

TIJDVEREFFENING (E.T.) EN DECLINATIE (DEC.) OM 12h00m M.E.T.

JAN 2019			FEB 2019			MRT 2019		
DA-TUM	E.T. m s	DEC. ø ' ,	DA-TUM	E.T. m s	DEC. ø ' ,	DA-TUM	E.T. m s	DEC. ø ' ,
01:	-03 25	-23 00.1	01:	-13 32	-17 06.7	01:	-12 23	-07 36.3
02:	-03 53	-22 55.0	02:	-13 39	-16 49.5	02:	-12 12	-07 13.5
03:	-04 21	-22 49.4	03:	-13 46	-16 32.0	03:	-11 59	-06 50.5
04:	-04 49	-22 43.3	04:	-13 53	-16 14.2	04:	-11 47	-06 27.5
05:	-05 16	-22 36.8	05:	-13 58	-15 56.2	05:	-11 34	-06 04.3
06:	-05 42	-22 29.9	06:	-14 03	-15 37.8	06:	-11 20	-05 41.1
07:	-06 09	-22 22.5	07:	-14 06	-15 19.2	07:	-11 06	-05 17.8
08:	-06 34	-22 14.6	08:	-14 09	-15 00.3	08:	-10 52	-04 54.4
09:	-06 60	-22 06.3	09:	-14 12	-14 41.2	09:	-10 37	-04 31.0
10:	-07 24	-21 57.6	10:	-14 13	-14 21.8	10:	-10 22	-04 07.5
11:	-07 49	-21 48.5	11:	-14 13	-14 02.2	11:	-10 06	-03 44.0
12:	-08 12	-21 38.9	12:	-14 13	-13 42.4	12:	-09 51	-03 20.4
13:	-08 35	-21 28.9	13:	-14 12	-13 22.3	13:	-09 34	-02 56.7
14:	-08 57	-21 18.6	14:	-14 11	-13 02.0	14:	-09 18	-02 33.1
15:	-09 19	-21 07.7	15:	-14 08	-12 41.6	15:	-09 01	-02 09.4
16:	-09 40	-20 56.5	16:	-14 05	-12 20.9	16:	-08 44	-01 45.7
17:	-09 60	-20 44.9	17:	-14 01	-11 60.0	17:	-08 27	-01 22.0
18:	-10 19	-20 32.9	18:	-13 56	-11 38.9	18:	-08 10	-00 58.3
19:	-10 38	-20 20.5	19:	-13 51	-11 17.6	19:	-07 52	-00 34.6
20:	-10 56	-20 07.8	20:	-13 45	-10 56.2	20:	-07 35	-00 10.8
21:	-11 13	-19 54.6	21:	-13 38	-10 34.6	21:	-07 17	+00 12.9
22:	-11 30	-19 41.1	22:	-13 31	-10 12.8	22:	-06 59	+00 36.5
23:	-11 45	-19 27.2	23:	-13 23	-09 50.9	23:	-06 41	+01 00.2
24:	-12 00	-19 12.9	24:	-13 14	-09 28.8	24:	-06 23	+01 23.8
25:	-12 14	-18 58.3	25:	-13 05	-09 06.6	25:	-06 05	+01 47.4
26:	-12 28	-18 43.4	26:	-12 56	-08 44.2	26:	-05 46	+02 11.0
27:	-12 40	-18 28.1	27:	-12 45	-08 21.7	27:	-05 28	+02 34.5
28:	-12 52	-18 12.5	28:	-12 35	-07 59.1	28:	-05 10	+02 58.0
29:	-13 03	-17 56.5				29:	-04 52	+03 21.4
30:	-13 13	-17 40.2				30:	-04 34	+03 44.8
31:	-13 23	-17 23.6				31:	-04 16	+04 08.0

