

Date	Time (UTC)	Epoch 2000		Alt	Az	Distance (AU)		Est Mag	Elong
		RA	Dec			Sun	Earth		
07/25/21	00:00:00	04h31.3m	+22°08'	-10.6°	306.7°	01.0060	01.2218	+10.0	052.5°
07/26/21	00:00:00	04h35.6m	+22°24'	-10.4°	306.8°	01.0085	01.2275	+10.0	052.4°
07/27/21	00:00:00	04h39.8m	+22°40'	-10.1°	307.0°	01.0112	01.2333	+10.1	052.4°
07/28/21	00:00:00	04h44.0m	+22°55'	-09.9°	307.1°	01.0142	01.2391	+10.1	052.3°
07/29/21	00:00:00	04h48.1m	+23°10'	-09.7°	307.3°	01.0173	01.2449	+10.2	052.3°
07/30/21	00:00:00	04h52.3m	+23°23'	-09.5°	307.4°	01.0206	01.2507	+10.2	052.3°
07/31/21	00:00:00	04h56.4m	+23°37'	-09.3°	307.5°	01.0241	01.2565	+10.3	052.3°
08/01/21	00:00:00	05h00.5m	+23°50'	-09.2°	307.7°	01.0278	01.2624	+10.3	052.3°
08/02/21	00:00:00	05h04.5m	+24°02'	-09.0°	307.8°	01.0316	01.2682	+10.4	052.3°
08/03/21	00:00:00	05h08.6m	+24°14'	-08.8°	307.9°	01.0357	01.2740	+10.4	052.3°
08/04/21	00:00:00	05h12.6m	+24°25'	-08.7°	308.0°	01.0399	01.2799	+10.5	052.4°
08/05/21	00:00:00	05h16.6m	+24°36'	-08.6°	308.2°	01.0443	01.2857	+10.5	052.4°
08/06/21	00:00:00	05h20.5m	+24°47'	-08.4°	308.3°	01.0489	01.2915	+10.6	052.5°
08/07/21	00:00:00	05h24.4m	+24°56'	-08.3°	308.4°	01.0536	01.2972	+10.6	052.5°
08/08/21	00:00:00	05h28.3m	+25°06'	-08.2°	308.5°	01.0585	01.3030	+10.7	052.6°
08/09/21	00:00:00	05h32.2m	+25°15'	-08.1°	308.7°	01.0636	01.3087	+10.8	052.7°
08/10/21	00:00:00	05h36.0m	+25°23'	-08.0°	308.8°	01.0688	01.3144	+10.8	052.8°
08/11/21	00:00:00	05h39.8m	+25°31'	-08.0°	308.9°	01.0742	01.3200	+10.9	052.9°
08/12/21	00:00:00	05h43.6m	+25°39'	-07.9°	309.0°	01.0797	01.3256	+10.9	053.0°
08/13/21	00:00:00	05h47.3m	+25°46'	-07.9°	309.1°	01.0854	01.3312	+11.0	053.1°
08/14/21	00:00:00	05h51.1m	+25°53'	-07.8°	309.2°	01.0912	01.3367	+11.1	053.2°
08/15/21	00:00:00	05h54.7m	+25°59'	-07.8°	309.4°	01.0972	01.3421	+11.1	053.3°
08/16/21	00:00:00	05h58.4m	+26°05'	-07.8°	309.5°	01.1033	01.3475	+11.2	053.5°
08/17/21	00:00:00	06h02.0m	+26°11'	-07.7°	309.6°	01.1095	01.3529	+11.3	053.6°
08/18/21	00:00:00	06h05.6m	+26°16'	-07.7°	309.7°	01.1159	01.3581	+11.4	053.8°
08/19/21	00:00:00	06h09.1m	+26°21'	-07.7°	309.8°	01.1223	01.3634	+11.4	054.0°
08/20/21	00:00:00	06h12.6m	+26°26'	-07.8°	310.0°	01.1289	01.3685	+11.5	054.1°
