**Occultation prediction for Nederland midden**
**E. Longitude 5 0 0.0, Latitude 52 0 0.0, Alt. 0m;**

| day | Time | | | | P | Star | Sp | Mag | Mag | % | Elon | Sun | Moon | | CA | PA | VA | AA | Libration | | A | B | RV | Cct durn | R.A. (J2000) | | | Dec | | | Mdist | SV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| m | d | h | m | s | | No | D | v | r | V | ill | Alt | Alt | Az | o | o | o | o | L | B | m/o | m/o | "/s | o | sec | h | m | s | o | m | s | Mm | m/s |
| Aug | 1 | 23 | 45 | 5 | D | 2834 | cA4 | 5.0 | 4.9 | 97+ | | 159 | 12 | 199 | 18N | 2 | 349 | 12 | +4.6 | +3.4 | -0.9 | +3.4 | .073 | 79.7 | | 19 | 25 | 16.5 | -24 | 30 | 31 | 382.6 | 764.5 |
| R2834 = chi Sagittarii | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2834 is double: AB 5.8 5.8 0.11" 79.4, dT = +0.33sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2834 is a close double. Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Distance of 2834 to Terminator = 6.3"; to 3km sunlit peak = 0.0" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug | 1 | 23 | 51 | 13 | Gr | 2834 | cA4 | 5.0 | 4.9 | 97+ | | 159 | 10 | ** GRAZE: CA 7.6N; Dist. 68km in az. 315deg. [Lat = 52.87+0.62(E.Long-5.00)] | | | | | | | | | | | | | | | | | | |
| Distance of 2834 to Terminator = 2.2"; to 3km sunlit peak = 0.0" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug | 3 | 23 | 21 | 0.8 | R | 3106 | K0 | 5.2 | 4.6 | 100- | | 174 | 17 | 169 | 67S | 282 | 289 | 301 | +4.4 | +5.9 | +1.7 | +0.2 | .337 | 150.0 | | 21 | 15 | 37.9 | -20 | 39 | 6 | 389.2 | 733.6 |
| R3106 = phi Capricorni | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Distance of 3106 to Terminator = 4.0"; to 3km sunlit peak = 0.0" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug | 4 | 1 | 1 | 10.0 | r | 3116 | K0 | 6.6 | 6.1 | 100- | | 174 | 17 | 193 | 85N | 305 | 297 | 324 | +4.1 | +5.9 | +2.3 | -1.5 | .218 | 123.3 | | 21 | 18 | 26.1 | -20 | 20 | 8 | 389.4 | 750.1 |
| Distance of 3116 to Terminator = 5.4"; to 3km sunlit peak = 0.0" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug | 8 | 0 | 34 | 6.1 | R | 128784 | K5 | 7.0 | 6.3 | 82- | | 130 | 26 | 138 | 18S | 179 | 204 | 202 | +1.4 | +7.5 | +0.1 | +2.8 | .195 | -119.8 | | 0 | 29 | 29.4 | - 3 | 28 | 9 | 400.4 | 764.7 |
| Aug | 8 | 2 | 39 | 15.5 | r | 128803 | cK2 | 8.6 | 7.8 | 82- | | 129 | 35 | 172 | 86S | 247 | 252 | 270 | +1.0 | +7.3 | +1.5 | +0.8 | .366 | 169.5 | | 0 | 31 | 15.2 | - 2 | 53 | 43 | 399.8 | 720.8 |
| 128803 is double: ** 8.9 10.0 0.35" 64.0, dT = +1sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 128803 has been reported as non-instantaneous (OCc1028). Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug | 9 | 1 | 47 | 19.3 | r | 109745 | K2 | 8.8 | 8.2 | 74- | | 119 | 35 | 144 | 47N | 294 | 315 | 316 | +0.1 | +7.0 | +2.2 | +0.4 | .215 | 123.9 | | 1 | 13 | 56.3 | 2 | 1 | 52 | 400.9 | 748.6 |
| Aug | 10 | 0 | 6 | 54.3 | R | 286 | B9 | 7.6 | 7.6 | 66- | | 108 | 21 | 107 | 55N | 286 | 323 | 306 | -0.9 | +6.5 | +0.8 | +1.5 | .316 | 135.5 | | 1 | 55 | 18.4 | 6 | 26 | 14 | 402.2 | 863.7 |
| Aug | 10 | 2 | 27 | 34.9 | r | 110253 | F3 | 8.4 | 8.2 | 65- | | 107 | 39 | 142 | 63S | 224 | 247 | 243 | -1.2 | +6.3 | +0.9 | +1.9 | .374 | -165.5 | | 1 | 58 | 56.5 | 6 | 40 | 27 | 400.5 | 750.9 |
| Aug | 10 | 3 | 31 | 28.8 | R | 110268 | K5 | 7.4 | 6.5v | 65- | | 107 | -7 | 44 | 161 | 72S | 233 | 245 | 252 | -1.4 | +6.3 | +1.2 | +1.5 | .371 | -175.4 | | 2 | 0 | 12.7 | 6 | 55 | 5 | 400.1 | 722.3 |
| 110268 = DE Psc, 7.33 to 7.50, V, Type LB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug | 10 | 23 | 33 | 30.6 | R | 393 | cK0 | 6.7 | 6.1 | 57- | | 98 | 13 | 90 | 74S | 237 | 276 | 254 | -2.1 | +5.7 | +0.0 | +2.0 | .484 | -172.3 | | 2 | 39 | 3.5 | 10 | 38 | 13 | 402.0 | 951.6 |
| 393 is double: ** 7.6 7.6 0.10" 90.0, dT = +0.17sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 393 has been reported as non-instantaneous (OCc1191). Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug | 12 | 1 | 18 | 47.1 | R | 504 | A0 | 7.4 | 7.4 | 46- | | 86 | 26 | 99 | 40S | 206 | 245 | 218 | -3.3 | +4.5 | -0.1 | +2.5 | .356 | -140.2 | | 3 | 28 | 58.5 | 14 | 59 | 48 | 398.1 | 894.9 |

| day | Time | P | Star | Sp | Mag | Mag | % | Elon | Sun | Moon | CA | PA | VA | AA | Libration | | A | B | RV | Cct | durn | R.A. (J2000) | | | Dec | | | Mdist | SV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| m | d h m | s | No | D | v | r | V | ill | Alt | Alt | Az | o | o | o | o | L | B | m/o | m/o | "/s | o | sec | h | m | s | o | m | s | Mm | m/s |
| Aug 12 | 3 58 | 58.1 r | 515 | pG0 | 8.6 | | | 45- | 85 | -4 | 48 | 138 | 61S | 227 | 252 | 239 | -3.7 | +4.2 | +0.9 | +2.0 | .377 | -163.8 | | 3 | 32 | 53.6 | 15 | 32 | 59 | 395.8 | 753.4 |
