Occultation prediction for Nederland midden
E. Longitude 5 0 0.0, Latitude 52 0 0.0, Alt. 0m;
Events excluded: Daytime,

y	m	day d	h	m	s	P	Star No	Sp D	Mag v	Mag r	V	% Ill	Elon Sun Alt	Moon Alt	Moon Az	CA o	PA o	VA o	AA o	Libration L	Libration B	A m/o	B m/o	RV "/s	Cct durn o	Cct durn sec	R.A. (J2000) h	m	s	Dec o	m	s	Mdist Mm	SV m/s
22	May	3	20	17	37	M	742	pG8	5.8	5.2		8+	33 -10	15	290	-5S	176	137	181	+0.2	-2.2	+9.9	+9.9	.000	-90.0		4	57	48.6	23	56	55	402.3	991.3
R742 = 99 Tauri																																	
*** A light curve is desired as 742 is in the Kepler2 program {ID = 247733919}																																	
742 is triple: AB 5.8 12.3 6.3" 7.1 : AC 5.8 13.2 104" 353.0																																	
742 is a close double. Observations are highly desired																																	
22	May	3	20	41	58.0	D	76868	B5	8.0	7.9e		8+	33 12	295	21N	13	335	17	+0.1	-2.2	+1.4	+2.0	.150	73.4		4	58	52.8	24	29	45	402.6	1020.2
76868 = V1061 Tau, 7.95 to 8.45, V, Type EB/KE, Period 1.385217 days, Phase 11%																																	
22	May	3	20	48	31	Gr	76868	B5	8.0	7.9e		8+	33 11	** GRAZE: CA 4.4N; Dist.109km in az. 38deg. [Lat = 53.25-0.49(E.Long-5.00)]																			
22	May	3	21	2	14.6	D	76885	kF2	7.8	7.6		8+	33 9	298	57S	115	78	119	+0.1	-2.2	-0.5	-1.8	.468	-28.7		5	0	24.3	24	9	46	402.9	1043.4
*** A light curve is desired as 76885 is in the Kepler2 program {ID = 247764363}																																	
22	May	3	21	58	19.6	d	76916	kB9	8.6	8.5		8+	34 2	308	85S	86	54	91	+0.1	-2.2	-0.5	-1.1	.565	-0.4		5	2	45.1	24	19	1	403.7	1105.8
*** A light curve is desired as 76916 is in the Kepler2 program {ID = 247786632}																																	
22	May	3	21	59	45.8	d	76911	pG5	8.9	8.5		8+	34 2	308	47N	39	7	44	+0.1	-2.2	-0.1	-0.3	.387	46.8		5	2	24.8	24	29	34	403.8	1107.7
*** A light curve is desired as 76911 is in the Kepler2 program {ID = 247812100}																																	
76911 is double: ** 9.7 9.7 0.020" 282.0, dT = -0.02sec																																	
76911 has been reported as non-instantaneous (OCc1037). Observations are highly desired																																	
22	May	4	20	11	54.8	D	77622	A3	7.6	7.5		14+	44 -9	25	281	66N	62	20	62	-1.1	-3.4	+0.5	-0.9	.411	30.3		5	50	47.8	26	3	16	402.4	930.1
22	May	4	21	30	2.8	D	77682	cB1	8.4	8.3v		14+	44 13	295	43S	134	95	133	-1.2	-3.4	-0.7	-2.2	.392	-41.5		5	53	31.1	25	44	32	403.6	1024.6
77682 is double: ** 9.2 9.2 0.030" 236.0, dT = -0.02sec																																	
77682 has been reported as non-instantaneous (OCc1045). Observations are highly desired																																	
77682 = V1167 Tau, 8.36 to 8.62, Hp, Type BE																																	
22	May	4	23	13	11.6	D	900	cB1	4.8	4.9		15+	45 1	313	76N	73	44	73	-1.2	-3.4	-0.5	-0.9	.551	17.9		5	57	59.7	25	57	14	405.0	1136.9
R900 = 139 Tauri																																	
900 is double: ** 5.6 5.6 0.060" 221.0, dT = -0.09sec																																	
900 has been reported as non-instantaneous (OCc1048). Observations are highly desired																																	
22	May	5	20	59	25.1	D	78708	A0	8.8	8.8		21+	55 25	281	67S	115	73	110	-2.4	-4.4	-0.1	-2.0	.460	-16.6		6	45	32.9	26	15	22	402.5	937.5
