



## Mars 2024

Datum	$\alpha$	$\delta$	b	$\Delta$ (AE)	E	mv	$\varphi$	$\varnothing$	k	q (")	l	r
1.01.	17:48	-24.0	-0.6	2.424	13 W	1.4	8.4	3.86	0.995	0.02	258.9	1.481
4.01.	17:57	-24.0	-0.6	2.415	14 W	1.4	9.0	3.88	0.994	0.02	260.5	1.477
7.01.	18:07	-24.0	-0.6	2.405	14 W	1.4	9.6	3.89	0.993	0.03	262.2	1.473
10.01.	18:17	-24.0	-0.6	2.395	15 W	1.4	10.1	3.91	0.992	0.03	263.9	1.469
13.01.	18:27	-24.0	-0.7	2.385	16 W	1.4	10.7	3.92	0.991	0.03	265.6	1.466
16.01.	18:37	-23.9	-0.7	2.375	17 W	1.4	11.2	3.94	0.990	0.04	267.3	1.462
19.01.	18:47	-23.7	-0.7	2.365	18 W	1.4	11.8	3.96	0.989	0.04	269.0	1.458
22.01.	18:56	-23.5	-0.7	2.355	18 W	1.4	12.3	3.98	0.988	0.05	270.7	1.455
25.01.	19:06	-23.3	-0.8	2.344	19 W	1.3	12.9	3.99	0.987	0.05	272.4	1.451
28.01.	19:16	-23.1	-0.8	2.333	20 W	1.3	13.4	4.01	0.986	0.05	274.2	1.448
31.01.	19:26	-22.8	-0.8	2.323	21 W	1.3	14.0	4.03	0.985	0.06	275.9	1.444
3.02.	19:36	-22.5	-0.9	2.312	22 W	1.3	14.5	4.05	0.984	0.06	277.6	1.441
6.02.	19:46	-22.1	-0.9	2.301	22 W	1.3	15.1	4.07	0.983	0.07	279.4	1.437
9.02.	19:55	-21.7	-0.9	2.289	23 W	1.3	15.6	4.09	0.982	0.08	281.2	1.434
12.02.	20:05	-21.3	-0.9	2.278	24 W	1.3	16.1	4.11	0.980	0.08	282.9	1.431
15.02.	20:15	-20.8	-1.0	2.267	24 W	1.3	16.6	4.13	0.979	0.09	284.7	1.428
18.02.	20:24	-20.3	-1.0	2.256	25 W	1.3	17.2	4.15	0.978	0.09	286.5	1.425
21.02.	20:34	-19.7	-1.0	2.244	26 W	1.3	17.7	4.17	0.976	0.10	288.3	1.422
24.02.	20:43	-19.2	-1.0	2.233	27 W	1.3	18.2	4.19	0.975	0.10	290.1	1.419
27.02.	20:53	-18.6	-1.0	2.221	27 W	1.3	18.7	4.21	0.974	0.11	291.9	1.416
1.03.	21:02	-18.0	-1.1	2.210	28 W	1.3	19.2	4.24	0.972	0.12	293.7	1.413
4.03.	21:12	-17.3	-1.1	2.198	29 W	1.3	19.7	4.26	0.971	0.12	295.5	1.411
7.03.	21:21	-16.6	-1.1	2.187	29 W	1.2	20.2	4.28	0.969	0.13	297.4	1.408
10.03.	21:30	-15.9	-1.1	2.175	30 W	1.2	20.7	4.30	0.968	0.14	299.2	1.406
13.03.	21:39	-15.2	-1.1	2.163	31 W	1.2	21.2	4.33	0.966	0.15	301.1	1.404
16.03.	21:49	-14.4	-1.2	2.152	31 W	1.2	21.7	4.35	0.965	0.15	302.9	1.401
19.03.	21:58	-13.6	-1.2	2.140	32 W	1.2	22.1	4.37	0.963	0.16	304.8	1.399
22.03.	22:07	-12.8	-1.2	2.129	33 W	1.2	22.6	4.40	0.962	0.17	306.6	1.397
25.03.	22:16	-12.0	-1.2	2.117	33 W	1.2	23.1	4.42	0.960	0.18	308.5	1.395
28.03.	22:25	-11.2	-1.2	2.106	34 W	1.2	23.6	4.45	0.958	0.19	310.3	1.394
31.03.	22:33	-10.4	-1.2	2.094	35 W	1.2	24.0	4.47	0.957	0.19	312.2	1.392
3.04.	22:42	-9.5	-1.2	2.083	35 W	1.2	24.5	4.49	0.955	0.20	314.1	1.390
6.04.	22:51	-8.6	-1.2	2.071	36 W	1.2	24.9	4.52	0.953	0.21	316.0	1.389
9.04.	23:00	-7.7	-1.2	2.060	36 W	1.2	25.4	4.54	0.952	0.22	317.9	1.388
12.04.	23:08	-6.8	-1.3	2.048	37 W	1.2	25.8	4.57	0.950	0.23	319.8	1.386
15.04.	23:17	-5.9	-1.3	2.037	38 W	1.2	26.2	4.60	0.948	0.24	321.7	1.385
18.04.	23:26	-5.0	-1.3	2.026	38 W	1.1	26.7	4.62	0.947	0.25	323.6	1.384
21.04.	23:34	-4.1	-1.3	2.014	39 W	1.1	27.1	4.65	0.945	0.26	325.4	1.384
24.04.	23:43	-3.2	-1.3	2.003	39 W	1.1	27.5	4.67	0.943	0.26	327.3	1.383
27.04.	23:51	-2.3	-1.3	1.992	40 W	1.1	27.9	4.70	0.942	0.27	329.3	1.382
30.04.	0:00	-1.4	-1.3	1.980	41 W	1.1	28.4	4.73	0.940	0.28	331.2	1.382



