

# Custom Ephemeris

Compiled by: APS

Calculated by: JPL Horizons

Date: 2023-10-18

## 12P/Pons-Brooks

Discovered: 1812-07-21.0

Orbital Period: 71.2 yrs.

Diameter: n/a

Perihelion: 2024-04-21, 3:14:19.15 UT

Links:

[SBDB](#)

[MPC](#)

Date	UT	JD	AU	RA	Declination	Latitude	Longitude	Rx
2023-Oct-01	12:00	2460219.0	3.1014	260°12'56.14"	+46°45'39.98"	+69°32'23.62"	10° Sag 32'47.11"	
2023-Oct-02	12:00	2460220.0	3.0902	260°17'51.14"	+46°34'57.26"	+69°22'31.61"	10° Sag 48'04.72"	
2023-Oct-03	12:00	2460221.0	3.0789	260°23'11.59"	+46°24'16.64"	+69°12'44.09"	11° Sag 03'59.46"	
2023-Oct-04	12:00	2460222.0	3.0676	260°28'57.33"	+46°13'38.33"	+69°03'01.13"	11° Sag 20'30.69"	
2023-Oct-05	12:00	2460223.0	3.0563	260°35'08.19"	+46°03'02.53"	+68°53'22.81"	11° Sag 37'37.77"	
2023-Oct-06	12:00	2460224.0	3.0449	260°41'44.00"	+45°52'29.47"	+68°43'49.21"	11° Sag 55'20.13"	
2023-Oct-07	12:00	2460225.0	3.0336	260°48'44.62"	+45°41'59.35"	+68°34'20.39"	12° Sag 13'37.17"	
2023-Oct-08	12:00	2460226.0	3.0222	260°56'09.88"	+45°31'32.40"	+68°24'56.42"	12° Sag 32'28.37"	
2023-Oct-09	12:00	2460227.0	3.0109	261°03'59.61"	+45°21'08.83"	+68°15'37.36"	12° Sag 51'53.21"	
2023-Oct-10	12:00	2460228.0	2.9995	261°12'13.67"	+45°10'48.87"	+68°06'23.27"	13° Sag 11'51.19"	
2023-Oct-11	12:00	2460229.0	2.9881	261°20'51.90"	+45°00'32.71"	+67°57'14.21"	13° Sag 32'21.85"	
2023-Oct-12	12:00	2460230.0	2.9767	261°29'54.16"	+44°50'20.59"	+67°48'10.22"	13° Sag 53'24.75"	
2023-Oct-13	12:00	2460231.0	2.9652	261°39'20.28"	+44°40'12.69"	+67°39'11.35"	14° Sag 14'59.47"	
2023-Oct-14	12:00	2460232.0	2.9538	261°49'10.14"	+44°30'09.22"	+67°30'17.63"	14° Sag 37'05.60"	
2023-Oct-15	12:00	2460233.0	2.9423	261°59'23.57"	+44°20'10.37"	+67°21'29.09"	14° Sag 59'42.77"	
2023-Oct-16	12:00	2460234.0	2.9308	262°10'00.44"	+44°10'16.32"	+67°12'45.77"	15° Sag 22'50.59"	
2023-Oct-17	12:00	2460235.0	2.9193	262°21'00.59"	+44°00'27.27"	+67°04'07.68"	15° Sag 46'28.70"	
2023-Oct-18	12:00	2460236.0	2.9078	262°32'23.86"	+43°50'43.36"	+66°55'34.83"	16° Sag 10'36.73"	
2023-Oct-19	12:00	2460237.0	2.8962	262°44'10.10"	+43°41'04.77"	+66°47'07.22"	16° Sag 35'14.33"	
2023-Oct-20	12:00	2460238.0	2.8847	262°56'19.12"	+43°31'31.65"	+66°38'44.85"	17° Sag 00'21.14"	
2023-Oct-21	12:00	2460239.0	2.8731	263°08'50.77"	+43°22'04.16"	+66°30'27.69"	17° Sag 25'56.83"	
2023-Oct-22	12:00	2460240.0	2.8615	263°21'44.87"	+43°12'42.45"	+66°22'15.71"	17° Sag 52'01.06"	
2023-Oct-23	12:00	2460241.0	2.8499	263°35'01.28"	+43°03'26.66"	+66°14'08.88"	18° Sag 18'33.56"	
2023-Oct-24	12:00	2460242.0	2.8383	263°48'39.85"	+42°54'16.93"	+66°06'07.14"	18° Sag 45'34.06"	
2023-Oct-25	12:00	2460243.0	2.8267	264°02'40.47"	+42°45'13.40"	+65°58'10.43"	19° Sag 13'02.36"	
2023-Oct-26	12:00	2460244.0	2.8150	264°17'03.05"	+42°36'16.19"	+65°50'18.68"	19° Sag 40'58.31"	
2023-Oct-27	12:00	2460245.0	2.8033	264°31'47.51"	+42°27'25.41"	+65°42'31.83"	20° Sag 09'21.80"	
2023-Oct-28	12:00	2460246.0	2.7917	264°46'53.82"	+42°18'41.16"	+65°34'49.77"	20° Sag 38'12.76"	
2023-Oct-29	12:00	2460247.0	2.7799	265°02'21.93"	+42°10'03.52"	+65°27'12.45"	21° Sag 07'31.13"	
2023-Oct-30	12:00	2460248.0	2.7682	265°18'11.81"	+42°01'32.59"	+65°19'39.78"	21° Sag 37'16.88"	
2023-Oct-31	12:00	2460249.0	2.7565	265°34'23.43"	+41°53'08.47"	+65°12'11.67"	22° Sag 07'29.96"	
2023-Nov-01	12:00	2460250.0	2.7447	265°50'56.76"	+41°44'51.26"	+65°04'48.05"	22° Sag 38'10.32"	
2023-Nov-02	12:00	2460251.0	2.7329	266°07'51.77"	+41°36'41.07"	+64°57'28.85"	23° Sag 09'17.95"	
2023-Nov-03	12:00	2460252.0	2.7212	266°25'08.43"	+41°28'38.04"	+64°50'13.97"	23° Sag 40'52.81"	
2023-Nov-04	12:00	2460253.0	2.7093	266°42'46.73"	+41°20'42.28"	+64°43'03.35"	24° Sag 12'54.89"	
2023-Nov-05	12:00	2460254.0	2.6975	267°00'46.67"	+41°12'53.92"	+64°35'56.90"	24° Sag 45'24.20"	
2023-Nov-06	12:00	2460255.0	2.6857	267°19'08.22"	+41°05'13.08"	+64°28'54.52"	25° Sag 18'20.75"	
2023-Nov-07	12:00	2460256.0	2.6738	267°37'51.40"	+40°57'39.90"	+64°21'56.13"	25° Sag 51'44.55"	

