893	-20.61350	14.51	ene	22	22.79036	22.77432	23.66569	14.70
ene	29	22.59496	22.57891	-20.61347	14.05	ene	29	22.79034	22.77429	23.66531	14.24
feb	5	22.59496	22.57889	-20.61333	13.59	feb	5	22.79034	22.77427	23.66499	13.78
feb	12	22.59496	22.57888	-20.61325	13.13	feb	12	22.79033	22.77425	23.66459	13.32
feb	19	22.59497	22.57887	-20.61305	12.67	feb	19	22.79033	22.77423	23.66431	12.86
feb	26	22.59498	22.57887	-20.61290	12.21	feb	26	22.79033	22.77423	23.66395	12.40
mar	5	22.59500	22.57887	-20.61266	11.75	mar	5	22.79035	22.77422	23.66368	11.94
mar	12	22.59501	22.57888	-20.61246	11.29	mar	12	22.79036	22.77423	23.66335	11.48
mar	19	22.59504	22.57890	-20.61215	10.83	mar	19	22.79038	22.77424	23.66317	11.02
mar	26	22.59507	22.57892	-20.61188	10.37	mar	26	22.79041	22.77425	23.66295	10.56
abr	2	22.59511	22.57894	-20.61155	9.91	abr	2	22.79044	22.77428	23.66282	10.10
abr	9	22.59514	22.57897	-20.61125	9.45	abr	9	22.79047	22.77430	23.66268	9.64
abr	16	22.59519	22.57900	-20.61087	8.99	abr	16	22.79052	22.77433	23.66268	9.18
abr	23	22.59524	22.57904	-20.61052	8.53	abr	23	22.79056	22.77437	23.66269	8.72
abr	30	22.59529	22.57908	-20.61014	8.07	abr	30	22.79062	22.77440	23.66277	8.26
may	7	22.59534	22.57912	-20.60978	7.61	may	7	22.79067	22.77444	23.66287	7.80
may	14	22.59541	22.57916	-20.60938	7.15	may	14	22.79073	22.77449	23.66309	7.34
may	21	22.59547	22.57921	-20.60900	6.69	may	21	22.79079	22.77453	23.66332	6.88
may	28	22.59553	22.57925	-20.60864	6.23	may	28	22.79085	22.77457	23.66361	6.42
jun	4	22.59559	22.57930	-20.60829	5.77	jun	4	22.79092	22.77462	23.66393	5.96
jun	11	22.59566	22.57934	-20.60794	5.31	jun	11	22.79098	22.77466	23.66432	5.50
jun	18	22.59573	22.57938	-20.60762	4.85	jun	18	22.79104	22.77470	23.66474	5.04
jun	25	22.59579	22.57943	-20.60735	4.39	jun	25	22.79110	22.77474	23.66516	4.59
jul	2	22.59585	22.57947	-20.60708	3.93	jul	2	22.79116	22.77478	23.66563	4.13
jul	9	22.59591	22.57951	-20.60686	3.47	jul	9	22.79122	22.77482	23.66611	3.67
jul	16	22.59596	22.57954	-20.60665	3.01	jul	16	22.79127	22.77485	23.66662	3.21
jul	23	22.59601	22.57957	-20.60653	2.55	jul	23	22.79132	22.77488	23.66709	2.75
jul	30	22.59605	22.57960	-20.60640	2.09	jul	30	22.79136	22.77490	23.66761	2.29
ago	6	22.59609	22.57962	-20.60635	1.63	ago	6	22.79139	22.77492	23.66808	1.83
ago	13	22.59613	22.57964	-20.60628	1.17	ago	13	22.79143	22.77494	23.66860	1.37
ago	20	22.59615	22.57965	-20.60633	0.71	ago	20	22.79145	22.77495	23.66902	0.91
ago	27	22.59617	22.57966	-20.60634	0.25	ago	27	22.79147	22.77496	23.66950	0.45
sep	3	22.59619	22.57966	-20.60645	23.79	sep	3	22.79148	22.77496	23.66990	23.99
sep	10	22.59620	22.57966	-20.60652	23.33	sep	10	22.79150	22.77495	23.67034	23.53
sep	17	22.59619	22.57965	-20.60671	22.87	sep	17	22.79149	22.77494	23.67065	23.07
sep	24	22.59619	22.57963	-20.60682	22.41	sep	24	22.79149	22.77493	23.67103	22.61
oct	1	22.59618	22.57961	-20.60704	21.95	oct	1	22.79148	22.77491	23.67129	22.15
oct	8	22.59618	22.57959	-20.60717	21.49	oct	8	22.79147	22.77488	23.67160	21.69
oct	15	22.59615	22.57956	-20.60743	21.03	oct	15	22.79145	22.77486	23.67176	21.23
oct	22	22.59614	22.57953	-20.60758	20.57	oct	22	22.79143	22.77482	23.67200	20.77
oct	29	22.59611	22.57949	-20.60782	20.11	oct	29	22.79140	22.77479	23.67210	20.31
nov	5	22.59609	22.57945	-20.60796	19.65	nov	5	22.79139	22.77475	23.67224	19.85
nov	12	22.59605	22.57941	-20.60820	19.19	nov	12	22.79135	22.77470	23.67224	19.39
nov	19	22.59604	22.57936	-20.60831	18.73	nov	19	22.79133	22.77466	23.67230	18.93
nov	26	22.59600	22.57932	-20.60850	18.27	nov	26	22.79130	22.77461	23.67223	18.47
dic	3	22.59599	22.57927	-20.60859	17.81	dic	3	22.79127	22.77456	23.67220	18.01
dic	10	22.59595	22.57923	-20.60875	17.35	dic	10	22.79124	22.77451	23.67202	17.55
dic	17	22.59594	22.57918	-20.60878	16.89	dic	17	22.79122	22.77446	23.67191	17.09
dic	24	22.59591	22.57914	-20.60888	16.43	dic	24	22.79119	22.77442	23.67168	16.63

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

112623						112724					
V			Sp			V			Sp		
3.49			A3V			3.50			K0III		
α		α _c	δ		Hp	α		α _c	δ		Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	22.82753	22.81156	-51.22193	16.12	ene	1	22.83893	22.82296	66.30397	16.13
ene	8	22.82751	22.81151	-51.22166	15.66	ene	8	22.83886	22.82286	66.30370	15.67
ene	15	22.82747	22.81146	-51.22144	15.20	ene	15	22.83878	22.82276	66.30326	15.21
ene	22	22.82746	22.81142	-51.22105	14.74	ene	22	22.83872	22.82268	66.30287	14.75
ene	29	22.82744	22.81139	-51.22072	14.28	ene	29	22.83865	22.82260	66.30233	14.29
feb	5	22.82743	22.81136	-51.22026	13.82	feb	5	22.83861	22.82254	66.30182	13.83
feb	12	22.82742	22.81134	-51.21985	13.36	feb	12	22.83856	22.82249	66.30119	13.37
feb	19	22.82743	22.81133	-51.21930	12.90	feb	19	22.83855	22.82244	66.30064	12.91
feb	26	22.82744	22.81133	-51.21882	12.44	feb	26	22.83853	22.82242	66.30000	12.45
mar	5	22.82746	22.81133	-51.21825	11.98	mar	5	22.83853	22.82241	66.29941	11.99
mar	12	22.82747	22.81135	-51.21774	11.52	mar	12	22.83854	22.82242	66.29876	11.53
mar	19	22.82751	22.81137	-51.21713	11.06	mar	19	22.83858	22.82243	66.29824	11.07
mar	26	22.82754	22.81139	-51.21658	10.60	mar	26	22.83862	22.82247	66.29768	10.61
abr	2	22.82759	22.81143	-51.21599	10.14	abr	2	22.83867	22.82251	66.29722	10.15
abr	9	22.82763	22.81146	-51.21546	9.68	abr	9	22.83874	22.82257	66.29674	9.69
abr	16	22.82770	22.81151	-51.21486	9.22	abr	16	22.83882	22.82263	66.29642	9.23
abr	23	22.82776	22.81156	-51.21435	8.76	abr	23	22.83891	22.82271	66.29611	8.77
abr	30	22.82783	22.81162	-51.21382	8.30	abr	30	22.83901	22.82279	66.29589	8.31
may	7	22.82790	22.81167	-51.21336	7.84	may	7	22.83911	22.82289	66.29572	7.85
may	14	22.82799	22.81174	-51.21289	7.38	may	14	22.83922	22.82298	66.29569	7.39
may	21	22.82806	22.81180	-51.21249	6.92	may	21	22.83934	22.82308	66.29570	6.93
may	28	22.82816	22.81187	-51.21212	6.46	may	28	22.83945	22.82317	66.29580	6.47
jun	4	22.82823	22.81194	-51.21182	6.00	jun	4	22.83957	22.82327	66.29597	6.01
jun	11	22.82833	22.81201	-51.21155	5.54	jun	11	22.83968	22.82336	66.29623	5.55
jun	18	22.82842	22.81207	-51.21134	5.08	jun	18	22.83980	22.82346	66.29657	5.09
jun	25	22.82851	22.81214	-51.21120	4.62	jun	25	22.83990	22.82354	66.29695	4.63
jul	2	22.82858	22.81221	-51.21111	4.16	jul	2	22.84001	22.82363	66.29741	4.17
jul	9	22.82867	22.81227	-51.21110	3.70	jul	9	22.84010	22.82370	66.29792	3.71
jul	16	22.82875	22.81232	-51.21111	3.24	jul	16	22.84020	22.82377	66.29851	3.25
jul	23	22.82882	22.81238	-51.21124	2.78	jul	23	22.84027	22.82383	66.29908	2.79
jul	30	22.82888	22.81242	-51.21138	2.32	jul	30	22.84034	22.82389	66.29973	2.33
ago	6	22.82894	22.81247	-51.21162	1.86	ago	6	22.84039	22.82392	66.30039	1.87
ago	13	22.82899	22.81250	-51.21185	1.40	ago	13	22.84045	22.82395	66.30112	1.41
ago	20	22.82903	22.81253	-51.21220	0.94	ago	20	22.84047	22.82397	66.30177	0.95
ago	27	22.82906	22.81254	-51.21252	0.48	ago	27	22.84050	22.82398	66.30252	0.49
sep	3	22.82908	22.81256	-51.21294	0.02	sep	3	22.84050	22.82398	66.30320	0.03
sep	10	22.82910	22.81256	-51.21331	23.56	sep	10	22.84051	22.82397	66.30395	23.57
sep	17	22.82910	22.81255	-51.21380	23.10	sep	17	22.84049	22.82394	66.30458	23.11
sep	24	22.82909	22.81253	-51.21420	22.64	sep	24	22.84047	22.82391	66.30529	22.65
oct	1	22.82908	22.81251	-51.21468	22.18	oct	1	22.84043	22.82386	66.30589	22.19
oct	8	22.82906	22.81248	-51.21507	21.72	oct	8	22.84039	22.82380	66.30654	21.73
oct	15	22.82903	22.81244	-51.21554	21.26	oct	15	22.84033	22.82374	66.30704	21.27
oct	22	22.82900	22.81239	-51.21589	20.80	oct	22	22.84027	22.82366	66.30759	20.81
oct	29	22.82896	22.81234	-51.21629	20.34	oct	29	22.84020	22.82358	66.30801	20.35
nov	5	22.82892	22.81228	-51.21656	19.88	nov	5	22.84013	22.82349	66.30845	19.89
nov	12	22.82887	22.81222	-51.21688	19.42	nov	12	22.84004	22.82339	66.30872	19.43
nov	19	22.82883	22.81216	-51.21705	18.96	nov	19	22.83996	22.82328	66.30903	18.97
nov	26	22.82878	22.81209	-51.21725	18.50	nov	26	22.83986	22.82318	66.30917	18.51
dic	3	22.82874	22.81202	-51.21730	18.04	dic	3	22.83977	22.82306	66.30931	18.05
dic	10	22.82868	22.81196	-51.21739	17.58	dic	10	22.83968	22.82295	66.30928	17.59
dic	17	22.82865	22.81189	-51.21731	17.12	dic	17	22.83959	22.82283	66.30927	17.13
dic	24	22.82860	22.81183	-51.21725	16.66	dic	24	22.83950	22.82273	66.30910	16.67

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

112748						115102					
V			Sp			V			Sp		
3.51			M2III			4.41			K1III		
α		α _c	δ		Hp	α		α _c	δ		Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	22.84831	22.83234	24.70286	16.14	ene	1	23.33029	23.31432	-32.43302	16.62
ene	8	22.84830	22.83230	24.70262	15.68	ene	8	23.33027	23.31427	-32.43294	16.16
ene	15	22.84827	22.83226	24.70227	15.22	ene	15	23.33024	23.31423	-32.43290	15.70
ene	22	22.84826	22.83222	24.70200	14.76	ene	22	23.33023	23.31419	-32.43271	15.24
ene	29	22.84824	22.83219	24.70162	14.30	ene	29	23.33021	23.31416	-32.43258	14.78
feb	5	22.84824	22.83217	24.70130	13.84	feb	5	23.33020	23.31413	-32.43232	14.32
feb	12	22.84822	22.83215	24.70089	13.38	feb	12	23.33019	23.31411	-32.43212	13.86
feb	19	22.84823	22.83213	24.70060	12.92	feb	19	23.33019	23.31409	-32.43178	13.40
feb	26	22.84823	22.83212	24.70023	12.46	feb	26	23.33019	23.31408	-32.43149	12.94
mar	5	22.84824	22.83212	24.69995	12.00	mar	5	23.33020	23.31408	-32.43110	12.48
mar	12	22.84825	22.83212	24.69961	11.54	mar	12	23.33020	23.31408	-32.43077	12.02
mar	19	22.84828	22.83213	24.69942	11.08	mar	19	23.33023	23.31408	-32.43030	11.56
mar	26	22.84830	22.83215	24.69918	10.62	mar	26	23.33025	23.31409	-32.42990	11.10
abr	2	22.84833	22.83217	24.69904	10.16	abr	2	23.33028	23.31411	-32.42943	10.64
abr	9	22.84837	22.83220	24.69890	9.70	abr	9	23.33030	23.31414	-32.42900	10.18
abr	16	22.84841	22.83222	24.69889	9.24	abr	16	23.33035	23.31416	-32.42848	9.72
abr	23	22.84846	22.83226	24.69888	8.78	abr	23	23.33039	23.31419	-32.42802	9.26
abr	30	22.84851	22.83230	24.69895	8.32	abr	30	23.33045	23.31423	-32.42753	8.80
may	7	22.84856	22.83234	24.69904	7.86	may	7	23.33049	23.31427	-32.42708	8.34
may	14	22.84862	22.83238	24.69925	7.40	may	14	23.33056	23.31431	-32.42658	7.88
may	21	22.84868	22.83242	24.69948	6.94	may	21	23.33062	23.31436	-32.42614	7.42
may	28	22.84875	22.83247	24.69975	6.48	may	28	23.33069	23.31440	-32.42571	6.96
jun	4	22.84881	22.83251	24.70007	6.02	jun	4	23.33075	23.31445	-32.42532	6.50
jun	11	22.84888	22.83255	24.70045	5.56	jun	11	23.33082	23.31450	-32.42493	6.04
jun	18	22.84894	22.83260	24.70087	5.10	jun	18	23.33089	23.31455	-32.42459	5.58
jun	25	22.84900	22.83264	24.70129	4.64	jun	25	23.33096	23.31460	-32.42431	5.12
jul	2	22.84906	22.83268	24.70176	4.18	jul	2	23.33103	23.31465	-32.42406	4.66
jul	9	22.84911	22.83271	24.70224	3.72	jul	9	23.33110	23.31470	-32.42385	4.21
jul	16	22.84917	22.83275	24.70276	3.26	jul	16	23.33116	23.31474	-32.42368	3.75
jul	23	22.84921	22.83277	24.70323	2.80	jul	23	23.33122	23.31478	-32.42360	3.29
jul	30	22.84926	22.83280	24.70375	2.34	jul	30	23.33127	23.31482	-32.42354	2.83
ago	6	22.84929	22.83282	24.70423	1.88	ago	6	23.33132	23.31485	-32.42355	2.37
ago	13	22.84933	22.83284	24.70476	1.42	ago	13	23.33137	23.31488	-32.42358	1.91
ago	20	22.84935	22.83285	24.70519	0.96	ago	20	23.33140	23.31490	-32.42372	1.45
ago	27	22.84937	22.83286	24.70568	0.50	ago	27	23.33144	23.31492	-32.42384	0.99
sep	3	22.84938	22.83286	24.70608	0.04	sep	3	23.33146	23.31494	-32.42405	0.53
sep	10	22.84940	22.83286	24.70654	23.58	sep	10	23.33148	23.31494	-32.42424	0.07
sep	17	22.84939	22.83285	24.70686	23.12	sep	17	23.33149	23.31494	-32.42455	23.61
sep	24	22.84940	22.83283	24.70725	22.66	sep	24	23.33150	23.31494	-32.42480	23.15
oct	1	22.84938	22.83281	24.70752	22.20	oct	1	23.33149	23.31492	-32.42514	22.69
oct	8	22.84938	22.83279	24.70785	21.74	oct	8	23.33149	23.31491	-32.42541	22.23
oct	15	22.84935	22.83276	24.70802	21.28	oct	15	23.33147	23.31488	-32.42578	21.77
oct	22	22.84934	22.83273	24.70827	20.82	oct	22	23.33146	23.31485	-32.42606	21.31
oct	29	22.84931	22.83269	24.70838	20.36	oct	29	23.33144	23.31482	-32.42641	20.85
nov	5	22.84929	22.83265	24.70854	19.90	nov	5	23.33142	23.31478	-32.42666	20.39
nov	12	22.84926	22.83261	24.70854	19.44	nov	12	23.33139	23.31474	-32.42699	19.93
nov	19	22.84924	22.83256	24.70862	18.98	nov	19	23.33137	23.31469	-32.42718	19.47
nov	26	22.84920	22.83252	24.70855	18.52	nov	26	23.33133	23.31464	-32.42744	19.01
dic	3	22.84918	22.83247	24.70852	18.06	dic	3	23.33131	23.31459	-32.42757	18.55
dic	10	22.84915	22.83242	24.70836	17.60	dic	10	23.33127	23.31454	-32.42775	18.09
dic	17	22.84913	22.83237	24.70825	17.14	dic	17	23.33125	23.31449	-32.42780	17.63
dic	24	22.84909	22.83232	24.70802	16.68	dic	24	23.33122	23.31444	-32.42788	17.17

Posiciones aparentes de estrellas brillantes, 2019
(a las 0^h del meridiano 90° W.G.)

115623						115738					
V			Sp			V			Sp		
4.42			F8IV			4.95			A0p		
α		α _c	δ		Hp	α		α _c	δ		Hp
m	d	h	h	°	h	m	d	h	h	°	h
ene	1	23.43850	23.42253	23.50924	16.73	ene	1	23.46474	23.44877	1.35806	16.76
ene	8	23.43849	23.42249	23.50906	16.27	ene	8	23.46473	23.44873	1.35794	16.30
ene	15	23.43845	23.42244	23.50875	15.81	ene	15	23.46470	23.44869	1.35774	15.84
ene	22	23.43844	23.42241	23.50853	15.35	ene	22	23.46470	23.44866	1.35766	15.38
ene	29	23.43842	23.42237	23.50819	14.89	ene	29	23.46468	23.44863	1.35748	14.92
feb	5	23.43841	23.42234	23.50792	14.43	feb	5	23.46467	23.44860	1.35740	14.46
feb	12	23.43839	23.42231	23.50755	13.97	feb	12	23.46466	23.44858	1.35724	14.00
feb	19	23.43839	23.42229	23.50730	13.51	feb	19	23.46466	23.44856	1.35721	13.54
feb	26	23.43838	23.42228	23.50696	13.05	feb	26	23.46465	23.44855	1.35710	13.08
mar	5	23.43839	23.42226	23.50670	12.59	mar	5	23.46466	23.44854	1.35710	12.62
mar	12	23.43839	23.42226	23.50638	12.13	mar	12	23.46466	23.44854	1.35705	12.16
mar	19	23.43841	23.42226	23.50620	11.67	mar	19	23.46468	23.44854	1.35711	11.70
mar	26	23.43842	23.42227	23.50597	11.21	mar	26	23.46469	23.44854	1.35713	11.24
abr	2	23.43845	23.42228	23.50584	10.75	abr	2	23.46472	23.44856	1.35725	10.78
abr	9	23.43847	23.42230	23.50568	10.29	abr	9	23.46474	23.44857	1.35733	10.32
abr	16	23.43852	23.42233	23.50567	9.83	abr	16	23.46479	23.44860	1.35754	9.86
abr	23	23.43855	23.42236	23.50563	9.37	abr	23	23.46482	23.44862	1.35772	9.40
abr	30	23.43860	23.42239	23.50569	8.91	abr	30	23.46487	23.44865	1.35798	8.94
may	7	23.43865	23.42243	23.50576	8.45	may	7	23.46491	23.44868	1.35822	8.48
may	14	23.43871	23.42246	23.50594	7.99	may	14	23.46497	23.44872	1.35856	8.02
may	21	23.43877	23.42251	23.50614	7.53	may	21	23.46502	23.44876	1.35888	7.56
may	28	23.43883	23.42255	23.50639	7.07	may	28	23.46508	23.44879	1.35923	7.10
jun	4	23.43889	23.42259	23.50667	6.61	jun	4	23.46513	23.44883	1.35959	6.64
jun	11	23.43895	23.42263	23.50703	6.15	jun	11	23.46520	23.44888	1.35999	6.18
jun	18	23.43902	23.42268	23.50741	5.69	jun	18	23.46526	23.44892	1.36038	5.72
jun	25	23.43908	23.42272	23.50780	5.23	jun	25	23.46532	23.44896	1.36077	5.26
jul	2	23.43914	23.42276	23.50823	4.77	jul	2	23.46538	23.44900	1.36116	4.80
jul	9	23.43920	23.42280	23.50869	4.31	jul	9	23.46544	23.44903	1.36155	4.34
jul	16	23.43926	23.42284	23.50918	3.85	jul	16	23.46549	23.44907	1.36194	3.88
jul	23	23.43931	23.42287	23.50963	3.39	jul	23	23.46554	23.44910	1.36228	3.42
jul	30	23.43936	23.42290	23.51013	2.93	jul	30	23.46559	23.44913	1.36262	2.96
ago	6	23.43940	23.42293	23.51060	2.47	ago	6	23.46563	23.44916	1.36293	2.50
ago	13	23.43945	23.42295	23.51110	2.01	ago	13	23.46567	23.44918	1.36324	2.04
ago	20	23.43947	23.42297	23.51152	1.55	ago	20	23.46570	23.44920	1.36346	1.58
ago	27	23.43950	23.42299	23.51199	1.09	ago	27	23.46573	23.44922	1.36371	1.12
sep	3	23.43952	23.42300	23.51240	0.63	sep	3	23.46575	23.44923	1.36388	0.66
sep	10	23.43954	23.42300	23.51284	0.17	sep	10	23.46578	23.44923	1.36408	0.20
sep	17	23.43955	23.42300	23.51317	23.71	sep	17	23.46578	23.44923	1.36415	23.74
sep	24	23.43956	23.42299	23.51355	23.25	sep	24	23.46579	23.44923	1.36429	23.28
oct	1	23.43955	23.42298	23.51384	22.79	oct	1	23.46579	23.44922	1.36432	22.82
oct	8	23.43955	23.42297	23.51417	22.33	oct	8	23.46579	23.44920	1.36440	22.36
oct	15	23.43954	23.42295	23.51435	21.87	oct	15	23.46578	23.44919	1.36435	21.90
oct	22	23.43953	23.42292	23.51461	21.41	oct	22	23.46577	23.44916	1.36438	21.44
oct	29	23.43951	23.42289	23.51474	20.95	oct	29	23.46575	23.44913	1.36429	20.98
nov	5	23.43950	23.42286	23.51492	20.49	nov	5	23.46574	23.44910	1.36428	20.52
nov	12	23.43947	23.42282	23.51496	20.03	nov	12	23.46572	23.44907	1.36414	20.06
nov	19	23.43945	23.42278	23.51506	19.57	nov	19	23.46570	23.44903	1.36410	19.60
nov	26	23.43942	23.42273	23.51503	19.11	nov	26	23.46568	23.44899	1.36395	19.14
dic	3	23.43940	23.42269	23.51504	18.65	dic	3	23.46566	23.44895	1.36387	18.68
dic	10	23.43937	23.42264	23.51492	18.19	dic	10	23.46563	23.44891	1.36368	18.22
dic	17	23.43935	23.42259	23.51486	17.73	dic	17	23.46562	23.44886	1.36360	17.76
dic	24	23.43932	23.42254	23.51468	17.27	dic	24	23.46559	23.44882	1.36342	17.30

Posiciones aparentes de la estrella Polar, 2019

(a las 0^h del meridiano 90° W.G.)

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(V = 1.97 Sp = F7:Ib-IIv)

		α		α_c	δ	Hp			α		α_c	δ	Hp
m	d	h	h	h	°	h	m	d	h	h	h	°	h
ene	1	2.94585	2.92988	89.34668	20.24		feb	23	2.91929	2.90319	89.34790	16.73	
ene	2	2.94550	2.92952	89.34674	20.17		feb	24	2.91880	2.90269	89.34786	16.66	
ene	3	2.94515	2.92917	89.34681	20.11		feb	25	2.91833	2.90222	89.34782	16.60	
ene	4	2.94480	2.92881	89.34687	20.04		feb	26	2.91789	2.90178	89.34779	16.53	
ene	5	2.94442	2.92844	89.34694	19.97		feb	27	2.91745	2.90133	89.34776	16.47	
ene	6	2.94402	2.92803	89.34700	19.91		feb	28	2.91700	2.90089	89.34773	16.40	
ene	7	2.94359	2.92760	89.34707	19.84		mar	1	2.91654	2.90043	89.34770	16.33	
ene	8	2.94313	2.92713	89.34714	19.78		mar	2	2.91607	2.89995	89.34767	16.27	
ene	9	2.94265	2.92664	89.34720	19.71		mar	3	2.91557	2.89945	89.34764	16.20	
ene	10	2.94214	2.92613	89.34726	19.64		mar	4	2.91506	2.89894	89.34761	16.13	
ene	11	2.94162	2.92561	89.34731	19.58		mar	5	2.91453	2.89841	89.34758	16.07	
ene	12	2.94110	2.92509	89.34735	19.51		mar	6	2.91400	2.89788	89.34753	16.00	
ene	13	2.94058	2.92458	89.34740	19.45		mar	7	2.91348	2.89735	89.34749	15.94	
ene	14	2.94009	2.92408	89.34743	19.38		mar	8	2.91297	2.89684	89.34744	15.87	
ene	15	2.93962	2.92361	89.34747	19.31		mar	9	2.91248	2.89635	89.34738	15.80	
ene	16	2.93917	2.92316	89.34750	19.25		mar	10	2.91202	2.89590	89.34732	15.74	
ene	17	2.93875	2.92273	89.34754	19.18		mar	11	2.91160	2.89547	89.34726	15.67	
ene	18	2.93834	2.92231	89.34758	19.11		mar	12	2.91121	2.89508	89.34720	15.60	
ene	19	2.93792	2.92189	89.34762	19.05		mar	13	2.91085	2.89472	89.34714	15.54	
ene	20	2.93748	2.92145	89.34767	18.98		mar	14	2.91050	2.89437	89.34709	15.47	
ene	21	2.93700	2.92097	89.34772	18.92		mar	15	2.91015	2.89402	89.34704	15.41	
ene	22	2.93647	2.92043	89.34777	18.85		mar	16	2.90980	2.89366	89.34699	15.34	
ene	23	2.93591	2.91986	89.34781	18.78		mar	17	2.90941	2.89327	89.34695	15.27	
ene	24	2.93532	2.91928	89.34785	18.72		mar	18	2.90899	2.89285	89.34690	15.21	
ene	25	2.93474	2.91869	89.34788	18.65		mar	19	2.90855	2.89240	89.34685	15.14	
ene	26	2.93418	2.91813	89.34789	18.58		mar	20	2.90810	2.89195	89.34679	15.08	
ene	27	2.93365	2.91760	89.34791	18.52		mar	21	2.90766	2.89152	89.34673	15.01	
ene	28	2.93314	2.91710	89.34792	18.45		mar	22	2.90727	2.89112	89.34665	14.94	
ene	29	2.93266	2.91661	89.34794	18.39		mar	23	2.90692	2.89077	89.34658	14.88	
ene	30	2.93219	2.91614	89.34795	18.32		mar	24	2.90661	2.89046	89.34650	14.81	
ene	31	2.93172	2.91566	89.34797	18.25		mar	25	2.90633	2.89018	89.34643	14.75	
feb	1	2.93123	2.91517	89.34799	18.19		mar	26	2.90607	2.88992	89.34636	14.68	
feb	2	2.93073	2.91466	89.34801	18.12		mar	27	2.90581	2.88965	89.34629	14.61	
feb	3	2.93020	2.91413	89.34803	18.05		mar	28	2.90554	2.88938	89.34623	14.55	
feb	4	2.92964	2.91357	89.34805	17.99		mar	29	2.90526	2.88910	89.34616	14.48	
feb	5	2.92907	2.91299	89.34806	17.92		mar	30	2.90496	2.88880	89.34610	14.42	
feb	6	2.92847	2.91240	89.34807	17.86		mar	31	2.90464	2.88848	89.34603	14.35	
feb	7	2.92787	2.91179	89.34808	17.79		abr	1	2.90432	2.88815	89.34596	14.28	
feb	8	2.92727	2.91119	89.34808	17.72		abr	2	2.90399	2.88782	89.34589	14.22	
feb	9	2.92668	2.91060	89.34807	17.66		abr	3	2.90367	2.88750	89.34581	14.15	
feb	10	2.92611	2.91003	89.34806	17.59		abr	4	2.90336	2.88719	89.34573	14.09	
feb	11	2.92556	2.90949	89.34805	17.52		abr	5	2.90308	2.88691	89.34565	14.02	
feb	12	2.92505	2.90897	89.34803	17.46		abr	6	2.90283	2.88666	89.34556	13.95	
feb	13	2.92456	2.90848	89.34802	17.39		abr	7	2.90262	2.88645	89.34547	13.89	
feb	14	2.92410	2.90802	89.34801	17.33		abr	8	2.90244	2.88628	89.34538	13.82	
feb	15	2.92364	2.90755	89.34800	17.26		abr	9	2.90230	2.88613	89.34529	13.76	
feb	16	2.92318	2.90708	89.34800	17.19		abr	10	2.90218	2.88601	89.34521	13.69	
feb	17	2.92268	2.90659	89.34800	17.13		abr	11	2.90207	2.88589	89.34513	13.62	
feb	18	2.92215	2.90606	89.34800	17.06		abr	12	2.90194	2.88576	89.34506	13.56	
feb	19	2.92159	2.90548	89.34799	16.99		abr	13	2.90180	2.88562	89.34499	13.49	
feb	20	2.92099	2.90489	89.34798	16.93		abr	14	2.90163	2.88544	89.34492	13.43	
feb	21	2.92040	2.90430	89.34796	16.86		abr	15	2.90144	2.88525	89.34485	13.36	
feb	22	2.91983	2.90373	89.34793	16.80		abr	16	2.90123	2.88505	89.34477	13.29	

Posiciones aparentes de la estrella Polar, 2019
(a las 0^h del meridiano 90° W.G.)

