

# OBSERVING LOG

**TELESCOPE** : DuPont  
**INSTRUMENT** : WFCCD  
**CONFIGURATION** : TYPHOON  
**OBSERVER** : Jeff Rich  
**NIGHT ASSISTANT**: Consuelo

**DATE** : July 28/29 3019  
**NIGHT**: 4 of 13  
**PAGE** : 1 of 5  
**WEATHER**: clear

File	Object	UTstart	Expsec	Filter	Airmass	Aper	Seeing	Comments
4001	bias	19:04	0	V	-	150um	-	Ok
4002	Slit image	19:07	10	V	zenith	150um	-	top/bot 1424/1430 x=1427.7, 2637.3, @y~2100
4003	"	19:09	4	V	"	750um	-	Lamp @390V, x=1439.3, 2625.7@y~2100
4004-4006	dflat	19:16	3x3	R	Flat field	open	-	Lamp @ 350V, <25k peak
4007-4009	"	19:22	3x4	V	"	open	-	Lamp @ 390V, <17k peak
4010-4012	"	19:27	3x4	B	"	open	-	Lamp @ 480V, <22k peak
4013-4015	"	19:32	3x80	grism	"	150um	-	Lamp @ 480V, ~40k peak
4016-4018	"	19:41	3x20	grism	"	750um	-	Lamp @ 480V, <38k peak
4019-4021	"	19:46	3x50	grism	"	hart	-	Lamp @ 480V, ~41k peak
4022	"	19:54	4	V	"	hart	-	Lamp @ 390V
4023-4025	HeNeAr arcs	19:55	30/60/90	grism	"	150um	-	Arcs for calibs
4026-4033	bias	20:04	8x0	-	zenith	-	-	
4034-4036	dark	20:17	3x600	V	"	open	-	
4037	LTT 4816	22:49	5	V	1.153	open	1.5"	@1436, 2090, 2"E, focus a little out
4038	"	22:52	"	"	1.157	"		2"E
4039	"	22:54	"	"	1.161	"		Ok
4040	LTT 4816	22:57	300	grism	1.165	750um		standard
4041	HeNeAr arc	23:04	30	"	1.177	150um		Arc for std
4042	NGC 5643	23:08	20	V	1.038	open	1.5"	Match 2049, 2019_07_26_27, 2.5"N, 5"E
4043	"	23:12	"	"	1.039	"	1.3"	OK, offset 9 steps (-92.7), L->R
4044	NGC 5643	23:20	600	grism	1.042	150um	<1.3"	512.1, 629.9 L->R, -10.2
4045	"	23:32	"	"	1.047	"		619.6
4046	"	23:43	"	"	1.054	"		609.3
4047	"	23:55	"	"	1.062	"		599.0

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4048	NGC 5643	00:06	600	grism	1.072	150um	~1.2	588.7
4049	"	00:18	"	"	1.086	"		578.4
4050	"	00:29	"	"	1.101	"		568.1
4051	"	00:41	"	"	1.116	"	~1.3"	557.8
4052	"	00:52	"	"	1.138	"		547.5
4053	"	01:04	"	"		"		537.2
4054	"	01:15	"	"	1.184	"	~1.3"	526.9
4055	"	01:27	"	"	1.212	"		516.6
4056	"	01:38	"	"	1.242	"	~1.5"	506.3
4057	"	01:50	"	"	1.276	"		496.0
4058	NGC 5643	02:01	20	V	1.315	open	2.8"	485.7 seeing blew up last frame or two
4059	NGC 6744	02:05	20	V	1.254	open	2.3"	Match 3091 from 2019_07_27, 25"N, 1"E
4060	"	02:08	"	"	1.251	"	2.8"	1.5"S, 0.5" W
4061	"	02:11	"	"	1.249	"	2.3"	OK, wait for seeing
4062	"	02:13	"	"	1.247	"		
4063	"	02:21	"	"	1.237	"	2.2"	
4064	"	02:29	"	"	1.235	"		
4065	"	02:33	"	"	1.233	"	2.1"	Still bad seeing
4066	"	02:40	"	"	1.229	"	1.7"	
4067	"	02:44	"	"	1.227	"	1.6"	Marginal, wait and see, dimm trend is good
4068	"	02:50	"	"	1.224	"	1.4"	better
4069	"	03:00	"	"	1.220	"	1.4"	OK
4070	"	03:02	"	"	1.220	"	1.7"	
4071	"	03:06	"	"	1.219	"	1.5"	OK enough