08/21/21	00:00:00	06h16.1m	+26°30'	-07.8°	310.1°	01.1357	01.3736	+11.6	054.3°
08/22/21	00:00:00	06h19.5m	+26°34'	-07.8°	310.2°	01.1425	01.3785	+11.6	054.5°
08/23/21	00:00:00	06h23.0m	+26°37'	-07.9°	310.3°	01.1494	01.3835	+11.7	054.7°
08/24/21	00:00:00	06h26.3m	+26°40'	-07.9°	310.5°	01.1565	01.3883	+11.8	055.0°
08/25/21	00:00:00	06h29.7m	+26°43'	-08.0°	310.6°	01.1636	01.3931	+11.9	055.2°
08/26/21	00:00:00	06h33.0m	+26°46'	-08.0°	310.7°	01.1709	01.3977	+11.9	055.4°
08/27/21	00:00:00	06h36.2m	+26°48'	-08.1°	310.9°	01.1783	01.4023	+12.0	055.6°
08/28/21	00:00:00	06h39.5m	+26°50'	-08.2°	311.0°	01.1857	01.4068	+12.1	055.9°
08/29/21	00:00:00	06h42.7m	+26°52'	-08.3°	311.2°	01.1933	01.4112	+12.2	056.2°
08/30/21	00:00:00	06h45.8m	+26°54'	-08.4°	311.3°	01.2009	01.4155	+12.2	056.4°
08/31/21	00:00:00	06h49.0m	+26°55'	-08.5°	311.5°	01.2086	01.4197	+12.3	056.7°
09/01/21	00:00:00	06h52.1m	+26°56'	-08.6°	311.6°	01.2164	01.4239	+12.4	057.0°
09/02/21	00:00:00	06h55.1m	+26°57'	-08.7°	311.8°	01.2243	01.4279	+12.5	057.3°
09/03/21	00:00:00	06h58.1m	+26°58'	-08.9°	311.9°	01.2322	01.4318	+12.5	057.6°
09/04/21	00:00:00	07h01.1m	+26°58'	-09.0°	312.1°	01.2403	01.4356	+12.6	057.9°
09/05/21	00:00:00	07h04.1m	+26°58'	-09.2°	312.2°	01.2484	01.4394	+12.7	058.2°
09/06/21	00:00:00	07h07.0m	+26°58'	-09.3°	312.4°	01.2566	01.4430	+12.8	058.5°
09/07/21	00:00:00	07h09.9m	+26°58'	-09.5°	312.6°	01.2648	01.4465	+12.9	058.8°
09/08/21	00:00:00	07h12.7m	+26°58'	-09.6°	312.8°	01.2731	01.4499	+12.9	059.2°
09/09/21	00:00:00	07h15.5m	+26°58'	-09.8°	313.0°	01.2815	01.4532	+13.0	059.5°
09/10/21	00:00:00	07h18.3m	+26°57'	-10.0°	313.1°	01.2899	01.4564	+13.1	059.9°
09/11/21	00:00:00	07h21.1m	+26°56'	-10.2°	313.3°	01.2984	01.4595	+13.2	060.3°
09/12/21	00:00:00	07h23.8m	+26°56'	-10.4°	313.5°	01.3069	01.4624	+13.2	060.6°
09/13/21	00:00:00	07h26.4m	+26°55'	-10.6°	313.7°	01.3155	01.4653	+13.3	061.0°
09/14/21	00:00:00	07h29.1m	+26°54'	-10.8°	314.0°	01.3241	01.4680	+13.4	061.4°
09/15/21	00:00:00	07h31.7m	+26°52'	-11.0°	314.2°	01.3328	01.4706	+13.5	061.8°
09/16/21	00:00:00	07h34.2m	+26°51'	-11.2°	314.4°	01.3416	01.4732	+13.5	062.2°
09/17/21	00:00:00	07h36.8m	+26°50'	-11.4°	314.6°	01.3503	01.4756	+13.6	062.6°
09/18/21	00:00:00	07h39.2m	+26°48'	-11.7°	314.8°	01.3592	01.4778	+13.7	063.0°

