



WHIPPLE OBSERVATORY

FAST SPECTROGRAPH LOG



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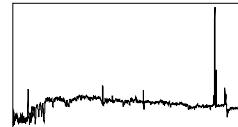
Coll. Focus 1000 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001.DARK	900	23:30	03:15:14.0	31:29:58	600	90	2.0	#122 Halo Star	2	new ccd flood
0002.DARK	900	23:45	03:30:26.0	31:29:59	600	90	2.0	#122 Halo Star	2	
0003.DARK	900	0:00	03:45:41.0	31:30:01	600	90	2.0	#122 Halo Star	2	
0004.DARK	900	0:15	04:00:57.0	31:30:03	600	90	2.0	#122 Halo Star	2	
0005.DARK	900	0:31	04:16:12.0	31:30:05	600	90	2.0	#122 Halo Star	2	
0006.DARK	900	0:46	04:31:27.0	31:30:07	600	90	2.0	#122 Halo Star	2	
0007.COMP	5	1:07	04:38:02.0	31:30:08	300	90	3.0	#57 Velocity S	4	100 cnts drk currnt in 15min
0008-0010.BIAS	0	1:09	04:39:33.0	31:30:08	300	90	3.0	#57 Velocity S	4	
0011-0020.BIAS	0	1:15	04:45:55.0	31:30:09	300	90	3.0	#57 Velocity S	4	
0021-0030.FLAT	8	1:18	04:49:02.0	31:30:10	300	90	3.0	#57 Velocity S	4	
0031-0040.BIAS	0	1:21	04:51:30.0	31:30:10	300	90	3.0	#57 Velocity S	2	
0041-0043.FLAT	16	1:22	04:53:18.0	31:30:10	300	90	3.0	#57 Velocity S	2	
0044-0050.FLAT	16	1:26	04:56:38.0	31:30:11	300	90	3.0	#57 Velocity S	2	
0051.sky	3	1:38	05:08:51.0	31:30:13	300	90	3.0	#57 Velocity S	4	cirrus to west
0052-0055.sky	3	1:39	05:09:30.0	31:30:13	300	90	3.0	#57 Velocity S	4	
0056.COMP	5	1:39	05:10:05.0	31:30:13	300	90	3.0	#57 Velocity S	4	
0057.HD52971	4	2:09	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0058.HD52971	4	2:10	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0059.HD52971	4	2:10	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0060.COMP	5	2:11	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	



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0061.Akn120	180	2:15	05:13:38.0	-00:12:15	300	12	3.0	#6 AGN Monitor	4	hi Susan!
0062.COMP	5	2:18	05:13:38.0	-00:12:15	300	12	3.0	#6 AGN Monitor	4	
0063.sn2002ap	900	2:20	01:36:23.8	+15:45:13	300	62	3.0	#2 SN Observat	2	
0064.COMP	10	2:36	01:36:23.8	+15:45:13	300	62	3.0	#2 SN Observat	2	
0065.sn2002bj	1200	2:39	05:11:46.3	-15:08:10	300	19	3.0	#2 SN Observat	2	
0066.COMP	10	2:59	05:11:46.3	-15:08:10	300	19	3.0	#2 SN Observat	2	
0067.Hiltner600	60	3:02	06:42:37.2	02:11:25	300	-5	3.0	#56 Spectropho	2	
0068.Hiltner600	60	3:03	06:42:37.2	02:11:25	300	-5	3.0	#56 Spectropho	2	
0069.Hiltner600	60	3:05	06:42:37.2	02:11:25	300	-5	3.0	#56 Spectropho	2	
0070.COMP	10	3:06	06:42:37.2	02:11:25	300	-5	3.0	#56 Spectropho	2	
0071.vso-48720	600	3:09	05:30:14.6	00:31:21	300	0	3.0	112 Orion PMS	4	
0072.COMP	5	3:20	05:30:14.6	00:31:21	300	0	3.0	112 Orion PMS	4	
0073.vso-49320	600	3:20	05:30:44.8	00:51:50	300	0	3.0	112 Orion PMS	4	
0074.COMP	5	3:31	05:30:44.8	00:51:50	300	0	3.0	112 Orion PMS	4	
0075.vso-51798	720	3:32	05:32:54.2	00:28:54	300	35	3.0	112 Orion PMS	4	
0076.COMP	5	3:45	05:32:54.2	00:28:54	300	35	3.0	112 Orion PMS	4	
0077.vso-53893	720	3:45	05:34:47.2	00:43:02	300	35	3.0	112 Orion PMS	4	
0078.COMP	5	3:58	05:34:47.2	00:43:02	300	35	3.0	112 Orion PMS	4	
0079.vso-53998	600	3:59	05:34:53.2	00:27:36	300	35	3.0	112 Orion PMS	4	
0080.COMP	5	4:09	05:34:53.2	00:27:36	300	35	3.0	112 Orion PMS	4	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0081.vso-72623	720	4:11	05:54:21.0	00:29:00	300	35	3.0	112 Orion PMS	4	
0082.COMP	5	4:23	05:54:21.0	00:29:00	300	35	3.0	112 Orion PMS	4	
0083.vso-72820	600	4:24	05:54:33.7	00:24:26	300	35	3.0	112 Orion PMS	4	
0084.COMP	5	4:34	05:54:33.7	00:24:26	300	35	3.0	112 Orion PMS	4	
0085.vso-73042	600	4:35	05:54:47.9	00:43:09	300	35	3.0	112 Orion PMS	4	
0086.COMP	5	4:45	05:54:47.9	00:43:09	300	35	3.0	112 Orion PMS	4	
0087.vso-73534	600	4:46	05:55:12.6	00:42:32	300	35	3.0	112 Orion PMS	4	
0088.COMP	5	4:56	05:55:12.6	00:42:32	300	35	3.0	112 Orion PMS	4	
0089.MRK110	360	4:58	09:25:12.9	+52:17:10	300	31	3.0	#6 AGN Monitor	2	please ignore little companion to east
0090.COMP	10	5:04	09:25:12.9	+52:17:10	300	31	3.0	#6 AGN Monitor	2	
0091.sn2002bf	1200	5:07	10:15:42.3	+55:40:06	300	43	3.0	#2 SN Observat	2	
0092.COMP	10	5:28	10:15:42.3	+55:40:06	300	43	3.0	#2 SN Observat	2	
0093.Feige34	150	5:29	10:36:41.2	43:21:50	300	67	3.0	#56 Spectropho	2	
0094.Feige34	120	5:32	10:36:41.2	43:21:50	300	67	3.0	#56 Spectropho	2	
0095.COMP	5	5:35	10:36:41.2	43:21:50	300	67	3.0	#56 Spectropho	2	
0096.sn2002bh	1200	5:40	09:51:06.5	+09:00:05	300	-18	3.0	#2 SN Observat	2	
0097.COMP	10	6:00	09:51:06.5	+09:00:05	300	-18	3.0	#2 SN Observat	2	
0098.BIAS	0	6:01	9:45:00	32:00:00	300	-18	3.0	#2 SN Observat	2	600-line, 2-sec slit for Nelson
0099.COMP	10	6:05	9:45:00	32:00:00	600	90	2.0	#10 M67 stars	2	
0100.HD87141	2	6:07	10:01:17.7	+54:08:04	600	90	2.0	#10 M67 stars	2	



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0101.HD87141	2	6:08	10:01:17.7	+54:08:04	600	90	2.0	#10 M67 stars	2	
0102.COMP	20	6:08	10:01:17.7	+54:08:04	600	90	2.0	#10 M67 stars	2	
0103.m67_5667	480	6:10	8:51:19.9	11:47:00	600	30	2.0	#10 M67 stars	2	
0104.COMP	20	6:19	8:51:19.9	11:47:00	600	30	2.0	#10 M67 stars	2	
0105.m67_5996	900	6:20	8:51:35.4	11:57:56	600	30	2.0	#10 M67 stars	2	
0106.COMP	20	6:35	8:51:35.4	11:57:56	600	30	2.0	#10 M67 stars	2	
0107.m67_5586	900	6:36	8:51:15.7	11:52:58	600	40	2.0	#10 M67 stars	2	
0108.COMP	20	6:52	8:51:15.7	11:52:58	600	40	2.0	#10 M67 stars	2	
0109.m67_5756	900	6:53	8:51:23.8	11:47:15	600	40	2.0	#10 M67 stars	2	
0110.COMP	20	7:09	8:51:23.8	11:47:15	600	40	2.0	#10 M67 stars	2	
0111.m67_5284	900	7:10	8:50:54.4	11:56:28	600	50	2.0	#10 M67 stars	2	
0112.COMP	20	7:25	8:50:54.4	11:56:28	600	50	2.0	#10 M67 stars	2	
0113.Feige34	120	7:27	10:36:41.2	43:21:50	600	-15	2.0	#10 M67 stars	2	
0114.Feige34	120	7:30	10:36:41.2	43:21:50	600	-15	2.0	#10 M67 stars	2	
0115.COMP	20	7:32	10:36:41.2	43:21:50	600	-15	2.0	#10 M67 stars	2	
0116.HD97907	2	7:34	11:13:15.0	+13:34:50	600	0	2.0	#10 M67 stars	2	
0117.HD97907	2	7:35	11:13:15.0	+13:34:50	600	0	2.0	#10 M67 stars	2	
0118.HD97907	2	7:35	11:13:15.0	+13:34:50	600	0	2.0	#10 M67 stars	2	
0119.COMP	20	7:35	11:13:15.0	+13:34:50	600	0	2.0	#10 M67 stars	2	
0120.HD98991	2	7:37	11:20:52.9	-18:30:18	600	0	2.0	#10 M67 stars	2	



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0121.HD98991	2	7:38	11:20:52.9	-18:30:18	600	0	2.0	#10 M67 stars	2	
0122.HD98991	2	7:38	11:20:52.9	-18:30:18	600	0	2.0	#10 M67 stars	2	
0123.COMP	20	7:39	11:20:52.9	-18:30:18	600	0	2.0	#10 M67 stars	2	
0124.HD99167	2	7:40	11:22:04.9	-10:35:05	600	0	2.0	#10 M67 stars	2	
0125.HD99167	2	7:40	11:22:04.9	-10:35:05	600	0	2.0	#10 M67 stars	2	
0126.HD99167	2	7:40	11:22:04.9	-10:35:05	600	0	2.0	#10 M67 stars	2	
0127.HD99167	6	7:41	11:22:04.9	-10:35:05	600	0	2.0	#10 M67 stars	2	
0128.HD99167	1	7:41	11:22:04.9	-10:35:05	600	0	2.0	#10 M67 stars	2	
0129.COMP	20	7:42	11:22:04.9	-10:35:05	600	0	2.0	#10 M67 stars	2	
0130.m67_5997	600	7:44	8:51:35.7	11:53:34	600	0	2.0	#10 M67 stars	2	PA=55
0131.COMP	20	7:55	8:51:35.7	11:53:34	600	0	2.0	#10 M67 stars	2	
0132.m67_5699	600	7:56	8:51:21.2	11:45:52	600	55	2.0	#10 M67 stars	2	
0133.COMP	20	8:06	8:51:21.2	11:45:52	600	55	2.0	#10 M67 stars	2	
0134-0148.FLAT	45	8:22	12:00:00	32:00:00	600	55	2.0	#10 M67 stars	2	
0149.BIAS	0	8:25	12:00:00	32:00:00	1200	55	2.0	#10 M67 stars	2	
0150.COMP	20	8:26	12:00:00	32:00:00	1200	55	2.0	#10 M67 stars	2	1200-line; 2-sec slit for Willie Torres
0151.test	20	8:28	12:00:00	32:00:00	1200	55	2.0	#10 M67 stars	2	
0152.67-972	1200	8:32	8:51:17	11:44:29	1200	62	2.0	#99 Other	2	Willie
0153.COMP	20	8:53	8:51:17	11:44:29	1200	62	2.0	#99 Other	2	
0154-0163.FLAT	60	9:05	12:40:00	32:00:00	1200	62	2.0	#99 Other	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0164.Feige34	120	9:11	10:36:41.2	43:21:50	600	100	2.0	#122 Halo Star	4	600-line, 2-sec, tilt 430
0165.Feige34	120	9:13	10:36:41.2	43:21:50	600	100	2.0	#122 Halo Star	4	
0166.COMP	10	9:15	10:36:41.2	43:21:50	600	100	2.0	#122 Halo Star	4	for Warren
0167.hs806	1200	9:17	11:18:00.6	28:49:05	600	80	2.0	#122 Halo Star	4	
0168.COMP	10	9:37	11:18:00.6	28:49:05	600	80	2.0	#122 Halo Star	4	
0169.hs807	900	9:38	11:18:22.9	30:29:42	600	80	2.0	#122 Halo Star	4	
0170.COMP	10	9:54	11:18:22.9	30:29:42	600	80	2.0	#122 Halo Star	4	
0171.hs808	900	9:55	11:19:04.8	29:51:52	600	80	2.0	#122 Halo Star	4	
0172.COMP	10	10:11	11:19:04.8	29:51:52	600	80	2.0	#122 Halo Star	4	
0173.hs809	120	10:12	11:19:05.5	30:07:49	600	80	2.0	#122 Halo Star	4	
0174.COMP	10	10:15	11:19:05.5	30:07:49	600	80	2.0	#122 Halo Star	4	
0175.hs810	1200	10:16	11:20:43.1	29:16:15	600	80	2.0	#122 Halo Star	4	
0176.COMP	10	10:37	11:20:43.1	29:16:15	600	80	2.0	#122 Halo Star	4	
0177.hs811	1200	10:38	11:23:24.8	29:05:18	600	80	2.0	#122 Halo Star	4	
0178.COMP	10	10:58	11:23:24.8	29:05:18	600	80	2.0	#122 Halo Star	4	
0179.BDp332642	120	11:00	15:50:03	33:05:49	600	90	2.0	#122 Halo Star	4	
0180.COMP	10	11:02	15:50:03	33:05:49	600	90	2.0	#122 Halo Star	4	
0181-0195.FLAT	40	11:14	15:50:03	33:05:49	600	90	2.0	#122 Halo Star	4	
0196.BIAS	0	11:17	15:50:03	33:05:49	300	90	3.0	#122 Halo Star	4	
0197.COMP	5	11:17	15:50:03	33:05:49	300	90	3.0	#122 Halo Star	4	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0198.MRK421	300	11:19	11:04:27.4	+38:12:32	300	80	3.0	#133 MRK421	4	
0199.MRK421	300	11:24	11:04:27.4	+38:12:32	300	80	3.0	#133 MRK421	4	
0200.MRK421	300	11:29	11:04:27.4	+38:12:32	300	80	3.0	#133 MRK421	4	
0201.COMP	5	11:34	11:04:27.4	+38:12:32	300	80	3.0	#133 MRK421	4	
0202.sn2002bi	1200	11:38	13:32:54.4	+09:31:18	300	45	3.0	#2 SN Observat	2	
0203.COMP	10	11:59	13:32:54.4	+09:31:18	300	45	3.0	#2 SN Observat	2	
0204.sn2002bg	1200	12:02	14:59:39.2	+13:12:44	300	25	3.0	#2 SN Observat	2	
0205.COMP	10	12:23	14:59:39.2	+13:12:44	300	25	3.0	#2 SN Observat	2	
0206.BDp332642	120	12:24	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	2	
0207.BDp332642	90	12:27	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	2	
0208.COMP	10	12:29	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	2	
0209.N5548	120	12:30	14:17:59.6	+25:08:12	300	68	3.0	#6 AGN Monitor	4	binning problem, like last month
0210.N5548	120	12:34	14:17:59.6	+25:08:12	300	68	3.0	#6 AGN Monitor	2	
0211.N5548	120	12:36	14:17:59.6	+25:08:12	300	68	3.0	#6 AGN Monitor	2	
0212.N5548	300	12:38	14:17:59.6	+25:08:12	300	68	3.0	#6 AGN Monitor	2	
0213.COMP	10	12:44	14:17:59.6	+25:08:12	300	68	3.0	#6 AGN Monitor	2	
0214-0223.BIAS	0	12:48	14:17:59.6	+25:08:12	300	68	3.0	#6 AGN Monitor	2	
0224-0233.FLAT	16	12:52	14:17:59.6	+25:08:12	300	68	3.0	#6 AGN Monitor	2	
0234.test	8	12:53	14:17:59.6	+25:08:12	300	68	3.0	#6 AGN Monitor	4	
0235.test	8	12:55	16:27:58.0	31:30:59	300	68	3.0	#6 AGN Monitor	4	



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0236.FLAT	8	12:56	16:28:33.0	31:30:59	300	68	3.0	#6 AGN Monitor	4	a few thin clouds @ dawn
0237-0238.FLAT	8	12:56	16:29:03.0	31:30:59	300	68	3.0	#6 AGN Monitor	4	
0239-0245.FLAT	8	12:58	16:30:47.0	31:30:58	300	68	3.0	#6 AGN Monitor	4	
0246.BIAS	0	12:59	16:31:31.0	31:30:58	300	68	3.0	#6 AGN Monitor	4	plus all of that forest fire smoke to the se
0247-0255.BIAS	0	13:00	16:32:36.0	31:30:58	300	68	3.0	#6 AGN Monitor	4	
0256.DARK	900	13:15	17:02:24.0	31:30:54	300	68	3.0	#6 AGN Monitor	4	
0257.DARK	900	13:30	17:17:36.0	31:30:51	300	68	3.0	#6 AGN Monitor	4	
0258.DARK	900	13:45	17:32:43.0	31:30:49	300	68	3.0	#6 AGN Monitor	4	
0259.DARK	900	14:00	17:47:55.0	31:30:46	300	68	3.0	#6 AGN Monitor	4	
0260.DARK	900	14:15	18:03:03.0	31:30:43	300	68	3.0	#6 AGN Monitor	4	
0261.DARK	900	14:30	18:18:14.0	31:30:41	300	68	3.0	#6 AGN Monitor	4	
0262.DARK	900	14:45	18:33:21.0	31:30:38	300	68	3.0	#6 AGN Monitor	4	
0263.DARK	900	15:00	18:48:32.0	31:30:35	300	68	3.0	#6 AGN Monitor	4	
0264.DARK	900	15:16	19:03:40.0	31:30:33	300	68	3.0	#6 AGN Monitor	4	
0265.DARK	900	15:31	19:18:51.0	31:30:30	300	68	3.0	#6 AGN Monitor	4	
0266.DARK	900	15:46	19:33:58.0	31:30:27	300	68	3.0	#6 AGN Monitor	4	
0267.DARK	900	16:01	19:49:09.0	31:30:24	300	68	3.0	#6 AGN Monitor	4	
0268.DARK	900	16:16	20:04:17.0	31:30:22	300	68	3.0	#6 AGN Monitor	4	
0269.DARK	900	16:31	20:19:28.0	31:30:19	300	68	3.0	#6 AGN Monitor	4	
0270.DARK	900	16:46	20:34:35.0	31:30:17	300	68	3.0	#6 AGN Monitor	4	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0271.DARK	900	17:01	20:49:46.0	31:30:14	300	68	3.0	#6 AGN Monitor	4	
0272.DARK	900	17:16	21:04:57.0	31:30:12	300	68	3.0	#6 AGN Monitor	4	
0273.DARK	900	17:32	21:20:05.0	31:30:09	300	68	3.0	#6 AGN Monitor	4	
0274.DARK	900	17:47	21:35:16.0	31:30:07	300	68	3.0	#6 AGN Monitor	4	
0275.DARK	900	18:02	21:50:23.0	31:30:05	300	68	3.0	#6 AGN Monitor	4	



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Coll. Focus 1000 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001.DARK	900	23:05	02:54:50.0	31:29:56	300	68	3.0	#6 AGN Monitor	4	
0002.DARK	900	23:21	03:10:01.0	31:29:58	300	68	3.0	#6 AGN Monitor	4	
0003.DARK	900	23:36	03:25:08.0	31:29:59	300	68	3.0	#6 AGN Monitor	4	
0004.DARK	900	23:51	03:40:19.0	31:30:01	300	68	3.0	#6 AGN Monitor	4	
0005.DARK	900	0:06	03:55:27.0	31:30:03	300	68	3.0	#6 AGN Monitor	4	
0006.DARK	900	0:21	04:10:37.0	31:30:05	300	68	3.0	#6 AGN Monitor	4	
0007.DARK	900	0:36	04:25:45.0	31:30:07	300	68	3.0	#6 AGN Monitor	4	
0008.DARK	900	0:51	04:40:56.0	31:30:09	300	68	3.0	#6 AGN Monitor	4	
0009.DARK	900	1:06	04:56:03.0	31:30:11	300	68	3.0	#6 AGN Monitor	4	
0010.DARK	900	1:21	05:11:14.0	31:30:13	300	68	3.0	#6 AGN Monitor	4	
0011.BIAS	0	2:08	05:43:11.0	31:30:19	300	90	3.0	#6 AGN Monitor	4	solid clouds
0012-0020.BIAS	0	2:09	05:44:16.0	31:30:19	300	90	3.0	#6 AGN Monitor	4	
0021-0030.FLAT	8	2:15	05:50:07.0	31:30:20	300	90	3.0	#6 AGN Monitor	4	
0031-0040.BIAS	0	2:18	05:53:18.0	31:30:20	300	90	3.0	#6 AGN Monitor	2	
0041.test	10	2:20	05:55:06.0	31:30:21	300	90	3.0	#6 AGN Monitor	1	
0042.test	10	2:21	05:55:45.0	31:30:21	300	90	3.0	#6 AGN Monitor	2	binning problems
0043-0044.BIAS	0	2:24	05:59:18.0	31:30:21	300	90	3.0	#6 AGN Monitor	2	
0045-0052.BIAS	0	2:26	06:01:02.0	31:30:22	300	90	3.0	#6 AGN Monitor	2	
0053-0057.FLAT	16	2:30	06:04:52.0	31:30:22	300	90	3.0	#6 AGN Monitor	2	
0058-0062.FLAT	16	2:32	06:07:15.0	31:30:23	300	90	3.0	#6 AGN Monitor	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0063.COMP	5	2:36	06:11:32.0	31:30:24	300	90	3.0	#6 AGN Monitor	4	
0064.COMP	5	2:43	06:17:49.0	31:30:25	300	90	3.0	#6 AGN Monitor	4	
0066.test	5	3:26	6:03:31	27:41:50	300	90	3.0	#100 BGGem	4	
0067.test	10	3:27	6:03:31	27:41:50	300	90	3.0	#100 BGGem	1	
0068.test	5	3:27	6:03:31	27:41:50	300	90	3.0	#100 BGGem	1	
0069.test	20	3:28	6:03:31	27:41:50	300	90	3.0	#100 BGGem	4	
0070.test	60	3:30	6:03:31	27:41:50	300	90	3.0	#100 BGGem	4	
0071.test	90	3:32	6:03:31	27:41:50	300	90	3.0	#100 BGGem	4	test exp for Vit
0072.COMP	5	3:35	6:03:31	27:41:50	300	90	3.0	#100 BGGem	4	weak star in comp
0073.1791	1	3:39	5:26:08.0	+28:36:20	300	90	3.0	#100 BGGem	4	
0074.COMP	5	3:43	5:26:08.0	+28:36:20	300	90	3.0	#100 BGGem	4	star in comp
0075.2483	10	3:48	6:46:33.5	+43:34:48	300	90	3.0	#100 BGGem	4	
0076.COMP	5	3:49	6:46:33.5	+43:34:48	300	90	3.0	#100 BGGem	4	star in comp
0077.2487	15	3:52	6:47:28.2	+48:47:33	300	90	3.0	#100 BGGem	4	
0078.test	10	6:10	09:45:24.0	31:31:00	600	90	2.0	#100 BGGem	4	
0079-0085.FLAT	45	6:30	10:06:15.0	31:31:02	600	90	2.0	#10 M67 Stars	2	
0086-0093.FLAT	45	6:38	10:14:21.0	31:31:03	600	90	2.0	#10 M67 Stars	2	
0094.FLAT	40	6:43	10:19:12.0	31:31:04	600	90	2.0	#122 - Halo St	4	ok
0095-0099.FLAT	40	6:47	10:23:06.0	31:31:04	600	90	2.0	#122 - Halo St	4	
0100-0108.FLAT	40	6:54	10:30:11.0	31:31:05	600	90	2.0	#122 - Halo St	4	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0109.N4051	180	9:30	12:03:09.7	+44:31:53	300	100	3.0	#6 AGN Monitor	4	stop and go through clouds
0110.N4051	180	9:33	12:03:09.7	+44:31:53	300	100	3.0	#6 AGN Monitor	4	
0111.COMP	5	9:37	12:03:09.7	+44:31:53	300	100	3.0	#6 AGN Monitor	4	
0112.N4151	60	9:37	12:10:32.6	+39:24:21	300	100	3.0	#6 AGN Monitor	4	
0113.N4151	60	9:39	12:10:32.6	+39:24:21	300	100	3.0	#6 AGN Monitor	4	
0114.COMP	5	9:40	12:10:32.6	+39:24:21	300	100	3.0	#6 AGN Monitor	4	
0115.snu5499	1200	9:41	10:12:17.3	+27:51:50	300	78	3.0	#2 SN Observat	2	interesting...
0116.COMP	10	10:02	10:12:17.3	+27:51:50	300	78	3.0	#2 SN Observat	2	
0117.snu5499	600	10:03	10:12:17.3	+27:51:50	300	78	3.0	#2 SN Observat	2	
0118.COMP	10	10:13	10:12:17.3	+27:51:50	300	78	3.0	#2 SN Observat	2	
0119.BDp332642	60	10:15	15:50:03	33:05:49	300	105	3.0	#56 Spectropho	2	
0120.BDp332642	180	10:16	15:50:03	33:05:49	300	105	3.0	#56 Spectropho	2	
0121.BDp332642	180	10:20	15:50:03	33:05:49	300	105	3.0	#56 Spectropho	2	
0122.COMP	10	10:23	15:50:03	33:05:49	300	105	3.0	#56 Spectropho	2	more clouds
0123-0132.BIAS	0	11:51	15:39:32.8	-11:34:25	300	105	3.0	#56 Spectropho	2	
0133-0142.FLAT	16	11:56	15:39:32.8	-11:34:25	300	105	3.0	#56 Spectropho	2	
0143-0152.BIAS	0	11:58	15:39:32.8	-11:34:25	300	105	3.0	#56 Spectropho	4	
0153-0162.FLAT	8	12:01	15:39:32.8	-11:34:25	300	105	3.0	#56 Spectropho	4	
0163.test	5	12:13	15:49:45.0	31:31:04	300	105	3.0	#56 Spectropho	2	
0164.DARK	1200	12:21	16:17:14.0	31:31:00	300	105	3.0	#56 Spectropho	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0165.DARK	1200	12:41	16:37:34.0	31:30:57	300	105	3.0	#56 Spectropho	2	
0166.DARK	1200	13:01	16:57:49.0	31:30:54	300	105	3.0	#56 Spectropho	2	
0167.DARK	1200	13:21	17:18:04.0	31:30:51	300	105	3.0	#56 Spectropho	2	
0168.DARK	1200	13:42	17:38:20.0	31:30:48	300	105	3.0	#56 Spectropho	2	
0169.DARK	1200	14:02	17:58:35.0	31:30:44	300	105	3.0	#56 Spectropho	2	
0170.DARK	1200	14:22	18:18:51.0	31:30:41	300	105	3.0	#56 Spectropho	2	
0171.DARK	1200	14:42	18:39:10.0	31:30:37	300	105	3.0	#56 Spectropho	2	
0172.DARK	1200	15:02	18:59:25.0	31:30:33	300	105	3.0	#56 Spectropho	2	
0173.DARK	1200	15:23	19:19:40.0	31:30:30	300	105	3.0	#56 Spectropho	2	