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(V = 1.97 Sp = F7:Ib-IIv)

		α	α_c	δ	Hp			α	α_c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
abr	17	2.90104	2.88485	89.34469	13.23	jun	9	2.90822	2.89190	89.34059	9.75
abr	18	2.90088	2.88469	89.34460	13.16	jun	10	2.90851	2.89219	89.34053	9.69
abr	19	2.90076	2.88457	89.34450	13.10	jun	11	2.90882	2.89250	89.34047	9.62
abr	20	2.90069	2.88450	89.34441	13.03	jun	12	2.90915	2.89283	89.34041	9.56
abr	21	2.90065	2.88446	89.34432	12.97	jun	13	2.90953	2.89321	89.34034	9.49
abr	22	2.90065	2.88445	89.34423	12.90	jun	14	2.90995	2.89362	89.34028	9.43
abr	23	2.90065	2.88445	89.34414	12.83	jun	15	2.91039	2.89406	89.34022	9.36
abr	24	2.90065	2.88445	89.34406	12.77	jun	16	2.91086	2.89453	89.34016	9.30
abr	25	2.90064	2.88443	89.34399	12.70	jun	17	2.91133	2.89499	89.34011	9.23
abr	26	2.90060	2.88440	89.34391	12.64	jun	18	2.91179	2.89545	89.34007	9.17
abr	27	2.90056	2.88435	89.34384	12.57	jun	19	2.91223	2.89589	89.34003	9.10
abr	28	2.90050	2.88429	89.34376	12.51	jun	20	2.91265	2.89630	89.33999	9.04
abr	29	2.90043	2.88422	89.34368	12.44	jun	21	2.91305	2.89670	89.33996	8.97
abr	30	2.90037	2.88416	89.34359	12.37	jun	22	2.91344	2.89708	89.33992	8.90
may	1	2.90033	2.88411	89.34350	12.31	jun	23	2.91381	2.89745	89.33988	8.84
may	2	2.90030	2.88409	89.34341	12.24	jun	24	2.91419	2.89783	89.33984	8.77
may	3	2.90031	2.88409	89.34331	12.18	jun	25	2.91458	2.89822	89.33979	8.71
may	4	2.90036	2.88414	89.34322	12.11	jun	26	2.91499	2.89863	89.33974	8.64
may	5	2.90044	2.88422	89.34312	12.05	jun	27	2.91543	2.89907	89.33969	8.58
may	6	2.90056	2.88434	89.34303	11.98	jun	28	2.91591	2.89954	89.33964	8.51
may	7	2.90071	2.88449	89.34295	11.91	jun	29	2.91642	2.90005	89.33960	8.45
may	8	2.90087	2.88464	89.34287	11.85	jun	30	2.91696	2.90058	89.33956	8.38
may	9	2.90102	2.88478	89.34279	11.78	jul	1	2.91751	2.90113	89.33953	8.32
may	10	2.90115	2.88491	89.34272	11.72	jul	2	2.91807	2.90169	89.33950	8.25
may	11	2.90125	2.88501	89.34265	11.65	jul	3	2.91861	2.90222	89.33948	8.19
may	12	2.90133	2.88508	89.34258	11.59	jul	4	2.91912	2.90272	89.33947	8.12
may	13	2.90139	2.88515	89.34251	11.52	jul	5	2.91959	2.90319	89.33946	8.06
may	14	2.90146	2.88522	89.34243	11.46	jul	6	2.92003	2.90363	89.33944	7.99
may	15	2.90155	2.88531	89.34234	11.39	jul	7	2.92046	2.90406	89.33942	7.93
may	16	2.90168	2.88544	89.34225	11.32	jul	8	2.92090	2.90450	89.33940	7.86
may	17	2.90186	2.88561	89.34216	11.26	jul	9	2.92137	2.90496	89.33937	7.80
may	18	2.90208	2.88582	89.34208	11.19	jul	10	2.92187	2.90546	89.33934	7.73
may	19	2.90232	2.88607	89.34199	11.13	jul	11	2.92240	2.90600	89.33931	7.66
may	20	2.90259	2.88633	89.34191	11.06	jul	12	2.92297	2.90656	89.33928	7.60
may	21	2.90285	2.88659	89.34184	11.00	jul	13	2.92356	2.90714	89.33926	7.53
may	22	2.90311	2.88684	89.34177	10.93	jul	14	2.92415	2.90773	89.33925	7.47
may	23	2.90334	2.88707	89.34171	10.87	jul	15	2.92473	2.90831	89.33924	7.40
may	24	2.90356	2.88728	89.34164	10.80	jul	16	2.92529	2.90886	89.33924	7.34
may	25	2.90376	2.88748	89.34158	10.73	jul	17	2.92582	2.90940	89.33924	7.27
may	26	2.90395	2.88767	89.34151	10.67	jul	18	2.92634	2.90991	89.33924	7.21
may	27	2.90414	2.88786	89.34144	10.60	jul	19	2.92683	2.91040	89.33924	7.14
may	28	2.90434	2.88805	89.34136	10.54	jul	20	2.92731	2.91088	89.33923	7.08
may	29	2.90455	2.88827	89.34129	10.47	jul	21	2.92779	2.91135	89.33923	7.01
may	30	2.90479	2.88851	89.34121	10.41	jul	22	2.92827	2.91183	89.33922	6.95
may	31	2.90507	2.88879	89.34113	10.34	jul	23	2.92876	2.91232	89.33921	6.88
jun	1	2.90539	2.88910	89.34105	10.28	jul	24	2.92928	2.91284	89.33920	6.82
jun	2	2.90574	2.88945	89.34097	10.21	jul	25	2.92983	2.91339	89.33919	6.75
jun	3	2.90612	2.88983	89.34090	10.15	jul	26	2.93040	2.91396	89.33918	6.69
jun	4	2.90652	2.89022	89.34084	10.08	jul	27	2.93101	2.91456	89.33918	6.62
jun	5	2.90691	2.89060	89.34079	10.02	jul	28	2.93163	2.91518	89.33918	6.56
jun	6	2.90728	2.89097	89.34074	9.95	jul	29	2.93226	2.91580	89.33919	6.49
jun	7	2.90762	2.89131	89.34069	9.88	jul	30	2.93288	2.91642	89.33921	6.43
jun	8	2.90793	2.89161	89.34064	9.82	jul	31	2.93346	2.91700	89.33923	6.36

Posiciones aparentes de la estrella Polar, 2019

(a las 0^h del meridiano 90° W.G.)

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(V = 1.97 Sp = F7:Ib-IIv)

		α	α_c	δ	Hp			α	α_c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
ago	1	2.93401	2.91755	89.33926	6.30	sep	23	2.96138	2.94482	89.34173	2.84
ago	2	2.93452	2.91805	89.33929	6.23	sep	24	2.96183	2.94526	89.34182	2.78
ago	3	2.93501	2.91854	89.33931	6.17	sep	25	2.96223	2.94567	89.34192	2.71
ago	4	2.93549	2.91902	89.33932	6.10	sep	26	2.96260	2.94603	89.34201	2.65
ago	5	2.93600	2.91952	89.33933	6.04	sep	27	2.96293	2.94636	89.34210	2.58
ago	6	2.93653	2.92006	89.33934	5.97	sep	28	2.96326	2.94669	89.34218	2.51
ago	7	2.93710	2.92063	89.33935	5.91	sep	29	2.96361	2.94704	89.34225	2.45
ago	8	2.93770	2.92123	89.33936	5.84	sep	30	2.96399	2.94742	89.34233	2.38
ago	9	2.93832	2.92184	89.33938	5.78	oct	1	2.96440	2.94783	89.34240	2.32
ago	10	2.93894	2.92246	89.33940	5.71	oct	2	2.96484	2.94827	89.34248	2.25
ago	11	2.93955	2.92307	89.33943	5.65	oct	3	2.96529	2.94872	89.34256	2.19
ago	12	2.94014	2.92365	89.33947	5.58	oct	4	2.96573	2.94915	89.34265	2.12
ago	13	2.94071	2.92422	89.33950	5.51	oct	5	2.96614	2.94956	89.34274	2.06
ago	14	2.94125	2.92475	89.33954	5.45	oct	6	2.96652	2.94994	89.34284	1.99
ago	15	2.94176	2.92526	89.33958	5.38	oct	7	2.96687	2.95028	89.34294	1.93
ago	16	2.94225	2.92576	89.33962	5.32	oct	8	2.96718	2.95059	89.34304	1.86
ago	17	2.94274	2.92624	89.33965	5.25	oct	9	2.96747	2.95088	89.34314	1.80
ago	18	2.94322	2.92672	89.33968	5.19	oct	10	2.96773	2.95114	89.34323	1.73
ago	19	2.94372	2.92722	89.33971	5.12	oct	11	2.96798	2.95139	89.34332	1.67
ago	20	2.94423	2.92773	89.33974	5.06	oct	12	2.96824	2.95165	89.34341	1.60
ago	21	2.94476	2.92826	89.33977	4.99	oct	13	2.96850	2.95191	89.34350	1.53
ago	22	2.94532	2.92882	89.33980	4.93	oct	14	2.96877	2.95218	89.34358	1.47
ago	23	2.94590	2.92940	89.33983	4.86	oct	15	2.96907	2.95248	89.34366	1.40
ago	24	2.94650	2.92999	89.33987	4.80	oct	16	2.96939	2.95280	89.34375	1.34
ago	25	2.94711	2.93060	89.33991	4.73	oct	17	2.96972	2.95312	89.34384	1.27
ago	26	2.94771	2.93120	89.33996	4.67	oct	18	2.97006	2.95346	89.34393	1.21
ago	27	2.94829	2.93177	89.34002	4.60	oct	19	2.97039	2.95379	89.34403	1.14
ago	28	2.94883	2.93231	89.34008	4.54	oct	20	2.97070	2.95409	89.34413	1.08
ago	29	2.94933	2.93281	89.34015	4.47	oct	21	2.97098	2.95437	89.34424	1.01
ago	30	2.94979	2.93327	89.34021	4.41	oct	22	2.97121	2.95460	89.34436	0.95
ago	31	2.95024	2.93371	89.34026	4.34	oct	23	2.97141	2.95480	89.34447	0.88
sep	1	2.95069	2.93416	89.34031	4.28	oct	24	2.97157	2.95495	89.34458	0.81
sep	2	2.95117	2.93465	89.34036	4.21	oct	25	2.97171	2.95510	89.34468	0.75
sep	3	2.95169	2.93516	89.34040	4.15	oct	26	2.97186	2.95524	89.34477	0.68
sep	4	2.95224	2.93571	89.34045	4.08	oct	27	2.97203	2.95541	89.34486	0.62
sep	5	2.95281	2.93628	89.34050	4.02	oct	28	2.97223	2.95561	89.34495	0.55
sep	6	2.95338	2.93685	89.34056	3.95	oct	29	2.97246	2.95585	89.34505	0.49
sep	7	2.95394	2.93740	89.34062	3.89	oct	30	2.97271	2.95609	89.34514	0.42
sep	8	2.95448	2.93794	89.34069	3.82	oct	31	2.97296	2.95633	89.34525	0.36
sep	9	2.95499	2.93845	89.34076	3.75	nov	1	2.97318	2.95655	89.34535	0.29
sep	10	2.95547	2.93892	89.34084	3.69	nov	2	2.97337	2.95674	89.34547	0.23
sep	11	2.95592	2.93937	89.34091	3.62	nov	3	2.97352	2.95689	89.34558	0.16
sep	12	2.95634	2.93980	89.34098	3.56	nov	4	2.97364	2.95700	89.34569	0.09
sep	13	2.95676	2.94021	89.34105	3.49	nov	5	2.97372	2.95708	89.34580	0.03
sep	14	2.95716	2.94061	89.34111	3.43	nov	6	2.97377	2.95713	89.34591	23.96
sep	15	2.95757	2.94102	89.34118	3.36	nov	7	2.97381	2.95717	89.34601	23.90
sep	16	2.95799	2.94145	89.34124	3.30	nov	8	2.97384	2.95720	89.34611	23.83
sep	17	2.95844	2.94189	89.34130	3.23	nov	9	2.97388	2.95723	89.34621	23.77
sep	18	2.95890	2.94235	89.34136	3.17	nov	10	2.97393	2.95728	89.34630	23.70
sep	19	2.95939	2.94284	89.34142	3.10	nov	11	2.97399	2.95735	89.34639	23.63
sep	20	2.95989	2.94334	89.34149	3.04	nov	12	2.97408	2.95743	89.34649	23.57
sep	21	2.96039	2.94384	89.34156	2.97	nov	13	2.97418	2.95753	89.34658	23.50
sep	22	2.96090	2.94434	89.34164	2.91	nov	14	2.97429	2.95763	89.34668	23.44

Posiciones aparentes de la estrella Polar, 2019
(a las 0^h del meridiano 90° W.G.)

11767

(V = 1.97 Sp = F7:Ib-IIv)

		α	α_c	δ	Hp			α	α_c	δ	Hp
m	d	h	h	°	h	m	d	h	h	°	h
nov	15	2.97439	2.95774	89.34679	23.37	dic	8	2.97237	2.95565	89.34912	21.86
nov	16	2.97448	2.95782	89.34690	23.31	dic	9	2.97219	2.95547	89.34920	21.79
nov	17	2.97453	2.95787	89.34701	23.24	dic	10	2.97203	2.95531	89.34928	21.73
nov	18	2.97454	2.95787	89.34713	23.17	dic	11	2.97189	2.95516	89.34937	21.66
nov	19	2.97451	2.95783	89.34724	23.11	dic	12	2.97174	2.95501	89.34946	21.60
nov	20	2.97444	2.95776	89.34735	23.04	dic	13	2.97158	2.95484	89.34955	21.53
nov	21	2.97434	2.95766	89.34746	22.98	dic	14	2.97139	2.95465	89.34965	21.46
nov	22	2.97424	2.95756	89.34756	22.91	dic	15	2.97116	2.95441	89.34975	21.40
nov	23	2.97416	2.95747	89.34765	22.85	dic	16	2.97088	2.95413	89.34986	21.33
nov	24	2.97410	2.95742	89.34774	22.78	dic	17	2.97056	2.95381	89.34995	21.27
nov	25	2.97407	2.95739	89.34783	22.71	dic	18	2.97022	2.95346	89.35004	21.20
nov	26	2.97407	2.95738	89.34793	22.65	dic	19	2.96986	2.95310	89.35013	21.13
nov	27	2.97407	2.95738	89.34803	22.58	dic	20	2.96952	2.95276	89.35020	21.07
nov	28	2.97405	2.95736	89.34813	22.52	dic	21	2.96920	2.95244	89.35027	21.00
nov	29	2.97401	2.95731	89.34824	22.45	dic	22	2.96891	2.95215	89.35034	20.94
nov	30	2.97392	2.95722	89.34835	22.39	dic	23	2.96865	2.95188	89.35041	20.87
dic	1	2.97380	2.95709	89.34846	22.32	dic	24	2.96840	2.95162	89.35049	20.80
dic	2	2.97364	2.95692	89.34856	22.25	dic	25	2.96814	2.95136	89.35057	20.74
dic	3	2.97344	2.95673	89.34867	22.19	dic	26	2.96786	2.95108	89.35065	20.67
dic	4	2.97323	2.95651	89.34877	22.12	dic	27	2.96755	2.95076	89.35074	20.61
dic	5	2.97301	2.95629	89.34886	22.06	dic	28	2.96720	2.95040	89.35082	20.54
dic	6	2.97278	2.95606	89.34895	21.99	dic	29	2.96680	2.95001	89.35090	20.47
dic	7	2.97257	2.95585	89.34903	21.92	dic	30	2.96638	2.94958	89.35098	20.41

Constelaciones, 2019

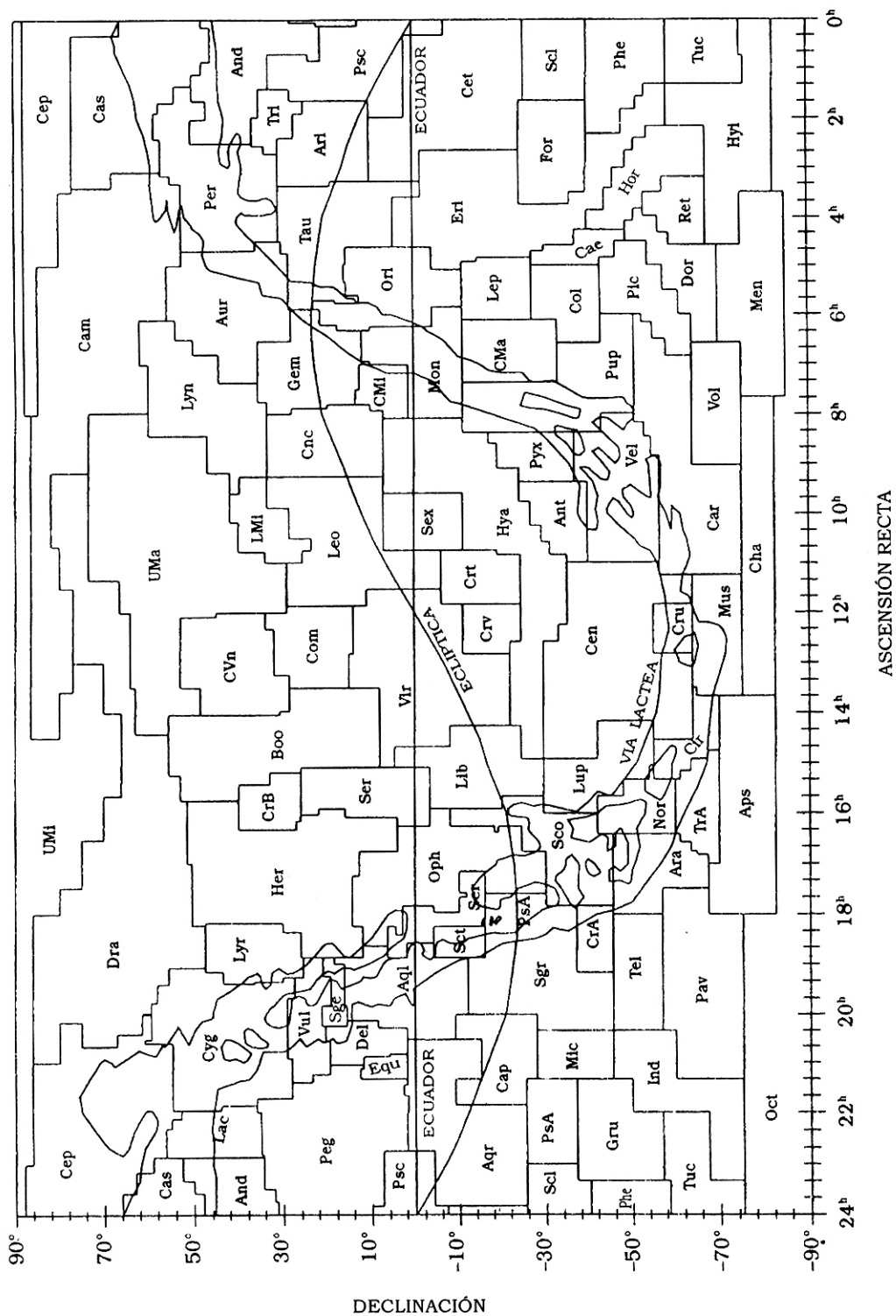
Nombres y significados

Nominativo	Genitivo	Abreviatura	Significado
Andromeda	Andromedae	And	Andrómeda, hija de Casiopea y Cefeo
Antlia	Antliae	Ant	Máquina neumática
Apus	Apodis	Aps	Ave del paraíso
Aquarius	Aquarii	Aqr	Aguador
Aquila	Aquilae	Aql	Aguila
Ara	Arae	Ara	Altar
Aries	Arietis	Ari	Carnero
Auriga	Aurigae	Aur	Cochero
Bootes	Bootis	Boo	Boyero o pastor
Caelum	Caeli	Cae	Buril
Camelopardalis	Camaleopardalis	Cam	Jirafa
Cancer	Cancri	Cnc	Cangrejo
Canes Venatici	Canum Venaticorum	CVn	Lebreses o perros de caza
Canis Major	Canis Majoris	CMa	Can mayor
Canis Minor	Canis Minoris	CMi	Can menor
Capricornus	Capricorni	Cap	Cabra marina
Carina	Carinae	Car	Carena o quilla
Cassiopeia	Cassiopeiae	Cas	Casiopea, reina
Centaurus	Centauri	Cen	Centauro
Cepheus	Cephei	Cep	Cefeo, rey
Cetus	Ceti	Cet	Cetáceo o ballena
Chamaleon	Chamaleontis	Cha	Camaleón
Circinus	Circini	Cir	Compás
Columba	Columbae	Col	Paloma
Coma Berenices	Comae Berenices	Com	Cabellera de Berenice
Corona Australis	Coronae Australis	CrA	Corona austral
Corona Borealis	Coronae Borealis	CrB	Corona boreal
Corvus	Corvi	Crv	Cuervo
Crater	Crateris	Crt	Copa
CruX	Crucis	Cru	Cruz del sur
Cygnus	Cygni	Cyg	Cisne
Delphinus	Delphini	Del	Delfín
Dorado	Doradus	Dor	Pez dorado
Draco	Draconis	Dra	Dragón
Equuleus	Equulei	Equ	Caballo menor
Eridanus	Eridani	Eri	Río
Fornax	Fornacis	For	Horno
Gemini	Gemini	Gem	Gemelos
Grus	Gruis	Gru	Grulla
Hercules	Herculis	Her	Hércules
Horologium	Horologii	Hor	Reloj
Hydra	Hydrae	Hya	Serpiente marina hembra
Hydrus	Hydri	Hyi	Serpiente marina macho
Indus	Indi	Ind	Indio
Lacerta	Lacertae	Lac	Lagartija
Leo	Leonis	Leo	León
Leo Minor	Leonis Minoris	LMi	León menor
Lepus	Leporis	Lep	Liebre
Libra	Librae	Lib	Balanza
Lupus	Lupi	Lup	Lobo
Lynx	Lyncis	Lyn	Lince

Constelaciones, 2019

Nominativo	Genitivo	Abreviatura	Significado
Lyra	Lyrae	Lyr	Lira
Mensa	Mensae	Men	Mesa o altiplano
Microscopium	Microscopii	Mic	Microscopio
Monoceros	Monocerotis	Mon	Unicornio
Musca	Muscae	Mus	Mosca
Norma	Normae	Nor	Escuadra o regla
Octantis	Octantis	Oct	Octante
Ophiuchus	Ophiuchi	Oph	Serpentero, Ofiuco
Orionis	Orionis	Ori	Cazador
Pavo	Pavonis	Pav	Pavo real, pavón
Pegasus	Pegasi	Peg	Pegaso
Perseus	Persei	Per	Salvador de Andrómeda
Phoenix	Phoenicis	Phe	Fénix
Pictor	Pictoris	Pic	Caballate de pintor
Pisces	Piscium	Psc	Peces
Piscis Austrinus	Piscis Austrini	PsA	Pez austral
Puppis	Puppis	Pup	Popa
Pyxis	Pyxidis	Pyx	Compás o brújula
Reticulum	Reticuli	Ret	Retrícula
Sagitta	Sagittae	Sge	Flecha
Sagittarius	Sagittarii	Sgr	Arquero
Scorpius	Scorpii	Sco	Escorpión
Sculptor	Sculptoris	Scl	Escultor
Scutum	Scuti	Sct	Escudo
Serpens	Serpentis	Ser	Serpiente
Sextans	Sextantis	Sex	Sextante
Taurus	Tauri	Tau	Toro
Telescopium	Telescopii	Tel	Telescopio
Triangulum	Trianguli	Tri	Triángulo
Triangulum-Australe	Trianguli-Australis	TrA	Triángulo austral
Tucana	Tucanae	Tuc	Tucán
Ursa Major	Ursae Majoris	UMa	Osa mayor
Ursa Minor	Ursae Minoris	UMi	Osa menor
Vela	Velorum	Vel	Vela
Virgo	Virginis	Vir	Virgen
Volans	Volantis	Vol	Pez volador
Vulpecula	Vulpeculae	Vul	Zorra

Diagrama de constelaciones, 2019



Objetos Messier, 2019

M	NGC	α			δ			const	v	tipo	descripción
		h	m	s	°	'	"				
110	205	0	40	24	+ 41	41	37	And	8	E6	Satélite de M31
032	221	0	42	42	+ 40	52	36	And	8	E2	Satélite de M31
031	224	0	42	42	+ 41	16	36	And	4	S	Galaxia de Andrómeda
103	581	1	33	12	+ 60	42	8	Cas	7	ca	
033	598	1	33	54	+ 30	39	17	Tri	7	Sc	
074	628	1	36	42	+ 15	47	26	Psc	10	Sc	
076	650	1	42	18	+ 51	34	9	Per	12	np	Nebulosa, Pequeña Mancuerna
077	1068	2	42	42	- 0	1	22	Cet	9	Sbp	Galaxia Seyfert
034	1039	2	42	0	+ 42	47	4	Per	6	ca	
045		3	47	18	+ 24	5	56	Tau	1	ca	Pléyades
079	1904	5	24	30	- 24	33	6	Lep	8	cg	
038	1912	5	28	42	+ 35	50	15	Aur	6	ca	
001	1952	5	34	30	+ 22	1	13	Tau	8	rsn	Nebulosa del Cangrejo
042	1976	5	35	24	- 5	27	2	Ori		ne	Nebulosa de Orión
036	1960	5	36	6	+ 34	8	3	Aur	6	ca	
078	2068	5	46	42	+ 0	3	5	Ori		nr	
037	2099	5	52	24	+ 32	33	10	Aur	6	ca	
035	2168	6	8	54	+ 24	20	5	Gem	5	ca	
041	2287	6	47	0	- 20	44	5	CMa	5	ca	
050	2323	7	3	12	- 8	20	1	Mon	7	ca	
047*	2422	7	36	36	- 14	30	4	Pup	5	ca	
046	2437	7	41	48	- 14	49	6	Pup	6	ca	
093	2447	7	44	42	- 23	52	13	Pup	6	ca	
048*	2548	8	13	48	- 5	48	3	Hya	5	ca	
044	2632	8	40	1	+ 19	59	1	Cnc	4	ca	El Pesebre o La Colmena
067	2682	8	50	24	+ 11	49	5	Cnc	6	ca	Cúmulo muy viejo
081	3031	9	55	30	+ 69	4	0	UMa	8	Sb	
082	3034	9	55	48	+ 69	41	1	UMa	9	gPec	
095	3351	10	40	0	+ 11	42	3	Leo	10	SBb	Miembro del grupo de Leo
096	3368	10	46	48	+ 11	49	14	Leo	9	Sbp	Miembro del grupo de Leo
105	3379	10	47	48	+ 12	35	3	Leo	9	E1	
108	3556	11	11	30	+ 55	40	2	UMa	11	Sc	
097	3587	11	14	48	+ 55	1	5	UMa	12	np	Nebulosa de la Lechuza
065	3623	11	18	54	+ 13	5	14	Leo	9	Sa	Miembro del grupo de Leo
066	3627	11	20	12	+ 12	59	3	Leo	8	Sb	Miembro del grupo de Leo
109	3992	11	57	42	+ 53	23	1	UMa	11	Sb	
098	4192	12	13	48	+ 14	54	2	Com	11	Sb	
099	4254	12	18	48	+ 14	25	12	Com	10	Sc	Miembro del cúmulo de Virgo
106	4258	12	19	0	+ 47	18	2	CVn	9	Sbp	Gran espiral
061	4303	12	21	54	+ 4	28	3	Vir	10	Sc	Miembro del cúmulo de Virgo
040		12	22	24	+ 58	5	13	UMa	9		Estrella binaria
100	4321	12	22	54	+ 15	49	2	Com	11	Sc	Miembro del cúmulo de Virgo
084	4374	12	25	6	+ 12	53	12	Vir	9	S0	Miembro del cúmulo de Virgo
085	4382	12	25	24	+ 18	11	2	Com	9	S0	Miembro del cúmulo de Virgo
086	4406	12	26	6	+ 13	7	12	Vir	10	E3	
049	4472	12	29	48	+ 8	0	12	Vir	9	E4	Elíptica gigante, cúmulo de Virgo
087	4486	12	30	48	+ 12	24	22	Vir	9	E0	Elíptica gigante, cúmulo de Virgo
088	4501	12	32	0	+ 14	25	3	Com	10	Sc	Espiral, cúmulo de Virgo
091*	4548	12	35	24	+ 14	30	21	Com	11	SBb	
089	4552	12	35	42	+ 12	33	22	Vir	10	E0	
090	4569	12	36	48	+ 13	10	3	Vir	10	Sb	Miembro del cúmulo de Virgo
058	4579	12	37	42	+ 11	49	12	Vir	9	SB	Miembro del cúmulo de Virgo
068	4590	12	39	30	- 26	45	7	Hya	8	cg	
104	4594	12	40	0	- 11	37	3	Vir	9	Sb	Galaxia del Sombrero, en Virgo
059	4621	12	42	0	+ 11	39	2	Vir	10	E5	Probable miembro de Virgo

Objetos Messier, 2019

M	NGC	α			δ			const	v	tipo	descripción
		h	m	s	°	'	"				
060	4649	12	43	42	+ 11	33	20	Vir	9	E2	Elíptica del cúmulo de Virgo
094	4736	12	50	54	+ 41	7	26	CVn	8	Sbp	
064	4826	12	56	42	+ 21	41	2	Com	9	Sb	Con región oscura en el centro
053	5024	13	12	54	+ 18	10	13	Com	8	cg	
063	5055	13	15	48	+ 42	2	4	CVn	10	Sb	Galaxia de la Margarita
051	5194	13	29	54	+ 47	12	4	CVn	8	Sc	Galaxia del Remolino
083	5236	13	37	0	- 29	52	6	Hya	10	Sc	
003	5272	13	42	12	+ 28	23	26	CVn	6	cg	Contiene muchas variables
101	5457	14	3	12	+ 54	21	9	UMa	10	Sc	
102*	5866	15	6	30	+ 55	46	4	Dra	11	E6p	
005	5904	15	18	36	+ 2	5	15	Ser	6	cg	Con asimetría poco común
080	6093	16	17	3	- 22	58	3	Sco	8	cg	
004	6121	16	23	36	- 26	32	5	Sco	6	cg	Cúmulo más cercano a la Tierra
107	6171	16	32	30	- 13	3	15	Oph	9	cg	
013	6205	16	41	42	+ 36	28	2	Her	6	cg	Gran cúmulo globular
012	6218	16	47	12	- 1	57	2	Oph	7	cg	
010	6254	16	57	64	- 4	6	7	Oph	7	cg	
062	6266	17	1	12	- 30	7	11	Oph	7	cg	
019	6273	17	2	36	- 26	16	11	Oph	7	cg	Cúmulo elongado
092	6341	17	17	6	+ 43	8	12	Her	6	cg	
009	6333	17	19	12	- 18	30	59	Oph	7	cg	
014	6402	17	37	36	- 3	15	2	Oph	8	cg	
006	6405	17	40	6	- 32	13	5	Sco	5	ca	
023	6494	17	56	48	- 19	1	5	Sgr	7	ca	
020	6514	18	2	18	- 23	2	5	Sgr	0	ne	Nebulosa Trífida
008	6523	18	3	48	- 24	22	59	Sgr	0	ne	Nebulosa de la Laguna
021	6531	18	4	36	- 22	30	5	Sgr	7	ca	
024		18	16	54	- 18	29	3	Sgr	5		Parte del bulbo de la Vía Láctea
016	6611	18	18	48	- 13	47	8	Ser		ne	
018	6613	18	19	54	- 17	8	3	Sgr	8	ca	
017	6618	18	20	48	- 16	11	5	Sgr		ne	Nebulosa Omega
028	6626	18	24	30	- 24	52	10	Sgr	7	cg	
069	6637	18	31	24	- 32	21	2	Sgr	9	cg	Pequeño
025	4725	18	31	36	- 19	15	12	Sgr	7	ca	
022	6656	18	36	24	- 23	54	1	Sgr	6	cg	
070	6681	18	43	12	- 32	18	8	Sgr	10	cg	Cercano a M69
026	6694	18	45	12	- 9	24	16	Sct	9	ca	Brillante
011	6705	18	51	6	- 6	16	15	Sct	6	ca	Gran cúmulo
057	6720	18	53	36	+ 33	2	5	Lyr	9	np	Nebulosa del Anillo
054	6715	18	55	6	- 30	29	5	Sgr	9	cg	Difícil observación
056	6779	19	16	36	+ 30	11	3	Lyr	8	cg	
055	6809	19	40	0	- 30	58	13	Sgr	7	cg	
071	6838	19	53	48	+ 18	47	1	Sge	9	cg	
027	6853	19	59	36	+ 22	43	11	Vul	8	np	Nebulosa de la Mancuerna
075	6864	20	6	6	- 21	55	32	Sgr	8	cg	Cúmulo lejano
029	6913	20	23	54	+ 38	32	5	Cyg	7	ca	
072	6981	20	53	30	- 12	32	18	Aqr	10	cg	Nebulosa Saturno
073	6994	20	59	0	- 12	38	13	Aqr	11	ca	Cuatro estrellas
015	7078	21	30	0	+ 12	10	21	Peg	6	cg	Cúmulo compacto
039	7092	21	32	12	+ 48	26	24	Cyg	5	ca	Cúmulo disperso
002	7089	21	33	30	- 0	49	11	Aqr	6	cg	
030	7099	21	40	24	- 23	11	15	Cap	8	cg	Cuasi elíptico
052	7654	23	24	12	+ 61	35	7	Cas	7	ca	Cúmulo rico

*Existe controversia en la identificación de estos objetos.

