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## Lotus LED Lights

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Client:

LumCAT: LFR-6R-FE-12W-5CCT-2700K

Luminaire: Fire rated slim panel

Report No:

Ballast type:

Test No: LCZP23080240

Voltage(V): 120.000

LampCAT:

Current(A): 0.102

Lamp flux(lm): 1208.8

Power (W): 11.970

Number of Lamps: 1

PF: 0.974

Length(mm): -120

Width(mm): -120

Phm Type: C

Height(mm): 0

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## Photometric Results

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Lumens(lm): 1208.79, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 100.99

Central intensity(cd): 487.499, Maximum intensity(cd): 487.499

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

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

[C90/270]Total=100.2

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

[C90/270]Total=152.8

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

Maximum s/h(1/4): C0\_180=1.31 C90\_270=1.30

Up flux rate of lamp(%): 0.38%

Down flux rate of lamp(%): 99.62%

Up flux rate of LUM(%): 0.38%

Down flux rate of LUM(%): 99.62%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 82.901%

Lotus LED Lights LFR-6R-FE-12W-5CCT-2700K

Zonal flux distribution table

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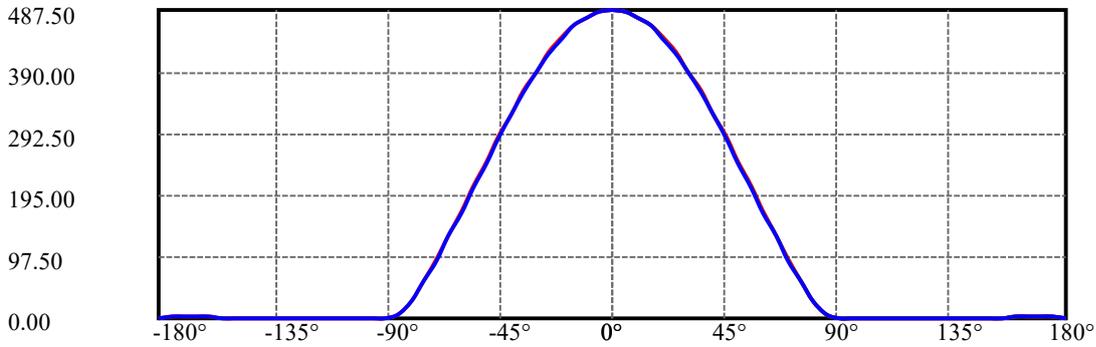
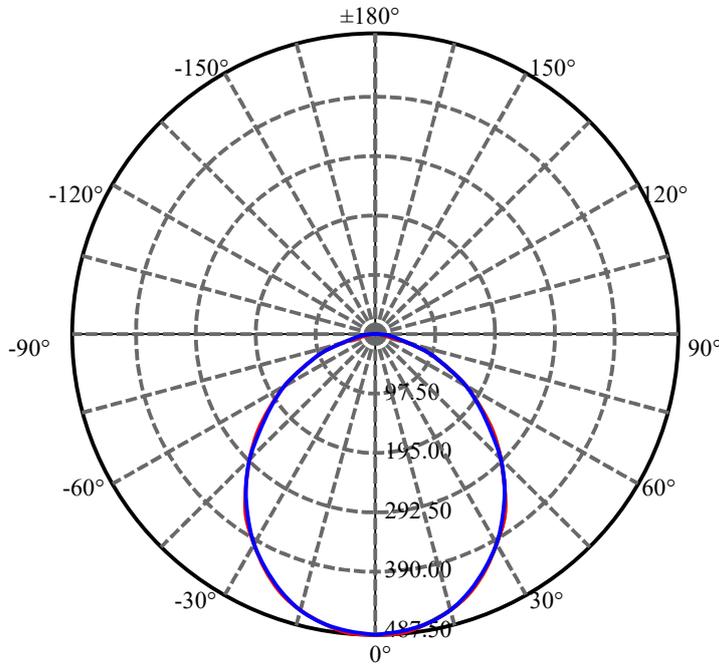
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	487.498	0.000	0	0.00%	0.00%
5.0	484.842	11.624	11.624	0.96%	0.96%
10.0	476.346	34.385	46.009	2.84%	3.81%
15.0	462.686	55.703	101.711	4.61%	8.41%
20.0	443.898	74.715	176.427	6.18%	14.60%
25.0	420.208	90.629	267.056	7.50%	22.09%
30.0	392.403	102.837	369.892	8.51%	30.60%
35.0	359.505	110.724	480.616	9.16%	39.76%
40.0	324.101	114.054	594.67	9.44%	49.20%
45.0	287.013	113.153	707.823	9.36%	58.56%
50.0	247.080	107.921	815.744	8.93%	67.48%
55.0	208.195	98.992	914.736	8.19%	75.67%
60.0	169.761	87.363	1002.1	7.23%	82.90%
65.0	130.089	72.894	1074.994	6.03%	88.93%
70.0	93.038	56.497	1131.491	4.67%	93.61%
75.0	58.607	39.638	1171.129	3.28%	96.88%
80.0	26.160	22.681	1193.81	1.88%	98.76%
85.0	5.725	8.664	1202.474	0.72%	99.48%
90.0	0.674	1.752	1204.226	0.14%	99.62%
95.0	0.224	0.246	1204.472	0.02%	99.64%
100.0	0.449	0.183	1204.655	0.02%	99.66%
105.0	0.449	0.240	1204.895	0.02%	99.68%
110.0	0.449	0.235	1205.13	0.02%	99.70%
115.0	0.449	0.227	1205.357	0.02%	99.72%
120.0	0.449	0.218	1205.576	0.02%	99.73%
125.0	0.599	0.242	1205.818	0.02%	99.75%
130.0	0.898	0.326	1206.144	0.03%	99.78%
135.0	0.898	0.363	1206.507	0.03%	99.81%
140.0	0.898	0.333	1206.839	0.03%	99.84%
145.0	0.898	0.300	1207.139	0.02%	99.86%
150.0	0.898	0.265	1207.403	0.02%	99.89%
155.0	1.347	0.284	1207.688	0.02%	99.91%
160.0	1.796	0.330	1208.017	0.03%	99.94%
165.0	1.984	0.312	1208.329	0.03%	99.96%
170.0	2.246	0.251	1208.58	0.02%	99.98%
175.0	2.395	0.166	1208.746	0.01%	100.00%
180.0	1.347	0.045	1208.791	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	369.89	30.60%	30.60%
0-40	594.67	49.20%	49.20%
0-60	1002.10	82.90%	82.90%
0-90	1204.23	99.62%	99.62%
0-120	1205.58	99.73%	99.73%
0-180	1208.79	100.00%	100.00%
60-90	202.13	16.72%	16.72%
90-120	1.35	0.11%	0.11%
90-130	1.92	0.16%	0.16%
90-150	3.18	0.26%	0.26%
90-180	4.52	0.37%	0.37%
0-57.99	967.03	80.00%	80.00%

