
Lotus LED Lights

Client:

LumCAT: LFR-4S-RB-9W-5CCT-5000K

Luminaire: Fire rated slim panel

Report No:

Ballast type:

Test No: LCZP23080240

Voltage(V): 120.030

LampCAT:

Current(A): 0.096

Lamp flux(lm): 1078.5

Power (W): 9.720

Number of Lamps: 1

PF: 0.847

Length(mm): -80

Width(mm): -80

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1078.48, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 110.95

Central intensity(cd): 453.741, Maximum intensity(cd): 453.741

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=97.8

[C90/270]Total=99.0

Field angle(10%Imax): [C0/180]Total=148.6

[C90/270]Total=149.6

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

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

Up flux rate of lamp(%): 0.24%

Down flux rate of lamp(%): 99.76%

Up flux rate of LUM(%): 0.24%

Down flux rate of LUM(%): 99.76%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 84.712%

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Zonal flux distribution table

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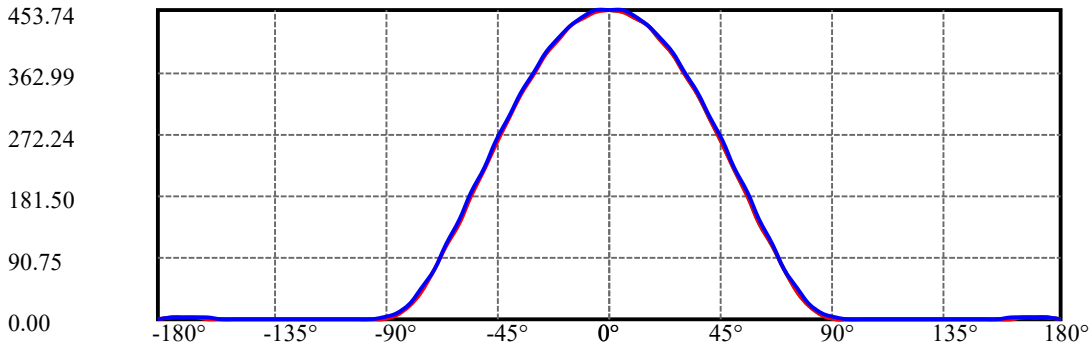
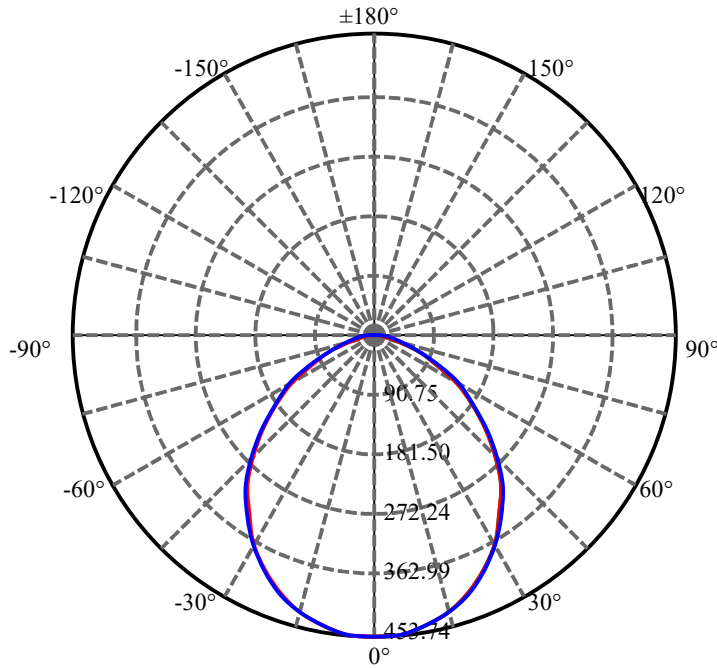
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	453.741	0.000	0	0.00%	0.00%
5.0	451.084	10.817	10.817	1.00%	1.00%
10.0	443.487	32.002	42.819	2.97%	3.97%
15.0	430.275	51.831	94.65	4.81%	8.78%
20.0	412.385	69.447	164.097	6.44%	15.22%
25.0	389.817	84.136	248.233	7.80%	23.02%
30.0	362.911	95.258	343.491	8.83%	31.85%