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Coll. Focus 1000 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001-0010.BIAS	0	22:45	02:27:01.0	31:29:54	300	90	3.0	All	4	
0011-0020.FLAT	8	23:02	02:44:14.0	31:29:55	300	90	3.0	All	4	
0021-0030.BIAS	0	23:12	02:54:22.0	31:29:56	300	90	3.0	All	2	
0031-0036.FLAT	16	23:15	02:57:41.0	31:29:56	300	90	3.0	All	2	
0037-0040.FLAT	16	23:17	02:59:34.0	31:29:57	300	90	3.0	All	2	
0041.DARK	900	23:20	03:16:55.0	31:29:58	300	90	3.0	All	2	
0042.DARK	900	23:35	03:32:07.0	31:30:00	300	90	3.0	All	2	
0043.DARK	900	23:50	03:47:22.0	31:30:02	300	90	3.0	All	2	
0044.DARK	900	0:05	04:02:38.0	31:30:03	300	90	3.0	All	2	
0045.DARK	900	0:20	04:17:53.0	31:30:05	300	90	3.0	All	2	
0046.DARK	900	0:36	04:33:08.0	31:30:08	300	90	3.0	All	2	
0047.COMP	5	1:34	05:16:50.0	31:30:14	300	90	3.0	#57 Velocity S	2	
0048.COMP	5	1:39	05:21:32.0	31:30:15	300	90	3.0	#57 Velocity S	2	
0049.sky	2	1:51	03:00:00	+31:30:00	300	90	3.0	#57 Velocity S	2	
0050-0051.sky	10	1:53	03:00:00	+31:30:00	300	90	3.0	#57 Velocity S	2	
0052-0055.sky	20	1:56	03:00:00	+31:30:00	300	90	3.0	#57 Velocity S	2	
0056.COMP	5	1:58	03:00:00	+31:30:00	300	90	3.0	#57 Velocity S	2	
0057.FLAT	16	3:46	07:29:28.0	31:30:37	300	90	3.0	All	2	Telescope slewing problem - had to restart TCS and point
0058.COMP	5	4:52	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	2	
0059.HD52971	2	4:54	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0060.HD52971	2	4:55	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	2	
0061.Hiltner600	60	5:07	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0062.COMP	5	5:10	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0063.Hiltner600	60	5:10	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0064.COMP	5	5:12	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0065.Feige34	80	5:38	10:36:41.2	43:21:50	300	59	3.0	#56 Spectropho	2	
0066.COMP	5	5:40	10:36:41.2	43:21:50	300	59	3.0	#56 Spectropho	2	
0067.Feige34	80	5:41	10:36:41.2	43:21:50	300	59	3.0	#56 Spectropho	2	
0068.COMP	5	5:43	10:36:41.2	43:21:50	300	59	3.0	#56 Spectropho	2	
0069.sn2002bf	1200	5:51	10:15:42.3	+55:40:0	300	21	3.0	#2 SN Observat	2	
0070.COMP	10	6:11	10:15:42.3	+55:40:0	300	21	3.0	#2 SN Observat	2	
0071.sn2002bn	1200	6:37	11:32:39.0	+52:56:54	300	37	3.0	#2 SN Observat	2	SN at y=82, some galaxy light on slit at y=92
0072.COMP	10	7:00	12:30:16.9	-08:23:34	300	37	3.0	#2 SN Observat	2	
0073.sn2002bm	1200	7:08	12:30:16.9	-08:23:34	300	-30	3.0	#2 SN Observat	2	SN at y=82
0074.COMP	10	7:28	12:30:16.9	-08:23:34	300	-30	3.0	#2 SN Observat	2	
0075.BIAS	0	7:31	12:30:16.9	-08:23:34	300	-30	3.0	#2 SN Observat	2	
0076.COMP	10	7:31	12:30:16.9	-08:23:34	300	-30	3.0	#2 SN Observat	2	
0077.BIAS	0	7:44	11:15:00	+31:30:00	600	90	2.0	#10 M67 Stars	2	
0078.COMP	5	7:45	11:15:00	+31:30:00	600	90	2.0	#10 M67 Stars	2	
0079-0085.FLAT	45	7:55	11:15:00	+31:30:00	600	90	2.0	#10 M67 Stars	2	



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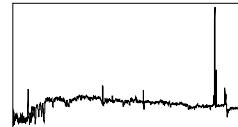
Coll. Focus 1000 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0086.m67_5716	600	8:02	8:51:22.0	11:46:40	600	55	2.0	#10 M67 stars	2	
0087.COMP	30	8:13	8:51:22.0	11:46:40	600	55	2.0	#10 M67 stars	2	
0088.m67_5716	600	8:18	8:51:22.0	11:46:40	600	58	2.0	#10 M67 stars	2	
0089.COMP	30	8:29	8:51:22.0	11:46:40	600	58	2.0	#10 M67 stars	2	
0090.HD87141	2	8:39	10:01:17.7	+54:08:04	600	-59	2.0	#10 M67 stars	2	
0091.HD87141	2	8:39	10:01:17.7	+54:08:04	600	-59	2.0	#10 M67 stars	2	
0092.COMP	30	8:40	10:01:17.7	+54:08:04	600	-59	2.0	#10 M67 stars	2	
0093.m67_5222	900	8:47	8:50:50.7	11:35:03	600	59	2.0	#10 M67 stars	2	
0094.COMP	30	9:03	8:50:50.7	11:35:03	600	59	2.0	#10 M67 stars	2	
0095.HD97907	2	9:05	11:13:15.0	+13:34:50	600	45	2.0	#10 M67 stars	2	
0096.HD97907	2	9:06	11:13:15.0	+13:34:50	600	45	2.0	#10 M67 stars	2	
0097.HD97907	2	9:06	11:13:15.0	+13:34:50	600	45	2.0	#10 M67 stars	2	
0098.COMP	30	9:07	11:13:15.0	+13:34:50	600	45	2.0	#10 M67 stars	2	
0099.HD99167	2	9:09	11:22:04.9	-10:35:05	600	26	2.0	#10 M67 stars	2	
0100.HD99167	2	9:10	11:22:04.9	-10:35:05	600	26	2.0	#10 M67 stars	2	
0101.HD99167	2	9:10	11:22:04.9	-10:35:05	600	26	2.0	#10 M67 stars	2	
0102.HD99167	2	9:10	11:22:04.9	-10:35:05	600	26	2.0	#10 M67 stars	2	
0103.COMP	30	9:10	11:22:04.9	-10:35:05	600	26	2.0	#10 M67 stars	2	
0104.Feige34	120	9:17	10:36:41.2	43:21:50	600	101	2.0	#56 Spectropho	2	
0105.Feige34	120	9:20	10:36:41.2	43:21:50	600	101	2.0	#56 Spectropho	2	



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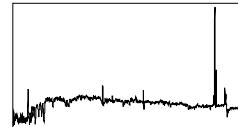
Coll. Focus 1000 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0106.COMP	30	9:23	10:36:41.2	43:21:50	600	101	2.0	#56 Spectropho	2	
0107.BIAS	0	9:24	10:36:41.2	43:21:50	600	101	2.0	#56 Spectropho	2	
0108.BIAS	0	9:24	10:36:41.2	43:21:50	600	101	2.0	#56 Spectropho	4	
0109.COMP	10	9:25	10:36:41.2	43:21:50	600	101	2.0	#56 Spectropho	4	
0115.Feige34	120	9:32	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	
0116.COMP	10	9:35	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	
0117.Feige34	120	9:35	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	
0118.COMP	10	9:39	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	
0119-0128.FLAT	40	9:49	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	
0129-0132.FLAT	45	9:54	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	2	
0133.COMP	5	9:56	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	2	
0134.BIAS	0	9:57	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	2	
0135.COMP	5	9:57	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	2	
0136.BIAS	0	9:57	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	2	
0137.hs812	1200	10:00	11:23:31.6	29:18:00	600	90	2.0	#122 Halo Star	2	bining problem again - this frame bin by 2
0139.hs814	900	10:27	11:24:32.3	29:48:39	600	90	2.0	#122 Halo Star	4	
0140.COMP	10	10:48	11:24:32.3	29:48:39	600	90	2.0	#122 Halo Star	4	
0141.hs817	720	10:54	11:31:43.1	29:55:40	600	90	2.0	#122 Halo Star	4	
0142.COMP	10	11:06	11:31:43.1	29:55:40	600	90	2.0	#122 Halo Star	4	
0143-0151.FLAT	40	11:18	11:31:43.1	29:55:40	600	90	2.0	#122 Halo Star	4	



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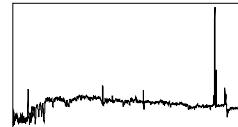
Coll. Focus 1000 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0152.FLAT	40	11:19	11:31:30.8	29:07:22	600	90	2.0	#122 Halo Star	4	
0153.hs816	1200	11:22	11:31:30.8	29:07:22	600	90	2.0	#122 Halo Star	4	
0154.COMP	10	11:42	11:31:30.8	29:07:22	600	90	2.0	#122 Halo Star	4	
0155.BIAS	0	11:56	15:38:31.0	31:29:59	300	90	2.0	#122 Halo Star	2	
0156.COMP	5	11:56	15:39:14.0	31:29:59	300	90	2.0	#122 Halo Star	2	
0157.N4151	30	12:17	12:10:32.6	+39:24:21	300	82	2.0	#6 AGN Monitor	2	
0158.N4151	30	12:17	12:10:32.6	+39:24:21	300	82	2.0	#6 AGN Monitor	2	
0159.N4151	30	12:18	12:10:32.6	+39:24:21	300	82	2.0	#6 AGN Monitor	2	
0160.COMP	10	12:20	12:10:32.6	+39:24:21	300	82	2.0	#6 AGN Monitor	2	
0161.N5548	180	12:25	14:17:59.6	+25:08:12	300	68	2.0	#6 AGN Monitor	2	
0162.N5548	180	12:29	14:17:59.6	+25:08:12	300	68	2.0	#6 AGN Monitor	2	
0163.COMP	10	12:33	14:17:59.6	+25:08:12	300	68	2.0	#6 AGN Monitor	2	
0164.N5548	180	12:33	14:17:59.6	+25:08:12	300	68	2.0	#6 AGN Monitor	2	
0165.COMP	10	12:37	20:10:46.8	40:07:01	300	68	2.0	#6 AGN Monitor	2	
0166.HD192281	4	12:42	20:10:46.8	40:07:01	300	-82	3.0	#56 Spectropho	2	
0167.HD192281	4	12:43	20:10:46.8	40:07:01	300	-82	3.0	#56 Spectropho	2	
0168.COMP	10	12:44	20:10:46.8	40:07:01	300	-82	3.0	#56 Spectropho	2	
0169.N5866	20	12:51	15:05:07.2	+55:57:18	300	-40	3.0	#57 Velocity S	2	
0170.N5866	20	12:53	15:05:07.2	+55:57:18	300	-40	3.0	#57 Velocity S	2	
0171.N5866	600	12:54	15:05:07.2	+55:57:18	300	-40	3.0	#57 Velocity S	2	



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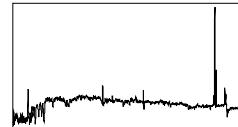
Coll. Focus 1000 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0172.COMP	10	13:00	15:05:07.2	+55:57:18	300	-40	3.0	#57 Velocity S	2	
0173-0175.FLAT	16	13:18	17:02:41.0	31:30:54	300	-40	3.0	#57 Velocity S	2	
0176-0188.FLAT	16	13:24	17:08:54.0	31:30:53	300	-40	3.0	#57 Velocity S	2	
0189-0192.FLAT	16	13:26	17:10:47.0	31:30:52	300	-40	3.0	#57 Velocity S	2	
0193-0202.BIAS	0	13:29	17:13:58.0	31:30:52	300	-40	3.0	#57 Velocity S	2	
0203-0207.FLAT	6	13:31	17:15:20.0	31:30:52	300	-40	3.0	#57 Velocity S	4	
0208-0222.FLAT	6	13:34	17:18:35.0	31:30:51	300	-40	3.0	#57 Velocity S	4	
0223-0232.BIAS	0	13:36	17:20:11.0	31:30:51	300	-40	3.0	#57 Velocity S	4	
0233.DARK	900	13:39	17:38:51.0	31:30:48	300	-40	3.0	#57 Velocity S	4	
0234.DARK	900	13:54	17:54:00.0	31:30:45	300	-40	3.0	#57 Velocity S	4	
0235.DARK	900	14:09	18:09:11.0	31:30:42	300	-40	3.0	#57 Velocity S	4	
0236.DARK	900	14:25	18:24:19.0	31:30:40	300	-40	3.0	#57 Velocity S	4	
0237.DARK	900	14:40	18:39:30.0	31:30:37	300	-40	3.0	#57 Velocity S	4	
0238.DARK	900	14:55	18:54:37.0	31:30:34	300	-40	3.0	#57 Velocity S	4	
0239.DARK	900	15:10	19:09:48.0	31:30:32	300	-40	3.0	#57 Velocity S	4	
0240.DARK	900	15:25	19:24:50.0	31:30:29	300	-40	3.0	#57 Velocity S	4	
0241.DARK	900	15:40	19:40:07.0	31:30:26	300	-40	3.0	#57 Velocity S	4	
0242.DARK	900	15:55	19:55:18.0	31:30:24	300	-40	3.0	#57 Velocity S	4	



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Coll. Focus 1000 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001.DARK	900	0:15	04:16:39.0	31:30:05	300	-40	3.0	#57 Velocity S	4	
0002.DARK	900	0:30	04:31:47.0	31:30:07	300	-40	3.0	#57 Velocity S	4	
0003.DARK	900	0:45	04:46:58.0	31:30:10	300	-40	3.0	#57 Velocity S	4	
0004.DARK	900	1:01	05:02:05.0	31:30:12	300	-40	3.0	#57 Velocity S	4	
0005.DARK	900	1:16	08:15:00	+31:30:00	300	-40	3.0	#57 Velocity S	4	
0006.sky	1	1:36	08:15:00	+31:30:00	300	90	3.0	#0 - Calibrati	4	wrong headers, sorry
0007-0010.sky	1	1:37	08:15:00	+31:30:00	300	90	3.0	#0 - Calibrati	4	
0011-0012.sky	2	1:39	08:15:00	+31:30:00	300	90	3.0	#0 - Calibrati	2	
0013-0022.BIAS	0	1:41	08:15:00	+31:30:00	300	90	3.0	#0 - Calibrati	4	
0023-0032.FLAT	8	1:44	08:15:00	+31:30:00	300	90	3.0	#0 - Calibrati	4	
0033.sky	5	1:47	01:36:23.8	+15:45:13	300	62	3.0	#2 - SN Observ	4	wrong headers, sorry
0034-0037.sky	5	1:49	01:36:23.8	+15:45:13	300	62	3.0	#2 - SN Observ	4	
0038-0047.FLAT	8	1:51	01:36:23.8	+15:45:13	300	62	3.0	#2 - SN Observ	4	
0048.COMP	12	1:53	01:36:23.8	+15:45:13	300	62	3.0	#2 - SN Observ	4	
0049.COMP	12	1:54	01:36:23.8	+15:45:13	300	62	3.0	#2 - SN Observ	4	
0050.COMP	12	1:54	01:36:23.8	+15:45:13	300	62	3.0	#2 - SN Observ	4	
0051.HD52971	2	1:57	06:57:51	+27:13:42	300	62	3.0	#57 Velocity S	4	
0052.HD52971	2	1:57	06:57:51	+27:13:42	300	62	3.0	#57 Velocity S	4	
0053.HD52971	2	1:58	06:57:51	+27:13:42	300	62	3.0	#57 Velocity S	4	
0054.COMP	12	1:58	06:57:51	+27:13:42	300	62	3.0	#57 Velocity S	4	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0055.Hiltner600	60	2:10	06:42:37.2	02:11:25	300	-20	3.0	#56 Spectropho	4	
0056.Hiltner600	60	2:13	06:42:37.2	02:11:25	300	-20	3.0	#56 Spectropho	4	
0057.COMP	5	2:14	06:42:37.2	02:11:25	300	-20	3.0	#56 Spectropho	4	
0058.sn2002ap	1200	2:24	01:36:23.8	+15:45:13	300	61	3.0	#2 SN Observat	4	bin-by-4 mode -- (bin-by-2 corrupted); exp time is 16.5 minutes
0059.COMP	10	2:41	01:36:23.8	+15:45:13	300	61	3.0	#2 SN Observat	4	
0060.COMP	5	2:43	01:36:23.8	+15:45:13	300	61	3.0	#2 SN Observat	2	
0061.COMP	5	2:47	6:30:00	+31:30:00	300	61	3.0	#2 SN Observat	2	
0062.BGGem	300	3:27	6:03:31	27:41:50	300	90	3.0	#100 BGGem	4	
0063.COMP	10	3:32	6:03:31	27:41:50	300	90	3.0	#100 BGGem	4	
0064.BGGem	1200	3:36	6:03:31	27:41:50	300	90	3.0	#100 BGGem	4	
0065.COMP	10	3:57	6:03:31	27:41:50	300	90	3.0	#100 BGGem	4	
0066.vso-54041	600	4:03	05:34:54.8	00:22:16	300	41	3.0	112 Orion PMS	4	will increase integration time due to clouds
0067.COMP	5	4:14	05:34:54.8	00:22:16	300	41	3.0	112 Orion PMS	4	
0068.vso-54041	900	4:16	05:34:54.8	00:22:16	300	41	3.0	112 Orion PMS	4	
0069.COMP	5	4:31	05:34:54.8	00:22:16	300	41	3.0	112 Orion PMS	4	
0070.vso-56751	600	4:35	05:37:23.6	00:45:33	300	47	3.0	112 Orion PMS	4	will int again due to clouds
0071.COMP	5	4:46	05:37:23.6	00:45:33	300	47	3.0	112 Orion PMS	4	
0072.vso-56751	600	4:47	05:37:23.6	00:45:33	300	49	3.0	112 Orion PMS	4	
0073.COMP	5	4:57	05:37:23.6	00:45:33	300	49	3.0	112 Orion PMS	4	
0074.sn2002bf	1200	5:31	10:15:42.3	+55:40:06	300	29	3.0	#2 - SN Observ	4	bin-by-4



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0075.COMP	10	5:52	10:15:42.3	+55:40:06	300	29	3.0	#2 - SN Observ	4	
0076.snn3190	1200	5:56	10:18:06.5	+21:49:41	300	-37	3.0	#2 - SN Observ	4	bin-by-4, SN at y=42, galaxy at y=51
0077.COMP	10	6:16	10:18:06.5	+21:49:41	300	-37	3.0	#2 - SN Observ	4	
0078.Feige34	120	6:23	10:36:41.2	43:21:50	300	30	3.0	#56 Spectropho	4	
0079.Feige34	120	6:25	10:36:41.2	43:21:50	300	30	3.0	#56 Spectropho	4	
0080.COMP	20	6:27	10:36:41.2	43:21:50	300	30	3.0	#56 Spectropho	4	
0081-0090.BIAS	0	6:40	10:16:00	+31:30:00	600	90	2.0	#56 Spectropho	4	
0091-0104.FLAT	20	6:54	10:23:28.0	31:30:00	600	90	2.0	#56 Spectropho	4	
0105-0110.FLAT	20	6:56	10:36:41.2	43:21:50	600	90	2.0	#56 Spectropho	4	
0111.Feige34	120	7:00	10:36:41.2	43:21:50	600	-6	2.0	#56 Spectropho	4	
0112.COMP	5	7:02	10:36:41.2	43:21:50	600	-6	2.0	#56 Spectropho	4	
0113.Feige34	120	7:03	10:36:41.2	43:21:50	600	-6	2.0	#56 Spectropho	4	
0114.COMP	5	7:05	10:36:41.2	43:21:50	600	-6	2.0	#56 Spectropho	4	
0115.m67_5124	480	7:12	8:50:41.5	11:44:30	600	50	2.0	#10 M67 stars	4	
0116.COMP	10	7:21	8:50:41.5	11:44:30	600	50	2.0	#10 M67 stars	4	
0117.m67_6090	540	7:24	8:51:42.6	11:46:36	600	53	2.0	#10 M67 stars	4	
0118.COMP	10	7:34	8:51:42.6	11:46:36	600	53	2.0	#10 M67 stars	4	
0119.m67_5544	480	7:36	8:51:13.6	11:50:37	600	55	2.0	#10 M67 stars	4	
0120.COMP	10	7:44	8:51:13.6	11:50:37	600	55	2.0	#10 M67 stars	4	
0121.m67_6293	480	7:47	8:51:58.5	11:46:52	600	56	2.0	#10 M67 stars	4	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0122.COMP	10	7:55	8:51:58.5	11:46:52	600	56	2.0	#10 M67 stars	4	
0123.HD87141	2	7:59	10:01:17.7	+54:08:04	600	-49	2.0	#10 M67 stars	4	
0124.HD87141	2	8:00	10:01:17.7	+54:08:04	600	-49	2.0	#10 M67 stars	4	
0125.HD87141	2	8:00	10:01:17.7	+54:08:04	600	-49	2.0	#10 M67 stars	4	
0126.COMP	10	8:00	10:01:17.7	+54:08:04	600	-49	2.0	#10 M67 stars	4	
0127.HD97907	6	8:05	11:13:15.0	+13:34:50	600	20	2.0	#10 M67 stars	4	
0128.HD97907	6	8:05	11:13:15.0	+13:34:50	600	20	2.0	#10 M67 stars	4	
0129.COMP	10	8:06	11:13:15.0	+13:34:50	600	20	2.0	#10 M67 stars	4	
0130.m67_6158	900	8:09	8:51:48.3	11:51:11	600	58	2.0	#10 M67 stars	4	
0131.COMP	10	8:25	8:51:48.3	11:51:11	600	58	2.0	#10 M67 stars	4	
0132.m67_5239	900	8:28	8:50:51.7	11:48:10	600	58	2.0	#10 M67 stars	4	
0133.COMP	10	8:44	8:50:51.7	11:48:10	600	58	2.0	#10 M67 stars	4	
0134.hs824	360	8:51	11:45:12.4	30:12:02	600	58	2.0	#122 Halo Star	4	
0135.COMP	10	8:58	11:45:12.4	30:12:02	600	58	2.0	#122 Halo Star	4	
0136.hs823	840	9:00	11:43:58.1	29:58:59	600	58	2.0	#122 Halo Star	4	
0137.COMP	10	9:14	11:43:58.1	29:58:59	600	58	2.0	#122 Halo Star	4	
0138.hs827	180	9:17	11:49:16.4	30:19:04	600	58	2.0	#122 Halo Star	4	
0139.COMP	10	9:21	11:49:16.4	30:19:04	600	58	2.0	#122 Halo Star	4	
0140.hs828	240	9:23	11:50:05.0	30:41:52	600	58	2.0	#122 Halo Star	4	
0141.COMP	10	9:28	11:50:05.0	30:41:52	600	58	2.0	#122 Halo Star	4	



