

Table 1. Red LED Power Linearity

Rig	LED Color	Voltage	Power Reading (mW/cm2)	Power Reading (mW/cm2)	average
1.1	red	0	0.602	0.612	0.607
1.1	red	0.2	0.617	0.615	0.616
1.1	red	0.25	0.836	0.813	0.8245
1.1	red	0.5	2.34	2.32	2.33
1.1	red	0.75	3.88	3.85	3.865
1.1	red	1	5.41	5.38	5.395
1.1	red	2	12.05	11.97	12.01
1.1	red	3	18.7	18.58	18.64
1.1	red	4	25.2	25	25.1
1.1	red	5	31.3	31.2	31.25
1.2	red	0	0.682	0.679	0.6805
1.2	red	0.2			
1.2	red	0.25	0.798	0.792	0.795
1.2	red	0.5	2.22	2.21	2.215
1.2	red	0.75	3.8	3.77	3.785
1.2	red	1	5.43	5.4	5.415
1.2	red	2	12.03	11.98	12.005
1.2	red	3	18.77	18.7	18.735
1.2	red	4	25.3	25.2	25.25
1.2	red	5	31.6	31.5	31.55
2.1	red	0	0.659	0.662	0.6605
2.1	red	0.2			
2.1	red	0.25	0.679	0.679	0.679
2.1	red	0.5	2.011	2.02	2.0155
2.1	red	0.75	3.59	3.61	3.6
2.1	red	1	4.92	4.95	4.935
2.1	red	2	11.52	11.59	11.555
2.1	red	3	18.16	18.26	18.21
2.1	red	4	24.7	24.8	24.75
2.1	red	5	31	31.2	31.1
2.2	red	0	0.7	0.708	0.704
2.2	red	0.2			
2.2	red	0.25	0.752	0.755	0.7535
2.2	red	0.5	2.142	2.093	2.1175
2.2	red	0.75	3.73	3.61	3.67
2.2	red	1	5.07	4.91	4.99
2.2	red	2	12.02	11.61	11.815
2.2	red	3	18.76	18.1	18.43
2.2	red	4	25.4	24.5	24.95
2.2	red	5	31.8	30.7	31.25
3.1	red	0	0.703	0.703	0.703
3.1	red	0.2	0.751	0.755	
3.1	red	0.25	1.007	1.001	1.004
3.1	red	0.5	2.5	2.47	2.485
3.1	red	0.75	4.13	4.07	4.1
3.1	red	1	5.53	5.45	5.49
3.1	red	2	12.2	12	12.1
3.1	red	3	18.8	18.48	18.64
3.1	red	4	25.2	24.8	25
3.1	red	5	31.4	30.9	31.15
3.2	red	0	0.718	0.715	0.7165
3.2	red	0.2			
3.2	red	0.25	0.823	0.818	0.8205
3.2	red	0.5	2.33	2.32	2.325
3.2	red	0.75	3.77	3.76	3.765
3.2	red	1	5.35	5.35	5.35
3.2	red	2	12.1	12.08	12.09
3.2	red	3	18.8	18.79	18.795
3.2	red	4	25.3	25.3	25.3
3.2	red	5	31.6	31.6	31.6

Table 2. Red LED Power with Coverslip

Rig	LED Color	Voltage	Power Reading (mW/cm2)
1.1	red	0	0.533
1.1	red	0.2	0.546
1.1	red	0.25	0.749
1.1	red	0.5	2.157
1.1	red	0.75	3.61
1.1	red	1	5.04
1.1	red	2	11.29
1.1	red	3	17.54
1.1	red	4	23.6
1.1	red	5	29.5
1.2	red	0	0.62
1.2	red	0.2	
1.2	red	0.25	0.726
1.2	red	0.5	2.08
1.2	red	0.75	3.57
1.2	red	1	5.13
1.2	red	2	11.42
1.2	red	3	17.83
1.2	red	4	24.1
1.2	red	5	30
2.1	red	0	0.578
2.1	red	0.2	
2.1	red	0.25	0.593
2.1	red	0.5	1.872
2.1	red	0.75	3.39
2.1	red	1	4.66
2.1	red	2	11.03
2.1	red	3	17.4
2.1	red	4	23.7
2.1	red	5	29.8
2.2	red	0	0.643
2.2	red	0.2	
2.2	red	0.25	0.686
2.2	red	0.5	1.955
2.2	red	0.75	3.4
2.2	red	1	4.63
2.2	red	2	11
2.2	red	3	17.18
2.2	red	4	23.3
2.2	red	5	29.1
3.1	red	0	0.645
3.1	red	0.2	0.696
3.1	red	0.25	0.934
3.1	red	0.5	2.34
3.1	red	0.75	3.86
3.1	red	1	5.18
3.1	red	2	11.44
3.1	red	3	17.62
3.1	red	4	23.7
3.1	red	5	29.4
3.2	red	0	0.65
3.2	red	0.2	
3.2	red	0.25	0.751
3.2	red	0.5	2.178
3.2	red	0.75	3.56
3.2	red	1	5.06
3.2	red	2	11.49
3.2	red	3	17.88
3.2	red	4	24.1
3.2	red	5	30.1