35.0	330.758	102.148	445.639	9.47%	41.32%
40.0	295.916	104.556	550.194	9.69%	51.02%
45.0	259.649	102.867	653.062	9.54%	60.55%
50.0	220.729	97.067	750.129	9.00%	69.55%
55.0	182.555	87.687	837.817	8.13%	77.69%
60.0	145.282	75.779	913.595	7.03%	84.71%
65.0	107.631	61.484	975.079	5.70%	90.41%
70.0	72.977	45.731	1020.81	4.24%	94.65%
75.0	42.327	30.139	1050.949	2.79%	97.45%
80.0	19.120	16.442	1067.391	1.52%	98.97%
85.0	5.537	6.700	1074.091	0.62%	99.59%
90.0	0.972	1.782	1075.873	0.17%	99.76%
95.0	0.000	0.266	1076.139	0.02%	99.78%
100.0	0.000	0.000	1076.139	0.00%	99.78%
105.0	0.150	0.040	1076.179	0.00%	99.79%
110.0	0.187	0.088	1076.267	0.01%	99.80%
115.0	0.075	0.066	1076.333	0.01%	99.80%
120.0	0.112	0.046	1076.379	0.00%	99.81%
125.0	0.075	0.043	1076.422	0.00%	99.81%
130.0	0.037	0.024	1076.447	0.00%	99.81%
135.0	0.448	0.098	1076.545	0.01%	99.82%
140.0	0.823	0.235	1076.78	0.02%	99.84%
145.0	0.898	0.287	1077.067	0.03%	99.87%
150.0	0.898	0.265	1077.332	0.02%	99.89%
155.0	0.898	0.227	1077.559	0.02%	99.91%
160.0	1.609	0.263	1077.822	0.02%	99.94%
165.0	1.797	0.281	1078.103	0.03%	99.97%
170.0	1.797	0.213	1078.316	0.02%	99.99%
175.0	1.797	0.129	1078.445	0.01%	100.00%
180.0	0.898	0.032	1078.477	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	343.49	31.85%	31.85%
0-40	550.19	51.02%	51.02%
0-60	913.60	84.71%	84.71%
0-90	1075.87	99.76%	99.76%
0-120	1076.38	99.81%	99.81%
0-180	1078.48	100.00%	100.00%
60-90	162.28	15.05%	15.05%
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	862.78	80.00%	80.00%

