

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

| JAN 2020 | | | FEB 2020 | | | MRT 2020 | | |
|----------|-------------|---------------|----------|-------------|---------------|----------|-------------|---------------|
| 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 18 | -23 01.4 | 01: | -13 30 | -17 10.9 | 01: | -12 15 | -07 19.0 |
| 02: | -03 46 | -22 56.3 | 02: | -13 38 | -16 53.7 | 02: | -12 03 | -06 56.1 |
| 03: | -04 14 | -22 50.8 | 03: | -13 45 | -16 36.3 | 03: | -11 50 | -06 33.0 |
| 04: | -04 42 | -22 44.9 | 04: | -13 51 | -16 18.6 | 04: | -11 37 | -06 09.9 |
| 05: | -05 09 | -22 38.5 | 05: | -13 57 | -16 00.6 | 05: | -11 24 | -05 46.7 |
| 06: | -05 36 | -22 31.7 | 06: | -14 01 | -15 42.3 | 06: | -11 10 | -05 23.5 |
| 07: | -06 02 | -22 24.4 | 07: | -14 05 | -15 23.8 | 07: | -10 55 | -05 00.1 |
| 08: | -06 28 | -22 16.6 | 08: | -14 08 | -15 05.0 | 08: | -10 40 | -04 36.7 |
| 09: | -06 53 | -22 08.5 | 09: | -14 10 | -14 46.0 | 09: | -10 25 | -04 13.2 |
| 10: | -07 17 | -21 59.9 | 10: | -14 12 | -14 26.7 | 10: | -10 10 | -03 49.7 |
| 11: | -07 42 | -21 50.8 | 11: | -14 13 | -14 07.1 | 11: | -09 54 | -03 26.2 |
| 12: | -08 05 | -21 41.4 | 12: | -14 12 | -13 47.3 | 12: | -09 38 | -03 02.5 |
| 13: | -08 28 | -21 31.5 | 13: | -14 12 | -13 27.3 | 13: | -09 21 | -02 38.9 |
| 14: | -08 50 | -21 21.2 | 14: | -14 10 | -13 07.1 | 14: | -09 05 | -02 15.2 |
| 15: | -09 12 | -21 10.5 | 15: | -14 08 | -12 46.7 | 15: | -08 48 | -01 51.5 |
| 16: | -09 33 | -20 59.4 | 16: | -14 05 | -12 26.0 | 16: | -08 31 | -01 27.8 |
| 17: | -09 54 | -20 47.9 | 17: | -14 01 | -12 05.2 | 17: | -08 14 | -01 04.1 |
| 18: | -10 13 | -20 36.0 | 18: | -13 57 | -11 44.1 | 18: | -07 56 | -00 40.4 |
| 19: | -10 32 | -20 23.7 | 19: | -13 52 | -11 22.9 | 19: | -07 39 | -00 16.6 |
| 20: | -10 51 | -20 11.0 | 20: | -13 46 | -11 01.5 | 20: | -07 21 | +00 07.1 |
| 21: | -11 08 | -19 57.9 | 21: | -13 40 | -10 39.9 | 21: | -07 03 | +00 30.8 |
| 22: | -11 25 | -19 44.5 | 22: | -13 33 | -10 18.1 | 22: | -06 45 | +00 54.5 |
| 23: | -11 41 | -19 30.7 | 23: | -13 25 | -09 56.2 | 23: | -06 27 | +01 18.1 |
| 24: | -11 56 | -19 16.5 | 24: | -13 17 | -09 34.2 | 24: | -06 09 | +01 41.8 |
| 25: | -12 11 | -19 02.0 | 25: | -13 08 | -09 11.9 | 25: | -05 51 | +02 05.3 |
| 26: | -12 25 | -18 47.1 | 26: | -12 58 | -08 49.6 | 26: | -05 33 | +02 28.9 |
| 27: | -12 38 | -18 31.9 | 27: | -12 48 | -08 27.1 | 27: | -05 15 | +02 52.4 |
| 28: | -12 50 | -18 16.3 | 28: | -12 38 | -08 04.5 | 28: | -04 57 | +03 15.8 |
| 29: | -13 01 | -18 00.4 | 29: | -12 27 | -07 41.8 | 29: | -04 39 | +03 39.2 |
| 30: | -13 11 | -17 44.2 | | | | 30: | -04 21 | +04 02.5 |
| 31: | -13 21 | -17 27.7 | | | | 31: | -04 03 | +04 25.7 |

