



WHIPPLE OBSERVATORY

FAST SPECTROGRAPH LOG



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UT Date 2004-03-13 Observers P Berlind

Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001-0010.BIAS	0	2:49	06:49:12.4	+31:30:00	300	90	3.0	#112 Orion PMS	4	
0011.FLAT	8	2:49	06:49:34.2	+31:30:00	300	90	3.0	#112 Orion PMS	4	rain
0012.FLAT	8	2:49	06:49:55.7	+31:30:00	300	90	3.0	#112 Orion PMS	4	
0013-0020.FLAT	8	2:52	06:52:41.2	+31:30:01	300	90	3.0	#112 Orion PMS	4	
0021-0030.BIAS	0	2:54	06:54:55.3	+31:30:02	300	90	3.0	#112 Orion PMS	2	
0031.FLAT	16	2:55	06:55:30.6	+31:30:02	300	90	3.0	#112 Orion PMS	2	
0032-0035.FLAT	16	2:57	06:57:57.6	+31:30:03	300	90	3.0	#112 Orion PMS	2	
0036-0040.FLAT	16	3:00	07:00:55.9	+31:30:04	300	90	3.0	#112 Orion PMS	2	
0041.HD84937	10	5:40	09:48:56.1	13:44:39	300	0	3.0	#56 Spectropho	2	
0042.HD84937	10	5:40	09:48:56.1	13:44:39	300	0	3.0	#56 Spectropho	2	
0043.HD84937	10	5:41	09:48:56.1	13:44:39	300	0	3.0	#56 Spectropho	2	
0044.HD84937	10	5:41	09:48:56.1	13:44:39	300	0	3.0	#56 Spectropho	2	
0045.HD84937	10	5:42	09:48:56.1	13:44:39	300	0	3.0	#56 Spectropho	2	
0046.COMP	10	5:42	09:48:56.1	13:44:39	300	0	3.0	#56 Spectropho	2	
0047.sn2004ap	1200	5:44	10:05:43.8	+10:16:17	300	-5	3.0	#2 SN Observat	2	
0048.COMP	10	6:05	10:05:43.8	+10:16:17	300	-5	3.0	#2 SN Observat	2	
0049.sn2004al	1200	6:10	09:37:06.6	-22:10:18	300	15	3.0	#2 SN Observat	2	
0050.COMP	10	6:31	09:37:06.6	-22:10:18	300	15	3.0	#2 SN Observat	2	
0051.Feige34	120	6:35	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	
0052.Feige34	120	6:37	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0053.COMP	10	6:40	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	
0054.MRK110	420	6:42	09:25:12.9	+52:17:10	300	0	3.0	#6 AGN Monitor	4	
0055.COMP	5	6:49	09:25:12.9	+52:17:10	300	0	3.0	#6 AGN Monitor	4	
0056.N3227	150	6:51	10:23:30.6	+19:51:54	300	28	3.0	#6 AGN Monitor	4	
0057.N3227	150	6:53	10:23:30.6	+19:51:54	300	28	3.0	#6 AGN Monitor	4	
0058.COMP	5	6:56	10:23:30.6	+19:51:54	300	28	3.0	#6 AGN Monitor	4	
0059.sn2004X1	975	7:00	11:25:39.1	+22:49:49	300	-8	3.0	#2 SN Observat	2	
0060.COMP	10	7:16	11:25:39.1	+22:49:49	300	-8	3.0	#2 SN Observat	2	
0061.N5548	240	10:50	14:17:59.6	+25:08:12	300	48	3.0	#6 AGN Monitor	2	
0062.N5548	480	10:54	14:17:59.6	+25:08:12	300	48	3.0	#6 AGN Monitor	2	
0063.COMP	10	11:03	14:17:59.6	+25:08:12	300	48	3.0	#6 AGN Monitor	2	
0064-0073.DARK	900	13:33	14:17:59.6	+25:08:12	300	90	3.0	#6 AGN Monitor	4	
0074-0083.DARK	900	16:06	14:17:59.6	+25:08:12	300	90	3.0	#6 AGN Monitor	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0001-0010.DARK	900	23:52	14:17:59.6	+25:08:12	300	90	3.0	#112 Orion PMS	4	
0011-0015.DARK	900	1:08	14:17:59.6	+25:08:12	300	90	3.0	#112 Orion PMS	2	
0016-0030.BIAS	0	1:51	14:17:59.6	+25:08:12	300	90	3.0	#112 Orion PMS	4	
0031-0040.FLAT	8	1:54	14:17:59.6	+25:08:12	300	90	3.0	#112 Orion PMS	4	
0041-0050.BIAS	0	1:56	14:17:59.6	+25:08:12	300	90	3.0	#112 Orion PMS	2	
0051.FLAT	16	1:57	14:17:59.6	+25:08:12	300	90	3.0	#112 Orion PMS	2	rain and clouds
0052-0060.FLAT	16	2:02	14:17:59.6	+25:08:12	300	90	3.0	#112 Orion PMS	2	
0061.HD84937	20	6:13	09:48:56.1	13:44:39	300	20	3.0	#56 Spectropho	2	
0062.HD84937	20	6:13	09:48:56.1	13:44:39	300	20	3.0	#56 Spectropho	2	
0063.HD84937	20	6:14	09:48:56.1	13:44:39	300	20	3.0	#56 Spectropho	2	
0064.HD84937	20	6:14	09:48:56.1	13:44:39	300	20	3.0	#56 Spectropho	2	
0065.HD84937	20	6:15	09:48:56.1	13:44:39	300	20	3.0	#56 Spectropho	2	
0066.COMP	10	6:16	09:48:56.1	13:44:39	300	20	3.0	#56 Spectropho	2	
0067.Feige34	150	6:19	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	
0068.Feige34	150	6:22	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	
0069.COMP	10	6:25	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	
0070.MRK421	360	6:29	11:04:27.4	+38:12:32	300	0	3.0	#6 AGN Monitor	4	
0071.MRK421	360	6:35	11:04:27.4	+38:12:32	300	0	3.0	#6 AGN Monitor	4	
0072.COMP	5	6:42	11:04:27.4	+38:12:32	300	0	3.0	#6 AGN Monitor	4	
0073.N4051	150	6:44	12:03:09.7	+44:31:53	300	0	3.0	#6 AGN Monitor	4	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0074.N4051	150	6:47	12:03:09.7	+44:31:53	300	0	3.0	#6 AGN Monitor	4	
0075.COMP	5	6:50	12:03:09.7	+44:31:53	300	0	3.0	#6 AGN Monitor	4	
0076.N4151	30	6:51	12:10:32.6	+39:24:21	300	0	3.0	#6 AGN Monitor	4	
0077.N4151	30	6:52	12:10:32.6	+39:24:21	300	0	3.0	#6 AGN Monitor	4	
0078.COMP	5	6:53	12:10:32.6	+39:24:21	300	0	3.0	#6 AGN Monitor	4	
0079.M87	180	6:55	12:30:49.4	12:23:28	300	0	3.0	#6 AGN Monitor	4	
0080.M87	180	6:58	12:30:49.4	12:23:28	300	0	3.0	#6 AGN Monitor	4	
0081.COMP	5	7:01	12:30:49.4	12:23:28	300	0	3.0	#6 AGN Monitor	4	
0082.sn2004ak	1200	7:07	08:29:47.5	+48:46:22	300	99	3.0	#2 SN Observat	2	
0083.COMP	10	7:27	08:29:47.5	+48:46:22	300	99	3.0	#2 SN Observat	2	
0084.sn2004as	1200	7:30	11:25:39.1	+22:49:49	300	29	3.0	#2 SN Observat	2	
0085.COMP	10	7:50	11:25:39.1	+22:49:49	300	29	3.0	#2 SN Observat	2	
0086.124342p08370_a	1200	7:53	12:46:15.5	8:20:57	300	-41	3.0	#113 Interacti	2	
0087.COMP	10	8:14	12:46:15.5	8:20:57	300	-41	3.0	#113 Interacti	2	
0088.cairnsk5_103	600	8:17	12:42:19	30:54:21	300	90	3.0	#64 Cluster In	4	
0089.COMP	5	8:28	12:42:19	30:54:21	300	90	3.0	#64 Cluster In	4	
0090.cairnsk5_102	720	8:29	13:24:19.3	26:54:10	300	90	3.0	#64 Cluster In	4	
0091.COMP	5	8:41	13:24:19.3	26:54:10	300	90	3.0	#64 Cluster In	4	
0092.cairnsk5_101	420	8:42	13:11:55.4	33:18:25	300	90	3.0	#64 Cluster In	4	
0093.COMP	5	8:49	13:11:55.4	33:18:25	300	90	3.0	#64 Cluster In	4	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0094.cairnsk5_104	900	8:50	13:15:29.5	29:53:17	300	90	3.0	#64 Cluster In	4	
0095.COMP	5	9:06	13:15:29.5	29:53:17	300	90	3.0	#64 Cluster In	4	
0096.cairnsk5_097	800	9:07	12:38:50.8	24:40:18	300	90	3.0	#64 Cluster In	4	weak, reobserved as file 100
0097.COMP	5	9:20	12:38:50.8	24:40:18	300	90	3.0	#64 Cluster In	4	stopped by clouds
0098.sn2004an	1200	10:35	14:40:19.5	+16:41:03	300	70	3.0	#2 SN Observat	2	
0099.COMP	10	10:55	14:40:19.5	+16:41:03	300	70	3.0	#2 SN Observat	2	
0100.cairnsk5_097	1200	10:57	12:38:50.8	24:40:18	300	90	3.0	#64 Cluster In	4	
0101.COMP	5	11:18	12:38:50.8	24:40:18	300	90	3.0	#64 Cluster In	4	
0102.cairnsk5_098	1200	11:19	12:49:54.4	24:51:38	300	90	3.0	#64 Cluster In	4	
0103.COMP	5	11:39	12:49:54.4	24:51:38	300	90	3.0	#64 Cluster In	4	
0104.cairnsk5_099	600	11:40	12:55:59.9	28:11:12	300	90	3.0	#64 Cluster In	4	
0105.COMP	5	11:51	12:55:59.9	28:11:12	300	90	3.0	#64 Cluster In	4	
0106.cairnsk5_100	900	11:52	13:8:31.6	22:15:22	300	90	3.0	#64 Cluster In	4	
0107.COMP	5	12:07	13:8:31.6	22:15:22	300	90	3.0	#64 Cluster In	4	
0108.cairnsk5_105	600	12:08	13:22:34.9	31:34:53	300	90	3.0	#64 Cluster In	4	
0109.COMP	5	12:18	13:22:34.9	31:34:53	300	90	3.0	#64 Cluster In	4	
0110.sn2004ao	1200	12:23	17:28:09.3	+07:24:55	300	-20	3.0	#2 SN Observat	2	
0111.COMP	10	12:43	17:28:09.3	+07:24:55	300	-20	3.0	#2 SN Observat	2	
0112.TCrB	30	12:49	15:59:30	25:55:12	300	90	3.0	#12 Symbiotic	4	
0113.TCrB	10	12:50	15:59:30	25:55:12	300	90	3.0	#12 Symbiotic	4	



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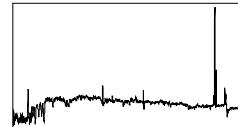
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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0114.TCrB	60	12:50	15:59:30	25:55:12	300	90	3.0	#12 Symbiotic	4	
0115.COMP	5	12:52	15:59:30	25:55:12	300	90	3.0	#12 Symbiotic	4	
0116.BDp332642	90	12:53	15:50:03.0	33:05:49	300	90	3.0	#56 Spectropho	2	
0117.BDp332642	90	12:55	15:50:03.0	33:05:49	300	90	3.0	#56 Spectropho	2	
0118.COMP	10	12:57	15:50:03.0	33:05:49	300	90	3.0	#56 Spectropho	2	
0119-0128.BIAS	0	13:00	15:50:03.0	33:05:49	300	90	3.0	#2 SN Observat	4	
0129-0138.FLAT	8	13:03	15:50:03.0	33:05:49	300	90	3.0	#2 SN Observat	4	
0139-0148.BIAS	0	13:06	15:50:03.0	33:05:49	300	90	3.0	#2 SN Observat	2	
0149-0158.FLAT	16	13:11	15:50:03.0	33:05:49	300	90	3.0	#2 SN Observat	2	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001-0010.DARK	900	23:16	15:50:03.0	33:05:49	300	90	3.0	#2 SN Observat	4	
0011-0017.DARK	900	1:02	15:50:03.0	33:05:49	300	90	3.0	#2 SN Observat	2	
0018-0030.BIAS	0	1:39	15:50:03.0	33:05:49	300	90	3.0	#2 SN Observat	4	
0031.FLAT	8	1:40	15:50:03.0	33:05:49	300	90	3.0	#2 SN Observat	4	a few thin clouds
0032-0040.FLAT	8	1:43	15:50:03.0	33:05:49	300	90	3.0	#2 SN Observat	4	
0041-0050.BIAS	0	1:45	15:50:03.0	33:05:49	300	90	3.0	#2 SN Observat	2	
0051-0060.FLAT	16	1:51	15:50:03.0	33:05:49	300	90	3.0	#2 SN Observat	2	
0061.HD52071	5	2:20	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0062.HD52071	5	2:21	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0063.HD52071	5	2:21	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0064.COMP	5	2:21	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0065.Hiltner600	90	2:25	06:42:37.2	02:11:25	300	0	3.0	#56 Spectropho	2	
0066.Hiltner600	90	2:27	06:42:37.2	02:11:25	300	0	3.0	#56 Spectropho	2	
0067.Hiltner600	90	2:28	06:42:37.2	02:11:25	300	0	3.0	#56 Spectropho	2	
0068.COMP	10	2:30	06:42:37.2	02:11:25	300	0	3.0	#56 Spectropho	2	
0069.Akn120	360	2:32	05:13:38.0	-00:12:15	300	32	3.0	#6 AGN Monitor	4	
0070.COMP	5	2:39	05:13:38.0	-00:12:15	300	32	3.0	#6 AGN Monitor	4	
0071.BXMon	15	2:41	7:25:23	-03:35:51	300	0	3.0	#12 Symbiotic	4	
0072.BXMon	30	2:41	7:25:23	-03:35:51	300	0	3.0	#12 Symbiotic	4	
0073.BXMon	120	2:42	7:25:23	-03:35:51	300	0	3.0	#12 Symbiotic	4	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0074.COMP	5	2:45	7:25:23	-03:35:51	300	0	3.0	#12 Symbiotic	4	
0075.ZCMa	30	2:46	07:03:43.1	-11:33:06	300	0	3.0	#112 Orion PMS	4	
0076.ZCMa	30	2:47	07:03:43.1	-11:33:06	300	0	3.0	#112 Orion PMS	4	
0077.ZCMa	5	2:47	07:03:43.1	-11:33:06	300	0	3.0	#112 Orion PMS	4	
0078.COMP	5	2:48	07:03:43.1	-11:33:06	300	0	3.0	#112 Orion PMS	4	
0079.FUOri	10	2:49	05:45:22.6	+09:04:12	300	35	3.0	#112 Orion PMS	4	
0080.FUOri	30	2:50	05:45:22.6	+09:04:12	300	35	3.0	#112 Orion PMS	4	
0081.FUOri	30	2:50	05:45:22.6	+09:04:12	300	35	3.0	#112 Orion PMS	4	
0082.COMP	5	2:51	05:45:22.6	+09:04:12	300	35	3.0	#112 Orion PMS	4	
0083.NebulaVertexm06	1200	2:53	05:46:13.2	-00:06:04	300	-6	3.0	#112 Orion PMS	2	
0084.COMP	10	3:13	05:46:13.2	-00:06:04	300	-6	3.0	#112 Orion PMS	2	
0085.NebulaVertexm06	1200	3:14	05:46:13.2	-00:06:04	300	-6	3.0	#112 Orion PMS	2	
0086.COMP	10	3:35	05:46:13.2	-00:06:04	300	-6	3.0	#112 Orion PMS	2	
0087.NebulaVertexp28	1200	3:37	05:46:13.2	-00:06:04	300	28	3.0	#112 Orion PMS	2	
0088.COMP	10	3:57	05:46:13.2	-00:06:04	300	28	3.0	#112 Orion PMS	2	
0089.NebulaVertexp28	1200	3:59	05:46:13.2	-00:06:04	300	28	3.0	#112 Orion PMS	2	
0090.COMP	10	4:19	05:46:13.2	-00:06:04	300	28	3.0	#112 Orion PMS	2	
0091.DMGem	1200	4:23	6:44:12.1	29:56:41	300	75	3.0	#149 Black Hol	2	
0092.COMP	10	4:44	6:44:12.1	29:56:41	300	75	3.0	#149 Black Hol	2	
0093.cl0953p7054_g1	1800	4:50	09:53:41.7	+70:53:55	300	90	3.0	#150 Distant C	2	please combine with file 95



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0094.COMP	10	5:21	09:53:41.7	+70:53:55	300	90	3.0	#150 Distant C	2	H and K at 4650
0095.cl10953p7054_g1	1800	5:22	09:53:41.7	+70:53:55	300	90	3.0	#150 Distant C	2	
0096.COMP	10	5:52	09:53:41.7	+70:53:55	300	90	3.0	#150 Distant C	2	
0097.HD84937	10	5:56	09:48:56.1	13:44:39	300	10	3.0	#56 Spectropho	2	
0098.HD84937	10	5:56	09:48:56.1	13:44:39	300	10	3.0	#56 Spectropho	2	
0099.HD84937	10	5:56	09:48:56.1	13:44:39	300	10	3.0	#56 Spectropho	2	
0100.COMP	10	5:57	09:48:56.1	13:44:39	300	10	3.0	#56 Spectropho	2	
0101.Feige34	120	5:58	10:36:41.2	43:21:50	300	34	3.0	#56 Spectropho	2	
0102.Feige34	120	6:01	10:36:41.2	43:21:50	300	34	3.0	#56 Spectropho	2	
0103.COMP	10	6:03	10:36:41.2	43:21:50	300	34	3.0	#56 Spectropho	2	
0104.cl11018p2154	1800	6:11	10:18:00.5	+21:54:33	300	0	3.0	#150 Distant C	2	please combine with file 106
0105.COMP	10	6:42	10:18:00.5	+21:54:33	300	0	3.0	#150 Distant C	2	H and K at 4900
0106.cl11018p2154	1800	6:42	10:18:00.5	+21:54:33	300	0	3.0	#150 Distant C	2	
0107.COMP	10	7:13	10:18:00.5	+21:54:33	300	0	3.0	#150 Distant C	2	
0108.sn2004as	1200	7:15	11:25:39.1	+22:49:49	300	5	3.0	#2 SN Observat	2	
0109.COMP	10	7:36	11:25:39.1	+22:49:49	300	5	3.0	#2 SN Observat	2	
0110.XS01630B7_016	1800	7:39	11:18:16.6	+07:43:23	300	20	3.0	#129 Bright Ch	2	
0111.COMP	10	8:09	11:18:16.6	+07:43:23	300	20	3.0	#129 Bright Ch	2	
0112.XS00868B2_010	1800	8:11	11:18:38.8	+40:33:51	300	90	3.0	#129 Bright Ch	2	
0113.COMP	10	8:42	11:18:38.8	+40:33:51	300	90	3.0	#129 Bright Ch	2	



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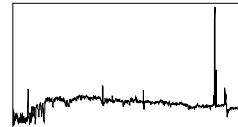
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0114.cl1222p2559	1200	8:46	12:22:15.9	+25:59:37	300	90	3.0	#150 Distant C	2	
0115.COMP	10	9:06	12:22:15.9	+25:59:37	300	90	3.0	#150 Distant C	2	
0116.RWHyA	1	9:11	13:34:18	-25:22:51	300	0	3.0	#12 Symbiotic	4	
0117.RWHyA	5	9:11	13:34:18	-25:22:51	300	0	3.0	#12 Symbiotic	4	
0118.RWHyA	15	9:12	13:34:18	-25:22:51	300	0	3.0	#12 Symbiotic	4	
0119.COMP	5	9:12	13:34:18	-25:22:51	300	0	3.0	#12 Symbiotic	4	
0120.TXCVn	10	9:14	12:44:42	36:45:48	300	0	3.0	#12 Symbiotic	4	
0121.TXCVn	30	9:14	12:44:42	36:45:48	300	0	3.0	#12 Symbiotic	4	
0122.TXCVn	30	9:16	12:44:42	36:45:48	300	0	3.0	#12 Symbiotic	4	
0123.COMP	5	9:17	12:44:42	36:45:48	300	0	3.0	#12 Symbiotic	4	
0124.MRK279	180	9:19	13:51:53.6	69:33:13	300	8	3.0	#6 AGN Monitor	4	
0125.MRK279	180	9:23	13:51:53.6	69:33:13	300	8	3.0	#6 AGN Monitor	4	
0126.COMP	5	9:27	13:51:53.6	69:33:13	300	8	3.0	#6 AGN Monitor	4	
0127.cairnsk5_080	600	9:28	12:59:16.9	30:2:2	300	90	3.0	#64 Cluster In	4	
0128.COMP	5	9:39	12:59:16.9	30:2:2	300	90	3.0	#64 Cluster In	4	
0129.cairnsk5_067	1200	9:40	13:8:9.8	25:52:24	300	90	3.0	#64 Cluster In	4	
0130.COMP	5	10:00	13:8:9.8	25:52:24	300	90	3.0	#64 Cluster In	4	
0131.cairnsk5_068	480	10:01	13:11:4.8	26:58:21	300	90	3.0	#64 Cluster In	4	
0132.COMP	5	10:09	13:11:4.8	26:58:21	300	90	3.0	#64 Cluster In	4	
0133.cairnsk5_069	480	10:10	12:49:27.7	27:16:3	300	90	3.0	#64 Cluster In	4	



