
Lotus LED Lights

Client:

LumCAT: LFR-4R-RB-9W-5CCT-3000K

Luminaire: Fire rated slim panel

Report No:

Ballast type:

Test No: LCZP23080240

Voltage(V): 120.050

LampCAT:

Current(A): 0.093

Lamp flux(lm): 1061.5

Power (W): 9.390

Number of Lamps: 1

PF: 0.846

Length(mm): -80

Width(mm): -80

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1061.47, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 113.04

Central intensity(cd): 446.556, Maximum intensity(cd): 446.556

Angle of maximum intensity: C=90.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=99.0

[C90/270]Total=98.0

Field angle(10%Imax): [C0/180]Total=149.4

[C90/270]Total=148.4

Maximum s/h(1/2): C0_180=1.20 C90_270=1.19

Maximum s/h(1/4): C0_180=1.30 C90_270=1.29

Up flux rate of lamp(%): 0.25%

Down flux rate of lamp(%): 99.75%

Up flux rate of LUM(%): 0.25%

Down flux rate of LUM(%): 99.75%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 84.711%

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Zonal flux distribution table

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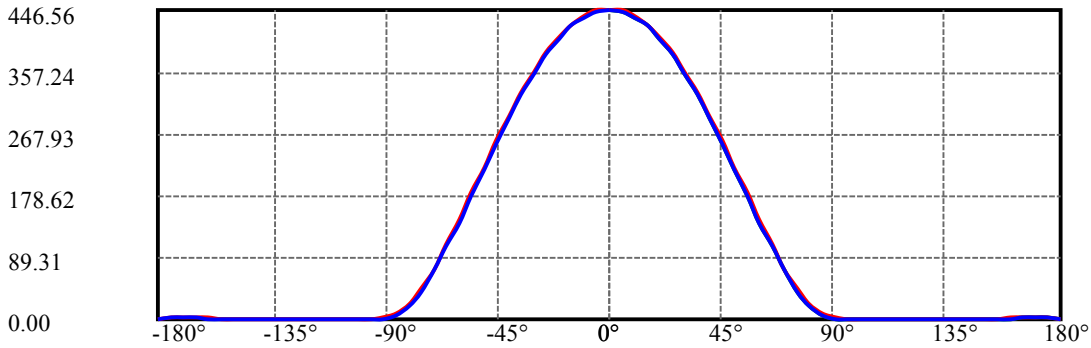
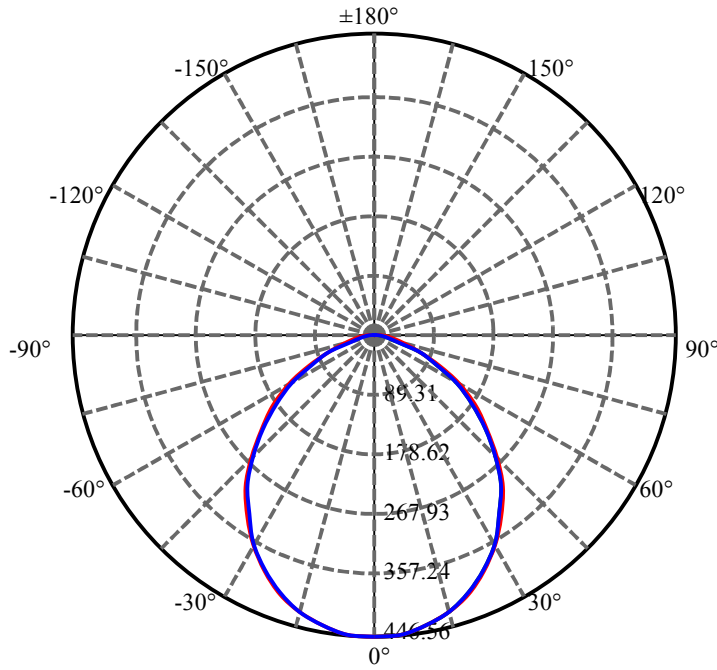
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	446.556	0.000	0	0.00%	0.00%
5.0	444.048	10.647	10.647	1.00%	1.00%
10.0	436.638	31.505	42.152	2.97%	3.97%
15.0	423.502	51.023	93.175	4.81%	8.78%
20.0	405.873	68.352	161.527	6.44%	15.22%
25.0	383.643	82.806	244.333	7.80%	23.02%
30.0	357.147	93.748	338.08	8.83%	31.85%
35.0	325.518	100.527	438.607	9.47%	41.32%