ZONAL LUMEN SUMMARY

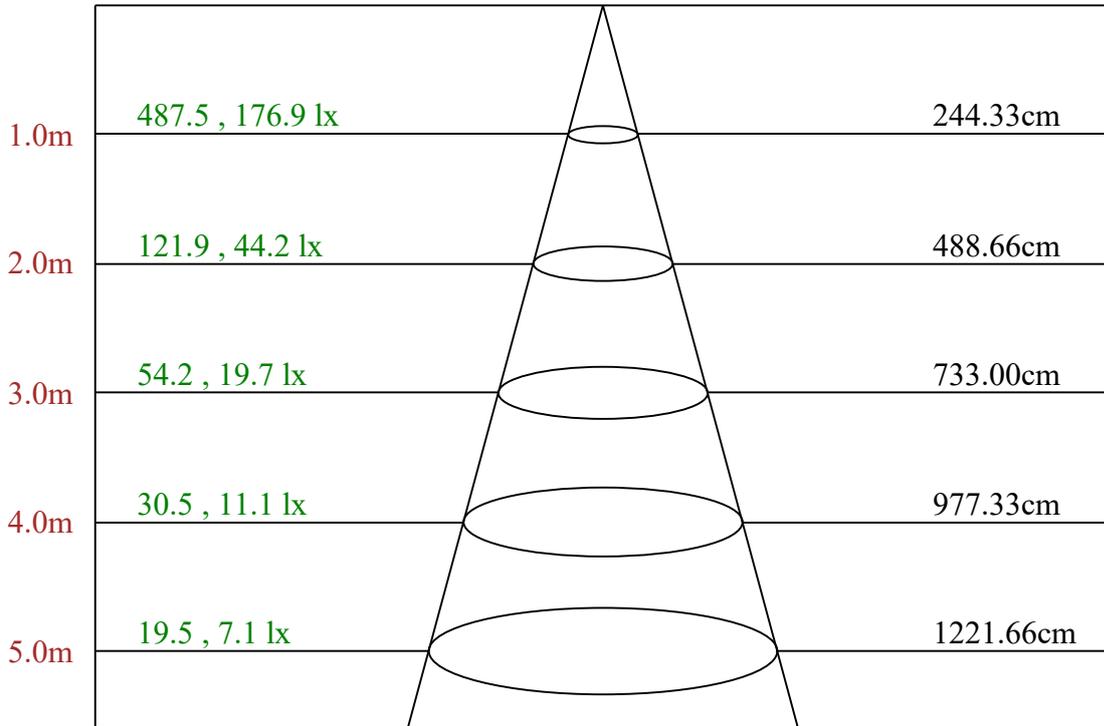
0-10	46.01
10-20	130.42
20-30	193.47
30-40	224.78
40-50	221.07
50-60	186.36
60-70	129.39
70-80	62.32
80-90	10.42
90-100	0.43
