

Efemeride voor Zon: deel 2 v2, tijden + horizon-coördinaten - Tom Peters Sun Nov 3 17:22:52 2019
 voor locatie Utrecht: geogr.len.= +5g08' , geogr.br.=+52g05', hoogte= 0.0m
 vanaf datum 20210101, voor tijd 0:00:00, zone +1.0u. t.o.v. UT
 DeltaT = 70.0 s

Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
	h m	h m	h m	h m	°	h m	°	h m	°	h m	h m	h m
2021 jan 01	6 43	7 24	8 07	8 48	128.1	12 43	15.0	16 38	232.0	17 19	18 03	18 44
2021 jan 02	6 43	7 24	8 07	8 48	127.9	12 44	15.1	16 40	232.2	17 20	18 04	18 45
2021 jan 03	6 43	7 24	8 07	8 48	127.7	12 44	15.2	16 41	232.4	17 21	18 05	18 46
2021 jan 04	6 43	7 24	8 07	8 47	127.5	12 45	15.3	16 42	232.6	17 22	18 06	18 47
2021 jan 05	6 42	7 23	8 07	8 47	127.3	12 45	15.4	16 43	232.8	17 23	18 07	18 48
2021 jan 06	6 42	7 23	8 06	8 47	127.1	12 45	15.5	16 44	233.0	17 25	18 08	18 49
2021 jan 07	6 42	7 23	8 06	8 46	126.8	12 46	15.7	16 46	233.2	17 26	18 09	18 50
2021 jan 08	6 42	7 23	8 06	8 46	126.6	12 46	15.8	16 47	233.5	17 27	18 10	18 51
2021 jan 09	6 41	7 22	8 05	8 45	126.3	12 47	15.9	16 49	233.8	17 28	18 11	18 52
2021 jan 10	6 41	7 22	8 05	8 45	126.1	12 47	16.1	16 50	234.0	17 30	18 13	18 53
2021 jan 11	6 41	7 21	8 04	8 44	125.8	12 47	16.2	16 51	234.3	17 31	18 14	18 55
2021 jan 12	6 40	7 21	8 04	8 43	125.5	12 48	16.4	16 53	234.6	17 32	18 15	18 56
2021 jan 13	6 40	7 20	8 03	8 42	125.1	12 48	16.6	16 54	235.0	17 34	18 16	18 57
2021 jan 14	6 39	7 20	8 02	8 42	124.8	12 49	16.8	16 56	235.3	17 35	18 18	18 58
2021 jan 15	6 39	7 19	8 02	8 41	124.5	12 49	16.9	16 58	235.6	17 37	18 19	19 00
2021 jan 16	6 38	7 19	8 01	8 40	124.1	12 49	17.1	16 59	236.0	17 38	18 21	19 01
2021 jan 17	6 38	7 18	8 00	8 39	123.8	12 50	17.3	17 01	236.4	17 40	18 22	19 02
2021 jan 18	6 37	7 17	7 59	8 38	123.4	12 50	17.5	17 02	236.7	17 41	18 23	19 04
2021 jan 19	6 36	7 16	7 58	8 37	123.0	12 50	17.7	17 04	237.1	17 43	18 25	19 05
2021 jan 20	6 35	7 15	7 57	8 36	122.6	12 51	18.0	17 06	237.5	17 44	18 26	19 06
2021 jan 21	6 34	7 15	7 56	8 35	122.2	12 51	18.2	17 08	237.9	17 46	18 28	19 08
2021 jan 22	6 34	7 14	7 55	8 33	121.8	12 51	18.4	17 09	238.3	17 47	18 29	19 09
2021 jan 23	6 33	7 13	7 54	8 32	121.4	12 51	18.6	17 11	238.8	17 49	18 31	19 11
2021 jan 24	6 32	7 12	7 53	8 31	121.0	12 52	18.9	17 13	239.2	17 51	18 32	19 12
2021 jan 25	6 31	7 11	7 52	8 30	120.5	12 52	19.1	17 15	239.6	17 52	18 34	19 14
2021 jan 26	6 30	7 09	7 51	8 28	120.1	12 52	19.4	17 16	240.1	17 54	18 35	19 15
2021 jan 27	6 29	7 08	7 50	8 27	119.6	12 52	19.6	17 18	240.5	17 56	18 37	19 17
2021 jan 28	6 27	7 07	7 48	8 25	119.2	12 52	19.9	17 20	241.0	17 57	18 38	19 18
2021 jan 29	6 26	7 06	7 47	8 24	118.7	12 53	20.2	17 22	241.5	17 59	18 40	19 20
2021 jan 30	6 25	7 05	7 46	8 23	118.2	12 53	20.4	17 24	242.0	18 01	18 42	19 21
2021 jan 31	6 24	7 03	7 44	8 21	117.7	12 53	20.7	17 26	242.5	18 02	18 43	19 23

Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
	h m	h m	h m	h m	°	h m	°	h m	°	h m	h m	h m
2021 feb 01	6 23	7 02	7 43	8 19	117.2	12 53	21.0	17 27	243.0	18 04	18 45	19 24
2021 feb 02	6 21	7 01	7 41	8 18	116.7	12 53	21.3	17 29	243.5	18 06	18 46	19 26
2021 feb 03	6 20	6 59	7 40	8 16	116.2	12 53	21.6	17 31	244.0	18 08	18 48	19 28
2021 feb 04	6 18	6 58	7 38	8 15	115.7	12 53	21.9	17 33	244.5	18 09	18 50	19 29
2021 feb 05	6 17	6 56	7 37	8 13	115.2	12 53	22.2	17 35	245.0	18 11	18 51	19 31
2021 feb 06	6 16	6 55	7 35	8 11	114.6	12 54	22.5	17 37	245.6	18 13	18 53	19 32
2021 feb 07	6 14	6 53	7 33	8 09	114.1	12 54	22.8	17 39	246.1	18 15	18 55	19 34
2021 feb 08	6 13	6 52	7 32	8 08	113.6	12 54	23.1	17 40	246.7	18 16	18 56	19 36
2021 feb 09	6 11	6 50	7 30	8 06	113.0	12 54	23.4	17 42	247.2	18 18	18 58	19 37
2021 feb 10	6 09	6 49	7 28	8 04	112.5	12 54	23.8	17 44	247.8	18 20	19 00	19 39
2021 feb 11	6 08	6 47	7 27	8 02	111.9	12 54	24.1	17 46	248.3	18 22	19 01	19 41
2021 feb 12	6 06	6 45	7 25	8 00	111.3	12 54	24.4	17 48	248.9	18 23	19 03	19 42
2021 feb 13	6 04	6 43	7 23	7 58	110.8	12 54	24.8	17 50	249.5	18 25	19 05	19 44
2021 feb 14	6 03	6 42	7 21	7 56	110.2	12 54	25.1	17 52	250.0	18 27	19 06	19 46
2021 feb 15	6 01	6 40	7 19	7 54	109.6	12 54	25.4	17 54	250.6	18 29	19 08	19 47
2021 feb 16	5 59	6 38	7 18	7 52	109.0	12 54	25.8	17 55	251.2	18 30	19 10	19 49
2021 feb 17	5 57	6 36	7 16	7 50	108.4	12 53	26.1	17 57	251.8	18 32	19 12	19 51
2021 feb 18	5 55	6 34	7 14	7 48	107.9	12 53	26.5	17 59	252.4	18 34	19 13	19 52
2021 feb 19	5 53	6 32	7 12	7 46	107.3	12 53	26.8	18 01	253.0	18 36	19 15	19 54
2021 feb 20	5 51	6 31	7 10	7 44	106.7	12 53	27.2	18 03	253.6	18 37	19 17	19 56
2021 feb 21	5 50	6 29	7 08	7 42	106.1	12 53	27.6	18 05	254.2	18 39	19 19	19 58
2021 feb 22	5 48	6 27	7 06	7 40	105.5	12 53	27.9	18 07	254.8	18 41	19 20	19 59
2021 feb 23	5 46	6 25	7 04	7 38	104.8	12 53	28.3	18 08	255.4	18 43	19 22	20 01
2021 feb 24	5 43	6 23	7 02	7 36	104.2	12 53	28.7	18 10	256.0	18 45	19 24	20 03
2021 feb 25	5 41	6 21	7 00	7 34	103.6	12 52	29.0	18 12	256.6	18 46	19 25	20 05
2021 feb 26	5 39	6 18	6 58	7 32	103.0	12 52	29.4	18 14	257.3	18 48	19 27	20 07
2021 feb 27	5 37	6 16	6 55	7 29	102.4	12 52	29.8	18 16	257.9	18 50	19 29	20 08
2021 feb 28	5 35	6 14	6 53	7 27	101.8	12 52	30.2	18 18	258.5	18 52	19 31	20 10
Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
	h m	h m	h m	h m	°	h m	°	h m	°	h m	h m	h m
2021 mrt 01	5 33	6 12	6 51	7 25	101.1	12 52	30.5	18 19	259.1	18 53	19 32	20 12
2021 mrt 02	5 31	6 10	6 49	7 23	100.5	12 52	30.9	18 21	259.8	18 55	19 34	20 14
2021 mrt 03	5 28	6 08	6 47	7 21	99.9	12 51	31.3	18 23	260.4	18 57	19 36	20 16
2021 mrt 04	5 26	6 06	6 45	7 18	99.3	12 51	31.7	18 25	261.0	18 59	19 38	20 17
2021 mrt 05	5 24	6 03	6 42	7 16	98.6	12 51	32.1	18 27	261.7	19 00	19 40	20 19

Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
2021 mrt 06	5 22	6 01	6 40	7 14	98.0	12 51	32.5	18 28	262.3	19 02	19 41	20 21
2021 mrt 07	5 19	5 59	6 38	7 12	97.4	12 50	32.9	18 30	262.9	19 04	19 43	20 23
2021 mrt 08	5 17	5 57	6 36	7 09	96.7	12 50	33.2	18 32	263.6	19 06	19 45	20 25
2021 mrt 09	5 14	5 54	6 34	7 07	96.1	12 50	33.6	18 34	264.2	19 07	19 47	20 27
2021 mrt 10	5 12	5 52	6 31	7 05	95.5	12 50	34.0	18 35	264.9	19 09	19 48	20 29
2021 mrt 11	5 10	5 50	6 29	7 03	94.8	12 49	34.4	18 37	265.5	19 11	19 50	20 31
2021 mrt 12	5 07	5 47	6 27	7 00	94.2	12 49	34.8	18 39	266.1	19 13	19 52	20 33
2021 mrt 13	5 05	5 45	6 24	6 58	93.5	12 49	35.2	18 41	266.8	19 14	19 54	20 35
2021 mrt 14	5 02	5 43	6 22	6 56	92.9	12 49	35.6	18 42	267.4	19 16	19 56	20 36
2021 mrt 15	5 00	5 40	6 20	6 53	92.2	12 48	36.0	18 44	268.1	19 18	19 58	20 38
2021 mrt 16	4 57	5 38	6 18	6 51	91.6	12 48	36.4	18 46	268.7	19 20	19 59	20 40
2021 mrt 17	4 55	5 36	6 15	6 49	91.0	12 48	36.8	18 48	269.4	19 21	20 01	20 42
2021 mrt 18	4 52	5 33	6 13	6 47	90.3	12 47	37.2	18 49	270.0	19 23	20 03	20 44
2021 mrt 19	4 49	5 31	6 11	6 44	89.7	12 47	37.6	18 51	270.6	19 25	20 05	20 47
2021 mrt 20	4 47	5 28	6 08	6 42	89.0	12 47	38.0	18 53	271.3	19 27	20 07	20 49
2021 mrt 21	4 44	5 26	6 06	6 40	88.4	12 47	38.4	18 55	271.9	19 29	20 09	20 51
2021 mrt 22	4 41	5 23	6 03	6 37	87.8	12 46	38.8	18 56	272.6	19 30	20 11	20 53
2021 mrt 23	4 39	5 21	6 01	6 35	87.1	12 46	39.2	18 58	273.2	19 32	20 12	20 55
2021 mrt 24	4 36	5 18	5 59	6 33	86.5	12 46	39.5	19 00	273.9	19 34	20 14	20 57
2021 mrt 25	4 33	5 16	5 56	6 30	85.8	12 45	39.9	19 02	274.5	19 36	20 16	20 59
2021 mrt 26	4 31	5 13	5 54	6 28	85.2	12 45	40.3	19 03	275.1	19 37	20 18	21 01
2021 mrt 27	4 28	5 11	5 52	6 26	84.6	12 45	40.7	19 05	275.8	19 39	20 20	21 03
2021 mrt 28	4 25	5 08	5 49	6 23	83.9	12 44	41.1	19 07	276.4	19 41	20 22	21 06
2021 mrt 29	4 22	5 06	5 47	6 21	83.3	12 44	41.5	19 08	277.1	19 43	20 24	21 08
2021 mrt 30	4 19	5 03	5 44	6 19	82.6	12 44	41.9	19 10	277.7	19 45	20 26	21 10
2021 mrt 31	4 17	5 01	5 42	6 16	82.0	12 44	42.3	19 12	278.3	19 46	20 28	21 12
Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
	h m	h m	h m	h m	°	h m	°	h m	°	h m	h m	h m
2021 apr 01	4 14	4 58	5 40	6 14	81.4	12 43	42.7	19 14	279.0	19 48	20 30	21 15
2021 apr 02	4 11	4 56	5 37	6 12	80.7	12 43	43.0	19 15	279.6	19 50	20 32	21 17
2021 apr 03	4 08	4 53	5 35	6 09	80.1	12 43	43.4	19 17	280.2	19 52	20 34	21 19
2021 apr 04	4 05	4 51	5 33	6 07	79.5	12 42	43.8	19 19	280.9	19 54	20 36	21 22
2021 apr 05	4 02	4 48	5 30	6 05	78.9	12 42	44.2	19 20	281.5	19 55	20 38	21 24
2021 apr 06	3 59	4 45	5 28	6 03	78.2	12 42	44.6	19 22	282.1	19 57	20 40	21 27
2021 apr 07	3 56	4 43	5 25	6 00	77.6	12 42	44.9	19 24	282.7	19 59	20 42	21 29
2021 apr 08	3 53	4 40	5 23	5 58	77.0	12 41	45.3	19 26	283.3	20 01	20 44	21 32

Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
2021 apr 09	3 50	4 38	5 21	5 56	76.4	12 41	45.7	19 27	284.0	20 03	20 46	21 34
2021 apr 10	3 47	4 35	5 18	5 54	75.8	12 41	46.1	19 29	284.6	20 05	20 48	21 37
2021 apr 11	3 44	4 32	5 16	5 51	75.2	12 40	46.4	19 31	285.2	20 06	20 50	21 39
2021 apr 12	3 41	4 30	5 14	5 49	74.6	12 40	46.8	19 32	285.8	20 08	20 52	21 42
2021 apr 13	3 38	4 27	5 11	5 47	73.9	12 40	47.2	19 34	286.4	20 10	20 55	21 45
2021 apr 14	3 34	4 24	5 09	5 45	73.3	12 40	47.5	19 36	287.0	20 12	20 57	21 47
2021 apr 15	3 31	4 22	5 06	5 42	72.7	12 39	47.9	19 38	287.6	20 14	20 59	21 50
2021 apr 16	3 28	4 19	5 04	5 40	72.1	12 39	48.2	19 39	288.2	20 16	21 01	21 53
2021 apr 17	3 25	4 17	5 02	5 38	71.5	12 39	48.6	19 41	288.8	20 18	21 03	21 56
2021 apr 18	3 22	4 14	4 59	5 36	71.0	12 39	48.9	19 43	289.4	20 19	21 05	21 58
2021 apr 19	3 18	4 11	4 57	5 34	70.4	12 39	49.3	19 44	290.0	20 21	21 08	22 01
2021 apr 20	3 15	4 09	4 55	5 32	69.8	12 38	49.6	19 46	290.6	20 23	21 10	22 04
2021 apr 21	3 12	4 06	4 53	5 30	69.2	12 38	50.0	19 48	291.1	20 25	21 12	22 07
2021 apr 22	3 08	4 03	4 50	5 27	68.6	12 38	50.3	19 50	291.7	20 27	21 14	22 10
2021 apr 23	3 05	4 01	4 48	5 25	68.1	12 38	50.6	19 51	292.3	20 29	21 17	22 13
2021 apr 24	3 01	3 58	4 46	5 23	67.5	12 38	51.0	19 53	292.8	20 31	21 19	22 16
2021 apr 25	2 58	3 55	4 44	5 21	66.9	12 37	51.3	19 55	293.4	20 33	21 21	22 20
2021 apr 26	2 54	3 53	4 41	5 19	66.4	12 37	51.6	19 56	294.0	20 35	21 23	22 23
2021 apr 27	2 51	3 50	4 39	5 17	65.8	12 37	51.9	19 58	294.5	20 36	21 26	22 26
2021 apr 28	2 47	3 48	4 37	5 15	65.3	12 37	52.2	20 00	295.0	20 38	21 28	22 30
2021 apr 29	2 44	3 45	4 35	5 13	64.7	12 37	52.5	20 02	295.6	20 40	21 30	22 33
2021 apr 30	2 40	3 42	4 33	5 11	64.2	12 37	52.8	20 03	296.1	20 42	21 33	22 37
Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
	h m	h m	h m	h m	°	h m	°	h m	°	h m	h m	h m
2021 mei 01	2 36	3 40	4 30	5 09	63.7	12 37	53.1	20 05	296.6	20 44	21 35	22 40
2021 mei 02	2 32	3 37	4 28	5 07	63.2	12 36	53.4	20 07	297.2	20 46	21 38	22 44
2021 mei 03	2 28	3 35	4 26	5 06	62.6	12 36	53.7	20 08	297.7	20 48	21 40	22 48
2021 mei 04	2 24	3 32	4 24	5 04	62.1	12 36	54.0	20 10	298.2	20 50	21 42	22 52
2021 mei 05	2 20	3 29	4 22	5 02	61.6	12 36	54.3	20 12	298.7	20 52	21 45	22 56
2021 mei 06	2 16	3 27	4 20	5 00	61.1	12 36	54.6	20 13	299.2	20 54	21 47	23 00
2021 mei 07	2 12	3 24	4 18	4 58	60.6	12 36	54.9	20 15	299.7	20 55	21 50	23 04
2021 mei 08	2 08	3 22	4 16	4 57	60.1	12 36	55.1	20 16	300.2	20 57	21 52	23 08
2021 mei 09	2 03	3 19	4 14	4 55	59.6	12 36	55.4	20 18	300.7	20 59	21 54	23 13
2021 mei 10	1 58	3 17	4 12	4 53	59.2	12 36	55.7	20 20	301.1	21 01	21 57	23 18
2021 mei 11	1 54	3 14	4 10	4 51	58.7	12 36	55.9	20 21	301.6	21 03	21 59	23 23
2021 mei 12	1 49	3 12	4 08	4 50	58.2	12 36	56.2	20 23	302.0	21 05	22 02	23 28

Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
2021 mei 13	1 43	3 09	4 06	4 48	57.8	12 36	56.4	20 24	302.5	21 07	22 04	23 33
2021 mei 14	1 38	3 07	4 05	4 47	57.4	12 36	56.7	20 26	302.9	21 08	22 07	23 39
2021 mei 15	1 32	3 04	4 03	4 45	56.9	12 36	56.9	20 28	303.4	21 10	22 09	23 46
2021 mei 16	1 25	3 02	4 01	4 44	56.5	12 36	57.1	20 29	303.8	21 12	22 12	23 54
2021 mei 17	1 18	3 00	3 59	4 42	56.1	12 36	57.4	20 31	304.2	21 14	22 14	-- --
2021 mei 18	1 09	2 57	3 58	4 41	55.7	12 36	57.6	20 32	304.6	21 16	22 16	0 02
2021 mei 19	0 57	2 55	3 56	4 39	55.3	12 36	57.8	20 34	305.0	21 17	22 19	0 15
2021 mei 20	-- --	2 53	3 54	4 38	54.9	12 36	58.0	20 35	305.4	21 19	22 21	-- --
2021 mei 21	-- --	2 50	3 53	4 37	54.5	12 36	58.2	20 36	305.8	21 21	22 24	-- --
2021 mei 22	-- --	2 48	3 51	4 35	54.1	12 36	58.4	20 38	306.1	21 22	22 26	-- --
2021 mei 23	-- --	2 46	3 50	4 34	53.7	12 36	58.6	20 39	306.5	21 24	22 28	-- --
2021 mei 24	-- --	2 44	3 48	4 33	53.4	12 36	58.8	20 41	306.8	21 26	22 31	-- --
2021 mei 25	-- --	2 42	3 47	4 32	53.0	12 36	59.0	20 42	307.2	21 27	22 33	-- --
2021 mei 26	-- --	2 40	3 45	4 31	52.7	12 37	59.1	20 43	307.5	21 29	22 35	-- --
2021 mei 27	-- --	2 38	3 44	4 30	52.4	12 37	59.3	20 45	307.8	21 30	22 38	-- --
2021 mei 28	-- --	2 36	3 43	4 29	52.1	12 37	59.5	20 46	308.1	21 32	22 40	-- --
2021 mei 29	-- --	2 34	3 42	4 28	51.8	12 37	59.6	20 47	308.4	21 33	22 42	-- --
2021 mei 30	-- --	2 32	3 40	4 27	51.5	12 37	59.8	20 48	308.7	21 35	22 44	-- --
2021 mei 31	-- --	2 30	3 39	4 26	51.2	12 37	59.9	20 49	309.0	21 36	22 46	-- --
Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
	h m	h m	h m	h m	°	h m	°	h m	°	h m	h m	h m
2021 jun 01	-- --	2 28	3 38	4 25	50.9	12 37	60.0	20 50	309.2	21 37	22 48	-- --
2021 jun 02	-- --	2 26	3 37	4 24	50.7	12 38	60.2	20 52	309.5	21 39	22 50	-- --
2021 jun 03	-- --	2 25	3 36	4 23	50.4	12 38	60.3	20 53	309.7	21 40	22 52	-- --
2021 jun 04	-- --	2 23	3 35	4 23	50.2	12 38	60.4	20 54	309.9	21 41	22 54	-- --
2021 jun 05	-- --	2 22	3 35	4 22	50.0	12 38	60.5	20 55	310.2	21 42	22 56	-- --
2021 jun 06	-- --	2 20	3 34	4 21	49.8	12 38	60.6	20 55	310.4	21 43	22 58	-- --
2021 jun 07	-- --	2 19	3 33	4 21	49.6	12 38	60.7	20 56	310.5	21 44	22 59	-- --
2021 jun 08	-- --	2 17	3 32	4 20	49.4	12 39	60.8	20 57	310.7	21 45	23 01	-- --
2021 jun 09	-- --	2 16	3 32	4 20	49.2	12 39	60.9	20 58	310.9	21 46	23 02	-- --
2021 jun 10	-- --	2 15	3 31	4 20	49.1	12 39	61.0	20 59	311.0	21 47	23 04	-- --
2021 jun 11	-- --	2 14	3 31	4 19	48.9	12 39	61.0	20 59	311.2	21 48	23 05	-- --
2021 jun 12	-- --	2 13	3 30	4 19	48.8	12 39	61.1	21 00	311.3	21 49	23 06	-- --
2021 jun 13	-- --	2 13	3 30	4 19	48.7	12 40	61.2	21 01	311.4	21 50	23 07	-- --
2021 jun 14	-- --	2 12	3 30	4 19	48.6	12 40	61.2	21 01	311.5	21 50	23 08	-- --
2021 jun 15	-- --	2 11	3 30	4 18	48.5	12 40	61.2	21 02	311.6	21 51	23 09	-- --

Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
2021 jun 16	-- --	2 11	3 29	4 18	48.4	12 40	61.3	21 02	311.6	21 51	23 10	-- --
2021 jun 17	-- --	2 10	3 29	4 18	48.4	12 40	61.3	21 03	311.7	21 52	23 11	-- --
2021 jun 18	-- --	2 10	3 29	4 18	48.3	12 41	61.3	21 03	311.7	21 52	23 11	-- --
2021 jun 19	-- --	2 10	3 29	4 19	48.3	12 41	61.3	21 03	311.7	21 53	23 12	-- --
2021 jun 20	-- --	2 10	3 29	4 19	48.3	12 41	61.4	21 04	311.7	21 53	23 12	-- --
2021 jun 21	-- --	2 10	3 30	4 19	48.2	12 41	61.4	21 04	311.7	21 53	23 12	-- --
2021 jun 22	-- --	2 11	3 30	4 19	48.3	12 42	61.4	21 04	311.7	21 53	23 12	-- --
2021 jun 23	-- --	2 11	3 30	4 19	48.3	12 42	61.3	21 04	311.7	21 53	23 12	-- --
2021 jun 24	-- --	2 12	3 31	4 20	48.3	12 42	61.3	21 04	311.7	21 53	23 12	-- --
2021 jun 25	-- --	2 12	3 31	4 20	48.4	12 42	61.3	21 04	311.6	21 53	23 12	-- --
2021 jun 26	-- --	2 13	3 32	4 21	48.4	12 42	61.3	21 04	311.5	21 53	23 11	-- --
2021 jun 27	-- --	2 14	3 32	4 21	48.5	12 43	61.2	21 04	311.4	21 53	23 11	-- --
2021 jun 28	-- --	2 15	3 33	4 22	48.6	12 43	61.2	21 04	311.3	21 53	23 10	-- --
2021 jun 29	-- --	2 16	3 33	4 22	48.7	12 43	61.1	21 04	311.2	21 52	23 09	-- --
2021 jun 30	-- --	2 17	3 34	4 23	48.8	12 43	61.1	21 03	311.1	21 52	23 09	-- --
Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
	h m	h m	h m	h m	°	h m	°	h m	°	h m	h m	h m
2021 jul 01	-- --	2 18	3 35	4 23	48.9	12 43	61.0	21 03	311.0	21 51	23 08	-- --
2021 jul 02	-- --	2 20	3 36	4 24	49.1	12 44	60.9	21 03	310.8	21 51	23 07	-- --
2021 jul 03	-- --	2 21	3 37	4 25	49.2	12 44	60.8	21 02	310.7	21 50	23 05	-- --
2021 jul 04	-- --	2 23	3 38	4 26	49.4	12 44	60.8	21 02	310.5	21 50	23 04	-- --
2021 jul 05	-- --	2 24	3 39	4 27	49.6	12 44	60.7	21 01	310.3	21 49	23 03	-- --
2021 jul 06	-- --	2 26	3 40	4 28	49.8	12 44	60.6	21 01	310.1	21 48	23 01	-- --
2021 jul 07	-- --	2 28	3 41	4 28	50.0	12 44	60.4	21 00	309.9	21 47	23 00	-- --
2021 jul 08	-- --	2 29	3 42	4 29	50.2	12 45	60.3	20 59	309.6	21 46	22 58	-- --
2021 jul 09	-- --	2 31	3 43	4 30	50.4	12 45	60.2	20 58	309.4	21 45	22 57	-- --
2021 jul 10	-- --	2 33	3 45	4 31	50.7	12 45	60.1	20 58	309.2	21 44	22 55	-- --
2021 jul 11	-- --	2 35	3 46	4 33	50.9	12 45	60.0	20 57	308.9	21 43	22 53	-- --
2021 jul 12	-- --	2 37	3 47	4 34	51.2	12 45	59.8	20 56	308.6	21 42	22 51	-- --
2021 jul 13	-- --	2 39	3 49	4 35	51.5	12 45	59.7	20 55	308.3	21 41	22 49	-- --
2021 jul 14	-- --	2 42	3 50	4 36	51.8	12 45	59.5	20 54	308.0	21 40	22 47	-- --
2021 jul 15	-- --	2 44	3 51	4 37	52.1	12 46	59.4	20 53	307.7	21 39	22 45	-- --
2021 jul 16	-- --	2 46	3 53	4 38	52.4	12 46	59.2	20 52	307.4	21 37	22 43	-- --
2021 jul 17	-- --	2 48	3 54	4 40	52.7	12 46	59.0	20 51	307.1	21 36	22 41	-- --
2021 jul 18	-- --	2 51	3 56	4 41	53.0	12 46	58.9	20 50	306.8	21 35	22 39	-- --
2021 jul 19	-- --	2 53	3 57	4 42	53.4	12 46	58.7	20 48	306.4	21 33	22 37	-- --

Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
2021 jul 20	-- --	2 55	3 59	4 44	53.7	12 46	58.5	20 47	306.0	21 32	22 35	-- --
2021 jul 21	-- --	2 57	4 01	4 45	54.1	12 46	58.3	20 46	305.7	21 30	22 33	-- --
2021 jul 22	-- --	3 00	4 02	4 46	54.4	12 46	58.1	20 45	305.3	21 28	22 30	-- --
2021 jul 23	-- --	3 02	4 04	4 48	54.8	12 46	57.9	20 43	304.9	21 27	22 28	-- --
2021 jul 24	0 59	3 04	4 06	4 49	55.2	12 46	57.7	20 42	304.5	21 25	22 26	0 34
2021 jul 25	1 14	3 07	4 07	4 51	55.6	12 46	57.5	20 40	304.1	21 23	22 23	0 18
2021 jul 26	1 24	3 09	4 09	4 52	56.0	12 46	57.2	20 39	303.7	21 22	22 21	0 08
2021 jul 27	1 32	3 12	4 11	4 54	56.4	12 46	57.0	20 37	303.3	21 20	22 19	23 53
2021 jul 28	1 39	3 14	4 13	4 55	56.9	12 46	56.8	20 36	302.9	21 18	22 16	23 47
2021 jul 29	1 45	3 16	4 14	4 57	57.3	12 46	56.6	20 34	302.4	21 16	22 14	23 41
2021 jul 30	1 51	3 19	4 16	4 58	57.7	12 46	56.3	20 33	302.0	21 14	22 11	23 36
2021 jul 31	1 56	3 21	4 18	5 00	58.2	12 46	56.1	20 31	301.5	21 13	22 09	23 31
Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
	h m	h m	h m	h m	°	h m	°	h m	°	h m	h m	h m
2021 aug 01	2 02	3 23	4 20	5 01	58.6	12 46	55.8	20 29	301.1	21 11	22 06	23 26
2021 aug 02	2 06	3 26	4 21	5 03	59.1	12 46	55.6	20 28	300.6	21 09	22 04	23 21
2021 aug 03	2 11	3 28	4 23	5 04	59.6	12 46	55.3	20 26	300.1	21 07	22 01	23 16
2021 aug 04	2 15	3 31	4 25	5 06	60.0	12 46	55.0	20 24	299.7	21 05	21 59	23 12
2021 aug 05	2 20	3 33	4 27	5 07	60.5	12 45	54.8	20 22	299.2	21 03	21 56	23 08
2021 aug 06	2 24	3 35	4 29	5 09	61.0	12 45	54.5	20 21	298.7	21 01	21 54	23 04
2021 aug 07	2 28	3 38	4 31	5 11	61.5	12 45	54.2	20 19	298.2	20 59	21 51	22 59
2021 aug 08	2 31	3 40	4 32	5 12	62.0	12 45	53.9	20 17	297.7	20 56	21 48	22 55
2021 aug 09	2 35	3 42	4 34	5 14	62.5	12 45	53.6	20 15	297.2	20 54	21 46	22 52
2021 aug 10	2 39	3 45	4 36	5 15	63.0	12 45	53.3	20 13	296.7	20 52	21 43	22 48
2021 aug 11	2 42	3 47	4 38	5 17	63.5	12 45	53.0	20 11	296.1	20 50	21 41	22 44
2021 aug 12	2 46	3 49	4 40	5 19	64.1	12 44	52.7	20 09	295.6	20 48	21 38	22 40
2021 aug 13	2 49	3 52	4 42	5 20	64.6	12 44	52.4	20 07	295.1	20 46	21 35	22 36
2021 aug 14	2 53	3 54	4 43	5 22	65.1	12 44	52.1	20 05	294.5	20 44	21 33	22 33
2021 aug 15	2 56	3 56	4 45	5 24	65.7	12 44	51.8	20 03	294.0	20 41	21 30	22 29
2021 aug 16	2 59	3 58	4 47	5 25	66.2	12 44	51.5	20 01	293.4	20 39	21 27	22 26
2021 aug 17	3 02	4 01	4 49	5 27	66.8	12 44	51.2	19 59	292.9	20 37	21 25	22 22
2021 aug 18	3 05	4 03	4 51	5 28	67.3	12 43	50.9	19 57	292.3	20 35	21 22	22 19
2021 aug 19	3 08	4 05	4 53	5 30	67.9	12 43	50.5	19 55	291.8	20 32	21 19	22 15
2021 aug 20	3 11	4 07	4 54	5 32	68.4	12 43	50.2	19 53	291.2	20 30	21 17	22 12
2021 aug 21	3 14	4 09	4 56	5 33	69.0	12 43	49.9	19 51	290.7	20 28	21 14	22 08
2021 aug 22	3 17	4 11	4 58	5 35	69.6	12 42	49.5	19 49	290.1	20 25	21 12	22 05

Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
2021 aug 23	3 20	4 14	5 00	5 37	70.2	12 42	49.2	19 46	289.5	20 23	21 09	22 02
2021 aug 24	3 23	4 16	5 02	5 38	70.7	12 42	48.9	19 44	288.9	20 21	21 06	21 58
2021 aug 25	3 26	4 18	5 03	5 40	71.3	12 42	48.5	19 42	288.3	20 18	21 04	21 55
2021 aug 26	3 28	4 20	5 05	5 41	71.9	12 41	48.2	19 40	287.8	20 16	21 01	21 52
2021 aug 27	3 31	4 22	5 07	5 43	72.5	12 41	47.8	19 38	287.2	20 14	20 58	21 49
2021 aug 28	3 34	4 24	5 09	5 45	73.1	12 41	47.5	19 35	286.6	20 11	20 56	21 46
2021 aug 29	3 36	4 26	5 11	5 46	73.7	12 40	47.1	19 33	286.0	20 09	20 53	21 42
2021 aug 30	3 39	4 28	5 12	5 48	74.3	12 40	46.7	19 31	285.4	20 07	20 50	21 39
2021 aug 31	3 41	4 30	5 14	5 50	74.9	12 40	46.4	19 29	284.8	20 04	20 48	21 36
Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
	h m	h m	h m	h m	°	h m	°	h m	°	h m	h m	h m
2021 sep 01	3 44	4 32	5 16	5 51	75.5	12 39	46.0	19 26	284.2	20 02	20 45	21 33
2021 sep 02	3 46	4 34	5 18	5 53	76.1	12 39	45.7	19 24	283.6	19 59	20 42	21 30
2021 sep 03	3 49	4 36	5 19	5 55	76.7	12 39	45.3	19 22	283.0	19 57	20 40	21 27
2021 sep 04	3 51	4 38	5 21	5 56	77.3	12 38	44.9	19 20	282.4	19 55	20 37	21 24
2021 sep 05	3 53	4 40	5 23	5 58	77.9	12 38	44.6	19 17	281.7	19 52	20 35	21 21
2021 sep 06	3 56	4 42	5 25	5 59	78.5	12 38	44.2	19 15	281.1	19 50	20 32	21 18
2021 sep 07	3 58	4 44	5 26	6 01	79.1	12 37	43.8	19 13	280.5	19 47	20 29	21 15
2021 sep 08	4 00	4 46	5 28	6 03	79.8	12 37	43.4	19 10	279.9	19 45	20 27	21 12
2021 sep 09	4 03	4 48	5 30	6 04	80.4	12 37	43.1	19 08	279.3	19 43	20 24	21 09
2021 sep 10	4 05	4 50	5 31	6 06	81.0	12 36	42.7	19 06	278.7	19 40	20 22	21 06
2021 sep 11	4 07	4 52	5 33	6 08	81.6	12 36	42.3	19 03	278.0	19 38	20 19	21 03
2021 sep 12	4 09	4 54	5 35	6 09	82.3	12 36	41.9	19 01	277.4	19 35	20 16	21 00
2021 sep 13	4 11	4 55	5 37	6 11	82.9	12 35	41.5	18 59	276.8	19 33	20 14	20 57
2021 sep 14	4 14	4 57	5 38	6 13	83.5	12 35	41.2	18 56	276.2	19 30	20 11	20 55
2021 sep 15	4 16	4 59	5 40	6 14	84.1	12 35	40.8	18 54	275.5	19 28	20 09	20 52
2021 sep 16	4 18	5 01	5 42	6 16	84.8	12 34	40.4	18 52	274.9	19 26	20 06	20 49
2021 sep 17	4 20	5 03	5 43	6 17	85.4	12 34	40.0	18 49	274.3	19 23	20 04	20 46
2021 sep 18	4 22	5 05	5 45	6 19	86.0	12 34	39.6	18 47	273.6	19 21	20 01	20 44
2021 sep 19	4 24	5 06	5 47	6 21	86.7	12 33	39.2	18 45	273.0	19 18	19 59	20 41
2021 sep 20	4 26	5 08	5 48	6 22	87.3	12 33	38.8	18 42	272.4	19 16	19 56	20 38
2021 sep 21	4 28	5 10	5 50	6 24	87.9	12 32	38.4	18 40	271.7	19 14	19 54	20 35
2021 sep 22	4 30	5 12	5 52	6 26	88.6	12 32	38.1	18 38	271.1	19 11	19 51	20 33
2021 sep 23	4 32	5 14	5 53	6 27	89.2	12 32	37.7	18 35	270.5	19 09	19 49	20 30
2021 sep 24	4 34	5 15	5 55	6 29	89.8	12 31	37.3	18 33	269.8	19 07	19 46	20 27
2021 sep 25	4 36	5 17	5 57	6 31	90.5	12 31	36.9	18 31	269.2	19 04	19 44	20 25

Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
2021 sep 26	4 38	5 19	5 59	6 32	91.1	12 31	36.5	18 28	268.6	19 02	19 41	20 22
2021 sep 27	4 40	5 21	6 00	6 34	91.7	12 30	36.1	18 26	267.9	18 59	19 39	20 20
2021 sep 28	4 41	5 22	6 02	6 36	92.4	12 30	35.7	18 24	267.3	18 57	19 37	20 17
2021 sep 29	4 43	5 24	6 04	6 37	93.0	12 30	35.3	18 21	266.7	18 55	19 34	20 15
2021 sep 30	4 45	5 26	6 05	6 39	93.6	12 29	35.0	18 19	266.1	18 53	19 32	20 12
Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
	h m	h m	h m	h m	°	h m	°	h m	°	h m	h m	h m
2021 okt 01	4 47	5 27	6 07	6 41	94.3	12 29	34.6	18 17	265.4	18 50	19 29	20 10
2021 okt 02	4 49	5 29	6 09	6 42	94.9	12 29	34.2	18 14	264.8	18 48	19 27	20 07
2021 okt 03	4 51	5 31	6 10	6 44	95.5	12 28	33.8	18 12	264.2	18 46	19 25	20 05
2021 okt 04	4 53	5 33	6 12	6 46	96.2	12 28	33.4	18 10	263.5	18 43	19 22	20 02
2021 okt 05	4 54	5 34	6 14	6 47	96.8	12 28	33.0	18 07	262.9	18 41	19 20	20 00
2021 okt 06	4 56	5 36	6 15	6 49	97.4	12 28	32.6	18 05	262.3	18 39	19 18	19 58
2021 okt 07	4 58	5 38	6 17	6 51	98.0	12 27	32.3	18 03	261.7	18 37	19 16	19 55
2021 okt 08	5 00	5 39	6 19	6 52	98.7	12 27	31.9	18 01	261.0	18 34	19 13	19 53
2021 okt 09	5 01	5 41	6 20	6 54	99.3	12 27	31.5	17 58	260.4	18 32	19 11	19 51
2021 okt 10	5 03	5 43	6 22	6 56	99.9	12 26	31.1	17 56	259.8	18 30	19 09	19 48
2021 okt 11	5 05	5 44	6 24	6 58	100.5	12 26	30.7	17 54	259.2	18 28	19 07	19 46
2021 okt 12	5 07	5 46	6 25	6 59	101.2	12 26	30.4	17 52	258.6	18 26	19 05	19 44
2021 okt 13	5 08	5 48	6 27	7 01	101.8	12 26	30.0	17 49	257.9	18 23	19 02	19 42
2021 okt 14	5 10	5 50	6 29	7 03	102.4	12 25	29.6	17 47	257.3	18 21	19 00	19 40
2021 okt 15	5 12	5 51	6 30	7 05	103.0	12 25	29.3	17 45	256.7	18 19	18 58	19 37
2021 okt 16	5 14	5 53	6 32	7 06	103.6	12 25	28.9	17 43	256.1	18 17	18 56	19 35
2021 okt 17	5 15	5 54	6 34	7 08	104.2	12 25	28.5	17 41	255.5	18 15	18 54	19 33
2021 okt 18	5 17	5 56	6 35	7 10	104.8	12 25	28.2	17 39	254.9	18 13	18 52	19 31
2021 okt 19	5 19	5 58	6 37	7 12	105.4	12 24	27.8	17 36	254.3	18 11	18 50	19 29
2021 okt 20	5 20	5 59	6 39	7 13	106.0	12 24	27.4	17 34	253.7	18 09	18 48	19 27
2021 okt 21	5 22	6 01	6 40	7 15	106.6	12 24	27.1	17 32	253.1	18 07	18 46	19 25
2021 okt 22	5 24	6 03	6 42	7 17	107.2	12 24	26.7	17 30	252.5	18 05	18 44	19 23
2021 okt 23	5 25	6 04	6 44	7 19	107.8	12 24	26.4	17 28	252.0	18 03	18 42	19 21
2021 okt 24	5 27	6 06	6 46	7 20	108.4	12 24	26.0	17 26	251.4	18 01	18 40	19 19
2021 okt 25	5 29	6 08	6 47	7 22	109.0	12 24	25.7	17 24	250.8	17 59	18 38	19 18
2021 okt 26	5 30	6 09	6 49	7 24	109.5	12 23	25.3	17 22	250.2	17 57	18 37	19 16
2021 okt 27	5 32	6 11	6 51	7 26	110.1	12 23	25.0	17 20	249.7	17 55	18 35	19 14
2021 okt 28	5 33	6 13	6 52	7 28	110.7	12 23	24.7	17 18	249.1	17 53	18 33	19 12
2021 okt 29	5 35	6 14	6 54	7 29	111.2	12 23	24.3	17 16	248.5	17 52	18 31	19 10

Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
2021 okt 30	5 37	6 16	6 56	7 31	111.8	12 23	24.0	17 14	248.0	17 50	18 30	19 09
2021 okt 31	5 38	6 17	6 57	7 33	112.4	12 23	23.7	17 12	247.4	17 48	18 28	19 07
Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
	h m	h m	h m	h m	°	h m	°	h m	°	h m	h m	h m
2021 nov 01	5 40	6 19	6 59	7 35	112.9	12 23	23.4	17 11	246.9	17 46	18 26	19 05
2021 nov 02	5 41	6 21	7 01	7 37	113.4	12 23	23.1	17 09	246.3	17 45	18 25	19 04
2021 nov 03	5 43	6 22	7 02	7 38	114.0	12 23	22.7	17 07	245.8	17 43	18 23	19 02
2021 nov 04	5 45	6 24	7 04	7 40	114.5	12 23	22.4	17 05	245.3	17 41	18 21	19 01
2021 nov 05	5 46	6 25	7 06	7 42	115.0	12 23	22.1	17 03	244.7	17 40	18 20	18 59
2021 nov 06	5 48	6 27	7 07	7 44	115.6	12 23	21.8	17 02	244.2	17 38	18 18	18 58
2021 nov 07	5 49	6 29	7 09	7 46	116.1	12 23	21.5	17 00	243.7	17 36	18 17	18 56
2021 nov 08	5 51	6 30	7 11	7 47	116.6	12 23	21.3	16 58	243.2	17 35	18 16	18 55
2021 nov 09	5 52	6 32	7 12	7 49	117.1	12 23	21.0	16 57	242.7	17 33	18 14	18 54
2021 nov 10	5 54	6 33	7 14	7 51	117.6	12 23	20.7	16 55	242.2	17 32	18 13	18 52
2021 nov 11	5 55	6 35	7 16	7 53	118.1	12 24	20.4	16 54	241.7	17 31	18 11	18 51
2021 nov 12	5 57	6 36	7 17	7 55	118.6	12 24	20.1	16 52	241.3	17 29	18 10	18 50
2021 nov 13	5 58	6 38	7 19	7 56	119.0	12 24	19.9	16 51	240.8	17 28	18 09	18 49
2021 nov 14	6 00	6 39	7 21	7 58	119.5	12 24	19.6	16 49	240.3	17 27	18 08	18 48
2021 nov 15	6 01	6 41	7 22	8 00	119.9	12 24	19.4	16 48	239.9	17 25	18 07	18 46
2021 nov 16	6 03	6 42	7 24	8 02	120.4	12 24	19.1	16 46	239.4	17 24	18 05	18 45
2021 nov 17	6 04	6 44	7 25	8 03	120.8	12 24	18.9	16 45	239.0	17 23	18 04	18 44
2021 nov 18	6 05	6 45	7 27	8 05	121.3	12 25	18.6	16 44	238.6	17 22	18 03	18 43
2021 nov 19	6 07	6 47	7 29	8 07	121.7	12 25	18.4	16 43	238.2	17 21	18 02	18 42
2021 nov 20	6 08	6 48	7 30	8 08	122.1	12 25	18.2	16 41	237.8	17 20	18 01	18 42
2021 nov 21	6 10	6 50	7 32	8 10	122.5	12 25	18.0	16 40	237.4	17 19	18 00	18 41
2021 nov 22	6 11	6 51	7 33	8 12	122.9	12 26	17.7	16 39	237.0	17 18	18 00	18 40
2021 nov 23	6 12	6 53	7 35	8 13	123.3	12 26	17.5	16 38	236.6	17 17	17 59	18 39
2021 nov 24	6 14	6 54	7 36	8 15	123.6	12 26	17.3	16 37	236.2	17 16	17 58	18 38
2021 nov 25	6 15	6 55	7 38	8 17	124.0	12 26	17.1	16 36	235.9	17 15	17 57	18 38
2021 nov 26	6 16	6 57	7 39	8 18	124.4	12 27	16.9	16 35	235.5	17 14	17 57	18 37
2021 nov 27	6 17	6 58	7 40	8 20	124.7	12 27	16.8	16 34	235.2	17 13	17 56	18 36
2021 nov 28	6 19	6 59	7 42	8 21	125.0	12 27	16.6	16 33	234.9	17 13	17 55	18 36
2021 nov 29	6 20	7 00	7 43	8 23	125.3	12 28	16.4	16 33	234.6	17 12	17 55	18 35
2021 nov 30	6 21	7 02	7 45	8 24	125.6	12 28	16.3	16 32	234.3	17 11	17 54	18 35
Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.

Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
	h m	h m	h m	h m	°	h m	°	h m	°	h m	h m	h m
2021 dec 01	6 22	7 03	7 46	8 26	125.9	12 29	16.1	16 31	234.0	17 11	17 54	18 35
2021 dec 02	6 23	7 04	7 47	8 27	126.2	12 29	15.9	16 31	233.7	17 10	17 53	18 34
2021 dec 03	6 24	7 05	7 48	8 28	126.5	12 29	15.8	16 30	233.4	17 10	17 53	18 34
2021 dec 04	6 26	7 06	7 50	8 30	126.7	12 30	15.7	16 29	233.2	17 10	17 53	18 34
2021 dec 05	6 27	7 08	7 51	8 31	127.0	12 30	15.5	16 29	232.9	17 09	17 52	18 33
2021 dec 06	6 28	7 09	7 52	8 32	127.2	12 31	15.4	16 29	232.7	17 09	17 52	18 33
2021 dec 07	6 29	7 10	7 53	8 34	127.4	12 31	15.3	16 28	232.5	17 09	17 52	18 33
2021 dec 08	6 30	7 11	7 54	8 35	127.6	12 31	15.2	16 28	232.3	17 08	17 52	18 33
2021 dec 09	6 31	7 12	7 55	8 36	127.8	12 32	15.1	16 28	232.1	17 08	17 52	18 33
2021 dec 10	6 32	7 13	7 56	8 37	128.0	12 32	15.0	16 28	232.0	17 08	17 52	18 33
2021 dec 11	6 32	7 14	7 57	8 38	128.2	12 33	14.9	16 27	231.8	17 08	17 52	18 33
2021 dec 12	6 33	7 15	7 58	8 39	128.3	12 33	14.9	16 27	231.7	17 08	17 52	18 33
2021 dec 13	6 34	7 15	7 59	8 40	128.4	12 34	14.8	16 27	231.5	17 08	17 52	18 33
2021 dec 14	6 35	7 16	8 00	8 41	128.5	12 34	14.7	16 27	231.4	17 08	17 52	18 33
2021 dec 15	6 36	7 17	8 01	8 42	128.6	12 35	14.7	16 28	231.3	17 08	17 52	18 34
2021 dec 16	6 36	7 18	8 02	8 43	128.7	12 35	14.6	16 28	231.2	17 09	17 53	18 34
2021 dec 17	6 37	7 18	8 02	8 43	128.8	12 36	14.6	16 28	231.2	17 09	17 53	18 34
2021 dec 18	6 38	7 19	8 03	8 44	128.9	12 36	14.6	16 28	231.1	17 09	17 53	18 35
2021 dec 19	6 38	7 20	8 04	8 45	128.9	12 37	14.6	16 29	231.1	17 10	17 54	18 35
2021 dec 20	6 39	7 20	8 04	8 45	128.9	12 37	14.5	16 29	231.1	17 10	17 54	18 35
2021 dec 21	6 39	7 21	8 05	8 46	128.9	12 38	14.5	16 29	231.0	17 11	17 54	18 36
2021 dec 22	6 40	7 21	8 05	8 46	128.9	12 38	14.5	16 30	231.1	17 11	17 55	18 36
2021 dec 23	6 40	7 22	8 06	8 47	128.9	12 39	14.6	16 31	231.1	17 12	17 56	18 37
2021 dec 24	6 41	7 22	8 06	8 47	128.9	12 39	14.6	16 31	231.1	17 12	17 56	18 37
2021 dec 25	6 41	7 23	8 06	8 47	128.8	12 40	14.6	16 32	231.2	17 13	17 57	18 38
2021 dec 26	6 42	7 23	8 07	8 48	128.8	12 40	14.6	16 33	231.2	17 14	17 57	18 39
2021 dec 27	6 42	7 23	8 07	8 48	128.7	12 41	14.7	16 33	231.3	17 14	17 58	18 40
2021 dec 28	6 42	7 23	8 07	8 48	128.6	12 41	14.7	16 34	231.4	17 15	17 59	18 40
2021 dec 29	6 42	7 24	8 07	8 48	128.5	12 42	14.8	16 35	231.5	17 16	18 00	18 41
2021 dec 30	6 42	7 24	8 07	8 48	128.4	12 42	14.8	16 36	231.7	17 17	18 01	18 42
2021 dec 31	6 43	7 24	8 07	8 48	128.3	12 43	14.9	16 37	231.8	17 18	18 02	18 43
Datum	Begin astr.schem.	Begin naut.schem.	Begin burg.schem.	Opkomst	Azimut opkomst	Doorgang	Hoogte culm.	Ondergang	Azimut ondergang	Einde burg.schem.	Einde naut.schem.	Einde astr.schem.
	h m	h m	h m	h m	°	h m	°	h m	°	h m	h m	h m
2022 jan 01	6 43	7 24	8 07	8 48	128.1	12 43	15.0	16 38	232.0	17 19	18 02	18 44

Efemeride voor Zon: deel 1, posities - Tom Peters Sun Nov 3 17:22:52 2019
 vanaf datum 20210101, voor tijd 0:00:00, zone +0.0u. t.o.v. UT
 DeltaT = 70.0 s
 r.k. en dec. schijnbaar en geocentrisch voor ware equinox van de datum

Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
	°	h m	° '	A. E.
2021 jan 01	280.50	18 46.9	-23 00	0.98326
2021 jan 02	281.52	18 51.3	-22 55	0.98326
2021 jan 03	282.53	18 55.7	-22 49	0.98326
2021 jan 04	283.55	19 00.1	-22 43	0.98326
2021 jan 05	284.57	19 04.5	-22 37	0.98327
2021 jan 06	285.59	19 08.9	-22 30	0.98329
2021 jan 07	286.61	19 13.3	-22 22	0.98331
2021 jan 08	287.63	19 17.6	-22 14	0.98334
2021 jan 09	288.65	19 22.0	-22 06	0.98337
2021 jan 10	289.67	19 26.4	-21 57	0.98341
2021 jan 11	290.69	19 30.7	-21 48	0.98345
2021 jan 12	291.71	19 35.0	-21 39	0.98349
2021 jan 13	292.73	19 39.4	-21 28	0.98354
2021 jan 14	293.75	19 43.7	-21 18	0.98359
2021 jan 15	294.77	19 48.0	-21 07	0.98365
2021 jan 16	295.78	19 52.3	-20 56	0.98370
2021 jan 17	296.80	19 56.5	-20 44	0.98377
2021 jan 18	297.82	20 00.8	-20 32	0.98383
2021 jan 19	298.84	20 05.1	-20 20	0.98390
2021 jan 20	299.86	20 09.3	-20 07	0.98398
2021 jan 21	300.88	20 13.5	-19 54	0.98406
2021 jan 22	301.89	20 17.8	-19 40	0.98414
2021 jan 23	302.91	20 22.0	-19 26	0.98423
2021 jan 24	303.93	20 26.2	-19 12	0.98433
2021 jan 25	304.94	20 30.3	-18 58	0.98443
2021 jan 26	305.96	20 34.5	-18 43	0.98453
2021 jan 27	306.98	20 38.7	-18 27	0.98464
2021 jan 28	307.99	20 42.8	-18 12	0.98476
2021 jan 29	309.01	20 46.9	-17 56	0.98489
2021 jan 30	310.02	20 51.0	-17 39	0.98502
2021 jan 31	311.04	20 55.1	-17 23	0.98515

Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
	°	h m	° '	A.E.
2021 feb 01	312.05	20 59.2	-17 06	0.98529
2021 feb 02	313.07	21 03.3	-16 49	0.98544
2021 feb 03	314.08	21 07.3	-16 31	0.98559
2021 feb 04	315.10	21 11.4	-16 13	0.98575
2021 feb 05	316.11	21 15.4	-15 55	0.98591
2021 feb 06	317.12	21 19.4	-15 37	0.98608
2021 feb 07	318.14	21 23.4	-15 18	0.98625
2021 feb 08	319.15	21 27.4	-14 59	0.98642
2021 feb 09	320.16	21 31.4	-14 40	0.98660
2021 feb 10	321.18	21 35.4	-14 21	0.98678
2021 feb 11	322.19	21 39.3	-14 01	0.98696
2021 feb 12	323.20	21 43.3	-13 41	0.98714
2021 feb 13	324.21	21 47.2	-13 21	0.98733
2021 feb 14	325.22	21 51.1	-13 01	0.98752
2021 feb 15	326.23	21 55.0	-12 40	0.98771
2021 feb 16	327.24	21 58.9	-12 20	0.98791
2021 feb 17	328.25	22 02.8	-11 59	0.98810
2021 feb 18	329.26	22 06.6	-11 38	0.98830
2021 feb 19	330.27	22 10.5	-11 16	0.98851
2021 feb 20	331.28	22 14.3	-10 55	0.98872
2021 feb 21	332.29	22 18.2	-10 33	0.98893
2021 feb 22	333.30	22 22.0	-10 12	0.98914
2021 feb 23	334.30	22 25.8	- 9 50	0.98936
2021 feb 24	335.31	22 29.6	- 9 28	0.98958
2021 feb 25	336.31	22 33.4	- 9 05	0.98980
2021 feb 26	337.32	22 37.2	- 8 43	0.99003
2021 feb 27	338.32	22 40.9	- 8 20	0.99027
2021 feb 28	339.33	22 44.7	- 7 58	0.99051
Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
	°	h m	° '	A.E.
2021 mrt 01	340.33	22 48.4	- 7 35	0.99075
2021 mrt 02	341.34	22 52.2	- 7 12	0.99100
2021 mrt 03	342.34	22 55.9	- 6 49	0.99125
2021 mrt 04	343.34	22 59.7	- 6 26	0.99150
2021 mrt 05	344.34	23 03.4	- 6 03	0.99176

Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
2021 mrt 06	345.34	23 07.1	- 5 40	0.99202
2021 mrt 07	346.35	23 10.8	- 5 17	0.99228
2021 mrt 08	347.35	23 14.5	- 4 53	0.99255
2021 mrt 09	348.35	23 18.2	- 4 30	0.99282
2021 mrt 10	349.35	23 21.9	- 4 06	0.99308
2021 mrt 11	350.35	23 25.6	- 3 43	0.99335
2021 mrt 12	351.34	23 29.3	- 3 19	0.99362
2021 mrt 13	352.34	23 32.9	- 2 56	0.99389
2021 mrt 14	353.34	23 36.6	- 2 32	0.99416
2021 mrt 15	354.34	23 40.3	- 2 08	0.99443
2021 mrt 16	355.33	23 43.9	- 1 44	0.99470
2021 mrt 17	356.33	23 47.6	- 1 21	0.99498
2021 mrt 18	357.33	23 51.2	- 0 57	0.99525
2021 mrt 19	358.32	23 54.9	- 0 33	0.99552
2021 mrt 20	359.32	23 58.5	- 0 10	0.99579
2021 mrt 21	0.31	0 02.2	+ 0 14	0.99607
2021 mrt 22	1.30	0 05.8	+ 0 38	0.99634
2021 mrt 23	2.29	0 09.5	+ 1 02	0.99662
2021 mrt 24	3.29	0 13.1	+ 1 25	0.99690
2021 mrt 25	4.28	0 16.8	+ 1 49	0.99718
2021 mrt 26	5.27	0 20.4	+ 2 12	0.99746
2021 mrt 27	6.26	0 24.0	+ 2 36	0.99774
2021 mrt 28	7.25	0 27.7	+ 2 59	0.99802
2021 mrt 29	8.24	0 31.3	+ 3 23	0.99831
2021 mrt 30	9.22	0 35.0	+ 3 46	0.99860
2021 mrt 31	10.21	0 38.6	+ 4 09	0.99889

Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
	°	h m	° '	A.E.
2021 apr 01	11.20	0 42.2	+ 4 33	0.99918
2021 apr 02	12.18	0 45.9	+ 4 56	0.99947
2021 apr 03	13.17	0 49.5	+ 5 19	0.99977
2021 apr 04	14.16	0 53.2	+ 5 42	1.00006
2021 apr 05	15.14	0 56.8	+ 6 04	1.00035
2021 apr 06	16.13	1 00.5	+ 6 27	1.00065
2021 apr 07	17.11	1 04.2	+ 6 50	1.00094
2021 apr 08	18.09	1 07.8	+ 7 12	1.00123

Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
2021 apr 09	19.08	1 11.5	+ 7 35	1.00152
2021 apr 10	20.06	1 15.2	+ 7 57	1.00181
2021 apr 11	21.04	1 18.8	+ 8 19	1.00210
2021 apr 12	22.02	1 22.5	+ 8 41	1.00239
2021 apr 13	23.00	1 26.2	+ 9 03	1.00267
2021 apr 14	23.98	1 29.9	+ 9 25	1.00295
2021 apr 15	24.96	1 33.6	+ 9 46	1.00323
2021 apr 16	25.94	1 37.3	+10 07	1.00351
2021 apr 17	26.92	1 41.0	+10 29	1.00378
2021 apr 18	27.90	1 44.7	+10 50	1.00406
2021 apr 19	28.88	1 48.4	+11 11	1.00433
2021 apr 20	29.85	1 52.2	+11 31	1.00460
2021 apr 21	30.83	1 55.9	+11 52	1.00487
2021 apr 22	31.80	1 59.7	+12 12	1.00513
2021 apr 23	32.78	2 03.4	+12 32	1.00540
2021 apr 24	33.75	2 07.2	+12 52	1.00566
2021 apr 25	34.73	2 10.9	+13 12	1.00593
2021 apr 26	35.70	2 14.7	+13 31	1.00619
2021 apr 27	36.67	2 18.5	+13 50	1.00645
2021 apr 28	37.65	2 22.3	+14 09	1.00672
2021 apr 29	38.62	2 26.1	+14 28	1.00698
2021 apr 30	39.59	2 29.9	+14 46	1.00724
Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
	°	h m	° '	A.E.
2021 mei 01	40.56	2 33.7	+15 05	1.00750
2021 mei 02	41.53	2 37.5	+15 23	1.00776
2021 mei 03	42.50	2 41.4	+15 40	1.00802
2021 mei 04	43.47	2 45.2	+15 58	1.00828
2021 mei 05	44.44	2 49.1	+16 15	1.00853
2021 mei 06	45.41	2 52.9	+16 32	1.00878
2021 mei 07	46.38	2 56.8	+16 49	1.00903
2021 mei 08	47.34	3 00.7	+17 05	1.00927
2021 mei 09	48.31	3 04.6	+17 21	1.00951
2021 mei 10	49.28	3 08.5	+17 37	1.00975
2021 mei 11	50.24	3 12.4	+17 53	1.00998
2021 mei 12	51.21	3 16.3	+18 08	1.01021

Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
2021 mei 13	52.18	3 20.2	+18 23	1.01043
2021 mei 14	53.14	3 24.2	+18 38	1.01065
2021 mei 15	54.11	3 28.1	+18 52	1.01086
2021 mei 16	55.07	3 32.1	+19 06	1.01107
2021 mei 17	56.04	3 36.0	+19 20	1.01128
2021 mei 18	57.00	3 40.0	+19 33	1.01148
2021 mei 19	57.96	3 44.0	+19 46	1.01168
2021 mei 20	58.93	3 48.0	+19 59	1.01188
2021 mei 21	59.89	3 52.0	+20 11	1.01207
2021 mei 22	60.85	3 56.0	+20 23	1.01226
2021 mei 23	61.81	4 00.0	+20 35	1.01244
2021 mei 24	62.77	4 04.1	+20 46	1.01263
2021 mei 25	63.73	4 08.1	+20 57	1.01281
2021 mei 26	64.69	4 12.2	+21 08	1.01298
2021 mei 27	65.65	4 16.2	+21 18	1.01316
2021 mei 28	66.61	4 20.3	+21 28	1.01333
2021 mei 29	67.57	4 24.3	+21 37	1.01351
2021 mei 30	68.53	4 28.4	+21 46	1.01367
2021 mei 31	69.49	4 32.5	+21 55	1.01384
Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
	°	h m	° '	A. E.
2021 jun 01	70.45	4 36.6	+22 03	1.01400
2021 jun 02	71.40	4 40.7	+22 11	1.01416
2021 jun 03	72.36	4 44.8	+22 19	1.01432
2021 jun 04	73.32	4 48.9	+22 26	1.01447
2021 jun 05	74.28	4 53.0	+22 33	1.01461
2021 jun 06	75.23	4 57.1	+22 39	1.01475
2021 jun 07	76.19	5 01.3	+22 45	1.01489
2021 jun 08	77.15	5 05.4	+22 51	1.01502
2021 jun 09	78.11	5 09.5	+22 56	1.01515
2021 jun 10	79.06	5 13.7	+23 01	1.01527
2021 jun 11	80.02	5 17.8	+23 05	1.01538
2021 jun 12	80.97	5 22.0	+23 09	1.01549
2021 jun 13	81.93	5 26.1	+23 13	1.01559
2021 jun 14	82.89	5 30.3	+23 16	1.01569
2021 jun 15	83.84	5 34.4	+23 18	1.01578

Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
2021 jun 16	84.80	5 38.6	+23 21	1.01586
2021 jun 17	85.75	5 42.7	+23 23	1.01595
2021 jun 18	86.71	5 46.9	+23 24	1.01602
2021 jun 19	87.66	5 51.1	+23 25	1.01609
2021 jun 20	88.62	5 55.2	+23 26	1.01616
2021 jun 21	89.57	5 59.4	+23 26	1.01622
2021 jun 22	90.52	6 03.5	+23 26	1.01628
2021 jun 23	91.48	6 07.7	+23 26	1.01634
2021 jun 24	92.43	6 11.9	+23 25	1.01639
2021 jun 25	93.38	6 16.0	+23 23	1.01644
2021 jun 26	94.34	6 20.2	+23 21	1.01649
2021 jun 27	95.29	6 24.3	+23 19	1.01653
2021 jun 28	96.24	6 28.5	+23 17	1.01657
2021 jun 29	97.20	6 32.6	+23 14	1.01660
2021 jun 30	98.15	6 36.8	+23 10	1.01664

Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
	°	h m	° '	A. E.
2021 jul 01	99.10	6 40.9	+23 06	1.01666
2021 jul 02	100.06	6 45.0	+23 02	1.01669
2021 jul 03	101.01	6 49.2	+22 57	1.01671
2021 jul 04	101.96	6 53.3	+22 52	1.01672
2021 jul 05	102.92	6 57.4	+22 47	1.01673
2021 jul 06	103.87	7 01.5	+22 41	1.01673
2021 jul 07	104.82	7 05.6	+22 35	1.01673
2021 jul 08	105.78	7 09.7	+22 28	1.01672
2021 jul 09	106.73	7 13.8	+22 21	1.01670
2021 jul 10	107.69	7 17.9	+22 14	1.01668
2021 jul 11	108.64	7 22.0	+22 06	1.01665
2021 jul 12	109.59	7 26.1	+21 58	1.01662
2021 jul 13	110.55	7 30.1	+21 49	1.01658
2021 jul 14	111.50	7 34.2	+21 40	1.01654
2021 jul 15	112.46	7 38.2	+21 31	1.01649
2021 jul 16	113.41	7 42.3	+21 22	1.01643
2021 jul 17	114.36	7 46.3	+21 12	1.01637
2021 jul 18	115.32	7 50.3	+21 01	1.01630
2021 jul 19	116.27	7 54.3	+20 50	1.01623

Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
2021 jul 20	117.23	7 58.4	+20 39	1.01616
2021 jul 21	118.18	8 02.3	+20 28	1.01608
2021 jul 22	119.13	8 06.3	+20 16	1.01600
2021 jul 23	120.09	8 10.3	+20 04	1.01591
2021 jul 24	121.04	8 14.3	+19 52	1.01582
2021 jul 25	122.00	8 18.2	+19 39	1.01573
2021 jul 26	122.95	8 22.2	+19 26	1.01564
2021 jul 27	123.91	8 26.1	+19 12	1.01554
2021 jul 28	124.86	8 30.0	+18 59	1.01544
2021 jul 29	125.82	8 34.0	+18 45	1.01534
2021 jul 30	126.77	8 37.9	+18 30	1.01523
2021 jul 31	127.73	8 41.8	+18 16	1.01512

Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
	°	h m	° '	A. E.
2021 aug 01	128.69	8 45.6	+18 01	1.01500
2021 aug 02	129.64	8 49.5	+17 45	1.01488
2021 aug 03	130.60	8 53.4	+17 30	1.01475
2021 aug 04	131.56	8 57.2	+17 14	1.01462
2021 aug 05	132.52	9 01.1	+16 58	1.01449
2021 aug 06	133.47	9 04.9	+16 42	1.01435
2021 aug 07	134.43	9 08.8	+16 25	1.01420
2021 aug 08	135.39	9 12.6	+16 08	1.01405
2021 aug 09	136.35	9 16.4	+15 51	1.01389
2021 aug 10	137.31	9 20.2	+15 33	1.01373
2021 aug 11	138.27	9 24.0	+15 16	1.01357
2021 aug 12	139.23	9 27.8	+14 58	1.01339
2021 aug 13	140.19	9 31.5	+14 40	1.01322
2021 aug 14	141.15	9 35.3	+14 21	1.01304
2021 aug 15	142.11	9 39.0	+14 03	1.01285
2021 aug 16	143.07	9 42.8	+13 44	1.01266
2021 aug 17	144.03	9 46.5	+13 25	1.01247
2021 aug 18	144.99	9 50.2	+13 06	1.01227
2021 aug 19	145.95	9 53.9	+12 46	1.01207
2021 aug 20	146.92	9 57.7	+12 26	1.01187
2021 aug 21	147.88	10 01.4	+12 07	1.01166
2021 aug 22	148.84	10 05.0	+11 46	1.01146

Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
2021 aug 23	149.80	10 08.7	+11 26	1.01125
2021 aug 24	150.77	10 12.4	+11 06	1.01104
2021 aug 25	151.73	10 16.1	+10 45	1.01083
2021 aug 26	152.70	10 19.7	+10 24	1.01061
2021 aug 27	153.66	10 23.4	+10 04	1.01040
2021 aug 28	154.63	10 27.0	+ 9 42	1.01018
2021 aug 29	155.59	10 30.7	+ 9 21	1.00996
2021 aug 30	156.56	10 34.3	+ 9 00	1.00974
2021 aug 31	157.52	10 38.0	+ 8 38	1.00951
Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
	°	h m	° '	A.E.
2021 sep 01	158.49	10 41.6	+ 8 17	1.00928
2021 sep 02	159.46	10 45.2	+ 7 55	1.00905
2021 sep 03	160.43	10 48.8	+ 7 33	1.00881
2021 sep 04	161.40	10 52.4	+ 7 11	1.00857
2021 sep 05	162.37	10 56.1	+ 6 49	1.00833
2021 sep 06	163.34	10 59.7	+ 6 26	1.00808
2021 sep 07	164.31	11 03.3	+ 6 04	1.00783
2021 sep 08	165.28	11 06.9	+ 5 41	1.00758
2021 sep 09	166.25	11 10.5	+ 5 19	1.00732
2021 sep 10	167.22	11 14.1	+ 4 56	1.00706
2021 sep 11	168.19	11 17.7	+ 4 33	1.00680
2021 sep 12	169.17	11 21.2	+ 4 10	1.00653
2021 sep 13	170.14	11 24.8	+ 3 47	1.00626
2021 sep 14	171.11	11 28.4	+ 3 24	1.00599
2021 sep 15	172.09	11 32.0	+ 3 01	1.00571
2021 sep 16	173.06	11 35.6	+ 2 38	1.00544
2021 sep 17	174.04	11 39.2	+ 2 15	1.00516
2021 sep 18	175.01	11 42.8	+ 1 52	1.00488
2021 sep 19	175.99	11 46.3	+ 1 29	1.00461
2021 sep 20	176.96	11 49.9	+ 1 05	1.00433
2021 sep 21	177.94	11 53.5	+ 0 42	1.00405
2021 sep 22	178.92	11 57.1	+ 0 19	1.00377
2021 sep 23	179.90	12 00.7	- 0 05	1.00350
2021 sep 24	180.87	12 04.3	- 0 28	1.00322
2021 sep 25	181.85	12 07.9	- 0 51	1.00294

Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
2021 sep 26	182.83	12 11.5	- 1 15	1.00267
2021 sep 27	183.81	12 15.1	- 1 38	1.00239
2021 sep 28	184.79	12 18.7	- 2 01	1.00211
2021 sep 29	185.78	12 22.3	- 2 25	1.00183
2021 sep 30	186.76	12 25.9	- 2 48	1.00155
Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
	°	h m	° '	A. E.
2021 okt 01	187.74	12 29.5	- 3 11	1.00127
2021 okt 02	188.72	12 33.1	- 3 34	1.00099
2021 okt 03	189.71	12 36.8	- 3 58	1.00071
2021 okt 04	190.69	12 40.4	- 4 21	1.00043
2021 okt 05	191.68	12 44.0	- 4 44	1.00015
2021 okt 06	192.66	12 47.7	- 5 07	0.99986
2021 okt 07	193.65	12 51.3	- 5 30	0.99957
2021 okt 08	194.64	12 55.0	- 5 53	0.99928
2021 okt 09	195.63	12 58.7	- 6 16	0.99899
2021 okt 10	196.61	13 02.3	- 6 39	0.99870
2021 okt 11	197.60	13 06.0	- 7 01	0.99841
2021 okt 12	198.59	13 09.7	- 7 24	0.99812
2021 okt 13	199.58	13 13.4	- 7 46	0.99783
2021 okt 14	200.57	13 17.1	- 8 09	0.99754
2021 okt 15	201.56	13 20.8	- 8 31	0.99725
2021 okt 16	202.55	13 24.5	- 8 53	0.99696
2021 okt 17	203.54	13 28.3	- 9 15	0.99667
2021 okt 18	204.54	13 32.0	- 9 37	0.99638
2021 okt 19	205.53	13 35.8	- 9 59	0.99610
2021 okt 20	206.52	13 39.5	-10 20	0.99582
2021 okt 21	207.52	13 43.3	-10 42	0.99554
2021 okt 22	208.51	13 47.1	-11 03	0.99526
2021 okt 23	209.50	13 50.9	-11 24	0.99499
2021 okt 24	210.50	13 54.7	-11 45	0.99472
2021 okt 25	211.50	13 58.5	-12 06	0.99445
2021 okt 26	212.49	14 02.3	-12 26	0.99418
2021 okt 27	213.49	14 06.2	-12 47	0.99392
2021 okt 28	214.49	14 10.0	-13 07	0.99366
2021 okt 29	215.49	14 13.9	-13 27	0.99340

Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
2021 okt 30	216.48	14 17.8	-13 47	0.99314
2021 okt 31	217.48	14 21.7	-14 06	0.99288
Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
	°	h m	° '	A.E.
2021 nov 01	218.48	14 25.6	-14 26	0.99263
2021 nov 02	219.48	14 29.5	-14 45	0.99237
2021 nov 03	220.49	14 33.4	-15 03	0.99212
2021 nov 04	221.49	14 37.4	-15 22	0.99187
2021 nov 05	222.49	14 41.3	-15 40	0.99162
2021 nov 06	223.49	14 45.3	-15 59	0.99137
2021 nov 07	224.50	14 49.3	-16 16	0.99112
2021 nov 08	225.50	14 53.3	-16 34	0.99087
2021 nov 09	226.51	14 57.3	-16 51	0.99063
2021 nov 10	227.51	15 01.4	-17 08	0.99038
2021 nov 11	228.51	15 05.4	-17 25	0.99014
2021 nov 12	229.52	15 09.5	-17 41	0.98990
2021 nov 13	230.53	15 13.5	-17 58	0.98967
2021 nov 14	231.53	15 17.6	-18 13	0.98944
2021 nov 15	232.54	15 21.7	-18 29	0.98921
2021 nov 16	233.55	15 25.9	-18 44	0.98898
2021 nov 17	234.55	15 30.0	-18 59	0.98876
2021 nov 18	235.56	15 34.1	-19 13	0.98855
2021 nov 19	236.57	15 38.3	-19 27	0.98834
2021 nov 20	237.58	15 42.4	-19 41	0.98813
2021 nov 21	238.59	15 46.6	-19 55	0.98793
2021 nov 22	239.60	15 50.8	-20 08	0.98773
2021 nov 23	240.61	15 55.0	-20 20	0.98754
2021 nov 24	241.62	15 59.3	-20 33	0.98735
2021 nov 25	242.63	16 03.5	-20 45	0.98717
2021 nov 26	243.64	16 07.7	-20 56	0.98699
2021 nov 27	244.65	16 12.0	-21 07	0.98682
2021 nov 28	245.66	16 16.3	-21 18	0.98665
2021 nov 29	246.68	16 20.6	-21 28	0.98648
2021 nov 30	247.69	16 24.9	-21 38	0.98632
Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand

Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
	°	h m	° '	A.E.
2021 dec 01	248.70	16 29.2	-21 48	0.98616
2021 dec 02	249.72	16 33.5	-21 57	0.98600
2021 dec 03	250.73	16 37.8	-22 06	0.98585
2021 dec 04	251.74	16 42.2	-22 14	0.98570
2021 dec 05	252.76	16 46.5	-22 22	0.98555
2021 dec 06	253.77	16 50.9	-22 29	0.98541
2021 dec 07	254.79	16 55.3	-22 36	0.98527
2021 dec 08	255.81	16 59.6	-22 43	0.98513
2021 dec 09	256.82	17 04.0	-22 49	0.98499
2021 dec 10	257.84	17 08.4	-22 54	0.98486
2021 dec 11	258.85	17 12.8	-23 00	0.98474
2021 dec 12	259.87	17 17.2	-23 04	0.98461
2021 dec 13	260.89	17 21.6	-23 09	0.98450
2021 dec 14	261.90	17 26.0	-23 12	0.98439
2021 dec 15	262.92	17 30.5	-23 16	0.98428
2021 dec 16	263.94	17 34.9	-23 19	0.98418
2021 dec 17	264.95	17 39.3	-23 21	0.98408
2021 dec 18	265.97	17 43.7	-23 23	0.98399
2021 dec 19	266.99	17 48.2	-23 25	0.98391
2021 dec 20	268.01	17 52.6	-23 26	0.98383
2021 dec 21	269.02	17 57.0	-23 26	0.98376
2021 dec 22	270.04	18 01.5	-23 26	0.98370
2021 dec 23	271.06	18 05.9	-23 26	0.98364
2021 dec 24	272.08	18 10.4	-23 25	0.98359
2021 dec 25	273.10	18 14.8	-23 24	0.98354
2021 dec 26	274.12	18 19.2	-23 22	0.98350
2021 dec 27	275.14	18 23.7	-23 20	0.98346
2021 dec 28	276.15	18 28.1	-23 17	0.98343
2021 dec 29	277.17	18 32.5	-23 14	0.98341
2021 dec 30	278.19	18 37.0	-23 10	0.98339
2021 dec 31	279.21	18 41.4	-23 06	0.98337
Datum	Positie l(2000)	ware r.k.	equinox decl.	Afstand
	°	h m	° '	A.E.
2022 jan 01	280.23	18 45.8	-23 01	0.98336

Efemeride voor Zon: deel 4, klok - Tom Peters Sun Nov 3 17:22:52 2019
vanaf datum 20210101, voor tijd 0:00:00, zone +0.0u. t.o.v. UT
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Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
		h m s	m s
2021 jan 01	2459215.5	6 43 29	- 3 26
2021 jan 02	2459216.5	6 47 25	- 3 54
2021 jan 03	2459217.5	6 51 22	- 4 22
2021 jan 04	2459218.5	6 55 18	- 4 49
2021 jan 05	2459219.5	6 59 15	- 5 16
2021 jan 06	2459220.5	7 03 11	- 5 43
2021 jan 07	2459221.5	7 07 08	- 6 09
2021 jan 08	2459222.5	7 11 04	- 6 34
2021 jan 09	2459223.5	7 15 01	- 7 00
2021 jan 10	2459224.5	7 18 58	- 7 24
2021 jan 11	2459225.5	7 22 54	- 7 48
2021 jan 12	2459226.5	7 26 51	- 8 12
2021 jan 13	2459227.5	7 30 47	- 8 35
2021 jan 14	2459228.5	7 34 44	- 8 57
2021 jan 15	2459229.5	7 38 40	- 9 19
2021 jan 16	2459230.5	7 42 37	- 9 40
2021 jan 17	2459231.5	7 46 33	-10 00
2021 jan 18	2459232.5	7 50 30	-10 20
2021 jan 19	2459233.5	7 54 26	-10 38
2021 jan 20	2459234.5	7 58 23	-10 56
2021 jan 21	2459235.5	8 02 20	-11 14
2021 jan 22	2459236.5	8 06 16	-11 30
2021 jan 23	2459237.5	8 10 13	-11 46
2021 jan 24	2459238.5	8 14 09	-12 01
2021 jan 25	2459239.5	8 18 06	-12 15
2021 jan 26	2459240.5	8 22 02	-12 28
2021 jan 27	2459241.5	8 25 59	-12 41
2021 jan 28	2459242.5	8 29 55	-12 53
2021 jan 29	2459243.5	8 33 52	-13 03
2021 jan 30	2459244.5	8 37 49	-13 13
2021 jan 31	2459245.5	8 41 45	-13 23

Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
		h m s	m s
2021 feb 01	2459246.5	8 45 42	-13 31
2021 feb 02	2459247.5	8 49 38	-13 39
2021 feb 03	2459248.5	8 53 35	-13 46
2021 feb 04	2459249.5	8 57 31	-13 52
2021 feb 05	2459250.5	9 01 28	-13 57
2021 feb 06	2459251.5	9 05 24	-14 01
2021 feb 07	2459252.5	9 09 21	-14 05
2021 feb 08	2459253.5	9 13 18	-14 08
2021 feb 09	2459254.5	9 17 14	-14 10
2021 feb 10	2459255.5	9 21 11	-14 12
2021 feb 11	2459256.5	9 25 07	-14 12
2021 feb 12	2459257.5	9 29 04	-14 12
2021 feb 13	2459258.5	9 33 00	-14 11
2021 feb 14	2459259.5	9 36 57	-14 09
2021 feb 15	2459260.5	9 40 53	-14 07
2021 feb 16	2459261.5	9 44 50	-14 04
2021 feb 17	2459262.5	9 48 47	-14 00
2021 feb 18	2459263.5	9 52 43	-13 55
2021 feb 19	2459264.5	9 56 40	-13 50
2021 feb 20	2459265.5	10 00 36	-13 44
2021 feb 21	2459266.5	10 04 33	-13 38
2021 feb 22	2459267.5	10 08 29	-13 30
2021 feb 23	2459268.5	10 12 26	-13 22
2021 feb 24	2459269.5	10 16 22	-13 14
2021 feb 25	2459270.5	10 20 19	-13 05
2021 feb 26	2459271.5	10 24 16	-12 55
2021 feb 27	2459272.5	10 28 12	-12 44
2021 feb 28	2459273.5	10 32 09	-12 34
Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
		h m s	m s
2021 mrt 01	2459274.5	10 36 05	-12 22
2021 mrt 02	2459275.5	10 40 02	-12 10
2021 mrt 03	2459276.5	10 43 58	-11 58
2021 mrt 04	2459277.5	10 47 55	-11 45
2021 mrt 05	2459278.5	10 51 51	-11 32

Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
2021 mrt 06	2459279.5	10 55 48	-11 18
2021 mrt 07	2459280.5	10 59 45	-11 04
2021 mrt 08	2459281.5	11 03 41	-10 50
2021 mrt 09	2459282.5	11 07 38	-10 35
2021 mrt 10	2459283.5	11 11 34	-10 20
2021 mrt 11	2459284.5	11 15 31	-10 04
2021 mrt 12	2459285.5	11 19 27	- 9 48
2021 mrt 13	2459286.5	11 23 24	- 9 32
2021 mrt 14	2459287.5	11 27 20	- 9 16
2021 mrt 15	2459288.5	11 31 17	- 8 59
2021 mrt 16	2459289.5	11 35 14	- 8 43
2021 mrt 17	2459290.5	11 39 10	- 8 26
2021 mrt 18	2459291.5	11 43 07	- 8 08
2021 mrt 19	2459292.5	11 47 03	- 7 51
2021 mrt 20	2459293.5	11 51 00	- 7 33
2021 mrt 21	2459294.5	11 54 56	- 7 15
2021 mrt 22	2459295.5	11 58 53	- 6 58
2021 mrt 23	2459296.5	12 02 49	- 6 40
2021 mrt 24	2459297.5	12 06 46	- 6 22
2021 mrt 25	2459298.5	12 10 43	- 6 03
2021 mrt 26	2459299.5	12 14 39	- 5 45
2021 mrt 27	2459300.5	12 18 36	- 5 27
2021 mrt 28	2459301.5	12 22 32	- 5 09
2021 mrt 29	2459302.5	12 26 29	- 4 51
2021 mrt 30	2459303.5	12 30 25	- 4 32
2021 mrt 31	2459304.5	12 34 22	- 4 14
Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
		h m s	m s
2021 apr 01	2459305.5	12 38 18	- 3 56
2021 apr 02	2459306.5	12 42 15	- 3 39
2021 apr 03	2459307.5	12 46 12	- 3 21
2021 apr 04	2459308.5	12 50 08	- 3 03
2021 apr 05	2459309.5	12 54 05	- 2 46
2021 apr 06	2459310.5	12 58 01	- 2 29
2021 apr 07	2459311.5	13 01 58	- 2 12
2021 apr 08	2459312.5	13 05 54	- 1 55

Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
2021 apr 09	2459313.5	13 09 51	- 1 39
2021 apr 10	2459314.5	13 13 47	- 1 23
2021 apr 11	2459315.5	13 17 44	- 1 07
2021 apr 12	2459316.5	13 21 41	- 0 51
2021 apr 13	2459317.5	13 25 37	- 0 36
2021 apr 14	2459318.5	13 29 34	- 0 21
2021 apr 15	2459319.5	13 33 30	- 0 06
2021 apr 16	2459320.5	13 37 27	+ 0 08
2021 apr 17	2459321.5	13 41 23	+ 0 22
2021 apr 18	2459322.5	13 45 20	+ 0 35
2021 apr 19	2459323.5	13 49 16	+ 0 49
2021 apr 20	2459324.5	13 53 13	+ 1 01
2021 apr 21	2459325.5	13 57 10	+ 1 14
2021 apr 22	2459326.5	14 01 06	+ 1 26
2021 apr 23	2459327.5	14 05 03	+ 1 37
2021 apr 24	2459328.5	14 08 59	+ 1 48
2021 apr 25	2459329.5	14 12 56	+ 1 59
2021 apr 26	2459330.5	14 16 52	+ 2 09
2021 apr 27	2459331.5	14 20 49	+ 2 19
2021 apr 28	2459332.5	14 24 45	+ 2 28
2021 apr 29	2459333.5	14 28 42	+ 2 37
2021 apr 30	2459334.5	14 32 39	+ 2 45
Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
		h m s	m s
2021 mei 01	2459335.5	14 36 35	+ 2 53
2021 mei 02	2459336.5	14 40 32	+ 3 00
2021 mei 03	2459337.5	14 44 28	+ 3 06
2021 mei 04	2459338.5	14 48 25	+ 3 12
2021 mei 05	2459339.5	14 52 21	+ 3 17
2021 mei 06	2459340.5	14 56 18	+ 3 22
2021 mei 07	2459341.5	15 00 14	+ 3 26
2021 mei 08	2459342.5	15 04 11	+ 3 30
2021 mei 09	2459343.5	15 08 08	+ 3 33
2021 mei 10	2459344.5	15 12 04	+ 3 35
2021 mei 11	2459345.5	15 16 01	+ 3 37
2021 mei 12	2459346.5	15 19 57	+ 3 38

Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
2021 mei 13	2459347.5	15 23 54	+ 3 39
2021 mei 14	2459348.5	15 27 50	+ 3 39
2021 mei 15	2459349.5	15 31 47	+ 3 39
2021 mei 16	2459350.5	15 35 43	+ 3 38
2021 mei 17	2459351.5	15 39 40	+ 3 36
2021 mei 18	2459352.5	15 43 37	+ 3 34
2021 mei 19	2459353.5	15 47 33	+ 3 32
2021 mei 20	2459354.5	15 51 30	+ 3 29
2021 mei 21	2459355.5	15 55 26	+ 3 25
2021 mei 22	2459356.5	15 59 23	+ 3 21
2021 mei 23	2459357.5	16 03 19	+ 3 16
2021 mei 24	2459358.5	16 07 16	+ 3 11
2021 mei 25	2459359.5	16 11 12	+ 3 05
2021 mei 26	2459360.5	16 15 09	+ 2 59
2021 mei 27	2459361.5	16 19 06	+ 2 53
2021 mei 28	2459362.5	16 23 02	+ 2 45
2021 mei 29	2459363.5	16 26 59	+ 2 38
2021 mei 30	2459364.5	16 30 55	+ 2 30
2021 mei 31	2459365.5	16 34 52	+ 2 21
Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
		h m s	m s
2021 jun 01	2459366.5	16 38 48	+ 2 13
2021 jun 02	2459367.5	16 42 45	+ 2 03
2021 jun 03	2459368.5	16 46 41	+ 1 53
2021 jun 04	2459369.5	16 50 38	+ 1 43
2021 jun 05	2459370.5	16 54 35	+ 1 33
2021 jun 06	2459371.5	16 58 31	+ 1 22
2021 jun 07	2459372.5	17 02 28	+ 1 11
2021 jun 08	2459373.5	17 06 24	+ 1 00
2021 jun 09	2459374.5	17 10 21	+ 0 48
2021 jun 10	2459375.5	17 14 17	+ 0 36
2021 jun 11	2459376.5	17 18 14	+ 0 24
2021 jun 12	2459377.5	17 22 10	+ 0 11
2021 jun 13	2459378.5	17 26 07	- 0 01
2021 jun 14	2459379.5	17 30 04	- 0 14
2021 jun 15	2459380.5	17 34 00	- 0 27

Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
2021 jun 16	2459381.5	17 37 57	- 0 39
2021 jun 17	2459382.5	17 41 53	- 0 52
2021 jun 18	2459383.5	17 45 50	- 1 05
2021 jun 19	2459384.5	17 49 46	- 1 19
2021 jun 20	2459385.5	17 53 43	- 1 32
2021 jun 21	2459386.5	17 57 39	- 1 45
2021 jun 22	2459387.5	18 01 36	- 1 58
2021 jun 23	2459388.5	18 05 33	- 2 10
2021 jun 24	2459389.5	18 09 29	- 2 23
2021 jun 25	2459390.5	18 13 26	- 2 36
2021 jun 26	2459391.5	18 17 22	- 2 49
2021 jun 27	2459392.5	18 21 19	- 3 01
2021 jun 28	2459393.5	18 25 15	- 3 13
2021 jun 29	2459394.5	18 29 12	- 3 25
2021 jun 30	2459395.5	18 33 08	- 3 37

Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
		h m s	m s
2021 jul 01	2459396.5	18 37 05	- 3 49
2021 jul 02	2459397.5	18 41 02	- 4 00
2021 jul 03	2459398.5	18 44 58	- 4 12
2021 jul 04	2459399.5	18 48 55	- 4 23
2021 jul 05	2459400.5	18 52 51	- 4 33
2021 jul 06	2459401.5	18 56 48	- 4 44
2021 jul 07	2459402.5	19 00 44	- 4 53
2021 jul 08	2459403.5	19 04 41	- 5 03
2021 jul 09	2459404.5	19 08 37	- 5 12
2021 jul 10	2459405.5	19 12 34	- 5 21
2021 jul 11	2459406.5	19 16 31	- 5 29
2021 jul 12	2459407.5	19 20 27	- 5 37
2021 jul 13	2459408.5	19 24 24	- 5 45
2021 jul 14	2459409.5	19 28 20	- 5 52
2021 jul 15	2459410.5	19 32 17	- 5 58
2021 jul 16	2459411.5	19 36 13	- 6 04
2021 jul 17	2459412.5	19 40 10	- 6 09
2021 jul 18	2459413.5	19 44 06	- 6 14
2021 jul 19	2459414.5	19 48 03	- 6 18

Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
2021 jul 20	2459415.5	19 52 00	- 6 22
2021 jul 21	2459416.5	19 55 56	- 6 25
2021 jul 22	2459417.5	19 59 53	- 6 28
2021 jul 23	2459418.5	20 03 49	- 6 30
2021 jul 24	2459419.5	20 07 46	- 6 31
2021 jul 25	2459420.5	20 11 42	- 6 32
2021 jul 26	2459421.5	20 15 39	- 6 32
2021 jul 27	2459422.5	20 19 35	- 6 32
2021 jul 28	2459423.5	20 23 32	- 6 31
2021 jul 29	2459424.5	20 27 29	- 6 29
2021 jul 30	2459425.5	20 31 25	- 6 27
2021 jul 31	2459426.5	20 35 22	- 6 24

Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
		h m s	m s
2021 aug 01	2459427.5	20 39 18	- 6 21
2021 aug 02	2459428.5	20 43 15	- 6 17
2021 aug 03	2459429.5	20 47 11	- 6 12
2021 aug 04	2459430.5	20 51 08	- 6 07
2021 aug 05	2459431.5	20 55 04	- 6 02
2021 aug 06	2459432.5	20 59 01	- 5 55
2021 aug 07	2459433.5	21 02 58	- 5 48
2021 aug 08	2459434.5	21 06 54	- 5 41
2021 aug 09	2459435.5	21 10 51	- 5 33
2021 aug 10	2459436.5	21 14 47	- 5 24
2021 aug 11	2459437.5	21 18 44	- 5 15
2021 aug 12	2459438.5	21 22 40	- 5 05
2021 aug 13	2459439.5	21 26 37	- 4 55
2021 aug 14	2459440.5	21 30 33	- 4 44
2021 aug 15	2459441.5	21 34 30	- 4 33
2021 aug 16	2459442.5	21 38 27	- 4 21
2021 aug 17	2459443.5	21 42 23	- 4 08
2021 aug 18	2459444.5	21 46 20	- 3 55
2021 aug 19	2459445.5	21 50 16	- 3 41
2021 aug 20	2459446.5	21 54 13	- 3 27
2021 aug 21	2459447.5	21 58 09	- 3 12
2021 aug 22	2459448.5	22 02 06	- 2 57

Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
2021 aug 23	2459449.5	22 06 02	- 2 42
2021 aug 24	2459450.5	22 09 59	- 2 26
2021 aug 25	2459451.5	22 13 56	- 2 09
2021 aug 26	2459452.5	22 17 52	- 1 53
2021 aug 27	2459453.5	22 21 49	- 1 36
2021 aug 28	2459454.5	22 25 45	- 1 18
2021 aug 29	2459455.5	22 29 42	- 1 00
2021 aug 30	2459456.5	22 33 38	- 0 42
2021 aug 31	2459457.5	22 37 35	- 0 23
Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
		h m s	m s
2021 sep 01	2459458.5	22 41 31	- 0 04
2021 sep 02	2459459.5	22 45 28	+ 0 15
2021 sep 03	2459460.5	22 49 25	+ 0 34
2021 sep 04	2459461.5	22 53 21	+ 0 54
2021 sep 05	2459462.5	22 57 18	+ 1 14
2021 sep 06	2459463.5	23 01 14	+ 1 34
2021 sep 07	2459464.5	23 05 11	+ 1 54
2021 sep 08	2459465.5	23 09 07	+ 2 14
2021 sep 09	2459466.5	23 13 04	+ 2 35
2021 sep 10	2459467.5	23 17 00	+ 2 56
2021 sep 11	2459468.5	23 20 57	+ 3 17
2021 sep 12	2459469.5	23 24 54	+ 3 38
2021 sep 13	2459470.5	23 28 50	+ 3 59
2021 sep 14	2459471.5	23 32 47	+ 4 21
2021 sep 15	2459472.5	23 36 43	+ 4 42
2021 sep 16	2459473.5	23 40 40	+ 5 03
2021 sep 17	2459474.5	23 44 36	+ 5 25
2021 sep 18	2459475.5	23 48 33	+ 5 46
2021 sep 19	2459476.5	23 52 29	+ 6 08
2021 sep 20	2459477.5	23 56 26	+ 6 29
2021 sep 21	2459478.5	00 00 23	+ 6 51
2021 sep 22	2459479.5	00 04 19	+ 7 12
2021 sep 23	2459480.5	00 08 16	+ 7 33
2021 sep 24	2459481.5	00 12 12	+ 7 54
2021 sep 25	2459482.5	00 16 09	+ 8 15

Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
2021 sep 26	2459483.5	0 20 05	+ 8 36
2021 sep 27	2459484.5	0 24 02	+ 8 56
2021 sep 28	2459485.5	0 27 58	+ 9 17
2021 sep 29	2459486.5	0 31 55	+ 9 37
2021 sep 30	2459487.5	0 35 52	+ 9 57
Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
		h m s	m s
2021 okt 01	2459488.5	0 39 48	+10 16
2021 okt 02	2459489.5	0 43 45	+10 35
2021 okt 03	2459490.5	0 47 41	+10 54
2021 okt 04	2459491.5	0 51 38	+11 13
2021 okt 05	2459492.5	0 55 34	+11 31
2021 okt 06	2459493.5	0 59 31	+11 49
2021 okt 07	2459494.5	1 03 27	+12 06
2021 okt 08	2459495.5	1 07 24	+12 23
2021 okt 09	2459496.5	1 11 21	+12 40
2021 okt 10	2459497.5	1 15 17	+12 56
2021 okt 11	2459498.5	1 19 14	+13 12
2021 okt 12	2459499.5	1 23 10	+13 27
2021 okt 13	2459500.5	1 27 07	+13 42
2021 okt 14	2459501.5	1 31 03	+13 56
2021 okt 15	2459502.5	1 35 00	+14 10
2021 okt 16	2459503.5	1 38 56	+14 23
2021 okt 17	2459504.5	1 42 53	+14 36
2021 okt 18	2459505.5	1 46 50	+14 48
2021 okt 19	2459506.5	1 50 46	+15 00
2021 okt 20	2459507.5	1 54 43	+15 10
2021 okt 21	2459508.5	1 58 39	+15 21
2021 okt 22	2459509.5	2 02 36	+15 30
2021 okt 23	2459510.5	2 06 32	+15 39
2021 okt 24	2459511.5	2 10 29	+15 47
2021 okt 25	2459512.5	2 14 25	+15 55
2021 okt 26	2459513.5	2 18 22	+16 01
2021 okt 27	2459514.5	2 22 19	+16 07
2021 okt 28	2459515.5	2 26 15	+16 13
2021 okt 29	2459516.5	2 30 12	+16 17

Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
2021 okt 30	2459517.5	2 34 08	+16 21
2021 okt 31	2459518.5	2 38 05	+16 24
Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
		h m s	m s
2021 nov 01	2459519.5	2 42 01	+16 26
2021 nov 02	2459520.5	2 45 58	+16 27
2021 nov 03	2459521.5	2 49 54	+16 27
2021 nov 04	2459522.5	2 53 51	+16 27
2021 nov 05	2459523.5	2 57 48	+16 26
2021 nov 06	2459524.5	3 01 44	+16 24
2021 nov 07	2459525.5	3 05 41	+16 21
2021 nov 08	2459526.5	3 09 37	+16 17
2021 nov 09	2459527.5	3 13 34	+16 13
2021 nov 10	2459528.5	3 17 30	+16 07
2021 nov 11	2459529.5	3 21 27	+16 01
2021 nov 12	2459530.5	3 25 23	+15 54
2021 nov 13	2459531.5	3 29 20	+15 46
2021 nov 14	2459532.5	3 33 17	+15 38
2021 nov 15	2459533.5	3 37 13	+15 28
2021 nov 16	2459534.5	3 41 10	+15 18
2021 nov 17	2459535.5	3 45 06	+15 07
2021 nov 18	2459536.5	3 49 03	+14 55
2021 nov 19	2459537.5	3 52 59	+14 42
2021 nov 20	2459538.5	3 56 56	+14 28
2021 nov 21	2459539.5	4 00 52	+14 14
2021 nov 22	2459540.5	4 04 49	+13 59
2021 nov 23	2459541.5	4 08 46	+13 42
2021 nov 24	2459542.5	4 12 42	+13 26
2021 nov 25	2459543.5	4 16 39	+13 08
2021 nov 26	2459544.5	4 20 35	+12 50
2021 nov 27	2459545.5	4 24 32	+12 30
2021 nov 28	2459546.5	4 28 28	+12 11
2021 nov 29	2459547.5	4 32 25	+11 50
2021 nov 30	2459548.5	4 36 21	+11 29
Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening

Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
		h m s	m s
2021 dec 01	2459549.5	4 40 18	+11 07
2021 dec 02	2459550.5	4 44 15	+10 44
2021 dec 03	2459551.5	4 48 11	+10 21
2021 dec 04	2459552.5	4 52 08	+ 9 57
2021 dec 05	2459553.5	4 56 04	+ 9 32
2021 dec 06	2459554.5	5 00 01	+ 9 07
2021 dec 07	2459555.5	5 03 57	+ 8 41
2021 dec 08	2459556.5	5 07 54	+ 8 15
2021 dec 09	2459557.5	5 11 50	+ 7 49
2021 dec 10	2459558.5	5 15 47	+ 7 22
2021 dec 11	2459559.5	5 19 44	+ 6 55
2021 dec 12	2459560.5	5 23 40	+ 6 27
2021 dec 13	2459561.5	5 27 37	+ 5 59
2021 dec 14	2459562.5	5 31 33	+ 5 30
2021 dec 15	2459563.5	5 35 30	+ 5 02
2021 dec 16	2459564.5	5 39 26	+ 4 33
2021 dec 17	2459565.5	5 43 23	+ 4 04
2021 dec 18	2459566.5	5 47 19	+ 3 34
2021 dec 19	2459567.5	5 51 16	+ 3 05
2021 dec 20	2459568.5	5 55 13	+ 2 35
2021 dec 21	2459569.5	5 59 09	+ 2 06
2021 dec 22	2459570.5	6 03 06	+ 1 36
2021 dec 23	2459571.5	6 07 02	+ 1 06
2021 dec 24	2459572.5	6 10 59	+ 0 37
2021 dec 25	2459573.5	6 14 55	+ 0 07
2021 dec 26	2459574.5	6 18 52	- 0 23
2021 dec 27	2459575.5	6 22 48	- 0 52
2021 dec 28	2459576.5	6 26 45	- 1 22
2021 dec 29	2459577.5	6 30 42	- 1 51
2021 dec 30	2459578.5	6 34 38	- 2 20
2021 dec 31	2459579.5	6 38 35	- 2 49
Datum	Jul.dag	Sterrentijd 0h UT	Tijdvereffening
		h m s	m s
2022 jan 01	2459580.5	6 42 31	- 3 18

Efemeride voor Zon: deel 3, rotatie - Tom Peters Sun Nov 3 17:22:52 2019
 vanaf datum 20210101, voor tijd 0:00:00, zone +0.0u. t.o.v. UT
 DeltaT = 70.0 s

Datum	P	B0	L0
	°	°	°
2021 jan 01	+ 2.0	-3.0	280.1
2021 jan 02	+ 1.5	-3.1	267.0
2021 jan 03	+ 1.0	-3.3	253.8
2021 jan 04	+ 0.5	-3.4	240.6
2021 jan 05	+ 0.0	-3.5	227.5
2021 jan 06	- 0.5	-3.6	214.3
2021 jan 07	- 0.9	-3.7	201.1
2021 jan 08	- 1.4	-3.8	188.0
2021 jan 09	- 1.9	-3.9	174.8
2021 jan 10	- 2.4	-4.0	161.6
2021 jan 11	- 2.9	-4.1	148.5
2021 jan 12	- 3.3	-4.2	135.3
2021 jan 13	- 3.8	-4.4	122.1
2021 jan 14	- 4.3	-4.5	109.0
2021 jan 15	- 4.8	-4.6	95.8
2021 jan 16	- 5.2	-4.7	82.6
2021 jan 17	- 5.7	-4.8	69.5
2021 jan 18	- 6.1	-4.8	56.3
2021 jan 19	- 6.6	-4.9	43.1
2021 jan 20	- 7.1	-5.0	29.9
2021 jan 21	- 7.5	-5.1	16.8
2021 jan 22	- 8.0	-5.2	3.6
2021 jan 23	- 8.4	-5.3	350.4
2021 jan 24	- 8.8	-5.4	337.3
2021 jan 25	- 9.3	-5.5	324.1
2021 jan 26	- 9.7	-5.6	310.9
2021 jan 27	-10.1	-5.6	297.8
2021 jan 28	-10.6	-5.7	284.6
2021 jan 29	-11.0	-5.8	271.4
2021 jan 30	-11.4	-5.9	258.3
2021 jan 31	-11.8	-6.0	245.1
Datum	P	B0	L0
	°	°	°

Datum	P	B0	L0
2021 feb 01	-12.2	-6.0	231.9
2021 feb 02	-12.6	-6.1	218.8
2021 feb 03	-13.0	-6.2	205.6
2021 feb 04	-13.4	-6.2	192.5
2021 feb 05	-13.8	-6.3	179.3
2021 feb 06	-14.2	-6.4	166.1
2021 feb 07	-14.6	-6.4	153.0
2021 feb 08	-15.0	-6.5	139.8
2021 feb 09	-15.3	-6.5	126.6
2021 feb 10	-15.7	-6.6	113.5
2021 feb 11	-16.1	-6.6	100.3
2021 feb 12	-16.4	-6.7	87.1
2021 feb 13	-16.8	-6.7	74.0
2021 feb 14	-17.1	-6.8	60.8
2021 feb 15	-17.4	-6.8	47.6
2021 feb 16	-17.8	-6.9	34.4
2021 feb 17	-18.1	-6.9	21.3
2021 feb 18	-18.4	-7.0	8.1
2021 feb 19	-18.7	-7.0	354.9
2021 feb 20	-19.0	-7.0	341.8
2021 feb 21	-19.3	-7.0	328.6
2021 feb 22	-19.6	-7.1	315.4
2021 feb 23	-19.9	-7.1	302.3
2021 feb 24	-20.2	-7.1	289.1
2021 feb 25	-20.5	-7.2	275.9
2021 feb 26	-20.8	-7.2	262.8
2021 feb 27	-21.0	-7.2	249.6
2021 feb 28	-21.3	-7.2	236.4
Datum	P	B0	L0
	°	°	°
2021 mrt 01	-21.6	-7.2	223.2
2021 mrt 02	-21.8	-7.2	210.1
2021 mrt 03	-22.0	-7.2	196.9
2021 mrt 04	-22.3	-7.2	183.7
2021 mrt 05	-22.5	-7.2	170.5
2021 mrt 06	-22.7	-7.3	157.4
2021 mrt 07	-22.9	-7.2	144.2
2021 mrt 08	-23.2	-7.2	131.0

Datum	P	B0	L0
2021 mrt 09	-23.4	-7.2	117.8
2021 mrt 10	-23.6	-7.2	104.7
2021 mrt 11	-23.7	-7.2	91.5
2021 mrt 12	-23.9	-7.2	78.3
2021 mrt 13	-24.1	-7.2	65.1
2021 mrt 14	-24.3	-7.2	52.0
2021 mrt 15	-24.4	-7.2	38.8
2021 mrt 16	-24.6	-7.1	25.6
2021 mrt 17	-24.7	-7.1	12.4
2021 mrt 18	-24.9	-7.1	359.2
2021 mrt 19	-25.0	-7.1	346.0
2021 mrt 20	-25.1	-7.0	332.9
2021 mrt 21	-25.3	-7.0	319.7
2021 mrt 22	-25.4	-7.0	306.5
2021 mrt 23	-25.5	-6.9	293.3
2021 mrt 24	-25.6	-6.9	280.1
2021 mrt 25	-25.7	-6.9	266.9
2021 mrt 26	-25.8	-6.8	253.7
2021 mrt 27	-25.9	-6.8	240.6
2021 mrt 28	-25.9	-6.7	227.4
2021 mrt 29	-26.0	-6.7	214.2
2021 mrt 30	-26.0	-6.6	201.0
2021 mrt 31	-26.1	-6.6	187.8
Datum	P	B0	L0
	°	°	°
2021 apr 01	-26.1	-6.5	174.6
2021 apr 02	-26.2	-6.5	161.4
2021 apr 03	-26.2	-6.4	148.2
2021 apr 04	-26.2	-6.4	135.0
2021 apr 05	-26.3	-6.3	121.8
2021 apr 06	-26.3	-6.3	108.6
2021 apr 07	-26.3	-6.2	95.4
2021 apr 08	-26.3	-6.1	82.2
2021 apr 09	-26.2	-6.1	69.0
2021 apr 10	-26.2	-6.0	55.8
2021 apr 11	-26.2	-5.9	42.6
2021 apr 12	-26.2	-5.8	29.4
2021 apr 13	-26.1	-5.8	16.2

Datum	P	B0	L0
2021 apr 14	-26.1	-5.7	3.0
2021 apr 15	-26.0	-5.6	349.8
2021 apr 16	-25.9	-5.5	336.6
2021 apr 17	-25.9	-5.5	323.4
2021 apr 18	-25.8	-5.4	310.2
2021 apr 19	-25.7	-5.3	297.0
2021 apr 20	-25.6	-5.2	283.8
2021 apr 21	-25.5	-5.1	270.6
2021 apr 22	-25.4	-5.0	257.4
2021 apr 23	-25.3	-4.9	244.2
2021 apr 24	-25.2	-4.8	231.0
2021 apr 25	-25.0	-4.8	217.8
2021 apr 26	-24.9	-4.7	204.5
2021 apr 27	-24.7	-4.6	191.3
2021 apr 28	-24.6	-4.5	178.1
2021 apr 29	-24.4	-4.4	164.9
2021 apr 30	-24.3	-4.3	151.7
Datum	P	B0	L0
	°	°	°
2021 mei 01	-24.1	-4.2	138.5
2021 mei 02	-23.9	-4.1	125.3
2021 mei 03	-23.7	-4.0	112.0
2021 mei 04	-23.5	-3.9	98.8
2021 mei 05	-23.3	-3.8	85.6
2021 mei 06	-23.1	-3.7	72.4
2021 mei 07	-22.9	-3.6	59.2
2021 mei 08	-22.7	-3.4	45.9
2021 mei 09	-22.4	-3.3	32.7
2021 mei 10	-22.2	-3.2	19.5
2021 mei 11	-22.0	-3.1	6.3
2021 mei 12	-21.7	-3.0	353.1
2021 mei 13	-21.4	-2.9	339.8
2021 mei 14	-21.2	-2.8	326.6
2021 mei 15	-20.9	-2.7	313.4
2021 mei 16	-20.6	-2.6	300.2
2021 mei 17	-20.3	-2.4	286.9
2021 mei 18	-20.1	-2.3	273.7
2021 mei 19	-19.8	-2.2	260.5

Datum	P	B0	L0
2021 mei 20	-19.5	-2.1	247.2
2021 mei 21	-19.1	-2.0	234.0
2021 mei 22	-18.8	-1.9	220.8
2021 mei 23	-18.5	-1.7	207.6
2021 mei 24	-18.2	-1.6	194.3
2021 mei 25	-17.8	-1.5	181.1
2021 mei 26	-17.5	-1.4	167.9
2021 mei 27	-17.2	-1.3	154.6
2021 mei 28	-16.8	-1.2	141.4
2021 mei 29	-16.5	-1.0	128.2
2021 mei 30	-16.1	-0.9	114.9
2021 mei 31	-15.7	-0.8	101.7
Datum	P	B0	L0
	°	°	°
2021 jun 01	-15.4	-0.7	88.5
2021 jun 02	-15.0	-0.5	75.2
2021 jun 03	-14.6	-0.4	62.0
2021 jun 04	-14.2	-0.3	48.8
2021 jun 05	-13.8	-0.2	35.5
2021 jun 06	-13.4	-0.1	22.3
2021 jun 07	-13.0	+0.1	9.1
2021 jun 08	-12.6	+0.2	355.8
2021 jun 09	-12.2	+0.3	342.6
2021 jun 10	-11.8	+0.4	329.4
2021 jun 11	-11.4	+0.5	316.1
2021 jun 12	-11.0	+0.7	302.9
2021 jun 13	-10.6	+0.8	289.7
2021 jun 14	-10.1	+0.9	276.4
2021 jun 15	- 9.7	+1.0	263.2
2021 jun 16	- 9.3	+1.1	249.9
2021 jun 17	- 8.9	+1.3	236.7
2021 jun 18	- 8.4	+1.4	223.5
2021 jun 19	- 8.0	+1.5	210.2
2021 jun 20	- 7.5	+1.6	197.0
2021 jun 21	- 7.1	+1.7	183.8
2021 jun 22	- 6.7	+1.8	170.5
2021 jun 23	- 6.2	+2.0	157.3
2021 jun 24	- 5.8	+2.1	144.0

Datum	P	B0	L0
2021 jun 25	- 5.3	+2.2	130.8
2021 jun 26	- 4.9	+2.3	117.6
2021 jun 27	- 4.4	+2.4	104.3
2021 jun 28	- 4.0	+2.5	91.1
2021 jun 29	- 3.5	+2.6	77.9
2021 jun 30	- 3.1	+2.8	64.6
Datum	P	B0	L0
	°	°	°
2021 jul 01	- 2.6	+2.9	51.4
2021 jul 02	- 2.2	+3.0	38.2
2021 jul 03	- 1.7	+3.1	24.9
2021 jul 04	- 1.3	+3.2	11.7
2021 jul 05	- 0.8	+3.3	358.4
2021 jul 06	- 0.3	+3.4	345.2
2021 jul 07	+ 0.1	+3.5	332.0
2021 jul 08	+ 0.6	+3.6	318.7
2021 jul 09	+ 1.0	+3.7	305.5
2021 jul 10	+ 1.5	+3.8	292.3
2021 jul 11	+ 1.9	+3.9	279.0
2021 jul 12	+ 2.4	+4.0	265.8
2021 jul 13	+ 2.8	+4.1	252.6
2021 jul 14	+ 3.2	+4.2	239.3
2021 jul 15	+ 3.7	+4.3	226.1
2021 jul 16	+ 4.1	+4.4	212.9
2021 jul 17	+ 4.6	+4.5	199.6
2021 jul 18	+ 5.0	+4.6	186.4
2021 jul 19	+ 5.4	+4.7	173.2
2021 jul 20	+ 5.9	+4.8	159.9
2021 jul 21	+ 6.3	+4.9	146.7
2021 jul 22	+ 6.7	+5.0	133.5
2021 jul 23	+ 7.2	+5.1	120.3
2021 jul 24	+ 7.6	+5.1	107.0
2021 jul 25	+ 8.0	+5.2	93.8
2021 jul 26	+ 8.4	+5.3	80.6
2021 jul 27	+ 8.8	+5.4	67.3
2021 jul 28	+ 9.3	+5.5	54.1
2021 jul 29	+ 9.7	+5.6	40.9
2021 jul 30	+10.1	+5.6	27.7

Datum	P	B0	L0
2021 jul 31	+10.5	+5.7	14.4
Datum	P	B0	L0
	°	°	°
2021 aug 01	+10.9	+5.8	1.2
2021 aug 02	+11.3	+5.9	348.0
2021 aug 03	+11.7	+5.9	334.7
2021 aug 04	+12.0	+6.0	321.5
2021 aug 05	+12.4	+6.1	308.3
2021 aug 06	+12.8	+6.1	295.1
2021 aug 07	+13.2	+6.2	281.9
2021 aug 08	+13.6	+6.3	268.6
2021 aug 09	+13.9	+6.3	255.4
2021 aug 10	+14.3	+6.4	242.2
2021 aug 11	+14.6	+6.4	229.0
2021 aug 12	+15.0	+6.5	215.7
2021 aug 13	+15.3	+6.5	202.5
2021 aug 14	+15.7	+6.6	189.3
2021 aug 15	+16.0	+6.6	176.1
2021 aug 16	+16.4	+6.7	162.9
2021 aug 17	+16.7	+6.7	149.7
2021 aug 18	+17.0	+6.8	136.4
2021 aug 19	+17.4	+6.8	123.2
2021 aug 20	+17.7	+6.9	110.0
2021 aug 21	+18.0	+6.9	96.8
2021 aug 22	+18.3	+6.9	83.6
2021 aug 23	+18.6	+7.0	70.4
2021 aug 24	+18.9	+7.0	57.1
2021 aug 25	+19.2	+7.0	43.9
2021 aug 26	+19.5	+7.1	30.7
2021 aug 27	+19.8	+7.1	17.5
2021 aug 28	+20.0	+7.1	4.3
2021 aug 29	+20.3	+7.1	351.1
2021 aug 30	+20.6	+7.2	337.9
2021 aug 31	+20.8	+7.2	324.7
Datum	P	B0	L0
	°	°	°
2021 sep 01	+21.1	+7.2	311.5
2021 sep 02	+21.3	+7.2	298.2

Datum	P	B0	L0
2021 sep 03	+21.6	+7.2	285.0
2021 sep 04	+21.8	+7.2	271.8
2021 sep 05	+22.0	+7.2	258.6
2021 sep 06	+22.3	+7.2	245.4
2021 sep 07	+22.5	+7.2	232.2
2021 sep 08	+22.7	+7.2	219.0
2021 sep 09	+22.9	+7.2	205.8
2021 sep 10	+23.1	+7.2	192.6
2021 sep 11	+23.3	+7.2	179.4
2021 sep 12	+23.5	+7.2	166.2
2021 sep 13	+23.7	+7.2	153.0
2021 sep 14	+23.9	+7.2	139.8
2021 sep 15	+24.1	+7.2	126.6
2021 sep 16	+24.2	+7.2	113.4
2021 sep 17	+24.4	+7.2	100.2
2021 sep 18	+24.5	+7.2	87.0
2021 sep 19	+24.7	+7.1	73.8
2021 sep 20	+24.8	+7.1	60.6
2021 sep 21	+25.0	+7.1	47.4
2021 sep 22	+25.1	+7.1	34.2
2021 sep 23	+25.2	+7.0	21.0
2021 sep 24	+25.3	+7.0	7.8
2021 sep 25	+25.4	+7.0	354.6
2021 sep 26	+25.5	+6.9	341.4
2021 sep 27	+25.6	+6.9	328.2
2021 sep 28	+25.7	+6.9	315.0
2021 sep 29	+25.8	+6.8	301.8
2021 sep 30	+25.9	+6.8	288.6
Datum	P	B0	L0
	°	°	°
2021 okt 01	+26.0	+6.7	275.4
2021 okt 02	+26.0	+6.7	262.2
2021 okt 03	+26.1	+6.6	249.0
2021 okt 04	+26.1	+6.6	235.8
2021 okt 05	+26.2	+6.5	222.6
2021 okt 06	+26.2	+6.5	209.4
2021 okt 07	+26.2	+6.4	196.2
2021 okt 08	+26.2	+6.3	183.0

Datum	P	B0	L0
2021 okt 09	+26.3	+6.3	169.8
2021 okt 10	+26.3	+6.2	156.6
2021 okt 11	+26.3	+6.2	143.5
2021 okt 12	+26.2	+6.1	130.3
2021 okt 13	+26.2	+6.0	117.1
2021 okt 14	+26.2	+5.9	103.9
2021 okt 15	+26.2	+5.9	90.7
2021 okt 16	+26.1	+5.8	77.5
2021 okt 17	+26.1	+5.7	64.3
2021 okt 18	+26.0	+5.6	51.1
2021 okt 19	+26.0	+5.6	37.9
2021 okt 20	+25.9	+5.5	24.7
2021 okt 21	+25.8	+5.4	11.5
2021 okt 22	+25.7	+5.3	358.4
2021 okt 23	+25.6	+5.2	345.2
2021 okt 24	+25.5	+5.1	332.0
2021 okt 25	+25.4	+5.1	318.8
2021 okt 26	+25.3	+5.0	305.6
2021 okt 27	+25.2	+4.9	292.4
2021 okt 28	+25.1	+4.8	279.2
2021 okt 29	+24.9	+4.7	266.0
2021 okt 30	+24.8	+4.6	252.8
2021 okt 31	+24.6	+4.5	239.7
Datum	P	B0	L0
	°	°	°
2021 nov 01	+24.5	+4.4	226.5
2021 nov 02	+24.3	+4.3	213.3
2021 nov 03	+24.1	+4.2	200.1
2021 nov 04	+23.9	+4.1	186.9
2021 nov 05	+23.7	+4.0	173.7
2021 nov 06	+23.5	+3.9	160.5
2021 nov 07	+23.3	+3.8	147.4
2021 nov 08	+23.1	+3.6	134.2
2021 nov 09	+22.9	+3.5	121.0
2021 nov 10	+22.6	+3.4	107.8
2021 nov 11	+22.4	+3.3	94.6
2021 nov 12	+22.1	+3.2	81.4
2021 nov 13	+21.9	+3.1	68.3

Datum	P	B0	L0
2021 nov 14	+21.6	+3.0	55.1
2021 nov 15	+21.3	+2.9	41.9
2021 nov 16	+21.1	+2.7	28.7
2021 nov 17	+20.8	+2.6	15.5
2021 nov 18	+20.5	+2.5	2.3
2021 nov 19	+20.2	+2.4	349.2
2021 nov 20	+19.9	+2.3	336.0
2021 nov 21	+19.6	+2.1	322.8
2021 nov 22	+19.2	+2.0	309.6
2021 nov 23	+18.9	+1.9	296.4
2021 nov 24	+18.6	+1.8	283.3
2021 nov 25	+18.2	+1.6	270.1
2021 nov 26	+17.9	+1.5	256.9
2021 nov 27	+17.5	+1.4	243.7
2021 nov 28	+17.2	+1.3	230.5
2021 nov 29	+16.8	+1.1	217.4
2021 nov 30	+16.4	+1.0	204.2
Datum	P	B0	L0
	°	°	°
2021 dec 01	+16.0	+0.9	191.0
2021 dec 02	+15.6	+0.8	177.8
2021 dec 03	+15.2	+0.6	164.6
2021 dec 04	+14.8	+0.5	151.5
2021 dec 05	+14.4	+0.4	138.3
2021 dec 06	+14.0	+0.3	125.1
2021 dec 07	+13.6	+0.1	111.9
2021 dec 08	+13.2	-0.0	98.8
2021 dec 09	+12.8	-0.1	85.6
2021 dec 10	+12.3	-0.3	72.4
2021 dec 11	+11.9	-0.4	59.2
2021 dec 12	+11.5	-0.5	46.0
2021 dec 13	+11.0	-0.6	32.9
2021 dec 14	+10.6	-0.8	19.7
2021 dec 15	+10.1	-0.9	6.5
2021 dec 16	+ 9.7	-1.0	353.3
2021 dec 17	+ 9.2	-1.2	340.2
2021 dec 18	+ 8.8	-1.3	327.0
2021 dec 19	+ 8.3	-1.4	313.8