40.0	291.201	102.895	541.502	9.69%	51.01%
45.0	255.570	101.239	642.741	9.54%	60.55%
50.0	217.249	95.540	738.281	9.00%	69.55%
55.0	179.673	86.304	824.585	8.13%	77.68%
60.0	143.036	74.593	899.178	7.03%	84.71%
65.0	105.835	60.501	959.679	5.70%	90.41%
70.0	71.854	44.992	1004.671	4.24%	94.65%
75.0	41.579	29.650	1034.321	2.79%	97.44%
80.0	18.821	16.161	1050.482	1.52%	98.97%
85.0	5.499	6.608	1057.091	0.62%	99.59%
90.0	0.972	1.772	1058.863	0.17%	99.75%
95.0	0.000	0.266	1059.129	0.03%	99.78%
100.0	0.000	0.000	1059.129	0.00%	99.78%
105.0	0.150	0.040	1059.169	0.00%	99.78%
110.0	0.187	0.088	1059.257	0.01%	99.79%
115.0	0.075	0.066	1059.323	0.01%	99.80%
120.0	0.112	0.046	1059.369	0.00%	99.80%
125.0	0.075	0.043	1059.412	0.00%	99.81%
130.0	0.037	0.024	1059.436	0.00%	99.81%
135.0	0.449	0.098	1059.535	0.01%	99.82%
140.0	0.823	0.235	1059.77	0.02%	99.84%
145.0	0.898	0.287	1060.057	0.03%	99.87%
150.0	0.898	0.265	1060.322	0.02%	99.89%
155.0	0.898	0.227	1060.549	0.02%	99.91%
160.0	1.609	0.263	1060.812	0.02%	99.94%
165.0	1.796	0.281	1061.093	0.03%	99.96%
170.0	1.796	0.213	1061.306	0.02%	99.98%
175.0	1.796	0.129	1061.434	0.01%	100.00%
180.0	0.898	0.032	1061.467	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	338.08	31.85%	31.85%
0-40	541.50	51.01%	51.01%
0-60	899.18	84.71%	84.71%
0-90	1058.86	99.75%	99.75%
0-120	1059.37	99.80%	99.80%
0-180	1061.47	100.00%	100.00%
60-90	159.68	15.04%	15.04%
90-120	0.51	0.05%	0.05%
90-130	0.57	0.05%	0.05%
90-150	1.46	0.14%	0.14%
90-180	2.57	0.24%	0.24%
0-56.65	849.17	80.00%	80.00%