APR 2019			MEI 2019			JUN 2019		
DA-TUM	E.T. m s	DEC. ø ' ,	DA-TUM	E.T. m s	DEC. ø ' ,	DA-TUM	E.T. m s	DEC. ø ' ,
01:	-03 58	+04 31.2	01:	+02 51	+15 03.7	01:	+02 12	+22 02.7
02:	-03 41	+04 54.4	02:	+02 58	+15 21.7	02:	+02 02	+22 10.7
03:	-03 23	+05 17.4	03:	+03 05	+15 39.5	03:	+01 53	+22 18.2
04:	-03 06	+05 40.3	04:	+03 10	+15 57.0	04:	+01 42	+22 25.4
05:	-02 48	+06 03.2	05:	+03 16	+16 14.3	05:	+01 32	+22 32.2
06:	-02 31	+06 25.9	06:	+03 20	+16 31.3	06:	+01 21	+22 38.7
07:	-02 14	+06 48.6	07:	+03 25	+16 48.0	07:	+01 10	+22 44.7
08:	-01 58	+07 11.1	08:	+03 28	+17 04.5	08:	+00 59	+22 50.3
09:	-01 41	+07 33.5	09:	+03 31	+17 20.6	09:	+00 47	+22 55.5
10:	-01 25	+07 55.7	10:	+03 34	+17 36.5	10:	+00 35	+23 00.3
11:	-01 09	+08 17.9	11:	+03 36	+17 52.0	11:	+00 23	+23 04.7
12:	-00 53	+08 39.8	12:	+03 37	+18 07.3	12:	+00 11	+23 08.7
13:	-00 38	+09 01.7	13:	+03 38	+18 22.3	13:	-00 01	+23 12.3
14:	-00 23	+09 23.4	14:	+03 38	+18 36.9	14:	-00 14	+23 15.4
15:	-00 08	+09 44.9	15:	+03 38	+18 51.2	15:	-00 27	+23 18.2
16:	+00 06	+10 06.3	16:	+03 37	+19 05.3	16:	-00 39	+23 20.6
17:	+00 20	+10 27.5	17:	+03 36	+19 18.9	17:	-00 52	+23 22.5
18:	+00 34	+10 48.5	18:	+03 34	+19 32.3	18:	-01 05	+23 24.0
19:	+00 47	+11 09.3	19:	+03 31	+19 45.3	19:	-01 18	+23 25.1
20:	+01 00	+11 30.0	20:	+03 28	+19 58.0	20:	-01 31	+23 25.8
21:	+01 13	+11 50.5	21:	+03 25	+20 10.4	21:	-01 44	+23 26.1
22:	+01 25	+12 10.8	22:	+03 21	+20 22.4	22:	-01 57	+23 26.0
23:	+01 37	+12 30.8	23:	+03 16	+20 34.0	23:	-02 10	+23 25.5
24:	+01 48	+12 50.7	24:	+03 11	+20 45.4	24:	-02 23	+23 24.5
25:	+01 58	+13 10.4	25:	+03 05	+20 56.3	25:	-02 36	+23 23.2
26:	+02 08	+13 29.8	26:	+02 59	+21 06.9	26:	-02 48	+23 21.4
27:	+02 18	+13 49.1	27:	+02 52	+21 17.1	27:	-03 01	+23 19.2
28:	+02 27	+14 08.1	28:	+02 45	+21 27.0	28:	-03 13	+23 16.6
29:	+02 36	+14 26.8	29:	+02 37	+21 36.5	29:	-03 26	+23 13.6
30:	+02 44	+14 45.4	30:	+02 29	+21 45.6	30:	-03 38	+23 10.2
			31:	+02 21	+21 54.3			

TIJDVEREFFENING (E.T.) EN DECLINATIE (DEC.) OM 12h00m M.E.T.

JUL 2019			AUG 2019			SEP 2019		
DA-TUM	E.T. m s	DEC. ø ' ,	DA-TUM	E.T. m s	DEC. ø ' ,	DA-TUM	E.T. m s	DEC. ø ' ,
01:	-03 49	+23 06.4	01:	-06 22	+18 01.4	01:	-00 06	+08 17.7
02:	-04 01	+23 02.2	02:	-06 18	+17 46.2	02:	+00 13	+07 55.9
03:	-04 12	+22 57.6	03:	-06 14	+17 30.7	03:	+00 33	+07 34.0
04:	-04 23	+22 52.5	04:	-06 09	+17 14.9	04:	+00 52	+07 11.9
05:	-04 34	+22 47.1	05:	-06 03	+16 58.8	05:	+01 12	+06 49.8
06:	-04 44	+22 41.3	06:	-05 57	+16 42.4	06:	+01 32	+06 27.5
07:	-04 54	+22 35.1	07:	-05 50	+16 25.8	07:	+01 53	+06 05.1
08:	-05 04	+22 28.5	08:	-05 42	+16 08.9	08:	+02 13	+05 42.6
09:	-05 13	+22 21.5	09:	-05 34	+15 51.8	09:	+02 34	+05 20.0
10:	-05 22	+22 14.1	10:	-05 25	+15 34.4	10:	+02 55	+04 57.3
11:	-05 30	+22 06.4	11:	-05 16	+15 16.7	11:	+03 16	+04 34.6
12:	-05 38	+21 58.2	12:	-05 06	+14 58.8	12:	+03 37	+04 11.7
13:	-05 45	+21 49.7	13:	-04 56	+14 40.7	13:	+03 59	+03 48.8
14:	-05 52	+21 40.8	14:	-04 44	+14 22.3	14:	+04 20	+03 25.9
15:	-05 58	+21 31.6	15:	-04 33	+14 03.7	15:	+04 42	+03 02.8
16:	-06 04	+21 22.0	16:	-04 21	+13 44.9	16:	+05 03	+02 39.7
17:	-06 09	+21 12.0	17:	-04 08	+13 25.9	17:	+05 25	+02 16.6
18:	-06 14	+21 01.7	18:	-03 55	+13 06.7	18:	+05 46	+01 53.4
19:	-06 18	+20 51.0	19:	-03 41	+12 47.2	19:	+06 08	+01 30.2
20:	-06 22	+20 39.9	20:	-03 27	+12 27.5	20:	+06 29	+01 06.9
21:	-06 25	+20 28.5	21:	-03 13	+12 07.7	21:	+06 50	+00 43.6
22:	-06 28	+20 16.8	22:	-02 58	+11 47.7	22:	+07 12	+00 20.3
23:	-06 30	+20 04.7	23:	-02 42	+11 27.4	23:	+07 33	-00 03.1
24:	-06 31	+19 52.3	24:	-02 26	+11 07.0	24:	+07 54	-00 26.4
25:	-06 32	+19 39.6	25:	-02 10	+10 46.4	25:	+08 15	-00 49.8
26:	-06 32	+19 26.5	26:	-01 53	+10 25.6	26:	+08 35	-01 13.2
27:	-06 32	+19 13.1	27:	-01 36	+10 04.7	27:	+08 56	-01 36.5
28:	-06 31	+18 59.4	28:	-01 19	+09 43.6	28:	+09 16	-01 59.9
29:	-06 30	+18 45.3	29:	-01 01	+09 22.4	29:	+09 36	-02 23.2
30:	-06 28	+18 31.0	30:	-00 43	+09 01.0	30:	+09 56	-02 46.6
31:	-06 25	+18 16.4	31:	-00 25	+08 39.4			