| *** A light curve is desired as 515 is in the Kepler2 program {ID = 210508219} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 515 is double: AB 8.67 11.80 2.77" 48.7, dT = +7sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 515 is a close double. Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 13 | 1 47 | 8.6 d | 639 | kF3 | 6.1 | 5.9 | | 36- | 74 | | 26 | 92 | -70S | 100 | 141 | 108 | -4.4 | +3.2 | +0.5 | +1.4 | .415 | -30.8 | | 4 | 20 | 25.1 | 18 | 44 | 34 | 394.4 | 925.3 |
| R639 = 85 H1. Tauri | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *** A light curve is desired as 639 is in the Kepler2 program {ID = 210725815} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 13 | 2 42 | 25.9 R | 639 | kF3 | 6.1 | 5.9 | | 36- | 74 | | 34 | 104 | 47S | 217 | 257 | 225 | -4.5 | +3.1 | +0.2 | +2.4 | .388 | -149.1 | | 4 | 20 | 25.1 | 18 | 44 | 34 | 393.4 | 863.5 |
| R639 = 85 H1. Tauri | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *** A light curve is desired as 639 is in the Kepler2 program {ID = 210725815} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 14 | 0 55 | 8.5 r | 76980 | B5 | 8.3 | 8.2 | | 27- | 63 | | 13 | 72 | 37N | 318 | 357 | 321 | -5.1 | +1.9 | +0.5 | +0.5 | .252 | 117.2 | | 5 | 8 | 46.6 | 21 | 29 | 44 | 391.3 | 1048.2 |
| Aug 14 | 5 28 | 13.5 d | 792 | G8 | 5.0 | 4.5 | | 26- | 61 | | 9 | 52 | 131 | -52N | 48 | 78 | 50 | -5.5 | +1.4 | +0.9 | +2.3 | .367 | 26.3 | | 5 | 19 | 16.6 | 22 | 5 | 47 | 386.7 | 768.3 |
| R792 = 109 Tauri | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 15 | 1 50 | 52.8 R | 77942 | B0 | 8.8 | 8.6s | | 18- | 51 | | 15 | 72 | 81S | 262 | 301 | 259 | -5.5 | +0.3 | -0.2 | +1.5 | .562 | 178.0 | | 6 | 5 | 29.8 | 23 | 0 | 17 | 385.6 | 1052.2 |
| 77942 = NSV 16769, 8.55 to 8.84, V, Type GCAS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 15 | 2 11 | 54.6 R | 77962 | G5 | 8.2 | 7.7 | | 18- | 51 | | 18 | 75 | 67N | 294 | 334 | 291 | -5.5 | +0.2 | +0.2 | +1.1 | .456 | 145.9 | | 6 | 6 | 24.7 | 23 | 10 | 53 | 385.2 | 1027.7 |
| Aug 15 | 2 31 | 43.8 R | 77975 | B9 | 8.4 | 8.4 | | 18- | 51 | | 21 | 79 | 76S | 257 | 298 | 255 | -5.6 | +0.2 | +0.0 | +1.7 | .538 | -177.9 | | 6 | 7 | 6.9 | 23 | 3 | 14 | 384.9 | 1004.0 |
| Aug 15 | 2 42 | 3.7 d | 929 | SB2 | 5.8 | v | | 18- | 50 | | 22 | 80 | -87S | 94 | 135 | 91 | -5.6 | +0.2 | +0.2 | +1.4 | .517 | -14.2 | | 6 | 9 | 44.0 | 23 | 6 | 49 | 384.7 | 994.5 |
| R929 = 3 Geminorum | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 929 is triple: AB 5.90 8.48 0.61" 347.2, dT = -0.33sec : AC 5.8 14.4 18.8" 63.0, dT = +31sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 929 is a close double. Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 929 = PU Gem, 5.71 to 5.77, V, Type ACYG, Period 6.8066 days, Phase 58% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 15 | 2 46 | 25 Gr | 78020 | G5 | 8.1 | 7.5 | | 18- | 50 | -12 | 24 | ** GRAZE: CA 11.2N; Dist.175km in az. 318deg. [Lat = 54.14+0.56(E.Long-5.00)] | | | | | | | | | | | | | | | | | | | |
| Aug 15 | 2 52 | 47.9 R | 78020 | G5 | 8.1 | 7.5 | | 18- | 50 | | 24 | 82 | 32N | 329 | 11 | 327 | -5.6 | +0.2 | +1.5 | -0.8 | .179 | 109.9 | | 6 | 8 | 26.5 | 23 | 22 | 11 | 384.4 | 979.7 |
| Aug 15 | 3 7 | 57.9 R | 78030 | cK5 | 8.7 | 8.0 | | 18- | 50 | -11 | 26 | 85 | 43S | 224 | 266 | 221 | -5.6 | +0.1 | -0.2 | +2.3 | .421 | -144.8 | | 6 | 8 | 47.6 | 22 | 59 | 5 | 384.2 | 961.5 |
| 78030 is double: ** 9.5 9.5 0.10" 72.0, dT = +0.21sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 78030 has been reported as non-instantaneous (OCc 654). Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| day | Time | P | Star | Sp | Mag | Mag | % | Elon | Sun | Moon | CA | PA | VA | AA | Libration | | A | B | RV | Cct | dur | R.A. (J2000) | | | Dec | | | Mdist | SV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| m | d h m s | | No | D | v | r | V | ill | Alt | Alt | Az | o | o | o | o | L | B | m/o | m/o | "/s | o | sec | h | m | s | o | m | s | Mm | m/s |
| Aug 15 | 3 40 40.0 | R | 929 | SB2 | 5.8 | | v | 18- | 50 | -7 | 31 | 91 | 64S | 245 | 287 | 242 | -5.6 | +0.1 | +0.2 | +2.0 | .481 | -165.8 | | 6 | 9 | 44.0 | 23 | 6 | 49 | 383.6 | 923.5 |
| R929 = 3 Geminorum | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 929 is triple: AB 5.90 8.48 0.61" 347.2, dT = +0.27sec : AC 5.8 14.4 18.8" 63.0, dT = +39sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 929 is a close double. Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 929 = PU Gem, 5.71 to 5.77, V, Type ACYG, Period 6.8066 days, Phase 58% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 15 | 3 46 49.6 | R | 931 | cB9 | 6.9 | | | 18- | 50 | -6 | 32 | 93 | 24S | 205 | 247 | 202 | -5.6 | +0.1 | -0.4 | +3.2 | .287 | -125.7 | | 6 | 10 | 29.9 | 22 | 59 | 52 | 383.5 | 917.1 |
| R931 = 4 Geminorum | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 931 is double: AB 7.45 7.80 0.23" 32.6, dT = +0.8sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 931 is a close double. Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 16 | 0 59 34.1 | r | 78963 | A0 | 7.2 | 7.2 | | 11- | 39 | | 1 | 52 | 77N | 290 | 322 | 283 | -5.7 | -1.1 | -0.4 | +0.8 | .582 | 156.1 | | 7 | 0 | 40.4 | 23 | 26 | 25 | 381.8 | 1177.6 |