Lluvias de estrellas, 2019

Lluvias de estrellas observables a simple vista

Nombre	inicia m d	máximo m d	termina m d	α h m	δ ° '	obj./h	Cometa asociado
Cuadrántidas	ene 01	ene 03	ene 05	15 18	+49 41	120	
Cancerínidas	ene 01	ene 17	ene 24	08 42	+20 28	4	
Centáuridas	ene 28	feb 07	feb 21	14 00	-59 56	6	
Leónidas	feb 15	feb 24	mar 10	11 12	+16 23	2	
Nórmidas	feb 25	mar 13	mar 22	16 36	-51 56	8	
Virgínidas	ene 25	mar 25	abr 15	13 00	-04 30	5	
Líridas	abr 16	abr 22	abr 25	18 06	+34 49	15	C/Thatcher (1861 G1)
Púpidas	abr 15	abr 24	abr 28	07 18	-45 18	26	P/Grigg-Skjellerup
Acuáridas	abr 19	may 06	may 28	22 30	-01 66	60	P/Halley
Sagitáridas	abr 15	may 20	jul 15	16 30	-22 30	5	
Pegásidas	jul 07	jul 10	jul 13	22 42	+15 70	3	
Fenícidas	jul 10	jul 13	jul 16	02 06	-48 47		
Piscis Austrínidas	jul 15	jul 28	ago 10	22 42	-30 35	5	
Acuáridas	jul 12	jul 28	ago 19	22 36	-16 41	20	
Capricórnidas	jul 03	jul 30	ago 15	20 30	-10 23	4	
Acuáridas(sur)	jul 25	ago 04	ago 15	22 18	-15 34	2	
Acuáridas(norte)	jul 15	ago 09	ago 25	22 18	-05 42	4	
Perséidas	jul 17	ago 12	ago 24	03 06	+58 59	140	P/Swift-Tuttle
Cígnidas	ago 03	ago 18	ago 25	19 06	+59 25	3	
Acuáridas(norte)	ago 11	ago 20	ago 31	21 48	-06 31	3	
Aurígidas	ago 25	sep 01	sep 05	05 36	+42 66	10	
Aurígidas	sep 05	sep 09	oct 10	04 00	+47 64	6	
Piscidas	sep 01	sep 20	sep 30	00 18	-01 26	3	
Dracónidas	oct 06	oct 09	oct 10	17 30	+54 20	21	P/Giacobini-Zinner
Gemínidas	oct 14	oct 18	oct 27	06 48	+27 70	2	C/Ikeya (1964 N1)
Oriónidas	oct 02	oct 21	nov 07	06 18	+16 66	20	P/Halley
Táuridas (sur)	oct 01	nov 05	nov 25	03 30	+13 27	5	P/Encke
Táuridas (norte)	oct 01	nov 12	nov 25	03 54	+22 29	5	P/Encke
Leonidas	nov 14	nov 17	nov 21	10 12	+22 71	100	P/Tempel-Tuttle
Monocéridas	nov 15	nov 22	nov 25	07 48	+01 65		
Oriónidas	nov 26	dic 02	dic 15	05 30	+23 28	3	
Fenícidas	nov 28	dic 06	dic 09	01 12	-53 18		D/Blanpain (1819 W1)
Pupi vélidas	dic 01	dic 07	dic 15	08 12	-45 40	10	
Monocéridas	nov 27	dic 09	dic 17	15 00	+08 42	3	D/Mellish (1917 F1)
Hídridas	dic 03	dic 12	dic 15	08 30	+02 58	2	
Gemínidas	dic 07	dic 14	dic 17	07 30	+33 35	120	Phaethon
Coma Berenícidas	dic 12	dic 20	ene 23	11 42	+25 65	5	
Úrsidas	dic 17	dic 22	dic 26	15 00	+76 33	10	P/Tuttle

Eventos Planetarios, 2019

Hora del meridiano 90° W.G.

Mes				Eventos				Mes				Eventos			
d	h	objeto	suceso	d	h	objeto	suceso	d	h	objeto	suceso	d	h	objeto	suceso
Enero															
1	16	Venus	1.3° al sur de la Luna	2	13	Mercurio	0.4° al norte de Neptuno	2	17	Mercurio	4° al norte de la Luna	2	17	Neptuno	3° al norte de la Luna
2	0	Saturno	Conjunción con el Sol	5	3	Luna	Luna Nueva	6	7	Urano	5° al norte de la Luna	9	1	Marte	5° al norte de la Luna
2	23	Tierra	Perihelio	9	22	Venus	0.3° al sur de Neptuno	9	22	Júpiter	Estacionario	10	11	Júpiter	Estacionario
3	2	Júpiter	3° al sur de la Luna	11	14	Mercurio	Elongación máxima al O(28°)	11	14	Mercurio	Elongación máxima al O(28°)	12	13	Luna	Cuarto Creciente
5	19	Luna	Luna Nueva	16	16	Marte	7° al norte de Aldebarán	16	16	Luna	Perigeo	16	16	Luna	Luna Llena
5	23	Venus	Elongación máxima al O(47°)	19	5	Luna	Luna Llena	22	17	Urano	Conjunción con el Sol	23	6	Júpiter	1.6° al norte de la Luna
6	20	Urano	Estacionario	25	3	Plutón	Estacionario	25	8	Saturno	0.4° al norte de la Luna	25	14	Plutón	0.07° al sur de la Luna
8	22	Luna	Apogeo	25	8	Saturno	0.4° al norte de la Luna	25	14	Plutón	0.07° al sur de la Luna	26	16	Luna	Cuarto Menguante
10	16	Neptuno	3° al norte de la Luna	26	16	Luna	Cuarto Menguante	28	12	Luna	Apogeo	29	20	Saturno	Estacionario
11	6	Plutón	Conjunción con el Sol	29	20	Saturno	Estacionario	30	2	Neptuno	3° al norte de la Luna	30	2	Neptuno	3° al norte de la Luna
12	14	Marte	5° al norte de la Luna	Mayo											
14	1	Luna	Cuarto Creciente	2	6	Venus	4° al norte de la Luna	3	0	Mercurio	3° al norte de la Luna	4	17	Luna	Luna Nueva
14	6	Urano	5° al norte de la Luna	7	18	Marte	3° al norte de la Luna	7	18	Marte	3° al norte de la Luna	11	19	Luna	Cuarto Creciente
15	15	Venus	8° al norte de Antares	11	19	Luna	Cuarto Creciente	13	16	Luna	Perigeo	13	16	Luna	Perigeo
20	23	Luna	Luna Llena	18	2	Venus	1.2° al sur de Urano	18	2	Venus	1.2° al sur de Urano	18	15	Luna	Luna Llena
21	14	Luna	Perigeo	18	15	Luna	Luna Llena	20	11	Júpiter	1.7° al sur de la Luna	21	7	Mercurio	Conjunción superior
22	0	Venus	2° al norte de Júpiter	20	11	Júpiter	1.7° al sur de la Luna	21	7	Mercurio	Conjunción superior	22	16	Saturno	0.5° al norte de la Luna
27	15	Luna	Cuarto Menguante	22	22	Plutón	0.07° al norte de la Luna	22	22	Plutón	0.07° al norte de la Luna	22	22	Plutón	0.07° al norte de la Luna
29	21	Mercurio	Conjunción superior	26	7	Luna	Apogeo	26	7	Luna	Apogeo	26	11	Luna	Cuarto Menguante
30	18	Júpiter	3° al sur de la Luna	26	11	Luna	Cuarto Menguante	27	11	Neptuno	4° al norte de la Luna	27	11	Neptuno	4° al norte de la Luna
31	12	Venus	0.09° al sur de la Luna	27	11	Neptuno	4° al norte de la Luna	31	4	Urano	5° al norte de la Luna	31	4	Urano	5° al norte de la Luna
Febrero								Junio							
2	1	Saturno	0.6° al sur de la Luna					1	12	Venus	3° al norte de la Luna				
2	14	Plutón	0.6° al sur de la Luna					3	4	Luna	Luna Nueva				
4	15	Luna	Luna Nueva					4	10	Mercurio	4° al norte de la Luna				
5	3	Luna	Apogeo					5	9	Marte	1.6° al norte de la Luna				
7	0	Neptuno	3° al norte de la Luna					7	17	Luna	Perigeo				
10	10	Marte	6° al norte de la Luna					10	0	Luna	Cuarto Creciente				
10	14	Urano	5° al norte de la Luna					10	9	Júpiter	Oposición				
12	16	Luna	Cuarto Creciente					16	13	Júpiter	2° al sur de la Luna				
13	14	Marte	1.1° al norte de Urano					17	3	Luna	Luna Llena				
18	8	Venus	1.1° al norte de Saturno					17	15	Venus	5° al norte de Aldebarán				
19	3	Luna	Perigeo					18	9	Mercurio	0.2° al norte de Marte				
19	10	Luna	Luna Llena					18	22	Saturno	0.4° al norte de la Luna				
26	5	Luna	Cuarto Menguante					19	5	Plutón	0.07° al norte de la Luna				
26	19	Mercurio	Elongación máxima al E(18°)					20	23	Mercurio	6° al sur de Polux				
27	8	Júpiter	2° al sur de la Luna					21	10	Sol	solsticio				
1	12	Saturno	0.3° al sur de la Luna					21	22	Neptuno	Estacionario				
Marzo								23	1	Marte	6° al sur de Polux				
1	22	Plutón	0.5° al sur de la Luna					23	2	Luna	Apogeo				
2	15	Venus	1.2° al norte de la Luna					23	17	Mercurio	Elongación máxima al E(25°)				
4	5	Luna	Apogeo					23	19	Neptuno	4° al norte de la Luna				
4	23	Mercurio	Estacionario					25	4	Luna	Cuarto Menguante				
6	10	Luna	Luna Nueva					27	16	Urano	5° al norte de la Luna				
6	19	Neptuno	Conjunción con el Sol												
9	22	Urano	5° al norte de la Luna												
11	6	Marte	6° al norte de la Luna												
14	4	Luna	Cuarto Creciente												
14	20	Mercurio	Conjunción inferior												
19	14	Luna	Perigeo												
20	16	Sol	Equinoccio												
20	20	Luna	Luna Llena												
26	20	Júpiter	1.9° al sur de la Luna												
27	6	Mercurio	Estacionario												
27	22	Luna	Cuarto Menguante												
28	23	Saturno	0.05° al norte de la Luna												
29	6	Plutón	0.3° al sur de la Luna												
31	18	Luna	Apogeo												
Abril															
1	22	Venus	3° al norte de la Luna												

Eventos Planetarios, 2019

Hora del meridiano 90° W.G.

Mes				Eventos				Mes				Eventos			
d	h	objeto	suceso	d	h	objeto	suceso	d	h	objeto	suceso	d	h	objeto	suceso
Julio								3	14	Júpiter	1.9° al sur de la Luna				
2	13	Luna	Luna Nueva	5	11	Luna	Cuarto Creciente								
4	0	Marte	0.09° al sur de la Luna	5	15	Saturno	0.3° al norte de la Luna								
4	3	Mercurio	3° al sur de la Luna	6	3	Plutón	0.1° al norte de la Luna								
4	16	Tierra	Afelio	10	12	Luna	Apogeo								
4	23	Luna	Perigeo	10	17	Neptuno	4° al norte de la Luna								
6	22	Mercurio	Estacionario	13	15	Luna	Luna Llena								
7	8	Mercurio	4° al sur de Marte	14	18	Urano	4° al norte de la Luna								
9	5	Luna	Cuarto Creciente	19	22	Mercurio	Elongación máxima al E(25°)								
9	11	Saturno	Oposición	21	7	Luna	Cuarto Menguante								
13	14	Júpiter	2° al sur de la Luna	26	5	Luna	Perigeo								
14	9	Plutón	Oposición	26	11	Marte	5° al sur de la Luna								
16	1	Saturno	0.2° al norte de la Luna	27	22	Luna	Luna Nueva								
16	11	Plutón	0.04° al sur de la Luna	28	2	Urano	Oposición								
16	16	Luna	Luna Llena	29	8	Venus	4° al sur de la Luna								
20	18	Luna	Apogeo	29	9	Mercurio	7° al sur de la Luna								
21	2	Neptuno	4° al norte de la Luna	30	2	Mercurio	3° al sur de la Luna								
21	7	Mercurio	Conjunción inferior	31	8	Júpiter	1.3° al sur de la Luna								
24	19	Luna	Cuarto Menguante	31	14	Mercurio	Estacionario								
25	1	Urano	5° al norte de la Luna	Noviembre											
31	13	Mercurio	Estacionario	2	1	Saturno	0.6° al norte de la Luna								
31	21	Luna	Luna Nueva	2	12	Plutón	0.4° al norte de la Luna								
Agosto								4	4	Luna	Cuarto Creciente				
2	1	Luna	Perigeo	6	23	Neptuno	4° al norte de la Luna								
5	16	Mercurio	9° al sur de Polux	7	3	Luna	Apogeo								
7	12	Luna	Cuarto Creciente	8	9	Marte	3° al norte de Espiga								
9	17	Júpiter	2° al sur de la Luna	9	5	Venus	4° al norte de Antares								
9	17	Mercurio	Elongación máxima al O(19°)	10	22	Urano	4° al norte de la Luna								
11	10	Júpiter	Estacionario	11	9	Mercurio	Conjunción inferior								
12	0	Urano	Estacionario	12	8	Luna	Luna Llena								
12	4	Saturno	0.04° al norte de la Luna	19	15	Luna	Cuarto Menguante								
12	16	Plutón	0.1° al sur de la Luna	20	9	Mercurio	Estacionario								
14	0	Venus	Conjunción superior	23	2	Luna	Perigeo								
15	6	Luna	Luna Llena	24	3	Marte	4° al sur de la Luna								
17	5	Luna	Apogeo	24	8	Venus	1.4° al sur de Júpiter								
17	7	Neptuno	4° al norte de la Luna	24	21	Mercurio	1.9° al sur de la Luna								
21	9	Urano	5° al norte de la Luna	26	9	Luna	Luna Nueva								
23	9	Luna	Cuarto Menguante	27	14	Neptuno	Estacionario								
30	5	Luna	Luna Nueva	28	5	Júpiter	0.7° al sur de la Luna								
30	10	Luna	Perigeo	28	5	Mercurio	Elongación máxima al O(20°)								
Septiembre								28	13	Venus	1.9° al sur de la Luna				
2	5	Marte	Conjunción con el Sol	29	15	Saturno	0.9° al norte de la Luna								
3	20	Mercurio	Conjunción superior	29	22	Plutón	0.5° al norte de la Luna								
5	21	Luna	Cuarto Creciente	Diciembre											
6	1	Júpiter	2° al sur de la Luna	4	1	Luna	Cuarto Creciente								
8	8	Saturno	0.04° al norte de la Luna	4	6	Neptuno	4° al norte de la Luna								
8	21	Plutón	0.08° al sur de la Luna	4	22	Luna	Apogeo								
10	1	Neptuno	Oposición	8	5	Urano	5° al norte de la Luna								
13	8	Luna	Apogeo	10	23	Venus	1.8° al sur de la Luna								
13	12	Neptuno	4° al norte de la Luna	11	23	Luna	Luna Llena								
13	23	Luna	Luna Llena	15	10	Mercurio	5° al norte de Antares								
17	14	Urano	4° al norte de la Luna	18	14	Luna	Perigeo								
18	0	Saturno	Estacionario	18	23	Luna	Cuarto Menguante								
21	21	Luna	Cuarto Menguante	21	22	Sol	solsticio								
23	2	Sol	Equinoccio	22	20	Marte	4° al sur de la Luna								
27	20	Luna	Perigeo	25	23	Luna	Luna Nueva								
28	12	Luna	Luna Nueva	27	6	Saturno	1.2° al norte de la Luna								
28	17	Mercurio	1.4° al norte de Espiga	27	9	Plutón	0.6° al norte de la Luna								
29	16	Mercurio	6° al sur de la Luna	27	12	Júpiter	Conjunción con el Sol								
Octubre								28	20	Venus	1.0° al norte de la Luna				
2	15	Plutón	Estacionario	31	15	Neptuno	4° al norte de la Luna								
2	19	Venus	3° al norte de Espiga												

Fases de la Luna, 2019

Hora del meridiano 90° W.G.

Luna Nueva

mes	d	h	m
ene	5	19	28
feb	4	15	3
mar	6	10	4
abr	5	2	50
may	4	16	45
jun	3	4	2
jul	2	13	16
ago	0	21	12
ago	30	4	37
sep	28	12	26
oct	27	21	38
nov	26	9	5
dic	25	23	13

Cuarto Creciente

mes	d	h	m
ene	14	16	20
feb	12	9	35
mar	14	4	27
abr	12	13	6
may	11	19	12
jun	9	23	59
jul	9	4	55
ago	7	11	31
sep	5	21	10
oct	5	10	47
nov	4	4	23
dic	4	0	58
...

Luna Llena

mes	d	h	m
ene	20	23	16
feb	19	9	53
mar	20	19	43
abr	19	5	12
may	18	15	11
jun	17	2	31
jul	16	15	38
ago	15	6	29
sep	13	22	33
oct	13	15	8
nov	12	7	34
dic	11	23	12
...

Cuarto Menguante

mes	d	h	m
ene	27	15	10
feb	26	5	28
mar	27	22	10
abr	26	16	18
may	26	10	33
jun	25	3	46
jul	24	19	18
ago	23	8	56
sep	21	20	41
oct	21	6	39
nov	19	15	11
dic	18	22	57
...

Crepúsculos, salidas y puestas de Sol, 2019

Hora local

LATITUD 30°

	AM	CM	SS	PS	CV	AV		AM	CM	SS	PS	CV	AV
	h m	h m	h m	h m	h m	h m		h m	h m	h m	h m	h m	h m
Ene 1	5 31	6 30	6 56	17 12	17 38	18 37	Jul 6	3 29	4 37	5 05	19 05	19 32	20 40
7	5 32	6 31	6 57	17 16	17 42	18 41	12	3 33	4 41	5 08	19 04	19 30	20 38
13	5 33	6 31	6 57	17 21	17 47	18 45	18	3 38	4 44	5 11	19 01	19 28	20 34
19	5 32	6 30	6 56	17 26	17 52	18 50	24	3 43	4 48	5 14	18 58	19 25	20 30
25	5 31	6 28	6 54	17 31	17 57	18 54	30	3 48	4 52	5 18	18 55	19 21	20 24
31	5 29	6 26	6 51	17 37	18 02	18 59	Ago 5	3 53	4 56	5 22	18 50	19 16	20 18
Feb 6	5 26	6 22	6 47	17 42	18 07	19 03	11	3 58	5 00	5 25	18 45	19 10	20 12
12	5 22	6 18	6 42	17 47	18 11	19 07	17	4 03	5 04	5 29	18 39	19 04	20 04
18	5 17	6 13	6 37	17 51	18 16	19 11	23	4 08	5 07	5 32	18 33	18 57	19 57
24	5 11	6 07	6 31	17 56	18 20	19 15	29	4 12	5 11	5 35	18 26	18 50	19 49
Mar 2	5 05	6 01	6 25	18 00	18 24	19 19	Sep 4	4 17	5 14	5 39	18 19	18 43	19 40
8	4 59	5 54	6 18	18 04	18 28	19 23	10	4 21	5 18	5 42	18 11	18 35	19 32
14	4 52	5 47	6 11	18 08	18 32	19 27	16	4 25	5 21	5 45	18 04	18 28	19 24
20	4 44	5 40	6 04	18 12	18 35	19 31	22	4 29	5 25	5 48	17 56	18 20	19 16
26	4 36	5 33	5 56	18 15	18 39	19 36	28	4 32	5 28	5 52	17 49	18 13	19 08
Abr 1	4 28	5 25	5 49	18 19	18 43	19 40	Oct 4	4 36	5 31	5 55	17 42	18 06	19 01
7	4 20	5 18	5 42	18 22	18 47	19 44	10	4 39	5 35	5 59	17 35	17 59	18 54
13	4 13	5 11	5 35	18 26	18 51	19 49	16	4 43	5 39	6 03	17 28	17 52	18 48
19	4 05	5 04	5 29	18 30	18 55	19 54	22	4 47	5 42	6 07	17 22	17 46	18 42
25	3 57	4 58	5 23	18 34	18 59	19 59	28	4 50	5 47	6 11	17 16	17 41	18 37
May 1	3 50	4 52	5 17	18 38	19 03	20 05	Nov 3	4 54	5 51	6 16	17 11	17 36	18 33
7	3 44	4 46	5 12	18 41	19 07	20 10	9	4 58	5 55	6 20	17 07	17 32	18 29
13	3 38	4 42	5 08	18 45	19 11	20 16	15	5 03	6 00	6 25	17 04	17 29	18 27
19	3 33	4 38	5 04	18 49	19 16	20 21	21	5 07	6 05	6 30	17 02	17 27	18 25
25	3 28	4 35	5 02	18 53	19 19	20 26	27	5 11	6 09	6 35	17 00	17 26	18 24
31	3 25	4 33	5 00	18 56	19 23	20 31	Dic 3	5 15	6 14	6 40	17 00	17 26	18 25
Jun 6	3 23	4 31	4 59	18 59	19 26	20 35	9	5 19	6 18	6 44	17 01	17 27	18 26
12	3 22	4 31	4 58	19 02	19 29	20 38	15	5 23	6 22	6 48	17 02	17 29	18 28
18	3 22	4 31	4 59	19 04	19 31	20 40	21	5 26	6 25	6 52	17 05	17 31	18 30
24	3 24	4 33	5 00	19 05	19 32	20 41	27	5 29	6 28	6 54	17 08	17 35	18 34
30	3 26	4 35	5 02	19 05	19 33	20 41	Ene 2	5 31	6 30	6 56	17 12	17 38	18 37

LATITUD 25°

	AM	CM	SS	PS	CV	AV		AM	CM	SS	PS	CV	AV
	h m	h m	h m	h m	h m	h m		h m	h m	h m	h m	h m	h m
Ene 1	5 24	6 20	6 45	17 22	17 47	18 44	7	4 28	5 22	5 45	18 19	18 42	19 37
7	5 26	6 22	6 47	17 27	17 51	18 48	13	4 21	5 16	5 40	18 22	18 45	19 40
13	5 27	6 22	6 47	17 31	17 56	18 51	19	4 15	5 11	5 34	18 25	18 48	19 44
19	5 27	6 22	6 47	17 36	18 00	18 55	25	4 08	5 05	5 29	18 27	18 51	19 48
25	5 26	6 21	6 45	17 40	18 04	18 59	May 1	4 03	5 00	5 24	18 30	18 54	19 52
31	5 25	6 19	6 43	17 44	18 08	19 03	7	3 57	4 56	5 20	18 33	18 58	19 56
Feb 6	5 22	6 16	6 40	17 49	18 12	19 06	13	3 52	4 52	5 17	18 36	19 01	20 01
12	5 19	6 13	6 36	17 53	18 16	19 10	19	3 48	4 49	5 14	18 39	19 04	20 05
18	5 15	6 09	6 32	17 56	18 19	19 13	25	3 45	4 47	5 12	18 42	19 08	20 09
24	5 11	6 04	6 27	18 00	18 23	19 16	31	3 43	4 45	5 10	18 45	19 11	20 13
Mar 2	5 06	5 59	6 22	18 03	18 26	19 19	Jun 6	3 41	4 44	5 10	18 48	19 14	20 16
8	5 00	5 53	6 16	18 06	18 29	19 22	12	3 41	4 44	5 10	18 50	19 16	20 19
14	4 54	5 47	6 10	18 09	18 31	19 25	18	3 41	4 45	5 10	18 52	19 18	20 21
20	4 48	5 41	6 04	18 11	18 34	19 27	24	3 42	4 46	5 12	18 53	19 19	20 22
26	4 41	5 35	5 58	18 14	18 37	19 30	30	3 45	4 48	5 14	18 54	19 20	20 23
Abr 1	4 35	5 29	5 52	18 17	18 40	19 34	Jul 6	3 47	4 50	5 16	18 54	19 19	20 22

Crepúsculos, salidas y puestas de Sol, 2019

Hora local

LATITUD 25°

	AM	CM	SS	PS	CV	AV		AM	CM	SS	PS	CV	AV
	h m	h m	h m	h m	h m	h m		h m	h m	h m	h m	h m	h m
12	3 51	4 53	5 18	18 53	19 18	20 20	10	4 40	5 33	5 56	17 38	18 01	18 54
18	3 54	4 56	5 21	18 51	19 16	20 18	16	4 43	5 36	5 59	17 32	17 55	18 48
24	3 58	4 59	5 24	18 49	19 14	20 14	22	4 45	5 39	6 02	17 27	17 50	18 43
30	4 02	5 02	5 27	18 46	19 10	20 10	28	4 48	5 42	6 05	17 22	17 46	18 39
Ago 5	4 07	5 05	5 30	18 42	19 06	20 05	Nov 3	4 51	5 45	6 09	17 18	17 42	18 36
11	4 10	5 08	5 32	18 38	19 02	19 59	9	4 54	5 49	6 13	17 15	17 39	18 33
17	4 14	5 11	5 35	18 33	18 57	19 53	15	4 58	5 53	6 17	17 12	17 37	18 31
23	4 18	5 14	5 37	18 27	18 51	19 47	21	5 01	5 57	6 21	17 11	17 35	18 30
29	4 21	5 16	5 40	18 22	18 45	19 40	27	5 05	6 01	6 25	17 10	17 35	18 30
Sep 4	4 24	5 19	5 42	18 15	18 39	19 33	Dic 3	5 09	6 05	6 30	17 10	17 35	18 31
10	4 27	5 21	5 44	18 09	18 32	19 26	9	5 12	6 09	6 34	17 11	17 36	18 33
16	4 30	5 24	5 46	18 03	18 26	19 19	15	5 16	6 12	6 37	17 13	17 38	18 35
22	4 33	5 26	5 49	17 56	18 19	19 12	21	5 19	6 16	6 41	17 16	17 41	18 37
28	4 35	5 28	5 51	17 50	18 13	19 06	27	5 22	6 18	6 43	17 19	17 44	18 41
Oct 4	4 38	5 31	5 53	17 44	18 06	18 59	Ene 2	5 24	6 21	6 45	17 23	17 48	18 44

LATITUD 20°

	AM	CM	SS	PS	CV	AV		AM	CM	SS	PS	CV	AV
	h m	h m	h m	h m	h m	h m		h m	h m	h m	h m	h m	h m
Ene 1	5 17	6 11	6 35	17 32	17 56	18 51	May 1	4 13	5 08	5 31	18 24	18 47	19 42
7	5 19	6 13	6 37	17 36	18 00	18 54	7	4 09	5 04	5 27	18 26	18 49	19 45
13	5 20	6 14	6 38	17 40	18 04	18 58	13	4 05	5 01	5 25	18 28	18 52	19 48
19	5 21	6 14	6 38	17 44	18 08	19 01	19	4 02	4 59	5 23	18 31	18 55	19 52
25	5 21	6 14	6 37	17 48	18 11	19 04	25	3 59	4 57	5 21	18 33	18 57	19 55
31	5 20	6 13	6 36	17 52	18 15	19 07	31	3 57	4 56	5 20	18 36	19 00	19 58
Feb 6	5 19	6 11	6 34	17 55	18 18	19 10	Jun 6	3 56	4 55	5 20	18 38	19 02	20 01
12	5 16	6 08	6 31	17 58	18 21	19 13	12	3 56	4 56	5 20	18 40	19 04	20 04
18	5 13	6 05	6 27	18 01	18 23	19 15	18	3 57	4 56	5 21	18 41	19 06	20 06
24	5 10	6 01	6 23	18 03	18 26	19 17	24	3 58	4 58	5 22	18 43	19 07	20 07
Mar 2	5 06	5 57	6 19	18 06	18 28	19 19	30	4 00	4 59	5 24	18 43	19 08	20 07
8	5 01	5 52	6 14	18 08	18 30	19 21	Jul 6	4 03	5 02	5 26	18 44	19 08	20 07
14	4 56	5 47	6 09	18 09	18 31	19 23	12	4 05	5 04	5 28	18 43	19 07	20 06
20	4 51	5 42	6 04	18 11	18 33	19 24	18	4 08	5 06	5 30	18 42	19 06	20 04
26	4 45	5 37	5 59	18 13	18 35	19 26	24	4 12	5 09	5 33	18 40	19 04	20 01
Abr 1	4 40	5 31	5 54	18 14	18 37	19 28	30	4 15	5 11	5 35	18 38	19 01	19 58
7	4 34	5 26	5 48	18 16	18 38	19 31	Ago 5	4 18	5 14	5 37	18 35	18 58	19 54
13	4 28	5 21	5 44	18 18	18 40	19 33	11	4 21	5 16	5 39	18 31	18 54	19 49
19	4 23	5 16	5 39	18 20	18 42	19 36	17	4 24	5 18	5 41	18 27	18 50	19 44
25	4 18	5 12	5 35	18 22	18 44	19 39	23	4 26	5 20	5 42	18 23	18 45	19 39

