

AL Double Stars Observing List, evening of 2015 Oct 15 at Cleveland, Ohio

Sunset 17:49, Twilight ends 19:18, Twilight begins 05:07, Sunrise 06:36, Moon rise 09:51, Moon set 19:35

Completely dark from 19:35 to 05:07. Waxing Crescent Moon. All times local (EST).

Listing All Classes visible above the perfect horizon and in twilight or moonlight before 23:59.

| Cls | Primary ID | Alternate ID | Con | RA (Ap) | Dec (Ap) | Mag | Size | Distance | Rise | Transit | Set |
|------|-----------------|--------------|-----|-------------|------------|-----|------|----------|-------|---------|-------|
| DVar | Polaris | Alpha UMi | UMi | 02h52m56.5s | +89°19'46" | 2 | | 430 ly | - | 1:42 | - |
| Doub | HR 4893 | HD 112028 | Cam | 12h49m07.5s | +83°19'36" | 5.4 | | 300 ly | - | 11:36 | - |
| DVar | 41 Dra | HR 6810 | Dra | 17h58m55.3s | +80°00'43" | 5.7 | | 170 ly | - | 16:49 | - |
| Bin | Psi 1 Dra | 31 Dra | Dra | 17h41m39.3s | +72°09'23" | 5.8 | | 73 ly | - | 16:32 | - |
| DVar | Alfirk | Beta Cep | Cep | 21h28m54.5s | +70°38'12" | 3.2 | | 590 ly | - | 20:19 | - |
| Bin | HD 209790 | HIP 108917 | Cep | 22h04m16.3s | +64°42'40" | 6.3 | | 110 ly | - | 20:54 | - |
| Bin | 12 Lyn | HR 2470 | Lyn | 06h47m37.9s | +59°25'05" | 4.9 | | 230 ly | - | 5:36 | - |
| DVar | Delta Cep | 27 Cep | Cep | 22h29m48.1s | +58°30'06" | 3.9 | | 980 ly | - | 21:19 | - |
| BVar | Achird | Eta Cas | Cas | 00h50m06.8s | +57°54'00" | 3.6 | | 19 ly | - | 23:39 | - |
| DVar | HR 8281 | HD 206267 | Cep | 21h39m29.0s | +57°34'02" | 5.7 | | 1200 ly | - | 20:29 | - |
| DVar | Miram | Eta Per | Per | 02h51m54.3s | +55°57'29" | 3.8 | | 1300 ly | - | 1:41 | - |
| Doub | HD 224572 | SAO 35947 | Cas | 23h59m51.7s | +55°50'47" | 7.1 | | | - | 22:49 | - |
| Doub | 19 Lyn | HR 2783 | Lyn | 07h24m07.5s | +55°14'51" | 6.9 | | 360 ly | - | 6:12 | - |
| DVar | Kuma | Nu 2 Dra | Dra | 17h32m33.4s | +55°10'12" | 4.9 | | 100 ly | - | 16:23 | - |
| BVar | Mizar | Zeta UMa | UMa | 13h24m30.5s | +54°50'43" | 2.1 | | 78 ly | - | 12:16 | - |
| Bin | Mu Dra | 21 Dra | Dra | 17h05m38.2s | +54°27'24" | 5.8 | | 88 ly | - | 15:56 | - |
| DVar | 1 Cam | DL Cam | Cam | 04h33m19.0s | +53°56'22" | 5.8 | | | - | 3:22 | - |
| Doub | 17 Dra | HR 6185 | Dra | 16h36m34.4s | +52°53'59" | 5.1 | | 400 ly | - | 15:27 | - |
| Doub | HR 890 | HD 18537 | Per | 03h02m02.7s | +52°24'41" | 5.2 | | 800 ly | - | 1:51 | - |