| Aug 16 | 2 19 14 | M | 79039 | G0 | 8.9 | 8.6 | | 11- | 38 | | 11 | 66 | 12N | 356 | 34 | 348 | -5.6 | -1.3 | +9.9 | +9.9 | .000 | 90.0 | | 7 | 5 | 11.4 | 23 | 42 | 11 | 380.3 | 1091.8 |
| Aug 16 | 2 28 4.5 | R | 79040 | cA2 | 8.8 | 8.8 | | 11- | 38 | | 12 | 68 | 12S | 199 | 238 | 191 | -5.6 | -1.3 | -1.1 | +3.2 | .235 | -113.7 | | 7 | 5 | 17.1 | 23 | 10 | 2 | 380.2 | 1081.1 |
| 79040 is double: ** 9.4 10.0 0.14" 144.0, dT = -0.34sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 79040 has been reported as non-instantaneous (OCc 265). Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 16 | 2 52 15.4 | R | 79048 | F5 | 8.3 | 8.1 | | 11- | 38 | | 16 | 72 | 45S | 233 | 273 | 225 | -5.6 | -1.3 | -0.4 | +2.0 | .482 | -147.5 | | 7 | 5 | 46.2 | 23 | 16 | 31 | 379.7 | 1051.7 |
| Aug 16 | 3 10 40.6 | R | 79060 | K0 | 8.2 | 7.5 | | 11- | 38 | -11 | 18 | 76 | 28S | 216 | 256 | 208 | -5.6 | -1.4 | -0.5 | +2.6 | .361 | -130.2 | | 7 | 6 | 46.3 | 23 | 14 | 1 | 379.4 | 1029.9 |
| Aug 16 | 3 37 7.1 | r | 79069 | K0 | 8.8 | 8.3 | | 10- | 38 | -8 | 22 | 80 | 73S | 261 | 302 | 252 | -5.6 | -1.4 | +0.1 | +1.6 | .541 | -175.1 | | 7 | 7 | 21.9 | 23 | 25 | 22 | 378.9 | 997.8 |
| Aug 16 | 3 48 48.5 | r | 79091 | G0 | 8.6 | 8.0 | | 10- | 38 | -6 | 24 | 82 | 55N | 313 | 355 | 305 | -5.6 | -1.4 | +0.7 | +0.4 | .361 | 132.3 | | 7 | 8 | 7.0 | 23 | 39 | 14 | 378.6 | 984.3 |
| Aug 17 | 2 12 26.9 | r | 79895 | G5 | 9.0 | 8.6 | | 5- | 26 | | 2 | 55 | 43N | 333 | 6 | 320 | -5.2 | -2.7 | +0.2 | -0.2 | .312 | 119.2 | | 8 | 3 | 21.2 | 22 | 33 | 46 | 375.9 | 1168.8 |
| Aug 17 | 2 18 33.9 | R | 1215 | K0 | 6.8 | 6.2 | | 5- | 26 | | 3 | 57 | 1S | 196 | 230 | 183 | -5.2 | -2.7 | -1.8 | +4.0 | .158 | -104.3 | | 8 | 3 | 50.5 | 22 | 4 | 15 | 375.9 | 1162.6 |
| R1215 = 7 Cancri | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Distance of 1215 to Terminator = 8.6"; to 3km sunlit peak = 0.0" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 17 | 3 24 44.5 | R | 79946 | F8 | 8.6 | 8.3 | | 5- | 25 | -9 | 11 | 69 | 14S | 210 | 249 | 197 | -5.2 | -2.8 | -0.9 | +3.0 | .282 | -118.1 | | 8 | 6 | 32.0 | 22 | 4 | 24 | 374.7 | 1086.9 |
| Aug 17 | 3 33 51.7 | R | 1222 | cG5 | 7.2 | 6.8 | | 5- | 25 | -8 | 13 | 70 | 71N | 306 | 345 | 293 | -5.2 | -2.8 | +0.2 | +0.7 | .490 | 145.8 | | 8 | 6 | 34.4 | 22 | 27 | 24 | 374.5 | 1075.6 |
| 1222 is double: ** 7.2 0.017" 42.2, dT = 0.00sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1222 has been reported as non-instantaneous (OCc1381). Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 22 | 20 4 21.6 | D | 1921 | K3 | 5.9 | 5.1 | | 19+ | 51 | -11 | 4 | 256 | 68S | 131 | 93 | 109 | +1.6 | -5.0 | +0.3 | -1.9 | .546 | -16.4 | | 13 | 23 | 18.9 | - 4 | 55 | 28 | 364.3 | 1005.2 |
| R1921 = 65 Virginis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| day | Time | P | Star | Sp | Mag | Mag | % | Elon | Sun | Moon | CA | PA | VA | AA | Libration | | A | B | RV | Cct | dur | R.A. (J2000) | | | Dec | | | Mdist | SV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| m | d h m | s | No | D | v | r | V | ill | Alt | Alt | Az | o | o | o | o | L | B | m/o | m/o | "/s | o | sec | h | m | s | o | m | s | Mm | m/s |
| Aug 24 | 20 6 | 39.8 D | 159096 | K3 | 7.6 | 6.8 | 40+ | 78 | 9 | 230 | 88N | 103 | 74 | 89 | +4.1 | -2.9 | +0.9 | -1.5 | .484 | 6.0 | | 15 | 12 | 26.4 | -15 | 42 | 54 | 368.9 | 870.6 |
| Aug 25 | 18 17 | 56.9 d | 2303 | SB2 | 4.8 | 4.9 | 50+ | 90 | 3 | 18 | 192 | 69S | 122 | 114 | 113 | +5.1 | -1.6 | +1.3 | -0.8 | .420 | -12.7 | | 16 | 5 | 26.6 | -19 | 48 | 7 | 371.2 | 774.8 |
| 2303 is triple: CE 4.5 6.6 0.10" 52.0, dT = +0.08sec : CA 4.5 2.6 13.7" 199.9, dT = +7sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2303 is a close double. Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 25 | 18 18 | 2.6 D | 2302 | SB0 | 2.6 | 2.7s | 50+ | 90 | 3 | 18 | 192 | 68S | 123 | 115 | 113 | +5.1 | -1.6 | +1.3 | -0.8 | .419 | -13.5 | | 16 | 5 | 26.2 | -19 | 48 | 20 | 371.2 | 774.8 |
| R2302 = Acrab = beta Scorpii | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2302 is multiple: Aa,Ab 2.9 4.1 350.0, dT = 0.00sec : AB 2.6 0.001" 121.1, dT = 0.00sec : AB 2.6 10.6 0.33" 217.7, dT = -0.06sec : AC 2.6 4.5 13.7" 19.9, dT = -7sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2302 is a close double. Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2302 = NSV 7424, 2.61 to 2.67, V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 25 | 19 29 | 34.0 R | 2302 | SB0 | 2.6 | 2.7s | 51+ | 91 | -8 | 14 | 209 | -83S | 273 | 255 | 264 | +5.0 | -1.6 | +1.3 | -1.0 | .430 | -166.5 | | 16 | 5 | 26.2 | -19 | 48 | 20 | 371.8 | 796.8 |