Crepúsculos, salidas y puestas de Sol, 2019

Hora local

LATITUD 20°

	AM	CM	SS	PS	CV	AV		AM	CM	SS	PS	CV	AV
	h m	h m	h m	h m	h m	h m		h m	h m	h m	h m	h m	h m
29	4 28	5 21	5 44	18 18	18 40	19 33	Nov 3	4 48	5 40	6 03	17 24	17 47	18 39
Sep 4	4 31	5 23	5 45	18 13	18 35	19 27	9	4 50	5 43	6 06	17 22	17 45	18 38
10	4 32	5 24	5 46	18 07	18 29	19 21	15	4 53	5 46	6 09	17 20	17 43	18 37
16	4 34	5 26	5 48	18 02	18 24	19 15	21	4 56	5 49	6 13	17 19	17 43	18 36
22	4 36	5 27	5 49	17 56	18 18	19 09	27	4 59	5 53	6 16	17 19	17 43	18 37
28	4 37	5 28	5 50	17 51	18 13	19 04	Dic 3	5 02	5 56	6 20	17 20	17 44	18 38
Oct 4	4 39	5 30	5 52	17 45	18 07	18 58	9	5 05	6 00	6 24	17 21	17 45	18 40
10	4 40	5 31	5 53	17 40	18 02	18 54	15	5 09	6 03	6 27	17 23	17 47	18 42
16	4 42	5 33	5 55	17 36	17 58	18 49	21	5 12	6 07	6 31	17 26	17 50	18 45
22	4 43	5 35	5 57	17 31	17 54	18 45	27	5 15	6 09	6 33	17 29	17 53	18 48
28	4 45	5 37	6 00	17 28	17 50	18 42	Ene 2	5 17	6 12	6 36	17 33	17 57	18 51

LATITUD 15°

	AM	CM	SS	PS	CV	AV		AM	CM	SS	PS	CV	AV
	h m	h m	h m	h m	h m	h m		h m	h m	h m	h m	h m	h m
Ene 1	5 10	6 03	6 26	17 42	18 05	18 58	Jul 6	4 16	5 12	5 35	18 34	18 58	19 54
7	5 12	6 05	6 28	17 45	18 08	19 01	12	4 18	5 14	5 37	18 34	18 57	19 53
13	5 14	6 06	6 29	17 49	18 12	19 04	18	4 20	5 16	5 39	18 33	18 57	19 52
19	5 15	6 07	6 30	17 52	18 15	19 07	24	4 23	5 18	5 41	18 32	18 55	19 50
25	5 15	6 07	6 30	17 55	18 18	19 10	30	4 25	5 20	5 42	18 30	18 53	19 47
31	5 15	6 07	6 29	17 58	18 21	19 12	Ago 5	4 28	5 21	5 44	18 28	18 51	19 44
Feb 6	5 14	6 05	6 28	18 01	18 23	19 14	11	4 30	5 23	5 45	18 25	18 48	19 40
12	5 13	6 04	6 26	18 03	18 25	19 16	17	4 32	5 24	5 46	18 22	18 44	19 36
18	5 11	6 01	6 23	18 05	18 27	19 17	23	4 33	5 25	5 47	18 18	18 40	19 32
24	5 08	5 58	6 20	18 07	18 28	19 18	29	4 35	5 26	5 47	18 14	18 36	19 27
Mar 2	5 05	5 55	6 16	18 08	18 30	19 19	Sep 4	4 36	5 26	5 48	18 10	18 31	19 22
8	5 01	5 51	6 12	18 09	18 31	19 20	10	4 37	5 27	5 48	18 05	18 27	19 17
14	4 57	5 47	6 08	18 10	18 32	19 21	16	4 37	5 27	5 49	18 01	18 22	19 12
20	4 53	5 43	6 04	18 11	18 32	19 22	22	4 38	5 28	5 49	17 56	18 17	19 07
26	4 48	5 38	6 00	18 12	18 33	19 23	28	4 38	5 28	5 50	17 51	18 13	19 03
Abr 1	4 44	5 34	5 55	18 12	18 34	19 24	Oct 4	4 39	5 29	5 50	17 47	18 08	18 58
7	4 39	5 30	5 51	18 13	18 35	19 25	10	4 39	5 29	5 51	17 43	18 04	18 54
13	4 34	5 25	5 47	18 14	18 36	19 27	16	4 40	5 30	5 52	17 39	18 01	18 51
19	4 30	5 21	5 43	18 15	18 37	19 29	22	4 41	5 31	5 53	17 36	17 57	18 48
25	4 26	5 18	5 40	18 16	18 38	19 30	28	4 42	5 33	5 55	17 33	17 55	18 45
May 1	4 22	5 15	5 37	18 17	18 40	19 33	Nov 3	4 44	5 35	5 57	17 30	17 53	18 44
7	4 18	5 12	5 34	18 19	18 42	19 35	9	4 45	5 37	5 59	17 29	17 51	18 42
13	4 15	5 09	5 32	18 21	18 44	19 38	15	4 47	5 39	6 02	17 28	17 50	18 42
19	4 13	5 08	5 31	18 23	18 46	19 40	21	4 50	5 42	6 05	17 27	17 50	18 42
25	4 11	5 06	5 30	18 24	18 48	19 43	27	4 52	5 45	6 08	17 28	17 51	18 43
31	4 10	5 06	5 29	18 26	18 50	19 46	Dic 3	4 55	5 48	6 11	17 29	17 52	18 45
Jun 6	4 09	5 06	5 29	18 28	18 52	19 48	9	4 58	5 51	6 15	17 30	17 54	18 47
12	4 10	5 06	5 30	18 30	18 54	19 50	15	5 01	5 55	6 18	17 33	17 56	18 49
18	4 10	5 07	5 31	18 32	18 55	19 52	21	5 04	5 58	6 21	17 36	17 59	18 52
24	4 12	5 08	5 32	18 33	18 57	19 53	27	5 07	6 01	6 24	17 39	18 02	18 55
30	4 13	5 10	5 34	18 34	18 57	19 54	Ene 2	5 10	6 03	6 26	17 42	18 05	18 58

Eclipses 2019

Hora del meridiano 90° W.G.

I.- Eclipse parcial de Sol el 5 de enero de 2019, no se observará en la República Mexicana.

El inicio del eclipse se observará en China, el Este de la Federación Rusa y el extremo Oeste de Alaska. Se observará en Japón la Península de Korea; al norte del Océano Pacífico, en el Mar de Japón y el Mar de China.

<i>Circunstancias del eclipse</i>	<i>mes</i>	<i>día</i>	<i>h</i>	<i>m</i>	<i>s</i>
Inicia el eclipse	ene	5	17	34	12
Máximo del eclipse	ene	5	19	41	30
Termina el eclipse	ene	5	21	3	48

II.- Eclipse total de Luna del 21 al 22 de enero de 2019.

El eclipse se observará en el Continente Americano, África, la región central de Asia, Europa con excepción de Inglaterra, Suecia, Finlandia, el noroeste de Francia, Oeste de España, Portugal.

<i>Circunstancias del eclipse</i>	<i>mes</i>	<i>día</i>	<i>h</i>	<i>m</i>	<i>s</i>
Inicio el eclipse penumbral	ene	20	20	35	0
Inicia el eclipse umbral o total	ene	20	20	40	48
Máximo del eclipse	ene	20	23	12	18
Termina el eclipse umbral o total	ene	21	0	51	0
Termina el eclipse penumbral	ene	21	49	36	

III.- Eclipse total de Sol el 2 de julio de 2019.

El inicio del eclipse ocurrirá al noreste de Nueva Zelanda, la umbra recorrerá el Océano Pacífico hacia las costas de Chile y terminará en el Mar del Plata en Argentina. Como parcial se observará en Brasil, Bolivia Paraguay, Argentina y Chile.

<i>Circunstancias del eclipse</i>	<i>mes</i>	<i>día</i>	<i>h</i>	<i>m</i>	<i>s</i>
Inicia el eclipse parcial	jul	2	10	55	12
Inicia el eclipse umbral o total	jul	2	12	1	42
Máximo del eclipse	jul	2	13	21	42
Termina el eclipse umbral o total	jul	2	14	44	18
Termina el eclipse parcial	jul	2	15	50	42

Eclipses 2019

Hora del meridiano 90° W.G.

IV.- Eclipse parcial de Luna el 16 de julio de 2019.

Se observará en la región central y Este de Asia, al Oeste de África, Oeste de Ewuropael Océno Atlántico y el Mar Caribe. En Centroamérica, al sur de Guatemala, Oeste de Venezuela, Colombia, Ecuador y Oeste de Perú.

<i>Circunstancias del eclipse</i>	<i>mes</i>	<i>día</i>	<i>h</i>	<i>m</i>	<i>s</i>
Inicia el eclipse penumbral	jul	12	42	6	
Inicia el eclipse umbral	jul	16	14	1	18
Máximo del eclipse	jul	16	15	30	48
Termina el eclipse umbral	jul	17	0	1	
Termina el eclipse penumbral	jul	16	18	19	30

V.- Eclipse anular de Sol del 26 al 27 de diciembre de 2019.

El inicio del eclipse se observará al sureste de la Península Arabia y la trayectoria d ella umbra pasará por el sur de la India, Indonesia y Filipinas. Se observará como parcial en Asia, el Océano Índico y Australia.

<i>Circunstancias del eclipse</i>	<i>mes</i>	<i>día</i>	<i>h</i>	<i>m</i>	<i>s</i>
Inicia el eclipse penumbral	dic	26	20	29	48
Inicia el eclipse anular	dic	26	21	36	42
Máximo del eclipse anular	dic	26	23	14	42
Termina el eclipse anular	dic	27	0	59	48
Termina el eclipse penumbral	dic	2	5	42	

Tránsito de Mercurio el 11 de noviembre de 2019

<i>Circunstancias del tránsito</i>	<i>mes</i>	<i>día</i>	<i>h</i>	<i>m</i>	<i>s</i>
Contacto exterior, ingreso	nov	11	6	35	27
Primer contacto interior	nov	11	6	37	9
Máximo del tránsito	nov	11	9	19	48
Segundo contacto interior	nov	11	12	2	33
Segundo contacto exterior egreso	nov	11	12	4	14

Tránsito de Mercurio, el 11 de noviembre de 2019

Hora de meridiano 90° W.G.

	Ingreso		Media	Egreso			Ingreso		Media	Egreso				
	h	m	h	m	h		m	h	m	h	m			
	6	36.1	9	20.4	12	4.5		6	36.1	9	20.4	12	4.5	
Poblaciones	Ac	Alt	Alt	Ac	Alt		Ac	Alt	Alt	Ac	Alt		Ac	Alt
	°	°	°	°	°		°	°	°	°	°		°	°
Aguascalientes														
Aguascalientes	109	-5	29	298	50									
Calvillo	109	-5	29	298	50									
Puertecito	109	-5	29	298	50									
Rincón de Romos	109	-5	28	298	49									
Baja California														
Bailador Isla	109	-19	13	298	37									
Cedros Isla	109	-18	15	298	40									
Ensenada	109	-19	13	298	37									
Gpe Isla	109	-21	12	298	38									
Mexicali	109	-19	13	298	36									
San Benito Isla	109	-18	15	298	40									
San Pedro Mártir	109	-18	14	298	37									
Baja California Sur														
Asunción Isla	109	-17	16	298	41									
José del Cabo	109	-12	22	298	47									
La Paz	109	-13	21	298	46									
Muleje	109	-14	19	298	43									
Roca Alijos Isla	109	-15	19	298	45									
San Marcos Isla	109	-15	18	298	42									
Tortugas Isla	109	-14	19	298	42									
Campeche														
Becal	109	5	38	298	52									
Bolonchenticul	109	6	39	298	52									
Campeche	109	6	39	298	53									
Carmen Isla	109	5	39	298	54									
Champtomon	109	6	39	298	53									
Dzibalchen	109	6	39	298	53									
Escarcega	109	6	39	298	54									
Iturbide	109	6	39	298	53									
Lerma	109	6	39	298	54									
Palizada	109	4	37	298	53									
Coahuila														
Acuna	109	-5	25	298	43									
Cuatro Ciénegas	109	-6	26	298	46									
Laguna de Jaco	109	-7	25	298	44									
Monclova	109	-5	27	298	46									
Parras	109	-6	26	298	46									
Piedras Negras	109	-5	26	298	44									
Saltillo	109	-4	28	298	47									
Torreon	109	-7	26	298	46									
Viesca	109	-6	26	298	46									
Colima														
Colima	109	-5	29	298	52									
Manzanillo	109	-6	28	298	52									
Socorro Isla	109	-11	24	298	51									
Chiapas														
Chiapas														
Cacahuanton	109	6	41	298	58									
Catazaja	109	5	39	298	55									
Comitan	109	5	39	298	56									
Chiapa de Corzo	109	4	39	298	56									
Jaltenango	109	5	40	298	57									
Las Margaritas	109	4	39	298	57									
Ocosingo	109	5	39	298	56									
Pichucalco	109	4	38	298	55									
Puerto Madero	109	5	40	298	58									
Suchiate	109	6	41	298	58									
Tuxtla Gutiérrez	109	4	39	298	56									
Chihuahua														
Ahumada	109	-11	21	298	41									
Camargo	109	-9	23	298	44									
Ciudad Juárez	109	-11	20	298	40									
Cusihuiachi	109	-10	22	298	43									
Chihuahua	109	-10	22	298	43									
Guadalupe y Calvo	109	-10	23	298	45									
Ojinaga	109	-9	23	298	42									
Parral Hidalgo del	109	-9	24	298	45									
Valle del Rosario	109	-10	22	298	44									
Ciudad de México														
Atzacapotzalco	109	-1	32	298	53									
Ciudad Universitaria	109	-1	32	298	53									
Chapultepec	109	-1	32	298	53									
Ixtapalapa	109	-1	32	298	53									
México	109	-1	32	298	53									
Tacubaya	109	-1	32	298	53									
Tlalpam	109	-1	32	298	53									
Xochimilco	109	-1	32	298	53									
Durango														
Ciudad Lerdo	109	-7	26	298	46									
Durango	109	-7	26	298	47									
Gomez Palacio	109	-7	26	298	46									
Nazas	109	-8	25	298	46									
Santa Maria Ocotlán	109	-7	27	298	49									
Santiago Papasquiaro	109	-8	24	298	46									
Tepehuanes	109	-8	24	298	46									
Tlahualilo	109	-7	25	298	45									
Guerrero														
Acapulco	109	-1	34	298	56									
Coyuca de Catalán	109	-2	32	298	54									
Chilpancingo	109	-1	33	298	55									
Petatlán	109	-3	32	298	55									
San Marcos	109	-1	34	298	56									
Taxco	109	-1	33	298	54									
Teloloapan	109	-1	33	298	54									

Tránsito de Mercurio, el 11 de noviembre de 2019

Hora de meridiano 90° W.G.

	Ingreso		Media	Egreso			Ingreso		Media	Egreso	
	h	m	h	m	h		m	h	m	h	m
	6	36.1	9	20.4	12		4.5	6	36.1	9	20.4
Poblaciones	Ac	Alt	Alt	Ac	Alt	Poblaciones	Ac	Alt	Alt	Ac	Alt
Zihuatanejo	109	-3	32	298	55	Toluca	109	-1	32	298	53
Zirandaro	109	-2	32	298	54	Michoacán					
Guanajuato						Cotija	109	-4	30	298	52
Abasolo	109	-3	31	298	52	Janitzio	109	-3	31	298	53
Celaya	109	-3	31	298	52	Maravatio	109	-2	32	298	53
Doloreshidalgo	109	-3	30	298	51	Morelia	109	-3	31	298	53
Guanajuato	109	-4	30	298	51	Patzcuaro	109	-3	31	298	53
Irapuato	109	-4	30	298	52	Tacambaro	109	-3	31	298	53
León	109	-4	30	298	51	Uruapan	109	-4	30	298	52
Salamanca	109	-4	30	298	52	Zacapu	109	-3	31	298	53
S. Miguel de Allende	109	-3	31	298	52	Zitacuaro	109	-2	32	298	53
Xichu	109	-3	30	298	51	Morelos					
Yuriria	109	-3	31	298	52	Cuautla	109	0	34	298	54
Hidalgo						Cuernavaca	109	-1	33	298	54
Apan	109	-1	33	298	53	Huitzilac	109	-1	32	298	53
Huichapan	109	-2	32	298	52	Oaxtepec	109	0	34	298	54
Nopala	109	-1	32	298	52	Yautepec	109	-1	33	298	54
Pachuca	109	-1	32	298	52	Nayarit					
Pisaflores	109	-2	31	298	51	Acaponeta	109	-8	26	298	49
Realdelmonte	109	-1	32	298	52	Ixtlandelrio	109	-7	27	298	50
Tezontepic	109	-1	33	298	53	Mezcaltitan	109	-7	27	298	50
Tulancingo	109	-1	32	298	52	San Blas	109	-7	27	298	50
Zimapan	109	-2	32	298	52	Tepic	109	-7	27	298	50
Jalisco						Tuxpan	109	-7	27	298	50
Cihuatlan	109	-6	28	298	52	Nuevo León					
Cocula	109	-5	29	298	51	Cerralvo	109	-4	28	298	46
Colotlan	109	-6	27	298	49	Galeana	109	-4	28	298	48
Guadalajara	109	-5	29	298	51	Linares	109	-3	29	298	48
Lagosdemoreno	109	-4	30	298	51	Montemorelos	109	-3	29	298	47
Puertovallarta	109	-7	27	298	51	Monterrey	109	-4	28	298	47
Tecatitlan	109	-5	29	298	52	Vallecillo	109	-4	28	298	46
Tequila	109	-5	29	298	51	Villaldama	109	-4	27	298	46
México						Zaragoza	109	-3	30	298	49
Amecameca	109	-1	33	298	53	Oaxaca					
Atacomulco	109	-1	33	298	53	Etla	109	1	36	298	55
Chalco	109	-1	33	298	53	Guichicovi	109	2	37	298	56
Huexotla	109	-1	33	298	53	Guelatao	109	1	36	298	55
Ixtapandelasal	109	-1	33	298	54	Huatulco	109	2	37	298	57
Naucalpan	109	-1	32	298	53	Huautla	109	1	35	298	54
Otumba	109	-1	33	298	53	Juchitlán de Zaragoza	109	2	37	298	56
Ozumba	109	-1	33	298	53	Miahuatlán	109	1	36	298	56
Popocatépetl	109	-1	33	298	53	Oaxaca de Juárez	109	1	36	298	55
S. Antonio del Rosario	109	-2	32	298	54	Ocotepic	109	1	36	298	55
Tecamac	109	-1	33	298	53	Puerto Ángel	109	2	37	298	57
Tenancingo	109	-1	33	298	54	Putla	109	0	35	298	55
Texcoco	109	-1	33	298	53	Salinas Cruz	109	2	37	298	56
Tlalmanalco	109	-1	33	298	53	Tehuantepec	109	2	37	298	56
Tlalnepantla	109	-1	32	298	53						

Tránsito de Mercurio, el 11 de noviembre de 2019

Hora de meridiano 90° W.G.

Poblaciones	Ingreso		Media		Egreso		Poblaciones	Ingreso		Media		Egreso	
	h	m	h	m	h	m		h	m	h	m	h	m
	6	36.1	9	20.4	12	4.5		6	36.1	9	20.4	12	4.5
	Ac	Alt	Alt	Ac	Alt		Ac	Alt	Alt	Ac	Alt	Ac	Alt
	°	°	°	°	°		°	°	°	°	°	°	°
Tlaxiaco	109	0	35	298	55	Badiraguato	109	-10	23	298	45		
Valle Nacional	109	1	36	298	55	Culiacan	109	-10	23	298	46		
Yalalag	109	1	36	298	55	La Laguna	109	-11	21	298	44		
Puebla						Mazatlán	109	-9	25	298	48		
Atlixco	109	0	34	298	54	Mocorito	109	-10	23	298	45		
Cuautlancingo	109	-1	33	298	53	Rosario	109	-8	26	298	49		
Chila Asunción	109	0	35	298	55	Santa María	109	-12	21	298	45		
Cholula	109	-1	33	298	53	Sinaloa	109	-11	22	298	45		
Huauchinango	109	-1	32	298	52	Topolobampo	109	-12	21	298	45		
Huejotzingo	109	-1	33	298	53	Sonora							
Izucar de Matamoros	109	0	34	298	54	Agua Prieta	109	-13	18	298	39		
Popocatepetl	109	-1	33	298	53	Alamos	109	-12	21	298	43		
Puebla de Zaragoza	109	-1	33	298	53	Altar	109	-15	17	298	40		
S. Martín Texmelucán	109	-1	33	298	53	Arizpe	109	-14	18	298	40		
Tecali	109	0	34	298	54	Baroyeca	109	-12	20	298	43		
Tepeji Rodríguez	109	0	34	298	54	Cananea	109	-14	18	298	40		
Tlaltenango	109	-1	33	298	53	Ciudad Obregón	109	-12	20	298	43		
Tonantzintla	109	-1	33	298	53	Guaymas	109	-13	19	298	43		
Zacatlán de Las Manz.	109	0	34	298	53	Hermosillo	109	-14	18	298	41		
Querétaro						Huatabampo	109	-12	21	298	44		
Arroyo Seco	109	-2	31	298	51	Macoyahui	109	-12	21	298	43		
Cadereyta	109	-2	32	298	52	Navojoa	109	-12	20	298	43		
Jalpan	109	-2	31	298	51	Nogales	109	-14	17	298	39		
Querétaro	109	-3	31	298	52	Sahuaripa	109	-13	19	298	41		
San Juan del Río	109	-2	32	298	52	Santa Clara	109	-18	14	298	38		
Tequisquiapan	109	-2	32	298	52	Soyopa	109	-13	20	298	42		
Quintana Roo						Tiburón	109	-15	17	298	41		
Cabo Catoche	109	7	39	298	50	Yabaros	109	-12	21	298	44		
Carrillo Puerto	109	7	40	298	52	Tabasco							
Cozumel	109	9	41	298	51	Astapa	109	5	39	298	55		
Chetumal	109	8	41	298	53	Comalcalco	109	3	37	298	54		
Kantunil Kin	109	7	39	298	50	Ignacio Allende	109	4	38	298	54		
Santa Cruz Chico	109	8	41	298	53	Tapijulapa	109	5	39	298	55		
Xkalak	109	9	41	298	53	Tierra Colorada	109	5	39	298	55		
Xkanha	109	6	39	298	53	Villahermosa	109	5	39	298	55		
San Luis Potosí						Xicotencatl	109	5	39	298	55		
Arista	109	-3	30	298	50	Tamaulipas							
Matehuala	109	-4	29	298	49	Camargo	109	-3	29	298	46		
Río Verde	109	-2	31	298	51	Ciudad Victoria	109	-3	30	298	49		
San Luis Potosí	109	-3	30	298	50	Cruillas	109	-2	30	298	48		
Tamazunchale	109	-1	32	298	51	Guemes	109	-3	30	298	49		
Tamuín	109	-1	32	298	51	Guerrero	109	-4	28	298	46		
Sinaloa						Jaumave	109	-3	30	298	49		
Altata	109	-10	23	298	46	Matamoros	109	-2	30	298	47		
						Mendez	109	-2	29	298	47		
						Mier	109	-4	28	298	46		
						Miquihuana	109	-3	30	298	49		

Tránsito de Mercurio, el 11 de noviembre de 2019

Hora de meridiano 90° W.G.

	Ingreso		Media	Egreso			Ingreso		Media	Egreso	
	h	m	h	m	h		m	h	m	h	m
	6	36.1	9	20.4	12		4.5	6	36.1	9	20.4
Poblaciones	Ac	Alt	Alt	Ac	Alt	Poblaciones	Ac	Alt	Alt	Ac	Alt
	°	°	°	°	°		°	°	°	°	°
Ocampo	109	-2	32	298	52	Tierra Blanca	109	1	35	298	54
Reynosa	109	-3	29	298	46	Tihuatlán	109	0	33	298	52
Tampico	109	-1	32	298	50	Tlacotalpan	109	1	36	298	54
Tlaxcala						Tuxpan	109	0	33	298	52
Cuauhutotouhuatlan	109	-1	33	298	53	Veracruz	109	0	35	298	53
Huamantla	109	0	34	298	53	Zongolica	109	1	35	298	54
Tlaxcala	109	-1	33	298	53	Yucatán					
S. Martín Tezmelucan	109	-1	33	298	53	Becanthen	109	6	39	298	53
Veracruz						Celestum	109	5	38	298	52
Actopan	109	0	35	298	53	Chavihau	109	6	38	298	51
Alvarado	109	1	36	298	54	Maxcanu	109	6	39	298	52
Coatzacoalcos	109	2	37	298	54	Mérida	109	6	39	298	52
Coatzintla	109	0	33	298	52	Progreso	109	6	38	298	51
Cordoba	109	1	35	298	54	Telchac	109	6	38	298	51
Chicontepepec	109	-1	32	298	52	Tzimin	109	7	39	298	50
Huatusco	109	0	35	298	53	Yalkubul	109	7	39	298	50
Ixcatepec	109	-1	32	298	51	Zacatecas					
Jalapa	109	0	35	298	53	Calera	109	-5	28	298	49
Martínez de La Torre	109	0	33	298	52	Concepción del Oro	109	-5	28	298	48
Minatitlán	109	3	37	298	55	Fresnillo	109	-5	28	298	48
Orizaba	109	0	34	298	54	Jerez	109	-5	28	298	49
Papantla	109	0	33	298	52	Juchipila	109	-6	28	298	50
Pico Orizaba	109	0	34	298	53	Nochistlan	109	-5	29	298	50
Pl. Vicente	109	2	36	298	55	Obser. Astronómico	109	-5	28	298	49
Rizo	109	1	35	298	53	Pánuco	109	-5	28	298	49
Tamarindo	109	1	35	298	54	Sombrerete	109	-6	27	298	48
Tantoyucan	109	-1	32	298	51	Villanueva	109	-5	28	298	49
Tehuipango	109	0	34	298	54	Zacateca	109	-5	28	298	49

Poblaciones de la República Mexicana, 2019

Coordenadas geográficas (Anuario del Observatorio 1984)

ESTADO Población	latitud			longitud			alt m	δm	$\Delta \delta m$ /año	
	°	'	"	°	'	"		°	'	
Aguascalientes										
Aguascalientes	21	52	43	102	18	4	1888	5	42	-7
Asientos	22	14	18	102	5	29	2164	5	37	-7
Calvillo	21	50	45	102	44	14	1702	5	51	-7
Jesús María	21	57	45	102	20	48	1907	5	43	-7
Puertecito	21	57	52	102	15	15	2052	5	41	-7
Rincón de Romos	22	13	49	102	19	22	1957	5	42	-7
Baja California										
Bailador Isla	31	56	56	116	5	12	0	11	1	-5
Cedros Isla	28	3	53	115	11	35	0	10	8	-5
Ensenada	31	51	10	116	38	9	2	11	8	-5
Granito Isla	29	33	0	113	32	0	0	9	59	-5
Guadalupe Isla	29	10	45	118	19	30	0	10	58	-4
Mejía Isla	29	33	8	113	35	18	0	10	0	-5
Mexicali	32	40	0	115	27	0	0	11	0	-5
Miramar Isla	30	2	30	114	31	30	0	10	19	-5
Salsipuedes Isla	28	44	0	112	50	30	0	9	41	-5
San Benito Isla	28	18	8	115	36	12	0	10	16	-5
San Felipe	31	1	36	114	49	46	0	10	33	-5
San Jerónimo Isla	29	47	20	115	48	14	0	10	34	-5
San Pedro Mártir	31	2	39	115	27	49	2800	10	42	-5
San Quintín	30	22	16	115	59	10	0	10	43	-5
Baja California Sur										
Asunción Isla	27	6	21	114	18	15	0	9	47	-5
Catalina Isla	25	35	35	110	47	48	0	8	42	-5
Cerralvo Isla	24	22	0	109	55	29	0	8	19	-6
Coronados Isla	26	6	12	111	15	38	0	8	53	-5
Danaznte Isla	25	48	0	111	12	0	0	8	50	-5
El Triunfo	23	48	13	110	8	41	432	8	19	-5
Espíritu Santo Isla	24	34	43	110	21	30	0	8	28	-5
José del Cabo	23	4	8	109	40	36	7	8	7	-6
La Paz	24	9	41	110	20	44	10	8	25	-5
Miraflores	23	22	25	109	48	33	183	8	11	-6
Muleje	26	53	33	111	46	41	35	9	8	-5
Roca Alijos Isla	24	58	6	113	44	47	0	9	20	-5
San Bartolo	23	44	16	109	52	15	353	8	14	-5
San Marcos Isla	27	14	35	112	5	23	0	9	16	-5
Santa Inés Isla	27	2	34	111	53	28	0	9	11	-5
Santiago	23	28	24	109	43	21	98	8	10	-6
Tortugas Isla	27	26	59	111	52	59	0	9	14	-5
Campeche										
Becal	20	26	34	90	1	36	12	0	-8	-8
Bolonchenticul	20	0	21	89	44	53	14	0	-14	-8
Calkini	20	22	21	90	3	3	52	0	-7	-8
Campeche	19	50	47	90	32	14	5	0	13	-8
Carmen	18	38	22	91	50	16	3	1	4	-8
Carmen Isla	18	38	44	91	50	16	0	1	4	-8
Champoton	19	21	4	90	43	0	27	0	23	-8
Dzibalchen	19	27	41	89	43	55	100	0	-11	-8

Poblaciones de la República Mexicana, 2019

Coordenadas geográficas (Anuario del Observatorio 1984)

ESTADO Población	latitud			longitud			alt m	δm		$\Delta \delta m$ /año
	°	'	"	°	'	"		°	'	
Escarcega	18	36	25	90	43	55	75	0	28	-8
Hontun	19	34	49	90	11	12	50	0	3	-8
Holpechen	19	44	47	89	50	35	56	0	-9	-8
Iturbide	19	34	58	89	36	4	110	0	-16	-8
Lerma	18	15	39	90	36	12	5	0	27	-8
Palizada	19	6	13	92	4	42	46	1	9	-8
Pital	18	33	3	91	7	41	20	0	42	-8
Río Desenpeno	18	29	50	89	54	6	200	0	2	-8
Sabancury	18	58	34	91	10	51	2	0	41	-8
Xicalango	18	37	55	91	53	38	2	1	6	-8
Coahuila										
Acuna	29	19	33	100	55	51	200	5	18	-7
Allende	28	20	36	100	51	6	374	5	14	-7
Cuatro Ciénegas	26	58	19	102	4	9	742	5	44	-7
Jiménez	29	4	21	100	40	21	290	5	10	-7
Laguna de Jaco	27	57	28	103	57	6	1350	6	36	-7
Monclova	26	54	14	101	25	8	586	5	27	-7
Muzquiz	27	52	51	101	30	56	504	5	32	-7
Parras	25	27	0	102	10	0	1683	5	44	-7
Piedras Negras	28	42	25	100	31	2	220	5	5	-7
Sabinas	27	50	34	101	7	23	340	5	21	-7
Saltillo	25	26	37	100	59	22	1599	5	13	-7
San Pedro de Colonias	25	45	24	102	59	1	1103	6	5	-7
Sierra Mojada	27	17	8	103	42	7	1256	6	27	-7
Torreón	25	32	18	103	27	55	1140	6	16	-7
Unión	28	14	0	100	44	30	0	5	10	-7
Viesca	25	20	46	102	48	19	1093	5	59	-7
Zaragoza	28	30	36	100	52	8	540	5	15	-7
Colima										
Colima	19	14	29	103	43	47	508	6	10	-7
Madrid	19	4	57	103	52	38	120	6	12	-6
Manzanillo	19	3	15	104	19	46	3	6	21	-6
Socorro Isla	18	42	57	110	56	53	0	8	1	-5
Tecomán	18	54	31	103	52	38	80	6	12	-6
Chiapas										
Acapetahua	15	16	20	92	41	59	23	1	54	-8
Arista	15	56	8	93	48	41	0	2	21	-8
Cacahuanton	14	59	31	92	9	46	630	1	40	-8
Catazaja	17	43	56	92	1	57	7	1	16	-8
Cintalapa	16	41	58	93	43	24	545	2	14	-8
Comitan	16	15	12	92	7	41	1530	1	29	-8
Chiapa de Corzo	16	42	28	93	1	5	415	1	53	-8
Escuintla	15	18	53	92	39	58	110	1	52	-8
Huixtla	15	7	41	92	28	34	28	1	48	-8
Jaltenango	15	52	12	92	43	35	677	1	50	-8
Juárez	17	39	8	93	9	47	152	1	51	-8
La Gradeza	15	30	46	92	13	38	1950	1	38	-8
Las Margaritas	15	32	35	93	5	46	1512	2	3	-8
Mapastepec	15	25	52	92	54	27	85	1	59	-8
Mazatan	14	51	43	92	25	59	35	1	49	-8