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Coll. Focus 1000 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0142.hs818	300	9:31	11:35:25.8	30:43:17	600	58	2.0	#122 Halo Star	4	
0143.COMP	10	9:36	11:35:25.8	30:43:17	600	58	2.0	#122 Halo Star	4	
0144.hs831	780	9:39	11:51:07.0	30:26:11	600	58	2.0	#122 Halo Star	4	
0145.COMP	10	9:52	11:51:07.0	30:26:11	600	58	2.0	#122 Halo Star	4	
0146.hs832	600	9:54	11:51:17.8	29:48:47	600	58	2.0	#122 Halo Star	4	
0147.COMP	10	10:04	11:51:17.8	29:48:47	600	58	2.0	#122 Halo Star	4	
0148.hs833	240	10:06	11:52:36.2	30:15:24	600	58	2.0	#122 Halo Star	4	
0149.COMP	10	10:10	11:52:36.2	30:15:24	600	58	2.0	#122 Halo Star	4	
0150.hs829	1200	10:16	11:50:56.1	28:55:17	600	58	2.0	#122 Halo Star	4	
0151.COMP	10	10:36	11:50:56.1	28:55:17	600	58	2.0	#122 Halo Star	4	
0152.hs813	1200	10:38	11:23:40.1	29:19:52	600	58	2.0	#122 Halo Star	4	
0153.COMP	10	10:59	11:23:40.1	29:19:52	600	58	2.0	#122 Halo Star	4	
0154.hs835	840	11:01	11:58:00.3	29:57:32	600	58	2.0	#122 Halo Star	4	
0155.COMP	10	11:16	11:58:00.3	29:57:32	600	58	2.0	#122 Halo Star	4	
0156.hs836	1200	11:18	11:58:26.8	29:16:42	600	58	2.0	#122 Halo Star	4	
0157.COMP	10	11:38	11:58:26.8	29:16:42	600	58	2.0	#122 Halo Star	4	
0158.hs837	420	11:40	11:59:36.9	30:00:54	600	58	2.0	#122 Halo Star	4	
0159.COMP	10	11:47	11:59:36.9	30:00:54	600	58	2.0	#122 Halo Star	4	
0160.PG1708p602	100	11:57	17:08:35.9	60:13:52	600	58	2.0	#56 Spectropho	4	
0161.PG1708p602	140	12:00	17:08:35.9	60:13:52	600	58	2.0	#56 Spectropho	4	



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UT Date 2002-03-10 Observers V Hradecky

Coll. Focus 1000 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0162.COMP	10	12:03	17:08:35.9	60:13:52	600	58	2.0	#56 Spectropho	4	
0163.hs834	1200	12:05	11:53:28.5	28:52:59	600	58	2.0	#122 Halo Star	4	
0164.COMP	10	12:26	11:53:28.5	28:52:59	600	58	2.0	#122 Halo Star	4	
0165.N5548	90	12:36	14:17:59.6	+25:08:12	300	70	2.0	#6 AGN Monitor	4	
0166.COMP	10	12:38	14:17:59.6	+25:08:12	300	70	2.0	#6 AGN Monitor	4	
0167.N5548	90	12:38	14:17:59.6	+25:08:12	300	70	2.0	#6 AGN Monitor	4	
0168.COMP	10	12:40	14:17:59.6	+25:08:12	300	70	2.0	#6 AGN Monitor	4	
0169.N5548	90	12:41	14:17:59.6	+25:08:12	300	70	2.0	#6 AGN Monitor	4	
0170.COMP	10	12:43	14:17:59.6	+25:08:12	300	70	2.0	#6 AGN Monitor	4	
0171.N4151	30	12:44	12:10:32.6	+39:24:21	300	77	2.0	#6 AGN Monitor	4	
0172.N4151	30	12:45	12:10:32.6	+39:24:21	300	77	2.0	#6 AGN Monitor	4	
0173.N4151	30	12:46	12:10:32.6	+39:24:21	300	77	2.0	#6 AGN Monitor	4	
0174.COMP	10	12:47	12:10:32.6	+39:24:21	300	77	2.0	#6 AGN Monitor	4	
0175.PG1708p602	480	12:52	17:08:35.9	60:13:52	300	14	2.0	#56 Spectropho	4	
0176.COMP	10	13:01	17:08:35.9	60:13:52	300	14	2.0	#56 Spectropho	4	
0177-0180.sky	20	13:18	19:20:00	+31:30:00	300	14	2.0	All	4	
0181-0185.sky	10	13:21	19:20:00	+31:30:00	300	14	2.0	All	4	
0186.sky	6	13:22	19:20:00	+31:30:00	300	14	2.0	All	4	
0187.sky	5	13:22	19:20:00	+31:30:00	300	14	2.0	All	4	
0188-0190.sky	4	13:24	19:20:00	+31:30:00	300	14	2.0	All	4	



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UT Date 2002-03-10 Observers V HradeckyColl. Focus 1000 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>
0191-0200.BIAS	0	13:29	19:20:00	+31:30:00	300	14	2.0	All	4	
0201-0220.FLAT	8	13:34	19:20:00	+31:30:00	300	14	2.0	All	4	
0221-0230.DARK	900	15:53	19:20:00	+31:30:00	300	14	2.0	All	4	



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UT Date 2002-03-11 Observers V HradeckyColl. Focus 1000 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001-0009.BIAS	0	0:18	04:08:03.0	31:30:04	300	14	3.0	All	2	
0010.BIAS	0	0:18	04:08:16.0	31:30:05	300	14	3.0	All	2	
0011-0023.FLAT	16	0:25	04:15:25.0	31:30:05	300	14	3.0	All	2	
0024-0030.FLAT	16	0:28	04:18:45.0	31:30:06	300	14	3.0	All	2	
0031.DARK	900	0:32	04:37:24.0	31:30:08	300	14	3.0	All	2	
0032.DARK	900	0:47	04:52:39.0	31:30:11	300	14	3.0	All	2	
0033.DARK	900	1:02	05:07:54.0	31:30:13	300	14	3.0	All	2	
0034.DARK	900	1:18	05:23:10.0	31:30:15	300	14	3.0	All	2	
0035.sky	4	1:40	7:0:0	+31:30:00	300	14	3.0	#57 Velocity S	2	
0036.COMP	5	1:41	7:0:0	+31:30:00	300	14	3.0	#57 Velocity S	2	
0037-0038.sky	4	1:42	7:0:0	+31:30:00	300	14	3.0	#57 Velocity S	2	
0039.COMP	5	1:42	7:0:0	+31:30:00	300	14	3.0	#57 Velocity S	2	
0040.sky	7	1:43	7:0:0	+31:30:00	300	14	3.0	#57 Velocity S	2	
0041-0042.sky	11	1:44	7:0:0	+31:30:00	300	14	3.0	#57 Velocity S	2	
0043.COMP	5	1:45	7:0:0	+31:30:00	300	14	3.0	#57 Velocity S	2	
0044.sky	6	1:47	04:00:00	+31:30:00	300	14	3.0	#57 Velocity S	2	
0045.sky	15	1:47	04:00:00	+31:30:00	300	14	3.0	#57 Velocity S	2	
0046.COMP	5	1:48	04:00:00	+31:30:00	300	14	3.0	#57 Velocity S	2	
0047.HD52971	2	1:54	06:57:51	+27:13:42	300	-71	3.0	#57 Velocity S	2	
0048.HD52971	2	1:56	06:57:51	+27:13:42	300	-71	3.0	#57 Velocity S	2	



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Coll. Focus 1000 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0049.HD52971	2	1:56	06:57:51	+27:13:42	300	-71	3.0	#57 Velocity S	2	
0050.COMP	5	1:56	06:57:51	+27:13:42	300	-71	3.0	#57 Velocity S	2	
0051.Hiltner600	60	2:01	06:42:37.2	02:11:25	300	-22	3.0	#56 Spectropho	2	
0052.Hiltner600	60	2:04	06:42:37.2	02:11:25	300	-22	3.0	#56 Spectropho	2	
0053.COMP	5	2:05	06:42:37.2	02:11:25	300	-22	3.0	#56 Spectropho	2	
0054.sn2002ap	1200	2:24	01:36:23.8	+15:45:13	300	61	3.0	#2 SN Observat	2	HA limits hit - eff exp time 731 sec
0055.COMP	10	2:38	01:36:23.8	+15:45:13	300	61	3.0	#2 SN Observat	2	
0056.vso-55413	600	2:42	05:36:10.3	00:29:56	300	21	3.0	112 Orion PMS	2	
0057.COMP	10	2:53	05:36:10.3	00:29:56	300	21	3.0	112 Orion PMS	2	
0058.vso-54153	600	2:55	05:34:59.8	00:46:17	300	27	3.0	112 Orion PMS	2	
0059.COMP	10	3:05	05:34:59.8	00:46:17	300	27	3.0	112 Orion PMS	2	
0060.vso-56615	600	3:07	05:37:16.4	00:47:38	300	30	3.0	112 Orion PMS	2	target at y=82
0061.COMP	10	3:17	05:37:16.4	00:47:38	300	30	3.0	112 Orion PMS	2	
0062.vso-60084	600	3:20	05:40:24.7	00:42:33	300	33	3.0	112 Orion PMS	2	
0063.COMP	10	3:31	05:40:24.7	00:42:33	300	33	3.0	112 Orion PMS	2	
0064.vso-57745	600	3:33	05:38:17.8	00:46:18	300	36	3.0	112 Orion PMS	2	target y=85, nearby star y=94
0065.COMP	10	3:43	05:38:17.8	00:46:18	300	36	3.0	112 Orion PMS	2	
0066.vso-56378	600	3:45	05:37:03.3	00:43:25	300	40	3.0	112 Orion PMS	2	
0067.COMP	10	3:55	05:37:03.3	00:43:25	300	40	3.0	112 Orion PMS	2	
0068.vso-60250	900	3:57	05:40:32.8	00:51:44	300	42	3.0	112 Orion PMS	2	



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UT Date 2002-03-11 Observers V Hradecky

Coll. Focus 1000 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0069.COMP	10	4:12	05:40:32.8	00:51:44	300	42	3.0	112 Orion PMS	2	
0070.vso-61753	600	4:14	05:41:48.2	00:42:47	300	44	3.0	112 Orion PMS	2	
0071.COMP	10	4:24	05:41:48.2	00:42:47	300	44	3.0	112 Orion PMS	2	
0072.vso-60558	660	4:27	05:40:49.7	00:42:48	300	46	3.0	112 Orion PMS	2	
0073.COMP	10	4:38	05:40:49.7	00:42:48	300	46	3.0	112 Orion PMS	2	
0074.MRK110	360	4:43	09:25:12.9	+52:17:10	300	31	3.0	#6 AGN Monitor	2	target at y=83
0075.COMP	10	4:49	09:25:12.9	+52:17:10	300	31	3.0	#6 AGN Monitor	2	
0076.sn2002bf	1200	4:54	10:15:42.3	+55:40:06	300	45	3.0	#2 SN Observat	2	
0077.COMP	10	5:14	10:15:42.3	+55:40:06	300	45	3.0	#2 SN Observat	2	
0078.sn2002bo	1200	5:19	10:18:06.5	+21:49:41	300	-54	3.0	#2 SN Observat	2	
0079.COMP	10	5:40	10:18:06.5	+21:49:41	300	-54	3.0	#2 SN Observat	2	
0080.Feige34	120	5:43	10:36:41.2	43:21:50	300	54	3.0	#56 Spectropho	2	
0081.COMP	10	5:46	10:36:41.2	43:21:50	300	54	3.0	#56 Spectropho	2	
0082.Feige34	120	5:46	10:36:41.2	43:21:50	300	54	3.0	#56 Spectropho	2	
0083.COMP	10	5:49	10:36:41.2	43:21:50	300	54	3.0	#56 Spectropho	2	
0084-0093.BIAS	0	5:55	09:40:00	+31:30:00	600	90	2.0	#56 Spectropho	2	
0094-0108.FLAT	45	6:17	09:40:00	+31:30:00	600	90	2.0	#56 Spectropho	2	
0109.Feige34	120	6:22	10:36:41.2	43:21:50	600	29	2.0	#56 Spectropho	2	
0110.Feige34	120	6:25	10:36:41.2	43:21:50	600	29	2.0	#56 Spectropho	2	
0111.COMP	10	6:27	10:36:41.2	43:21:50	600	29	2.0	#56 Spectropho	2	



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Coll. Focus 1000 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0112.m67_5169	600	6:30	8:50:46.1	11:43:08	600	43	2.0	#10 M67 stars	2	target at y=83
0113.m67_5169	600	6:41	8:50:46.1	11:43:08	600	43	2.0	#10 M67 stars	2	
0114.COMP	10	6:51	8:50:46.1	11:43:08	600	43	2.0	#10 M67 stars	2	
0115.m67_5679	600	6:54	8:51:20.3	11:45:52	600	49	2.0	#10 M67 stars	2	
0116.m67_5679	600	7:04	8:51:20.3	11:45:52	600	49	2.0	#10 M67 stars	2	
0117.COMP	10	7:14	8:51:20.3	11:45:52	600	49	2.0	#10 M67 stars	2	
0118.HD96436	2	7:18	11:04:21.1	+02:13:38	600	0	2.0	#10 M67 stars	2	
0119.HD96436	2	7:18	11:04:21.1	+02:13:38	600	0	2.0	#10 M67 stars	2	
0120.HD96436	2	7:19	11:04:21.1	+02:13:38	600	0	2.0	#10 M67 stars	2	
0121.COMP	10	7:19	11:04:21.1	+02:13:38	600	0	2.0	#10 M67 stars	2	
0122.HD87141	2	7:22	10:01:17.7	+54:08:04	600	-34	2.0	#10 M67 stars	2	
0123.HD87141	2	7:23	10:01:17.7	+54:08:04	600	-34	2.0	#10 M67 stars	2	
0124.HD87141	2	7:23	10:01:17.7	+54:08:04	600	-34	2.0	#10 M67 stars	2	
0125.COMP	10	7:24	10:01:17.7	+54:08:04	600	-34	2.0	#10 M67 stars	2	
0126.m67_5688	900	7:28	8:51:20.5	11:46:16	600	54	2.0	#10 M67 stars	2	
0127.COMP	10	7:44	8:51:20.5	11:46:16	600	54	2.0	#10 M67 stars	2	
0128.m67_6169	900	7:46	8:51:48.8	11:56:50	600	57	2.0	#10 M67 stars	2	
0129.COMP	10	8:02	8:51:48.8	11:56:50	600	57	2.0	#10 M67 stars	2	
0130.m67_5864	900	8:03	8:51:29.4	11:54:13	600	59	2.0	#10 M67 stars	2	
0131.COMP	10	8:19	8:51:29.4	11:54:13	600	59	2.0	#10 M67 stars	2	



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UT Date 2002-03-11 Observers V Hradecky

Coll. Focus 1000 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0132.m67_5318	900	8:21	8:50:58.1	11:52:22	600	59	2.0	#10 M67 stars	2	
0133.COMP	10	8:42	12:00:34.2	29:48:49	600	73	2.0	#122 Halo Star	2	
0134.hs838	900	8:44	12:00:34.2	29:48:49	600	90	2.0	#122 Halo Star	2	
0135.COMP	10	9:00	12:00:34.2	29:48:49	600	90	2.0	#122 Halo Star	2	
0136.hs839	900	9:02	12:00:55.8	30:36:30	600	90	2.0	#122 Halo Star	2	
0137.COMP	10	9:17	12:00:55.8	30:36:30	600	90	2.0	#122 Halo Star	2	
0138.hs839	600	9:18	12:00:55.8	30:36:30	600	90	2.0	#122 Halo Star	2	
0139.COMP	10	9:30	12:00:55.8	30:36:30	600	90	2.0	#122 Halo Star	2	
0140.hs840	1200	9:31	12:01:16.4	29:12:35	600	90	2.0	#122 Halo Star	2	
0141.COMP	10	9:52	12:01:16.4	29:12:35	600	90	2.0	#122 Halo Star	2	
0142.hs841	1200	9:53	12:03:03.4	29:21:26	600	90	2.0	#122 Halo Star	2	
0143.COMP	10	10:14	12:03:03.4	29:21:26	600	90	2.0	#122 Halo Star	2	
0144.hs843	600	10:16	12:07:30.7	29:48:39	600	90	2.0	#122 Halo Star	2	
0145.hs842	900	10:28	12:03:17.3	28:48:18	600	90	2.0	#122 Halo Star	2	bad seeing
0146.COMP	10	10:43	12:03:17.3	28:48:18	600	90	2.0	#122 Halo Star	2	
0147.hs842	900	10:46	12:03:17.3	28:48:18	600	90	2.0	#122 Halo Star	2	
0148.COMP	10	11:01	12:03:17.3	28:48:18	600	90	2.0	#122 Halo Star	2	
0149.hs847	240	11:07	12:12:54.7	30:26:27	600	90	2.0	#122 Halo Star	2	horrible seeing, 4
0150.COMP	10	11:12	12:12:54.7	30:26:27	600	90	2.0	#122 Halo Star	2	
0151.hs847	300	11:12	12:12:54.7	30:26:27	600	90	2.0	#122 Halo Star	2	



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UT Date 2002-03-11 Observers V HradeckyColl. Focus 1000 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0152.COMP	10	11:19	12:34:12.8	30:39:46	600	90	2.0	#122 Halo Star	2	
0153.hs861	200	11:20	12:34:12.8	30:39:46	600	90	2.0	#122 Halo Star	2	
0154.COMP	10	11:24	12:34:12.8	30:39:46	600	90	2.0	#122 Halo Star	2	
0155.hs859	200	11:29	12:30:42.3	30:06:38	600	90	2.0	#122 Halo Star	2	
0156.COMP	10	11:35	12:30:42.3	30:06:38	600	90	2.0	#122 Halo Star	2	
0157.hs878	600	11:38	12:59:52.2	30:14:32	600	90	2.0	#122 Halo Star	2	
0158.COMP	10	11:48	12:59:52.2	30:14:32	600	90	2.0	#122 Halo Star	2	
0159.hs901	600	11:50	13:31:53.9	30:00:10	600	90	2.0	#122 Halo Star	2	
0160.COMP	10	12:00	13:31:53.9	30:00:10	600	90	2.0	#122 Halo Star	2	
0161.hs885	360	12:02	13:06:41.3	29:53:44	600	90	2.0	#122 Halo Star	2	
0162.COMP	10	12:08	13:06:41.3	29:53:44	600	90	2.0	#122 Halo Star	2	
0163.hs900	1100	12:10	13:30:16.2	29:47:36	600	90	2.0	#122 Halo Star	2	
0164.COMP	10	12:29	13:30:16.2	29:47:36	600	90	2.0	#122 Halo Star	2	



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UT Date 2002-03-12 Observers E. Falco

Coll. Focus 960 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001-0010.BIAS	0	23:36	03:30:25.0	31:30:00	600	90	2.0	#88 MF	2	
0024-0032.FLAT	30	0:08	04:02:31.0	31:30:03	600	90	2.0	#88 MF	2	
0033.FLAT	30	0:09	04:03:14.0	31:30:04	600	90	2.0	#88 MF	2	
0034.COMP	30	0:11	04:05:42.0	31:30:04	600	90	2.0	#88 MF	2	
0035.COMP	30	0:12	04:06:42.0	31:30:04	600	90	2.0	#88 MF	2	
0036.COMP	30	0:15	04:09:14.0	31:30:04	600	90	2.0	#88 MF	2	
0037.COMP	20	0:15	04:09:57.0	31:30:04	600	90	2.0	#88 MF	2	
0038.COMP	20	0:16	04:10:32.0	31:30:05	600	90	2.0	#88 MF	2	
0039.COMP	20	0:17	04:11:11.0	31:30:05	600	90	2.0	#88 MF	2	
0040.DARK	900	0:22	04:31:30.0	31:30:07	600	90	2.0	#88 MF	2	
0041.DARK	900	0:37	04:46:45.0	31:30:10	600	90	2.0	#88 MF	2	
0042.DARK	900	0:53	05:02:01.0	31:30:12	600	90	2.0	#88 MF	2	
0043.DARK	900	1:08	05:17:16.0	31:30:14	600	90	2.0	#88 MF	2	
0044.SKY	10	1:46	03:47:27.0	31:29:57	0	10	10.0	#57 Velocity S	2	
0045-0048.SKY	45	1:49	03:47:27.0	31:29:57	0	45	45.0	#57 Velocity S	2	
0049.SKY	120	1:56	03:47:27.0	31:29:57	0	120	120.0	#57 Velocity S	2	
0050.COMP	15	3:11	05:01:31.5	52:45:52	600	90	2.0	#56 Spectropho	2	photometric!
0051.GB191B2B	30	3:13	05:01:31.5	52:45:52	600	90	2.0	#56 Spectropho	2	
0052.GB191B2B	120	3:17	05:01:31.5	52:45:52	0	120	120.0	#88 Mass Funct	2	
0053.COMP	10	3:29	07:36:47.0	+55:02:27	600	90	2.0	#88 Mass Funct	2	



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UT Date 2002-03-12 Observers E. FalcoColl. Focus 960 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0054.MF7039	900	3:32	07:36:47.0	+55:02:27	600	90	2.0	#88 Mass Funct	2	
0055.MF7039	900	3:48	07:36:47.0	+55:02:27	0	900	900	#88 Mass Funct	2	
0056.COMP	10	4:05	07:36:47.0	+55:02:27	600	90	2.0	#88 Mass Funct	2	
0057.COMP	10	4:12	08:58:36.5	+54:19:2	600	90	2.0	#88 Mass Funct	2	
0058.MF7070	450	4:14	08:58:36.5	+54:19:2	600	90	2.0	#88 Mass Funct	2	
0059.MF7070	450	4:22	08:58:36.5	+54:19:2	600	90	2.0	#88 Mass Funct	2	
0060.COMP	10	4:30	08:58:36.5	+54:19:2	600	90	2.0	#88 Mass Funct	2	
0061.MF7113	450	4:37	10:27:14.7	+16:02:57	600	90	2.0	#88 Mass Funct	2	
0062.MF7113	450	4:44	10:27:14.7	+16:02:57	600	90	2.0	#88 Mass Funct	2	
0063.COMP	10	4:52	10:27:14.7	+16:02:57	600	90	2.0	#88 Mass Funct	2	
0064.COMP	10	5:08	10:01:09.8	+22:24:6	600	90	2.0	#88 Mass Funct	2	
0065.MF4036	900	5:10	10:01:09.8	+22:24:6	600	90	2.0	#88 Mass Funct	2	
0066.MF4036	900	5:26	10:01:09.8	+22:24:6	0	900	900	#88 Mass Funct	2	
0067.COMP	10	5:41	10:01:09.8	+22:24:6	600	90	2.0	#88 Mass Funct	2	
0068.MF7063	450	5:53	08:21:57.0	+66:31:53	600	90	2.0	#88 Mass Funct	2	
0069.MF7063	450	6:00	08:21:57.0	+66:31:53	600	90	2.0	#88 Mass Funct	2	
0070.COMP	10	6:14	08:21:57.0	+66:31:53	600	90	2.0	#88 Mass Funct	2	
0071.COMP	10	6:22	11:56:07.7	+55:23:28	600	90	2.0	#88 Mass Funct	2	
0072.MF4041	900	6:23	11:56:07.7	+55:23:28	600	90	2.0	#88 Mass Funct	2	
0073.MF4041	900	6:39	11:56:07.7	+55:23:28	0	900	900	#88 Mass Funct	2	