100-110	0.48
110-120	0.45
120-130	0.57
130-140	0.70
140-150	0.56
150-160	0.61
160-170	0.56
170-180	0.17



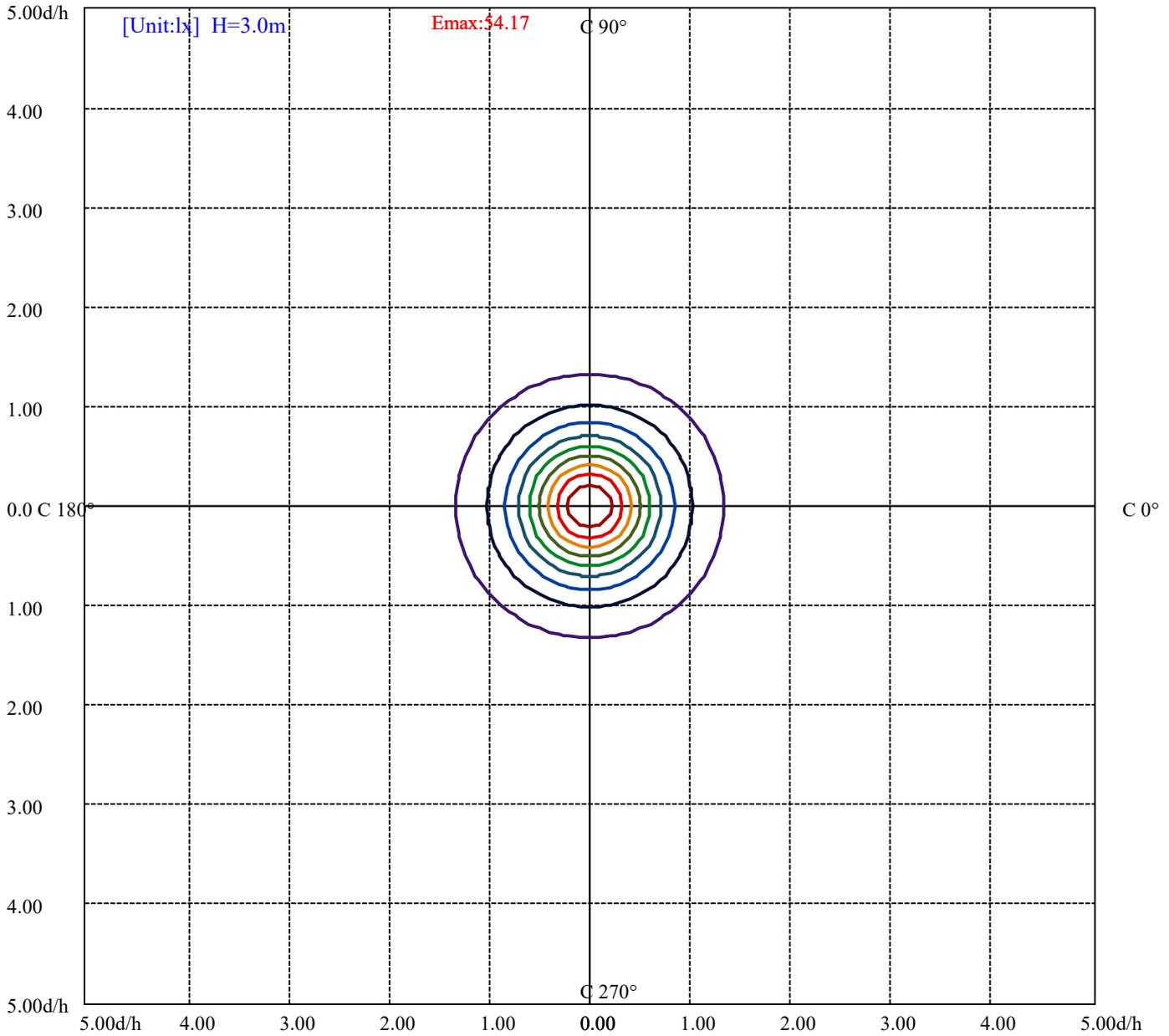
C0(Max): ———  
 C0/C180: ———  
 C90/C270: ———

