

Table 1

File	Object	RA set	DEC set	Filter	Date	UT-STRT	Log Differences	Comments (N right E down, rotate 270 CC)
fr86e001.fits	Helium Lamp				05/09/86	+01:25:37	xTime	BG: Log states same time as image 7. Assuming these times are correct, plus they are calibration lamps so the time won't change the exposure.
fr86e002.fits	Helium Lamp				05/09/86	+01:27:43	xTime	
fr86e003.fits	Xenon Lamp				05/09/86	+01:33:56	xTime	
fr86e004.fits	Xenon Lamp				05/09/86	+01:37:16	xTime	
fr86e005.fits	Xenon Lamp				05/09/86	+01:39:17	xTime	
fr86e006.fits	Xenon Lamp				05/09/86	+01:44:06	xTime	
fr86e007.fits	1P/Halley	10:38:41.07	-13:05:40.7		05/09/86	+03:05:36		
fr86e008.fits	1P/Halley	10:38:41.07	-13:05:40.7		05/09/86	+03:09:49		
fr86e009.fits	1P/Halley	10:38:40.42	-13:05:28.0		05/09/86	+03:23:11		
fr86e010.fits	1P/Halley	10:38:39.78	-13:05:15.3		05/09/86	+03:29:57		
fr86e011.fits	1P/Halley	10:38:39.13	-13:05:02.6		05/09/86	+03:36:32		
fr86e012.fits	1P/Halley	10:38:38.49	-13:04:49.9		05/09/86	+03:45:16		
fr86e013.fits	1P/Halley	10:38:37.20	-13:04:24.5		05/09/86	+04:07:20		
fr86e014.fits	1P/Halley	10:38:37.20	-13:04:24.5		05/09/86	+04:13:23		
fr86e015.fits	1P/Halley	10:38:36.56	-13:04:11.9		05/09/86	+04:20:10		
fr86e016.fits	1P/Halley	10:38:35.28	-13:03:46.5		05/09/86	+04:42:04		
fr86e017.fits	1P/Halley	10:38:34.64	-13:03:33.8		05/09/86	+04:49:14		
fr86e018.fits	1P/Halley	10:38:34.00	-13:03:21.1		05/09/86	+04:56:24		
fr86e019.fits	1P/Halley	10:38:32.09	-13:02:43.1		05/09/86	+05:34:34		
fr86e020.fits	1P/Halley	10:38:31.45	-13:02:30.4		05/09/86	+05:44:19		
fr86e021.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+06:04:58		
fr86e022.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+06:08:04		
fr86e023.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+06:09:21		
fr86e024.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+06:11:49		
fr86e025.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+06:20:26		
fr86e026.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+06:21:33		
fr86e027.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+06:31:02		
fr86e028.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+06:32:45		
fr86e029.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+06:34:16		
fr86e030.fits	"SAO 120251"	14:02:31.85	+09:41:09.9		05/09/86	+06:45:08		
fr86e031.fits	"SAO 120251"	14:02:31.85	+09:41:09.9		05/09/86	+06:46:34		
fr86e032.fits	"SAO 120251"	14:02:31.85	+09:41:09.9		05/09/86	+06:47:53		
fr86e033.fits	"SAO 120251"	14:02:31.85	+09:41:09.9		05/09/86	+06:49:09		
fr86e034.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+06:57:27		
fr86e035.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+06:58:32		
fr86e036.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+07:00:04		
fr86e037.fits	"SAO 64278"	14:41:44.38	+35:14:25.0		05/09/86	+07:15:14		
fr86e038.fits	"SAO 64278"	14:41:44.38	+35:14:25.0		05/09/86	+07:16:39		
fr86e039.fits	"SAO 64278"	14:41:44.38	+35:14:25.0		05/09/86	+07:17:45		
fr86e040.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+07:25:38		
fr86e041.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+07:27:06		
fr86e042.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+07:28:31		

