

UT Date 2004-03-30 Observers M CalkinsColl. Focus 980 Grating/Grism 300

| File            | Exp Time | UT Start | RA         | Dec       | Gr. | P.A. | Slit | Program        | Bir | Comments |
|-----------------|----------|----------|------------|-----------|-----|------|------|----------------|-----|----------|
| 0001-0010.DARK  | 900      | 0:39     | 14:17:59.6 | +25:08:12 | 300 | 90   | 3.0  | #57 Velocity S | 4   |          |
| 0011-0020.BIAS  | 0        | 1:45     | 14:17:59.6 | +25:08:12 | 300 | 90   | 3.0  | #57 Velocity S | 4   |          |
| 0021-0030.FLAT  | 6        | 1:47     | 14:17:59.6 | +25:08:12 | 300 | 90   | 3.0  | #57 Velocity S | 4   |          |
| 0031-0040.BIAS  | 0        | 1:50     | 14:17:59.6 | +25:08:12 | 300 | 90   | 3.0  | #57 Velocity S | 2   |          |
| 0041-0050.FLAT  | 12       | 1:54     | 14:17:59.6 | +25:08:12 | 300 | 90   | 3.0  | #57 Velocity S | 2   |          |
| 0051-0055.sky   | 2        | 1:57     | 14:17:59.6 | +25:08:12 | 300 | 90   | 3.0  | #57 Velocity S | 4   |          |
| 0056.COMP       | 5        | 1:58     | 14:17:59.6 | +25:08:12 | 300 | 90   | 3.0  | #57 Velocity S | 4   |          |
| 0057.Hiltner600 | 70       | 2:20     | 06:42:37.2 | 02:11:25  | 300 | 90   | 3.0  | #56 Spectropho | 4   |          |
| 0058.Hiltner600 | 70       | 2:21     | 06:42:37.2 | 02:11:25  | 300 | 90   | 3.0  | #56 Spectropho | 4   |          |
| 0059.COMP       | 5        | 2:23     | 06:42:37.2 | 02:11:25  | 300 | 90   | 3.0  | #56 Spectropho | 4   |          |
| 0060.Hiltner600 | 60       | 2:24     | 06:42:37.2 | 02:11:25  | 300 | 20   | 3.0  | #56 Spectropho | 2   |          |
| 0061.Hiltner600 | 60       | 2:25     | 06:42:37.2 | 02:11:25  | 300 | 20   | 3.0  | #56 Spectropho | 2   |          |
| 0062.COMP       | 12       | 2:27     | 06:42:37.2 | 02:11:25  | 300 | 20   | 3.0  | #56 Spectropho | 2   |          |
| 0063.Akn120     | 360      | 2:29     | 05:13:38.0 | -00:12:15 | 300 | 90   | 3.0  | #6 AGN Monitor | 2   |          |
| 0064.COMP       | 12       | 2:35     | 05:13:38.0 | -00:12:15 | 300 | 90   | 3.0  | #6 AGN Monitor | 2   |          |
| 0065.vso-90742  | 1020     | 2:37     | 05:39:04.2 | +00:57:20 | 300 | 90   | 3.0  | #112 Orion PMS | 2   |          |
| 0066.COMP       | 12       | 2:54     | 05:39:04.2 | +00:57:20 | 300 | 90   | 3.0  | #112 Orion PMS | 2   |          |
| 0067.vso-95436  | 1200     | 2:55     | 05:41:33.6 | +01:08:39 | 300 | 90   | 3.0  | #112 Orion PMS | 2   |          |
| 0068.COMP       | 12       | 3:16     | 05:41:33.6 | +01:08:39 | 300 | 90   | 3.0  | #112 Orion PMS | 2   |          |
| 0069.vso-96025  | 780      | 3:19     | 05:41:49.9 | +01:09:54 | 300 | 90   | 3.0  | #112 Orion PMS | 2   |          |

