

---

## Lotus LED Lights

---

Client:

LumCAT: LFR-6S-RB-14W-5CCT-4000K

Luminaire: Fire rated slim panel

Report No:

Ballast type:

Test No: LCZP23080240

Voltage(V): 120.010

LampCAT:

Current(A): 0.118

Lamp flux(lm): 1751.2

Power (W): 13.920

Number of Lamps: 1

PF: 0.981

Length(mm): -130

Width(mm): -130

Phm Type: C

Height(mm): 0

---

## Photometric Results

---

Lumens(lm): 1751.20, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 125.80

Central intensity(cd): 700.896, Maximum intensity(cd): 700.896

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=101.0

[C90/270]Total=101.0

Field angle(10%Imax): [C0/180]Total=152.6

[C90/270]Total=153.0

Maximum s/h(1/2): C0\_180=1.20 C90\_270=1.20

Maximum s/h(1/4): C0\_180=1.30 C90\_270=1.30

Up flux rate of lamp(%): 0.14%

Down flux rate of lamp(%): 99.86%

Up flux rate of LUM(%): 0.14%

Down flux rate of LUM(%): 99.86%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 82.787%

Lotus LED Lights LFR-6S-RB-14W-5CCT-4000K

Zonal flux distribution table

Appendix Page: 2 Total:12

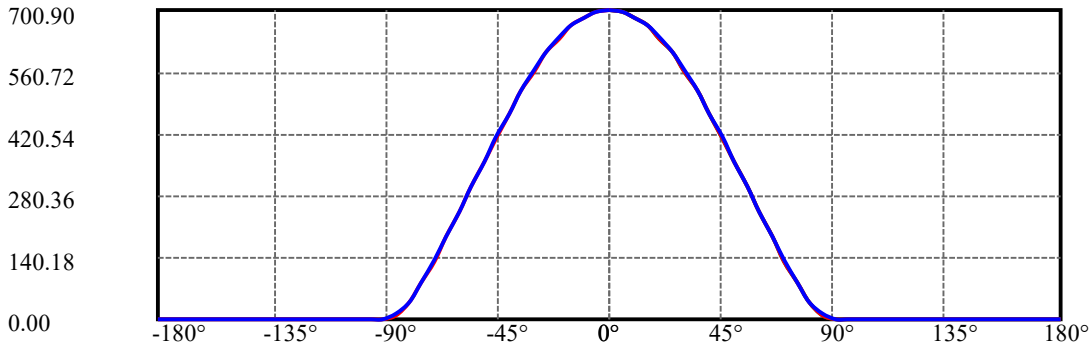
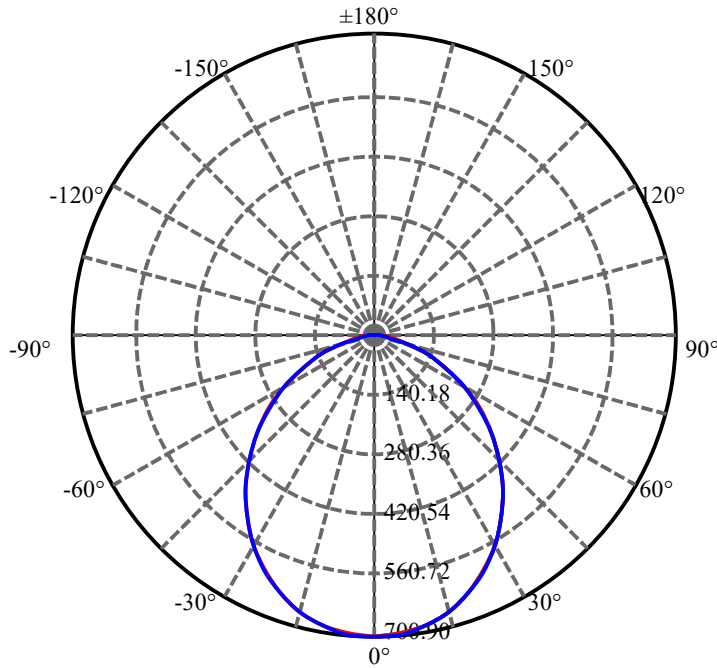
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	700.896	0.000	0	0.00%	0.00%
5.0	697.561	16.718	16.718	0.95%	0.95%
10.0	686.176	49.501	66.219	2.83%	3.78%
15.0	666.186	80.221	146.44	4.58%	8.36%
20.0	639.757	107.628	254.068	6.15%	14.51%
25.0	606.299	130.688	384.756	7.46%	21.97%
30.0	566.134	148.372	533.129	8.47%	30.44%
35.0	519.947	159.933	693.062	9.13%	39.58%
40.0	469.047	165.006	858.068	9.42%	49.00%
45.0	415.119	163.711	1021.779	9.35%	58.35%
50.0	359.277	156.478	1178.257	8.94%	67.28%
55.0	303.064	144.015	1322.272	8.22%	75.51%
60.0	248.511	127.495	1449.767	7.28%	82.79%
65.0	190.040	106.613	1556.38	6.09%	88.88%
70.0	136.183	82.602	1638.982	4.72%	93.59%
75.0	85.064	57.830	1696.812	3.30%	96.89%
80.0	40.904	33.706	1730.517	1.92%	98.82%
85.0	12.360	14.473	1744.991	0.83%	99.65%
90.0	1.567	3.813	1748.804	0.22%	99.86%
95.0	0.000	0.429	1749.233	0.02%	99.89%
100.0	0.000	0.000	1749.233	0.00%	99.89%
105.0	0.074	0.020	1749.253	0.00%	99.89%
110.0	0.111	0.049	1749.302	0.00%	99.89%
115.0	0.000	0.028	1749.33	0.00%	99.89%
120.0	0.112	0.027	1749.357	0.00%	99.90%
125.0	0.000	0.026	1749.383	0.00%	99.90%
130.0	0.000	0.000	1749.383	0.00%	99.90%
135.0	0.336	0.068	1749.451	0.00%	99.90%
140.0	0.786	0.208	1749.659	0.01%	99.91%
145.0	0.898	0.281	1749.94	0.02%	99.93%
150.0	0.898	0.265	1750.204	0.02%	99.94%
155.0	0.898	0.227	1750.432	0.01%	99.96%
160.0	0.898	0.188	1750.62	0.01%	99.97%
165.0	1.646	0.210	1750.83	0.01%	99.98%
170.0	1.797	0.204	1751.034	0.01%	99.99%
175.0	1.797	0.129	1751.162	0.01%	100.00%
180.0	0.961	0.033	1751.195	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	533.13	30.44%	30.44%
0-40	858.07	49.00%	49.00%
0-60	1449.77	82.79%	82.79%
0-90	1748.80	99.86%	99.86%
0-120	1749.36	99.89%	99.90%
0-180	1751.20	100.00%	100.00%
60-90	299.04	17.08%	17.08%
90-120	0.55	0.03%	0.03%
90-130	0.58	0.03%	0.03%
90-150	1.40	0.08%	0.08%
90-180	2.36	0.13%	0.13%
0-58.09	1400.96	80.00%	80.00%

