

Date	Time (UTC)	Epoch 2000		Alt	Az	Distance (AU)		Est Mag	Elong
		RA	Dec			Sun	Earth		
07/01/20	00:00:00	12h30.7m	+41°38'	+71.8°	061.7°	01.7872	01.7949	+09.3	073.1°
07/02/20	00:00:00	12h32.9m	+40°51'	+72.3°	063.9°	01.7929	01.8036	+09.3	073.0°
07/03/20	00:00:00	12h35.0m	+40°04'	+72.8°	066.3°	01.7986	01.8124	+09.3	072.9°
07/04/20	00:00:00	12h37.1m	+39°17'	+73.3°	068.7°	01.8045	01.8216	+09.4	072.8°
07/05/20	00:00:00	12h39.2m	+38°30'	+73.8°	071.2°	01.8104	01.8310	+09.4	072.7°
07/06/20	00:00:00	12h41.2m	+37°44'	+74.2°	073.9°	01.8163	01.8407	+09.4	072.5°
07/07/20	00:00:00	12h43.2m	+36°58'	+74.7°	076.7°	01.8224	01.8507	+09.4	072.4°
07/08/20	00:00:00	12h45.2m	+36°12'	+75.1°	079.6°	01.8285	01.8609	+09.5	072.3°
07/09/20	00:00:00	12h47.2m	+35°26'	+75.5°	082.6°	01.8347	01.8714	+09.5	072.1°
07/10/20	00:00:00	12h49.1m	+34°41'	+75.8°	085.8°	01.8409	01.8821	+09.5	071.9°
07/11/20	00:00:00	12h51.0m	+33°56'	+76.1°	089.1°	01.8472	01.8930	+09.6	071.8°
07/12/20	00:00:00	12h52.9m	+33°11'	+76.4°	092.5°	01.8536	01.9043	+09.6	071.6°
07/13/20	00:00:00	12h54.7m	+32°27'	+76.7°	096.0°	01.8600	01.9157	+09.6	071.4°
07/14/20	00:00:00	12h56.6m	+31°43'	+76.9°	099.6°	01.8665	01.9274	+09.6	071.2°
07/15/20	00:00:00	12h58.4m	+30°59'	+77.1°	103.4°	01.8731	01.9394	+09.7	071.0°
07/16/20	00:00:00	13h00.2m	+30°16'	+77.2°	107.2°	01.8797	01.9516	+09.7	070.7°
07/17/20	00:00:00	13h02.0m	+29°33'	+77.3°	111.1°	01.8864	01.9640	+09.7	070.5°
07/18/20	00:00:00	13h03.7m	+28°50'	+77.4°	115.0°	01.8932	01.9766	+09.8	070.3°
07/19/20	00:00:00	13h05.5m	+28°08'	+77.4°	118.9°	01.9000	01.9895	+09.8	070.0°
07/20/20	00:00:00	13h07.2m	+27°26'	+77.4°	122.8°	01.9068	02.0025	+09.8	069.8°
07/21/20	00:00:00	13h08.9m	+26°44'	+77.3°	126.6°	01.9137	02.0158	+09.8	069.5°
07/22/20	00:00:00	13h10.6m	+26°03'	+77.2°	130.4°	01.9207	02.0293	+09.9	069.2°
07/23/20	00:00:00	13h12.3m	+25°23'	+77.0°	134.2°	01.9277	02.0430	+09.9	069.0°
07/24/20	00:00:00	13h14.0m	+24°42'	+76.8°	137.8°	01.9348	02.0569	+09.9	068.7°
07/25/20	00:00:00	13h15.6m	+24°02'	+76.6°	141.3°	01.9420	02.0710	+10.0	068.4°
07/26/20	00:00:00	13h17.3m	+23°23'	+76.3°	144.7°	01.9491	02.0853	+10.0	068.1°
07/27/20	00:00:00	13h18.9m	+22°43'	+76.0°	148.0°	01.9564	02.0998	+10.0	067.8°
07/28/20	00:00:00	13h20.5m	+22°05'	+75.7°	151.2°	01.9637	02.1145	+10.1	067.5°
07/29/20	00:00:00	13h22.1m	+21°26'	+75.3°	154.2°	01.9710	02.1293	+10.1	067.1°
07/30/20	00:00:00	13h23.7m	+20°48'	+74.9°	157.1°	01.9784	02.1443	+10.1	066.8°
07/31/20	00:00:00	13h25.3m	+20°11'	+74.5°	159.8°	01.9858	02.1595	+10.2	066.5°
08/01/20	00:00:00	13h26.9m	+19°34'	+74.1°	162.4°	01.9933	02.1749	+10.2	066.1°
08/02/20	00:00:00	13h28.5m	+18°57'	+73.6°	164.9°	02.0008	02.1904	+10.2	065.8°
08/03/20	00:00:00	13h30.0m	+18°20'	+73.1°	167.3°	02.0084	02.2061	+10.2	065.4°
08/04/20	00:00:00	13h31.6m	+17°45'	+72.6°	169.5°	02.0160	02.2219	+10.3	065.1°
08/05/20	00:00:00	13h33.1m	+17°09'	+72.1°	171.7°	02.0237	02.2379	+10.3	064.7°
08/06/20	00:00:00	13h34.7m	+16°34'	+71.6°	173.7°	02.0314	02.2540	+10.3	064.3°