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|-------------------|----------|----------|------------|-----------|-----|------|------|----------------|-----|----------|
| 0070.COMP         | 12       | 3:32     | 05:41:49.9 | +01:09:54 | 300 | 90   | 3.0  | #112 Orion PMS | 2   |          |
| 0071.vso-96032    | 1200     | 3:49     | 05:41:52.1 | +01:21:55 | 300 | 90   | 3.0  | #112 Orion PMS | 2   |          |
| 0072.COMP         | 12       | 4:09     | 05:41:52.1 | +01:21:55 | 300 | 90   | 3.0  | #112 Orion PMS | 2   |          |
| 0073.vso-96057    | 1200     | 4:11     | 05:41:52.9 | +01:23:07 | 300 | 90   | 3.0  | #112 Orion PMS | 2   |          |
| 0074.COMP         | 12       | 4:31     | 05:41:52.9 | +01:23:07 | 300 | 90   | 3.0  | #112 Orion PMS | 2   |          |
| 0075.BGGem        | 300      | 4:34     | 6:03:31    | 27:41:50  | 300 | 90   | 3.0  | #12 Symbiotic  | 2   |          |
| 0076.COMP         | 12       | 4:40     | 6:03:31    | 27:41:50  | 300 | 90   | 3.0  | #12 Symbiotic  | 2   |          |
| 0077.BGGem        | 1200     | 4:40     | 6:03:31    | 27:41:50  | 300 | 90   | 3.0  | #12 Symbiotic  | 2   |          |
| 0078.COMP         | 12       | 5:01     | 6:03:31    | 27:41:50  | 300 | 90   | 3.0  | #12 Symbiotic  | 2   |          |
| 0079.HD84937      | 8        | 5:06     | 09:48:56.1 | 13:44:39  | 300 | 16   | 3.0  | #56 Spectropho | 2   |          |
| 0080.HD84937      | 8        | 5:07     | 09:48:56.1 | 13:44:39  | 300 | 16   | 3.0  | #56 Spectropho | 2   |          |
| 0081.HD84937      | 8        | 5:07     | 09:48:56.1 | 13:44:39  | 300 | 16   | 3.0  | #56 Spectropho | 2   |          |
| 0082.COMP         | 12       | 5:08     | 09:48:56.1 | 13:44:39  | 300 | 16   | 3.0  | #56 Spectropho | 2   |          |
| 0083.sn2004at     | 1200     | 5:10     | 10:58:45.1 | +59:29:12 | 300 | 18   | 3.0  | #2 SN Observat | 2   |          |
| 0084.COMP         | 12       | 5:31     | 10:58:45.1 | +59:29:12 | 300 | 18   | 3.0  | #2 SN Observat | 2   |          |
| 0085.sn2004as     | 1200     | 5:34     | 11:25:39.1 | +22:49:49 | 300 | -46  | 3.0  | #2 SN Observat | 2   |          |
| 0086.COMP         | 12       | 5:55     | 11:25:39.1 | +22:49:49 | 300 | -46  | 3.0  | #2 SN Observat | 2   |          |
| 0087.sn2004aw     | 1200     | 6:11     | 11:57:51.5 | +25:20:00 | 300 | -55  | 3.0  | #2 SN Observat | 2   | row=78   |
| 0088.COMP         | 12       | 6:32     | 11:57:51.5 | +25:20:00 | 300 | -55  | 3.0  | #2 SN Observat | 2   |          |
| 0089.cairnsk5_128 | 780      | 6:37     | 13:22:4.8  | 25:45:5   | 300 | 90   | 3.0  | #64 Cluster In | 2   |          |

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|-------------------|----------|----------|------------|----------|-----|------|------|----------------|-----|----------|
| 0090.COMP         | 12       | 6:51     | 13:22:4.8  | 25:45:5  | 300 | 90   | 3.0  | #64 Cluster In | 2   |          |
| 0091.cairnsk5_129 | 480      | 6:52     | 12:35:41.3 | 26:28:56 | 300 | 90   | 3.0  | #64 Cluster In | 2   |          |
| 0092.COMP         | 12       | 7:00     | 12:35:41.3 | 26:28:56 | 300 | 90   | 3.0  | #64 Cluster In | 2   |          |
| 0093.cairnsk5_130 | 1200     | 7:01     | 12:36:2.2  | 26:47:7  | 300 | 90   | 3.0  | #64 Cluster In | 4   |          |
| 0094.COMP         | 5        | 7:23     | 12:36:2.2  | 26:47:7  | 300 | 90   | 3.0  | #64 Cluster In | 4   |          |
| 0095.cairnsk5_131 | 1080     | 7:24     | 12:42:23.1 | 28:30:34 | 300 | 90   | 3.0  | #64 Cluster In | 4   |          |
| 0096.COMP         | 5        | 7:42     | 12:42:23.1 | 28:30:34 | 300 | 90   | 3.0  | #64 Cluster In | 4   |          |
| 0097.cairnsk5_132 | 1080     | 7:43     | 12:58:19.7 | 29:50:55 | 300 | 90   | 3.0  | #64 Cluster In | 4   |          |
| 0098.COMP         | 5        | 8:02     | 12:58:19.7 | 29:50:55 | 300 | 90   | 3.0  | #64 Cluster In | 4   |          |
| 0099.cairnsk5_133 | 780      | 8:03     | 13:8:14.3  | 30:59:50 | 300 | 90   | 3.0  | #64 Cluster In | 4   |          |
| 0100.COMP         | 5        | 8:16     | 13:8:14.3  | 30:59:50 | 300 | 90   | 3.0  | #64 Cluster In | 4   |          |
| 0101.cairnsk5_134 | 1200     | 8:17     | 13:10:1.1  | 30:6:9   | 300 | 90   | 3.0  | #64 Cluster In | 4   |          |
| 0102.COMP         | 5        | 8:37     | 13:10:1.1  | 30:6:9   | 300 | 90   | 3.0  | #64 Cluster In | 4   |          |
| 0103.cairnsk5_135 | 480      | 8:38     | 13:10:24.7 | 26:15:54 | 300 | 90   | 3.0  | #64 Cluster In | 4   |          |
| 0104.COMP         | 5        | 8:48     | 13:10:24.7 | 26:15:54 | 300 | 90   | 3.0  | #64 Cluster In | 4   |          |
| 0105.cairnsk5_136 | 1020     | 8:49     | 12:43:36.6 | 27:53:30 | 300 | 90   | 3.0  | #64 Cluster In | 4   |          |
| 0106.COMP         | 5        | 9:06     | 12:43:36.6 | 27:53:30 | 300 | 90   | 3.0  | #64 Cluster In | 4   |          |
| 0107.hs2488       | 270      | 9:21     | 13:18:42.6 | 72:19:44 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0108.COMP         | 10       | 9:26     | 13:18:42.6 | 72:19:44 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0109.hs2489       | 162      | 9:27     | 13:18:54.1 | 55:39:36 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |

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|-------------|----------|----------|------------|----------|-----|------|------|----------------|-----|----------|
| 0110.COMP   | 10       | 9:34     | 13:18:54.1 | 55:39:36 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0111.hs2490 | 276      | 9:35     | 13:18:54.3 | 41:41:18 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0112.COMP   | 10       | 9:40     | 13:18:54.3 | 41:41:18 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0113.hs2491 | 348      | 9:41     | 13:19:13.7 | 45:05:09 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0114.COMP   | 10       | 9:47     | 13:19:13.7 | 45:05:09 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0115.hs2492 | 582      | 9:48     | 13:19:35.6 | 68:25:34 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0116.COMP   | 10       | 9:59     | 13:19:35.6 | 68:25:34 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0117.hs2493 | 450      | 10:01    | 13:21:15.0 | 46:23:23 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0118.COMP   | 10       | 10:09    | 13:21:15.0 | 46:23:23 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0119.hs2494 | 558      | 10:11    | 13:22:10.5 | 58:05:31 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0120.COMP   | 10       | 10:20    | 13:22:10.5 | 58:05:31 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0121.hs2495 | 600      | 10:22    | 13:22:22.4 | 55:33:36 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0122.COMP   | 10       | 10:32    | 13:22:22.4 | 55:33:36 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0123.hs2496 | 282      | 10:34    | 13:22:27.2 | 62:11:50 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0124.COMP   | 10       | 10:39    | 13:22:27.2 | 62:11:50 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0125.hs2497 | 264      | 10:40    | 13:22:49.6 | 50:08:55 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0126.COMP   | 10       | 10:45    | 13:22:49.6 | 50:08:55 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0127.hs2498 | 282      | 10:47    | 13:22:55.6 | 48:55:58 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0128.COMP   | 10       | 10:52    | 13:22:55.6 | 48:55:58 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0129.hs2499 | 600      | 10:54    | 13:23:02.8 | 67:56:37 | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |

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|----------------|----------|----------|------------|-----------|-----|------|------|----------------|-----|----------|
| 0130.COMP      | 10       | 11:04    | 13:23:02.8 | 67:56:37  | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0131.hs2500    | 546      | 11:06    | 13:23:09.9 | 42:05:37  | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0132.COMP      | 10       | 11:16    | 13:23:09.9 | 42:05:37  | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0133.hs2508    | 408      | 11:18    | 13:25:36.1 | 73:08:19  | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0134.COMP      | 10       | 11:25    | 13:25:36.1 | 73:08:19  | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0135.hs2509    | 306      | 11:27    | 13:26:00.6 | 67:34:06  | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0136.COMP      | 10       | 11:33    | 13:26:00.6 | 67:34:06  | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0137.hs2510    | 570      | 11:37    | 13:26:11.1 | 66:01:54  | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0138.COMP      | 10       | 11:47    | 13:26:11.1 | 66:01:54  | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0139.BDp332642 | 60       | 11:49    | 15:50:03.0 | 33:05:49  | 600 | 90   | 2.0  | #56 Spectropho | 4   |          |
| 0140.COMP      | 10       | 11:50    | 15:50:03.0 | 33:05:49  | 600 | 90   | 2.0  | #56 Spectropho | 4   |          |
| 0141-0150.FLAT | 40       | 11:59    | 15:50:03.0 | 33:05:49  | 600 | 90   | 2.0  | #122 Halo Star | 4   |          |
| 0151.BDp332642 | 70       | 12:08    | 15:50:03.0 | 33:05:49  | 300 | 0    | 3.0  | #56 Spectropho | 2   |          |
| 0152.COMP      | 12       | 12:09    | 15:50:03.0 | 33:05:49  | 300 | 0    | 3.0  | #56 Spectropho | 2   |          |
| 0153.sn2004ao  | 1200     | 12:11    | 17:28:09.3 | 07:24:55  | 300 | -4   | 3.0  | #2 SN Observat | 2   |          |
| 0154.COMP      | 12       | 12:33    | 17:28:10.3 | +07:25:53 | 300 | -4   | 3.0  | #2 SN Observat | 2   |          |
| 0155-0163.BIAS | 0        | 12:50    | 17:59:14.5 | +31:30:17 | 300 | 66   | 3.0  | #122 Halo Star | 4   |          |
| 0164.BIAS      | 0        | 12:50    | 17:59:22.9 | +31:30:16 | 300 | 66   | 3.0  | #122 Halo Star | 4   |          |
| 0165-0172.FLAT | 6        | 12:53    | 18:02:04.9 | +31:30:16 | 300 | 66   | 3.0  | #122 Halo Star | 4   |          |
| 0173-0174.FLAT | 6        | 12:53    | 18:02:30.2 | +31:30:15 | 300 | 66   | 3.0  | #122 Halo Star | 4   |          |

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|----------------|----------|----------|------------|-----------|-----|------|------|----------------|-----|----------|
| 0175-0178.BIAS | 0        | 12:56    | 18:05:02.9 | +31:30:15 | 300 | 66   | 3.0  | #122 Halo Star | 2   |          |
| 0179-0184.BIAS | 0        | 12:57    | 18:06:19.3 | +31:30:14 | 300 | 66   | 3.0  | #122 Halo Star | 2   |          |
| 0185-0186.FLAT | 12       | 12:58    | 18:07:48.9 | +31:30:14 | 300 | 90   | 3.0  | #122 Halo Star | 2   |          |
| 0187-0193.FLAT | 12       | 13:01    | 18:10:42.9 | +31:30:13 | 300 | 90   | 3.0  | #122 Halo Star | 2   |          |
| 0194.FLAT      | 12       | 13:02    | 18:11:04.8 | +31:30:12 | 300 | 90   | 3.0  | #122 Halo Star | 2   |          |
| 0195.DARK      | 900      | 13:03    | 18:27:31.4 | +31:30:07 | 300 | 90   | 3.0  | #122 Halo Star | 2   |          |
| 0196.DARK      | 900      | 13:18    | 18:42:45.9 | +31:30:01 | 300 | 90   | 3.0  | #122 Halo Star | 2   |          |
| 0197.DARK      | 900      | 13:34    | 18:58:00.7 | +31:29:56 | 300 | 90   | 3.0  | #122 Halo Star | 2   |          |
| 0198.DARK      | 900      | 13:49    | 19:13:15.8 | +31:29:51 | 300 | 90   | 3.0  | #122 Halo Star | 2   |          |
| 0199.DARK      | 900      | 14:04    | 19:28:30.9 | +31:29:45 | 300 | 90   | 3.0  | #122 Halo Star | 2   |          |
| 0200.DARK      | 900      | 14:19    | 19:43:45.7 | +31:29:40 | 300 | 90   | 3.0  | #122 Halo Star | 2   |          |
| 0201.DARK      | 900      | 14:34    | 19:59:01.0 | +31:29:35 | 300 | 90   | 3.0  | #122 Halo Star | 2   |          |
| 0202.DARK      | 900      | 14:50    | 20:14:16.4 | +31:29:30 | 300 | 90   | 3.0  | #122 Halo Star | 2   |          |
| 0203.DARK      | 900      | 15:05    | 20:29:30.8 | +31:29:25 | 300 | 90   | 3.0  | #122 Halo Star | 2   |          |
| 0204.DARK      | 900      | 15:20    | 20:44:44.2 | +31:29:20 | 300 | 90   | 3.0  | #122 Halo Star | 2   |          |