

Topocentric ephemeris of the Moon

Times are given in UT for Aveiro (8° 37' 48" W, 40° 36' 7" N, zone Z).

	Date	Hour	R. A. (2000.0)	Decl. (2000.0)	Const.	Dist. E.	Age	Magn.	Diam.	Illum.	Elong.	Separ.	Rise	Transit	Set	Elevation	Azimuth	Azimuth
	yyyy mm dd	hh:mm	topocentric	topocentric		km	days	mV	"	%	°	°	hh:mm	hh:mm	hh:mm	(max.)	at rise	at set
1	2025 01 01	00:00	19h 43m 52,6s	-26° 10' 58"	Sgr	387519	1d 1h 33m	-8,61	1850	1,4	12,8° E	13,6°	09:32	14:09	18:53	24,6°	303,4°	58,7°
2	2025 01 02	00:00	20h 40m 30,0s	-22° 43' 56"	Cap	383695	2d 1h 33m	-9,18	1869	4,9	25,1° E	25,4°	10:08	15:03	20:07	29,2°	297,5°	65,4°
3	2025 01 03	00:00	21h 34m 43,7s	-18° 1' 57"	Cap	380133	3d 1h 33m	-9,71	1886	10,5	37,6° E	37,8°	10:37	15:54	21:20	34,9°	290,1°	73,5°
4	2025 01 04	00:00	22h 26m 34,4s	-12° 22' 16"	Aqr	376887	4d 1h 33m	-10,19	1902	18,2	50,3° E	50,4°	11:03	16:42	22:33	41,4°	281,8°	82,3°
5	2025 01 05	00:00	23h 16m 40,7s	-6° 3' 40"	Aqr	373981	5d 1h 33m	-10,62	1917	27,5	63,1° E	63,1°	11:26	17:29	23:45	48,3°	273,0°	91,6°
6	2025 01 06	00:00	0h 6m 4,7s	+0° 34' 54"	Psc	371440	6d 1h 33m	-10,99	1930	38,1	76,1° E	76,1°	11:49	18:16		48,3°	264,0°	91,6°
7	2025 01 07	00:00	0h 56m 0,4s	+7° 14' 18"	Psc	369311	7d 1h 33m	-11,32	1941	49,3	89,1° E	89,1°	12:13	19:05	00:57	55,3°	255,2°	100,8°
8	2025 01 08	00:00	1h 47m 44,1s	+13° 34' 23"	Ari	367682	8d 1h 33m	-11,61	1950	60,7	102,2° E	102,2°	12:41	19:57	02:11	62,0°	247,1°	109,5°
9	2025 01 09	00:00	2h 42m 23,4s	+19° 13' 9"	Ari	366686	9d 1h 33m	-11,87	1955	71,6	115,5° E	115,4°	13:13	20:53	03:27	68,0°	240,0°	117,3°
10	2025 01 10	00:00	3h 40m 38,3s	+23° 46' 56"	Tau	366479	10d 1h 33m	-12,09	1956	81,3	128,8° E	128,6°	13:54	21:52	04:44	72,8°	234,7°	123,6°
11	2025 01 11	00:00	4h 42m 16,4s	+26° 52' 38"	Tau	367211	11d 1h 33m	-12,28	1952	89,3	142,0° E	141,8°	14:45	22:53	05:57	76,2°	231,7°	127,6°
12	2025 01 12	00:00	5h 45m 55,4s	+28° 12' 50"	Tau	368984	12d 1h 33m	-12,45	1943	95,3	155,2° E	154,8°	15:46	23:54	07:03	77,6°	231,6°	128,7°
13	2025 01 13	00:00	6h 49m 17,4s	+27° 41' 34"	Gem	371818	13d 1h 33m	-12,60	1928	99,8	168,2° E	167,3°	16:54		07:58	74,7°	234,2°	127,0°
14	2025 01 14	00:00	7h 50m 1,8s	+25° 26' 52"	Gem	375620	14d 1h 33m	-11,87	1909	99,8	179,0° W	175,5°	18:05	00:52	08:41	70,8°	239,1°	122,9°
15	2025 01 15	00:00	8h 46m 38,1s	+21° 47' 38"	Cnc	380189	15d 1h 33m	-12,55	1886	98,5	166,5° W	166,0°	19:15	01:46	09:15	65,9°	245,5°	117,2°
16	2025 01 16	00:00	9h 38m 44,1s	+17° 7' 5"	Leo	385224	16d 1h 33m	-12,37	1861	95,1	154,4° W	154,3°	20:22	02:35	09:42	60,3°	252,9°	110,3°
17	2025 01 17	00:00	10h 26m 49,5s	+11° 47' 22"	Leo	390368	17d 1h 33m	-12,18	1837	89,8	142,7° W	142,6°	21:26	03:20	10:05	54,4°	260,7°	102,9°
18	2025 01 18	00:00	11h 11m 51,3s	+6° 6' 48"	Leo	395238	18d 1h 33m	-11,98	1814	83,0	131,2° W	131,2°	22:28	04:01	10:25	48,5°	268,6°	95,2°
19	2025 01 19	00:00	11h 54m 55,9s	+0° 19' 43"	Vir	399472	19d 1h 33m	-11,78	1795	75,2	120,1° W	120,1°	23:28	04:41	10:44	42,6°	276,4°	87,6°
20	2025 01 20	00:00	12h 37m 10,8s	-5° 22' 41"	Vir	402759	20d 1h 33m	-11,56	1780	66,5	109,2° W	109,2°		05:20	11:03	37,0°	284,0°	80,1°
21	2025 01 21	00:00	13h 19m 41,5s	-10° 50' 54"	Vir	404864	21d 1h 33m	-11,34	1771	57,4	98,4° W	98,4°	00:28	06:00	11:23	37,0°	284,0°	72,9°
22	2025 01 22	00:00	14h 3m 30,5s	-15° 55' 47"	Vir	405645	22d 1h 33m	-11,10	1767	48,1	87,6° W	87,6°	01:29	06:42	11:46	31,8°	291,1°	66,1°
23	2025 01 23	00:00	14h 49m 34,8s	-20° 27' 13"	Lib	405062	23d 1h 33m	-10,83	1770	38,7	76,8° W	76,8°	02:32	07:26	12:13	27,2°	297,6°	60,2°
24	2025 01 24	00:00	15h 38m 40,4s	-24° 13' 12"	Lib	403178	24d 1h 33m	-10,54	1778	29,7	65,8° W	65,9°	03:37	08:14	12:46	23,6°	303,1°	55,3°
25	2025 01 25	00:00	16h 31m 11,4s	-26° 59' 45"	Sco	400156	25d 1h 33m	-10,21	1792	21,3	54,7° W	54,8°	04:42	09:06	13:28	21,0°	307,0°	52,0°
26	2025 01 26	00:00	17h 26m 56,1s	-28° 32' 0"	Oph	396243	26d 1h 33m	-9,83	1809	13,8	43,2° W	43,5°	05:43	10:02	14:20	20,0°	309,0°	50,9°
27	2025 01 27	00:00	18h 24m 58,6s	-28° 36' 56"	Sgr	391752	27d 1h 33m	-9,40	1830	7,6	31,4° W	31,8°	06:39	10:59	15:22	20,6°	308,5°	52,3°
28	2025 01 28	00:00	19h 23m 47,6s	-27° 7' 11"	Sgr	387033	28d 1h 33m	-8,90	1852	3,0	19,3° W	19,9°	07:26	11:57	16:33	23,0°	305,5°	56,3°
29	2025 01 29	00:00	20h 21m 46,3s	-24° 3' 51"	Cap	382436	29d 1h 33m	-8,34	1875	0,5	6,9° W	8,2°	08:05	12:53	17:48	27,1°	300,2°	62,5°
30	2025 01 30	00:00	21h 17m 46,3s	-19° 36' 57"	Cap	378272	0d 11h 24m	-8,32	1895	0,4	5,8° E	6,9°	08:38	13:46	19:04	32,6°	293,1°	70,3°
31	2025 01 31	00:00	22h 11m 24,9s	-14° 3' 6"	Aqr	374778	1d 11h 24m	-8,94	1913	2,7	18,8° E	19,0°	09:05	14:36	20:19	39,0°	284,8°	79,2°
32	2025 02 01	00:00	23h 3m 3,1s	-7° 42' 43"	Aqr	372096	2d 11h 24m	-9,52	1927	7,6	31,9° E	31,9°	09:30	15:25	21:33	46,1°	275,9°	88,7°
33	2025 02 02	00:00	23h 53m 31,4s	-0° 57' 31"	Psc	370267	3d 11h 24m	-10,04	1936	14,8	45,1° E	45,1°	09:53	16:14	22:47	53,3°	266,6°	98,2°
34	2025 02 03	00:00	0h 43m 56,3s	+5° 50' 40"	Psc	369249	4d 11h 24m	-10,49	1942	23,8	58,3° E	58,3°	10:17	17:03		53,3°	257,6°	98,2°
35	2025 02 04	00:00	1h 35m 29,2s	+12° 20' 9"	Psc	368948	5d 11h 24m	-10,88	1943	34,3	71,6° E	71,6°	10:44	17:54	00:02	60,2°	249,1°	107,3°
36	2025 02 05	00:00	2h 29m 15,1s	+18° 9' 12"	Ari	369257	6d 11h 24m	-11,21	1942	45,5	84,7° E	84,7°	11:14	18:48	01:18	66,5°	241,7°	115,4°
37	2025 02 06	00:00	3h 25m 58,1s	+22° 56' 8"	Ari	370086	7d 11h 24m	-11,50	1937	56,9	97,8° E	97,8°	11:52	19:45	02:34	71,7°	235,8°	122,2°
38	2025 02 07	00:00	4h 25m 41,1s	+26° 20' 28"	Tau	371381	8d 11h 24m	-11,74	1930	67,8	110,8° E	110,7°	12:38	20:45	03:48	75,5°	232,1°	126,8°
39	2025 02 08	00:00	5h 27m 29,8s	+28° 6' 7"	Tau	373129	9d 11h 24m	-11,96	1921	77,7	123,7° E	123,6°	13:35	21:45	04:55	77,5°	231,1°	128,9°
40	2025 02 09	00:00	6h 29m 37,1s	+28° 5' 30"	Aur	375342	10d 11h 24m	-12,14	1910	86,2	136,4° E	136,2°	14:40	22:43	05:52	77,6°	232,8°	128,1°
41	2025 02 10	00:00	7h 29m 58,9s	+26° 22' 19"	Gem	378034	11d 11h 24m	-12,31	1897	92,7	149,0° E	148,7°	15:49	23:37	06:38	75,9°	236,9°	124,9°
42	2025 02 11	00:00	8h 27m 0,2s	+23° 10' 25"	Cnc	381191	12d 11h 24m	-12,46	1881	97,3	161,3° E	160,9°	16:59		07:14	68,0°	242,7°	119,7°
43	2025 02 12	00:00	9h 20m 1,3s	+18° 49' 34"	Cnc	384752	13d 11h 24m	-12,59	1863	99,6	173,4° E	172,7°	18:07	00:27	07:43	62,7°	249,8°	113,2°
44	2025 02 13	00:00	10h 9m 13,0s	+13° 40' 45"	Leo	388592	14d 11h 24m	-12,60	1845	99,8	174,8° W	174,3°	19:12	01:13	08:07	56,9°	257,4°	106,0°
45	2025 02 14	00:00	10h 55m 18,1s	+8° 3' 2"	Leo	392524	15d 11h 24m	-12,44	1827	97,9	163,2° W	163,1°	20:14	01:56	08:28	50,8°	265,4°	98,4°
46	2025 02 15	00:00	11h 39m 13,9s	+2° 12' 31"	Vir	396307	16d 11h 24m	-12,27	1809	94,1	151,8° W	151,8°	21:15	02:37	08:48	44,8°	273,4°	90,6°
47	2025 02 16	00:00	12h 22m 1,7s	-3° 37' 33"	Vir	399676	17d 11h 24m	-12,09	1794	88,7	140,7° W	140,7°	22:16	03:16	09:07	39,0°	281,1°	82,9°
48	2025 02 17	00:00	13h 4m 42,8s	-9° 15' 58"	Vir	402358	18d 11h 24m	-11,91	1782	82,0	129,8° W	129,7°	23:17	03:56	09:26	33,7°	288,5°	75,5°
49	2025 02 18	00:00	13h 48m 15,8s	-14° 32' 37"	Vir	404106	19d 11h 24m	-11,73	1774	74,2	118,9° W	118,9°		04:36	09:48	28,8°	295,3°	68,6°
50	2025 02 19	00:00	14h 33m 35,5s	-19° 17' 22"	Lib	404726	20d 11h 24m	-11,53	1771	65,6	108,1° W	108,0°	00:19	05:19	10:12	28,8°	295,3°	62,3°

Topocentric ephemeris of the Moon (following)

Times are given in UT for Aveiro (8° 37' 48" W, 40° 36' 7" N, zone Z).