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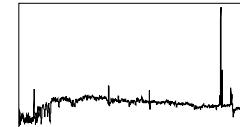
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0134.COMP	5	10:18	12:49:27.7	27:16:3	300	90	3.0	#64 Cluster In	4	
0135.cairnsk5_070	600	10:19	13:1:56.2	25:41:2	300	90	3.0	#64 Cluster In	4	
0136.COMP	5	10:29	13:1:56.2	25:41:2	300	90	3.0	#64 Cluster In	4	
0137.cairnsk5_071	480	10:30	13:5:25.7	23:12:59	300	90	3.0	#64 Cluster In	4	
0138.COMP	5	10:38	13:5:25.7	23:12:59	300	90	3.0	#64 Cluster In	4	
0139.cairnsk5_072	720	10:39	13:20:0.2	25:32:43	300	90	3.0	#64 Cluster In	4	
0140.COMP	5	10:52	13:20:0.2	25:32:43	300	90	3.0	#64 Cluster In	4	
0141.cairnsk5_073	420	10:53	13:20:35.7	30:16:2	300	90	3.0	#64 Cluster In	4	
0142.COMP	5	11:00	13:20:35.7	30:16:2	300	90	3.0	#64 Cluster In	4	
0143.cairnsk5_074	540	11:01	13:25:33.3	26:0:5	300	90	3.0	#64 Cluster In	4	
0144.COMP	5	11:10	13:25:33.3	26:0:5	300	90	3.0	#64 Cluster In	4	
0145.cairnsk5_075	720	11:11	12:45:37.6	33:13:33	300	90	3.0	#64 Cluster In	4	
0146.COMP	5	11:23	12:45:37.6	33:13:33	300	90	3.0	#64 Cluster In	4	
0147.cairnsk5_076	600	11:24	12:49:12.3	28:6:1	300	90	3.0	#64 Cluster In	4	
0148.COMP	5	11:34	12:49:12.3	28:6:1	300	90	3.0	#64 Cluster In	4	
0149.134700p35300_b	1500	11:37	13:49:12.2	35:17:4	300	90	3.0	#113 Interacti	2	
0150.COMP	10	12:02	13:49:12.2	35:17:4	300	90	3.0	#113 Interacti	2	
0151.sn2004ao	1200	12:07	17:28:09.3	+07:24:55	300	-25	3.0	#2 SN Observat	2	
0152.COMP	10	12:28	17:28:09.3	+07:24:55	300	-25	3.0	#2 SN Observat	2	
0153.sn2004at	720	12:30	17:42:02.9	+25:37:11	300	0	3.0	#2 SN Observat	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0154.COMP	10	12:44	17:42:02.9	+25:37:11	300	70	3.0	#2 SN Observat	2	
0155.FineFoc	60	12:46	16:56:22.7	31:00:40	300	90	3.0	#150 Distant C	1	
0156-0166.BIAS	0	12:53	16:56:22.7	31:00:40	300	90	3.0	#150 Distant C	4	
0167-0176.FLAT	8	12:57	16:56:22.7	31:00:40	300	90	3.0	#150 Distant C	4	
0177-0186.BIAS	0	12:59	16:56:22.7	31:00:40	300	90	3.0	#150 Distant C	2	
0187-0196.FLAT	16	13:05	16:56:22.7	31:00:40	300	90	3.0	#150 Distant C	2	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001.DARK	900	0:54	05:20:43.1	+31:29:29	300	90	3.0	#150 Distant C	4	
0002.DARK	900	1:09	05:35:52.6	+31:29:34	300	90	3.0	#150 Distant C	4	
0003.DARK	900	1:24	05:51:02.6	+31:29:39	300	90	3.0	#150 Distant C	4	
0004.DARK	900	1:39	06:06:09.4	+31:29:45	300	90	3.0	#150 Distant C	4	
0005.DARK	900	1:54	06:21:19.1	+31:29:50	300	90	3.0	#150 Distant C	4	
0006-0009.BIAS	0	2:19	06:30:48.9	+31:29:53	1200	90	1.5	#150 Distant C	2	
0010-0015.BIAS	0	2:20	06:32:05.7	+31:29:54	1200	90	1.5	#150 Distant C	2	
0016.FLAT	100	2:24	06:38:21.1	+31:29:56	1200	90	1.5	#150 Distant C	2	1200L, 1.5 arcsec, tilt=224
0017.FLAT	100	2:26	06:40:15.4	+31:29:57	1200	90	1.5	#150 Distant C	2	
0018-0019.FLAT	100	2:30	06:44:01.5	+31:29:58	1200	90	1.5	#150 Distant C	2	
0020.FLAT	100	2:32	06:45:52.2	+31:29:59	1200	90	1.5	#150 Distant C	2	
0021-0022.FLAT	100	2:36	06:49:37.6	+31:30:00	1200	90	1.5	#150 Distant C	2	
0023.FLAT	100	2:38	06:51:32.3	+31:30:01	1200	90	1.5	#150 Distant C	2	
0024-0025.FLAT	100	2:41	06:55:17.7	+31:30:02	1200	90	1.5	#150 Distant C	2	
0026.FLAT	20	2:48	08:12:28.2	62:36:22	1200	90	1.5	#150 Distant C	2	
0027.COMP	100	2:54	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0028.SUUMa	180	2:57	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0029.SUUMa	180	3:00	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0030.SUUMa	180	3:03	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0031.SUUMa	180	3:06	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0032.SUUMa	180	3:10	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0033.SUUMa	180	3:13	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0034.SUUMa	180	3:16	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0035.SUUMa	180	3:19	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0036.SUUMa	180	3:22	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0037.SUUMa	180	3:26	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0038.SUUMa	180	3:29	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0039.SUUMa	180	3:32	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0040.SUUMa	180	3:35	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0041.SUUMa	180	3:38	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0042.SUUMa	180	3:42	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0043.COMP	100	3:46	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0044.SUUMa	180	3:48	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0045.SUUMa	180	3:51	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0046.SUUMa	180	3:54	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0047.SUUMa	180	3:57	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0048.SUUMa	180	4:01	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0049.SUUMa	180	4:04	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0050.SUUMa	180	4:07	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0051.SUUMa	180	4:10	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0052.SUUMa	180	4:14	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0053.SUUMa	180	4:17	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0054.SUUMa	180	4:20	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0055.SUUMa	180	4:23	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0056.SUUMa	180	4:26	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0057.SUUMa	180	4:30	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0058.SUUMa	180	4:33	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0059.COMP	100	4:40	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0060.SUUMa	180	4:43	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0061.SUUMa	180	4:46	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0062.SUUMa	180	4:49	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0063.SUUMa	180	4:53	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0064.SUUMa	180	4:56	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0065.SUUMa	180	4:59	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0066.SUUMa	180	5:02	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0067.SUUMa	180	5:05	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0068.SUUMa	180	5:09	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0069.SUUMa	180	5:12	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0070.SUUMa	180	5:15	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0071.SUUMa	180	5:18	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	



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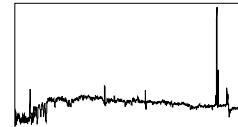
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0072.SUUMa	180	5:21	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0073.SUUMa	180	5:25	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0074.SUUMa	180	5:28	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0075.COMP	100	5:33	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0076.SUUMa	180	5:35	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0077.SUUMa	180	5:39	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0078.SUUMa	180	5:42	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0079.SUUMa	180	5:45	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0080.SUUMa	180	5:48	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0081.SUUMa	180	5:51	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0082.SUUMa	180	5:55	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0083.SUUMa	180	5:58	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0084.SUUMa	180	6:01	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0085.SUUMa	180	6:04	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0086.SUUMa	180	6:08	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0087.SUUMa	180	6:11	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0088.SUUMa	180	6:14	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0089.SUUMa	180	6:17	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0090.SUUMa	180	6:20	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0091.COMP	100	6:24	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0092.SUUMa	180	6:26	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0093.SUUMa	180	6:30	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0094.SUUMa	180	6:33	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0095.SUUMa	180	6:36	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0096.SUUMa	180	6:39	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0097.SUUMa	180	6:42	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0098.SUUMa	180	6:46	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0099.SUUMa	180	6:49	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0100.SUUMa	180	6:52	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0101.SUUMa	180	6:55	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0102.SUUMa	180	6:58	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0103.SUUMa	180	7:02	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0104.SUUMa	180	7:05	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0105.SUUMa	180	7:08	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0106.SUUMa	180	7:11	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0107.COMP	100	7:15	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0108.Feige34	180	7:18	10:36:41.2	43:21:50	1200	90	1.5	#56 Spectropho	2	
0109.COMP	100	7:22	10:36:41.2	43:21:50	1200	90	1.5	#56 Spectropho	2	
0110.Feige34	70	7:30	10:36:41.2	43:21:50	300	-40	3.0	#56 Spectropho	2	combo setup
0111.COMP	12	7:32	10:36:41.2	43:21:50	300	-40	3.0	#56 Spectropho	2	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0112.sn2004L	1200	7:37	10:27:04.1	+16:01:07	300	56	3.0	#2 SN Observat	2	
0113.COMP	12	7:58	10:27:04.1	+16:01:07	300	56	3.0	#2 SN Observat	2	
0114.sn2004as	1200	8:02	11:25:39.1	+22:49:49	300	110	3.0	#2 SN Observat	2	
0115.COMP	12	8:23	11:25:39.1	+22:49:49	300	110	3.0	#2 SN Observat	2	
0116.XS00325B3_002	780	8:26	13:12:31.1	+42:31:06	300	90	3.0	#129 Bright Ch	2	
0117.COMP	12	8:40	13:12:31.1	+42:31:06	300	90	3.0	#129 Bright Ch	2	
0118.XS02228B2_027	1200	8:42	13:16:54.0	+29:07:30	300	90	3.0	#129 Bright Ch	2	
0119.COMP	12	9:03	13:16:54.0	+29:07:30	300	90	3.0	#129 Bright Ch	2	
0120.104924p10250_b	2100	9:05	10:52:3.3	10:6:17	300	90	3.0	#113 Interacti	2	
0121.COMP	12	9:43	10:52:3.3	10:6:17	300	90	3.0	#113 Interacti	2	
0122.111036p05280_c	2100	9:45	11:13:3.9	5:5:47	300	90	3.0	#113 Interacti	2	
0123.COMP	12	10:20	11:13:3.9	5:5:47	300	90	3.0	#113 Interacti	2	
0124.131436p31500_b	2100	10:22	13:16:53.0	31:35:55	300	90	3.0	#113 Interacti	2	
0125.COMP	12	10:58	13:16:53.0	31:35:55	300	90	3.0	#113 Interacti	2	
0126.135600p23080_c	2100	11:22	13:58:1.7	22:54:13	300	90	3.0	#113 Interacti	2	
0127.COMP	12	11:58	13:58:1.7	22:54:13	300	90	3.0	#113 Interacti	2	
0128.141324p36270_b	2100	12:00	14:15:48.2	36:13:2	300	110	3.0	#113 Interacti	2	
0129.COMP	12	12:35	14:15:48.2	36:13:2	300	110	3.0	#113 Interacti	2	
0130.sn2004ao	600	12:39	17:28:09.3	+07:24:55	300	-18	3.0	#2 SN Observat	2	
0131.COMP	12	12:50	17:28:09.3	+07:24:55	300	-18	3.0	#2 SN Observat	2	



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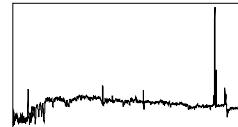
UT Date 2004-03-16 Observers M CalkinsColl. Focus 980 Grating/Grism 300

<i>File</i>	<i>Exp Time</i>	<i>UT Start</i>	<i>RA</i>	<i>Dec</i>	<i>Gr.</i>	<i>P.A.</i>	<i>Slit</i>	<i>Program</i>	<i>Bir</i>	<i>Comments</i>
0132.FineFoc	60	12:54	16:56:22.7	31:00:40	300	90	3.0	#2 SN Observat	1	
0133-0142.BIAS	0	13:01	16:56:22.7	31:00:40	300	90	3.0	#2 SN Observat	2	
0143-0152.FLAT	12	13:07	16:56:22.7	31:00:40	300	90	3.0	#2 SN Observat	2	
0153-0162.DARK	900	15:26	16:56:22.7	31:00:40	300	90	3.0	#2 SN Observat	2	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001.DARK	900	23:29	03:59:28.7	+31:29:04	300	90	3.0	#2 SN Observat	4	
0002.DARK	900	23:44	04:14:35.2	+31:29:08	300	90	3.0	#2 SN Observat	4	
0003.DARK	900	23:59	04:29:45.4	+31:29:13	300	90	3.0	#2 SN Observat	4	
0004.DARK	900	0:14	04:44:55.5	+31:29:17	300	90	3.0	#2 SN Observat	4	
0005.DARK	900	0:29	05:00:05.2	+31:29:22	300	90	3.0	#2 SN Observat	4	
0006.DARK	900	0:44	05:15:14.5	+31:29:27	300	90	3.0	#2 SN Observat	4	
0007.DARK	900	0:59	05:30:20.8	+31:29:32	300	90	3.0	#2 SN Observat	4	
0008.DARK	900	1:15	05:45:31.0	+31:29:37	300	90	3.0	#2 SN Observat	4	
0009.DARK	900	1:30	06:00:40.8	+31:29:43	300	90	3.0	#2 SN Observat	4	
0010.DARK	900	1:45	06:15:50.5	+31:29:48	300	90	3.0	#2 SN Observat	4	
0011-0016.BIAS	0	2:01	06:17:07.7	+31:29:48	300	90	3.0	#2 SN Observat	2	
0017-0020.BIAS	0	2:02	06:18:02.4	+31:29:49	300	90	3.0	#2 SN Observat	2	
0021.FLAT	12	2:03	06:19:37.0	+31:29:49	300	90	3.0	#2 SN Observat	2	
0022-0028.FLAT	12	2:06	06:22:30.7	+31:29:50	300	90	3.0	#2 SN Observat	2	
0029-0030.FLAT	12	2:07	06:23:17.8	+31:29:51	300	90	3.0	#2 SN Observat	2	
0031.COMP	12	2:33	5:46:13.2	-00:06:04	300	90	3.0	#112 Orion PMS	2	
0032.NebulaVertex	1200	2:33	5:46:13.2	-00:06:04	300	90	3.0	#112 Orion PMS	2	
0033.NebulaVertex	1200	2:54	5:46:13.2	-00:06:04	300	90	3.0	#112 Orion PMS	2	
0034.COMP	12	3:14	5:46:13.2	-00:06:04	300	90	3.0	#112 Orion PMS	2	
0035.COMP	12	3:15	5:46:13.2	-00:06:04	300	90	3.0	#112 Orion PMS	2	



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UT Date 2004-03-17 Observers M Calkins

Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0036.NebulaEastFlank	1200	3:16	5:46:13.2	-00:06:04	300	90	3.0	#112 Orion PMS	2	
0037.NebulaEastFlank	1200	3:36	5:46:13.2	-00:06:04	300	90	3.0	#112 Orion PMS	2	
0038.COMP	12	3:57	5:46:13.2	-00:06:04	300	90	3.0	#112 Orion PMS	2	
0039.Hiltner600	50	3:58	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0040.COMP	12	3:59	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0041.FineFoc	60	4:03	08:00:04.5	31:35:29	300	90	3.0	#112 Orion PMS	1	
0042.COMP	100	4:15	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	1200L, 1.5 arcsec, tilt=224
0043.SUUMa	180	4:17	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0044.SUUMa	180	4:20	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0045.SUUMa	180	4:23	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0046.SUUMa	180	4:27	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0047.SUUMa	180	4:30	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0048.SUUMa	180	4:33	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0049.SUUMa	180	4:36	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0050.SUUMa	180	4:39	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0051.SUUMa	180	4:43	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0052.SUUMa	180	4:46	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0053.SUUMa	180	4:49	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0054.SUUMa	180	4:52	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0055.SUUMa	180	4:55	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	



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UT Date 2004-03-17 Observers M Calkins

Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0056.SUUMa	180	4:59	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0057.SUUMa	180	5:02	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0058.COMP	100	5:05	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0059.SUUMa	180	5:08	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0060.SUUMa	180	5:11	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0061.SUUMa	180	5:14	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0062.SUUMa	180	5:17	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0063.SUUMa	180	5:20	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0064.SUUMa	180	5:24	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0065.SUUMa	180	5:27	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0066.SUUMa	180	5:30	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0067.SUUMa	180	5:33	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0068.SUUMa	180	5:36	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0069.SUUMa	180	5:40	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0070.SUUMa	180	5:43	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0071.SUUMa	180	5:46	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0072.SUUMa	180	5:49	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0073.SUUMa	180	5:52	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0074.COMP	100	5:56	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0075.SUUMa	180	5:58	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	



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UT Date 2004-03-17 Observers M Calkins

Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0076.SUUMa	180	6:01	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0077.SUUMa	180	6:04	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0078.SUUMa	180	6:08	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0079.SUUMa	180	6:11	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0080.SUUMa	180	6:14	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0081.SUUMa	180	6:17	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0082.SUUMa	180	6:20	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0083.SUUMa	180	6:24	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0084.SUUMa	180	6:27	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0085.SUUMa	180	6:30	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0086.SUUMa	180	6:33	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0087.SUUMa	180	6:37	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0088.SUUMa	180	6:40	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0089.SUUMa	180	6:43	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0090.COMP	100	6:46	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0091.SUUMa	300	6:49	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0092.SUUMa	300	6:54	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0093.SUUMa	300	6:59	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0094.SUUMa	300	7:04	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0095.SUUMa	300	7:10	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	



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UT Date 2004-03-17 Observers M Calkins

Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0096.SUUMa	300	7:15	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0097.SUUMa	300	7:20	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0098.SUUMa	300	7:25	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0099.SUUMa	300	7:30	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0100.COMP	100	7:36	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0101.SUUMa	300	7:38	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0102.SUUMa	300	7:43	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0103.SUUMa	300	7:48	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0104.SUUMa	300	7:54	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0105.SUUMa	300	7:59	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0106.SUUMa	300	8:04	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0107.SUUMa	300	8:09	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0108.SUUMa	300	8:14	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0109.SUUMa	300	8:20	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0110.COMP	100	8:25	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0111-0120.FLAT	100	8:45	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0121.HD84937	8	8:54	09:48:56.1	13:44:39	300	60	3.0	#56 Spectropho	2	
0122.HD84937	8	8:55	09:48:56.1	13:44:39	300	60	3.0	#56 Spectropho	2	
0123.HD84937	8	8:55	09:48:56.1	13:44:39	300	60	3.0	#56 Spectropho	2	
0124.COMP	12	8:56	09:48:56.1	13:44:39	300	60	3.0	#56 Spectropho	2	



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UT Date 2004-03-17 Observers M Calkins

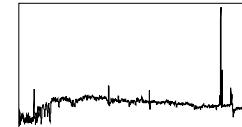
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0125.Feige34	60	8:59	10:36:41.2	43:21:50	300	97	3.0	#56 Spectropho	2	
0126.Feige34	60	9:00	10:36:41.2	43:21:50	300	97	3.0	#56 Spectropho	2	
0127.COMP	12	9:01	10:36:41.2	43:21:50	300	97	3.0	#56 Spectropho	2	
0128.sn2004as	1200	9:04	11:25:39.1	+22:49:49	300	65	3.0	#2 SN Observat	2	
0129.COMP	12	9:24	11:25:39.1	+22:49:49	300	65	3.0	#2 SN Observat	2	
0130.sn2004C	1200	9:30	11:27:29.7	+56:52:48	300	-40	3.0	#2 SN Observat	2	row=67
0131.COMP	12	9:50	11:27:29.7	+56:52:48	300	-40	3.0	#2 SN Observat	2	
0132.112018p34470_c	2100	9:53	11:22:55.8	34:28:6	300	90	3.0	#113 Interacti	2	
0133.COMP	12	10:29	11:22:55.8	34:28:6	300	90	3.0	#113 Interacti	2	
0134.114048p21560_d	1920	10:32	11:43:36.0	21:36:53	300	-35	3.0	#113 Interacti	2	
0135.COMP	12	11:04	11:43:36.0	21:36:53	300	-35	3.0	#113 Interacti	2	
0136.114048p21560_c	1620	11:07	11:43:15.0	21:42:10	300	90	3.0	#113 Interacti	2	
0137.COMP	12	11:35	11:43:15.0	21:42:10	300	90	3.0	#113 Interacti	2	
0138.114048p21560_b	1920	11:36	11:43:28.2	21:40:27	300	90	3.0	#113 Interacti	2	
0139.COMP	12	12:09	11:43:28.2	21:40:27	300	90	3.0	#113 Interacti	2	
0140.sn2004ao	1200	12:13	17:28:09.3	+07:24:55	300	-28	3.0	#2 SN Observat	2	
0141.COMP	12	12:34	17:28:09.3	+07:24:55	300	-28	3.0	#2 SN Observat	2	
0142.FineFoc	60	12:48	16:56:22.7	31:00:40	300	90	3.0	#113 Interacti	1	
0143-0152.BIAS	0	13:02	16:56:22.7	31:00:40	300	90	3.0	#113 Interacti	2	
0153-0162.FLAT	12	13:10	16:56:22.7	31:00:40	300	90	3.0	#113 Interacti	2	



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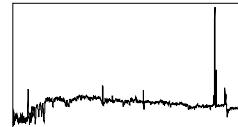
UT Date 2004-03-17 Observers M CalkinsColl. Focus 980 Grating/Grism 300

<i>File</i>	<i>Exp Time</i>	<i>UT Start</i>	<i>RA</i>	<i>Dec</i>	<i>Gr.</i>	<i>P.A.</i>	<i>Slit</i>	<i>Program</i>	<i>Bir</i>	<i>Comments</i>
0163-0172.DARK	900	15:29	16:56:22.7	31:00:40	300	90	3.0	#113 Interacti	2	



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UT Date 2004-03-18 Observers M Calkins

Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001-0010.DARK	900	1:02	16:56:22.7	31:00:40	300	90	3.0	#113 Interacti	4	
0011-0020.BIAS	0	1:28	16:56:22.7	31:00:40	300	90	3.0	#113 Interacti	4	
0021-0030.FLAT	6	1:32	16:56:22.7	31:00:40	300	90	3.0	#113 Interacti	4	
0031-0040.BIAS	0	1:34	16:56:22.7	31:00:40	300	90	3.0	#113 Interacti	2	
0041-0050.FLAT	12	1:39	16:56:22.7	31:00:40	300	90	3.0	#113 Interacti	2	
0051-0055.sky	2	1:43	16:56:22.7	31:00:40	300	90	3.0	#57 Velocity S	2	
0056.COMP	12	1:44	16:56:22.7	31:00:40	300	90	3.0	#57 Velocity S	2	
0057.Hiltner600	80	2:12	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0058.Hiltner600	80	2:14	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0059.COMP	5	2:15	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0060.Hiltner600	60	2:20	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0061.Hiltner600	60	2:21	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0062.COMP	12	2:23	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0063.Hiltner600	60	2:26	06:42:37.2	02:11:25	300	0	3.0	#56 Spectropho	2	
0064.Hiltner600	60	2:27	06:42:37.2	02:11:25	300	0	3.0	#56 Spectropho	2	
0065.COMP	12	2:29	06:42:37.2	02:11:25	300	0	3.0	#56 Spectropho	2	
0066.sn2003kf	1200	2:38	06:04:35.4	-12:37:42	300	16	3.0	#2 SN Observat	2	
0067.COMP	12	2:59	06:04:35.4	-12:37:42	300	16	3.0	#2 SN Observat	2	
0068.HD84937	7	3:03	09:48:56.1	13:44:39	300	-45	3.0	#56 Spectropho	2	
0069.HD84937	7	3:03	09:48:56.1	13:44:39	300	-45	3.0	#56 Spectropho	2	



WHIPPLE OBSERVATORY

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UT Date 2004-03-18 Observers M Calkins

Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0070.HD84937	7	3:04	09:48:56.1	13:44:39	300	-45	3.0	#56 Spectropho	2	
0071.COMP	12	3:04	09:48:56.1	13:44:39	300	-45	3.0	#56 Spectropho	2	
0072.FineFoc	60	3:19	08:00:04.5	31:35:29	300	90	3.0	#2 SN Observat	1	
0073.COMP	100	3:29	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	1200L, 1.5 arcsec, tilt=224
0074.SUUMa	180	3:32	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0075.SUUMa	300	3:35	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0076.SUUMa	300	3:40	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0077.SUUMa	300	3:45	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0078.SUUMa	300	3:50	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0079.SUUMa	300	3:56	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0080.SUUMa	300	4:01	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0081.SUUMa	300	4:06	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0082.SUUMa	300	4:11	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0083.SUUMa	300	4:17	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0084.COMP	100	4:23	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0085.SUUMa	300	4:25	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0086.SUUMa	300	4:30	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0087.SUUMa	300	4:35	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0088.SUUMa	300	4:41	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0089.SUUMa	300	4:46	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	



WHIPPLE OBSERVATORY

FAST SPECTROGRAPH LOG



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UT Date 2004-03-18 Observers M Calkins

Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0090.SUUMa	300	4:51	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0091.SUUMa	300	4:56	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0092.SUUMa	300	5:01	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0093.SUUMa	300	5:07	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0094.COMP	100	5:13	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0095.SUUMa	300	5:15	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0096.SUUMa	300	5:21	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0097.SUUMa	300	5:26	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0098.SUUMa	300	5:31	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0099.SUUMa	300	5:42	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0100.SUUMa	300	5:47	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0101.SUUMa	300	5:53	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0102.SUUMa	300	5:58	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0103.SUUMa	300	6:03	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0104.COMP	100	6:08	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0105.SUUMa	300	6:11	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0106.SUUMa	300	6:16	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0107.SUUMa	300	6:21	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0108.SUUMa	300	6:26	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0109.SUUMa	300	6:31	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	



WHIPPLE OBSERVATORY

FAST SPECTROGRAPH LOG



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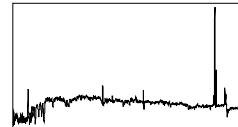
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0110.SUUMa	300	6:37	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0111.SUUMa	300	6:42	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0112.SUUMa	300	6:47	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0113.SUUMa	300	6:52	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0114.COMP	100	6:58	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0115.SUUMa	300	7:00	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0116.SUUMa	300	7:05	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0117.SUUMa	300	7:10	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0118.SUUMa	300	7:16	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0119.SUUMa	300	7:21	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0120.SUUMa	300	7:26	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0121.SUUMa	300	7:31	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0122.SUUMa	300	7:36	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0123.SUUMa	300	7:42	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0124.COMP	100	7:47	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0125-0134.FLAT	100	8:07	08:12:28.2	62:36:22	1200	90	1.5	#148 Accretion	2	
0135.HD84937	7	8:14	09:48:56.1	13:44:39	300	58	3.0	#56 Spectropho	2	combo setup
0136.HD84937	7	8:14	09:48:56.1	13:44:39	300	58	3.0	#56 Spectropho	2	
0137.HD84937	7	8:14	09:48:56.1	13:44:39	300	58	3.0	#56 Spectropho	2	
0138.COMP	12	8:15	09:48:56.1	13:44:39	300	58	3.0	#56 Spectropho	2	



WHIPPLE OBSERVATORY

FAST SPECTROGRAPH LOG



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UT Date 2004-03-18 Observers M Calkins