ZONAL LUMEN SUMMARY

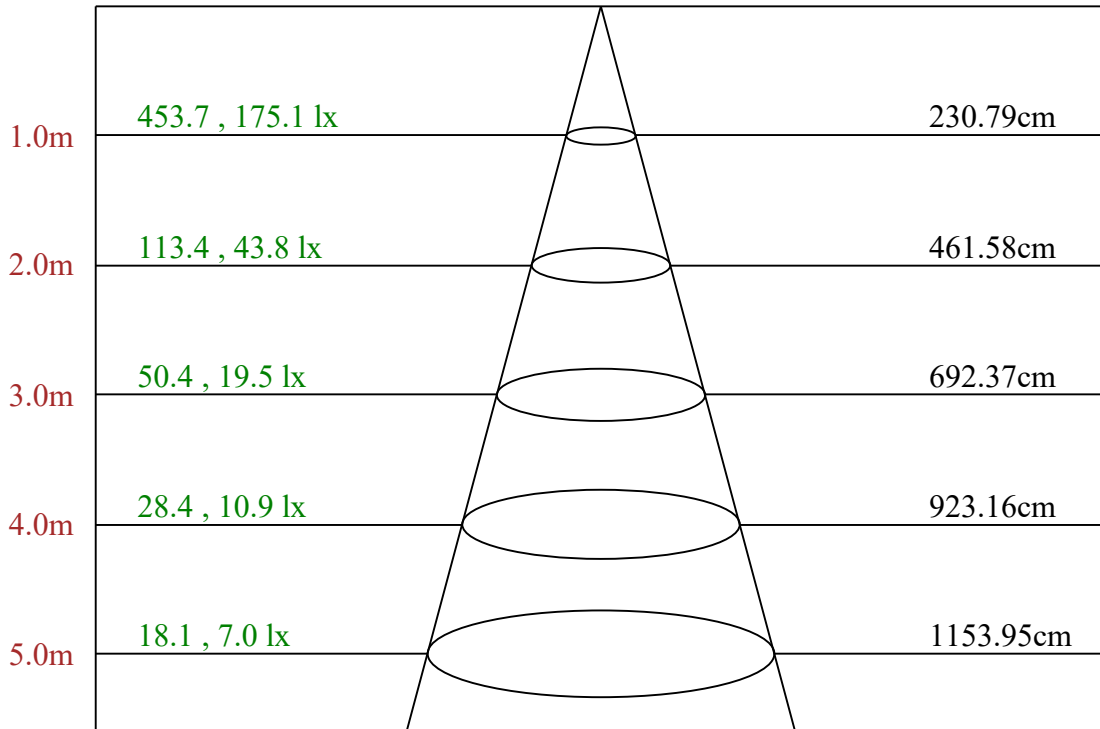
0-10	42.82
10-20	121.28
20-30	179.39
30-40	206.70
40-50	199.93
50-60	163.47
60-70	107.22
70-80	46.58
80-90	8.48
90-100	0.27
100-110	0.13
110-120	0.11
120-130	0.07
130-140	0.33
140-150	0.55
150-160	0.49
160-170	0.49
170-180	0.13