	Date yyyy mm dd	Hour hh:mm	R. A. (2000.0) topocentric	Decl. (2000.0) topocentric	Const.	Dist. E. km	Age days	Magn. mV	Diam. "	Illum. %	Elong. °	Separ. °	Rise hh:mm	Transit hh:mm	Set hh:mm	Elevation (max.)	Azimuth at rise	Azimuth at set
51	2025 02 20	00:00	15h 21m 28,3s	-23° 19' 12"	Lib	404093	21d 11h 24m -11,31	1774	56,4	97,2° W	97,2°	01:23	06:05	10:42	24,8°	301,2°	57,0°	
52	2025 02 21	00:00	16h 12m 24,8s	-26° 25' 44"	Sco	402172	22d 11h 24m -11,07	1783	46,9	86,3° W	86,3°	02:26	06:55	11:19	21,8°	305,8°	53,0°	
53	2025 02 22	00:00	17h 6m 28,1s	-28° 23' 39"	Oph	399032	23d 11h 24m -10,81	1797	37,3	75,1° W	75,1°	03:29	07:48	12:06	20,1°	308,6°	50,9°	
54	2025 02 23	00:00	18h 3m 4,7s	-29° 0' 13"	Sgr	394844	24d 11h 24m -10,51	1816	28,0	63,6° W	63,7°	04:26	08:44	13:02	20,0°	309,3°	51,1°	
55	2025 02 24	00:00	19h 1m 5,5s	-28° 6' 11"	Sgr	389885	25d 11h 24m -10,16	1839	19,3	51,8° W	52,0°	05:17	09:41	14:09	21,5°	307,4°	53,9°	
56	2025 02 25	00:00	19h 59m 4,9s	-25° 38' 31"	Sgr	384516	26d 11h 24m -9,74	1865	11,7	39,6° W	39,8°	05:59	10:37	15:22	24,8°	303,1°	59,0°	
57	2025 02 26	00:00	20h 55m 49,7s	-21° 41' 57"	Cap	379157	27d 11h 24m -9,26	1891	5,6	27,0° W	27,3°	06:34	11:32	16:38	29,7°	296,8°	66,2°	
58	2025 02 27	00:00	21h 50m 42,3s	-16° 28' 41"	Cap	374243	28d 11h 24m -8,69	1916	1,6	14,0° W	14,4°	07:04	12:24	17:55	35,8°	289,0°	74,9°	
59	2025 02 28	00:00	22h 43m 46,5s	-10° 16' 38"	Aqr	370167	29d 11h 24m -8,07	1937	0,0	0,8° W	2,2°	07:30	13:15	19:12	42,8°	280,1°	84,4°	
60	2025 03 01	00:00	23h 35m 39,6s	-3° 27' 28"	Aqr	367230	0d 23h 15m -8,68	1952	1,2	12,7° E	12,8°	07:55	14:05	20:28	50,2°	270,6°	94,3°	
61	2025 03 02	00:00	0h 27m 19,3s	+3° 34' 49"	Psc	365595	1d 23h 15m -9,31	1961	5,2	26,4° E	26,4°	08:19	14:55	21:45	57,6°	261,1°	104,0°	
62	2025 03 03	00:00	1h 19m 51,6s	+10° 25' 12"	Psc	365272	2d 23h 15m -9,87	1963	11,8	40,0° E	40,1°	08:45	15:47	23:04	64,4°	252,1°	112,8°	
63	2025 03 04	00:00	2h 14m 18,3s	+16° 38' 29"	Ari	366132	3d 23h 15m -10,34	1958	20,5	53,6° E	53,7°	09:15	16:42		64,4°	243,9°	112,8°	
64	2025 03 05	00:00	3h 11m 22,0s	+21° 50' 26"	Ari	367954	4d 23h 15m -10,74	1948	30,7	67,1° E	67,1°	09:51	17:40	00:22	70,3°	237,3°	120,4°	
65	2025 03 06	00:00	4h 11m 7,0s	+25° 39' 31"	Tau	370474	5d 23h 15m -11,07	1935	41,7	80,3° E	80,3°	10:35	18:39	01:39	74,6°	232,8°	125,8°	
66	2025 03 07	00:00	5h 12m 44,5s	+27° 49' 43"	Tau	373437	6d 23h 15m -11,36	1920	52,9	93,2° E	93,2°	11:29	19:40	02:49	77,2°	230,9°	128,7°	
67	2025 03 08	00:00	6h 14m 36,8s	+28° 13' 47"	Aur	376637	7d 23h 15m -11,60	1904	63,8	105,9° E	105,9°	12:31	20:38	03:49	77,9°	231,8°	128,8°	
68	2025 03 09	00:00	7h 14m 48,8s	+26° 55' 11"	Gem	379928	8d 23h 15m -11,81	1887	73,8	118,4° E	118,3°	13:39	21:33	04:38	76,7°	235,2°	126,3°	
69	2025 03 10	00:00	8h 11m 50,3s	+24° 6' 32"	Cnc	383224	9d 23h 15m -11,99	1871	82,5	130,5° E	130,4°	14:48	22:23	05:16	73,8°	240,5°	121,7°	
70	2025 03 11	00:00	9h 5m 1,1s	+20° 5' 55"	Cnc	386482	10d 23h 15m -12,16	1855	89,6	142,5° E	142,4°	15:56	23:10	05:47	69,7°	247,2°	115,6°	
71	2025 03 12	00:00	9h 54m 28,6s	+15° 12' 36"	Leo	389680	11d 23h 15m -12,30	1840	95,0	154,2° E	154,1°	17:01	23:53	06:12	64,7°	254,6°	108,7°	
72	2025 03 13	00:00	10h 40m 51,4s	+9° 44' 38"	Leo	392788	12d 23h 15m -12,44	1825	98,5	165,8° E	165,7°	18:04		06:33	53,1°	262,4°	101,2°	
73	2025 03 14	00:00	11h 25m 3,1s	+3° 57' 49"	Leo	395755	13d 23h 15m -12,58	1812	99,9	177,1° E	177,1°	19:05	00:34	06:53	47,1°	270,4°	93,5°	
74	2025 03 15	00:00	12h 8m 1,7s	-1° 54' 11"	Vir	398490	14d 23h 15m -12,51	1799	99,5	171,7° W	171,6°	20:05	01:14	07:12	41,2°	278,3°	85,8°	
75	2025 03 16	00:00	12h 50m 45,1s	-7° 39' 14"	Vir	400864	15d 23h 15m -12,35	1789	97,2	160,6° W	160,5°	21:06	01:53	07:31	35,6°	285,8°	78,2°	
76	2025 03 17	00:00	13h 34m 8,8s	-13° 6' 10"	Vir	402716	16d 23h 15m -12,19	1780	93,1	149,7° W	149,6°	22:08	02:33	07:52	30,5°	292,9°	71,1°	
77	2025 03 18	00:00	14h 19m 3,8s	-18° 3' 56"	Vir	403866	17d 23h 15m -12,03	1775	87,6	138,8° W	138,7°	23:11	03:15	08:15	26,2°	299,1°	64,5°	
78	2025 03 19	00:00	15h 6m 13,6s	-22° 21' 12"	Lib	404142	18d 23h 15m -11,86	1774	80,7	127,9° W	127,8°		03:59	08:42	22,8°	304,2°	58,8°	
79	2025 03 20	00:00	15h 56m 7,4s	-25° 45' 56"	Sco	403396	19d 23h 15m -11,68	1777	72,7	117,0° W	116,9°	00:14	04:48	09:16	22,8°	304,2°	54,3°	
80	2025 03 21	00:00	16h 48m 51,5s	-28° 5' 43"	Sco	401533	20d 23h 15m -11,49	1786	63,8	106,0° W	105,9°	01:17	05:39	09:58	20,6°	307,8°	51,4°	
81	2025 03 22	00:00	17h 44m 1,2s	-29° 9' 0"	Sgr	398532	21d 23h 15m -11,27	1799	54,3	94,8° W	94,7°	02:15	06:32	10:49	19,8°	309,3°	50,7°	
82	2025 03 23	00:00	18h 40m 40,9s	-28° 46' 51"	Sgr	394467	22d 23h 15m -11,03	1818	44,3	83,3° W	83,3°	03:08	07:27	11:50	20,6°	308,6°	52,3°	
83	2025 03 24	00:00	19h 37m 37,8s	-26° 55' 9"	Sgr	389515	23d 23h 15m -10,75	1841	34,3	71,5° W	71,6°	03:52	08:23	12:58	23,0°	305,5°	56,2°	
84	2025 03 25	00:00	20h 33m 45,2s	-23° 35' 49"	Cap	383967	24d 23h 15m -10,42	1867	24,7	59,4° W	59,5°	04:30	09:17	14:11	27,1°	300,2°	62,4°	
85	2025 03 26	00:00	21h 28m 24,1s	-18° 56' 45"	Cap	378210	25d 23h 15m -10,02	1896	15,9	46,8° W	46,9°	05:01	10:09	15:27	32,5°	293,2°	70,2°	
86	2025 03 27	00:00	22h 21m 32,0s	-13° 11' 4"	Aqr	372704	26d 23h 15m -9,55	1924	8,6	33,8° W	33,9°	05:29	11:00	16:43	39,0°	284,9°	79,3°	
87	2025 03 28	00:00	23h 13m 38,7s	-6° 36' 16"	Aqr	367930	27d 23h 15m -8,99	1949	3,2	20,4° W	20,5°	05:54	11:50	17:59	46,3°	275,7°	89,1°	
88	2025 03 29	00:00	0h 5m 37,1s	+0° 26' 14"	Psc	364325	28d 23h 15m -8,34	1968	0,3	6,7° W	6,7°	06:18	12:41	19:18	53,9°	266,0°	99,1°	
89	2025 03 30	00:00	0h 58m 32,0s	+7° 31' 32"	Psc	362213	0d 13h 02m -8,42	1979	0,4	7,2° E	7,3°	06:44	13:34	20:38	61,2°	256,5°	108,7°	
90	2025 03 31	00:00	1h 53m 27,5s	+14° 12' 1"	Ari	361745	1d 13h 02m -9,09	1982	3,4	21,2° E	21,3°	07:13	14:29	21:59	67,8°	247,5°	117,2°	
91	2025 04 01	00:00	2h 51m 11,6s	+19° 59' 5"	Ari	362877	2d 13h 02m -9,67	1976	9,2	35,1° E	35,3°	07:47	15:28	23:21	73,0°	239,9°	123,9°	
92	2025 04 02	00:00	3h 51m 54,0s	+24° 25' 57"	Tau	365393	3d 13h 02m -10,16	1962	17,3	48,9° E	49,0°	08:30	16:29		73,0°	234,3°	123,9°	
93	2025 04 03	00:00	4h 54m 46,9s	+27° 11' 56"	Tau	368952	4d 13h 02m -10,57	1943	27,0	62,4° E	62,5°	09:21	17:31	00:36	76,5°	231,3°	128,0°	
94	2025 04 04	00:00	5h 58m 5,7s	+28° 6' 54"	Tau	373168	5d 13h 02m -10,91	1921	37,6	75,5° E	75,5°	10:23	18:32	01:42	77,9°	231,3°	129,0°	
95	2025 04 05	00:00	6h 59m 42,1s	+27° 13' 30"	Gem	377667	6d 13h 02m -11,20	1898	48,5	88,2° E	88,2°	11:30	19:29	02:36	77,2°	234,0°	127,3°	
96	2025 04 06	00:00	7h 57m 54,2s	+24° 45' 11"	Gem	382137	7d 13h 02m -11,44	1876	59,2	100,5° E	100,5°	12:40	20:21	03:18	74,9°	238,8°	123,2°	
97	2025 04 07	00:00	8h 51m 55,8s	+21° 1' 14"	Cnc	386349	8d 13h 02m -11,65	1856	69,2	112,5° E	112,5°	13:48	21:09	03:51	71,1°	245,1°	117,6°	
98	2025 04 08	00:00	9h 41m 54,7s	+16° 21' 43"	Leo	390163	9d 13h 02m -11,84	1838	78,2	124,2° E	124,2°	14:53	21:52	04:17	66,3°	252,2°	110,9°	
99	2025 04 09	00:00	10h 28m 32,9s	+11° 4' 40"	Leo	393509	10d 13h 02m -12,00	1822	85,8	135,7° E	135,7°	15:56	22:33	04:39	60,9°	259,9°	103,6°	
100	2025 04 10	00:00	11h 12m 47,7s	+5° 25' 22"	Leo	396368	11d 13h 02m -12,15	1809	92,0	147,0° E	147,0°	16:57	23:13	04:59	55,0°	267,8°	96,0°	