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UT Date 2002-03-12 Observers E. Falco

Coll. Focus 960 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0074.COMP	10	6:55	11:56:07.7	+55:23:28	600	90	2.0	#88 Mass Funct	2	
0075.COMP	10	7:02	09:34:49.8	55:19:25	600	90	2.0	#56 Spectropho	2	
0076.PG0934p554	120	7:03	09:34:49.8	55:19:25	600	90	2.0	#56 Spectropho	2	
0077.COMP	10	7:12	13:44:04.7	+03:54:20	600	90	2.0	#88 Mass Funct	2	
0078.MF7084	900	7:13	13:44:04.7	+03:54:20	600	90	2.0	#88 Mass Funct	2	
0079.MF7084	900	7:29	13:44:04.7	+03:54:20	600	90	2.0	#88 Mass Funct	2	
0080.MF7084	900	7:46	13:44:04.7	+03:54:20	600	90	2.0	#88 Mass Funct	2	
0081.COMP	10	8:01	13:44:04.7	+03:54:20	600	90	2.0	#88 Mass Funct	2	
0082.COMP	10	8:13	12:15:55.1	+23:35:44	600	90	2.0	#88 Mass Funct	2	
0083.MF4057	900	8:14	12:15:55.1	+23:35:44	600	90	2.0	#88 Mass Funct	2	
0084.MF4057	900	8:30	12:15:55.1	+23:35:44	600	90	2.0	#88 Mass Funct	2	
0085.MF4057	900	8:47	12:15:55.1	+23:35:44	600	90	2.0	#88 Mass Funct	2	
0086.COMP	10	9:02	12:15:55.1	+23:35:44	600	90	2.0	#88 Mass Funct	2	
0087.COMP	10	9:11	10:29:28.3	+20:59:29	600	90	2.0	#88 Mass Funct	2	
0088.MF7095	900	9:12	10:29:28.3	+20:59:29	600	90	2.0	#88 Mass Funct	2	
0089.MF7095	900	9:28	10:29:28.3	+20:59:29	600	90	2.0	#88 Mass Funct	2	
0090.MF7095	900	9:44	10:29:28.3	+20:59:29	600	90	2.0	#88 Mass Funct	2	
0091.COMP	10	10:07	10:29:28.3	+20:59:29	600	90	2.0	#88 Mass Funct	2	
0092.COMP	10	10:12	13:52:16.2	+02:06:4	600	90	2.0	#88 Mass Funct	2	
0093.MF7064	900	10:14	13:52:16.2	+02:06:4	600	90	2.0	#88 Mass Funct	2	



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UT Date 2002-03-12 Observers E. FalcoColl. Focus 960 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0094.MF7064	900	10:30	13:52:16.2	+02:06:4	600	90	2.0	#88 Mass Funct	2	
0095.COMP	10	10:45	13:52:16.2	+02:06:4	600	90	2.0	#88 Mass Funct	2	
0096.COMP	10	10:51	14:03:31.2	+09:13:15	600	90	2.0	#88 Mass Funct	2	
0097.MF7110	900	10:52	14:03:31.2	+09:13:15	600	90	2.0	#88 Mass Funct	2	
0098.MF7110	900	11:09	14:03:31.2	+09:13:15	600	90	2.0	#88 Mass Funct	2	
0099.COMP	10	11:24	14:03:31.2	+09:13:15	600	90	2.0	#88 Mass Funct	2	
0100.COMP	10	11:30	13:21:19.0	36:23:39	600	90	2.0	#56 Spectropho	2	
0101.HZ44	120	11:31	13:21:19.0	36:23:39	600	90	2.0	#56 Spectropho	2	
0102.COMP	10	11:40	13:24:20.1	+32:50:53	600	90	2.0	#88 Mass Funct	2	
0103.MF7023	900	11:42	13:24:20.1	+32:50:53	600	90	2.0	#88 Mass Funct	2	
0104.MF7023	900	11:58	13:24:20.1	+32:50:53	600	90	2.0	#88 Mass Funct	2	
0105.MF7023	900	12:14	13:24:20.1	+32:50:53	600	90	2.0	#88 Mass Funct	2	
0106.COMP	10	12:29	13:24:20.1	+32:50:53	600	90	2.0	#88 Mass Funct	2	



WHIPPLE OBSERVATORY

FAST SPECTROGRAPH LOG



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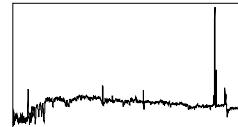
UT Date 2002-03-13 Observers E. FalcoColl. Focus 960 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001-0010.BIAS	0	22:48	02:45:59.0	31:29:56	600	90	2.0	#88 MF	2	
0019.COMP	15	22:58	02:56:02.0	31:29:57	600	90	2.0	#88 MF	2	
0020.COMP	15	22:59	02:56:46.0	31:29:57	600	90	2.0	#88 MF	2	
0021.COMP	15	22:59	02:57:15.0	31:29:57	600	90	2.0	#88 MF	2	
0022.COMP	15	22:59	02:57:42.0	31:29:57	600	90	2.0	#88 MF	2	
0023.COMP	15	23:00	02:58:12.0	31:29:57	600	90	2.0	#88 MF	2	
0024-0030.FLAT	35	23:08	03:06:18.0	31:29:57	600	90	2.0	#88 MF	2	
0031-0032.FLAT	35	23:09	03:07:53.0	31:29:58	600	90	2.0	#88 MF	2	
0033.DARK	900	23:12	03:24:44.0	31:29:59	600	90	2.0	#88 MF	2	
0034.DARK	900	23:27	03:39:59.0	31:30:01	600	90	2.0	#88 MF	2	
0035.DARK	900	23:42	03:55:15.0	31:30:03	600	90	2.0	#88 MF	2	
0036.DARK	900	23:57	04:10:30.0	31:30:05	600	90	2.0	#88 MF	2	
0037.DARK	900	0:13	04:25:45.0	31:30:07	600	90	2.0	#88 MF	2	
0038.DARK	900	0:28	04:40:57.0	31:30:09	600	90	2.0	#88 MF	2	
0039.DARK	900	0:43	04:56:13.0	31:30:11	600	90	2.0	#88 MF	2	mostly clear again!
0040.test	5	1:28	02:46:03.0	26:54:08	0	5	5.0	#88 Mass Funct	2	
0041.test	1	1:29	02:46:03.0	26:54:08	0	1	1.0	#88 Mass FUnct	2	
0042-0048.SKY	1	1:32	02:46:02.0	26:54:08	0	1	1.3	#57 Velocity S	2	
0049-0050.SKY	2	1:33	02:46:02.0	26:54:08	0	2	1.5	#57 Velocity S	2	
0051.SKY	2	1:33	02:46:02.0	26:54:07	0	2	1.5	#57 Velocity S	2	



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UT Date 2002-03-13 Observers E. Falco

Coll. Focus 960 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0052.SKY	2	1:33	02:46:02.0	26:54:08	0	2	1.7	#57 Velocity S	2	
0053.HZ14	300	2:16	04:38:15.6	10:53:57	600	90	2.0	#56 Spectropho	2	log DOES NOT show correct PA
0054.COMP	15	2:21	04:38:15.6	10:53:57	600	90	2.0	#56 Spectropho	2	
0055.Hiltner600	120	2:25	06:42:37.2	02:11:25	600	90	2.0	#56 Spectropho	2	
0056.COMP	15	2:28	06:42:37.2	02:11:25	600	90	2.0	#56 Spectropho	2	
0057.HD27348	1000	2:53	04:20:24.6	34:34:00	600	90	2.0	#57 Radial Vel	2	forgot COMP...
0058.HD48433	1000	3:02	06:43:59.3	13:13:40	600	90	2.0	#57 Radial Vel	2	
0059.HD25604	1000	3:06	04:04:41.7	22:04:54	600	90	2.0	#57 Radial Vel	2	forgot COMP...
0060.HD34559	1000	3:11	05:19:16.6	22:05:47	600	90	2.0	#57 Radial Vel	2	
0061.COMP	15	3:13	05:19:16.6	22:05:47	600	90	2.0	#57 Radial Vel	2	
0062.HD25604	1000	3:15	04:04:41.7	22:04:54	600	90	2.0	#57 Radial Vel	2	
0063.COMP	15	3:17	04:04:41.7	22:04:54	600	90	2.0	#57 Radial Vel	2	
0064.HD48433	1000	3:20	06:43:59.3	13:13:40	600	90	2.0	#57 Radial Vel	2	
0065.COMP	15	3:21	06:43:59.3	13:13:40	600	90	2.0	#57 Radial Vel	2	
0066.HD34559	1000	3:24	05:19:16.6	22:05:47	600	90	2.0	#57 Radial Vel	2	
0067.M81	180	3:36	09:51:27.3	69:18:08	600	90	2.0	#88f Mass Func	2	
0068.M81	180	3:39	09:51:27.3	69:18:08	600	90	2.0	#88f Mass Func	2	
0069.COMP	15	3:43	09:51:27.3	69:18:08	600	90	2.0	#88f Mass Func	2	
0070.COMP	15	3:46	10:01:09.8	+22:24:6	600	90	2.0	#88 Mass Funct	2	
0071.MF4036	450	3:48	10:01:09.8	+22:24:6	600	90	2.0	#88 Mass Funct	2	



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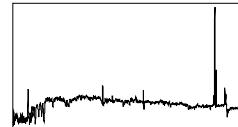
UT Date 2002-03-13 Observers E. FalcoColl. Focus 960 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0072.MF4036	450	3:57	10:01:09.8	+22:24:6	600	90	2.0	#88 Mass Funct	2	
0073.COMP	15	4:05	10:01:09.8	+22:24:6	600	90	2.0	#88 Mass Funct	2	
0074.COMP	15	4:09	10:29:28.3	+20:59:29	600	90	2.0	#88 Mass Funct	2	
0075.MF7095	900	4:11	10:29:28.3	+20:59:29	600	90	2.0	#88 Mass Funct	2	
0076.MF7095	900	4:27	10:29:28.3	+20:59:29	600	90	2.0	#88 Mass Funct	2	
0077.MF7095	900	4:43	10:29:28.3	+20:59:29	600	90	2.0	#88 Mass Funct	2	
0078.COMP	15	4:58	10:29:28.3	+20:59:29	600	90	2.0	#88 Mass Funct	2	
0079.COMP	15	5:06	12:24:11.3	+58:21:38	600	90	2.0	#88 Mass Funct	2	
0080.MF7105	600	5:06	12:24:11.3	+58:21:38	600	90	2.0	#88 Mass Funct	2	
0081.MF7105	600	5:17	12:24:11.3	+58:21:38	600	90	2.0	#88 Mass Funct	2	
0082.MF7105	600	5:28	12:24:11.3	+58:21:38	600	90	2.0	#88 Mass Funct	2	
0083.COMP	15	5:39	12:24:11.3	+58:21:38	600	90	2.0	#88 Mass Funct	2	
0084.COMP	15	5:43	12:26:19.8	+26:50:18	600	90	2.0	#88 Mass Funct	2	
0085.MF7130	900	5:44	12:26:19.8	+26:50:18	600	90	2.0	#88 Mass Funct	2	
0086.MF7130	900	6:00	12:26:19.8	+26:50:18	600	90	2.0	#88 Mass Funct	2	
0087.MF7130	900	6:16	12:26:19.8	+26:50:18	600	90	2.0	#88 Mass Funct	2	
0088.COMP	15	6:33	12:26:19.8	+26:50:18	600	90	2.0	#88 Mass Funct	2	
0089.EG81	180	7:48	11:34:51.3	14:26:58	600	90	2.0	#56 Spectropho	2	
0090.COMP	15	7:52	11:34:51.3	14:26:58	600	90	2.0	#56 Spectropho	2	
0091.HD134335	1000	7:56	15:08:35.6	25:06:31	600	90	2.0	#57 Radial Vel	2	



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FAST SPECTROGRAPH LOG



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UT Date 2002-03-13 Observers E. FalcoColl. Focus 960 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0092.COMP	15	7:58	15:08:35.6	25:06:31	600	90	2.0	#57 Radial Vel	2	
0093.HD114093	1000	8:01	13:08:02.4	24:49:52	600	90	2.0	#57 Radial Vel	2	
0094.COMP	15	8:03	13:08:02.4	24:49:52	600	90	2.0	#57 Radial Vel	2	
0095.NGC4168	180	8:05	12:09:43.5	13:29:05	600	90	2.0	#88f Mass Func	2	
0096.NGC4168	180	8:09	12:09:43.5	13:29:05	600	90	2.0	#88f Mass Func	2	
0097.COMP	15	8:12	12:09:43.5	13:29:05	600	90	2.0	#88f Mass Func	2	
0098.COMP	15	8:22	13:24:20.1	+32:50:53	600	90	2.0	#88 Mass Funct	2	
0099.MF7023	600	8:24	13:24:20.1	+32:50:53	600	90	2.0	#88 Mass Funct	2	
0100.MF7023	600	8:35	13:24:20.1	+32:50:53	600	90	2.0	#88 Mass Funct	2	
0101.MF7023	600	8:46	13:24:20.1	+32:50:53	600	90	2.0	#88 Mass Funct	2	
0102.COMP	15	8:57	13:24:20.1	+32:50:53	600	90	2.0	#88 Mass Funct	2	
0103.COMP	15	9:00	13:27:27.4	+08:42:47	600	90	2.0	#88 Mass Funct	2	
0104.MF7047	900	9:02	13:27:27.4	+08:42:47	600	90	2.0	#88 Mass Funct	2	
0105.MF7047	900	9:20	13:27:27.4	+08:42:47	600	90	2.0	#88 Mass Funct	2	
0106.MF7047	900	9:36	13:27:27.4	+08:42:47	600	90	2.0	#88 Mass Funct	2	
0107.COMP	15	9:51	13:27:27.4	+08:42:47	600	90	2.0	#88 Mass Funct	2	
0108.COMP	15	9:56	14:03:31.2	+09:13:15	600	90	2.0	#88 Mass Funct	2	
0109.MF7110	600	9:58	14:03:31.2	+09:13:15	600	90	2.0	#88 Mass Funct	2	
0110.MF7110	600	10:10	14:03:31.2	+09:13:15	600	90	2.0	#88 Mass Funct	2	
0111.MF7110	600	10:21	14:03:31.2	+09:13:15	600	90	2.0	#88 Mass Funct	2	



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UT Date 2002-03-13 Observers E. Falco

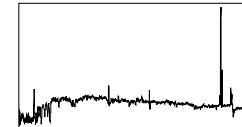
Coll. Focus 960 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0112.COMP	15	10:32	14:03:31.2	+09:13:15	600	90	2.0	#88 Mass Funct	2	
0113.COMP	15	10:42	14:44:14.7	+04:13:7	600	90	2.0	#88 Mass Funct	2	
0114.MF7116	450	10:43	14:44:14.7	+04:13:7	600	90	2.0	#88 Mass Funct	2	STAR?
0115.MF7116	120	11:01	14:44:14.7	+04:13:7	600	90	2.0	#88 Mass Funct	2	STAR?
0116.COMP	15	11:04	14:44:14.7	+04:13:7	600	90	2.0	#88 Mass Funct	2	
0117.COMP	15	11:14	13:03:14.6	+07:48:4	600	90	2.0	#88 Mass Funct	2	
0118.MF7096	450	11:16	13:03:14.6	+07:48:4	600	90	2.0	#88 Mass Funct	2	
0119.MF7096	450	11:24	13:03:14.6	+07:48:4	600	90	2.0	#88 Mass Funct	2	
0120.COMP	15	11:33	13:03:14.6	+07:48:4	600	90	2.0	#88 Mass Funct	2	
0121.COMP	15	11:39	12:53:14.5	+04:27:48	600	90	2.0	#88 Mass Funct	2	
0122.MF7079	600	11:41	12:53:14.5	+04:27:48	600	90	2.0	#88 Mass Funct	2	
0123.MF7079	600	11:52	12:53:14.5	+04:27:48	600	90	2.0	#88 Mass Funct	2	
0124.MF7079	600	12:03	12:53:14.5	+04:27:48	600	90	2.0	#88 Mass Funct	2	
0125.COMP	15	12:14	12:53:14.5	+04:27:48	600	90	2.0	#88 Mass Funct	2	
0126.Feige98	180	12:17	14:36:04.1	27:42:28	600	90	2.0	#56 Spectropho	2	
0127.COMP	15	12:20	14:36:04.1	27:42:28	600	90	2.0	#56 Spectropho	2	
0128.HD147677	1000	12:24	16:22:05.8	30:53:31	600	90	2.0	#57 Radial Vel	2	
0129.COMP	15	12:27	16:22:05.8	30:53:31	600	90	2.0	#57 Radial Vel	2	
0130.HD147025	1000	12:28	16:18:23.7	25:53:48	600	90	2.0	#57 Radial Vel	2	
0131.COMP	15	12:30	16:18:23.7	25:53:48	600	90	2.0	#57 Radial Vel	2	



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UT Date 2002-03-13 Observers E. FalcoColl. Focus 960 Grating/Grism 600

<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>
0132.NGC5846	180	12:35	15:03:56.9	01:47:53	600	90	2.0	#88f Mass Func	2	
0133.NGC5846	180	12:38	15:03:56.9	01:47:53	600	90	2.0	#88f Mass Func	2	
0134.COMP	15	12:43	15:03:56.9	01:47:53	600	90	2.0	#88f Mass Func	2	



WHIPPLE OBSERVATORY

FAST SPECTROGRAPH LOG



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UT Date 2002-03-14 Observers M Calkins

Coll. Focus 960 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001.DARK	900	1:42	05:59:01.0	31:30:21	600	90	2.0	#88 MF	2	
0002-0011.BIAS	0	1:59	06:01:20.0	31:30:21	600	90	2.0	#88 MF	2	
0012-0019.FLAT	35	2:05	06:08:04.0	31:30:22	600	90	2.0	#88 MF	2	
0020-0021.FLAT	35	2:07	06:09:39.0	31:30:23	600	90	2.0	#88 MF	2	
0022.Hiltner600	60	2:28	06:42:37.2	02:11:25	600	-9	2.0	#56 Spectropho	2	
0023.Hiltner600	60	2:29	06:42:37.2	02:11:25	600	-9	2.0	#56 Spectropho	2	
0024.COMP	30	2:30	06:42:37.2	02:11:25	600	-9	2.0	#56 Spectropho	2	
0025.HD27348	34	2:35	04:20:24.6	34:34:00	600	90	2.0	#57 Radial Vel	2	
0026.COMP	30	2:36	04:20:24.6	34:34:00	600	90	2.0	#57 Radial Vel	2	
0027.NGC1700	180	2:41	04:54:28.1	-04:56:30	600	90	2.0	#88f Mass Func	2	
0028.NGC1700	180	2:44	04:54:28.1	-04:56:30	600	90	2.0	#88f Mass Func	2	
0029.NGC1700	180	2:47	04:54:28.1	-04:56:30	600	90	2.0	#88f Mass Func	2	
0030.COMP	30	2:51	04:54:28.1	-04:56:30	600	90	2.0	#88f Mass Func	2	
0031.MF4023	450	3:17	09:09:41.7	+37:36:5	600	65	2.0	#88 Mass Funct	2	
0032.MF4023	450	3:25	09:09:41.7	+37:36:5	600	65	2.0	#88 Mass Funct	2	
0033.COMP	30	3:33	09:09:41.7	+37:36:5	600	65	2.0	#88 Mass Funct	2	
0034.COMP	30	3:37	08:40:03.6	+11:00:38	600	65	2.0	#88 Mass Funct	2	
0035.MF7085	600	3:38	08:40:03.6	+11:00:38	600	20	2.0	#88 Mass Funct	2	
0036.MF7085	600	3:48	08:40:03.6	+11:00:38	600	20	2.0	#88 Mass Funct	2	
0037.MF7085	600	3:58	08:40:03.6	+11:00:38	600	20	2.0	#88 Mass Funct	2	



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FAST SPECTROGRAPH LOG



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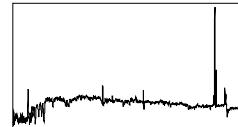
UT Date 2002-03-14 Observers M CalkinsColl. Focus 960 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0038.COMP	30	4:09	08:40:03.6	+11:00:38	600	20	2.0	#88 Mass Funct	2	
0039.COMP	30	4:14	10:22:34.9	+79:49:15	600	24	2.0	#88 Mass Funct	2	
0040.MF7005	900	4:15	10:22:34.9	+79:49:15	600	24	2.0	#88 Mass Funct	2	
0041.MF7005	900	4:30	10:22:34.9	+79:49:15	600	24	2.0	#88 Mass Funct	2	
0042.MF7005	900	4:45	10:22:34.9	+79:49:15	600	24	2.0	#88 Mass Funct	2	
0043.COMP	30	5:00	10:22:34.9	+79:49:15	600	24	2.0	#88 Mass Funct	2	
0044.COMP	30	5:09	11:37:54.7	+47:27:58	600	60	2.0	#88 Mass Funct	2	
0045.MF7078	900	5:10	11:37:54.7	+47:27:58	600	60	2.0	#88 Mass Funct	2	
0046.MF7078	900	5:25	11:37:54.7	+47:27:58	600	60	2.0	#88 Mass Funct	2	
0047.MF7078	900	5:40	11:37:54.7	+47:27:58	600	60	2.0	#88 Mass Funct	2	
0048.COMP	30	5:56	11:37:54.7	+47:27:58	600	60	2.0	#88 Mass Funct	2	
0049.HD100006	34	6:00	11:30:29.0	18:24:35	600	90	2.0	#57 Radial Vel	2	bad file - ccd rotated
0050.COMP	30	6:01	11:30:29.0	18:24:35	600	90	2.0	#57 Radial Vel	2	bad file - ccd rotated
0051.MF4041	450	6:06	11:56:07.7	+55:23:28	600	65	2.0	#88 Mass Funct	2	bad file - ccd rotated
0052.MF4041	720	6:14	11:56:07.7	+55:23:28	600	65	2.0	#88 Mass Funct	2	bad file - ccd rotated
0053.MF4041	720	6:26	11:56:07.7	+55:23:28	600	65	2.0	#88 Mass Funct	2	bad file - ccd rotated
0054.COMP	30	6:38	11:56:07.7	+55:23:28	600	65	2.0	#88 Mass Funct	2	bad file - ccd rotated
0055.COMP	30	6:40	09:52:04.0	+40:51:29	600	65	2.0	#88 Mass Funct	2	bad file - ccd rotated
0056.MF7131	600	6:42	09:52:04.0	+40:51:29	600	9	2.0	#88 Mass Funct	2	bad file - ccd rotated
0057.MF7131	600	6:52	09:52:04.0	+40:51:29	600	9	2.0	#88 Mass Funct	2	bad file - ccd rotated



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FAST SPECTROGRAPH LOG



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UT Date 2002-03-14 Observers M CalkinsColl. Focus 960 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0058.MF7131	600	7:02	09:52:04.0	+40:51:29	600	9	2.0	#88 Mass Funct	2	bad file - ccd rotated
0059.COMP	30	7:12	09:52:04.0	+40:51:29	600	9	2.0	#88 Mass Funct	2	bad file - ccd rotated
0060.HD100006	37	7:31	11:30:29.0	18:24:35	600	9	2.0	#57 Radial Vel	2	corrected problem, redo above
0061.COMP	30	7:32	11:30:29.0	18:24:35	600	9	2.0	#57 Radial Vel	2	
0062.MF4041	450	7:39	11:56:07.7	+55:23:28	600	9	2.0	#88 Mass Funct	2	
0063.MF4041	450	7:46	11:56:07.7	+55:23:28	600	9	2.0	#88 Mass Funct	2	
0064.COMP	30	7:55	11:56:07.7	+55:23:28	600	9	2.0	#88 Mass Funct	2	
0065.COMP	30	7:58	09:52:04.0	+40:51:29	600	19	2.0	#88 Mass Funct	2	
0066.MF7131	600	7:59	09:52:04.0	+40:51:29	600	19	2.0	#88 Mass Funct	2	
0067.MF7131	600	8:09	09:52:04.0	+40:51:29	600	19	2.0	#88 Mass Funct	2	
0068.MF7131	600	8:20	09:52:04.0	+40:51:29	600	19	2.0	#88 Mass Funct	2	
0069.COMP	30	8:30	09:52:04.0	+40:51:29	600	19	2.0	#88 Mass Funct	2	
0070.NGC4374	180	8:33	12:22:31.6	13:09:51	600	-40	2.0	#88f Mass Func	2	
0071.NGC4374	180	8:36	12:22:31.6	13:09:51	600	-40	2.0	#88f Mass Func	2	
0072.NGC4374	180	8:40	12:22:31.6	13:09:51	600	-40	2.0	#88f Mass Func	2	
0073.COMP	30	8:43	12:22:31.6	13:09:51	600	-40	2.0	#88f Mass Func	2	
0074.COMP	30	8:46	13:44:04.7	+03:54:20	600	100	2.0	#88 Mass Funct	2	
0075.MF7084	600	8:47	13:44:04.7	+03:54:20	600	100	2.0	#88 Mass Funct	2	
0076.MF7084	600	8:58	13:44:04.7	+03:54:20	600	100	2.0	#88 Mass Funct	2	
0077.MF7084	600	9:08	13:44:04.7	+03:54:20	600	100	2.0	#88 Mass Funct	2	