File	Object	RA set	DEC set	Filter	Date	UT-START	Log Differences	Comments (N right E down, rotate 270 CC)
fr86e043.fits	"MKN 478"	14:42:07.46	+35:26:22.9		05/09/86	+07:42:36		In index as MRK 478
fr86e044.fits	"MKN 478"	14:42:07.46	+35:26:22.9		05/09/86	+07:49:45		
fr86e045.fits	"MKN 478"	14:42:07.46	+35:26:22.9		05/09/86	+07:56:30		
fr86e046.fits	"MKN 478"	14:42:07.46	+35:26:22.9		05/09/86	+08:03:38		
fr86e047.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+08:15:30		
fr86e048.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+08:16:49		
fr86e049.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+08:18:49		
fr86e050.fits	"BS 6629"	17:47:53.56	+02:42:26.2		05/09/86	+08:32:29		
fr86e051.fits	"BS 6629"	17:47:53.56	+02:42:26.2		05/09/86	+08:34:05		
fr86e052.fits	"BS 6629"	17:47:53.56	+02:42:26.2		05/09/86	+08:35:05		
fr86e053.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+08:47:05		
fr86e054.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+08:48:34		
fr86e055.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+08:50:02		
fr86e056.fits	"BS 5868"	15:46:26.61	+07:21:11.0		05/09/86	+09:05:11		
fr86e057.fits	"BS 5868"	15:46:26.61	+07:21:11.0		05/09/86	+09:06:33		
fr86e058.fits	"BS 5868"	15:46:26.61	+07:21:11.0		05/09/86	+09:11:53	xFilter	
fr86e059.fits	"BS 5868"	15:46:26.61	+07:21:11.0		05/09/86	+09:13:29	xFilter	
fr86e060.fits	"BS 5868"	15:46:26.61	+07:21:11.0		05/09/86	+09:15:02	xFilter	
fr86e061.fits	"MKN 478"	14:42:07.46	+35:26:22.9		05/09/86	+09:39:27		
fr86e062.fits	"MKN 478"	14:42:07.46	+35:26:22.9		05/09/86	+09:47:52		
fr86e063.fits	"MKN 478"	14:42:07.46	+35:26:22.9		05/09/86	+10:05:25		
fr86e064.fits	"SAO 64278"	14:41:44.38	+35:14:25.0		05/09/86	+10:10:33		
fr86e065.fits	"SAO 64278"	14:41:44.38	+35:14:25.0		05/09/86	+10:11:56		
fr86e066.fits	"SAO 64278"	14:41:44.38	+35:14:25.0		05/09/86	+10:13:04		
fr86e067.fits	"SAO 64278"	14:41:44.38	+35:14:25.0		05/09/86	+10:15:11		
fr86e068.fits	"SAO 64278"	14:41:44.38	+35:14:25.0		05/09/86	+10:16:32		
fr86e069.fits	"SAO 120251"	14:02:31.85	+09:41:09.9		05/09/86	+10:26:04		
fr86e070.fits	"SAO 120251"	14:02:31.85	+09:41:09.9		05/09/86	+10:27:24		
fr86e071.fits	"SAO 120251"	14:02:31.85	+09:41:09.9		05/09/86	+10:29:16		
fr86e072.fits	"SAO 120251"	14:02:31.85	+09:41:09.9		05/09/86	+10:30:46		
fr86e073.fits	"SAO 120251"	14:02:31.85	+09:41:09.9		05/09/86	+10:31:55		
fr86e074.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+10:54:47		
fr86e075.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+10:55:54		
fr86e076.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+10:57:14		
fr86e077.fits	"BS 5996"	16:07:03.37	-14:04:16.7		05/09/86	+10:59:00		
fr86e078.fits	"FLAT FIELD"				05/09/86	+11:16:25		
fr86e079.fits	"FLAT FIELD"				05/09/86	+11:11:59		
fr86e080.fits	"FLAT FIELD"				05/09/86	+11:13:22		
fr86e081.fits	"FLAT FIELD"				05/09/86	+11:14:37		
fr86e082.fits	1P/Halley	10:37:14.06	-12:35:45.3	R	05/10/86	+03:25:15		
fr86e083.fits	1P/Halley	10:37:14.06	-12:35:45.3	R	05/10/86	+03:27:45		
fr86e084.fits	1P/Halley	10:37:14.06	-12:35:45.3	R	05/10/86	+03:29:58		