2023-Nov-08	12:00	2460257.0	2.6619	267°56'56.22"	+40°50'14.50"	+64°15'01.64"	26° Sag 25'35.64"	
2023-Nov-09	12:00	2460258.0	2.6500	268°16'22.68"	+40°42'57.00"	+64°08'10.94"	26° Sag 59'54.05"	
2023-Nov-10	12:00	2460259.0	2.6381	268°36'10.80"	+40°35'47.53"	+64°01'23.92"	27° Sag 34'39.83"	
2023-Nov-11	12:00	2460260.0	2.6262	268°56'20.61"	+40°28'46.18"	+63°54'40.49"	28° Sag 09'53.02"	
2023-Nov-12	12:00	2460261.0	2.6142	269°16'52.12"	+40°21'53.08"	+63°48'00.51"	28° Sag 45'33.66"	
2023-Nov-13	12:00	2460262.0	2.6022	269°37'45.34"	+40°15'08.32"	+63°41'23.87"	29° Sag 21'41.79"	
2023-Nov-14	12:00	2460263.0	2.5903	269°59'00.30"	+40°08'32.01"	+63°34'50.44"	29° Sag 58'17.44"	
2023-Nov-15	12:00	2460264.0	2.5782	270°20'37.00"	+40°02'04.21"	+63°28'20.07"	0° Cap 35'20.61"	
2023-Nov-16	12:00	2460265.0	2.5662	270°42'35.44"	+39°55'45.03"	+63°21'52.61"	1° Cap 12'51.31"	
2023-Nov-17	12:00	2460266.0	2.5542	271°04'55.62"	+39°49'34.53"	+63°15'27.90"	1° Cap 50'49.52"	
2023-Nov-18	12:00	2460267.0	2.5421	271°27'37.53"	+39°43'32.79"	+63°09'05.77"	2° Cap 29'15.24"	
2023-Nov-19	12:00	2460268.0	2.5300	271°50'41.21"	+39°37'39.88"	+63°02'46.02"	3° Cap 08'08.46"	
2023-Nov-20	12:00	2460269.0	2.5179	272°14'06.67"	+39°31'55.88"	+62°56'28.44"	3° Cap 47'29.23"	
2023-Nov-21	12:00	2460270.0	2.5058	272°37'53.98"	+39°26'20.82"	+62°50'12.83"	4° Cap 27'17.59"	
2023-Nov-22	12:00	2460271.0	2.4937	273°02'03.22"	+39°20'54.78"	+62°43'58.95"	5° Cap 07'33.63"	
2023-Nov-23	12:00	2460272.0	2.4815	273°26'34.49"	+39°15'37.77"	+62°37'46.57"	5° Cap 48'17.47"	
2023-Nov-24	12:00	2460273.0	2.4694	273°51'27.92"	+39°10'29.83"	+62°31'35.43"	6° Cap 29'29.24"	
2023-Nov-25	12:00	2460274.0	2.4572	274°16'43.64"	+39°05'30.97"	+62°25'25.27"	7° Cap 11'09.09"	
2023-Nov-26	12:00	2460275.0	2.4450	274°42'21.80"	+39°00'41.21"	+62°19'15.84"	7° Cap 53'17.18"	
2023-Nov-27	12:00	2460276.0	2.4327	275°08'22.55"	+38°56'00.55"	+62°13'06.87"	8° Cap 35'53.64"	
2023-Nov-28	12:00	2460277.0	2.4205	275°34'46.04"	+38°51'29.02"	+62°06'58.08"	9° Cap 18'58.61"	
2023-Nov-29	12:00	2460278.0	2.4082	276°01'32.44"	+38°47'06.63"	+62°00'49.20"	10° Cap 02'32.23"	
2023-Nov-30	12:00	2460279.0	2.3959	276°28'41.91"	+38°42'53.41"	+61°54'39.95"	10° Cap 46'34.64"	
2023-Dec-01	12:00	2460280.0	2.3836	276°56'14.64"	+38°38'49.40"	+61°48'30.05"	11° Cap 31'05.97"	
2023-Dec-02	12:00	2460281.0	2.3713	277°24'10.82"	+38°34'54.64"	+61°42'19.21"	12° Cap 16'06.34"	
2023-Dec-03	12:00	2460282.0	2.3590	277°52'30.64"	+38°31'09.16"	+61°36'07.13"	13° Cap 01'35.90"	
2023-Dec-04	12:00	2460283.0	2.3466	278°21'14.31"	+38°27'33.00"	+61°29'53.50"	13° Cap 47'34.77"	
2023-Dec-05	12:00	2460284.0	2.3342	278°50'22.06"	+38°24'06.19"	+61°23'38.02"	14° Cap 34'03.08"	
2023-Dec-06	12:00	2460285.0	2.3218	279°19'54.09"	+38°20'48.77"	+61°17'20.36"	15° Cap 21'00.94"	
2023-Dec-07	12:00	2460286.0	2.3094	279°49'50.65"	+38°17'40.75"	+61°11'00.19"	16° Cap 08'28.46"	
2023-Dec-08	12:00	2460287.0	2.2970	280°20'11.97"	+38°14'42.15"	+61°04'37.18"	16° Cap 56'25.73"	
2023-Dec-09	12:00	2460288.0	2.2845	280°50'58.28"	+38°11'52.99"	+60°58'10.97"	17° Cap 44'52.84"	
2023-Dec-10	12:00	2460289.0	2.2720	281°22'09.84"	+38°09'13.26"	+60°51'41.22"	18° Cap 33'49.84"	
2023-Dec-11	12:00	2460290.0	2.2596	281°53'46.86"	+38°06'42.96"	+60°45'07.54"	19° Cap 23'16.76"	
2023-Dec-12	12:00	2460291.0	2.2470	282°25'49.60"	+38°04'22.07"	+60°38'29.57"	20° Cap 13'13.59"	
2023-Dec-13	12:00	2460292.0	2.2345	282°58'18.26"	+38°02'10.56"	+60°31'46.91"	21° Cap 03'40.30"	
2023-Dec-14	12:00	2460293.0	2.2220	283°31'13.06"	+38°00'08.38"	+60°24'59.14"	21° Cap 54'36.80"	
2023-Dec-15	12:00	2460294.0	2.2094	284°04'34.23"	+37°58'15.51"	+60°18'05.84"	22° Cap 46'02.98"	
2023-Dec-16	12:00	2460295.0	2.1968	284°38'21.99"	+37°56'31.87"	+60°11'06.57"	23° Cap 37'58.70"	
2023-Dec-17	12:00	2460296.0	2.1842	285°12'36.60"	+37°54'57.40"	+60°04'00.87"	24° Cap 30'23.83"	
2023-Dec-18	12:00	2460297.0	2.1716	285°47'18.31"	+37°53'32.03"	+59°56'48.24"	25° Cap 23'18.24"	
2023-Dec-19	12:00	2460298.0	2.1589	286°22'27.45"	+37°52'15.66"	+59°49'28.19"	26° Cap 16'41.80"	
2023-Dec-20	12:00	2460299.0	2.1463	286°58'04.32"	+37°51'08.18"	+59°42'00.19"	27° Cap 10'34.39"	
2023-Dec-21	12:00	2460300.0	2.1336	287°34'09.29"	+37°50'09.45"	+59°34'23.72"	28° Cap 04'55.88"	
2023-Dec-22	12:00	2460301.0	2.1209	288°10'42.69"	+37°49'19.35"	+59°26'38.23"	28° Cap 59'46.11"	
2023-Dec-23	12:00	2460302.0	2.1082	288°47'44.90"	+37°48'37.70"	+59°18'43.14"	29° Cap 55'04.94"	