| DVar | Asellus Tertius | Kappa 2 Boo | Boo | 14h14m00.2s | +51°43'12" | 4.5 | | 160 ly | - | 13:05 | - |
| DVar | Iota Boo | 21 Boo | Boo | 14h16m40.8s | +51°17'54" | 4.8 | | 97 ly | - | 13:08 | - |
| DVar | 31 Cyg | V695 Cyg | Cyg | 20h14m08.3s | +46°47'49" | 3.7 | | 1400 ly | 7:45 | 19:04 | 6:19 |
| Bin | Almaak | Gamma 1 And | And | 02h04m54.6s | +42°24'16" | 2.1 | | 350 ly | 15:05 | 0:54 | 10:43 |
| DVar | 8 Lac | HR 8603 | Lac | 22h36m36.1s | +39°43'16" | 5.7 | | 640 ly | 12:06 | 21:26 | 6:46 |
| Bin | Epsilon 1 Lyr | 4 Lyr | Lyr | 18h44m51.4s | +39°41'41" | 4.7 | | 160 ly | 8:11 | 17:35 | 2:55 |
| BVar | 61 Cyg | HR 8086 | Cyg | 21h07m38.6s | +38°49'35" | 6 | | 11 ly | 10:42 | 19:58 | 5:09 |
| DVar | Cor CAROLI | Alpha 2 CVn | CVn | 12h56m43.7s | +38°14'06" | 2.9 | | 110 ly | 2:37 | 11:44 | 20:55 |
| DVar | Zeta 1 Lyr | 6 Lyr | Lyr | 18h45m18.7s | +37°37'47" | 4.4 | | 150 ly | 8:30 | 17:36 | 2:37 |
| BVar | Alkalurops | Mu 1 Boo | Boo | 15h25m03.5s | +37°19'39" | 4.3 | | 120 ly | 5:13 | 14:16 | 23:15 |
| DVar | Theta Aur | 37 Aur | Aur | 06h00m48.5s | +37°12'30" | 2.7 | | 170 ly | 19:51 | 4:49 | 13:51 |
| Doub | Rho Her | 75 Her | Her | 17h24m12.4s | +37°08'23" | 5.4 | | | 7:13 | 16:15 | 1:12 |
| Doub | 38 Lyn | HR 3690 | Lyn | 09h19m48.2s | +36°43'56" | 3.8 | | 120 ly | 23:13 | 8:08 | 17:06 |
| Doub | Zeta 2 CrB | 7 CrB | CrB | 15h39m56.7s | +36°35'26" | 4.6 | | 470 ly | 5:33 | 14:31 | 23:24 |
| DVar | HR 7140 | HD 175635 | Lyr | 18h55m27.0s | +33°59'48" | 6 | | 1300 ly | 9:07 | 17:46 | 2:20 |
| BVar | Sigma CrB | 17 CrB | CrB | 16h15m14.9s | +33°49'31" | 5.7 | | 71 ly | 6:28 | 15:06 | 23:39 |
| DVar | Sheliak | Beta Lyr | Lyr | 18h50m39.5s | +33°23'20" | 3.2 | | 880 ly | 9:06 | 17:41 | 2:12 |
| DVar | Delta Boo | 49 Boo | Boo | 15h16m06.7s | +33°15'42" | 3.5 | | 120 ly | 5:33 | 14:07 | 22:37 |
| Bin | Castor | Alpha Gem | Gem | 07h35m36.0s | +31°50'56" | 1.6 | | 52 ly | 22:03 | 6:24 | 14:49 |
| DVar | 6 Tri | TZ Tri | Tri | 02h13m19.2s | +30°22'35" | 5.2 | | 310 ly | 16:50 | 1:02 | 9:15 |
| BVar | Albireo | Beta 1 Cyg | Cyg | 19h31m21.5s | +28°00'01" | 3.1 | | 390 ly | 10:18 | 18:21 | 2:21 |
| Doub | 65 Psc | HR 231 | Psc | 00h50m45.9s | +27°47'52" | 7 | | 350 ly | 15:42 | 23:40 | 7:38 |
| Doub | Izar | Epsilon Boo | Boo | 14h45m38.9s | +27°00'45" | 2.4 | | 210 ly | 5:39 | 13:37 | 21:30 |