OKT 2019			NOV 2019			DEC 2019		
DA-TUM	E.T. m s	DEC. ø ' ,	DA-TUM	E.T. m s	DEC. ø ' ,	DA-TUM	E.T. m s	DEC. ø ' ,
01:	+10 15	-03 09.8	01:	+16 25	-14 24.4	01:	+11 07	-21 47.3
02:	+10 34	-03 33.1	02:	+16 27	-14 43.5	02:	+10 44	-21 56.4
03:	+10 53	-03 56.3	03:	+16 27	-15 02.3	03:	+10 21	-22 05.1
04:	+11 12	-04 19.5	04:	+16 27	-15 21.0	04:	+09 57	-22 13.4
05:	+11 30	-04 42.6	05:	+16 26	-15 39.3	05:	+09 33	-22 21.3
06:	+11 48	-05 05.6	06:	+16 24	-15 57.5	06:	+09 08	-22 28.7
07:	+12 06	-05 28.6	07:	+16 21	-16 15.3	07:	+08 42	-22 35.7
08:	+12 23	-05 51.6	08:	+16 18	-16 32.9	08:	+08 17	-22 42.3
09:	+12 40	-06 14.4	09:	+16 13	-16 50.2	09:	+07 50	-22 48.4
10:	+12 56	-06 37.1	10:	+16 08	-17 07.2	10:	+07 23	-22 54.1
11:	+13 12	-06 59.8	11:	+16 02	-17 23.9	11:	+06 56	-22 59.3
12:	+13 27	-07 22.4	12:	+15 55	-17 40.3	12:	+06 28	-23 04.0
13:	+13 42	-07 44.9	13:	+15 48	-17 56.5	13:	+06 00	-23 08.3
14:	+13 57	-08 07.2	14:	+15 39	-18 12.3	14:	+05 32	-23 12.2
15:	+14 10	-08 29.5	15:	+15 30	-18 27.7	15:	+05 03	-23 15.6
16:	+14 24	-08 51.6	16:	+15 19	-18 42.9	16:	+04 35	-23 18.5
17:	+14 36	-09 13.6	17:	+15 08	-18 57.7	17:	+04 05	-23 20.9
18:	+14 49	-09 35.5	18:	+14 56	-19 12.2	18:	+03 36	-23 22.9
19:	+14 60	-09 57.2	19:	+14 43	-19 26.4	19:	+03 06	-23 24.4
20:	+15 11	-10 18.8	20:	+14 30	-19 40.2	20:	+02 37	-23 25.5
21:	+15 21	-10 40.3	21:	+14 15	-19 53.6	21:	+02 07	-23 26.0
22:	+15 30	-11 01.6	22:	+13 60	-20 06.7	22:	+01 37	-23 26.2
23:	+15 39	-11 22.7	23:	+13 44	-20 19.4	23:	+01 07	-23 25.8
24:	+15 47	-11 43.6	24:	+13 27	-20 31.8	24:	+00 37	-23 24.9
25:	+15 55	-12 04.4	25:	+13 09	-20 43.8	25:	+00 07	-23 23.6
26:	+16 01	-12 25.0	26:	+12 50	-20 55.3	26:	-00 23	-23 21.9
27:	+16 07	-12 45.4	27:	+12 31	-21 06.5	27:	-00 52	-23 19.6
28:	+16 12	-13 05.6	28:	+12 11	-21 17.3	28:	-01 22	-23 16.9
29:	+16 17	-13 25.6	29:	+11 50	-21 27.7	29:	-01 51	-23 13.7
30:	+16 20	-13 45.4	30:	+11 29	-21 37.7	30:	-02 21	-23 10.1
31:	+16 23	-14 05.0				31:	-02 49	-23 05.9