Topocentric ephemeris of the Moon (following)

Times are given in UT for Aveiro (8° 37' 48" W, 40° 36' 7" N, zone Z).

	Date	Hour	R. A. (2000.0)	Decl. (2000.0)	Const.	Dist. E.	Age	Magn.	Diam.	Illum.	Elong.	Separ.	Rise	Transit	Set	Elevation	Azimuth	Azimuth
	yyyy mm dd	hh:mm	topocentric	topocentric		km	days	mV	"	%	°	°	hh:mm	hh:mm	hh:mm	(max.)	at rise	at set
101	2025 04 11	00:00	11h 55m 40,5s	-0° 23' 8"	Vir	398750	12d 13h 02m -12,30	1798	96,4	158,2° E	158,1°	17:58	23:52	05:18	49,1°	275,6°	88,3°	
102	2025 04 12	00:00	12h 38m 11,4s	-6° 9' 10"	Vir	400665	13d 13h 02m -12,43	1789	99,1	169,2° E	169,0°	18:58		05:37	37,5°	283,3°	80,8°	
103	2025 04 13	00:00	13h 21m 17,2s	-11° 41' 34"	Vir	402109	14d 13h 02m -12,55	1783	99,9	179,8° W	177,1°	19:59		05:57	32,2°	290,5°	73,5°	
104	2025 04 14	00:00	14h 5m 49,4s	-16° 49' 0"	Vir	403048	15d 13h 02m -12,43	1779	99,0	168,9° W	168,2°	21:02	01:13	06:19	27,6°	297,1°	66,7°	
105	2025 04 15	00:00	14h 52m 31,6s	-21° 19' 31"	Lib	403419	16d 13h 02m -12,28	1777	96,2	157,9° W	157,5°	22:05	01:57	06:45	23,9°	302,6°	60,7°	
106	2025 04 16	00:00	15h 41m 52,8s	-25° 0' 30"	Lib	403134	17d 13h 02m -12,13	1778	91,8	147,0° W	146,6°	23:08	02:44	07:17	21,3°	306,7°	55,7°	
107	2025 04 17	00:00	16h 33m 59,4s	-27° 39' 9"	Scp	402095	18d 13h 02m -11,98	1783	85,8	135,9° W	135,6°		03:33	07:55	20,0°	308,9°	52,3°	
108	2025 04 18	00:00	17h 28m 27,0s	-29° 3' 51"	Oph	400211	19d 13h 02m -11,81	1791	78,5	124,8° W	124,6°	00:08	04:26	08:43	20,0°	308,9°	50,8°	
109	2025 04 19	00:00	18h 24m 21,0s	-29° 5' 59"	Sgr	397425	20d 13h 02m -11,63	1804	69,9	113,5° W	113,4°	01:02	05:20	09:39	20,2°	309,0°	51,5°	
110	2025 04 20	00:00	19h 20m 29,9s	-27° 41' 43"	Sgr	393738	21d 13h 02m -11,43	1821	60,5	102,0° W	101,9°	01:48	06:14	10:43	22,0°	306,8°	54,6°	
111	2025 04 21	00:00	20h 15m 47,6s	-24° 52' 49"	Cap	389231	22d 13h 02m -11,20	1842	50,3	90,2° W	90,2°	02:27	07:06	11:53	25,3°	302,4°	59,7°	
112	2025 04 22	00:00	21h 9m 34,6s	-20° 46' 3"	Cap	384084	23d 13h 02m -10,93	1867	39,9	78,1° W	78,2°	02:59	07:58	13:05	30,0°	296,3°	66,6°	
113	2025 04 23	00:00	22h 1m 46,9s	-15° 32' 7"	Aqr	378584	24d 13h 02m -10,61	1894	29,5	65,7° W	65,7°	03:28	08:48	14:18	35,9°	288,8°	74,9°	
114	2025 04 24	00:00	22h 52m 52,8s	-9° 24' 46"	Aqr	373115	25d 13h 02m -10,23	1922	19,9	52,8° W	52,8°	03:53	09:37	15:32	42,6°	280,3°	84,1°	
115	2025 04 25	00:00	23h 43m 44,5s	-2° 40' 46"	Psc	368133	26d 13h 02m -9,78	1948	11,5	39,5° W	39,5°	04:17	10:26	16:48	49,9°	271,0°	93,9°	
116	2025 04 26	00:00	0h 35m 28,9s	+4° 19' 29"	Psc	364112	27d 13h 02m -9,24	1969	5,0	25,8° W	25,8°	04:41	11:17	18:07	57,3°	261,5°	103,7°	
117	2025 04 27	00:00	1h 29m 17,5s	+11° 11' 18"	Psc	361471	28d 13h 02m -8,60	1983	1,1	11,8° W	12,0°	05:09	12:11	19:28	64,4°	252,2°	112,9°	
118	2025 04 28	00:00	2h 26m 12,4s	+17° 26' 1"	Ari	360497	0d 4h 29m -8,23	1989	0,1	2,3° E	3,6°	05:40	13:09	20:51	70,4°	243,8°	120,7°	
119	2025 04 29	00:00	3h 26m 44,4s	+22° 33' 3"	Ari	361289	1d 4h 29m -8,87	1984	2,1	16,4° E	16,8°	06:20	14:11	22:13	74,9°	236,9°	126,2°	
120	2025 04 30	00:00	4h 30m 25,0s	+26° 4' 45"	Tau	363735	2d 4h 29m -9,46	1971	7,0	30,4° E	30,6°	07:09	15:15	23:26	77,4°	232,5°	128,7°	
121	2025 05 01	00:00	5h 35m 33,0s	+27° 42' 58"	Tau	367540	3d 4h 29m -9,96	1951	14,2	44,1° E	44,2°	08:08	16:19		77,4°	231,1°	128,7°	
122	2025 05 02	00:00	6h 39m 39,8s	+27° 24' 29"	Gem	372290	4d 4h 29m -10,37	1926	23,2	57,3° E	57,4°	09:16	17:20	00:27	77,6°	232,8°	128,1°	
123	2025 05 03	00:00	7h 40m 28,7s	+25° 21' 0"	Gem	377526	5d 4h 29m -10,72	1899	33,2	70,1° E	70,2°	10:27	18:15	01:15	75,8°	237,0°	124,7°	
124	2025 05 04	00:00	8h 36m 45,4s	+21° 53' 27"	Cnc	382815	6d 4h 29m -11,02	1873	43,6	82,5° E	82,5°	11:38	19:05	01:52	72,4°	243,0°	119,5°	
125	2025 05 05	00:00	9h 28m 24,1s	+17° 24' 46"	Leo	387796	7d 4h 29m -11,27	1849	54,0	94,5° E	94,5°	12:45	19:51	02:21	67,9°	250,0°	113,0°	
126	2025 05 06	00:00	10h 16m 6,1s	+12° 15' 22"	Leo	392206	8d 4h 29m -11,48	1828	64,0	106,1° E	106,1°	13:49	20:33	02:44	62,5°	257,5°	105,8°	
127	2025 05 07	00:00	11h 0m 53,7s	+6° 41' 46"	Leo	395883	9d 4h 29m -11,68	1811	73,2	117,5° E	117,5°	14:51	21:13	03:05	56,8°	265,4°	98,3°	
128	2025 05 08	00:00	11h 43m 54,9s	+0° 57' 8"	Vir	398755	10d 4h 29m -11,85	1798	81,3	128,6° E	128,6°	15:51	21:52	03:24	50,9°	273,2°	90,7°	
129	2025 05 09	00:00	12h 26m 16,0s	-4° 47' 27"	Vir	400822	11d 4h 29m -12,01	1789	88,1	139,6° E	139,6°	16:51	22:31	03:43	45,0°	280,9°	83,1°	
130	2025 05 10	00:00	13h 8m 59,3s	-10° 21' 39"	Vir	402132	12d 4h 29m -12,16	1783	93,5	150,6° E	150,5°	17:52	23:12	04:03	39,2°	288,2°	75,8°	
131	2025 05 11	00:00	13h 53m 1,5s	-15° 34' 51"	Vir	402756	13d 4h 29m -12,31	1780	97,3	161,5° E	161,2°	18:54	23:55	04:24	33,9°	295,0°	68,8°	
132	2025 05 12	00:00	14h 39m 11,5s	-20° 15' 23"	Lib	402767	14d 4h 29m -12,45	1780	99,4	172,5° E	171,3°	19:57		04:49	25,0°	300,8°	62,6°	
133	2025 05 13	00:00	15h 28m 4,1s	-24° 10' 24"	Lib	402223	15d 4h 29m -12,49	1782	99,7	176,5° W	173,7°	21:00	00:41	05:19	22,1°	305,4°	57,3°	
134	2025 05 14	00:00	16h 19m 50,8s	-27° 6' 16"	Scp	401153	16d 4h 29m -12,37	1787	98,2	165,3° W	164,3°	22:01	01:30	05:55	20,4°	308,3°	53,3°	
135	2025 05 15	00:00	17h 14m 10,5s	-28° 50' 12"	Oph	399560	17d 4h 29m -12,24	1794	94,8	154,1° W	153,5°	22:57	02:22	06:40	20,1°	309,0°	51,2°	
136	2025 05 16	00:00	18h 10m 7,3s	-29° 12' 24"	Sgr	397425	18d 4h 29m -12,09	1804	89,7	142,8° W	142,4°	23:46	03:15	07:34	21,5°	307,5°	51,3°	
137	2025 05 17	00:00	19h 6m 22,9s	-28° 8' 26"	Sgr	394719	19d 4h 29m -11,93	1816	83,0	131,3° W	131,1°		04:09	08:36	24,3°	303,8°	53,6°	
138	2025 05 18	00:00	20h 1m 41,6s	-25° 40' 9"	Sgr	391428	20d 4h 29m -11,76	1832	74,8	119,7° W	119,6°	00:26	05:02	09:43	24,3°	303,8°	58,1°	
139	2025 05 19	00:00	20h 55m 14,7s	-21° 54' 53"	Cap	387575	21d 4h 29m -11,56	1850	65,4	107,8° W	107,8°	01:00	05:52	10:52	28,4°	298,3°	64,3°	
140	2025 05 20	00:00	21h 46m 51,6s	-17° 3' 44"	Cap	383247	22d 4h 29m -11,34	1871	55,1	95,7° W	95,7°	01:29	06:41	12:03	33,7°	291,5°	71,8°	
141	2025 05 21	00:00	22h 36m 57,0s	-11° 19' 50"	Aqr	378611	23d 4h 29m -11,07	1894	44,3	83,3° W	83,3°	01:54	07:29	13:14	40,0°	283,5°	80,4°	
142	2025 05 22	00:00	23h 26m 21,9s	-4° 57' 48"	Aqr	373925	24d 4h 29m -10,76	1917	33,4	70,5° W	70,5°	02:18	08:16	14:26	46,8°	274,9°	89,6°	
143	2025 05 23	00:00	0h 16m 13,5s	+1° 45' 44"	Psc	369531	25d 4h 29m -10,39	1940	23,1	57,4° W	57,4°	02:41	09:04	15:41	54,0°	265,8°	99,1°	
144	2025 05 24	00:00	1h 7m 47,8s	+8° 30' 57"	Psc	365826	26d 4h 29m -9,94	1960	14,0	43,9° W	43,9°	03:06	09:55	16:59	61,0°	256,6°	108,4°	
145	2025 05 25	00:00	2h 2m 19,0s	+14° 53' 46"	Ari	363209	27d 4h 29m -9,41	1974	6,8	30,1° W	30,2°	03:35	10:50	18:20	67,5°	247,9°	116,9°	
146	2025 05 26	00:00	3h 0m 42,2s	+20° 25' 54"	Ari	362011	28d 4h 29m -8,80	1980	2,0	16,1° W	16,4°	04:10	11:50	19:42	72,8°	240,3°	123,6°	
147	2025 05 27	00:00	4h 3m 5,8s	+24° 37' 25"	Tau	362432	29d 4h 29m -8,23	1978	0,1	2,0° W	4,3°	04:54	12:53	21:01	76,3°	234,6°	127,7°	
148	2025 05 28	00:00	5h 8m 22,7s	+27° 2' 53"	Tau	364485	0d 20h 58m -8,63	1967	1,2	11,9° E	12,6°	05:49	13:59	22:10	77,6°	231,6°	128,6°	
149	2025 05 29	00:00	6h 14m 10,8s	+27° 29' 21"	Gem	367996	1d 20h 58m -9,21	1948	5,0	25,6° E	25,9°	06:55	15:03	23:05	76,7°	231,9°	126,3°	
150	2025 05 30	00:00	7h 17m 43,9s	+26° 0' 55"	Gem	372626	2d 20h 58m -9,72	1924	11,2	38,9° E	39,1°	08:08	16:03	23:48	73,9°	235,1°	121,7°	