| R2302 = Acrab = beta Scorpii | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2302 is multiple: Aa,Ab 2.9 4.1 350.0, dT = 0.00sec : AB 2.6 0.001" 121.1, dT = 0.00sec : AB 2.6 10.6 0.33" 217.7, dT = -0.43sec : AC 2.6 4.5 13.7" 19.9, dT = +9sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2302 is a close double. Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2302 = NSV 7424, 2.61 to 2.67, V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 25 | 19 29 | 42.5 r | 2303 | SB2 | 4.8 | 4.9 | 51+ | 91 | -8 | 14 | 209 | -83S | 274 | 256 | 265 | +5.0 | -1.6 | +1.3 | -1.0 | .431 | -167.4 | | 16 | 5 | 26.6 | -19 | 48 | 7 | 371.8 | 796.9 |
| 2303 is triple: CE 4.5 6.6 0.10" 52.0, dT = +0.18sec : CA 4.5 2.6 13.7" 199.9, dT = -9sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2303 is a close double. Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 27 | 19 52 | 37.1 d | 186240 | cB2 | 7.3 | 7.4 | 72+ | 116 | -11 | 13 | 188 | 74N | 73 | 68 | 75 | +5.8 | +1.5 | +1.5 | -0.1 | .376 | 21.7 | | 18 | 4 | 58.2 | -24 | 40 | 51 | 379.4 | 744.4 |
| 186240 is double: ** 7.5 9.3 0.35" 38.0, dT = +0.8sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 186240 has been reported as non-instantaneous (OCc1692). Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 28 | 19 51 | 21 M | 2771 | pK2 | 5.6 | 5.0 | 81+ | 128 | -12 | 13 | 175 | 7N | 359 | 2 | 7 | +5.8 | +3.0 | +9.9 | +9.9 | .000 | 90.0 | | 19 | 2 | 27.7 | -24 | 50 | 49 | 383.2 | 735.0 |
| *** A light curve is desired as 2771 is in the Kepler2 program {ID = 215142368} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2771 is double: ** 6.5 6.5 0.10" 113.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2771 has been reported as non-instantaneous (OCc1564). Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Distance of 2771 to Terminator = 10.9"; to 3km sunlit peak = 0.1" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug 28 | 20 33 | 37.2 d | 2780 | A0 | 7.1 | 7.0 | 81+ | 129 | 13 | 184 | 58S | 114 | 111 | 121 | +5.7 | +3.0 | +1.6 | -0.4 | .353 | -26.7 | | 19 | 4 | 45.9 | -25 | 13 | 52 | 383.3 | 735.0 |
| Aug 31 | 21 0 | 5.2 d | 164674 | A8 | 7.6 | 7.4 | 98+ | 164 | 16 | 153 | 60N | 23 | 40 | 43 | +4.7 | +6.5 | +1.1 | +1.8 | .263 | 47.6 | | 21 | 49 | 19.9 | -18 | 23 | 11 | 393.5 | 742.9 |

| day | Time | P | Star | Sp | Mag | Mag | % | Elon | Sun | Moon | CA | PA | VA | AA | Libration | | A | B | RV | Cct | dur | R.A. (J2000) | | | Dec | | | Mdist | SV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| m | d h m | s | No | D | v | r | V | ill | Alt | Alt | Az | o | o | o | o | L | B | m/o | m/o | "/s | o | sec | h | m | s | o | m | s | Mm | m/s |
| Sep | 1 | 1 29 51.8 | d | 3214 | A0 | 6.8 | 6.7 | 98+ | 165 | 13 | 218 | 53S | 88 | 65 | 109 | +4.0 | +6.4 | +1.2 | -1.2 | .386 | -24.1 | | 21 | 56 | 46.0 | -17 | 53 | 49 | 394.4 | 809.2 |
| Distance of 3214 to Terminator = 19.7"; to 3km sunlit peak = 8.4" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 3 | 0 18 20 | M | 3458 | K0 | 6.2 | 5.5 | 99- | 170 | 29 | 180 | 42N | 328 | 329 | 352 | +2.7 | +7.3 | +9.9 | +9.9 | .000 | 90.0 | | 23 | 29 | 0.6 | - 9 | 15 | 58 | 398.1 | 727.9 |
| Distance of 3458 to Terminator = 6.7"; to 3km sunlit peak = 0.1" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 3 | 21 49 4.6 | R | 18cK1 | 5.8 | 5.3s | 97- | 160 | 20 | 129 | 72S | 245 | 274 | 269 | +2.2 | +7.4 | +0.9 | +1.8 | .408 | 176.3 | | 0 | 10 | 18.9 | - 5 | 14 | 55 | 401.0 | 794.6 |
| 18 is double: ** 6.8 6.8 0.10" 90.0, dT = +0.22sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 has been reported as non-instantaneous (OCc1138). Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 = NSV 15038, 5.82 to 5.85, V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 3 | 22 44 5.6 | r | 128632 | K2 | 8.3 | 7.7 | 97- | 160 | 26 | 142 | 73S | 245 | 268 | 269 | +2.0 | +7.4 | +1.2 | +1.5 | .389 | 174.3 | | 0 | 11 | 35.7 | - 5 | 4 | 5 | 400.4 | 759.0 |
| Sep | 4 | 22 49 14.5 | r | 129029 | K4 | 7.9 | 7.2 | 93- | 149 | 27 | 131 | 71N | 275 | 303 | 298 | +1.0 | +7.1 | +1.3 | +1.4 | .326 | 144.0 | | 0 | 55 | 33.2 | 0 | 1 | 11 | 401.9 | 784.6 |
| Sep | 5 | 0 0 33.5 | R | 126cK0 | 7.6 | 7.0 | 93- | 149 | 35 | 149 | 52N | 294 | 312 | 316 | +0.8 | +7.0 | +2.3 | +0.2 | .210 | 123.4 | | 0 | 57 | 13.0 | 0 | 20 | 32 | 401.2 | 743.6 |
| 126 is double: AB 7.6 11.1 350.0, dT = 0.00sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 5 | 1 30 11 | M | 109577 | SK5 | 7.7 | 6.9S | 93- | 148 | 39 | 176 | 20N | 326 | 329 | 348 | +0.5 | +6.9 | +9.9 | +9.9 | .000 | 90.0 | | 0 | 59 | 23.3 | 0 | 46 | 44 | 400.9 | 721.0 |
| 109577 is triple: AB 7.8 9.1 30" 340.0 : AC 7.8 11.1 178" 267.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 109577 = NSV 15219, 7.66, | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Distance of 109577 to Terminator = 19.8"; to 3km sunlit peak = 7.4" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 5 | 1 59 24.9 | r | 109579 | K0 | 8.6 | 7.9 | 92- | 148 | 39 | 186 | 71N | 275 | 271 | 297 | +0.4 | +6.9 | +2.0 | -0.4 | .291 | 141.6 | | 0 | 59 | 36.6 | 0 | 40 | 15 | 401.0 | 721.0 |
