

# Penumbral Lunar Eclipse of 1977 Sep 27

Ecliptic Conjunction = 08:18:11.5 TD (= 08:17:23.2 UT)

Greatest Eclipse = 08:30:08.4 TD (= 08:29:20.1 UT)

Penumbral Magnitude = 0.9007

P. Radius = 1.2194°

Gamma = 1.0768

Umbral Magnitude = -0.1361

U. Radius = 0.6874°

Axis = 1.0138°

Saros Series = 117

Member = 50 of 72

## Sun at Greatest Eclipse (Geocentric Coordinates)

R.A. = 12h15m08.1s

Dec. = -01°38'19.9"

S.D. = 00°15'57.6"

H.P. = 00°00'08.8"

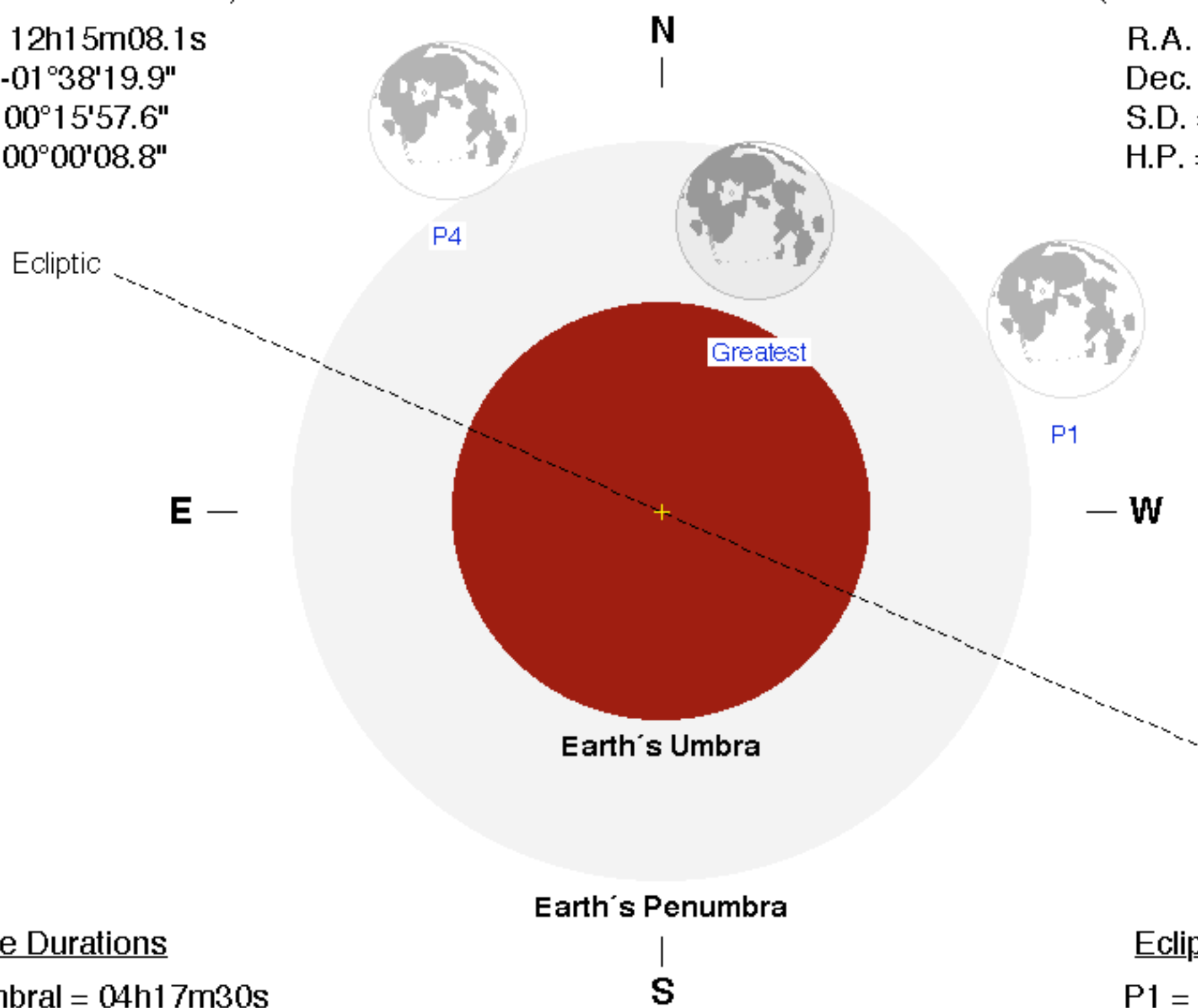
## Moon at Greatest Eclipse (Geocentric Coordinates)

R.A. = 00h13m53.7s

Dec. = +02°36'15.3"

S.D. = 00°15'23.6"

H.P. = 00°56'29.6"



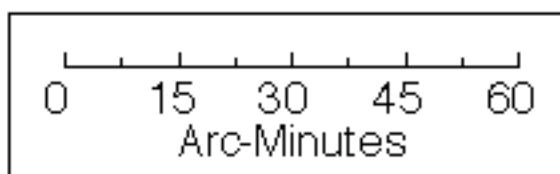
## Eclipse Durations

Penumbral = 04h17m30s

## Eclipse Contacts

P1 = 06:20:33 UT

P4 = 10:38:03 UT



$\Delta T = 48$  s

Rule = CdT (Danjon)

Eph. = VSOP87/ELP2000-85

F. Espenak, NASA's GSFC

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