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4072	NGC 6744	03:09	20	V	1.218	open	<1.5"	R->L, +10.3
4073	NGC 6744	03:12	600	grism	1.218	150um		527.3 358.3
4074	"	03:22	"	"	1.216	"	~1.6"	368.6, seeing variable
4075	"	03:34	"	"	1.216	"	~1.6"	378.9
4076	"	03:47	"	"	1.218	"	~1.6"	389.2 seeing may be bad
4077	"	03:58	"	"	1.221	"		399.5 seeing 1.5-1.9"
4078	NGC 6744	04:10	20	V	1.226	open	2"	409.8 wait for better seeing
4079	"	04:16	"	"	1.229	"	1.5"	409.8 OK start again
4080	NGC 6744	04:19	600	grism	1.231	150um		409.8
4081	"	04:30	"	"	1.238	"		420.1
4082	"	04:42	"	"	1.247	"	~1.7"	430.4 seeing marginal
4083	"	04:54	"	"	1.257	"		440.7
4084	"	05:05	"	"		"	1.9"	451.0 seeing >2"
4085	NGC 6744	05:18	20	V	1.284	open	3.5"	461.3 terrible seeing
4086	"	05:21	"	"	1.289	"	2.4"	Wait for seeing to improve.
4087	"	05:30	"	"	1.301	"	2"	
4088	"	05:36	"	"	1.310	"	1.8"	
4089	"	05:41	"	"	1.319	"	1.7"	
4090	"	05:44	"	"	1.323	"	1.8"	
4091	"	05:50	"	"	1.334	"	1.7"	
4092	"	06:00	"	"	1.353	"	1.7"	
4093	NGC 6744	06:04	600	grism	1.359	150um	<1.7"	461.3
4094	NGC 6744	06:17	20	V	1.387	open	<1.7"	
4095	NGC 6744	06:20	600	grism	1.393	150um		471.6 seeing still marginal

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4096	NGC 6744	06:31	600	grism	1.43	150um	~1.7"	481.9
4097	"	06:43	"	"	1.446	"		492.2 seeing blew up > 3"
4098	"	06:54		"	1.478	"	1.8"	502.5
4099	NGC 6744	07:06	20	V	1.513	open	1.9"	512.8
4100	NGC 7793	07:10	20	V	1.032	open	1.7"	Match 3110 2019_07_27_28, 8.7"W, 8.2"N
4101	"	07:13	"	"	1.029	"	1.6"	0.7"W, 0.6"S
4102	"	07:15	"	"	1.027	"	~1.6"	OK, seeing marginal
4103	NGC 7793	07:17	600	grism	1.024	150um		481.9, 340.0, R->L, +10.3
4104	"	07:29	"	"	1.017	"		350.3 seeing barely acceptable
4105	"	07:41	"	"	1.010	"		360.6
4106	"	07:52	"	"	1.005	"	~1.4"	370.9, high dark, ccd too warm!
4107	NGC 7793	08:04	20	V	1.003	Open		stop to fill dewar
4108	"	08:51	"	"		"	1.5"	started to warm at 06:00 UT, 4"W
4109	"	08:54	"	"	1.013	"	1.4"	wrong way
4110	"	08:57	"	"	1.014	"		OK, add one step and go
4111	NGC 7793	09:03	600	grism	1.017	150um		387.6
4112	"	09:16	"	"	1.029	"	~1.8"	397.9
4113	"	09:28	"	"	1.041	"		408.2 Seeing still marginal
4114	"	09:40	"	"	1.055	"		418.5
4115	"	09:52	"	"	1.072	"		428.8
4116	"	10:03	"	"	1.089	"	~1.5"	439.1
4117	NGC 7793	10:14	20	V	1.111	Open	1.8"	449.4 seeing poor
4118	Cd -34 d241	10:17	2	V	1.048	open	1.8"	Match 3112 from last night
4119	"	10:19	"	"	1.050	750um	1.7"	