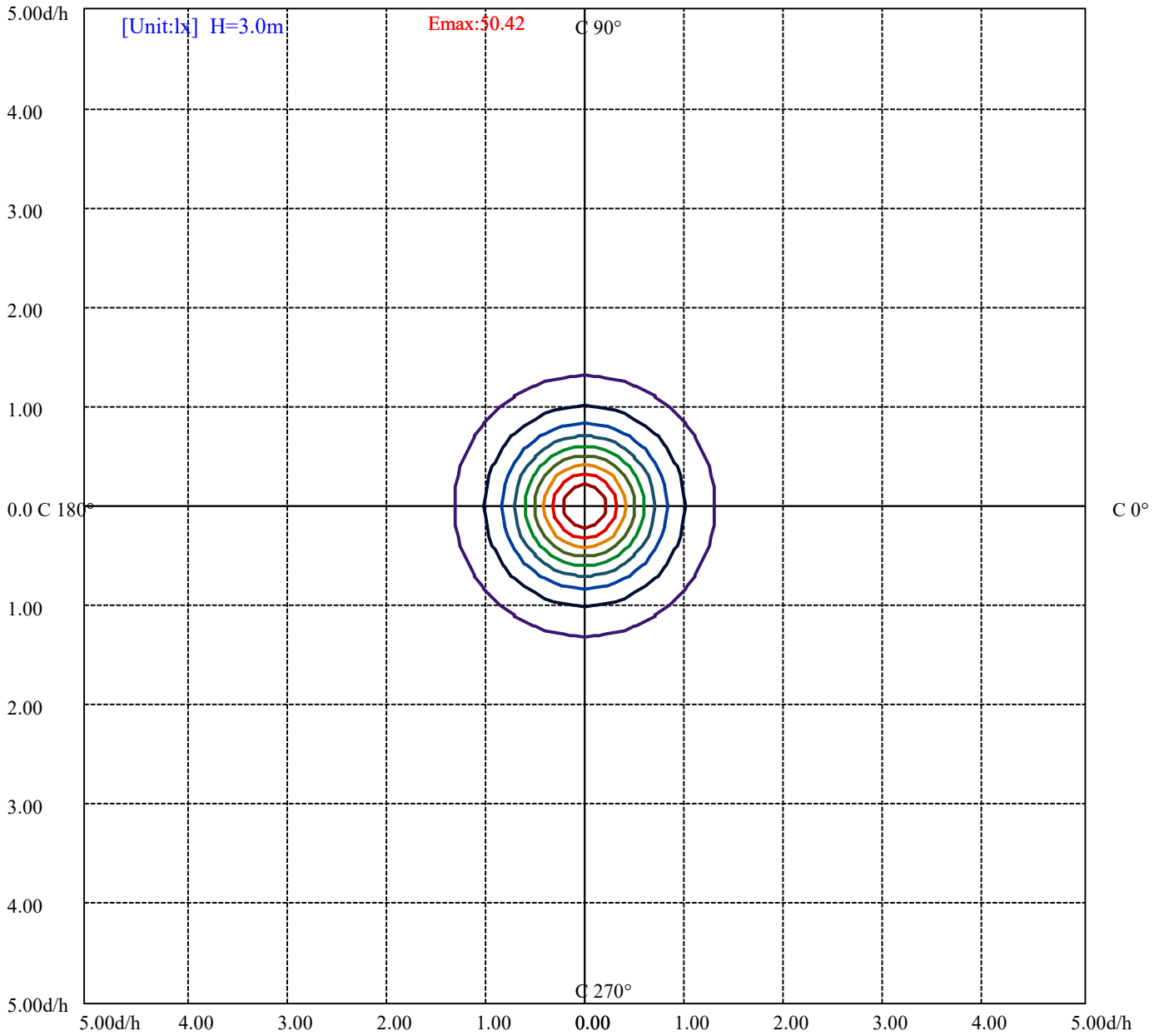
C0(Max): ———
 C0/C180: ———
 C90/C270: ———