| Sep | 5 | 5 10 14.1 | r | 150SF1 | 6.1 | 5.9v | 92- | 147 | 1 24 | 239 | 60N | 286 | 254 | 308 | -0.1 | +6.7 | +1.2 | -2.5 | .292 | 134.9 | | 1 | 3 | 49.0 | 1 | 22 | 1 | 402.5 | 808.0 |
| R150 = 26 Ceti | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 150 is triple: AB 6.1 9.5 16.0" 253.0, dT = -46sec : AC 6.1 14.1 120" 291.0, dT = -408sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 150 = HIP 4979, 6.06, range 0.01, 0V, Type VAR, Period 369.00369 days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 6 | 0 33 28.7 | r | 110072 | F8 | 8.9 | 8.7 | 87- | 138 | 38 | 145 | 59S | 224 | 244 | 244 | -0.5 | +6.4 | +0.9 | +1.9 | .372 | -165.9 | | 1 | 41 | 53.3 | 5 | 3 | 21 | 401.6 | 747.5 |
| Sep | 6 | 1 25 29.6 | r | 110085 | G0 | 8.6 | 8.4 | 87- | 137 | 42 | 161 | 51S | 216 | 227 | 236 | -0.6 | +6.3 | +0.9 | +1.8 | .347 | -158.4 | | 43 | 6.4 | | 5 | 12 | 40 | 401.3 | 725.8 |
| Sep | 6 | 1 41 28.5 | r | 110087 | cG0 | 8.8 | 8.5 | 87- | 137 | 43 | 166 | 71S | 235 | 244 | 255 | -0.7 | +6.3 | +1.3 | +1.3 | .370 | -178.2 | | 1 | 43 | 11.9 | 5 | 19 | 31 | 401.3 | 721.4 |
| 110087 is double: AB 9.2 10.2 0.40" 7.3, dT = +0.7sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 110087 is a close double. Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 6 | 1 53 21 | M | 110088 | K0 | 7.6 | 6.8 | 87- | 137 | 44 | 170 | 17N | 327 | 333 | 347 | -0.7 | +6.3 | +9.9 | +9.9 | .000 | 90.0 | | 1 | 43 | 38.5 | 5 | 44 | 44 | 401.2 | 718.9 |
| Sep | 6 | 4 5 42 | Gr | 110121 | K2 | 8.3 | 7.6 | 86- | 137 | -9 | 39 | ** GRAZE: CA 14.8N; Dist. 38km in az. 332deg. [Lat = 52.39+0.33(E.Long-5.00)] | | | | | | | | | | | | | | | | | | |
| Sep | 6 | 4 13 16 | r | 110121 | K2 | 8.3 | 7.6 | 86- | 137 | -8 | 39 | 216 | 26N | 318 | 297 | 338 | -1.1 | +6.1 | +4.4 | -9.7 | .074 | 101.3 | | 1 | 46 | 32.3 | 6 | 8 | 59 | 401.6 | 734.0 |

| day | Time | P | Star | Sp | Mag | Mag | % | Elon | Sun | Moon | CA | PA | VA | AA | Libration | | A | B | RV | Cct | dur | R.A. (J2000) | | | Dec | | | Mdist | SV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| m | d | h m s | No | D | v | r | V | ill | Alt | Alt | Az | o | o | o | o | L | B | m/o | m/o | "/s | o | sec | h | m | s | o | m | s | Mm | m/s |
| Sep | 6 | 4 26 6.0 | r | 110120 | K2 | 8.9 | 8.4 | 86- | 136 | -6 | 38 | 220 | 86N | 258 | 235 | 278 | -1.2 | +6.1 | +1.4 | -0.6 | .361 | 162.0 | 1 | 46 | 30.5 | 5 | 57 | 13 | 401.7 | 740.1 |
| Sep | 6 | 23 35 1.9 | R | 110516 | K0 | 6.9 | 6.4 | 80- | 127 | 31 | 116 | 68N | 276 | 311 | 294 | -1.5 | +5.7 | +1.1 | +1.5 | .343 | 144.4 | 2 | 24 | 30.5 | 9 | 42 | 48 | 402.1 | 821.5 |
| Sep | 7 | 1 34 22.4 | R | 362 | F5 | 6.5 | 6.2 | 80- | 126 | 45 | 149 | 48N | 296 | 315 | 314 | -1.9 | +5.5 | +2.5 | -0.3 | .204 | 122.5 | 2 | 27 | 23.4 | 10 | 11 | 54 | 400.8 | 737.2 |
| R362 = 25 (Arietis)/Ceti | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 7 | 23 16 58.1 | r | 93312 | K5 | 8.6 | 7.6s | 72- | 116 | 25 | 100 | 51S | 218 | 256 | 232 | -2.7 | +4.7 | +0.1 | +2.3 | .407 | -153.6 | 3 | 9 | 55.4 | 13 | 41 | 40 | 401.3 | 885.4 |
| 93312 = NSV 15643, 8.5, range 0.1, V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 7 | 23 22 3.4 | r | 93311 | A2 | 8.4 | 8.3 | 72- | 116 | 26 | 101 | 69S | 236 | 274 | 250 | -2.8 | +4.7 | +0.3 | +2.1 | .448 | -171.8 | 3 | 9 | 50.7 | 13 | 46 | 4 | 401.2 | 879.9 |
| Sep | 8 | 0 51 12.0 | r | 93334 | K2 | 8.8 | 7.9 | 72- | 116 | 39 | 122 | 64S | 230 | 263 | 244 | -2.9 | +4.5 | +0.7 | +2.1 | .401 | -168.0 | 3 | 12 | 15.2 | 14 | 2 | 22 | 399.9 | 795.3 |
| Sep | 8 | 2 41 35.3 | R | 93362 | F8 | 8.0 | 7.7 | 71- | 115 | 50 | 155 | 33S | 200 | 215 | 214 | -3.3 | +4.4 | +0.6 | +2.8 | .277 | -137.7 | 3 | 15 | 18.7 | 14 | 18 | 11 | 398.9 | 723.7 |
| Sep | 8 | 5 5 27 | Gr | 478cG5 | 7.4 | 7.0 | 71- | 114 | -1 | 51 | ** GRAZE: CA 11.2N; Dist.147km in az. 159deg. [Lat = 50.58+0.23(E.Long-5.00)] | | | | | | | | | | | | | | | | | | | |
| Sep | 8 | 5 5 38 | m | 478cG5 | 7.4 | 7.0 | 71- | 114 | -1 | 50 | 210 | 11N | 336 | 317 | 349 | -3.7 | +4.2 | +9.9 | +9.9 | .000 | 90.0 | 3 | 18 | 27.1 | 15 | 10 | 38 | 398.7 | 708.2 |
| 478 is double: AB 7.5 15.4 0.030" 191.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 478 is a close double. Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 8 | 21 23 22.1 | r | 577 | F4 | 6.0 | 5.8S | 64- | 106 | 5 | 68 | 62N | 287 | 324 | 297 | -3.9 | +3.7 | -0.2 | +1.2 | .440 | 143.4 | 3 | 53 | 10.0 | 17 | 19 | 38 | 401.3 | 1066.3 |
| 577 = NSV 15826, 5.95, , Type VAR: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 9 | 1 9 8 | M | 593pF4 | 5.9 | 5.7v | 63- | 105 | 39 | 112 | 14N | 336 | 13 | 346 | -4.1 | +3.3 | +9.9 | +9.9 | .000 | 90.0 | 4 | 0 | 48.8 | 18 | 11 | 38 | 397.4 | 822.5 |
| *** A light curve is desired as 593 is in the Kepler2 program {ID = 210688161} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 593 is double: AB 5.9 11.0 176" 275.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 593 = HIP 18735, 5.89, range 0.00, 6V, Type VAR, Period 0.42378 days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 10 | 3 17 57.8 | r | 76831dK0 | 9.0 | 8.2 | 52- | 93 | 51 | 132 | 30S | 203 | 233 | 208 | -5.5 | +1.7 | +0.4 | +3.3 | .266 | -132.1 | 4 | 54 | 54.0 | 20 | 56 | 52 | 392.4 | 755.5 |