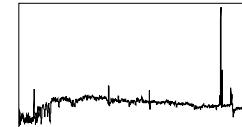
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0139.Feige34	60	8:18	10:36:41.2	43:21:50	300	106	3.0	#56 Spectropho	2	
0140.Feige34	60	8:19	10:36:41.2	43:21:50	300	106	3.0	#56 Spectropho	2	
0141.COMP	12	8:20	10:36:41.2	43:21:50	300	106	3.0	#56 Spectropho	2	
0142.sn2004as	1200	8:23	11:25:39.1	+22:49:49	300	56	3.0	#2 SN Observat	2	
0143.COMP	12	8:43	11:25:39.1	+22:49:49	300	56	3.0	#2 SN Observat	2	
0144.114124p20030_e	1620	8:45	11:44:3.0	19:44:25	300	90	3.0	#113 Interacti	2	
0145.COMP	12	9:13	11:44:3.0	19:44:25	300	90	3.0	#113 Interacti	2	
0146.114124p20030_b	1380	9:14	11:44:3.1	19:48:3	300	90	3.0	#113 Interacti	2	
0147.COMP	12	9:38	11:44:3.1	19:48:3	300	90	3.0	#113 Interacti	2	
0148.114542p12590_b	2100	9:39	11:48:19.4	12:45:27	300	90	3.0	#113 Interacti	2	
0149.COMP	12	10:14	11:48:19.4	12:45:27	300	90	3.0	#113 Interacti	2	
0150.114924p17050_c	1920	10:16	11:51:54.8	16:50:44	300	57	3.0	#113 Interacti	2	
0151.COMP	12	10:48	11:51:54.8	16:50:44	300	57	3.0	#113 Interacti	2	
0152.cairnsk5_090	1200	10:51	12:49:26.6	28:30:50	300	90	3.0	#64 Cluster In	2	
0153.cairnsk5_090	1200	11:12	12:49:26.6	28:30:50	300	90	3.0	#64 Cluster In	2	
0154.COMP	12	11:33	12:49:26.6	28:30:50	300	90	3.0	#64 Cluster In	2	
0155.cairnsk5_091	660	11:34	12:54:38	26:45:1	300	90	3.0	#64 Cluster In	2	
0156.COMP	12	11:46	12:54:38	26:45:1	300	90	3.0	#64 Cluster In	2	
0157.cairnsk5_092	1200	11:47	12:56:2.2	25:56:37	300	90	3.0	#64 Cluster In	2	
0158.cairnsk5_092	1200	12:10	12:56:2.2	25:56:37	300	90	3.0	#64 Cluster In	2	



WHIPPLE OBSERVATORY

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UT Date 2004-03-18 Observers M CalkinsColl. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0159.COMP	12	12:30	12:56:2.2	25:56:37	300	90	3.0	#64 Cluster In	2	
0160.sn2004ao	900	12:33	17:28:09.3	+07:24:55	300	-10	3.0	#2 SN Observat	2	
0161.COMP	12	12:49	17:28:09.3	+07:24:55	300	-10	3.0	#2 SN Observat	2	
0162-0171.BIAS	0	12:52	17:28:09.3	+07:24:55	300	90	3.0	#113 Interacti	4	
0172-0181.FLAT	6	12:56	17:28:09.3	+07:24:55	300	90	3.0	#113 Interacti	4	
0182-0191.BIAS	0	13:02	17:28:09.3	+07:24:55	300	90	3.0	#113 Interacti	2	
0192-0201.FLAT	12	13:06	17:28:09.3	+07:24:55	300	90	3.0	#113 Interacti	2	
0202-0211.DARK	900	15:26	17:28:09.3	+07:24:55	300	90	3.0	#113 Interacti	2	



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UT Date 2004-03-19 Observers P Berlind

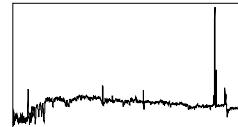
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001-0010.BIAS	0	1:24	05:47:34.7	+31:29:38	300	90	3.0	#113 Interacti	4	
0011-0015.FLAT	8	1:25	05:49:21.4	+31:29:38	300	90	3.0	#113 Interacti	4	
0016-0020.FLAT	8	1:27	05:51:07.4	+31:29:39	300	90	3.0	#113 Interacti	4	
0021-0024.BIAS	0	1:28	05:52:02.7	+31:29:39	300	90	3.0	#113 Interacti	2	
0025-0030.BIAS	0	1:29	05:53:19.3	+31:29:40	300	90	3.0	#113 Interacti	2	
0031-0032.FLAT	16	1:30	05:54:35.2	+31:29:40	300	90	3.0	#113 Interacti	2	
0033-0037.FLAT	16	1:33	05:57:34.3	+31:29:41	300	90	3.0	#113 Interacti	2	
0038-0040.FLAT	16	1:35	05:59:24.3	+31:29:42	300	90	3.0	#113 Interacti	2	
0041.HD52071	5	2:22	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	stratocirrus
0042.HD52071	5	2:22	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0043.HD52071	5	2:23	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0044.COMP	5	2:23	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0045.Akn120	420	2:27	05:13:38.0	-00:12:15	300	34	3.0	#6 AGN Monitor	4	
0046.COMP	5	2:34	05:13:38.0	-00:12:15	300	34	3.0	#6 AGN Monitor	4	
0047.vso-127347	900	2:39	05:59:45.0	+01:26:37	300	34	3.0	#112 Orion PMS	4	
0048.COMP	5	2:54	05:59:45.0	+01:26:37	300	34	3.0	#112 Orion PMS	4	
0049.FineFoc	60	3:07	07:02:00.9	31:56:18	300	90	3.0	#113 Interacti	1	
0050.ERUMa	900	3:21	9:47:11.9	51:54:08	300	57	3.0	#148 Accretion	2	
0051.COMP	10	3:36	9:47:11.9	51:54:08	300	57	3.0	#148 Accretion	2	
0052.2M063939.9p154544	900	4:04	06:39:39.9	+15:45:44	300	85	3.0	#68 2MASS Reds	4	



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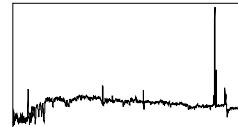
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0053.COMP	5	4:20	06:39:39.9	+15:45:44	300	85	3.0	#68 2MASS Reds	4	
0054.2MJ05493394+1836051	1200	4:21	05:49:33.9	+18:36:05	300	85	3.0	#68 2MASS Reds	4	
0055.COMP	5	4:42	05:49:33.9	+18:36:05	300	85	3.0	#68 2MASS Reds	4	
0056.2MJ05514373+3326056	1200	4:43	05:51:43.7	+33:26:05	300	90	3.0	#68 2MASS Reds	4	
0057.COMP	5	5:04	05:51:43.7	+33:26:05	300	90	3.0	#68 2MASS Reds	4	
0058.HD84937	10	5:07	09:48:56.1	13:44:39	300	-11	3.0	#56 Spectropho	2	
0059.HD84937	10	5:08	09:48:56.1	13:44:39	300	-11	3.0	#56 Spectropho	2	
0060.HD84937	10	5:08	09:48:56.1	13:44:39	300	-11	3.0	#56 Spectropho	2	
0061.COMP	10	5:08	09:48:56.1	13:44:39	300	-11	3.0	#56 Spectropho	2	
0062.MRK110	600	5:11	09:25:12.9	+52:17:10	300	0	3.0	#6 AGN Monitor	4	
0063.COMP	5	5:21	09:25:12.9	+52:17:10	300	0	3.0	#6 AGN Monitor	4	
0064.N3227	180	5:23	10:23:30.6	+19:51:54	300	0	3.0	#6 AGN Monitor	4	
0065.N3227	180	5:26	10:23:30.6	+19:51:54	300	0	3.0	#6 AGN Monitor	4	
0066.COMP	5	5:29	10:23:30.6	+19:51:54	300	0	3.0	#6 AGN Monitor	4	
0067.sn2004at	1200	5:32	10:58:45.1	+59:29:12	300	22	3.0	#2 SN Observat	2	
0068.COMP	10	5:53	10:58:45.1	+59:29:12	300	22	3.0	#2 SN Observat	2	
0069.MRK421	360	5:55	11:04:27.4	+38:12:32	300	45	3.0	#133 MRK421 an	4	
0070.MRK421	360	6:01	11:04:27.4	+38:12:32	300	45	3.0	#133 MRK421 an	4	
0071.COMP	5	6:07	11:04:27.4	+38:12:32	300	45	3.0	#133 MRK421 an	4	
0072.Feige34	150	6:10	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	



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UT Date 2004-03-19 Observers P Berlind

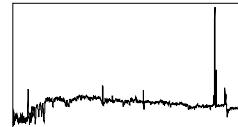
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0073.Feige34	150	6:12	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	
0074.COMP	10	6:15	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	
0075.sn2004as	1500	6:19	11:25:39.1	+22:49:49	300	-30	3.0	#2 SN Observat	2	
0076.COMP	10	6:46	11:25:39.1	+22:49:49	300	-30	3.0	#2 SN Observat	2	
0077.N4051	180	6:48	12:03:09.7	+44:31:53	300	35	3.0	#6 AGN Monitor	4	
0078.N4051	180	6:51	12:03:09.7	+44:31:53	300	35	3.0	#6 AGN Monitor	4	
0079.COMP	5	6:55	12:03:09.7	+44:31:53	300	35	3.0	#6 AGN Monitor	4	
0080.N4151	30	6:55	12:10:32.6	+39:24:21	300	35	3.0	#6 AGN Monitor	4	
0081.N4151	30	6:57	12:10:32.6	+39:24:21	300	35	3.0	#6 AGN Monitor	4	
0082.N4151	90	6:57	12:10:32.6	+39:24:21	300	35	3.0	#6 AGN Monitor	4	
0083.COMP	5	6:59	12:10:32.6	+39:24:21	300	35	3.0	#6 AGN Monitor	4	
0084.M87	180	7:01	12:30:49.4	12:23:28	300	0	3.0	#6 AGN Monitor	4	
0085.M87	180	7:04	12:30:49.4	12:23:28	300	0	3.0	#6 AGN Monitor	4	
0086.COMP	5	7:08	12:30:49.4	12:23:28	300	0	3.0	#6 AGN Monitor	4	
0087.sn2004X1	1200	7:09	11:40:57.8	-22:28:53	300	0	3.0	#2 SN Observat	2	
0088.COMP	10	7:30	11:40:57.8	-22:28:53	300	0	3.0	#2 SN Observat	2	
0089.cairnsk5_093	1200	7:35	12:56:25.4	24:24:6	300	90	3.0	#64 Cluster In	4	weak, redo
0090.COMP	5	7:56	12:56:25.4	24:24:6	300	90	3.0	#64 Cluster In	4	
0091.cairnsk5_109	1200	7:59	13:21:6.8	26:47:29	300	90	3.0	#64 Cluster In	4	
0092.COMP	5	8:20	13:21:6.8	26:47:29	300	90	3.0	#64 Cluster In	4	



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FAST SPECTROGRAPH LOG



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UT Date 2004-03-19 Observers P Berlind

Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0093.cairnsk5_110	900	8:20	13:24:26.6	25:27:37	300	90	3.0	#64 Cluster In	4	
0094.COMP	5	8:36	13:24:26.6	25:27:37	300	90	3.0	#64 Cluster In	4	
0095.cairnsk5_111	720	8:36	13:26:16.1	26:13:37	300	90	3.0	#64 Cluster In	4	
0096.COMP	5	8:49	13:26:16.1	26:13:37	300	90	3.0	#64 Cluster In	4	
0097.cairnsk5_112	1200	8:50	12:43:30	29:48:59	300	90	3.0	#64 Cluster In	4	
0098.COMP	5	9:10	12:43:30	29:48:59	300	90	3.0	#64 Cluster In	4	
0099.cairnsk5_107	1200	9:11	13:4:33	22:28:6	300	90	3.0	#64 Cluster In	4	
0100.COMP	5	9:32	13:4:33	22:28:6	300	90	3.0	#64 Cluster In	4	
0101.MRK279	210	9:35	13:51:53.6	69:33:13	300	0	3.0	#6 AGN Monitor	4	
0102.MRK279	210	9:39	13:51:53.6	69:33:13	300	0	3.0	#6 AGN Monitor	4	
0103.COMP	5	9:43	13:51:53.6	69:33:13	300	0	3.0	#6 AGN Monitor	4	
0104.N5548	300	9:44	14:17:59.6	+25:08:12	300	0	3.0	#6 AGN Monitor	4	
0105.N5548	300	9:49	14:17:59.6	+25:08:12	300	0	3.0	#6 AGN Monitor	4	
0106.COMP	5	9:55	14:17:59.6	+25:08:12	300	0	3.0	#6 AGN Monitor	4	
0107.cairnsk5_106	1200	9:57	13:1:48.5	23:23:20	300	90	3.0	#64 Cluster In	4	
0108.COMP	5	10:17	13:1:48.5	23:23:20	300	90	3.0	#64 Cluster In	4	
0109.cairnsk5_108	1200	10:18	13:19:3.8	23:50:14	300	90	3.0	#64 Cluster In	4	
0110.COMP	5	10:38	13:19:3.8	23:50:14	300	90	3.0	#64 Cluster In	4	
0111.cairnsk5_113	900	10:39	12:51:7.4	33:23:15	300	90	3.0	#64 Cluster In	4	
0112.COMP	5	10:55	12:51:7.4	33:23:15	300	90	3.0	#64 Cluster In	4	



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UT Date 2004-03-19 Observers P Berlind

Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0113.cairnsk5_114	900	10:56	12:59:9.1	23:5:11	300	90	3.0	#64 Cluster In	4	
0114.COMP	5	11:11	12:59:9.1	23:5:11	300	90	3.0	#64 Cluster In	4	
0115.cairnsk5_115	900	11:12	13:0:3.6	24:17:29	300	90	3.0	#64 Cluster In	4	
0116.COMP	5	11:27	13:0:3.6	24:17:29	300	90	3.0	#64 Cluster In	4	
0117.cairnsk5_116	720	11:28	13:0:21.7	26:54:21	300	90	3.0	#64 Cluster In	4	
0118.COMP	5	11:40	13:0:21.7	26:54:21	300	90	3.0	#64 Cluster In	4	
0119.cairnsk5_117	1200	11:41	13:15:34.9	26:35:25	300	90	3.0	#64 Cluster In	4	
0120.COMP	5	12:02	13:15:34.9	26:35:25	300	90	3.0	#64 Cluster In	4	
0121.sn2004ao	1200	12:05	17:28:09.3	+07:24:55	300	-20	3.0	#2 SN Observat	2	
0122.COMP	10	12:26	17:28:09.3	+07:24:55	300	-20	3.0	#2 SN Observat	2	
0123.BDp332642	90	12:30	15:50:03.0	33:05:49	300	92	3.0	#56 Spectropho	2	
0124.BDp332642	210	12:32	15:50:03.0	33:05:49	300	92	3.0	#56 Spectropho	2	
0125.COMP	10	12:36	15:50:03.0	33:05:49	300	92	3.0	#56 Spectropho	2	still thin clouds
0126-0135.BIAS	0	12:39	15:50:03.0	33:05:49	300	92	3.0	#113 Interacti	4	
0136-0145.FLAT	8	12:42	15:50:03.0	33:05:49	300	92	3.0	#113 Interacti	4	
0146-0155.BIAS	0	12:45	15:50:03.0	33:05:49	300	92	3.0	#113 Interacti	2	
0156-0165.FLAT	16	12:50	15:50:03.0	33:05:49	300	92	3.0	#113 Interacti	2	
0166-0175.DARK	900	15:08	15:50:03.0	33:05:49	300	92	3.0	#113 Interacti	4	
0176-0185.DARK	900	17:41	15:50:03.0	33:05:49	300	92	3.0	#113 Interacti	2	



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UT Date 2004-03-20 Observers P BerlindColl. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001-0010.BIAS	0	1:21	15:50:03.0	33:05:49	1200	90	1.5	#113 Interacti	4	
0011-0020.BIAS	0	1:24	15:50:03.0	33:05:49	1200	90	1.5	#113 Interacti	2	
0021.COMP	30	1:26	15:50:03.0	33:05:49	1200	90	1.5	#148 Accretion	2	
0022.FLAT	300	1:28	15:50:03.0	33:05:49	1200	90	1.5	#148 Accretion	2	1200 line, 1.5 sec slit, blue
0023-0031.FLAT	300	2:15	15:50:03.0	33:05:49	1200	90	1.5	#148 Accretion	2	
0032.COMP	45	2:28	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0033.SUUMa	300	2:30	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0034.SUUMa	300	2:36	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0035.SUUMa	300	2:41	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0036.SUUMa	300	2:46	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0037.SUUMa	300	2:51	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0038.SUUMa	300	2:56	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0039.SUUMa	300	3:02	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0040.SUUMa	300	3:07	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0041.SUUMa	300	3:12	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0042.COMP	45	3:18	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0043.SUUMa	300	3:19	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0044.SUUMa	300	3:25	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0045.SUUMa	300	3:30	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0046.SUUMa	300	3:35	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	



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UT Date 2004-03-20 Observers P Berlind

Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0047.SUUMa	300	3:40	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0048.SUUMa	300	3:45	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0049.SUUMa	300	3:51	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0050.SUUMa	300	3:56	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0051.SUUMa	300	4:01	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0052.COMP	45	4:07	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0053.SUUMa	300	4:08	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0054.SUUMa	300	4:13	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0055.SUUMa	300	4:18	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0056.SUUMa	300	4:24	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0057.SUUMa	300	4:29	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0058.SUUMa	300	4:34	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0059.SUUMa	300	4:39	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0060.SUUMa	300	4:44	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0061.SUUMa	300	4:50	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0062.COMP	45	4:55	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0063.SUUMa	300	4:57	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	thin clouds
0064.SUUMa	300	5:02	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0065.SUUMa	300	5:07	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0066.SUUMa	300	5:12	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	



WHIPPLE OBSERVATORY

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UT Date 2004-03-20 Observers P Berlind

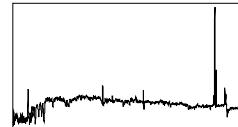
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0067.SUUMa	300	5:17	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0068.SUUMa	300	5:23	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0069.SUUMa	300	5:28	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0070.SUUMa	300	5:33	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0071.SUUMa	300	5:38	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0072.COMP	45	5:44	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0073.SUUMa	300	5:45	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0074.SUUMa	300	5:50	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0075.SUUMa	300	5:56	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0076.SUUMa	300	6:01	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0077.SUUMa	300	6:06	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0078.SUUMa	300	6:11	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0079.SUUMa	300	6:16	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0080.SUUMa	300	6:22	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0081.SUUMa	300	6:27	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0082.COMP	45	6:32	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0083.SUUMa	300	6:33	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0084.SUUMa	300	6:39	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0085.SUUMa	300	6:44	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0086.SUUMa	300	6:49	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0087.SUUMa	300	6:54	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0088.SUUMa	300	6:59	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0089.SUUMa	300	7:05	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0090.SUUMa	300	7:10	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0091.SUUMa	300	7:15	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0092.COMP	45	7:21	08:12:28.2	62:36:22	1200	0	1.5	#148 Accretion	2	
0093.Feige34	150	7:24	10:36:41.2	43:21:50	1200	100	1.5	#148 Accretion	2	
0094.Feige34	300	7:27	10:36:41.2	43:21:50	1200	100	1.5	#148 Accretion	2	
0095.COMP	45	7:33	10:36:41.2	43:21:50	1200	100	1.5	#148 Accretion	2	
0096.test	10	7:37	12:15:00	32:00:00	300	100	3.0	#57 Velocity S	2	
0097.Feige34	180	7:38	10:36:41.2	43:21:50	300	110	3.0	#56 Spectropho	2	300-line, 3-sec, combo
0098.Feige34	360	7:41	10:36:41.2	43:21:50	300	110	3.0	#56 Spectropho	2	
0099.COMP	10	7:48	10:36:41.2	43:21:50	300	110	3.0	#56 Spectropho	2	
0100.HD84937	20	7:50	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	more clouds
0101.HD84937	45	7:50	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	
0102.HD84937	45	7:52	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	
0103.COMP	10	7:53	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	
0104.sn2004as	1200	8:55	11:25:39.1	+22:49:49	300	65	3.0	#2 SN Observat	2	
0105.COMP	10	9:15	11:25:39.1	+22:49:49	300	65	3.0	#2 SN Observat	2	
0106.sn2004at	600	9:19	10:58:45.1	+59:29:12	300	110	3.0	#2 SN Observat	2	



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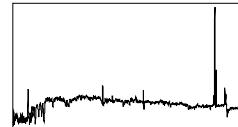
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0107.COMP	10	9:30	10:58:45.1	+59:29:12	300	110	3.0	#2 SN Observat	2	stopped by clouds
0108.sn2004at	1200	9:57	10:58:45.1	+59:29:12	300	104	3.0	#2 SN Observat	2	
0109.COMP	10	10:18	10:58:45.1	+59:29:12	300	104	3.0	#2 SN Observat	2	
0110.BDp332642	210	10:23	15:50:03.0	33:05:49	300	90	3.0	#56 Spectropho	2	
0111.BDp332642	210	10:26	15:50:03.0	33:05:49	300	90	3.0	#56 Spectropho	2	
0112.COMP	10	10:30	15:50:03.0	33:05:49	300	90	3.0	#56 Spectropho	2	
0113.cairnsk5_122	1200	10:37	13:22:7.7	30:8:39	300	90	3.0	#64 Cluster In	4	
0114.COMP	5	10:58	13:22:7.7	30:8:39	300	90	3.0	#64 Cluster In	4	
0115.cairnsk5_121	1200	10:59	13:17:21.9	32:35:13	300	90	3.0	#64 Cluster In	4	
0116.COMP	5	11:19	13:17:21.9	32:35:13	300	90	3.0	#64 Cluster In	4	
0117.sn2004ao	1200	11:23	17:28:09.3	+07:24:55	300	-25	3.0	#2 SN Observat	2	
0118.COMP	10	11:43	17:28:09.3	+07:24:55	300	-25	3.0	#2 SN Observat	2	stopped by clouds
0119-0128.BIAS	0	12:04	13:16:52.5	27:46:8	300	90	3.0	#57 Velocity S	4	
0129-0138.FLAT	8	12:08	13:16:52.5	27:46:8	300	90	3.0	#57 Velocity S	4	
0139-0148.BIAS	0	12:10	13:16:52.5	27:46:8	300	90	3.0	#57 Velocity S	2	
0149-0158.FLAT	16	12:16	13:16:52.5	27:46:8	300	90	3.0	#57 Velocity S	2	
0159-0168.DARK	900	14:37	13:16:52.5	27:46:8	300	90	3.0	#57 Velocity S	4	
0169-0178.DARK	900	17:09	13:16:52.5	27:46:8	300	90	3.0	#57 Velocity S	2	



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UT Date 2004-03-21 Observers P Berlind

Coll. Focus 1000 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0001-0005.DARK	900	1:07	13:16:52.5	27:46:8	300	90	3.0	#57 Velocity S	4	
0006-0020.BIAS	0	1:31	13:16:52.5	27:46:8	300	90	3.0	#57 Velocity S	4	
0021-0030.FLAT	8	1:34	13:16:52.5	27:46:8	300	90	3.0	#57 Velocity S	4	
0031-0040.BIAS	0	1:37	13:16:52.5	27:46:8	300	90	3.0	#57 Velocity S	2	
0041-0050.FLAT	16	1:43	13:16:52.5	27:46:8	300	90	3.0	#57 Velocity S	2	
0051-0055.sky	3	1:51	6:18:00	32:00:00	300	90	3.0	#57 Velocity S	4	
0056.COMP	5	1:52	6:18:00	32:00:00	300	90	3.0	#57 Velocity S	4	
0057.Hiltner600	100	2:20	06:42:37.2	02:11:25	300	0	3.0	#56 Spectropho	2	
0058.Hiltner600	100	2:22	06:42:37.2	02:11:25	300	0	3.0	#56 Spectropho	2	
0059.Hiltner600	100	2:23	06:42:37.2	02:11:25	300	0	3.0	#56 Spectropho	2	
0060.COMP	10	2:26	06:42:37.2	02:11:25	300	0	3.0	#56 Spectropho	2	
0061.FineFoc	60	2:32	07:02:00.9	31:56:18	300	90	3.0	#57 Velocity S	1	
0062.HD52071	5	2:38	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0063.HD52071	5	2:38	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0064.HD52071	5	2:39	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0065.COMP	5	2:39	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0066.2M061225.1+130044	1200	2:40	06:12:25.1	+13:00:44	300	90	3.0	#68 2MASS Reds	4	
0067.COMP	5	3:01	06:12:25.1	+13:00:44	300	90	3.0	#68 2MASS Reds	4	
0068.2M061416.7+094839	1500	3:02	06:14:16.7	+09:48:39	300	90	3.0	#68 2MASS Reds	4	
0069.COMP	5	3:27	06:14:16.7	+09:48:39	300	90	3.0	#68 2MASS Reds	4	



