

Total Lunar Eclipse of 2069 Oct 30

Ecliptic Conjunction = 03:37:24.5 TD (= 03:35:10.1 UT)

Greatest Eclipse = 03:35:05.7 TD (= 03:32:51.2 UT)

Penumbral Magnitude = 2.4235

P. Radius = 1.3051°

Gamma = -0.2263

Umbral Magnitude = 1.4616

U. Radius = 0.7683°

Axis = 0.2317°

Saros Series = 137 Member = 31 of 81

Sun at Greatest Eclipse (Geocentric Coordinates)

R.A. = 14h19m49.6s

Dec. = -13°56'35.5"

S.D. = 00°16'06.2"

H.P. = 00°00'08.9"

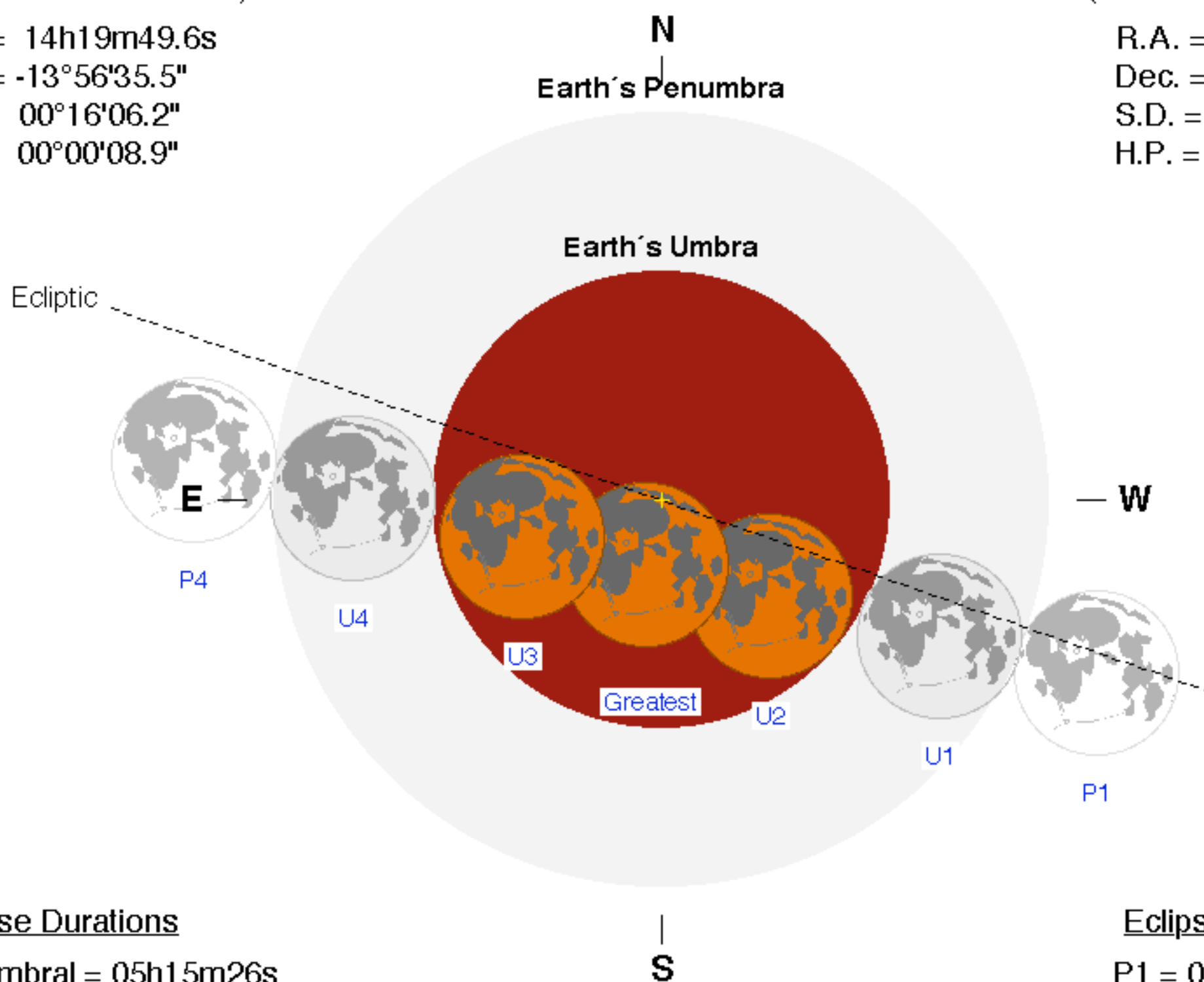
Moon at Greatest Eclipse (Geocentric Coordinates)

R.A. = 02h20m02.8s

Dec. = +13°43'03.9"

S.D. = 00°16'44.5"

H.P. = 01°01'26.5"



Eclipse Durations

Penumbral = 05h15m26s

Umbral = 03h25m37s

Total = 01h26m46s

$\Delta T = 134$ s

Rule = CdT (Danjon)

Eph. = VSOP87/ELP2000-85

Eclipse Contacts

P1 = 00:55:08 UT

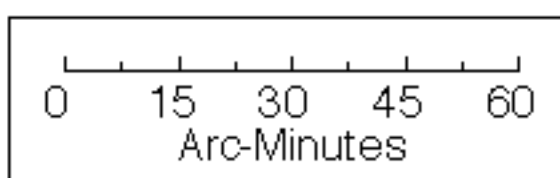
U1 = 01:50:03 UT

U2 = 02:49:28 UT

U3 = 04:16:14 UT

U4 = 05:15:40 UT

P4 = 06:10:34 UT



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eclipse.gsfc.nasa.gov/eclipse.html