| 76831 is double: AB 10.9 12.2 7.6" 149.0, dT = -17sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 76831 is a close double. Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 10 | 3 21 35.0 | r | 76828kK0 | 9.0 | 8.4 | 52- | 93 | 52 | 133 | 42N | 312 | 341 | 317 | -5.5 | +1.7 | +2.4 | -1.4 | .193 | 119.1 | 4 | 54 | 37.0 | 21 | 21 | 30 | 392.3 | 753.2 |
| *** A light curve is desired as 76828 is in the Kepler2 program {ID = 247395276} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 10 | 3 32 28.9 | r | 735 | K0 | 8.9 | 8.4 | 52- | 93 | 53 | 136 | 70S | 244 | 271 | 249 | -5.5 | +1.7 | +1.1 | +1.7 | .389 | -172.5 | 4 | 54 | 44.5 | 21 | 5 | 59 | 392.2 | 745.6 |
| Sep | 10 | 4 7 29 | M | 76850 | F0 | 7.4 | 7.2v | 52- | 92 | -10 | 57 | 149 | 12N | 342 | 2 | 347 | -5.6 | +1.6 | +9.9 | +9.9 | .000 | 90.0 | 4 | 56 | 14.2 | 21 | 34 | 20 | 391.9 | 726.6 |
| 76850 = TAOS 22.00001, 7.34, range 0.00, 4V, Type DSCT, Period 0.046335 days, Phase 2% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 11 | 0 12 18.7 | R | 77418 | K0 | 7.7 | 7.2 | 43- | 82 | 19 | 78 | 41S | 219 | 260 | 219 | -5.9 | +0.6 | -0.4 | +2.2 | .416 | -142.3 | 5 | 41 | 59.5 | 22 | 33 | 7 | 391.2 | 998.9 |
| Sep | 11 | 0 14 29.2 | R | 77405 | F5 | 7.9 | 7.7 | 43- | 82 | 20 | 78 | 61N | 297 | 338 | 297 | -5.9 | +0.6 | +0.3 | +1.0 | .400 | 139.7 | 5 | 41 | 46.8 | 22 | 52 | 13 | 391.1 | 996.4 |

| day | Time | P | Star | Sp | Mag | Mag | % | Elon | Sun | Moon | CA | PA | VA | AA | Libration | | A | B | RV | Cct | dur | R.A. (J2000) | | | Dec | | | Mdist | SV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| m | d h m | s | No | D | v | r | V | ill | Alt | Alt | Az | o | o | o | o | L | B | m/o | m/o | "/s | o | sec | h | m | s | o | m | s | Mm | m/s |
| Sep 11 | 0 17 | 47.1 r | 77410 | cA0 | 8.8 | 8.7 | | 43- | 82 | 20 | 79 | 75S | 254 | 295 | 254 | -5.9 | +0.6 | +0.0 | +1.7 | .522 | -176.7 | | 5 | 41 | 49.8 | 22 | 41 | 16 | 391.0 | 992.3 |
| 77410 is double: ** 9.4 9.4 0.060" 140.0, dT = +0.05sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 77410 has been reported as non-instantaneous (OCc 321). Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 11 | 0 22 | 30.0 R | 861 | K2 | 6.4 | 5.7 | | 43- | 82 | 21 | 79 | 66S | 245 | 286 | 245 | -5.9 | +0.6 | -0.1 | +1.8 | .509 | -167.8 | | 5 | 42 | 4.0 | 22 | 39 | 37 | 390.9 | 986.7 |
| R861 = 175 H1. Tauri | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 11 | 0 47 | 1.8 r | 77443 | B9 | 8.3 | 8.3s | | 43- | 82 | 24 | 84 | 58S | 236 | 278 | 236 | -5.9 | +0.6 | -0.1 | +2.0 | .474 | -159.5 | | 5 | 43 | 2.0 | 22 | 40 | 32 | 390.5 | 957.9 |
| 77443 = NSV 16641, 8.23 to 8.31, Hp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 11 | 0 48 | 2.2 r | 77439 | F0 | 8.8 | 8.6 | | 43- | 82 | 25 | 84 | 68N | 290 | 332 | 290 | -5.9 | +0.6 | +0.5 | +1.2 | .421 | 146.4 | | 5 | 42 | 56.8 | 22 | 54 | 27 | 390.4 | 956.9 |
| Sep 11 | 0 51 | 44.6 r | 77447 | K2 | 9.0 | 8.4 | | 43- | 82 | 25 | 85 | 62S | 240 | 282 | 240 | -5.9 | +0.6 | +0.0 | +2.0 | .482 | -163.6 | | 5 | 43 | 9.5 | 22 | 42 | 1 | 390.4 | 952.4 |
| Sep 11 | 1 36 | 20.1 R | 77488 | K5 | 8.2 | 7.3 | | 43- | 82 | 32 | 93 | 64N | 295 | 337 | 295 | -6.0 | +0.5 | +0.8 | +1.0 | .373 | 141.4 | | 5 | 44 | 38.9 | 23 | 1 | 15 | 389.6 | 901.3 |
| Sep 11 | 1 48 | 38.4 R | 77496 | cG5 | 8.4 | 7.9 | | 43- | 82 | 34 | 95 | 85S | 264 | 306 | 264 | -6.0 | +0.5 | +0.5 | +1.6 | .465 | 172.1 | | 5 | 44 | 57.8 | 22 | 54 | 37 | 389.4 | 887.2 |
| 77496 is double: AB 9.0 9.4 0.50" 133.4, dT = +0.7sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 77496 is a close double. Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 11 | 2 12 | 0.7 R | 77532 | cK0 | 8.2 | 7.6 | | 43- | 82 | 37 | 100 | 37S | 216 | 257 | 216 | -6.0 | +0.4 | +0.1 | +2.8 | .349 | -139.7 | | 5 | 46 | 10.6 | 22 | 46 | 22 | 389.0 | 862.3 |
| 77532 is double: ** 9.1 9.1 0.050" 350.0, dT = +0.1sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 77532 has been reported as non-instantaneous (OCc 323). Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 11 | 2 28 | 19.6 r | 77538 | K2 | 8.8 | 8.2 | | 43- | 81 | 40 | 104 | 73N | 286 | 326 | 285 | -6.1 | +0.4 | +1.0 | +1.0 | .391 | 150.7 | | 5 | 46 | 16.7 | 23 | 4 | 39 | 388.7 | 845.1 |
| Sep 11 | 2 55 | 11.0 R | 77552 | M0 | 8.6 | 7.7s | | 42- | 81 | 44 | 110 | 62N | 297 | 336 | 297 | -6.1 | +0.3 | +1.3 | +0.5 | .330 | 139.5 | | 5 | 47 | 11.6 | 23 | 10 | 18 | 388.3 | 818.8 |
| 77552 = NSV 2631, 8.47 to 8.59, V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 11 | 3 2 | 25.9 R | 77559 | K0 | 7.6 | 7.0 | | 42- | 81 | 45 | 112 | 57S | 236 | 274 | 235 | -6.1 | +0.3 | +0.6 | +2.2 | .403 | -159.0 | | 5 | 47 | 29.4 | 22 | 55 | 21 | 388.2 | 811.8 |