Field angle(10%Imax):C0/180Left:76.5 Right:76.5  
 :C90/270Left:76.4 Right:76.4

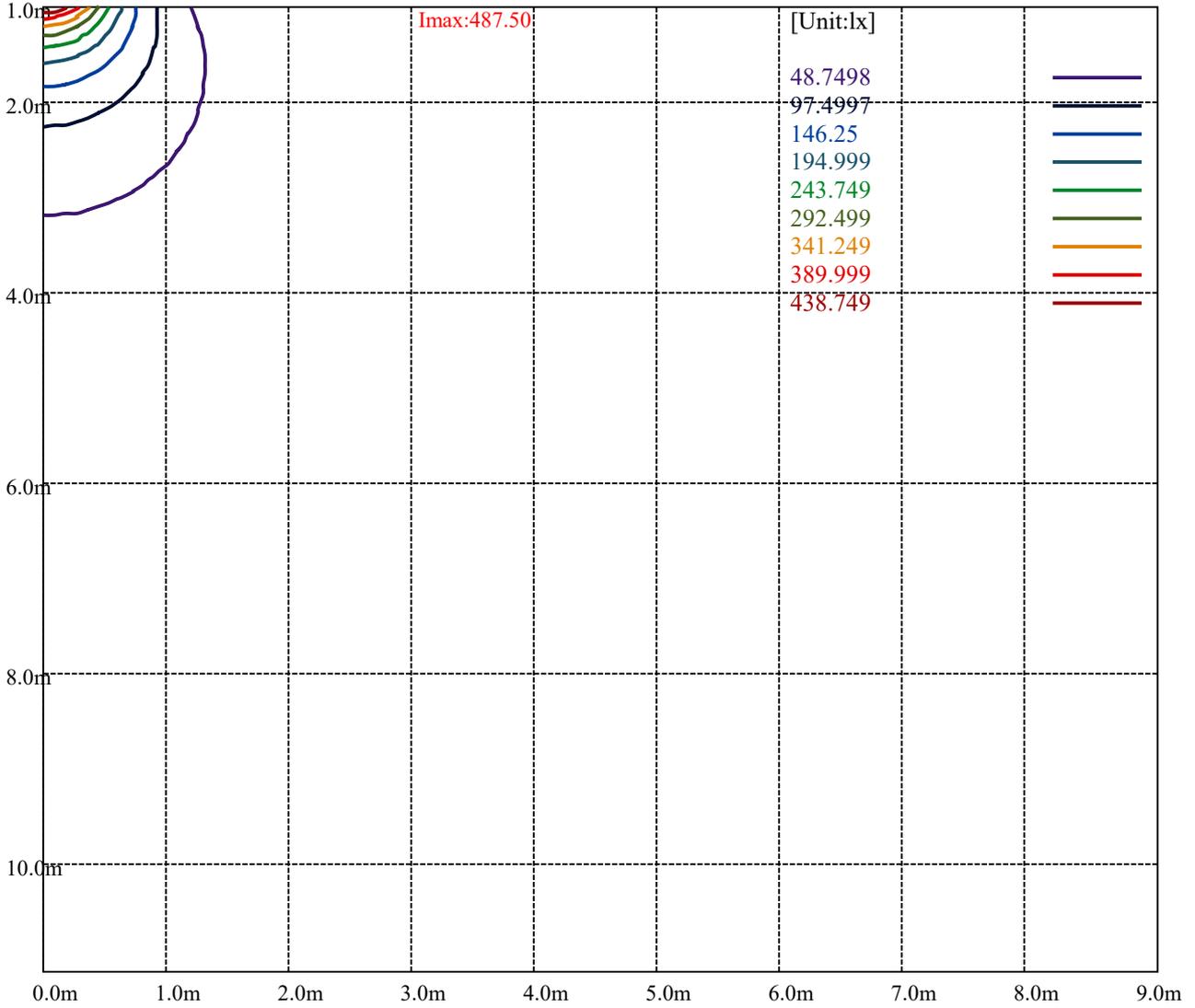
Beam Angle(50%Imax):C0/180Left:50.5 Right:50.5  
 :C90/270Left:50.1 Right:50.1