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fr86e085.fits	1P/Halley	10:37:14.06	-12:35:45.3	V	05/10/86	+03:31:44		
fr86e086.fits	1P/Halley	10:37:14.06	-12:35:45.3	V	05/10/86	+03:33:37		
fr86e087.fits	DARK			V	05/10/86	+03:40:27	xName	
fr86e088.fits	1P/Halley	10:37:13.47	-12:35:33.4	V	05/10/86	+03:41:26		
fr86e089.fits	1P/Halley	10:37:13.47	-12:35:33.4	B	05/10/86	+03:43:29		
fr86e090.fits	1P/Halley	10:37:12.88	-12:35:21.5	B	05/10/86	+03:45:28		
fr86e091.fits	1P/Halley	10:37:12.88	-12:35:21.5	6300	05/10/86	+03:49:32		
fr86e092.fits	1P/Halley	10:37:12.88	-12:35:21.5	6300TLT	05/10/86	+03:53:57		
fr86e093.fits	1P/Halley	10:37:12.30	-12:35:09.6	6300TLT	05/10/86	+03:58:18		
fr86e094.fits	1P/Halley	10:37:11.71	-12:34:57.7	6300	05/10/86	+04:09:51		
fr86e095.fits	1P/Halley	10:37:11.13	-12:34:45.8	6185	05/10/86	+04:24:08		
fr86e096.fits	1P/Halley	10:37:10.54	-12:34:33.9	6185	05/10/86	+04:28:56		
fr86e097.fits	1P/Halley	10:37:10.54	-12:34:33.9	6250	05/10/86	+04:31:34		
fr86e098.fits	1P/Halley	10:37:09.96	-12:34:22.0	6250	05/10/86	+04:36:02		
fr86e099.fits	1P/Halley	10:37:09.38	-12:34:10.1	6185	05/10/86	+04:47:38		
fr86e100.fits	1P/Halley	10:37:09.38	-12:34:10.1	4565	05/10/86	+05:01:59		
fr86e101.fits	1P/Halley	10:37:07.64	-12:33:34.4	I	05/10/86	+05:16:53		
fr86e102.fits	1P/Halley	10:37:07.64	-12:33:34.4	I	05/10/86	+05:18:13		
fr86e103.fits	1P/Halley	10:37:07.64	-12:33:34.4	9180	05/10/86	+05:22:03		
fr86e104.fits	DARK				05/10/86	+05:46:26		
fr86e105.fits	DARK				05/10/86	+05:47:27		
fr86e106.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	I	05/10/86	+06:20:53	xTime	SA 84 334; 20 minutes difference
fr86e107.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	I	05/10/86	+06:26:07	xTime	SA 84 334; 20 minutes difference
fr86e108.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	I	05/10/86	+06:27:58	xTime	SA 84 334; 20 minutes difference
fr86e109.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	R	05/10/86	+06:31:51		SA 84 334
fr86e110.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	R	05/10/86	+06:33:30		SA 84 334
fr86e111.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	V	05/10/86	+06:34:46		SA 84 334
fr86e112.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	V	05/10/86	+06:36:18		SA 84 334
fr86e113.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	B	05/10/86	+06:37:48		SA 84 334
fr86e114.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	B	05/10/86	+06:39:28		SA 84 334
fr86e115.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6300	05/10/86	+06:47:43		IC 4665 27
fr86e116.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6300	05/10/86	+06:52:05		
fr86e117.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6300TLT	05/10/86	+06:56:25		
fr86e118.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6300TLT	05/10/86	+06:59:34		
fr86e119.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6185	05/10/86	+07:07:55		
fr86e120.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6185	05/10/86	+07:09:25		
fr86e121.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6250	05/10/86	+07:11:08		
fr86e122.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6250	05/10/86	+07:12:50		