| Sep 11 | 4 15 | 47.7 R | 77613 | A2 | 8.4 | 8.2 | | 42- | 81 | -9 | 54 | 132 | 32S | 211 | 241 | 210 | -6.3 | +0.2 | +0.7 | +3.3 | .273 | -132.8 | | 5 | 49 | 59.6 | 22 | 57 | 32 | 387.2 | 753.8 |
| Sep 11 | 4 16 | 38.9 r | 77610 | SF0 | 9.0 | 8.7 | | 42- | 81 | -9 | 54 | 133 | 40S | 219 | 248 | 218 | -6.3 | +0.2 | +0.8 | +2.8 | .310 | -140.5 | | 5 | 49 | 53.6 | 22 | 58 | 48 | 387.2 | 753.2 |
| 77610 is triple: AB 9.0 10.7 12.7" 251.0, dT = -35sec : AC 8. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 9.0 112" 132.0, dT = -21sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 11 | 4 20 | 47 Gr | 77617 | G5 | 8.8 | 8.4 | | 42- | 81 | -9 | 56 | ** GRAZE: CA 11.2N; Dist.162km in az. 154deg. [Lat = 50.38+0.30(E.Long-5.00)] | | | | | | | | | | | | | | | | | | | |
| Sep 11 | 4 22 | 38 m | 77617 | G5 | 8.8 | 8.4 | | 42- | 81 | -8 | 55 | 134 | 11N | 348 | 17 | 348 | -6.3 | +0.2 | +9.9 | +9.9 | .000 | 90.0 | | 5 | 50 | 31.0 | 23 | 27 | 43 | 387.1 | 750.0 |
| Sep 12 | 0 26 | 39.1 r | 78562 | K0 | 8.7 | 8.2 | | 33- | 71 | 14 | 70 | 57S | 241 | 281 | 236 | -6.4 | -0.8 | -0.3 | +1.8 | .521 | -158.5 | | 6 | 37 | 40.0 | 23 | 31 | 8 | 386.1 | 1049.9 |

| day | Time | P | Star | Sp | Mag | Mag | % | Elon | Sun | Moon | CA | PA | VA | AA | Libration | | A | B | RV | Cct | dur | R.A. (J2000) | | | Dec | | | Mdist | SV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| m | d h m | s | No | D | v | r | V | ill | Alt | Alt | Az | o | o | o | o | L | B | m/o | m/o | "/s | o | sec | h | m | s | o | m | s | Mm | m/s |
| Sep 12 | 0 34 | 49.7 R | 1017 | SK0 | 6.8 | | | 33- | 71 | 16 | 72 | 75S | 259 | 299 | 254 | -6.4 | -0.9 | -0.2 | +1.6 | .555 | -176.5 | | 6 | 37 | 52.5 | 23 | 36 | 16 | 385.9 | 1040.2 |
| 1017 is triple: Aa,Ab 7.00 8.80 0.10" 146.0, dT = +0.07sec : AB 6.8 12.5 23.1" 34.3, dT = +29sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1017 is a close double. Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 12 | 0 57 | 17.5 r | 78588 | A2 | 8.8 | 8.7 | | 33- | 70 | 19 | 76 | 23S | 208 | 248 | 202 | -6.4 | -0.9 | -0.7 | +2.8 | .309 | -124.8 | | 6 | 39 | 21.2 | 23 | 26 | 59 | 385.5 | 1014.1 |
| Sep 12 | 1 5 | 9.8 r X | 90914 | | 9.0 | 8.4 | | 33- | 70 | 20 | 77 | 73S | 257 | 298 | 252 | -6.4 | -0.9 | +0.0 | +1.7 | .535 | -174.7 | | 6 | 39 | 4.8 | 23 | 37 | 52 | 385.3 | 1004.1 |
| Sep 12 | 1 31 | 51.2 R | 1024 | F5 | 7.4 | 7.2 | | 33- | 70 | 24 | 82 | 76S | 260 | 302 | 254 | -6.4 | -1.0 | +0.1 | +1.7 | .520 | -177.5 | | 6 | 40 | 5.4 | 23 | 40 | 26 | 384.8 | 972.2 |
| Sep 12 | 1 40 | 11.4 R | 78623 | F5 | 8.5 | 8.3 | | 33- | 70 | 25 | 83 | 67S | 251 | 293 | 246 | -6.4 | -1.0 | +0.1 | +1.8 | .506 | -168.8 | | 6 | 40 | 26.7 | 23 | 38 | 43 | 384.5 | 951.2 |
| Sep 12 | 1 50 | 13.0 R | 78637 | K2 | 8.1 | 7.6 | | 33- | 70 | 27 | 85 | 38N | 327 | 9 | 321 | -6.4 | -1.0 | +1.3 | -0.5 | .222 | 115.8 | | 6 | 41 | 15.7 | 23 | 57 | 28 | | |
| Sep 12 | 3 8 | 51 Gr | 78690 | K7 | 8.9 | 8.1 | | 32- | 69 | 39 | ** GRAZE: CA 12.0N; Dist.111km in az. 148deg. [Lat = 50.82+0.39(E.Long-5.00 | | | | | | | | | | | | | | | | | | 384.7 | 962.4 |
| Sep 12 | 3 10 | 37 m | 78690 | K7 | 8.9 | 8.1 | | 32- | 69 | 39 | 100 | 12N | 353 | 35 | 347 | -6.5 | -1.1 | +9.9 | +9.9 | .000 | 90.0 | | 6 | 44 | 34.2 | 24 | 5 | 37 | 383.0 | 861.8 |
| Sep 12 | 3 29 | 0.6 R | 78687 | K2 | 8.7 | 8.1 | | 32- | 69 | 41 | 104 | 85N | 280 | 321 | 274 | -6.6 | -1.2 | +0.9 | +1.1 | .434 | 163.1 | | 6 | 44 | 12.5 | 23 | 53 | 8 | 382.7 | 841.9 |
| Sep 12 | 3 40 | 2 Gr | 78712 | A3 | 8.1 | 7.9 | | 32- | 69 | 44 | ** GRAZE: CA 11.7N; Dist.143km in az. 151deg. [Lat = 50.52+0.34(E.Long-5.00)] | | | | | | | | | | | | | | | | | | | | |
| Sep 12 | 3 42 | 6 M | 78712 | A3 | 8.1 | 7.9 | | 32- | 69 | 43 | 107 | 11N | 354 | 34 | 347 | -6.6 | -1.2 | +9.9 | +9.9 | .000 | 90.0 | | 6 | 45 | 37.1 | 24 | 7 | 36 | 382.5 | 830.4 |
| Sep 12 | 3 51 | 13.7 R | 78707 | K2 | 7.2 | 6.5 | | 32- | 69 | 44 | 110 | 31S | 216 | 255 | 209 | -6.6 | -1.2 | +0.3 | +3.3 | .295 | -131.8 | | 6 | 45 | 23.3 | 23 | 38 | 46 | 382.4 | 821.1 |
| Sep 12 | 4 25 | 3 m | 78735 | F2 | 8.9 | 8.7 | | 32- | 69 | -8 | 49 | 118 | 11N | 355 | 31 | 348 | -6.7 | -1.3 | +9.9 | +9.9 | .000 | 90.0 | | 6 | 46 | 59.5 | 24 | 10 | 57 | 381.9 | 792.8 |
| Sep 12 | 4 37 | 53.1 R | 78733c | F5 | 7.8 | 7.5 | | 32- | 69 | -6 | 51 | 122 | 31S | 216 | 251 | 210 | -6.7 | -1.3 | +0.6 | +3.4 | .277 | -131.0 | | 6 | 46 | 50.8 | 23 | 40 | 49 | 381.7 | 782.2 |
| 78733 is double: ** 8.9 9.0 0.034" 127.0, dT = 0.00sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 78733 has been reported as non-instantaneous (OCc 268). Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep 12 | 4 46 | 15.7 r | 78729 | F0 | 8.7 | 8.5 | | 32- | 69 | -4 | 52 | 124 | 70S | 255 | 289 | 249 | -6.7 | -1.3 | +1.1 | +1.5 | .413 | -170.1 | | 6 | 46 | 40.2 | 23 | 49 | 50 | 381.6 | 775.8 |
| Sep 12 | 4 56 | 50 Gr | 78753 | A0 | 8.6 | 8.6 | | 32- | 69 | -3 | 53 | ** GRAZE: CA 9.6N; Dist. 91km in az. 341deg. [Lat = 52.86+0.21(E.Long-5.00)] | | | | | | | | | | | | | | | | | | | |