Date	Time (UTC)	Epoch 2000		Alt	Az	Distance (AU)		Est Mag	Elong
		RA	Dec			Sun	Earth		
07/25/21	00:00:00	03h04.0m	+17°17'	-27.4°	320.3°	01.6851	01.6624	+11.8	073.6°
07/26/21	00:00:00	03h06.8m	+17°24'	-27.5°	320.6°	01.6823	01.6533	+11.7	073.8°
07/27/21	00:00:00	03h09.6m	+17°30'	-27.5°	320.9°	01.6796	01.6441	+11.7	074.1°
07/28/21	00:00:00	03h12.4m	+17°36'	-27.6°	321.2°	01.6769	01.6351	+11.7	074.4°
07/29/21	00:00:00	03h15.2m	+17°42'	-27.6°	321.6°	01.6743	01.6261	+11.7	074.7°
07/30/21	00:00:00	03h18.0m	+17°48'	-27.7°	321.9°	01.6717	01.6172	+11.6	075.0°
07/31/21	00:00:00	03h20.8m	+17°54'	-27.8°	322.2°	01.6692	01.6083	+11.6	075.3°
08/01/21	00:00:00	03h23.6m	+17°59'	-27.8°	322.5°	01.6668	01.5995	+11.6	075.5°
08/02/21	00:00:00	03h26.5m	+18°04'	-27.9°	322.8°	01.6644	01.5908	+11.5	075.8°
08/03/21	00:00:00	03h29.3m	+18°09'	-28.0°	323.1°	01.6621	01.5822	+11.5	076.1°
08/04/21	00:00:00	03h32.1m	+18°13'	-28.0°	323.4°	01.6598	01.5736	+11.5	076.4°
08/05/21	00:00:00	03h34.9m	+18°18'	-28.1°	323.7°	01.6576	01.5650	+11.5	076.7°
08/06/21	00:00:00	03h37.8m	+18°22'	-28.2°	324.0°	01.6555	01.5566	+11.4	077.0°
08/07/21	00:00:00	03h40.6m	+18°26'	-28.3°	324.3°	01.6534	01.5482	+11.4	077.3°
08/08/21	00:00:00	03h43.4m	+18°30'	-28.3°	324.6°	01.6513	01.5398	+11.4	077.6°
08/09/21	00:00:00	03h46.2m	+18°33'	-28.4°	324.9°	01.6493	01.5316	+11.4	077.9°
08/10/21	00:00:00	03h49.1m	+18°37'	-28.5°	325.2°	01.6474	01.5234	+11.3	078.1°
08/11/21	00:00:00	03h51.9m	+18°40'	-28.6°	325.5°	01.6456	01.5152	+11.3	078.4°
08/12/21	00:00:00	03h54.7m	+18°43'	-28.7°	325.8°	01.6438	01.5071	+11.3	078.7°
08/13/21	00:00:00	03h57.5m	+18°45'	-28.8°	326.1°	01.6420	01.4991	+11.3	079.0°
08/14/21	00:00:00	04h00.4m	+18°48'	-28.9°	326.3°	01.6403	01.4911	+11.2	079.3°
08/15/21	00:00:00	04h03.2m	+18°50'	-29.0°	326.6°	01.6387	01.4832	+11.2	079.6°
08/16/21	00:00:00	04h06.0m	+18°52'	-29.1°	326.9°	01.6372	01.4754	+11.2	079.9°
08/17/21	00:00:00	04h08.8m	+18°53'	-29.2°	327.2°	01.6357	01.4676	+11.2	080.2°
08/18/21	00:00:00	04h11.6m	+18°55'	-29.3°	327.5°	01.6343	01.4599	+11.2	080.5°
08/19/21	00:00:00	04h14.4m	+18°56'	-29.4°	327.8°	01.6329	01.4523	+11.1	080.9°
08/20/21	00:00:00	04h17.2m	+18°57'	-29.5°	328.1°	01.6316	01.4447	+11.1	081.2°