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|------|----------------|-------------|-----|-------------|------------|-----|---------|-------|-------|-------|
| DVar | Chi Tau | 59 Tau | Tau | 04h23m33.8s | +25°39'48" | 5.4 | 270 ly | 19:25 | 3:12 | 10:59 |
| DVar | 118 Tau | HR 1821 | Tau | 05h30m15.6s | +25°09'33" | 5.5 | 430 ly | 20:34 | 4:19 | 12:07 |
| DVar | Sarin | Delta Her | Her | 17h15m39.9s | +24°49'40" | 3.1 | 78 ly | 8:19 | 16:06 | 23:49 |
| Doub | Lambda Ari | 9 Ari | Ari | 01h58m50.2s | +23°40'22" | 4.8 | 130 ly | 17:10 | 0:48 | 8:25 |
| Bin | Wasat | Delta Gem | Gem | 07h21m03.8s | +21°56'59" | 3.5 | 59 ly | 22:40 | 6:09 | 13:43 |
| DVar | 95 Her | HR 6730 | Her | 18h02m10.0s | +21°36'10" | 4.3 | 470 ly | 9:21 | 16:53 | 0:21 |
| DVar | Psi 1 Psc | 74 Psc | Psc | 01h06m33.4s | +21°33'32" | 5.3 | 240 ly | 16:28 | 23:56 | 7:24 |
| Doub | Gamma 1 Ari | HR 545 | Ari | 01h54m25.4s | +19°22'24" | 4.6 | 140 ly | 17:25 | 0:44 | 8:02 |
| BVar | Xi Boo | 37 Boo | Boo | 14h52m05.6s | +19°02'24" | 4.6 | 22 ly | 6:22 | 13:43 | 21:00 |
| Doub | 24 Com | HR 4791 | Com | 12h35m52.3s | +18°17'32" | 6.6 | 2600 ly | 4:09 | 11:23 | 18:41 |
| Doub | Kappa Her | 7 Her | Her | 16h08m46.6s | +17°01'06" | 6.2 | 470 ly | 7:47 | 14:59 | 22:08 |
| DVar | Pi 1 Boo | 29 Boo | Boo | 14h41m26.6s | +16°21'20" | 4.5 | 320 ly | 6:23 | 13:32 | 20:38 |
| Bin | Gamma 2 Del | 12 Del | Del | 20h47m23.9s | +16°11'14" | 3.9 | 100 ly | 12:32 | 19:37 | 2:42 |
| Bin | Rasalgethi | Alpha 1 Her | Her | 17h15m21.2s | +14°22'44" | 3.1 | 380 ly | 9:04 | 16:06 | 23:04 |
| Doub | HR 7099 | HD 174569 | Aql | 18h51m29.8s | +11°00'05" | 6.4 | 1900 ly | 10:53 | 17:42 | 0:27 |
| BVar | Delta Ser | 13 Ser | Ser | 15h35m32.2s | +10°29'30" | 4.2 | 210 ly | 7:39 | 14:26 | 21:09 |
| DVar | Enif | Epsilon Peg | Peg | 21h44m58.4s | +09°57'08" | 2.1 | 670 ly | 13:54 | 20:35 | 3:16 |
| DVar | Meissa | Lambda Ori | Ori | 05h36m01.1s | +09°56'32" | 3.4 | 1100 ly | 21:43 | 4:24 | 11:06 |
| DVar | Zeta Psc | 86 Psc | Psc | 01h14m36.1s | +07°39'45" | 6.4 | 200 ly | 17:31 | 0:04 | 6:36 |
| Doub | Epsilon Mon | 8 Mon | Mon | 06h24m36.6s | +04°34'58" | 4.3 | 130 ly | 22:51 | 5:13 | 11:35 |
| DVar | Theta 1 Ser | 63 Ser | Ser | 18h57m00.0s | +04°13'48" | 4.1 | 130 ly | 11:23 | 17:47 | 0:08 |
| Doub | Kaffaljidhma | Gamma Cet | Cet | 02h44m08.4s | +03°18'07" | 3.5 | 82 ly | 19:16 | 1:33 | 7:50 |