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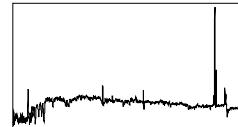
Coll. Focus 1000 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0070.2M061420.0+102136	1200	3:28	06:14:20.0	+10:21:36	300	90	3.0	#68 2MASS Reds	4	
0071.COMP	5	3:49	06:14:20.0	+10:21:36	300	90	3.0	#68 2MASS Reds	4	
0072.2M061440.9+113946	1500	3:50	06:14:40.9	+11:39:46	300	90	3.0	#68 2MASS Reds	4	
0073.COMP	5	4:16	06:14:40.9	+11:39:46	300	90	3.0	#68 2MASS Reds	4	
0074.2M064338.5-010747	300	4:18	06:43:38.5	-01:07:47	300	90	3.0	#68 2MASS Reds	4	star
0075.COMP	5	4:24	06:43:38.5	-01:07:47	300	90	3.0	#68 2MASS Reds	4	
0076.2M060649.7m085445	1500	4:26	06:06:49.7	-08:54:45	300	90	3.0	#68 2MASS Reds	4	
0077.COMP	5	4:51	06:06:49.7	-08:54:45	300	90	3.0	#68 2MASS Reds	4	
0078.sn2004at	540	4:55	10:58:45.1	+59:29:12	300	34	3.0	#2 SN Observat	2	
0079.COMP	10	5:05	10:58:45.1	+59:29:12	300	34	3.0	#2 SN Observat	2	
0080.HD84937	60	5:14	09:48:56.1	13:44:39	300	0	3.0	#56 Spectropho	2	
0081.HD84937	120	5:16	09:48:56.1	13:44:39	300	0	3.0	#56 Spectropho	2	
0082.HD84937	30	5:20	09:48:56.1	13:44:39	300	0	3.0	#56 Spectropho	2	
0083.HD84937	30	5:21	09:48:56.1	13:44:39	300	0	3.0	#56 Spectropho	2	
0084.COMP	10	5:25	09:48:56.1	13:44:39	300	0	3.0	#56 Spectropho	2	
0085.Feige34	180	5:27	10:36:41.2	43:21:50	300	34	3.0	#56 Spectropho	2	
0086.Feige34	360	5:31	10:36:41.2	43:21:50	300	34	3.0	#56 Spectropho	2	
0087.COMP	10	5:38	10:36:41.2	43:21:50	300	34	3.0	#56 Spectropho	2	
0088.sn2004at	1200	5:54	10:58:45.1	+59:29:12	300	5	3.0	#2 SN Observat	2	
0089.COMP	10	6:15	10:58:45.1	+59:29:12	300	5	3.0	#2 SN Observat	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0090.sn2004as	1200	6:17	11:25:39.1	+22:49:49	300	-15	3.0	#2 SN Observat	2	
0091.COMP	10	6:38	11:25:39.1	+22:49:49	300	-15	3.0	#2 SN Observat	2	
0092.sn2004aw	1200	6:41	11:57:50.2	+25:15:55	300	-33	3.0	#2 SN Observat	2	
0093.COMP	10	7:01	11:57:50.2	+25:15:55	300	-33	3.0	#2 SN Observat	2	
0094.Feige34	180	7:04	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	
0095.COMP	10	7:08	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	
0096.COMP	10	7:12	12:00:00	32:00:00	600	0	2.0	#56 Spectropho	4	
0097.Feige34	120	7:13	10:36:41.2	43:21:50	600	0	2.0	#122 Halo Star	4	
0098.Feige34	120	7:15	10:36:41.2	43:21:50	600	0	2.0	#122 Halo Star	4	
0099.COMP	10	7:18	10:36:41.2	43:21:50	600	0	2.0	#122 Halo Star	4	
0100.hs1760	270	7:20	10:54:46.9	34:43:46	600	100	2.0	#122 Halo Star	4	
0101.COMP	10	7:25	10:54:46.9	34:43:46	600	100	2.0	#122 Halo Star	4	
0102.hs1761	600	7:26	10:54:50.8	15:06:25	600	90	2.0	#122 Halo Star	4	
0103.COMP	10	7:37	10:54:50.8	15:06:25	600	90	2.0	#122 Halo Star	4	
0104.hs1811	240	7:38	11:08:23.4	44:35:13	600	90	2.0	#122 Halo Star	4	
0105.COMP	10	7:42	11:08:23.4	44:35:13	600	90	2.0	#122 Halo Star	4	
0106.hs1812	300	7:43	11:08:46.8	44:48:23	600	90	2.0	#122 Halo Star	4	
0107.COMP	10	7:50	11:08:46.8	44:48:23	600	90	2.0	#122 Halo Star	4	
0108.hs1813	420	7:51	11:08:52.2	15:13:43	600	90	2.0	#122 Halo Star	4	
0109.COMP	10	7:59	11:08:52.2	15:13:43	600	90	2.0	#122 Halo Star	4	



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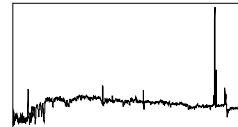
UT Date 2004-03-21 Observers P BerlindColl. Focus 1000 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0110.hs1816	480	7:59	11:10:00.1	20:06:50	600	90	2.0	#122 Halo Star	4	
0111.COMP	10	8:08	11:10:00.1	20:06:50	600	90	2.0	#122 Halo Star	4	
0112.hs1817	300	8:08	11:10:10.0	17:47:58	600	90	2.0	#122 Halo Star	4	
0113.COMP	10	8:14	11:10:10.0	17:47:58	600	90	2.0	#122 Halo Star	4	
0114.hs1814	300	8:15	11:09:18.2	43:09:02	600	90	2.0	#122 Halo Star	4	
0115.COMP	10	8:20	11:09:18.2	43:09:02	600	90	2.0	#122 Halo Star	4	
0116.hs1818	270	8:21	11:10:37.4	32:41:18	600	90	2.0	#122 Halo Star	4	
0117.COMP	10	8:26	11:10:37.4	32:41:18	600	90	2.0	#122 Halo Star	4	
0118.hs1820	720	8:27	11:10:45.5	31:58:02	600	90	2.0	#122 Halo Star	4	
0119.COMP	10	8:39	11:10:45.5	31:58:02	600	90	2.0	#122 Halo Star	4	
0120.hs1821	420	8:40	11:11:00.6	18:23:33	600	90	2.0	#122 Halo Star	4	
0121.COMP	10	8:47	11:11:00.6	18:23:33	600	90	2.0	#122 Halo Star	4	
0122.hs1822	480	8:48	11:11:06.4	18:04:43	600	90	2.0	#122 Halo Star	4	
0123.COMP	10	8:57	11:11:06.4	18:04:43	600	90	2.0	#122 Halo Star	4	
0124.hs1824	540	8:58	11:11:27.3	17:55:17	600	90	2.0	#122 Halo Star	4	
0125.COMP	10	9:07	11:11:27.3	17:55:17	600	90	2.0	#122 Halo Star	4	
0126.hs1826	240	9:08	11:11:58.6	12:37:12	600	90	2.0	#122 Halo Star	4	
0127.COMP	10	9:12	11:11:58.6	12:37:12	600	90	2.0	#122 Halo Star	4	
0128.hs1827	240	9:13	11:12:06.2	12:27:45	600	90	2.0	#122 Halo Star	4	
0129.COMP	10	9:17	11:12:06.2	12:27:45	600	90	2.0	#122 Halo Star	4	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0130.hs1829	240	9:18	11:12:17.0	30:33:15	600	90	2.0	#122 Halo Star	4	
0131.COMP	10	9:23	11:12:17.0	30:33:15	600	90	2.0	#122 Halo Star	4	
0132.hs2136	360	9:23	12:02:59.4	18:39:58	600	90	2.0	#122 Halo Star	4	
0133.COMP	10	9:30	12:02:59.4	18:39:58	600	90	2.0	#122 Halo Star	4	
0134.hs2137	420	9:31	12:03:09.3	41:45:39	600	90	2.0	#122 Halo Star	4	
0135.COMP	10	9:38	12:03:09.3	41:45:39	600	90	2.0	#122 Halo Star	4	
0136.hs2138	300	9:39	12:03:14.0	49:07:01	600	90	2.0	#122 Halo Star	4	
0137.COMP	10	9:44	12:03:14.0	49:07:01	600	90	2.0	#122 Halo Star	4	
0138.hs2139	720	9:46	12:03:23.6	16:10:28	600	90	2.0	#122 Halo Star	4	
0139.COMP	10	9:58	12:03:23.6	16:10:28	600	90	2.0	#122 Halo Star	4	
0140.hs2142	300	10:00	12:04:00.5	24:09:56	600	90	2.0	#122 Halo Star	4	
0141.COMP	10	10:05	12:04:00.5	24:09:56	600	90	2.0	#122 Halo Star	4	
0142.hs2145	300	10:06	12:04:43.0	29:41:49	600	80	2.0	#122 Halo Star	4	
0143.COMP	10	10:12	12:04:43.0	29:41:49	600	80	2.0	#122 Halo Star	4	
0144.hs2143	240	10:13	12:04:08.2	46:02:20	600	80	2.0	#122 Halo Star	4	
0145.COMP	10	10:17	12:04:08.2	46:02:20	600	80	2.0	#122 Halo Star	4	
0146.hs2511	600	10:18	13:26:13.4	40:27:36	600	80	2.0	#122 Halo Star	4	
0147.COMP	10	10:28	13:26:13.4	40:27:36	600	80	2.0	#122 Halo Star	4	
0148.hs2328	300	10:30	12:37:16.6	38:35:42	600	80	2.0	#122 Halo Star	4	
0149.COMP	10	10:35	12:37:16.6	38:35:42	600	80	2.0	#122 Halo Star	4	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0150.hs2329	360	10:36	12:37:33.5	46:46:37	600	80	2.0	#122 Halo Star	4	
0151.COMP	10	10:42	12:37:33.5	46:46:37	600	80	2.0	#122 Halo Star	4	
0152.hs2336	480	10:44	12:40:54.8	27:46:40	600	80	2.0	#122 Halo Star	4	
0153.COMP	10	10:52	12:40:54.8	27:46:40	600	80	2.0	#122 Halo Star	4	
0154.hs2337	240	10:53	12:41:11.3	39:38:51	600	80	2.0	#122 Halo Star	4	
0155.COMP	10	10:58	12:41:11.3	39:38:51	600	80	2.0	#122 Halo Star	4	
0156.hs2338	480	10:59	12:41:16.3	33:37:13	600	80	2.0	#122 Halo Star	4	strong winds
0157.COMP	10	11:07	12:41:16.3	33:37:13	600	80	2.0	#122 Halo Star	4	
0158.hs2339	300	11:09	12:41:17.4	29:09:14	600	80	2.0	#122 Halo Star	4	
0159.COMP	10	11:15	12:41:17.4	29:09:14	600	80	2.0	#122 Halo Star	4	
0160.hs2340	240	11:16	12:41:18.7	38:00:51	600	80	2.0	#122 Halo Star	4	
0161.COMP	10	11:20	12:41:18.7	38:00:51	600	80	2.0	#122 Halo Star	4	
0162.hs2685	180	11:21	14:35:37.1	71:09:21	600	90	2.0	#122 Halo Star	4	
0163.COMP	10	11:24	14:35:37.1	71:09:21	600	90	2.0	#122 Halo Star	4	
0164.hs2686	300	11:25	14:36:01.1	62:10:47	600	90	2.0	#122 Halo Star	4	
0165.COMP	10	11:31	14:36:01.1	62:10:47	600	90	2.0	#122 Halo Star	4	
0166.hs2687	420	11:32	14:36:15.5	51:55:21	600	90	2.0	#122 Halo Star	4	
0167.COMP	10	11:39	14:36:15.5	51:55:21	600	90	2.0	#122 Halo Star	4	
0168.hs2688	420	11:40	14:36:44.8	70:47:42	600	90	2.0	#122 Halo Star	4	
0169.COMP	10	11:47	14:36:44.8	70:47:42	600	90	2.0	#122 Halo Star	4	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0170.hs2689	300	11:48	14:37:12.4	64:28:51	600	90	2.0	#122 Halo Star	4	
0171.COMP	10	11:54	14:37:12.4	64:28:51	600	90	2.0	#122 Halo Star	4	
0172.hs2690	180	11:54	14:38:16.8	51:23:59	600	90	2.0	#122 Halo Star	4	
0173.COMP	10	11:58	14:38:16.8	51:23:59	600	90	2.0	#122 Halo Star	4	
0174.hs2691	600	11:58	14:40:41.8	60:27:47	600	90	2.0	#122 Halo Star	4	
0175.COMP	10	12:09	14:40:41.8	60:27:47	600	90	2.0	#122 Halo Star	4	
0176.hs2692	210	12:10	14:41:52.1	67:58:20	600	90	2.0	#122 Halo Star	4	
0177.COMP	10	12:13	14:41:52.1	67:58:20	600	90	2.0	#122 Halo Star	4	
0178.hs2693	900	12:14	14:42:26.7	70:14:06	600	90	2.0	#122 Halo Star	4	clouds, 40mph wind, and dawn all at once
0179.COMP	10	12:30	14:42:26.7	70:14:06	600	90	2.0	#122 Halo Star	4	
0180-0189.FLAT	40	12:39	14:42:26.7	70:14:06	600	90	2.0	#56 Spectropho	4	
0190-0199.BIAS	0	12:42	14:42:26.7	70:14:06	600	90	2.0	#56 Spectropho	4	
0200.COMP	5	12:45	14:42:26.7	70:14:06	300	90	3.0	#56 Spectropho	4	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001.DARK	900	1:03	05:53:19.5	+31:29:40	300	90	3.0	#56 Spectropho	4	
0002.DARK	900	1:18	06:08:28.8	+31:29:45	300	90	3.0	#56 Spectropho	4	
0003.DARK	900	1:33	06:23:38.4	+31:29:51	300	90	3.0	#56 Spectropho	4	
0004.DARK	900	1:48	06:38:45.1	+31:29:56	300	90	3.0	#56 Spectropho	4	
0005-0014.BIAS	0	2:04	06:40:09.8	+31:29:56	300	90	3.0	#56 Spectropho	4	
0015-0024.FLAT	6	2:07	06:42:56.4	+31:29:57	300	90	3.0	#56 Spectropho	4	
0025-0034.BIAS	0	2:10	06:45:21.1	+31:29:58	300	90	3.0	#56 Spectropho	2	
0035-0039.FLAT	12	2:18	06:53:59.8	+31:30:01	300	90	3.0	#56 Spectropho	2	
0040-0044.FLAT	12	2:20	06:56:02.8	+31:30:02	300	90	3.0	#56 Spectropho	2	
0045.Hiltner600	60	3:33	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0046.Hiltner600	60	3:34	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0047.COMP	5	3:35	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0048.Hiltner600	60	3:37	06:42:37.2	02:11:25	300	32	3.0	#56 Spectropho	2	
0049.Hiltner600	60	3:39	06:42:37.2	02:11:25	300	32	3.0	#56 Spectropho	2	
0050.COMP	12	3:40	06:42:37.2	02:11:25	300	32	3.0	#56 Spectropho	2	
0051.vso-79804	900	3:46	05:31:32.4	+01:58:17	300	90	3.0	#112 Orion PMS	2	
0052.COMP	12	4:01	05:31:32.4	+01:58:17	300	90	3.0	#112 Orion PMS	2	
0053.vso-80094	1200	4:04	05:33:00.3	+01:24:32	300	90	3.0	#112 Orion PMS	2	
0054.COMP	12	4:24	05:33:00.3	+01:24:32	300	90	3.0	#112 Orion PMS	2	
0055.vso-81279	1020	4:26	05:32:27.7	+01:34:36	300	90	3.0	#112 Orion PMS	2	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0056.COMP	12	4:43	05:32:27.7	+01:34:36	300	90	3.0	#112 Orion PMS	2	
0057.vso-82063	1200	4:44	05:34:03.9	+01:25:41	300	90	3.0	#112 Orion PMS	2	
0058.COMP	12	5:05	05:34:03.9	+01:25:41	300	90	3.0	#112 Orion PMS	2	
0059.N3227	150	5:07	10:23:30.6	+19:51:54	300	90	3.0	#6 AGN Monitor	2	
0060.N3227	150	5:10	10:23:30.6	+19:51:54	300	90	3.0	#6 AGN Monitor	2	
0061.COMP	12	5:13	10:23:30.6	+19:51:54	300	90	3.0	#6 AGN Monitor	2	
0062.HD84937	7	5:18	09:48:56.1	13:44:39	300	2	3.0	#56 Spectropho	2	
0063.HD84937	7	5:18	09:48:56.1	13:44:39	300	2	3.0	#56 Spectropho	2	
0064.HD84937	7	5:18	09:48:56.1	13:44:39	300	2	3.0	#56 Spectropho	2	
0065.COMP	12	5:19	09:48:56.1	13:44:39	300	2	3.0	#56 Spectropho	2	
0066.sn2004at	1200	5:22	10:58:45.1	+59:29:12	300	27	3.0	#2 SN Observat	2	ccd troubles...
0067.COMP	12	5:42	10:58:45.1	+59:29:12	300	27	3.0	#2 SN Observat	2	get again
0068.sn2004at	1200	6:00	10:58:45.1	+59:29:12	300	11	3.0	#2 SN Observat	2	
0069.COMP	12	6:21	10:58:45.1	+59:29:12	300	11	3.0	#2 SN Observat	2	
0070.COMP	12	6:29	11:05:23.7	+31:31:13	300	11	3.0	#2 SN Observat	2	
0071.BIAS	0	7:38	12:14:55.3	+31:31:20	300	11	3.0	#112 Orion PMS	2	
0072.COMP	12	7:39	12:15:58.4	+31:31:20	300	11	3.0	#112 Orion PMS	2	
0073.COMP	12	7:45	12:22:12.6	+31:31:21	300	11	3.0	#112 Orion PMS	2	
0074.BIAS	0	7:52	12:29:15.6	+31:31:21	300	11	3.0	#112 Orion PMS	2	
0075.COMP	12	7:53	12:30:11.6	+31:31:21	300	11	3.0	#112 Orion PMS	2	



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<i>File</i>	<i>Exp Time</i>	<i>UT Start</i>	<i>RA</i>	<i>Dec</i>	<i>Gr.</i>	<i>P.A.</i>	<i>Slit</i>	<i>Program</i>	<i>Bir</i>	<i>Comments</i>
0076.BIAS	0	8:40	13:17:21.0	+31:31:20	300	90	3.0	#112 Orion PMS	2	
0077.COMP	12	8:41	13:18:03.8	+31:31:20	300	90	3.0	#112 Orion PMS	2	
0078.BIAS	0	8:48	13:24:30.8	+31:31:20	300	90	3.0	#112 Orion PMS	2	
0079.COMP	12	8:51	13:27:50.4	+31:31:20	300	90	3.0	#112 Orion PMS	2	



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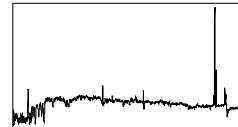
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001.BIAS	0	3:23	08:02:36.4	+31:30:25	300	90	3.0	#112 Orion PMS	4	Voila! The ccd is working! Thanks to Wayne!
0002-0005.BIAS	0	3:23	08:03:05.8	+31:30:25	300	90	3.0	#112 Orion PMS	4	
0006-0010.BIAS	0	3:24	08:03:40.4	+31:30:26	300	90	3.0	#112 Orion PMS	4	
0011-0018.FLAT	6	3:26	08:06:00.7	+31:30:26	300	90	3.0	#112 Orion PMS	4	
0019-0020.FLAT	6	3:26	08:06:26.2	+31:30:27	300	90	3.0	#112 Orion PMS	4	
0021-0030.BIAS	0	3:29	08:08:51.1	+31:30:27	300	90	3.0	#112 Orion PMS	2	
0031-0036.FLAT	12	3:32	08:11:49.1	+31:30:28	300	90	3.0	#112 Orion PMS	2	
0037-0040.FLAT	12	3:33	08:13:26.8	+31:30:29	300	90	3.0	#112 Orion PMS	2	
0041.HD84937	7	3:49	09:48:56.1	13:44:39	300	-43	3.0	#56 Spectropho	2	
0042.HD84937	7	3:50	09:48:56.1	13:44:39	300	-43	3.0	#56 Spectropho	2	
0043.HD84937	7	3:50	09:48:56.1	13:44:39	300	-43	3.0	#56 Spectropho	2	
0044.COMP	12	3:51	09:48:56.1	13:44:39	300	-43	3.0	#56 Spectropho	2	
0045.Hiltner600	60	3:54	06:42:37.2	02:11:25	300	38	3.0	#56 Spectropho	2	
0046.Hiltner600	60	3:56	06:42:37.2	02:11:25	300	38	3.0	#56 Spectropho	2	
0047.COMP	12	3:57	06:42:37.2	02:11:25	300	38	3.0	#56 Spectropho	2	
0048.PKS0736+017	1500	4:01	07:39:18.0	+01:37:03	300	24	3.0	#151 AGN Emiss	2	
0049.COMP	12	4:27	07:39:18.0	+01:37:03	300	24	3.0	#151 AGN Emiss	2	
0050.PKS0745+241	1500	4:33	07:48:36.2	+24:00:22	300	63	3.0	#151 AGN Emiss	2	
0051.PKS0745+241	1500	4:58	07:48:36.2	+24:00:22	300	63	3.0	#151 AGN Emiss	2	
0052.COMP	12	5:24	07:48:36.2	+24:00:22	300	63	3.0	#151 AGN Emiss	2	



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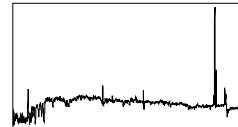
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0053.sn2004at	1200	5:27	10:58:45.1	+59:29:12	300	23	3.0	#2 SN Observat	2	
0054.COMP	12	5:47	10:58:45.1	+59:29:12	300	23	3.0	#2 SN Observat	2	
0055.sn2004as	1200	5:51	11:25:39.1	+22:49:49	300	-45	3.0	#2 SN Observat	2	
0056.COMP	12	6:12	11:25:39.1	+22:49:49	300	-45	3.0	#2 SN Observat	2	
0057.sn2004aw	1200	6:16	11:57:50.2	+25:15:55	300	-60	3.0	#2 SN Observat	2	
0058.COMP	12	6:36	11:57:50.2	+25:15:55	300	-60	3.0	#2 SN Observat	2	
0059.4C21.35	900	6:40	12:24:54.4	+21:22:46	300	-52	3.0	#151 AGN Emiss	2	
0060.4C21.35	900	6:55	12:24:54.4	+21:22:46	300	-52	3.0	#151 AGN Emiss	2	
0061.COMP	12	7:11	12:24:54.4	+21:22:46	300	-52	3.0	#151 AGN Emiss	2	
0062.PKS1302-102	660	7:13	13:05:33.0	-10:33:19	300	-22	3.0	#151 AGN Emiss	2	
0063.COMP	12	7:25	13:05:33.0	-10:33:19	300	-22	3.0	#151 AGN Emiss	2	
0064.HD84937	5	7:32	09:48:56.1	13:44:39	300	90	5.0	#122 5arcsec s	2	5arcsec, 300L, 619 tilt
0065.HD84937	5	7:32	09:48:56.1	13:44:39	300	90	5.0	#122 5arcsec s	2	
0066.HD84937	5	7:33	09:48:56.1	13:44:39	300	90	5.0	#122 5arcsec s	2	
0067.COMP	7	7:33	09:48:56.1	13:44:39	300	90	5.0	#122 5arcsec s	2	
0068.Feige34	60	7:35	10:36:41.2	43:21:50	300	90	5.0	#56 Spectropho	2	2arcsec, 600L, tilt=440
0069.Feige34	60	7:36	10:36:41.2	43:21:50	300	90	5.0	#56 Spectropho	2	
0070.COMP	7	7:38	10:36:41.2	43:21:50	300	90	5.0	#56 Spectropho	2	
0071-0080.FLAT	7	7:42	10:36:41.2	43:21:50	300	90	5.0	#122 5arcsec s	2	
0081.Feige34	90	7:49	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	



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FAST SPECTROGRAPH LOG



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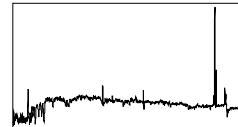
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0082.COMP	10	7:51	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	
0083.hs1762	360	7:53	10:55:57.2	17:39:57	600	90	2.0	#122 Halo Star	4	
0084.COMP	10	7:59	10:55:57.2	17:39:57	600	90	2.0	#122 Halo Star	4	
0085.hs1763	312	8:00	10:56:10.9	27:38:27	600	90	2.0	#122 Halo Star	4	
0086.COMP	10	8:05	10:56:10.9	27:38:27	600	90	2.0	#122 Halo Star	4	
0087.hs1764	210	8:06	10:56:18.0	16:50:18	600	90	2.0	#122 Halo Star	4	
0088.COMP	10	8:10	10:56:18.0	16:50:18	600	90	2.0	#122 Halo Star	4	
0089.hs1766	384	8:12	10:57:06.6	33:59:48	600	90	2.0	#122 Halo Star	4	
0090.COMP	10	8:19	10:57:06.6	33:59:48	600	90	2.0	#122 Halo Star	4	
0091.hs1767	390	8:20	10:57:13.5	18:33:18	600	90	2.0	#122 Halo Star	4	
0092.COMP	10	8:27	10:57:13.5	18:33:18	600	90	2.0	#122 Halo Star	4	
0093.hs1768	552	8:28	10:57:26.5	45:07:02	600	90	2.0	#122 Halo Star	4	
0094.COMP	10	8:38	10:57:26.5	45:07:02	600	90	2.0	#122 Halo Star	4	
0095.hs1769	192	8:39	10:57:43.6	38:46:48	600	90	2.0	#122 Halo Star	4	
0096.COMP	10	8:43	10:57:43.6	38:46:48	600	90	2.0	#122 Halo Star	4	
0097.hs1782	378	8:44	11:02:20.8	24:27:28	600	90	2.0	#122 Halo Star	4	
0098.COMP	10	8:50	11:02:20.8	24:27:28	600	90	2.0	#122 Halo Star	4	
0099.hs1783	444	8:52	11:02:42.8	38:33:20	600	90	2.0	#122 Halo Star	4	
0100.COMP	10	9:00	11:02:42.8	38:33:20	600	90	2.0	#122 Halo Star	4	
0101.hs1784	162	9:01	11:03:01.9	23:37:11	600	90	2.0	#122 Halo Star	4	



