

Total Solar Eclipse of -1177 Apr 16

Ecliptic Conjunction = 18:02:46.8 TD (= 10:06:16.8 UT)

Greatest Eclipse = 17:57:27.9 TD (= 10:00:57.9 UT)

Eclipse Magnitude = 1.0599 Gamma = 0.5187

Saros Series = 39 Member = 31 of 72

Sun at Greatest Eclipse (Geocentric Coordinates)

R.A. = 00h52m23.3s

Dec. = +05°43'04.0"

S.D. = 00°15'45.8"

H.P. = 00°00'08.7"

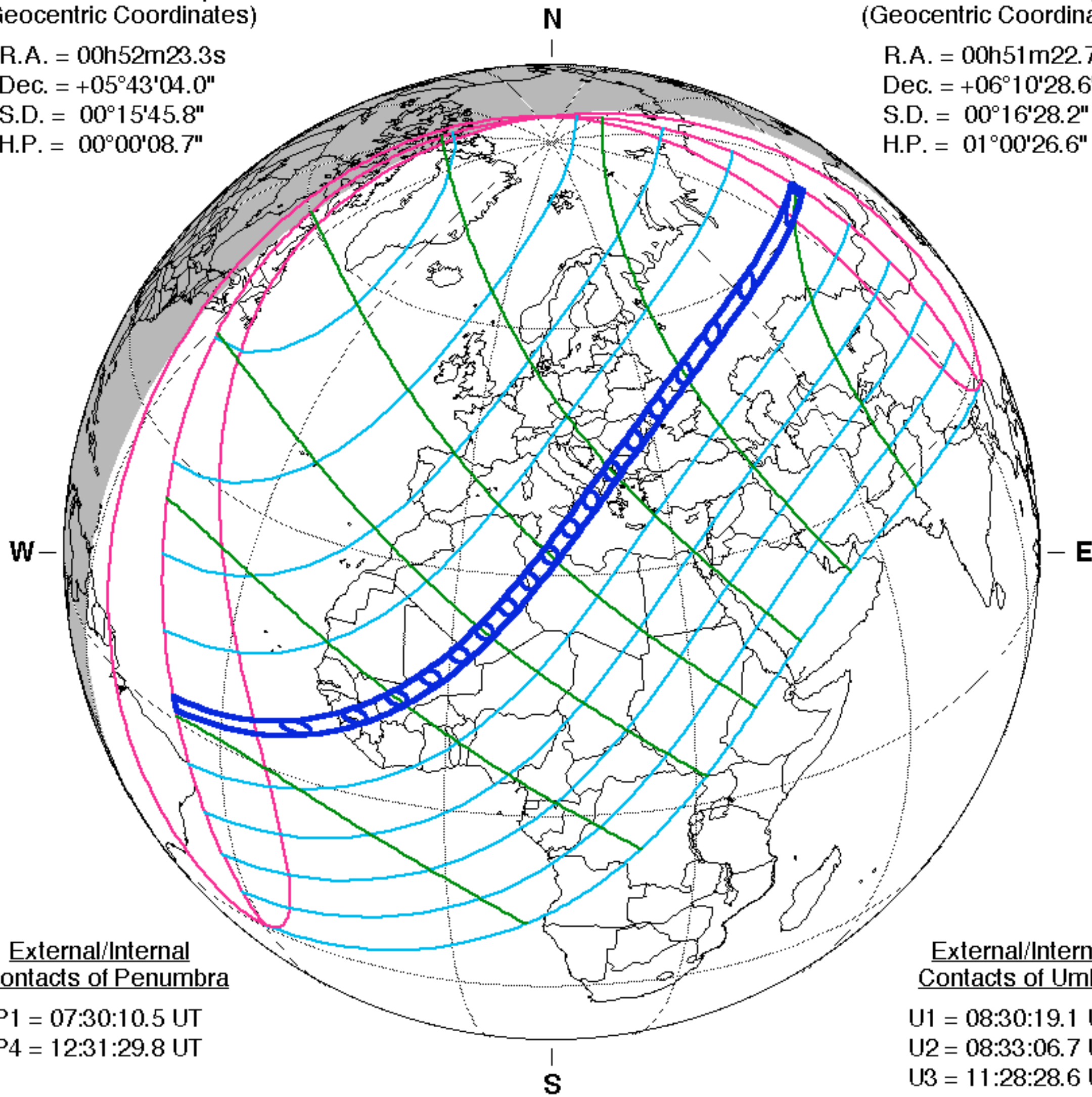
Moon at Greatest Eclipse (Geocentric Coordinates)

R.A. = 00h51m22.7s

Dec. = +06°10'28.6"

S.D. = 00°16'28.2"

H.P. = 01°00'26.6"



External/Internal Contacts of Penumbra

P1 = 07:30:10.5 UT

P4 = 12:31:29.8 UT

External/Internal Contacts of Umbra

U1 = 08:30:19.1 UT

U2 = 08:33:06.7 UT

U3 = 11:28:28.6 UT

U4 = 11:31:20.0 UT

Local Circumstances at Greatest Eclipse

Lat. = 32°43.1'N

Sun Alt. = 58.6°

Long. = 012°44.6'E

Sun Azm. = 145.5°

Path Width = 227.8 km Duration = 04m32.6s

Constants & Ephemeris

$\Delta T = 28590.0$ s

$k1 = 0.2724880$

$k2 = 0.2722810$

$\Delta b = 0.0''$ $\Delta l = 0.0''$

Eph. = VSOP87/ELP2000-82

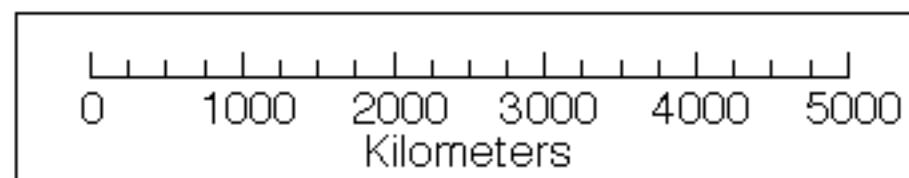
Geocentric Libration (Optical + Physical)

$l = -3.20^\circ$

$b = -0.66^\circ$

$c = -21.69^\circ$

Brown Lun. No. = -38338



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eclipse.gsfc.nasa.gov/eclipse.html