

# Total Solar Eclipse of 1851 Jul 28

Ecliptic Conjunction = 14:41:27.7 TD (= 14:41:20.6 UT)

Greatest Eclipse = 14:33:42.0 TD (= 14:33:34.9 UT)

Eclipse Magnitude = 1.0577      Gamma = 0.7644

Saros Series = 143      Member = 14 of 72

## Sun at Greatest Eclipse (Geocentric Coordinates)

R.A. = 08h28m49.6s

Dec. = +19°03'55.7"

S.D. = 00°15'45.2"

H.P. = 00°00'08.7"

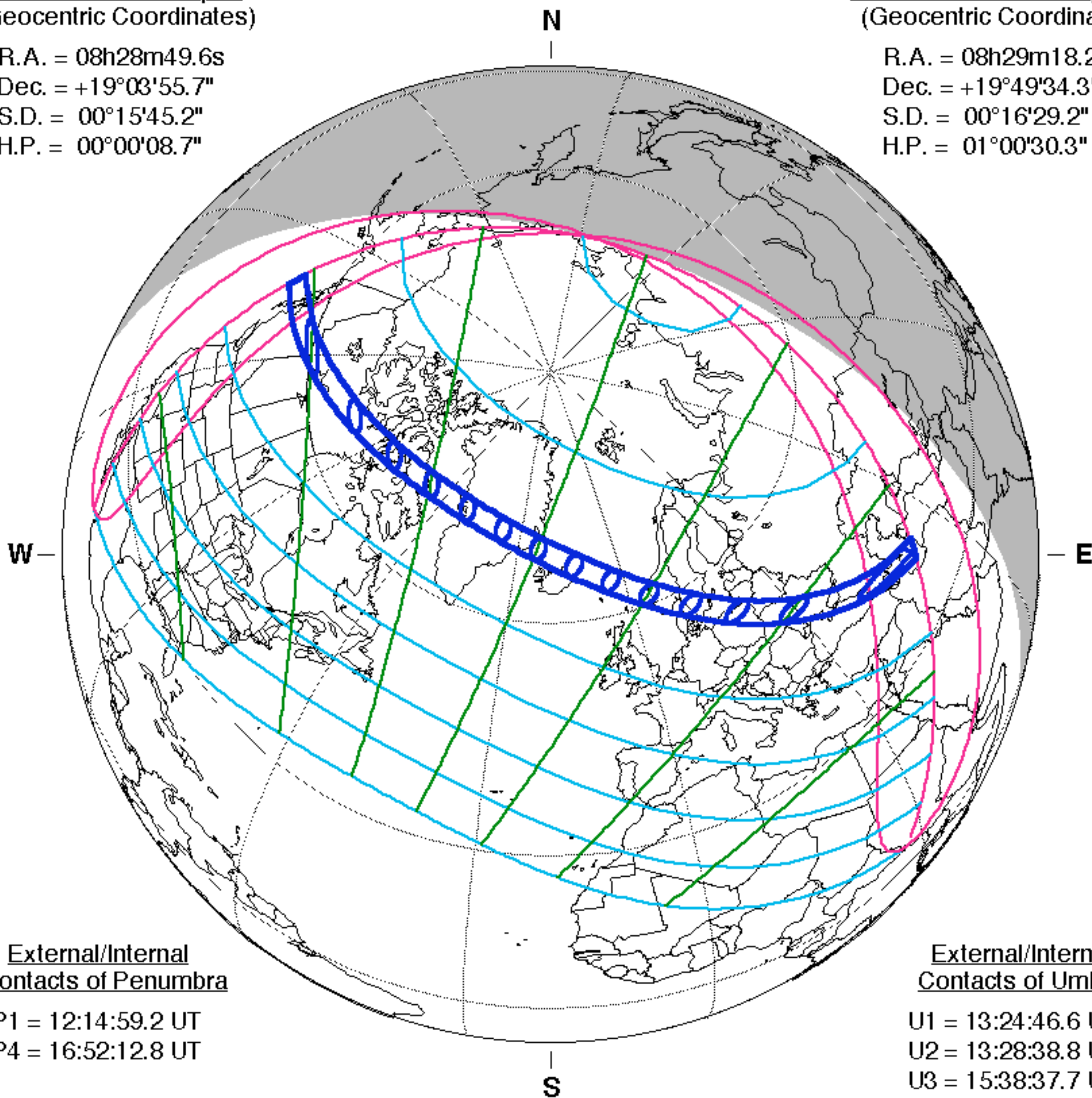
## Moon at Greatest Eclipse (Geocentric Coordinates)

R.A. = 08h29m18.2s

Dec. = +19°49'34.3"

S.D. = 00°16'29.2"

H.P. = 01°00'30.3"



## External/Internal Contacts of Penumbra

P1 = 12:14:59.2 UT

P4 = 16:52:12.8 UT

## External/Internal Contacts of Umbra

U1 = 13:24:46.6 UT

U2 = 13:28:38.8 UT

U3 = 15:38:37.7 UT

U4 = 15:42:32.9 UT

## Local Circumstances at Greatest Eclipse

Lat. = 68°02.3'N

Sun Alt. = 39.8°

Long. = 019°36.3'W

Sun Azm. = 201.4°

Path Width = 296.0 km      Duration = 03m41.1s

## Constants & Ephemeris

$\Delta T = 7.1$  s

$k_1 = 0.2724880$

$k_2 = 0.2722810$

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

Eph. = VSOP87/ELP2000-82

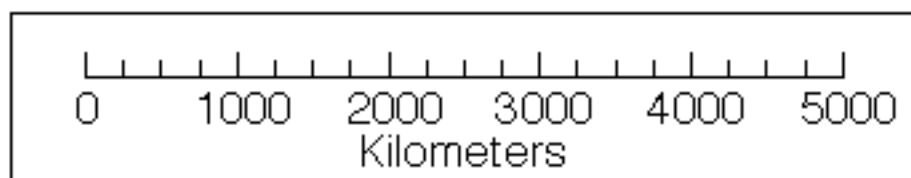
## Geocentric Libration (Optical + Physical)

$l = -2.96^\circ$

$b = -0.96^\circ$

$c = 15.47^\circ$

Brown Lun. No. = -883



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[eclipse.gsfc.nasa.gov/eclipse.html](http://eclipse.gsfc.nasa.gov/eclipse.html)