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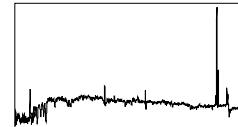
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0102.COMP	10	9:05	11:03:01.9	23:37:11	600	90	2.0	#122 Halo Star	4	
0103.hs1786	198	9:06	11:03:08.7	22:58:55	600	90	2.0	#122 Halo Star	4	
0104.COMP	10	9:09	11:03:08.7	22:58:55	600	90	2.0	#122 Halo Star	4	
0105.hs1787	252	9:10	11:03:12.3	11:13:53	600	90	2.0	#122 Halo Star	4	
0106.COMP	10	9:15	11:03:12.3	11:13:53	600	90	2.0	#122 Halo Star	4	
0107.hs1788	552	9:16	11:03:36.9	16:42:11	600	90	2.0	#122 Halo Star	4	
0108.COMP	10	9:25	11:03:36.9	16:42:11	600	90	2.0	#122 Halo Star	4	
0109.hs1789	192	9:26	11:03:43.2	14:32:23	600	90	2.0	#122 Halo Star	4	
0110.COMP	10	9:29	11:03:43.2	14:32:23	600	90	2.0	#122 Halo Star	4	
0111.hs1790	492	9:31	11:03:47.5	22:13:01	600	90	2.0	#122 Halo Star	4	
0112.COMP	10	9:40	11:03:47.5	22:13:01	600	90	2.0	#122 Halo Star	4	
0113.hs1791	336	9:41	11:04:09.7	29:27:20	600	90	2.0	#122 Halo Star	4	
0114.COMP	10	9:47	11:04:09.7	29:27:20	600	90	2.0	#122 Halo Star	4	
0115.hs1794	294	9:48	11:04:34.2	27:50:19	600	90	2.0	#122 Halo Star	4	
0116.COMP	10	9:53	11:04:34.2	27:50:19	600	90	2.0	#122 Halo Star	4	
0117.hs1795	324	9:54	11:04:59.4	14:04:51	600	90	2.0	#122 Halo Star	4	
0118.COMP	10	10:00	11:04:59.4	14:04:51	600	90	2.0	#122 Halo Star	4	
0119.hs1796	174	10:01	11:05:06.8	34:28:18	600	90	2.0	#122 Halo Star	4	
0120.COMP	10	10:04	11:05:06.8	34:28:18	600	90	2.0	#122 Halo Star	4	
0121.hs1797	210	10:06	11:06:03.5	13:36:54	600	90	2.0	#122 Halo Star	4	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0122.COMP	10	10:10	11:06:03.5	13:36:54	600	90	2.0	#122 Halo Star	4	
0123.hs2453	456	10:11	13:08:00.4	53:45:02	600	90	2.0	#122 Halo Star	4	
0124.COMP	10	10:19	13:08:00.4	53:45:02	600	90	2.0	#122 Halo Star	4	
0125.hs2454	372	10:21	13:08:10.9	65:13:28	600	90	2.0	#122 Halo Star	4	
0126.COMP	10	10:27	13:08:10.9	65:13:28	600	90	2.0	#122 Halo Star	4	
0127.hs2455	234	10:28	13:08:21.9	51:48:16	600	90	2.0	#122 Halo Star	4	
0128.COMP	10	10:33	13:08:21.9	51:48:16	600	90	2.0	#122 Halo Star	4	
0129.hs2456	270	10:34	13:08:30.2	32:43:39	600	90	2.0	#122 Halo Star	4	
0130.COMP	10	10:39	13:08:30.2	32:43:39	600	90	2.0	#122 Halo Star	4	
0131.hs2457	312	10:40	13:08:50.5	54:59:09	600	90	2.0	#122 Halo Star	4	
0132.COMP	10	10:46	13:08:50.5	54:59:09	600	90	2.0	#122 Halo Star	4	
0133.hs2458	276	10:47	13:09:01.7	38:57:41	600	90	2.0	#122 Halo Star	4	
0134.COMP	10	10:52	13:09:01.7	38:57:41	600	90	2.0	#122 Halo Star	4	
0135-0144.FLAT	40	11:01	13:09:42.5	42:03:28	600	90	2.0	#122 Halo Star	4	
0145.OR078	1500	11:30	15:49:29.4	+02:37:01	300	8	3.0	#151 AGN Emiss	2	combo setup
0146.COMP	12	11:56	15:49:29.4	+02:37:01	300	8	3.0	#151 AGN Emiss	2	
0147.sn2004ao	1200	12:02	17:28:09.3	+07:24:55	300	-22	3.0	#2 SN Observat	2	
0148.COMP	12	12:23	17:28:09.3	+07:24:55	300	-22	3.0	#2 SN Observat	2	
0149.BDp332642	70	12:27	15:50:03.0	33:05:49	300	90	3.0	#56 Spectropho	2	
0150.BDp332642	70	12:29	15:50:03.0	33:05:49	300	90	3.0	#56 Spectropho	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0151.COMP	12	12:30	15:50:03.0	33:05:49	300	90	3.0	#56 Spectropho	2	
0152.HatKepler	70	12:36	19:57:57.3	33:53:1	300	90	3.0	#126	2	
0153.HatKepler	70	12:37	19:57:57.3	33:53:1	300	90	3.0	#126	2	
0154.HatKepler	70	12:39	19:57:57.3	33:53:1	300	90	3.0	#126	2	
0155.COMP	12	12:40	19:57:57.3	33:53:1	300	90	3.0	#126	2	
0156-0165.BIAS	0	12:47	19:57:57.3	33:53:1	300	90	3.0	#126	4	
0166-0175.FLAT	6	12:50	19:57:57.3	33:53:1	300	90	3.0	#126	4	
0176-0185.BIAS	0	12:54	19:57:57.3	33:53:1	300	90	3.0	#126	2	
0186-0195.FLAT	12	12:58	19:57:57.3	33:53:1	300	90	3.0	#126	2	
0196-0205.DARK	900	15:16	19:57:57.3	33:53:1	300	90	3.0	#126	2	



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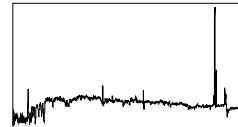
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001.DARK	900	23:31	04:29:06.1	+31:29:13	300	90	3.0	#126	4	
0002.DARK	900	23:46	04:44:15.5	+31:29:17	300	90	3.0	#126	4	
0003.DARK	900	0:01	04:59:25.0	+31:29:22	300	90	3.0	#126	4	
0004.DARK	900	0:16	05:14:34.5	+31:29:27	300	90	3.0	#126	4	
0005.DARK	900	0:31	05:29:44.2	+31:29:32	300	90	3.0	#126	4	
0006.DARK	900	0:46	05:44:51.6	+31:29:37	300	90	3.0	#126	4	
0007.DARK	900	1:01	06:00:02.0	+31:29:42	300	90	3.0	#126	4	
0008.DARK	900	1:17	06:15:12.3	+31:29:48	300	90	3.0	#126	4	
0009.DARK	900	1:32	06:30:19.2	+31:29:53	300	90	3.0	#126	4	
0010.DARK	900	1:47	06:45:29.4	+31:29:58	300	90	3.0	#126	4	
0011-0012.BIAS	0	2:02	06:46:03.1	+31:29:58	300	90	3.0	#126	4	
0013-0020.BIAS	0	2:03	06:46:58.8	+31:29:59	300	90	3.0	#126	4	
0021-0027.FLAT	6	2:05	06:48:44.4	+31:29:59	300	90	3.0	#126	4	
0028-0030.FLAT	6	2:06	06:49:19.2	+31:30:00	300	90	3.0	#126	4	
0031-0039.BIAS	0	2:08	06:51:30.7	+31:30:00	300	90	3.0	#126	2	
0040.BIAS	0	2:08	06:51:43.6	+31:30:01	300	90	3.0	#126	2	
0041-0045.FLAT	12	2:10	06:54:20.6	+31:30:01	300	90	3.0	#126	2	
0046-0050.FLAT	12	2:12	06:56:24.0	+31:30:02	300	90	3.0	#126	2	
0051.Hiltner600	70	2:52	06:42:37.2	02:11:25	300	20	3.0	#56 Spectropho	4	
0052.Hiltner600	70	2:53	06:42:37.2	02:11:25	300	20	3.0	#56 Spectropho	4	



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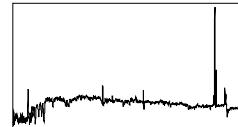
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0053.COMP	5	2:55	06:42:37.2	02:11:25	300	20	3.0	#56 Spectropho	4	
0054.Hiltner600	60	2:56	06:42:37.2	02:11:25	300	20	3.0	#56 Spectropho	2	
0055.Hiltner600	60	2:57	06:42:37.2	02:11:25	300	20	3.0	#56 Spectropho	2	
0056.COMP	12	2:59	06:42:37.2	02:11:25	300	20	3.0	#56 Spectropho	2	
0057.Akn120	420	3:01	05:13:38.0	-00:12:15	300	90	3.0	#6 AGN Monitor	2	
0058.COMP	12	3:09	05:13:38.0	-00:12:15	300	90	3.0	#6 AGN Monitor	2	
0059.vso-82338	720	3:11	05:33:09.9	+01:34:56	300	90	3.0	#112 Orion PMS	2	
0060.COMP	12	3:23	05:33:09.9	+01:34:56	300	90	3.0	#112 Orion PMS	2	
0061.vso-84748	720	3:25	05:34:17.5	+01:52:27	300	90	3.0	#112 Orion PMS	2	
0062.COMP	12	3:37	05:34:17.5	+01:52:27	300	90	3.0	#112 Orion PMS	2	
0063.vso-85046	900	3:39	05:35:49.4	+01:28:03	300	90	3.0	#112 Orion PMS	2	
0064.COMP	12	3:55	05:35:49.4	+01:28:03	300	90	3.0	#112 Orion PMS	2	
0065.vso-85106	720	3:56	05:35:51.4	+01:23:05	300	90	3.0	#112 Orion PMS	2	
0066.COMP	12	4:08	05:35:51.4	+01:23:05	300	90	3.0	#112 Orion PMS	2	
0067.vso-86655	780	4:12	05:35:22.3	+01:54:38	300	90	3.0	#112 Orion PMS	2	
0068.COMP	12	4:26	05:35:22.3	+01:54:38	300	90	3.0	#112 Orion PMS	2	
0069.vso-86980	840	4:28	05:35:34.2	+02:04:57	300	90	3.0	#112 Orion PMS	2	
0070.COMP	12	4:43	05:35:34.2	+02:04:57	300	90	3.0	#112 Orion PMS	2	
0071.BGGem	300	4:46	6:03:31	27:41:50	300	90	3.0	#12 Symbiotic	2	
0072.BGGem	1200	4:52	6:03:31	27:41:50	300	90	3.0	#12 Symbiotic	2	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0073.COMP	12	5:12	6:03:31	27:41:50	300	90	3.0	#12 Symbiotic	2	
0074.085954p13180_b	1200	5:14	9:2:39.3	13:7:4	300	90	3.0	#113 Interacti	2	
0075.085954p13180_b	1200	5:35	9:2:39.3	13:7:4	300	90	3.0	#113 Interacti	2	
0076.COMP	12	5:55	9:2:39.3	13:7:4	300	90	3.0	#113 Interacti	2	
0077.090700p07230_c	1020	6:02	9:9:53.4	7:8:21	300	12	3.0	#113 Interacti	2	
0078.090700p07230_c	1020	6:19	9:9:53.4	7:8:21	300	12	3.0	#113 Interacti	2	
0079.COMP	12	6:36	9:9:53.4	7:8:21	300	12	3.0	#113 Interacti	2	
0080.091048p29230_c	1260	6:41	9:13:36.6	29:9:40	300	35	3.0	#113 Interacti	2	
0081.091048p29230_c	1260	7:02	9:13:36.6	29:9:40	300	35	3.0	#113 Interacti	2	
0082.COMP	12	7:23	9:13:36.6	29:9:40	300	35	3.0	#113 Interacti	2	
0083.HD84937	7	7:27	09:48:56.1	13:44:39	300	55	3.0	#56 Spectropho	2	
0084.HD84937	7	7:27	09:48:56.1	13:44:39	300	55	3.0	#56 Spectropho	2	
0085.HD84937	7	7:28	09:48:56.1	13:44:39	300	55	3.0	#56 Spectropho	2	
0086.COMP	12	7:28	09:48:56.1	13:44:39	300	55	3.0	#56 Spectropho	2	
0087.sn2004at	1200	7:31	10:58:45.1	+59:29:12	300	-33	3.0	#2 SN Observat	2	
0088.COMP	12	7:52	10:58:45.1	+59:29:12	300	-33	3.0	#2 SN Observat	2	
0089.sn2004as	1200	7:56	11:25:39.1	+22:49:49	300	58	3.0	#2 SN Observat	2	
0090.COMP	12	8:16	11:25:39.1	+22:49:49	300	58	3.0	#2 SN Observat	2	
0091.sn2004aw	1200	8:20	11:57:50.2	+25:15:55	300	70	3.0	#2 SN Observat	2	
0092.COMP	12	8:40	11:57:50.2	+25:15:55	300	70	3.0	#2 SN Observat	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0093.snn5939	1200	8:44	15:24:46.7	68:43:56	300	55	3.0	#2 SN Observat	2	
0094.COMP	12	9:04	15:24:46.7	68:43:56	300	55	3.0	#2 SN Observat	2	
0095.hs2459	588	9:11	13:09:42.5	42:03:28	600	90	2.0	#122 Halo Star	4	2arcsec, 600L, tilt=440
0096.COMP	10	9:21	13:09:42.5	42:03:28	600	90	2.0	#122 Halo Star	4	
0097.hs2460	462	9:27	13:10:20.6	76:03:19	600	90	2.0	#122 Halo Star	4	
0098.COMP	10	9:35	13:10:20.6	76:03:19	600	90	2.0	#122 Halo Star	4	
0099.hs2461	510	9:36	13:11:02.1	67:29:17	600	90	2.0	#122 Halo Star	4	
0100.COMP	10	9:45	13:11:02.1	67:29:17	600	90	2.0	#122 Halo Star	4	
0101.hs2462	252	9:46	13:11:17.4	69:07:40	600	90	2.0	#122 Halo Star	4	
0102.COMP	10	9:51	13:11:17.4	69:07:40	600	90	2.0	#122 Halo Star	4	
0103.hs2463	204	9:52	13:11:27.2	68:50:36	600	90	2.0	#122 Halo Star	4	
0104.COMP	10	9:56	13:11:27.2	68:50:36	600	90	2.0	#122 Halo Star	4	
0105.hs2464	324	9:57	13:11:31.9	52:50:25	600	90	2.0	#122 Halo Star	4	
0106.COMP	10	10:03	13:11:31.9	52:50:25	600	90	2.0	#122 Halo Star	4	
0107.hs2465	366	10:04	13:11:38.7	70:03:38	600	90	2.0	#122 Halo Star	4	
0108.COMP	10	10:11	13:11:38.7	70:03:38	600	90	2.0	#122 Halo Star	4	
0109.hs2466	558	10:12	13:11:55.0	40:27:40	600	90	2.0	#122 Halo Star	4	
0110.COMP	10	10:22	13:11:55.0	40:27:40	600	90	2.0	#122 Halo Star	4	
0111.hs2467	450	10:23	13:12:01.5	37:26:55	600	90	2.0	#122 Halo Star	4	
0112.COMP	10	10:31	13:12:01.5	37:26:55	600	90	2.0	#122 Halo Star	4	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0113.hs2468	282	10:45	13:12:06.5	70:52:58	600	90	2.0	#122 Halo Star	4	
0114.COMP	10	10:50	13:12:06.5	70:52:58	600	90	2.0	#122 Halo Star	4	
0115.hs2470	192	10:51	13:12:38.2	70:57:29	600	90	2.0	#122 Halo Star	4	
0116.COMP	10	10:54	13:12:38.2	70:57:29	600	90	2.0	#122 Halo Star	4	
0117.hs2471	174	10:55	13:12:55.6	71:14:43	600	90	2.0	#122 Halo Star	4	
0118.COMP	10	10:59	13:12:55.6	71:14:43	600	90	2.0	#122 Halo Star	4	
0119.hs2474	192	11:04	13:13:48.9	80:25:12	600	90	2.0	#122 Halo Star	4	
0120.COMP	10	11:08	13:13:48.9	80:25:12	600	90	2.0	#122 Halo Star	4	
0121.hs2469	264	11:09	13:12:25.1	54:43:41	600	90	2.0	#122 Halo Star	4	
0122.COMP	10	11:14	13:12:25.1	54:43:41	600	90	2.0	#122 Halo Star	4	
0123.hs2472	306	11:15	13:12:57.8	58:05:11	600	90	2.0	#122 Halo Star	4	
0124.COMP	10	11:20	13:12:57.8	58:05:11	600	90	2.0	#122 Halo Star	4	
0125.hs2473	258	11:21	13:13:39.2	34:27:17	600	90	2.0	#122 Halo Star	4	
0126.COMP	10	11:28	13:13:39.2	34:27:17	600	90	2.0	#122 Halo Star	4	
0127.BDp332642	60	11:29	15:50:03.0	33:05:49	600	90	2.0	#56 Spectropho	4	
0128.COMP	10	11:31	15:50:03.0	33:05:49	600	90	2.0	#56 Spectropho	4	
0129-0138.FLAT	40	11:39	15:50:03.0	33:05:49	600	90	2.0	#122 Halo Star	4	
0139.BDp332642	60	11:46	15:50:03.0	33:05:49	300	97	3.0	#56 Spectropho	2	combo setup
0140.COMP	12	11:47	15:50:03.0	33:05:49	300	97	3.0	#56 Spectropho	2	
0141.sn2004ao	1200	11:50	17:28:09.3	+07:24:55	300	-26	3.0	#2 SN Observat	2	row=74



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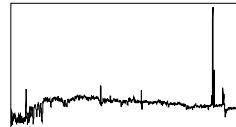
UT Date 2004-03-24 Observers M CalkinsColl. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0142.COMP	12	12:10	17:28:09.3	+07:24:55	300	-26	3.0	#2 SN Observat	2	
0143.3C390.3	360	12:15	18:42:09.1	79:46:17	300	90	3.0	#6 AGN Monitor	2	
0144.3C390.3	360	12:21	18:42:09.1	79:46:17	300	90	3.0	#6 AGN Monitor	2	
0145.COMP	12	12:27	18:42:09.1	79:46:17	300	90	3.0	#6 AGN Monitor	2	
0146.HatKepler	70	12:30	19:57:57.3	33:53:1	300	90	3.0	#126	2	need to shorten exposures...
0147.HatKepler	50	12:31	19:57:57.3	33:53:1	300	90	3.0	#126	2	
0148.HatKepler	50	12:32	19:57:57.3	33:53:1	300	90	3.0	#126	2	
0149.HatKepler	50	12:33	19:57:57.3	33:53:1	300	90	3.0	#126	2	
0150.COMP	12	12:34	19:57:57.3	33:53:1	300	90	3.0	#126	2	
0151.FineFoc	60	12:38	16:56:22.7	31:00:40	300	90	3.0	#126	1	
0152-0161.BIAS	0	12:45	16:56:22.7	31:00:40	300	90	3.0	#126	4	
0162-0171.FLAT	6	12:47	16:56:22.7	31:00:40	300	90	3.0	#126	4	
0172-0181.BIAS	0	12:50	16:56:22.7	31:00:40	300	90	3.0	#126	2	
0182-0191.FLAT	12	12:54	16:56:22.7	31:00:40	300	90	3.0	#126	2	
0192-0201.DARK	900	15:14	16:56:22.7	31:00:40	300	90	3.0	#126	2	



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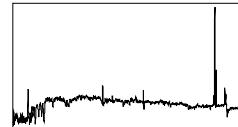
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001-0005.BIAS	0	1:30	06:17:32.2	+31:29:48	300	90	3.0	#57 Velocity S	4	
0006-0010.BIAS	0	1:31	06:18:10.1	+31:29:49	300	90	3.0	#57 Velocity S	4	
0011-0016.FLAT	8	1:33	06:20:14.3	+31:29:49	300	90	3.0	#57 Velocity S	4	
0017-0020.FLAT	8	1:34	06:21:39.1	+31:29:50	300	90	3.0	#57 Velocity S	4	
0021-0027.BIAS	0	1:36	06:23:12.9	+31:29:50	300	90	3.0	#57 Velocity S	2	
0028-0030.BIAS	0	1:36	06:23:51.2	+31:29:51	300	90	3.0	#57 Velocity S	2	
0031-0033.FLAT	16	1:38	06:25:41.6	+31:29:51	300	90	3.0	#57 Velocity S	2	
0034-0038.FLAT	16	1:41	06:28:40.5	+31:29:52	300	90	3.0	#57 Velocity S	2	
0039-0040.FLAT	16	1:42	06:29:52.9	+31:29:53	300	90	3.0	#57 Velocity S	2	
0041.sky	3	1:52	6:35:00	32:00:00	300	90	3.0	#57 Velocity S	4	clouds
0042-0045.sky	3	1:53	6:35:00	32:00:00	300	90	3.0	#57 Velocity S	4	
0046.COMP	5	1:53	6:35:00	32:00:00	300	90	3.0	#57 Velocity S	4	
0047.HD52071	5	2:20	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0048.HD52071	5	2:20	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0049.HD52071	5	2:20	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0050.COMP	5	2:21	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0051.Hiltner600	100	2:27	06:42:37.2	02:11:25	300	13	3.0	#56 Spectropho	2	
0052.Hiltner600	100	2:29	06:42:37.2	02:11:25	300	13	3.0	#56 Spectropho	2	
0053.Hiltner600	100	2:31	06:42:37.2	02:11:25	300	13	3.0	#56 Spectropho	2	
0054.COMP	10	2:33	06:42:37.2	02:11:25	300	13	3.0	#56 Spectropho	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0055.vso-90396	600	2:37	05:38:51.7	+01:19:35	300	20	3.0	#112 Orion PMS	4	
0056.COMP	5	2:47	05:38:51.7	+01:19:35	300	20	3.0	#112 Orion PMS	4	
0057.vso-93811	480	2:49	05:40:32.8	+01:07:25	300	45	3.0	#112 Orion PMS	4	
0058.COMP	5	2:57	05:40:32.8	+01:07:25	300	45	3.0	#112 Orion PMS	4	
0059.vso-94010	600	3:00	05:40:39.9	+01:11:08	300	45	3.0	#112 Orion PMS	4	
0060.COMP	5	3:11	05:40:39.9	+01:11:08	300	45	3.0	#112 Orion PMS	4	
0061.vso-94161	600	3:12	05:40:46.0	+01:00:20	300	45	3.0	#112 Orion PMS	4	
0062.COMP	5	3:23	05:40:46.0	+01:00:20	300	45	3.0	#112 Orion PMS	4	
0063.vso-95549	600	3:24	05:41:36.9	+00:59:15	300	45	3.0	#112 Orion PMS	4	
0064.COMP	5	3:34	05:41:36.9	+00:59:15	300	45	3.0	#112 Orion PMS	4	
0065.vso-95750	600	3:35	05:41:43.3	+01:07:51	300	45	3.0	#112 Orion PMS	4	
0066.COMP	5	3:46	05:41:43.3	+01:07:51	300	45	3.0	#112 Orion PMS	4	
0067.vso-95842	600	3:47	05:41:46.4	+01:23:31	300	45	3.0	#112 Orion PMS	4	
0068.COMP	5	3:58	05:41:46.4	+01:23:31	300	45	3.0	#112 Orion PMS	4	
0069.092136p06090_b	1680	4:04	9:24:15.2	5:56:4	300	90	3.0	#113 Interacti	2	
0070.COMP	10	4:32	9:24:15.2	5:56:4	300	90	3.0	#113 Interacti	2	
0071.HD84937	10	5:36	09:48:56.1	13:44:39	300	23	3.0	#56 Spectropho	2	
0072.HD84937	30	5:37	09:48:56.1	13:44:39	300	23	3.0	#56 Spectropho	2	
0073.HD84937	30	5:38	09:48:56.1	13:44:39	300	23	3.0	#56 Spectropho	2	
0074.COMP	10	5:39	09:48:56.1	13:44:39	300	23	3.0	#56 Spectropho	2	