Poblaciones de la República Mexicana, 2019

Coordenadas geográficas (Anuario del Observatorio 1984)

ESTADO Población	latitud			longitud			alt m	δm		Δδm '/año
	°	'	“	°	'	“		°	'	
Ocosingo	16	54	38	92	5	45	908	1	24	-8
Ocozacoautla	16	45	55	93	22	37	864	2	3	-8
Pichucalco	17	31	46	93	7	24	100	1	51	-8
Pueblo Nuevo	15	12	37	92	35	7	28	1	51	-8
Puerto Madero	14	42	59	93	25	37	2	2	19	-8
San Bartolome	16	19	29	92	33	36	804	1	42	-8
Suchiate	14	40	23	92	9	12	22	1	42	-8
Tonala	16	5	14	93	45	21	55	2	19	-8
Tuxtla Gutiérrez	16	45	20	93	6	46	528	1	56	-8
Villa Flores	16	14	8	93	16	3	610	2	4	-8
Yajalon	17	10	57	92	20	24	849	1	29	-8
Chihuahua										
Ahumada	30	37	18	106	31	12	1181	7	52	-6
Camargo	27	41	49	105	10	9	1653	7	4	-6
Cienaga de Ortiz	28	8	15	106	12	11	1300	7	30	-6
Ciudad Guerrero	28	32	57	107	29	27	2000	8	1	-6
Ciudad Jiménez	27	7	52	104	55	29	1381	6	56	-6
Ciudad Juárez	31	44	19	106	29	15	1144	7	58	-6
Coyame	29	27	42	105	5	44	1062	7	11	-6
Cuchillo Parado	29	26	34	104	52	58	900	7	6	-6
Cusihuirachi	28	14	25	106	50	13	1985	7	45	-6
Chihuahua	28	38	12	106	4	42	1430	7	30	-6
Chinipas	27	23	34	108	32	22	1640	8	15	-6
Galeana	30	6	52	107	37	51	1431	8	14	-6
Guadalupe	31	23	27	106	6	13	1113	7	46	-6
Guadalupe y Calvo	26	6	6	106	58	2	1100	7	36	-6
Guerrero	28	32	57	107	29	18	2000	8	1	-6
Meoqui	28	16	36	105	29	16	1155	7	14	-6
Namiquipa	29	15	5	107	24	34	1828	8	3	-6
Ocampo	28	10	59	108	22	27	1732	8	17	-6
Ojinaga	29	33	53	104	25	23	841	6	55	-6
Parral Hidalgo Del	26	56	4	105	39	58	1661	7	12	-6
Placer de Guadalupe	29	9	41	105	22	57	900	7	16	-6
San Buenaventura	29	50	47	107	29	10	1574	8	9	-6
San Ignacio	27	10	21	106	19	28	970	7	28	-6
Santa Bárbara	26	48	13	105	49	1	1969	7	15	-6
Santa Isabel	28	20	34	106	22	1	1630	7	35	-6
Satevo	27	57	17	106	6	32	1368	7	27	-6
Temosachic	28	57	12	107	49	50	1900	8	10	-6
Valle de Zaragoza	27	27	40	105	48	35	900	7	18	-6
Valle del Rosario	27	19	5	106	17	41	1480	7	28	-6
Ciudad de México										
Alamo	19	23	55	99	8	30	2246	4	28	-7
Atzacapotzalco	19	28	48	99	11	7	2277	4	29	-7
Ciudad Universitaria	19	20	1	99	10	54	2280	4	29	-7
Ciudad Universitaria	19	19	50	99	11	3	2280	4	29	-7
Coyoacán	19	20	54	99	9	45	2278	4	29	-7
Cuajimalpa	19	21	33	99	18	1	2783	4	32	-7
Chapultepec	19	25	11	99	10	52	2310	4	29	-7
Churubusco	19	21	17	99	8	56	2260	4	28	-7
Guadalupe Hidalgo	19	29	9	99	6	56	2200	4	27	-7

Poblaciones de la República Mexicana, 2019

Coordenadas geográficas (Anuario del Observatorio 1984)

ESTADO Población	latitud			longitud			alt m	δm		$\Delta \delta m$ '/año
	°	'	"	°	'	"		°	'	
Ixtacalco	19	23	22	99	7	16	2261	4	28	-7
Ixtapalapa	19	21	22	99	5	30	2280	4	27	-7
La Piedad	19	24	3	99	9	20	2253	4	29	-7
México	19	25	59	99	7	58	2233	4	28	-7
Mixcoac	19	22	37	99	10	55	2200	4	29	-7
Mixquic	19	13	28	98	57	52	2260	4	24	-7
Nativitas	19	23	12	99	8	48	2246	4	28	-7
San Jerónimo	19	19	33	99	13	20	2394	4	30	-7
San Simón	19	22	36	99	8	39	2100	4	28	-7
Tacubaya	19	24	10	99	11	40	2298	4	30	-7
Tlahuac	19	16	6	99	0	16	2264	4	25	-7
Tlalpan	19	17	16	99	9	57	2294	4	29	-7
Villa Obregón	19	20	41	99	11	21	2340	4	30	-7
Xochimilco	19	15	44	99	6	7	2274	4	28	-7
Durango										
Ciudad Lerdo	25	32	14	103	31	28	1135	6	17	-7
Cuencame	24	52	18	103	38	6	1889	6	18	-7
Durango	24	1	31	104	40	11	1889	6	38	-6
Gómez Palacio	25	34	18	103	30	17	1195	6	17	-7
Guanacevi	25	55	59	105	57	31	2230	7	14	-6
Inde	25	54	45	105	10	16	2049	6	56	-6
Llano Grande	23	52	2	105	12	7	2406	6	49	-6
Mezquital	23	28	57	104	22	18	1468	6	30	-6
Nazas	25	13	40	104	6	53	1264	6	30	-7
Nombre de Dios	23	51	4	104	15	25	1855	6	29	-7
Pueblo Nuevo	23	22	35	105	22	18	1982	6	51	-6
S. J. de Guadalupe	24	37	0	102	45	8	1520	5	56	-7
San Juan del Río	24	46	45	104	23	22	1737	6	35	-6
Santa María del Oro	25	56	53	105	19	56	1871	7	0	-6
Santa María Ocotlán	22	54	44	104	36	10	365	6	34	-6
Santiago Papasquiaro	25	2	47	105	25	30	1716	6	58	-6
Tamazula	24	58	11	106	58	13	240	7	30	-6
Tayoltita	24	6	27	105	55	30	500	7	5	-6
Tepehuanes	25	21	19	105	47	9	1967	7	7	-6
Tizonazo	25	58	4	105	15	33	1981	6	59	-6
Topia	25	12	19	106	34	34	1851	7	23	-6
Tlahualilo	26	6	31	103	26	21	1132	6	17	-7
Guerrero										
Acapulco	16	50	21	99	55	1	82	4	53	-7
Acahualco	18	13	30	99	28	52	790	4	39	-7
Coahuayutla	18	18	52	101	48	37	358	5	31	-7
Coatepec	18	20	22	99	42	56	1260	4	44	-7
Coyuca de Catalán	18	20	2	100	39	0	210	5	6	-7
Chaucingo	18	18	7	99	6	53	810	4	30	-7
Chilpancingo	17	33	10	99	30	3	1360	4	41	-7
Huamuxtitlán	17	48	37	99	34	2	1125	4	42	-7
Iguana	18	21	1	99	32	24	731	4	40	-7
La Unión	17	58	52	101	48	49	174	5	31	-7
Mayanalan	18	10	29	99	26	1	0	4	38	-7
Mezcala	17	56	13	99	36	6	420	4	43	-7
Pericotepec	17	57	40	100	13	0	770	4	57	-7

Poblaciones de la República Mexicana, 2019

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ESTADO Población	latitud			longitud			alt m	δm ° ' "	$\Delta \delta m$ '/año
	°	'	"	°	'	"			
Petatlán	17	32	8	101	17	0	0	5 21	-7
Placeres de Oro	18	14	31	100	53	57	0	5 11	-7
San Jerónimo	17	5	55	100	28	26	0	5 4	-7
San L. de La Loma	17	15	42	100	53	48	0	5 13	-7
San Marcos	16	47	31	99	20	41	210	4 40	-7
Santa Fetepetlapa	18	33	5	99	25	19	1090	4 37	-7
Taxco	18	33	16	99	36	20	1755	4 41	-7
Teloloapan	18	22	6	99	52	31	1620	4 48	-7
Tonalapa del Río	18	20	38	99	41	6	750	4 44	-7
Tepantitlanco	18	0	26	100	17	6	820	4 58	-7
Tepecoacuilco	18	17	10	99	27	55	1012	4 39	-7
Teteladelrio	17	59	7	100	4	50	350	4 54	-7
Tlacoztitlán	17	53	29	99	7	51	560	4 32	-7
Tlapehuala	18	14	21	100	31	18	235	5 3	-7
Zihuatanejo	17	38	14	101	33	48	0	5 27	-7
Zirandaro	18	29	4	100	58	0	193	5 13	-7
Guanajuato									
Abasolo	20	26	59	100	31	48	1760	5 0	-7
Acambaro	20	2	1	100	43	24	1947	5 5	-7
Apaseo	20	32	37	100	41	7	1767	5 4	-7
Apaseo El Alto	20	27	25	100	37	13	1853	5 2	-7
Atargea	21	16	5	99	43	5	1258	4 40	-7
C. González	21	28	44	101	12	52	2140	5 16	-7
Celaya	20	31	24	100	48	55	1808	5 7	-7
Cerano	20	6	41	101	23	26	1500	5 21	-7
Comonfort	20	43	15	100	45	51	1795	5 6	-7
Coronea	20	11	42	100	21	59	1998	4 57	-7
Cortazar	20	28	59	100	52	58	1800	5 9	-7
Cubilete E.	21	0	25	101	22	30	2480	5 20	-7
Cueramaro	20	37	36	101	40	23	1785	5 27	-7
Dolores Hidalgo	21	9	32	100	56	0	1987	5 9	-7
Guanajuato	21	1	1	101	15	20	2050	5 17	-7
Huanimaro	20	22	1	101	29	45	2459	5 23	-7
Ibarra	21	28	53	101	32	23	2110	5 24	-7
Irapuato	20	40	28	101	20	51	1795	5 19	-7
Iturbide	21	0	3	100	23	4	1100	4 56	-7
Jaral del Progreso	20	22	11	101	13	45	1743	5 17	-7
Jerécuaro	20	9	3	100	30	43	1100	5 0	-7
León	21	7	22	101	41	0	1885	5 27	-7
Manuel Doblado	20	43	49	101	57	14	1795	5 33	-7
Mora	21	8	47	100	19	0	2128	4 55	-7
Moroleon	20	7	54	101	11	36	1772	5 16	-7
Penjamo	20	25	44	101	43	22	1700	5 28	-7
Pueblo Nuevo	20	31	35	101	22	18	1714	5 20	-7
Purísima de Bustos	21	1	48	101	52	36	1780	5 31	-7
Romita	20	52	14	101	31	7	1792	5 23	-7
Salamanca	20	34	22	101	11	39	1721	5 16	-7
Salvatierra	20	12	56	100	53	46	1749	5 9	-7
San Diego de La Unión	21	27	56	100	52	25	2080	5 8	-7
San Fco. del Rincón	21	1	2	101	51	36	1721	5 31	-7
San Juan de Los Llanos	21	16	47	101	19	4	1000	5 19	-7

Poblaciones de la República Mexicana, 2019

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ESTADO Población	latitud			longitud			alt m	δm		$\Delta \delta m$ '/año
	°	'	"	°	'	"		°	'	
San José	20	56	13	100	58	32	2002	5	11	-7
San Luis de la Paz	21	17	57	100	30	52	2020	4	59	-7
San Miguel de Allende	20	54	52	100	44	47	1870	5	5	-7
Santa Catarina	21	8	27	100	14	10	1845	4	53	-7
Santa Cruz Galeana	20	38	35	100	59	50	1000	5	11	-7
Santiago Maravatio	20	10	28	100	59	38	1790	5	11	-7
Silao	20	56	24	101	25	59	1780	5	21	-7
Tarandacua	20	1	14	100	32	3	1920	5	1	-7
Tarimoro	20	17	39	100	45	20	1790	5	6	-7
Tierra Blanca	21	6	9	100	4	44	1760	4	49	-7
Uriangato	20	8	46	100	8	10	1800	4	51	-7
Valle de Santiago	20	23	31	101	11	21	1760	5	16	-7
Victoria	21	12	23	100	13	9	1760	4	52	-7
Villa Ocampo	21	38	52	101	28	50	2420	5	22	-7
Villagran	20	29	40	100	59	52	1790	5	11	-7
Xichu	21	18	0	100	3	37	1334	4	48	-7
Yuriria	20	12	51	100	8	19	1882	4	51	-7
Hidalgo										
Acayuca	20	1	48	98	50	30	2570	4	19	-7
Actopan	20	16	12	96	56	42	2069	3	28	-8
Ahuehuevo	21	1	43	98	54	24	2500	4	19	-7
Altajayucan	20	24	40	99	20	59	1898	4	31	-7
Apan	19	39	35	98	24	10	2493	4	9	-7
Atonilco Grande	20	17	6	98	40	13	2138	4	14	-7
Bonanza	20	43	12	99	14	36	1900	4	28	-7
Chapantongo	20	17	16	99	24	50	2145	4	33	-7
Chapulhuacan	21	9	29	98	54	22	1500	4	19	-7
Chicautla	20	19	54	99	13	49	1884	4	29	-7
Epazoyuca	20	1	33	98	37	26	2461	4	14	-7
Huasca	20	12	12	98	34	42	1900	4	12	-7
Huautla	21	2	3	98	16	54	1900	4	3	-7
Huejutla	21	8	43	98	24	58	2490	4	6	-7
Huichapan	20	22	37	99	38	58	2102	4	39	-7
Ixmiquilpan	20	29	4	99	13	5	1745	4	28	-7
Metxtitlan	20	35	45	98	45	30	1353	4	16	-7
Mexquititlan	20	32	0	98	38	27	1421	4	13	-7
Nopala	20	15	19	98	38	52	2437	4	14	-7
Orizatlan	21	10	35	98	36	40	1900	4	11	-7
Pachuca	20	7	44	98	43	54	2426	4	16	-7
Pisa Flores	21	11	44	99	0	15	1900	4	21	-7
Real del Monte	20	8	23	98	40	21	2679	4	15	-7
San Agustín Tlaxiaca	20	7	5	98	53	6	2372	4	20	-7
San Gabriel	19	52	44	98	36	58	1900	4	14	-7
San Juanico	19	54	14	98	40	17	1900	4	15	-7
San Pablo	20	38	38	98	55	21	1900	4	20	-7
Santa Monica	19	58	55	98	37	16	1900	4	14	-7
Singuilucan	20	1	52	98	19	59	2714	4	6	-7
Tasquillo	20	33	7	99	18	21	1720	4	30	-7
Tepetitlán	20	11	14	99	22	59	2000	4	33	-7
Tezontepec	19	52	44	98	49	10	2326	4	19	-7
Tianguistengo	20	44	0	98	37	34	1687	4	12	-7

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ESTADO Población	latitud			longitud			alt m	δm	$\Delta \delta m$ /año	
	°	'	"	°	'	"		°	'	
Tulancingo	20	4	58	98	22	8	2222	4	7	-7
Tlaxcoapan	20	5	40	99	13	29	2100	4	29	-7
Yolotepec	20	23	36	99	4	31	1900	4	25	-7
Zempoala	19	54	54	98	40	2	2532	4	15	-7
Zimapan	20	44	20	99	22	58	1813	4	32	-7
Jalisco										
Ameca	20	32	47	104	2	46	1235	6	17	-6
Atoyac	20	0	40	103	31	12	1350	6	6	-7
Autlan de Navarro	19	46	13	104	22	4	688	6	23	-6
Bolanos	21	46	31	103	46	58	910	6	14	-7
Cabo Corriente	20	24	42	105	40	50	81	6	48	-6
Carranza	19	44	46	103	46	18	0	6	11	-7
Cihuatlan	19	14	8	104	33	36	0	6	26	-6
Ciudad Guzmán	19	42	13	103	27	53	1507	6	5	-7
Cocula	20	23	55	103	49	27	1432	6	13	-7
Colotlán	22	6	51	103	16	8	0	6	4	-7
Encarnación de Díaz	21	31	37	102	14	6	1814	5	40	-7
Guachinango	20	34	38	104	22	59	1285	6	24	-6
Guadalajara	20	42	32	103	23	9	1567	6	4	-7
Guerrero	21	59	4	103	35	52	1785	6	10	-7
Hostotipaquillo	21	3	46	104	4	21	1079	6	19	-7
Huejuquilla	22	37	42	103	53	58	1480	6	18	-7
La Barca	20	16	37	102	32	53	1517	5	46	-7
La Rosa	19	45	7	103	10	2	0	5	59	-7
Lagos de Moreno	21	21	20	101	55	24	1942	5	33	-7
Ojuelos	21	52	5	101	35	20	2254	5	25	-7
Puerto Vallarta	20	36	56	105	14	42	5	6	41	-6
San Miguel del Alto	21	1	52	102	24	12	2385	5	43	-7
San Pedro Anzalco	21	14	54	103	57	57	0	6	17	-7
Talpa de Allende	20	23	41	104	49	52	1039	6	32	-6
Tapatitlán	20	48	48	102	45	41	1764	5	51	-7
Tecatitlán	19	28	16	103	18	30	1036	6	1	-7
Tecomates	19	33	8	104	29	18	0	6	25	-6
Tecaltiche	21	26	11	102	34	32	2240	5	47	-7
Tequila	20	53	33	103	50	8	1215	6	14	-7
Unión de Tula	19	57	37	104	16	7	1385	6	21	-6
México										
Acambay	19	57	18	99	50	47	2552	4	44	-7
Amecameca	19	7	36	98	46	0	2468	4	20	-7
Analco de Becerra	19	15	34	100	1	26	2511	4	50	-7
Atlacomulco	19	48	7	98	52	48	2526	4	21	-7
Ayotla	19	18	55	98	56	8	2251	4	23	-7
Chalco	19	15	53	98	54	12	2280	4	23	-7
Chapa de Mota	19	47	24	99	31	23	3070	4	37	-7
Chicoloapan	19	25	3	98	54	11	2235	4	22	-7
Chimalhuacan	19	25	45	98	56	57	2255	4	23	-7
Coatlichan	19	27	4	98	52	34	2200	4	21	-7
Ecatzingo de Hidalgo	18	57	2	98	45	29	2340	4	20	-7
Huexotla	19	28	50	98	52	25	2200	4	21	-7
Huizquilucan	19	21	47	99	21	39	2750	4	34	-7
Ixtapan de La Sal	18	50	13	99	40	28	1900	4	42	-7

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ESTADO Población	latitud			longitud			alt m	δm		Δδm '/año
	°	'	“	°	'	“		°	'	
Ixtlahuaca	19	52	54	98	51	39	2640	4	20	-7
Jilotepec	19	57	13	99	31	45	2525	4	37	-7
Lerma	19	17	16	99	30	34	2599	4	37	-7
Los Reyes	19	21	27	98	52	42	2200	4	22	-7
Naucalpan	19	28	36	99	13	45	2298	4	30	-7
Otumba	19	41	59	98	45	33	2349	4	18	-7
Ozumba	19	2	3	98	47	50	2500	4	21	-7
Progreso Industrial	19	37	37	99	20	32	2449	4	33	-7
Popocatépetl	19	1	17	98	37	34	5452	4	16	-7
Popocatépetl	19	5	3	98	39	12	5450	4	17	-7
Remedios	19	28	25	99	15	2	2383	4	31	-7
San Antonio del Rosario	18	24	4	100	18	43	3350	4	58	-7
San Cristobal	19	24	24	99	19	40	2239	4	33	-7
San Pedro Atzapatzaltongo	19	37	38	99	18	54	2420	4	32	-7
San Pedro Atzompa	19	40	56	99	0	36	2243	4	24	-7
Sultepec	18	50	0	99	51	44	2336	4	47	-7
Tecamac	19	42	21	98	58	10	2300	4	23	-7
Temascalapa	19	49	37	98	54	11	2347	4	21	-7
Temascaltepec	19	2	24	100	2	47	1640	4	51	-7
Tenancingo	18	57	51	99	35	45	2022	4	40	-7
Teoloyucan	19	44	48	99	10	53	2280	4	28	-7
Texcoco	19	30	52	98	52	57	2278	4	22	-7
Tlalmanalco	19	12	36	98	48	27	2412	4	20	-7
Tlalnepantla	19	32	20	99	11	39	2278	4	29	-7
Toluca	19	17	33	99	39	38	2680	4	41	-7
Michoacán										
Aguililla	18	44	17	102	44	9	970	5	50	-7
Agostitlán	19	32	6	100	37	13	2500	5	3	-7
Apatzingan	19	4	54	102	15	31	682	5	40	-7
Apo	19	26	38	102	25	2	0	5	43	-7
Ario de Rosales	19	12	21	101	44	19	2050	5	29	-7
Buenavista	19	12	3	102	35	35	586	5	47	-7
Coahuayana	18	45	9	103	40	30	20	6	8	-7
Cotija	19	48	41	102	42	26	1751	5	49	-7
Hidalgo	19	41	19	100	33	23	2360	5	2	-7
Huajumbaro	19	40	52	100	44	29	2390	5	6	-7
Irimbo	19	41	54	100	28	58	2015	5	0	-7
Janitzio	19	34	27	101	39	11	2120	5	27	-7
Jiquilpan	19	59	31	102	43	16	1654	5	50	-7
La Huacana	18	57	36	101	48	39	550	5	30	-7
Los Reyes	19	35	23	102	28	57	1280	5	45	-7
Maravatio	19	53	33	100	26	43	2080	4	59	-7
Morelia	19	42	16	101	11	30	1941	5	16	-7
Ostula	18	29	50	103	28	19	229	6	4	-7
Panindicuario	19	59	7	102	45	40	1638	5	50	-7
Paracuaro	19	8	46	103	13	32	586	6	0	-7
Paracho	19	38	44	102	3	1	1567	5	35	-7
Patzcuaro	19	32	24	101	37	0	2174	5	26	-7
Penjamillo	20	6	31	101	55	40	1645	5	33	-7
Piedad de Cavadas	20	20	44	102	1	32	1696	5	35	-7
Pueblo Viejo	19	46	16	101	34	3	2210	5	25	-7

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ESTADO Población	latitud			longitud			alt m	δm		$\Delta \delta m$ '/año
	°	'	"	°	'	"		°	'	
Puruandiro	20	5	21	101	30	59	1994	5	23	-7
San Pedro Jacuaro	19	43	1	100	38	49	2004	5	4	-7
Senguio	19	44	11	100	21	31	2030	4	57	-7
Tacambaro	19	13	52	101	27	34	1577	5	23	-7
Tequicheo	18	54	0	100	44	21	440	5	7	-7
Tepalcatepec	19	11	31	102	50	35	320	5	52	-7
Tumbiscatio	18	31	33	102	22	28	820	5	43	-7
Turicato	19	3	0	101	25	14	795	5	22	-7
Tuzantla	19	12	19	100	34	39	640	5	3	-7
Uruapan	19	24	56	102	3	46	1634	5	36	-7
Villa Madero	19	23	30	101	16	34	800	5	18	-7
Zacapu	19	49	11	101	47	34	1980	5	30	-7
Zamora	19	59	17	102	18	52	1567	5	41	-7
Zinapécuaro	19	53	5	100	40	32	1920	5	4	-7
Zitacuaro	19	25	51	100	21	50	1781	4	58	-7
Morelos										
Acapatzingo	18	54	11	99	13	17	1465	4	31	-7
Acatlipa	18	49	30	99	13	42	1215	4	32	-7
Ahuacatitlán	18	58	42	99	15	19	1955	4	32	-7
Atlatlahuacan	18	56	5	98	53	53	1656	4	23	-7
Coatetelco	18	43	55	99	19	48	1029	4	34	-7
Cuajomulco	19	2	2	99	12	17	2651	4	31	-7
Cuautla	18	48	20	98	57	13	1309	4	25	-7
Cuernavaca	18	54	54	99	14	14	1542	4	32	-7
Chapultepec	18	55	11	99	12	49	1492	4	31	-7
Huautla	18	26	24	99	1	44	1075	4	28	-7
Huitzilac	19	1	39	99	16	2	2540	4	32	-7
Itzamatitlán	18	53	58	99	1	30	1235	4	27	-7
Jojutla	18	36	39	99	10	52	890	4	31	-7
Oaxtepec	18	54	2	98	58	11	1385	4	25	-7
Smiguel	18	41	42	98	48	40	1403	4	22	-7
Tejalpa	18	53	43	99	9	57	1337	4	30	-7
Tepalcingo	18	35	34	98	50	43	1220	4	23	-7
Tetelcingo	18	51	55	98	55	47	1425	4	24	-7
Xiutepec	18	52	31	99	10	27	1355	4	30	-7
Xochitepec	18	47	4	99	13	50	1154	4	32	-7
Yautepec	18	52	38	99	3	46	1282	4	28	-7
Yecapixtla	18	52	56	98	51	55	1603	4	23	-7
Nayarit										
Acaponeta	22	29	21	105	21	41	30	6	48	-6
Amatlan de Jara	21	23	9	104	8	47	1150	6	21	-6
Huajimic	21	41	29	104	18	18	1170	6	25	-6
Ixtapan	21	18	16	105	9	44	0	6	41	-6
Ixtlan del Rio	21	2	9	104	22	16	1042	6	25	-6
Jesus María	22	15	9	104	31	10	610	6	30	-6
Mezcaltitan	21	54	18	105	28	39	0	6	49	-6
Ruiz	21	57	29	105	8	35	24	6	42	-6
San Blas	21	32	27	105	17	16	2	6	44	-6
San Martín de Bolanos	21	29	42	104	1	35	0	6	19	-7
Tepic	21	30	47	104	53	42	915	6	36	-6
Tuxpan	21	54	10	104	8	6	39	6	22	-7

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ESTADO Población	latitud			longitud			alt m	δm	$\Delta \delta m$ /año	
	°	'	"	°	'	"		°	'	
Nuevo León										
Agualeguas	26	18	38	99	33	3	207	4	34	-7
Arramberri	24	6	10	99	49	3	1076	4	41	-7
Cadereyta Jiménez	25	35	34	99	59	54	360	4	46	-7
Cerralvo	26	5	32	99	36	29	345	4	35	-7
China	25	42	30	99	13	55	163	4	25	-7
Doctor Arroyo	23	40	23	100	10	52	1766	4	50	-7
Galeana	24	49	41	100	3	53	1654	4	48	-7
García	25	48	49	100	35	21	697	5	3	-7
Lampazos de Naranjo	27	1	32	100	30	33	340	5	2	-7
Linares	24	51	39	99	34	5	684	4	34	-7
Los Aldamas	26	3	58	99	11	30	288	4	23	-7
Mier y Noriega	23	25	19	100	7	11	1681	4	49	-7
Montemorelos	25	11	34	99	49	31	432	4	41	-7
Monterrey	25	40	11	100	18	26	538	4	55	-7
Parras	26	30	5	99	31	5	165	4	33	-7
Sabinas Hidalgo	26	29	59	100	10	9	313	4	52	-7
Salinas Victoria	25	57	34	100	18	0	464	4	55	-7
Santiago Huajuco	25	25	35	100	8	17	445	4	50	-7
Vallecillo	26	39	41	99	58	2	274	4	46	-7
Villa Aldama	26	29	49	100	25	50	469	4	59	-7
Zaragoza	23	50	52	99	36	19	1377	4	35	-7
Oaxaca										
Ayutla	18	1	48	96	39	46	733	3	29	-8
Ayoquezco	16	41	13	96	50	2	0	3	39	-8
Ayotzintepec	17	40	38	96	8	17	64	3	17	-8
Coatzopan	18	2	56	96	45	31	1922	3	31	-8
Colotepec	15	53	33	96	56	28	0	3	46	-8
Cuicatlan	17	48	11	96	57	36	595	3	38	-8
Chacalapa	15	55	20	95	55	48	555	3	20	-8
Chalcatongo	17	1	57	97	34	24	2365	3	57	-8
Ecatepec	16	17	8	95	52	39	1690	3	16	-8
Ejutla de Crespo	16	33	48	96	43	44	1440	3	37	-8
Etla	17	12	17	96	47	49	1640	3	36	-8
Guichicovi	16	58	35	95	13	52	297	2	55	-8
Guelatao	17	19	15	96	29	34	1698	3	28	-8
Guelatao	17	19	10	96	29	31	1600	3	28	-8
Huajuapán de León	17	48	30	97	46	31	1680	3	59	-8
Huamelulas Pedro	16	1	39	95	40	1	1030	3	12	-8
Huatulco	15	49	44	96	19	11	325	3	30	-8
Huautla	18	7	53	96	50	45	1714	3	33	-8
Jamiltepec	16	16	33	97	49	23	240	4	6	-7
Juchitlan de Zaragoza	16	25	56	95	1	31	38	2	53	-8
Juguila	16	14	6	97	17	45	1500	3	53	-8
Juxtlahuaca	17	20	11	98	0	56	1650	4	6	-7
Lachiguiri	16	23	9	97	20	8	1780	3	53	-8
Loxicha	16	0	31	96	37	20	1885	3	37	-8
Mazatlán	17	2	11	95	26	48	642	3	1	-8
Miahuatlán	16	20	1	96	35	44	1607	3	35	-8
Nejapa	16	36	50	95	58	48	1000	3	17	-8
Niltepec	16	33	47	94	36	48	110	2	40	-8
Nochixtlán	17	27	33	97	13	29	2200	3	46	-8