08/07/20	00:00:00	13h36.2m	+15°59'	+71.1°	175.7°	02.0391	02.2702	+10.4	063.9°
08/08/20	00:00:00	13h37.7m	+15°25'	+70.5°	177.5°	02.0469	02.2866	+10.4	063.5°
08/09/20	00:00:00	13h39.2m	+14°51'	+70.0°	179.3°	02.0547	02.3031	+10.4	063.1°
08/10/20	00:00:00	13h40.7m	+14°17'	+69.4°	181.0°	02.0626	02.3197	+10.5	062.7°
08/11/20	00:00:00	13h42.2m	+13°44'	+68.8°	182.6°	02.0705	02.3365	+10.5	062.3°
08/12/20	00:00:00	13h43.7m	+13°11'	+68.3°	184.2°	02.0785	02.3533	+10.5	061.9°
08/13/20	00:00:00	13h45.2m	+12°38'	+67.7°	185.7°	02.0865	02.3703	+10.6	061.5°
08/14/20	00:00:00	13h46.7m	+12°06'	+67.1°	187.1°	02.0945	02.3874	+10.6	061.1°
08/15/20	00:00:00	13h48.2m	+11°35'	+66.5°	188.5°	02.1025	02.4045	+10.6	060.7°
08/16/20	00:00:00	13h49.6m	+11°03'	+65.9°	189.8°	02.1106	02.4218	+10.7	060.2°
08/17/20	00:00:00	13h51.1m	+10°32'	+65.3°	191.0°	02.1188	02.4392	+10.7	059.8°
08/18/20	00:00:00	13h52.6m	+10°02'	+64.7°	192.3°	02.1269	02.4566	+10.7	059.3°
08/19/20	00:00:00	13h54.0m	+09°31'	+64.1°	193.4°	02.1351	02.4742	+10.8	058.9°
08/20/20	00:00:00	13h55.5m	+09°02'	+63.5°	194.6°	02.1434	02.4918	+10.8	058.4°
08/21/20	00:00:00	13h56.9m	+08°32'	+62.9°	195.7°	02.1516	02.5095	+10.8	058.0°
08/22/20	00:00:00	13h58.4m	+08°03'	+62.2°	196.7°	02.1599	02.5272	+10.9	057.5°
08/23/20	00:00:00	13h59.8m	+07°34'	+61.6°	197.7°	02.1682	02.5450	+10.9	057.1°
08/24/20	00:00:00	14h01.3m	+07°05'	+61.0°	198.7°	02.1766	02.5629	+10.9	056.6°
08/25/20	00:00:00	14h02.7m	+06°37'	+60.4°	199.7°	02.1850	02.5808	+11.0	056.1°
08/26/20	00:00:00	14h04.1m	+06°09'	+59.8°	200.6°	02.1934	02.5988	+11.0	055.6°
08/27/20	00:00:00	14h05.5m	+05°42'	+59.1°	201.5°	02.2018	02.6168	+11.0	055.2°
08/28/20	00:00:00	14h07.0m	+05°15'	+58.5°	202.4°	02.2103	02.6349	+11.0	054.7°
08/29/20	00:00:00	14h08.4m	+04°48'	+57.9°	203.3°	02.2188	02.6530	+11.1	054.2°

Date	Time (UTC)	Epoch 2000		Alt	Az	Distance (AU)		Est Mag	Elong
		RA	Dec			Sun	Earth		
07/01/20	00:00:00	10h25.5m	-02°11'	+51.8°	195.9°	00.9399	00.8283	+06.8	060.2°
07/02/20	00:00:00	10h32.7m	-01°20'	+52.8°	194.9°	00.9442	00.8302	+06.8	060.5°
07/03/20	00:00:00	10h39.9m	-00°29'	+53.8°	193.8°	00.9489	00.8328	+06.8	060.8°
07/04/20	00:00:00	10h47.0m	+00°22'	+54.8°	192.8°	00.9538	00.8361	+06.9	061.0°
07/05/20	00:00:00	10h54.1m	+01°12'	+55.8°	191.7°	00.9590	00.8402	+06.9	061.3°
07/06/20	00:00:00	11h01.0m	+02°02'	+56.7°	190.6°	00.9645	00.8450	+06.9	061.6°
07/07/20	00:00:00	11h07.9m	+02°52'	+57.7°	189.5°	00.9703	00.8505	+07.0	061.9°
07/08/20	00:00:00	11h14.7m	+03°40'	+58.5°	188.3°	00.9763	00.8566	+07.0	062.1°
07/09/20	00:00:00	11h21.4m	+04°28'	+59.4°	187.2°	00.9827	00.8634	+07.1	062.4°
07/10/20	00:00:00	11h28.0m	+05°15'	+60.2°	186.0°	00.9893	00.8709	+07.1	062.7°
07/11/20	00:00:00	11h34.5m	+06°00'	+61.1°	184.9°	00.9961	00.8789	+07.2	062.9°
07/12/20	00:00:00	11h40.8m	+06°45'	+61.8°	183.7°	01.0032	00.8875	+07.3	063.2°
07/13/20	00:00:00	11h47.1m	+07°28'	+62.6°	182.5°	01.0106	00.8967	+07.3	063.4°
07/14/20	00:00:00	11h53.2m	+08°10'	+63.3°	181.4°	01.0182	00.9064	+07.4	063.6°