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UT Date 2002-03-14 Observers M Calkins

Coll. Focus 960 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0078.COMP	30	9:18	13:44:04.7	+03:54:20	600	100	2.0	#88 Mass Funct	2	
0079.COMP	30	9:22	12:28:41.2	+26:47:53	600	100	2.0	#88 Mass Funct	2	
0080.MF0033	900	9:23	12:28:41.2	+26:47:53	600	-25	2.0	#88 Mass Funct	2	
0081.MF0033	900	9:39	12:28:41.2	+26:47:53	600	-25	2.0	#88 Mass Funct	2	
0082.MF0033	900	9:54	12:28:41.2	+26:47:53	600	-25	2.0	#88 Mass Funct	2	
0083.COMP	30	10:09	12:28:41.2	+26:47:53	600	-25	2.0	#88 Mass Funct	2	
0084.MF4056	450	10:14	12:27:48.1	+50:23:16	600	10	2.0	#88 Mass Funct	2	
0085.MF4056	450	10:22	12:27:48.1	+50:23:16	600	10	2.0	#88 Mass Funct	2	
0086.COMP	30	10:30	12:27:48.1	+50:23:16	600	10	2.0	#88 Mass Funct	2	
0087.MF7101	450	10:34	13:35:24.5	+01:24:38	600	-45	2.0	#88 Mass Funct	2	
0088.MF7101	450	10:42	13:35:24.5	+01:24:38	600	-45	2.0	#88 Mass Funct	2	
0089.COMP	30	10:50	13:35:24.5	+01:24:38	600	-45	2.0	#88 Mass Funct	2	
0090.MF0037	450	10:53	13:06:03.5	+35:58:49	600	0	2.0	#88 Mass Funct	2	
0091.MF0037	450	11:01	13:06:03.5	+35:58:49	600	0	2.0	#88 Mass Funct	2	humidity increasing
0092.COMP	30	11:09	13:06:03.5	+35:58:49	600	0	2.0	#88 Mass Funct	2	
0093.COMP	30	11:12	13:56:19.1	+28:32:11	600	0	2.0	#88 Mass Funct	2	
0094.MF7053	600	11:13	13:56:19.1	+28:32:11	600	45	2.0	#88 Mass Funct	2	
0095.MF7053	600	11:23	13:56:19.1	+28:32:11	600	45	2.0	#88 Mass Funct	2	
0096.MF7053	600	11:33	13:56:19.1	+28:32:11	600	45	2.0	#88 Mass Funct	2	air saturated
0097.COMP	30	11:44	13:56:19.1	+28:32:11	600	45	2.0	#88 Mass Funct	2	wait for humidity to decrease



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UT Date 2002-03-14 Observers M CalkinsColl. Focus 960 Grating/Grism 600

<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>
0098-0107.BIAS	0	12:10	13:56:19.1	+28:32:11	600	45	2.0	#88 Mass Funct	2	
0108-0117.FLAT	35	12:18	13:56:19.1	+28:32:11	600	90	2.0	#88 Mass Funct	2	
0118-0127.DARK	900	14:36	13:56:19.1	+28:32:11	600	90	2.0	#88 Mass Funct	2	



WHIPPLE OBSERVATORY

FAST SPECTROGRAPH LOG



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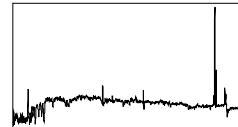
UT Date 2002-03-15 Observers M CalkinsColl. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001.DARK	900	23:23	03:43:56.0	31:30:01	300	90	3.0	none	4	
0002.DARK	900	23:38	03:59:07.0	31:30:03	300	90	3.0	none	4	
0003.DARK	900	23:53	04:14:18.0	31:30:05	300	90	3.0	none	4	
0004.DARK	900	0:08	04:29:25.0	31:30:07	300	90	3.0	none	4	
0005.DARK	900	0:23	04:44:36.0	31:30:09	300	90	3.0	none	4	
0006.DARK	900	0:39	04:59:43.0	31:30:11	300	90	3.0	none	4	
0007.DARK	900	0:54	05:14:54.0	31:30:14	300	90	3.0	none	4	
0008.DARK	900	1:09	05:30:02.0	31:30:16	300	90	3.0	none	4	
0009.DARK	900	1:24	05:45:13.0	31:30:19	300	90	3.0	none	4	
0010.DARK	900	1:39	06:00:23.0	31:30:21	300	90	3.0	none	4	
0011-0020.BIAS	0	1:55	06:01:42.0	31:30:21	300	90	3.0	none	4	
0021.FLAT	6	1:56	06:02:26.0	31:30:21	300	90	3.0	none	4	
0022-0030.FLAT	6	1:58	06:04:23.0	31:30:22	300	90	3.0	none	4	
0031-0040.BIAS	0	2:01	06:07:20.0	31:30:22	300	90	3.0	none	2	
0041-0050.FLAT	12	2:05	06:11:58.0	31:30:23	300	90	3.0	none	2	
0051.Hiltner600	50	2:15	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0052.Hiltner600	50	2:16	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0053.COMP	5	2:18	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0054.Hiltner600	50	2:20	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0055.Hiltner600	50	2:21	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	



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UT Date 2002-03-15 Observers M Calkins

Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0056.COMP	12	2:22	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0057.Hiltner600	50	2:24	06:42:37.2	02:11:25	300	-7	3.0	#56 Spectropho	2	
0058.Hiltner600	50	2:26	06:42:37.2	02:11:25	300	-7	3.0	#56 Spectropho	2	
0059.COMP	12	2:27	06:42:37.2	02:11:25	300	-7	3.0	#56 Spectropho	2	
0060.HD52971	2	2:33	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0061.COMP	5	2:33	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0062.HD52971	2	2:34	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	2	
0063.COMP	12	2:34	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	2	
0064.BGGem	600	2:41	6:03:31	27:41:50	300	90	3.0	#100 BGGem	2	
0065.COMP	12	2:52	6:03:31	27:41:50	300	90	3.0	#100 BGGem	2	
0066.BGGem	1200	2:52	6:03:31	27:41:50	300	90	3.0	#100 BGGem	2	
0067.COMP	12	3:13	6:03:31	27:41:50	300	90	3.0	#100 BGGem	2	
0068.vso-23144	600	3:16	05:03:13.8	00:43:15	300	90	3.0	112 Orion PMS	2	
0069.COMP	12	3:27	05:03:13.8	00:43:15	300	90	3.0	112 Orion PMS	2	
0070.vso-25916	1020	3:29	05:06:49.1	00:34:33	300	90	3.0	112 Orion PMS	2	
0071.COMP	12	3:47	05:06:49.1	00:34:33	300	90	3.0	112 Orion PMS	2	
0072.vso-29491	1020	3:49	05:11:00.0	00:27:18	300	90	3.0	112 Orion PMS	2	
0073.COMP	12	4:06	05:11:00.0	00:27:18	300	90	3.0	112 Orion PMS	2	
0074.vso-31911	1020	4:09	05:13:41.3	00:39:30	300	90	3.0	112 Orion PMS	2	
0075.COMP	12	4:26	05:13:41.3	00:39:30	300	90	3.0	112 Orion PMS	2	



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UT Date 2002-03-15 Observers M Calkins

Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0076.vso-32585	960	4:28	05:14:22.0	00:40:18	300	90	3.0	112 Orion PMS	2	
0077.COMP	12	4:45	05:14:22.0	00:40:18	300	90	3.0	112 Orion PMS	2	
0078.sn2002bf	1020	4:52	10:15:42.3	+55:40:06	300	35	3.0	#2 SN Observat	2	
0079.sn2002bf	1020	5:09	10:15:42.3	+55:40:06	300	35	3.0	#2 SN Observat	2	
0080.COMP	12	5:26	10:15:42.3	+55:40:06	300	35	3.0	#2 SN Observat	2	
0081.sn2002bo	1200	5:40	10:18:06.5	+21:49:41	300	-14	3.0	#2 SN Observat	2	
0082.COMP	12	6:00	10:18:06.5	+21:49:41	300	-14	3.0	#2 SN Observat	2	
0083.sn2002XX	1200	6:07	10:34:08.9	+19:42:20	300	-21	3.0	#2 SN Observat	2	
0084.COMP	12	6:28	10:34:08.9	+19:42:20	300	-21	3.0	#2 SN Observat	2	
0085.FLAT	40	6:34	10:34:08.9	+19:42:20	600	90	2.0	#122 Halo Star	4	600L, 2 arsec, tilt=430
0086-0094.FLAT	40	6:41	10:34:08.9	+19:42:20	600	90	2.0	#122 Halo Star	4	
0095.Feige34	120	6:46	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	
0096.COMP	10	6:48	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	
0097.hs815	1200	6:50	11:31:06.5	28:55:26	600	90	2.0	#122 Halo Star	4	
0098.COMP	10	7:11	11:31:06.5	28:55:26	600	90	2.0	#122 Halo Star	4	
0099.hs819	1080	7:12	11:36:37.9	28:48:25	600	90	2.0	#122 Halo Star	4	
0100.COMP	10	7:31	11:36:37.9	28:48:25	600	90	2.0	#122 Halo Star	4	
0101.hs821	1200	7:33	11:38:39.2	29:21:56	600	90	2.0	#122 Halo Star	4	
0102.COMP	10	7:53	11:38:39.2	29:21:56	600	90	2.0	#122 Halo Star	4	
0103.hs822	1200	7:56	11:43:15.0	28:52:52	600	90	2.0	#122 Halo Star	4	



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UT Date 2002-03-15 Observers M Calkins

Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0104.COMP	10	8:16	11:43:15.0	28:52:52	600	90	2.0	#122 Halo Star	4	
0105.hs825	1200	8:18	11:46:15.9	29:36:24	600	90	2.0	#122 Halo Star	4	
0106.COMP	10	8:39	11:46:15.9	29:36:24	600	90	2.0	#122 Halo Star	4	
0107.hs826	1200	8:43	11:47:59.4	29:36:43	600	90	2.0	#122 Halo Star	4	
0108.COMP	10	9:03	11:47:59.4	29:36:43	600	90	2.0	#122 Halo Star	4	
0109.hs845	1200	9:05	12:10:01.0	30:17:34	600	90	2.0	#122 Halo Star	4	
0110.COMP	10	9:25	12:10:01.0	30:17:34	600	90	2.0	#122 Halo Star	4	
0111.hs848	1200	9:27	12:13:04.3	30:16:37	600	90	2.0	#122 Halo Star	4	
0112.COMP	10	9:47	12:13:04.3	30:16:37	600	90	2.0	#122 Halo Star	4	
0113.hs849	1200	9:48	12:13:45.4	30:03:01	600	90	2.0	#122 Halo Star	4	
0114.COMP	10	10:09	12:13:45.4	30:03:01	600	90	2.0	#122 Halo Star	4	
0115.hs856	1200	10:10	12:26:10.2	30:07:12	600	90	2.0	#122 Halo Star	4	
0116.COMP	10	10:31	12:26:10.2	30:07:12	600	90	2.0	#122 Halo Star	4	
0117.hs860	1200	10:33	12:33:24.5	29:12:53	600	90	2.0	#122 Halo Star	4	
0118.COMP	10	10:54	12:33:24.5	29:12:53	600	90	2.0	#122 Halo Star	4	
0119.MRK421	300	11:16	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421	2	normal setup
0120.MRK421	300	11:21	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421	2	
0121.MRK421	240	11:27	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421	2	shorten to avoid tele limits
0122.COMP	12	11:31	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421	2	
0123.FSVSJ162548	1200	11:38	16:25:48.1	26:44:33	300	95	3.0	#131 FSVS	2	



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UT Date 2002-03-15 Observers M CalkinsColl. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0124.FSVSJ162548	1200	11:58	16:25:48.1	26:44:33	300	95	3.0	#131 FSVS	2	
0125.COMP	12	12:19	16:25:48.1	26:44:33	300	95	3.0	#131 FSVS	2	
0126.FSVSJ162710	1200	12:22	16:27:10.0	26:26:56	300	80	3.0	#131 FSVS	2	
0127.COMP	12	12:42	16:27:10.0	26:26:56	300	80	3.0	#131 FSVS	2	
0128.BDp332642	60	12:48	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	2	
0129.COMP	12	12:49	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	2	
0130.BDp332642	60	12:50	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	4	
0131.COMP	5	12:52	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	4	
0132-0136.sky	2	13:12	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	4	
0137.COMP	5	13:12	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	4	
0138-0147.BIAS	0	13:14	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	4	
0148-0157.FLAT	6	13:17	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	4	
0158-0167.BIAS	0	13:19	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	2	
0168-0177.FLAT	12	13:24	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	2	
0178-0187.DARK	900	15:43	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	2	



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UT Date 2002-03-16 Observers M Calkins

Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001-0010.DARK	900	0:35	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	4	
0011-0020.BIAS	0	0:57	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	4	
0021-0030.FLAT	6	1:00	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	4	
0031-0040.BIAS	0	1:03	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	2	
0041-0050.FLAT	12	1:24	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	2	
0051-0055.sky	2	1:55	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	4	
0056.COMP	5	1:55	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	4	
0057.Hiltner600	50	2:16	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0058.Hiltner600	50	2:16	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0059.COMP	5	2:18	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0060.Hiltner600	50	2:18	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0061.Hiltner600	50	2:19	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0062.COMP	12	2:21	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0063.Akn120	180	2:23	05:13:38.0	-00:12:15	300	90	3.0	#6 AGN Monitor	2	row=79
0064.COMP	12	2:26	05:13:38.0	-00:12:15	300	90	3.0	#6 AGN Monitor	2	
0065.vso-40136	600	2:28	05:22:33.3	00:30:41	300	90	3.0	112 Orion PMS	2	
0066.COMP	12	2:39	05:22:33.3	00:30:41	300	90	3.0	112 Orion PMS	2	
0067.vso-40170	660	2:42	05:22:34.6	00:50:26	300	90	3.0	112 Orion PMS	2	
0068.COMP	12	2:54	05:22:34.6	00:50:26	300	90	3.0	112 Orion PMS	2	
0069.vso-42205	780	2:55	05:24:26.8	00:29:21	300	90	3.0	112 Orion PMS	2	



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FAST SPECTROGRAPH LOG



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UT Date 2002-03-16 Observers M Calkins

Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0070.COMP	12	3:09	05:24:26.8	00:29:21	300	90	3.0	112 Orion PMS	2	
0071.vso-46758	720	3:11	05:28:31.5	00:48:19	300	90	3.0	112 Orion PMS	2	
0072.COMP	12	3:23	05:28:31.5	00:48:19	300	90	3.0	112 Orion PMS	2	
0073.vso-47079	660	3:25	05:28:47.1	00:45:31	300	90	3.0	112 Orion PMS	2	
0074.COMP	12	3:36	05:28:47.1	00:45:31	300	90	3.0	112 Orion PMS	2	
0075.vso-47524	1080	3:37	05:29:11.3	00:34:02	300	90	3.0	112 Orion PMS	2	
0076.COMP	12	3:56	05:29:11.3	00:34:02	300	90	3.0	112 Orion PMS	2	
0077.vso-48300	1020	3:57	05:29:52.7	00:46:45	300	90	3.0	112 Orion PMS	2	
0078.COMP	12	4:15	05:29:52.7	00:46:45	300	90	3.0	112 Orion PMS	2	
0079.vso-48389	1200	4:17	05:29:57.4	00:39:23	300	90	3.0	112 Orion PMS	2	
0080.COMP	12	4:37	05:29:57.4	00:39:23	300	90	3.0	112 Orion PMS	2	
0081.FLAT	60	4:47	05:29:57.4	00:39:23	1200	90	2.0	#99 Willies M6	2	1200L, 2 arcsec, tilt=534
0082-0090.FLAT	60	4:58	05:29:57.4	00:39:23	1200	90	2.0	#99 Willies M6	2	
0091.67-972	1200	5:05	8:51:17.6	11:44:29	1200	90	2.0	#99 Willies M6	2	row=120
0092.COMP	60	5:25	8:51:17.6	11:44:29	1200	90	2.0	#99 Willies M6	2	
0093.COMP	30	5:29	8:51:17.6	11:44:29	1200	90	2.0	#99 Willies M6	2	possibly better comp for above
0094.FLAT	45	5:35	8:51:17.6	11:44:29	600	90	2.0	#10 M67 Stars	2	600L, 2 arcsec, tilt=430
0095-0103.FLAT	45	5:44	8:51:17.6	11:44:29	600	90	2.0	#10 M67 Stars	2	
0104.Feige34	150	5:54	10:36:41.2	43:21:50	600	35	2.0	#56 Spectropho	2	
0105.COMP	30	5:57	10:36:41.2	43:21:50	600	35	2.0	#56 Spectropho	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0106.HD102212	1	6:01	11:43:17.3	06:48:34	600	35	2.0	#10 M67 stars	2	
0107.COMP	30	6:02	11:43:17.3	06:48:34	600	35	2.0	#10 M67 stars	2	
0108.m67_6408	900	6:06	8:52:11.3	11:45:37	600	40	2.0	#10 M67 stars	2	
0109.COMP	30	6:22	8:52:11.3	11:45:37	600	40	2.0	#10 M67 stars	2	
0110.m67_5969	900	6:24	8:51:34.2	11:49:43	600	45	2.0	#10 M67 stars	2	
0111.COMP	30	6:39	8:51:34.2	11:49:43	600	45	2.0	#10 M67 stars	2	
0112.m67_6034	900	6:42	8:51:37.9	11:58:49	600	49	2.0	#10 M67 stars	2	
0113.COMP	30	6:57	8:51:37.9	11:58:49	600	49	2.0	#10 M67 stars	2	
0114.m67_6259	900	6:59	8:51:56.1	11:50:14	600	52	2.0	#10 M67 stars	2	
0115.COMP	30	7:15	8:51:56.1	11:50:14	600	52	2.0	#10 M67 stars	2	
0116.sn2002bf	1200	7:24	10:15:42.3	+55:40:06	300	-37	3.0	#2 SN Observat	2	
0117.COMP	12	7:45	10:15:42.3	+55:40:06	300	89	3.0	#2 SN Observat	2	
0118.sn2002bo	1200	7:52	10:18:06.5	+21:49:41	300	60	3.0	#2 SN Observat	2	
0119.COMP	12	8:12	10:18:06.5	+21:49:41	300	60	3.0	#2 SN Observat	2	
0120.Feige34	90	8:16	10:36:41.2	43:21:50	300	110	3.0	#56 Spectropho	2	
0121.COMP	12	8:18	10:36:41.2	43:21:50	300	110	3.0	#56 Spectropho	2	
0122.MRK110	360	8:20	09:25:12.9	+52:17:10	300	90	3.0	#6 AGN Monitor	2	
0123.COMP	12	8:27	09:25:12.9	+52:17:10	300	90	3.0	#6 AGN Monitor	2	
0124.N3227	90	8:28	10:23:30.6	+19:51:54	300	90	3.0	#6 AGN Monitor	2	
0125.N3227	90	8:30	10:23:30.6	+19:51:54	300	90	3.0	#6 AGN Monitor	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0126.N3227	90	8:32	10:23:30.6	+19:51:54	300	90	3.0	#6 AGN Monitor	2	
0127.COMP	12	8:34	10:23:30.6	+19:51:54	300	90	3.0	#6 AGN Monitor	2	
0128.MRK421	300	8:35	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421	2	
0129.MRK421	300	8:40	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421	2	
0130.MRK421	300	8:45	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421	2	
0131.COMP	12	8:51	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421	2	
0132.N4051	120	8:52	12:03:09.7	+44:31:53	300	90	3.0	#6 AGN Monitor	2	
0133.N4051	120	8:54	12:03:09.7	+44:31:53	300	90	3.0	#6 AGN Monitor	2	
0134.COMP	12	8:57	12:03:09.7	+44:31:53	300	90	3.0	#6 AGN Monitor	2	
0135.N4151	30	8:58	12:10:32.6	+39:24:21	300	90	3.0	#6 AGN Monitor	2	
0136.N4151	30	8:59	12:10:32.6	+39:24:21	300	90	3.0	#6 AGN Monitor	2	
0137.N4151	30	9:00	12:10:32.6	+39:24:21	300	90	3.0	#6 AGN Monitor	2	
0138.COMP	12	9:01	12:10:32.6	+39:24:21	300	90	3.0	#6 AGN Monitor	2	
0139.N5548	90	9:02	14:17:59.6	+25:08:12	300	90	3.0	#6 AGN Monitor	2	
0140.N5548	90	9:04	14:17:59.6	+25:08:12	300	90	3.0	#6 AGN Monitor	2	
0141.N5548	90	9:05	14:17:59.6	+25:08:12	300	90	3.0	#6 AGN Monitor	2	
0142.COMP	12	9:07	14:17:59.6	+25:08:12	300	90	3.0	#6 AGN Monitor	2	
0143.sn2002bm	1200	9:12	12:30:16.9	-08:23:34	300	16	3.0	#2 SN Observat	2	
0144.COMP	12	9:32	12:30:16.9	-08:23:34	300	16	3.0	#2 SN Observat	2	
0145.FLAT	40	9:38	12:30:16.9	-08:23:34	600	90	2.0	#122 Halo Star	4	600L, 2 arcsec, tilt=430



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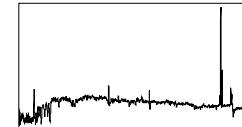
Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0146-0154.FLAT	40	9:45	12:30:16.9	-08:23:34	600	90	2.0	#122 Halo Star	4	
0155.Feige34	120	9:48	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	
0156.COMP	10	9:51	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	
0157.hs844	1200	9:54	12:07:53.5	29:40:35	600	90	2.0	#122 Halo Star	4	
0158.COMP	10	10:14	12:07:53.5	29:40:35	600	90	2.0	#122 Halo Star	4	
0159.hs846	1200	10:19	12:11:20.9	29:19:28	600	90	2.0	#122 Halo Star	4	
0160.COMP	10	10:41	12:11:20.9	29:19:28	600	90	2.0	#122 Halo Star	4	
0161.hs850	900	10:42	12:15:06.3	28:56:12	600	90	2.0	#122 Halo Star	4	
0162.hs850	900	10:57	12:15:06.3	28:56:12	600	90	2.0	#122 Halo Star	4	
0163.COMP	10	11:13	12:15:06.3	28:56:12	600	90	2.0	#122 Halo Star	4	
0164.hs851	1020	11:14	12:15:39.2	29:30:43	600	90	2.0	#122 Halo Star	4	
0165.hs851	1020	11:31	12:15:39.2	29:30:43	600	90	2.0	#122 Halo Star	4	
0166.COMP	10	11:49	12:15:39.2	29:30:43	600	90	2.0	#122 Halo Star	4	
0167.FSVSJ162418	1200	11:57	16:24:18.6	26:58:16	300	90	3.0	#131 FSVS	2	normal setup
0168.COMP	12	12:17	16:24:18.6	26:58:16	300	90	3.0	#131 FSVS	2	
0169.FSVSJ162409	1020	12:18	16:24:09.1	27:22:06	300	90	3.0	#131 FSVS	2	
0170.COMP	12	12:36	16:24:09.1	27:22:06	300	90	3.0	#131 FSVS	2	
0171.BDp332642	90	12:45	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	2	
0172.COMP	12	12:47	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	2	
0173.N5866	180	12:49	15:05:07.2	+55:57:18	300	90	3.0	#57 Velocity S	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>Bin</i>	<i>Comments</i>
0174.COMP	12	12:52	15:05:07.2	+55:57:18	300	90	3.0	#57 Velocity S	2	
0175-0184.BIAS	0	12:56	15:05:07.2	+55:57:18	300	90	3.0	#131 FSVS	4	
0185-0194.FLAT	6	12:59	15:05:07.2	+55:57:18	300	90	3.0	#131 FSVS	4	
0195-0204.BIAS	0	13:01	15:05:07.2	+55:57:18	300	90	3.0	#131 FSVS	2	
0205-0214.FLAT	12	13:05	15:05:07.2	+55:57:18	300	90	3.0	#131 FSVS	2	
0215-0224.DARK	900	15:23	15:05:07.2	+55:57:18	300	90	3.0	#131 FSVS	2	