ZONAL LUMEN SUMMARY

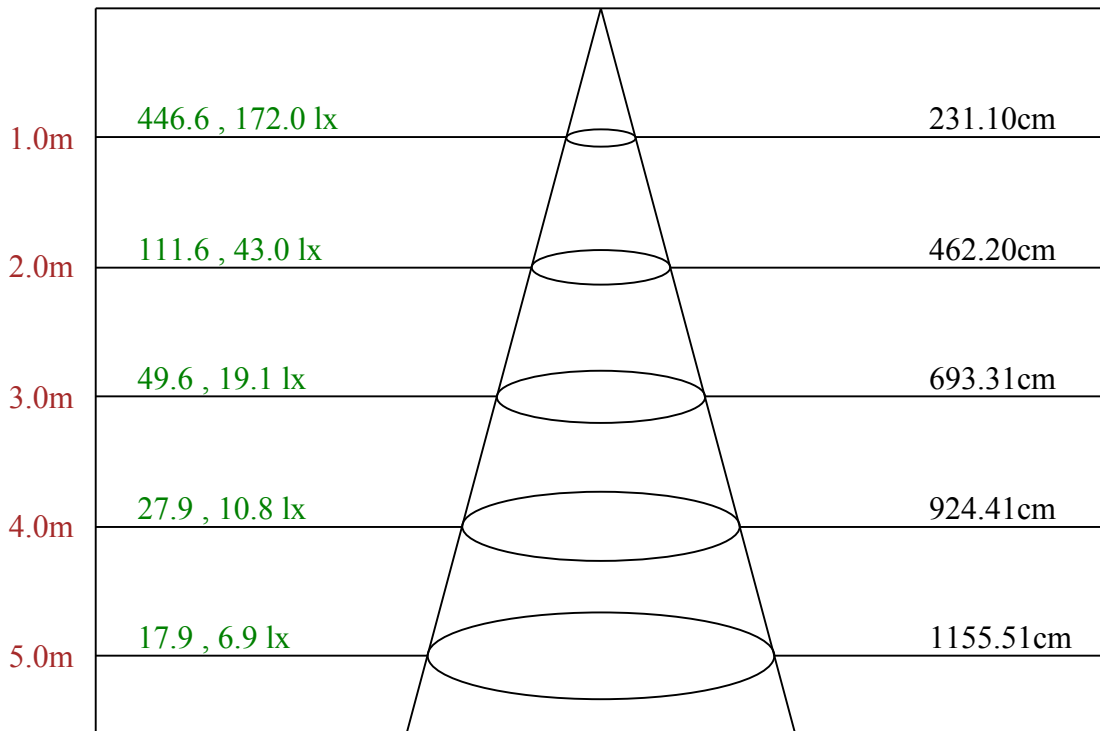
0-10	42.15
10-20	119.38
20-30	176.55
30-40	203.42
40-50	196.78
50-60	160.90
60-70	105.49
70-80	45.81
80-90	8.38
90-100	0.27
100-110	0.13
110-120	0.11
120-130	0.07
130-140	0.33
140-150	0.55
150-160	0.49
160-170	0.49
170-180	0.13