| APR 2020 | | | MEI 2020 | | | JUN 2020 | | |
|----------|-------------|---------------|----------|-------------|---------------|----------|-------------|---------------|
| 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 45 | +04 48.8 | 01: | +02 56 | +15 17.4 | 01: | +02 05 | +22 08.8 |
| 02: | -03 28 | +05 11.9 | 02: | +03 03 | +15 35.3 | 02: | +01 55 | +22 16.5 |
| 03: | -03 10 | +05 34.8 | 03: | +03 09 | +15 52.9 | 03: | +01 45 | +22 23.8 |
| 04: | -02 53 | +05 57.7 | 04: | +03 14 | +16 10.2 | 04: | +01 35 | +22 30.7 |
| 05: | -02 35 | +06 20.5 | 05: | +03 19 | +16 27.2 | 05: | +01 24 | +22 37.2 |
| 06: | -02 18 | +06 43.1 | 06: | +03 24 | +16 44.0 | 06: | +01 14 | +22 43.3 |
| 07: | -02 02 | +07 05.6 | 07: | +03 28 | +17 00.5 | 07: | +01 02 | +22 49.0 |
| 08: | -01 45 | +07 28.0 | 08: | +03 31 | +17 16.7 | 08: | +00 51 | +22 54.3 |
| 09: | -01 28 | +07 50.3 | 09: | +03 34 | +17 32.6 | 09: | +00 39 | +22 59.2 |
| 10: | -01 12 | +08 12.5 | 10: | +03 36 | +17 48.3 | 10: | +00 27 | +23 03.7 |
| 11: | -00 56 | +08 34.5 | 11: | +03 38 | +18 03.6 | 11: | +00 15 | +23 07.8 |
| 12: | -00 41 | +08 56.4 | 12: | +03 39 | +18 18.6 | 12: | +00 03 | +23 11.5 |
| 13: | -00 26 | +09 18.1 | 13: | +03 39 | +18 33.4 | 13: | -00 10 | +23 14.7 |
| 14: | -00 11 | +09 39.6 | 14: | +03 39 | +18 47.8 | 14: | -00 22 | +23 17.6 |
| 15: | +00 04 | +10 01.1 | 15: | +03 38 | +19 01.9 | 15: | -00 35 | +23 20.1 |
| 16: | +00 18 | +10 22.3 | 16: | +03 37 | +19 15.6 | 16: | -00 48 | +23 22.1 |
| 17: | +00 31 | +10 43.4 | 17: | +03 35 | +19 29.1 | 17: | -01 01 | +23 23.7 |
| 18: | +00 45 | +11 04.3 | 18: | +03 33 | +19 42.2 | 18: | -01 14 | +23 25.0 |
| 19: | +00 58 | +11 25.0 | 19: | +03 30 | +19 55.0 | 19: | -01 28 | +23 25.8 |
| 20: | +01 10 | +11 45.5 | 20: | +03 26 | +20 07.4 | 20: | -01 41 | +23 26.1 |
| 21: | +01 22 | +12 05.9 | 21: | +03 22 | +20 19.5 | 21: | -01 54 | +23 26.1 |
| 22: | +01 34 | +12 26.0 | 22: | +03 17 | +20 31.3 | 22: | -02 07 | +23 25.7 |
| 23: | +01 45 | +12 46.0 | 23: | +03 12 | +20 42.7 | 23: | -02 20 | +23 24.8 |
| 24: | +01 55 | +13 05.7 | 24: | +03 06 | +20 53.7 | 24: | -02 33 | +23 23.6 |
| 25: | +02 05 | +13 25.2 | 25: | +03 00 | +21 04.4 | 25: | -02 46 | +23 21.9 |
| 26: | +02 15 | +13 44.5 | 26: | +02 54 | +21 14.7 | 26: | -02 58 | +23 19.8 |
| 27: | +02 24 | +14 03.6 | 27: | +02 46 | +21 24.7 | 27: | -03 11 | +23 17.3 |
| 28: | +02 33 | +14 22.4 | 28: | +02 39 | +21 34.3 | 28: | -03 23 | +23 14.4 |
| 29: | +02 41 | +14 41.0 | 29: | +02 31 | +21 43.5 | 29: | -03 35 | +23 11.1 |
| 30: | +02 49 | +14 59.3 | 30: | +02 22 | +21 52.3 | 30: | -03 47 | +23 07.4 |
| | | | 31: | +02 14 | +22 00.8 | | | |