Table 3. Green LED Power Linearity

Rig	LED Color	Voltage	Power Reading (mW/cm2)	Power Reading (mW/cm2)	average
1.1	green	0	0.691	0.695	0.693
1.1	green	0.2			
1.1	green	0.25	0.703	0.703	0.703
1.1	green	0.5	1.716	1.713	1.7145
1.1	green	0.75	2.95	2.95	2.95
1.1	green	1	4.08	4.09	4.085
1.1	green	2	9.22	9.24	9.23
1.1	green	3	14.71	14.74	14.725
1.1	green	4	20.02	20.06	20.04
1.1	green	5	25.18	25.22	25.2
1.2	green	0	0.778	0.778	0.778
1.2	green	0.2			
1.2	green	0.25			
1.2	green	0.5	1.758	1.756	1.757
1.2	green	0.75	3.19	3.19	3.19
1.2	green	1	4.27	4.27	4.27
1.2	green	2	10.06	10.08	10.07
1.2	green	3	16.14	16.18	16.16
1.2	green	4	22.02	22.07	22.045
1.2	green	5	27.8	27.8	27.8
2.1	green	0	0.764	0.77	0.767
2.1	green	0.2			
2.1	green	0.25			
2.1	green	0.5	1.492	1.504	1.498
2.1	green	0.75	2.79	2.81	2.8
2.1	green	1	3.74	3.77	3.755
2.1	green	2	8.87	8.93	8.9
2.1	green	3	14.72	14.8	14.76
2.1	green	4	20.22	20.33	20.275
2.1	green	5	25.6	25.8	25.7
2.2	green	0	0.814	0.829	0.8215
2.2	green	0.2			
2.2	green	0.25			
2.2	green	0.5	1.652	1.663	1.6575
2.2	green	0.75	2.96	2.97	2.965
2.2	green	1	4.05	4.04	4.045
2.2	green	2	9.77	9.74	9.755
2.2	green	3	16.23	16.17	16.2
2.2	green	4	22.19	22.11	22.15
2.2	green	5	28.2	28.1	28.15
3.1	green	0	0.813	0.819	0.816
3.1	green	0.2			
3.1	green	0.25	0.851	0.86	0.8555
3.1	green	0.5	2.075	2.08	2.0775
3.1	green	0.75	3.58	3.57	3.575
3.1	green	1	4.79	4.75	4.77
3.1	green	2	11.03	10.91	10.97
3.1	green	3	17.5	17.3	17.4
3.1	green	4	23.77	23.5	23.635
3.1	green	5	29.9	29.6	29.75
3.2	green	0	0.831	0.824	0.8275
3.2	green	0.2			
3.2	green	0.25			
3.2	green	0.5	1.849	1.855	1.852
3.2	green	0.75	3.18	3.18	3.18
3.2	green	1	4.56	4.55	4.555
3.2	green	2	10.5	10.48	10.49
3.2	green	3	16.77	16.73	16.75
3.2	green	4	22.83	22.77	22.8
3.2	green	5	28.7	28.7	28.7

Table 4. Green LED Power with Coverslip

Rig	LED Color	Voltage	Power Reading (mW/cm2)
1.1	green	0	0.639
1.1	green	0.2	
1.1	green	0.25	0.649
1.1	green	0.5	1.609
1.1	green	0.75	2.8
1.1	green	1	3.87
1.1	green	2	8.77
1.1	green	3	14
1.1	green	4	19.06
1.1	green	5	23.99
1.2	green	0	0.716
1.2	green	0.2	
1.2	green	0.25	
1.2	green	0.5	1.633
1.2	green	0.75	2.99
1.2	green	1	4.02
1.2	green	2	9.51
1.2	green	3	15.29
1.2	green	4	20.88
1.2	green	5	26.3
2.1	green	0	0.702
2.1	green	0.2	
2.1	green	0.25	
2.1	green	0.5	1.396
2.1	green	0.75	2.64
2.1	green	1	3.55
2.1	green	2	8.46
2.1	green	3	14.04
2.1	green	4	19.29
2.1	green	5	24.45
2.2	green	0	0.726
2.2	green	0.2	
2.2	green	0.25	
2.2	green	0.5	1.521
2.2	green	0.75	2.76
2.2	green	1	3.78
2.2	green	2	9.19
2.2	green	3	15.29
2.2	green	4	20.93
2.2	green	5	26.6
3.1	green	0	0.746
3.1	green	0.2	
3.1	green	0.25	0.786
3.1	green	0.5	1.934
3.1	green	0.75	3.34
3.1	green	1	4.47
3.1	green	2	10.3
3.1	green	3	16.34
3.1	green	4	22.19
3.1	green	5	27.9
3.2	green	0	0.751
3.2	green	0.2	
3.2	green	0.25	
3.2	green	0.5	1.727
3.2	green	0.75	2.98
3.2	green	1	4.28
3.2	green	2	9.91
3.2	green	3	15.84
3.2	green	4	21.58
3.2	green	5	27.2

**Table 5. Red LED Chamber Homogeneity**

Rig	mic	LED Color	Voltage	Power Reading (mW/cm2)	percent difference (max, min)
1.1	1	red	2.5	14.92	9.938733833
1.1	2	red	2.5	15.3	
1.1	3	red	2.5	15.42	
1.1	4	red	2.5	14.59	
1.1	5	red	2.5	15.01	
1.1	6	red	2.5	15.04	
1.1	7	red	2.5	13.96	
1.1	8	red	2.5	14.4	
1.1	9	red	2.5	14.4	
1.2	1	red	2.5	15.79	5.465191932
1.2	2	red	2.5	15.53	
1.2	3	red	2.5	15.25	
1.2	4	red	2.5	15.51	
1.2	5	red	2.5	15.62	
1.2	6	red	2.5	15.3	
1.2	7	red	2.5	14.97	
1.2	8	red	2.5	15.23	
1.2	9	red	2.5	14.95	
2.1	1	red	2.5	15.12	7.515796475
2.1	2	red	2.5	15	
2.1	3	red	2.5	14.56	
2.1	4	red	2.5	15.6	
2.1	5	red	2.5	15.49	
2.1	6	red	2.5	14.91	
2.1	7	red	2.5	15.36	
2.1	8	red	2.5	15.2	
2.1	9	red	2.5	14.47	
2.2	1	red	2.5	14.86	4.216073781
2.2	2	red	2.5	15.27	
2.2	3	red	2.5	15.14	
2.2	4	red	2.5	15.2	
2.2	5	red	2.5	15.5	
2.2	6	red	2.5	15.3	
2.2	7	red	2.5	15.17	
2.2	8	red	2.5	15.28	
2.2	9	red	2.5	15.2	
3.1	1	red	2.5	14.87	6.016042781
3.1	2	red	2.5	15.02	
3.1	3	red	2.5	14.81	
3.1	4	red	2.5	15.41	
3.1	5	red	2.5	15.21	
3.1	6	red	2.5	14.84	
3.1	7	red	2.5	15.4	
3.1	8	red	2.5	14.93	
3.1	9	red	2.5	14.51	
3.2	1	red	2.5	15.25	6.503519946
3.2	2	red	2.5	15.18	
3.2	3	red	2.5	15.03	
3.2	4	red	2.5	15.15	
3.2	5	red	2.5	15.4	
3.2	6	red	2.5	15.4	
3.2	7	red	2.5	14.43	
3.2	8	red	2.5	14.95	
3.2	9	red	2.5	15.01	

**Table 6. Green LED Chamber Homogeneity**

Rig	mic	LED Color	Voltage	Power Reading (mW/cm2)	percent difference (max, min)
1.1	1	green	2.5	10.85	10.06564551
1.1	2	green	2.5	11.3	
1.1	3	green	2.5	11.2	
1.1	4	green	2.5	11.5	
1.1	5	green	2.5	11.8	
1.1	6	green	2.5	11.9	
1.1	7	green	2.5	11.8	
1.1	8	green	2.5	12	
1.1	9	green	2.5	12	
1.2	1	green	2.5	12.4	8.752025932
1.2	2	green	2.5	12.46	
1.2	3	green	2.5	11.95	
1.2	4	green	2.5	12.88	
1.2	5	green	2.5	12.8	
1.2	6	green	2.5	12.2	
1.2	7	green	2.5	12.76	
1.2	8	green	2.5	12.6	
1.2	9	green	2.5	11.8	
2.1	1	green	2.5	10.95	10.22727273
2.1	2	green	2.5	11.1	
2.1	3	green	2.5	10.95	
2.1	4	green	2.5	10.75	
2.1	5	green	2.5	10.99	
2.1	6	green	2.5	10.77	
2.1	7	green	2.5	10.02	
2.1	8	green	2.5	10.2	
2.1	9	green	2.5	10.15	
2.2	1	green	2.5	12.15	7.524752475
2.2	2	green	2.5	12.7	
2.2	3	green	2.5	12.67	
2.2	4	green	2.5	12.65	
2.2	5	green	2.5	13.05	
2.2	6	green	2.5	13.1	
2.2	7	green	2.5	12.49	
2.2	8	green	2.5	12.86	
2.2	9	green	2.5	12.74	
3.1	1	green	2.5	13.7	10.59554256
3.1	2	green	2.5	14.35	
3.1	3	green	2.5	14.41	
3.1	4	green	2.5	13.72	
3.1	5	green	2.5	14.26	
3.1	6	green	2.5	14.35	
3.1	7	green	2.5	12.96	
3.1	8	green	2.5	13.32	
3.1	9	green	2.5	13.39	
3.2	1	green	2.5	12.9	4.914933837
3.2	2	green	2.5	13.05	
3.2	3	green	2.5	12.96	
3.2	4	green	2.5	13.4	
3.2	5	green	2.5	13.55	
3.2	6	green	2.5	13.33	
3.2	7	green	2.5	13.08	
3.2	8	green	2.5	13.21	
3.2	9	green	2.5	13	