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## Lotus LED Lights

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Client:

LumCAT: LFR-6R-RB-14W-5CCT-2700K

Luminaire: Fire rated slim panel

Report No:

Ballast type:

Test No: LCZP23080240

Voltage(V): 120.080

LampCAT:

Current(A): 0.121

Lamp flux(lm): 1593.8

Power (W): 14.280

Number of Lamps: 1

PF: 0.982

Length(mm): -130

Width(mm): -130

Phm Type: C

Height(mm): 0

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## Photometric Results

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Lumens(lm): 1593.76, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 111.61

Central intensity(cd): 637.603, Maximum intensity(cd): 637.603

Angle of maximum intensity: C=30.0  $\gamma$ =0.0

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

[C90/270]Total=101.0

Field angle(10%Imax): [C0/180]Total=153.0

[C90/270]Total=152.6

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(%): 0.16%

Down flux rate of lamp(%): 99.84%

Up flux rate of LUM(%): 0.16%

Down flux rate of LUM(%): 99.84%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 82.764%

Lotus LED Lights LFR-6R-RB-14W-5CCT-2700K

Zonal flux distribution table

Appendix Page: 2 Total:12

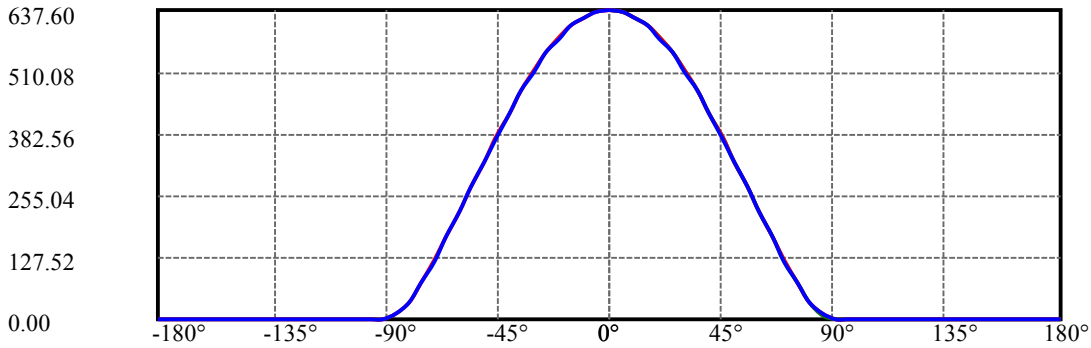
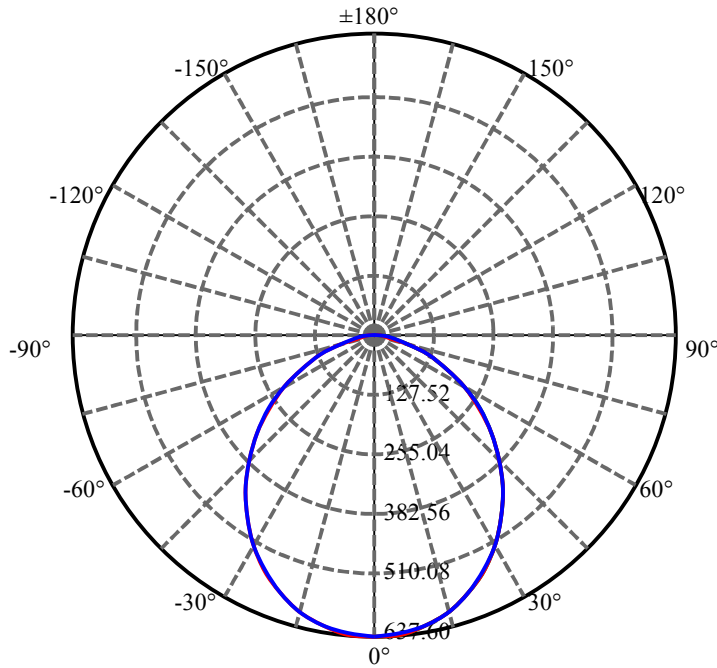
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	637.603	0.000	0	0.00%	0.00%
5.0	634.664	15.210	15.21	0.95%	0.95%
10.0	624.325	45.038	60.248	2.83%	3.78%
15.0	606.061	72.986	133.233	4.58%	8.36%
20.0	582.074	97.919	231.152	6.14%	14.50%
25.0	551.630	118.905	350.057	7.46%	21.96%
30.0	515.068	134.992	485.048	8.47%	30.43%
35.0	472.967	145.495	630.543	9.13%	39.56%
40.0	426.787	150.117	780.661	9.42%	48.98%
45.0	377.732	148.963	929.624	9.35%	58.33%
50.0	326.840	142.369	1071.993	8.93%	67.26%
55.0	275.844	131.044	1203.036	8.22%	75.48%
60.0	226.122	116.028	1319.065	7.28%	82.76%
65.0	172.938	97.012	1416.077	6.09%	88.85%
70.0	123.941	75.172	1491.248	4.72%	93.57%
75.0	77.451	52.641	1543.889	3.30%	96.87%
80.0	37.063	30.641	1574.53	1.92%	98.79%
85.0	11.318	13.146	1587.676	0.82%	99.62%
90.0	1.545	3.522	1591.198	0.22%	99.84%
95.0	0.112	0.454	1591.652	0.03%	99.87%
100.0	0.116	0.062	1591.714	0.00%	99.87%
105.0	0.180	0.079	1591.793	0.00%	99.88%
110.0	0.183	0.095	1591.888	0.01%	99.88%
115.0	0.191	0.095	1591.983	0.01%	99.89%
120.0	0.191	0.093	1592.076	0.01%	99.89%
125.0	0.206	0.092	1592.168	0.01%	99.90%
130.0	0.292	0.108	1592.276	0.01%	99.91%
135.0	0.370	0.134	1592.41	0.01%	99.92%
140.0	0.438	0.150	1592.559	0.01%	99.92%
145.0	0.490	0.155	1592.714	0.01%	99.93%
150.0	0.606	0.161	1592.876	0.01%	99.94%
155.0	0.861	0.186	1593.061	0.01%	99.96%
160.0	1.126	0.208	1593.27	0.01%	99.97%
165.0	1.302	0.200	1593.47	0.01%	99.98%
170.0	1.418	0.161	1593.631	0.01%	99.99%
175.0	1.452	0.103	1593.734	0.01%	100.00%
180.0	0.770	0.027	1593.761	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	485.05	30.43%	30.43%
0-40	780.66	48.98%	48.98%
0-60	1319.06	82.76%	82.76%
0-90	1591.20	99.84%	99.84%
0-120	1592.08	99.89%	99.89%
0-180	1593.76	100.00%	100.00%
60-90	272.13	17.07%	17.07%
90-120	0.88	0.06%	0.06%
90-130	1.08	0.07%	0.07%
90-150	1.68	0.11%	0.11%
90-180	2.54	0.16%	0.16%
0-58.10	1275.01	80.00%	80.00%

ZONAL LUMEN SUMMARY

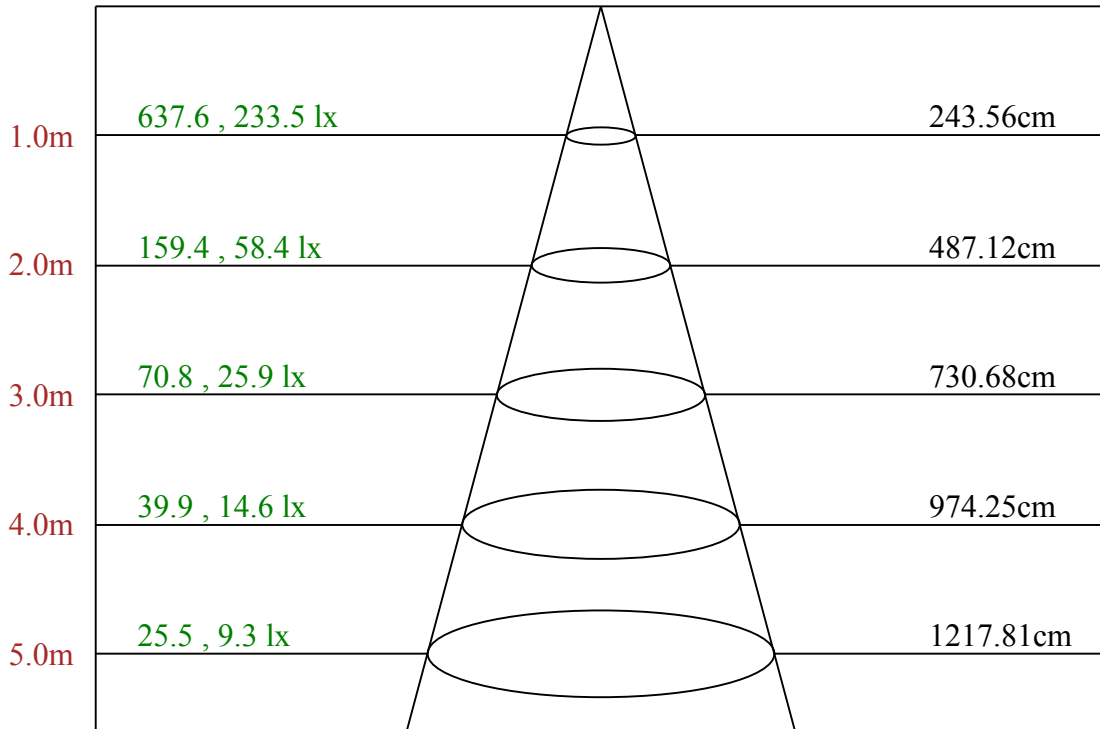
0-10	60.25
10-20	170.90
20-30	253.90
30-40	295.61
40-50	291.33
50-60	247.07
60-70	172.18
70-80	83.28
80-90	16.67
90-100	0.52
100-110	0.17
110-120	0.19
120-130	0.20
130-140	0.28
140-150	0.32
150-160	0.39
160-170	0.36
170-180	0.10



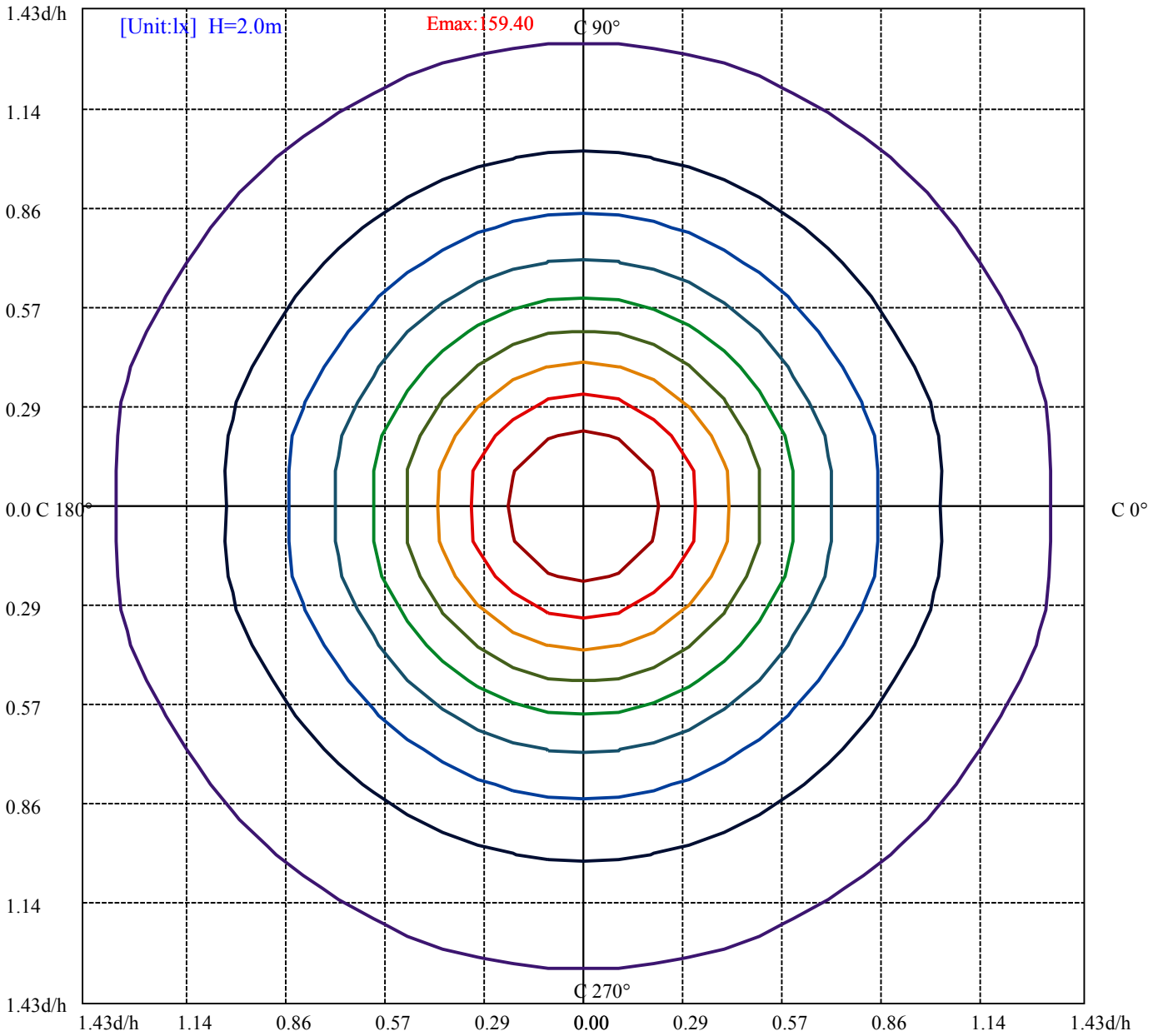
C30(Max): —————  
 C0/C180: —————  
 C90/C270: —————

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

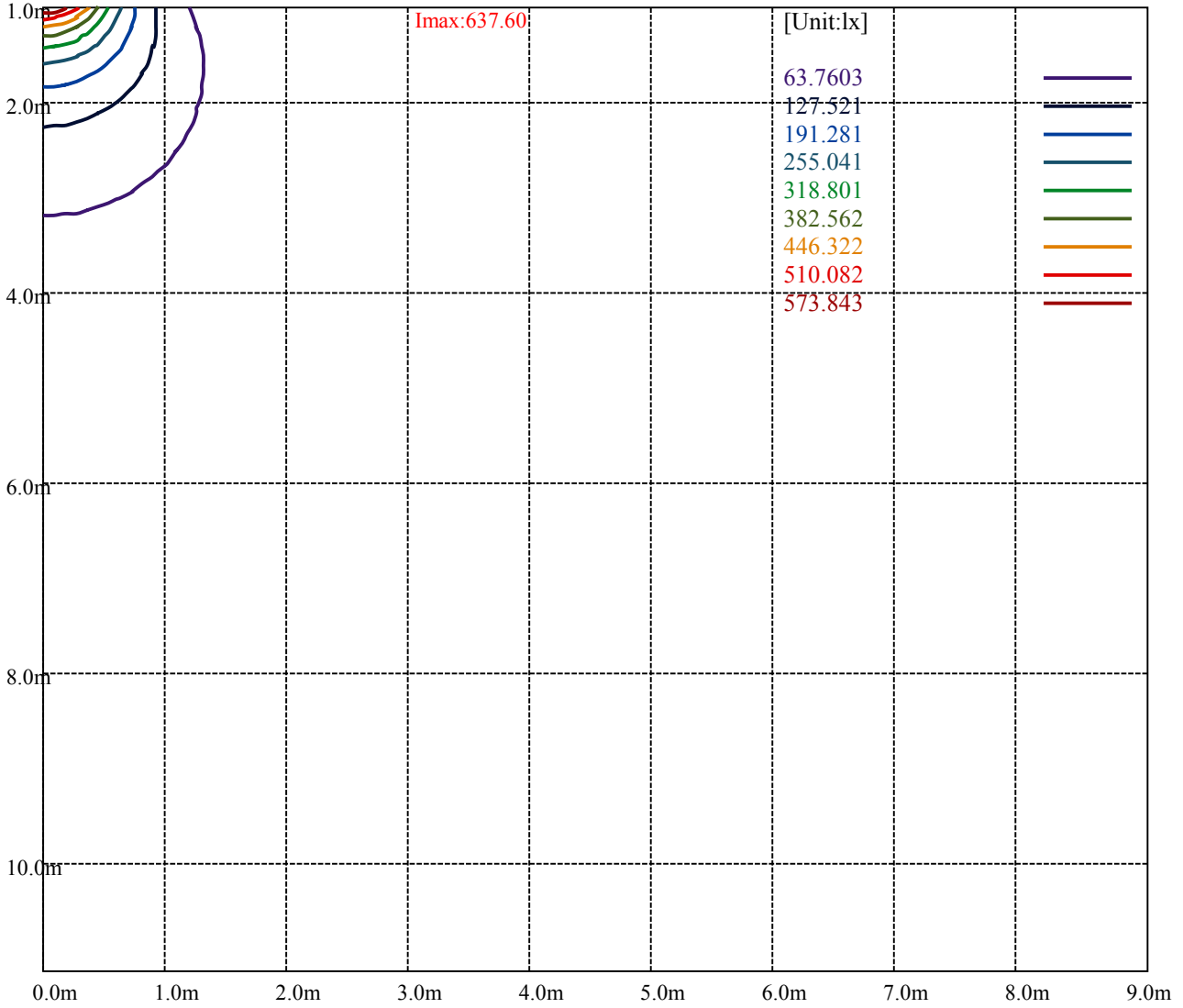
Beam Angle(50%Imax):C0/180Left:50.5 Right:50.5  
 :C90/270Left:50.5 Right:50.5



Max , Ave      Beam angle of C30 plane 101.22



(10%Emax) 15.94007	—
(20%Emax) 31.88025	—
(30%Emax) 47.82025	—
(40%Emax) 63.76025	—
(50%Emax) 79.70025	—
(60%Emax) 95.6405	—
(70%Emax) 111.5805	—
(80%Emax) 127.5205	—
(90%Emax) 143.4608	—



Lotus LED Lights LFR-6R-RB-14W-5CCT-2700K

Luminance Limiting Curve(no luminous side)

Luminance Table

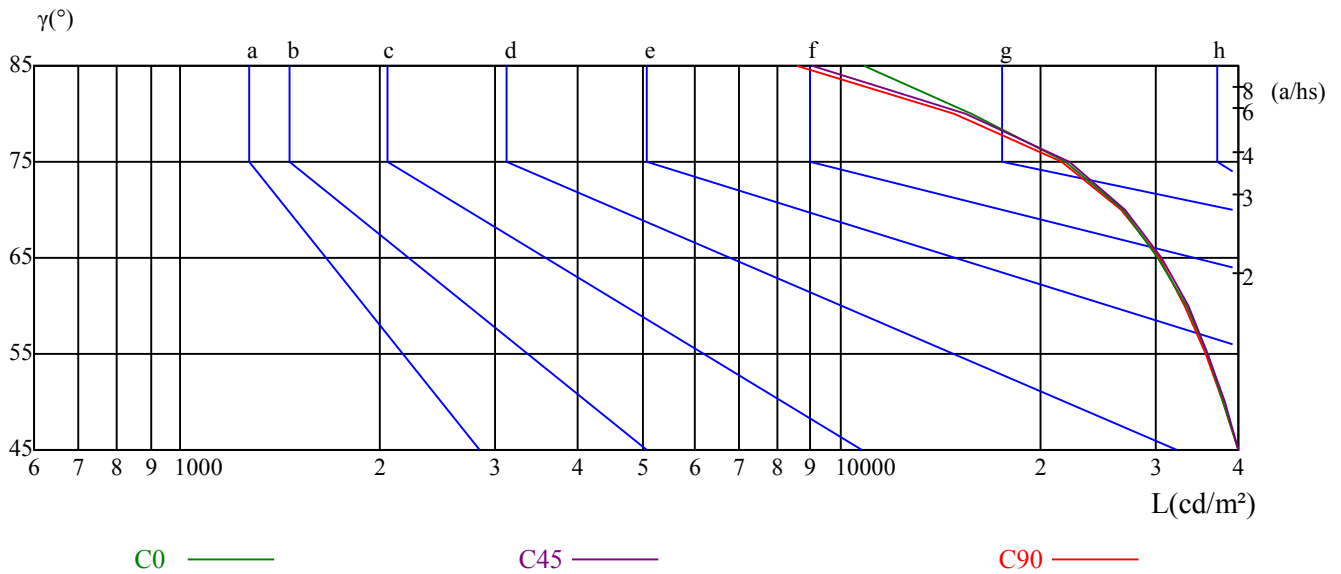
$\gamma$	45	50	55	60	65	70	75	80	85
C0	39945	37979	35886	33341	30227	26808	21883	15721	10850
C45	40077	38114	35990	33502	30575	26986	22210	15451	9019
C90	39870	37984	35716	33221	30303	26560	21607	14871	8566

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
30227	30303	30575	21883	21607	22210	10850	8566	9019

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	0.52	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-6R-RB-14W-5CCT-2700K

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	637.60	639.55	634.41	620.39	600.88	574.62	542.87	504.81	461.61
15.0	637.60	639.55	634.41	620.39	600.88	574.62	542.87	504.81	461.61
30.0	637.60	638.58	632.96	619.57	601.09	572.79	541.01	501.73	458.07
45.0	637.60	638.58	632.96	619.57	601.09	572.79	541.01	501.73	458.07
60.0	637.60	640.21	634.01	619.00	599.22	572.97	538.27	499.98	455.66
75.0	637.60	640.21	634.01	619.00	599.22	572.97	538.27	499.98	455.66
90.0	637.60	637.24	631.66	617.33	597.34	568.69	535.63	496.98	451.85
105.0	637.60	637.24	631.66	617.33	597.34	568.69	535.63	496.98	451.85
120.0	637.60	636.25	630.11	615.38	592.71	566.79	532.37	492.63	448.64
135.0	637.60	636.25	630.11	615.38	592.71	566.79	532.37	492.63	448.64
150.0	637.60	638.06	629.71	614.84	593.45	565.88	530.70	491.53	447.10
165.0	637.60	638.06	629.71	614.84	593.45	565.88	530.70	491.53	447.10
180.0	637.60	628.73	612.32	588.99	560.25	523.88	483.26	435.98	387.19
195.0	637.60	628.59	612.96	589.13	558.68	523.33	482.17	434.95	384.78
210.0	637.60	628.59	612.96	589.13	558.68	523.33	482.17	434.95	384.78
225.0	637.60	630.23	615.40	590.23	562.36	527.84	483.44	439.30	388.60
240.0	637.60	630.23	615.40	590.23	562.36	527.84	483.44	439.30	388.60
255.0	637.60	630.58	613.37	591.84	562.47	528.69	489.60	444.11	395.28
270.0	637.60	630.58	613.37	591.84	562.47	528.69	489.60	444.11	395.28
285.0	637.60	630.74	616.20	594.07	566.52	532.46	493.17	449.19	401.86
300.0	637.60	630.74	616.20	594.07	566.52	532.46	493.17	449.19	401.86
315.0	637.60	631.80	617.75	596.26	569.60	536.23	498.51	450.00	403.58
330.0	637.60	631.80	617.75	596.26	569.60	536.23	498.51	450.00	403.58
345.0	637.60	639.55	634.41	620.39	600.88	574.62	542.87	504.81	461.61
360.0	637.60	639.55	634.41	620.39	600.88	574.62	542.87	504.81	461.61
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	412.92	363.86	313.30	261.32	208.63	159.67	109.99	64.58	24.57
15.0	412.92	363.86	313.30	261.32	208.63	159.67	109.99	64.58	24.57
30.0	409.68	360.40	308.89	256.22	206.40	156.32	108.56	62.40	23.30
45.0	409.68	360.40	308.89	256.22	206.40	156.32	108.56	62.40	23.30
60.0	407.75	355.07	306.71	254.57	202.80	152.10	104.72	60.32	21.93
75.0	407.75	355.07	306.71	254.57	202.80	152.10	104.72	60.32	21.93
90.0	404.92	354.92	301.33	251.15	200.70	149.81	100.89	56.30	18.38
105.0	404.92	354.92	301.33	251.15	200.70	149.81	100.89	56.30	18.38
120.0	401.95	351.72	300.24	247.76	196.73	145.60	98.18	53.47	15.08
135.0	401.95	351.72	300.24	247.76	196.73	145.60	98.18	53.47	15.08
150.0	398.77	346.64	296.50	245.63	193.31	142.26	94.39	50.05	12.60
165.0	398.77	346.64	296.50	245.63	193.31	142.26	94.39	50.05	12.60
180.0	336.90	284.21	233.11	181.22	130.48	83.74	40.36	7.89	0.53
195.0	334.34	283.63	232.38	181.50	130.97	84.19	40.35	8.03	0.62
210.0	334.34	283.63	232.38	181.50	130.97	84.19	40.35	8.03	0.62
225.0	337.90	285.95	235.07	185.27	134.48	87.73	43.42	9.62	0.90
240.0	337.90	285.95	235.07	185.27	134.48	87.73	43.42	9.62	0.90
255.0	343.48	293.22	242.50	189.80	139.27	91.34	47.56	12.25	1.44
270.0	343.48	293.22	242.50	189.80	139.27	91.34	47.56	12.25	1.44
285.0	351.09	299.97	248.21	218.86	143.98	96.20	51.12	14.54	1.99
300.0	351.09	299.97	248.21	218.86	143.98	96.20	51.12	14.54	1.99
315.0	355.07	302.66	251.80	200.11	148.43	100.37	55.04	16.96	2.45
330.0	355.07	302.66	251.80	200.11	148.43	100.37	55.04	16.96	2.45
345.0	412.92	363.86	313.30	261.32	208.63	159.67	109.99	64.58	24.57
360.0	412.92	363.86	313.30	261.32	208.63	159.67	109.99	64.58	24.57

Lotus LED Lights LFR-6R-RB-14W-5CCT-2700K

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	3.55	0.09	0.00	0.00	0.00	0.09	0.00	0.09	0.35
15.0	3.55	0.09	0.00	0.00	0.00	0.09	0.00	0.09	0.35
30.0	3.39	0.00	0.00	0.00	0.09	0.00	0.00	0.09	0.27
45.0	3.39	0.00	0.00	0.00	0.09	0.00	0.00	0.09	0.27
60.0	3.15	0.00	0.00	0.00	0.09	0.09	0.09	0.18	0.36
75.0	3.15	0.00	0.00	0.00	0.09	0.09	0.09	0.18	0.36
90.0	2.43	0.00	0.00	0.09	0.00	0.09	0.00	0.09	0.27
105.0	2.43	0.00	0.00	0.09	0.00	0.09	0.00	0.09	0.27
120.0	1.81	0.00	0.00	0.00	0.00	0.09	0.09	0.09	0.27
135.0	1.81	0.00	0.00	0.00	0.00	0.09	0.09	0.09	0.27
150.0	1.54	0.00	0.00	0.09	0.00	0.00	0.00	0.18	0.27
165.0	1.54	0.00	0.00	0.09	0.00	0.00	0.00	0.18	0.27
180.0	0.18	0.27	0.27	0.35	0.44	0.35	0.44	0.35	0.35
195.0	0.18	0.27	0.27	0.45	0.45	0.36	0.36	0.36	0.27
210.0	0.18	0.27	0.27	0.45	0.45	0.36	0.36	0.36	0.27
225.0	0.18	0.27	0.27	0.36	0.36	0.36	0.36	0.27	0.27
240.0	0.18	0.27	0.27	0.36	0.36	0.36	0.36	0.27	0.27
255.0	0.18	0.18	0.27	0.36	0.36	0.36	0.45	0.27	0.36
270.0	0.18	0.18	0.27	0.36	0.36	0.36	0.45	0.27	0.36
285.0	0.09	0.18	0.27	0.36	0.27	0.27	0.36	0.27	0.18
300.0	0.09	0.18	0.27	0.36	0.27	0.27	0.36	0.27	0.18
315.0	0.18	0.18	0.18	0.27	0.36	0.36	0.36	0.36	0.27
330.0	0.18	0.18	0.18	0.27	0.36	0.36	0.36	0.36	0.27
345.0	3.55	0.09	0.00	0.00	0.00	0.09	0.00	0.09	0.35
360.0	3.55	0.09	0.00	0.00	0.00	0.09	0.00	0.09	0.35
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.44	0.44	0.44	0.62	0.89	1.15	1.33	1.51	1.42
15.0	0.44	0.44	0.44	0.62	0.89	1.15	1.33	1.51	1.42
30.0	0.45	0.45	0.45	0.62	0.98	1.16	1.34	1.52	1.52
45.0	0.45	0.45	0.45	0.62	0.98	1.16	1.34	1.52	1.52
60.0	0.36	0.45	0.54	0.72	0.90	1.17	1.35	1.53	1.53
75.0	0.36	0.45	0.54	0.72	0.90	1.17	1.35	1.53	1.53
90.0	0.54	0.45	0.54	0.63	0.90	1.17	1.35	1.53	1.53
105.0	0.54	0.45	0.54	0.63	0.90	1.17	1.35	1.53	1.53
120.0	0.36	0.45	0.63	0.72	0.99	1.17	1.45	1.54	1.54
135.0	0.36	0.45	0.63	0.72	0.99	1.17	1.45	1.54	1.54
150.0	0.45	0.45	0.54	0.63	1.00	1.18	1.36	1.54	1.45
165.0	0.45	0.45	0.54	0.63	1.00	1.18	1.36	1.54	1.45
180.0	0.35	0.35	0.53	0.62	0.71	1.06	1.33	1.24	1.42
195.0	0.18	0.45	0.45	0.54	0.71	1.16	1.25	1.34	1.34
210.0	0.18	0.45	0.45	0.54	0.71	1.16	1.25	1.34	1.34
225.0	0.27	0.45	0.45	0.54	0.81	0.99	1.26	1.26	1.44
240.0	0.27	0.45	0.45	0.54	0.81	0.99	1.26	1.26	1.44
255.0	0.36	0.45	0.45	0.54	0.81	1.08	1.17	1.35	1.44
270.0	0.36	0.45	0.45	0.54	0.81	1.08	1.17	1.35	1.44
285.0	0.36	0.36	0.45	0.54	0.81	1.08	1.17	1.26	1.45
300.0	0.36	0.36	0.45	0.54	0.81	1.08	1.17	1.26	1.45
315.0	0.27	0.45	0.45	0.54	0.73	1.09	1.27	1.27	1.36
330.0	0.27	0.45	0.45	0.54	0.73	1.09	1.27	1.27	1.36
345.0	0.44	0.44	0.44	0.62	0.89	1.15	1.33	1.51	1.42
360.0	0.44	0.44	0.44	0.62	0.89	1.15	1.33	1.51	1.42

Intensity data(cd)

C/γ(°)	180.0
0.0	1.42
15.0	1.42
30.0	1.43
45.0	1.43
60.0	1.35
75.0	1.35
90.0	1.44
105.0	1.44
120.0	1.45
135.0	1.45
150.0	1.45
165.0	1.45
180.0	0.00
195.0	0.00
210.0	0.00
225.0	0.00
240.0	0.00
255.0	0.00
270.0	0.00
285.0	0.00
300.0	0.00
315.0	0.00
330.0	0.00
345.0	1.42
360.0	1.42