2023-Dec-24	12:00	2460303.0	2.0955	289°25'16.29"	+37°48'04.34"	+59°10'37.91"	0° Aqu 50'52.15"	
2023-Dec-25	12:00	2460304.0	2.0827	290°03'17.25"	+37°47'39.09"	+59°02'21.93"	1° Aqu 47'07.52"	
2023-Dec-26	12:00	2460305.0	2.0699	290°41'48.17"	+37°47'21.77"	+58°53'54.63"	2° Aqu 43'50.82"	
2023-Dec-27	12:00	2460306.0	2.0571	291°20'49.44"	+37°47'12.20"	+58°45'15.42"	3° Aqu 41'01.75"	
2023-Dec-28	12:00	2460307.0	2.0443	292°00'21.47"	+37°47'10.20"	+58°36'23.68"	4° Aqu 38'40.03"	
2023-Dec-29	12:00	2460308.0	2.0315	292°40'24.70"	+37°47'15.57"	+58°27'18.82"	5° Aqu 36'45.32"	
2023-Dec-30	12:00	2460309.0	2.0187	293°20'59.54"	+37°47'28.12"	+58°18'00.21"	6° Aqu 35'17.28"	
2023-Dec-31	12:00	2460310.0	2.0058	294°02'06.45"	+37°47'47.65"	+58°08'27.24"	7° Aqu 34'15.53"	
2024-Jan-01	12:00	2460311.0	1.9929	294°43'45.86"	+37°48'13.93"	+57°58'39.28"	8° Aqu 33'39.68"	
2024-Jan-02	12:00	2460312.0	1.9800	295°25'58.25"	+37°48'46.74"	+57°48'35.70"	9° Aqu 33'29.28"	
2024-Jan-03	12:00	2460313.0	1.9671	296°08'44.05"	+37°49'25.83"	+57°38'15.85"	10° Aqu 33'43.87"	
2024-Jan-04	12:00	2460314.0	1.9542	296°52'03.74"	+37°50'10.94"	+57°27'39.09"	11° Aqu 34'22.94"	
2024-Jan-05	12:00	2460315.0	1.9412	297°35'57.77"	+37°51'01.79"	+57°16'44.77"	12° Aqu 35'25.94"	
2024-Jan-06	12:00	2460316.0	1.9283	298°20'26.59"	+37°51'58.09"	+57°05'32.23"	13° Aqu 36'52.30"	
2024-Jan-07	12:00	2460317.0	1.9153	299°05'30.64"	+37°52'59.51"	+56°54'00.82"	14° Aqu 38'41.39"	
2024-Jan-08	12:00	2460318.0	1.9023	299°51'10.37"	+37°54'05.72"	+56°42'09.86"	15° Aqu 40'52.51"	
2024-Jan-09	12:00	2460319.0	1.8893	300°37'26.18"	+37°55'16.35"	+56°29'58.70"	16° Aqu 43'24.94"	
2024-Jan-10	12:00	2460320.0	1.8763	301°24'18.48"	+37°56'31.01"	+56°17'26.67"	17° Aqu 46'17.88"	
2024-Jan-11	12:00	2460321.0	1.8632	302°11'47.64"	+37°57'49.30"	+56°04'33.08"	18° Aqu 49'30.47"	
2024-Jan-12	12:00	2460322.0	1.8502	302°59'54.04"	+37°59'10.77"	+55°51'17.26"	19° Aqu 53'01.79"	
2024-Jan-13	12:00	2460323.0	1.8371	303°48'38.04"	+38°00'34.97"	+55°37'38.53"	20° Aqu 56'50.91"	
2024-Jan-14	12:00	2460324.0	1.8240	304°38'00.01"	+38°02'01.41"	+55°23'36.18"	22° Aqu 00'56.87"	
2024-Jan-15	12:00	2460325.0	1.8109	305°28'00.36"	+38°03'29.57"	+55°09'09.50"	23° Aqu 05'18.70"	
2024-Jan-16	12:00	2460326.0	1.7978	306°18'39.48"	+38°04'58.90"	+54°54'17.79"	24° Aqu 09'55.42"	
2024-Jan-17	12:00	2460327.0	1.7846	307°09'57.76"	+38°06'28.82"	+54°39'00.33"	25° Aqu 14'46.06"	
2024-Jan-18	12:00	2460328.0	1.7715	308°01'55.59"	+38°07'58.70"	+54°23'16.40"	26° Aqu 19'49.59"	
2024-Jan-19	12:00	2460329.0	1.7583	308°54'33.34"	+38°09'27.91"	+54°07'05.30"	27° Aqu 25'05.00"	
2024-Jan-20	12:00	2460330.0	1.7452	309°47'51.37"	+38°10'55.75"	+53°50'26.30"	28° Aqu 30'31.23"	
2024-Jan-21	12:00	2460331.0	1.7320	310°41'50.01"	+38°12'21.53"	+53°33'18.72"	29° Aqu 36'07.21"	
2024-Jan-22	12:00	2460332.0	1.7188	311°36'29.57"	+38°13'44.52"	+53°15'41.86"	0° Pis 41'51.84"	
2024-Jan-23	12:00	2460333.0	1.7056	312°31'50.36"	+38°15'03.98"	+52°57'35.06"	1° Pis 47'44.03"	
2024-Jan-24	12:00	2460334.0	1.6924	313°27'52.65"	+38°16'19.15"	+52°38'57.65"	2° Pis 53'42.66"	
2024-Jan-25	12:00	2460335.0	1.6791	314°24'36.70"	+38°17'29.24"	+52°19'48.98"	3° Pis 59'46.63"	
2024-Jan-26	12:00	2460336.0	1.6659	315°22'02.73"	+38°18'33.45"	+52°00'08.44"	5° Pis 05'54.83"	
2024-Jan-27	12:00	2460337.0	1.6526	316°20'10.93"	+38°19'30.95"	+51°39'55.42"	6° Pis 12'06.13"	
2024-Jan-28	12:00	2460338.0	1.6394	317°19'01.49"	+38°20'20.90"	+51°19'09.33"	7° Pis 18'19.45"	
2024-Jan-29	12:00	2460339.0	1.6261	318°18'34.51"	+38°21'02.44"	+50°57'49.62"	8° Pis 24'33.68"	
2024-Jan-30	12:00	2460340.0	1.6129	319°18'50.09"	+38°21'34.66"	+50°35'55.75"	9° Pis 30'47.71"	
2024-Jan-31	12:00	2460341.0	1.5996	320°19'48.25"	+38°21'56.66"	+50°13'27.19"	10° Pis 37'00.46"	
2024-Feb-01	12:00	2460342.0	1.5863	321°21'28.97"	+38°22'07.48"	+49°50'23.48"	11° Pis 43'10.82"	
2024-Feb-02	12:00	2460343.0	1.5730	322°23'52.17"	+38°22'06.17"	+49°26'44.14"	12° Pis 49'17.73"	
2024-Feb-03	12:00	2460344.0	1.5597	323°26'57.70"	+38°21'51.73"	+49°02'28.75"	13° Pis 55'20.08"	
2024-Feb-04	12:00	2460345.0	1.5464	324°30'45.33"	+38°21'23.15"	+48°37'36.89"	15° Pis 01'16.79"	
2024-Feb-05	12:00	2460346.0	1.5331	325°35'14.78"	+38°20'39.39"	+48°12'08.22"	16° Pis 07'06.80"	
2024-Feb-06	12:00	2460347.0	1.5199	326°40'25.66"	+38°19'39.39"	+47°46'02.38"	17° Pis 12'49.00"	
2024-Feb-07	12:00	2460348.0	1.5066	327°46'17.50"	+38°18'22.07"	+47°19'19.06"	18° Pis 18'22.32"	

