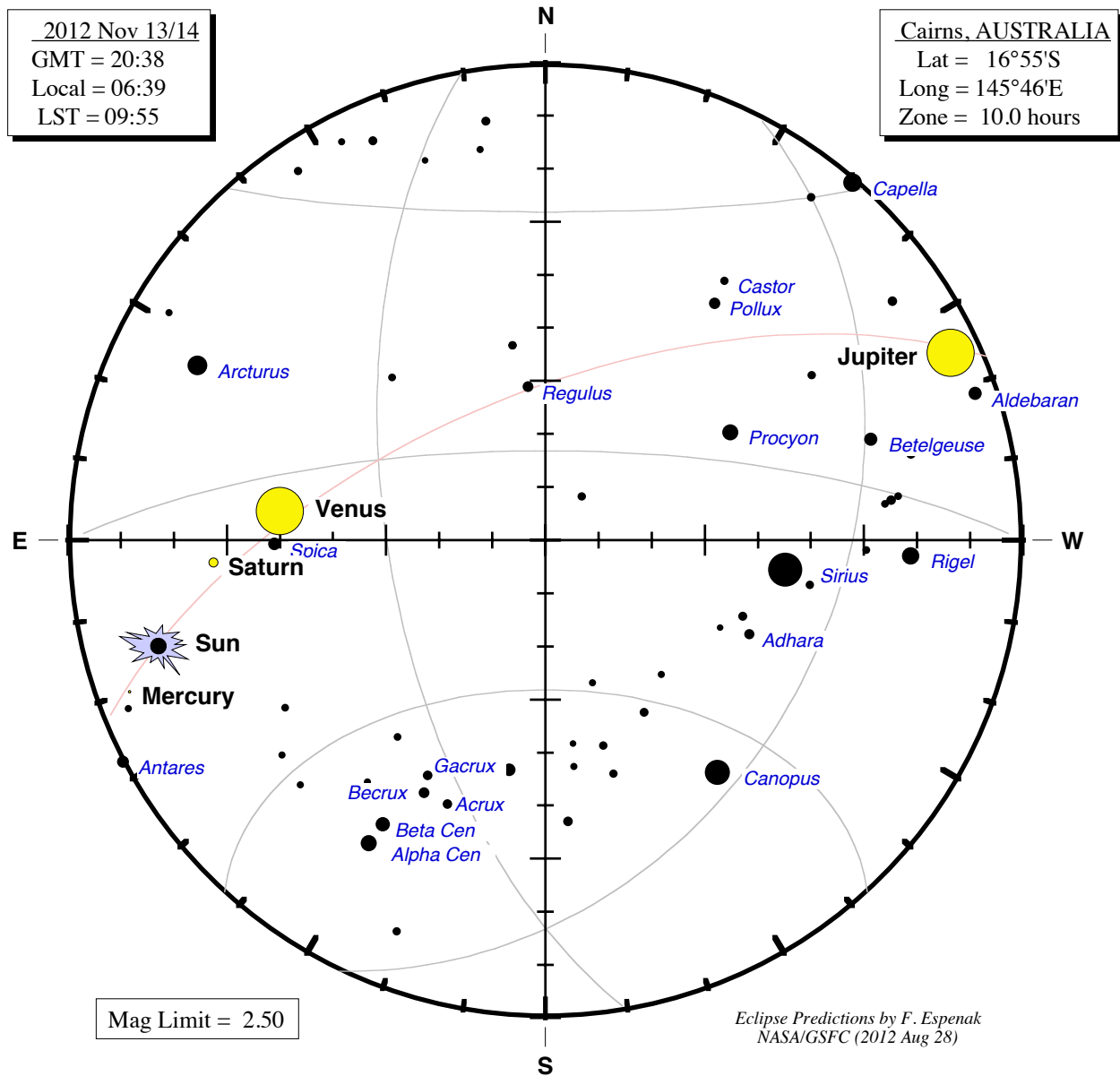


FIGURE 4 - SKY DURING TOTALITY AS SEEN FROM CAIRNS, AUSTRALIA

## Total Solar Eclipse of 2012 November 13/14



The sky during totality as seen from Cairns, Australia. The brightest planet visible during the total eclipse is Venus ( $m_v = -3.7$ ) located  $32^\circ$  west of the Sun. Although Mercury ( $m_v = 3.2$ ) is only  $9^\circ$  east of the Sun, it will be quite faint. Saturn ( $m_v = +1.2$ ) will also be difficult to spot  $17^\circ$  west of the Sun. Bright stars, which might also be visible, include Procyon ( $m_v = +0.38$ ), Sirius ( $m_v = -1.44$ ), Arcturus ( $m_v = -0.04$ ), Spica ( $m_v = +1.04$ ) and Canopus ( $m_v = -0.72$ ).

The geocentric ephemeris below (using Bretagnon and Simon, 1986) gives the apparent positions of the naked eye planets during the eclipse. *Delta* is the distance of the planet from Earth (A.U.'s), *App. Mag.* is the apparent visual magnitude of the planet, and *Solar Elong* gives the elongation or angle between the Sun and planet.

Ephemeris: 2012 Nov 13 20:40 UT				Equinox = Mean Date			
Planet	RA	Declination	Delta	App. Mag.	Apparent Diameter <small>arc-sec</small>	Phase	Solar Elong <small>°</small>
Sun	15h17m51s	-18°14'03"	0.98940	-26.7	1939.9	-	-
Moon	15h13m49s	-18°27'36"	0.00239	11.0	2004.5	0.00	1.0W
Mercury	15h52m00s	-21°43'01"	0.69116	3.2	9.7	0.06	8.7E
Venus	13h15m55s	-06°22'08"	1.33021	-4.0	12.5	0.84	32.0W
Mars	17h49m12s	-25°14'16"	2.09696	1.2	4.5	0.96	35.7E
Jupiter	04h49m49s	+22°19'37"	4.11718	-2.8	47.9	1.00	158.1W
Saturn	14h12m10s	-11°21'30"	10.71984	1.3	15.5	1.00	17.3W