Max , Ave      Beam angle of C0 plane 101.40



(10%Emax) 5.416645	—
(20%Emax) 10.8333	—
(30%Emax) 16.25	—
(40%Emax) 21.66656	—
(50%Emax) 27.08322	—
(60%Emax) 32.49989	—
(70%Emax) 37.91655	—
(80%Emax) 43.33322	—
(90%Emax) 48.74989	—



Lotus LED Lights LFR-6R-FE-12W-5CCT-2700K

Luminance Limiting Curve(no luminous side)

Luminance Table

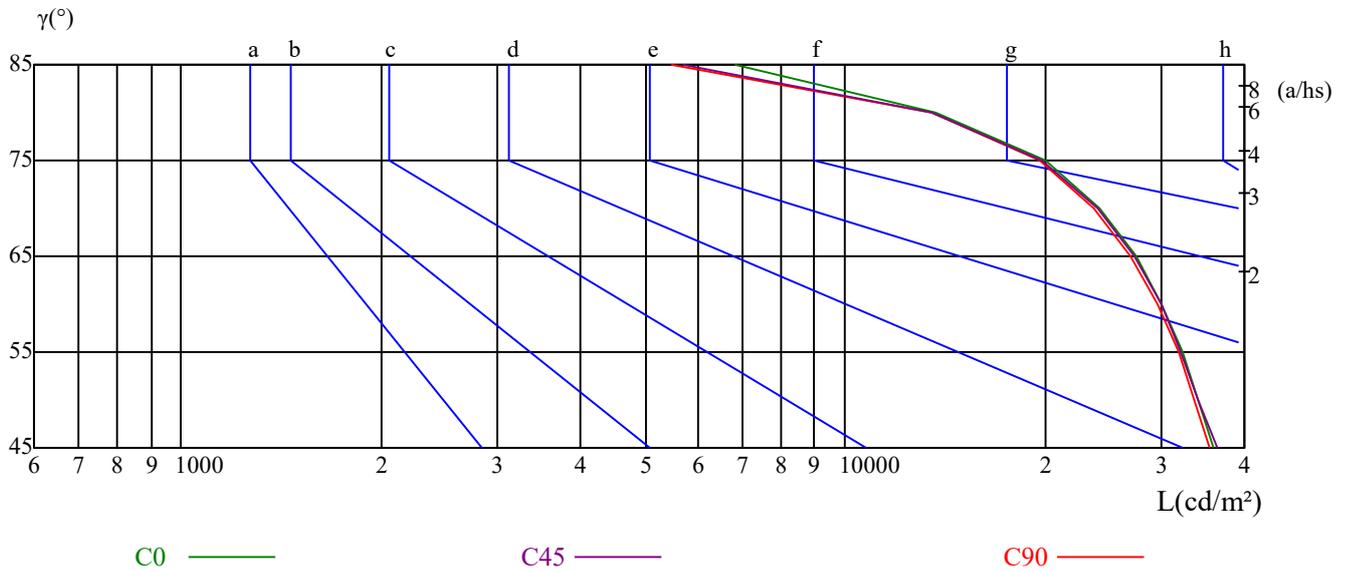
$\gamma$	45	50	55	60	65	70	75	80	85
C0	35960	34083	32266	30054	27417	24281	20016	13664	6806
C45	36328	34055	32168	29903	27239	24008	19742	13511	5703
C90	35531	33653	31832	29689	26954	23790	19629	13486	5465