Topocentric ephemeris of the Moon (following)

Times are given in UT for Aveiro (8° 37' 48" W, 40° 36' 7" N, zone Z).

	Date	Hour	R. A. (2000.0)	Decl. (2000.0)	Const.	Dist. E.	Age	Magn.	Diam.	Illum.	Elong.	Separ.	Rise	Transit	Set	Elevation	Azimuth	Azimuth
	yyyy mm dd	hh:mm	topocentric	topocentric		km	days	mV	"	%	°	°	hh:mm	hh:mm	hh:mm	(max.)	at rise	at set
151	2025 05 31	00:00	8h 17m 1,0s	+22° 56' 6"	Cnc	377939	3d 20h 58m	-10,14	1897	19,2	51,8° E	51,9°	09:21	16:57		73,9°	240,6°	121,7°
152	2025 06 01	00:00	9h 11m 20,3s	+18° 39' 46"	Cnc	383466	4d 20h 58m	-10,50	1870	28,4	64,2° E	64,3°	10:32	17:46	00:20	69,6°	247,4°	115,4°
153	2025 06 02	00:00	10h 1m 5,6s	+13° 35' 58"	Leo	388774	5d 20h 58m	-10,81	1844	38,2	76,2° E	76,2°	11:39	18:30	00:47	64,5°	255,0°	108,3°
154	2025 06 03	00:00	10h 47m 16,1s	+8° 4' 23"	Leo	393502	6d 20h 58m	-11,07	1822	48,2	87,8° E	87,8°	12:42	19:11	01:09	58,7°	262,8°	100,8°
155	2025 06 04	00:00	11h 31m 3,3s	+2° 20' 5"	Leo	397391	7d 20h 58m	-11,31	1804	58,1	99,1° E	99,1°	13:43	19:51	01:29	52,8°	270,7°	93,1°
156	2025 06 05	00:00	12h 13m 39,0s	-3° 25' 12"	Vir	400284	8d 20h 58m	-11,51	1791	67,4	110,2° E	110,2°	14:43	20:30	01:48	46,8°	278,5°	85,5°
157	2025 06 06	00:00	12h 56m 11,2s	-9° 1' 32"	Vir	402125	9d 20h 58m	-11,70	1783	76,0	121,2° E	121,2°	15:44	21:10	02:07	41,0°	286,0°	78,0°
158	2025 06 07	00:00	13h 39m 43,2s	-14° 19' 16"	Vir	402939	10d 20h 58m	-11,88	1779	83,5	132,1° E	132,0°	16:45	21:52	02:28	35,5°	292,9°	71,0°
159	2025 06 08	00:00	14h 25m 11,0s	-19° 7' 50"	Lib	402819	11d 20h 58m	-12,04	1780	89,9	143,1° E	142,8°	17:48	22:37	02:52	30,5°	299,1°	64,5°
160	2025 06 09	00:00	15h 13m 19,2s	-23° 15' 9"	Lib	401896	12d 20h 58m	-12,20	1784	94,8	154,1° E	153,6°	18:52	23:25	03:20	26,2°	304,1°	58,9°
161	2025 06 10	00:00	16h 4m 31,2s	-26° 27' 38"	Sco	400323	13d 20h 58m	-12,36	1791	98,1	165,2° E	164,2°	19:54		03:55	22,9°	307,5°	54,5°
162	2025 06 11	00:00	16h 58m 37,9s	-28° 31' 20"	Oph	398248	14d 20h 58m	-12,50	1800	99,7	176,5° E	173,2°	20:52	00:17	04:37	20,1°	308,9°	51,8°
163	2025 06 12	00:00	17h 54m 50,6s	-29° 14' 28"	Sgr	395798	15d 20h 58m	-12,47	1811	99,3	172,1° W	170,2°	21:43	01:10	05:29	21,0°	308,0°	51,2°
164	2025 06 13	00:00	18h 51m 48,4s	-28° 30' 14"	Sgr	393073	16d 20h 58m	-12,35	1824	96,9	160,5° W	159,7°	22:26	02:05	06:29	23,4°	304,9°	52,9°
165	2025 06 14	00:00	19h 48m 2,6s	-26° 18' 56"	Sgr	390134	17d 20h 58m	-12,20	1838	92,6	148,7° W	148,4°	23:02	02:58	07:35	27,2°	299,9°	56,8°
166	2025 06 15	00:00	20h 42m 27,4s	-22° 47' 45"	Cap	387019	18d 20h 58m	-12,05	1852	86,4	136,8° W	136,6°	23:32	03:50	08:44	32,2°	293,4°	62,5°
167	2025 06 16	00:00	21h 34m 36,7s	-18° 8' 46"	Cap	383753	19d 20h 58m	-11,87	1868	78,5	124,7° W	124,6°	23:58	04:39	09:54	38,1°	285,8°	69,7°
168	2025 06 17	00:00	22h 24m 45,1s	-12° 36' 33"	Aqr	380374	20d 20h 58m	-11,67	1885	69,1	112,4° W	112,4°		05:26	11:04	44,7°	277,5°	77,9°
169	2025 06 18	00:00	23h 13m 37,7s	-6° 26' 30"	Aqr	376950	21d 20h 58m	-11,42	1902	58,7	99,8° W	99,8°	00:21	06:12	12:14	44,7°	277,5°	86,8°
170	2025 06 19	00:00	0h 2m 18,5s	+0° 5' 16"	Psc	373605	22d 20h 58m	-11,18	1919	47,6	87,1° W	87,1°	00:44	06:59	13:26	51,6°	268,7°	95,9°
171	2025 06 20	00:00	0h 52m 2,4s	+6° 41' 19"	Psc	370528	23d 20h 58m	-10,86	1935	36,4	74,0° W	74,0°	01:07	07:47	14:40	58,5°	259,8°	105,0°
172	2025 06 21	00:00	1h 44m 6,6s	+13° 1' 31"	Psc	367964	24d 20h 58m	-10,49	1948	25,6	60,7° W	60,7°	01:33	08:38	15:57	65,0°	251,2°	113,6°
173	2025 06 22	00:00	2h 39m 39,2s	+18° 42' 12"	Ari	366187	25d 20h 58m	-10,05	1958	16,1	47,2° W	47,2°	02:04	09:34	17:16	70,7°	243,3°	120,9°
174	2025 06 23	00:00	3h 39m 17,1s	+23° 16' 36"	Tau	365465	26d 20h 58m	-9,54	1962	8,4	33,5° W	33,7°	02:43	10:34	18:36	74,9°	236,8°	126,2°
175	2025 06 24	00:00	4h 42m 36,8s	+26° 18' 22"	Tau	365996	27d 20h 58m	-8,95	1959	3,1	19,7° W	20,1°	03:32	11:38	19:49	77,3°	232,6°	128,5°
176	2025 06 25	00:00	5h 47m 55,9s	+27° 28' 10"	Tau	367863	28d 20h 58m	-8,33	1949	0,4	6,0° W	7,3°	04:33	12:44	20:50	77,4°	231,4°	127,7°
177	2025 06 26	00:00	6h 52m 35,3s	+26° 40' 53"	Gem	371003	0d 13h 29m	-8,37	1932	0,5	7,4° E	8,3°	05:44	13:46	21:39	75,4°	233,4°	124,0°
178	2025 06 27	00:00	7h 54m 4,2s	+24° 7' 39"	Gem	375201	1d 13h 29m	-8,93	1911	3,3	20,6° E	20,9°	06:58	14:44	22:17	71,6°	238,0°	118,3°
179	2025 06 28	00:00	8h 50m 57,2s	+20° 10' 50"	Cnc	380125	2d 13h 29m	-9,44	1886	8,3	33,5° E	33,5°	08:12	15:36	22:47	66,7°	244,4°	111,3°
180	2025 06 29	00:00	9h 43m 4,4s	+15° 15' 59"	Leo	385368	3d 13h 29m	-9,88	1860	15,2	45,8° E	45,8°	09:22	16:23	23:11	61,0°	251,9°	103,8°
181	2025 06 30	00:00	10h 31m 7,7s	+9° 46' 7"	Leo	390506	4d 13h 29m	-10,26	1836	23,4	57,7° E	57,7°	10:28	17:06	23:32	55,0°	259,9°	95,9°
182	2025 07 01	00:00	11h 16m 12,8s	+3° 59' 28"	Leo	395147	5d 13h 29m	-10,58	1814	32,4	69,3° E	69,3°	11:32	17:47	23:52	48,9°	267,9°	88,1°
183	2025 07 02	00:00	11h 59m 31,4s	-1° 50' 4"	Vir	398966	6d 13h 29m	-10,87	1797	42,0	80,6° E	80,6°	12:33	18:27		48,9°	275,9°	88,1°
184	2025 07 03	00:00	12h 42m 14,0s	-7° 31' 36"	Vir	401731	7d 13h 29m	-11,12	1785	51,6	91,7° E	91,7°	13:34	19:07	00:11	43,0°	283,5°	80,5°
185	2025 07 04	00:00	13h 25m 26,9s	-12° 55' 40"	Vir	403307	8d 13h 29m	-11,35	1778	61,0	102,6° E	102,6°	14:35	19:48	00:31	37,3°	290,7°	73,3°
186	2025 07 05	00:00	14h 10m 11,3s	-17° 52' 40"	Vir	403662	9d 13h 29m	-11,56	1776	70,0	113,5° E	113,4°	15:37	20:32	00:54	32,1°	297,1°	66,6°
187	2025 07 06	00:00	14h 57m 19,5s	-22° 11' 50"	Lib	402855	10d 13h 29m	-11,75	1780	78,3	124,5° E	124,3°	16:41	21:19	01:20	27,6°	302,6°	60,6°
188	2025 07 07	00:00	15h 47m 27,7s	-25° 40' 44"	Lib	401024	11d 13h 29m	-11,94	1788	85,6	135,5° E	135,3°	17:44	22:10	01:53	23,9°	306,6°	55,8°
189	2025 07 08	00:00	16h 40m 44,5s	-28° 5' 35"	Sco	398367	12d 13h 29m	-12,32	1800	91,6	146,8° E	146,3°	18:44	23:03	02:32	21,4°	308,7°	52,4°
190	2025 07 09	00:00	17h 36m 39,6s	-29° 13' 9"	Oph	395121	13d 13h 29m	-12,30	1815	96,2	158,2° E	157,4°	19:38	23:57	03:21	20,2°	308,6°	51,1°
191	2025 07 10	00:00	18h 34m 2,8s	-28° 53' 44"	Sgr	391531	14d 13h 29m	-12,46	1831	99,0	169,8° E	168,4°	20:24		04:19	22,5°	306,2°	52,0°
192	2025 07 11	00:00	19h 31m 22,1s	-27° 4' 9"	Sgr	387835	15d 13h 29m	-12,57	1849	99,8	178,3° W	174,5°	21:03	00:52	05:24	25,9°	301,6°	55,3°
193	2025 07 12	00:00	20h 27m 15,2s	-23° 49' 4"	Cap	384233	16d 13h 29m	-12,46	1866	98,4	166,2° W	165,5°	21:35	01:45	06:34	30,7°	295,4°	60,6°
194	2025 07 13	00:00	21h 20m 55,0s	-19° 19' 53"	Cap	380877	17d 13h 29m	-12,32	1882	94,8	153,9° W	153,7°	22:02	02:36	07:45	36,4°	288,0°	67,5°
195	2025 07 14	00:00	22h 12m 18,4s	-13° 52' 11"	Aqr	377864	18d 13h 29m	-12,16	1897	89,1	141,4° W	141,3°	22:26	03:24	08:56	42,9°	279,8°	75,6°
196	2025 07 15	00:00	23h 1m 58,4s	-7° 43' 24"	Aqr	375243	19d 13h 29m	-11,98	1911	81,4	128,8° W	128,7°	22:49	04:11	10:06	49,7°	271,1°	84,3°
197	2025 07 16	00:00	23h 50m 51,7s	-1° 11' 30"	Psc	373034	20d 13h 29m	-11,77	1922	72,0	115,9° W	115,9°	23:11	04:57	11:17	56,6°	262,3°	93,4°
198	2025 07 17	00:00	0h 40m 8,3s	+5° 25' 10"	Psc	371249	21d 13h 29m	-11,54	1931	61,4	103,0° W	103,0°	23:36	05:44	12:29	63,2°	253,6°	102,5°
199	2025 07 18	00:00	1h 31m 2,7s	+11° 47' 12"	Psc	369917	22d 13h 29m	-11,26	1938	50,0	89,9° W	89,9°	06:33	06:33	13:44	69,0°	245,6°	111,1°
200	2025 07 19	00:00	2h 24m 44,3s	+17° 33' 21"	Ari	369098	23d 13h 29m	-10,94	1942	38,6	76,7° W	76,7°	00:04	07:26	15:01	69,0°	245,6°	118,7°