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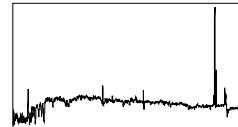
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0075.Feige34	150	5:55	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	
0076.COMP	10	5:58	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	
0077.snu6853	900	6:00	11:52:48.2	+29:20:51	300	90	3.0	#2 SN Observat	2	
0078.COMP	10	6:16	11:52:48.2	+29:20:51	300	90	3.0	#2 SN Observat	2	
0079.sn2004awblue	1260	6:41	11:57:50.2	+25:15:55	300	0	3.0	#2 SN Observat	2	
0080.COMP	10	7:03	11:57:50.2	+25:15:55	300	0	3.0	#2 SN Observat	2	
0081.Feige34blue	420	7:25	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	
0082.COMP	10	7:32	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	
0083.HD84937blue	20	7:34	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	
0084.HD84937blue	30	7:35	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	
0085.HD84937blue	30	7:36	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	
0086.COMP	10	7:37	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	stopped by clouds
0087.FLAT	18	7:38	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	blue
0088-0091.FLAT	18	7:40	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	
0092-0101.DARK	900	11:55	11:57:50.2	+25:15:55	300	90	3.0	#2 SN Observat	4	
0102-0111.DARK	900	14:28	11:57:50.2	+25:15:55	300	90	3.0	#2 SN Observat	2	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0001.DARK	900	23:22	04:28:42.3	+31:29:13	300	90	3.0	#2 SN Observat	4	
0002.DARK	900	23:38	04:43:52.2	+31:29:17	300	90	3.0	#2 SN Observat	4	
0003.DARK	900	23:53	04:59:02.0	+31:29:22	300	90	3.0	#2 SN Observat	4	
0004.DARK	900	0:08	05:14:08.6	+31:29:27	300	90	3.0	#2 SN Observat	4	
0005.DARK	900	0:23	05:29:18.2	+31:29:32	300	90	3.0	#2 SN Observat	4	
0006.DARK	900	0:38	05:44:27.9	+31:29:37	300	90	3.0	#2 SN Observat	4	
0007.DARK	900	0:53	05:59:38.4	+31:29:42	300	90	3.0	#2 SN Observat	4	
0008.DARK	900	1:08	06:14:45.1	+31:29:48	300	90	3.0	#2 SN Observat	4	
0009-0011.BIAS	0	1:29	06:20:11.6	+31:29:49	300	90	3.0	#2 SN Observat	4	
0012-0020.BIAS	0	1:30	06:21:19.3	+31:29:50	300	90	3.0	#2 SN Observat	4	
0021-0025.FLAT	8	1:31	06:23:01.8	+31:29:50	300	90	3.0	#2 SN Observat	4	
0026-0030.FLAT	8	1:33	06:24:47.9	+31:29:51	300	90	3.0	#2 SN Observat	4	
0031-0035.BIAS	0	1:34	06:25:56.2	+31:29:51	300	90	3.0	#2 SN Observat	2	
0036-0040.BIAS	0	1:36	06:27:03.5	+31:29:52	300	90	3.0	#2 SN Observat	2	
0041-0042.FLAT	16	1:36	06:28:16.1	+31:29:52	300	90	3.0	#2 SN Observat	2	
0043-0047.FLAT	16	1:39	06:31:15.0	+31:29:53	300	90	3.0	#2 SN Observat	2	
0048-0050.FLAT	16	1:41	06:33:05.3	+31:29:54	300	90	3.0	#2 SN Observat	2	
0051-0055.sky	3	1:54	6:45:00	32:00:00	300	90	3.0	#57 Velocity S	4	
0056.COMP	5	1:54	6:45:00	32:00:00	300	90	3.0	#57 Velocity S	4	
0057.HD52071	5	2:33	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0058.HD52071	5	2:33	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0059.HD52071	5	2:34	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0060.COMP	5	2:34	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0061.Hiltner600	90	2:48	06:42:37.2	02:11:25	300	21	3.0	#56 Spectropho	2	
0062.Hiltner600	90	2:50	06:42:37.2	02:11:25	300	21	3.0	#56 Spectropho	2	
0063.Hiltner600	90	2:52	06:42:37.2	02:11:25	300	21	3.0	#56 Spectropho	2	
0064.COMP	10	2:54	06:42:37.2	02:11:25	300	21	3.0	#56 Spectropho	2	
0065.2M05315499+4338482	240	3:00	05:31:54.9	+43:38:48	300	90	3.0	#68 2MASS Reds	4	
0066.COMP	5	3:04	05:31:54.9	+43:38:48	300	90	3.0	#68 2MASS Reds	4	
0067.2M05521648+3750158	1200	3:05	05:52:16.4	+37:50:15	300	90	3.0	#68 2MASS Reds	4	
0068.COMP	5	3:26	05:52:16.4	+37:50:15	300	90	3.0	#68 2MASS Reds	4	
0069.2M06331910+5122572	720	3:27	06:33:19.1	+51:22:57	300	90	3.0	#68 2MASS Reds	4	
0070.COMP	5	3:39	06:33:19.1	+51:22:57	300	90	3.0	#68 2MASS Reds	4	
0071.2M08065767+5554114	300	3:40	08:06:57.6	+55:54:11	300	90	3.0	#68 2MASS Reds	4	
0072.COMP	5	3:46	08:06:57.6	+55:54:11	300	90	3.0	#68 2MASS Reds	4	
0073.2M09440502+0044009	240	3:48	09:44:05.0	+00:44:00	300	90	3.0	#68 2MASS Reds	4	
0074.COMP	5	3:55	09:44:05.0	+00:44:00	300	90	3.0	#68 2MASS Reds	4	
0075.test	10	4:01	9:10:00	32:00:00	600	90	2.0	#113 Interacti	4	
0076.FLAT	40	4:02	9:10:00	32:00:00	600	90	2.0	#113 Interacti	4	600-line, 2-sec, Warren
0077-0085.FLAT	40	4:09	9:10:00	32:00:00	600	90	2.0	#113 Interacti	4	



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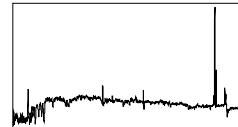
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0086.hs1798	600	4:14	11:06:10.8	14:03:35	600	90	2.0	#122 Halo Star	4	
0087.COMP	10	4:24	11:06:10.8	14:03:35	600	90	2.0	#122 Halo Star	4	
0088.hs1799	720	4:25	11:06:14.7	21:44:04	600	90	2.0	#122 Halo Star	4	
0089.COMP	10	4:38	11:06:14.7	21:44:04	600	90	2.0	#122 Halo Star	4	
0090.hs1800	900	4:39	11:06:22.4	31:39:36	600	90	2.0	#122 Halo Star	4	
0091.COMP	10	4:54	11:06:22.4	31:39:36	600	90	2.0	#122 Halo Star	4	
0092.hs1801	300	4:55	11:06:23.5	37:21:59	600	90	2.0	#122 Halo Star	4	
0093.COMP	10	5:00	11:06:23.5	37:21:59	600	90	2.0	#122 Halo Star	4	
0094.hs1802	360	5:01	11:06:29.6	37:59:04	600	90	2.0	#122 Halo Star	4	
0095.COMP	10	5:08	11:06:29.6	37:59:04	600	90	2.0	#122 Halo Star	4	
0096.hs1803	900	5:09	11:06:30.9	48:20:04	600	90	2.0	#122 Halo Star	4	
0097.COMP	10	5:24	11:06:30.9	48:20:04	600	90	2.0	#122 Halo Star	4	
0098.hs1804	360	5:25	11:06:59.1	12:17:39	600	90	2.0	#122 Halo Star	4	
0099.COMP	10	5:32	11:06:59.1	12:17:39	600	90	2.0	#122 Halo Star	4	
0100.hs1805	330	5:33	11:07:28.0	22:27:16	600	90	2.0	#122 Halo Star	4	
0101.COMP	10	5:39	11:07:28.0	22:27:16	600	90	2.0	#122 Halo Star	4	
0102.hs1808	330	5:40	11:07:59.6	13:11:33	600	90	2.0	#122 Halo Star	4	
0103.COMP	10	5:47	11:07:59.6	13:11:33	600	90	2.0	#122 Halo Star	4	
0104.hs1807	900	5:48	11:07:41.3	32:35:40	600	90	2.0	#122 Halo Star	4	
0105.COMP	10	6:03	11:07:41.3	32:35:40	600	90	2.0	#122 Halo Star	4	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0106.hs1806	330	6:04	11:07:40.0	43:01:46	600	90	2.0	#122 Halo Star	4	
0107.COMP	10	6:10	11:07:40.0	43:01:46	600	90	2.0	#122 Halo Star	4	
0108.hs1866	300	6:10	11:18:21.1	46:36:30	600	90	2.0	#122 Halo Star	4	
0109.COMP	10	6:16	11:18:21.1	46:36:30	600	90	2.0	#122 Halo Star	4	
0110.hs1867	330	6:16	11:18:21.4	40:29:07	600	90	2.0	#122 Halo Star	4	
0111.COMP	10	6:22	11:18:21.4	40:29:07	600	90	2.0	#122 Halo Star	4	
0112.Feige34	120	6:23	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	
0113.Feige34	120	6:25	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	
0114.COMP	10	6:27	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	
0115.hs1869	420	6:28	11:18:28.9	27:49:57	600	90	2.0	#122 Halo Star	4	
0116.COMP	10	6:36	11:18:28.9	27:49:57	600	90	2.0	#122 Halo Star	4	
0117.hs1871	300	6:36	11:18:34.7	19:49:47	600	90	2.0	#122 Halo Star	4	
0118.COMP	10	6:42	11:18:34.7	19:49:47	600	90	2.0	#122 Halo Star	4	
0119.hs1870	360	6:42	11:18:33.8	9:03:13	600	90	2.0	#122 Halo Star	4	
0120.COMP	10	6:49	11:18:33.8	9:03:13	600	90	2.0	#122 Halo Star	4	
0121.hs1872	300	6:51	11:18:38.1	9:44:52	600	90	2.0	#122 Halo Star	4	
0122.COMP	10	6:56	11:18:38.1	9:44:52	600	90	2.0	#122 Halo Star	4	
0123.hs1875	720	6:57	11:19:00.2	8:39:11	600	90	2.0	#122 Halo Star	4	
0124.COMP	10	7:10	11:19:00.2	8:39:11	600	90	2.0	#122 Halo Star	4	
0125.hs1876	420	7:11	11:19:41.2	26:43:16	600	90	2.0	#122 Halo Star	4	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0126.COMP	10	7:18	11:19:41.2	26:43:16	600	90	2.0	#122 Halo Star	4	
0127.hs1874	300	7:19	11:18:56.0	41:10:50	600	90	2.0	#122 Halo Star	4	
0128.COMP	10	7:24	11:18:56.0	41:10:50	600	90	2.0	#122 Halo Star	4	
0129.test	1	7:27	12:30:00	32:00:0	300	90	3.0	#57 Velocity S	4	
0130.HD84937	10	7:29	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	300-line,3-sec,blue
0131.HD84937	10	7:29	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	
0132.HD84937	10	7:30	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	
0133.COMP	10	7:30	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	
0134.Feige34	120	7:32	10:36:41.2	43:21:50	300	109	3.0	#56 Spectropho	2	
0135.Feige34	120	7:34	10:36:41.2	43:21:50	300	109	3.0	#56 Spectropho	2	
0136.COMP	10	7:36	10:36:41.2	43:21:50	300	109	3.0	#56 Spectropho	2	
0137.sn2004aw	1500	7:38	11:57:50.2	+25:15:55	300	50	3.0	#2 SN Observat	2	
0138.COMP	10	8:05	11:57:50.2	+25:15:55	300	50	3.0	#2 SN Observat	2	
0139-0143.FLAT	16	8:07	11:57:50.2	+25:15:55	300	50	3.0	#57 Velocity S	2	
0144.test	10	8:10	13:00:00	25:00:00	300	65	3.0	#2 SN Observat	2	
0145.test	5	8:11	13:00:00	25:00:00	300	65	3.0	#2 SN Observat	2	
0146.test	5	8:12	13:00:00	25:00:00	300	65	3.0	#2 SN Observat	2	
0147.HD84937	10	8:14	09:48:56.1	13:44:39	300	60	3.0	#56 Spectropho	2	300-line,3-sec,red,gg-495
0148.HD84937	15	8:15	09:48:56.1	13:44:39	300	60	3.0	#56 Spectropho	2	
0149.HD84937	15	8:15	09:48:56.1	13:44:39	300	60	3.0	#56 Spectropho	2	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0150.HD84937	15	8:16	09:48:56.1	13:44:39	300	60	3.0	#56 Spectropho	2	
0151.COMP	5	8:17	09:48:56.1	13:44:39	300	60	3.0	#56 Spectropho	2	
0152.sn2004aw	1500	8:18	11:57:50.2	+25:15:55	300	66	3.0	#2 SN Observat	2	
0153.COMP	5	8:43	11:57:50.2	+25:15:55	300	66	3.0	#2 SN Observat	2	
0154-0163.FLAT	20	8:49	11:57:50.2	+25:15:55	300	66	3.0	#2 SN Observat	2	
0164.test	10	8:52	14:00:00	32:00:00	300	66	3.0	#2 SN Observat	2	
0165.N4051	150	8:54	12:03:09.7	+44:31:53	300	90	3.0	#6 AGN Monitor	4	300-line,3-sec,combo
0166.N4051	150	8:56	12:03:09.7	+44:31:53	300	90	3.0	#6 AGN Monitor	4	
0167.COMP	5	8:59	12:03:09.7	+44:31:53	300	90	3.0	#6 AGN Monitor	4	
0168.N4151	30	9:00	12:10:32.6	+39:24:21	300	90	3.0	#6 AGN Monitor	4	
0169.N4151	30	9:00	12:10:32.6	+39:24:21	300	90	3.0	#6 AGN Monitor	4	
0170.N4151	15	9:01	12:10:32.6	+39:24:21	300	90	3.0	#6 AGN Monitor	4	
0171.N4151	15	9:01	12:10:32.6	+39:24:21	300	90	3.0	#6 AGN Monitor	4	
0172.N4151	90	9:02	12:10:32.6	+39:24:21	300	90	3.0	#6 AGN Monitor	4	
0173.COMP	5	9:03	12:10:32.6	+39:24:21	300	90	3.0	#6 AGN Monitor	4	
0174.M87	180	9:05	12:30:49.4	12:23:28	300	44	3.0	#6 AGN Monitor	4	
0175.M87	180	9:08	12:30:49.4	12:23:28	300	44	3.0	#6 AGN Monitor	4	
0176.COMP	5	9:11	12:30:49.4	12:23:28	300	44	3.0	#6 AGN Monitor	4	
0177.N5548	240	9:12	14:17:59.6	+25:08:12	300	0	3.0	#6 AGN Monitor	4	
0178.N5548	240	9:16	14:17:59.6	+25:08:12	300	0	3.0	#6 AGN Monitor	4	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0179.COMP	5	9:21	14:17:59.6	+25:08:12	300	0	3.0	#6 AGN Monitor	4	
0180.MRK279	180	9:22	13:51:53.6	69:33:13	300	0	3.0	#6 AGN Monitor	4	
0181.MRK279	180	9:25	13:51:53.6	69:33:13	300	0	3.0	#6 AGN Monitor	4	
0182.COMP	5	9:28	13:51:53.6	69:33:13	300	0	3.0	#6 AGN Monitor	4	
0183.M3pn	1200	9:31	13:42:23.1	+28:18:27	300	90	3.0	#126 GRB	2	target is brightest object in middle of ccd, row86
0184.COMP	10	9:53	13:42:23.1	+28:18:27	300	90	3.0	#126 GRB	2	beware nearby star in slit at row 83
0185.cl1331p6238	1800	9:55	13:31:33.0	+62:38:31	300	45	3.0	#150 Distant C	2	
0186.COMP	10	10:25	13:31:33.0	+62:38:31	300	45	3.0	#150 Distant C	2	
0187.sn2004ax	1200	10:32	15:24:46.7	68:43:56	300	5	3.0	#2 SN Observat	2	
0188.sn2004ax	900	10:53	15:24:46.7	68:43:56	300	5	3.0	#2 SN Observat	2	further east
0189.COMP	10	11:09	15:24:46.7	68:43:56	300	5	3.0	#2 SN Observat	2	
0190.BDp332642	120	11:12	15:50:03.0	33:05:49	300	90	3.0	#56 Spectropho	2	
0191.BDp332642	120	11:15	15:50:03.0	33:05:49	300	90	3.0	#56 Spectropho	2	
0192.COMP	10	11:17	15:50:03.0	33:05:49	300	90	3.0	#56 Spectropho	2	
0193.sn2004ay	1200	11:23	18:28:57.5	+51:38:55	300	60	3.0	#2 SN Observat	2	more cirrus
0194.COMP	10	11:44	18:28:57.5	+51:38:55	300	60	3.0	#2 SN Observat	2	
0195.USNO0778	600	11:48	17:41:55.2	-12:11:56	300	0	3.0	#149 Black Hol	2	
0196.COMP	10	12:02	17:41:55.2	-12:11:56	300	0	3.0	#149 Black Hol	2	
0197.test	10	12:05	17:00:00	30:00:00	300	90	3.0	#149 Black Hol	1	
0198.FineFoc	60	12:08	16:56:22.7	31:00:40	300	90	3.0	#149 Black Hol	1	



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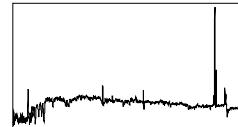
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0199.IGRJ17544	120	12:17	17:54:25.7	-26:19:58	300	0	3.0	#149 Black Hol	2	
0200.IGRJ17544	300	12:20	17:54:25.7	-26:19:58	300	0	3.0	#149 Black Hol	2	
0201.COMP	10	12:25	17:54:25.7	-26:19:58	300	0	3.0	#149 Black Hol	2	
0202.FineFoc	60	12:29	16:56:22.7	31:00:40	300	90	3.0	#149 Black Hol	1	
0203.HatKepler	20	12:34	19:57:57.3	+33:53:01	300	90	3.0	#126 GRB	2	
0204.HatKepler	30	12:35	19:57:57.3	+33:53:01	300	90	3.0	#126 GRB	2	
0205.HatKepler	30	12:35	19:57:57.3	+33:53:01	300	90	3.0	#126 GRB	2	
0206.COMP	10	12:36	19:57:57.3	+33:53:01	300	90	3.0	#126 GRB	2	
0207-0216.BIAS	0	12:40	19:57:57.3	+33:53:01	300	90	3.0	#149 Black Hol	4	
0217-0226.FLAT	8	12:44	19:57:57.3	+33:53:01	300	90	3.0	#149 Black Hol	4	
0227-0236.BIAS	0	12:46	19:57:57.3	+33:53:01	300	90	3.0	#149 Black Hol	2	
0237-0246.FLAT	16	12:52	19:57:57.3	+33:53:01	300	90	3.0	#149 Black Hol	2	
0247-0256.DARK	1200	15:55	19:57:57.3	+33:53:01	300	90	3.0	#149 Black Hol	2	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0001-0008.DARK	900	0:58	19:57:57.3	+33:53:01	300	90	3.0	#149 Black Hol	2	
0009-0010.BIAS	0	1:20	19:57:57.3	+33:53:01	300	90	3.0	#149 Black Hol	2	
0011-0020.BIAS	0	1:22	19:57:57.3	+33:53:01	300	90	3.0	#149 Black Hol	4	
0021-0030.FLAT	8	1:25	19:57:57.3	+33:53:01	300	90	3.0	#149 Black Hol	4	
0031-0040.BIAS	0	1:28	19:57:57.3	+33:53:01	300	90	3.0	#149 Black Hol	2	
0041-0050.FLAT	16	1:33	19:57:57.3	+33:53:01	300	90	3.0	#149 Black Hol	2	
0051.sky	3	1:54	6:35:00	32:00:00	300	90	3.0	#57 Velocity S	4	clouds to far west
0052-0055.sky	3	1:54	6:35:00	32:00:00	300	90	3.0	#57 Velocity S	4	
0056.COMP	5	1:55	6:35:00	32:00:00	300	90	3.0	#57 Velocity S	4	
0057.HD52071	5	2:26	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0058.HD52071	5	2:27	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0059.HD52071	5	2:27	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0060.COMP	5	2:27	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0061.FineFoc	60	2:29	08:00:04.5	31:35:29	300	90	3.0	#57 Velocity S	1	
0062.Akn120	300	2:37	05:13:38.0	-00:12:15	300	43	3.0	#6 AGN Monitor	4	
0063.COMP	5	2:43	05:13:38.0	-00:12:15	300	43	3.0	#6 AGN Monitor	4	
0064.FUOri	30	2:45	05:45:22.6	+09:04:12	300	47	3.0	#112 Orion PMS	4	
0065.FUOri	30	2:46	05:45:22.6	+09:04:12	300	47	3.0	#112 Orion PMS	4	
0066.COMP	5	2:46	05:45:22.6	+09:04:12	300	47	3.0	#112 Orion PMS	4	
0067.ZCMa	10	2:48	07:03:43.1	-11:33:06	300	14	3.0	#112 Orion PMS	4	



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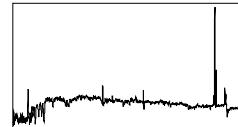
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0068.ZCMA	5	2:48	07:03:43.1	-11:33:06	300	14	3.0	#112 Orion PMS	4	
0069.ZCMA	35	2:48	07:03:43.1	-11:33:06	300	14	3.0	#112 Orion PMS	4	
0070.ZCMA	35	2:49	07:03:43.1	-11:33:06	300	14	3.0	#112 Orion PMS	4	
0071.COMP	5	2:50	07:03:43.1	-11:33:06	300	14	3.0	#112 Orion PMS	4	
0072.BXMon	15	2:51	7:25:23	-03:35:51	300	8	3.0	#12 Symbiotic	4	
0073.BXMon	10	2:51	7:25:23	-03:35:51	300	8	3.0	#12 Symbiotic	4	
0074.BXMon	45	2:52	7:25:23	-03:35:51	300	8	3.0	#12 Symbiotic	4	
0075.BXMon	90	2:53	7:25:23	-03:35:51	300	8	3.0	#12 Symbiotic	4	
0076.COMP	5	2:55	7:25:23	-03:35:51	300	8	3.0	#12 Symbiotic	4	
0077.qvsonb-53058	480	2:57	05:57:35.7	-01:52:02	300	45	3.0	#112 Orion PMS	2	
0078.COMP	10	3:06	05:57:35.7	-01:52:02	300	45	3.0	#112 Orion PMS	2	
0079.qvsonb-53987	300	3:07	05:58:34.6	-01:55:43	300	45	3.0	#112 Orion PMS	4	
0080.COMP	5	3:12	05:58:34.6	-01:55:43	300	45	3.0	#112 Orion PMS	4	
0081.qvsonb-54611	420	3:13	05:59:17.4	-02:06:20	300	45	3.0	#112 Orion PMS	4	
0082.COMP	5	3:21	05:59:17.4	-02:06:20	300	45	3.0	#112 Orion PMS	4	
0083.qvsonb-55624	600	3:23	06:00:23.7	-01:50:45	300	45	3.0	#112 Orion PMS	4	
0084.COMP	5	3:33	06:00:23.7	-01:50:45	300	45	3.0	#112 Orion PMS	4	
0085.qvsonb-62987	720	3:34	06:00:11.6	-00:02:34	300	45	3.0	#112 Orion PMS	4	
0086.COMP	5	3:47	06:00:11.6	-00:02:34	300	45	3.0	#112 Orion PMS	4	
0087.test	1	3:51	9:00:00	32:00:00	600	90	2.0	#112 Orion PMS	4	



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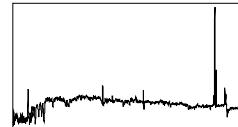
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0088.FLAT	40	3:51	9:00:00	32:00:00	600	90	2.0	#112 Orion PMS	4	600-line,2-sec,Warren
0089-0097.FLAT	40	3:58	9:00:00	32:00:00	600	90	2.0	#112 Orion PMS	4	
0098.hs1880	720	4:02	11:20:06.7	27:38:18	600	90	2.0	#122 Halo Star	4	
0099.COMP	10	4:14	11:20:06.7	27:38:18	600	90	2.0	#122 Halo Star	4	
0100.hs1881	420	4:15	11:20:47.8	17:53:43	600	90	2.0	#122 Halo Star	4	
0101.COMP	10	4:23	11:20:47.8	17:53:43	600	90	2.0	#122 Halo Star	4	
0102.hs1883	720	4:23	11:21:56.9	16:25:19	600	90	2.0	#122 Halo Star	4	
0103.COMP	10	4:36	11:21:56.9	16:25:19	600	90	2.0	#122 Halo Star	4	
0104.hs1885	720	4:37	11:22:07.5	10:20:57	600	90	2.0	#122 Halo Star	4	
0105.COMP	10	4:49	11:22:07.5	10:20:57	600	90	2.0	#122 Halo Star	4	
0106.hs1884	720	4:50	11:22:02.5	21:55:23	600	90	2.0	#122 Halo Star	4	
0107.COMP	10	5:02	11:22:02.5	21:55:23	600	90	2.0	#122 Halo Star	4	
0108.hs1882	720	5:03	11:20:57.3	50:46:09	600	90	2.0	#122 Halo Star	4	
0109.COMP	10	5:15	11:20:57.3	50:46:09	600	90	2.0	#122 Halo Star	4	
0110.hs1886	720	5:16	11:22:20.6	50:35:23	600	90	2.0	#122 Halo Star	4	
0111.COMP	10	5:28	11:22:20.6	50:35:23	600	90	2.0	#122 Halo Star	4	
0112.hs1902	300	5:30	11:26:09.4	11:37:16	600	90	2.0	#122 Halo Star	4	
0113.COMP	10	5:35	11:26:09.4	11:37:16	600	90	2.0	#122 Halo Star	4	
0114.hs1903	240	5:36	11:26:17.8	6:55:11	600	90	2.0	#122 Halo Star	4	
0115.COMP	10	5:41	11:26:17.8	6:55:11	600	90	2.0	#122 Halo Star	4	