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
27417	26954	27239	20016	19629	19742	6806	5465	5703

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	0.81	0.91	0.85	0.80	0.87	0.82	0.78	0.84	0.80	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	0.64	0.61
4	0.73	0.64	0.58	0.71	0.64	0.57	0.69	0.62	0.57	0.67	0.61	0.56	0.64	0.59	0.55	0.53
5	0.65	0.57	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	0.43	0.41
7	0.54	0.45	0.39	0.53	0.45	0.39	0.51	0.44	0.39	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	0.35	0.46	0.39	0.34	0.44	0.39	0.34	0.32
9	0.45	0.37	0.32	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	0.42	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-FE-12W-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	487.50	487.50	481.24	470.50	453.51	432.04	405.21	375.69	341.70
15.0	487.50	486.60	480.33	469.58	451.65	430.15	403.26	372.79	339.64
30.0	487.50	486.60	481.21	468.64	450.69	430.04	403.11	371.68	337.57
45.0	487.50	487.50	480.30	467.71	450.62	428.14	401.15	370.57	336.39
60.0	487.50	486.60	479.40	466.81	450.62	427.24	401.15	368.77	335.49
75.0	487.50	486.60	479.40	467.71	450.62	427.24	399.35	367.87	332.79
90.0	487.50	485.70	478.52	465.95	448.89	426.45	397.72	368.09	333.08
105.0	487.50	485.70	478.52	465.95	449.79	426.45	399.52	368.09	333.08
120.0	487.50	486.60	479.40	466.81	449.72	427.24	400.25	368.77	333.69
135.0	487.50	486.60	479.40	466.81	449.72	427.24	400.25	370.57	336.39
150.0	487.50	486.60	479.40	466.81	450.62	428.14	402.05	370.57	336.39
165.0	487.50	485.70	479.42	467.75	450.69	429.14	402.21	369.89	335.77
180.0	487.50	482.13	471.40	456.19	435.62	409.68	378.37	345.27	307.71
195.0	487.50	482.12	471.37	455.24	434.63	409.53	379.07	345.91	308.27
210.0	487.50	483.01	472.24	456.97	435.43	410.29	379.76	345.65	308.84
225.0	487.50	483.00	473.11	457.82	436.23	411.95	380.46	347.19	309.41
240.0	487.50	483.00	473.11	457.82	437.13	411.95	380.46	347.19	309.41
255.0	487.50	483.90	474.01	458.72	437.13	411.95	382.26	348.98	312.11
270.0	487.50	483.01	473.13	457.87	437.22	412.08	383.36	349.24	312.43
285.0	487.50	483.01	473.13	457.87	438.12	412.98	383.36	349.24	314.23
300.0	487.50	483.90	474.01	458.72	438.93	413.74	384.96	351.68	316.60
315.0	487.50	484.80	474.01	458.72	438.93	414.64	385.86	352.58	316.60
330.0	487.50	483.90	474.01	458.72	438.93	414.64	401.15	351.68	316.60
345.0	487.50	482.11	472.24	458.77	438.12	412.08	383.36	350.14	314.23
360.0	487.50	487.50	481.24	470.50	453.51	432.04	405.21	375.69	341.70
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	305.92	265.66	227.20	187.84	149.38	110.92	74.24	41.15	11.63
15.0	301.10	264.36	225.83	186.40	146.07	110.22	74.38	39.43	11.65
30.0	301.66	261.26	222.65	183.15	145.44	106.84	71.82	36.81	10.77
45.0	298.62	260.84	221.26	182.59	143.91	106.13	70.16	36.88	9.89
60.0	297.72	258.14	218.56	179.89	142.11	105.23	69.26	35.08	8.99
75.0	295.92	256.34	218.56	178.99	140.31	103.44	67.46	34.18	8.09
90.0	295.37	254.97	217.26	178.66	139.16	101.45	66.44	34.12	7.18
105.0	295.37	256.77	217.26	178.66	140.05	101.45	65.54	33.22	7.18
120.0	296.82	258.14	219.46	179.89	140.31	102.54	66.56	32.38	7.20
135.0	297.72	259.04	220.36	180.79	141.21	102.54	66.56	33.28	6.30
150.0	300.41	259.04	220.36	181.69	143.01	104.34	67.46	33.28	7.20
165.0	298.96	260.36	220.86	181.35	143.65	105.04	68.23	34.12	7.18
180.0	269.24	229.88	191.42	152.06	112.71	76.93	42.94	12.52	1.79
195.0	269.74	230.31	190.88	152.34	112.91	77.07	43.01	13.44	2.69
210.0	270.23	230.73	192.13	152.62	114.02	77.21	43.09	14.36	2.69
225.0	269.83	231.16	192.48	152.91	114.23	78.25	44.07	16.19	2.70
240.0	272.53	232.06	193.38	153.80	116.03	80.05	46.77	17.09	2.70
255.0	273.43	234.75	194.28	156.50	117.83	81.85	46.77	17.09	2.70
270.0	272.93	234.32	195.72	157.11	118.51	82.60	48.48	18.85	3.59
285.0	276.52	237.02	198.41	158.91	119.41	83.49	64.64	18.85	2.69
300.0	277.93	239.25	199.68	177.19	120.53	83.65	50.37	19.79	3.60
315.0	295.92	239.25	200.58	160.10	121.42	84.55	50.37	19.79	3.60
330.0	277.93	239.25	199.68	161.00	121.42	84.55	49.47	17.99	2.70
345.0	276.52	237.02	198.41	159.81	118.51	82.60	48.48	17.96	2.69
360.0	305.92	265.66	227.20	187.84	149.38	110.92	74.24	41.15	11.63