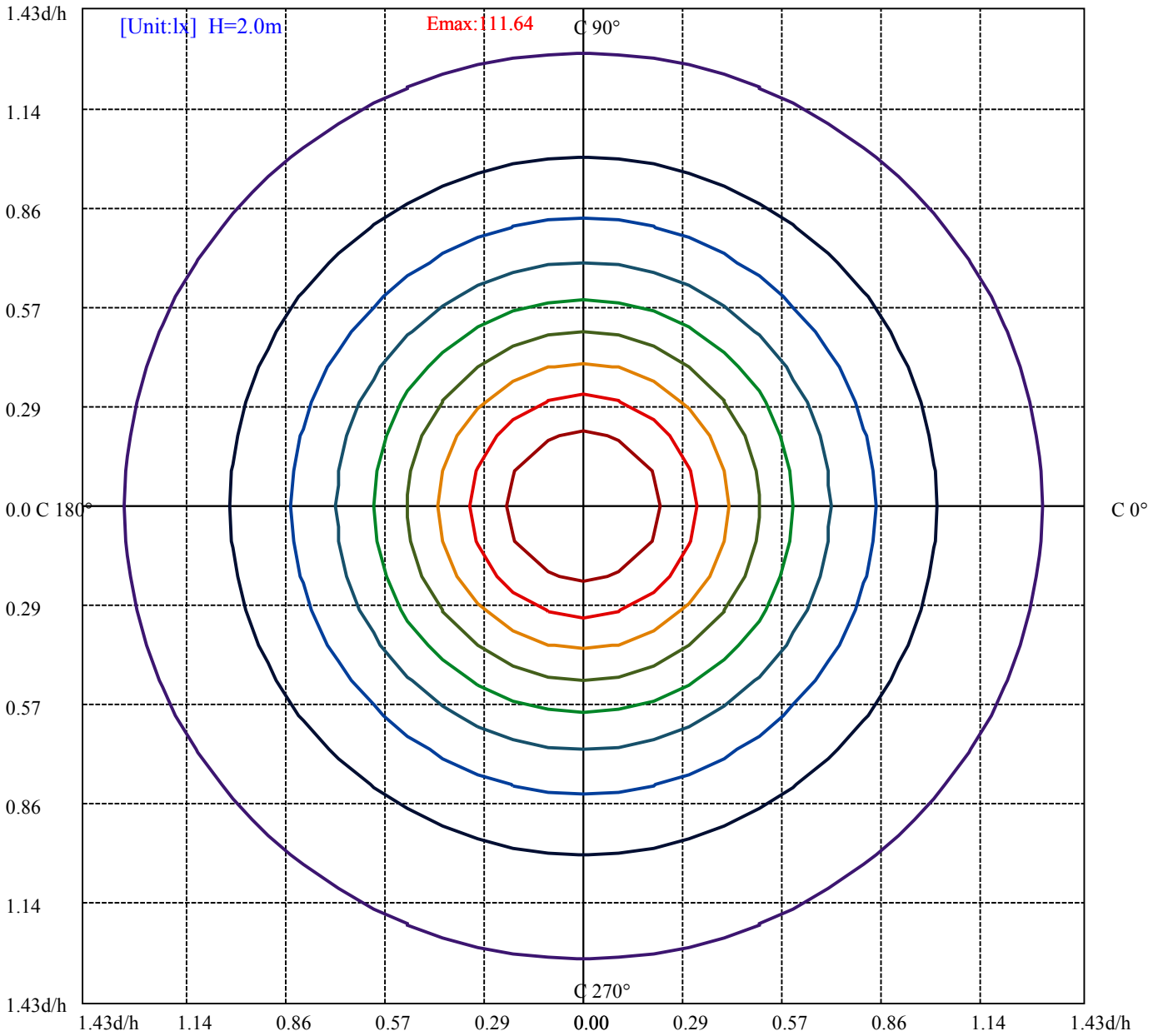
C90(Max): ———
 C0/C180: ———
 C90/C270: ———