Field angle(10%Imax):C0/180Left:74.3 Right:74.3
 :C90/270Left:74.8 Right:74.8

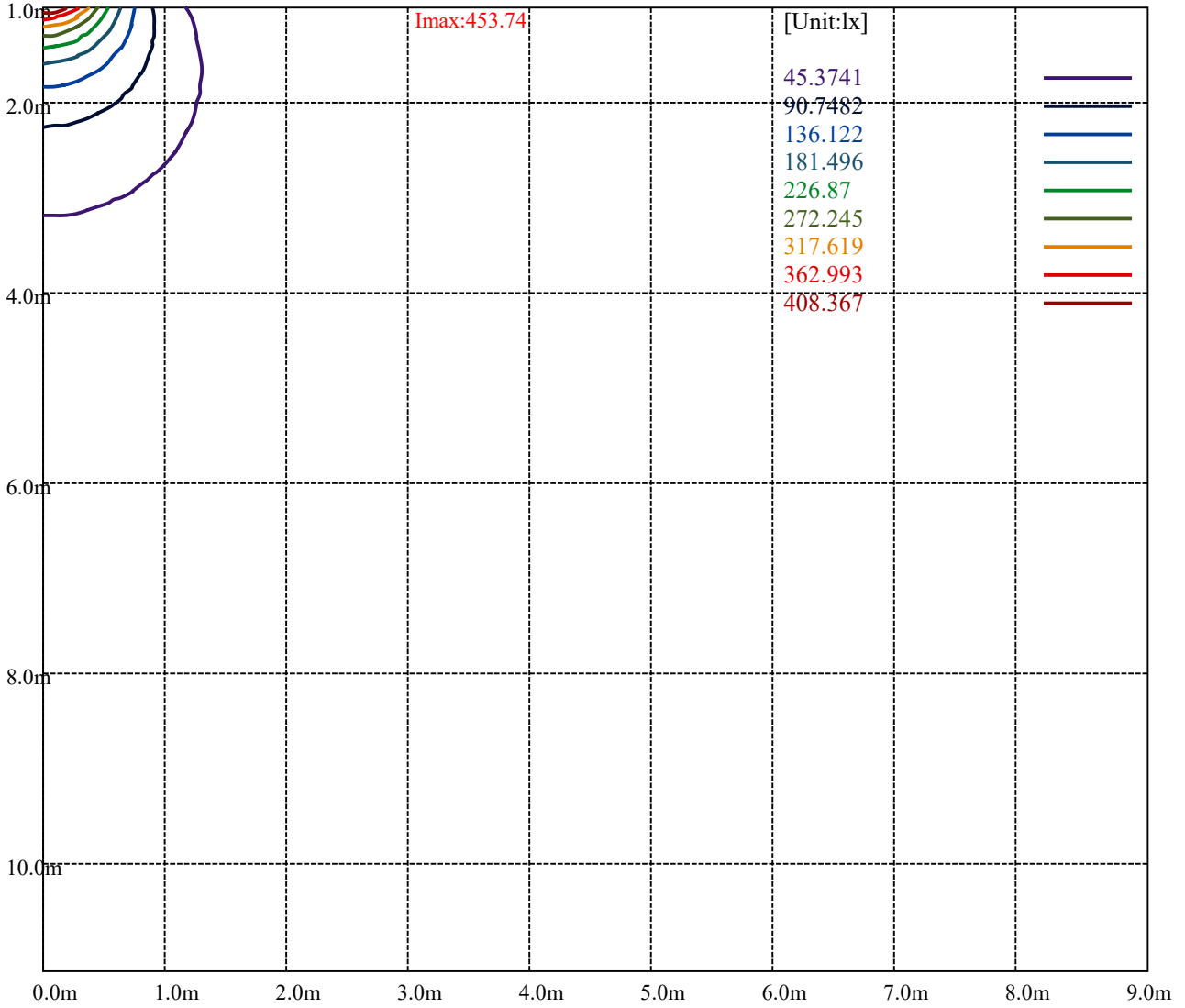
Beam Angle(50%Imax):C0/180Left:48.9 Right:48.9
 :C90/270Left:49.5 Right:49.5



Max , Ave Beam angle of C0 plane 98.18



(10%Emax) 5.041567	—
(20%Emax) 10.08313	—
(30%Emax) 15.12467	—
(40%Emax) 20.16622	—
(50%Emax) 25.20778	—
(60%Emax) 30.24944	—
(70%Emax) 35.291	—
(80%Emax) 40.33256	—
(90%Emax) 45.37411	—



Lotus LED Lights LFR-4S-RB-9W-5CCT-5000K

Luminance Limiting Curve(no luminous side)