fr86e123.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	9180	05/10/86	+07:15:09		
fr86e124.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	9180	05/10/86	+07:17:02		
fr86e125.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	4565	05/10/86	+07:22:16		
fr86e126.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	4565	05/10/86	+07:23:51		
fr86e127.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	H-ALPHA	05/10/86	+07:29:09		
fr86e128.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	H-ALPHA	05/10/86	+07:30:31		
fr86e129.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	R	05/10/86	+07:32:42		
fr86e130.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	R	05/10/86	+07:34:01		
fr86e131.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	B	05/10/86	+07:35:33		

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fr86e132.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	B	05/10/86	+07:36:48		
fr86e133.fits	DRF-1	16:54:40.90	+61:18:42.6	R	05/10/86	+08:15:07		Unknown object; RA/DEC from astometry.net , near Draco
fr86e134.fits	DRF-1	16:54:40.90	+61:18:42.6	H-ALPHA	05/10/86	+08:24:03	xfileName	file is fr86e1340
fr86e135.fits	DRF-1	16:54:40.90	+61:18:42.6	B	05/10/86	+08:49:12		
fr86e136.fits	DRF-1	16:54:40.90	+61:18:42.6	B	05/10/86	+09:02:18		
fr86e137.fits	DRF-1	16:54:40.90	+61:18:42.6	R	05/10/86	+09:24:29		
fr86e138.fits	DRF-1	16:54:40.90	+61:18:42.6	H-ALPHA	05/10/86	+09:36:20		
fr86e139.fits	DRF-7	16:47:34.42	+60:20:37.6	H-ALPHA	05/10/86	+10:02:58		Unknown object; RA/DEC from astometry.net ; 'Tycho-2 4191-506-1' is identified in the field; near Draco
fr86e140.fits	DRF-7	16:47:34.42	+60:20:37.6	B	05/10/86	+10:25:35		
fr86e141.fits	DRF-7	16:47:34.42	+60:20:37.6	R	05/10/86	+10:48:04		
fr86e142.fits	DRF-7	16:47:34.42	+60:20:37.6	H-ALPHA	05/10/86	+11:01:44		
fr86e143.fits	"FLAT FIELD"			H-ALPHA	05/10/86	+11:30:13		
fr86e144.fits	"FLAT FIELD"			H-ALPHA	05/10/86	+11:31:45		
fr86e145.fits	"FLAT FIELD"			R	05/10/86	+11:33:32		
fr86e146.fits	"FLAT FIELD"			R	05/10/86	+11:34:34		
fr86e147.fits	"FLAT FIELD"			I	05/10/86	+11:36:03		
fr86e148.fits	"FLAT FIELD"			I	05/10/86	+11:37:29		
fr86e149.fits	"FLAT FIELD"			B	05/10/86	+11:40:06		
fr86e150.fits	"FLAT FIELD"			B	05/10/86	+11:41:03		
fr86e151.fits	"FLAT FIELD"			6300	05/10/86	+11:44:10		
fr86e152.fits	"FLAT FIELD"			6300	05/10/86	+11:46:04		
fr86e153.fits	"FLAT FIELD"			6300TLT	05/10/86	+11:48:19		
fr86e154.fits	"FLAT FIELD"			6300TLT	05/10/86	+11:50:16		
fr86e155.fits	"FLAT FIELD"			4565	05/10/86	+12:02:58		
fr86e156.fits	"FLAT FIELD"			4565	05/10/86	+12:04:50		
fr86e157.fits	"FLAT FIELD"			6185	05/10/86	+12:08:07		
fr86e158.fits	"FLAT FIELD"			6185	05/10/86	+12:09:08		
fr86e159.fits	"FLAT FIELD"			6250	05/10/86	+12:10:29		
fr86e160.fits	"FLAT FIELD"			6250	05/10/86	+12:11:38		
fr86e161.fits	"FLAT FIELD"			V	05/10/86	+12:13:43		
fr86e162.fits	"FLAT FIELD"			V	05/10/86	+12:14:37		
fr86e163.fits	DARK				05/10/86	+12:19:00		
fr86e164.fits	DARK				05/10/86	+12:19:55		
fr86e165.fits	1P/Halley	10:35:57.78	-12:08:38.2	R	05/11/86	+02:57:21		
fr86e166.fits	1P/Halley	10:35:57.78	-12:08:38.2	R	05/11/86	+02:59:37		