Field angle(10%Imax):C0/180Left:74.7 Right:74.7
 :C90/270Left:74.2 Right:74.2

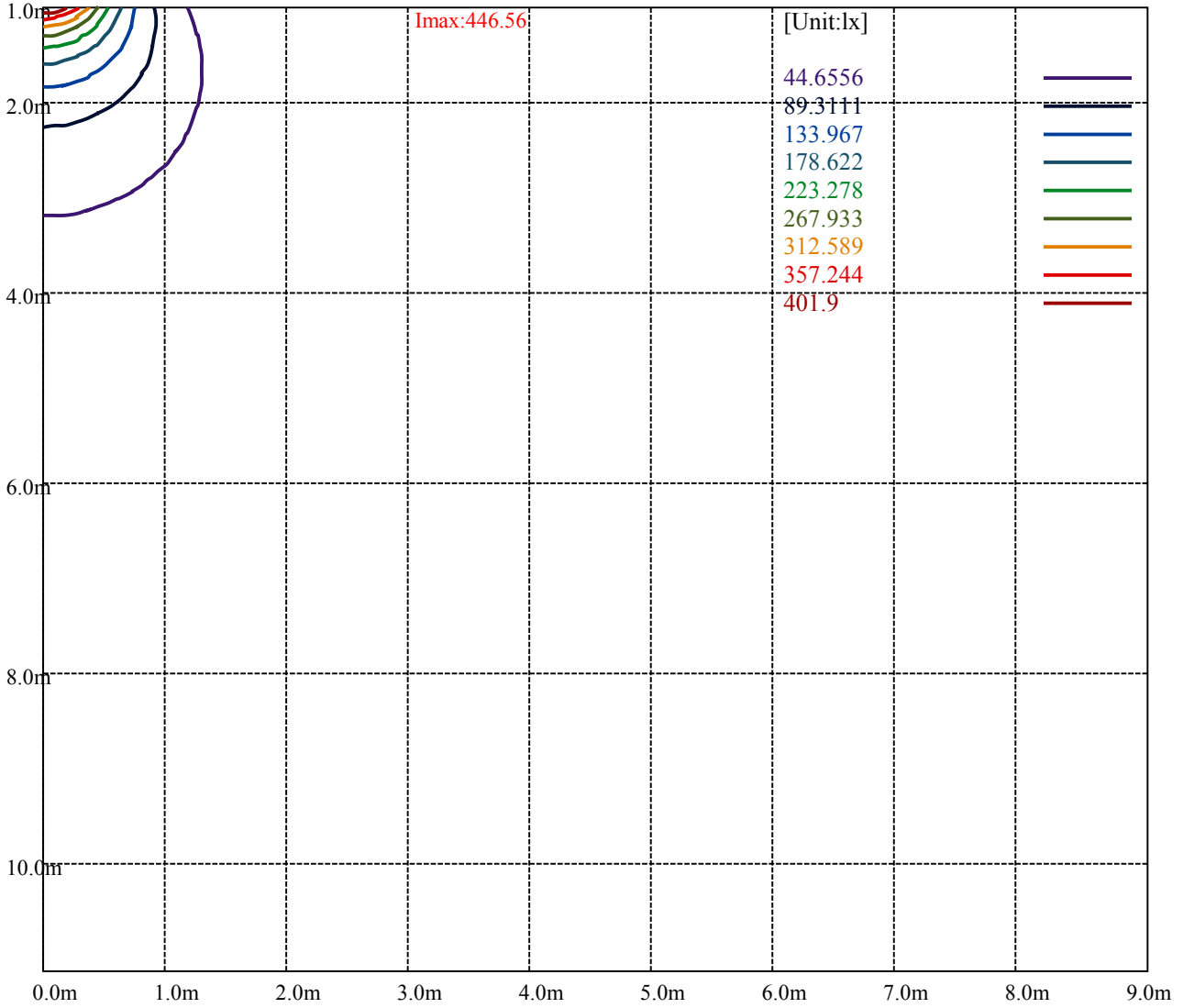
Beam Angle(50%Imax):C0/180Left:49.5 Right:49.5
 :C90/270Left:49.0 Right:49.0



Max , Ave Beam angle of C90 plane 98.25



(10%Emax) 11.16387	—
(20%Emax) 22.32777	—
(30%Emax) 33.49175	—
(40%Emax) 44.6555	—
(50%Emax) 55.8195	—
(60%Emax) 66.98325	—
(70%Emax) 78.14725	—
(80%Emax) 89.311	—
(90%Emax) 100.475	—



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Luminance Limiting Curve(no luminous side)