07/15/20	00:00:00	11h59.3m	+08°51'	+64.0°	180.2°	01.0260	00.9166	+07.5	063.9°
07/16/20	00:00:00	12h05.2m	+09°31'	+64.6°	179.1°	01.0340	00.9273	+07.5	064.1°
07/17/20	00:00:00	12h11.0m	+10°09'	+65.3°	178.0°	01.0422	00.9384	+07.6	064.3°
07/18/20	00:00:00	12h16.7m	+10°46'	+65.9°	176.9°	01.0507	00.9500	+07.7	064.5°
07/19/20	00:00:00	12h22.3m	+11°22'	+66.4°	175.8°	01.0593	00.9620	+07.7	064.7°
07/20/20	00:00:00	12h27.8m	+11°56'	+67.0°	174.7°	01.0682	00.9743	+07.8	064.9°
07/21/20	00:00:00	12h33.2m	+12°30'	+67.5°	173.7°	01.0772	00.9871	+07.9	065.0°
07/22/20	00:00:00	12h38.4m	+13°01'	+68.0°	172.7°	01.0864	01.0001	+07.9	065.2°
07/23/20	00:00:00	12h43.6m	+13°32'	+68.5°	171.8°	01.0957	01.0135	+08.0	065.4°
07/24/20	00:00:00	12h48.6m	+14°01'	+68.9°	170.9°	01.1053	01.0272	+08.1	065.5°
07/25/20	00:00:00	12h53.6m	+14°29'	+69.4°	170.0°	01.1149	01.0412	+08.2	065.6°
07/26/20	00:00:00	12h58.4m	+14°56'	+69.8°	169.2°	01.1248	01.0554	+08.3	065.8°
07/27/20	00:00:00	13h03.2m	+15°22'	+70.2°	168.4°	01.1348	01.0699	+08.3	065.9°
07/28/20	00:00:00	13h07.9m	+15°47'	+70.5°	167.7°	01.1449	01.0846	+08.4	066.0°
07/29/20	00:00:00	13h12.4m	+16°10'	+70.9°	167.0°	01.1552	01.0995	+08.5	066.1°
07/30/20	00:00:00	13h16.9m	+16°33'	+71.2°	166.4°	01.1655	01.1147	+08.6	066.2°
07/31/20	00:00:00	13h21.3m	+16°54'	+71.6°	165.8°	01.1760	01.1300	+08.6	066.2°
08/01/20	00:00:00	13h25.7m	+17°15'	+71.9°	165.3°	01.1867	01.1454	+08.7	066.3°
08/02/20	00:00:00	13h29.9m	+17°34'	+72.2°	164.8°	01.1974	01.1611	+08.8	066.4°
08/03/20	00:00:00	13h34.0m	+17°53'	+72.5°	164.4°	01.2083	01.1768	+08.9	066.4°
08/04/20	00:00:00	13h38.1m	+18°11'	+72.8°	164.1°	01.2192	01.1927	+09.0	066.5°
08/05/20	00:00:00	13h42.1m	+18°28'	+73.0°	163.8°	01.2303	01.2088	+09.0	066.5°
08/06/20	00:00:00	13h46.1m	+18°44'	+73.3°	163.6°	01.2414	01.2249	+09.1	066.6°
08/07/20	00:00:00	13h50.0m	+18°59'	+73.5°	163.4°	01.2527	01.2412	+09.2	066.6°
08/08/20	00:00:00	13h53.8m	+19°14'	+73.8°	163.3°	01.2640	01.2575	+09.3	066.6°
08/09/20	00:00:00	13h57.5m	+19°28'	+74.0°	163.3°	01.2754	01.2739	+09.3	066.6°
08/10/20	00:00:00	14h01.2m	+19°41'	+74.2°	163.3°	01.2869	01.2904	+09.4	066.7°
08/11/20	00:00:00	14h04.8m	+19°53'	+74.5°	163.4°	01.2985	01.3070	+09.5	066.7°
08/12/20	00:00:00	14h08.4m	+20°05'	+74.7°	163.5°	01.3101	01.3237	+09.6	066.7°
08/13/20	00:00:00	14h11.9m	+20°17'	+74.9°	163.7°	01.3218	01.3404	+09.7	066.7°
08/14/20	00:00:00	14h15.3m	+20°27'	+75.1°	164.0°	01.3336	01.3571	+09.7	066.7°
08/15/20	00:00:00	14h18.8m	+20°37'	+75.3°	164.3°	01.3454	01.3739	+09.8	066.6°
08/16/20	00:00:00	14h22.1m	+20°47'	+75.5°	164.7°	01.3573	01.3907	+09.9	066.6°
08/17/20	00:00:00	14h25.4m	+20°56'	+75.6°	165.1°	01.3692	01.4076	+09.9	066.6°
08/18/20	00:00:00	14h28.7m	+21°05'	+75.8°	165.6°	01.3812	01.4245	+10.0	066.6°
08/19/20	00:00:00	14h31.9m	+21°13'	+76.0°	166.1°	01.3933	01.4415	+10.1	066.6°
08/20/20	00:00:00	14h35.1m	+21°20'	+76.2°	166.7°	01.4053	01.4584	+10.2	066.5°
08/21/20	00:00:00	14h38.3m	+21°28'	+76.3°	167.4°	01.4175	01.4754	+10.2	066.5°
08/22/20	00:00:00	14h41.4m	+21°35'	+76.5°	168.1°	01.4297	01.4924	+10.3	066.4°
08/23/20	00:00:00	14h44.4m	+21°41'	+76.6°	168.9°	01.4419	01.5094	+10.4	066.4°
08/24/20	00:00:00	14h47.5m	+21°47'	+76.7°	169.7°	01.4541	01.5264	+10.5	066.4°
08/25/20	00:00:00	14h50.5m	+21°53'	+76.9°	170.6°	01.4664	01.5434	+10.5	066.3°
08/26/20	00:00:00	14h53.4m	+21°58'	+77.0°	171.6°	01.4788	01.5605	+10.6	066.3°
08/27/20	00:00:00	14h56.4m	+22°03'	+77.1°	172.6°	01.4911	01.5775	+10.7	066.2°
08/28/20	00:00:00	14h59.3m	+22°08'	+77.2°	173.6°	01.5035	01.5946	+10.7	066.2°
08/29/20	00:00:00	15h02.1m	+22°12'	+77.3°	174.7°	01.5159	01.6116	+10.8	066.1°

Date	Time (UTC)	Epoch 2000			Distance (AU)		Est Mag	Elong	
		RA	Dec	Alt	Az	Sun			Earth
07/01/20	00:00:00	05h55.7m	+26°12'	+24.6°	285.9°	00.3068	01.2412	+01.8	010.7°
07/02/20	00:00:00	05h56.6m	+27°42'	+24.7°	287.7°	00.2996	01.2102	+01.7	011.8°
07/03/20	00:00:00	05h58.1m	+29°16'	+24.9°	289.5°	00.2956	01.1774	+01.6	013.0°
07/04/20	00:00:00	06h00.3m	+30°51'	+25.3°	291.2°	00.2950	01.1432	+01.5	014.2°
07/05/20	00:00:00	06h03.3m	+32°28'	+25.9°	292.9°	00.2977	01.1079	+01.5	015.3°
07/06/20	00:00:00	06h07.2m	+34°05'	+26.6°	294.5°	00.3037	01.0719	+01.5	016.4°
07/07/20	00:00:00	06h12.1m	+35°42'	+27.4°	296.1°	00.3128	01.0358	+01.5	017.5°
07/08/20	00:00:00	06h18.2m	+37°18'	+28.5°	297.5°	00.3245	01.0000	+01.6	018.5°
07/09/20	00:00:00	06h25.6m	+38°53'	+29.7°	298.9°	00.3384	00.9649	+01.7	019.4°
07/10/20	00:00:00	06h34.3m	+40°24'	+31.2°	300.1°	00.3543	00.9309	+01.8	020.4°
07/11/20	00:00:00	06h44.5m	+41°53'	+32.8°	301.3°	00.3718	00.8983	+02.0	021.3°
07/12/20	00:00:00	06h56.3m	+43°16'	+34.6°	302.3°	00.3905	00.8675	+02.1	022.2°
07/13/20	00:00:00	07h09.7m	+44°33'	+36.6°	303.2°	00.4103	00.8386	+02.2	023.1°
07/14/20	00:00:00	07h24.7m	+45°41'	+38.8°	304.0°	00.4308	00.8119	+02.4	024.1°
07/15/20	00:00:00	07h41.4m	+46°40'	+41.1°	304.6°	00.4518	00.7875	+02.5	025.1°
07/16/20	00:00:00	07h59.6m	+47°26'	+43.6°	305.2°	00.4734	00.7656	+02.7	026.3°
07/17/20	00:00:00	08h19.3m	+47°57'	+46.3°	305.5°	00.4952	00.7464	+02.8	027.6°
07/18/20	00:00:00	08h40.1m	+48°12'	+49.1°	305.7°	00.5173	00.7300	+03.0	029.0°
07/19/20	00:00:00	09h01.6m	+48°09'	+52.1°	305.6°	00.5395	00.7164	+03.1	030.5°
07/20/20	00:00:00	09h23.5m	+47°46'	+55.1°	305.3°	00.5619	00.7058	+03.2	032.1°
07/21/20	00:00:00	09h45.3m	+47°04'	+58.2°	304.7°	00.5842	00.6981	+03.4	033.8°
07/22/20	00:00:00	10h06.6m	+46°04'	+61.3°	303.7°	00.6066	00.6935	+03.5	035.6°
07/23/20	00:00:00	10h26.9m	+44°47'	+64.3°	302.2°	00.6290	00.6919	+03.7	037.5°
07/24/20	00:00:00	10h46.0m	+43°16'	+67.3°	300.0°	00.6513	00.6931	+03.8	039.4°
07/25/20	00:00:00	11h03.9m	+41°33'	+70.2°	296.8°	00.6736	00.6972	+04.0	041.3°
07/26/20	00:00:00	11h20.3m	+39°42'	+72.9°	292.5°	00.6957	00.7040	+04.2	043.2°
07/27/20	00:00:00	11h35.3m	+37°46'	+75.3°	286.6°	00.7178	00.7134	+04.3	045.0°
07/28/20	00:00:00	11h49.0m	+35°45'	+77.3°	278.5°	00.7398	00.7252	+04.5	046.7°
07/29/20	00:00:00	12h01.4m	+33°44'	+78.9°	267.9°	00.7616	00.7391	+04.7	048.4°
07/30/20	00:00:00	12h12.7m	+31°43'	+79.9°	255.1°	00.7834	00.7552	+04.8	049.9°
07/31/20	00:00:00	12h23.0m	+29°44'	+80.2°	241.3°	00.8050	00.7731	+05.0	051.4°
08/01/20	00:00:00	12h32.3m	+27°48'	+79.8°	228.5°	00.8265	00.7927	+05.2	052.7°
08/02/20	00:00:00	12h40.7m	+25°56'	+79.0°	217.8°	00.8479	00.8139	+05.3	053.9°
08/03/20	00:00:00	12h48.5m	+24°08'	+77.9°	209.6°	00.8692	00.8364	+05.5	055.0°
08/04/20	00:00:00	12h55.6m	+22°25'	+76.6°	203.5°	00.8903	00.8602	+05.7	056.0°
08/05/20	00:00:00	13h02.1m	+20°46'	+75.2°	199.0°	00.9113	00.8851	+05.8	056.8°
08/06/20	00:00:00	13h08.0m	+19°12'	+73.8°	195.7°	00.9322	00.9110	+06.0	057.6°
08/07/20	00:00:00	13h13.6m	+17°43'	+72.4°	193.4°	00.9529	00.9377	+06.2	058.3°
08/08/20	00:00:00	13h18.7m	+16°18'	+71.1°	191.6°	00.9736	00.9652	+06.3	058.9°
08/09/20	00:00:00	13h23.4m	+14°58'	+69.8°	190.4°	00.9941	00.9934	+06.5	059.4°
08/10/20	00:00:00	13h27.9m	+13°42'	+68.6°	189.5°	01.0145	01.0222	+06.6	059.8°
08/11/20	00:00:00	13h32.0m	+12°29'	+67.4°	189.0°	01.0347	01.0515	+06.8	060.1°
08/12/20	00:00:00	13h35.9m	+11°21'	+66.3°	188.6°	01.0549	01.0812	+06.9	060.4°
08/13/20	00:00:00	13h39.6m	+10°16'	+65.2°	188.5°	01.0749	01.1114	+07.0	060.6°
08/14/20	00:00:00	13h43.0m	+09°14'	+64.1°	188.5°	01.0948	01.1419	+07.2	060.7°
08/15/20	00:00:00	13h46.3m	+08°15'	+63.1°	188.6°	01.1146	01.1727	+07.3	060.8°
08/16/20	00:00:00	13h49.4m	+07°19'	+62.2°	188.8°	01.1343	01.2038	+07.5	060.8°
08/17/20	00:00:00	13h52.3m	+06°26'	+61.3°	189.1°	01.1539	01.2351	+07.6	060.8°
08/18/20	00:00:00	13h55.1m	+05°36'	+60.4°	189.4°	01.1734	01.2665	+07.7	060.8°
08/19/20	00:00:00	13h57.7m	+04°48'	+59.6°	189.8°	01.1927	01.2982	+07.8	060.7°
08/20/20	00:00:00	14h00.3m	+04°02'	+58.8°	190.3°	01.2120	01.3299	+08.0	060.5°
08/21/20	00:00:00	14h02.7m	+03°18'	+58.0°	190.8°	01.2311	01.3618	+08.1	060.4°
08/22/20	00:00:00	14h05.1m	+02°36'	+57.2°	191.3°	01.2502	01.3937	+08.2	060.2°
08/23/20	00:00:00	14h07.3m	+01°55'	+56.5°	191.9°	01.2691	01.4258	+08.3	059.9°
08/24/20	00:00:00	14h09.5m	+01°17'	+55.8°	192.5°	01.2880	01.4578	+08.4	059.7°
08/25/20	00:00:00	14h11.6m	+00°40'	+55.1°	193.1°	01.3067	01.4899	+08.5	059.4°
08/26/20	00:00:00	14h13.6m	+00°05'	+54.4°	193.7°	01.3254	01.5220	+08.6	059.1°
08/27/20	00:00:00	14h15.6m	-00°29'	+53.8°	194.3°	01.3440	01.5540	+08.7	058.7°
08/28/20	00:00:00	14h17.5m	-01°02'	+53.1°	195.0°	01.3624	01.5861	+08.8	058.4°
08/29/20	00:00:00	14h19.4m	-01°34'	+52.5°	195.6°	01.3808	01.6181	+08.9	058.0°

Date	Time (UTC)	Epoch 2000		Alt	Az	Distance (AU)		Est Mag	Elong
		RA	Dec			Sun	Earth		
07/01/20	00:00:00	08h03.9m	+17°44'	+46.5°	258.8°	00.3645	01.0520	+06.5	020.2°
07/02/20	00:00:00	08h11.2m	+16°53'	+46.7°	257.1°	00.3755	01.0254	+06.7	021.2°
07/03/20	00:00:00	08h18.4m	+16°01'	+46.9°	255.4°	00.3878	00.9993	+06.8	022.2°
07/04/20	00:00:00	08h25.5m	+15°08'	+47.0°	253.7°	00.4013	00.9737	+07.0	023.1°
07/05/20	00:00:00	08h32.5m	+14°13'	+47.1°	252.0°	00.4159	00.9488	+07.2	024.1°
07/06/20	00:00:00	08h39.4m	+13°17'	+47.1°	250.3°	00.4313	00.9246	+07.4	025.1°
07/07/20	00:00:00	08h46.3m	+12°20'	+47.1°	248.5°	00.4474	00.9011	+07.5	026.1°
07/08/20	00:00:00	08h53.2m	+11°22'	+47.0°	246.7°	00.4641	00.8785	+07.7	027.1°
07/09/20	00:00:00	09h00.1m	+10°23'	+46.9°	244.9°	00.4812	00.8567	+07.9	028.1°
07/10/20	00:00:00	09h07.0m	+09°22'	+46.8°	243.1°	00.4987	00.8358	+08.1	029.2°
07/11/20	00:00:00	09h14.0m	+08°19'	+46.6°	241.2°	00.5166	00.8158	+08.3	030.3°
07/12/20	00:00:00	09h21.1m	+07°15'	+46.5°	239.4°	00.5346	00.7967	+08.4	031.4°
07/13/20	00:00:00	09h28.2m	+06°10'	+46.2°	237.4°	00.5528	00.7785	+08.6	032.6°
07/14/20	00:00:00	09h35.4m	+05°03'	+46.0°	235.5°	00.5712	00.7613	+08.8	033.8°
07/15/20	00:00:00	09h42.7m	+03°55'	+45.7°	233.5°	00.5896	00.7450	+08.9	035.0°
07/16/20	00:00:00	09h50.2m	+02°45'	+45.4°	231.5°	00.6081	00.7296	+09.1	036.3°
07/17/20	00:00:00	09h57.7m	+01°34'	+45.0°	229.4°	00.6265	00.7153	+09.2	037.6°
07/18/20	00:00:00	10h05.4m	+00°21'	+44.7°	227.3°	00.6450	00.7019	+09.4	039.0°
07/19/20	00:00:00	10h13.3m	-00°53'	+44.2°	225.2°	00.6635	00.6895	+09.5	040.4°
07/20/20	00:00:00	10h21.2m	-02°08'	+43.8°	223.0°	00.6819	00.6781	+09.7	041.8°
07/21/20	00:00:00	10h29.4m	-03°24'	+43.3°	220.9°	00.7003	00.6678	+09.8	043.3°
07/22/20	00:00:00	10h37.7m	-04°41'	+42.8°	218.7°	00.7186	00.6585	+09.9	044.8°
07/23/20	00:00:00	10h46.1m	-05°58'	+42.2°	216.5°	00.7368	00.6503	+10.1	046.3°
07/24/20	00:00:00	10h54.7m	-07°16'	+41.7°	214.3°	00.7549	00.6431	+10.2	047.9°
07/25/20	00:00:00	11h03.4m	-08°34'	+41.0°	212.1°	00.7730	00.6369	+10.3	049.5°
07/26/20	00:00:00	11h12.2m	-09°51'	+40.4°	209.9°	00.7909	00.6319	+10.5	051.1°
07/27/20	00:00:00	11h21.2m	-11°08'	+39.7°	207.8°	00.8088	00.6279	+10.6	052.8°
07/28/20	00:00:00	11h30.3m	-12°24'	+39.0°	205.7°	00.8265	00.6249	+10.7	054.4°
07/29/20	00:00:00	11h39.5m	-13°39'	+38.3°	203.6°	00.8441	00.6231	+10.9	056.1°
07/30/20	00:00:00	11h48.7m	-14°53'	+37.5°	201.5°	00.8617	00.6223	+11.0	057.7°
07/31/20	00:00:00	11h58.0m	-16°04'	+36.8°	199.5°	00.8791	00.6225	+11.1	059.3°
08/01/20	00:00:00	12h07.4m	-17°14'	+36.0°	197.6°	00.8964	00.6237	+11.3	060.9°
08/02/20	00:00:00	12h16.8m	-18°21'	+35.3°	195.7°	00.9136	00.6260	+11.4	062.5°
08/03/20	00:00:00	12h26.2m	-19°25'	+34.5°	193.9°	00.9307	00.6293	+11.5	064.0°
08/04/20	00:00:00	12h35.6m	-20°27'	+33.7°	192.1°	00.9476	00.6335	+11.7	065.5°
08/05/20	00:00:00	12h44.9m	-21°26'	+33.0°	190.4°	00.9645	00.6386	+11.8	067.0°
08/06/20	00:00:00	12h54.2m	-22°22'	+32.3°	188.8°	00.9812	00.6447	+11.9	068.4°
08/07/20	00:00:00	13h03.5m	-23°14'	+31.5°	187.3°	00.9978	00.6516	+12.1	069.8°
08/08/20	00:00:00	13h12.6m	-24°04'	+30.8°	185.8°	01.0144	00.6593	+12.2	071.1°
08/09/20	00:00:00	13h21.6m	-24°50'	+30.2°	184.4°	01.0308	00.6679	+12.3	072.3°
08/10/20	00:00:00	13h30.5m	-25°33'	+29.5°	183.0°	01.0471	00.6772	+12.5	073.5°
08/11/20	00:00:00	13h39.2m	-26°13'	+28.9°	181.8°	01.0632	00.6872	+12.6	074.6°
08/12/20	00:00:00	13h47.8m	-26°50'	+28.3°	180.6°	01.0793	00.6980	+12.7	075.7°
08/13/20	00:00:00	13h56.2m	-27°24'	+27.7°	179.4°	01.0953	00.7094	+12.8	076.7°
08/14/20	00:00:00	14h04.5m	-27°56'	+27.2°	178.4°	01.1111	00.7214	+13.0	077.7°
08/15/20	00:00:00	14h12.6m	-28°24'	+26.7°	177.4°	01.1269	00.7341	+13.1	078.6°
08/16/20	00:00:00	14h20.4m	-28°50'	+26.2°	176.4°	01.1426	00.7473	+13.2	079.4°
08/17/20	00:00:00	14h28.1m	-29°14'	+25.8°	175.6°	01.1581	00.7610	+13.4	080.2°
08/18/20	00:00:00	14h35.6m	-29°35'	+25.3°	174.7°	01.1736	00.7753	+13.5	080.9°
08/19/20	00:00:00	14h42.9m	-29°54'	+25.0°	174.0°	01.1889	00.7900	+13.6	081.6°
08/20/20	00:00:00	14h50.0m	-30°11'	+24.6°	173.2°	01.2041	00.8052	+13.7	082.2°
08/21/20	00:00:00	14h56.9m	-30°27'	+24.3°	172.6°	01.2193	00.8208	+13.9	082.7°
08/22/20	00:00:00	15h03.7m	-30°40'	+24.0°	172.0°	01.2343	00.8368	+14.0	083.2°
08/23/20	00:00:00	15h10.2m	-30°52'	+23.7°	171.4°	01.2493	00.8532	+14.1	083.7°
08/24/20	00:00:00	15h16.6m	-31°03'	+23.4°	170.9°	01.2641	00.8700	+14.2	084.1°
08/25/20	00:00:00	15h22.7m	-31°12'	+23.2°	170.4°	01.2789	00.8871	+14.3	084.5°
08/26/20	00:00:00	15h28.7m	-31°20'	+23.0°	169.9°	01.2936	00.9045	+14.5	084.8°
08/27/20	00:00:00	15h34.5m	-31°27'	+22.8°	169.5°	01.3082	00.9223	+14.6	085.1°
08/28/20	00:00:00	15h40.2m	-31°32'	+22.7°	169.1°	01.3227	00.9403	+14.7	085.3°
08/29/20	00:00:00	15h45.7m	-31°37'	+22.5°	168.8°	01.3371	00.9586	+14.8	085.5°

Date	Time (UTC)	Epoch 2000		Alt	Az	Distance (AU)		Est Mag	Elong
		RA	Dec			Sun	Earth		
07/01/20	00:00:00	12h55.8m	-05°32'	+41.8°	141.4°	01.6482	01.2014	+12.7	095.6°
07/02/20	00:00:00	12h56.9m	-05°43'	+42.0°	142.3°	01.6425	01.2043	+12.7	095.0°
07/03/20	00:00:00	12h58.1m	-05°53'	+42.2°	143.3°	01.6367	01.2073	+12.7	094.4°
07/04/20	00:00:00	12h59.3m	-06°05'	+42.4°	144.2°	01.6310	01.2102	+12.7	093.8°
07/05/20	00:00:00	13h00.5m	-06°16'	+42.6°	145.1°	01.6254	01.2132	+12.6	093.2°
07/06/20	00:00:00	13h01.7m	-06°27'	+42.7°	146.1°	01.6198	01.2160	+12.6	092.6°
07/07/20	00:00:00	13h03.0m	-06°39'	+42.8°	147.0°	01.6142	01.2189	+12.6	092.0°
07/08/20	00:00:00	13h04.3m	-06°51'	+43.0°	147.9°	01.6086	01.2217	+12.6	091.4°
07/09/20	00:00:00	13h05.7m	-07°02'	+43.1°	148.8°	01.6031	01.2246	+12.5	090.8°
07/10/20	00:00:00	13h07.1m	-07°15'	+43.1°	149.7°	01.5977	01.2273	+12.5	090.3°
07/11/20	00:00:00	13h08.5m	-07°27'	+43.2°	150.6°	01.5922	01.2301	+12.5	089.7°
07/12/20	00:00:00	13h09.9m	-07°39'	+43.3°	151.5°	01.5868	01.2328	+12.5	089.2°
07/13/20	00:00:00	13h11.4m	-07°52'	+43.3°	152.4°	01.5815	01.2355	+12.4	088.7°
07/14/20	00:00:00	13h12.9m	-08°04'	+43.3°	153.3°	01.5761	01.2382	+12.4	088.1°
07/15/20	00:00:00	13h14.4m	-08°17'	+43.4°	154.1°	01.5709	01.2408	+12.4	087.6°
07/16/20	00:00:00	13h16.0m	-08°30'	+43.4°	155.0°	01.5656	01.2435	+12.4	087.1°
07/17/20	00:00:00	13h17.6m	-08°43'	+43.4°	155.8°	01.5604	01.2460	+12.3	086.6°
07/18/20	00:00:00	13h19.2m	-08°56'	+43.4°	156.7°	01.5553	01.2486	+12.3	086.1°
07/19/20	00:00:00	13h20.9m	-09°10'	+43.3°	157.5°	01.5502	01.2511	+12.3	085.6°
07/20/20	00:00:00	13h22.6m	-09°23'	+43.3°	158.3°	01.5451	01.2536	+12.3	085.1°
07/21/20	00:00:00	13h24.3m	-09°37'	+43.2°	159.1°	01.5401	01.2561	+12.2	084.6°
07/22/20	00:00:00	13h26.1m	-09°51'	+43.2°	159.9°	01.5351	01.2585	+12.2	084.2°