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Luminance Table

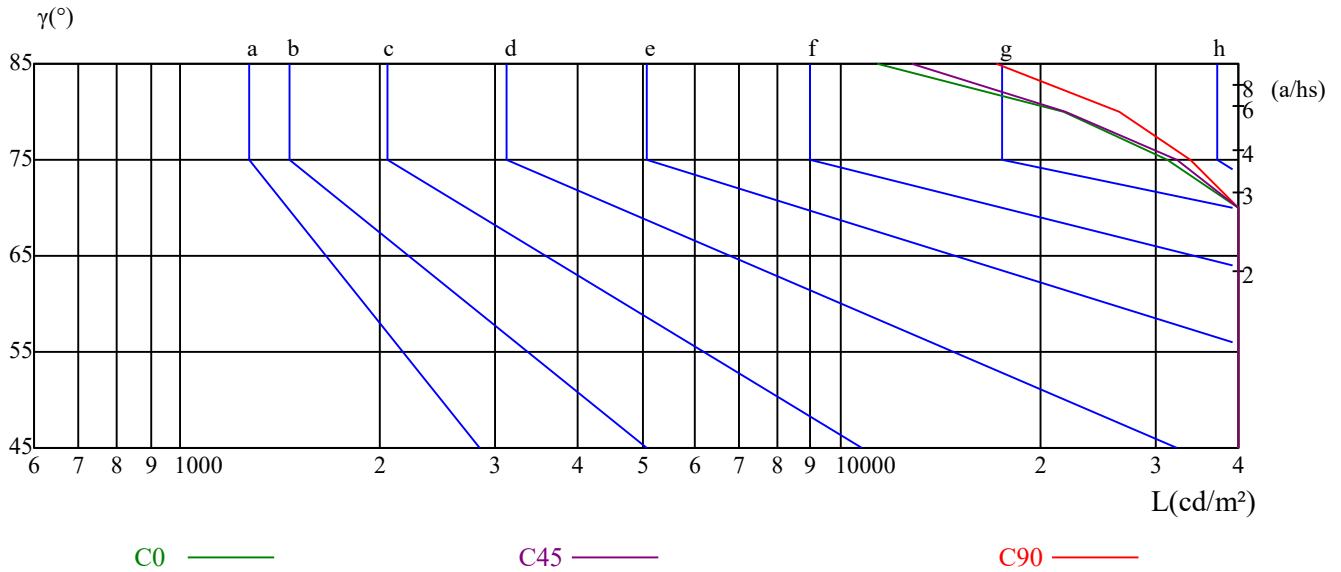
γ	45	50	55	60	65	70	75	80	85
C0	72332	67704	62576	56530	50108	42239	31202	21702	11324
C45	73940	68271	63186	57380	50333	42465	32290	21883	12828
C90	73823	68980	64214	58295	51413	43128	33785	26450	17229

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
50108	51413	50333	31202	33785	32290	11324	17229	12828