Topocentric ephemeris of the Moon (following)

Times are given in UT for Aveiro (8° 37' 48" W, 40° 36' 7" N, zone Z).

	Date	Hour	R. A. (2000.0)	Decl. (2000.0)	Const.	Dist. E.	Age	Magn.	Diam.	Illum.	Elong.	Separ.	Rise	Transit	Set	Elevation	Azimuth	Azimuth
	yyyy mm dd	hh:mm	topocentric	topocentric		km	days	mV	"	%	°	°	hh:mm	hh:mm	hh:mm	(max.)	at rise	at set
201	2025 07 20	00:00	3h 22m 1,2s	+22° 20' 19"	Ari	368885	24d 13h 29m -10,56	1944	27,7	63,3° W	63,4°	00:39	08:23	16:18	73,7°	238,8°	124,6°	
202	2025 07 21	00:00	4h 22m 56,3s	+25° 44' 24"	Tau	369392	25d 13h 29m -10,13	1941	18,0	49,9° W	50,1°	01:23	09:24	17:32	76,7°	233,8°	128,1°	
203	2025 07 22	00:00	5h 26m 25,4s	+27° 25' 50"	Tau	370725	26d 13h 29m -9,63	1934	10,0	36,6° W	36,8°	02:17	10:27	18:37	77,7°	231,4°	128,5°	
204	2025 07 23	00:00	6h 30m 21,3s	+27° 14' 51"	Gem	372944	27d 13h 29m -9,07	1922	4,2	23,3° W	23,6°	03:23	11:30	19:30	76,5°	232,0°	126,0°	
205	2025 07 24	00:00	7h 32m 18,0s	+25° 15' 43"	Gem	376038	28d 13h 29m -8,46	1907	0,9	10,2° W	10,8°	04:36	12:30	20:12	73,5°	235,6°	121,1°	
206	2025 07 25	00:00	8h 30m 28,4s	+21° 45' 11"	Cnc	379897	0d 4h 49m -8,09	1887	0,1	2,6° E	3,8°	05:50	13:24	20:45	69,0°	241,3°	114,5°	
207	2025 07 26	00:00	9h 24m 12,9s	+17° 6' 36"	Leo	384314	1d 4h 49m -8,62	1866	1,8	15,1° E	15,2°	07:03	14:13	21:12	63,6°	248,5°	107,1°	
208	2025 07 27	00:00	10h 13m 49,8s	+11° 43' 41"	Leo	389002	2d 4h 49m -9,14	1843	5,6	27,3° E	27,3°	08:11	14:59	21:34	57,6°	256,4°	99,2°	
209	2025 07 28	00:00	11h 0m 11,0s	+5° 56' 57"	Leo	393624	3d 4h 49m -9,59	1821	11,2	39,1° E	39,1°	09:17	15:41	21:54	51,4°	264,6°	91,3°	
210	2025 07 29	00:00	11h 44m 21,3s	+0° 2' 50"	Vir	397831	4d 4h 49m -9,99	1802	18,4	50,6° E	50,6°	10:19	16:22	22:14	45,2°	272,8°	83,4°	
211	2025 07 30	00:00	12h 27m 28,0s	-5° 45' 51"	Vir	401296	5d 4h 49m -10,34	1787	26,5	61,8° E	61,9°	11:21	17:02	22:34	39,4°	280,7°	75,9°	
212	2025 07 31	00:00	13h 10m 36,0s	-11° 18' 32"	Vir	403749	6d 4h 49m -10,65	1776	35,4	72,9° E	72,9°	12:23	17:43	22:56	33,9°	288,1°	68,9°	
213	2025 08 01	00:00	13h 54m 46,2s	-16° 25' 36"	Vir	404993	7d 4h 49m -10,93	1770	44,7	83,8° E	83,8°	13:25	18:26	23:21	29,1°	294,9°	62,6°	
214	2025 08 02	00:00	14h 40m 53,4s	-20° 57' 11"	Lib	404924	8d 4h 49m -11,18	1771	54,2	94,7° E	94,6°	14:28	19:12	23:50	25,1°	300,8°	57,3°	
215	2025 08 03	00:00	15h 29m 40,7s	-24° 42' 12"	Lib	403538	9d 4h 49m -11,42	1777	63,5	105,6° E	105,5°	15:31	20:01		25,1°	305,4°	57,3°	
216	2025 08 04	00:00	16h 21m 30,7s	-27° 28' 12"	Sco	400926	10d 4h 49m -11,64	1788	72,4	116,6° E	116,5°	16:33	20:53	00:26	22,1°	308,3°	53,4°	
217	2025 08 05	00:00	17h 16m 13,6s	-29° 2' 15"	Oph	397275	11d 4h 49m -11,85	1805	80,6	127,9° E	127,7°	17:29	21:47	01:11	20,3°	309,1°	51,2°	
218	2025 08 06	00:00	18h 13m 1,4s	-29° 13' 2"	Sgr	392851	12d 4h 49m -12,05	1825	87,8	139,4° E	139,1°	18:19	22:42	02:06	20,1°	307,5°	51,2°	
219	2025 08 07	00:00	19h 10m 35,0s	-27° 53' 54"	Sgr	387978	13d 4h 49m -12,25	1848	93,7	151,2° E	150,7°	19:00	23:36	03:09	21,4°	303,7°	53,6°	
220	2025 08 08	00:00	20h 7m 28,9s	-25° 5' 7"	Sgr	383015	14d 4h 49m -12,44	1872	97,7	163,3° E	162,7°	19:35		04:18	28,7°	298,1°	58,2°	
221	2025 08 09	00:00	21h 2m 40,4s	-20° 54' 31"	Cap	378313	15d 4h 49m -12,62	1895	99,7	175,7° E	174,2°	20:04	00:28	05:30	34,2°	290,9°	64,7°	
222	2025 08 10	00:00	21h 55m 46,3s	-15° 36' 0"	Cap	374186	16d 4h 49m -12,60	1916	99,4	171,6° W	171,1°	20:30	01:18	06:42	40,6°	282,7°	72,6°	
223	2025 08 11	00:00	22h 47m 2,8s	-9° 27' 22"	Aqr	370870	17d 4h 49m -12,44	1933	96,6	158,7° W	158,6°	20:53	02:07	07:55	47,5°	273,9°	81,3°	
224	2025 08 12	00:00	23h 37m 15,1s	-2° 48' 34"	Psc	368507	18d 4h 49m -12,27	1946	91,3	145,5° W	145,5°	21:16	02:54	09:07	54,6°	264,9°	90,6°	
225	2025 08 13	00:00	0h 27m 25,6s	+3° 59' 25"	Psc	367137	19d 4h 49m -12,08	1953	83,7	132,3° W	132,3°	21:40	03:41	10:20	61,4°	256,0°	99,9°	
226	2025 08 14	00:00	1h 18m 43,7s	+10° 34' 54"	Psc	366714	20d 4h 49m -11,86	1955	74,3	119,0° W	118,9°	22:07	04:30	11:34	67,5°	247,7°	108,8°	
227	2025 08 15	00:00	2h 12m 15,5s	+16° 35' 27"	Ari	367136	21d 4h 49m -11,61	1953	63,6	105,6° W	105,6°	22:40	05:22	12:50	72,6°	240,5°	116,8°	
228	2025 08 16	00:00	3h 8m 49,5s	+21° 38' 9"	Ari	368279	22d 4h 49m -11,33	1947	52,1	92,3° W	92,3°	23:20	06:17	14:08	76,1°	234,9°	123,3°	
229	2025 08 17	00:00	4h 8m 36,3s	+25° 20' 49"	Tau	370029	23d 4h 49m -11,00	1938	40,6	79,1° W	79,1°	07:17	07:17	15:22	77,7°	231,7°	127,5°	
230	2025 08 18	00:00	5h 10m 49,5s	+27° 25' 6"	Tau	372300	24d 4h 49m -10,63	1926	29,7	65,9° W	66,0°	00:10	08:18	16:29	77,7°	231,7°	128,9°	
231	2025 08 19	00:00	6h 13m 45,2s	+27° 40' 59"	Gem	375037	25d 4h 49m -10,21	1912	20,0	52,9° W	53,0°	01:10	09:20	17:25	77,3°	231,3°	127,4°	
232	2025 08 20	00:00	7h 15m 14,0s	+26° 10' 13"	Gem	378205	26d 4h 49m -9,74	1896	11,9	40,0° W	40,2°	02:19	10:19	18:10	75,0°	233,8°	123,3°	
233	2025 08 21	00:00	8h 13m 30,6s	+23° 5' 49"	Cnc	381766	27d 4h 49m -9,21	1878	5,7	27,4° W	27,6°	03:32	11:15	18:45	71,1°	238,7°	117,4°	
234	2025 08 22	00:00	9h 7m 45,5s	+18° 47' 53"	Cnc	385656	28d 4h 49m -8,63	1859	1,8	15,0° W	15,2°	04:45	12:05	19:13	66,0°	245,4°	110,3°	
235	2025 08 23	00:00	9h 58m 3,3s	+13° 38' 26"	Leo	389765	29d 4h 49m -8,01	1839	0,1	2,9° W	3,1°	05:55	12:52	19:37	60,2°	253,0°	102,6°	
236	2025 08 24	00:00	10h 45m 4,7s	+7° 57' 57"	Leo	393930	0d 17h 54m -8,26	1820	0,6	9,0° E	9,0°	07:01	13:35	19:58	54,0°	261,1°	94,6°	
237	2025 08 25	00:00	11h 29m 46,6s	+2° 3' 50"	Leo	397938	1d 17h 54m -8,80	1802	3,2	20,5° E	20,6°	08:05	14:17	20:18	47,8°	269,4°	86,6°	
238	2025 08 26	00:00	12h 13m 10,5s	-3° 49' 32"	Vir	401540	2d 17h 54m -9,28	1785	7,6	31,9° E	31,9°	09:08	14:57	20:37	41,7°	277,5°	78,9°	
239	2025 08 27	00:00	12h 56m 16,9s	-9° 30' 11"	Vir	404472	3d 17h 54m -9,70	1773	13,5	43,0° E	43,1°	10:10	15:38	20:58	36,0°	285,2°	71,6°	
240	2025 08 28	00:00	13h 40m 3,2s	-14° 47' 33"	Vir	406484	4d 17h 54m -10,08	1764	20,7	53,9° E	54,0°	11:12	16:21	21:22	30,9°	292,4°	65,0°	
241	2025 08 29	00:00	14h 25m 21,4s	-19° 31' 34"	Lib	407360	5d 17h 54m -10,42	1760	28,9	64,8° E	64,9°	12:15	17:05	21:49	26,5°	298,7°	59,2°	
242	2025 08 30	00:00	15h 12m 54,5s	-23° 31' 49"	Lib	406946	6d 17h 54m -10,73	1762	37,8	75,6° E	75,7°	13:18	17:52	22:22	23,1°	303,8°	54,7°	
243	2025 08 31	00:00	16h 3m 9,9s	-26° 37' 5"	Sco	405168	7d 17h 54m -11,01	1770	47,1	86,5° E	86,5°	14:20	18:43	23:03	20,8°	307,4°	51,7°	
244	2025 09 01	00:00	16h 56m 10,2s	-28° 35' 44"	Oph	402043	8d 17h 54m -11,27	1783	56,6	97,5° E	97,4°	15:18	19:35	23:52	19,9°	309,1°	50,8°	
245	2025 09 02	00:00	17h 51m 26,3s	-29° 16' 51"	Sgr	397694	9d 17h 54m -11,52	1803	66,1	108,7° E	108,6°	16:10	20:29		19,9°	308,6°	50,8°	
246	2025 09 03	00:00	18h 47m 59,0s	-28° 32' 23"	Sgr	392351	10d 17h 54m -11,76	1827	75,1	120,2° E	120,0°	16:55	21:24	00:51	20,5°	305,8°	52,1°	
247	2025 09 04	00:00	19h 44m 35,1s	-26° 19' 21"	Sgr	386344	11d 17h 54m -11,99	1856	83,4	132,0° E	131,8°	17:32	22:16	01:57	22,7°	300,9°	55,7°	
248	2025 09 05	00:00	20h 40m 10,7s	-22° 40' 58"	Cap	380086	12d 17h 54m -12,21	1886	90,5	144,2° E	144,0°	18:04	23:08	03:08	26,5°	294,4°	61,4°	
249	2025 09 06	00:00	21h 34m 12,1s	-17° 46' 40"	Cap	374045	13d 17h 54m -12,42	1917	95,9	156,8° E	156,6°	18:31	23:57	04:21	31,5°	286,5°	68,8°	
250	2025 09 07	00:00	22h 26m 41,2s	-11° 51' 1"	Aqr	368691	14d 17h 54m -12,62	1945	99,2	169,8° E	169,6°	18:55		05:35	44,5°	277,8°	77,4°	