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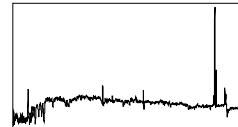
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0116.hs1904	720	5:41	11:26:23.0	32:27:07	600	90	2.0	#122 Halo Star	4	
0117.COMP	10	5:54	11:26:23.0	32:27:07	600	90	2.0	#122 Halo Star	4	
0118.hs1905	300	5:55	11:26:34.6	27:15:39	600	90	2.0	#122 Halo Star	4	
0119.COMP	10	6:00	11:26:34.6	27:15:39	600	90	2.0	#122 Halo Star	4	
0120.hs1906	720	6:00	11:26:35.8	35:06:24	600	90	2.0	#122 Halo Star	4	
0121.COMP	10	6:13	11:26:35.8	35:06:24	600	90	2.0	#122 Halo Star	4	
0122.hs1907	720	6:14	11:26:43.3	17:14:02	600	90	2.0	#122 Halo Star	4	
0123.COMP	10	6:28	11:26:43.4	+17:13:50	600	90	2.0	#122 Halo Star	4	tcs crash, I think header is actually ok
0124.hs1911	900	6:29	11:27:21.1	27:13:36	600	90	2.0	#122 Halo Star	4	
0125.COMP	10	6:45	11:27:21.1	27:13:36	600	90	2.0	#122 Halo Star	4	
0126.hs1910	300	6:46	11:27:13.8	20:51:07	600	90	2.0	#122 Halo Star	4	
0127.COMP	10	6:51	11:27:13.8	20:51:07	600	90	2.0	#122 Halo Star	4	
0128.hs1909	300	6:52	11:26:59.6	31:39:08	600	90	2.0	#122 Halo Star	4	
0129.COMP	10	6:57	11:26:59.6	31:39:08	600	90	2.0	#122 Halo Star	4	
0130.hs1913	360	6:58	11:28:18.3	30:49:04	600	90	2.0	#122 Halo Star	4	
0131.COMP	10	7:04	11:28:18.3	30:49:04	600	90	2.0	#122 Halo Star	4	
0132.hs1912	300	7:05	11:27:45.9	44:27:14	600	90	2.0	#122 Halo Star	4	
0133.COMP	10	7:10	11:27:45.9	44:27:14	600	90	2.0	#122 Halo Star	4	
0134.hs1914	240	7:11	11:28:21.3	39:27:31	600	90	2.0	#122 Halo Star	4	
0135.COMP	10	7:17	11:28:21.3	39:27:31	600	90	2.0	#122 Halo Star	4	



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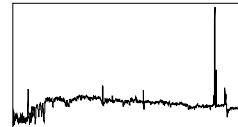
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0136.hs1916	180	7:18	11:28:32.9	9:00:47	600	90	2.0	#122 Halo Star	4	many tcs crashes last 3 nights
0137.COMP	10	7:22	11:28:32.9	9:00:47	600	90	2.0	#122 Halo Star	4	
0138.test	1	7:24	12:45:00	32:00:00	300	90	3.0	#122 Halo Star	4	
0139.HD84937	10	7:26	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	
0140.HD84937	10	7:26	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	
0141.HD84937	10	7:26	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	
0142.COMP	10	7:27	09:48:56.1	13:44:39	300	57	3.0	#56 Spectropho	2	
0143.Feige34	150	7:29	10:36:41.2	43:21:50	300	108	3.0	#56 Spectropho	2	
0144.Feige34	150	7:32	10:36:41.2	43:21:50	300	108	3.0	#56 Spectropho	2	
0145.COMP	10	7:34	10:36:41.2	43:21:50	300	108	3.0	#56 Spectropho	2	
0146.sn2004at	1200	7:36	10:58:45.1	+59:29:12	300	110	3.0	#2 SN Observat	2	
0147.COMP	10	7:56	10:58:45.1	+59:29:12	300	110	3.0	#2 SN Observat	2	
0148.sn2004as	1500	7:59	11:25:39.1	+22:49:49	300	64	3.0	#2 SN Observat	2	tcs crash
0149.COMP	10	8:26	11:25:39.1	+22:49:49	300	64	3.0	#2 SN Observat	2	tcs crash
0150.sn2004aw	1365	8:36	11:57:50.2	+25:15:55	300	70	3.0	#2 SN Observat	2	
0151.COMP	10	9:01	11:57:50.2	+25:15:55	300	70	3.0	#2 SN Observat	2	
0152.cairnsk5_120	900	9:04	13:16:52.5	27:46:8	300	90	3.0	#64 Cluster In	4	
0153.COMP	5	9:20	13:16:52.5	27:46:8	300	90	3.0	#64 Cluster In	4	
0154.cairnsk5_123	900	9:20	12:43:53.3	31:49:41	300	90	3.0	#64 Cluster In	4	
0155.COMP	5	9:36	12:43:53.3	31:49:41	300	90	3.0	#64 Cluster In	4	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0156.cairnsk5_124	900	9:37	12:46:41.4	26:57:53	300	90	3.0	#64 Cluster In	4	tcs crash
0157.COMP	5	9:55	12:46:41.4	26:57:53	300	90	3.0	#64 Cluster In	4	
0158.2M13534057+2504460	300	9:56	13:53:40.5	+25:04:46	300	90	3.0	#68 2MASS Reds	4	
0159.COMP	5	10:01	13:53:40.5	+25:04:46	300	90	3.0	#68 2MASS Reds	4	
0160.2M13545583+2507214	240	10:02	13:54:55.8	+25:07:21	300	90	3.0	#68 2MASS Reds	4	
0161.COMP	5	10:06	13:54:55.8	+25:07:21	300	90	3.0	#68 2MASS Reds	4	
0162.XS00809B6_009	1200	10:09	13:44:22.3	+55:57:04	300	90	3.0	#129 Bright Ch	2	
0163.COMP	10	10:29	13:44:22.3	+55:57:04	300	90	3.0	#129 Bright Ch	2	
0164.XS00809B7_003	300	10:30	13:44:49.1	+55:58:10	300	90	3.0	#129 Bright Ch	2	
0165.COMP	10	10:35	13:44:49.1	+55:58:10	300	90	3.0	#129 Bright Ch	2	
0166.2M15095208-0023053	360	10:37	15:09:52.0	-00:23:05	300	90	3.0	#68 2MASS Reds	4	
0167.COMP	5	10:45	15:09:52.0	-00:23:05	300	90	3.0	#68 2MASS Reds	4	
0168.2M15190349+0420014	240	10:45	15:19:03.4	+04:20:01	300	90	3.0	#68 2MASS Reds	4	
0169.COMP	5	10:49	15:19:03.4	+04:20:01	300	90	3.0	#68 2MASS Reds	4	
0170.2M15325288+0028079	240	10:50	15:32:52.8	+00:28:07	300	90	3.0	#68 2MASS Reds	4	
0171.COMP	5	10:54	15:32:52.8	+00:28:07	300	90	3.0	#68 2MASS Reds	4	
0172.2M17050038-0132287	420	10:56	17:05:00.3	-01:32:28	300	90	3.0	#68 2MASS Reds	4	
0173.COMP	5	11:04	17:05:00.3	-01:32:28	300	90	3.0	#68 2MASS Reds	4	
0174.2M17243782-0243062	480	11:05	17:24:37.8	-02:43:06	300	80	3.0	#68 2MASS Reds	4	
0175.COMP	5	11:14	17:24:37.8	-02:43:06	300	80	3.0	#68 2MASS Reds	4	



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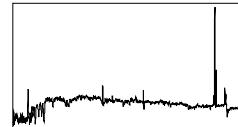
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0176.BDp332642	90	11:15	15:50:03.0	33:05:49	300	90	3.0	#56 Spectropho	2	
0177.BDp332642	90	11:17	15:50:03.0	33:05:49	300	90	3.0	#56 Spectropho	2	
0178.COMP	10	11:19	15:50:03.0	33:05:49	300	90	3.0	#56 Spectropho	2	
0179.sn2004ao	1200	11:21	17:28:09.3	+07:24:55	300	-25	3.0	#2 SN Observat	2	
0180.COMP	10	11:42	17:28:09.3	+07:24:55	300	-25	3.0	#2 SN Observat	2	
0181.cl1425p3758	1800	11:45	14:25:05.8	+37:58:12	300	90	3.0	#150 Distant C	2	
0182.COMP	10	12:15	14:25:05.8	+37:58:12	300	90	3.0	#150 Distant C	2	
0183.AGDra	2	12:17	16:01:41	66:48:10	300	90	3.0	#12 Symbiotic	4	
0184.AGDra	5	12:17	16:01:41	66:48:10	300	90	3.0	#12 Symbiotic	4	
0185.AGDra	15	12:17	16:01:41	66:48:10	300	90	3.0	#12 Symbiotic	4	
0186.AGDra	60	12:18	16:01:41	66:48:10	300	90	3.0	#12 Symbiotic	4	
0187.COMP	5	12:19	16:01:41	66:48:10	300	90	3.0	#12 Symbiotic	4	
0188-0197.BIAS	0	12:22	16:01:41	66:48:10	300	90	3.0	#122 Halo Star	4	
0198-0207.FLAT	8	12:26	16:01:41	66:48:10	300	90	3.0	#122 Halo Star	4	
0208-0217.BIAS	0	12:28	16:01:41	66:48:10	300	90	3.0	#122 Halo Star	2	
0218-0227.FLAT	16	12:34	16:01:41	66:48:10	300	90	3.0	#122 Halo Star	2	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001.DARK	900	0:32	05:46:21.6	+31:29:38	300	90	3.0	#122 Halo Star	4	
0002.DARK	900	0:47	06:01:27.9	+31:29:43	300	90	3.0	#122 Halo Star	4	
0003.DARK	900	1:02	06:16:38.3	+31:29:48	300	90	3.0	#122 Halo Star	4	
0004.DARK	900	1:17	06:31:48.0	+31:29:54	300	90	3.0	#122 Halo Star	4	
0005.DARK	900	1:33	06:46:57.8	+31:29:59	300	90	3.0	#122 Halo Star	4	
0006.DARK	900	1:48	07:02:07.6	+31:30:04	300	90	3.0	#122 Halo Star	4	
0007-0010.BIAS	0	2:03	07:02:41.7	+31:30:04	300	90	3.0	#122 Halo Star	4	
0011-0016.BIAS	0	2:04	07:03:24.3	+31:30:05	300	90	3.0	#122 Halo Star	4	
0017-0024.FLAT	6	2:06	07:05:28.2	+31:30:05	300	90	3.0	#122 Halo Star	4	
0025-0026.FLAT	6	2:06	07:05:53.8	+31:30:06	300	90	3.0	#122 Halo Star	4	
0027-0036.BIAS	0	2:09	07:08:09.8	+31:30:06	300	90	3.0	#122 Halo Star	2	
0037-0041.FLAT	12	2:11	07:11:08.9	+31:30:07	300	90	3.0	#122 Halo Star	2	
0042-0046.FLAT	12	2:14	07:13:12.2	+31:30:08	300	90	3.0	#122 Halo Star	2	
0047.Hiltner600	70	2:27	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0048.Hiltner600	70	2:28	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0049.COMP	5	2:30	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0050.Hiltner600	70	2:31	06:42:37.2	02:11:25	300	20	3.0	#56 Spectropho	2	
0051.Hiltner600	70	2:32	06:42:37.2	02:11:25	300	20	3.0	#56 Spectropho	2	
0052.COMP	12	2:34	06:42:37.2	02:11:25	300	20	3.0	#56 Spectropho	2	
0053.vso-125317	1200	2:37	05:58:40.3	+01:19:26	300	90	3.0	#112 Orion PMS	2	



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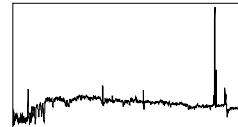
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0054.COMP	12	2:58	05:58:40.3	+01:19:26	300	90	3.0	#112 Orion PMS	2	
0055.vso-125505	1020	3:00	05:58:46.0	+00:56:57	300	60	3.0	#112 Orion PMS	2	
0056.COMP	12	3:18	05:58:46.0	+00:56:57	300	60	3.0	#112 Orion PMS	2	
0057.vso-127797	1200	3:20	05:59:57.3	+01:25:33	300	90	3.0	#112 Orion PMS	2	
0058.COMP	12	3:40	05:59:57.3	+01:25:33	300	90	3.0	#112 Orion PMS	2	
0059.vso-67381	1200	3:43	05:24:43.9	+01:57:01	300	90	3.0	#112 Orion PMS	2	
0060.COMP	12	4:03	05:24:43.9	+01:57:01	300	90	3.0	#112 Orion PMS	2	
0061.vso-67900	1080	4:07	05:24:59.5	+01:42:31	300	90	3.0	#112 Orion PMS	2	
0062.COMP	12	4:25	05:24:59.5	+01:42:31	300	90	3.0	#112 Orion PMS	2	
0063.HD84937	7	4:31	09:48:56.1	13:44:39	300	-14	3.0	#56 Spectropho	2	
0064.HD84937	7	4:31	09:48:56.1	13:44:39	300	-14	3.0	#56 Spectropho	2	
0065.HD84937	7	4:31	09:48:56.1	13:44:39	300	-14	3.0	#56 Spectropho	2	
0066.COMP	12	4:32	09:48:56.1	13:44:39	300	-14	3.0	#56 Spectropho	2	
0067.Feige34	50	4:36	10:36:41.2	43:21:50	300	54	3.0	#56 Spectropho	2	
0068.Feige34	50	4:37	10:36:41.2	43:21:50	300	54	3.0	#56 Spectropho	2	
0069.COMP	12	4:38	10:36:41.2	43:21:50	300	54	3.0	#56 Spectropho	2	
0070.sn2004at	1200	4:41	10:58:45.1	+59:29:12	300	34	3.0	#2 SN Observat	2	
0071.COMP	12	5:01	10:58:45.1	+59:29:12	300	34	3.0	#2 SN Observat	2	
0072.sn2004as	1200	5:05	11:25:39.1	+22:49:49	300	-50	3.0	#2 SN Observat	2	
0073.COMP	12	5:25	11:25:39.1	+22:49:49	300	-50	3.0	#2 SN Observat	2	



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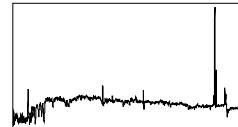
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0074.sn2004aw	1200	6:18	11:57:50.2	+25:15:55	300	110	3.0	#2 SN Observat	2	
0075.COMP	12	6:38	11:57:50.2	+25:15:55	300	110	3.0	#2 SN Observat	2	
0076.hs1830	168	6:44	11:12:32.4	39:02:38	600	90	2.0	#122 Halo Star	4	600L, 2arcsec, tilt=440
0077.COMP	10	6:48	11:12:32.4	39:02:38	600	90	2.0	#122 Halo Star	4	
0078.hs1831	264	6:54	11:12:41.1	13:01:28	600	90	2.0	#122 Halo Star	4	
0079.COMP	10	6:58	11:12:41.1	13:01:28	600	90	2.0	#122 Halo Star	4	
0080.hs1832	210	7:00	11:12:44.5	11:53:38	600	80	2.0	#122 Halo Star	4	
0081.COMP	10	7:04	11:12:44.5	11:53:38	600	80	2.0	#122 Halo Star	4	
0082.hs1833	516	7:06	11:12:54.2	35:23:18	600	90	2.0	#122 Halo Star	4	
0083.COMP	10	7:15	11:12:54.2	35:23:18	600	90	2.0	#122 Halo Star	4	
0084.hs1834	294	7:16	11:12:55.8	23:41:27	600	90	2.0	#122 Halo Star	4	
0085.COMP	10	7:22	11:12:55.8	23:41:27	600	90	2.0	#122 Halo Star	4	
0086.hs1835	318	7:23	11:13:16.4	15:47:35	600	90	2.0	#122 Halo Star	4	
0087.COMP	10	7:28	11:13:16.4	15:47:35	600	90	2.0	#122 Halo Star	4	
0088.hs1836	558	7:30	11:13:31.0	28:15:43	600	90	2.0	#122 Halo Star	4	
0089.COMP	10	7:39	11:13:31.0	28:15:43	600	90	2.0	#122 Halo Star	4	
0090.hs1837	258	7:41	11:13:32.2	11:19:48	600	90	2.0	#122 Halo Star	4	
0091.COMP	10	7:45	11:13:32.2	11:19:48	600	90	2.0	#122 Halo Star	4	
0092.hs1838	498	7:47	11:13:47.2	27:36:48	600	90	2.0	#122 Halo Star	4	
0093.COMP	10	7:56	11:13:47.2	27:36:48	600	90	2.0	#122 Halo Star	4	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0094.hs1839	450	7:58	11:13:47.7	50:38:54	600	90	2.0	#122 Halo Star	4	
0095.COMP	10	8:06	11:13:47.7	50:38:54	600	90	2.0	#122 Halo Star	4	
0096.hs1840	450	8:08	11:14:13.1	33:35:08	600	90	2.0	#122 Halo Star	4	
0097.COMP	10	8:16	11:14:13.1	33:35:08	600	90	2.0	#122 Halo Star	4	
0098.hs1841	264	8:17	11:14:30.3	36:39:29	600	90	2.0	#122 Halo Star	4	
0099.COMP	10	8:22	11:14:30.3	36:39:29	600	90	2.0	#122 Halo Star	4	
0100.hs1842	420	8:25	11:14:52.4	16:20:52	600	90	2.0	#122 Halo Star	4	
0101.COMP	10	8:32	11:14:52.4	16:20:52	600	90	2.0	#122 Halo Star	4	
0102.hs1843	444	8:33	11:14:54.5	28:57:28	600	90	2.0	#122 Halo Star	4	
0103.COMP	10	8:41	11:14:54.5	28:57:28	600	90	2.0	#122 Halo Star	4	
0104.hs1891	498	8:43	11:22:55.1	47:58:50	600	90	2.0	#122 Halo Star	4	
0105.COMP	10	8:52	11:22:55.1	47:58:50	600	90	2.0	#122 Halo Star	4	
0106.hs1892	264	8:53	11:23:08.9	8:59:38	600	90	2.0	#122 Halo Star	4	
0107.COMP	10	8:58	11:23:08.9	8:59:38	600	90	2.0	#122 Halo Star	4	
0108.hs1893	576	9:00	11:23:24.2	32:58:10	600	90	2.0	#122 Halo Star	4	
0109.COMP	10	9:10	11:23:24.2	32:58:10	600	90	2.0	#122 Halo Star	4	
0110.hs1894	414	9:11	11:23:24.4	43:46:51	600	90	2.0	#122 Halo Star	4	
0111.COMP	10	9:18	11:23:24.4	43:46:51	600	90	2.0	#122 Halo Star	4	
0112.hs1895	372	9:19	11:23:39.2	39:09:33	600	90	2.0	#122 Halo Star	4	
0113.COMP	10	9:26	11:23:39.2	39:09:33	600	90	2.0	#122 Halo Star	4	



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UT Date 2004-03-28 Observers M Calkins

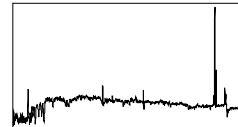
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0114.hs1896	414	9:28	11:24:06.0	51:43:28	600	90	2.0	#122 Halo Star	4	
0115.COMP	10	9:35	11:24:06.0	51:43:28	600	90	2.0	#122 Halo Star	4	
0116.hs1897	264	9:36	11:24:14.3	37:02:19	600	90	2.0	#122 Halo Star	4	
0117.COMP	10	9:41	11:24:14.3	37:02:19	600	90	2.0	#122 Halo Star	4	
0118.hs1898	204	9:42	11:25:20.3	48:19:58	600	90	2.0	#122 Halo Star	4	
0119.COMP	10	9:46	11:25:20.3	48:19:58	600	90	2.0	#122 Halo Star	4	
0120.hs1899	234	9:47	11:25:28.5	38:39:31	600	90	2.0	#122 Halo Star	4	
0121.COMP	10	9:52	11:25:28.5	38:39:31	600	90	2.0	#122 Halo Star	4	
0122.hs1900	450	9:52	11:25:29.6	33:17:14	600	90	2.0	#122 Halo Star	4	
0123.COMP	10	10:00	11:25:29.6	33:17:14	600	90	2.0	#122 Halo Star	4	
0124.hs1915	498	10:02	11:28:26.4	46:28:39	600	90	2.0	#122 Halo Star	4	
0125.COMP	10	10:10	11:28:26.4	46:28:39	600	90	2.0	#122 Halo Star	4	
0126.hs1917	306	10:11	11:28:49.2	39:12:59	600	90	2.0	#122 Halo Star	4	
0127.COMP	10	10:17	11:28:49.2	39:12:59	600	90	2.0	#122 Halo Star	4	
0128.hs1918	504	10:18	11:28:55.7	9:28:54	600	90	2.0	#122 Halo Star	4	
0129.COMP	10	10:27	11:28:55.7	9:28:54	600	90	2.0	#122 Halo Star	4	
0130.hs2694	564	10:29	14:43:05.5	56:15:41	600	90	2.0	#122 Halo Star	4	
0131.COMP	10	10:39	14:43:05.5	56:15:41	600	90	2.0	#122 Halo Star	4	
0132.hs2695	318	10:41	14:44:07.3	66:28:11	600	90	2.0	#122 Halo Star	4	
0133.COMP	10	10:46	14:44:07.3	66:28:11	600	90	2.0	#122 Halo Star	4	



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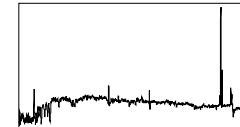
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0134.hs2696	318	10:47	14:44:18.9	68:49:10	600	90	2.0	#122 Halo Star	4	
0135.COMP	10	10:53	14:44:18.9	68:49:10	600	90	2.0	#122 Halo Star	4	
0136.hs2697	396	10:54	14:44:56.8	64:08:15	600	90	2.0	#122 Halo Star	4	
0137.COMP	10	11:01	14:44:56.8	64:08:15	600	90	2.0	#122 Halo Star	4	
0138.hs2698	186	11:02	14:45:27.9	62:11:18	600	90	2.0	#122 Halo Star	4	
0139.COMP	10	11:06	14:45:27.9	62:11:18	600	90	2.0	#122 Halo Star	4	
0140.hs2699	192	11:07	14:46:20.1	56:22:00	600	90	2.0	#122 Halo Star	4	
0141.COMP	10	11:10	14:46:20.1	56:22:00	600	90	2.0	#122 Halo Star	4	
0142.hs2700	546	11:11	14:46:32.7	63:04:10	600	90	2.0	#122 Halo Star	4	
0143.COMP	10	11:21	14:46:32.7	63:04:10	600	90	2.0	#122 Halo Star	4	
0144.hs2701	258	11:22	14:46:39.2	53:09:26	600	90	2.0	#122 Halo Star	4	
0145.COMP	10	11:26	14:46:39.2	53:09:26	600	90	2.0	#122 Halo Star	4	
0146.BDp332642	45	11:28	15:50:03.0	33:05:49	600	90	2.0	#56 Spectropho	4	
0147.COMP	10	11:29	15:50:03.0	33:05:49	600	90	2.0	#56 Spectropho	4	
0148-0157.FLAT	40	11:38	15:50:03.0	33:05:49	600	90	2.0	#122 Halo Star	4	
0158.BDp332642	45	11:43	15:50:03.0	33:05:49	300	94	3.0	#56 Spectropho	2	combo setup
0159.COMP	12	11:44	15:50:03.0	33:05:49	300	94	3.0	#56 Spectropho	2	
0160.sn2004ao	1200	11:48	17:28:09.3	07:24:55	300	-20	3.0	#2 SN Observat	2	
0161.COMP	12	12:09	17:28:09.3	07:24:55	300	-20	3.0	#2 SN Observat	2	
0162-0171.BIAS	0	12:28	12:57:25	25:19:27	300	90	3.0	#64 Cluster In	4	



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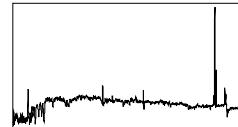
UT Date 2004-03-28 Observers M CalkinsColl. Focus 980 Grating/Grism 300

<i>File</i>	<i>Exp Time</i>	<i>UT Start</i>	<i>RA</i>	<i>Dec</i>	<i>Gr.</i>	<i>P.A.</i>	<i>Slit</i>	<i>Program</i>	<i>Bin</i>	<i>Comments</i>
0172-0181.FLAT	6	12:32	12:57:25	25:19:27	300	90	3.0	#64 Cluster In	4	
0182-0191.BIAS	0	12:36	12:57:25	25:19:27	300	90	3.0	#64 Cluster In	2	
0192-0201.FLAT	12	12:42	12:57:25	25:19:27	300	90	3.0	#64 Cluster In	2	
0202-0211.DARK	900	14:59	12:57:25	25:19:27	300	90	3.0	#64 Cluster In	2	