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fr86e167.fits	1P/Halley	10:35:57.78	-12:08:38.2	R	05/11/86	+03:01:28		
fr86e168.fits	1P/Halley	10:35:57.78	-12:08:38.2	R	05/11/86	+03:03:29		
fr86e169.fits	1P/Halley	10:35:57.25	-12:08:27.0	V	05/11/86	+03:07:14		
fr86e170.fits	1P/Halley	10:35:57.25	-12:08:27.0	V	05/11/86	+03:08:34		
fr86e171.fits	1P/Halley	10:35:57.25	-12:08:27.0	B	05/11/86	+03:10:27		
fr86e172.fits	1P/Halley	10:35:57.25	-12:08:27.0	B	05/11/86	+03:12:12		
fr86e173.fits	1P/Halley	10:35:56.71	-12:08:15.8	6300	05/11/86	+03:18:17		
fr86e174.fits	1P/Halley	10:35:55.11	-12:07:42.3	6300TLT	05/11/86	+03:49:13		
fr86e175.fits	1P/Halley	10:35:54.58	-12:07:31.1	6300TLT	05/11/86	+04:01:09		
fr86e176.fits	1P/Halley	10:35:54.04	-12:07:19.9	6300	05/11/86	+04:12:59		
fr86e177.fits	1P/Halley	10:35:52.98	-12:06:57.6	6185	05/11/86	+04:26:54		
fr86e178.fits	1P/Halley	10:35:52.98	-12:06:57.6	6250	05/11/86	+04:30:21		
fr86e179.fits	1P/Halley	10:35:52.45	-12:06:46.4	6185	05/11/86	+04:37:32		
fr86e180.fits	1P/Halley	10:35:51.92	-12:06:35.2	9180	05/11/86	+04:51:13		
fr86e181.fits	1P/Halley	10:35:51.39	-12:06:24.1	8600	05/11/86	+04:55:38		
fr86e182.fits	1P/Halley	10:35:51.39	-12:06:24.1	I	05/11/86	+05:01:39		
fr86e183.fits	1P/Halley	10:35:51.39	-12:06:24.1	I	05/11/86	+05:03:17		
fr86e184.fits	1P/Halley	10:35:50.86	-12:06:12.9	5980	05/11/86	+05:09:20		
fr86e185.fits	1P/Halley	10:35:50.86	-12:06:12.9	5980	05/11/86	+05:12:43		
fr86e186.fits	1P/Halley	10:35:50.34	-12:06:01.8	5139	05/11/86	+05:20:26		
fr86e187.fits	1P/Halley	10:35:50.34	-12:06:01.8	4565	05/11/86	+05:24:21		
fr86e188.fits	1P/Halley	10:35:49.81	-12:05:50.6	4060	05/11/86	+05:32:09		
fr86e189.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	R	05/11/86	+05:59:59		SA 84 334
fr86e190.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	R	05/11/86	+06:01:21		SA 84 334
fr86e191.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	V	05/11/86	+06:03:15		SA 84 334
fr86e192.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	V	05/11/86	+06:05:58		SA 84 334
fr86e193.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	B	05/11/86	+06:09:27		SA 84 334
fr86e194.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	B	05/11/86	+06:10:36		SA 84 334
fr86e195.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	I	05/11/86	+06:13:53		SA 84 334
fr86e196.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	I	05/11/86	+06:14:57		SA 84 334
fr86e197.fits	DARK				05/11/86	+06:21:14		
fr86e198.fits	DARK				05/11/86	+06:22:07		
fr86e199.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6300	05/11/86	+06:59:03		
fr86e200.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6300	05/11/86	+07:02:16		
fr86e201.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6300TLT	05/11/86	+07:05:28		
fr86e202.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6300TLT	05/11/86	+07:08:39		
fr86e203.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6185	05/11/86	+07:13:45		
fr86e204.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6185	05/11/86	+07:15:04		
fr86e205.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6250	05/11/86	+07:18:37		
fr86e206.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6250	05/11/86	+07:19:59		