| BVar | Alrisha | Alpha Psc | Psc | 02h02m53.1s | +02°50'24" | 3.8 | 140 ly | 18:37 | 0:52 | 7:07 |
| BVar | 70 Oph | V2391 Oph | Oph | 18h06m14.5s | +02°30'10" | 4.2 | 17 ly | 10:39 | 16:57 | 23:11 |
| Bin | Zeta 1 Aqr | 55 Aqr | Aqr | 22h29m39.4s | +00°03'51" | 3.7 | 100 ly | 15:14 | 21:19 | 3:25 |
| DVar | Delta Ori | 34 Ori | Ori | 05h32m49.5s | -00°16'28" | 6.8 | | 22:17 | 4:21 | 10:26 |
| BVar | Alnitak | Zeta Ori | Ori | 05h41m33.9s | -01°56'08" | 1.8 | 820 ly | 22:32 | 4:30 | 10:28 |
| BVar | Sigma Ori | 48 Ori | Ori | 05h39m32.9s | -02°35'32" | 3.8 | 1100 ly | 22:32 | 4:28 | 10:24 |
| Doub | 32 Eri | HR 1211 | Eri | 03h55m06.0s | -02°54'26" | 6.1 | 1400 ly | 20:49 | 2:44 | 8:39 |
| DVar | HR 1895 | HD 37022 | Ori | 05h36m03.6s | -05°22'49" | 5.1 | | 22:38 | 4:25 | 10:11 |
| DVar | Theta 2 Ori | 43 Ori | Ori | 05h36m10.0s | -05°24'24" | 5 | 1900 ly | 22:38 | 4:25 | 10:11 |
| DVar | Nair al Saif | Iota Ori | Ori | 05h36m12.9s | -05°54'02" | 2.8 | 1300 ly | 22:40 | 4:25 | 10:09 |
| DVar | HR 1887 | HD 36960 | Ori | 05h35m49.6s | -05°59'33" | 4.8 | 1900 ly | 22:40 | 4:24 | 10:08 |
| Doub | 57 Aql | HR 7593 | Aql | 19h55m28.8s | -08°10'54" | 5.7 | 330 ly | 13:09 | 18:46 | 0:22 |
| DVar | Rigel | Beta Ori | Ori | 05h15m18.5s | -08°11'03" | 0.2 | 770 ly | 22:28 | 4:04 | 9:40 |
| Doub | 55 Eri | HR 1506 | Eri | 04h44m21.5s | -08°46'03" | 6 | 410 ly | 21:59 | 3:33 | 9:07 |
| Bin | Xi Sco | HR 5978 | Sco | 16h05m13.3s | -11°24'43" | 4.2 | 96 ly | 9:28 | 14:56 | 20:20 |
| Doub | HD 144087 | SAO 159668 | Sco | 16h05m17.1s | -11°29'17" | 7.4 | 92 ly | 9:28 | 14:56 | 20:20 |
| DVar | Alpha 1 Cap | 5 Cap | Cap | 20h18m31.3s | -12°27'20" | 4.3 | 690 ly | 13:48 | 19:09 | 0:29 |
| Bin | 94 Aqr | HR 8866 | Aqr | 23h19m57.2s | -13°22'14" | 5.2 | 68 ly | 16:52 | 22:09 | 3:27 |
| DVar | Dabih | Beta Cap | Cap | 20h21m53.9s | -14°43'40" | 3.1 | 340 ly | 14:00 | 19:12 | 0:24 |
| DVar | Zuben Elgenubi | Alpha 2 Lib | Lib | 14h51m44.0s | -16°06'11" | 2.8 | 77 ly | 8:32 | 13:43 | 18:49 |
| Doub | Nu Sco | 14 Sco | Sco | 16h12m52.6s | -19°29'13" | 6.5 | | 10:06 | 15:04 | 19:57 |
| BVar | Graffias | Beta 1 Sco | Sco | 16h06m20.4s | -19°50'40" | 2.6 | 530 ly | 10:01 | 14:57 | 19:49 |
| Doub | Omicron Oph | 39 Oph | Oph | 17h18m57.7s | -24°18'01" | 5.1 | 360 ly | 11:33 | 16:09 | 20:42 |
| Bin | 36 Oph | HR 6402 | Oph | 17h16m18.2s | -26°37'16" | 4.3 | 20 ly | 11:41 | 16:07 | 20:29 |