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ESTADO Población	latitud			longitud			alt m	δm		$\Delta \delta m$ '/año
	°	'	"	°	'	"		°	'	
Oaxaca de Juárez	17	3	43	96	43	18	1550	3	35	-8
Ocoatepec	17	47	53	96	23	47	1636	3	23	-8
Ojitlan	18	3	42	96	23	31	0	3	22	-8
Ojitlan	18	3	35	96	23	34	233	3	22	-8
Pluma Hidalgo	15	54	50	96	25	30	1475	3	33	-8
Pochutla	15	44	21	96	27	57	163	3	35	-8
Puerto Ángel	15	39	24	96	29	35	20	3	36	-8
Putla	17	1	28	97	56	2	1248	4	6	-7
Quiachapa	16	25	34	96	14	54	1900	3	25	-8
Quiotepec	17	54	8	96	59	0	845	3	38	-8
Salinas Cruz	16	9	37	95	12	11	70	2	59	-8
San Jerónimo Ixtepec	16	33	58	95	6	1	121	2	54	-8
San Miguel Peras	16	56	22	97	0	16	50	3	43	-8
San Vicente Coatlán	16	23	15	96	50	42	0	3	41	-8
Santa María del Mar	16	13	24	94	51	33	0	2	49	-8
Silacayoapan	17	30	14	98	8	38	1720	4	9	-7
Soladevega	16	31	1	96	58	22	1580	3	44	-8
Soyaltepec	18	12	12	96	28	57	0	3	23	-8
Suchixtepec	17	58	28	97	39	26	2842	3	55	-8
Tamazulapan	17	40	30	97	34	19	0	3	54	-8
Tecomavaca	17	57	34	97	1	5	660	3	39	-8
Tehuantepec	16	19	57	95	13	46	100	2	59	-8
Teotitlán del Camino	18	7	53	97	4	26	1067	3	39	-8
Teposcolula	17	30	45	97	29	16	2155	3	53	-8
Tequisistlán	16	24	21	95	36	2	1000	3	8	-8
Teutla	17	59	0	96	42	54	1338	3	31	-8
Tezoatlán	17	40	24	97	48	42	1500	4	0	-8
Tlaxiaco	17	15	59	97	40	58	1210	3	58	-8
Tlucula de Matamoros	16	57	19	96	28	43	1650	3	29	-8
Tololapan	16	40	4	96	18	12	0	3	26	-8
Tuxtepec	18	5	24	96	6	50	91	3	14	-8
Valle Nacional	17	40	43	96	17	59	65	3	21	-8
Villa Alta	17	20	41	96	9	8	1138	3	18	-8
Yacuane	17	14	25	97	27	3	0	3	53	-8
Yautepec	16	25	52	95	58	11	1100	3	18	-8
Yautepec	16	30	15	96	6	18	1000	3	21	-8
Yalalag	17	11	20	96	10	48	1186	3	20	-8
Zaniza	16	39	7	97	20	19	0	3	52	-8
Zimatlan	16	52	0	96	46	34	1609	3	37	-8
Puebla										
Acatepec	19	1	16	98	18	24	2174	4	8	-7
Acatlán de Osorio	18	12	6	98	3	6	1213	4	4	-7
Ahuatempan	18	24	47	98	0	58	1810	4	3	-7
Atezcal	18	23	51	97	43	28	1847	3	55	-8
Atlixco	18	54	32	98	26	27	1881	4	12	-7
Cacalotepec	19	0	3	98	17	28	2337	4	8	-7
Canoa	19	8	55	98	6	4	2000	4	3	-7
Canal de Morelos	18	44	8	97	25	20	2337	3	46	-8
Coronanc	19	7	11	98	17	58	2230	4	8	-7
Coxcatlán	18	15	55	97	8	55	1217	3	41	-8
Oyotzingo	19	11	49	98	26	18	2322	4	11	-7

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ESTADO Población	latitud			longitud			alt m	δm		$\Delta \delta m$ /año
	°	'	"	°	'	"		°	'	
Cualtlaningo	19	5	16	98	16	14	2118	4	7	-7
Chachapa	19	2	47	98	5	35	2298	4	3	-7
Chiautla de Tapia	18	17	28	98	35	55	1025	4	18	-7
Chila Asunción	17	58	26	97	51	11	1676	4	0	-7
Cholula	19	3	45	98	18	15	2150	4	8	-7
Huauchinango	20	10	51	98	2	58	1472	3	58	-7
Huejotzingo	19	9	29	98	24	22	2291	4	10	-7
Hueyotlipan	19	5	6	98	12	32	2195	4	6	-7
Ixtaccihuatl	19	11	11	98	38	38	5146	4	16	-7
Izucar de Matamoros	18	36	6	98	27	42	1326	4	13	-7
La Malinche	19	13	48	98	1	47	4461	4	0	-7
Loreto	19	3	24	98	11	5	2221	4	5	-7
Molcaxac	18	44	9	97	54	8	1874	3	59	-7
Momoxpan	19	4	13	98	15	54	2159	4	7	-7
Moyotzingo	19	14	35	98	24	11	2271	4	10	-7
Nextetelco	19	7	13	98	20	21	1500	4	9	-7
Nopalucan	19	12	59	97	49	10	2490	3	55	-8
Ocotlán	19	8	37	98	17	3	2243	4	7	-7
Ocoyucan	18	58	30	98	17	58	2152	4	8	-7
Pantepec	20	31	29	97	56	14	738	3	55	-7
Petlaltzingo	18	4	59	97	55	12	1325	4	1	-7
Popocatépetl	19	1	17	98	37	34	5452	4	16	-7
Puebla de Zaragoza	19	2	30	98	11	48	2162	4	5	-7
Resurrección	19	6	4	98	7	36	2366	4	3	-7
San Andrés Chalchico	18	59	10	97	26	52	2540	3	46	-8
San Antonio	19	6	3	98	9	31	2296	4	4	-7
San Aparicio	18	29	42	97	16	51	1771	3	43	-8
San Baltazar	19	1	24	98	12	18	2142	4	6	-7
Sanctorum	19	5	51	98	15	8	2000	4	7	-7
San Juan de Los Llanos	19	27	54	97	41	3	2380	3	51	-8
San Martín Texmelucan	19	16	59	98	25	59	2278	4	11	-7
San Salvador El Seco	19	8	7	97	38	32	2450	3	51	-8
Santa María Chiamecatí	18	38	47	98	4	46	2000	4	4	-7
Santa Rita Tlahuapan	19	19	56	98	35	9	2291	4	14	-7
Santiago Xalitzintla	19	4	36	98	30	53	2000	4	13	-7
Tecali	18	53	58	97	57	59	2240	4	0	-7
Tecamachalco	18	52	57	97	43	49	2055	3	54	-8
Tehuacán de Las Gran	18	27	51	97	23	20	1676	3	46	-8
Temextatiloyan	19	5	22	98	12	46	2183	4	6	-7
Tepeaca	18	57	43	97	54	8	2257	3	58	-7
Tepeji Rodríguez	18	34	47	97	55	45	1746	4	0	-7
Tetela de Ocampo	19	49	15	97	48	10	1790	3	53	-8
Teziutlan	19	49	30	97	21	17	1990	3	41	-8
Tlacotepec	18	40	54	97	39	9	1977	3	53	-8
Tlaltenango	19	10	10	98	20	36	2246	4	9	-7
Tlancualpican	18	25	41	98	41	41	1100	4	20	-7
Tlaxcalanzingo	19	1	44	98	16	24	2173	4	7	-7
Tonantzintla	19	1	58	98	18	50	2147	4	8	-7
Xalmimilulco	18	12	32	98	22	46	2248	4	12	-7
Xochimehuacan	19	5	23	98	11	51	2200	4	5	-7
Xonacatepec	19	5	12	98	6	8	2209	4	3	-7
Zacapoaxtla	19	52	49	97	35	2	2045	3	47	-8

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ESTADO Población	latitud			longitud			alt m	δm		Δδm /año
	°	′	″	°	′	″		°	′	
Zacatlán de Las Manzanas	19	56	7	97	57	27	2059	3	57	-7
Zapotitlán	18	19	56	97	28	23	2407	3	49	-8
Zautla	19	43	6	97	40	21	2020	3	50	-8
Zinacatepec	18	19	57	97	14	41	1139	3	43	-8
Querétaro										
Amealco	20	11	17	100	8	38	2075	4	51	-7
Arroyo Seco	21	32	54	99	41	13	1008	4	39	-7
Boye	20	40	58	99	44	47	1000	4	41	-7
Cadereyta	20	41	41	99	48	58	2077	4	43	-7
Ezequiel Montes	20	40	2	99	53	54	1000	4	45	-7
Huimilpan	20	22	39	100	16	32	2307	4	54	-7
Jalpan	21	13	8	99	28	16	860	4	33	-7
Querétaro	20	35	36	100	23	11	1000	4	57	-7
San Juan del Río	20	23	30	99	59	49	1978	4	48	-7
Tequisquiapan	20	31	26	99	53	42	1717	4	45	-7
Toliman	20	54	35	99	55	45	1535	4	45	-7
Quintana Roo										
Ascensión	19	46	31	87	28	0	0	-1	32	-8
Cabo Catoche	21	36	25	87	6	21	157	-2	0	-8
Carrillo Puerto	19	34	50	88	2	38	30	-1	10	-8
Contoy	21	31	45	86	48	12	0	-2	10	-8
Cozumel	20	31	20	86	57	12	0	-1	57	-8
Chetumal	18	29	39	88	17	56	0	0	-53	-8
Filomeno Mata	19	52	8	88	23	47	0	-1	0	-8
Icaiche	18	4	17	89	10	7	183	0	-20	-8
Kantunil Kin	21	6	14	87	29	12	20	-1	42	-8
Leona Vicario	20	59	23	87	12	22	0	-1	51	-8
Polyuc	19	36	50	88	33	58	0	0	-52	-8
Put	19	39	8	89	24	46	0	0	-23	-8
Saban	20	2	12	88	32	16	0	0	-57	-8
Santa Cruz Chico	18	56	3	88	9	44	0	-1	1	-8
Tulum	20	12	34	87	25	34	150	-1	37	-8
Vigia Chico	19	46	27	87	35	2	0	-1	28	-8
Xkalak	18	13	32	87	50	50	0	-1	6	-8
Xkanha	19	6	13	89	20	5	0	0	-22	-8
San Luis Potosí										
Ahualco	22	23	56	101	9	58	1902	5	15	-7
Alaquines	22	7	41	99	35	27	1300	4	36	-7
Arista	22	38	46	100	51	2	1560	5	7	-7
Arriaga	21	54	44	101	22	58	2660	5	20	-7
Cárdenas	21	59	49	99	38	28	1201	4	37	-7
Catorce	23	41	34	100	53	23	2756	5	9	-7
Cerritos	22	25	55	100	16	51	1153	4	53	-7
Ciudad del Maíz	22	24	8	99	36	9	1239	4	36	-7
Charcas	23	7	47	101	6	37	2057	5	14	-7
Guadalcazar	22	37	1	100	23	56	1673	4	56	-7
Matehuala	23	38	41	100	38	26	1615	5	2	-7
Moctezuma	22	45	7	101	5	0	1777	5	13	-7
Pastora	22	8	2	100	3	25	920	4	48	-7
Ramos	22	49	59	101	55	3	2210	5	33	-7

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ESTADO Población	latitud			longitud			alt m	δm		$\Delta \delta m$ '/año
	°	'	"	°	'	"		°	'	
Río Verde	21	55	52	99	59	38	991	4	46	-7
Salinas de P. Blanco	22	37	44	101	43	0	2099	5	28	-7
San Luis Potosí	22	9	10	100	58	38	1877	5	10	-7
Santa Catarina	21	39	37	99	29	36	898	4	33	-7
Santa María del Río	21	48	4	100	44	9	1703	5	5	-7
Santo Domingo	23	19	35	101	44	6	1971	5	30	-7
Tamazunchale	21	16	0	98	47	18	206	4	16	-7
Tamuín	21	0	18	98	46	30	275	4	16	-7
Tancanhuitz	21	36	11	98	57	57	241	4	20	-7
Valles	21	59	4	99	0	58	95	4	21	-7
Vieja	22	2	29	99	25	16	10	4	31	-7
Villa de Reyes	21	48	19	100	56	0	1819	5	9	-7
Zaragozas José de	22	2	8	100	43	53	1925	5	4	-7
Sinaloa										
Altata	24	38	0	107	55	53	2	7	46	-6
Badiraguato	25	21	40	107	33	7	300	7	43	-6
Cosala	24	24	38	106	41	44	300	7	22	-6
Culiacan	24	48	36	107	23	57	84	7	37	-6
El Fuerte	26	25	14	108	39	0	0	8	10	-6
La Laguna	26	34	58	108	27	25	600	8	8	-6
Mazatlan	23	11	55	106	25	20	3	7	11	-6
Mocorito	25	29	0	107	55	13	838	7	51	-6
Navolato	24	45	57	107	41	48	12	7	43	-6
Rosario	22	59	29	105	51	13	32	6	59	-6
San Blas	26	4	38	108	45	53	37	8	10	-6
San José de Gracia	26	8	38	107	53	38	750	7	54	-6
Santa María	25	33	56	109	10	26	46	8	14	-6
Sinaloa	25	49	26	108	13	29	55	7	59	-6
Soyatita	25	44	21	107	18	36	1200	7	40	-6
Topolobampo	25	36	1	109	2	52	3	8	12	-6
Sonora										
Agua Prieta	31	19	42	109	33	44	1050	9	4	-6
Aguiabampo	26	21	58	109	8	59	7	8	19	-6
Alamos	27	1	16	108	56	2	410	8	20	-6
Altar	30	42	46	111	44	12	0	9	40	-5
Antimonio	30	44	34	112	36	49	61	9	56	-5
Arizpe	30	20	9	110	10	22	870	9	8	-6
Bacanora	28	59	2	109	23	21	446	8	42	-6
Bacerac	30	21	41	108	49	25	937	8	41	-6
Baroyeca	27	38	32	109	29	33	0	8	35	-6
Buenavista	27	51	3	109	52	24	111	8	43	-6
Caborca	30	41	50	112	9	29	305	9	47	-5
Cananea	30	58	57	110	18	1	1489	9	16	-6
Carbo	29	41	0	110	57	29	464	9	17	-5
Carbon	29	41	0	110	57	29	464	9	17	-5
Cedros	27	45	39	109	17	26	475	8	32	-6
Ciudad Obregón	27	29	35	109	56	0	100	8	42	-6
Conicarit	27	14	18	109	5	5	145	8	24	-6
Cucurpe	30	19	51	110	42	18	803	9	18	-6
Guaymas	27	55	28	110	53	31	0	9	2	-5
Hermosillo	29	4	29	110	57	36	237	9	12	-5

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ESTADO Población	latitud			longitud			alt m	δm		$\Delta \delta m$ '/año
	°	'	“	°	'	“		°	'	
Huatabampo	26	49	36	109	38	46	20	8	32	-6
Imuris	30	46	38	110	51	58	826	9	25	-5
Libertad	29	54	12	112	45	7	0	9	50	-5
Macoyahui	27	19	36	108	54	28	201	8	21	-6
Magdalena	30	37	45	111	3	42	693	9	27	-5
Moctezuma	29	48	10	109	41	41	677	8	55	-6
Minas Nuevas	27	3	29	109	0	33	520	8	21	-6
Movas	28	9	40	109	26	34	260	8	37	-6
Naco	31	19	53	109	57	5	1340	9	12	-6
Nacori Grande	29	3	37	110	2	44	634	8	55	-6
Nacozari	30	22	25	109	41	28	1040	8	59	-6
Navojoa	27	4	52	109	27	13	40	8	30	-6
Nogales	31	19	49	110	56	42	1120	9	31	-5
Nabas	28	27	40	109	31	35	170	8	41	-6
Puerto Libertad	29	54	34	102	40	52	8	6	10	-7
Punta Peñasco	31	18	9	113	32	57	61	10	17	-5
Quiriego	27	31	11	109	15	7	251	8	29	-6
Rayón	29	42	47	110	34	36	560	9	11	-6
Sahuaripa	29	3	18	109	13	31	460	8	40	-6
San José de Pimas	28	42	47	110	21	2	415	8	58	-6
Santa Ana	30	32	38	111	7	26	687	9	28	-5
Santa Clara	31	40	41	114	29	30	0	10	35	-5
Soyopa	28	45	49	109	38	7	272	8	45	-6
Suaqui Grande	28	23	44	109	53	30	272	8	48	-6
Tiburón	28	45	55	112	41	56	0	9	39	-5
Torin	27	34	30	110	13	19	64	8	47	-6
Tubutama	30	53	4	111	28	16	682	9	37	-5
Ures	29	25	45	110	23	29	432	9	5	-6
Yabaros	26	42	12	109	30	45	2	8	28	-6
Tabasco										
Alvaro Obregón	18	13	19	92	40	4	33	1	33	-8
Astapa	17	46	42	92	59	18	134	1	45	-8
Cardenas	18	0	42	93	22	10	4	1	56	-8
Comalcalco	18	15	54	93	13	7	5	1	49	-8
Francisco I. Madero	18	25	18	92	44	28	72	1	34	-8
Huimanquillo	17	52	10	93	27	31	193	1	59	-8
Ignacio Allende	18	23	10	92	50	51	32	1	37	-8
Tacotalpa	17	35	47	92	49	26	60	1	42	-8
Tapijulapa	17	27	52	92	46	50	0	1	41	-8
Teapa	17	33	14	92	57	12	50	1	46	-8
Tenosique	17	28	45	91	25	33	60	0	59	-8
Tierra Colorada	17	57	22	92	37	46	144	1	33	-8
Villahermosa	17	59	15	92	55	0	10	1	42	-8
Xicotencatl	17	30	35	92	40	52	206	1	38	-8
Tamaulipas										
Abasolo	24	4	0	98	22	38	61	4	1	-7
Aldama Presas	22	55	6	98	4	12	98	3	53	-7
Altamira	22	23	40	97	55	47	26	3	50	-7
Antiguo Morelos	22	33	3	99	5	9	178	4	22	-7
Burgos	24	57	1	98	46	57	193	4	12	-7
Camargo	26	19	1	98	49	55	68	4	13	-7

Poblaciones de la República Mexicana, 2019

Coordenadas geográficas (Anuario del Observatorio 1984)

ESTADO Población	latitud			longitud			alt m	δm		$\Delta \delta m$ '/año
	°	'	"	°	'	"		°	'	
Casas	23	43	44	98	44	27	120	4	11	-7
Ciudad Victoria	23	44	6	99	7	51	321	4	22	-7
Cruillas	24	45	32	98	30	59	265	4	4	-7
Guemes	23	55	18	99	0	28	220	4	19	-7
Guerrero	26	46	45	99	20	22	34	4	28	-7
Jaumave	23	24	30	99	22	28	735	4	29	-7
Jimenez	24	12	56	99	28	44	101	4	32	-7
Llera	23	19	11	99	1	15	290	4	19	-7
Magiscatzin	22	48	29	98	42	1	56	4	11	-7
Matamoros	25	52	45	97	31	9	12	3	34	-7
Mendez	25	7	11	98	34	12	128	4	6	-7
Mier	26	25	57	99	8	41	80	4	22	-7
Miquihuana	23	34	15	99	46	32	1892	4	40	-7
Ocampo	20	50	32	99	20	14	348	4	31	-7
Padilla	24	0	39	98	46	27	153	4	12	-7
Reynosa	26	5	50	98	16	42	38	3	56	-7
San Carlos	24	34	50	98	56	26	432	4	16	-7
San Fernando	24	50	56	98	9	30	55	3	54	-7
Tampico	22	13	0	97	51	19	12	3	49	-7
Tula	22	59	50	99	42	55	1173	4	38	-7
Villagran	24	28	33	99	20	21	363	4	28	-7
Xicotencatl	22	59	48	98	56	35	131	4	18	-7
Tlaxcala										
Apizaco	19	24	59	98	8	27	2408	4	3	-7
Calpulalpam	19	35	37	98	34	18	2578	4	13	-7
Cuauila	19	36	10	98	38	44	2703	4	15	-7
Cuahutototihuatlan	19	7	7	98	10	9	2308	4	4	-7
Huamantla	19	18	53	97	55	39	2553	3	58	-7
Tenancingo	19	8	47	98	11	57	2281	4	5	-7
Tlaxcala	19	19	4	98	14	9	2252	4	6	-7
San Aparicio	19	6	0	98	9	30	2293	4	4	-7
San Juan de Los Llanos	19	27	54	97	41	0	2448	3	51	-8
San Martín Tezmelucan	19	16	59	98	25	59	2278	4	11	-7
Veracruz										
Acayucan	17	56	42	95	54	43	88	3	9	-8
Acayucan	17	56	34	94	54	13	88	2	41	-8
Acayucan	17	56	42	94	54	48	158	2	41	-8
Actopan	19	30	11	96	36	45	311	3	22	-8
Alvarado	18	46	14	95	45	56	9	3	1	-8
Ciudad Azueta	18	4	43	95	42	18	0	3	3	-8
Coatepec	19	27	8	96	57	1	1252	3	31	-8
Coatzacoalcos	18	8	56	94	24	40	2	2	26	-8
Coatzintla	20	29	6	97	26	12	144	3	41	-8
Córdoba	18	53	34	96	55	52	924	3	33	-8
Cosamaloapan	18	21	46	95	48	32	96	3	4	-8
Coscomatepec	19	4	23	97	2	5	1588	3	35	-8
Cuatotolpan	18	7	16	95	18	7	23	2	51	-8
Cuichapa	18	46	28	96	52	8	642	3	32	-8
Chiconamel	21	14	0	98	27	36	158	4	7	-7
Chicontepec	20	58	31	98	9	54	595	4	0	-7

Poblaciones de la República Mexicana, 2019

Coordenadas geográficas (Anuario del Observatorio 1984)

ESTADO Población	latitud			longitud			alt m	δm		Δδm '/año
	°	'	“	°	'	“		°	'	
General Alemán	18	11	32	96	5	44	18	3	13	-8
Hidalgotitlán	17	46	20	94	38	47	77	2	34	-8
Huatusco	19	9	1	96	57	9	1344	3	32	-8
Huayacocotla	20	32	27	98	28	38	2100	4	9	-7
Inalambrica	19	10	50	96	7	36	0	3	10	-8
Ixcatepec	21	14	23	98	0	14	295	3	55	-7
Ixhuatlán	20	41	30	98	0	35	306	3	56	-7
Jalapa	19	31	35	96	54	51	1427	3	30	-8
Lobos	21	28	0	97	13	3	0	3	33	-8
Martínez de La Torre	20	3	58	97	2	36	151	3	32	-8
Minatitlán	17	58	47	94	32	27	64	2	30	-8
Misantla	19	56	2	96	50	24	410	3	27	-8
Mocayapan	18	12	49	94	50	17	340	2	38	-8
Naolingó	19	39	15	96	51	51	1605	3	28	-8
Nautla	20	12	43	95	45	38	4	2	55	-8
Orizaba	18	50	58	97	5	47	1284	3	37	-8
Ozuluama	21	39	46	97	51	0	229	3	50	-7
Pantepec	20	31	29	97	56	14	738	3	55	-7
Papantla	20	26	53	97	19	7	298	3	38	-8
Perote	19	33	52	97	14	24	2465	3	39	-8
Pico Orizaba	19	2	0	97	15	42	5700	3	41	-8
Pl Vicente	17	50	5	95	48	35	95	3	7	-8
Rizo	19	3	17	95	55	8	0	3	4	-8
Rodríguez Clara	17	59	28	95	24	9	148	2	55	-8
Sacrificios	19	10	26	96	5	27	0	3	9	-8
San Andrés Tuxtla	18	26	42	95	11	53	361	2	47	-8
San Andrés Tuxtla	18	26	40	95	13	1	323	2	47	-8
San Carlos	19	24	17	96	21	25	136	3	15	-8
San Juan de Ulua	19	12	26	96	7	46	0	3	10	-8
San Juan Evangelista	17	52	59	95	8	12	88	2	48	-8
San Martín	18	33	48	95	10	48	1738	2	46	-8
Santiagouillo	19	8	29	95	48	23	0	3	1	-8
Tamarindo	18	45	23	96	22	49	80	3	18	-8
Tamiahua	21	16	26	97	26	29	4	3	39	-8
Tantoyucan	21	21	7	98	13	31	217	4	1	-7
Tehuipango	18	31	14	97	3	31	2382	3	38	-8
Teocelo de Díaz	19	23	8	96	57	47	1218	3	32	-8
Tepetzintla	21	10	43	96	49	48	351	3	22	-8
Tesechoacan	18	8	12	95	39	47	0	3	1	-8
Tierra Blanca	18	27	3	96	21	28	60	3	19	-8
Tihuatlán	20	43	26	97	32	23	222	3	43	-8
Tlacojalpan	18	13	57	95	57	13	91	3	9	-8
Tlacotalpan	18	36	40	95	39	54	320	2	59	-8
Tlaliscoyan	18	48	7	96	3	26	84	3	9	-8
Tlapacoyan	19	58	13	97	12	35	504	3	37	-8
Tonayan	19	40	54	96	54	45	0	3	29	-8
Tuxpan	20	57	18	97	23	59	14	3	39	-8
Veracruz	19	12	2	96	8	13	14	3	10	-8
Verde	19	11	50	96	3	59	0	3	8	-8
Xico	19	25	17	97	0	11	0	3	33	-8
Zongolica	18	40	10	96	59	26	1294	3	35	-8

Poblaciones de la República Mexicana, 2019

Coordenadas geográficas (Anuario del Observatorio 1984)

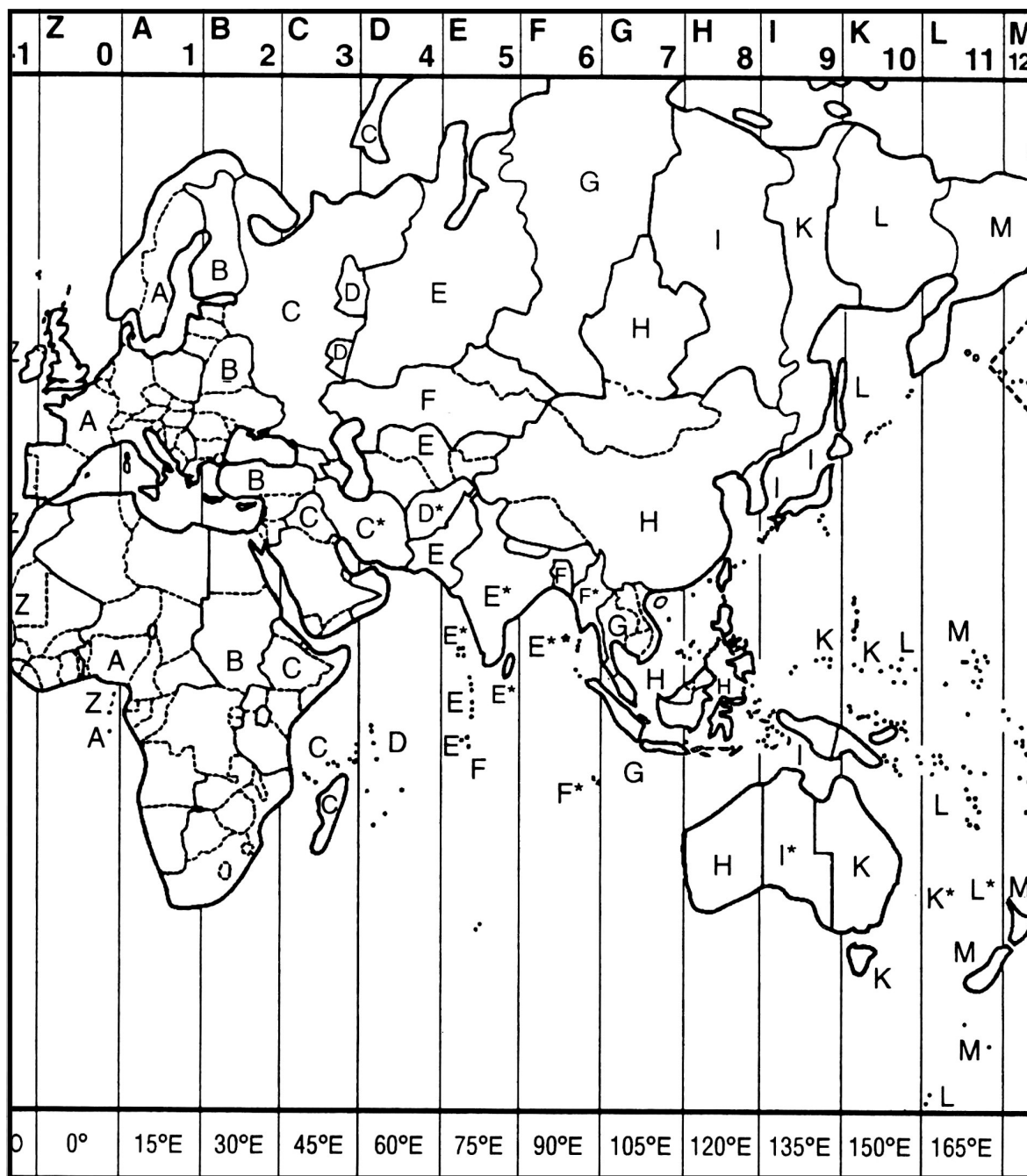
ESTADO Población	latitud			longitud			alt	δm		Δδm
	°	'	“	°	'	“	m	°	'	'/año
Yucatán										
Becanchen	19	52	32	89	13	3	0	0	-32	-8
Celestum	20	51	36	90	24	5	3	0	2	-8
Cuyo	21	31	9	87	40	48	8	-1	38	-8
Chancernote	20	59	36	87	46	56	0	-1	31	-8
Chavihau	21	21	28	89	7	7	0	0	-46	-8
Espita	21	0	36	88	18	27	22	-1	12	-8
Halacho	20	28	44	90	4	51	6	0	-6	-8
Huhi	20	43	42	89	10	0	15	0	-40	-8
Izamal	20	56	16	88	57	14	14	0	-49	-8
Maxcanu	20	35	11	89	59	55	8	0	-10	-8
Merida	20	59	0	89	38	43	9	0	-25	-8
Molas	20	49	0	89	37	48	10	0	-24	-8
Progreso	21	18	0	89	39	30	8	0	-27	-8
San Felipe	21	34	8	88	13	58	0	-1	19	-8
Sisal	21	9	59	90	1	55	0	0	-13	-8
Tekax	20	12	18	98	17	20	35	4	5	-7
Telchac	21	20	35	89	15	50	10	0	-41	-8
Tzimin	21	8	1	88	9	6	17	-1	19	-8
Valladolid	20	41	24	88	12	23	20	-1	13	-8
Yalkubul	21	31	26	88	36	55	0	-1	5	-8
Zacatecas										
Calera	22	57	2	102	42	10	2236	5	52	-7
Concepción del Oro	24	36	54	101	25	43	2070	5	23	-7
Chalchihuites	23	28	42	103	53	15	2321	6	20	-7
Fresnillo	23	10	35	102	52	39	2250	5	56	-7
Guadalupe	22	45	30	102	31	9	2265	5	47	-7
Jerez	22	38	51	102	59	48	2027	5	58	-7
Juchipila	21	24	46	103	7	29	1350	5	59	-7
Nieves	23	59	41	103	1	12	2017	6	1	-7
Nochistlan	21	21	47	102	50	55	1930	5	53	-7
Observatorio Astronómico	22	43	56	102	32	26	2717	5	48	-7
Observatorio Astronómico	22	46	1	102	32	56	2425	5	48	-7
Ojo Caliente	22	34	44	102	15	20	2114	5	41	-7
Ojuelos	21	52	5	101	35	20	2000	5	25	-7
Pánuco	22	52	45	102	32	30	2321	5	48	-7
Pinos	22	17	54	101	34	23	2419	5	25	-7
Río Grande	23	49	40	103	2	17	2000	6	1	-7
San Juan del Mezquital	24	17	28	103	23	47	2000	6	11	-7
Sombrerete	23	37	53	103	38	30	2351	6	15	-7
Tlatenango	21	47	0	103	18	44	1724	6	4	-7
Valparaiso	22	46	13	103	34	5	2140	6	11	-7
Villa de Cos	23	17	40	102	20	55	2050	5	44	-7
Villanueva	22	21	16	102	53	13	1955	5	55	-7
Zacateca	22	46	30	102	34	45	2496	5	49	-7

Zonas horarias

Las zonas horarias dividen a la Tierra en 24 franjas de 15° de anchura; las letras representan el código de uso con los que se corrige la hora del Meridiano de Greenwich. Además de señalarse en el encabezado del mapa, en la tabla se indica el número de horas que deberán sumarse, algebraicamente, a la hora del Meridiano de Greenwich. El mapa se tomó del Standard Time Zones, del Astronomical Phenomena, 1998.