22	May	5	21	39	34.5	D	78736	K2	8.4	7.8		22+	55 19	288	89S	94	53	88	-2.5	-4.4	-0.1	-1.5	.502	5.0		6	47	6.5	26	17	51	403.1	985.9
22	May	5	21	56	5.0	D	78744	A0	8.5	8.4		22+	55 17	291	51S	131	91	126	-2.5	-4.4	-0.5	-2.0	.432	-32.9		6	47	27.5	26	7	46	403.3	1005.9
22	May	5	23	16	19.8	D	78792	K0	8.3	7.7		22+	56 7	305	62N	65	31	59	-2.5	-4.4	-0.3	-0.9	.471	32.6		6	50	47.9	26	17	58	404.4	1096.9
22	May	5	23	45	3.2	d	78817	K7	8.6	7.8		22+	56 3	310	74N	77	45	71	-2.5	-4.4	-0.5	-1.0	.538	20.4		6	52	4.4	26	13	6	404.8	1126.3
22	May	8	19	56	25.1	D	80764	cK2	7.8	7.0v		48+	88 -6	51	229	84N	102	72	84	-5.6	-6.2	+1.2	-1.4	.389	14.4		9	19	39.5	20	32	47	394.1	768.0
80764 is double: ** 7.8 10.7 0.042" 73.0, dT = +0.09sec																																	
80764 has been reported as non-instantaneous (OCc1108). Observations are highly desired																																	
80764 = HIP 45747, 7.77, range 0.01, 2V, Type VAR, Period 6.12595 days																																	

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      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
 y   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

22 May  8 20 29 47.7 D   80772 K5  8.7  7.9   48+  88 -10 46 238  89N 107  73  89 -5.7 -6.2 +1.0-1.7 .409    9.8      9 20 30.3  20 25 32 394.3 794.2
22 May  8 23  7 46.3 D    1393 G7  6.5  6.0   49+  89     23 273  57S 141 100 123 -6.0 -6.0 -0.2-2.1 .444  -26.6      9 24 45.3  19 47 12 396.0 954.7
22 May  9 20 56  9   M   98979 G5  8.3  7.8S  58+ 100     46 230   9N  31   1  10 -6.4 -6.1 +9.9+9.9 .000   90.0     10 10  7.5  16 31  0 389.9 795.7
     98979 = NSV 18342, 8.34, , Type VAR:
22 May  9 20 58  6   Gr  98979 G5  8.3  7.8S  58+ 100     46 ** GRAZE: CA  9.4N; Dist. 79km in az. 233deg. [Lat = 50.82-0.80(E.Long-5.00)]
22 May  9 21 12  6.3 D   98983wK2  8.4  8.0   58+ 100     43 234  62S 140 109 119 -6.5 -6.1 +0.6-2.2 .403  -19.3     10 10 39.7  16  2 15 390.0 807.5
     98983 is double: AB 7.0 10.4 18.6" 302.1, dT = -44sec
22 May 11 20 35 53.2 d  119032 F5  8.4  8.2   78+ 123 -10 43 189  40S 166 160 143 -6.8 -5.1 +0.4-2.1 .325  -40.0     11 45 40.8   5 30  1 379.0 779.1
22 May 11 20 58 23.9 d  119045dK0  8.9  8.4   78+ 124     42 197  86S 120 110  97 -6.8 -5.1 +1.2-1.2 .425    5.9     11 46 51.4   5 31 51 379.0 784.5
    119045 is double: AB 9.0 13.3 5.1"  66.1, dT = +7sec
    119045 is a close double. Observations are highly desired
22 May 11 21 20 45.2 d  119051cK0  8.8  8.2   78+ 124     41 204  72S 134 119 111 -6.9 -5.1 +1.0-1.5 .426   -8.2     11 47 13.3   5 23 12 379.0 791.9
    119051 is double: ** 9.5 9.5 0.10"  90.0, dT = +0.17sec
    119051 has been reported as non-instantaneous (OCc 102). Observations are highly desired
22 May 11 22 30  4.7 D    1709 K0  6.6  6.0   78+ 124     35 224  85N 111  85  88 -7.0 -5.0 +1.1-1.5 .437   13.8     11 49  7.1   5 11  0 379.2 826.9
22 May 13  0 59 55.9 D    1821SF0  2.8     s  87+ 138     17 245  53N  79  45  57 -6.8 -3.7 +0.8-1.5 .377   41.5     12 41 39.6 - 1 26 58 374.5 914.6
   R1821 = Porrima = gamma Virginis
      1821 is multiple: AB 3.48 3.53 3.20" 354.6, dT = +0.8sec : AC 3.5 15.1 99" 116.1, dT = +210sec : AD 3.5 12.1 182"  91.1, dT = +472sec : AE 3.5 8.