Luminance Table

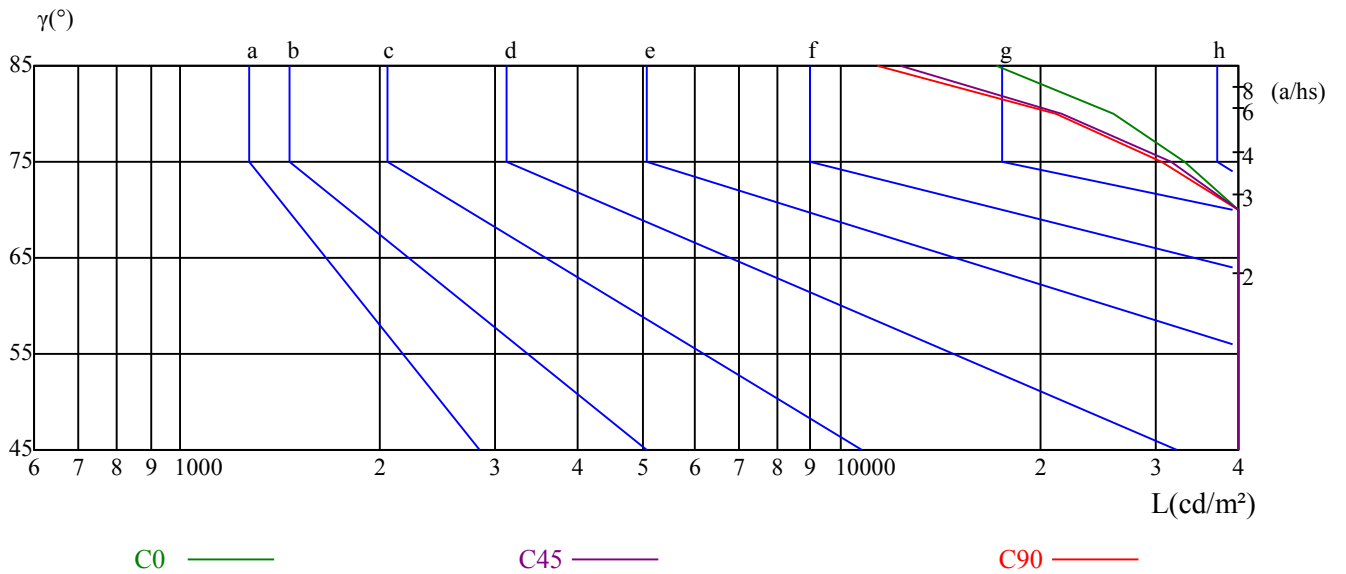
γ	45	50	55	60	65	70	75	80	85
C0	72685	67868	63279	57401	50568	42603	33097	25936	17225
C45	72739	67159	62173	56487	49488	41681	31599	21626	12314
C90	71195	66731	61798	55637	49262	41717	30511	21188	11326

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
50568	49262	49488	33097	30511	31599	17225	11326	12314

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	1.06	1.02	0.98	1.03	1.00	0.97	0.99	0.96	0.94	0.95	0.93	0.91	0.92	0.90	0.88	0.86
2	0.93	0.87	0.82	0.91	0.86	0.81	0.88	0.83	0.79	0.84	0.80	0.77	0.81	0.78	0.75	0.73
3	0.83	0.75	0.69	0.81	0.74	0.68	0.78	0.72	0.67	0.75	0.70	0.66	0.73	0.68	0.65	0.63
4	0.74	0.65	0.59	0.72	0.65	0.59	0.70	0.63	0.58	0.68	0.62	0.57	0.65	0.60	0.56	0.54
5	0.66	0.58	0.51	0.65	0.57	0.51	0.63	0.56	0.50	0.61	0.55	0.50	0.59	0.54	0.49	0.47
6	0.60	0.51	0.45	0.59	0.51	0.45	0.57	0.50	0.45	0.55	0.49	0.44	0.54	0.48	0.44	0.42
7	0.54	0.46	0.40	0.54	0.46	0.40	0.52	0.45	0.40	0.51	0.44	0.39	0.49	0.44	0.39	0.37
8	0.50	0.42	0.36	0.49	0.41	0.36	0.48	0.41	0.36	0.47	0.40	0.35	0.45	0.40	0.35	0.33
9	0.46	0.38	0.33	0.45	0.38	0.32	0.44	0.37	0.32	0.43	0.37	0.32	0.42	0.36	0.32	0.30
10	0.42	0.35	0.30	0.42	0.35	0.30	0.41	0.34	0.29	0.40	0.34	0.29	0.39	0.33	0.29	0.27