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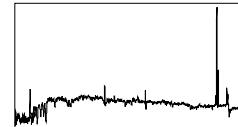
Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001-0010.DARK	900	1:00	15:05:07.2	+55:57:18	300	90	3.0	#131 FSVS	4	
0011-0020.BIAS	0	1:24	15:05:07.2	+55:57:18	300	90	3.0	#131 FSVS	4	
0021-0030.FLAT	6	1:28	15:05:07.2	+55:57:18	300	90	3.0	#131 FSVS	4	
0031-0040.BIAS	0	1:30	15:05:07.2	+55:57:18	300	90	3.0	#131 FSVS	2	
0041-0050.FLAT	12	1:34	15:05:07.2	+55:57:18	300	90	3.0	#131 FSVS	2	
0051-0055.sky	2	1:44	15:05:07.2	+55:57:18	300	90	3.0	#57 Velocity S	2	
0056.COMP	12	1:44	15:05:07.2	+55:57:18	300	90	3.0	#57 Velocity S	2	
0057.Hiltner600	50	2:21	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	Lot
0058.Hiltner600	50	2:22	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	But great seeing!
0059.COMP	5	2:23	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0060.Hiltner600	50	2:24	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0061.Hiltner600	50	2:25	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0062.COMP	12	2:27	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0063.Hiltner600	50	2:29	06:42:37.2	02:11:25	300	-2	3.0	#56 Spectropho	2	
0064.Hiltner600	50	2:30	06:42:37.2	02:11:25	300	-2	3.0	#56 Spectropho	2	
0065.COMP	12	2:31	06:42:37.2	02:11:25	300	-2	3.0	#56 Spectropho	2	
0066.BGGem	660	2:33	6:03:31	27:41:50	300	90	3.0	#100 BGGem	2	
0067.COMP	12	2:45	6:03:31	27:41:50	300	90	3.0	#100 BGGem	2	
0068.BGGem	1200	2:46	6:03:31	27:41:50	300	90	3.0	#100 BGGem	2	
0069.COMP	12	3:06	6:03:31	27:41:50	300	90	3.0	#100 BGGem	2	



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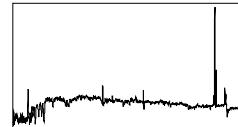
Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0070.vso-62752	1020	3:08	05:42:39.8	00:52:18	300	90	3.0	112 Orion PMS	2	
0071.COMP	12	3:26	05:42:39.8	00:52:18	300	90	3.0	112 Orion PMS	2	
0072.vso-64164	1200	3:27	05:43:49.7	00:35:36	300	90	3.0	112 Orion PMS	2	
0073.COMP	12	3:47	05:43:49.7	00:35:36	300	90	3.0	112 Orion PMS	2	
0074.vso-64986	1200	3:49	05:44:26.5	00:45:14	300	90	3.0	112 Orion PMS	2	
0075.COMP	1200	4:09	05:44:26.5	00:45:14	300	90	3.0	112 Orion PMS	2	
0076.vso-65472	1200	4:17	05:44:51.6	00:24:49	300	90	3.0	112 Orion PMS	2	
0077.COMP	12	4:38	05:44:51.6	00:24:49	300	90	3.0	112 Orion PMS	2	
0078.vso-65540	1200	4:39	05:44:54.6	00:27:03	300	90	3.0	112 Orion PMS	2	
0079.COMP	12	4:59	05:44:54.6	00:27:03	300	90	3.0	112 Orion PMS	2	
0080.FLAT	60	5:06	8:51:17.6	11:44:29	1200	90	2.0	#99 Willie s M	2	1200L, 2 arcsec, tilt=534
0081-0089.FLAT	60	5:17	8:51:17.6	11:44:29	1200	90	2.0	#99 Willie s M	2	
0090.67-972	1200	5:21	8:51:17.6	11:44:29	1200	90	2.0	#99 Willie s M	2	row=98
0091.COMP	25	5:42	8:51:17.6	11:44:29	1200	90	2.0	#99 Willie s M	2	
0092.FLAT	45	5:47	8:51:17.6	11:44:29	600	90	2.0	#10 M67 stars	2	600L, 2 arcsec, tilt=430, binby 2
0093-0101.FLAT	45	5:56	8:51:17.6	11:44:29	600	90	2.0	#10 M67 stars	2	
0102.HD78712	2	6:01	09:10:38.7	30:57:47	600	90	2.0	#10 M67 stars	2	
0103.COMP	30	6:02	09:10:38.7	30:57:47	600	90	2.0	#10 M67 stars	2	
0104.Feige34	150	6:05	10:36:41.2	43:21:50	600	90	2.0	#56 Spectropho	2	
0105.COMP	30	6:08	10:36:41.2	43:21:50	600	90	2.0	#56 Spectropho	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0106.m67_5228	1080	6:13	8:50:49.9	11:49:12	600	44	2.0	#10 M67 stars	2	
0107.COMP	30	6:31	8:50:49.9	11:49:12	600	44	2.0	#10 M67 stars	2	
0108.m67_5855	1020	6:34	8:51:29.3	11:45:27	600	44	2.0	#10 M67 stars	2	
0109.COMP	30	6:51	8:51:29.3	11:45:27	600	44	2.0	#10 M67 stars	2	row=78
0110.m67_6114	1020	6:53	8:51:44.7	11:46:45	600	52	2.0	#10 M67 stars	2	
0111.COMP	30	7:11	8:51:44.7	11:46:45	600	52	2.0	#10 M67 stars	2	
0112.m67_5336	1020	7:13	8:50:59.7	11:39:22	600	54	2.0	#10 M67 stars	2	
0113.COMP	30	7:31	8:50:59.7	11:39:22	600	54	2.0	#10 M67 stars	2	
0114.sn2002bf	1200	7:38	10:15:42.3	+55:40:06	300	-45	3.0	#2 SN Observat	2	normal setup
0115.COMP	12	7:58	10:15:42.3	+55:40:06	300	-45	3.0	#2 SN Observat	2	
0116.sn2002bo	1200	8:02	10:18:06.5	+21:49:41	300	63	3.0	#2 SN Observat	2	
0117.COMP	12	8:22	10:18:06.5	+21:49:41	300	63	3.0	#2 SN Observat	2	
0118.Feige34	90	8:25	10:36:41.2	43:21:50	300	107	3.0	#56 Spectropho	2	
0119.COMP	12	8:27	10:36:41.2	43:21:50	300	107	3.0	#56 Spectropho	2	
0120.sn2002ar	1200	8:33	11:37:43.9	+22:00:34	300	53	3.0	#2 SN Observat	2	
0121.COMP	12	8:53	11:37:43.9	+22:00:34	300	53	3.0	#2 SN Observat	2	
0122.FLAT	40	9:00	11:37:43.9	+22:00:34	600	90	2.0	#122 Halo Star	4	600L, 2 arcsec, tilt=430, binby 4
0123-0131.FLAT	40	9:07	11:37:43.9	+22:00:34	600	90	2.0	#122 Halo Star	4	
0132.Feige34	120	9:10	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	
0133.COMP	10	9:13	10:36:41.2	43:21:50	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
0134.hs852	1200	9:14	12:20:10.1	29:22:37	600	90	2.0	#122 Halo Star	4	
0135.COMP	10	9:34	12:20:10.1	29:22:37	600	90	2.0	#122 Halo Star	4	
0136.hs853	900	9:35	12:20:48.6	29:06:07	600	90	2.0	#122 Halo Star	4	
0137.hs853	900	9:51	12:20:48.6	29:06:07	600	90	2.0	#122 Halo Star	4	
0138.COMP	10	10:06	12:20:48.6	29:06:07	600	90	2.0	#122 Halo Star	4	
0139.hs858	1200	10:07	12:28:25.7	29:14:26	600	90	2.0	#122 Halo Star	4	
0140.COMP	10	10:27	12:28:25.7	29:14:26	600	90	2.0	#122 Halo Star	4	
0141.hs864	1200	10:28	12:37:27.9	30:27:36	600	90	2.0	#122 Halo Star	4	
0142.COMP	10	10:49	12:37:27.9	30:27:36	600	90	2.0	#122 Halo Star	4	
0143.hs873	1200	10:50	12:51:43.7	30:19:31	600	90	2.0	#122 Halo Star	4	
0144.COMP	10	11:10	12:51:43.7	30:19:31	600	90	2.0	#122 Halo Star	4	
0145.FSVSJ162029	1200	11:21	16:20:29.8	27:03:16	300	90	3.0	#131 FSVS	4	normal setup
0146.COMP	5	11:41	16:20:29.8	27:03:16	300	90	3.0	#131 FSVS	4	
0147.FSVSJ162038	1020	11:43	16:20:38.9	26:57:51	300	79	3.0	#131 FSVS	2	
0148.COMP	12	12:00	16:20:38.9	26:57:51	300	79	3.0	#131 FSVS	2	
0149.FSVSJ162104	1200	12:02	16:21:04.7	27:05:46	300	79	3.0	#131 FSVS	2	
0150.COMP	12	12:22	16:21:04.7	27:05:46	300	79	3.0	#131 FSVS	2	
0151.FSVSJ162501	1200	12:24	16:25:01.7	26:53:33	300	79	3.0	#131 FSVS	2	
0152.COMP	12	12:44	16:25:01.7	26:53:33	300	79	3.0	#131 FSVS	2	
0153.BDp332642	90	12:46	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	2	



WHIPPLE OBSERVATORY

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UT Date 2002-03-17 Observers M CalkinsColl. Focus 960 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>
0154.COMP	12	12:48	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	2	
0155-0164.BIAS	0	12:51	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	4	
0165-0174.FLAT	6	12:54	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	4	
0175-0184.BIAS	0	12:57	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	2	
0185-0194.FLAT	12	13:01	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	2	
0195-0204.DARK	900	15:22	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	2	



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UT Date 2002-03-18 Observers P Berlind

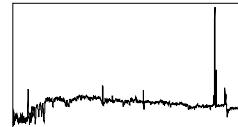
Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001-0010.BIAS	0	1:15	05:33:10.0	31:30:17	300	90	3.0	#56 Spectropho	4	
0011-0020.FLAT	8	1:18	05:36:33.0	31:30:17	300	90	3.0	#56 Spectropho	4	
0021-0022.BIAS	0	1:20	05:37:39.0	31:30:17	300	90	3.0	#56 Spectropho	2	
0023-0030.BIAS	0	1:21	05:39:23.0	31:30:18	300	90	3.0	#56 Spectropho	2	
0031-0038.FLAT	16	1:25	05:43:39.0	31:30:18	300	90	3.0	#56 Spectropho	2	
0039-0040.FLAT	16	1:26	05:44:39.0	31:30:19	300	90	3.0	#56 Spectropho	2	
0041.sky	3	1:47	06:04:55.0	31:30:22	300	90	3.0	#57 Velocity S	4	clouds to s and w
0042-0045.sky	3	1:47	06:05:38.0	31:30:22	300	90	3.0	#57 Velocity S	4	
0046.COMP	5	1:48	06:06:17.0	31:30:22	300	90	3.0	#57 Velocity S	4	
0047.HD52971	5	2:11	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0048.HD52971	5	2:11	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0049.HD52971	5	2:11	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0050.COMP	5	2:11	06:57:51	+27:13:42	300	90	3.0	#57 Velocity S	4	
0051.Hiltner600	60	2:14	06:42:37.2	02:11:25	300	0	3.0	#56 Spectropho	4	
0052.Hiltner600	60	2:15	06:42:37.2	02:11:25	300	0	3.0	#56 Spectropho	4	
0053.Hiltner600	60	2:16	06:42:37.2	02:11:25	300	0	3.0	#56 Spectropho	4	
0054.COMP	5	2:18	06:42:37.2	02:11:25	300	0	3.0	#56 Spectropho	4	
0055.Akn120	180	2:20	05:13:38.0	-00:12:15	300	24	3.0	#6 AGN Monitor	4	
0056.Akn120	180	2:24	05:13:38.0	-00:12:15	300	31	3.0	#6 AGN Monitor	4	
0057.COMP	5	2:28	05:13:38.0	-00:12:15	300	31	3.0	#6 AGN Monitor	4	



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FAST SPECTROGRAPH LOG



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UT Date 2002-03-18 Observers P Berlind

Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0058.vso-66354	720	2:29	05:45:42.5	00:50:28	300	31	3.0	112 Orion PMS	4	hi Susan!
0059.COMP	5	2:41	05:45:42.5	00:50:28	300	31	3.0	112 Orion PMS	4	
0060.vso-66504	1200	2:42	05:45:57.4	00:20:22	300	31	3.0	112 Orion PMS	4	
0061.COMP	5	3:03	05:45:57.4	00:20:22	300	31	3.0	112 Orion PMS	4	
0062.vso-67227	900	3:04	05:48:01.0	00:34:30	300	35	3.0	112 Orion PMS	4	
0063.COMP	5	3:19	05:48:01.0	00:34:30	300	35	3.0	112 Orion PMS	4	
0064.vso-67889	1200	3:21	05:49:21.2	00:42:48	300	45	3.0	112 Orion PMS	4	
0065.COMP	5	3:41	05:49:21.2	00:42:48	300	45	3.0	112 Orion PMS	4	
0066.vso-68065	730	3:42	05:49:32.7	00:42:45	300	45	3.0	112 Orion PMS	4	
0067.COMP	5	3:55	05:49:32.7	00:42:45	300	45	3.0	112 Orion PMS	4	
0068.vso-69694	720	3:55	05:51:35.3	00:31:05	300	45	3.0	112 Orion PMS	4	
0069.COMP	5	4:08	05:51:35.3	00:31:05	300	45	3.0	112 Orion PMS	4	
0070.vso-69737	900	4:08	05:51:38.4	00:24:51	300	45	3.0	112 Orion PMS	4	
0071.COMP	5	4:24	05:51:38.4	00:24:51	300	45	3.0	112 Orion PMS	4	
0072.FSVSJ100028	1200	4:28	10:00:28.4	22:44:58	300	90	3.0	#131 FSVS	4	
0073.COMP	5	4:49	10:00:28.4	22:44:58	300	90	3.0	#131 FSVS	4	
0074.FSVSJ100050	1200	4:51	10:00:50.3	20:24:42	300	90	3.0	#131 FSVS	4	
0075.COMP	5	5:12	10:00:50.3	20:24:42	300	90	3.0	#131 FSVS	4	
0076.FSVSJ100056	1200	5:14	10:00:56.6	20:28:58	300	90	3.0	#131 FSVS	4	
0077.COMP	5	5:34	10:00:56.6	20:28:58	300	90	3.0	#131 FSVS	4	



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UT Date 2002-03-18 Observers P Berlind

Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0078.sn2002bf	1200	5:38	10:15:42.3	+55:40:06	300	90	3.0	#2 SN Observat	2	
0079.COMP	10	6:01	10:15:42.3	+55:40:06	300	90	3.0	#2 SN Observat	2	
0080.sn2002bo	1200	6:05	10:18:06.5	+21:49:41	300	15	3.0	#2 SN Observat	2	
0081.COMP	10	6:25	10:18:06.5	+21:49:41	300	15	3.0	#2 SN Observat	2	
0082.Feige34	150	6:29	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	
0083.Feige34	150	6:32	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	
0084.COMP	10	6:35	10:36:41.2	43:21:50	300	0	3.0	#56 Spectropho	2	
0085.MRK421	300	6:38	11:04:27.4	+38:12:32	300	0	3.0	#133 MRK421	2	
0086.MRK421	300	6:43	11:04:27.4	+38:12:32	300	0	3.0	#133 MRK421	2	
0087.MRK421	300	6:49	11:04:27.4	+38:12:32	300	0	3.0	#133 MRK421	2	
0088.COMP	10	6:54	11:04:27.4	+38:12:32	300	0	3.0	#133 MRK421	2	
0089.FSVSJ100045	1200	6:58	10:00:45.0	19:47:35	300	90	3.0	#131 FSVS	4	
0090.COMP	5	7:18	10:00:45.0	19:47:35	300	90	3.0	#131 FSVS	4	
0091.FSVSJ100034	1200	7:20	10:00:34.2	19:49:46	300	90	3.0	#131 FSVS	4	
0092.COMP	5	7:40	10:00:34.2	19:49:46	300	90	3.0	#131 FSVS	4	
0093.FSVSJ100034	1200	7:41	10:00:34.2	19:49:46	300	90	3.0	#131 FSVS	4	
0094.COMP	5	8:01	10:00:34.2	19:49:46	300	90	3.0	#131 FSVS	4	
0095-0104.BIAS	0	8:04	12:30:00	32:00:00	300	90	3.0	#131 FSVS	4	
0105-0114.FLAT	8	8:06	12:30:00	32:00:00	300	90	3.0	#131 FSVS	4	
0115-0124.BIAS	0	8:09	12:30:00	32:00:00	300	90	3.0	#131 FSVS	2	



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UT Date 2002-03-18 Observers P Berlind

Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0125-0134.FLAT	16	8:13	12:30:00	32:00:00	300	90	3.0	#131 FSVS	2	
0135.Feige34	120	8:20	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	4	600-line; 2-sec slit
0136.Feige34	120	8:22	10:36:41.2	43:21:50	600	100	2.0	#122 Halo Star	4	
0137.Feige34	120	8:24	10:36:41.2	43:21:50	600	100	2.0	#122 Halo Star	4	
0138.COMP	10	8:26	10:36:41.2	43:21:50	600	100	2.0	#122 Halo Star	4	
0139.hs854	1200	8:28	12:21:30.9	28:53:41	600	100	2.0	#122 Halo Star	4	
0140.COMP	10	8:49	12:21:30.9	28:53:41	600	100	2.0	#122 Halo Star	4	
0141.hs855	1200	8:49	12:24:47.8	29:01:27	600	100	2.0	#122 Halo Star	4	
0142.COMP	10	9:10	12:24:47.8	29:01:27	600	100	2.0	#122 Halo Star	4	
0143.hs857	1200	9:10	12:26:14.0	29:10:17	600	100	2.0	#122 Halo Star	4	
0144.COMP	10	9:31	12:26:14.0	29:10:17	600	100	2.0	#122 Halo Star	4	
0145.hs862	1200	9:32	12:35:17.1	29:02:08	600	100	2.0	#122 Halo Star	4	
0146.COMP	10	9:52	12:35:17.1	29:02:08	600	100	2.0	#122 Halo Star	4	
0147.hs863	1200	9:53	12:35:24.3	29:08:10	600	100	2.0	#122 Halo Star	4	
0148.COMP	5	10:14	12:35:24.3	29:08:10	600	100	2.0	#122 Halo Star	4	
0149.hs865	1200	10:14	12:39:54.9	29:01:42	600	100	2.0	#122 Halo Star	4	
0150.COMP	10	10:35	12:39:54.9	29:01:42	600	100	2.0	#122 Halo Star	4	
0151.hs866	1200	10:36	12:42:21.4	29:28:08	600	100	2.0	#122 Halo Star	4	
0152.COMP	10	10:57	12:42:21.4	29:28:08	600	100	2.0	#122 Halo Star	4	
0153.hs867	1200	10:58	12:43:17.8	29:41:14	600	100	2.0	#122 Halo Star	4	



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UT Date 2002-03-18 Observers P BerlindColl. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0154.COMP	10	11:18	12:43:17.8	29:41:14	600	100	2.0	#122 Halo Star	4	
0155.hs868	1200	11:19	12:44:16.5	29:39:45	600	100	2.0	#122 Halo Star	4	
0156.COMP	10	11:39	12:44:16.5	29:39:45	600	100	2.0	#122 Halo Star	4	
0157.BDp332642	120	11:40	15:50:03	33:05:49	600	100	2.0	#122 Halo Star	4	
0158.BDp332642	120	11:42	15:50:03	33:05:49	600	100	2.0	#122 Halo Star	4	
0159.COMP	10	11:45	15:50:03	33:05:49	600	100	2.0	#122 Halo Star	4	
0160.hs897	1200	11:46	13:24:04.6	29:41:30	600	100	2.0	#122 Halo Star	4	humidity way up
0161.COMP	10	12:06	13:24:04.6	29:41:30	600	100	2.0	#122 Halo Star	4	clouds moving in
0162-0181.FLAT	40	12:23	13:24:04.6	29:41:30	600	100	2.0	#122 Halo Star	4	
0182-0191.BIAS	0	12:25	13:24:04.6	29:41:30	600	100	2.0	#122 Halo Star	4	
0192-0201.DARK	1200	15:28	13:24:04.6	29:41:30	600	100	2.0	#122 Halo Star	4	



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UT Date 2002-03-19 Observers P Berlind

Coll. Focus 980 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001-0010.DARK	1200	1:37	13:24:04.6	29:41:30	600	100	2.0	#122 Halo Star	4	
0011-0020.BIAS	0	1:59	13:24:04.6	29:41:30	600	100	2.0	#122 Halo Star	4	
0021.FLAT	40	1:59	13:24:04.6	29:41:30	600	100	2.0	#122 Halo Star	4	600-line; 2-sec
0022-0040.FLAT	40	2:14	13:24:04.6	29:41:30	600	100	2.0	#122 Halo Star	4	
0041-0050.BIAS	0	2:17	13:24:04.6	29:41:30	600	100	2.0	#122 Halo Star	2	
0051.FLAT	40	2:17	13:24:04.6	29:41:30	600	100	2.0	#122 Halo Star	2	snow, clouds, fog, wind
0052-0060.FLAT	40	2:25	13:24:04.6	29:41:30	600	100	2.0	#122 Halo Star	2	
0061-0070.FLAT	80	2:42	13:24:04.6	29:41:30	600	100	2.0	#122 Halo Star	2	
0071.hs501	1200	2:54	8:34:32.4	28:05:00	600	100	2.0	#122 Halo Star	4	
0072.COMP	10	3:15	8:34:32.4	28:05:00	600	100	2.0	#122 Halo Star	4	
0073.HD39853	3	3:17	05:54:43.6	-11:46:26	600	100	2.0	#10 M67 stars	2	
0074.HD39853	10	3:17	05:54:43.6	-11:46:26	600	100	2.0	#10 M67 stars	2	
0075.HD39853	10	3:18	05:54:43.6	-11:46:26	600	100	2.0	#10 M67 stars	2	
0076.COMP	10	3:18	05:54:43.6	-11:46:26	600	100	2.0	#10 M67 stars	2	
0077.HD44033	10	3:20	06:20:4.2	14:39:4	600	100	2.0	#10 M67 stars	2	
0078.HD44033	10	3:20	06:20:4.2	14:39:4	600	100	2.0	#10 M67 stars	2	
0079.HD44033	10	3:21	06:20:4.2	14:39:4	600	100	2.0	#10 M67 stars	2	
0080.COMP	10	3:21	06:20:4.2	14:39:4	600	100	2.0	#10 M67 stars	2	
0081.HD39587	10	3:24	05:54:23.5	+20:16:38	600	100	2.0	#10 M67 stars	2	
0082.HD39587	10	3:25	05:54:23.5	+20:16:38	600	100	2.0	#10 M67 stars	2	



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FAST SPECTROGRAPH LOG



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UT Date 2002-03-19 Observers P Berlind