fr86e207.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	8600	05/11/86	+07:24:05		
fr86e208.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	8600	05/11/86	+07:25:48		
fr86e209.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	9180	05/11/86	+07:27:32		
fr86e210.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	9180	05/11/86	+07:29:12		
fr86e211.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	5980	05/11/86	+07:32:43		
fr86e212.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	5980	05/11/86	+07:33:59		
fr86e213.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	5139	05/11/86	+07:35:42		

File	Object	RA set	DEC set	Filter	Date	UT-START	Log Differences	Comments (N right E down, rotate 270 CC)
fr86e214.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	5139	05/11/86	+07:36:54		
fr86e215.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	4565	05/11/86	+07:42:49		
fr86e216.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	4565	05/11/86	+07:44:06		
fr86e217.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	4060	05/11/86	+07:45:43		
fr86e218.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	4060	05/11/86	+07:47:16		
fr86e219.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	H-ALPHA	05/11/86	+07:50:24		
fr86e220.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	H-ALPHA	05/11/86	+07:51:49		
fr86e221.fits	DRF-2	16:58:37.69	+61:28:45.9	R	05/11/86	+08:01:06		Unknown object; RA/DEC from astometry.net ; near Draco
fr86e222.fits	DRF-2	16:58:37.69	+61:28:45.9	HALPHA	05/11/86	+08:13:35		
fr86e223.fits	DRF-2	16:58:37.69	+61:28:45.9	B	05/11/86	+08:37:18		
fr86e224.fits	DRF-2	16:58:37.69	+61:28:45.9	B	05/11/86	+09:00:22		
fr86e225.fits	DRF-2	16:58:37.69	+61:28:45.9	"H ALPHA"	05/11/86	+09:23:35		
fr86e226.fits	DRF-2	16:58:37.69	+61:28:45.9	R	05/11/86	+09:46:14		
fr86e227.fits	DRF-4	16:51:28.89	+60:52:07.0	"H ALPHA"	05/11/86	+10:03:18		Unknown object; RA/DEC from astometry.net ; near Draco
fr86e228.fits	DRF-4	16:51:28.89	+60:52:07.0	R	05/11/86	+10:25:43		
fr86e229.fits	DRF-4	16:51:28.89	+60:52:07.0	B	05/11/86	+10:38:21		
fr86e230.fits	DRF-4	16:51:28.89	+60:52:07.0	H-ALPHA	05/11/86	+11:01:07		
fr86e231.fits	DARK				05/11/86	+11:24:01		
fr86e232.fits	DARK				05/11/86	+11:25:02		
fr86e233.fits	"FLAT FIELD"			8600	05/11/86	+11:42:18		
fr86e234.fits	"FLAT FIELD"			8600	05/11/86	+11:40:53		
fr86e235.fits	"FLAT FIELD"			9180	05/11/86	+11:45:40		
fr86e236.fits	"FLAT FIELD"			9180	05/11/86	+11:46:45		
fr86e237.fits	"FLAT FIELD"			5980	05/11/86	+11:52:28		
fr86e238.fits	"FLAT FIELD"			5980	05/11/86	+11:53:35		
fr86e239.fits	"FLAT FIELD"			5139	05/11/86	+11:55:22		
fr86e240.fits	"FLAT FIELD"			5139	05/11/86	+11:56:35		
fr86e241.fits	"FLAT FIELD"			4060	05/11/86	+12:05:35		
fr86e242.fits	"FLAT FIELD"			4060	05/11/86	+12:17:55		
fr86e243.fits	DARK				05/11/86	+12:33:13		
fr86e244.fits	1P/Halley	10:34:46.94	-11:42:36.9	R	05/12/86	+02:56:39		
fr86e245.fits	1P/Halley	10:34:46.94	-11:42:36.9	B	05/12/86	+03:00:45		
fr86e246.fits	1P/Halley	10:34:45.97	-11:42:15.9	R	05/12/86	+03:17:39		
fr86e247.fits	1P/Halley	10:34:45.97	-11:42:15.9	R	05/12/86	+03:19:28		