2024-Feb-08	12:00	2460349.0	1.4933	328°52'49.75"	+38°16'46.32"	+46°51'58.01"	19° Pis 23'45.67"	
2024-Feb-09	12:00	2460350.0	1.4800	330°00'01.78"	+38°14'51.02"	+46°23'58.97"	20° Pis 28'57.97"	
2024-Feb-10	12:00	2460351.0	1.4667	331°07'52.88"	+38°12'35.03"	+45°55'21.73"	21° Pis 33'58.15"	
2024-Feb-11	12:00	2460352.0	1.4534	332°16'22.28"	+38°09'57.20"	+45°26'06.10"	22° Pis 38'45.21"	
2024-Feb-12	12:00	2460353.0	1.4402	333°25'29.14"	+38°06'56.36"	+44°56'11.91"	23° Pis 43'18.16"	
2024-Feb-13	12:00	2460354.0	1.4269	334°35'12.55"	+38°03'31.33"	+44°25'39.04"	24° Pis 47'36.08"	
2024-Feb-14	12:00	2460355.0	1.4136	335°45'31.51"	+37°59'40.91"	+43°54'27.37"	25° Pis 51'38.06"	
2024-Feb-15	12:00	2460356.0	1.4004	336°56'24.93"	+37°55'23.90"	+43°22'36.81"	26° Pis 55'23.23"	
2024-Feb-16	12:00	2460357.0	1.3872	338°07'51.64"	+37°50'39.08"	+42°50'07.32"	27° Pis 58'50.76"	
2024-Feb-17	12:00	2460358.0	1.3740	339°19'50.36"	+37°45'25.25"	+42°16'58.89"	29° Pis 01'59.82"	
2024-Feb-18	12:00	2460359.0	1.3608	340°32'19.75"	+37°39'41.23"	+41°43'11.55"	0° Ari 04'49.66"	
2024-Feb-19	12:00	2460360.0	1.3476	341°45'18.40"	+37°33'25.84"	+41°08'45.35"	1° Ari 07'19.52"	
2024-Feb-20	12:00	2460361.0	1.3344	342°58'44.78"	+37°26'37.95"	+40°33'40.40"	2° Ari 09'28.74"	
2024-Feb-21	12:00	2460362.0	1.3213	344°12'37.35"	+37°19'16.43"	+39°57'56.86"	3° Ari 11'16.67"	
2024-Feb-22	12:00	2460363.0	1.3082	345°26'54.44"	+37°11'20.20"	+39°21'34.91"	4° Ari 12'42.72"	
2024-Feb-23	12:00	2460364.0	1.2951	346°41'34.36"	+37°02'48.22"	+38°44'34.77"	5° Ari 13'46.34"	
2024-Feb-24	12:00	2460365.0	1.2821	347°56'35.32"	+36°53'39.46"	+38°06'56.72"	6° Ari 14'27.03"	
2024-Feb-25	12:00	2460366.0	1.2691	349°11'55.50"	+36°43'52.97"	+37°28'41.07"	7° Ari 14'44.34"	
2024-Feb-26	12:00	2460367.0	1.2561	350°27'32.98"	+36°33'27.81"	+36°49'48.16"	8° Ari 14'37.86"	
2024-Feb-27	12:00	2460368.0	1.2432	351°43'25.82"	+36°22'23.12"	+36°10'18.38"	9° Ari 14'07.22"	
2024-Feb-28	12:00	2460369.0	1.2303	352°59'32.00"	+36°10'38.07"	+35°30'12.17"	10° Ari 13'12.08"	
2024-Feb-29	12:00	2460370.0	1.2174	354°15'49.47"	+35°58'11.88"	+34°49'29.99"	11° Ari 11'52.15"	
2024-Mar-01	12:00	2460371.0	1.2047	355°32'16.12"	+35°45'03.84"	+34°08'12.34"	12° Ari 10'07.13"	
2024-Mar-02	12:00	2460372.0	1.1919	356°48'49.81"	+35°31'13.27"	+33°26'19.76"	13° Ari 07'56.80"	
2024-Mar-03	12:00	2460373.0	1.1792	358°05'28.35"	+35°16'39.57"	+32°43'52.82"	14° Ari 05'20.92"	
2024-Mar-04	12:00	2460374.0	1.1666	359°22'09.53"	+35°01'22.19"	+32°00'52.12"	15° Ari 02'19.28"	
2024-Mar-05	12:00	2460375.0	1.1541	0°38'51.14"	+34°45'20.65"	+31°17'18.31"	15° Ari 58'51.71"	
2024-Mar-06	12:00	2460376.0	1.1416	1°55'30.90"	+34°28'34.51"	+30°33'12.05"	16° Ari 54'58.02"	
2024-Mar-07	12:00	2460377.0	1.1292	3°12'06.58"	+34°11'03.40"	+29°48'34.03"	17° Ari 50'38.05"	
2024-Mar-08	12:00	2460378.0	1.1169	4°28'35.94"	+33°52'47.02"	+29°03'24.96"	18° Ari 45'51.66"	
2024-Mar-09	12:00	2460379.0	1.1047	5°44'56.76"	+33°33'45.12"	+28°17'45.58"	19° Ari 40'38.73"	
2024-Mar-10	12:00	2460380.0	1.0925	7°01'06.87"	+33°13'57.53"	+27°31'36.63"	20° Ari 34'59.19"	
2024-Mar-11	12:00	2460381.0	1.0805	8°17'04.14"	+32°53'24.11"	+26°44'58.89"	21° Ari 28'53.01"	
2024-Mar-12	12:00	2460382.0	1.0685	9°32'46.48"	+32°32'04.83"	+25°57'53.12"	22° Ari 22'20.15"	
2024-Mar-13	12:00	2460383.0	1.0567	10°48'11.84"	+32°09'59.69"	+25°10'20.10"	23° Ari 15'20.61"	
2024-Mar-14	12:00	2460384.0	1.0450	12°03'18.21"	+31°47'08.76"	+24°22'20.62"	24° Ari 07'54.42"	
2024-Mar-15	12:00	2460385.0	1.0334	13°18'03.62"	+31°23'32.14"	+23°33'55.48"	25° Ari 00'01.57"	
2024-Mar-16	12:00	2460386.0	1.0220	14°32'26.20"	+30°59'10.05"	+22°45'05.49"	25° Ari 51'42.11"	
2024-Mar-17	12:00	2460387.0	1.0107	15°46'24.13"	+30°34'02.72"	+21°55'51.48"	26° Ari 42'56.12"	
2024-Mar-18	12:00	2460388.0	0.9995	16°59'55.69"	+30°08'10.48"	+21°06'14.27"	27° Ari 33'43.69"	
2024-Mar-19	12:00	2460389.0	0.9885	18°12'59.24"	+29°41'33.73"	+20°16'14.71"	28° Ari 24'04.95"	
2024-Mar-20	12:00	2460390.0	0.9777	19°25'33.28"	+29°14'12.92"	+19°25'53.66"	29° Ari 14'00.08"	
2024-Mar-21	12:00	2460391.0	0.9670	20°37'36.36"	+28°46'08.57"	+18°35'11.97"	0° Tau 03'29.28"	
2024-Mar-22	12:00	2460392.0	0.9565	21°49'07.15"	+28°17'21.26"	+17°44'10.51"	0° Tau 52'32.79"	
2024-Mar-23	12:00	2460393.0	0.9462	23°00'04.44"	+27°47'51.64"	+16°52'50.18"	1° Tau 41'10.88"	
2024-Mar-24	12:00	2460394.0	0.9361	24°10'27.10"	+27°17'40.42"	+16°01'11.84"	2° Tau 29'23.86"	