Coll. Focus 980 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0083.HD39587	10	3:25	05:54:23.5	+20:16:38	600	100	2.0	#10 M67 stars	2	
0084.COMP	10	3:26	05:54:23.5	+20:16:38	600	100	2.0	#10 M67 stars	2	
0085.HD29645	10	3:27	04:41:49.2	+38:16:53	600	100	2.0	#10 M67 stars	2	
0086.HD29645	10	3:28	04:41:49.2	+38:16:53	600	100	2.0	#10 M67 stars	2	
0087.HD29645	10	3:28	04:41:49.2	+38:16:53	600	100	2.0	#10 M67 stars	2	
0088.COMP	10	3:29	04:41:49.2	+38:16:53	600	100	2.0	#10 M67 stars	2	
0089.HD37216	20	3:29	05:39:52.3	+52:53:51	600	100	2.0	#10 M67 stars	2	
0090.HD37216	20	3:30	05:39:52.3	+52:53:51	600	100	2.0	#10 M67 stars	2	
0091.HD37216	20	3:31	05:39:52.3	+52:53:51	600	100	2.0	#10 M67 stars	2	
0092.COMP	10	3:31	05:39:52.3	+52:53:51	600	100	2.0	#10 M67 stars	2	
0093.HD44537	10	3:32	06:24:53.9	49:17:17	600	100	2.0	#10 M67 stars	2	
0094.HD44537	10	3:33	06:24:53.9	49:17:17	600	100	2.0	#10 M67 stars	2	
0095.HD44537	10	3:33	06:24:53.9	49:17:17	600	100	2.0	#10 M67 stars	2	
0096.COMP	10	3:34	06:24:53.9	49:17:17	600	100	2.0	#10 M67 stars	2	
0097.HD47914	10	3:36	06:43:05.0	+44:31:28	600	100	2.0	#10 M67 stars	2	
0098.HD47914	10	3:37	06:43:05.0	+44:31:28	600	100	2.0	#10 M67 stars	2	
0099.HD47914	10	3:37	06:43:05.0	+44:31:28	600	100	2.0	#10 M67 stars	2	
0100.COMP	10	3:37	06:43:05.0	+44:31:28	600	100	2.0	#10 M67 stars	2	
0101.HD61606A	20	3:39	07:39:59.3	-03:35:51	600	100	2.0	#10 M67 stars	2	
0102.HD61606A	30	3:40	07:39:59.3	-03:35:51	600	100	2.0	#10 M67 stars	2	



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UT Date 2002-03-19 Observers P Berlind

Coll. Focus 980 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0103.HD61606A	30	3:40	07:39:59.3	-03:35:51	600	100	2.0	#10 M67 stars	2	
0104.COMP	10	3:41	07:39:59.3	-03:35:51	600	100	2.0	#10 M67 stars	2	
0105.HD63302	10	3:42	07:47:38.5	-15:59:27	600	100	2.0	#10 M67 stars	2	
0106.HD63302	60	3:43	07:47:38.5	-15:59:27	600	100	2.0	#10 M67 stars	2	
0107.HD63302	90	3:44	07:47:38.5	-15:59:27	600	100	2.0	#10 M67 stars	2	
0108.COMP	10	3:46	07:47:38.5	-15:59:27	600	100	2.0	#10 M67 stars	2	
0109.HD69582	90	3:49	08:17:29.6	-03:06:27	600	100	2.0	#10 M67 stars	2	
0110.HD69582	60	3:52	08:17:29.6	-03:06:27	600	100	2.0	#10 M67 stars	2	
0111.HD69582	60	3:53	08:17:29.6	-03:06:27	600	100	2.0	#10 M67 stars	2	
0112.COMP	10	3:55	08:17:29.6	-03:06:27	600	100	2.0	#10 M67 stars	2	
0113.HD69830	30	3:57	08:18:23.9	-12:37:55	600	100	2.0	#10 M67 stars	2	
0114.HD69830	60	3:58	08:18:23.9	-12:37:55	600	100	2.0	#10 M67 stars	2	
0115.HD69830	60	3:59	08:18:23.9	-12:37:55	600	100	2.0	#10 M67 stars	2	
0116.COMP	10	4:00	08:18:23.9	-12:37:55	600	100	2.0	#10 M67 stars	2	
0117.HD49178	30	4:02	06:48:53.8	+37:30:18	600	100	2.0	#10 M67 stars	2	
0118.HD49178	30	4:03	06:48:53.8	+37:30:18	600	100	2.0	#10 M67 stars	2	
0119.HD49178	30	4:04	06:48:53.8	+37:30:18	600	100	2.0	#10 M67 stars	2	
0120.COMP	10	4:05	06:48:53.8	+37:30:18	600	100	2.0	#10 M67 stars	2	
0121.HD60522	10	4:06	07:35:55.4	+26:53:45	600	100	2.0	#10 M67 stars	2	
0122.HD60522	3	4:06	07:35:55.4	+26:53:45	600	100	2.0	#10 M67 stars	2	



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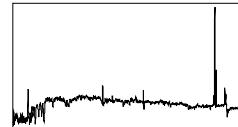
Coll. Focus 980 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0123.HD60522	3	4:07	07:35:55.4	+26:53:45	600	100	2.0	#10 M67 stars	2	
0124.COMP	10	4:08	07:35:55.4	+26:53:45	600	100	2.0	#10 M67 stars	2	
0125.HD62721	3	4:09	07:46:07.5	+18:30:36	600	100	2.0	#10 M67 stars	2	
0126.HD62721	5	4:09	07:46:07.5	+18:30:36	600	100	2.0	#10 M67 stars	2	
0127.HD62721	5	4:10	07:46:07.5	+18:30:36	600	100	2.0	#10 M67 stars	2	
0128.COMP	10	4:10	07:46:07.5	+18:30:36	600	100	2.0	#10 M67 stars	2	
0129.HD70272	5	4:11	08:22:50.1	+43:11:17	600	100	2.0	#10 M67 stars	2	
0130.HD70272	3	4:12	08:22:50.1	+43:11:17	600	100	2.0	#10 M67 stars	2	
0131.HD70272	3	4:12	08:22:50.1	+43:11:17	600	100	2.0	#10 M67 stars	2	
0132.HD70272	2	4:12	08:22:50.1	+43:11:17	600	100	2.0	#10 M67 stars	2	
0133.COMP	10	4:13	08:22:50.1	+43:11:17	600	100	2.0	#10 M67 stars	2	
0134.Feige34	150	4:14	10:36:41.2	43:21:50	600	95	2.0	#122 Halo Star	2	
0135.Feige34	150	4:17	10:36:41.2	43:21:50	600	95	2.0	#122 Halo Star	2	
0136.Feige34	300	4:20	10:36:41.2	43:21:50	600	95	2.0	#122 Halo Star	2	
0137.COMP	10	4:25	10:36:41.2	43:21:50	600	95	2.0	#122 Halo Star	2	
0138.HD95128	3	5:24	10:59:29.3	+40:25:45	600	95	2.0	#10 M67 stars	2	
0139.HD95128	6	5:25	10:59:29.3	+40:25:45	600	95	2.0	#10 M67 stars	2	
0140.HD95128	6	5:25	10:59:29.3	+40:25:45	600	95	2.0	#10 M67 stars	2	
0141.COMP	10	5:26	10:59:29.3	+40:25:45	600	95	2.0	#10 M67 stars	2	
0142.HD94705	4	5:29	10:56:01.5	+06:11:07	600	95	2.0	#10 M67 stars	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0143.HD94705	4	5:29	10:56:01.5	+06:11:07	600	95	2.0	#10 M67 stars	2	
0144.HD94705	10	5:30	10:56:01.5	+06:11:07	600	95	2.0	#10 M67 stars	2	
0145.COMP	10	5:30	10:56:01.5	+06:11:07	600	95	2.0	#10 M67 stars	2	
0146.hs807	1200	5:33	11:18:22.9	30:29:42	600	95	2.0	#122 Halo Star	4	
0147.COMP	10	5:53	11:18:22.9	30:29:42	600	95	2.0	#122 Halo Star	4	
0148.hs870	1200	5:54	12:44:18.5	29:26:19	600	90	2.0	#122 Halo Star	4	
0149.COMP	10	6:15	12:44:18.5	29:26:19	600	90	2.0	#122 Halo Star	4	
0150.hs869	1200	6:16	12:44:16.8	29:15:42	600	90	2.0	#122 Halo Star	4	
0151.COMP	10	6:36	12:44:16.8	29:15:42	600	90	2.0	#122 Halo Star	4	
0152.hs871	1200	6:37	12:46:29.5	29:04:58	600	90	2.0	#122 Halo Star	4	
0153.COMP	10	6:57	12:46:29.5	29:04:58	600	90	2.0	#122 Halo Star	4	
0154.hs872	1200	6:58	12:50:27.6	28:53:24	600	90	2.0	#122 Halo Star	4	
0155.COMP	10	7:19	12:50:27.6	28:53:24	600	90	2.0	#122 Halo Star	4	
0156.BIAS	0	7:21	12:50:27.6	28:53:24	600	90	2.0	#122 Halo Star	4	
0157.Feige34	150	7:28	10:36:41.2	43:21:50	300	100	3.0	#56 Spectropho	2	300-line; 3-sec
0158.Feige34	150	7:31	10:36:41.2	43:21:50	300	100	3.0	#56 Spectropho	2	
0159.COMP	10	7:34	10:36:41.2	43:21:50	300	100	3.0	#56 Spectropho	2	
0160.sn2002bf	1045	7:36	10:15:42.3	+55:40:06	300	100	3.0	#2 SN Observat	2	
0161.COMP	10	7:54	10:15:42.3	+55:40:06	300	100	3.0	#2 SN Observat	2	
0162.sn2002bo	1200	7:57	10:18:06.5	+21:49:41	300	67	3.0	#2 SN Observat	2	



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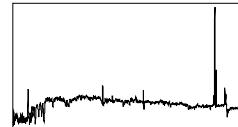
Coll. Focus 980 Grating/Grism 600

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0163.COMP	10	8:18	10:18:06.5	+21:49:41	300	67	3.0	#2 SN Observat	2	
0164-0173.FLAT	16	8:29	13:00:00	32:00:00	300	67	3.0	#2 SN Observat	2	
0174.BIAS	0	8:32	13:00:00	32:00:00	300	67	3.0	#2 SN Observat	2	
0175.hs874	1200	8:34	12:55:50.6	29:09:55	600	90	2.0	#122 Halo Star	4	600-line; 2-sec
0176.COMP	10	8:54	12:55:50.6	29:09:55	600	90	2.0	#122 Halo Star	4	
0177.hs875	1200	8:55	12:56:32.5	29:39:05	600	90	2.0	#122 Halo Star	4	
0178.COMP	10	9:16	12:56:32.5	29:39:05	600	90	2.0	#122 Halo Star	4	
0179.hs876	1200	9:17	12:58:24.0	29:10:43	600	90	2.0	#122 Halo Star	4	
0180.COMP	10	9:37	12:58:24.0	29:10:43	600	90	2.0	#122 Halo Star	4	
0181.hs877	1200	9:38	12:59:16.5	28:57:09	600	90	2.0	#122 Halo Star	4	
0182.COMP	10	9:58	12:59:16.5	28:57:09	600	90	2.0	#122 Halo Star	4	
0183.hs879	1200	9:59	13:00:00.6	29:19:38	600	90	2.0	#122 Halo Star	4	
0184.COMP	10	10:19	13:00:00.6	29:19:38	600	90	2.0	#122 Halo Star	4	
0185.hs880	960	10:20	13:00:41.2	28:52:37	600	90	2.0	#122 Halo Star	4	stopped by fog
0186.COMP	10	10:36	13:00:41.2	28:52:37	600	90	2.0	#122 Halo Star	4	
0187.BDp332642	120	10:40	15:50:03	33:05:49	600	90	2.0	#122 Halo Star	4	
0188.COMP	10	10:42	15:50:03	33:05:49	600	90	2.0	#122 Halo Star	4	
0189-0198.FLAT	40	10:52	15:50:03	33:05:49	600	90	2.0	#122 Halo Star	4	
0199-0208.BIAS	0	10:55	15:50:03	33:05:49	600	90	2.0	#122 Halo Star	4	
0209-0218.DARK	1200	14:20	15:50:03	33:05:49	600	90	2.0	#122 Halo Star	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001.COMP	5	22:16	15:50:03	33:05:49	300	90	3.0	#122 Halo Star	2	
0002.DARK	900	22:18	15:50:03	33:05:49	300	90	3.0	#122 Halo Star	4	clear
0003-0010.DARK	900	0:19	15:50:03	33:05:49	300	90	3.0	#122 Halo Star	4	
0011.BIAS	0	0:58	15:50:03	33:05:49	300	90	3.0	#122 Halo Star	4	cold
0012-0020.BIAS	0	0:59	15:50:03	33:05:49	300	90	3.0	#122 Halo Star	4	
0021.FLAT	8	1:00	15:50:03	33:05:49	300	90	3.0	#122 Halo Star	4	windy
0022-0030.FLAT	8	1:02	15:50:03	33:05:49	300	90	3.0	#122 Halo Star	4	
0031-0040.BIAS	0	1:05	15:50:03	33:05:49	300	90	3.0	#122 Halo Star	2	
0041-0050.FLAT	16	1:10	15:50:03	33:05:49	300	90	3.0	#122 Halo Star	2	
0051-0055.sky	3	1:50	6:05:00	32:00:00	300	90	3.0	#57 Velocity S	4	
0056.COMP	5	1:50	6:05:00	32:00:00	300	90	3.0	#57 Velocity S	4	
0057.Hiltner600	60	2:27	06:42:37.2	02:11:25	300	4	3.0	#56 Spectropho	4	
0058.Hiltner600	60	2:29	06:42:37.2	02:11:25	300	4	3.0	#56 Spectropho	4	
0059.COMP	5	2:30	06:42:37.2	02:11:25	300	4	3.0	#56 Spectropho	4	
0060.NGC1700	180	2:31	04:56:58.1	-04:52:22	300	4	3.0	#57 Velocity S	4	
0061.COMP	5	2:35	04:56:58.1	-04:52:22	300	4	3.0	#57 Velocity S	4	
0062.vso-71904	600	2:36	05:53:42.3	00:24:46	300	30	3.0	112 Orion PMS	4	
0063.COMP	5	2:46	05:53:42.3	00:24:46	300	30	3.0	112 Orion PMS	4	
0064.vso-71483	720	2:48	05:53:19.2	00:24:45	300	30	3.0	112 Orion PMS	4	
0065.COMP	5	3:00	05:53:19.2	00:24:45	300	30	3.0	112 Orion PMS	4	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0066.vso-71585	900	3:01	05:53:25.6	00:24:01	300	30	3.0	112 Orion PMS	2	
0067.COMP	10	3:16	05:53:25.6	00:24:01	300	30	3.0	112 Orion PMS	2	
0068.vso-71782	900	3:18	05:53:35.6	00:29:47	300	45	3.0	112 Orion PMS	4	
0069.COMP	5	3:34	05:53:35.6	00:29:47	300	45	3.0	112 Orion PMS	4	
0070.vso-71996	900	3:35	05:53:47.2	00:33:11	300	45	3.0	112 Orion PMS	4	
0071.COMP	5	3:50	05:53:47.2	00:33:11	300	45	3.0	112 Orion PMS	4	
0072.vso-72477	900	3:51	05:54:12.8	00:24:50	300	45	3.0	112 Orion PMS	4	
0073.COMP	5	4:06	05:54:12.8	00:24:50	300	45	3.0	112 Orion PMS	4	
0074.BGGem	1200	4:09	6:03:31	27:41:50	300	90	3.0	#100 BGGem	2	
0075.BGGem	300	4:29	6:03:31	27:41:50	300	90	3.0	#100 BGGem	2	
0076.COMP	10	4:35	6:03:31	27:41:50	300	90	3.0	#100 BGGem	2	
0077.MRK110	600	4:40	09:25:12.9	+52:17:10	300	0	3.0	#6 AGN Monitor	2	
0078.COMP	10	4:51	09:25:12.9	+52:17:10	300	0	3.0	#6 AGN Monitor	2	
0079.Feige34	120	4:56	10:36:41.2	43:21:50	300	55	3.0	#56 Spectropho	2	
0080.Feige34	120	4:59	10:36:41.2	43:21:50	300	55	3.0	#56 Spectropho	2	
0081.COMP	10	5:01	10:36:41.2	43:21:50	300	55	3.0	#56 Spectropho	2	
0082.sn2002bf	1200	5:06	10:15:42.3	+55:40:06	300	50	3.0	#2 SN Observat	2	
0083.COMP	10	5:26	10:15:42.3	+55:40:06	300	50	3.0	#2 SN Observat	2	
0084.MRK421	300	5:28	11:04:27.4	+38:12:32	300	65	3.0	#133 MRK421	4	
0085.MRK421	300	5:33	11:04:27.4	+38:12:32	300	65	3.0	#133 MRK421	4	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0086.MRK421	300	5:38	11:04:27.4	+38:12:32	300	65	3.0	#133 MRK421	4	
0087.COMP	5	5:43	11:04:27.4	+38:12:32	300	65	3.0	#133 MRK421	4	
0088.N3227	120	5:45	10:23:30.6	+19:51:54	300	-10	3.0	#6 AGN Monitor	4	
0089.N3227	120	5:47	10:23:30.6	+19:51:54	300	-10	3.0	#6 AGN Monitor	4	
0090.N3227	120	5:49	10:23:30.6	+19:51:54	300	-10	3.0	#6 AGN Monitor	4	
0091.COMP	5	5:52	10:23:30.6	+19:51:54	300	-10	3.0	#6 AGN Monitor	4	
0092.sn2002bo	1200	5:53	10:18:06.5	+21:49:41	300	4	3.0	#2 SN Observat	2	
0093.COMP	10	6:13	10:18:06.5	+21:49:41	300	4	3.0	#2 SN Observat	2	
0094.N4051	150	6:15	12:03:09.7	+44:31:53	300	60	3.0	#6 AGN Monitor	4	
0095.N4051	150	6:18	12:03:09.7	+44:31:53	300	60	3.0	#6 AGN Monitor	4	
0096.COMP	5	6:21	12:03:09.7	+44:31:53	300	60	3.0	#6 AGN Monitor	4	
0097.N4151	30	6:22	12:10:32.6	+39:24:21	300	60	3.0	#6 AGN Monitor	4	
0098.N4151	30	6:22	12:10:32.6	+39:24:21	300	60	3.0	#6 AGN Monitor	4	
0099.N4151	30	6:23	12:10:32.6	+39:24:21	300	60	3.0	#6 AGN Monitor	4	
0100.COMP	5	6:24	12:10:32.6	+39:24:21	300	60	3.0	#6 AGN Monitor	4	
0101.sn2002ar	1200	6:31	11:37:43.9	+22:00:34	300	-15	3.0	#2 SN Observat	2	
0102.COMP	10	6:51	11:37:43.9	+22:00:34	300	-15	3.0	#2 SN Observat	2	
0103-0107.FLAT	16	6:54	11:30:00	32:00:00	300	-15	3.0	#2 SN Observat	2	
0108-0112.FLAT	8	6:57	11:30:00	32:00:00	300	-15	3.0	#2 SN Observat	4	
0113.BIAS	0	6:57	11:30:00	32:00:00	300	-15	3.0	#2 SN Observat	4	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0114.COMP	10	7:01	11:30:00	32:00:00	600	90	2.0	#2 SN Observat	4	600-line; 2-sec
0115.Feige34	150	7:06	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	2	
0116.Feige34	150	7:09	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	2	
0117.COMP	10	7:12	10:36:41.2	43:21:50	600	90	2.0	#122 Halo Star	2	
0118.HD101501	3	7:13	11:38:25.2	+34:29:02	600	90	2.0	#10 M67 stars	2	
0119.HD101501	2	7:14	11:38:25.2	+34:29:02	600	90	2.0	#10 M67 stars	2	
0120.HD101501	2	7:14	11:38:25.2	+34:29:02	600	90	2.0	#10 M67 stars	2	
0121.COMP	10	7:14	11:38:25.2	+34:29:02	600	90	2.0	#10 M67 stars	2	
0122.HD99167	2	7:16	11:22:4.9	-10:35:5	600	90	2.0	#10 M67 stars	2	
0123.HD99167	2	7:17	11:22:4.9	-10:35:5	600	90	2.0	#10 M67 stars	2	
0124.HD99167	6	7:17	11:22:4.9	-10:35:5	600	90	2.0	#10 M67 stars	2	
0125.COMP	10	7:17	11:22:4.9	-10:35:5	600	90	2.0	#10 M67 stars	2	
0126.HD99998	2	7:18	11:27:45.5	-02:43:38	600	90	2.0	#10 M67 stars	2	
0127.HD99998	2	7:19	11:27:45.5	-02:43:38	600	90	2.0	#10 M67 stars	2	
0128.HD99998	6	7:19	11:27:45.5	-02:43:38	600	90	2.0	#10 M67 stars	2	
0129.COMP	10	7:20	11:27:45.5	-02:43:38	600	90	2.0	#10 M67 stars	2	
0130.HD106156	10	7:21	12:12:57.5	+10:02:15	600	90	2.0	#10 M67 stars	2	
0131.HD106156	10	7:21	12:12:57.5	+10:02:15	600	90	2.0	#10 M67 stars	2	
0132.HD106156	10	7:22	12:12:57.5	+10:02:15	600	90	2.0	#10 M67 stars	2	
0133.COMP	10	7:22	12:12:57.5	+10:02:15	600	90	2.0	#10 M67 stars	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0134.HD110281	20	7:25	12:41:03.6	-00:37:13	600	90	2.0	#10 M67 stars	2	
0135.HD110281	60	7:26	12:41:03.6	-00:37:13	600	90	2.0	#10 M67 stars	2	
0136.COMP	10	7:27	12:41:03.6	-00:37:13	600	90	2.0	#10 M67 stars	2	
0137.HD114961	6	7:28	13:11:29.7	-02:32:32	600	90	2.0	#10 M67 stars	2	
0138.HD114961	6	7:29	13:11:29.7	-02:32:32	600	90	2.0	#10 M67 stars	2	
0139.HD114961	10	7:29	13:11:29.7	-02:32:32	600	90	2.0	#10 M67 stars	2	
0140.COMP	10	7:30	13:11:29.7	-02:32:32	600	90	2.0	#10 M67 stars	2	
0141.HD111951	10	7:31	12:47:49.2	23:08:10	600	90	2.0	#10 M67 stars	2	
0142.HD111951	10	7:31	12:47:49.2	23:08:10	600	90	2.0	#10 M67 stars	2	
0143.HD111951	10	7:32	12:47:49.2	23:08:10	600	90	2.0	#10 M67 stars	2	
0144.COMP	10	7:32	12:47:49.2	23:08:10	600	90	2.0	#10 M67 stars	2	
0145.hs881	1200	7:35	13:02:16.7	28:58:54	600	90	2.0	#122 Halo Star	4	
0146.COMP	10	7:55	13:02:16.7	28:58:54	600	90	2.0	#122 Halo Star	4	
0147.hs882	1200	7:56	13:02:50.8	29:14:09	600	90	2.0	#122 Halo Star	4	
0148.COMP	10	8:17	13:02:50.8	29:14:09	600	90	2.0	#122 Halo Star	4	
0149.hs883	1200	8:17	13:03:32.0	29:05:58	600	90	2.0	#122 Halo Star	4	
0150.COMP	10	8:38	13:03:32.0	29:05:58	600	90	2.0	#122 Halo Star	4	
0151.hs884	1200	8:39	13:03:36.1	29:18:06	600	90	2.0	#122 Halo Star	4	
0152.COMP	10	8:59	13:03:36.1	29:18:06	600	90	2.0	#122 Halo Star	4	
0153.hs886	1200	9:00	13:07:59.3	29:10:51	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
0154.COMP	10	9:21	13:07:59.3	29:10:51	600	90	2.0	#122 Halo Star	4	
0155.hs887	1200	9:22	13:10:13.3	29:43:58	600	90	2.0	#122 Halo Star	4	
0156.COMP	10	9:42	13:10:13.3	29:43:58	600	90	2.0	#122 Halo Star	4	
0157.hs888	1200	9:43	13:14:55.1	28:53:30	600	90	2.0	#122 Halo Star	4	
0158.COMP	10	10:04	13:14:55.1	28:53:30	600	90	2.0	#122 Halo Star	4	
0159.hs889	1200	10:04	13:15:38.9	29:04:05	600	90	2.0	#122 Halo Star	4	
0160.COMP	10	10:25	13:15:38.9	29:04:05	600	90	2.0	#122 Halo Star	4	
0161.hs890	1200	10:26	13:15:44.5	29:24:47	600	90	2.0	#122 Halo Star	4	
0162.COMP	10	10:46	13:15:44.5	29:24:47	600	90	2.0	#122 Halo Star	4	
0163.HD120933	3	10:47	13:49:35.1	34:41:28	600	90	2.0	#10 M67 stars	2	
0164.HD120933	3	10:47	13:49:35.1	34:41:28	600	90	2.0	#10 M67 stars	2	
0165.HD120933	6	10:48	13:49:35.1	34:41:28	600	90	2.0	#10 M67 stars	2	
0166.COMP	10	10:48	13:49:35.1	34:41:28	600	90	2.0	#10 M67 stars	2	
0167.HD123657	3	10:49	14:05:55.8	44:05:29	600	90	2.0	#10 M67 stars	2	
0168.HD123657	3	10:50	14:05:55.8	44:05:29	600	90	2.0	#10 M67 stars	2	
0169.HD123657	6	10:50	14:05:55.8	44:05:29	600	90	2.0	#10 M67 stars	2	
0170.COMP	10	10:50	14:05:55.8	44:05:29	600	90	2.0	#10 M67 stars	2	
0171.HD126511	6	10:51	14:24:48.9	+41:16:30	600	90	2.0	#10 M67 stars	2	
0172.HD126511	15	10:52	14:24:48.9	+41:16:30	600	90	2.0	#10 M67 stars	2	
0173.HD126511	15	10:53	14:24:48.9	+41:16:30	600	90	2.0	#10 M67 stars	2	



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Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0174.COMP	10	10:53	14:24:48.9	+41:16:30	600	90	2.0	#10 M67 stars	2	
0175.HD126327	15	10:54	14:21:56.6	25:55:48	600	90	2.0	#10 M67 stars	2	
0176.HD126327	20	10:55	14:21:56.6	25:55:48	600	90	2.0	#10 M67 stars	2	
0177.HD126327	30	10:56	14:21:56.6	25:55:48	600	90	2.0	#10 M67 stars	2	
0178.COMP	10	10:57	14:21:56.6	25:55:48	600	90	2.0	#10 M67 stars	2	
0179.HD128987	10	10:58	14:40:31.1	-16:12:33	600	90	2.0	#10 M67 stars	2	
0180.HD128987	20	10:58	14:40:31.1	-16:12:33	600	90	2.0	#10 M67 stars	2	
0181.HD128987	20	10:59	14:40:31.1	-16:12:33	600	90	2.0	#10 M67 stars	2	
0182.COMP	10	11:00	14:40:31.1	-16:12:33	600	90	2.0	#10 M67 stars	2	
0183.HD136834	20	11:01	15:22:42.5	+01:25:07	600	90	2.0	#10 M67 stars	2	
0184.HD136834	30	11:01	15:22:42.5	+01:25:07	600	90	2.0	#10 M67 stars	2	
0185.HD136834	30	11:02	15:22:42.5	+01:25:07	600	90	2.0	#10 M67 stars	2	
0186.COMP	10	11:03	15:22:42.5	+01:25:07	600	90	2.0	#10 M67 stars	2	
0187.HD149661	10	11:04	16:36:19.8	-02:19:13	600	90	2.0	#10 M67 stars	2	
0188.HD149661	6	11:05	16:36:19.8	-02:19:13	600	90	2.0	#10 M67 stars	2	
0189.HD149661	6	11:05	16:36:19.8	-02:19:13	600	90	2.0	#10 M67 stars	2	
0190.COMP	10	11:06	16:36:19.8	-02:19:13	600	90	2.0	#10 M67 stars	2	
0191.HD149161	4	11:07	16:30:15.7	11:35:38	600	90	2.0	#10 M67 stars	2	
0192.HD149161	4	11:07	16:30:15.7	11:35:38	600	90	2.0	#10 M67 stars	2	
0193.HD149161	4	11:07	16:30:15.7	11:35:38	600	90	2.0	#10 M67 stars	2	



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Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0194.COMP	10	11:08	16:30:15.7	11:35:38	600	90	2.0	#10 M67 stars	2	
0195.HD148783	4	11:09	16:26:59.8	41:59:26	600	90	2.0	#10 M67 stars	2	
0196.HD148783	3	11:10	16:26:59.8	41:59:26	600	90	2.0	#10 M67 stars	2	
0197.HD148783	3	11:10	16:26:59.8	41:59:26	600	90	2.0	#10 M67 stars	2	
0198.COMP	10	11:11	16:26:59.8	41:59:26	600	90	2.0	#10 M67 stars	2	
0199.HD138481	4	11:12	15:29:7.8	41:00:9	600	90	2.0	#10 M67 stars	2	
0200.HD138481	4	11:12	15:29:7.8	41:00:9	600	90	2.0	#10 M67 stars	2	
0201.HD138481	4	11:12	15:29:7.8	41:00:9	600	90	2.0	#10 M67 stars	2	
0202.COMP	10	11:13	15:29:7.8	41:00:9	600	90	2.0	#10 M67 stars	2	
0203.HD139669	4	11:14	15:32:51.2	77:30:59	600	90	2.0	#10 M67 stars	2	
0204.HD139669	4	11:15	15:32:51.2	77:30:59	600	90	2.0	#10 M67 stars	2	
0205.HD139669	4	11:15	15:32:51.2	77:30:59	600	90	2.0	#10 M67 stars	2	
0206.COMP	10	11:15	15:32:51.2	77:30:59	600	90	2.0	#10 M67 stars	2	
0207.BDp332642	120	11:17	15:50:03	33:05:49	600	90	2.0	#122 Halo Star	2	
0208.BDp332642	120	11:19	15:50:03	33:05:49	600	90	2.0	#122 Halo Star	2	
0209.BDp332642	120	11:22	15:50:03	33:05:49	600	90	2.0	#122 Halo Star	2	
0210.COMP	10	11:24	15:50:03	33:05:49	600	90	2.0	#122 Halo Star	2	
0211.hs891	1200	11:25	13:16:22.0	28:54:46	600	90	2.0	#122 Halo Star	2	
0212.COMP	10	11:46	13:16:22.0	28:54:46	600	90	2.0	#122 Halo Star	2	
0213.hs893	1200	11:47	13:19:19.7	29:09:29	600	90	2.0	#122 Halo Star	4	



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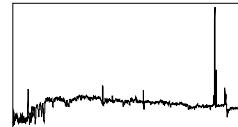
Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0214.COMP	10	12:07	13:19:19.7	29:09:29	600	90	2.0	#122 Halo Star	4	
0215.HD158614	4	12:09	17:30:24.1	-01:03:36	600	90	2.0	#10 M67 stars	2	
0216.HD158614	4	12:09	17:30:24.1	-01:03:36	600	90	2.0	#10 M67 stars	2	
0217.HD158614	4	12:09	17:30:24.1	-01:03:36	600	90	2.0	#10 M67 stars	2	
0218.COMP	10	12:10	17:30:24.1	-01:03:36	600	90	2.0	#10 M67 stars	2	
0219.HD165341	3	12:11	18:05:27.3	+02:29:58	600	90	2.0	#10 M67 stars	2	
0220.HD165341	3	12:11	18:05:27.3	+02:29:58	600	90	2.0	#10 M67 stars	2	
0221.HD165341	3	12:11	18:05:27.3	+02:29:58	600	90	2.0	#10 M67 stars	2	
0222.COMP	10	12:12	18:05:27.3	+02:29:58	600	90	2.0	#10 M67 stars	2	
0223.FLAT	40	12:15	18:05:27.3	+02:29:58	600	90	2.0	#122 Halo Star	4	clear @ dawn
0224-0232.FLAT	40	12:22	18:05:27.3	+02:29:58	600	90	2.0	#122 Halo Star	4	
0233-0242.BIAS	0	12:24	18:05:27.3	+02:29:58	600	90	2.0	#122 Halo Star	4	
0243-0252.FLAT	80	12:38	18:05:27.3	+02:29:58	600	90	2.0	#122 Halo Star	2	
0253-0262.BIAS	0	12:42	18:05:27.3	+02:29:58	600	90	2.0	#122 Halo Star	2	
0263-0272.DARK	1200	15:47	18:05:27.3	+02:29:58	600	90	2.0	#122 Halo Star	2	



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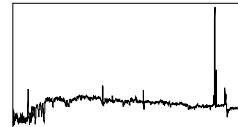
Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001.DARK	900	0:44	05:29:05.0	31:30:16	300	90	3.0	none	4	
0002.DARK	900	0:59	05:44:16.0	31:30:19	300	90	3.0	none	4	
0003.DARK	900	1:14	05:59:24.0	31:30:21	300	90	3.0	none	4	
0004.DARK	900	1:30	06:14:34.0	31:30:24	300	90	3.0	none	4	
0005.DARK	900	1:45	06:29:41.0	31:30:26	300	90	3.0	none	4	
0006-0015.BIAS	0	2:01	06:31:03.0	31:30:26	300	90	3.0	none	4	
0016-0025.FLAT	6	2:04	06:34:10.0	31:30:27	300	90	3.0	none	4	
0026.BIAS	0	2:29	06:58:44.0	31:30:31	300	90	3.0	none	2	binning woes!
0027-0033.BIAS	0	2:30	07:00:14.0	31:30:31	300	90	3.0	none	2	
0034-0035.BIAS	0	2:31	07:00:40.0	31:30:32	300	90	3.0	none	2	
0036.FLAT	12	2:31	07:01:19.0	31:30:32	300	90	3.0	none	2	will stay in binby 2 tonight
0037-0045.FLAT	12	2:35	07:05:00.0	31:30:32	300	90	3.0	none	2	
0046.Hiltner600	50	2:48	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0047.Hiltner600	50	2:49	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0048.COMP	12	2:50	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0049.Hiltner600	50	2:53	06:42:37.2	02:11:25	300	13	3.0	#56 Spectropho	2	
0050.Hiltner600	50	2:54	06:42:37.2	02:11:25	300	13	3.0	#56 Spectropho	2	
0051.COMP	12	2:56	06:42:37.2	02:11:25	300	13	3.0	#56 Spectropho	2	
0052.Akn120	180	2:59	05:13:38.0	-00:12:15	300	90	3.0	#6 AGN Monitor	2	
0053.COMP	12	3:02	05:13:38.0	-00:12:15	300	90	3.0	#6 AGN Monitor	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0054.vso-73991	1020	3:06	05:55:37.6	00:42:33	300	90	3.0	112 Orion PMS	2	
0055.COMP	12	3:23	05:55:37.6	00:42:33	300	90	3.0	112 Orion PMS	2	
0056.vso-74066	1200	3:24	05:55:40.9	00:33:34	300	90	3.0	112 Orion PMS	2	
0057.COMP	12	3:45	05:55:40.9	00:33:34	300	90	3.0	112 Orion PMS	2	
0058.MRK110	360	4:20	09:25:12.9	+52:17:10	300	90	3.0	#6 AGN Monitor	2	
0059.COMP	12	4:26	09:25:12.9	+52:17:10	300	90	3.0	#6 AGN Monitor	2	
0060.FSVSJ095954	1200	4:33	09:59:54.6	22:52:06	300	90	3.0	#131 FSVS	2	QSO
0061.COMP	12	4:53	09:59:54.6	22:52:06	300	90	3.0	#131 FSVS	2	
0062.sn2002bf	1200	4:58	10:15:42.3	+55:40:06	300	24	3.0	#2 SN Observat	2	
0063.COMP	12	5:19	10:15:42.3	+55:40:06	300	24	3.0	#2 SN Observat	2	
0064.sn2002bo	1200	5:22	10:18:06.5	+21:49:41	300	-31	3.0	#2 SN Observat	2	
0065.COMP	12	5:42	10:18:06.5	+21:49:41	300	-31	3.0	#2 SN Observat	2	
0066.FLAT	45	5:47	10:18:06.5	+21:49:41	600	90	2.0	#10 M67 Galaxi	2	600L, 2 arcsec, tilt=732
0067-0075.FLAT	45	5:56	10:18:06.5	+21:49:41	600	90	2.0	#10 M67 Galaxi	2	
0076.Feige34	120	5:59	10:36:41.2	43:21:50	600	90	2.0	#56 Spectropho	2	
0077.COMP	30	6:01	10:36:41.2	43:21:50	600	90	2.0	#56 Spectropho	2	
0078.UGC06604	1020	6:04	11:38:08.7	58:45:30	600	90	2.0	#10 M67 stars	2	
0079.COMP	20	6:22	11:38:08.7	58:45:30	600	90	2.0	#10 M67 stars	2	
0080.N3818	1020	6:24	11:41:57.3	-06:09:20	600	90	2.0	#10 M67 stars	2	
0081.COMP	20	6:42	11:41:57.3	-06:09:20	600	90	2.0	#10 M67 stars	2	



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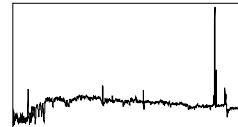
Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0082.VCC784	1020	6:44	12:25:14.7	15:36:27	600	90	2.0	#10 M67 stars	2	
0083.COMP	20	7:01	12:25:14.7	15:36:27	600	90	2.0	#10 M67 stars	2	
0084.VCC1475	1020	7:02	12:33:04.9	16:15:56	600	90	2.0	#10 M67 stars	2	
0085.COMP	20	7:20	12:33:04.9	16:15:56	600	90	2.0	#10 M67 stars	2	
0086.VCC1871	1020	7:21	12:41:15.7	11:23:14	600	90	2.0	#10 M67 stars	2	
0087.COMP	20	7:39	12:41:15.7	11:23:14	600	90	2.0	#10 M67 stars	2	
0088.MRK421	300	7:43	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421	2	normal setup
0089.MRK421	300	7:48	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421	2	
0090.MRK421	300	7:54	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421	2	
0091.COMP	12	7:59	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421	2	
0092.comak_058	660	8:01	13:07:38.9	35:24:41	300	90	3.0	#64f Cluster I	2	
0093.COMP	12	8:13	13:07:38.9	35:24:41	300	90	3.0	#64f Cluster I	2	
0094.comas_001	900	8:17	012:27:10.0	026:57:26	300	90	3.0	#64 Comas	2	
0095.COMP	12	8:33	012:27:10.0	026:57:26	300	90	3.0	#64 Comas	2	
0096.comas_002	780	8:34	12:27:41.8	28:41:53	300	90	3.0	#64 Comas	2	
0097.COMP	12	8:47	12:27:41.8	28:41:53	300	90	3.0	#64 Comas	2	
0098.comas_003	1200	8:49	12:31:38.6	27:29:43	300	90	3.0	#64 Comas	2	
0099.COMP	12	9:09	12:31:38.6	27:29:43	300	90	3.0	#64 Comas	2	
0100.comas_004	1080	9:10	12:34:17.2	27:27:08	300	90	3.0	#64 Comas	2	
0101.COMP	12	9:28	12:34:17.2	27:27:08	300	90	3.0	#64 Comas	2	



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Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0102.comas_005	1080	9:30	12:35:41.7	26:13:19	300	90	3.0	#64 Comas	2	
0103.COMP	12	9:48	12:35:41.7	26:13:19	300	90	3.0	#64 Comas	2	
0104.comas_006	900	9:49	12:35:58.5	26:57:57	300	90	3.0	#64 Comas	2	
0105.COMP	12	10:04	12:35:58.5	26:57:57	300	90	3.0	#64 Comas	2	
0106.comas_007	300	10:05	12:36:30.4	26:12:01	300	90	3.0	#64 Comas	2	
0107.COMP	12	10:11	12:36:30.4	26:12:01	300	90	3.0	#64 Comas	2	
0108.comas_008	660	10:12	12:36:38.0	24:25:43	300	90	3.0	#64 Comas	2	
0109.COMP	12	10:23	12:36:38.0	24:25:43	300	90	3.0	#64 Comas	2	
0110.comas_009	1200	10:24	12:36:48.4	27:32:55	300	90	3.0	#64 Comas	2	
0111.COMP	12	10:45	12:36:48.4	27:32:55	300	90	3.0	#64 Comas	2	
0112.comas_010	900	10:46	12:37:55.4	34:01:20	300	90	3.0	#64 Comas	2	
0113.COMP	12	11:01	12:37:55.4	34:01:20	300	90	3.0	#64 Comas	2	
0114.FSVSJ171906	1200	11:04	17:19:06.0	26:33:08	300	90	3.0	#131 FSVS	2	row=73
0115.COMP	12	11:24	17:19:06.0	26:33:08	300	90	3.0	#131 FSVS	2	
0116.FSVSJ162346	1200	11:26	16:23:46.1	27:05:57	300	90	3.0	#131 FSVS	2	
0117.COMP	12	11:46	16:23:46.1	27:05:57	300	90	3.0	#131 FSVS	2	
0118.FSVSJ172029	1020	11:48	17:20:29.1	26:56:49	300	90	3.0	#131 FSVS	2	
0119.COMP	12	12:05	17:20:29.1	26:56:49	300	90	3.0	#131 FSVS	2	
0120.FSVSJ172102	1080	12:07	17:21:02.4	26:39:11	300	90	3.0	#131 FSVS	2	
0121.COMP	12	12:25	17:21:02.4	26:39:11	300	90	3.0	#131 FSVS	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0122.BDp332642	120	12:38	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	2	
0123.COMP	12	12:40	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	2	
0124-0128.sky	2	13:15	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	2	
0129.COMP	12	13:16	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	2	
0130-0139.BIAS	0	13:19	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	2	
0140-0149.FLAT	12	13:23	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	2	
0150-0159.DARK	900	15:41	15:50:03	33:05:49	300	90	3.0	#57 Velocity S	2	



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Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0001.DARK	900	0:20	05:09:04.0	31:30:13	300	90	3.0	#57 Velocity S	4	
0002.DARK	900	0:35	05:24:11.0	31:30:15	300	90	3.0	#57 Velocity S	4	
0003.DARK	900	0:51	05:39:22.0	31:30:18	300	90	3.0	#57 Velocity S	4	
0004.DARK	900	1:06	05:54:33.0	31:30:20	300	90	3.0	#57 Velocity S	4	
0005.DARK	900	1:21	06:09:40.0	31:30:23	300	90	3.0	#57 Velocity S	4	
0006.DARK	900	1:36	06:24:51.0	31:30:25	300	90	3.0	#57 Velocity S	4	
0007-0016.BIAS	0	2:02	06:35:55.0	31:30:27	300	90	3.0	#57 Velocity S	4	
0017-0026.FLAT	6	2:06	06:39:53.0	31:30:28	300	90	3.0	#57 Velocity S	4	
0027-0036.BIAS	0	2:08	06:42:04.0	31:30:28	300	90	3.0	#57 Velocity S	2	
0037-0038.FLAT	12	2:09	06:43:09.0	31:30:28	300	90	3.0	#57 Velocity S	2	
0039-0046.FLAT	12	2:12	06:46:24.0	31:30:29	300	90	3.0	#57 Velocity S	2	
0047.Hiltner600	50	2:19	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	working thru clouds
0048.Hiltner600	50	2:20	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0049.COMP	5	2:22	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	4	
0050.Hiltner600	50	2:22	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0051.Hiltner600	50	2:23	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0052.COMP	12	2:25	06:42:37.2	02:11:25	300	90	3.0	#56 Spectropho	2	
0053.Hiltner600	50	2:27	06:42:37.2	02:11:25	300	5	3.0	#56 Spectropho	2	
0054.Hiltner600	50	2:28	06:42:37.2	02:11:25	300	5	3.0	#56 Spectropho	2	
0055.COMP	12	2:30	06:42:37.2	02:11:25	300	5	3.0	#56 Spectropho	2	



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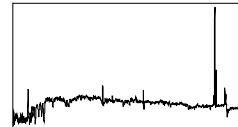
Coll. Focus 960 Grating/Grism 300

File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0056.NGC1700	300	2:34	04:56:58.1	-04:52:22	300	90	3.0	#57 Velocity S	2	
0057.COMP	12	2:39	04:56:58.1	-04:52:22	300	90	3.0	#57 Velocity S	2	
0058.Akn120	240	2:45	05:13:38.0	-00:12:15	300	90	3.0	#6 AGN Monitor	2	
0059.COMP	12	2:50	05:13:38.0	-00:12:15	300	90	3.0	#6 AGN Monitor	2	
0060.vso-72610A	1200	2:55	05:54:20.2	00:46:16	300	90	3.0	112 Orion PMS	2	southeast star
0061.COMP	12	3:16	05:54:20.2	00:46:16	300	90	3.0	112 Orion PMS	2	
0062.vso-72610B	1200	3:17	05:54:20.2	00:46:16	300	90	3.0	112 Orion PMS	2	northwest star, row=76
0063.COMP	12	3:37	05:54:20.2	00:46:16	300	90	3.0	112 Orion PMS	2	
0064.sn2002bo	900	3:42	10:18:06.5	+21:49:41	300	110	3.0	#2 SN Observat	2	
0065.sn2002bo	900	3:57	10:18:06.5	+21:49:41	300	110	3.0	#2 SN Observat	2	
0066.COMP	12	4:12	10:18:06.5	+21:49:41	300	110	3.0	#2 SN Observat	2	wait out clouds
0067.sn2002bf	900	7:32	10:15:42.3	+55:40:06	300	49	3.0	#2 SN Observat	2	
0068.sn2002bf	720	7:48	10:15:42.3	+55:40:06	300	49	3.0	#2 SN Observat	2	shorten 2nd exp for clouds
0069.COMP	12	8:00	10:15:42.3	+55:40:06	300	49	3.0	#2 SN Observat	2	
0070.MRK421	900	9:01	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421	2	through clouds
0071.MRK421	900	9:16	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421	2	
0072.COMP	12	9:32	11:04:27.4	+38:12:32	300	90	3.0	#133 MRK421	2	
0073.comas_011	720	9:43	12:38:04.5	33:27:31	300	90	3.0	#64 Comas	2	
0074.COMP	12	9:56	12:38:04.5	33:27:31	300	90	3.0	#64 Comas	2	
0075.comas_012	480	9:57	12:38:13.3	28:56:13	300	90	3.0	#64 Comas	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0076.COMP	12	10:05	12:38:13.3	28:56:13	300	90	3.0	#64 Comas	2	
0077.comas_013	660	10:06	12:39:18.0	27:54:31	300	90	3.0	#64 Comas	2	clouds interrupted... try again
0078.COMP	12	10:18	12:39:18.0	27:54:31	300	90	3.0	#64 Comas	2	
0079.comas_013	1080	10:19	12:39:18.0	27:54:31	300	90	3.0	#64 Comas	2	
0080.COMP	12	10:37	12:39:18.0	27:54:31	300	90	3.0	#64 Comas	2	
0081.FSVSJ171958	1200	10:40	17:19:58.9	25:51:44	300	90	3.0	#131 FSVS	2	clearing...
0082.COMP	12	11:02	17:19:58.9	25:51:44	300	90	3.0	#131 FSVS	2	
0083.FSVSJ171843	1200	11:04	17:18:43.5	25:53:01	300	90	3.0	#131 FSVS	2	
0084.COMP	12	11:24	17:18:43.5	25:53:01	300	90	3.0	#131 FSVS	2	
0085.FSVSJ172029	900	11:25	17:20:29.1	26:56:49	300	90	3.0	#131 FSVS	2	
0086.COMP	12	11:41	17:20:29.1	26:56:49	300	90	3.0	#131 FSVS	2	
0087.FSVSJ172043	1020	11:42	17:20:43.7	27:27:06	300	90	3.0	#131 FSVS	2	
0088.COMP	12	11:59	17:20:43.7	27:27:06	300	90	3.0	#131 FSVS	2	
0089.FSVSJ171929	1020	12:02	17:19:29.5	27:32:29	300	90	3.0	#131 FSVS	2	
0090.COMP	12	12:19	17:19:29.5	27:32:29	300	90	3.0	#131 FSVS	2	
0091.FSVSJ172054	1200	12:21	17:20:54.4	27:42:07	300	90	3.0	#131 FSVS	2	QSO?
0092.COMP	12	12:41	17:20:54.4	27:42:07	300	90	3.0	#131 FSVS	2	
0093.BDp332642	90	12:43	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	2	
0094.COMP	12	12:45	15:50:03	33:05:49	300	90	3.0	#56 Spectropho	2	
0095.N5866	180	12:46	15:05:07.2	+55:57:18	300	90	3.0	#57 Velocity S	2	



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File	Exp Time	UT Start	RA	Dec	Gr.	P.A.	Slit	Program	Bin	Comments
0096.COMP	12	12:50	15:05:07.2	+55:57:18	300	90	3.0	#57 Velocity S	2	
0097-0101.sky	2	13:04	15:05:07.2	+55:57:18	300	90	3.0	#57 Velocity S	4	
0102.COMP	5	13:04	15:05:07.2	+55:57:18	300	90	3.0	#57 Velocity S	4	
0103-0112.BIAS	0	13:06	15:05:07.2	+55:57:18	300	90	3.0	#57 Velocity S	4	
0113-0122.FLAT	6	13:09	15:05:07.2	+55:57:18	300	90	3.0	#57 Velocity S	4	
0123-0132.BIAS	0	13:11	15:05:07.2	+55:57:18	300	90	3.0	#57 Velocity S	2	
0133-0142.FLAT	12	13:16	15:05:07.2	+55:57:18	300	90	3.0	#57 Velocity S	2	
0143-0152.DARK	900	15:33	15:05:07.2	+55:57:18	300	90	3.0	#57 Velocity S	2	