Lotus LED Lights LFR-4R-RB-9W-5CCT-3000K

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	446.56	450.99	448.33	441.23	428.80	410.16	388.85	363.10	332.92
15.0	446.56	450.14	450.14	441.19	431.34	412.55	388.39	364.22	332.90
30.0	446.56	451.06	450.16	440.25	431.25	412.34	391.64	364.63	334.02
45.0	446.56	448.36	447.46	441.15	427.65	410.54	390.74	361.93	332.22
60.0	446.56	447.45	445.66	438.47	425.89	408.82	385.46	359.40	327.05
75.0	446.56	447.45	443.86	434.88	423.19	405.22	381.86	355.81	322.56
90.0	446.56	448.36	443.85	436.63	422.20	404.16	379.80	351.83	319.35
105.0	446.56	449.27	443.84	434.80	420.34	401.36	376.95	345.31	316.39
120.0	446.56	448.36	442.05	431.25	416.85	396.14	372.73	343.02	310.61
135.0	446.56	445.66	439.38	428.62	412.48	392.75	365.85	337.16	303.08
150.0	446.56	445.66	439.35	429.45	413.24	391.64	366.43	334.92	301.61
165.0	446.56	442.98	436.71	425.08	408.07	387.49	360.65	332.01	297.11
180.0	446.56	439.45	426.14	408.38	386.19	360.44	328.48	293.86	255.68
195.0	446.56	439.40	426.87	407.18	383.02	357.96	326.64	291.74	254.15
210.0	446.56	439.35	427.65	407.84	383.53	357.42	324.11	291.70	253.89
225.0	446.56	439.35	423.15	407.84	384.43	358.32	325.01	289.00	252.09
240.0	446.56	437.57	424.99	406.12	383.66	355.81	324.36	289.32	252.48
255.0	446.56	437.57	425.89	408.82	385.46	357.60	327.95	292.01	254.28
270.0	446.56	440.24	428.51	410.47	388.82	361.76	331.98	295.90	260.72
285.0	446.56	442.04	432.09	414.01	390.51	366.10	336.27	301.92	265.76
300.0	446.56	441.15	432.15	414.14	395.24	369.13	340.32	306.11	269.19
315.0	446.56	439.38	432.21	415.17	396.34	372.13	343.44	311.15	274.39
330.0	446.56	442.95	435.75	420.45	400.64	379.03	362.83	316.91	281.80
345.0	446.56	442.98	433.13	420.60	401.81	378.54	350.80	319.48	284.58
360.0	446.56	450.99	448.33	441.23	428.80	410.16	388.85	363.10	332.92
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	297.41	258.35	221.95	183.77	145.60	108.31	73.69	41.73	15.09
15.0	298.90	261.31	223.73	186.14	148.55	110.97	76.07	42.96	16.11
30.0	298.90	262.89	224.18	186.36	148.55	110.74	75.63	43.22	16.21
45.0	297.10	260.19	221.48	184.56	145.85	108.94	73.83	42.31	14.41
60.0	292.01	256.07	218.34	179.70	142.86	106.02	71.88	39.53	12.58
75.0	288.42	251.58	212.94	175.21	137.47	101.53	68.29	35.94	10.78
90.0	284.17	247.18	208.39	169.60	133.52	98.33	63.15	33.38	9.92
105.0	280.23	242.26	204.29	166.33	128.36	93.11	58.76	28.93	8.14
120.0	273.70	235.88	198.07	160.26	124.24	88.23	54.92	25.21	6.30
135.0	269.01	232.24	193.69	155.13	118.36	84.29	51.11	22.42	5.38
150.0	267.39	227.78	190.87	153.05	116.14	79.23	47.72	18.91	4.50
165.0	262.21	223.73	187.03	149.45	112.76	76.96	44.75	17.00	3.58
180.0	219.28	180.22	142.93	104.76	69.25	38.17	12.43	3.55	0.00
195.0	215.67	178.09	141.39	103.81	68.01	36.69	11.63	2.68	0.00
210.0	215.17	178.26	138.65	103.54	67.52	36.01	11.70	2.70	0.00
225.0	214.27	176.46	138.65	102.64	66.62	36.01	11.70	2.70	0.00
240.0	214.74	177.00	139.27	104.23	69.18	37.74	10.78	2.70	0.00
255.0	216.54	179.70	143.76	106.92	71.88	41.33	12.58	2.70	0.00
270.0	221.92	184.04	147.95	110.06	75.78	45.11	16.24	3.61	0.00
285.0	226.89	189.83	150.96	115.71	80.45	48.81	32.54	4.52	0.90
300.0	233.18	195.37	157.55	136.85	85.53	53.12	24.31	6.30	0.90
315.0	253.77	199.07	163.20	125.54	89.67	57.39	27.80	8.07	1.79
330.0	244.89	207.07	170.16	132.35	94.53	62.12	32.41	9.90	2.70
345.0	247.89	209.41	172.72	136.92	99.33	65.33	34.01	10.74	2.68
360.0	297.41	258.35	221.95	183.77	145.60	108.31	73.69	41.73	15.09