Topocentric ephemeris of the Moon (following)

Times are given in UT for Aveiro (8° 37' 48" W, 40° 36' 7" N, zone Z).

	Date	Hour	R. A. (2000.0)	Decl. (2000.0)	Const.	Dist. E.	Age	Magn.	Diam.	Illum.	Elong.	Separ.	Rise	Transit	Set	Elevation	Azimuth	Azimuth
	yyyy mm dd	hh:mm	topocentric	topocentric		km	days	mV	"	%	°	°	hh:mm	hh:mm	hh:mm	(max.)	at rise	at set
251	2025 09 08	00:00	23h 18m 11,4s	-5° 12' 40"	Aqr	364445	15d 17h 54m -12,73	1967	99,9	176,9° W	176,8°	19:19	00:46	06:48	51,8°	268,6°	86,7°	
252	2025 09 09	00:00	0h 9m 37,0s	+1° 46' 33"	Psc	361616	16d 17h 54m -12,57	1983	97,9	163,3° W	163,3°	19:43	01:34	08:03	58,9°	259,3°	96,3°	
253	2025 09 10	00:00	1h 2m 2,9s	+8° 42' 17"	Psc	360361	17d 17h 54m -12,39	1990	93,1	149,6° W	149,5°	20:09	02:24	09:19	65,6°	250,5°	105,7°	
254	2025 09 11	00:00	1h 56m 33,0s	+15° 8' 33"	Ari	360666	18d 17h 54m -12,18	1988	85,8	135,8° W	135,7°	20:41	03:16	10:37	71,1°	242,6°	114,3°	
255	2025 09 12	00:00	2h 53m 55,1s	+20° 38' 57"	Ari	362370	19d 17h 54m -11,95	1978	76,5	122,0° W	121,9°	21:19	04:12	11:56	75,2°	236,3°	121,5°	
256	2025 09 13	00:00	3h 54m 19,9s	+24° 48' 45"	Tau	365206	20d 17h 54m -11,69	1963	65,9	108,4° W	108,4°	22:06	05:11	13:13	77,5°	232,3°	126,5°	
257	2025 09 14	00:00	4h 57m 2,1s	+27° 18' 32"	Tau	368866	21d 17h 54m -11,40	1944	54,5	95,1° W	95,1°	23:03	06:12	14:23	77,7°	231,0°	128,9°	
258	2025 09 15	00:00	6h 0m 19,8s	+27° 58' 11"	Tau	373053	22d 17h 54m -11,08	1922	43,2	82,0° W	82,0°	07:14	07:14	15:22	75,9°	232,7°	128,2°	
259	2025 09 16	00:00	7h 2m 6,1s	+26° 49' 43"	Gem	377517	23d 17h 54m -10,71	1899	32,4	69,2° W	69,2°	00:10	08:14	16:09	75,9°	232,7°	124,9°	
260	2025 09 17	00:00	8h 0m 37,6s	+24° 6' 2"	Cnc	382069	24d 17h 54m -10,31	1876	22,7	56,7° W	56,7°	01:21	09:10	16:46	72,5°	236,9°	119,6°	
261	2025 09 18	00:00	8h 55m 5,2s	+20° 6' 29"	Cnc	386579	25d 17h 54m -9,87	1855	14,4	44,4° W	44,5°	02:33	10:01	17:16	67,9°	242,9°	113,0°	
262	2025 09 19	00:00	9h 45m 33,7s	+15° 12' 4"	Leo	390959	26d 17h 54m -9,38	1834	7,9	32,4° W	32,5°	03:42	10:48	17:41	62,4°	250,1°	105,5°	
263	2025 09 20	00:00	10h 32m 42,5s	+9° 42' 16"	Leo	395138	27d 17h 54m -8,85	1814	3,3	20,7° W	20,7°	04:49	11:32	18:02	56,4°	258,0°	97,7°	
264	2025 09 21	00:00	11h 17m 27,4s	+3° 53' 56"	Leo	399040	28d 17h 54m -8,28	1797	0,7	9,2° W	9,2°	05:53	12:13	18:22	50,2°	266,2°	89,7°	
265	2025 09 22	00:00	12h 0m 48,1s	-1° 58' 33"	Vir	402566	0d 4h 06m	-7,88	1781	0,1	2,1° E	2,7°	06:56	12:54	18:42	44,0°	274,4°	81,9°
266	2025 09 23	00:00	12h 43m 43,1s	-7° 42' 44"	Vir	405587	1d 4h 06m	-8,44	1768	1,4	13,2° E	13,5°	07:58	13:34	19:02	38,2°	282,3°	74,4°
267	2025 09 24	00:00	13h 27m 6,6s	-13° 7' 21"	Vir	407946	2d 4h 06m	-8,94	1757	4,5	24,2° E	24,4°	08:59	14:16	19:25	32,8°	289,7°	67,5°
268	2025 09 25	00:00	14h 11m 47,7s	-18° 1' 41"	Vir	409468	3d 4h 06m	-9,39	1751	9,2	35,0° E	35,2°	10:03	14:59	19:50	28,1°	296,3°	61,3°
269	2025 09 26	00:00	14h 58m 26,2s	-22° 15' 1"	Lib	409975	4d 4h 06m	-9,80	1749	15,3	45,8° E	46,0°	11:06	15:46	20:21	24,3°	302,0°	56,3°
270	2025 09 27	00:00	15h 47m 28,2s	-25° 36' 29"	Lib	409310	5d 4h 06m	-10,17	1752	22,6	56,5° E	56,7°	12:08	16:35	20:58	21,6°	306,2°	52,7°
271	2025 09 28	00:00	16h 38m 58,8s	-27° 55' 12"	Sco	407358	6d 4h 06m	-10,51	1760	30,9	67,3° E	67,4°	13:07	17:26	21:43	20,1°	308,7°	50,9°
272	2025 09 29	00:00	17h 32m 36,3s	-29° 1' 18"	Oph	404070	7d 4h 06m	-10,83	1774	40,0	78,2° E	78,3°	14:01	18:19	22:38	20,1°	309,1°	51,3°
273	2025 09 30	00:00	18h 27m 33,6s	-28° 47' 14"	Sgr	399483	8d 4h 06m	-11,13	1795	49,6	89,3° E	89,3°	14:48	19:12	23:39	21,6°	307,3°	53,9°
274	2025 10 01	00:00	19h 22m 49,5s	-27° 9' 19"	Sgr	393741	9d 4h 06m	-11,41	1821	59,4	100,7° E	100,6°	15:28	20:04		21,6°	303,4°	53,9°
275	2025 10 02	00:00	20h 17m 28,0s	-24° 8' 31"	Cap	387105	10d 4h 06m	-11,67	1852	69,1	112,4° E	112,3°	16:01	20:55	00:47	24,6°	297,7°	58,6°
276	2025 10 03	00:00	21h 10m 55,6s	-19° 50' 33"	Cap	379952	11d 4h 06m	-11,92	1887	78,4	124,5° E	124,5°	16:29	21:45	01:58	29,0°	290,5°	65,1°
277	2025 10 04	00:00	22h 3m 10,2s	-14° 25' 25"	Aqr	372768	12d 4h 06m	-12,16	1923	86,7	137,1° E	137,1°	16:55	22:33	03:10	34,5°	282,3°	73,0°
278	2025 10 05	00:00	22h 54m 39,0s	-8° 7' 1"	Aqr	366111	13d 4h 06m	-12,39	1958	93,4	150,2° E	150,2°	17:19	23:22	04:23	41,0°	273,3°	81,9°
279	2025 10 06	00:00	23h 46m 12,2s	-1° 13' 27"	Psc	360549	14d 4h 06m	-12,60	1988	98,0	163,7° E	163,7°	17:43		05:37	48,1°	263,9°	91,5°
280	2025 10 07	00:00	0h 38m 54,2s	+5° 52' 42"	Psc	356585	15d 4h 06m	-12,79	2011	99,9	177,6° E	177,2°	18:09	00:11	06:54	62,6°	254,6°	101,2°
281	2025 10 08	00:00	1h 33m 52,9s	+12° 44' 19"	Psc	354572	16d 4h 06m	-12,68	2022	98,9	168,2° W	167,9°	18:39	01:04	08:13	68,9°	246,0°	110,5°
282	2025 10 09	00:00	2h 32m 4,1s	+18° 50' 56"	Ari	354647	17d 4h 06m	-12,49	2022	94,8	153,9° W	153,7°	19:15	01:59	09:35	73,8°	238,7°	118,6°
283	2025 10 10	00:00	3h 33m 47,6s	+23° 41' 45"	Tau	356709	18d 4h 06m	-12,28	2010	88,1	139,7° W	139,5°	20:00	02:59	10:56	76,8°	233,6°	124,8°
284	2025 10 11	00:00	4h 38m 20,5s	+26° 50' 49"	Tau	360457	19d 4h 06m	-12,04	1989	79,2	125,8° W	125,6°	20:56	04:02	12:11	77,7°	231,3°	128,3°
285	2025 10 12	00:00	5h 43m 50,1s	+28° 3' 19"	Tau	365456	20d 4h 06m	-11,78	1962	68,9	112,1° W	112,1°	22:01	05:06	13:16	76,6°	232,0°	128,6°
286	2025 10 13	00:00	6h 47m 47,8s	+27° 19' 34"	Gem	371230	21d 4h 06m	-11,49	1931	57,9	98,9° W	98,9°	23:12	06:08	14:08	73,6°	235,5°	126,0°
287	2025 10 14	00:00	7h 48m 9,4s	+24° 53' 41"	Gem	377329	22d 4h 06m	-11,17	1900	46,8	86,1° W	86,1°		07:06	14:48	69,3°	241,0°	121,3°
288	2025 10 15	00:00	8h 43m 55,7s	+21° 7' 26"	Cnc	383384	23d 4h 06m	-10,83	1870	36,2	73,8° W	73,8°	00:24	07:58	15:20	69,3°	241,0°	115,0°
289	2025 10 16	00:00	9h 35m 11,8s	+16° 23' 39"	Leo	389122	24d 4h 06m	-10,45	1842	26,5	61,8° W	61,8°	01:34	08:46	15:46	64,1°	247,9°	107,8°
290	2025 10 17	00:00	10h 22m 43,2s	+11° 2' 38"	Leo	394365	25d 4h 06m	-10,05	1818	18,0	50,1° W	50,1°	02:41	09:30	16:08	58,3°	255,6°	100,2°
291	2025 10 18	00:00	11h 7m 32,2s	+5° 21' 6"	Leo	399010	26d 4h 06m	-9,61	1797	11,0	38,7° W	38,7°	03:45	10:12	16:28	52,2°	263,6°	92,3°
292	2025 10 19	00:00	11h 50m 43,8s	-0° 27' 13"	Vir	403005	27d 4h 06m	-9,13	1779	5,7	27,4° W	27,5°	04:47	10:52	16:48	46,1°	271,6°	84,5°
293	2025 10 20	00:00	12h 33m 20,0s	-6° 10' 28"	Vir	406322	28d 4h 06m	-8,62	1764	2,1	16,4° W	16,6°	05:48	11:33	17:07	40,2°	279,5°	77,0°
294	2025 10 21	00:00	13h 16m 17,3s	-11° 37' 43"	Vir	408932	29d 4h 06m	-8,09	1753	0,3	5,5° W	6,4°	06:50	12:14	17:29	34,7°	287,1°	69,9°
295	2025 10 22	00:00	14h 0m 25,3s	-16° 38' 15"	Vir	410793	0d 11h 35m	-8,08	1745	0,3	5,3° E	6,7°	07:53	12:57	17:53	29,7°	294,0°	63,5°
296	2025 10 23	00:00	14h 46m 23,9s	-21° 1' 8"	Lib	411836	1d 11h 35m	-8,59	1741	2,1	16,1° E	16,7°	08:56	13:42	18:22	25,6°	300,0°	58,0°
297	2025 10 24	00:00	15h 34m 38,5s	-24° 35' 9"	Lib	411971	2d 11h 35m	-9,07	1740	5,6	26,8° E	27,2°	09:58	14:30	18:57	22,5°	304,7°	53,9°
298	2025 10 25	00:00	16h 25m 13,8s	-27° 9' 18"	Sco	411096	3d 11h 35m	-9,51	1744	10,6	37,5° E	37,8°	10:59	15:20	19:39	20,6°	307,8°	51,5°
299	2025 10 26	00:00	17h 17m 48,2s	-28° 33' 54"	Oph	409111	4d 11h 35m	-9,92	1752	16,9	48,2° E	48,5°	11:54	16:12	20:30	20,1°	309,0°	51,1°
300	2025 10 27	00:00	18h 11m 35,7s	-28° 41' 50"	Sgr	405941	5d 11h 35m	-10,29	1766	24,5	59,1° E	59,2°	12:43	17:04	21:28	21,0°	308,0°	52,9°