2024-Mar-25	12:00	2460395.0	0.9263	25°20'14.10"	+26°46'48.34"	+15°09'16.39"	3° Tau 17'12.05"	
2024-Mar-26	12:00	2460396.0	0.9166	26°29'24.53"	+26°15'16.22"	+14°17'04.73"	4° Tau 04'35.83"	
2024-Mar-27	12:00	2460397.0	0.9072	27°37'57.58"	+25°43'04.93"	+13°24'37.75"	4° Tau 51'35.59"	
2024-Mar-28	12:00	2460398.0	0.8980	28°45'52.50"	+25°10'15.36"	+12°31'56.37"	5° Tau 38'11.73"	
2024-Mar-29	12:00	2460399.0	0.8891	29°53'08.68"	+24°36'48.47"	+11°39'01.49"	6° Tau 24'24.70"	
2024-Mar-30	12:00	2460400.0	0.8805	30°59'45.58"	+24°02'45.26"	+10°45'54.03"	7° Tau 10'14.95"	
2024-Mar-31	12:00	2460401.0	0.8721	32°05'42.75"	+23°28'06.76"	+9°52'34.89"	7° Tau 55'42.97"	
2024-Apr-01	12:00	2460402.0	0.8640	33°10'59.84"	+22°52'54.02"	+8°59'05.00"	8° Tau 40'49.26"	
2024-Apr-02	12:00	2460403.0	0.8562	34°15'36.58"	+22°17'08.14"	+8°05'25.28"	9° Tau 25'34.34"	
2024-Apr-03	12:00	2460404.0	0.8488	35°19'32.80"	+21°40'50.24"	+7°11'36.63"	10° Tau 09'58.77"	
2024-Apr-04	12:00	2460405.0	0.8417	36°22'48.42"	+21°04'01.47"	+6°17'40.00"	10° Tau 54'03.12"	
2024-Apr-05	12:00	2460406.0	0.8349	37°25'23.46"	+20°26'42.99"	+5°23'36.29"	11° Tau 37'48.03"	
2024-Apr-06	12:00	2460407.0	0.8284	38°27'18.03"	+19°48'55.99"	+4°29'26.41"	12° Tau 21'14.15"	
2024-Apr-07	12:00	2460408.0	0.8224	39°28'32.37"	+19°10'41.69"	+3°35'11.29"	13° Tau 04'22.21"	
2024-Apr-08	12:00	2460409.0	0.8167	40°29'06.78"	+18°32'01.32"	+2°40'51.83"	13° Tau 47'12.97"	
2024-Apr-09	12:00	2460410.0	0.8113	41°29'01.66"	+17°52'56.15"	+1°46'28.94"	14° Tau 29'47.25"	
2024-Apr-10	12:00	2460411.0	0.8064	42°28'17.48"	+17°13'27.45"	+0°52'03.52"	15° Tau 12'05.86"	
2024-Apr-11	12:00	2460412.0	0.8019	43°26'54.76"	+16°33'36.52"	-0°02'23.52"	15° Tau 54'09.69"	
2024-Apr-12	12:00	2460413.0	0.7978	44°24'54.13"	+15°53'24.64"	-0°56'51.29"	16° Tau 35'59.64"	
2024-Apr-13	12:00	2460414.0	0.7941	45°22'16.26"	+15°12'53.13"	-1°51'18.89"	17° Tau 17'36.66"	
2024-Apr-14	12:00	2460415.0	0.7909	46°19'01.94"	+14°32'03.30"	-2°45'45.42"	17° Tau 59'01.77"	
2024-Apr-15	12:00	2460416.0	0.7881	47°15'12.06"	+13°50'56.45"	-3°40'09.99"	18° Tau 40'16.08"	
2024-Apr-16	12:00	2460417.0	0.7857	48°10'47.59"	+13°09'33.90"	-4°34'31.73"	19° Tau 21'20.76"	
2024-Apr-17	12:00	2460418.0	0.7838	49°05'49.60"	+12°27'56.97"	-5°28'49.77"	20° Tau 02'17.06"	
2024-Apr-18	12:00	2460419.0	0.7824	50°00'19.25"	+11°46'06.95"	-6°23'03.25"	20° Tau 43'06.29"	
2024-Apr-19	12:00	2460420.0	0.7814	50°54'17.76"	+11°04'05.14"	-7°17'11.33"	21° Tau 23'49.87"	
2024-Apr-20	12:00	2460421.0	0.7809	51°47'46.46"	+10°21'52.80"	-8°11'13.21"	22° Tau 04'29.25"	
2024-Apr-21	12:00	2460422.0	0.7808	52°40'46.72"	+9°39'31.18"	-9°05'08.08"	22° Tau 45'05.97"	
2024-Apr-22	12:00	2460423.0	0.7812	53°33'19.99"	+8°57'01.49"	-9°58'55.18"	23° Tau 25'41.66"	
2024-Apr-23	12:00	2460424.0	0.7821	54°25'27.78"	+8°14'24.91"	-10°52'33.77"	24° Tau 06'17.96"	
2024-Apr-24	12:00	2460425.0	0.7834	55°17'11.65"	+7°31'42.59"	-11°46'03.14"	24° Tau 46'56.62"	
2024-Apr-25	12:00	2460426.0	0.7852	56°08'33.19"	+6°48'55.62"	-12°39'22.62"	25° Tau 27'39.43"	
2024-Apr-26	12:00	2460427.0	0.7874	56°59'34.04"	+6°06'05.03"	-13°32'31.56"	26° Tau 08'28.21"	
2024-Apr-27	12:00	2460428.0	0.7901	57°50'15.86"	+5°23'11.82"	-14°25'29.37"	26° Tau 49'24.86"	
2024-Apr-28	12:00	2460429.0	0.7932	58°40'40.35"	+4°40'16.91"	-15°18'15.48"	27° Tau 30'31.30"	
2024-Apr-29	12:00	2460430.0	0.7968	59°30'49.19"	+3°57'21.15"	-16°10'49.36"	28° Tau 11'49.51"	
2024-Apr-30	12:00	2460431.0	0.8008	60°20'44.10"	+3°14'25.34"	-17°03'10.54"	28° Tau 53'21.48"	
2024-May-01	12:00	2460432.0	0.8052	61°10'26.81"	+2°31'30.19"	-17°55'18.55"	29° Tau 35'09.28"	
2024-May-02	12:00	2460433.0	0.8100	61°59'59.05"	+1°48'36.36"	-18°47'12.99"	0° Gem 17'15.00"	
2024-May-03	12:00	2460434.0	0.8152	62°49'22.57"	+1°05'44.44"	-19°38'53.47"	0° Gem 59'40.78"	
2024-May-04	12:00	2460435.0	0.8208	63°38'39.10"	+0°22'54.94"	-20°30'19.64"	1° Gem 42'28.80"	
2024-May-05	12:00	2460436.0	0.8268	64°27'50.38"	-0°19'51.65"	-21°21'31.16"	2° Gem 25'41.28"	
2024-May-06	12:00	2460437.0	0.8331	65°16'58.12"	-1°02'34.91"	-22°12'27.73"	3° Gem 09'20.48"	
2024-May-07	12:00	2460438.0	0.8398	66°06'04.02"	-1°45'14.47"	-23°03'09.04"	3° Gem 53'28.66"	
2024-May-08	12:00	2460439.0	0.8468	66°55'09.70"	-2°27'49.96"	-23°53'34.80"	4° Gem 38'08.10"	
2024-May-09	12:00	2460440.0	0.8542	67°44'16.76"	-3°10'21.09"	-24°43'44.70"	5° Gem 23'21.06"	