Datum	P	B0	L0
2021 dec 20	+ 7.8	-1.5	300.6
2021 dec 21	+ 7.4	-1.7	287.5
2021 dec 22	+ 6.9	-1.8	274.3
2021 dec 23	+ 6.4	-1.9	261.1
2021 dec 24	+ 5.9	-2.0	248.0
2021 dec 25	+ 5.5	-2.2	234.8
2021 dec 26	+ 5.0	-2.3	221.6
2021 dec 27	+ 4.5	-2.4	208.4
2021 dec 28	+ 4.0	-2.5	195.3
2021 dec 29	+ 3.5	-2.6	182.1
2021 dec 30	+ 3.0	-2.8	168.9
2021 dec 31	+ 2.6	-2.9	155.7
Datum	P	B0	L0
	°	°	°
2022 jan 01	+ 2.1	-3.0	142.6

Gebeurtenissen: deel 5a, (geocentrische) knoopdoorgangen Maan - Tom Peters Sun Nov 3 17:22:52 2019
 vanaf datum 20210101, voor tijd 0:00:00, zone +1.0u. t.o.v. UT, gedurende 365.0d
 DeltaT = 70.0 tot 70.0 s

Datum	Tijd (MET)	Knoop
2021 jan 10	21:16	dalend
2021 jan 24	22:47	klimmend
2021 feb 07	01:29	dalend
2021 feb 21	02:45	klimmend
2021 mrt 06	01:56	dalend
2021 mrt 20	04:31	klimmend
2021 apr 02	03:42	dalend
2021 apr 16	06:53	klimmend
2021 apr 29	10:18	dalend
2021 mei 13	11:30	klimmend
2021 mei 26	20:37	dalend
2021 jun 09	17:42	klimmend
2021 jun 23	07:07	dalend
2021 jul 06	23:40	klimmend
2021 jul 20	14:22	dalend
2021 aug 03	03:52	klimmend
2021 aug 16	17:05	dalend
2021 aug 30	06:14	klimmend
2021 sep 12	17:35	dalend
2021 sep 26	08:33	klimmend
2021 okt 09	20:35	dalend
2021 okt 23	12:48	klimmend
2021 nov 06	04:38	dalend
2021 nov 19	18:59	klimmend
2021 dec 03	15:59	dalend
2021 dec 17	01:12	klimmend
2021 dec 31	02:08	dalend

Planeet-efemeriden - Mars deel 4a: schijnbare geocentrische meridiaan van Mars - Tom Peters Sun Nov 3 17:22:52 2019
 vanaf datum 20210101, voor tijd 0:00:00, zone +0.0u. t.o.v. UT
 DeltaT = 70.0 s

Datum	w
	°
2021 jan 01	163.68
2021 jan 02	154.10
2021 jan 03	144.51
2021 jan 04	134.92
2021 jan 05	125.32
2021 jan 06	115.72
2021 jan 07	106.12
2021 jan 08	96.51
2021 jan 09	86.90
2021 jan 10	77.29
2021 jan 11	67.67
2021 jan 12	58.05
2021 jan 13	48.43
2021 jan 14	38.81
2021 jan 15	29.18
2021 jan 16	19.55
2021 jan 17	9.92
2021 jan 18	0.28
2021 jan 19	350.65
2021 jan 20	341.01
2021 jan 21	331.37
2021 jan 22	321.72
2021 jan 23	312.08
2021 jan 24	302.43
2021 jan 25	292.79
2021 jan 26	283.14
2021 jan 27	273.49
2021 jan 28	263.84
2021 jan 29	254.19
2021 jan 30	244.53
2021 jan 31	234.88
Datum	w
	°

Datum	w
2021 feb 01	225.22
2021 feb 02	215.57
2021 feb 03	205.91
2021 feb 04	196.25
2021 feb 05	186.59
2021 feb 06	176.93
2021 feb 07	167.27
2021 feb 08	157.61
2021 feb 09	147.95
2021 feb 10	138.29
2021 feb 11	128.63
2021 feb 12	118.97
2021 feb 13	109.30
2021 feb 14	99.64
2021 feb 15	89.97
2021 feb 16	80.31
2021 feb 17	70.64
2021 feb 18	60.98
2021 feb 19	51.31
2021 feb 20	41.65
2021 feb 21	31.98
2021 feb 22	22.32
2021 feb 23	12.65
2021 feb 24	2.99
2021 feb 25	353.32
2021 feb 26	343.66
2021 feb 27	333.99
2021 feb 28	324.32
Datum	w
	°
2021 mrt 01	314.66
2021 mrt 02	304.99
2021 mrt 03	295.33
2021 mrt 04	285.66
2021 mrt 05	276.00
2021 mrt 06	266.33
2021 mrt 07	256.67
2021 mrt 08	247.00

Datum	w
2021 mrt 09	237.34
2021 mrt 10	227.68
2021 mrt 11	218.01
2021 mrt 12	208.35
2021 mrt 13	198.68
2021 mrt 14	189.02
2021 mrt 15	179.35
2021 mrt 16	169.69
2021 mrt 17	160.02
2021 mrt 18	150.36
2021 mrt 19	140.70
2021 mrt 20	131.03
2021 mrt 21	121.37
2021 mrt 22	111.70
2021 mrt 23	102.04
2021 mrt 24	92.38
2021 mrt 25	82.71
2021 mrt 26	73.05
2021 mrt 27	63.39
2021 mrt 28	53.72
2021 mrt 29	44.06
2021 mrt 30	34.40
2021 mrt 31	24.74
Datum	w
	°
2021 apr 01	15.07
2021 apr 02	5.41
2021 apr 03	355.75
2021 apr 04	346.09
2021 apr 05	336.42
2021 apr 06	326.76
2021 apr 07	317.10
2021 apr 08	307.43
2021 apr 09	297.77
2021 apr 10	288.11
2021 apr 11	278.44
2021 apr 12	268.78
2021 apr 13	259.12

Datum	w
2021 apr 14	249.45
2021 apr 15	239.79
2021 apr 16	230.12
2021 apr 17	220.46
2021 apr 18	210.79
2021 apr 19	201.13
2021 apr 20	191.46
2021 apr 21	181.79
2021 apr 22	172.13
2021 apr 23	162.46
2021 apr 24	152.80
2021 apr 25	143.13
2021 apr 26	133.46
2021 apr 27	123.79
2021 apr 28	114.12
2021 apr 29	104.46
2021 apr 30	94.79
Datum	w
	°
2021 mei 01	85.12
2021 mei 02	75.45
2021 mei 03	65.78
2021 mei 04	56.10
2021 mei 05	46.43
2021 mei 06	36.76
2021 mei 07	27.09
2021 mei 08	17.41
2021 mei 09	7.74
2021 mei 10	358.06
2021 mei 11	348.39
2021 mei 12	338.71
2021 mei 13	329.03
2021 mei 14	319.35
2021 mei 15	309.68
2021 mei 16	300.00
2021 mei 17	290.31
2021 mei 18	280.63
2021 mei 19	270.95

Datum	w
2021 mei 20	261.27
2021 mei 21	251.58
2021 mei 22	241.90
2021 mei 23	232.21
2021 mei 24	222.53
2021 mei 25	212.84
2021 mei 26	203.15
2021 mei 27	193.46
2021 mei 28	183.77
2021 mei 29	174.08
2021 mei 30	164.38
2021 mei 31	154.69

Datum	w
	°
2021 jun 01	144.99
2021 jun 02	135.30
2021 jun 03	125.60
2021 jun 04	115.90
2021 jun 05	106.20
2021 jun 06	96.50
2021 jun 07	86.80
2021 jun 08	77.09
2021 jun 09	67.39
2021 jun 10	57.68
2021 jun 11	47.97
2021 jun 12	38.26
2021 jun 13	28.55
2021 jun 14	18.84
2021 jun 15	9.13
2021 jun 16	359.41
2021 jun 17	349.69
2021 jun 18	339.98
2021 jun 19	330.26
2021 jun 20	320.54
2021 jun 21	310.82
2021 jun 22	301.09
2021 jun 23	291.37
2021 jun 24	281.64

Datum	w
2021 jun 25	271.91
2021 jun 26	262.18
2021 jun 27	252.45
2021 jun 28	242.72
2021 jun 29	232.99
2021 jun 30	223.25
Datum	w
	°
2021 jul 01	213.51
2021 jul 02	203.77
2021 jul 03	194.03
2021 jul 04	184.29
2021 jul 05	174.55
2021 jul 06	164.80
2021 jul 07	155.06
2021 jul 08	145.31
2021 jul 09	135.56
2021 jul 10	125.81
2021 jul 11	116.05
2021 jul 12	106.30
2021 jul 13	96.54
2021 jul 14	86.78
2021 jul 15	77.02
2021 jul 16	67.26
2021 jul 17	57.50
2021 jul 18	47.73
2021 jul 19	37.97
2021 jul 20	28.20
2021 jul 21	18.43
2021 jul 22	8.66
2021 jul 23	358.88
2021 jul 24	349.11
2021 jul 25	339.33
2021 jul 26	329.56
2021 jul 27	319.78
2021 jul 28	310.00
2021 jul 29	300.22
2021 jul 30	290.43

Datum	w
2021 jul 31	280.65
Datum	w
	°
2021 aug 01	270.86
2021 aug 02	261.07
2021 aug 03	251.28
2021 aug 04	241.49
2021 aug 05	231.70
2021 aug 06	221.91
2021 aug 07	212.11
2021 aug 08	202.31
2021 aug 09	192.52
2021 aug 10	182.72
2021 aug 11	172.92
2021 aug 12	163.11
2021 aug 13	153.31
2021 aug 14	143.51
2021 aug 15	133.70
2021 aug 16	123.89
2021 aug 17	114.09
2021 aug 18	104.28
2021 aug 19	94.47
2021 aug 20	84.66
2021 aug 21	74.85
2021 aug 22	65.03
2021 aug 23	55.22
2021 aug 24	45.41
2021 aug 25	35.59
2021 aug 26	25.77
2021 aug 27	15.96
2021 aug 28	6.14
2021 aug 29	356.32
2021 aug 30	346.50
2021 aug 31	336.68
Datum	w
	°
2021 sep 01	326.86
2021 sep 02	317.04

Datum	w
2021 sep 03	307.22
2021 sep 04	297.40
2021 sep 05	287.57
2021 sep 06	277.75
2021 sep 07	267.93
2021 sep 08	258.10
2021 sep 09	248.28
2021 sep 10	238.46
2021 sep 11	228.63
2021 sep 12	218.81
2021 sep 13	208.98
2021 sep 14	199.16
2021 sep 15	189.33
2021 sep 16	179.51
2021 sep 17	169.68
2021 sep 18	159.86
2021 sep 19	150.03
2021 sep 20	140.21
2021 sep 21	130.38
2021 sep 22	120.56
2021 sep 23	110.74
2021 sep 24	100.91
2021 sep 25	91.09
2021 sep 26	81.27
2021 sep 27	71.45
2021 sep 28	61.62
2021 sep 29	51.80
2021 sep 30	41.98
Datum	w
	°
2021 okt 01	32.16
2021 okt 02	22.34
2021 okt 03	12.52
2021 okt 04	2.70
2021 okt 05	352.88
2021 okt 06	343.07
2021 okt 07	333.25
2021 okt 08	323.43

Datum	w
2021 okt 09	313.62
2021 okt 10	303.80
2021 okt 11	293.99
2021 okt 12	284.18
2021 okt 13	274.37
2021 okt 14	264.56
2021 okt 15	254.75
2021 okt 16	244.94
2021 okt 17	235.13
2021 okt 18	225.32
2021 okt 19	215.52
2021 okt 20	205.71
2021 okt 21	195.91
2021 okt 22	186.11
2021 okt 23	176.30
2021 okt 24	166.50
2021 okt 25	156.71
2021 okt 26	146.91
2021 okt 27	137.11
2021 okt 28	127.31
2021 okt 29	117.52
2021 okt 30	107.73
2021 okt 31	97.93
Datum	w
	°
2021 nov 01	88.14
2021 nov 02	78.35
2021 nov 03	68.56
2021 nov 04	58.78
2021 nov 05	48.99
2021 nov 06	39.20
2021 nov 07	29.42
2021 nov 08	19.64
2021 nov 09	9.86
2021 nov 10	0.07
2021 nov 11	350.30
2021 nov 12	340.52
2021 nov 13	330.74

Datum	w
2021 nov 14	320.97
2021 nov 15	311.19
2021 nov 16	301.42
2021 nov 17	291.65
2021 nov 18	281.87
2021 nov 19	272.11
2021 nov 20	262.34
2021 nov 21	252.57
2021 nov 22	242.80
2021 nov 23	233.04
2021 nov 24	223.27
2021 nov 25	213.51
2021 nov 26	203.75
2021 nov 27	193.99
2021 nov 28	184.23
2021 nov 29	174.47
2021 nov 30	164.71
Datum	w
	°
2021 dec 01	154.95
2021 dec 02	145.19
2021 dec 03	135.44
2021 dec 04	125.68
2021 dec 05	115.93
2021 dec 06	106.18
2021 dec 07	96.42
2021 dec 08	86.67
2021 dec 09	76.92
2021 dec 10	67.17
2021 dec 11	57.42
2021 dec 12	47.68
2021 dec 13	37.93
2021 dec 14	28.18
2021 dec 15	18.43
2021 dec 16	8.69
2021 dec 17	358.94
2021 dec 18	349.20
2021 dec 19	339.45

Datum	w
2021 dec 20	329.71
2021 dec 21	319.97
2021 dec 22	310.22
2021 dec 23	300.48
2021 dec 24	290.74
2021 dec 25	281.00
2021 dec 26	271.25
2021 dec 27	261.51
2021 dec 28	251.77
2021 dec 29	242.03
2021 dec 30	232.29
2021 dec 31	222.55
Datum	w
	°
2022 jan 01	212.81

Planeet-efemeriden - Mars deel 3: verschijning Mars-schijfje - Tom Peters Sun Nov 3 17:22:52 2019
 vanaf datum 20210101, voor tijd 0:00:00, zone +0.0u. t.o.v. UT
 DeltaT = 70.0 s

Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
	"		"	°	°	°	°	°	°
2021 jan 01	10.42	0.891	1.14	69.1	323.0	- 8.1	-22.7	340.7	163.68
2021 jan 02	10.32	0.890	1.13	69.2	322.9	- 7.9	-22.6	341.2	154.10
2021 jan 03	10.22	0.890	1.13	69.3	322.8	- 7.7	-22.5	341.8	144.51
2021 jan 04	10.12	0.889	1.12	69.4	322.7	- 7.4	-22.4	342.3	134.92
2021 jan 05	10.02	0.889	1.12	69.4	322.6	- 7.2	-22.2	342.8	125.32
2021 jan 06	9.92	0.888	1.11	69.5	322.5	- 7.0	-22.1	343.3	115.72
2021 jan 07	9.82	0.888	1.10	69.6	322.4	- 6.8	-22.0	343.9	106.12
2021 jan 08	9.73	0.887	1.09	69.7	322.3	- 6.6	-21.9	344.4	96.51
2021 jan 09	9.63	0.887	1.09	69.7	322.3	- 6.4	-21.8	344.9	86.90
2021 jan 10	9.54	0.887	1.08	69.8	322.2	- 6.1	-21.7	345.4	77.29
2021 jan 11	9.45	0.887	1.07	69.9	322.1	- 5.9	-21.5	346.0	67.67
2021 jan 12	9.36	0.886	1.06	70.0	322.0	- 5.7	-21.4	346.5	58.05
2021 jan 13	9.28	0.886	1.06	70.1	322.0	- 5.5	-21.3	347.0	48.43
2021 jan 14	9.19	0.886	1.05	70.2	321.9	- 5.3	-21.1	347.5	38.81
2021 jan 15	9.11	0.886	1.04	70.3	321.8	- 5.1	-21.0	348.1	29.18
2021 jan 16	9.02	0.886	1.03	70.4	321.7	- 4.8	-20.8	348.6	19.55
2021 jan 17	8.94	0.885	1.02	70.5	321.7	- 4.6	-20.7	349.1	9.92
2021 jan 18	8.86	0.885	1.02	70.6	321.6	- 4.4	-20.6	349.6	0.28
2021 jan 19	8.78	0.885	1.01	70.7	321.6	- 4.2	-20.4	350.1	350.65
2021 jan 20	8.70	0.885	1.00	70.8	321.5	- 4.0	-20.2	350.6	341.01
2021 jan 21	8.63	0.885	0.99	70.9	321.5	- 3.8	-20.1	351.1	331.37
2021 jan 22	8.55	0.885	0.98	71.0	321.4	- 3.5	-19.9	351.7	321.72
2021 jan 23	8.48	0.885	0.97	71.1	321.4	- 3.3	-19.8	352.2	312.08
2021 jan 24	8.40	0.885	0.97	71.2	321.3	- 3.1	-19.6	352.7	302.43
2021 jan 25	8.33	0.885	0.96	71.3	321.3	- 2.9	-19.4	353.2	292.79
2021 jan 26	8.26	0.885	0.95	71.4	321.3	- 2.7	-19.3	353.7	283.14
2021 jan 27	8.19	0.885	0.94	71.6	321.2	- 2.5	-19.1	354.2	273.49
2021 jan 28	8.12	0.885	0.93	71.7	321.2	- 2.2	-18.9	354.7	263.84
2021 jan 29	8.05	0.885	0.92	71.8	321.2	- 2.0	-18.8	355.2	254.19
2021 jan 30	7.99	0.886	0.91	71.9	321.1	- 1.8	-18.6	355.7	244.53
2021 jan 31	7.92	0.886	0.91	72.0	321.1	- 1.6	-18.4	356.2	234.88
Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
	"		"	°	°	°	°	°	°

Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
2021 feb 01	7.86	0.886	0.90	72.2	321.1	- 1.4	-18.2	356.8	225.22
2021 feb 02	7.79	0.886	0.89	72.3	321.1	- 1.2	-18.0	357.3	215.57
2021 feb 03	7.73	0.886	0.88	72.4	321.1	- 1.0	-17.8	357.8	205.91
2021 feb 04	7.67	0.886	0.87	72.6	321.1	- 0.7	-17.7	358.3	196.25
2021 feb 05	7.61	0.887	0.86	72.7	321.1	- 0.5	-17.5	358.8	186.59
2021 feb 06	7.55	0.887	0.85	72.9	321.1	- 0.3	-17.3	359.3	176.93
2021 feb 07	7.49	0.887	0.84	73.0	321.1	- 0.1	-17.1	359.8	167.27
2021 feb 08	7.43	0.887	0.84	73.1	321.1	+ 0.1	-16.9	0.3	157.61
2021 feb 09	7.37	0.888	0.83	73.3	321.1	+ 0.3	-16.7	0.8	147.95
2021 feb 10	7.32	0.888	0.82	73.4	321.2	+ 0.5	-16.5	1.3	138.29
2021 feb 11	7.26	0.888	0.81	73.6	321.2	+ 0.7	-16.3	1.8	128.63
2021 feb 12	7.20	0.889	0.80	73.7	321.2	+ 1.0	-16.1	2.3	118.97
2021 feb 13	7.15	0.889	0.79	73.9	321.2	+ 1.2	-15.8	2.7	109.30
2021 feb 14	7.10	0.889	0.79	74.1	321.3	+ 1.4	-15.6	3.2	99.64
2021 feb 15	7.05	0.890	0.78	74.2	321.3	+ 1.6	-15.4	3.7	89.97
2021 feb 16	6.99	0.890	0.77	74.4	321.4	+ 1.8	-15.2	4.2	80.31
2021 feb 17	6.94	0.890	0.76	74.5	321.4	+ 2.0	-15.0	4.7	70.64
2021 feb 18	6.89	0.891	0.75	74.7	321.5	+ 2.2	-14.8	5.2	60.98
2021 feb 19	6.84	0.891	0.74	74.9	321.5	+ 2.4	-14.5	5.7	51.31
2021 feb 20	6.79	0.892	0.74	75.1	321.6	+ 2.6	-14.3	6.2	41.65
2021 feb 21	6.75	0.892	0.73	75.2	321.7	+ 2.8	-14.1	6.7	31.98
2021 feb 22	6.70	0.892	0.72	75.4	321.7	+ 3.0	-13.9	7.2	22.32
2021 feb 23	6.65	0.893	0.71	75.6	321.8	+ 3.3	-13.6	7.7	12.65
2021 feb 24	6.61	0.893	0.70	75.8	321.9	+ 3.5	-13.4	8.1	2.99
2021 feb 25	6.56	0.894	0.70	75.9	322.0	+ 3.7	-13.2	8.6	353.32
2021 feb 26	6.52	0.894	0.69	76.1	322.1	+ 3.9	-13.0	9.1	343.66
2021 feb 27	6.47	0.895	0.68	76.3	322.2	+ 4.1	-12.7	9.6	333.99
2021 feb 28	6.43	0.895	0.67	76.5	322.3	+ 4.3	-12.5	10.1	324.32
Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
	"		"	°	°	°	°	°	°
2021 mrt 01	6.39	0.896	0.67	76.7	322.4	+ 4.5	-12.3	10.6	314.66
2021 mrt 02	6.34	0.896	0.66	76.9	322.5	+ 4.7	-12.0	11.1	304.99
2021 mrt 03	6.30	0.897	0.65	77.1	322.6	+ 4.9	-11.8	11.5	295.33
2021 mrt 04	6.26	0.897	0.64	77.3	322.7	+ 5.1	-11.5	12.0	285.66
2021 mrt 05	6.22	0.898	0.64	77.5	322.8	+ 5.3	-11.3	12.5	276.00
2021 mrt 06	6.18	0.898	0.63	77.7	322.9	+ 5.5	-11.0	13.0	266.33
2021 mrt 07	6.14	0.899	0.62	77.9	323.0	+ 5.7	-10.8	13.5	256.67
2021 mrt 08	6.10	0.899	0.61	78.1	323.2	+ 5.9	-10.6	13.9	247.00

Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
2021 mrt 09	6.07	0.900	0.61	78.3	323.3	+ 6.1	-10.3	14.4	237.34
2021 mrt 10	6.03	0.901	0.60	78.5	323.5	+ 6.3	-10.1	14.9	227.68
2021 mrt 11	5.99	0.901	0.59	78.7	323.6	+ 6.5	- 9.8	15.4	218.01
2021 mrt 12	5.95	0.902	0.59	78.9	323.7	+ 6.7	- 9.6	15.8	208.35
2021 mrt 13	5.92	0.902	0.58	79.1	323.9	+ 6.9	- 9.3	16.3	198.68
2021 mrt 14	5.88	0.903	0.57	79.3	324.1	+ 7.1	- 9.0	16.8	189.02
2021 mrt 15	5.85	0.903	0.56	79.5	324.2	+ 7.3	- 8.8	17.3	179.35
2021 mrt 16	5.81	0.904	0.56	79.8	324.4	+ 7.5	- 8.5	17.7	169.69
2021 mrt 17	5.78	0.905	0.55	80.0	324.5	+ 7.6	- 8.3	18.2	160.02
2021 mrt 18	5.75	0.905	0.54	80.2	324.7	+ 7.8	- 8.0	18.7	150.36
2021 mrt 19	5.71	0.906	0.54	80.4	324.9	+ 8.0	- 7.8	19.2	140.70
2021 mrt 20	5.68	0.906	0.53	80.6	325.1	+ 8.2	- 7.5	19.6	131.03
2021 mrt 21	5.65	0.907	0.52	80.9	325.3	+ 8.4	- 7.2	20.1	121.37
2021 mrt 22	5.62	0.908	0.52	81.1	325.4	+ 8.6	- 7.0	20.6	111.70
2021 mrt 23	5.58	0.908	0.51	81.3	325.6	+ 8.8	- 6.7	21.0	102.04
2021 mrt 24	5.55	0.909	0.51	81.6	325.8	+ 9.0	- 6.5	21.5	92.38
2021 mrt 25	5.52	0.910	0.50	81.8	326.0	+ 9.2	- 6.2	22.0	82.71
2021 mrt 26	5.49	0.910	0.49	82.0	326.2	+ 9.4	- 5.9	22.5	73.05
2021 mrt 27	5.46	0.911	0.49	82.3	326.4	+ 9.5	- 5.7	22.9	63.39
2021 mrt 28	5.43	0.912	0.48	82.5	326.6	+ 9.7	- 5.4	23.4	53.72
2021 mrt 29	5.40	0.912	0.47	82.7	326.9	+ 9.9	- 5.1	23.9	44.06
2021 mrt 30	5.38	0.913	0.47	83.0	327.1	+10.1	- 4.9	24.3	34.40
2021 mrt 31	5.35	0.913	0.46	83.2	327.3	+10.3	- 4.6	24.8	24.74
Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
	"		"	°	°	°	°	°	°
2021 apr 01	5.32	0.914	0.46	83.4	327.5	+10.5	- 4.3	25.2	15.07
2021 apr 02	5.29	0.915	0.45	83.7	327.8	+10.6	- 4.1	25.7	5.41
2021 apr 03	5.26	0.915	0.45	83.9	328.0	+10.8	- 3.8	26.2	355.75
2021 apr 04	5.24	0.916	0.44	84.2	328.2	+11.0	- 3.5	26.6	346.09
2021 apr 05	5.21	0.917	0.43	84.4	328.5	+11.2	- 3.3	27.1	336.42
2021 apr 06	5.19	0.917	0.43	84.7	328.7	+11.4	- 3.0	27.6	326.76
2021 apr 07	5.16	0.918	0.42	84.9	329.0	+11.5	- 2.7	28.0	317.10
2021 apr 08	5.13	0.919	0.42	85.1	329.2	+11.7	- 2.4	28.5	307.43
2021 apr 09	5.11	0.919	0.41	85.4	329.5	+11.9	- 2.2	28.9	297.77
2021 apr 10	5.08	0.920	0.41	85.6	329.7	+12.1	- 1.9	29.4	288.11
2021 apr 11	5.06	0.921	0.40	85.9	330.0	+12.2	- 1.6	29.9	278.44
2021 apr 12	5.04	0.921	0.40	86.1	330.2	+12.4	- 1.4	30.3	268.78
2021 apr 13	5.01	0.922	0.39	86.4	330.5	+12.6	- 1.1	30.8	259.12

Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
2021 apr 14	4.99	0.923	0.39	86.6	330.8	+12.8	- 0.8	31.2	249.45
2021 apr 15	4.97	0.923	0.38	86.9	331.0	+12.9	- 0.5	31.7	239.79
2021 apr 16	4.94	0.924	0.37	87.1	331.3	+13.1	- 0.3	32.2	230.12
2021 apr 17	4.92	0.925	0.37	87.4	331.6	+13.3	- 0.0	32.6	220.46
2021 apr 18	4.90	0.926	0.36	87.6	331.9	+13.4	+ 0.3	33.1	210.79
2021 apr 19	4.88	0.926	0.36	87.9	332.2	+13.6	+ 0.5	33.5	201.13
2021 apr 20	4.85	0.927	0.35	88.1	332.4	+13.8	+ 0.8	34.0	191.46
2021 apr 21	4.83	0.928	0.35	88.4	332.7	+13.9	+ 1.1	34.4	181.79
2021 apr 22	4.81	0.928	0.35	88.7	333.0	+14.1	+ 1.4	34.9	172.13
2021 apr 23	4.79	0.929	0.34	88.9	333.3	+14.3	+ 1.6	35.3	162.46
2021 apr 24	4.77	0.930	0.34	89.2	333.6	+14.4	+ 1.9	35.8	152.80
2021 apr 25	4.75	0.930	0.33	89.4	333.9	+14.6	+ 2.2	36.2	143.13
2021 apr 26	4.73	0.931	0.33	89.7	334.2	+14.7	+ 2.4	36.7	133.46
2021 apr 27	4.71	0.932	0.32	89.9	334.5	+14.9	+ 2.7	37.1	123.79
2021 apr 28	4.69	0.932	0.32	90.2	334.8	+15.1	+ 3.0	37.6	114.12
2021 apr 29	4.67	0.933	0.31	90.4	335.2	+15.2	+ 3.3	38.1	104.46
2021 apr 30	4.65	0.934	0.31	90.7	335.5	+15.4	+ 3.5	38.5	94.79
Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
	"		"	°	°	°	°	°	°
2021 mei 01	4.63	0.934	0.30	90.9	335.8	+15.5	+ 3.8	39.0	85.12
2021 mei 02	4.62	0.935	0.30	91.2	336.1	+15.7	+ 4.1	39.4	75.45
2021 mei 03	4.60	0.936	0.30	91.4	336.4	+15.8	+ 4.3	39.9	65.78
2021 mei 04	4.58	0.936	0.29	91.7	336.7	+16.0	+ 4.6	40.3	56.10
2021 mei 05	4.56	0.937	0.29	91.9	337.1	+16.1	+ 4.9	40.8	46.43
2021 mei 06	4.54	0.938	0.28	92.2	337.4	+16.3	+ 5.2	41.2	36.76
2021 mei 07	4.53	0.938	0.28	92.4	337.7	+16.4	+ 5.4	41.6	27.09
2021 mei 08	4.51	0.939	0.27	92.7	338.1	+16.6	+ 5.7	42.1	17.41
2021 mei 09	4.49	0.940	0.27	92.9	338.4	+16.7	+ 6.0	42.5	7.74
2021 mei 10	4.48	0.940	0.27	93.2	338.7	+16.9	+ 6.2	43.0	358.06
2021 mei 11	4.46	0.941	0.26	93.4	339.1	+17.0	+ 6.5	43.4	348.39
2021 mei 12	4.44	0.942	0.26	93.7	339.4	+17.2	+ 6.8	43.9	338.71
2021 mei 13	4.43	0.942	0.25	93.9	339.7	+17.3	+ 7.0	44.3	329.03
2021 mei 14	4.41	0.943	0.25	94.2	340.1	+17.4	+ 7.3	44.8	319.35
2021 mei 15	4.40	0.944	0.25	94.4	340.4	+17.6	+ 7.5	45.2	309.68
2021 mei 16	4.38	0.944	0.24	94.7	340.8	+17.7	+ 7.8	45.7	300.00
2021 mei 17	4.37	0.945	0.24	94.9	341.1	+17.9	+ 8.1	46.1	290.31
2021 mei 18	4.35	0.946	0.24	95.2	341.5	+18.0	+ 8.3	46.6	280.63
2021 mei 19	4.34	0.946	0.23	95.4	341.8	+18.1	+ 8.6	47.0	270.95

Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
2021 mei 20	4.32	0.947	0.23	95.6	342.2	+18.3	+ 8.8	47.4	261.27
2021 mei 21	4.31	0.948	0.23	95.9	342.5	+18.4	+ 9.1	47.9	251.58
2021 mei 22	4.29	0.948	0.22	96.1	342.9	+18.5	+ 9.4	48.3	241.90
2021 mei 23	4.28	0.949	0.22	96.4	343.3	+18.7	+ 9.6	48.8	232.21
2021 mei 24	4.26	0.950	0.21	96.6	343.6	+18.8	+ 9.9	49.2	222.53
2021 mei 25	4.25	0.950	0.21	96.8	344.0	+18.9	+10.1	49.7	212.84
2021 mei 26	4.24	0.951	0.21	97.1	344.3	+19.1	+10.4	50.1	203.15
2021 mei 27	4.22	0.952	0.20	97.3	344.7	+19.2	+10.6	50.5	193.46
2021 mei 28	4.21	0.952	0.20	97.5	345.1	+19.3	+10.9	51.0	183.77
2021 mei 29	4.20	0.953	0.20	97.8	345.4	+19.4	+11.1	51.4	174.08
2021 mei 30	4.18	0.954	0.19	98.0	345.8	+19.6	+11.4	51.9	164.38
2021 mei 31	4.17	0.954	0.19	98.2	346.2	+19.7	+11.6	52.3	154.69
Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
	"		"	°	°	°	°	°	°
2021 jun 01	4.16	0.955	0.19	98.4	346.5	+19.8	+11.9	52.8	144.99
2021 jun 02	4.15	0.955	0.18	98.7	346.9	+19.9	+12.1	53.2	135.30
2021 jun 03	4.14	0.956	0.18	98.9	347.3	+20.0	+12.4	53.6	125.60
2021 jun 04	4.12	0.957	0.18	99.1	347.7	+20.2	+12.6	54.1	115.90
2021 jun 05	4.11	0.957	0.18	99.3	348.0	+20.3	+12.9	54.5	106.20
2021 jun 06	4.10	0.958	0.17	99.5	348.4	+20.4	+13.1	55.0	96.50
2021 jun 07	4.09	0.958	0.17	99.8	348.8	+20.5	+13.3	55.4	86.80
2021 jun 08	4.08	0.959	0.17	100.0	349.2	+20.6	+13.6	55.8	77.09
2021 jun 09	4.07	0.960	0.16	100.2	349.6	+20.7	+13.8	56.3	67.39
2021 jun 10	4.05	0.960	0.16	100.4	349.9	+20.8	+14.0	56.7	57.68
2021 jun 11	4.04	0.961	0.16	100.6	350.3	+21.0	+14.3	57.2	47.97
2021 jun 12	4.03	0.961	0.16	100.8	350.7	+21.1	+14.5	57.6	38.26
2021 jun 13	4.02	0.962	0.15	101.0	351.1	+21.2	+14.7	58.0	28.55
2021 jun 14	4.01	0.963	0.15	101.2	351.5	+21.3	+15.0	58.5	18.84
2021 jun 15	4.00	0.963	0.15	101.4	351.8	+21.4	+15.2	58.9	9.13
2021 jun 16	3.99	0.964	0.14	101.6	352.2	+21.5	+15.4	59.4	359.41
2021 jun 17	3.98	0.964	0.14	101.8	352.6	+21.6	+15.7	59.8	349.69
2021 jun 18	3.97	0.965	0.14	102.0	353.0	+21.7	+15.9	60.2	339.98
2021 jun 19	3.96	0.966	0.14	102.2	353.4	+21.8	+16.1	60.7	330.26
2021 jun 20	3.95	0.966	0.13	102.4	353.8	+21.9	+16.3	61.1	320.54
2021 jun 21	3.94	0.967	0.13	102.6	354.2	+22.0	+16.5	61.5	310.82
2021 jun 22	3.93	0.967	0.13	102.8	354.6	+22.1	+16.8	62.0	301.09
2021 jun 23	3.92	0.968	0.13	102.9	355.0	+22.2	+17.0	62.4	291.37
2021 jun 24	3.92	0.968	0.12	103.1	355.3	+22.3	+17.2	62.9	281.64

Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
2021 jun 25	3.91	0.969	0.12	103.3	355.7	+22.4	+17.4	63.3	271.91
2021 jun 26	3.90	0.969	0.12	103.5	356.1	+22.4	+17.6	63.7	262.18
2021 jun 27	3.89	0.970	0.12	103.7	356.5	+22.5	+17.8	64.2	252.45
2021 jun 28	3.88	0.971	0.11	103.8	356.9	+22.6	+18.0	64.6	242.72
2021 jun 29	3.87	0.971	0.11	104.0	357.3	+22.7	+18.2	65.0	232.99
2021 jun 30	3.86	0.972	0.11	104.2	357.7	+22.8	+18.4	65.5	223.25
Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
	"		"	°	°	°	°	°	°
2021 jul 01	3.86	0.972	0.11	104.3	358.1	+22.9	+18.6	65.9	213.51
2021 jul 02	3.85	0.973	0.11	104.5	358.5	+23.0	+18.8	66.4	203.77
2021 jul 03	3.84	0.973	0.10	104.7	358.9	+23.0	+19.0	66.8	194.03
2021 jul 04	3.83	0.974	0.10	104.8	359.3	+23.1	+19.2	67.2	184.29
2021 jul 05	3.83	0.974	0.10	105.0	359.7	+23.2	+19.4	67.7	174.55
2021 jul 06	3.82	0.975	0.10	105.1	0.1	+23.3	+19.6	68.1	164.80
2021 jul 07	3.81	0.975	0.09	105.3	0.5	+23.3	+19.8	68.5	155.06
2021 jul 08	3.80	0.976	0.09	105.5	0.9	+23.4	+19.9	69.0	145.31
2021 jul 09	3.80	0.976	0.09	105.6	1.3	+23.5	+20.1	69.4	135.56
2021 jul 10	3.79	0.977	0.09	105.7	1.7	+23.6	+20.3	69.8	125.81
2021 jul 11	3.78	0.977	0.09	105.9	2.1	+23.6	+20.5	70.3	116.05
2021 jul 12	3.78	0.978	0.08	106.0	2.5	+23.7	+20.7	70.7	106.30
2021 jul 13	3.77	0.978	0.08	106.2	2.9	+23.8	+20.8	71.2	96.54
2021 jul 14	3.76	0.979	0.08	106.3	3.3	+23.8	+21.0	71.6	86.78
2021 jul 15	3.76	0.979	0.08	106.4	3.7	+23.9	+21.2	72.0	77.02
2021 jul 16	3.75	0.980	0.08	106.6	4.1	+23.9	+21.3	72.5	67.26
2021 jul 17	3.74	0.980	0.07	106.7	4.5	+24.0	+21.5	72.9	57.50
2021 jul 18	3.74	0.980	0.07	106.8	4.9	+24.1	+21.6	73.3	47.73
2021 jul 19	3.73	0.981	0.07	106.9	5.3	+24.1	+21.8	73.8	37.97
2021 jul 20	3.72	0.981	0.07	107.1	5.6	+24.2	+22.0	74.2	28.20
2021 jul 21	3.72	0.982	0.07	107.2	6.0	+24.2	+22.1	74.6	18.43
2021 jul 22	3.71	0.982	0.07	107.3	6.4	+24.3	+22.3	75.1	8.66
2021 jul 23	3.71	0.983	0.06	107.4	6.8	+24.3	+22.4	75.5	358.88
2021 jul 24	3.70	0.983	0.06	107.5	7.2	+24.4	+22.6	76.0	349.11
2021 jul 25	3.70	0.983	0.06	107.6	7.6	+24.4	+22.7	76.4	339.33
2021 jul 26	3.69	0.984	0.06	107.7	8.0	+24.5	+22.8	76.8	329.56
2021 jul 27	3.69	0.984	0.06	107.8	8.4	+24.5	+23.0	77.3	319.78
2021 jul 28	3.68	0.985	0.06	107.9	8.8	+24.6	+23.1	77.7	310.00
2021 jul 29	3.68	0.985	0.05	108.0	9.2	+24.6	+23.2	78.1	300.22
2021 jul 30	3.67	0.986	0.05	108.1	9.6	+24.7	+23.4	78.6	290.43

Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
2021 jul 31	3.67	0.986	0.05	108.2	10.0	+24.7	+23.5	79.0	280.65
Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
	"		"	°	°	°	°	°	°
2021 aug 01	3.66	0.986	0.05	108.3	10.4	+24.7	+23.6	79.5	270.86
2021 aug 02	3.66	0.987	0.05	108.3	10.8	+24.8	+23.7	79.9	261.07
2021 aug 03	3.65	0.987	0.05	108.4	11.2	+24.8	+23.8	80.3	251.28
2021 aug 04	3.65	0.987	0.05	108.5	11.6	+24.8	+23.9	80.8	241.49
2021 aug 05	3.64	0.988	0.04	108.6	12.0	+24.9	+24.1	81.2	231.70
2021 aug 06	3.64	0.988	0.04	108.6	12.4	+24.9	+24.2	81.6	221.91
2021 aug 07	3.64	0.989	0.04	108.7	12.8	+24.9	+24.3	82.1	212.11
2021 aug 08	3.63	0.989	0.04	108.8	13.1	+25.0	+24.4	82.5	202.31
2021 aug 09	3.63	0.989	0.04	108.8	13.5	+25.0	+24.5	83.0	192.52
2021 aug 10	3.63	0.990	0.04	108.9	13.9	+25.0	+24.6	83.4	182.72
2021 aug 11	3.62	0.990	0.04	108.9	14.3	+25.0	+24.6	83.8	172.92
2021 aug 12	3.62	0.990	0.04	109.0	14.7	+25.1	+24.7	84.3	163.11
2021 aug 13	3.61	0.991	0.03	109.0	15.1	+25.1	+24.8	84.7	153.31
2021 aug 14	3.61	0.991	0.03	109.1	15.5	+25.1	+24.9	85.1	143.51
2021 aug 15	3.61	0.991	0.03	109.1	15.8	+25.1	+25.0	85.6	133.70
2021 aug 16	3.60	0.992	0.03	109.1	16.2	+25.1	+25.1	86.0	123.89
2021 aug 17	3.60	0.992	0.03	109.1	16.6	+25.1	+25.1	86.5	114.09
2021 aug 18	3.60	0.992	0.03	109.2	17.0	+25.2	+25.2	86.9	104.28
2021 aug 19	3.60	0.992	0.03	109.2	17.4	+25.2	+25.3	87.3	94.47
2021 aug 20	3.59	0.993	0.03	109.2	17.7	+25.2	+25.3	87.8	84.66
2021 aug 21	3.59	0.993	0.03	109.2	18.1	+25.2	+25.4	88.2	74.85
2021 aug 22	3.59	0.993	0.02	109.2	18.5	+25.2	+25.4	88.7	65.03
2021 aug 23	3.59	0.994	0.02	109.2	18.9	+25.2	+25.5	89.1	55.22
2021 aug 24	3.58	0.994	0.02	109.2	19.2	+25.2	+25.5	89.5	45.41
2021 aug 25	3.58	0.994	0.02	109.2	19.6	+25.2	+25.6	90.0	35.59
2021 aug 26	3.58	0.994	0.02	109.2	20.0	+25.2	+25.6	90.4	25.77
2021 aug 27	3.58	0.995	0.02	109.2	20.3	+25.2	+25.7	90.9	15.96
2021 aug 28	3.57	0.995	0.02	109.2	20.7	+25.2	+25.7	91.3	6.14
2021 aug 29	3.57	0.995	0.02	109.1	21.1	+25.2	+25.7	91.8	356.32
2021 aug 30	3.57	0.995	0.02	109.1	21.4	+25.2	+25.7	92.2	346.50
2021 aug 31	3.57	0.996	0.02	109.1	21.8	+25.2	+25.8	92.6	336.68
Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
	"		"	°	°	°	°	°	°
2021 sep 01	3.57	0.996	0.01	109.0	22.1	+25.2	+25.8	93.1	326.86
2021 sep 02	3.56	0.996	0.01	109.0	22.5	+25.1	+25.8	93.5	317.04

Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
2021 sep 03	3.56	0.996	0.01	108.9	22.8	+25.1	+25.8	94.0	307.22
2021 sep 04	3.56	0.996	0.01	108.8	23.2	+25.1	+25.8	94.4	297.40
2021 sep 05	3.56	0.997	0.01	108.7	23.5	+25.1	+25.8	94.9	287.57
2021 sep 06	3.56	0.997	0.01	108.7	23.9	+25.1	+25.8	95.3	277.75
2021 sep 07	3.56	0.997	0.01	108.6	24.2	+25.1	+25.8	95.7	267.93
2021 sep 08	3.56	0.997	0.01	108.5	24.5	+25.0	+25.8	96.2	258.10
2021 sep 09	3.56	0.997	0.01	108.3	24.9	+25.0	+25.8	96.6	248.28
2021 sep 10	3.55	0.998	0.01	108.2	25.2	+25.0	+25.8	97.1	238.46
2021 sep 11	3.55	0.998	0.01	108.1	25.5	+25.0	+25.8	97.5	228.63
2021 sep 12	3.55	0.998	0.01	107.9	25.9	+24.9	+25.8	98.0	218.81
2021 sep 13	3.55	0.998	0.01	107.7	26.2	+24.9	+25.8	98.4	208.98
2021 sep 14	3.55	0.998	0.01	107.6	26.5	+24.9	+25.7	98.9	199.16
2021 sep 15	3.55	0.998	0.01	107.3	26.8	+24.8	+25.7	99.3	189.33
2021 sep 16	3.55	0.998	0.01	107.1	27.2	+24.8	+25.7	99.8	179.51
2021 sep 17	3.55	0.999	0.00	106.9	27.5	+24.8	+25.6	100.2	169.68
2021 sep 18	3.55	0.999	0.00	106.6	27.8	+24.7	+25.6	100.7	159.86
2021 sep 19	3.55	0.999	0.00	106.3	28.1	+24.7	+25.5	101.1	150.03
2021 sep 20	3.55	0.999	0.00	106.0	28.4	+24.6	+25.5	101.6	140.21
2021 sep 21	3.55	0.999	0.00	105.6	28.7	+24.6	+25.4	102.0	130.38
2021 sep 22	3.55	0.999	0.00	105.2	29.0	+24.6	+25.4	102.5	120.56
2021 sep 23	3.55	0.999	0.00	104.7	29.3	+24.5	+25.3	102.9	110.74
2021 sep 24	3.55	0.999	0.00	104.1	29.6	+24.5	+25.3	103.4	100.91
2021 sep 25	3.55	0.999	0.00	103.5	29.9	+24.4	+25.2	103.8	91.09
2021 sep 26	3.55	1.000	0.00	102.8	30.1	+24.4	+25.1	104.3	81.27
2021 sep 27	3.55	1.000	0.00	102.0	30.4	+24.3	+25.1	104.7	71.45
2021 sep 28	3.55	1.000	0.00	101.0	30.7	+24.3	+25.0	105.2	61.62
2021 sep 29	3.55	1.000	0.00	99.8	31.0	+24.2	+24.9	105.6	51.80
2021 sep 30	3.55	1.000	0.00	98.3	31.2	+24.1	+24.8	106.1	41.98
Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
	"		"	°	°	°	°	°	°
2021 okt 01	3.55	1.000	0.00	96.5	31.5	+24.1	+24.7	106.5	32.16
2021 okt 02	3.56	1.000	0.00	94.1	31.8	+24.0	+24.6	107.0	22.34
2021 okt 03	3.56	1.000	0.00	90.9	32.0	+24.0	+24.5	107.4	12.52
2021 okt 04	3.56	1.000	0.00	86.5	32.3	+23.9	+24.5	107.9	2.70
2021 okt 05	3.56	1.000	0.00	80.0	32.5	+23.8	+24.4	108.3	352.88
2021 okt 06	3.56	1.000	0.00	69.7	32.8	+23.8	+24.2	108.8	343.07
2021 okt 07	3.56	1.000	0.00	53.0	33.0	+23.7	+24.1	109.2	333.25
2021 okt 08	3.56	1.000	0.00	27.5	33.2	+23.6	+24.0	109.7	323.43

Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
2021 okt 09	3.56	1.000	0.00	359.6	33.5	+23.6	+23.9	110.2	313.62
2021 okt 10	3.57	1.000	0.00	339.1	33.7	+23.5	+23.8	110.6	303.80
2021 okt 11	3.57	1.000	0.00	326.5	33.9	+23.4	+23.7	111.1	293.99
2021 okt 12	3.57	1.000	0.00	318.7	34.1	+23.3	+23.5	111.5	284.18
2021 okt 13	3.57	1.000	0.00	313.5	34.4	+23.3	+23.4	112.0	274.37
2021 okt 14	3.57	1.000	0.00	309.8	34.6	+23.2	+23.3	112.4	264.56
2021 okt 15	3.58	1.000	0.00	307.1	34.8	+23.1	+23.2	112.9	254.75
2021 okt 16	3.58	1.000	0.00	305.0	35.0	+23.0	+23.0	113.4	244.94
2021 okt 17	3.58	1.000	0.00	303.4	35.2	+22.9	+22.9	113.8	235.13
2021 okt 18	3.58	1.000	0.00	302.0	35.3	+22.8	+22.7	114.3	225.32
2021 okt 19	3.58	1.000	0.00	300.9	35.5	+22.7	+22.6	114.7	215.52
2021 okt 20	3.59	1.000	0.00	299.9	35.7	+22.7	+22.4	115.2	205.71
2021 okt 21	3.59	0.999	0.00	299.1	35.9	+22.6	+22.3	115.7	195.91
2021 okt 22	3.59	0.999	0.00	298.3	36.1	+22.5	+22.1	116.1	186.11
2021 okt 23	3.59	0.999	0.00	297.7	36.2	+22.4	+22.0	116.6	176.30
2021 okt 24	3.60	0.999	0.00	297.1	36.4	+22.3	+21.8	117.1	166.50
2021 okt 25	3.60	0.999	0.00	296.6	36.5	+22.2	+21.6	117.5	156.71
2021 okt 26	3.60	0.999	0.00	296.1	36.7	+22.1	+21.5	118.0	146.91
2021 okt 27	3.61	0.999	0.00	295.6	36.8	+22.0	+21.3	118.5	137.11
2021 okt 28	3.61	0.999	0.00	295.2	37.0	+21.9	+21.1	118.9	127.31
2021 okt 29	3.61	0.999	0.00	294.8	37.1	+21.8	+20.9	119.4	117.52
2021 okt 30	3.62	0.999	0.01	294.4	37.2	+21.7	+20.7	119.9	107.73
2021 okt 31	3.62	0.998	0.01	294.0	37.3	+21.6	+20.6	120.3	97.93
Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
	"		"	°	°	°	°	°	°
2021 nov 01	3.62	0.998	0.01	293.7	37.5	+21.5	+20.4	120.8	88.14
2021 nov 02	3.63	0.998	0.01	293.4	37.6	+21.3	+20.2	121.3	78.35
2021 nov 03	3.63	0.998	0.01	293.1	37.7	+21.2	+20.0	121.7	68.56
2021 nov 04	3.63	0.998	0.01	292.8	37.8	+21.1	+19.8	122.2	58.78
2021 nov 05	3.64	0.998	0.01	292.5	37.9	+21.0	+19.6	122.7	48.99
2021 nov 06	3.64	0.997	0.01	292.2	37.9	+20.9	+19.4	123.1	39.20
2021 nov 07	3.65	0.997	0.01	291.9	38.0	+20.8	+19.2	123.6	29.42
2021 nov 08	3.65	0.997	0.01	291.6	38.1	+20.6	+19.0	124.1	19.64
2021 nov 09	3.65	0.997	0.01	291.3	38.2	+20.5	+18.8	124.6	9.86
2021 nov 10	3.66	0.997	0.01	291.1	38.2	+20.4	+18.6	125.0	0.07
2021 nov 11	3.66	0.996	0.01	290.8	38.3	+20.3	+18.3	125.5	350.30
2021 nov 12	3.67	0.996	0.01	290.5	38.4	+20.2	+18.1	126.0	340.52
2021 nov 13	3.67	0.996	0.01	290.3	38.4	+20.0	+17.9	126.5	330.74

Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
2021 nov 14	3.68	0.996	0.02	290.0	38.5	+19.9	+17.7	126.9	320.97
2021 nov 15	3.68	0.996	0.02	289.8	38.5	+19.8	+17.5	127.4	311.19
2021 nov 16	3.68	0.995	0.02	289.5	38.5	+19.6	+17.2	127.9	301.42
2021 nov 17	3.69	0.995	0.02	289.3	38.5	+19.5	+17.0	128.4	291.65
2021 nov 18	3.69	0.995	0.02	289.0	38.6	+19.4	+16.8	128.8	281.87
2021 nov 19	3.70	0.995	0.02	288.8	38.6	+19.2	+16.5	129.3	272.11
2021 nov 20	3.70	0.994	0.02	288.5	38.6	+19.1	+16.3	129.8	262.34
2021 nov 21	3.71	0.994	0.02	288.3	38.6	+18.9	+16.0	130.3	252.57
2021 nov 22	3.72	0.994	0.02	288.0	38.6	+18.8	+15.8	130.8	242.80
2021 nov 23	3.72	0.993	0.02	287.8	38.6	+18.7	+15.6	131.2	233.04
2021 nov 24	3.73	0.993	0.03	287.5	38.6	+18.5	+15.3	131.7	223.27
2021 nov 25	3.73	0.993	0.03	287.3	38.5	+18.4	+15.1	132.2	213.51
2021 nov 26	3.74	0.993	0.03	287.0	38.5	+18.2	+14.8	132.7	203.75
2021 nov 27	3.74	0.992	0.03	286.7	38.5	+18.1	+14.6	133.2	193.99
2021 nov 28	3.75	0.992	0.03	286.5	38.4	+17.9	+14.3	133.7	184.23
2021 nov 29	3.75	0.992	0.03	286.2	38.4	+17.8	+14.0	134.2	174.47
2021 nov 30	3.76	0.991	0.03	286.0	38.3	+17.6	+13.8	134.6	164.71
Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
	"		"	°	°	°	°	°	°
2021 dec 01	3.77	0.991	0.03	285.7	38.3	+17.5	+13.5	135.1	154.95
2021 dec 02	3.77	0.991	0.04	285.5	38.2	+17.3	+13.3	135.6	145.19
2021 dec 03	3.78	0.990	0.04	285.2	38.1	+17.2	+13.0	136.1	135.44
2021 dec 04	3.79	0.990	0.04	284.9	38.1	+17.0	+12.7	136.6	125.68
2021 dec 05	3.79	0.990	0.04	284.7	38.0	+16.8	+12.5	137.1	115.93
2021 dec 06	3.80	0.989	0.04	284.4	37.9	+16.7	+12.2	137.6	106.18
2021 dec 07	3.81	0.989	0.04	284.1	37.8	+16.5	+11.9	138.1	96.42
2021 dec 08	3.81	0.988	0.04	283.9	37.7	+16.4	+11.6	138.6	86.67
2021 dec 09	3.82	0.988	0.05	283.6	37.6	+16.2	+11.4	139.1	76.92
2021 dec 10	3.83	0.988	0.05	283.3	37.5	+16.0	+11.1	139.6	67.17
2021 dec 11	3.83	0.987	0.05	283.1	37.4	+15.9	+10.8	140.1	57.42
2021 dec 12	3.84	0.987	0.05	282.8	37.2	+15.7	+10.5	140.5	47.68
2021 dec 13	3.85	0.986	0.05	282.5	37.1	+15.5	+10.2	141.0	37.93
2021 dec 14	3.85	0.986	0.05	282.2	37.0	+15.4	+10.0	141.5	28.18
2021 dec 15	3.86	0.986	0.06	281.9	36.8	+15.2	+ 9.7	142.0	18.43
2021 dec 16	3.87	0.985	0.06	281.7	36.7	+15.0	+ 9.4	142.5	8.69
2021 dec 17	3.88	0.985	0.06	281.4	36.5	+14.8	+ 9.1	143.0	358.94
2021 dec 18	3.88	0.984	0.06	281.1	36.4	+14.7	+ 8.8	143.5	349.20
2021 dec 19	3.89	0.984	0.06	280.8	36.2	+14.5	+ 8.5	144.0	339.45

Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
2021 dec 20	3.90	0.984	0.06	280.5	36.0	+14.3	+ 8.2	144.5	329.71
2021 dec 21	3.91	0.983	0.07	280.2	35.9	+14.1	+ 7.9	145.1	319.97
2021 dec 22	3.92	0.983	0.07	279.9	35.7	+13.9	+ 7.6	145.6	310.22
2021 dec 23	3.92	0.982	0.07	279.6	35.5	+13.7	+ 7.3	146.1	300.48
2021 dec 24	3.93	0.982	0.07	279.4	35.3	+13.6	+ 7.0	146.6	290.74
2021 dec 25	3.94	0.981	0.07	279.1	35.1	+13.4	+ 6.7	147.1	281.00
2021 dec 26	3.95	0.981	0.08	278.8	34.9	+13.2	+ 6.4	147.6	271.25
2021 dec 27	3.96	0.980	0.08	278.5	34.7	+13.0	+ 6.1	148.1	261.51
2021 dec 28	3.97	0.980	0.08	278.2	34.5	+12.8	+ 5.8	148.6	251.77
2021 dec 29	3.97	0.979	0.08	277.9	34.3	+12.6	+ 5.5	149.1	242.03
2021 dec 30	3.98	0.979	0.08	277.5	34.0	+12.4	+ 5.2	149.6	232.29
2021 dec 31	3.99	0.978	0.09	277.2	33.8	+12.2	+ 4.9	150.1	222.55
Datum	diam.	fase	q	Q	Pas	Dz	Da	Ls	w
	"		"	°	°	°	°	°	°
2022 jan 01	4.00	0.978	0.09	276.9	33.6	+12.0	+ 4.6	150.6	212.81

Planeet-efemeriden - Jupiter deel 3a: schijnbare geocentrische meridiaan van Jupiter - Tom Peters Sun Nov 3 17:22:52 2019
 vanaf datum 20210101, voor tijd 0:00:00, zone +0.0u. t.o.v. UT
 DeltaT = 70.0 s

Datum	w1	w2
	°	°
2021 jan 01	45.0	175.6
2021 jan 02	202.7	325.6
2021 jan 03	0.3	115.6
2021 jan 04	158.0	265.6
2021 jan 05	315.6	55.6
2021 jan 06	113.3	205.7
2021 jan 07	270.9	355.7
2021 jan 08	68.6	145.7
2021 jan 09	226.2	295.7
2021 jan 10	23.9	85.7
2021 jan 11	181.5	235.8
2021 jan 12	339.2	25.8
2021 jan 13	136.8	175.8
2021 jan 14	294.5	325.8
2021 jan 15	92.1	115.9
2021 jan 16	249.8	265.9
2021 jan 17	47.4	55.9
2021 jan 18	205.1	205.9
2021 jan 19	2.8	356.0
2021 jan 20	160.4	146.0
2021 jan 21	318.1	296.0
2021 jan 22	115.7	86.0
2021 jan 23	273.4	236.1
2021 jan 24	71.0	26.1
2021 jan 25	228.7	176.1
2021 jan 26	26.4	326.2
2021 jan 27	184.0	116.2
2021 jan 28	341.7	266.2
2021 jan 29	139.3	56.3
2021 jan 30	297.0	206.3
2021 jan 31	94.7	356.3
Datum	w1	w2
	°	°

Datum	w1	w2
2021 feb 01	252.3	146.4
2021 feb 02	50.0	296.4
2021 feb 03	207.7	86.4
2021 feb 04	5.4	236.5
2021 feb 05	163.0	26.5
2021 feb 06	320.7	176.6
2021 feb 07	118.4	326.6
2021 feb 08	276.1	116.7
2021 feb 09	73.7	266.7
2021 feb 10	231.4	56.8
2021 feb 11	29.1	206.8
2021 feb 12	186.8	356.9
2021 feb 13	344.5	146.9
2021 feb 14	142.1	297.0
2021 feb 15	299.8	87.0
2021 feb 16	97.5	237.1
2021 feb 17	255.2	27.1
2021 feb 18	52.9	177.2
2021 feb 19	210.6	327.3
2021 feb 20	8.3	117.3
2021 feb 21	166.0	267.4
2021 feb 22	323.7	57.5
2021 feb 23	121.4	207.5
2021 feb 24	279.1	357.6
2021 feb 25	76.8	147.7
2021 feb 26	234.5	297.8
2021 feb 27	32.2	87.8
2021 feb 28	189.9	237.9
Datum	w1	w2
	°	°
2021 mrt 01	347.6	28.0
2021 mrt 02	145.3	178.1
2021 mrt 03	303.0	328.2
2021 mrt 04	100.8	118.2
2021 mrt 05	258.5	268.3
2021 mrt 06	56.2	58.4
2021 mrt 07	213.9	208.5
2021 mrt 08	11.6	358.6

Datum	w1	w2
2021 mrt 09	169.4	148.7
2021 mrt 10	327.1	298.8
2021 mrt 11	124.8	88.9
2021 mrt 12	282.6	239.0
2021 mrt 13	80.3	29.1
2021 mrt 14	238.0	179.2
2021 mrt 15	35.8	329.3
2021 mrt 16	193.5	119.4
2021 mrt 17	351.2	269.5
2021 mrt 18	149.0	59.6
2021 mrt 19	306.7	209.8
2021 mrt 20	104.5	359.9
2021 mrt 21	262.2	150.0
2021 mrt 22	60.0	300.1
2021 mrt 23	217.7	90.2
2021 mrt 24	15.5	240.4
2021 mrt 25	173.2	30.5
2021 mrt 26	331.0	180.6
2021 mrt 27	128.8	330.7
2021 mrt 28	286.5	120.9
2021 mrt 29	84.3	271.0
2021 mrt 30	242.1	61.1
2021 mrt 31	39.8	211.3
Datum	w1	w2
	°	°
2021 apr 01	197.6	1.4
2021 apr 02	355.4	151.6
2021 apr 03	153.1	301.7
2021 apr 04	310.9	91.9
2021 apr 05	108.7	242.0
2021 apr 06	266.5	32.2
2021 apr 07	64.3	182.3
2021 apr 08	222.1	332.5
2021 apr 09	19.8	122.6
2021 apr 10	177.6	272.8
2021 apr 11	335.4	63.0
2021 apr 12	133.2	213.1
2021 apr 13	291.0	3.3