Lotus LED Lights LFR-4R-RB-9W-5CCT-3000K

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.0	3.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0	3.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45.0	2.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.0	2.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75.0	1.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90.0	1.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105.0	1.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120.0	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0	0.00	0.00	0.00	0.00	0.89	0.00	0.00	0.00	0.00
195.0	0.00	0.00	0.00	0.89	0.89	0.89	0.89	0.00	0.00
210.0	0.00	0.00	0.00	0.90	0.90	0.00	0.90	0.90	0.00
225.0	0.00	0.00	0.00	0.00	0.90	0.00	0.90	0.00	0.00
240.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.90
255.0	0.00	0.00	0.00	0.90	0.00	0.00	0.00	0.00	0.00
270.0	0.00	0.00	0.00	0.90	0.90	0.90	0.00	0.00	0.00
285.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
315.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
330.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
345.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
360.0	3.55	0.00	0.00	0.00	0.00	0.00	0.00	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	0.89	0.89	0.89	0.89	0.89	1.78	1.78	1.78	1.78
15.0	0.00	0.89	0.89	0.89	0.89	1.79	1.79	1.79	1.79
30.0	0.00	0.90	0.90	0.90	0.90	1.80	1.80	1.80	1.80
45.0	0.00	0.00	0.90	0.90	0.90	1.80	1.80	1.80	1.80
60.0	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80	1.80
75.0	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80	1.80
90.0	0.00	0.90	0.90	0.90	0.90	1.80	1.80	1.80	1.80
105.0	0.90	0.90	0.90	0.90	0.90	1.81	1.81	1.81	1.81
120.0	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80	1.80
135.0	0.00	0.90	0.90	0.90	0.90	1.79	1.79	1.79	1.79
150.0	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80	1.80
165.0	0.89	0.89	0.89	0.89	0.89	1.79	1.79	1.79	1.79
180.0	0.89	0.89	0.89	0.89	0.89	1.78	1.78	1.78	1.78
195.0	0.89	0.89	0.89	0.89	0.89	1.79	1.79	1.79	1.79
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	0.00	0.90	0.90	0.90	0.90	1.80	1.80	1.80	1.80
255.0	0.00	0.90	0.90	0.90	0.90	1.80	1.80	1.80	1.80
270.0	0.00	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80
285.0	0.00	0.90	0.90	0.90	0.90	0.90	1.81	1.81	1.81
300.0	0.00	0.00	0.90	0.90	0.90	0.90	1.80	1.80	1.80
315.0	0.90	0.90	0.90	0.90	0.90	0.90	1.79	1.79	1.79
330.0	0.00	0.90	0.90	0.90	0.90	0.90	1.80	1.80	1.80
345.0	0.00	0.89	0.89	0.89	0.89	1.79	1.79	1.79	1.79
360.0	0.89	0.89	0.89	0.89	0.89	1.78	1.78	1.78	1.78

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Intensity data(cd)

C/γ(°)	180.0
0.0	1.78
15.0	1.79
30.0	1.80
45.0	1.80
60.0	1.80
75.0	1.80
90.0	1.80
105.0	1.81
120.0	1.80
135.0	1.79
150.0	1.80
165.0	1.79
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	1.78