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-4S-RB-9W-5CCT-5000K

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	453.74	451.49	442.92	430.29	412.25	389.24	361.73	329.71	294.53
15.0	453.74	451.04	443.38	429.64	411.39	388.41	361.60	329.15	294.46
30.0	453.74	450.60	442.95	429.23	411.92	388.76	361.33	329.63	294.55
45.0	453.74	450.15	442.29	430.16	411.96	389.73	362.10	329.97	295.38
60.0	453.74	451.94	445.19	431.23	413.45	390.95	367.09	331.98	297.32
75.0	453.74	450.83	443.45	430.25	412.57	390.65	362.23	332.25	296.90
90.0	453.74	452.41	444.42	431.99	413.78	391.58	364.50	333.42	299.24
105.0	453.74	450.83	443.45	430.25	412.57	390.65	362.23	332.25	296.90
120.0	453.74	451.94	445.19	431.23	413.45	390.95	367.09	331.98	297.32
135.0	453.74	450.15	442.29	430.16	411.96	389.73	362.10	329.97	295.38
150.0	453.74	450.60	442.95	429.23	411.92	388.76	361.33	329.63	294.55
165.0	453.74	451.04	443.38	429.64	411.39	388.41	361.60	329.15	294.46
180.0	453.74	451.49	442.92	430.29	412.25	389.24	361.73	329.71	294.53
195.0	453.74	451.04	443.38	429.64	411.39	388.41	361.60	329.15	294.46
210.0	453.74	450.60	442.95	429.23	411.92	388.76	361.33	329.63	294.55
225.0	453.74	450.15	442.29	430.16	411.96	389.73	362.10	329.97	295.38
240.0	453.74	451.94	445.19	431.23	413.45	390.95	367.09	331.98	297.32
255.0	453.74	450.83	443.45	430.25	412.57	390.65	362.23	332.25	296.90
270.0	453.74	452.41	444.42	431.99	413.78	391.58	364.50	333.42	299.24
285.0	453.74	450.83	443.45	430.25	412.57	390.65	362.23	332.25	296.90
300.0	453.74	451.94	445.19	431.23	413.45	390.95	367.09	331.98	297.32
315.0	453.74	450.15	442.29	430.16	411.96	389.73	362.10	329.97	295.38
330.0	453.74	450.60	442.95	429.23	411.92	388.76	361.33	329.63	294.55
345.0	453.74	451.04	443.38	429.64	411.39	388.41	361.60	329.15	294.46
360.0	453.74	451.49	442.92	430.29	412.25	389.24	361.73	329.71	294.53
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	257.09	218.75	180.41	142.08	106.44	72.62	40.59	18.94	4.96
15.0	257.06	219.43	180.91	143.29	106.11	72.09	43.72	18.47	4.95
30.0	257.45	219.45	181.45	147.73	107.48	72.63	40.92	18.66	4.95
45.0	262.80	220.58	182.17	144.21	106.92	73.00	42.01	19.10	5.62
60.0	260.41	222.37	183.88	146.30	108.71	73.37	42.54	18.91	5.85
75.0	260.43	221.73	184.14	145.88	108.74	73.39	42.51	18.57	5.59
90.0	262.39	222.88	185.14	146.51	109.22	74.14	43.95	23.09	7.55
105.0	260.43	221.73	184.14	145.88	108.74	73.39	42.51	18.57	5.59
120.0	260.41	222.37	183.88	146.30	108.71	73.37	42.54	18.91	5.85
135.0	262.80	220.58	182.17	144.21	106.92	73.00	42.01	19.10	5.62
150.0	257.45	219.45	181.45	147.73	107.48	72.63	40.92	18.66	4.95
165.0	257.06	219.43	180.91	143.29	106.11	72.09	43.72	18.47	4.95
180.0	257.09	218.75	180.41	142.08	106.44	72.62	40.59	18.94	4.96
195.0	257.06	219.43	180.91	143.29	106.11	72.09	43.72	18.47	4.95
210.0	257.45	219.45	181.45	147.73	107.48	72.63	40.92	18.66	4.95
225.0	262.80	220.58	182.17	144.21	106.92	73.00	42.01	19.10	5.62
240.0	260.41	222.37	183.88	146.30	108.71	73.37	42.54	18.91	5.85
255.0	260.43	221.73	184.14	145.88	108.74	73.39	42.51	18.57	5.59
270.0	262.39	222.88	185.14	146.51	109.22	74.14	43.95	23.09	7.55
285.0	260.43	221.73	184.14	145.88	108.74	73.39	42.51	18.57	5.59
300.0	260.41	222.37	183.88	146.30	108.71	73.37	42.54	18.91	5.85
315.0	262.80	220.58	182.17	144.21	106.92	73.00	42.01	19.10	5.62
330.0	257.45	219.45	181.45	147.73	107.48	72.63	40.92	18.66	4.95
345.0	257.06	219.43	180.91	143.29	106.11	72.09	43.72	18.47	4.95
360.0	257.09	218.75	180.41	142.08	106.44	72.62	40.59	18.94	4.96