Lotus LED Lights LFR-6R-FE-12W-5CCT-2700K

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	1.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89
15.0	1.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90
30.0	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90
45.0	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.90
60.0	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.90
75.0	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90
90.0	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90
105.0	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90
120.0	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.90
135.0	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.90
150.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90
165.0	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90
180.0	0.00	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
195.0	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
210.0	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
225.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
240.0	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
255.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
270.0	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
285.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
300.0	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
315.0	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
330.0	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
345.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
360.0	1.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.89	0.89	0.89	0.89	1.79	1.79	1.79	2.68	2.68
15.0	0.90	0.90	0.90	0.90	1.79	1.79	1.79	2.69	2.69
30.0	0.90	0.90	0.90	0.90	1.80	1.80	2.69	2.69	2.69
45.0	0.90	0.90	0.90	0.90	1.80	1.80	1.80	2.70	2.70
60.0	0.90	0.90	0.90	0.90	1.80	1.80	2.70	2.70	2.70
75.0	0.90	0.90	0.90	0.90	1.80	1.80	1.80	2.70	2.70
90.0	0.90	0.90	0.90	0.90	1.80	1.80	1.80	2.69	2.69
105.0	0.90	0.90	0.90	0.90	1.80	1.80	1.80	2.69	2.69
120.0	0.90	0.90	0.90	0.90	1.80	1.80	1.80	2.70	2.70
135.0	0.90	0.90	0.90	0.90	1.80	1.80	2.70	2.70	2.70
150.0	0.90	0.90	0.90	0.90	1.80	1.80	2.70	2.70	2.70
165.0	0.90	0.90	0.90	0.90	1.80	1.80	2.69	2.69	2.69
180.0	0.89	0.89	0.89	0.89	0.89	1.79	1.79	1.79	1.79
195.0	0.90	0.90	0.90	0.90	0.90	1.79	1.79	1.79	2.69
210.0	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80	1.80
225.0	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80	1.80
240.0	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80	2.70
255.0	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80	1.80
270.0	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80	1.80
285.0	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80	2.69
300.0	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80	1.80
315.0	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80	1.80
330.0	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80	1.80
345.0	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80	2.69
360.0	0.89	0.89	0.89	0.89	1.79	1.79	1.79	2.68	2.68

Intensity data(cd)

C/γ(°)	180.0
0.0	2.68
15.0	2.69
30.0	2.69
45.0	2.70
60.0	2.70
75.0	2.70
90.0	2.69
105.0	2.69
120.0	2.70
135.0	2.70
150.0	2.70
165.0	2.69
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	0.00
360.0	2.68