Datum	w1	w2
2021 apr 14	88.8	153.5
2021 apr 15	246.6	303.6
2021 apr 16	44.4	93.8
2021 apr 17	202.2	244.0
2021 apr 18	0.0	34.2
2021 apr 19	157.9	184.3
2021 apr 20	315.7	334.5
2021 apr 21	113.5	124.7
2021 apr 22	271.3	274.9
2021 apr 23	69.1	65.1
2021 apr 24	226.9	215.3
2021 apr 25	24.8	5.5
2021 apr 26	182.6	155.7
2021 apr 27	340.4	305.9
2021 apr 28	138.3	96.1
2021 apr 29	296.1	246.3
2021 apr 30	93.9	36.5
Datum	w1	w2
	°	°
2021 mei 01	251.8	186.7
2021 mei 02	49.6	336.9
2021 mei 03	207.4	127.1
2021 mei 04	5.3	277.3
2021 mei 05	163.1	67.5
2021 mei 06	321.0	217.7
2021 mei 07	118.8	8.0
2021 mei 08	276.7	158.2
2021 mei 09	74.6	308.4
2021 mei 10	232.4	98.7
2021 mei 11	30.3	248.9
2021 mei 12	188.1	39.1
2021 mei 13	346.0	189.4
2021 mei 14	143.9	339.6
2021 mei 15	301.8	129.8
2021 mei 16	99.6	280.1
2021 mei 17	257.5	70.3
2021 mei 18	55.4	220.6
2021 mei 19	213.3	10.8

Datum	w1	w2
2021 mei 20	11.1	161.1
2021 mei 21	169.0	311.3
2021 mei 22	326.9	101.6
2021 mei 23	124.8	251.9
2021 mei 24	282.7	42.1
2021 mei 25	80.6	192.4
2021 mei 26	238.5	342.6
2021 mei 27	36.4	132.9
2021 mei 28	194.3	283.2
2021 mei 29	352.2	73.5
2021 mei 30	150.1	223.7
2021 mei 31	308.0	14.0
Datum	w1	w2
	°	°
2021 jun 01	105.9	164.3
2021 jun 02	263.9	314.6
2021 jun 03	61.8	104.9
2021 jun 04	219.7	255.2
2021 jun 05	17.6	45.5
2021 jun 06	175.6	195.8
2021 jun 07	333.5	346.1
2021 jun 08	131.4	136.4
2021 jun 09	289.3	286.7
2021 jun 10	87.3	77.0
2021 jun 11	245.2	227.3
2021 jun 12	43.2	17.6
2021 jun 13	201.1	167.9
2021 jun 14	359.1	318.2
2021 jun 15	157.0	108.5
2021 jun 16	315.0	258.9
2021 jun 17	112.9	49.2
2021 jun 18	270.9	199.5
2021 jun 19	68.8	349.8
2021 jun 20	226.8	140.2
2021 jun 21	24.7	290.5
2021 jun 22	182.7	80.8
2021 jun 23	340.7	231.2
2021 jun 24	138.6	21.5

Datum	w1	w2
2021 jun 25	296.6	171.8
2021 jun 26	94.6	322.2
2021 jun 27	252.6	112.5
2021 jun 28	50.5	262.9
2021 jun 29	208.5	53.2
2021 jun 30	6.5	203.6
Datum	w1	w2
	°	°
2021 jul 01	164.5	353.9
2021 jul 02	322.5	144.3
2021 jul 03	120.5	294.7
2021 jul 04	278.5	85.0
2021 jul 05	76.5	235.4
2021 jul 06	234.5	25.7
2021 jul 07	32.5	176.1
2021 jul 08	190.5	326.5
2021 jul 09	348.5	116.9
2021 jul 10	146.5	267.2
2021 jul 11	304.5	57.6
2021 jul 12	102.5	208.0
2021 jul 13	260.5	358.4
2021 jul 14	58.5	148.7
2021 jul 15	216.5	299.1
2021 jul 16	14.5	89.5
2021 jul 17	172.6	239.9
2021 jul 18	330.6	30.3
2021 jul 19	128.6	180.7
2021 jul 20	286.6	331.1
2021 jul 21	84.6	121.5
2021 jul 22	242.7	271.9
2021 jul 23	40.7	62.3
2021 jul 24	198.7	212.7
2021 jul 25	356.7	3.1
2021 jul 26	154.8	153.4
2021 jul 27	312.8	303.9
2021 jul 28	110.8	94.3
2021 jul 29	268.9	244.7
2021 jul 30	66.9	35.1

Datum	w1	w2
2021 jul 31	224.9	185.5
Datum	w1	w2
	°	°
2021 aug 01	23.0	335.9
2021 aug 02	181.0	126.3
2021 aug 03	339.0	276.7
2021 aug 04	137.1	67.1
2021 aug 05	295.1	217.5
2021 aug 06	93.2	7.9
2021 aug 07	251.2	158.3
2021 aug 08	49.2	308.7
2021 aug 09	207.3	99.1
2021 aug 10	5.3	249.5
2021 aug 11	163.3	39.9
2021 aug 12	321.4	190.3
2021 aug 13	119.4	340.7
2021 aug 14	277.5	131.2
2021 aug 15	75.5	281.6
2021 aug 16	233.5	72.0
2021 aug 17	31.6	222.4
2021 aug 18	189.6	12.8
2021 aug 19	347.6	163.2
2021 aug 20	145.7	313.6
2021 aug 21	303.7	104.0
2021 aug 22	101.7	254.4
2021 aug 23	259.7	44.8
2021 aug 24	57.8	195.2
2021 aug 25	215.8	345.6
2021 aug 26	13.8	136.0
2021 aug 27	171.8	286.3
2021 aug 28	329.8	76.7
2021 aug 29	127.8	227.1
2021 aug 30	285.9	17.5
2021 aug 31	83.9	167.9
Datum	w1	w2
	°	°
2021 sep 01	241.9	318.2
2021 sep 02	39.9	108.6

Datum	w1	w2
2021 sep 03	197.9	259.0
2021 sep 04	355.9	49.3
2021 sep 05	153.9	199.7
2021 sep 06	311.8	350.1
2021 sep 07	109.8	140.4
2021 sep 08	267.8	290.8
2021 sep 09	65.8	81.1
2021 sep 10	223.8	231.5
2021 sep 11	21.7	21.8
2021 sep 12	179.7	172.1
2021 sep 13	337.7	322.5
2021 sep 14	135.6	112.8
2021 sep 15	293.6	263.1
2021 sep 16	91.5	53.4
2021 sep 17	249.5	203.8
2021 sep 18	47.4	354.1
2021 sep 19	205.4	144.4
2021 sep 20	3.3	294.7
2021 sep 21	161.2	85.0
2021 sep 22	319.2	235.3
2021 sep 23	117.1	25.6
2021 sep 24	275.0	175.9
2021 sep 25	72.9	326.2
2021 sep 26	230.8	116.4
2021 sep 27	28.7	266.7
2021 sep 28	186.6	57.0
2021 sep 29	344.5	207.3
2021 sep 30	142.4	357.5
Datum	w1	w2
	°	°
2021 okt 01	300.3	147.8
2021 okt 02	98.2	298.1
2021 okt 03	256.1	88.3
2021 okt 04	54.0	238.6
2021 okt 05	211.9	28.8
2021 okt 06	9.7	179.1
2021 okt 07	167.6	329.3
2021 okt 08	325.5	119.5

Datum	w1	w2
2021 okt 09	123.3	269.8
2021 okt 10	281.2	60.0
2021 okt 11	79.0	210.2
2021 okt 12	236.9	0.4
2021 okt 13	34.7	150.6
2021 okt 14	192.6	300.9
2021 okt 15	350.4	91.1
2021 okt 16	148.2	241.3
2021 okt 17	306.1	31.5
2021 okt 18	103.9	181.7
2021 okt 19	261.7	331.8
2021 okt 20	59.5	122.0
2021 okt 21	217.3	272.2
2021 okt 22	15.1	62.4
2021 okt 23	172.9	212.6
2021 okt 24	330.7	2.7
2021 okt 25	128.5	152.9
2021 okt 26	286.3	303.1
2021 okt 27	84.1	93.2
2021 okt 28	241.9	243.4
2021 okt 29	39.7	33.6
2021 okt 30	197.5	183.7
2021 okt 31	355.3	333.9
Datum	w1	w2
	°	°
2021 nov 01	153.0	124.0
2021 nov 02	310.8	274.1
2021 nov 03	108.6	64.3
2021 nov 04	266.3	214.4
2021 nov 05	64.1	4.6
2021 nov 06	221.9	154.7
2021 nov 07	19.6	304.8
2021 nov 08	177.4	94.9
2021 nov 09	335.1	245.1
2021 nov 10	132.9	35.2
2021 nov 11	290.6	185.3
2021 nov 12	88.4	335.4
2021 nov 13	246.1	125.5

Datum	w1	w2
2021 nov 14	43.8	275.6
2021 nov 15	201.6	65.7
2021 nov 16	359.3	215.8
2021 nov 17	157.0	5.9
2021 nov 18	314.7	156.0
2021 nov 19	112.5	306.1
2021 nov 20	270.2	96.2
2021 nov 21	67.9	246.3
2021 nov 22	225.6	36.4
2021 nov 23	23.3	186.5
2021 nov 24	181.0	336.5
2021 nov 25	338.8	126.6
2021 nov 26	136.5	276.7
2021 nov 27	294.2	66.8
2021 nov 28	91.9	216.8
2021 nov 29	249.6	6.9
2021 nov 30	47.3	157.0
Datum	w1	w2
	°	°
2021 dec 01	205.0	307.0
2021 dec 02	2.6	97.1
2021 dec 03	160.3	247.2
2021 dec 04	318.0	37.2
2021 dec 05	115.7	187.3
2021 dec 06	273.4	337.3
2021 dec 07	71.1	127.4
2021 dec 08	228.8	277.4
2021 dec 09	26.4	67.5
2021 dec 10	184.1	217.5
2021 dec 11	341.8	7.6
2021 dec 12	139.5	157.6
2021 dec 13	297.2	307.7
2021 dec 14	94.8	97.7
2021 dec 15	252.5	247.8
2021 dec 16	50.2	37.8
2021 dec 17	207.8	187.9
2021 dec 18	5.5	337.9
2021 dec 19	163.2	127.9

Datum	w1	w2
2021 dec 20	320.8	278.0
2021 dec 21	118.5	68.0
2021 dec 22	276.2	218.0
2021 dec 23	73.8	8.1
2021 dec 24	231.5	158.1
2021 dec 25	29.1	308.1
2021 dec 26	186.8	98.1
2021 dec 27	344.5	248.2
2021 dec 28	142.1	38.2
2021 dec 29	299.8	188.2
2021 dec 30	97.4	338.3
2021 dec 31	255.1	128.3
Datum	w1	w2
	°	°
2022 jan 01	52.7	278.3

Planeet-efemeriden - Jupiter deel 4: verschijning Jupiter-schijf - Tom Peters Sun Nov 3 17:22:52 2019
 vanaf datum 20210101, voor tijd 0:00:00, zone +0.0u. t.o.v. UT
 DeltaT = 70.0 s

Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
	"	"		"	°	°	°	°	°	°
2021 jan 01	32.89	30.76	0.999	0.04	78.0	344.9	- 0.57	- 0.79	45.0	175.6
2021 jan 02	32.86	30.73	0.999	0.04	77.9	344.9	- 0.57	- 0.78	202.7	325.6
2021 jan 03	32.83	30.70	0.999	0.04	77.9	344.8	- 0.56	- 0.78	0.3	115.6
2021 jan 04	32.80	30.67	0.999	0.03	77.9	344.7	- 0.56	- 0.77	158.0	265.6
2021 jan 05	32.78	30.65	0.999	0.03	77.9	344.6	- 0.55	- 0.76	315.6	55.6
2021 jan 06	32.75	30.63	0.999	0.03	77.9	344.5	- 0.55	- 0.75	113.3	205.7
2021 jan 07	32.73	30.60	0.999	0.03	77.9	344.4	- 0.54	- 0.74	270.9	355.7
2021 jan 08	32.70	30.58	0.999	0.02	77.9	344.4	- 0.54	- 0.73	68.6	145.7
2021 jan 09	32.68	30.56	0.999	0.02	77.9	344.3	- 0.54	- 0.73	226.2	295.7
2021 jan 10	32.66	30.54	0.999	0.02	77.9	344.2	- 0.53	- 0.72	23.9	85.7
2021 jan 11	32.64	30.52	0.999	0.02	78.0	344.1	- 0.53	- 0.71	181.5	235.8
2021 jan 12	32.62	30.50	1.000	0.02	78.0	344.0	- 0.52	- 0.70	339.2	25.8
2021 jan 13	32.60	30.49	1.000	0.01	78.1	343.9	- 0.52	- 0.69	136.8	175.8
2021 jan 14	32.58	30.47	1.000	0.01	78.1	343.9	- 0.51	- 0.68	294.5	325.8
2021 jan 15	32.57	30.46	1.000	0.01	78.3	343.8	- 0.51	- 0.67	92.1	115.9
2021 jan 16	32.55	30.44	1.000	0.01	78.4	343.7	- 0.50	- 0.66	249.8	265.9
2021 jan 17	32.54	30.43	1.000	0.01	78.6	343.6	- 0.50	- 0.65	47.4	55.9
2021 jan 18	32.53	30.42	1.000	0.01	78.8	343.5	- 0.49	- 0.65	205.1	205.9
2021 jan 19	32.52	30.41	1.000	0.01	79.0	343.4	- 0.49	- 0.64	2.8	356.0
2021 jan 20	32.51	30.40	1.000	0.00	79.4	343.4	- 0.48	- 0.63	160.4	146.0
2021 jan 21	32.50	30.39	1.000	0.00	79.8	343.3	- 0.48	- 0.62	318.1	296.0
2021 jan 22	32.49	30.39	1.000	0.00	80.4	343.2	- 0.47	- 0.61	115.7	86.0
2021 jan 23	32.49	30.38	1.000	0.00	81.2	343.1	- 0.47	- 0.60	273.4	236.1
2021 jan 24	32.48	30.37	1.000	0.00	82.4	343.0	- 0.47	- 0.59	71.0	26.1
2021 jan 25	32.48	30.37	1.000	0.00	84.2	343.0	- 0.46	- 0.58	228.7	176.1
2021 jan 26	32.47	30.37	1.000	0.00	87.1	342.9	- 0.46	- 0.57	26.4	326.2
2021 jan 27	32.47	30.37	1.000	0.00	92.7	342.8	- 0.45	- 0.56	184.0	116.2
2021 jan 28	32.47	30.37	1.000	0.00	106.8	342.7	- 0.45	- 0.55	341.7	266.2
2021 jan 29	32.47	30.37	1.000	0.00	158.7	342.6	- 0.44	- 0.54	139.3	56.3
2021 jan 30	32.47	30.37	1.000	0.00	218.6	342.6	- 0.44	- 0.53	297.0	206.3
2021 jan 31	32.48	30.37	1.000	0.00	235.1	342.5	- 0.43	- 0.52	94.7	356.3
Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
	"	"		"	°	°	°	°	°	°

Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
2021 feb 01	32.48	30.37	1.000	0.00	241.3	342.4	- 0.43	- 0.52	252.3	146.4
2021 feb 02	32.49	30.38	1.000	0.00	244.5	342.3	- 0.42	- 0.51	50.0	296.4
2021 feb 03	32.49	30.38	1.000	0.00	246.3	342.3	- 0.42	- 0.50	207.7	86.4
2021 feb 04	32.50	30.39	1.000	0.00	247.6	342.2	- 0.41	- 0.49	5.4	236.5
2021 feb 05	32.51	30.40	1.000	0.00	248.4	342.1	- 0.41	- 0.48	163.0	26.5
2021 feb 06	32.52	30.41	1.000	0.00	249.1	342.0	- 0.40	- 0.47	320.7	176.6
2021 feb 07	32.53	30.42	1.000	0.00	249.5	341.9	- 0.40	- 0.46	118.4	326.6
2021 feb 08	32.54	30.43	1.000	0.01	249.9	341.9	- 0.40	- 0.45	276.1	116.7
2021 feb 09	32.55	30.44	1.000	0.01	250.2	341.8	- 0.39	- 0.44	73.7	266.7
2021 feb 10	32.57	30.45	1.000	0.01	250.4	341.7	- 0.39	- 0.43	231.4	56.8
2021 feb 11	32.58	30.47	1.000	0.01	250.6	341.7	- 0.38	- 0.42	29.1	206.8
2021 feb 12	32.60	30.48	1.000	0.01	250.7	341.6	- 0.38	- 0.41	186.8	356.9
2021 feb 13	32.61	30.50	1.000	0.01	250.8	341.5	- 0.37	- 0.40	344.5	146.9
2021 feb 14	32.63	30.52	1.000	0.01	250.9	341.4	- 0.37	- 0.39	142.1	297.0
2021 feb 15	32.65	30.54	1.000	0.02	251.0	341.4	- 0.36	- 0.38	299.8	87.0
2021 feb 16	32.67	30.55	0.999	0.02	251.1	341.3	- 0.36	- 0.37	97.5	237.1
2021 feb 17	32.70	30.58	0.999	0.02	251.1	341.2	- 0.35	- 0.36	255.2	27.1
2021 feb 18	32.72	30.60	0.999	0.02	251.2	341.1	- 0.35	- 0.35	52.9	177.2
2021 feb 19	32.74	30.62	0.999	0.02	251.2	341.1	- 0.34	- 0.34	210.6	327.3
2021 feb 20	32.77	30.64	0.999	0.03	251.2	341.0	- 0.34	- 0.33	8.3	117.3
2021 feb 21	32.80	30.67	0.999	0.03	251.2	340.9	- 0.33	- 0.32	166.0	267.4
2021 feb 22	32.82	30.69	0.999	0.03	251.2	340.9	- 0.33	- 0.31	323.7	57.5
2021 feb 23	32.85	30.72	0.999	0.03	251.2	340.8	- 0.32	- 0.30	121.4	207.5
2021 feb 24	32.88	30.75	0.999	0.04	251.2	340.7	- 0.32	- 0.29	279.1	357.6
2021 feb 25	32.91	30.78	0.999	0.04	251.2	340.7	- 0.32	- 0.28	76.8	147.7
2021 feb 26	32.95	30.81	0.999	0.04	251.2	340.6	- 0.31	- 0.27	234.5	297.8
2021 feb 27	32.98	30.84	0.999	0.05	251.2	340.5	- 0.31	- 0.26	32.2	87.8
2021 feb 28	33.01	30.87	0.999	0.05	251.2	340.5	- 0.30	- 0.25	189.9	237.9
Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
	"	"		"	°	°	°	°	°	°
2021 mrt 01	33.05	30.91	0.998	0.05	251.2	340.4	- 0.30	- 0.24	347.6	28.0
2021 mrt 02	33.09	30.94	0.998	0.06	251.1	340.3	- 0.29	- 0.23	145.3	178.1
2021 mrt 03	33.12	30.98	0.998	0.06	251.1	340.3	- 0.29	- 0.22	303.0	328.2
2021 mrt 04	33.16	31.01	0.998	0.06	251.1	340.2	- 0.28	- 0.21	100.8	118.2
2021 mrt 05	33.20	31.05	0.998	0.07	251.1	340.1	- 0.28	- 0.20	258.5	268.3
2021 mrt 06	33.25	31.09	0.998	0.07	251.1	340.1	- 0.27	- 0.18	56.2	58.4
2021 mrt 07	33.29	31.13	0.998	0.07	251.0	340.0	- 0.27	- 0.17	213.9	208.5
2021 mrt 08	33.33	31.17	0.998	0.08	251.0	340.0	- 0.26	- 0.16	11.6	358.6

Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
2021 mrt 09	33.38	31.21	0.998	0.08	251.0	339.9	- 0.26	- 0.15	169.4	148.7
2021 mrt 10	33.42	31.25	0.997	0.09	250.9	339.8	- 0.25	- 0.14	327.1	298.8
2021 mrt 11	33.47	31.30	0.997	0.09	250.9	339.8	- 0.25	- 0.13	124.8	88.9
2021 mrt 12	33.52	31.34	0.997	0.09	250.9	339.7	- 0.24	- 0.12	282.6	239.0
2021 mrt 13	33.57	31.39	0.997	0.10	250.8	339.7	- 0.24	- 0.11	80.3	29.1
2021 mrt 14	33.62	31.44	0.997	0.10	250.8	339.6	- 0.24	- 0.10	238.0	179.2
2021 mrt 15	33.67	31.49	0.997	0.11	250.8	339.5	- 0.23	- 0.09	35.8	329.3
2021 mrt 16	33.72	31.54	0.997	0.11	250.7	339.5	- 0.23	- 0.08	193.5	119.4
2021 mrt 17	33.78	31.59	0.997	0.12	250.7	339.4	- 0.22	- 0.07	351.2	269.5
2021 mrt 18	33.83	31.64	0.996	0.12	250.7	339.4	- 0.22	- 0.06	149.0	59.6
2021 mrt 19	33.89	31.69	0.996	0.12	250.6	339.3	- 0.21	- 0.05	306.7	209.8
2021 mrt 20	33.95	31.75	0.996	0.13	250.6	339.3	- 0.21	- 0.04	104.5	359.9
2021 mrt 21	34.01	31.80	0.996	0.13	250.6	339.2	- 0.20	- 0.03	262.2	150.0
2021 mrt 22	34.07	31.86	0.996	0.14	250.5	339.2	- 0.20	- 0.02	60.0	300.1
2021 mrt 23	34.13	31.91	0.996	0.14	250.5	339.1	- 0.19	- 0.01	217.7	90.2
2021 mrt 24	34.19	31.97	0.996	0.15	250.5	339.1	- 0.19	- 0.00	15.5	240.4
2021 mrt 25	34.25	32.03	0.996	0.15	250.4	339.0	- 0.18	+ 0.01	173.2	30.5
2021 mrt 26	34.32	32.09	0.995	0.16	250.4	338.9	- 0.18	+ 0.02	331.0	180.6
2021 mrt 27	34.38	32.15	0.995	0.16	250.4	338.9	- 0.17	+ 0.03	128.8	330.7
2021 mrt 28	34.45	32.22	0.995	0.17	250.3	338.8	- 0.17	+ 0.04	286.5	120.9
2021 mrt 29	34.52	32.28	0.995	0.17	250.3	338.8	- 0.16	+ 0.05	84.3	271.0
2021 mrt 30	34.59	32.35	0.995	0.18	250.3	338.7	- 0.16	+ 0.06	242.1	61.1
2021 mrt 31	34.66	32.41	0.995	0.18	250.2	338.7	- 0.15	+ 0.07	39.8	211.3
Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
	"	"		"	°	°	°	°	°	°
2021 apr 01	34.73	32.48	0.995	0.19	250.2	338.7	- 0.15	+ 0.08	197.6	1.4
2021 apr 02	34.80	32.55	0.994	0.19	250.2	338.6	- 0.14	+ 0.09	355.4	151.6
2021 apr 03	34.88	32.62	0.994	0.20	250.2	338.6	- 0.14	+ 0.10	153.1	301.7
2021 apr 04	34.95	32.69	0.994	0.20	250.1	338.5	- 0.14	+ 0.11	310.9	91.9
2021 apr 05	35.03	32.76	0.994	0.21	250.1	338.5	- 0.13	+ 0.12	108.7	242.0
2021 apr 06	35.11	32.83	0.994	0.22	250.1	338.4	- 0.13	+ 0.13	266.5	32.2
2021 apr 07	35.19	32.90	0.994	0.22	250.0	338.4	- 0.12	+ 0.14	64.3	182.3
2021 apr 08	35.27	32.98	0.994	0.23	250.0	338.3	- 0.12	+ 0.15	222.1	332.5
2021 apr 09	35.35	33.05	0.993	0.23	250.0	338.3	- 0.11	+ 0.16	19.8	122.6
2021 apr 10	35.43	33.13	0.993	0.24	249.9	338.3	- 0.11	+ 0.17	177.6	272.8
2021 apr 11	35.51	33.21	0.993	0.24	249.9	338.2	- 0.10	+ 0.18	335.4	63.0
2021 apr 12	35.60	33.29	0.993	0.25	249.9	338.2	- 0.10	+ 0.19	133.2	213.1
2021 apr 13	35.68	33.37	0.993	0.25	249.9	338.1	- 0.09	+ 0.20	291.0	3.3

Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
2021 apr 14	35.77	33.45	0.993	0.26	249.8	338.1	- 0.09	+ 0.21	88.8	153.5
2021 apr 15	35.86	33.53	0.993	0.26	249.8	338.0	- 0.08	+ 0.22	246.6	303.6
2021 apr 16	35.95	33.62	0.993	0.27	249.8	338.0	- 0.08	+ 0.23	44.4	93.8
2021 apr 17	36.04	33.70	0.992	0.27	249.8	338.0	- 0.07	+ 0.24	202.2	244.0
2021 apr 18	36.13	33.79	0.992	0.28	249.7	337.9	- 0.07	+ 0.25	0.0	34.2
2021 apr 19	36.22	33.87	0.992	0.28	249.7	337.9	- 0.06	+ 0.26	157.9	184.3
2021 apr 20	36.32	33.96	0.992	0.29	249.7	337.9	- 0.06	+ 0.27	315.7	334.5
2021 apr 21	36.41	34.05	0.992	0.29	249.7	337.8	- 0.05	+ 0.28	113.5	124.7
2021 apr 22	36.51	34.14	0.992	0.30	249.6	337.8	- 0.05	+ 0.29	271.3	274.9
2021 apr 23	36.61	34.23	0.992	0.30	249.6	337.8	- 0.04	+ 0.30	69.1	65.1
2021 apr 24	36.70	34.32	0.992	0.31	249.6	337.7	- 0.04	+ 0.31	226.9	215.3
2021 apr 25	36.80	34.42	0.991	0.31	249.6	337.7	- 0.04	+ 0.32	24.8	5.5
2021 apr 26	36.90	34.51	0.991	0.32	249.5	337.7	- 0.03	+ 0.32	182.6	155.7
2021 apr 27	37.01	34.61	0.991	0.32	249.5	337.6	- 0.03	+ 0.33	340.4	305.9
2021 apr 28	37.11	34.70	0.991	0.33	249.5	337.6	- 0.02	+ 0.34	138.3	96.1
2021 apr 29	37.21	34.80	0.991	0.33	249.5	337.6	- 0.02	+ 0.35	296.1	246.3
2021 apr 30	37.32	34.90	0.991	0.34	249.5	337.5	- 0.01	+ 0.36	93.9	36.5
Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
	"	"		"	o	o	o	o	o	o
2021 mei 01	37.42	35.00	0.991	0.34	249.5	337.5	- 0.01	+ 0.37	251.8	186.7
2021 mei 02	37.53	35.10	0.991	0.35	249.4	337.5	- 0.00	+ 0.38	49.6	336.9
2021 mei 03	37.64	35.20	0.991	0.35	249.4	337.4	+ 0.00	+ 0.39	207.4	127.1
2021 mei 04	37.75	35.30	0.991	0.35	249.4	337.4	+ 0.01	+ 0.40	5.3	277.3
2021 mei 05	37.86	35.40	0.991	0.36	249.4	337.4	+ 0.01	+ 0.41	163.1	67.5
2021 mei 06	37.97	35.51	0.990	0.36	249.4	337.4	+ 0.02	+ 0.42	321.0	217.7
2021 mei 07	38.08	35.61	0.990	0.37	249.4	337.3	+ 0.02	+ 0.42	118.8	8.0
2021 mei 08	38.20	35.72	0.990	0.37	249.3	337.3	+ 0.03	+ 0.43	276.7	158.2
2021 mei 09	38.31	35.83	0.990	0.37	249.3	337.3	+ 0.03	+ 0.44	74.6	308.4
2021 mei 10	38.43	35.94	0.990	0.38	249.3	337.3	+ 0.04	+ 0.45	232.4	98.7
2021 mei 11	38.55	36.04	0.990	0.38	249.3	337.2	+ 0.04	+ 0.46	30.3	248.9
2021 mei 12	38.66	36.16	0.990	0.38	249.3	337.2	+ 0.05	+ 0.47	188.1	39.1
2021 mei 13	38.78	36.27	0.990	0.39	249.3	337.2	+ 0.05	+ 0.47	346.0	189.4
2021 mei 14	38.90	36.38	0.990	0.39	249.3	337.2	+ 0.06	+ 0.48	143.9	339.6
2021 mei 15	39.02	36.49	0.990	0.39	249.3	337.1	+ 0.06	+ 0.49	301.8	129.8
2021 mei 16	39.14	36.60	0.990	0.39	249.3	337.1	+ 0.07	+ 0.50	99.6	280.1
2021 mei 17	39.27	36.72	0.990	0.40	249.2	337.1	+ 0.07	+ 0.51	257.5	70.3
2021 mei 18	39.39	36.83	0.990	0.40	249.2	337.1	+ 0.07	+ 0.52	55.4	220.6
2021 mei 19	39.51	36.95	0.990	0.40	249.2	337.1	+ 0.08	+ 0.52	213.3	10.8

Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
2021 mei 20	39.64	37.07	0.990	0.40	249.2	337.0	+ 0.08	+ 0.53	11.1	161.1
2021 mei 21	39.76	37.18	0.990	0.40	249.2	337.0	+ 0.09	+ 0.54	169.0	311.3
2021 mei 22	39.89	37.30	0.990	0.40	249.2	337.0	+ 0.09	+ 0.55	326.9	101.6
2021 mei 23	40.02	37.42	0.990	0.41	249.2	337.0	+ 0.10	+ 0.55	124.8	251.9
2021 mei 24	40.15	37.54	0.990	0.41	249.2	337.0	+ 0.10	+ 0.56	282.7	42.1
2021 mei 25	40.27	37.66	0.990	0.41	249.2	337.0	+ 0.11	+ 0.57	80.6	192.4
2021 mei 26	40.40	37.78	0.990	0.41	249.2	336.9	+ 0.11	+ 0.58	238.5	342.6
2021 mei 27	40.53	37.90	0.990	0.41	249.2	336.9	+ 0.12	+ 0.58	36.4	132.9
2021 mei 28	40.66	38.03	0.990	0.41	249.2	336.9	+ 0.12	+ 0.59	194.3	283.2
2021 mei 29	40.80	38.15	0.990	0.41	249.2	336.9	+ 0.13	+ 0.60	352.2	73.5
2021 mei 30	40.93	38.27	0.990	0.41	249.2	336.9	+ 0.13	+ 0.61	150.1	223.7
2021 mei 31	41.06	38.40	0.990	0.41	249.2	336.9	+ 0.14	+ 0.61	308.0	14.0
Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
	"	"		"	°	°	°	°	°	°
2021 jun 01	41.19	38.52	0.990	0.41	249.2	336.9	+ 0.14	+ 0.62	105.9	164.3
2021 jun 02	41.33	38.65	0.990	0.41	249.2	336.9	+ 0.15	+ 0.63	263.9	314.6
2021 jun 03	41.46	38.77	0.990	0.41	249.2	336.8	+ 0.15	+ 0.63	61.8	104.9
2021 jun 04	41.60	38.90	0.990	0.41	249.2	336.8	+ 0.16	+ 0.64	219.7	255.2
2021 jun 05	41.73	39.03	0.990	0.41	249.2	336.8	+ 0.16	+ 0.65	17.6	45.5
2021 jun 06	41.87	39.15	0.990	0.40	249.2	336.8	+ 0.17	+ 0.65	175.6	195.8
2021 jun 07	42.00	39.28	0.990	0.40	249.2	336.8	+ 0.17	+ 0.66	333.5	346.1
2021 jun 08	42.14	39.41	0.991	0.40	249.3	336.8	+ 0.18	+ 0.66	131.4	136.4
2021 jun 09	42.28	39.53	0.991	0.40	249.3	336.8	+ 0.18	+ 0.67	289.3	286.7
2021 jun 10	42.41	39.66	0.991	0.39	249.3	336.8	+ 0.18	+ 0.68	87.3	77.0
2021 jun 11	42.55	39.79	0.991	0.39	249.3	336.8	+ 0.19	+ 0.68	245.2	227.3
2021 jun 12	42.69	39.92	0.991	0.39	249.3	336.8	+ 0.19	+ 0.69	43.2	17.6
2021 jun 13	42.83	40.05	0.991	0.39	249.3	336.8	+ 0.20	+ 0.69	201.1	167.9
2021 jun 14	42.96	40.18	0.991	0.38	249.3	336.8	+ 0.20	+ 0.70	359.1	318.2
2021 jun 15	43.10	40.30	0.991	0.38	249.3	336.8	+ 0.21	+ 0.70	157.0	108.5
2021 jun 16	43.24	40.43	0.991	0.38	249.4	336.8	+ 0.21	+ 0.71	315.0	258.9
2021 jun 17	43.37	40.56	0.991	0.37	249.4	336.8	+ 0.22	+ 0.71	112.9	49.2
2021 jun 18	43.51	40.69	0.992	0.37	249.4	336.8	+ 0.22	+ 0.72	270.9	199.5
2021 jun 19	43.65	40.82	0.992	0.36	249.4	336.7	+ 0.23	+ 0.72	68.8	349.8
2021 jun 20	43.78	40.94	0.992	0.36	249.4	336.7	+ 0.23	+ 0.73	226.8	140.2
2021 jun 21	43.92	41.07	0.992	0.35	249.5	336.7	+ 0.24	+ 0.73	24.7	290.5
2021 jun 22	44.06	41.20	0.992	0.35	249.5	336.7	+ 0.24	+ 0.74	182.7	80.8
2021 jun 23	44.19	41.33	0.992	0.34	249.5	336.7	+ 0.25	+ 0.74	340.7	231.2
2021 jun 24	44.33	41.45	0.992	0.34	249.5	336.8	+ 0.25	+ 0.75	138.6	21.5

Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
2021 jun 25	44.46	41.58	0.993	0.33	249.6	336.8	+ 0.26	+ 0.75	296.6	171.8
2021 jun 26	44.60	41.70	0.993	0.32	249.6	336.8	+ 0.26	+ 0.75	94.6	322.2
2021 jun 27	44.73	41.83	0.993	0.32	249.6	336.8	+ 0.27	+ 0.76	252.6	112.5
2021 jun 28	44.86	41.95	0.993	0.31	249.6	336.8	+ 0.27	+ 0.76	50.5	262.9
2021 jun 29	44.99	42.08	0.993	0.31	249.7	336.8	+ 0.28	+ 0.77	208.5	53.2
2021 jun 30	45.12	42.20	0.993	0.30	249.7	336.8	+ 0.28	+ 0.77	6.5	203.6
Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
	"	"		"	°	°	°	°	°	°
2021 jul 01	45.25	42.32	0.994	0.29	249.8	336.8	+ 0.29	+ 0.77	164.5	353.9
2021 jul 02	45.38	42.44	0.994	0.29	249.8	336.8	+ 0.29	+ 0.78	322.5	144.3
2021 jul 03	45.51	42.56	0.994	0.28	249.8	336.8	+ 0.30	+ 0.78	120.5	294.7
2021 jul 04	45.64	42.68	0.994	0.27	249.9	336.8	+ 0.30	+ 0.78	278.5	85.0
2021 jul 05	45.77	42.80	0.994	0.26	249.9	336.8	+ 0.30	+ 0.78	76.5	235.4
2021 jul 06	45.89	42.91	0.994	0.26	250.0	336.8	+ 0.31	+ 0.79	234.5	25.7
2021 jul 07	46.01	43.03	0.995	0.25	250.0	336.8	+ 0.31	+ 0.79	32.5	176.1
2021 jul 08	46.14	43.14	0.995	0.24	250.1	336.8	+ 0.32	+ 0.79	190.5	326.5
2021 jul 09	46.26	43.26	0.995	0.23	250.1	336.8	+ 0.32	+ 0.79	348.5	116.9
2021 jul 10	46.38	43.37	0.995	0.23	250.2	336.8	+ 0.33	+ 0.80	146.5	267.2
2021 jul 11	46.49	43.48	0.995	0.22	250.2	336.9	+ 0.33	+ 0.80	304.5	57.6
2021 jul 12	46.61	43.59	0.995	0.21	250.3	336.9	+ 0.34	+ 0.80	102.5	208.0
2021 jul 13	46.72	43.69	0.996	0.20	250.3	336.9	+ 0.34	+ 0.80	260.5	358.4
2021 jul 14	46.84	43.80	0.996	0.19	250.4	336.9	+ 0.35	+ 0.80	58.5	148.7
2021 jul 15	46.95	43.90	0.996	0.19	250.5	336.9	+ 0.35	+ 0.81	216.5	299.1
2021 jul 16	47.05	44.00	0.996	0.18	250.5	336.9	+ 0.36	+ 0.81	14.5	89.5
2021 jul 17	47.16	44.10	0.996	0.17	250.6	336.9	+ 0.36	+ 0.81	172.6	239.9
2021 jul 18	47.27	44.20	0.997	0.16	250.7	337.0	+ 0.37	+ 0.81	330.6	30.3
2021 jul 19	47.37	44.30	0.997	0.15	250.8	337.0	+ 0.37	+ 0.81	128.6	180.7
2021 jul 20	47.47	44.39	0.997	0.15	250.8	337.0	+ 0.38	+ 0.81	286.6	331.1
2021 jul 21	47.56	44.48	0.997	0.14	250.9	337.0	+ 0.38	+ 0.81	84.6	121.5
2021 jul 22	47.66	44.57	0.997	0.13	251.0	337.0	+ 0.39	+ 0.81	242.7	271.9
2021 jul 23	47.75	44.66	0.997	0.12	251.1	337.0	+ 0.39	+ 0.81	40.7	62.3
2021 jul 24	47.84	44.74	0.998	0.12	251.2	337.1	+ 0.40	+ 0.81	198.7	212.7
2021 jul 25	47.93	44.82	0.998	0.11	251.4	337.1	+ 0.40	+ 0.81	356.7	3.1
2021 jul 26	48.02	44.90	0.998	0.10	251.5	337.1	+ 0.41	+ 0.81	154.8	153.4
2021 jul 27	48.10	44.98	0.998	0.09	251.6	337.1	+ 0.41	+ 0.81	312.8	303.9
2021 jul 28	48.18	45.05	0.998	0.09	251.7	337.1	+ 0.42	+ 0.81	110.8	94.3
2021 jul 29	48.25	45.12	0.998	0.08	251.9	337.2	+ 0.42	+ 0.81	268.9	244.7
2021 jul 30	48.33	45.19	0.998	0.07	252.1	337.2	+ 0.42	+ 0.81	66.9	35.1

Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
2021 jul 31	48.40	45.26	0.999	0.07	252.2	337.2	+ 0.43	+ 0.81	224.9	185.5
Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
	"	"		"	°	°	°	°	°	°
2021 aug 01	48.47	45.32	0.999	0.06	252.4	337.2	+ 0.43	+ 0.81	23.0	335.9
2021 aug 02	48.53	45.38	0.999	0.06	252.6	337.2	+ 0.44	+ 0.81	181.0	126.3
2021 aug 03	48.59	45.44	0.999	0.05	252.9	337.3	+ 0.44	+ 0.80	339.0	276.7
2021 aug 04	48.65	45.50	0.999	0.04	253.1	337.3	+ 0.45	+ 0.80	137.1	67.1
2021 aug 05	48.71	45.55	0.999	0.04	253.4	337.3	+ 0.45	+ 0.80	295.1	217.5
2021 aug 06	48.76	45.60	0.999	0.03	253.7	337.3	+ 0.46	+ 0.80	93.2	7.9
2021 aug 07	48.81	45.64	0.999	0.03	254.1	337.4	+ 0.46	+ 0.80	251.2	158.3
2021 aug 08	48.85	45.69	0.999	0.03	254.5	337.4	+ 0.47	+ 0.80	49.2	308.7
2021 aug 09	48.90	45.73	1.000	0.02	255.0	337.4	+ 0.47	+ 0.79	207.3	99.1
2021 aug 10	48.94	45.76	1.000	0.02	255.6	337.4	+ 0.48	+ 0.79	5.3	249.5
2021 aug 11	48.97	45.79	1.000	0.01	256.3	337.5	+ 0.48	+ 0.79	163.3	39.9
2021 aug 12	49.00	45.82	1.000	0.01	257.2	337.5	+ 0.49	+ 0.79	321.4	190.3
2021 aug 13	49.03	45.85	1.000	0.01	258.3	337.5	+ 0.49	+ 0.78	119.4	340.7
2021 aug 14	49.05	45.87	1.000	0.01	259.8	337.5	+ 0.50	+ 0.78	277.5	131.2
2021 aug 15	49.07	45.89	1.000	0.00	261.8	337.6	+ 0.50	+ 0.78	75.5	281.6
2021 aug 16	49.09	45.91	1.000	0.00	264.7	337.6	+ 0.51	+ 0.78	233.5	72.0
2021 aug 17	49.11	45.92	1.000	0.00	269.4	337.6	+ 0.51	+ 0.77	31.6	222.4
2021 aug 18	49.12	45.93	1.000	0.00	277.9	337.6	+ 0.52	+ 0.77	189.6	12.8
2021 aug 19	49.12	45.94	1.000	0.00	296.5	337.7	+ 0.52	+ 0.77	347.6	163.2
2021 aug 20	49.12	45.94	1.000	0.00	338.8	337.7	+ 0.52	+ 0.76	145.7	313.6
2021 aug 21	49.12	45.94	1.000	0.00	22.0	337.7	+ 0.53	+ 0.76	303.7	104.0
2021 aug 22	49.12	45.93	1.000	0.00	41.2	337.8	+ 0.53	+ 0.76	101.7	254.4
2021 aug 23	49.11	45.92	1.000	0.00	49.9	337.8	+ 0.54	+ 0.75	259.7	44.8
2021 aug 24	49.10	45.91	1.000	0.00	54.7	337.8	+ 0.54	+ 0.75	57.8	195.2
2021 aug 25	49.08	45.90	1.000	0.00	57.7	337.8	+ 0.55	+ 0.75	215.8	345.6
2021 aug 26	49.06	45.88	1.000	0.01	59.8	337.9	+ 0.55	+ 0.74	13.8	136.0
2021 aug 27	49.04	45.86	1.000	0.01	61.2	337.9	+ 0.56	+ 0.74	171.8	286.3
2021 aug 28	49.01	45.84	1.000	0.01	62.4	337.9	+ 0.56	+ 0.73	329.8	76.7
2021 aug 29	48.98	45.81	1.000	0.01	63.3	338.0	+ 0.57	+ 0.73	127.8	227.1
2021 aug 30	48.95	45.78	1.000	0.02	64.0	338.0	+ 0.57	+ 0.73	285.9	17.5
2021 aug 31	48.91	45.74	1.000	0.02	64.6	338.0	+ 0.58	+ 0.72	83.9	167.9
Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
	"	"		"	°	°	°	°	°	°
2021 sep 01	48.87	45.70	0.999	0.03	65.1	338.0	+ 0.58	+ 0.72	241.9	318.2
2021 sep 02	48.83	45.66	0.999	0.03	65.5	338.1	+ 0.59	+ 0.71	39.9	108.6

Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
2021 sep 03	48.78	45.62	0.999	0.03	65.9	338.1	+ 0.59	+ 0.71	197.9	259.0
2021 sep 04	48.73	45.57	0.999	0.04	66.2	338.1	+ 0.60	+ 0.71	355.9	49.3
2021 sep 05	48.68	45.52	0.999	0.04	66.5	338.1	+ 0.60	+ 0.70	153.9	199.7
2021 sep 06	48.62	45.47	0.999	0.05	66.8	338.2	+ 0.61	+ 0.70	311.8	350.1
2021 sep 07	48.56	45.41	0.999	0.06	67.0	338.2	+ 0.61	+ 0.69	109.8	140.4
2021 sep 08	48.50	45.35	0.999	0.06	67.2	338.2	+ 0.62	+ 0.69	267.8	290.8
2021 sep 09	48.43	45.29	0.999	0.07	67.4	338.3	+ 0.62	+ 0.68	65.8	81.1
2021 sep 10	48.36	45.22	0.998	0.07	67.6	338.3	+ 0.62	+ 0.68	223.8	231.5
2021 sep 11	48.29	45.16	0.998	0.08	67.8	338.3	+ 0.63	+ 0.68	21.7	21.8
2021 sep 12	48.21	45.08	0.998	0.09	67.9	338.3	+ 0.63	+ 0.67	179.7	172.1
2021 sep 13	48.13	45.01	0.998	0.09	68.1	338.4	+ 0.64	+ 0.67	337.7	322.5
2021 sep 14	48.05	44.93	0.998	0.10	68.2	338.4	+ 0.64	+ 0.66	135.6	112.8
2021 sep 15	47.97	44.86	0.998	0.11	68.3	338.4	+ 0.65	+ 0.66	293.6	263.1
2021 sep 16	47.88	44.77	0.998	0.12	68.4	338.4	+ 0.65	+ 0.65	91.5	53.4
2021 sep 17	47.79	44.69	0.997	0.12	68.6	338.4	+ 0.66	+ 0.65	249.5	203.8
2021 sep 18	47.70	44.60	0.997	0.13	68.7	338.5	+ 0.66	+ 0.65	47.4	354.1
2021 sep 19	47.60	44.52	0.997	0.14	68.8	338.5	+ 0.67	+ 0.64	205.4	144.4
2021 sep 20	47.51	44.42	0.997	0.15	68.9	338.5	+ 0.67	+ 0.64	3.3	294.7
2021 sep 21	47.41	44.33	0.997	0.15	69.0	338.5	+ 0.68	+ 0.63	161.2	85.0
2021 sep 22	47.30	44.24	0.997	0.16	69.0	338.6	+ 0.68	+ 0.63	319.2	235.3
2021 sep 23	47.20	44.14	0.996	0.17	69.1	338.6	+ 0.69	+ 0.62	117.1	25.6
2021 sep 24	47.09	44.04	0.996	0.18	69.2	338.6	+ 0.69	+ 0.62	275.0	175.9
2021 sep 25	46.99	43.94	0.996	0.19	69.3	338.6	+ 0.70	+ 0.62	72.9	326.2
2021 sep 26	46.88	43.84	0.996	0.19	69.4	338.6	+ 0.70	+ 0.61	230.8	116.4
2021 sep 27	46.76	43.73	0.996	0.20	69.4	338.6	+ 0.71	+ 0.61	28.7	266.7
2021 sep 28	46.65	43.62	0.995	0.21	69.5	338.7	+ 0.71	+ 0.60	186.6	57.0
2021 sep 29	46.53	43.52	0.995	0.22	69.6	338.7	+ 0.72	+ 0.60	344.5	207.3
2021 sep 30	46.42	43.41	0.995	0.23	69.6	338.7	+ 0.72	+ 0.60	142.4	357.5
Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
	"	"		"	°	°	°	°	°	°
2021 okt 01	46.30	43.29	0.995	0.23	69.7	338.7	+ 0.72	+ 0.59	300.3	147.8
2021 okt 02	46.18	43.18	0.995	0.24	69.7	338.7	+ 0.73	+ 0.59	98.2	298.1
2021 okt 03	46.05	43.07	0.995	0.25	69.8	338.7	+ 0.73	+ 0.59	256.1	88.3
2021 okt 04	45.93	42.95	0.994	0.26	69.8	338.7	+ 0.74	+ 0.58	54.0	238.6
2021 okt 05	45.81	42.83	0.994	0.26	69.9	338.8	+ 0.74	+ 0.58	211.9	28.8
2021 okt 06	45.68	42.72	0.994	0.27	69.9	338.8	+ 0.75	+ 0.58	9.7	179.1
2021 okt 07	45.55	42.60	0.994	0.28	70.0	338.8	+ 0.75	+ 0.57	167.6	329.3
2021 okt 08	45.42	42.48	0.994	0.29	70.0	338.8	+ 0.76	+ 0.57	325.5	119.5

Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
2021 okt 09	45.29	42.36	0.994	0.29	70.1	338.8	+ 0.76	+ 0.57	123.3	269.8
2021 okt 10	45.16	42.23	0.993	0.30	70.1	338.8	+ 0.77	+ 0.56	281.2	60.0
2021 okt 11	45.03	42.11	0.993	0.31	70.1	338.8	+ 0.77	+ 0.56	79.0	210.2
2021 okt 12	44.90	41.99	0.993	0.31	70.2	338.8	+ 0.78	+ 0.56	236.9	0.4
2021 okt 13	44.77	41.86	0.993	0.32	70.2	338.8	+ 0.78	+ 0.55	34.7	150.6
2021 okt 14	44.63	41.74	0.993	0.32	70.2	338.8	+ 0.79	+ 0.55	192.6	300.9
2021 okt 15	44.50	41.61	0.993	0.33	70.3	338.8	+ 0.79	+ 0.55	350.4	91.1
2021 okt 16	44.36	41.48	0.992	0.34	70.3	338.8	+ 0.80	+ 0.55	148.2	241.3
2021 okt 17	44.23	41.36	0.992	0.34	70.3	338.8	+ 0.80	+ 0.54	306.1	31.5
2021 okt 18	44.09	41.23	0.992	0.35	70.4	338.8	+ 0.80	+ 0.54	103.9	181.7
2021 okt 19	43.95	41.10	0.992	0.35	70.4	338.8	+ 0.81	+ 0.54	261.7	331.8
2021 okt 20	43.82	40.98	0.992	0.36	70.4	338.8	+ 0.81	+ 0.54	59.5	122.0
2021 okt 21	43.68	40.85	0.992	0.36	70.4	338.8	+ 0.82	+ 0.54	217.3	272.2
2021 okt 22	43.54	40.72	0.992	0.36	70.5	338.8	+ 0.82	+ 0.53	15.1	62.4
2021 okt 23	43.41	40.59	0.992	0.37	70.5	338.8	+ 0.83	+ 0.53	172.9	212.6
2021 okt 24	43.27	40.46	0.991	0.37	70.5	338.8	+ 0.83	+ 0.53	330.7	2.7
2021 okt 25	43.13	40.33	0.991	0.38	70.5	338.8	+ 0.84	+ 0.53	128.5	152.9
2021 okt 26	42.99	40.20	0.991	0.38	70.5	338.8	+ 0.84	+ 0.53	286.3	303.1
2021 okt 27	42.86	40.08	0.991	0.38	70.6	338.8	+ 0.85	+ 0.53	84.1	93.2
2021 okt 28	42.72	39.95	0.991	0.39	70.6	338.8	+ 0.85	+ 0.53	241.9	243.4
2021 okt 29	42.58	39.82	0.991	0.39	70.6	338.8	+ 0.86	+ 0.52	39.7	33.6
2021 okt 30	42.44	39.69	0.991	0.39	70.6	338.8	+ 0.86	+ 0.52	197.5	183.7
2021 okt 31	42.31	39.56	0.991	0.39	70.6	338.8	+ 0.87	+ 0.52	355.3	333.9
Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
	"	"		"	°	°	°	°	°	°
2021 nov 01	42.17	39.43	0.991	0.39	70.6	338.8	+ 0.87	+ 0.52	153.0	124.0
2021 nov 02	42.03	39.31	0.991	0.40	70.6	338.7	+ 0.88	+ 0.52	310.8	274.1
2021 nov 03	41.90	39.18	0.991	0.40	70.6	338.7	+ 0.88	+ 0.52	108.6	64.3
2021 nov 04	41.76	39.05	0.990	0.40	70.6	338.7	+ 0.88	+ 0.52	266.3	214.4
2021 nov 05	41.63	38.93	0.990	0.40	70.6	338.7	+ 0.89	+ 0.52	64.1	4.6
2021 nov 06	41.49	38.80	0.990	0.40	70.7	338.7	+ 0.89	+ 0.52	221.9	154.7
2021 nov 07	41.36	38.67	0.990	0.40	70.7	338.7	+ 0.90	+ 0.52	19.6	304.8
2021 nov 08	41.22	38.55	0.990	0.40	70.7	338.7	+ 0.90	+ 0.52	177.4	94.9
2021 nov 09	41.09	38.42	0.990	0.40	70.7	338.6	+ 0.91	+ 0.52	335.1	245.1
2021 nov 10	40.96	38.30	0.990	0.40	70.7	338.6	+ 0.91	+ 0.52	132.9	35.2
2021 nov 11	40.83	38.18	0.990	0.40	70.7	338.6	+ 0.92	+ 0.52	290.6	185.3
2021 nov 12	40.69	38.05	0.990	0.40	70.7	338.6	+ 0.92	+ 0.52	88.4	335.4
2021 nov 13	40.56	37.93	0.990	0.40	70.7	338.6	+ 0.93	+ 0.52	246.1	125.5

Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
2021 nov 14	40.43	37.81	0.990	0.40	70.7	338.5	+ 0.93	+ 0.52	43.8	275.6
2021 nov 15	40.31	37.69	0.990	0.40	70.7	338.5	+ 0.94	+ 0.52	201.6	65.7
2021 nov 16	40.18	37.57	0.990	0.40	70.7	338.5	+ 0.94	+ 0.53	359.3	215.8
2021 nov 17	40.05	37.45	0.990	0.39	70.7	338.5	+ 0.95	+ 0.53	157.0	5.9
2021 nov 18	39.92	37.33	0.990	0.39	70.6	338.5	+ 0.95	+ 0.53	314.7	156.0
2021 nov 19	39.80	37.22	0.990	0.39	70.6	338.4	+ 0.95	+ 0.53	112.5	306.1
2021 nov 20	39.67	37.10	0.990	0.39	70.6	338.4	+ 0.96	+ 0.53	270.2	96.2
2021 nov 21	39.55	36.98	0.990	0.39	70.6	338.4	+ 0.96	+ 0.53	67.9	246.3
2021 nov 22	39.43	36.87	0.990	0.38	70.6	338.4	+ 0.97	+ 0.54	225.6	36.4
2021 nov 23	39.30	36.75	0.990	0.38	70.6	338.3	+ 0.97	+ 0.54	23.3	186.5
2021 nov 24	39.18	36.64	0.990	0.38	70.6	338.3	+ 0.98	+ 0.54	181.0	336.5
2021 nov 25	39.06	36.53	0.990	0.38	70.6	338.3	+ 0.98	+ 0.54	338.8	126.6
2021 nov 26	38.94	36.42	0.990	0.37	70.6	338.3	+ 0.99	+ 0.54	136.5	276.7
2021 nov 27	38.83	36.31	0.990	0.37	70.6	338.2	+ 0.99	+ 0.55	294.2	66.8
2021 nov 28	38.71	36.20	0.991	0.37	70.6	338.2	+ 1.00	+ 0.55	91.9	216.8
2021 nov 29	38.59	36.09	0.991	0.36	70.6	338.2	+ 1.00	+ 0.55	249.6	6.9
2021 nov 30	38.48	35.98	0.991	0.36	70.5	338.1	+ 1.01	+ 0.55	47.3	157.0
Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
	"	"		"	o	o	o	o	o	o
2021 dec 01	38.36	35.87	0.991	0.36	70.5	338.1	+ 1.01	+ 0.56	205.0	307.0
2021 dec 02	38.25	35.77	0.991	0.35	70.5	338.1	+ 1.01	+ 0.56	2.6	97.1
2021 dec 03	38.14	35.66	0.991	0.35	70.5	338.1	+ 1.02	+ 0.56	160.3	247.2
2021 dec 04	38.03	35.56	0.991	0.34	70.5	338.0	+ 1.02	+ 0.57	318.0	37.2
2021 dec 05	37.92	35.46	0.991	0.34	70.5	338.0	+ 1.03	+ 0.57	115.7	187.3
2021 dec 06	37.81	35.36	0.991	0.34	70.5	338.0	+ 1.03	+ 0.57	273.4	337.3
2021 dec 07	37.70	35.26	0.991	0.33	70.5	337.9	+ 1.04	+ 0.58	71.1	127.4
2021 dec 08	37.60	35.16	0.991	0.33	70.4	337.9	+ 1.04	+ 0.58	228.8	277.4
2021 dec 09	37.49	35.06	0.991	0.32	70.4	337.9	+ 1.05	+ 0.58	26.4	67.5
2021 dec 10	37.39	34.96	0.992	0.32	70.4	337.8	+ 1.05	+ 0.59	184.1	217.5
2021 dec 11	37.29	34.87	0.992	0.31	70.4	337.8	+ 1.06	+ 0.59	341.8	7.6
2021 dec 12	37.18	34.77	0.992	0.31	70.4	337.8	+ 1.06	+ 0.60	139.5	157.6
2021 dec 13	37.08	34.68	0.992	0.30	70.4	337.7	+ 1.07	+ 0.60	297.2	307.7
2021 dec 14	36.98	34.59	0.992	0.30	70.3	337.7	+ 1.07	+ 0.61	94.8	97.7
2021 dec 15	36.89	34.49	0.992	0.29	70.3	337.7	+ 1.07	+ 0.61	252.5	247.8
2021 dec 16	36.79	34.40	0.992	0.29	70.3	337.6	+ 1.08	+ 0.62	50.2	37.8
2021 dec 17	36.69	34.31	0.992	0.28	70.3	337.6	+ 1.08	+ 0.62	207.8	187.9
2021 dec 18	36.60	34.23	0.992	0.28	70.3	337.6	+ 1.09	+ 0.62	5.5	337.9
2021 dec 19	36.51	34.14	0.993	0.27	70.3	337.5	+ 1.09	+ 0.63	163.2	127.9

Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
2021 dec 20	36.42	34.05	0.993	0.27	70.3	337.5	+ 1.10	+ 0.63	320.8	278.0
2021 dec 21	36.33	33.97	0.993	0.26	70.2	337.5	+ 1.10	+ 0.64	118.5	68.0
2021 dec 22	36.24	33.89	0.993	0.26	70.2	337.4	+ 1.11	+ 0.64	276.2	218.0
2021 dec 23	36.15	33.80	0.993	0.25	70.2	337.4	+ 1.11	+ 0.65	73.8	8.1
2021 dec 24	36.06	33.72	0.993	0.25	70.2	337.3	+ 1.12	+ 0.66	231.5	158.1
2021 dec 25	35.98	33.64	0.993	0.24	70.2	337.3	+ 1.12	+ 0.66	29.1	308.1
2021 dec 26	35.89	33.56	0.993	0.24	70.2	337.3	+ 1.12	+ 0.67	186.8	98.1
2021 dec 27	35.81	33.49	0.994	0.23	70.1	337.2	+ 1.13	+ 0.67	344.5	248.2
2021 dec 28	35.73	33.41	0.994	0.22	70.1	337.2	+ 1.13	+ 0.68	142.1	38.2
2021 dec 29	35.65	33.33	0.994	0.22	70.1	337.2	+ 1.14	+ 0.68	299.8	188.2
2021 dec 30	35.57	33.26	0.994	0.21	70.1	337.1	+ 1.14	+ 0.69	97.4	338.3
2021 dec 31	35.49	33.19	0.994	0.21	70.1	337.1	+ 1.15	+ 0.70	255.1	128.3
Datum	E.diam	P.diam	fase	q	Q	Pas	Dz	Da	w1	w2
	"	"		"	°	°	°	°	°	°
2022 jan 01	35.41	33.11	0.994	0.20	70.1	337.0	+ 1.15	+ 0.70	52.7	278.3

Planeet-efemeriden - Osculerende Elementen uit DE430 - Tom Peters Sun Nov 3 17:22:52 2019
 voor epoch datum 20210630, tijd 23:58:50 UT
 voor epoch Juliaanse Efemeriden Dag = 2459396.5
 DeltaT = 70.0 s
 heliocentrisch ecliptisch voor vaste aequinoctium J2000.0

Naam	1/m	m	q	a	Q	n	v	Psid	Psid	Psyn	e	Ω	ϖ	i	M0
	1/Mz	Mp/Mt	A.E.	A.E.	A.E.	g/d	km/s	jul.jr.	d	d	rad	g	g	g	g
Mercurius	6023682.155592	0.0552728	0.307499	0.38709868	0.466698	4.09233876	47.87208	0.2408467	87.96926	115.877	0.20563097	48.303837	29.186340	7.003665	265.761584
Venus	408523.718658	0.8149981	0.718418	0.72333000	0.728242	1.60213787	35.02075	0.6151944	224.69976	583.913	0.00679047	76.621765	55.194155	3.394505	29.293007
Aarde+Maan	328900.559810	1.0123000	0.983290	0.99999903	1.016708	0.98561060	29.78475	1.0000159	365.25581	-.-	0.01670921	176.201312	286.724430	0.002712	176.050080
Mars	3098703.590291	0.1074469	1.381530	1.52374264	1.665955	0.52400655	24.12889	1.8809427	687.01432	779.894	0.09333081	49.491748	286.690716	1.847898	173.704400
Jupiter	1047.348625	317.8941956	4.951013	5.20352846	5.456044	0.08307386	13.06325	11.8644571	4333.49297	398.877	0.04852775	100.515658	273.393805	1.303553	312.836535
Saturnus	3497.901768	95.1845052	9.082594	9.58156182	10.080530	0.03323622	9.62359	29.6551818	10831.55516	378.004	0.05207583	113.594899	335.883969	2.486236	223.334176
Uranus	22902.981613	14.5372360	18.373864	19.22990464	20.085945	0.01168821	6.79226	84.3265664	30800.27837	369.640	0.04451610	74.093747	96.228814	0.770362	234.781095
Neptunus	19412.259776	17.1513287	29.883821	30.28219367	30.680567	0.00591472	5.41266	166.6395236	60865.08600	367.462	0.01315535	131.746622	245.491683	1.769053	334.460581