fr86e248.fits	1P/Halley	10:34:45.97	-11:42:15.9	R	05/12/86	+03:21:42		
fr86e249.fits	1P/Halley	10:34:45.48	-11:42:05.4	R	05/12/86	+03:25:07		
fr86e250.fits	1P/Halley	10:34:45.48	-11:42:05.4	6185	05/12/86	+03:29:55		
fr86e251.fits	1P/Halley	10:34:45.48	-11:42:05.4	6185	05/12/86	+03:33:00		
fr86e252.fits	1P/Halley	10:34:44.51	-11:41:44.4	6185	05/12/86	+03:53:52		Computer died, log says dark but is actually 1P/Halley
fr86e253.fits	1P/Halley	10:34:43.54	-11:41:23.4	6185	05/12/86	+04:11:32		
fr86e254.fits	1P/Halley	10:34:43.06	-11:41:12.9	6185	05/12/86	+04:23:16		

File	Object	RA set	DEC set	Filter	Date	UT-START	Log Differences	Comments (N right E down, rotate 270 CC)
fr86e255.fits	1P/Halley	10:34:40.66	-11:40:20.4	6185	05/12/86	+05:08:12		
fr86e256.fits	1P/Halley	10:34:40.66	-11:40:20.4	6185	05/12/86	+05:14:17		
fr86e257.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	U	05/12/86	+07:21:27		SA 84 334
fr86e258.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	U	05/12/86	+07:35:11		SA 84 334
fr86e259.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	"U + R"	05/12/86	+07:42:08		SA 84 334
fr86e260.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	R	05/12/86	+07:49:56		SA 84 334
fr86e261.fits	DARK				05/12/86	+08:38:09		
fr86e262.fits	DARK				05/12/86	+08:39:08		
fr86e263.fits	1P/Halley	10:33:42.28	-11:18:00.1	6185	05/13/86	+03:05:27		
fr86e264.fits	1P/Halley	10:33:41.40	-11:17:40.3	6185	05/13/86	+03:28:09		
fr86e265.fits	1P/Halley	10:33:41.40	-11:17:40.3	6185	05/13/86	+03:30:50		
fr86e266.fits	1P/Halley	10:33:40.95	-11:17:30.4	6185	05/13/86	+03:35:53		
fr86e267.fits	1P/Halley	10:33:40.51	-11:17:20.6	R	05/13/86	+03:54:05		
fr86e268.fits	1P/Halley	10:33:40.07	-11:17:10.7	R	05/13/86	+03:55:41		
fr86e269.fits	1P/Halley	10:33:40.07	-11:17:10.7	R	05/13/86	+03:57:41		
fr86e270.fits	1P/Halley	10:33:40.07	-11:17:10.7	B	05/13/86	+04:00:22		
fr86e271.fits	1P/Halley	10:33:40.07	-11:17:10.7	B	05/13/86	+04:02:26		
fr86e272.fits	1P/Halley	10:33:39.63	-11:17:00.8	V	05/13/86	+04:07:11		
fr86e273.fits	1P/Halley	10:33:39.63	-11:17:00.8	V	05/13/86	+04:08:45		
fr86e274.fits	1P/Halley	10:33:39.63	-11:17:00.8	6185	05/13/86	+04:12:22		
fr86e275.fits	1P/Halley	10:33:38.76	-11:16:41.1	4565	05/13/86	+04:31:57		
fr86e276.fits	1P/Halley	10:33:37.45	-11:16:11.5	6185	05/13/86	+04:55:17		
fr86e277.fits	1P/Halley	10:33:37.01	-11:16:01.7	6180	05/13/86	+05:13:22	xFilter	
fr86e278.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	R	05/13/86	+05:39:34		SA 84 334
fr86e279.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	R	05/13/86	+05:41:14		SA 84 334
fr86e280.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	V	05/13/86	+05:44:12		SA 84 334
fr86e281.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	V	05/13/86	+05:45:22		SA 84 334
fr86e282.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	B	05/13/86	+05:46:52		SA 84 334
fr86e283.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	B	05/13/86	+05:48:03		SA 84 334
fr86e284.fits	DARK				05/13/86	+06:29:57		
fr86e285.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	4565	05/13/86	+06:45:37	xFilter	corrupt file; couldn't be normalized.