Datum	$\alpha$	$\delta$	b	$\Delta$ (AE)	E	mv	$\varphi$	$\varnothing$	k	q (")	l	r
3.05.	0:08	-0.4	-1.3	1.969	41 W	1.1	28.8	4.75	0.938	0.29	333.1	1.382
6.05.	0:17	0.5	-1.3	1.958	42 W	1.1	29.2	4.78	0.937	0.30	335.0	1.381
9.05.	0:25	1.4	-1.3	1.946	42 W	1.1	29.6	4.81	0.935	0.31	336.9	1.381
12.05.	0:34	2.3	-1.2	1.935	43 W	1.1	29.9	4.84	0.933	0.32	338.8	1.381
15.05.	0:42	3.2	-1.2	1.924	44 W	1.1	30.3	4.87	0.932	0.33	340.7	1.382
18.05.	0:50	4.1	-1.2	1.912	44 W	1.1	30.7	4.89	0.930	0.34	342.6	1.382
21.05.	0:59	5.0	-1.2	1.901	45 W	1.1	31.1	4.92	0.928	0.35	344.5	1.382
24.05.	1:07	5.9	-1.2	1.890	45 W	1.1	31.5	4.95	0.926	0.36	346.4	1.383
27.05.	1:16	6.8	-1.2	1.878	46 W	1.1	31.8	4.98	0.925	0.37	348.3	1.384
30.05.	1:24	7.6	-1.2	1.867	47 W	1.1	32.2	5.01	0.923	0.39	350.2	1.385
2.06.	1:33	8.5	-1.2	1.855	47 W	1.1	32.6	5.05	0.921	0.40	352.1	1.386
5.06.	1:41	9.3	-1.2	1.844	48 W	1.0	32.9	5.08	0.920	0.41	354.0	1.387
8.06.	1:49	10.1	-1.1	1.832	49 W	1.0	33.3	5.11	0.918	0.42	355.9	1.388
11.06.	1:58	10.9	-1.1	1.820	49 W	1.0	33.6	5.14	0.916	0.43	357.7	1.389
14.06.	2:06	11.7	-1.1	1.808	50 W	1.0	33.9	5.18	0.915	0.44	359.6	1.391
17.06.	2:15	12.4	-1.1	1.796	51 W	1.0	34.3	5.21	0.913	0.45	1.5	1.392
20.06.	2:23	13.2	-1.0	1.784	51 W	1.0	34.6	5.25	0.912	0.46	3.4	1.394
23.06.	2:32	13.9	-1.0	1.772	52 W	1.0	34.9	5.28	0.910	0.48	5.2	1.396
26.06.	2:40	14.6	-1.0	1.760	53 W	1.0	35.3	5.32	0.908	0.49	7.1	1.398
29.06.	2:49	15.3	-1.0	1.747	53 W	1.0	35.6	5.36	0.907	0.50	9.0	1.400
2.07.	2:58	15.9	-0.9	1.735	54 W	1.0	35.9	5.40	0.905	0.51	10.8	1.402
5.07.	3:06	16.6	-0.9	1.722	55 W	1.0	36.2	5.44	0.904	0.52	12.7	1.404
8.07.	3:15	17.2	-0.9	1.709	55 W	1.0	36.5	5.48	0.902	0.54	14.5	1.407
11.07.	3:23	17.7	-0.8	1.696	56 W	1.0	36.8	5.52	0.900	0.55	16.3	1.409
14.07.	3:32	18.3	-0.8	1.682	57 W	1.0	37.1	5.56	0.899	0.56	18.2	1.412
17.07.	3:40	18.8	-0.8	1.669	58 W	0.9	37.4	5.61	0.897	0.58	20.0	1.414
20.07.	3:49	19.3	-0.7	1.655	58 W	0.9	37.6	5.65	0.896	0.59	21.8	1.417
23.07.	3:58	19.8	-0.7	1.641	59 W	0.9	37.9	5.70	0.895	0.60	23.6	1.420
26.07.	4:06	20.2	-0.7	1.627	60 W	0.9	38.2	5.75	0.893	0.61	25.4	1.423
29.07.	4:15	20.6	-0.6	1.613	61 W	0.9	38.4	5.80	0.892	0.63	27.2	1.426
1.08.	4:23	21.0	-0.6	1.598	62 W	0.9	38.7	5.86	0.890	0.64	29.0	1.429
4.08.	4:32	21.4	-0.5	1.583	62 W	0.9	38.9	5.91	0.889	0.66	30.7	1.432
7.08.	4:40	21.7	-0.5	1.568	63 W	0.9	39.2	5.97	0.888	0.67	32.5	1.435
10.08.	4:49	22.0	-0.5	1.553	64 W	0.9	39.4	6.03	0.886	0.68	34.3	1.439
13.08.	4:57	22.3	-0.4	1.537	65 W	0.8	39.6	6.09	0.885	0.70	36.0	1.442
16.08.	5:06	22.5	-0.4	1.521	66 W	0.8	39.8	6.15	0.884	0.71	37.8	1.445
19.08.	5:14	22.7	-0.3	1.505	67 W	0.8	40.0	6.22	0.883	0.73	39.5	1.449
22.08.	5:22	22.9	-0.3	1.488	68 W	0.8	40.2	6.29	0.882	0.74	41.2	1.452
25.08.	5:30	23.1	-0.2	1.472	69 W	0.8	40.4	6.36	0.881	0.76	42.9	1.456
28.08.	5:39	23.2	-0.2	1.455	70 W	0.8	40.6	6.43	0.880	0.77	44.6	1.460
31.08.	5:47	23.3	-0.1	1.437	71 W	0.7	40.7	6.51	0.879	0.79	46.3	1.463