° ' zona h m	° ' zona h m	° ' zona h m	° ' zona h m
00 Z 0	+90 F + 6	+180 M + 12	
+15 A + 1	+97 30 F* + 6 30	+187 30 M* + 12 30	-105 T - 7
+30 B + 2	+105 G + 7	-15 N - 1	-120 U - 8
+45 C + 3	+120 H + 8	-30 O - 2	-127 30 U* - 8 30
+52 30 C* + 3 30	+135 I + 9	-45 P - 3	-135 V - 9
+60 D + 4	+142 30 I* + 9 30	-52 30 P* - 3 30	-142 30 V* - 9 30
+67 30 D* + 4 30	+150 K + 10	-60 Q - 4	-150 W - 10
+75 E + 5	+157 30 K* + 10 30	-75 R - 5	-165 X - 11
+82 30 E* + 5 30	+165 L + 11	-90 S - 6	-180 Y - 12

Mapa de zonas horarias



Hora Legal en los Estados Unidos Mexicanos

Sistema de cuatro husos horarios en los Estados Unidos Mexicanos
(*Diario Oficial de la Federación: 31-01-2015*)

Artículo 1. La presente Ley es de aplicación general y regirá en todo el territorio de los Estados Unidos Mexicanos, sus disposiciones son de orden público e interés general, su aplicación y vigilancia estará a cargo del Ejecutivo Federal por conducto de las dependencias que conforme a la Ley Orgánica de la Administración Pública Federal tengan asignada competencia sobre la materia que regula el presente ordenamiento.

Artículo 2. Se reconoce para los Estados Unidos Mexicanos la aplicación y vigencia de los husos horarios 75 grados, 90 grados, 105 grados y 120 grados al oeste del meridiano de Greenwich y los horarios que les corresponden conforme a su ubicación, aceptando los acuerdos tomados en la Conferencia Internacional de Meridianos de 1884, que establece el meridiano cero (*Artículo reformado Diario Oficial de la Federación 31-01-2015*).

Artículo 3. Para el efecto de la aplicación de esta Ley, se establecen dentro del territorio nacional las siguientes zonas horarias y se reconocen los meridianos que les correspondan:

I. Zona Centro: Referida al meridiano 90 grados al oeste de Greenwich y que comprende la mayor parte del territorio nacional, con la salvedad de lo establecido en los numerales II, III, IV y V de este mismo artículo (*Fracción reformada Diario Oficial de la Federación 31-01-2015*).

II. Zona Pacífico: Referida al meridiano 105 oeste y que comprende los territorios de los estados de Baja California Sur; Chihuahua; Nayarit, con excepción del municipio de Bahía de Banderas, el cual se regirá conforme a la fracción anterior en lo relativo a la Zona Centro; Sinaloa y Sonora (*Fracción reformada Diario Oficial de la Federación 06-01-2010*).

III. Zona Noroeste: Referida al meridiano 120 oeste y que comprende el territorio del Estado de

Baja California (*Fracción reformada Diario Oficial de la Federación 31-01-2015*).

IV. Zona Sureste: Referida al meridiano 75 oeste y que comprende el territorio del Estado de Quintana Roo (*Fracción adicionada Diario Oficial de la Federación 31-01-2015*).

V. Las islas, arrecifes y cayos quedarán comprendidos dentro del meridiano al cual corresponda su situación geográfica y de acuerdo a los instrumentos de derecho internacional aceptados (*Fracción recorrida Diario Oficial de la Federación 31-01-2015*).

Artículo 4. El sistema normal de medición del tiempo en la República, que se establece con la aplicación de los husos horarios y su correspondiente hora en los artículos que anteceden, podrá ser modificado mediante decreto del Honorable Congreso de la Unión que establezca horarios estacionales.

Artículo 5. Cualquier propuesta de establecimiento o modificación de horarios estacionales deberá ser presentada al Honorable Congreso de la Unión, a más tardar el 15 de noviembre del año inmediato anterior al que se pretende modificar el horario. El decreto respectivo deberá ser emitido a más tardar el 15 de diciembre del mismo año.

Artículo 6. En el caso del establecimiento de horarios estacionales, el Ejecutivo Federal en coordinación con los Ejecutivos Estatales y del Distrito Federal, difundirán, con la anticipación debida, el Decreto por medio del cual se establece dicho horario, para el conocimiento de la población.

Artículo 7. Las dependencias de los ejecutivos federal, y estatales y del Distrito Federal, en el ámbito de sus respectivas competencias, tomarán las medidas necesarias a efecto de implementar de forma eficiente los horarios estacionales decretados.

Centros astronómicos en la República Mexicana

Centro Astronómico	latitud ° ' "	longitud ° ' "	altura s.n.m.m.	ubicación
Universidad Nacional Autónoma de México Instituto de Astronomía				
BAJA CALIFORNIA				
San Pedro Mártir	31 02 39	115 27 49	2800	Telescopio 2.12 m
	31 02 43	115 28 00	2790	Telescopio 1.50 m
PUEBLA				
Tonantzintla	19 01 58	98 18 50	2147	Telescopio 1 m
Centro de Radioastronomía y Astrofísica, UNAM.				
MICHOACÁN				
Morelia	19 42 16	101 11 30	1941	
Instituto Nacional de Astrofísica, Óptica y Electrónica, SEP.				
PUEBLA				
Tonantzintla	19 01 58	98 18 50	2147	
SONORA				
Observatorio Cananea Guillermo Haro	31 03 10	110 18 19	2480	Telescopio 2.1 m
Departamento de Astronomía, Universidad de Guanajuato				
GUANAJUATO				
Guanajuato	21 03 10	101 19 28	2425	Mineral de la Luz
Universidad Autónoma de Zacatecas				
ZACATECAS				
Observatorio astronómico	22 43 56	102 32 26	2425	Cd. Universitaria
Observatorio astronómico	22 46 01	102 32 56	2714	Cerro de la Virgen
Sociedad Astronómica de México				
CIUDAD DE MÉXICO				
Observatorio Luis G. León	19 23 56	99 8 29	2246	Col. Álamos, Cd. de México
ESTADO DE MÉXICO				
Observatorio Chapa de Mota	19 47 24	99 31 23	3070	Municipio de Chapa de Mota
Universidad Autónoma de Sinaloa				
SINALOA				
Observatorio Cosala	24 24 5	106 36 36	595	Municipio de Cosala
Instituto de Geofísica				
MEXART*:	19 48 39	101 41 39		Michoacán
Observatorio de centelleo interplanetario				Coeneo
* Mexican Array Radiotelescope				

Refracción

Presentamos un método gráfico para determinar la refracción atmosférica en función de la distancia cenital, temperatura o presión. Las gráficas se obtuvieron mediante interpolación polinomial de quinto, sexto, séptimo y noveno orden, de los valores tabulados y publicados por el Observatorio Pulkovo, en el Anuario Astronómico de la URSS, y por Pulkova, 1956, cuarta edición (Academia de Ciencias de la URSS, Moscú, Leningrado); y Abalakin, 1985, quinta edición (Observatorio Astronómico Central, Academia de Ciencias de la URSS, Leningrado).

De la gráfica de corrección por distancia cenital obtenemos la refracción media r dada en minutos de arco, en función de la distancia cenital dada en grados. Ésta se obtiene de la regresión polinomial de noveno orden, dada por la ecuación

$$r = a + b_1 z + b_2 z^2 + b_3 z^3 + b_4 z^4 + b_5 z^5 + b_6 z^6 + b_7 z^7 + b_8 z^8 + b_9 z^9,$$

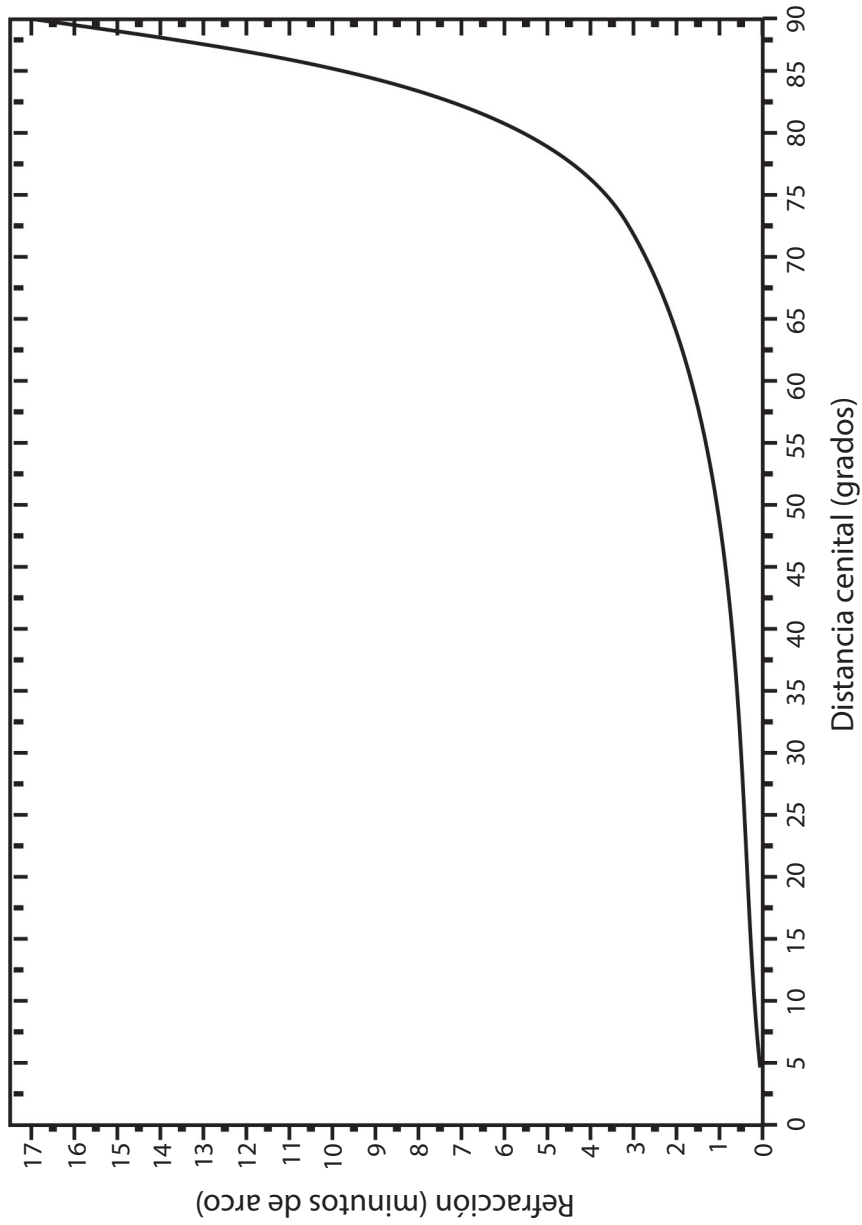
donde r está dada en minutos de arco, y sus coeficientes son:

a	$-7.64878 \cdot 10^{-4}$	b_5	$1.22379 \cdot 10^{-6}$
b_1	0.02752	b_6	$-2.70552 \cdot 10^{-8}$
b_2	-0.00384	b_7	$3.52568 \cdot 10^{-10}$
b_3	$5.03936 \cdot 10^{-4}$	b_8	$-2.50309 \cdot 10^{-12}$
b_4	$-3.28953 \cdot 10^{-5}$	b_9	$7.48708 \cdot 10^{-15}$

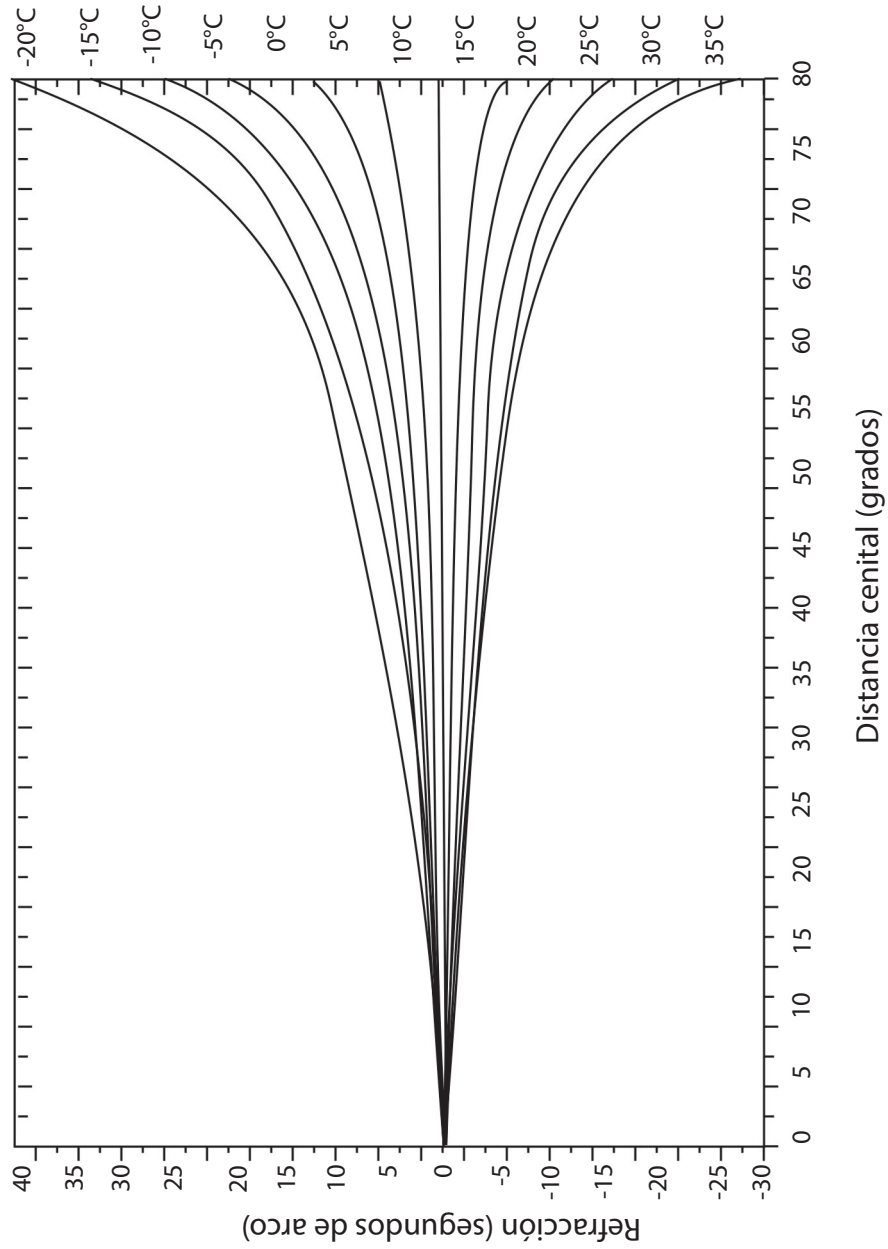
Con la gráfica de corrección por temperatura, se determina el valor en segundos de arco, que se deberá sumar algebraicamente a la refracción media. Cada curva corresponde a las temperaturas, en grados centígrados, señaladas al extremo derecho de cada una de ellas.

De la gráfica de corrección por presión se obtienen los valores en segundos de arco, que se deberán sumar algebraicamente a la refracción media. A la derecha de cada curva se muestran las variaciones de la refracción en función de la presión barométrica B , en mm.

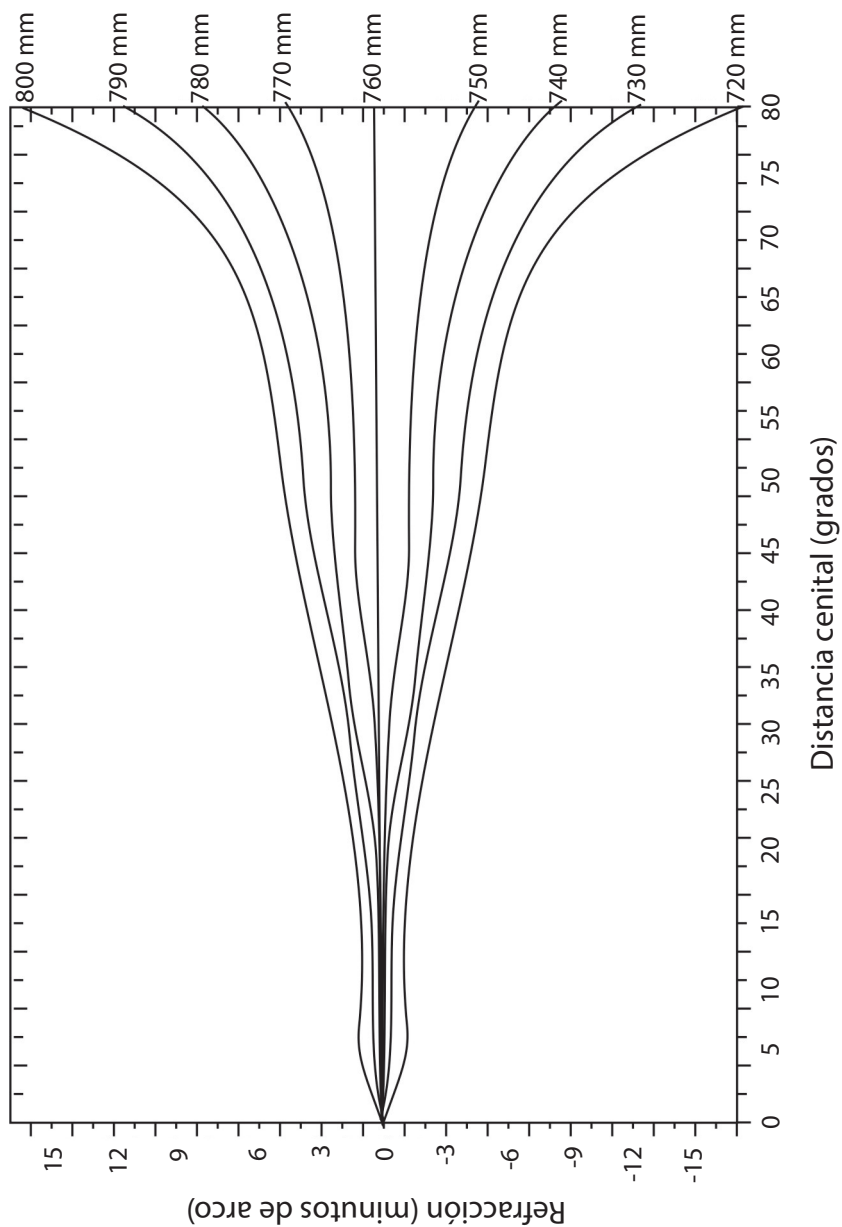
Corrección por distancia cenital



Corrección por temperatura



Corrección por presión



Abreviaturas

Día juliano

Abreviaturas:
d: día
ds: día de la semana
dj: día juliano

Hora sideral

Abreviaturas:
dj: día juliano

Sol

Abreviaturas:
 α : ascensión recta
 δ : declinación
hp: hora del paso por el meridiano
vh: variación horaria
 Δ : distancia geocéntrica
UA: unidad astronómica

Luna

Abreviaturas:
dj: día juliano
 α : ascensión recta
 δ : declinación
hp: hora del paso por el meridiano
 Δ : distancia geocéntrica en radios terrestres
sd: semidiámetro
pax: paralaje horizontal
DT: diámetro terrestre

Planetas

Abreviaturas:
 α : ascensión recta
 δ : declinación
 Δ : distancia geocéntrica
UA: unidad astronómica
hp: hora del paso por el meridiano

Sistema de constantes y parámetros

Abreviaturas:
 α : ascensión recta, d : declinación, f : latitud
UA: unidad astronómica, rad : radianes
DJ: día Juliano
 $1g$: aceleración de la gravedad en la superficie terrestre o Normal

Nomenclatura de las estrellas brillantes

Abreviaturas:
 α : ascensión recta
 δ : declinación
N: número del catálogo de estrellas brillantes en el Bright Star Catalog of la Universidad de Yale. E.U.A.

Posiciones medias de estrellas brillantes

Abreviaturas:
NBSC: número de estrella en: Bright Star Catalog, Yale University, EUA
NH: número en el Catálogo Hiparco
V: magnitud
SP: tipo espectral
nom: nombre de la estrella en clasificación Bayer

Posiciones aparentes de estrellas brillantes

Abreviaturas de términos astronómicos:
 α : ascensión recta
 α_c : ascensión recta en el sistema de referencia intermedio
 δ : declinación
Hp: hora del paso

Posiciones aparentes de la polar

Abreviaturas:
 α : ascensión recta
 α_c : ascensión recta coordenadas intermedias
 δ : declinación
hp: hora del paso por el meridiano

Lluvias de estrellas

Abreviaturas:
 α : ascensión recta
 δ : declinación
vel: velocidad de incidencia en km/s
Núm: número de estrellas fugaces por hora

Eventos planetarios

Abreviaturas:
E: Separación angular al Este (E).
Medida geocéntrica que se refiere a la separación angular entre los centros de los objetos (véase sección de explicaciones).
O: Separación angular al Oeste (O).
AC: acimut
a: altura
*: ocultación
**: eclipse

Crepúsculos Salidas y puestas del Sol

AM: inicia el crepúsculo astronómico matutino; CM: inicia el crepúsculo civil matutino;
SS: salida del Sol; PS: puesta del Sol; CV: termina el crepúsculo civil vespertino;
AV: termina el crepúsculo astronómico vespertino.
(Para el cálculo de la hora legal, véase la sección *Explicaciones*).

Objetos Messier

Abreviaturas:
M: número de objeto Messier; NGC: número en el Nuevo Catálogo General
const: constelación; v: magnitud; tipo: tipo morfológico;
 α : ascensión recta; d : declinación (ambas para J2000)
E: galaxia elíptica; S: galaxia espiral; SB: galaxia espiral barrada; Pec: peculiar
ca: cúmulo abierto; cg: cúmulo globular;
rsn: remanente de supernova; np: nebulosa planetaria;
nr: nebulosa de reflexión; ne: nebulosa de emisión;
(véase la sección de explicaciones para obtener r información sobre morfología).

Poblaciones de la República Mexicana

Abreviaturas:
alt: altura sobre el nivel del mar
 δ_m : declinación magnética para el 1 de del 2006
 $\Delta\delta_m$: Variación de la declinación magnética por año

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Acimut o azimut. Distancia angular medida hacia el Este, desde el Norte geográfico, hasta el punto definido por la intersección con el horizonte del círculo vertical que pasa por un objeto celeste. También es común referirla al Sur geográfico.

Adviento. Período litúrgico de cuatro semanas que precede a la Navidad.

Afelio. Punto en el cual un cuerpo en órbita en torno al Sol alcanza su r distancia a éste.

Altitud o Altura. Distancia angular entre el horizonte y el cuerpo celeste. Se mide a lo largo del gran círculo que pasa por el objeto astronómico y el cenit del lugar. Es positiva cuando el objeto está sobre el horizonte y negativa cuando está por debajo.

Ángulo horario. Distancia angular entre el meridiano del lugar y el círculo horario que pasa por el objeto celeste. Se mide en el plano del ecuador celeste.

Anuario astronómico. Guía de posiciones de objetos celestes y acontecimientos astronómicos que se publica cada año.

Año anomalístico. Paso sucesivo de la Tierra por su perihelio. Su duración es de 365.25964 días.

Año civil. Intervalo de 365 días que rige las actividades civiles, sociales o religiosas de la ría de los países del mundo; y es la parte entera de la duración del año trópico. Para su buen funcionamiento es necesario que en cada año, la posición del Sol en el cielo corresponda al mismo día. Para lograrlo se agrega el día 29 de cada cuatro años, omitiéndose para aquellos años seculares (múltiplos de 100), que no sean divisibles entre 400. (Véase la sección *Explicaciones*, en Calendarios)

Año sideral. Tiempo que le toma a la Tierra en dar una vuelta completa alrededor del Sol, respecto de las estrellas fijas. Su duración es de 365.25636 días.

Año trópico. Tiempo que transcurre entre los dos equinoccios o bien el tiempo que le toma al Sol pasar dos veces consecutivas por el primer punto de Aries. Su duración es de 365.24219 días.

Apogeo. Punto orbital más alejado de un cuerpo, respecto de la Tierra.

Ascensión recta. Ángulo en el plano del ecuador celeste, que mide la separación entre los círculos horarios del punto Vernal y de un objeto celeste.

Asteroides. Pequeños objetos rocosos del Sistema Solar, cuyos diámetros son del orden de 400 km, en promedio. Se les localiza principalmente en el llamado Cinturón de Asteroides, entre las órbitas de Marte y Júpiter. Otros grupos se identifican como los Apolo, Amor y Trolanos.

Astrología. Un sistema de fundamentos subjetivos, no científico, con el que se pretende explicar el carácter y comportamiento humanos, tomando como base las posiciones de los astros.

Azimut. Véase Acimut.

Calendario. Conjunto de normas establecidas para medir el transcurso del tiempo en años, meses y días.

Calendario Gregoriano. Calendario introducido por el Papa Gregorio XIII en 1582, con el que modificó el calendario Juliano. Consiste en agregar un día en todos los años que sean divisibles por cuatro; a estos se les llaman años bisiestos. Se exceptúan aquellos años seculares, o de final de siglo, que no sean divisibles por cuatrocientos. Los años 1800, 1900 y 2100 no son años bisiestos, en cambio 1600 y 2000 sí lo son.

Calendario Juliano. Año de 365.25 días exactamente; según la tradición, César lo instituyó en el año 45 a.C. y fue modificado por el papa Gregorio XIII en 1582 d.C.

Carnaval. Los tres días que preceden a la cuaresma. Fiestas celebradas durante estos días, consistentes en mascaradas, bailes y otros regocijos bulliciosos.

Catálogo. En Astronomía, tabla en la que se enumeran y enlistan objetos astronómicos, y en la que se caracterizan sus propiedades.

Cenit o Zenit. Punto de la esfera celeste que se encuentra exactamente encima del observador.

Ciclo Solar. Relativo al calendario, es el periodo de veintiocho años al final del cual el año comienza con el mismo día.

Ciclo de actividad solar. Ciclo cuya duración es de 11 años aproximadamente. Se percibe por el aumento en la cantidad de manchas, ráfagas y protuberancias solares.

Círculo horario. Gran círculo en la bóveda celeste, que contiene a los polos celestes y algún objeto astronómico.

Conjunción. Evento que se produce cuando dos objetos celestes alcanzan la misma longitud eclíptica o ascensión recta.

Conjunción inferior. Suceso astronómico de Mercurio o Venus cuando alguno de ellos se encuentra exactamente entre el Sol y la Tierra.

Conjunción superior. Evento astronómico de Mercurio o Venus cuando el Sol se encuentra entre el planeta y la Tierra.

Cometa. Cuerpo que orbita alrededor del Sol, con núcleo de polvo y hielos de unos 10 km de diámetro. Cuando se acerca al Sol, sus materiales sólidos se su-

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bliman, de tal modo que al ser arrastrados por el viento solar producen una cauda cometaria; sus dimensiones pueden alcanzar más de cien millones de kilómetros.

Constelación. Grupo de estrellas cuya asociación esquemática o mítica, sirve para identificar cierta región de la esfera celeste; en la actualidad, dichos grupos han sido definidos por la Unión Astronómica Internacional, para delimitar con precisión las regiones de la esfera celeste. El cielo se ha dividido en 88 constelaciones.

Coordenadas geográficas. Latitud y longitud de un punto de la superficie terrestre, relativas al centro de la Tierra.

Coordenadas celestes eclípticas. Latitud y longitud de un punto de la bóveda celeste relativas al plano de la órbita de la Tierra. Pueden ser geocéntricas o heliocéntricas.

Coordenadas celestes ecuatoriales. Ascensión Recta y Declinación de un punto de la bóveda celeste relativas al plano del ecuador terrestre. Pueden ser geocéntricas o heliocéntricas.

Corona solar. Región más externa de la atmósfera solar, caracterizada por una temperatura de varios millones de grados. Se logra observar durante los eclipses totales de Sol. Otras estrellas también poseen corona.

Crepúsculo. Intervalo de tiempo que precede a la salida del Sol o que sigue después de su puesta, durante el cual el cielo está parcialmente iluminado. Puede ser crepúsculo civil, cuando se habla del tiempo que ocupa el Sol en recorrer la distancia cenital entre 90° y 50' y 96°; náutico entre 96° y 102°, y astronómico, entre 102° y 108°.

Culminación. Paso de un objeto celeste por el meridiano del observador. Punto en el que alcanza la máxima altura en su movimiento diario.

Cúmulo abierto o galáctico. Conglomerado estelar de cientos de estrellas cuya distribución tiende hacia el plano de la Galaxia.

Cúmulo globular. Grupo estelar de forma casi esférica que se encuentra fuera del plano de la Galaxia. Su número de estrellas va de unos cientos de miles a decenas de millones, muchas de ellas son estrellas tardías.

Declinación. Distancia angular en la esfera celeste que se mide desde el ecuador celeste, a lo largo del círculo horario definido por el objeto celeste. Es positiva al norte y negativa al sur.

Declinación magnética. Desviación de las líneas del campo magnético de la Tierra, respecto de la línea norte sur geográfica. Esta es una propiedad física que varía con el tiempo y depende del lugar donde se mide.

Deflexión de la vertical. Diferencia angular entre el cenit astronómico y el cenit geodésico.

Día Juliano. Intervalo de tiempo en días, a partir del 1 de del año 4713 a.C., al medio día del meridiano de Greenwich.

Día medio. Tiempo transcurrido entre dos pasos sucesivos del Sol medio o ficticio, por el meridiano. Su duración es de 24 horas.

Día sideral. Tiempo que transcurre entre dos pasos sucesivos del punto vernal o de alguna estrella por el meridiano. Su duración es de 23 horas, 56 minutos, 4.098904 segundos.

Día solar. Tiempo transcurrido entre dos tránsitos consecutivos del Sol por el meridiano. Por su variación durante el año, se hizo necesario definir el día solar medio. Dicha variación es causada por la irregularidad de la rotación de la Tierra y de su movimiento en torno al Sol.