      1821 is a close double. Observations are highly desired
      1821 = NSV 5859, 2.452, range 0.72, 6Ic, Type VAR
22 May 13  1  0 37.1 D X 54027SF0  3.5  3.3s  87+ 138     17 245  53N  79  45  57 -6.8 -3.7 +0.8-1.5 .374   42.1     12 41 39.8 - 1 26 58 374.5 915.2
   X 54027 is multiple: BA 3.5 3.5 3.2" 174.6, dT = -0.9sec : BD 3.5 12.1 191"  98.2, dT = +482sec : BE 3.5 8.9 259" 166.4, dT = +27sec : BF 3.5 9.5 41
   X 54027 is a close double. Observations are highly desired
   X 54027 = NSV 5859, 2.452, range 0.72, 6Ic, Type VAR
22 May 13  1 46 45.1 R    1821SF0  2.8     s  87+ 138     10 255 -45N 341 304 319 -6.8 -3.6 +0.2-2.1 .395  138.5     12 41 39.6 - 1 26 58 375.0 960.8
   R1821 = Porrima = gamma Virginis
      1821 is multiple: AB 3.48 3.53 3.20" 354.6, dT = -8sec : AC 3.5 15.1 99" 116.1, dT = +178sec : AD 3.5 12.1 182"  91.1, dT = +161sec : AE 3.5 8.9
      1821 is a close double. Observations are highly desired
      1821 = NSV 5859, 2.452, range 0.72, 6Ic, Type VAR
22 May 13  1 47  1.1 r X 54027SF0  3.5  3.3s  87+ 138     10 255 -45N 341 304 319 -6.8 -3.6 +0.2-2.1 .392  137.9     12 41 39.8 - 1 26 58 375.0 961.1
   X 54027 is multiple: BA 3.5 3.5 3.2" 174.6, dT = +8sec : BD 3.5 12.1 191"  98.2, dT = +222sec : BE 3.5 8.9 259" 166.4, dT = +658sec : BF 3.5 9.5 418
   X 54027 is a close double. Observations are highly desired
   X 54027 = NSV 5859, 2.452, range 0.72, 6Ic, Type VAR
22 May 13 20 34 36.4 d  139327 K2  8.0  7.2   93+ 149  -9 30 161  77S 129 140 108 -5.6 -2.8 +1.0-0.3 .462   -3.1     13 24 48.3 - 6 50 25 368.5 826.4
22 May 14  0 32  2.5 d  139377kK5  8.0  7.2   94+ 151     20 225  76S 129 102 108 -6.0 -2.3 +0.9-1.6 .477   -7.6     13 30 53.9 - 7 51 48 368.6 859.8
   *** A light curve is desired as  139377 is in the Kepler2 program {ID = 212716078}
22 May 14 21 37  3.5 D    2053SA1  4.5  4.5s  98+ 163     24 166  56S 145 154 127 -4.5 -1.1 +0.8-0.6 .439  -21.8     14 19  6.6 -13 22 16 364.0 835.6
   R2053 = lambda Virginis
      2053 is quadruple: AB 4.5           13.0, dT = 0.00sec :  4.5           13.0, dT = 0.00sec : AB 4.9 6.3 0.017" 208.2, dT = +0.02sec
      2053 is a close double. Observations are highly desired
      2053 = NSV 6621, 4.52 to 4.55, V
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      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
 y   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

22 May 14 22 42   0.7 r     2053SA1  4.5  4.5s  98+ 163     25 183 -80S 280 278 263 -4.6 -0.9 +1.5-0.3 .432 -158.3     14 19  6.6 -13 22 16 363.7 819.6
   R2053 = lambda Virginis
      2053 is quadruple: AB 4.5            13.0, dT = 0.00sec :  4.5            13.0, dT = 0.00sec : AB 4.9 6.3 0.017" 208.2, dT = -0.01sec
      2053 is a close double. Observations are highly desired
      2053 = NSV 6621, 4.52 to 4.55, V
22 May 15  0 47 43.9 d  158546 K0  7.3  6.8   98+ 164     18 214  73S 127 106 110 -4.8 -0.7 +1.0-1.4 .471   -9.2     14 24 35.9 -14  4 53 364.0 843.0
22 May 17  0 32 11.1 r  184337 B6  7.0  7.0   99- 168     14 182  55N 325 324 317 -1.6 +2.8 +1.0-0.6 .381  144.3     16 21 19.2 -23 42 29 359.0 816.1
   Distance of 184337 to Terminator = 14.2"; to 3km sunlit peak = 4.7"
22 May 24  2 28 40.8 r    3458 K0  6.2  5.5   36-  73  -8  6 112  39N 296 331 319 +6.9 +7.0 +0.5+1.4 .301  127.8     23 29  0.6 - 9 15 58 382.1 910.3
22 Jun  1 21 31  1.0 d   78468cA2  8.2  8.1    5+  26 -11  4 309  83S  94  61  90 -1.5 -4.1 -0.5-1.2 .567    1.5      6 32 15.3  26 11  6 405.71117.0
     78468 is double: ** 8.8 8.8 0.10"  90.0, dT = +0.18sec
     78468 has been reported as non-instantaneous (OCc  63). Observations are highly desired
22 Jun  3 22 55 59.0 D   80105 A0  7.9  7.9   17+  49      4 304  77N  87  53  73 -4.1 -5.5 -0.5-1.2 .540   18.5      8 20  0.7  23 48 34 404.1111 6.8
22 Jun  4 21  8 54.9 d  80626 K0  8.7  8.1   24+  59  -9 23 275  42S 152 111 135 -5.2 -5.9 -0.3-2.3 .382  -39.1      9  5 52.8  21  3 15 400.0 953.8
22 Jun  4 21 51 56.1 D   80648 K0  8.7  8.2   24+  59     17 283  73S 121  81 104 -5.2 -5.9 -0.2-1.8 .510   -9.0      9  7 43.5  21  0 32 400.6 1002.4
22 Jun  5 21 35 57.0 d    1456 F2  8.4  8.2   33+  70 -11 23 269  36N  54  14  34 -6.2 -6.0 +1.0-1.0 .226   62.4      9 55 56.0  17 32 29 396.7 940.1
22 Jun  7 21 13 28.5 D    1669pF5  6.7  6.5   53+  93  -9 31 238  58N  82  50  59 -7.4 -5.2 +1.2-1.4 .338   41.5     11 29 40.0   7 35 58 386.5 844.9
   *** A light curve is desired as    1669 is in the Kepler2 program {ID = 201913061}
     1669 is double: AB 6.8 13.1 17.9" 282.8, dT = -49sec
22 Jun  8 21 39 35.4 d  119305pA2  8.9     v  63+ 105 -11 28 230  52N  76  48  54 -7.6 -4.3 +1.5-1.2 .308   47.4     12 17  7.6   1 42 45 380.8 838.6
   *** A light curve is desired as  119305 is in the Kepler2 program {ID = 201578486}
    119305 is double: AB 8.94 12.46 1.91" 176.0, dT = -1sec
    119305 is a close double. Observations are highly desired
    119305 = HD 106832A, 9.0, range 0.00, 4CR, Type DSCT, Period 0.042765 days
22 Jun  8 22 11 53.9 D    1767kA2  7.6  7.5   63+ 105     24 238  52N  77  45  54 -7.7 -4.2 +1.2-1.4 .324   46.1     12 17 57.5   1 34 31 381.1 863.1
   *** A light curve is desired as    1767 is in the Kepler2 program {ID = 201569326}
22 Jun  8 22 57 41.7 d  119325kK0  7.6  7.1   64+ 106     18 248  77S 127  92 104 -7.7 -4.2 +0.5-1.9 .485   -5.7     12 19  1.0   1  9 57 381.6 902.6
   *** A light curve is desired as  119325 is in the Kepler2 program {ID = 201541836}
22 Jun  9 22 36 11.3 d  139157kK0  8.3  7.7v  74+ 118     21 230  77S 126  98 105 -7.4 -3.0 +0.8-1.7 .468   -4.3     13  6 26.0 - 4 50 45 375.1 852.9
   *** A light curve is desired as  139157 is in the Kepler2 program {ID = 251498896}
    139157 = IS Vir, 8.432, range 0.05, 4V, Type RS, Period 23.50 days
22 Jun 10  1  0 25.8 D    1891SA1  4.4        74+ 119      1 259  31S 172 135 152 -7.6 -2.8 +0.2-2.4 .301  -56.0     13  9 57.0 - 5 32 20 376.6 985.1
   R1891 = Apami-Atsa = theta Vir.
      1891 is quadruple: Aa,Ab 4.49 6.83 0.39" 358.5, dT = -1.3sec : AB 4.4 9.4 6.8" 342.1, dT = -22sec : AC 4.4 10.4 72" 300.0, dT = -145sec
      1891 is a close double. Observations are highly desired
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