Datum	$\alpha$	$\delta$	b	$\Delta$ (AE)	E	mv	$\varphi$	$\emptyset$	k	q (")	l	r
3.09.	5:55	23.4	-0.1	1.420	72 W	0.7	40.9	6.59	0.878	0.80	48.0	1.467
6.09.	6:03	23.4	0.0	1.402	73 W	0.7	41.0	6.68	0.877	0.82	49.7	1.471
9.09.	6:10	23.5	0.1	1.383	74 W	0.7	41.1	6.77	0.877	0.83	51.4	1.474
12.09.	6:18	23.5	0.1	1.365	75 W	0.7	41.2	6.86	0.876	0.85	53.1	1.478
15.09.	6:26	23.5	0.2	1.346	77 W	0.6	41.3	6.95	0.876	0.86	54.7	1.482
18.09.	6:33	23.5	0.2	1.327	78 W	0.6	41.4	7.05	0.875	0.88	56.4	1.486
21.09.	6:41	23.4	0.3	1.308	79 W	0.6	41.4	7.16	0.875	0.90	58.0	1.490
24.09.	6:48	23.3	0.4	1.288	80 W	0.6	41.5	7.27	0.875	0.91	59.6	1.494
27.09.	6:55	23.3	0.4	1.268	82 W	0.5	41.5	7.38	0.875	0.92	61.3	1.498
30.09.	7:02	23.2	0.5	1.248	83 W	0.5	41.5	7.50	0.875	0.94	62.9	1.502
3.10.	7:09	23.1	0.6	1.227	84 W	0.5	41.4	7.63	0.875	0.95	64.5	1.505
6.10.	7:15	22.9	0.7	1.206	86 W	0.4	41.3	7.76	0.875	0.97	66.1	1.509
9.10.	7:22	22.8	0.7	1.185	87 W	0.4	41.2	7.90	0.876	0.98	67.7	1.513
12.10.	7:28	22.7	0.8	1.164	89 W	0.4	41.1	8.04	0.877	0.99	69.3	1.517
15.10.	7:34	22.5	0.9	1.143	90 W	0.3	41.0	8.19	0.878	1.00	70.8	1.521
18.10.	7:40	22.4	1.0	1.121	92 W	0.3	40.8	8.35	0.879	1.01	72.4	1.525
21.10.	7:46	22.3	1.1	1.100	94 W	0.3	40.5	8.51	0.880	1.02	74.0	1.529
24.10.	7:51	22.1	1.1	1.078	95 W	0.2	40.2	8.68	0.882	1.03	75.5	1.533
27.10.	7:57	22.0	1.2	1.056	97 W	0.2	39.9	8.86	0.883	1.03	77.0	1.537
30.10.	8:02	21.8	1.3	1.034	99 W	0.1	39.6	9.05	0.886	1.04	78.6	1.541
2.11.	8:06	21.7	1.4	1.012	101 W	0.1	39.1	9.25	0.888	1.04	80.1	1.544
5.11.	8:11	21.6	1.5	0.990	103 W	0.0	38.7	9.46	0.890	1.04	81.6	1.548
8.11.	8:15	21.5	1.6	0.968	105 W	0.0	38.1	9.67	0.893	1.03	83.1	1.552
11.11.	8:19	21.4	1.7	0.946	107 W	-0.1	37.5	9.90	0.897	1.02	84.6	1.556
14.11.	8:22	21.3	1.9	0.924	109 W	-0.1	36.8	10.13	0.900	1.01	86.1	1.559
17.11.	8:26	21.2	2.0	0.903	111 W	-0.2	36.1	10.37	0.904	0.99	87.6	1.563
20.11.	8:28	21.2	2.1	0.881	114 W	-0.3	35.3	10.62	0.908	0.97	89.1	1.567
23.11.	8:31	21.2	2.2	0.860	116 W	-0.3	34.3	10.88	0.913	0.95	90.6	1.570
26.11.	8:33	21.2	2.3	0.840	119 W	-0.4	33.3	11.15	0.918	0.92	92.1	1.574
29.11.	8:35	21.2	2.5	0.819	121 W	-0.4	32.2	11.42	0.923	0.88	93.5	1.577
2.12.	8:36	21.3	2.6	0.800	124 W	-0.5	31.0	11.70	0.928	0.84	95.0	1.581
5.12.	8:37	21.4	2.7	0.781	127 W	-0.6	29.7	11.99	0.934	0.79	96.4	1.584
8.12.	8:37	21.5	2.9	0.763	130 W	-0.7	28.3	12.27	0.940	0.73	97.9	1.588
11.12.	8:36	21.7	3.0	0.745	133 W	-0.7	26.8	12.56	0.946	0.67	99.3	1.591
14.12.	8:36	21.9	3.1	0.729	137 W	-0.8	25.1	12.84	0.953	0.61	100.8	1.594
17.12.	8:34	22.1	3.3	0.713	140 W	-0.9	23.4	13.12	0.959	0.54	102.2	1.597
20.12.	8:33	22.3	3.4	0.699	143 W	-0.9	21.5	13.39	0.965	0.46	103.6	1.601
23.12.	8:30	22.6	3.6	0.686	147 W	-1.0	19.5	13.64	0.971	0.39	105.0	1.604
26.12.	8:27	22.9	3.7	0.675	151 W	-1.1	17.4	13.87	0.977	0.32	106.4	1.607
29.12.	8:24	23.2	3.8	0.665	155 W	-1.1	15.2	14.07	0.983	0.25	107.8	1.610

Die Ephemeriden gelten für 0 Uhr Weltzeit.

Geozentrische Koordinaten:

$\alpha$  und  $\delta$ : Rektaszension und Deklination zum Äquinoktium des Datums. b: ekliptikale Breite;  $\Delta$ : Abstand von der Erde.  
E: Elongation (Winkel zwischen Planet und Sonnenmitte); mv: visuelle Helligkeit;  $\varphi$ : Phasenwinkel

Physische Ephemeriden (für Beobachtungen am Teleskop):

$\emptyset$ : scheinbarer Durchmesser;  
k: beleuchteter Teil; q: Phasendefekt (Beleuchtungsdefekt)

Heliozentrische Koordinaten:

l: Länge zum Äquinoktium des Datums; r: Abstand von der Sonne.