07/23/20	00:00:00	13h27.9m	-10°05'	+43.1°	160.7°	01.5302	01.2609	+12.2	083.7°
07/24/20	00:00:00	13h29.7m	-10°19'	+43.0°	161.5°	01.5253	01.2633	+12.2	083.3°
07/25/20	00:00:00	13h31.5m	-10°33'	+42.9°	162.3°	01.5205	01.2656	+12.2	082.8°
07/26/20	00:00:00	13h33.4m	-10°47'	+42.8°	163.0°	01.5157	01.2679	+12.1	082.4°
07/27/20	00:00:00	13h35.3m	-11°01'	+42.7°	163.8°	01.5110	01.2702	+12.1	081.9°
07/28/20	00:00:00	13h37.3m	-11°16'	+42.6°	164.5°	01.5063	01.2724	+12.1	081.5°
07/29/20	00:00:00	13h39.2m	-11°30'	+42.5°	165.2°	01.5017	01.2747	+12.1	081.1°
07/30/20	00:00:00	13h41.2m	-11°45'	+42.3°	165.9°	01.4972	01.2768	+12.0	080.7°
07/31/20	00:00:00	13h43.2m	-11°59'	+42.2°	166.6°	01.4927	01.2790	+12.0	080.3°
08/01/20	00:00:00	13h45.3m	-12°14'	+42.0°	167.3°	01.4882	01.2812	+12.0	079.9°
08/02/20	00:00:00	13h47.4m	-12°29'	+41.9°	167.9°	01.4838	01.2833	+12.0	079.5°
08/03/20	00:00:00	13h49.5m	-12°44'	+41.7°	168.6°	01.4795	01.2854	+11.9	079.1°
08/04/20	00:00:00	13h51.6m	-12°59'	+41.5°	169.2°	01.4752	01.2874	+11.9	078.7°
08/05/20	00:00:00	13h53.8m	-13°14'	+41.3°	169.8°	01.4710	01.2895	+11.9	078.4°
08/06/20	00:00:00	13h56.0m	-13°29'	+41.1°	170.4°	01.4668	01.2915	+11.9	078.0°
08/07/20	00:00:00	13h58.3m	-13°44'	+40.9°	171.0°	01.4627	01.2935	+11.9	077.6°
08/08/20	00:00:00	14h00.5m	-13°59'	+40.7°	171.6°	01.4586	01.2955	+11.8	077.3°
08/09/20	00:00:00	14h02.8m	-14°15'	+40.5°	172.1°	01.4547	01.2974	+11.8	076.9°
08/10/20	00:00:00	14h05.2m	-14°30'	+40.3°	172.7°	01.4508	01.2994	+11.8	076.6°
08/11/20	00:00:00	14h07.5m	-14°45'	+40.1°	173.2°	01.4469	01.3013	+11.8	076.2°
08/12/20	00:00:00	14h09.9m	-15°01'	+39.9°	173.8°	01.4431	01.3032	+11.8	075.9°
08/13/20	00:00:00	14h12.3m	-15°16'	+39.7°	174.3°	01.4394	01.3051	+11.7	075.6°
08/14/20	00:00:00	14h14.8m	-15°31'	+39.5°	174.8°	01.4358	01.3070	+11.7	075.3°
08/15/20	00:00:00	14h17.2m	-15°47'	+39.2°	175.2°	01.4322	01.3088	+11.7	075.0°
08/16/20	00:00:00	14h19.7m	-16°02'	+39.0°	175.7°	01.4287	01.3107	+11.7	074.7°
08/17/20	00:00:00	14h22.3m	-16°18'	+38.8°	176.2°	01.4252	01.3125	+11.7	074.4°
08/18/20	00:00:00	14h24.8m	-16°33'	+38.5°	176.6°	01.4218	01.3144	+11.7	074.1°
08/19/20	00:00:00	14h27.4m	-16°49'	+38.3°	177.0°	01.4185	01.3162	+11.6	073.8°
08/20/20	00:00:00	14h30.1m	-17°04'	+38.0°	177.4°	01.4153	01.3180	+11.6	073.5°
08/21/20	00:00:00	14h32.7m	-17°19'	+37.8°	177.8°	01.4122	01.3199	+11.6	073.2°
08/22/20	00:00:00	14h35.4m	-17°35'	+37.5°	178.2°	01.4091	01.3217	+11.6	072.9°
08/23/20	00:00:00	14h38.1m	-17°50'	+37.3°	178.6°	01.4061	01.3235	+11.6	072.7°
08/24/20	00:00:00	14h40.9m	-18°05'	+37.0°	179.0°	01.4031	01.3254	+11.6	072.4°
08/25/20	00:00:00	14h43.7m	-18°21'	+36.8°	179.3°	01.4003	01.3272	+11.5	072.2°
08/26/20	00:00:00	14h46.5m	-18°36'	+36.5°	179.6°	01.3975	01.3290	+11.5	071.9°
08/27/20	00:00:00	14h49.3m	-18°51'	+36.3°	180.0°	01.3948	01.3309	+11.5	071.7°
08/28/20	00:00:00	14h52.2m	-19°06'	+36.0°	180.3°	01.3922	01.3327	+11.5	071.4°
08/29/20	00:00:00	14h55.1m	-19°21'	+35.8°	180.6°	01.3896	01.3346	+11.5	071.2°