Topocentric ephemeris of the Moon (following)

Times are given in UT for Aveiro (8° 37' 48" W, 40° 36' 7" N, zone Z).

	Date	Hour	R. A. (2000.0)	Decl. (2000.0)	Const.	Dist. E.	Age	Magn.	Diam.	Illum.	Elong.	Separ.	Rise	Transit	Set	Elevation	Azimuth	Azimuth
	yyyy mm dd	hh:mm	topocentric	topocentric		km	days	mV	"	%	°	°	hh:mm	hh:mm	hh:mm	(max.)	at rise	at set
301	2025 10 28	00:00	19h 5m 37,1s	-27° 29' 58"	Sgr	401561	6d 11h 35m	-10,64	1785	33,2	70,1° E	70,2°	13:24	17:55	22:32	23,4°	304,9°	56,7°
302	2025 10 29	00:00	19h 58m 58,2s	-24° 59' 24"	Sgr	396022	7d 11h 35m	-10,97	1810	42,6	81,3° E	81,4°	13:59	18:45	23:39	27,1°	300,1°	62,3°
303	2025 10 30	00:00	20h 51m 6,2s	-21° 15' 8"	Cap	389477	8d 11h 35m	-11,28	1841	52,7	92,9° E	92,9°	14:28	19:34		27,1°	293,7°	62,3°
304	2025 10 31	00:00	21h 41m 58,1s	-16° 25' 7"	Cap	382196	9d 11h 35m	-11,57	1876	62,9	104,8° E	104,8°	14:54	20:21	00:49	32,0°	286,2°	69,4°
305	2025 11 01	00:00	22h 31m 59,8s	-10° 39' 41"	Aqr	374578	10d 11h 35m	-11,84	1914	73,0	117,2° E	117,2°	15:18	21:08	01:59	37,9°	277,8°	77,6°
306	2025 11 02	00:00	23h 22m 0,4s	-4° 11' 50"	Aqr	367141	11d 11h 35m	-12,10	1953	82,3	130,2° E	130,2°	15:41	21:56	03:10	44,5°	268,7°	86,6°
307	2025 11 03	00:00	0h 13m 6,0s	+2° 41' 36"	Psc	360486	12d 11h 35m	-12,34	1989	90,3	143,6° E	143,6°	16:06	22:47	04:25	51,6°	259,5°	96,1°
308	2025 11 04	00:00	1h 6m 32,1s	+9° 38' 30"	Psc	355227	13d 11h 35m	-12,56	2018	96,2	157,6° E	157,4°	16:34	23:41	05:42	58,8°	250,5°	105,6°
309	2025 11 05	00:00	2h 3m 31,9s	+16° 10' 32"	Ari	351900	14d 11h 35m	-12,76	2037	99,4	171,9° E	171,2°	17:07		07:03	71,4°	242,4°	114,4°
310	2025 11 06	00:00	3h 4m 53,1s	+21° 44' 15"	Ari	350858	15d 11h 35m	-12,78	2043	99,6	173,6° W	172,3°	17:49	00:40	08:27	75,5°	236,0°	121,8°
311	2025 11 07	00:00	4h 10m 23,2s	+25° 45' 43"	Tau	352192	16d 11h 35m	-12,59	2036	96,6	159,0° W	158,6°	18:42	01:44	09:48	77,4°	232,2°	126,8°
312	2025 11 08	00:00	5h 18m 21,1s	+27° 48' 58"	Tau	355717	17d 11h 35m	-12,38	2015	90,7	144,7° W	144,4°	19:46	02:50	11:01	77,1°	231,6°	128,6°
313	2025 11 09	00:00	6h 25m 52,3s	+27° 45' 3"	Gem	361017	18d 11h 35m	-12,14	1986	82,6	130,7° W	130,6°	20:58	03:56	12:00	74,7°	234,2°	127,1°
314	2025 11 10	00:00	7h 30m 2,0s	+25° 44' 36"	Gem	367538	19d 11h 35m	-11,88	1951	72,9	117,3° W	117,2°	22:12	04:57	12:46	70,7°	239,2°	122,9°
315	2025 11 11	00:00	8h 29m 7,2s	+22° 11' 36"	Cnc	374689	20d 11h 35m	-11,60	1913	62,5	104,3° W	104,3°	23:24	05:53	13:22	65,6°	245,8°	116,9°
316	2025 11 12	00:00	9h 22m 52,7s	+17° 33' 32"	Leo	381932	21d 11h 35m	-11,30	1877	51,8	91,9° W	91,9°		06:43	13:50	60,0°	253,4°	109,9°
317	2025 11 13	00:00	10h 12m 3,3s	+12° 14' 47"	Leo	388826	22d 11h 35m	-10,98	1844	41,4	79,9° W	79,9°	00:33	07:29	14:13	60,0°	253,4°	102,4°
318	2025 11 14	00:00	10h 57m 49,2s	+6° 34' 28"	Leo	395056	23d 11h 35m	-10,64	1815	31,7	68,3° W	68,3°	01:38	08:12	14:34	53,9°	261,3°	94,6°
319	2025 11 15	00:00	11h 41m 25,3s	+0° 47' 3"	Vir	400420	24d 11h 35m	-10,27	1790	22,9	57,1° W	57,1°	02:41	08:52	14:53	47,9°	269,3°	86,8°
320	2025 11 16	00:00	12h 24m 2,0s	-4° 55' 54"	Vir	404821	25d 11h 35m	-9,87	1771	15,4	46,0° W	46,1°	03:42	09:32	15:13	42,0°	277,2°	79,3°
321	2025 11 17	00:00	13h 6m 42,9s	-10° 24' 19"	Vir	408230	26d 11h 35m	-9,44	1756	9,2	35,2° W	35,3°	04:43	10:13	15:34	36,4°	284,8°	72,1°
322	2025 11 18	00:00	13h 50m 23,2s	-15° 28' 22"	Vir	410669	27d 11h 35m	-8,98	1746	4,6	24,4° W	24,7°	05:45	10:55	15:57	31,3°	291,8°	65,5°
323	2025 11 19	00:00	14h 35m 48,2s	-19° 57' 39"	Lib	412175	28d 11h 35m	-8,50	1739	1,6	13,7° W	14,4°	06:47	11:39	16:25	26,9°	298,1°	59,8°
324	2025 11 20	00:00	15h 23m 28,1s	-23° 41' 7"	Lib	412785	29d 11h 35m	-8,05	1737	0,3	3,0° W	5,8°	07:50	12:26	16:58	23,5°	303,2°	55,2°
325	2025 11 21	00:00	16h 13m 31,2s	-26° 27' 28"	Sco	412520	0d 17h 13m	-8,23	1738	0,7	7,7° E	9,3°	08:51	13:16	17:38	21,2°	306,9°	52,3°
326	2025 11 22	00:00	17h 5m 38,4s	-28° 6' 22"	Oph	411377	1d 17h 13m	-8,73	1743	2,8	18,4° E	19,1°	09:49	14:07	18:26	20,3°	308,6°	51,3°
327	2025 11 23	00:00	17h 59m 2,5s	-28° 30' 11"	Sgr	409329	2d 17h 13m	-9,21	1752	6,6	29,2° E	29,6°	10:39	14:59	19:22	20,8°	308,2°	52,4°
328	2025 11 24	00:00	18h 52m 39,8s	-27° 35' 34"	Sgr	406339	3d 17h 13m	-9,65	1764	11,9	40,1° E	40,3°	11:23	15:51	20:24	22,7°	305,8°	55,6°
329	2025 11 25	00:00	19h 45m 29,0s	-25° 24' 2"	Sgr	402380	4d 17h 13m	-10,07	1782	18,8	51,1° E	51,2°	11:59	16:41	21:29	25,9°	301,5°	60,5°
330	2025 11 26	00:00	20h 36m 50,3s	-22° 1' 19"	Cap	397451	5d 17h 13m	-10,45	1804	26,9	62,3° E	62,4°	12:29	17:29	22:36	30,3°	295,8°	67,0°
331	2025 11 27	00:00	21h 26m 34,6s	-17° 35' 56"	Cap	391613	6d 17h 13m	-10,81	1831	36,2	73,8° E	73,8°	12:55	18:15	23:44	35,7°	288,9°	74,5°
332	2025 11 28	00:00	22h 15m 3,3s	-12° 17' 53"	Aqr	385013	7d 17h 13m	-11,15	1862	46,3	85,6° E	85,6°	13:19	19:00		35,7°	281,0°	74,5°
333	2025 11 29	00:00	23h 3m 2,2s	-6° 18' 17"	Aqr	377908	8d 17h 13m	-11,46	1897	56,9	97,8° E	97,8°	13:42	19:46		41,9°	272,6°	82,9°