fr86e286.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	4565	05/13/86	+06:48:56	xFilter	
fr86e287.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6250	05/13/86	+06:50:57		
fr86e288.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	6250	05/13/86	+06:52:29		
fr86e289.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	4565	05/13/86	+06:58:44		
fr86e290.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	4565	05/13/86	+07:00:06		
fr86e291.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	H-ALPHA	05/13/86	+07:06:15		
fr86e292.fits	"Kopff 27"	17:43:55.84	+05:24:48.2	H-ALPHA	05/13/86	+07:08:11		
fr86e293.fits	"ETA DRAC"	16:23:59.49	+61:30:51.2	B	05/13/86	+07:30:39		One star assuming correct
fr86e294.fits	DRF-5	16:50:52.78	+60:55:09.6	B	05/13/86	+07:36:54		Unknown object; RA/DEC from astometry.net; near Draco
fr86e295.fits	DRF-5	16:50:52.78	+60:55:09.6	H-ALPHA	05/13/86	+07:58:57		
fr86e296.fits	DRF-5	16:50:52.78	+60:55:09.6	R	05/13/86	+08:21:25		
fr86e297.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	R	05/13/86	+08:39:15		SA 84 334
fr86e298.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	R	05/13/86	+08:42:14		SA 84 334
fr86e299.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	B	05/13/86	+08:44:20		SA 84 334
fr86e300.fits	"SA 84-334"	16:16:51.66	+14:41:47.4	B	05/13/86	+08:45:41		SA 84 334
fr86e301.fits	DRF-5	16:50:52.78	+60:55:09.6	B	05/13/86	+08:52:12		

File	Object	RA set	DEC set	Filter	Date	UT-STRT	Log Differences	Comments (N right E down, rotate 270 CC)
fr86e302.fits	DRF-5	16:50:52.78	+60:55:09.6	H-ALPHA	05/13/86	+09:15:49		
fr86e303.fits	DRF-5	16:50:52.78	+60:55:09.6	R	05/13/86	+09:38:04		
fr86e304.fits	DRF-15	16:46:50.48	+60:20:43.3	R	05/13/86	+09:53:28		Unknown object; RA/DEC from astometry.net; near Draco
fr86e305.fits	DRF-15	16:46:50.48	+60:20:43.3	H-ALPHA	05/13/86	+10:06:28		
fr86e306.fits	DRF-15	16:46:50.48	+60:20:43.3	B	05/13/86	+10:29:08		
fr86e307.fits	DRF-15	16:46:50.48	+60:20:43.3	R	05/13/86	+10:52:02		
fr86e308.fits	DRF-15	16:46:50.48	+60:20:43.3	H-ALPHA	05/13/86	+11:04:28		
fr86e309.fits	DARK				05/13/86	+11:31:00		
fr86e310.fits	DARK				05/13/86	+11:32:02		