UT Date 2004-10-31 Observers P Berlind
Coll. Focus 1020 Grating/Grism $\qquad$ 600

| File | Exp <br> Time | $\begin{aligned} & \text { UT } \\ & \text { Start } \end{aligned}$ | $R A$ | Dec | Gr. | P.A. | Slit | Program | Bir | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0001.BIAS | 0 | 3:58 | 23:13:36.2 | +31:28:10 | 300 | 90 | 3.0 | \#141 Mapping t | 4 |  |
| 0002.BIAS | 1 | 3:58 | 23:13:49.1 | +31:28:10 | 300 | 90 | 3.0 | \#141 Mapping t | 4 |  |
| 0003.COMP | 5 | 3:59 | 23:14:19.2 | +31:28:09 | 300 | 90 | 3.0 | \#141 Mapping t | 4 |  |
| 0004.COMP | 10 | 3:59 | 23:14:57.8 | +31:28:09 | 300 | 90 | 3.0 | \#141 Mapping t | 2 |  |
| 0005.COMP | 20 | 4:00 | 23:15:58.8 | +31:28:09 | 300 | 90 | 3.0 | \#141 Mapping t | 1 |  |
| 0006.COMP | 5 | 4:03 | 23:18:34.7 | +31:28:09 | 300 | 90 | 3.0 | \#141 Mapping t | 4 |  |
| 0007.COMP | 5 | 4:05 | 23:20:31.9 | +31:28:09 | 300 | 20 | 3.0 | \#141 Mapping t | 4 |  |
| 0008.test | 10 | 4:13 | 23:28:33.2 | +31:28:08 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0009.test | 10 | 4:15 | 23:30:34.2 | +31:28:08 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0010.test | 10 | 4:19 | 23:34:37.8 | +31:28:08 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0011.test | 10 | 4:21 | 23:36:38.5 | +31:28:08 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0012.test | 10 | 4:23 | 23:38:36.3 | +31:28:08 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0013.test | 1 | 4:24 | 23:39:53.7 | +31:28:08 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0014-0030.BIAS | 0 | 4:28 | 23:43:09.4 | +31:28:08 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0031.FLAT | 24 | 4:28 | 23:44:05.5 | +31:28:08 | 600 | 90 | 2.0 | \#122 Halo Star |  | 600-line, 2 -sec, Warren |
| 0032-0040.FLAT | 24 | 4:33 | 23:48:42.8 | +31:28:08 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0041.BDp284211 | 120 | 4:41 | 21:48:57.1 | 28:37:48 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0042.BDp284211 | 120 | 4:44 | 21:48:57.1 | 28:37:48 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0043.COMP | 10 | 4:46 | 21:48:57.1 | 28:37:48 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0044.hs2988 | 360 | 4:48 | 23:53:44.7 | 20:06:04 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |

UT Date 2004-10-31 Observers P Berlind
Coll. Focus 1020 Grating/Grism $\qquad$ 00

| File | Exp <br> Time | $\underset{\text { Start }}{U T}$ | $R A$ | Dec | Gr. | P.A. | Slit | Program | Bir | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0045.COMP | 10 | 4:54 | 23:53:44.7 | 20:06:04 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0046.hs2989 | 720 | 4:55 | 23:53:53.6 | 25:54:04 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0047. COMP | 10 | 5:07 | 23:53:53.6 | 25:54:04 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0048.hs2990 | 480 | 5:08 | 23:55:04.5 | 25:17:05 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0049.COMP | 10 | 5:16 | 23:55:04.5 | 25:17:05 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0050.hs2991 | 240 | 5:17 | 23:55:06.9 | 16:32:39 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0051.COMP | 10 | 5:21 | 23:55:06.9 | 16:32:39 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0052.hs2992 | 540 | 5:22 | 23:55:11.3 | 17:34:14 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0053.COMP | 10 | 5:31 | 23:55:11.3 | 17:34:14 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0054.hs2995 | 540 | 5:32 | 23:55:32.9 | 26:12:01 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0055.COMP | 10 | 5:41 | 23:55:32.9 | 26:12:01 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0056.hs2993 | 360 | 5:42 | 23:55:16.1 | 16:15:53 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0057.COMP | 10 | 5:49 | 23:55:16.1 | 16:15:53 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0058.hs2994 | 300 | 5:49 | 23:55:17.3 | 18:20:15 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0059.COMP | 10 | 5:55 | 23:55:17.3 | 18:20:15 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0060.hs2996 | 180 | 5:56 | 23:55:55.9 | 22:13:19 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0061.COMP | 10 | 5:59 | 23:55:55.9 | 22:13:19 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0062.hs2997 | 300 | 6:00 | 23:56:29.5 | 19:12:09 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0063.COMP | 10 | 6:05 | 23:56:29.5 | 19:12:09 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0064.hs2998 | 720 | 6:06 | 23:57:28.4 | 18:15:47 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |

UT Date 2004-10-31 Observers P Berlind
Coll. Focus 1020 Grating/Grism $\qquad$ 00

| File | Exp <br> Time | $\begin{gathered} U T \\ \text { Start } \end{gathered}$ | $R A$ | Dec | Gr. | P.A. | Slit | Program | Bir | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0065.COMP | 10 | 6:18 | 23:57:28.4 | 18:15:47 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0066.hs2999 | 180 | 6:19 | 23:57:33.9 | 17:25:05 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0067. COMP | 10 | 6:22 | 23:57:33.9 | 17:25:05 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0068.hs3000 | 300 | 6:23 | 23:57:40.8 | 26:15:48 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0069. COMP | 10 | 6:29 | 23:57:40.8 | 26:15:48 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0070.hs3001 | 720 | 6:29 | 23:57:57.4 | 18:19:07 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0071. COMP | 10 | 6:41 | 23:57:57.4 | 18:19:07 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0072.hs3002 | 240 | 6:42 | 23:58:43.9 | 17:07:59 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0073.COMP | 10 | 6:47 | 23:58:43.9 | 17:07:59 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0074.hs3003 | 360 | 6:48 | 23:58:56.5 | 25:52:50 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0075.COMP | 10 | 6:54 | 23:58:56.5 | 25:52:50 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0076.hs3004 | 180 | 6:55 | 23:59:00.3 | 19:11:05 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0077. COMP | 10 | 6:58 | 23:59:00.3 | 19:11:05 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0078.hs3005 | 360 | 6:59 | 23:59:14.4 | 16:11:44 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0079.COMP | 10 | 7:06 | 23:59:14.4 | 16:11:44 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0080.hs3006 | 420 | 7:06 | 23:59:25.3 | 16:56:41 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0081. COMP | 10 | 7:14 | 23:59:25.3 | 16:56:41 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0082.hs3007 | 420 | 7:16 | 23:59:52.4 | 23:46:42 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0083. COMP | 10 | 7:24 | 23:59:52.4 | 23:46:42 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0084.hs3009 | 240 | 7:25 | 0:00:42.7 | 20:35:06 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |

UT Date 2004-10-31 Observers P Berlind
Coll. Focus 1020 Grating/Grism $\qquad$ -

| File | Exp <br> Time | $\begin{aligned} & U T \\ & \text { Start } \end{aligned}$ | $R A$ | Dec | Gr. | P.A. | Slit | Program | Bir | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0085.COMP | 10 | 7:29 | 0:00:42.7 | 20:35:06 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0086.hs3010 | 300 | 7:30 | 0:00:46.3 | 23:10:26 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0087 . COMP | 10 | 7:36 | 0:00:46.3 | 23:10:26 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0088.hs3011 | 270 | 7:37 | 0:00:54.2 | 23:13:03 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0089. COMP | 10 | 7:42 | 0:00:54.2 | 23:13:03 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0090.hs3012 | 240 | 7:44 | 0:00:56.3 | 17:25:29 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0091.COMP | 10 | 7:48 | 0:00:56.3 | 17:25:29 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0092.hs3013 | 360 | 7:50 | 0:01:19.9 | 19:31:33 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0093. COMP | 10 | 7:57 | 0:01:19.9 | 19:31:33 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0094.hs3014 | 240 | 7:58 | 0:01:29.1 | 16:01:50 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0095.COMP | 10 | 8:03 | 0:01:29.1 | 16:01:50 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0096.hs3015 | 360 | 8:04 | 0:01:31.4 | 18:36:08 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0097 . COMP | 10 | 8:11 | 0:01:31.4 | 18:36:08 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0098.hs3263 | 300 | 8:14 | 1:46:20.4 | 10:36:39 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0099.COMP | 10 | 8:19 | 1:46:20.4 | 10:36:39 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0100.hs3264 | 240 | 8:21 | 1:46:34.7 | 10:06:08 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0101.COMP | 10 | 8:25 | 1:46:34.7 | 10:06:08 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0102.hs3265 | 540 | 8:27 | 1:46:52.0 | 5:44:48 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0103.COMP | 10 | 8:37 | 1:46:52.0 | 5:44:48 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0104.hs3266 | 540 | 8:39 | 1:48:11.2 | 5:15:37 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |

UT Date 2004-10-31 Observers P Berlind
Coll. Focus 1020 Grating/Grism $\qquad$ 600

| File | Exp <br> Time | $\begin{aligned} & \text { UT } \\ & \text { Start } \end{aligned}$ | $R A$ | Dec | Gr. | P.A. | Slit | Program | Bin | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0105.COMP | 10 | 8:49 | 1:48:11.2 | 5:15:37 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0106.hs3267 | 420 | 8:50 | 1:48:28.7 | 5:26:13 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0107. COMP | 10 | 8:58 | 1:48:28.7 | 5:26:13 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0108.hs3268 | 300 | 9:01 | 1:49:36.4 | 14:39:14 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0109.COMP | 10 | 9:06 | 1:49:36.4 | 14:39:14 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0110.hs3269 | 600 | 9:08 | 1:49:42.5 | 9:07:31 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0111. COMP | 10 | 9:18 | 1:49:42.5 | 9:07:31 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0112.hs3270 | 240 | 9:26 | 1:51:17.8 | 8:23:24 | 600 | 40 | 2.0 | \#122 Halo Star | 4 |  |
| 0113.COMP | 10 | 9:31 | 1:51:17.8 | 8:23:24 | 600 | 40 | 2.0 | \#122 Halo Star | 4 |  |
| 0114.hs3271 | 720 | 9:36 | 1:52:40.7 | 6:35:08 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0115.COMP | 10 | 9:50 | 1:52:40.7 | 6:35:08 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0116.hs3272 | 180 | 9:50 | 1:54:59.1 | 11:08:08 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0117. COMP | 10 | 9:54 | 1:54:59.1 | 11:08:08 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0118.hs3273 | 720 | 10:01 | 1:57:42.8 | 11:05:28 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0119.COMP | 10 | 10:13 | 1:57:42.8 | 11:05:28 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0120.hs3274 | 300 | 10:14 | 1:59:44.7 | 12:13:46 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0121.COMP | 10 | 10:20 | 1:59:44.7 | 12:13:46 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0122.hs3431 | 480 | 10:25 | 2:09:08.6 | 15:38:05 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0123. COMP | 10 | 10:33 | 2:09:08.6 | 15:38:05 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0124-0133.BIAS | 0 | 10:40 | 2:09:08.6 | 15:38:05 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |

UT Date 2004-10-31 Observers P Berlind
Coll. Focus 1020 Grating/Grism $\qquad$

| File | Exp Time | $\begin{aligned} & \text { UT } \\ & \text { Start } \end{aligned}$ | $R A$ | Dec | Gr. | P.A. | Slit | Program | Bir | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0134-0143.FLAT | 24 | 10:47 | 2:09:08.6 | 15:38:05 | 600 | 90 | 2.0 | \#122 Halo Star | 4 |  |
| 0144.COMP | 5 | 10:58 | 2:09:08.6 | 15:38:05 | 300 | 90 | 3.0 | \#122 Halo Star |  | 300-line, 3-sec |
| 0145.COMP | 5 | 11:01 | 2:09:08.6 | 15:38:05 | 300 | 90 | 3.0 | \#122 Halo Star | 4 |  |
| 0146. COMP | 5 | 11:04 | 2:09:08.6 | 15:38:05 | 300 | 90 | 3.0 | \#122 Halo Star | 4 |  |
| 0147.COMP | 5 | 11:06 | 2:09:08.6 | 15:38:05 | 300 | 90 | 3.0 | \#122 Halo Star | 4 |  |
| 0148-0157.BIAS | 0 | 11:10 | 2:09:08.6 | 15:38:05 | 300 | 90 | 3.0 | \#122 Halo Star | 4 |  |
| 0158-0167.FLAT | 8 | 11:13 | 2:09:08.6 | 15:38:05 | 300 | 90 | 3.0 | \#122 Halo Star | 4 |  |
| 0168.BIAS | 0 | 11:14 | 2:09:08.6 | 15:38:05 | 300 | 90 | 3.0 | \#122 Halo Star |  | ackkkkk clouds stop |
| 0169-0177.BIAS | 0 | 11:16 | 2:09:08.6 | 15:38:05 | 300 | 90 | 3.0 | \#122 Halo Star | 2 |  |
| 0178-0187.FLAT | 16 | 11:21 | 2:09:08.6 | 15:38:05 | 300 | 90 | 3.0 | \#122 Halo Star | 2 |  |
| 0188-0197. DARK | 900 | 13:57 | 2:09:08.6 | 15:38:05 | 300 | 90 | 3.0 | \#122 Halo Star | 4 |  |
| 0198-0207.DARK | 900 | 16:29 | 2:09:08.6 | 15:38:05 | 300 | 90 | 3.0 | \#122 Halo Star | 2 |  |