334	2025 11 30	00:00	23h 51m 35,3s	+0° 10' 1"	Psc	370676	9d 17h 13m	-11,75	1934	67,6	110,5° E	110,5°	14:05	20:33	02:02	48,5°	263,8°	91,8°
335	2025 12 01	00:00	0h 41m 59,7s	+6° 50' 55"	Psc	363813	10d 17h 13m	-12,02	1971	77,8	123,7° E	123,6°	14:30	21:24	03:15	55,5°	254,9°	101,0°
336	2025 12 02	00:00	1h 35m 38,4s	+13° 23' 10"	Psc	357891	11d 17h 13m	-12,27	2003	86,8	137,3° E	137,2°	14:59	22:19	04:32	62,3°	246,5°	110,0°
337	2025 12 03	00:00	2h 33m 46,6s	+19° 18' 50"	Ari	353495	12d 17h 13m	-12,50	2028	93,9	151,5° E	151,2°	15:36	23:20	05:53	68,5°	239,2°	118,1°
338	2025 12 04	00:00	3h 37m 1,8s	+24° 4' 18"	Tau	351121	13d 17h 13m	-12,70	2042	98,4	165,9° E	165,2°	16:23		07:15	73,5°	234,0°	124,4°
339	2025 12 05	00:00	4h 44m 41,1s	+27° 5' 50"	Tau	351073	14d 17h 13m	-12,83	2042	99,8	179,5° W	175,2°	17:23	00:25	08:34	77,4°	231,7°	127,9°
340	2025 12 06	00:00	5h 54m 17,3s	+28° 0' 11"	Tau	353394	15d 17h 13m	-12,67	2029	98,2	165,0° W	164,3°	18:34	01:33	09:42	75,9°	232,8°	128,0°
341	2025 12 07	00:00	7h 2m 21,8s	+26° 44' 39"	Gem	357847	16d 17h 13m	-12,46	2003	93,6	150,8° W	150,6°	19:50	02:39	10:36	72,5°	236,9°	124,9°
342	2025 12 08	00:00	8h 5m 59,9s	+23° 37' 37"	Cnc	363970	17d 17h 13m	-12,24	1970	86,6	137,1° W	137,0°	21:07	03:40	11:18	67,6°	243,2°	119,4°
343	2025 12 09	00:00	9h 3m 56,3s	+19° 8' 58"	Cnc	371170	18d 17h 13m	-11,99	1932	78,0	124,0° W	123,9°	22:19	04:35	11:50	62,0°	250,7°	112,6°
344	2025 12 10	00:00	9h 56m 26,9s	+13° 49' 0"	Leo	378822	19d 17h 13m	-11,73	1893	68,3	111,3° W	111,3°	23:27	05:24	12:16	55,9°	258,7°	104,9°
345	2025 12 11	00:00	10h 44m 36,9s	+8° 2' 30"	Leo	386359	20d 17h 13m	-11,45	1856	58,2	99,3° W	99,3°		06:09	12:38	49,7°	266,8°	97,0°
346	2025 12 12	00:00	11h 29m 47,3s	+2° 7' 43"	Leo	393319	21d 17h 13m	-11,16	1823	48,1	87,6° W	87,6°	00:32	06:51	12:58	49,7°	266,8°	89,1°
347	2025 12 13	00:00	12h 13m 17,2s	-3° 42' 7"	Vir	399365	22d 17h 13m	-10,85	1795	38,3	76,3° W	76,3°	01:34	07:31	13:18	43,7°	274,9°	81,5°
348	2025 12 14	00:00	12h 56m 18,5s	-9° 16' 39"	Vir	404291	23d 17h 13m	-10,51	1773	29,3	65,3° W	65,4°	02:36	08:12	13:39	38,0°	282,6°	74,1°
349	2025 12 15	00:00	13h 39m 54,4s	-14° 26' 44"	Vir	407999	24d 17h 13m	-10,16	1757	21,1	54,5° W	54,6°	03:37	08:53	14:01	32,7°	289,8°	67,4°
350	2025 12 16	00:00	14h 24m 57,9s	-19° 3' 7"	Lib	410485	25d 17h 13m	-9,77	1747	14,1	43,8° W	44,0°	04:39	09:37	14:27	28,1°	296,3°	61,4°

Topocentric ephemeris of the Moon (following)

Times are given in UT for Aveiro (8° 37' 48" W, 40° 36' 7" N, zone Z).

	Date	Hour	R. A. (2000.0)	Decl. (2000.0)	Const.	Dist. E.	Age	Magn.	Diam.	Illum.	Elong.	Separ.	Rise	Transit	Set	Elevation	Azimuth	Azimuth
	yyyy mm dd	hh:mm	topocentric	topocentric		km	days	mV	"	%	°	°	hh:mm	hh:mm	hh:mm	(max.)	at rise	at set
351	2025 12 17	00:00	15h 12m 7,7s	-22° 55' 41"	Lib	411807	26d 17h 13m-9,36	1741	8,3	33,1° W	33,4°	05:42	10:23	14:58	24,4°	301,8°	56,5°	
352	2025 12 18	00:00	16h 1m 42,3s	-25° 53' 36"	Sco	412063	27d 17h 13m-8,91	1740	4,0	22,4° W	23,0°	06:44	11:12	15:36	21,8°	305,9°	53,1°	
353	2025 12 19	00:00	16h 53m 31,5s	-27° 46' 12"	Oph	411365	28d 17h 13m-8,43	1743	1,2	11,7° W	12,8°	07:43	12:03	16:22	20,5°	308,2°	51,5°	
354	2025 12 20	00:00	17h 46m 54,3s	-28° 24' 48"	Sgr	409821	29d 17h 13m-8,04	1749	0,2	0,9° W	5,1°	08:36	12:55	17:16	20,5°	308,5°	51,9°	
355	2025 12 21	00:00	18h 40m 46,1s	-27° 44' 46"	Sgr	407516	0d 22h 17m -8,37	1759	0,9	10,0° E	11,0°	09:22	13:47	18:17	22,1°	306,6°	54,6°	
356	2025 12 22	00:00	19h 33m 57,7s	-25° 46' 45"	Sgr	404510	1d 22h 17m -8,88	1772	3,5	21,1° E	21,4°	10:00	14:38	19:22	25,0°	302,8°	59,1°	
357	2025 12 23	00:00	20h 25m 37,0s	-22° 36' 31"	Cap	400841	2d 22h 17m -9,38	1789	7,8	32,2° E	32,4°	10:32	15:26	20:29	29,1°	297,4°	65,2°	
358	2025 12 24	00:00	21h 15m 22,8s	-18° 23' 28"	Cap	396532	3d 22h 17m -9,84	1808	13,9	43,6° E	43,6°	10:59	16:13	21:36	34,2°	290,8°	72,4°	
359	2025 12 25	00:00	22h 3m 26,3s	-13° 18' 54"	Aqr	391614	4d 22h 17m -10,27	1831	21,5	55,2° E	55,2°	11:23	16:58	22:42	40,1°	283,3°	80,4°	
360	2025 12 26	00:00	22h 50m 25,4s	-7° 34' 52"	Aqr	386154	5d 22h 17m -10,66	1857	30,6	67,0° E	67,0°	11:45	17:42	23:50	46,4°	275,2°	89,0°	
361	2025 12 27	00:00	23h 37m 17,1s	-1° 23' 55"	Psc	380280	6d 22h 17m -11,02	1885	40,7	79,1° E	79,1°	12:07	18:27		46,4°	266,7°	89,0°	
362	2025 12 28	00:00	0h 25m 12,2s	+5° 0' 7"	Psc	374205	7d 22h 17m -11,35	1916	51,6	91,6° E	91,6°	12:30	19:14	00:59	53,1°	258,1°	97,8°	
363	2025 12 29	00:00	1h 15m 31,0s	+11° 20' 38"	Psc	368244	8d 22h 17m -11,66	1947	62,7	104,6° E	104,5°	12:57	20:05	02:11	59,7°	249,8°	106,6°	
364	2025 12 30	00:00	2h 9m 34,7s	+17° 16' 28"	Ari	362804	9d 22h 17m -11,93	1976	73,4	117,9° E	117,8°	13:29	21:01	03:27	66,0°	242,3°	114,8°	
365	2025 12 31	00:00	3h 8m 28,6s	+22° 20' 50"	Ari	358355	10d 22h 17m -12,18	2001	83,2	131,7° E	131,5°	14:09	22:03	04:47	71,4°	236,2°	121,7°	
366	2026 01 01	00:00	4h 12m 27,8s	+26° 2' 45"	Tau	355369	11d 22h 17m -12,41	2017	91,2	145,7° E	145,4°	15:01	23:08	06:06	75,3°	232,4°	126,6°	