2024-May-10	12:00	2460441.0	0.8619	68°33'26.75"	-3°52'47.59"	-25°33'38.41"	6° Gem 09'09.86"	
2024-May-11	12:00	2460442.0	0.8699	69°22'41.19"	-4°35'09.21"	-26°23'15.62"	6° Gem 55'36.80"	
2024-May-12	12:00	2460443.0	0.8782	70°12'01.58"	-5°17'25.72"	-27°12'35.95"	7° Gem 42'44.25"	
2024-May-13	12:00	2460444.0	0.8867	71°01'29.39"	-5°59'36.93"	-28°01'39.03"	8° Gem 30'34.62"	
2024-May-14	12:00	2460445.0	0.8956	71°51'06.10"	-6°41'42.65"	-28°50'24.43"	9° Gem 19'10.35"	
2024-May-15	12:00	2460446.0	0.9047	72°40'53.14"	-7°23'42.69"	-29°38'51.70"	10° Gem 08'33.96"	
2024-May-16	12:00	2460447.0	0.9140	73°30'51.92"	-8°05'36.87"	-30°27'00.33"	10° Gem 58'47.98"	
2024-May-17	12:00	2460448.0	0.9236	74°21'03.83"	-8°47'25.00"	-31°14'49.79"	11° Gem 49'54.99"	
2024-May-18	12:00	2460449.0	0.9335	75°11'30.23"	-9°29'06.89"	-32°02'19.45"	12° Gem 41'57.62"	
2024-May-19	12:00	2460450.0	0.9435	76°02'12.44"	-10°10'42.33"	-32°49'28.66"	13° Gem 34'58.51"	
2024-May-20	12:00	2460451.0	0.9537	76°53'11.74"	-10°52'11.11"	-33°36'16.69"	14° Gem 29'00.36"	
2024-May-21	12:00	2460452.0	0.9642	77°44'29.39"	-11°33'32.99"	-34°22'42.75"	15° Gem 24'05.86"	
2024-May-22	12:00	2460453.0	0.9748	78°36'06.59"	-12°14'47.71"	-35°08'45.95"	16° Gem 20'17.76"	
2024-May-23	12:00	2460454.0	0.9856	79°28'04.51"	-12°55'54.99"	-35°54'25.35"	17° Gem 17'38.80"	
2024-May-24	12:00	2460455.0	0.9965	80°20'24.28"	-13°36'54.52"	-36°39'39.94"	18° Gem 16'11.73"	
2024-May-25	12:00	2460456.0	1.0077	81°13'06.96"	-14°17'45.98"	-37°24'28.58"	19° Gem 15'59.30"	
2024-May-26	12:00	2460457.0	1.0189	82°06'13.59"	-14°58'29.01"	-38°08'50.10"	20° Gem 17'04.26"	
2024-May-27	12:00	2460458.0	1.0303	82°59'45.13"	-15°39'03.24"	-38°52'43.21"	21° Gem 19'29.34"	
2024-May-28	12:00	2460459.0	1.0419	83°53'42.51"	-16°19'28.29"	-39°36'06.55"	22° Gem 23'17.24"	
2024-May-29	12:00	2460460.0	1.0536	84°48'06.63"	-16°59'43.72"	-40°18'58.66"	23° Gem 28'30.65"	
2024-May-30	12:00	2460461.0	1.0653	85°42'58.32"	-17°39'49.10"	-41°01'18.00"	24° Gem 35'12.21"	
2024-May-31	12:00	2460462.0	1.0772	86°38'18.38"	-18°19'43.95"	-41°43'02.93"	25° Gem 43'24.50"	
2024-Jun-01	12:00	2460463.0	1.0893	87°34'07.55"	-18°59'27.74"	-42°24'11.73"	26° Gem 53'10.02"	
2024-Jun-02	12:00	2460464.0	1.1014	88°30'26.51"	-19°38'59.92"	-43°04'42.57"	28° Gem 04'31.18"	
2024-Jun-03	12:00	2460465.0	1.1136	89°27'15.87"	-20°18'19.88"	-43°44'33.54"	29° Gem 17'30.23"	
2024-Jun-04	12:00	2460466.0	1.1259	90°24'36.17"	-20°57'26.97"	-44°23'42.64"	0° Can 32'09.27"	
2024-Jun-05	12:00	2460467.0	1.1382	91°22'27.85"	-21°36'20.47"	-45°02'07.76"	1° Can 48'30.17"	
2024-Jun-06	12:00	2460468.0	1.1507	92°20'51.29"	-22°14'59.64"	-45°39'46.73"	3° Can 06'34.62"	
2024-Jun-07	12:00	2460469.0	1.1632	93°19'46.77"	-22°53'23.70"	-46°16'37.28"	4° Can 26'24.00"	
2024-Jun-08	12:00	2460470.0	1.1758	94°19'14.54"	-23°31'31.81"	-46°52'37.08"	5° Can 47'59.49"	
2024-Jun-09	12:00	2460471.0	1.1885	95°19'14.76"	-24°09'23.11"	-47°27'43.71"	7° Can 11'21.92"	
2024-Jun-10	12:00	2460472.0	1.2012	96°19'47.55"	-24°46'56.70"	-48°01'54.72"	8° Can 36'31.85"	
2024-Jun-11	12:00	2460473.0	1.2140	97°20'52.97"	-25°24'11.65"	-48°35'07.61"	10° Can 03'29.47"	
2024-Jun-12	12:00	2460474.0	1.2268	98°22'31.04"	-26°01'07.01"	-49°07'19.88"	11° Can 32'14.56"	
2024-Jun-13	12:00	2460475.0	1.2397	99°24'41.69"	-26°37'41.80"	-49°38'29.00"	13° Can 02'46.50"	
2024-Jun-14	12:00	2460476.0	1.2526	100°27'24.83"	-27°13'55.00"	-50°08'32.45"	14° Can 35'04.20"	
2024-Jun-15	12:00	2460477.0	1.2656	101°30'40.26"	-27°49'45.60"	-50°37'27.74"	16° Can 09'06.04"	
2024-Jun-16	12:00	2460478.0	1.2786	102°34'27.73"	-28°25'12.58"	-51°05'12.43"	17° Can 44'49.89"	
2024-Jun-17	12:00	2460479.0	1.2916	103°38'46.92"	-29°00'14.89"	-51°31'44.15"	19° Can 22'13.04"	
2024-Jun-18	12:00	2460480.0	1.3047	104°43'37.43"	-29°34'51.49"	-51°57'00.62"	21° Can 01'12.18"	
2024-Jun-19	12:00	2460481.0	1.3177	105°48'58.79"	-30°09'01.35"	-52°20'59.66"	22° Can 41'43.42"	
2024-Jun-20	12:00	2460482.0	1.3309	106°54'50.44"	-30°42'43.44"	-52°43'39.22"	24° Can 23'42.22"	
2024-Jun-21	12:00	2460483.0	1.3440	108°01'11.76"	-31°15'56.76"	-53°04'57.42"	26° Can 07'03.43"	
2024-Jun-22	12:00	2460484.0	1.3572	109°08'02.03"	-31°48'40.30"	-53°24'52.54"	27° Can 51'41.31"	
2024-Jun-23	12:00	2460485.0	1.3704	110°15'20.48"	-32°20'53.13"	-53°43'23.07"	29° Can 37'29.48"	
2024-Jun-24	12:00	2460486.0	1.3836	111°23'06.24"	-32°52'34.34"	-54°00'27.73"	1° Leo 24'21.04"	