Lotus LED Lights LFR-4S-RB-9W-5CCT-5000K

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	0.90	0.00	0.00	0.45	0.45	0.45	0.00	0.00	0.00
15.0	0.90	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00
30.0	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.22
45.0	0.90	0.00	0.00	0.00	0.22	0.00	0.22	0.00	0.00
60.0	0.90	0.00	0.00	0.22	0.22	0.00	0.22	0.22	0.00
75.0	0.89	0.00	0.00	0.22	0.22	0.22	0.22	0.00	0.00
90.0	1.78	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00
105.0	0.89	0.00	0.00	0.22	0.22	0.22	0.22	0.00	0.00
120.0	0.90	0.00	0.00	0.22	0.22	0.00	0.22	0.22	0.00
135.0	0.90	0.00	0.00	0.00	0.22	0.00	0.22	0.00	0.00
150.0	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.22
165.0	0.90	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00
180.0	0.90	0.00	0.00	0.45	0.45	0.45	0.00	0.00	0.00
195.0	0.90	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00
210.0	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.22
225.0	0.90	0.00	0.00	0.00	0.22	0.00	0.22	0.00	0.00
240.0	0.90	0.00	0.00	0.22	0.22	0.00	0.22	0.22	0.00
255.0	0.89	0.00	0.00	0.22	0.22	0.22	0.22	0.00	0.00
270.0	1.78	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00
285.0	0.89	0.00	0.00	0.22	0.22	0.22	0.22	0.00	0.00
300.0	0.90	0.00	0.00	0.22	0.22	0.00	0.22	0.22	0.00
315.0	0.90	0.00	0.00	0.00	0.22	0.00	0.22	0.00	0.00
330.0	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.22
345.0	0.90	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00
360.0	0.90	0.00	0.00	0.45	0.45	0.45	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	0.00	0.90	0.90	0.90	0.90	1.35	1.80	1.80	1.80
15.0	0.45	0.90	0.90	0.90	0.90	1.58	1.80	1.80	1.80
30.0	0.45	0.67	0.90	0.90	0.90	1.57	1.80	1.80	1.80
45.0	0.45	0.67	0.90	0.90	0.90	1.57	1.80	1.80	1.80
60.0	0.45	0.90	0.90	0.90	0.90	1.58	1.80	1.80	1.80
75.0	0.45	0.89	0.89	0.89	0.89	1.79	1.79	1.79	1.79
90.0	0.89	0.89	0.89	0.89	0.89	1.78	1.78	1.78	1.78
105.0	0.45	0.89	0.89	0.89	0.89	1.79	1.79	1.79	1.79
120.0	0.45	0.90	0.90	0.90	0.90	1.58	1.80	1.80	1.80
135.0	0.45	0.67	0.90	0.90	0.90	1.57	1.80	1.80	1.80
150.0	0.45	0.67	0.90	0.90	0.90	1.57	1.80	1.80	1.80
165.0	0.45	0.90	0.90	0.90	0.90	1.58	1.80	1.80	1.80
180.0	0.00	0.90	0.90	0.90	0.90	1.35	1.80	1.80	1.80
195.0	0.45	0.90	0.90	0.90	0.90	1.58	1.80	1.80	1.80
210.0	0.45	0.67	0.90	0.90	0.90	1.57	1.80	1.80	1.80
225.0	0.45	0.67	0.90	0.90	0.90	1.57	1.80	1.80	1.80
240.0	0.45	0.90	0.90	0.90	0.90	1.58	1.80	1.80	1.80
255.0	0.45	0.89	0.89	0.89	0.89	1.79	1.79	1.79	1.79
270.0	0.89	0.89	0.89	0.89	0.89	1.78	1.78	1.78	1.78
285.0	0.45	0.89	0.89	0.89	0.89	1.79	1.79	1.79	1.79
300.0	0.45	0.90	0.90	0.90	0.90	1.58	1.80	1.80	1.80
315.0	0.45	0.67	0.90	0.90	0.90	1.57	1.80	1.80	1.80
330.0	0.45	0.67	0.90	0.90	0.90	1.57	1.80	1.80	1.80
345.0	0.45	0.90	0.90	0.90	0.90	1.58	1.80	1.80	1.80
360.0	0.00	0.90	0.90	0.90	0.90	1.35	1.80	1.80	1.80

Intensity data(cd)

C/ γ (°)	180.0
0.0	0.90
15.0	0.90
30.0	0.90
45.0	0.90
60.0	0.90
75.0	0.90
90.0	0.90
105.0	0.90
120.0	0.90
135.0	0.90
150.0	0.90
165.0	0.90
180.0	0.90
195.0	0.90
210.0	0.90
225.0	0.90
240.0	0.90
255.0	0.90
270.0	0.90
285.0	0.90
300.0	0.90
315.0	0.90
330.0	0.90
345.0	0.90
360.0	0.90