08/21/21	00:00:00	04h20.0m	+18°57'	-29.6°	328.3°	01.6303	01.4371	+11.1	081.5°
08/22/21	00:00:00	04h22.7m	+18°58'	-29.7°	328.6°	01.6292	01.4297	+11.1	081.8°
08/23/21	00:00:00	04h25.5m	+18°58'	-29.8°	328.9°	01.6280	01.4222	+11.1	082.1°
08/24/21	00:00:00	04h28.3m	+18°58'	-30.0°	329.2°	01.6270	01.4149	+11.0	082.4°
08/25/21	00:00:00	04h31.0m	+18°58'	-30.1°	329.5°	01.6260	01.4076	+11.0	082.7°
08/26/21	00:00:00	04h33.8m	+18°57'	-30.2°	329.8°	01.6251	01.4003	+11.0	083.1°
08/27/21	00:00:00	04h36.5m	+18°57'	-30.4°	330.1°	01.6242	01.3931	+11.0	083.4°
08/28/21	00:00:00	04h39.2m	+18°56'	-30.5°	330.4°	01.6234	01.3860	+11.0	083.7°
08/29/21	00:00:00	04h42.0m	+18°54'	-30.6°	330.7°	01.6227	01.3789	+11.0	084.1°
08/30/21	00:00:00	04h44.7m	+18°53'	-30.8°	331.0°	01.6220	01.3719	+10.9	084.4°
08/31/21	00:00:00	04h47.4m	+18°51'	-30.9°	331.3°	01.6214	01.3649	+10.9	084.7°
09/01/21	00:00:00	04h50.0m	+18°49'	-31.1°	331.6°	01.6209	01.3580	+10.9	085.1°
09/02/21	00:00:00	04h52.7m	+18°47'	-31.2°	331.9°	01.6204	01.3511	+10.9	085.4°
09/03/21	00:00:00	04h55.4m	+18°45'	-31.4°	332.2°	01.6200	01.3443	+10.9	085.8°
09/04/21	00:00:00	04h58.0m	+18°42'	-31.6°	332.5°	01.6196	01.3376	+10.9	086.1°
09/05/21	00:00:00	05h00.6m	+18°39'	-31.7°	332.8°	01.6193	01.3308	+10.9	086.5°
09/06/21	00:00:00	05h03.2m	+18°36'	-31.9°	333.1°	01.6191	01.3242	+10.8	086.8°
09/07/21	00:00:00	05h05.8m	+18°33'	-32.1°	333.4°	01.6190	01.3176	+10.8	087.2°
09/08/21	00:00:00	05h08.4m	+18°29'	-32.3°	333.8°	01.6189	01.3110	+10.8	087.5°
09/09/21	00:00:00	05h11.0m	+18°26'	-32.4°	334.1°	01.6189	01.3045	+10.8	087.9°
09/10/21	00:00:00	05h13.5m	+18°22'	-32.6°	334.4°	01.6189	01.2980	+10.8	088.3°
09/11/21	00:00:00	05h16.0m	+18°18'	-32.8°	334.8°	01.6190	01.2916	+10.8	088.7°
09/12/21	00:00:00	05h18.6m	+18°13'	-33.0°	335.1°	01.6192	01.2853	+10.8	089.0°
09/13/21	00:00:00	05h21.0m	+18°09'	-33.2°	335.5°	01.6194	01.2789	+10.8	089.4°
09/14/21	00:00:00	05h23.5m	+18°04'	-33.4°	335.8°	01.6197	01.2727	+10.8	089.8°
09/15/21	00:00:00	05h26.0m	+17°59'	-33.6°	336.2°	01.6201	01.2664	+10.8	090.2°
09/16/21	00:00:00	05h28.4m	+17°54'	-33.8°	336.6°	01.6205	01.2602	+10.7	090.6°
09/17/21	00:00:00	05h30.8m	+17°48'	-34.0°	336.9°	01.6210	01.2541	+10.7	091.0°
09/18/21	00:00:00	05h33.2m	+17°43'	-34.2°	337.3°	01.6216	01.2480	+10.7	091.4°

Date	Time (UTC)	Epoch 2000		Alt	Az	Distance (AU)		Est Mag	Elong
		RA	Dec			Sun	Earth		
07/25/21	00:00:00	06h51.9m	+31°08'	+19.7°	294.8°	00.8749	01.7254	+09.7	022.3°
07/26/21	00:00:00	06h58.4m	+31°15'	+20.3°	294.6°	00.8673	01.7213	+09.6	022.0°
07/27/21	00:00:00	07h04.9m	+31°21'	+20.8°	294.4°	00.8600	01.7175	+09.5	021.7°
07/28/21	00:00:00	07h11.4m	+31°25'	+21.3°	294.2°	00.8530	01.7142	+09.4	021.4°
07/29/21	00:00:00	07h18.0m	+31°28'	+21.8°	294.0°	00.8464	01.7112	+09.4	021.1°
07/30/21	00:00:00	07h24.7m	+31°30'	+22.4°	293.7°	00.8402	01.7086	+09.3	020.8°
07/31/21	00:00:00	07h31.3m	+31°30'	+22.9°	293.4°	00.8343	01.7065	+09.2	020.4°
08/01/21	00:00:00	07h38.0m	+31°29'	+23.4°	293.1°	00.8289	01.7047	+09.1	020.1°
08/02/21	00:00:00	07h44.7m	+31°27'	+23.9°	292.8°	00.8238	01.7034	+09.1	019.8°
08/03/21	00:00:00	07h51.5m	+31°23'	+24.4°	292.4°	00.8191	01.7024	+09.0	019.5°
08/04/21	00:00:00	07h58.2m	+31°18'	+24.9°	292.0°	00.8149	01.7018	+08.9	019.2°
08/05/21	00:00:00	08h04.9m	+31°11'	+25.3°	291.6°	00.8110	01.7017	+08.9	018.9°
08/06/21	00:00:00	08h11.6m	+31°03'	+25.8°	291.2°	00.8077	01.7019	+08.8	018.6°
08/07/21	00:00:00	08h18.3m	+30°53'	+26.3°	290.7°	00.8047	01.7025	+08.8	018.2°
08/08/21	00:00:00	08h25.0m	+30°42'	+26.7°	290.2°	00.8022	01.7035	+08.8	017.9°
08/09/21	00:00:00	08h31.6m	+30°30'	+27.1°	289.7°	00.8001	01.7049	+08.7	017.6°
08/10/21	00:00:00	08h38.3m	+30°16'	+27.6°	289.2°	00.7986	01.7067	+08.7	017.3°
08/11/21	00:00:00	08h44.8m	+30°01'	+28.0°	288.7°	00.7974	01.7089	+08.7	017.1°
08/12/21	00:00:00	08h51.4m	+29°44'	+28.3°	288.1°	00.7968	01.7114	+08.7	016.8°
08/13/21	00:00:00	08h57.9m	+29°26'	+28.7°	287.5°	00.7966	01.7144	+08.7	016.5°
08/14/21	00:00:00	09h04.3m	+29°07'	+29.1°	286.9°	00.7968	01.7177	+08.7	016.2°
08/15/21	00:00:00	09h10.6m	+28°47'	+29.4°	286.3°	00.7975	01.7213	+08.7	015.9°
08/16/21	00:00:00	09h16.9m	+28°26'	+29.7°	285.7°	00.7987	01.7253	+08.7	015.7°
08/17/21	00:00:00	09h23.2m	+28°03'	+30.0°	285.1°	00.8004	01.7297	+08.8	015.4°
08/18/21	00:00:00	09h29.3m	+27°39'	+30.2°	284.4°	00.8025	01.7344	+08.8	015.2°
08/19/21	00:00:00	09h35.4m	+27°15'	+30.5°	283.7°	00.8051	01.7395	+08.8	014.9°
08/20/21	00:00:00	09h41.4m	+26°49'	+30.7°	283.0°	00.8081	01.7449	+08.9	014.7°