2024-Jun-25	12:00	2460487.0	1.3968	112°31'18.39"	-33°23'43.05"	-54°16'05.45"	3° Leo 12'08.56"
2024-Jun-26	12:00	2460488.0	1.4100	113°39'55.93"	-33°54'18.47"	-54°30'15.45"	5° Leo 00'44.15"
2024-Jun-27	12:00	2460489.0	1.4233	114°48'57.81"	-34°24'19.82"	-54°42'57.20"	6° Leo 49'59.51"
2024-Jun-28	12:00	2460490.0	1.4365	115°58'22.88"	-34°53'46.42"	-54°54'10.45"	8° Leo 39'46.00"
2024-Jun-29	12:00	2460491.0	1.4498	117°08'09.94"	-35°22'37.59"	-55°03'55.24"	10° Leo 29'54.70"
2024-Jun-30	12:00	2460492.0	1.4631	118°18'17.69"	-35°50'52.72"	-55°12'11.90"	12° Leo 20'16.47"
2024-Jul-01	12:00	2460493.0	1.4764	119°28'44.75"	-36°18'31.24"	-55°19'01.04"	14° Leo 10'42.06"
2024-Jul-02	12:00	2460494.0	1.4897	120°39'29.64"	-36°45'32.65"	-55°24'23.54"	16° Leo 01'02.14"
2024-Jul-03	12:00	2460495.0	1.5029	121°50'30.83"	-37°11'56.48"	-55°28'20.59"	17° Leo 51'07.46"
2024-Jul-04	12:00	2460496.0	1.5162	123°01'46.68"	-37°37'42.31"	-55°30'53.60"	19° Leo 40'48.88"
2024-Jul-05	12:00	2460497.0	1.5295	124°13'15.54"	-38°02'49.79"	-55°32'04.26"	21° Leo 29'57.49"
2024-Jul-06	12:00	2460498.0	1.5428	125°24'55.68"	-38°27'18.64"	-55°31'54.47"	23° Leo 18'24.68"
2024-Jul-07	12:00	2460499.0	1.5561	126°36'45.36"	-38°51'08.63"	-55°30'26.37"	25° Leo 06'02.28"
2024-Jul-08	12:00	2460500.0	1.5694	127°48'42.80"	-39°14'19.58"	-55°27'42.27"	26° Leo 52'42.52"
2024-Jul-09	12:00	2460501.0	1.5827	129°00'46.23"	-39°36'51.40"	-55°23'44.66"	28° Leo 38'18.21"
2024-Jul-10	12:00	2460502.0	1.5960	130°12'53.84"	-39°58'44.04"	-55°18'36.20"	0° Vir 22'42.67"
2024-Jul-11	12:00	2460503.0	1.6092	131°25'03.82"	-40°19'57.51"	-55°12'19.64"	2° Vir 05'49.83"
2024-Jul-12	12:00	2460504.0	1.6225	132°37'14.38"	-40°40'31.91"	-55°04'57.89"	3° Vir 47'34.24"
2024-Jul-13	12:00	2460505.0	1.6358	133°49'23.71"	-41°00'27.35"	-54°56'33.90"	5° Vir 27'51.05"
2024-Jul-14	12:00	2460506.0	1.6490	135°01'30.02"	-41°19'44.05"	-54°47'10.69"	7° Vir 06'36.04"
2024-Jul-15	12:00	2460507.0	1.6623	136°13'31.50"	-41°38'22.24"	-54°36'51.34"	8° Vir 43'45.58"
2024-Jul-16	12:00	2460508.0	1.6755	137°25'26.40"	-41°56'22.24"	-54°25'38.92"	10° Vir 19'16.66"
2024-Jul-17	12:00	2460509.0	1.6887	138°37'12.96"	-42°13'44.40"	-54°13'36.53"	11° Vir 53'06.82"
2024-Jul-18	12:00	2460510.0	1.7020	139°48'49.47"	-42°30'29.14"	-54°00'47.21"	13° Vir 25'14.15"
2024-Jul-19	12:00	2460511.0	1.7152	141°00'14.24"	-42°46'36.89"	-53°47'14.02"	14° Vir 55'37.25"
2024-Jul-20	12:00	2460512.0	1.7284	142°11'25.61"	-43°02'08.18"	-53°32'59.92"	16° Vir 24'15.22"
2024-Jul-21	12:00	2460513.0	1.7415	143°22'22.01"	-43°17'03.54"	-53°18'07.84"	17° Vir 51'07.58"
2024-Jul-22	12:00	2460514.0	1.7547	144°33'01.89"	-43°31'23.58"	-53°02'40.65"	19° Vir 16'14.30"
2024-Jul-23	12:00	2460515.0	1.7679	145°43'23.80"	-43°45'08.96"	-52°46'41.12"	20° Vir 39'35.73"
2024-Jul-24	12:00	2460516.0	1.7810	146°53'26.34"	-43°58'20.39"	-52°30'11.96"	22° Vir 01'12.59"
2024-Jul-25	12:00	2460517.0	1.7942	148°03'08.21"	-44°10'58.60"	-52°13'15.78"	23° Vir 21'05.91"
2024-Jul-26	12:00	2460518.0	1.8073	149°12'28.12"	-44°23'04.39"	-51°55'55.11"	24° Vir 39'16.99"
2024-Jul-27	12:00	2460519.0	1.8204	150°21'24.88"	-44°34'38.56"	-51°38'12.40"	25° Vir 55'47.36"
2024-Jul-28	12:00	2460520.0	1.8335	151°29'57.29"	-44°45'41.92"	-51°20'09.96"	27° Vir 10'38.71"
2024-Jul-29	12:00	2460521.0	1.8466	152°38'04.24"	-44°56'15.32"	-51°01'50.05"	28° Vir 23'52.90"
2024-Jul-30	12:00	2460522.0	1.8596	153°45'44.64"	-45°06'19.59"	-50°43'14.80"	29° Vir 35'31.85"
2024-Jul-31	12:00	2460523.0	1.8727	154°52'57.46"	-45°15'55.57"	-50°24'26.22"	0° Lib 45'37.62"
2024-Aug-01	12:00	2460524.0	1.8857	155°59'41.71"	-45°25'04.12"	-50°05'26.24"	1° Lib 54'12.30"
2024-Aug-02	12:00	2460525.0	1.8987	157°05'56.51"	-45°33'46.08"	-49°46'16.69"	3° Lib 01'18.08"
2024-Aug-03	12:00	2460526.0	1.9117	158°11'41.02"	-45°42'02.31"	-49°26'59.27"	4° Lib 06'57.15"
2024-Aug-04	12:00	2460527.0	1.9247	159°16'54.48"	-45°49'53.65"	-49°07'35.59"	5° Lib 11'11.78"
2024-Aug-05	12:00	2460528.0	1.9377	160°21'36.22"	-45°57'20.94"	-48°48'07.18"	6° Lib 14'04.22"
2024-Aug-06	12:00	2460529.0	1.9506	161°25'45.62"	-46°04'25.02"	-48°28'35.45"	7° Lib 15'36.77"
2024-Aug-07	12:00	2460530.0	1.9635	162°29'22.15"	-46°11'06.73"	-48°09'01.72"	8° Lib 15'51.71"
2024-Aug-08	12:00	2460531.0	1.9765	163°32'25.33"	-46°17'26.88"	-47°49'27.22"	9° Lib 14'51.30"
2024-Aug-09	12:00	2460532.0	1.9894	164°34'54.77"	-46°23'26.28"	-47°29'53.12"	10° Lib 12'37.80"