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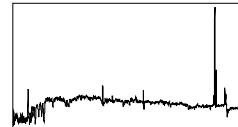
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001-0010.DARK	900	1:33	12:57:25	25:19:27	300	90	3.0	#64 Cluster In	4	
0011-0020.BIAS	0	1:50	12:57:25	25:19:27	300	90	3.0	#64 Cluster In	4	
0021-0030.FLAT	6	1:54	12:57:25	25:19:27	300	90	3.0	#64 Cluster In	4	
0031-0040.BIAS	0	1:56	12:57:25	25:19:27	300	90	3.0	#64 Cluster In	2	
0041-0050.FLAT	12	2:00	12:57:25	25:19:27	300	90	3.0	#64 Cluster In	2	
0051.Hiltner600	70	2:28	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0052.Hiltner600	70	2:30	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0053.COMP	5	2:31	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0054.Hiltner600	70	2:33	06:42:37.2	02:11:25	300	21	3.0	#56 Spectropho	2	
0055.Hiltner600	70	2:34	06:42:37.2	02:11:25	300	21	3.0	#56 Spectropho	2	
0056.COMP	12	2:36	06:42:37.2	02:11:25	300	21	3.0	#56 Spectropho	2	
0057.vso-74522	780	2:43	05:29:41.6	+01:05:43	300	90	3.0	#112 Orion PMS	2	
0058.COMP	12	2:56	05:29:41.6	+01:05:43	300	90	3.0	#112 Orion PMS	2	
0059.vso-78001	900	2:57	05:31:43.6	+01:17:55	300	90	3.0	#112 Orion PMS	2	
0060.COMP	12	3:13	05:31:43.6	+01:17:55	300	90	3.0	#112 Orion PMS	2	
0061.vso-78580	1080	3:15	05:30:53.8	+01:59:25	300	90	3.0	#112 Orion PMS	2	
0062.COMP	12	3:33	05:30:53.8	+01:59:25	300	90	3.0	#112 Orion PMS	2	
0063.vso-80840	1200	3:35	05:33:28.1	+01:00:11	300	90	3.0	#112 Orion PMS	2	
0064.COMP	12	3:55	05:33:28.1	+01:00:11	300	90	3.0	#112 Orion PMS	2	
0065.vso-90217	1200	3:57	05:37:22.2	+02:02:39	300	90	3.0	#112 Orion PMS	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0066.COMP	12	4:17	05:37:22.2	+02:02:39	300	90	3.0	#112 Orion PMS	2	
0067.vso-90667	1200	4:20	05:39:01.4	+01:11:00	300	110	3.0	#112 Orion PMS	2	
0068.COMP	12	4:40	05:39:01.4	+01:11:00	300	110	3.0	#112 Orion PMS	2	
0069.HD84937	7	4:45	09:48:56.1	13:44:39	300	0	3.0	#56 Spectropho	2	
0070.HD84937	7	4:46	09:48:56.1	13:44:39	300	0	3.0	#56 Spectropho	2	
0071.HD84937	7	4:46	09:48:56.1	13:44:39	300	0	3.0	#56 Spectropho	2	
0072.COMP	12	4:47	09:48:56.1	13:44:39	300	0	3.0	#56 Spectropho	2	
0073.sn2004at	1200	4:50	10:58:45.1	+59:29:12	300	29	3.0	#2 SN Observat	2	
0074.COMP	12	5:10	10:58:45.1	+59:29:12	300	29	3.0	#2 SN Observat	2	
0075.sn2004as	1200	5:13	11:25:39.1	+22:49:49	300	-55	3.0	#2 SN Observat	2	
0076.COMP	12	5:34	11:25:39.1	+22:49:49	300	-55	3.0	#2 SN Observat	2	
0077.sn2004aw	1200	5:36	11:57:50.2	+25:15:55	300	-60	3.0	#2 SN Observat	2	row=75
0078.COMP	12	5:57	11:57:50.2	+25:15:55	300	-60	3.0	#2 SN Observat	2	
0079.MRK110	360	6:00	09:25:12.9	+52:17:10	300	90	3.0	#6 AGN Monitor	2	
0080.COMP	12	6:07	09:25:12.9	+52:17:10	300	90	3.0	#6 AGN Monitor	2	
0081.N3227	150	6:08	10:23:30.6	+19:51:54	300	90	3.0	#6 AGN Monitor	2	
0082.N3227	150	6:11	10:23:30.6	+19:51:54	300	90	3.0	#6 AGN Monitor	2	
0083.COMP	12	6:14	10:23:30.6	+19:51:54	300	90	3.0	#6 AGN Monitor	2	
0084.MRK421	300	6:16	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421 an	2	
0085.MRK421	300	6:21	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421 an	2	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0086.MRK421	300	6:27	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421 an	2	
0087.COMP	12	6:32	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421 an	2	
0088.N4051	150	6:33	12:03:09.7	+44:31:53	300	90	3.0	#6 AGN Monitor	2	
0089.N4051	150	6:36	12:03:09.7	+44:31:53	300	90	3.0	#6 AGN Monitor	2	
0090.N4051	150	6:39	12:03:09.7	+44:31:53	300	90	3.0	#6 AGN Monitor	2	
0091.COMP	12	6:42	12:03:09.7	+44:31:53	300	90	3.0	#6 AGN Monitor	2	
0092.N4151	30	6:43	12:10:32.6	+39:24:21	300	90	3.0	#6 AGN Monitor	2	
0093.N4151	30	6:44	12:10:32.6	+39:24:21	300	90	3.0	#6 AGN Monitor	2	
0094.COMP	12	6:45	12:10:32.6	+39:24:21	300	90	3.0	#6 AGN Monitor	2	
0095.M87	180	6:46	12:30:49.4	12:23:28	300	90	3.0	#6 AGN Monitor	2	
0096.M87	180	6:50	12:30:49.4	12:23:28	300	90	3.0	#6 AGN Monitor	2	
0097.COMP	12	6:53	12:30:49.4	12:23:28	300	90	3.0	#6 AGN Monitor	2	
0098.cairnsk5_093	1080	6:55	12:56:25.4	24:24:6	300	90	3.0	#64 Cluster In	2	
0099.COMP	12	7:14	12:56:25.4	24:24:6	300	90	3.0	#64 Cluster In	2	
0100.cairnsk5_094	1200	7:15	13:22:32.8	26:8:29	300	90	3.0	#64 Cluster In	2	
0101.COMP	12	7:35	13:22:32.8	26:8:29	300	90	3.0	#64 Cluster In	2	
0102.cairnsk5_095	780	7:37	12:37:2	27:16:52	300	90	3.0	#64 Cluster In	2	
0103.COMP	12	7:50	12:37:2	27:16:52	300	90	3.0	#64 Cluster In	2	
0104.cairnsk5_118	900	7:52	13:15:40.2	30:35:20	300	90	3.0	#64 Cluster In	2	H-alpha emission
0105.COMP	12	8:07	13:15:40.2	30:35:20	300	90	3.0	#64 Cluster In	2	



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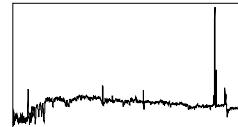
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0106.cairnsk5_119	960	8:09	13:15:50.6	23:47:56	300	90	3.0	#64 Cluster In	2	
0107.COMP	12	8:26	13:15:50.6	23:47:56	300	90	3.0	#64 Cluster In	2	
0108.cairnsk5_125	780	8:27	12:57:25	25:19:27	300	90	3.0	#64 Cluster In	2	
0109.COMP	12	8:40	12:57:25	25:19:27	300	90	3.0	#64 Cluster In	2	
0110.cairnsk5_126	600	8:42	13:15:18.9	28:28:23	300	70	3.0	#64 Cluster In	2	
0111.COMP	12	8:52	13:15:18.9	28:28:23	300	70	3.0	#64 Cluster In	2	
0112.cairnsk5_127	780	8:54	13:21:0.6	31:0:48	300	90	3.0	#64 Cluster In	2	need more counts
0113.COMP	12	9:07	13:21:0.6	31:0:48	300	90	3.0	#64 Cluster In	2	
0114.cairnsk5_127	1080	9:09	13:21:0.6	31:0:48	300	90	3.0	#64 Cluster In	2	
0115.COMP	12	9:27	13:21:0.6	31:0:48	300	90	3.0	#64 Cluster In	2	
0116.FineFoc	60	9:30	14:54:52.5	31:25:24	300	90	3.0	#112 Orion PMS	1	
0117.hs2475	450	9:43	13:14:01.9	76:24:38	600	90	2.0	#122 Halo Star	4	600L, 2arcsec, tilt=440
0118.COMP	10	9:51	13:14:01.9	76:24:38	600	90	2.0	#122 Halo Star	4	
0119.hs2476	234	9:53	13:14:38.3	53:18:09	600	90	2.0	#122 Halo Star	4	
0120.COMP	10	9:57	13:14:38.3	53:18:09	600	90	2.0	#122 Halo Star	4	
0121.hs2477	414	9:58	13:15:09.6	62:00:22	600	90	2.0	#122 Halo Star	4	
0122.COMP	10	10:06	13:15:09.6	62:00:22	600	90	2.0	#122 Halo Star	4	
0123.hs2478	186	10:08	13:15:12.9	70:41:41	600	90	2.0	#122 Halo Star	4	
0124.COMP	10	10:11	13:15:12.9	70:41:41	600	90	2.0	#122 Halo Star	4	
0125.hs2479	204	10:12	13:15:15.2	71:47:13	600	90	2.0	#122 Halo Star	4	



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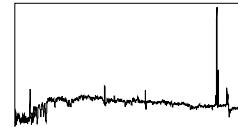
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0126.COMP	10	10:16	13:15:15.2	71:47:13	600	90	2.0	#122 Halo Star	4	
0127.hs2480	288	10:17	13:15:27.5	53:00:09	600	90	2.0	#122 Halo Star	4	
0128.COMP	10	10:22	13:15:27.5	53:00:09	600	90	2.0	#122 Halo Star	4	
0129.hs2481	450	10:23	13:15:50.9	56:23:13	600	90	2.0	#122 Halo Star	4	
0130.COMP	10	10:31	13:15:50.9	56:23:13	600	90	2.0	#122 Halo Star	4	
0131.hs2482	276	10:32	13:16:08.5	50:52:39	600	90	2.0	#122 Halo Star	4	
0132.COMP	10	10:37	13:16:08.5	50:52:39	600	90	2.0	#122 Halo Star	4	
0133.hs2483	348	10:39	13:16:40.0	67:57:12	600	90	2.0	#122 Halo Star	4	
0134.COMP	10	10:45	13:16:40.0	67:57:12	600	90	2.0	#122 Halo Star	4	
0135.hs2484	174	10:46	13:17:08.7	35:42:48	600	90	2.0	#122 Halo Star	4	
0136.COMP	10	10:50	13:17:08.7	35:42:48	600	90	2.0	#122 Halo Star	4	
0137.hs2485	606	11:02	13:17:49.3	76:32:32	600	90	2.0	#122 Halo Star	4	
0138.COMP	10	11:12	13:17:49.3	76:32:32	600	90	2.0	#122 Halo Star	4	
0139.hs2486	486	11:14	13:18:11.9	44:20:44	600	90	2.0	#122 Halo Star	4	
0140.COMP	10	11:22	13:18:11.9	44:20:44	600	90	2.0	#122 Halo Star	4	
0141.hs2487	540	11:24	13:18:24.6	41:00:52	600	90	2.0	#122 Halo Star	4	
0142.COMP	10	11:33	13:18:24.6	41:00:52	600	90	2.0	#122 Halo Star	4	
0143.BDp332642	70	11:34	15:50:03.0	33:05:49	600	90	2.0	#56 Spectropho	4	
0144.COMP	10	11:36	15:50:03.0	33:05:49	600	90	2.0	#56 Spectropho	4	
0145-0154.FLAT	40	11:44	15:50:03.0	33:05:49	600	90	2.0	#122 Halo Star	4	



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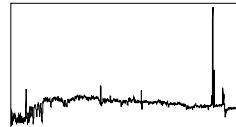
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0155.sn2004ao	1200	11:51	17:28:09.3	+07:24:55	300	-17	3.0	#2 SN Observat	2	combo setup
0156.COMP	12	12:12	17:28:09.3	+07:24:55	300	-17	3.0	#2 SN Observat	2	
0157.BDp332642	50	12:15	15:50:03.0	33:05:49	300	88	3.0	#56 Spectropho	2	
0158.COMP	12	12:17	15:50:03.0	33:05:49	300	88	3.0	#56 Spectropho	2	
0159.N5548	240	12:18	14:17:59.6	+25:08:12	300	90	3.0	#6 AGN Monitor	2	
0160.N5548	240	12:23	14:17:59.6	+25:08:12	300	90	3.0	#6 AGN Monitor	2	
0161.COMP	12	12:27	14:17:59.6	+25:08:12	300	90	3.0	#6 AGN Monitor	2	
0162-0166.sky	2	13:03	14:17:59.6	+25:08:12	300	90	3.0	#57 Velocity S	4	
0167.COMP	5	13:04	14:17:59.6	+25:08:12	300	90	3.0	#57 Velocity S	4	
0168-0177.BIAS	0	13:05	14:17:59.6	+25:08:12	300	90	3.0	#57 Velocity S	4	
0178-0187.FLAT	6	13:09	14:17:59.6	+25:08:12	300	90	3.0	#57 Velocity S	4	
0188-0197.BIAS	0	13:12	14:17:59.6	+25:08:12	300	90	3.0	#57 Velocity S	2	
0198-0207.FLAT	12	13:16	14:17:59.6	+25:08:12	300	90	3.0	#57 Velocity S	2	
0208-0217.DARK	900	15:34	14:17:59.6	+25:08:12	300	90	3.0	#57 Velocity S	2	



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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	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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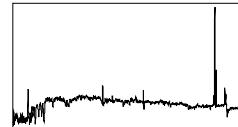
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
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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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
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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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
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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Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
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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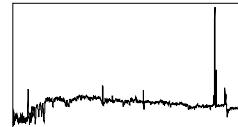
Coll. Focus 980 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
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	



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UT Date 2004-03-31 Observers P BerlindColl. Focus 1020 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0001-0010.BIAS	0	2:31	07:42:38.3	+31:30:17	600	90	2.0	#122 Halo Star	2	
0011.BIAS	0	2:32	07:43:03.2	+31:30:17	600	90	2.0	#122 Halo Star	4	
0012-0020.BIAS	0	2:33	07:44:07.4	+31:30:18	600	90	2.0	#122 Halo Star	4	
0021.FLAT	40	2:34	07:45:44.7	+31:30:18	600	90	2.0	#122 Halo Star	4	
0022-0025.FLAT	40	2:37	07:48:51.8	+31:30:19	600	90	2.0	#122 Halo Star	4	
0026-0028.FLAT	40	2:39	07:51:12.3	+31:30:20	600	90	2.0	#122 Halo Star	4	
0029-0030.FLAT	40	2:41	07:52:45.8	+31:30:21	600	90	2.0	#122 Halo Star	4	
0031.Feige34	120	4:37	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	
0032.Feige34	120	4:39	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	
0033.COMP	10	4:42	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	clouds, bright moon
0034.hs2114	330	5:25	11:59:37.0	30:00:54	600	90	2.0	#122 Halo Star	4	
0035.COMP	10	5:31	11:59:37.0	30:00:54	600	90	2.0	#122 Halo Star	4	
0036.hs2115	300	5:32	11:59:40.0	23:59:03	600	90	2.0	#122 Halo Star	4	
0037.COMP	10	5:37	11:59:40.0	23:59:03	600	90	2.0	#122 Halo Star	4	
0038.hs2116	720	5:39	12:00:24.2	15:18:34	600	90	2.0	#122 Halo Star	4	
0039.COMP	10	5:51	12:00:24.2	15:18:34	600	90	2.0	#122 Halo Star	4	
0040.hs2149	720	5:53	12:05:03.2	48:04:26	600	90	2.0	#122 Halo Star	4	
0041.COMP	10	6:06	12:05:03.2	48:04:26	600	90	2.0	#122 Halo Star	4	
0042.hs2147	240	6:06	12:04:52.9	50:07:21	600	90	2.0	#122 Halo Star	4	
0043.COMP	10	6:10	12:04:52.9	50:07:21	600	90	2.0	#122 Halo Star	4	



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UT Date 2004-03-31 Observers P BerlindColl. Focus 1020 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0044.hs2148	480	6:12	12:05:03.0	62:24:55	600	90	2.0	#122 Halo Star	4	
0045.COMP	10	6:20	12:05:03.0	62:24:55	600	90	2.0	#122 Halo Star	4	
0046.hs2140	180	6:21	12:03:49.7	65:42:05	600	90	2.0	#122 Halo Star	4	
0047.COMP	10	6:24	12:03:49.7	65:42:05	600	90	2.0	#122 Halo Star	4	
0048.hs2141	480	6:25	12:03:53.0	69:22:44	600	90	2.0	#122 Halo Star	4	
0049.COMP	10	6:36	12:03:53.0	69:22:44	600	90	2.0	#122 Halo Star	4	
0050.hs2144	540	6:37	12:04:22.4	73:39:47	600	90	2.0	#122 Halo Star	4	
0051.COMP	10	6:46	12:04:22.4	73:39:47	600	90	2.0	#122 Halo Star	4	
0052.hs2150	360	6:48	12:05:08.7	70:39:16	600	90	2.0	#122 Halo Star	4	
0053.COMP	10	6:56	12:05:08.7	70:39:16	600	90	2.0	#122 Halo Star	4	
0054.hs2151	900	7:19	12:05:26.8	60:34:11	600	90	2.0	#122 Halo Star	4	
0055.COMP	10	7:35	12:05:26.8	60:34:11	600	90	2.0	#122 Halo Star	4	
0056.hs2152	240	7:36	12:05:46.3	24:58:10	600	90	2.0	#122 Halo Star	4	
0057.COMP	10	7:40	12:05:46.3	24:58:10	600	90	2.0	#122 Halo Star	4	
0058.hs2153	360	7:41	12:05:47.1	25:26:32	600	90	2.0	#122 Halo Star	4	
0059.COMP	10	7:47	12:05:47.1	25:26:32	600	90	2.0	#122 Halo Star	4	
0060.hs2154	720	8:02	12:06:18.1	12:18:42	600	90	2.0	#122 Halo Star	4	tv image shift
0061.COMP	10	8:15	12:06:18.1	12:18:42	600	90	2.0	#122 Halo Star	4	
0062.hs2155	480	8:18	12:06:22.8	20:32:34	600	90	2.0	#122 Halo Star	4	
0063.COMP	10	8:27	12:06:22.8	20:32:34	600	90	2.0	#122 Halo Star	4	



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0064.hs2157	600	8:27	12:06:33.2	18:06:37	600	90	2.0	#122 Halo Star	4	
0065.COMP	10	8:38	12:06:33.2	18:06:37	600	90	2.0	#122 Halo Star	4	
0066.hs2156	720	8:39	12:06:25.5	61:42:56	600	90	2.0	#122 Halo Star	4	
0067.COMP	10	8:52	12:06:25.5	61:42:56	600	90	2.0	#122 Halo Star	4	
0068.hs2160	300	8:53	12:06:47.1	73:57:17	600	90	2.0	#122 Halo Star	4	
0069.COMP	10	8:58	12:06:47.1	73:57:17	600	90	2.0	#122 Halo Star	4	
0070.hs2164	180	8:59	12:07:03.0	71:35:44	600	90	2.0	#122 Halo Star	4	
0071.COMP	10	9:02	12:07:03.0	71:35:44	600	90	2.0	#122 Halo Star	4	
0072.hs2163	420	9:04	12:06:55.1	41:07:42	600	90	2.0	#122 Halo Star	4	
0073.COMP	10	9:11	12:06:55.1	41:07:42	600	90	2.0	#122 Halo Star	4	
0074.hs2165	300	9:12	12:07:30.8	29:48:39	600	90	2.0	#122 Halo Star	4	
0075.COMP	10	9:17	12:07:30.8	29:48:39	600	90	2.0	#122 Halo Star	4	
0076.hs2162	900	9:18	12:06:48.1	23:27:11	600	90	2.0	#122 Halo Star	4	
0077.COMP	10	9:34	12:06:48.1	23:27:11	600	90	2.0	#122 Halo Star	4	
0078.hs2158	240	9:34	12:06:39.9	20:34:38	600	90	2.0	#122 Halo Star	4	
0079.COMP	10	9:39	12:06:39.9	20:34:38	600	90	2.0	#122 Halo Star	4	
0080.hs2161	240	9:40	12:06:47.2	21:09:08	600	90	2.0	#122 Halo Star	4	
0081.COMP	10	9:44	12:06:47.2	21:09:08	600	90	2.0	#122 Halo Star	4	
0082.hs2159	660	9:45	12:06:40.2	21:44:48	600	90	2.0	#122 Halo Star	4	
0083.COMP	10	9:56	12:06:40.2	21:44:48	600	90	2.0	#122 Halo Star	4	



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0084.hs2512	240	9:58	13:26:15.3	55:01:33	600	90	2.0	#122 Halo Star	4	
0085.COMP	10	10:02	13:26:15.3	55:01:33	600	90	2.0	#122 Halo Star	4	
0086.hs2514	240	10:08	13:26:40.7	75:25:45	600	90	2.0	#122 Halo Star	4	
0087.COMP	10	10:12	13:26:40.7	75:25:45	600	90	2.0	#122 Halo Star	4	
0088.hs2515	660	10:14	13:27:14.7	76:23:46	600	90	2.0	#122 Halo Star	4	
0089.COMP	10	10:25	13:27:14.7	76:23:46	600	90	2.0	#122 Halo Star	4	
0090.hs2516	600	10:27	13:27:18.2	77:16:55	600	90	2.0	#122 Halo Star	4	
0091.COMP	10	10:37	13:27:18.2	77:16:55	600	90	2.0	#122 Halo Star	4	
0092.hs2517	720	10:39	13:27:21.8	46:26:12	600	90	2.0	#122 Halo Star	4	
0093.COMP	10	10:51	13:27:21.8	46:26:12	600	90	2.0	#122 Halo Star	4	
0094.hs2518	720	10:52	13:27:49.6	63:25:50	600	90	2.0	#122 Halo Star	4	
0095.COMP	10	11:05	13:27:49.6	63:25:50	600	90	2.0	#122 Halo Star	4	
0096.hs2519	240	11:05	13:28:07.9	61:14:02	600	90	2.0	#122 Halo Star	4	
0097.COMP	10	11:12	13:28:07.9	61:14:02	600	90	2.0	#122 Halo Star	4	
0098.hs2520	480	11:14	13:28:41.5	75:38:02	600	90	2.0	#122 Halo Star	4	
0099.COMP	10	11:22	13:28:41.5	75:38:02	600	90	2.0	#122 Halo Star	4	
0100.hs2521	300	11:23	13:28:53.1	77:44:29	600	90	2.0	#122 Halo Star	4	
0101.COMP	10	11:28	13:28:53.1	77:44:29	600	90	2.0	#122 Halo Star	4	
0102.hs2522	180	11:29	13:29:19.4	75:06:43	600	90	2.0	#122 Halo Star	4	
0103.COMP	10	11:32	13:29:19.4	75:06:43	600	90	2.0	#122 Halo Star	4	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bir	Comments
0104.hs2523	180	11:33	13:30:08.4	49:06:36	600	90	2.0	#122 Halo Star	4	
0105.COMP	10	11:37	13:30:08.4	49:06:36	600	90	2.0	#122 Halo Star	4	
0106.hs2681	900	11:38	14:33:36.9	77:33:03	600	90	2.0	#122 Halo Star	4	
0107.COMP	10	11:54	14:33:36.9	77:33:03	600	90	2.0	#122 Halo Star	4	
0108.hs2680	720	11:56	14:33:09.8	57:07:20	600	90	2.0	#122 Halo Star	4	
0109.COMP	10	12:10	14:33:09.8	57:07:20	600	90	2.0	#122 Halo Star	4	
0110.hs2682	480	12:11	14:33:46.1	52:56:12	600	90	2.0	#122 Halo Star	4	
0111.COMP	10	12:19	14:33:46.1	52:56:12	600	90	2.0	#122 Halo Star	4	
0112.hs2702	210	12:20	14:49:29.6	62:54:11	600	90	2.0	#122 Halo Star	4	
0113.COMP	10	12:24	14:49:29.6	62:54:11	600	90	2.0	#122 Halo Star	4	
0114.hs2703	210	12:25	14:49:33.1	75:20:32	600	90	2.0	#122 Halo Star	4	
0115.COMP	10	12:29	14:49:33.1	75:20:32	600	90	2.0	#122 Halo Star	4	
0116-0125.BIAS	0	12:31	14:49:33.1	75:20:32	600	90	2.0	#122 Halo Star	4	
0126.FLAT	40	12:32	14:49:33.1	75:20:32	600	90	2.0	#122 Halo Star	4	end of FAST run
0127-0131.FLAT	40	12:36	14:49:33.1	75:20:32	600	90	2.0	#122 Halo Star	4	
0132.test	1	12:40	14:49:33.1	75:20:32	300	90	3.0	#122 Halo Star	4	
0133.COMP	5	12:41	14:49:33.1	75:20:32	300	90	3.0	#122 Halo Star	4	
0134.COMP	5	12:44	14:49:33.1	75:20:32	300	90	3.0	#122 Halo Star	4	