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

| JUL 2020 | | | AUG 2020 | | | SEP 2020 | | |
|----------|-------------|---------------|----------|-------------|---------------|----------|-------------|---------------|
| 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 | +23 03.3 | 01: | -06 19 | +17 49.9 | 01: | +00 08 | +08 01.2 |
| 02: | -04 10 | +22 58.8 | 02: | -06 15 | +17 34.5 | 02: | +00 28 | +07 39.3 |
| 03: | -04 20 | +22 53.8 | 03: | -06 10 | +17 18.8 | 03: | +00 47 | +07 17.3 |
| 04: | -04 31 | +22 48.5 | 04: | -06 04 | +17 02.8 | 04: | +01 07 | +06 55.2 |
| 05: | -04 41 | +22 42.8 | 05: | -05 58 | +16 46.5 | 05: | +01 28 | +06 32.9 |
| 06: | -04 51 | +22 36.7 | 06: | -05 51 | +16 29.9 | 06: | +01 48 | +06 10.6 |
| 07: | -05 01 | +22 30.2 | 07: | -05 43 | +16 13.1 | 07: | +02 09 | +05 48.1 |
| 08: | -05 10 | +22 23.3 | 08: | -05 35 | +15 56.0 | 08: | +02 29 | +05 25.5 |
| 09: | -05 19 | +22 16.0 | 09: | -05 27 | +15 38.7 | 09: | +02 50 | +05 02.9 |
| 10: | -05 27 | +22 08.4 | 10: | -05 18 | +15 21.1 | 10: | +03 11 | +04 40.1 |
| 11: | -05 35 | +22 00.3 | 11: | -05 08 | +15 03.3 | 11: | +03 32 | +04 17.3 |
| 12: | -05 42 | +21 51.9 | 12: | -04 58 | +14 45.2 | 12: | +03 54 | +03 54.4 |
| 13: | -05 49 | +21 43.1 | 13: | -04 47 | +14 26.9 | 13: | +04 15 | +03 31.4 |
| 14: | -05 56 | +21 33.9 | 14: | -04 36 | +14 08.3 | 14: | +04 36 | +03 08.4 |
| 15: | -06 02 | +21 24.4 | 15: | -04 24 | +13 49.5 | 15: | +04 57 | +02 45.3 |
| 16: | -06 07 | +21 14.5 | 16: | -04 11 | +13 30.5 | 16: | +05 19 | +02 22.1 |
| 17: | -06 12 | +21 04.3 | 17: | -03 59 | +13 11.3 | 17: | +05 40 | +01 58.9 |
| 18: | -06 17 | +20 53.6 | 18: | -03 45 | +12 51.9 | 18: | +06 01 | +01 35.7 |
| 19: | -06 21 | +20 42.7 | 19: | -03 31 | +12 32.3 | 19: | +06 23 | +01 12.4 |
| 20: | -06 24 | +20 31.3 | 20: | -03 17 | +12 12.5 | 20: | +06 44 | +00 49.1 |
| 21: | -06 27 | +20 19.7 | 21: | -03 02 | +11 52.5 | 21: | +07 05 | +00 25.8 |
| 22: | -06 30 | +20 07.7 | 22: | -02 47 | +11 32.3 | 22: | +07 26 | +00 02.4 |
| 23: | -06 31 | +19 55.3 | 23: | -02 31 | +11 11.9 | 23: | +07 47 | -00 20.9 |
| 24: | -06 32 | +19 42.7 | 24: | -02 15 | +10 51.3 | 24: | +08 08 | -00 44.3 |
| 25: | -06 33 | +19 29.7 | 25: | -01 59 | +10 30.6 | 25: | +08 29 | -01 07.6 |
| 26: | -06 33 | +19 16.4 | 26: | -01 42 | +10 09.7 | 26: | +08 50 | -01 31.0 |
| 27: | -06 32 | +19 02.7 | 27: | -01 24 | +09 48.7 | 27: | +09 10 | -01 54.3 |
| 28: | -06 31 | +18 48.8 | 28: | -01 06 | +09 27.5 | 28: | +09 30 | -02 17.7 |
| 29: | -06 29 | +18 34.5 | 29: | -00 48 | +09 06.1 | 29: | +09 50 | -02 41.0 |
| 30: | -06 26 | +18 20.0 | 30: | -00 30 | +08 44.6 | 30: | +10 10 | -03 04.3 |
| 31: | -06 23 | +18 05.1 | 31: | -00 11 | +08 23.0 | | | |