2024-Aug-10	12:00	2460533.0	2.0022	165°36'50.10"	-46°29'05.72"	-47°10'20.47"	11° Lib 09'13.43"	
2024-Aug-11	12:00	2460534.0	2.0151	166°38'11.04"	-46°34'25.97"	-46°50'50.27"	12° Lib 04'40.36"	
2024-Aug-12	12:00	2460535.0	2.0279	167°38'57.35"	-46°39'27.80"	-46°31'23.45"	12° Lib 59'00.75"	
2024-Aug-13	12:00	2460536.0	2.0408	168°39'08.84"	-46°44'11.95"	-46°12'00.83"	13° Lib 52'16.67"	
2024-Aug-14	12:00	2460537.0	2.0536	169°38'45.38"	-46°48'39.14"	-45°52'43.21"	14° Lib 44'30.17"	
2024-Aug-15	12:00	2460538.0	2.0664	170°37'46.87"	-46°52'50.08"	-45°33'31.30"	15° Lib 35'43.22"	
2024-Aug-16	12:00	2460539.0	2.0791	171°36'13.25"	-46°56'45.45"	-45°14'25.76"	16° Lib 25'57.76"	
2024-Aug-17	12:00	2460540.0	2.0919	172°34'04.54"	-47°00'25.91"	-44°55'27.19"	17° Lib 15'15.65"	
2024-Aug-18	12:00	2460541.0	2.1046	173°31'20.77"	-47°03'52.11"	-44°36'36.13"	18° Lib 03'38.71"	
2024-Aug-19	12:00	2460542.0	2.1174	174°28'02.07"	-47°07'04.69"	-44°17'53.08"	18° Lib 51'08.72"	
2024-Aug-20	12:00	2460543.0	2.1301	175°24'08.61"	-47°10'04.27"	-43°59'18.50"	19° Lib 37'47.44"	
2024-Aug-21	12:00	2460544.0	2.1427	176°19'40.62"	-47°12'51.50"	-43°40'52.81"	20° Lib 23'36.60"	
2024-Aug-22	12:00	2460545.0	2.1554	177°14'38.40"	-47°15'26.98"	-43°22'36.39"	21° Lib 08'37.91"	
2024-Aug-23	12:00	2460546.0	2.1680	178°09'02.24"	-47°17'51.33"	-43°04'29.59"	21° Lib 52'53.02"	
2024-Aug-24	12:00	2460547.0	2.1807	179°02'52.44"	-47°20'05.15"	-42°46'32.73"	22° Lib 36'23.53"	
2024-Aug-25	12:00	2460548.0	2.1933	179°56'09.32"	-47°22'09.01"	-42°28'46.11"	23° Lib 19'10.97"	
2024-Aug-26	12:00	2460549.0	2.2059	180°48'53.18"	-47°24'03.45"	-42°11'10.00"	24° Lib 01'16.76"	
2024-Aug-27	12:00	2460550.0	2.2184	181°41'04.30"	-47°25'49.00"	-41°53'44.64"	24° Lib 42'42.30"	
2024-Aug-28	12:00	2460551.0	2.2310	182°32'43.02"	-47°27'26.15"	-41°36'30.24"	25° Lib 23'28.87"	
2024-Aug-29	12:00	2460552.0	2.2435	183°23'49.65"	-47°28'55.39"	-41°19'27.00"	26° Lib 03'37.73"	
2024-Aug-30	12:00	2460553.0	2.2560	184°14'24.54"	-47°30'17.15"	-41°02'35.08"	26° Lib 43'10.09"	
2024-Aug-31	12:00	2460554.0	2.2685	185°04'28.06"	-47°31'31.90"	-40°45'54.63"	27° Lib 22'07.09"	
2024-Sep-01	12:00	2460555.0	2.2810	185°54'00.57"	-47°32'40.03"	-40°29'25.76"	28° Lib 00'29.86"	
2024-Sep-02	12:00	2460556.0	2.2935	186°43'02.47"	-47°33'41.95"	-40°13'08.57"	28° Lib 38'19.46"	
2024-Sep-03	12:00	2460557.0	2.3059	187°31'34.17"	-47°34'38.05"	-39°57'03.15"	29° Lib 15'36.95"	
2024-Sep-04	12:00	2460558.0	2.3183	188°19'36.07"	-47°35'28.69"	-39°41'09.56"	29° Lib 52'23.32"	
2024-Sep-05	12:00	2460559.0	2.3307	189°07'08.60"	-47°36'14.21"	-39°25'27.83"	0° Sco 28'39.52"	
2024-Sep-06	12:00	2460560.0	2.3431	189°54'12.16"	-47°36'54.96"	-39°09'58.00"	1° Sco 04'26.50"	
2024-Sep-07	12:00	2460561.0	2.3555	190°40'47.19"	-47°37'31.23"	-38°54'40.08"	1° Sco 39'45.14"	
2024-Sep-08	12:00	2460562.0	2.3678	191°26'54.09"	-47°38'03.34"	-38°39'34.07"	2° Sco 14'36.28"	
2024-Sep-09	12:00	2460563.0	2.3801	192°12'33.27"	-47°38'31.56"	-38°24'39.96"	2° Sco 49'00.74"	
2024-Sep-10	12:00	2460564.0	2.3925	192°57'45.15"	-47°38'56.15"	-38°09'57.71"	3° Sco 22'59.30"	
2024-Sep-11	12:00	2460565.0	2.4047	193°42'30.12"	-47°39'17.37"	-37°55'27.29"	3° Sco 56'32.69"	
2024-Sep-12	12:00	2460566.0	2.4170	194°26'48.58"	-47°39'35.43"	-37°41'08.66"	4° Sco 29'41.61"	
2024-Sep-13	12:00	2460567.0	2.4293	195°10'40.93"	-47°39'50.57"	-37°27'01.75"	5° Sco 02'26.75"	
2024-Sep-14	12:00	2460568.0	2.4415	195°54'07.56"	-47°40'02.98"	-37°13'06.51"	5° Sco 34'48.75"	
2024-Sep-15	12:00	2460569.0	2.4537	196°37'08.88"	-47°40'12.85"	-36°59'22.85"	6° Sco 06'48.22"	
2024-Sep-16	12:00	2460570.0	2.4659	197°19'45.33"	-47°40'20.36"	-36°45'50.71"	6° Sco 38'25.79"	
2024-Sep-17	12:00	2460571.0	2.4781	198°01'57.36"	-47°40'25.69"	-36°32'29.98"	7° Sco 09'42.09"	
2024-Sep-18	12:00	2460572.0	2.4902	198°43'45.45"	-47°40'29.04"	-36°19'20.60"	7° Sco 40'37.74"	
2024-Sep-19	12:00	2460573.0	2.5024	199°25'10.10"	-47°40'30.60"	-36°06'22.46"	8° Sco 11'13.37"	
2024-Sep-20	12:00	2460574.0	2.5145	200°06'11.78"	-47°40'30.55"	-35°53'35.50"	8° Sco 41'29.61"	
2024-Sep-21	12:00	2460575.0	2.5266	200°46'50.95"	-47°40'29.09"	-35°40'59.61"	9° Sco 11'27.04"	
2024-Sep-22	12:00	2460576.0	2.5387	201°27'08.00"	-47°40'26.38"	-35°28'34.71"	9° Sco 41'06.18"	
2024-Sep-23	12:00	2460577.0	2.5507	202°07'03.33"	-47°40'22.59"	-35°16'20.74"	10° Sco 10'27.55"	
2024-Sep-24	12:00	2460578.0	2.5628	202°46'37.28"	-47°40'17.86"	-35°04'17.59"	10° Sco 39'31.59"	



2024-Sep-25	12:00	2460579.0	2.5748	203°25'50.22"	-47°40'12.32"	-34°52'25.20"	11° Sco 08'18.74"	
2024-Sep-26	12:00	2460580.0	2.5868	204°04'42.50"	-47°40'06.09"	-34°40'43.46"	11° Sco 36'49.41"	
2024-Sep-27	12:00	2460581.0	2.5988	204°43'14.47"	-47°39'59.30"	-34°29'12.31"	12° Sco 05'04.02"	
2024-Sep-28	12:00	2460582.0	2.6108	205°21'26.47"	-47°39'52.05"	-34°17'51.64"	12° Sco 33'02.94"	
2024-Sep-30	12:00	2460584.0	2.6347	206°36'51.96"	-47°39'36.59"	-33°55'41.38"	13° Sco 28'15.26"	