ZONAL LUMEN SUMMARY

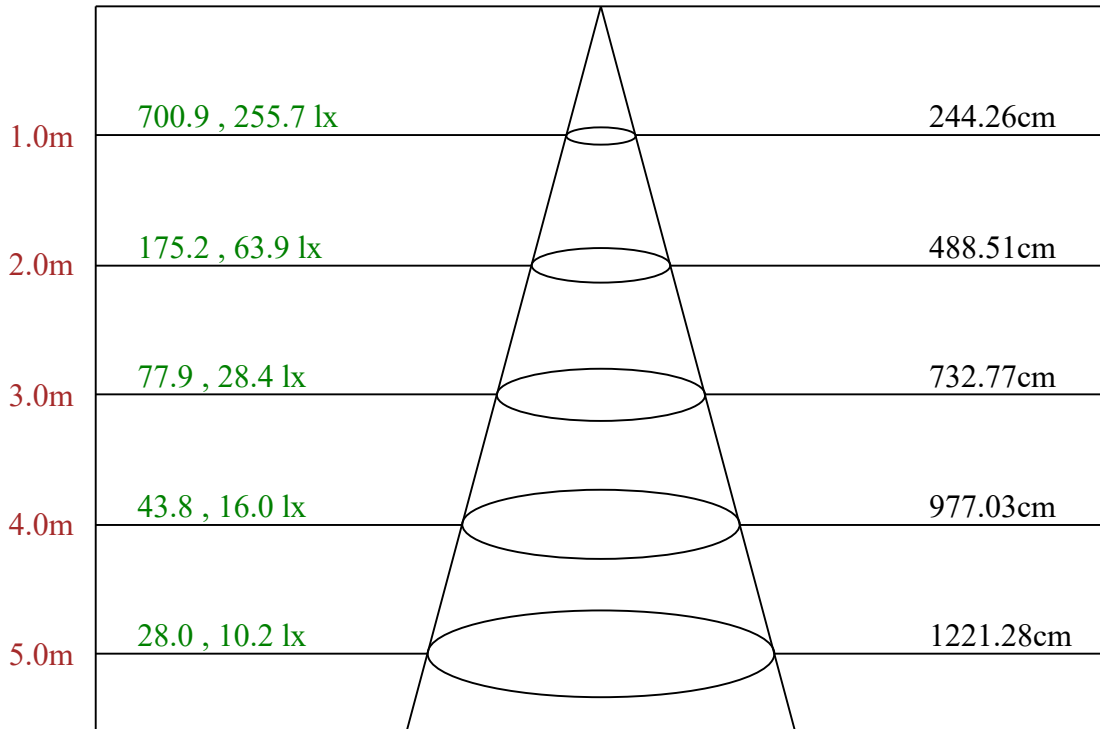
0-10	66.22
10-20	187.85
20-30	279.06
30-40	324.94
40-50	320.19
50-60	271.51
60-70	189.21
70-80	91.54
80-90	18.29
90-100	0.43
100-110	0.07
110-120	0.06
120-130	0.03
130-140	0.28
140-150	0.55
150-160	0.42
160-170	0.41
170-180	0.13



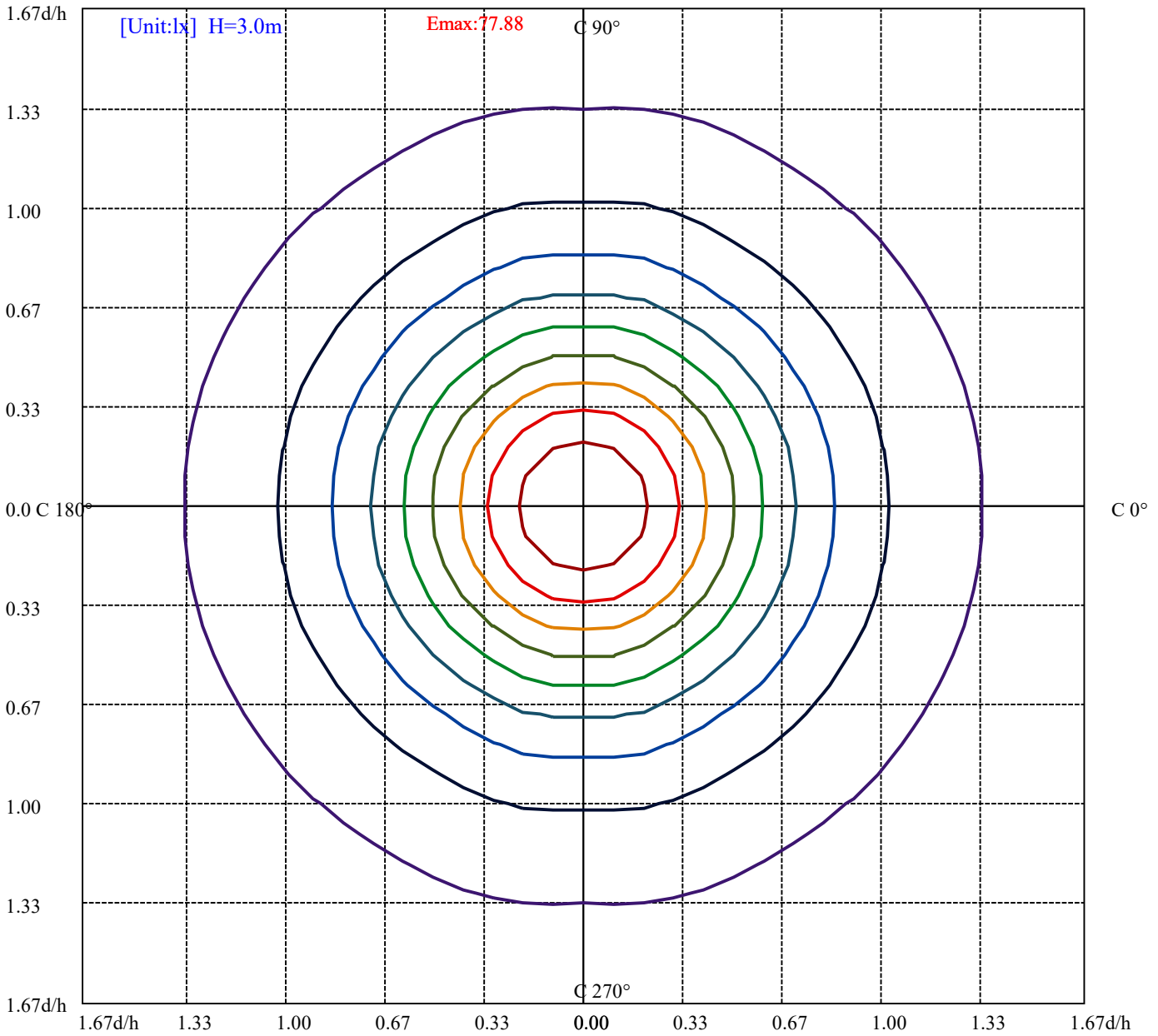
C0(Max): —————  
 C0/C180: —————  
 C90/C270: —————

Field angle(10%Imax):C0/180Left:76.3 Right:76.3  
 :C90/270Left:76.5 Right:76.5

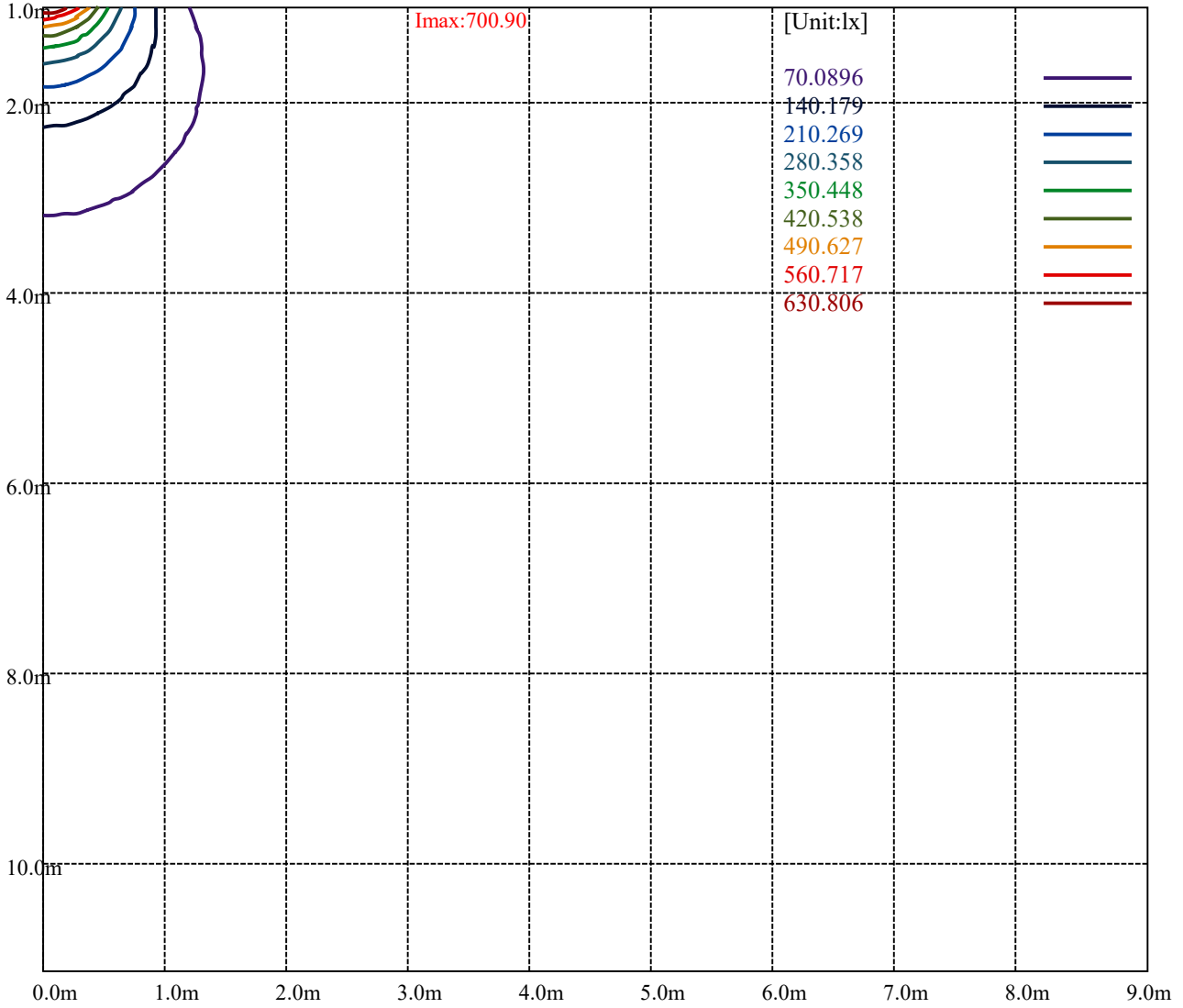
Beam Angle(50%Imax):C0/180Left:50.5 Right:50.5  
 :C90/270Left:50.5 Right:50.5



Max , Ave      Beam angle of C0 plane 101.38



(10%Emax) 7.787733	—
(20%Emax) 15.57544	—
(30%Emax) 23.36322	—
(40%Emax) 31.15089	—
(50%Emax) 38.93867	—
(60%Emax) 46.72644	—
(70%Emax) 54.51411	—
(80%Emax) 62.30189	—
(90%Emax) 70.08956	—



Luminance Table

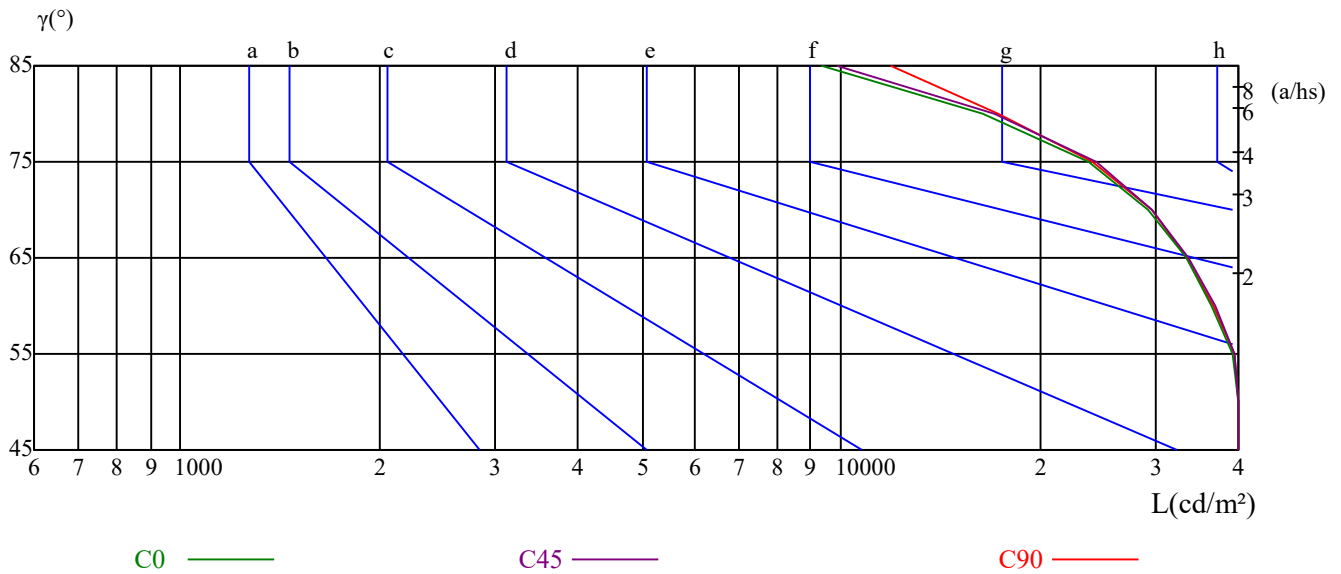
$\gamma$	45	50	55	60	65	70	75	80	85
C0	43818	41762	39287	36516	33325	29172	23733	16417	9345
C45	44022	41910	39517	36820	33569	29631	24415	17060	9891
C90	43909	41751	39447	36696	33293	29510	24018	17322	11888

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
33325	33293	33569	23733	24018	24415	9345	11888	9891

Glare Table

Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.05	1.01	0.98	1.03	0.99	0.96	0.99	0.96	0.93	0.95	0.92	0.90	0.91	0.89	0.87	0.85
2	0.92	0.86	0.80	0.90	0.84	0.79	0.87	0.82	0.78	0.84	0.79	0.76	0.81	0.77	0.74	0.72
3	0.82	0.74	0.68	0.80	0.73	0.67	0.77	0.71	0.66	0.74	0.69	0.65	0.72	0.67	0.63	0.61
4	0.73	0.64	0.58	0.71	0.63	0.57	0.69	0.62	0.56	0.66	0.60	0.56	0.64	0.59	0.55	0.53
5	0.65	0.56	0.50	0.64	0.56	0.50	0.62	0.55	0.49	0.60	0.54	0.49	0.58	0.53	0.48	0.46
6	0.59	0.50	0.44	0.58	0.50	0.44	0.56	0.49	0.43	0.54	0.48	0.43	0.53	0.47	0.42	0.40
7	0.53	0.45	0.39	0.53	0.44	0.39	0.51	0.44	0.38	0.50	0.43	0.38	0.48	0.42	0.38	0.36
8	0.49	0.41	0.35	0.48	0.40	0.35	0.47	0.40	0.34	0.46	0.39	0.34	0.44	0.38	0.34	0.32
9	0.45	0.37	0.31	0.44	0.37	0.31	0.43	0.36	0.31	0.42	0.36	0.31	0.41	0.35	0.31	0.29
10	0.41	0.34	0.29	0.41	0.34	0.29	0.40	0.33	0.28	0.39	0.33	0.28	0.38	0.32	0.28	0.26

Lotus LED Lights LFR-6S-RB-14W-5CCT-4000K

Intensity data(cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	700.90	696.84	684.23	664.41	637.38	603.15	563.51	517.11	465.31
15.0	700.90	697.74	685.57	665.52	638.94	605.37	565.05	519.33	468.20
30.0	700.90	697.29	685.58	664.64	637.61	604.50	562.39	516.66	465.54
45.0	700.90	697.06	685.79	665.53	638.95	605.41	564.66	517.61	466.74
60.0	700.90	697.08	685.15	664.91	638.14	603.96	563.92	516.46	465.40
75.0	700.90	699.33	690.16	671.84	647.04	615.10	576.89	532.44	482.41
90.0	700.90	696.90	685.37	664.96	638.35	603.75	564.27	517.24	466.67
105.0	700.90	699.33	690.16	671.84	647.04	615.10	576.89	532.44	482.41
120.0	700.90	697.08	685.15	664.91	638.14	603.96	563.92	516.46	465.40
135.0	700.90	697.06	685.79	665.53	638.95	605.41	564.66	517.61	466.74
150.0	700.90	697.29	685.58	664.64	637.61	604.50	562.39	516.66	465.54
165.0	700.90	697.74	685.57	665.52	638.94	605.37	565.05	519.33	468.20
180.0	700.90	696.84	684.23	664.41	637.38	603.15	563.51	517.11	465.31
195.0	700.90	697.74	685.57	665.52	638.94	605.37	565.05	519.33	468.20
210.0	700.90	697.29	685.58	664.64	637.61	604.50	562.39	516.66	465.54
225.0	700.90	697.06	685.79	665.53	638.95	605.41	564.66	517.61	466.74
240.0	700.90	697.08	685.15	664.91	638.14	603.96	563.92	516.46	465.40
255.0	700.90	699.33	690.16	671.84	647.04	615.10	576.89	532.44	482.41
270.0	700.90	696.90	685.37	664.96	638.35	603.75	564.27	517.24	466.67
285.0	700.90	699.33	690.16	671.84	647.04	615.10	576.89	532.44	482.41
300.0	700.90	697.08	685.15	664.91	638.14	603.96	563.92	516.46	465.40
315.0	700.90	697.06	685.79	665.53	638.95	605.41	564.66	517.61	466.74
330.0	700.90	697.29	685.58	664.64	637.61	604.50	562.39	516.66	465.54
345.0	700.90	697.74	685.57	665.52	638.94	605.37	565.05	519.33	468.20
360.0	700.90	696.84	684.23	664.41	637.38	603.15	563.51	517.11	465.31

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	411.26	356.30	299.10	242.34	186.94	132.43	81.53	37.84	10.81
15.0	414.15	358.07	301.98	251.10	188.70	134.42	83.52	39.61	11.92
30.0	411.71	355.18	299.33	248.89	186.04	132.21	81.53	38.06	10.81
45.0	413.17	357.57	300.85	244.36	188.31	134.52	83.88	39.32	11.44
60.0	411.42	355.41	299.18	242.72	186.48	132.72	82.10	38.01	10.78
75.0	428.58	373.17	317.34	261.06	203.88	150.04	97.33	51.55	16.93
90.0	412.11	356.21	300.32	243.54	186.76	133.97	82.51	39.92	13.75
105.0	428.58	373.17	317.34	261.06	203.88	150.04	97.33	51.55	16.93
120.0	411.42	355.41	299.18	242.72	186.48	132.72	82.10	38.01	10.78
135.0	413.17	357.57	300.85	244.36	188.31	134.52	83.88	39.32	11.44
150.0	411.71	355.18	299.33	248.89	186.04	132.21	81.53	38.06	10.81
165.0	414.15	358.07	301.98	251.10	188.70	134.42	83.52	39.61	11.92
180.0	411.26	356.30	299.10	242.34	186.94	132.43	81.53	37.84	10.81
195.0	414.15	358.07	301.98	251.10	188.70	134.42	83.52	39.61	11.92
210.0	411.71	355.18	299.33	248.89	186.04	132.21	81.53	38.06	10.81
225.0	413.17	357.57	300.85	244.36	188.31	134.52	83.88	39.32	11.44
240.0	411.42	355.41	299.18	242.72	186.48	132.72	82.10	38.01	10.78
255.0	428.58	373.17	317.34	261.06	203.88	150.04	97.33	51.55	16.93
270.0	412.11	356.21	300.32	243.54	186.76	133.97	82.51	39.92	13.75
285.0	428.58	373.17	317.34	261.06	203.88	150.04	97.33	51.55	16.93
300.0	411.42	355.41	299.18	242.72	186.48	132.72	82.10	38.01	10.78
315.0	413.17	357.57	300.85	244.36	188.31	134.52	83.88	39.32	11.44
330.0	411.71	355.18	299.33	248.89	186.04	132.21	81.53	38.06	10.81
345.0	414.15	358.07	301.98	251.10	188.70	134.42	83.52	39.61	11.92
360.0	411.26	356.30	299.10	242.34	186.94	132.43	81.53	37.84	10.81

Lotus LED Lights LFR-6S-RB-14W-5CCT-4000K

Appendix Page: 11 Total:12

Intensity data(cd)

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	1.35	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00
15.0	1.57	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00
30.0	1.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45.0	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.0	1.35	0.00	0.00	0.22	0.22	0.00	0.00	0.00	0.00
75.0	2.23	0.00	0.00	0.22	0.22	0.00	0.00	0.00	0.00
90.0	1.77	0.00	0.00	0.00	0.44	0.00	0.44	0.00	0.00
105.0	2.23	0.00	0.00	0.22	0.22	0.00	0.00	0.00	0.00
120.0	1.35	0.00	0.00	0.22	0.22	0.00	0.00	0.00	0.00
135.0	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0	1.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0	1.57	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00
180.0	1.35	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00
195.0	1.57	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00
210.0	1.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
225.0	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
240.0	1.35	0.00	0.00	0.22	0.22	0.00	0.00	0.00	0.00
255.0	2.23	0.00	0.00	0.22	0.22	0.00	0.00	0.00	0.00
270.0	1.77	0.00	0.00	0.00	0.44	0.00	0.44	0.00	0.00
285.0	2.23	0.00	0.00	0.22	0.22	0.00	0.00	0.00	0.00
300.0	1.35	0.00	0.00	0.22	0.22	0.00	0.00	0.00	0.00
315.0	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
330.0	1.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
345.0	1.57	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00
360.0	1.35	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.45	0.90	0.90	0.90	0.90	0.90	1.35	1.80	1.80
15.0	0.22	0.68	0.90	0.90	0.90	0.90	1.35	1.80	1.80
30.0	0.00	0.68	0.90	0.90	0.90	0.90	1.58	1.80	1.80
45.0	0.22	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80
60.0	0.45	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80
75.0	0.67	0.89	0.89	0.89	0.89	0.89	1.79	1.79	1.79
90.0	0.44	0.44	0.89	0.89	0.89	0.89	1.77	1.77	1.77
105.0	0.67	0.89	0.89	0.89	0.89	0.89	1.79	1.79	1.79
120.0	0.45	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80
135.0	0.22	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80
150.0	0.00	0.68	0.90	0.90	0.90	0.90	1.58	1.80	1.80
165.0	0.22	0.68	0.90	0.90	0.90	0.90	1.35	1.80	1.80
180.0	0.45	0.90	0.90	0.90	0.90	0.90	1.35	1.80	1.80
195.0	0.22	0.68	0.90	0.90	0.90	0.90	1.35	1.80	1.80
210.0	0.00	0.68	0.90	0.90	0.90	0.90	1.58	1.80	1.80
225.0	0.22	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80
240.0	0.45	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80
255.0	0.67	0.89	0.89	0.89	0.89	0.89	1.79	1.79	1.79
270.0	0.44	0.44	0.89	0.89	0.89	0.89	1.77	1.77	1.77
285.0	0.67	0.89	0.89	0.89	0.89	0.89	1.79	1.79	1.79
300.0	0.45	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80
315.0	0.22	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80
330.0	0.00	0.68	0.90	0.90	0.90	0.90	1.58	1.80	1.80
345.0	0.22	0.68	0.90	0.90	0.90	0.90	1.35	1.80	1.80
360.0	0.45	0.90	0.90	0.90	0.90	0.90	1.35	1.80	1.80

Intensity data(cd)

C/γ(°)	180.0
0.0	0.96
15.0	0.96
30.0	0.96
45.0	0.96
60.0	0.96
75.0	0.96
90.0	0.96
105.0	0.96
120.0	0.96
135.0	0.96
150.0	0.96
165.0	0.96
180.0	0.96
195.0	0.96
210.0	0.96
225.0	0.96
240.0	0.96
255.0	0.96
270.0	0.96
285.0	0.96
300.0	0.96
315.0	0.96
330.0	0.96
345.0	0.96
360.0	0.96