Diámetro angular. Ángulo que subtende el diámetro aparente de un cuerpo celeste cercano. Para la Luna y el Sol dicho ángulo es de 30' aproximadamente.

Distancia cenital. Distancia angular de un cuerpo celeste, medida desde el cenit.

Distancia media. Parámetro de una órbita elíptica, definido por la longitud del semieje r .

Eclipse. Paso de un cuerpo celeste por la sombra de otro, haciendo que la fuente que lo ilumina quede oculta por el primero.

Eclipse anular de Sol. Ocurre cuando el diámetro aparente de la Luna es menor que el solar. Parte del disco solar se muestra como un anillo alrededor de la Luna.

Eclipse lunar. Paso de la Luna por la sombra de la Tierra. Puede ser total umbral, cuando la Luna se encuentra dentro de la umbra de la Tierra; parcial umbral cuando parte del disco lunar se encuentra dentro de ella. Será total penumbral, cuando el disco de la Luna sólo se encuentra en la penumbra de la Tierra; y parcial penumbral o simplemente parcial, cuando parte del disco lunar se encuentra en la penumbra terrestre.

Eclíptica, plano de la. Plano medio de la órbita de la Tierra alrededor del Sol.

Eclíptica. Trayectoria aparente que describe el Sol en la bóveda celeste, a lo largo del año. Es llamada así porque los eclipses ocurren cuando la Luna se encuentra en el plano que la contiene.

Ecuación del tiempo. Diferencia entre los ángulos horarios del Sol verdadero y el Sol medio o ficticio. Dife-

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rencia entre el tiempo solar aparente y el tiempo solar medio.

Ecuador. Gran círculo en la superficie de un cuerpo, que resulta de la intersección de ésta con el plano que pasa por su centro y es perpendicular al eje de rotación del cuerpo.

Ecuador celeste. Proyección del ecuador de la Tierra, en la bóveda celeste.

Edad de la Luna. Término dado en astronomía para el número de días transcurridos después de la Luna Nueva.

Efemérides. Predicción de la posición de un astro. Lista de posiciones astronómicas y otros datos que cambian con el tiempo.

Elementos orbitales. Parámetros que caracterizan la órbita de un cuerpo que se mueve en torno a otro.

Elongación. Ángulo geocéntrico entre un planeta y el Sol medido en el plano definido por el planeta, el Sol y la Tierra. Las elongaciones planetarias fluctúan entre 0° y 180°, al Este o al Oeste del Sol.

Elongación máxima. Valor máximo de la elongación de un planeta interior.

Epacta. Número de días en que el año solar excede al lunar (casi 11 días). Edad de la Luna el 1 de cada año.

Epifanía. Fiesta que celebra la iglesia cristiana el día 6 de , para conmemorar la adoración de Jesucristo por los Reyes Magos. Manifestación de Dios a los paganos.

Equinoccio Vernal. Día del año en el que se inicia la primavera en el hemisferio norte. La duración del día y la noche son iguales. Nodo ascendente de la eclíptica sobre el ecuador celeste. Momento en el que la longitud aparente del Sol es cero.

Era. Sistema de notación cronológica, relativa a la fecha en que ocurrió algún suceso importante.

Esfera celeste. Esfera imaginaria donde parecen estar colocados a la misma distancia todos los objetos celestes. En su centro está la Tierra cuyo plano ecuatorial contiene al ecuador terrestre; sus polos son la intersección de la proyección del eje de rotación de la Tierra con dicha esfera.

Espectral, tipo. Clasificación de las estrellas con base en su espectro, de acuerdo con su temperatura superficial. Se han caracterizado los tipos principales: O, B, A, F, G, K, M y además C(R y N) y S. También se puede clasificar por su luminosidad como 0, I, II, III, IV, V, VI y VII.

Estacionario, punto. Posición en la cual la variación de la ascensión recta de un planeta es momentáneamente nula.

Estaciones. Intervalos del año definidos por el tiempo en que el Sol permanece entre aquellos puntos orbitales caracterizados por los solsticios y equinoccios. Son llamadas Primavera, Verano, Otoño e Invierno. El clima en la Tierra es diferente en cada una de ellas, debido a la inclinación de su eje de rotación respecto del plano de la eclíptica.

Estrella. Esfera de gas incandescente cuya fuente de energía son las reacciones termonucleares.

Excentricidad de una órbita. Para una órbita elíptica, el cociente de la distancia entre los focos y el diámetro r de la órbita. Parámetro que especifica la forma de una sección cónica.

Fase. Se dice del aspecto o forma aparente que presenta un planeta o luna, visto a distancia. Es la fracción del disco iluminado por el Sol.

Fases de la Luna. Forma aparente de la Luna. luna nueva, cuarto creciente, luna llena y cuarto menguante, se definen como los tiempos en los que la longitud de la Luna difieren de las del Sol en 0°, 90°, 180° y 270°, respectivamente.

Galaxia. Conglomerado de millones de estrellas, gas y polvo. Se clasifican según su morfología en: elípticas (E), espirales (S) e irregulares (I). Las espirales también pueden presentar núcleos que tienen forma de barra (SB).

Geocéntrico. Con referencia o perteneciente al centro de la Tierra.

Geodesia. Ciencia que trata de la forma y las medidas de la Tierra.

Gravitación. Campo de fuerza al que se debe la atracción de las masas en el Universo.

Greenwich. Región conurbada de Londres donde se encontraba el observatorio astronómico. El meridiano de este lugar se toma como origen de los meridianos, por lo que es llamado meridiano cero.

Hégira o Hégira. Era de los mahometanos, que se cuenta desde la puesta del Sol del 16 de de año 622 d.C., día en que Mahoma huyó de la Meca al salir hacia la ciudad de Medina.

Heliocéntrico. Con referencia o perteneciente al centro del Sol.

Hora civil o legal. Hora regida por el Sol medio o ficticio. Hora referida a un meridiano horario o huso horario. La Tierra se divide en 24 husos horarios, que se

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obtienen al dividir entre 15 los 360° de la circunferencia del ecuador.

Hora local. Hora regida por la posición del Sol verdadero. Cuando éste pasa por el meridiano del lugar, define las 12 horas o el mediodía locales.

Hora sideral. Tiempo transcurrido desde el paso del meridiano del lugar por el primer punto de Aries. El día sideral es 3m 55.91s menor que el día solar. Se refiere al tiempo medido basado en las estrellas fijas. Véase tiempo sideral.

Hora universal. Hora local de Greenwich. La hora local de algún punto de la superficie de la Tierra se obtiene restando a la hora de Greenwich la longitud del lugar convertida a horas.

Horizonte. Plano perpendicular a la línea que va del observador al cenit del lugar. Gran círculo formado por la intersección de la esfera celeste con el plano perpendicular a la línea que une al observador con el cenit del lugar, llamado horizonte astronómico u horizonte del observador.

Inclinación. En Astronomía, ángulo entre el plano de una órbita y otro de referencia. Elemento orbital que especifica la orientación de una órbita.

Júpiter. Planeta gigante del Sistema Solar. Después de Venus es el planeta más brillante del sistema solar. Véanse tablas de parámetros físicos y orbitales de planetas, y satélites de los planetas.

Latitud celeste. Distancia angular en la esfera celeste medida al norte o al sur del plano de la eclíptica. Se mide a lo largo del gran círculo que pasa por los polos de la eclíptica y el cuerpo celeste.

Latitud terrestre. Distancia angular en la Tierra, medida al norte o al sur del ecuador, a lo largo de algún meridiano.

Lluvia de estrellas. Fenómeno luminoso causado por la caída de pequeñísimas partículas dejadas por los cometas. Se observan como estelas luminosas a las que, tradicionalmente, se les nombran estrellas fugaces, las cuales parecen surgir de un punto en el cielo llamado radiante. Se han clasificado unas 18 lluvias de estrellas, las cuales reciben el nombre de la constelación donde se ubica su respectivo radiante.

Longitud (geográfica). Distancia angular medida en el plano del ecuador, al Este o al Oeste del meridiano de Greenwich.

Longitud eclíptica. Distancia angular de un cuerpo celeste medida sobre el plano de la eclíptica, a partir del primer punto de Aries.

Luminosidad. Cantidad total de energía radiada por un cuerpo celeste en la unidad de tiempo.

Luna. Satélite natural de la Tierra. Después del Sol es el objeto más brillante del cielo. Véase tabla de satélites de los planetas.

Lunación. Periodo de tiempo entre dos lunas nuevas consecutivas. Su duración aproximada es de 29.5 días.

Luna llena. Fase durante la cual el disco lunar está totalmente iluminado; ocurre cuando la luna se encuentra en oposición al Sol respecto de la Tierra.

Luna nueva. Fase durante la cual el disco lunar no se ve iluminado ocurre cuando la Luna se encuentra en conjunción con el Sol.

Magnitud. Medida logarítmica del brillo de un objeto celeste, considerado como una fuente puntual.

Magnitud de un eclipse de Luna. Fracción del diámetro lunar obscurecido por la sombra de la Tierra, en el máximo del eclipse lunar.

Magnitud de un eclipse de Sol. Fracción del diámetro solar ocultado por la Luna, en el máximo del eclipse de Sol.

Marte. Planeta rocoso del Sistema Solar que, a simple vista, se aprecia de color rojizo. Véanse tablas de parámetros físicos y orbitales de planetas, y satélites de los planetas.

Masa. Medida inherente a la cantidad de materia de un cuerpo.

Mercurio. Planeta rocoso del Sistema Solar que por su distancia heliocéntrica es el más cercano al Sol. Véanse tablas de parámetros físicos y orbitales de planetas, y satélites de los planetas.

Meridiano. Círculo máximo en la esfera celeste que pasa por los polos y el cenit del observador.

Meridiano 90° W.G. Meridiano que atraviesa la Península de Yucatán. Se encuentra 90° al Oeste del meridiano de Greenwich en Inglaterra. Define al huso horario (S) de 6 horas al Oeste de Greenwich, llamado Hora del Centro en la República Mexicana. Difiere de la hora local de la ciudad de México en 36 minutos 37 segundos.

Meteorito. Dicese de algún fragmento de roca o metal del medio interplanetario, una vez que ha sufrido una colisión contra un planeta, satélite o, en general, con algún cuerpo del Sistema Solar.

Messier, catálogo. Enlistado de aquellos objetos celestes que al ser vistos con telescopios pequeños, son de aspecto difuso. Contiene cúmulos estelares, nebulosas y galaxias. Fue elaborado por Charles Messier.

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Movimiento directo. Dirección de la rotación o del movimiento de traslación de un planeta o satélite, visto desde el polo norte de la eclíptica, cuyo sentido es contrario al de las manecillas del reloj.

Movimiento retrógrado. Dirección de la rotación de un planeta o satélite visto desde el polo norte de la eclíptica, cuyo sentido es el de las manecillas del reloj.

Nadir. Punto de la esfera celeste diametralmente opuesto al cenit. Dícese de aquel punto, del otro lado de la Tierra, ubicado por debajo de nosotros.
Nebulosa. Nube de materia interestelar.

Nebulosa planetaria. Envoltura de gas alrededor de una estrella con masa parecida a la del Sol, arrojada por ella misma a consecuencia de un estado avanzado de su evolución.

Neptuno. Planeta gaseoso del Sistema Solar. Véanse tablas de parámetros físicos y orbitales de planetas, y satélites de los planetas.

Nodo. El punto de intersección entre dos grandes círculos celestes. Los eclipses de Luna y de Sol ocurren cuando ambos se encuentran cerca de los nodos de intersección de sus trayectorias orbitales.

Número de Oro, o Áureo. En términos astronómicos, ciclo lunar de diez y nueve años, al cabo de los cuales las fases de la Luna vuelven a sucederse en los mismos días del año.

Ocultación. Efecto de cubrimiento de un objeto celeste por otro de r diámetro aparente, específicamente el paso de la Luna frente a una estrella o planeta.

Oposición. Configuración geocéntrica del Sol y un planeta exterior en la que sus longitudes aparentes difieren en 180° .

Órbita. Trayectoria de un cuerpo celeste en torno a otro.

Paso superior por el meridiano. Tránsito de un objeto celeste por el meridiano del observador.

Pentecostés. Fiesta de los judíos instituida en memoria de la ley de Jehová, que les fue dada en el Monte Sinaí. En la Iglesia Católica festividad de la venida del Espíritu Santo.

Perigeo. Punto en el cual un cuerpo en órbita en torno a la Tierra alcanza su menor distancia a ésta.

Perihelio. Punto en el cual un cuerpo en órbita en torno al Sol alcanza su menor distancia a éste.

Penumbra. Región intermedia entre la sombra y la zona iluminada. También se refiere a la región desde la que un eclipse se ve como parcial. Componente

exterior de la sombra que proyecta un objeto iluminado por una fuente de luz.

Planeta. Cuerpo celeste esférico cuyo tamaño es r de 1000 km de diámetro. No emite luz propia. Su masa es tal que la energía liberada por las reacciones nucleares en su interior no son suficientes para que se convierta en estrella. Actualmente se han encontrado evidencias de la existencia de planetas que orbitan algunas estrellas.

Plutón. Planeta del Sistema Solar cuya órbita es la más alejada del Sol. Véanse tablas de parámetros físicos y orbitales de planetas, y satélites de los planetas.
Polar. Estrella Polar (a UMi). Se localiza a sólo 0.9o del Polo Norte Celeste.

Precesión. Movimiento progresivo y uniforme del eje de rotación de un cuerpo que rota libremente, sujeto a la torca ejercida por una fuerza gravitatoria externa. En la Tierra, la precesión es causada por la acción de la fuerza gravitatoria del Sol y la Luna sobre su deformación ecuatorial.

Primer punto de Aries. Punto imaginario donde se intersectan el ecuador celeste y la eclíptica. Cuando el Sol pasa por dicho punto, su declinación cambia de negativa a positiva. No existe ninguna estrella en esta posición.

Puesta del Sol. Momento en que el limbo superior del Sol desaparece bajo el horizonte del observador.

Polo norte celeste. Punto de intersección de la proyección del eje de rotación terrestre con la esfera celeste.

Punto Vernal. Véase primer punto de Aries.

Quincuagésima. Dominica que precede a la Cuaresma.

Ramadán. Noveno mes del año lunar de los musulmanes.

Revolución. Órbita de un cuerpo alrededor de otro.

Rosh Hashanah. Año Nuevo de los Judíos.

Salida del Sol. Momento en que el limbo superior del Sol sale por el horizonte del observador.

Saros. Ciclo lunar babilónico de 6585.32 días, o 18 años, 11.33 días o 223 lunaciones, después del cual el Sol y la Luna regresan a una misma posición relativa en el cielo. Significa repetición en griego.

Satélite. Cuerpo en órbita alrededor de otro. Luna de un planeta.

Saturno. Planeta gaseoso del Sistema Solar con un gran número de anillos. Véanse tablas de parámetros físicos y orbitales de planetas, y satélites de los planetas.

Glosario: Términos astronómicos básicos

Segundo. En el sistema internacional, duración de 9 192 631 770 ciclos de la radiación dada por la transición entre los dos niveles hiperfinos del estado base del Cesio 133.

Semana Santa. Semana que culmina con la Pascua, la cual se festeja en el primer domingo que sigue a la primera luna llena, después del equinoccio de primavera.

Septuagésima. Dominica que celebra la Iglesia Católica tres semanas antes de la primera de cuaresma.

Sideral. Relativo a las estrellas.

Sistema de referencia. Lugar y tiempo desde donde se mide o registra un evento.

Sol. Estrella más cercana a la Tierra.

Sol medio. Sol imaginario o ficticio, que se desplaza en la bóveda celeste a velocidad constante. No está sujeto a las variaciones del Sol verdadero debidas a la elipticidad de la órbita terrestre. Se usa para definir el tiempo solar medio.

Solsticio. Uno de dos puntos en los cuales el Sol parece estar en sus puntos Norte y Sur más extremos. Puntos de la eclíptica que están a la máxima distancia del ecuador celeste. En el hemisferio norte, el solsticio de verano ocurre alrededor del 21 de y el de invierno cerca del 22 de aproximadamente. Estas fechas corresponden al día más largo y corto del año, respectivamente.

Sombras volantes. Franjas de luz y sombra que se observan justo antes y después de la fase de totalidad de un eclipse de Sol.

Sucot. Fiesta judía de la cosecha.

Tiempo atómico internacional. Escala de tiempo que resulta del análisis de las mediciones de tiempos atómicos en varias ciudades del mundo, regulada por el Bureau International des Poids et Mesures. La unidad de tiempo es el segundo internacional de tiempo.

Tiempo solar medio. Medida de tiempo basada en el movimiento diurno de Sol medio o ficticio, suponiendo un movimiento de rotación terrestre uniforme.

Tiempo sideral. Medida de tiempo basada en el movimiento diurno del punto Vernal. Está dado por la razón de rotación terrestre respecto a las estrellas.

Tiempo universal. Medida de tiempo basada en el movimiento diurno del Sol. Hora local en el meridiano de Greenwich; se determina por la observación del movimiento diurno de las estrellas.

Tierra. Planeta rocoso del Sistema Solar. Véanse tablas de parámetros físicos y orbitales de planetas, y satélites de los planetas.

Tránsito. Paso de un objeto celeste por un meridiano. Paso de un cuerpo frente a otro de r diámetro aparente.

Umbral. En un eclipse, la región desde donde se observa al cuerpo celeste totalmente oculto. Umbral, en latín, significa sombra.

Unidad astronómica o U.A. Distancia media entre la Tierra y el Sol; 150 millones de kilómetros, aproximadamente.

Urano. Planeta gaseoso del Sistema Solar con 9 anillos. Véanse tablas de parámetros físicos y orbitales de planetas, y satélites de los planetas.

Venus. Planeta rocoso del Sistema Solar que se muestra desde la Tierra como el de r brillo. Véanse tablas de parámetros físicos y orbitales de planetas, y satélites de los planetas.

Yom Kippur. Día del perdón entre los judíos.

Zenit o Cenit. Ver Cenit.

Zodiaco. Banda imaginaria de constelaciones a través de la cual se mueve el Sol, la Luna y los planetas durante el año.

Apéndice

Explicaciones

Explicaciones generales al contenido del Anuario

Con la abreviatura W. G., debemos leer Oeste del meridiano de Greenwich, ésta se mantiene en toda la publicación, a menos que se indique otra referencia.

Calendario

En un sentido general los calendarios son sistemas de cómputo de días, con ellos se rige la vida social, civil y religiosa de los grupos humanos. Se construyen mediante la combinación de diferentes unidades de tiempo. Se han ideado diversas estructuras funcionales por medio de la aplicación de ciertos algoritmos o procedimientos matemáticos, con los que se pretende seguir la duración de diversos ciclos astronómicos. Ejemplos de ellos son los relacionados al movimiento aparente del Sol, la Luna, Venus o algunas estrellas brillantes, los cuales contienen implícitamente el movimiento de traslación y rotación de la Tierra, así como el de la Luna en torno a la Tierra.

El *año civil*, es el intervalo de 365 días que se utiliza en la ría de los países del mundo, y es la parte entera de la duración del año trópico (el ciclo de las estaciones). Para su buen funcionamiento se requiere que cada año para una fecha dada, la posición aproximada del Sol corresponda a la del año anterior. Para lograrlo se hace necesario corregirlo de acuerdo a las siguientes reglas:

Si el año es divisible exactamente entre 4, durará 366 días, al cual se le llama año *bisiesto*.

Los años seculares (múltiplos de 100) no serán bisiestos, excepto si son divisibles entre 400.

Como ejemplos de ello tenemos que los años 1700, 1800 y 1900 no fueron bisiestos; en cambio el año 1600 y el 2000 sí lo fueron.

Aquellos años contados de acuerdo a la Era Cristiana tienen su origen numérico en el año 1; este y los años subsiguientes se nombran después de Cristo (d. C.) y los precedentes como antes de Cristo (a.C.). En nuestros días, el calendario adoptado por la ría de los países del mundo es el Calendario Gregoriano, instituido por el Papa Gregorio XIII en 1582. En aquel año introdujo la corrección al calendario Juliano en 10 días, al decretar que al día 4 de le seguiría el 15 de .

En Astronomía, con el propósito de manejar los años numéricamente, el año 1 a.C. se define como el año cero. Los años contados antes de la era cristiana serán negativos, con la regla de restar uno al número del año, y el resultado escribirlo sin el sufijo a.C., anteponiendo el signo menos.

Como ejemplos: el año 2 a.C. será -1 en la notación astronómica; el año 23 a.C. será el -22, el año 115 a.C. será el -114, etc. Para los años posteriores a la era cristiana, simplemente se quita el sufijo d.C. y se tendrá la notación astronómica. Con esta representación se pueden manejar numéricamente los años y se puede obtener fácilmente, de acuerdo con el procedimiento ya mencionado, la secuencia de años bisiestos en cualquier época.

En la región geográfica comprendida entre el occidente de la República Mexicana hasta las que se encuentran entre las Repúblicas de Nicaragua y Costa Rica en centro América, a la

que se da el nombre de Mesoamérica, florecieron las culturas americanas desarrolladas por los huicholes, mexicas, huastecos, zapotecos, mayas, olmecas, etc. En ésta región de América se desarrolló un sistema de dos calendarios con los que se contaban, independientemente, intervalos de 365 y 260 días. El primer intervalo se daba mediante la combinación de 18 meses de 20 días, más cinco días adicionales con los que se completaba la cuenta; evidentemente se reproduce el ciclo anual del Sol. El segundo se obtenía mediante la combinación de 13 meses de 20 días, del cual se desconoce una contraparte en ciclos astronómicos. Hasta el momento se conoce con certeza por la existencia de los códices, el calendario mexica, maya y zapoteca, aunque existen evidencias de la calendárica olmeca, teotihuacana y otras. Entre las épocas más antiguas de esta calendárica, se encuentra la referida por la Estela 12 de Monte alban, para el año -591. Como resultado del estudio del calendario maya, se ha inferido la existencia de una fecha Era que corresponde al 13 de de -3112. Finalmente en base a estudios etnográficos, se ha detectado el uso actual de esta calendárica en las regiones Mixe de Oaxaca y la Maya entre México y Guatemala.

Día Juliano

Sistema de numeración sucesiva de días, establecido arbitrariamente para que todas las fechas históricas tengan un número progresivo. Así el día juliano queda definido como el número de días solares medios, transcurridos desde el 1 de de -4712, a partir del medio día del meridiano de Greenwich.

En la tabla se dan para cada mes, grupos de tres columnas; el número del día en la primera; en la segunda, el nombre del día y en la tercera el día juliano correspondiente al mediodía del meridiano 90°W.G.

Eras, ciclos cronológicos, cómputo, fiestas y aniversarios

Las Eras son épocas definidas por algún suceso cultural de importancia, las cuales referimos aquí al calendario gregoriano. Los ciclos cronológicos y el cómputo son reglas eclesiásticas que ordenan las celebraciones religiosas. Se rigen por los ciclos "solar", "número de oro" e "indicción romana", equivalentes a 28, 19 y 15 años respectivamente. La pascua corresponde al primer domingo, en el calendario gregoriano, después de la Luna Llena tabular que ocurre después del equinoccio vernal tabular (21 de). La Luna Llena tabular o eclesiástica, se basa en el ciclo Metónico de 235 meses sinódicos.

En la tabla de fiestas y aniversarios se dan las fechas de algunos acontecimientos históricos de importancia en la República Mexicana. También se dan algunas fechas de las celebraciones religiosas importantes de diferentes grupos sociales del País.

Estaciones del año

Se dan los instantes (mes, día, hora y minuto) en los que el Sol inicia su recorrido a través de cada una de las Constelaciones del Zodíaco. Señalamos los intervalos trimestrales de las estaciones del año y las longitudes eclípticas que delimitan cada constelación zodiacal. La primavera se inicia en , en el instante en que ocurre el equinoccio del Nodo Ascendente; el Verano en , en el instante en que ocurre el Solsticio; el Otoño en , en el instante en que ocurre el equinoccio del Nodo Descendente; y el Invierno que se inicia en , en el instante del Solsticio.

Nomenclatura de estrellas

Se dan los nombres propios de algunas estrellas, la extensión de la clasificación Bayer, y su correspondiente número secuencial del Bright Star Catalog. Conviene señalar que dicha clasificación fue desarrollada por el bávaro John Bayer (1572-1631), cuando publicó su atlas Uranometría en el año de 1603. De acuerdo a los modos de clasificación que él conocía, dio un nombre a las estrellas de acuerdo a seis órdenes de magnitud entre el brillo relativo de las estrellas, para cada constelación. Así a las estrellas más brillantes les asignó una letra griega, además del nombre de la constelación, de acuerdo al mencionado brillo y dependiendo de su posición dentro del grupo de estrellas.

Clasificación espectral de las estrellas

Clase espectral	Color	Temperatura superficial °K	Carácter
O	Blanco-azul	35 000	Líneas de helio ionizado, nitrógeno, oxígeno e hidrógeno.
B	Blanco-azul	20 000	Líneas de helio neutro.
A	Blanca	10 000	Líneas intensas de hidrógeno, no tiene helio.
F	Blanco-amarillo	7 000	Líneas intensas de calcio y débiles de hidrógeno
G	Amarilla	6 000	Líneas débiles de hidrógeno y líneas intensas de metales. La clase espectral de nuestro Sol es G2V.
K	Naranja	4 000 a 4 700	Espectro muy complejo con líneas de metales.
M	Roja	2 500 a 3 000	Espectro muy complejo con líneas intensas de metales y anchas bandas moleculares, en especial de óxido de titanio.
N y R	Rojo intenso Roja	2 500	Con bandas espectrales de compuestos de carbón. Semejantes a las N, con bandas de óxido de zirconio, y líneas de emisión del hidrógeno.
W	Azul	50 000	Muestran emisión debido a la expansión de sus capas externas y atmósferas muy turbulentas.

Subclase

Ia	supergigante brillante
Ib	supergigante poco luminosa
II	gigante brillante
III	gigante normal
IV	subgigante
V	secuencia principal
VI	subenana

Catálogo Messier

Es una selección de objetos astronómicos brillantes y difusos, creado por Charles Messier, quien pretendía identificarlos plenamente, para evitar confundirlos con los cometas. Messier era conocido por sus observaciones astronómicas en la búsqueda de este tipo de objetos, actividad que desarrolló desde fines del siglo XVIII, hasta su muerte en 1817, llegando a descubrir trece cometas. Los primeros ochenta objetos (del M1 al M80) fueron clasificados por el propio Messier.

Entre los elementos del catálogo se pueden distinguir objetos que pertenecen a nuestra Galaxia, y los que no, son llamados extragalácticos. Como parte de la Galaxia se encuentran los cúmulos abiertos (ca), que son grupos de unos cientos de estrellas ligados gravitatoriamente; cúmulos globulares o galácticos (cg), son conjuntos de cientos de miles de estrellas; remanentes de supernovas (rsn), son restos de estrellas cuyos procesos evolutivos terminan como supernovas; nebulosas planetarias (np), son estrellas cuyos procesos evolutivos terminan con la eyección de materia a velocidades moderadas; nebulosas de reflexión (nr), son aquellas nubes de material interestelar que reflejan la luz de las estrellas vecinas; y nebulosas de emisión (ne), son aquellas nubes que al estar sometidas a la radiación de estrellas muy caliente, ionizan el material interestelar del que están formadas.

Los objetos extragalácticos del catálogo son galaxias del tipo elíptico (E), espirales (S), o espirales barradas (SB).

Eventos astronómicos

Lluvias de estrellas. Son restos de cometas que al penetrar la atmósfera terrestre, se disuelven en ella dejando una estela luminosa comúnmente conocida como estrella fugaz. Como se trata de enjambres de materiales muy pequeños que inciden sobre la Tierra con trayectorias casi paralelas, las estrellas fugaces parecen surgir del mismo punto en la bóveda celeste, llamado radiante. En esta sección se dan las principales lluvias de estrellas, cuyos nombres se asocian a la constelación en la que se encuentra el radiante;

los días en que se pueden observar; y el número promedio de estrellas fugaces por hora.

Crepúsculos, salidas y puestas del sol y de la luna. Los crepúsculos, salidas y puestas del sol, son eventos astronómicos locales que dependen de la latitud del lugar de observación. La salida o puesta del sol está definida para el instante en el cual el centro del Sol se encuentra a 0.5° bajo el horizonte del observador, de tal manera que considerando la refracción y el semidiámetro solar, el limbo superior del Sol se encuentra a una altura de 0° sobre el horizonte. Los crepúsculos que se dan en estas tablas, son el astronómico y civil que corresponden a la posición del centro del disco solar, se encuentra bajo el horizonte a 18° y 6° respectivamente.

La hora en que ocurre cada evento está dada en *hora local*; la *hora legal* se obtiene al sumar a la hora local, la diferencia en horas entre la longitud del lugar de observación y el meridiano horario.

Por ejemplo, evaluemos para el meridiano 90° W. G. la salida del Sol el día 6 de , en un lugar cuya latitud es 30° y longitud $97^\circ 30'$. En la tabla dada para latitud 30° , la salida del Sol (SS) indicada para el 6 de , es 4h 59m.

La diferencia en longitud (DI) será:

$$\Delta\lambda = (97.5^\circ - 90^\circ)/15$$

$\Delta\lambda = 7.5^\circ/15$ donde obtenemos DI = 30 m; así, la hora de la salida del Sol será:

$$T = 4h\ 59m + 30m \quad \text{es decir} \quad T = 5h\ 29m.$$

Hora en la República Mexicana (Hora Legal en México)

La hora legal se adoptó en la República Mexicana el 1 de de 1922, actualmente se tienen cuatro husos horarios de referencia, los meridianos 75° , 90° , 105° y 120° al W. G. El 13 de de 1998 se modificó en México el horario de Verano, decretándose los cuatro husos horarios para la República Mexicana.

Los husos horarios en el mundo (ver mapa de zonas horarias), son franjas de 15° centradas en el meridiano horario de referencia, el meridiano de la ciudad de Greenwich, Inglaterra se ha definido como el meridiano 0° . Los meridianos se miden a partir del meridiano de Greenwich al Este o al Oeste y se escriben las siglas E.G. y W. G. precediéndolas el valor numérico de la longitud geográfica. También con el propósito de manejar numéricamente, los valores de las longitudes geográficas serán positivos para las longitudes medidas al Este de Greenwich y negativos para los que se determinan al Oeste. Por ejemplo el meridiano 90° W.G. se escribe numéricamente como -90° . Los meridianos horarios hacia el Este o al Oeste son: 15° , 30° , 45° , 60° , 75° , 90° , 105° , 120° , 135° , 150° , 165° . Al meridiano 180° se le llama Línea Internacional del Tiempo.

El tiempo referido al meridiano de Greenwich o simplemente meridiano 0° , es llamado Tiempo Universal. Los husos horarios en que se divide la Tierra son adaptados por los países según sus propias necesidades, esto se puede observar en el mapa de zonas horarias, donde las franjas de los husos horarios son modificadas por accidentes orográficos o hidrográficos o bien por las fronteras entre países vecinos o por límites entre sus propias divisiones políticas. La hora así definida es llamada también hora legal o civil. En algunos países, según sea la época del año, se suele modificar los horarios legales que les corresponden, por horarios llamados de Verano o Invierno, con el propósito de aprovechar mejor la iluminación de la luz solar.

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