| OKT 2020 | | | NOV 2020 | | | DEC 2020 | | |
|----------|-------------|---------------|----------|-------------|---------------|----------|-------------|---------------|
| 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 29 | -03 27.5 | 01: | +16 26 | -14 38.9 | 01: | +10 50 | -21 54.3 |
| 02: | +10 48 | -03 50.7 | 02: | +16 27 | -14 57.8 | 02: | +10 27 | -22 03.1 |
| 03: | +11 07 | -04 13.9 | 03: | +16 27 | -15 16.5 | 03: | +10 03 | -22 11.5 |
| 04: | +11 26 | -04 37.0 | 04: | +16 26 | -15 34.9 | 04: | +09 39 | -22 19.5 |
| 05: | +11 44 | -05 00.1 | 05: | +16 25 | -15 53.1 | 05: | +09 14 | -22 27.0 |
| 06: | +12 02 | -05 23.1 | 06: | +16 22 | -16 11.0 | 06: | +08 49 | -22 34.1 |
| 07: | +12 19 | -05 46.0 | 07: | +16 19 | -16 28.7 | 07: | +08 23 | -22 40.8 |
| 08: | +12 36 | -06 08.9 | 08: | +16 15 | -16 46.1 | 08: | +07 57 | -22 47.0 |
| 09: | +12 52 | -06 31.6 | 09: | +16 10 | -17 03.1 | 09: | +07 30 | -22 52.8 |
| 10: | +13 08 | -06 54.3 | 10: | +16 04 | -17 19.9 | 10: | +07 03 | -22 58.1 |
| 11: | +13 23 | -07 17.0 | 11: | +15 57 | -17 36.4 | 11: | +06 35 | -23 03.0 |
| 12: | +13 38 | -07 39.5 | 12: | +15 49 | -17 52.6 | 12: | +06 07 | -23 07.4 |
| 13: | +13 53 | -08 01.9 | 13: | +15 41 | -18 08.5 | 13: | +05 39 | -23 11.3 |
| 14: | +14 07 | -08 24.2 | 14: | +15 31 | -18 24.1 | 14: | +05 10 | -23 14.8 |
| 15: | +14 20 | -08 46.3 | 15: | +15 21 | -18 39.4 | 15: | +04 41 | -23 17.9 |
| 16: | +14 33 | -09 08.4 | 16: | +15 10 | -18 54.3 | 16: | +04 12 | -23 20.4 |
| 17: | +14 45 | -09 30.3 | 17: | +14 58 | -19 08.9 | 17: | +03 42 | -23 22.5 |
| 18: | +14 56 | -09 52.1 | 18: | +14 45 | -19 23.1 | 18: | +03 13 | -23 24.2 |
| 19: | +15 07 | -10 13.7 | 19: | +14 32 | -19 37.0 | 19: | +02 43 | -23 25.3 |
| 20: | +15 17 | -10 35.2 | 20: | +14 17 | -19 50.5 | 20: | +02 13 | -23 26.0 |
| 21: | +15 27 | -10 56.6 | 21: | +14 02 | -20 03.7 | 21: | +01 43 | -23 26.2 |
| 22: | +15 36 | -11 17.7 | 22: | +13 46 | -20 16.5 | 22: | +01 13 | -23 26.0 |
| 23: | +15 44 | -11 38.7 | 23: | +13 30 | -20 28.9 | 23: | +00 44 | -23 25.2 |
| 24: | +15 52 | -11 59.5 | 24: | +13 12 | -20 41.0 | 24: | +00 14 | -23 24.0 |
| 25: | +15 59 | -12 20.2 | 25: | +12 54 | -20 52.6 | 25: | -00 16 | -23 22.4 |
| 26: | +16 05 | -12 40.6 | 26: | +12 35 | -21 03.9 | 26: | -00 46 | -23 20.2 |
| 27: | +16 10 | -13 00.9 | 27: | +12 15 | -21 14.8 | 27: | -01 15 | -23 17.6 |
| 28: | +16 15 | -13 20.9 | 28: | +11 55 | -21 25.3 | 28: | -01 44 | -23 14.6 |
| 29: | +16 19 | -13 40.7 | 29: | +11 34 | -21 35.4 | 29: | -02 13 | -23 11.0 |
| 30: | +16 22 | -14 00.4 | 30: | +11 12 | -21 45.0 | 30: | -02 42 | -23 07.0 |
| 31: | +16 25 | -14 19.7 | | | | 31: | -03 11 | -23 02.6 |