08/21/21	00:00:00	09h47.3m	+26°23'	+30.9°	282.4°	00.8115	01.7506	+08.9	014.5°
08/22/21	00:00:00	09h53.2m	+25°55'	+31.1°	281.7°	00.8154	01.7566	+09.0	014.3°
08/23/21	00:00:00	09h58.9m	+25°27'	+31.2°	281.0°	00.8197	01.7630	+09.1	014.1°
08/24/21	00:00:00	10h04.6m	+24°58'	+31.4°	280.2°	00.8245	01.7697	+09.1	013.9°
08/25/21	00:00:00	10h10.2m	+24°29'	+31.5°	279.5°	00.8296	01.7767	+09.2	013.7°
08/26/21	00:00:00	10h15.7m	+23°59'	+31.6°	278.8°	00.8351	01.7840	+09.3	013.5°
08/27/21	00:00:00	10h21.1m	+23°28'	+31.6°	278.1°	00.8410	01.7916	+09.4	013.3°
08/28/21	00:00:00	10h26.4m	+22°57'	+31.7°	277.4°	00.8473	01.7994	+09.5	013.1°
08/29/21	00:00:00	10h31.6m	+22°25'	+31.7°	276.7°	00.8540	01.8076	+09.6	013.0°
08/30/21	00:00:00	10h36.8m	+21°53'	+31.7°	276.0°	00.8610	01.8160	+09.7	012.8°
08/31/21	00:00:00	10h41.8m	+21°20'	+31.6°	275.3°	00.8683	01.8247	+09.8	012.6°
09/01/21	00:00:00	10h46.8m	+20°47'	+31.6°	274.6°	00.8760	01.8336	+09.9	012.5°
09/02/21	00:00:00	10h51.7m	+20°14'	+31.5°	273.9°	00.8839	01.8429	+10.0	012.4°
09/03/21	00:00:00	10h56.5m	+19°41'	+31.4°	273.2°	00.8922	01.8523	+10.1	012.2°
09/04/21	00:00:00	11h01.2m	+19°08'	+31.3°	272.5°	00.9008	01.8620	+10.2	012.1°
09/05/21	00:00:00	11h05.8m	+18°34'	+31.1°	271.9°	00.9097	01.8719	+10.3	011.9°
09/06/21	00:00:00	11h10.4m	+18°00'	+31.0°	271.2°	00.9188	01.8820	+10.5	011.8°
09/07/21	00:00:00	11h14.9m	+17°27'	+30.8°	270.6°	00.9282	01.8924	+10.6	011.7°
09/08/21	00:00:00	11h19.3m	+16°53'	+30.6°	269.9°	00.9378	01.9029	+10.7	011.6°
09/09/21	00:00:00	11h23.6m	+16°19'	+30.4°	269.3°	00.9477	01.9137	+10.8	011.4°
09/10/21	00:00:00	11h27.8m	+15°45'	+30.2°	268.7°	00.9578	01.9246	+11.0	011.3°
09/11/21	00:00:00	11h32.0m	+15°12'	+29.9°	268.1°	00.9681	01.9358	+11.1	011.2°
09/12/21	00:00:00	11h36.1m	+14°38'	+29.7°	267.6°	00.9786	01.9471	+11.2	011.1°
09/13/21	00:00:00	11h40.2m	+14°05'	+29.4°	267.0°	00.9893	01.9586	+11.3	010.9°
09/14/21	00:00:00	11h44.1m	+13°31'	+29.1°	266.5°	01.0002	01.9702	+11.5	010.8°
09/15/21	00:00:00	11h48.0m	+12°58'	+28.8°	265.9°	01.0112	01.9820	+11.6	010.7°
09/16/21	00:00:00	11h51.9m	+12°25'	+28.5°	265.4°	01.0225	01.9940	+11.7	010.6°
09/17/21	00:00:00	11h55.7m	+11°53'	+28.1°	264.9°	01.0338	02.0061	+11.9	010.5°
09/18/21	00:00:00	11h59.4m	+11°20'	+27.8°	264.5°	01.0454	02.0183	+12.0	010.3°