| Sep 13 | 0 7 | 57.7 r | 79519 | G5 | 8.1 | 7.7 | | 24- | 59 | 4 | 57 | 9S | 199 | 233 | 188 | -6.5 | -2.2 | -1.4 | +3.1 | .206 | -109.5 | | 7 | 34 | 44.4 | 22 | 57 | 11 | 381.3 | 1141.9 |
| Sep 13 | 0 30 | 19.0 R | 79527 | G5 | 7.3 | 6.8 | | 24- | 58 | 7 | 61 | 42S | 233 | 269 | 222 | -6.5 | -2.2 | -0.6 | +1.8 | .487 | -143.7 | | 7 | 35 | 11.3 | 23 | 2 | 45 | 380.8 | 1116.6 |
| Sep 13 | 2 9 | 49.0 d | 1161 | K5 | 5.9 | 5.1 | | 23- | 58 | 21 | 79 | -50S | 141 | 182 | 130 | -6.5 | -2.4 | +0.6 | +0.1 | .338 | -51.7 | | 7 | 40 | 58.5 | 23 | 1 | 7 | 379.0 | 1001.3 |
| Sep 13 | 2 45 | 56 Gr | 79618 | F5 | 7.7 | 7.4 | | 23- | 57 | 27 | ** GRAZE: CA 12.2N; Dist.205km in az. 148deg. [Lat = 49.82+0.39(E.Long-5.00)] | | | | | | | | | | | | | | | | | | | | |
| Sep 13 | 2 46 | 37.0 R | 1161 | K5 | 5.9 | 5.1 | | 23- | 57 | 26 | 86 | 27S | 218 | 260 | 206 | -6.5 | -2.5 | -0.3 | +3.0 | .323 | -128.3 | | 7 | 40 | 58.5 | 23 | 1 | 7 | 378.2 | 955.8 |
| Sep 13 | 2 48 | 59 M | 79618 | F5 | 7.7 | 7.4 | | 23- | 57 | 27 | 85 | 12N | 359 | 42 | 348 | -6.5 | -2.5 | +9.9 | +9.9 | .000 | 90.0 | | 7 | 41 | 44.7 | 23 | 30 | 52 | 378.2 | 954.0 |

| day | Time | | | | P | Star | Sp | Mag | Mag | % | Elon | Sun | Moon | CA | PA | VA | AA | Libration | | A | B | RV | Cct | durn | R.A. (J2000) | | | Dec | | | Mdist | SV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| m | d | h | m | s | | No | D | v | r | V | ill | Alt | Alt | Az | o | o | o | o | L | B | m/o | m/o | "/s | o | sec | h | m | s | o | m | s | Mm | m/s |
| Sep | 13 | 2 | 52 | 37.2 | R | 79603 | DA2 | 8.4 | | | 23- | 57 | 27 | 87 | 83S | 274 | 316 | 263 | -6.5 | -2.5 | +0.4 | +1.4 | .515 | 175.2 | | 7 | 40 | 45.3 | 23 | 14 | 48 | 378.1 | 948.3 |
| 79603 is double: AB 8.51 11.29 2.62" 144.8, dT = +3sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 79603 is a close double. Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 13 | 3 | 11 | 18.3 | R | 79616 | A0 | 8.2 | 8.1 | | 23- | 57 | 30 | 90 | 47S | 238 | 281 | 227 | -6.5 | -2.6 | +0.1 | +2.3 | .433 | -148.8 | | 7 | 41 | 37.1 | 23 | 5 | 27 | 377.8 | 927.0 |
| Sep | 13 | 3 | 55 | 8.5 | R | 79634 | K0 | 8.5 | 7.9 | | 23- | 57 | 37 | 99 | 89S | 281 | 322 | 269 | -6.6 | -2.6 | +0.7 | +1.1 | .473 | 169.7 | | 7 | 43 | 2.3 | 23 | 16 | 42 | 376.9 | 879.0 |
| Sep | 13 | 4 | 36 | 2.7 | R | 79657 | K5 | 7.4 | 6.6 | | 22- | 56 | -6 | 43 | 107 | 75N | 297 | 337 | 285 | -6.6 | -2.7 | +1.1 | +0.5 | .415 | 154.4 | | 7 | 44 | 32.1 | 23 | 20 | 43 | 376.3 | 839.1 |
| Sep | 13 | 4 | 41 | 54.8 | R | 79663 | K0 | 7.5 | 6.9 | | 22- | 56 | -5 | 43 | 109 | 28S | 219 | 259 | 208 | -6.6 | -2.7 | +0.4 | +3.5 | .280 | -127.8 | | 7 | 45 | 1.9 | 23 | 1 | 11 | 376.2 | 834.1 |
| Sep | 13 | 6 | 47 | 44.7 | r | 1178 | SG2 | 6.3 | | S | 22- | 56 | 14 | 58 | 148 | 72S | 264 | 285 | 252 | -6.9 | -2.8 | +1.4 | +0.8 | .407 | -168.0 | | 7 | 48 | 33.6 | 23 | 8 | 27 | 374.6 | 755.5 |
| R1178 = 82 Geminorum | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1178 is quadruple: AB 6.85 7.30 0.26" 24.0, dT = +0.32sec : AB,C 5.6 13.5 4.1" 35.8, dT = +7sec : AB,D 5.6 12.0 66" 25.0, dT = +84sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1178 is a close double. Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1178 = NSV 17606, 6.18, , Type VAR: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 14 | 0 | 59 | 47.9 | r | 80262 | kF8 | 8.1 | 7.8 | | 15- | 46 | 2 | 57 | 72N | 305 | 339 | 289 | -6.1 | -3.6 | -0.2 | +0.6 | .551 | 150.1 | | 8 | 34 | 39.2 | 21 | 29 | 35 | 375.1 | 1155.3 |
| *** A light curve is desired as 80262 is in the Kepler2 program {ID = 212072039} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 14 | 1 | 46 | 5.0 | R | 80281 | A0 | 8.8 | 8.8 | | 15- | 45 | 8 | 66 | 48S | 246 | 283 | 230 | -6.1 | -3.7 | -0.4 | +1.7 | .530 | -150.6 | | 8 | 36 | 36.2 | 21 | 11 | 24 | 374.3 | 1103.1 |
| Sep | 14 | 4 | 2 | 22 | M | 1308 | SA1 | 4.7 | 4.7 | | 14- | 44 | -11 | 28 | 90 | 12N | 7 | 48 | 350 | -6.0 | -3.9 | +9.9 | +9.9 | .000 | 90.0 | | 8 | 43 | 17.1 | 21 | 28 | 7 | 371.6 | 944.4 |
| R1308 = Asellus Borealis = Gamma Cancri | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1308 is triple: AC 4.7 14.1 91" 258.0 : AB 4.7 10.2 116" 67.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | 14 | 4 | 46 | 50.0 | r | 80388 | K0 | 8.1 | 7.5 | | 14- | 44 | -5 | 34 | 99 | 4S | 202 | 243 | 186 | -6.1 | -4.0 | -0.5 | +7.6 | .125 | -104.5 | | 8 | 44 | 19.2 | 20 | 52 | 37 | 370.8 | 896.3 |
| Sep | 15 | 4 | 23 | 57.5 | r | 98711 | cF2 | 8.9 | 8.7 | | 7- | 31 | -9 | 20 | 86 | 72N | 314 | 354 | 294 | -5.0 | -5.0 | +0.4 | +0.3 | .479 | 148.6 | | 9 | 41 | 31.1 | 17 | 53 | 13 | 366.7 | 996.5 |
| 98711 is double: AB 9.2 9.8 0.17" 338.7, dT = -0.32sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 98711 is a close double. Observations are highly desired | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |