
Lotus LED Lights

Client:

LumCAT: LFR-4R-FE-9W-5CCT-3500K

Luminaire: Fire rated slim panel

Report No:

Ballast type:

Test No: LCZP23080240

Voltage(V): 120.040

LampCAT:

Current(A): 0.078

Lamp flux(lm): 867.0

Power (W): 9.010

Number of Lamps: 1

PF: 0.965

Length(mm): -75

Width(mm): -75

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 867.04, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 96.23

Central intensity(cd): 305.463, Maximum intensity(cd): 305.463

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=111.0

[C90/270]Total=111.6

Field angle(10%Imax): [C0/180]Total=163.6

[C90/270]Total=162.6

Maximum s/h(1/2): C0_180=1.24 C90_270=1.25

Maximum s/h(1/4): C0_180=1.36 C90_270=1.36

Up flux rate of lamp(%): 0.23%

Down flux rate of lamp(%): 99.77%

Up flux rate of LUM(%): 0.23%

Down flux rate of LUM(%): 99.77%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 78.109%

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Zonal flux distribution table

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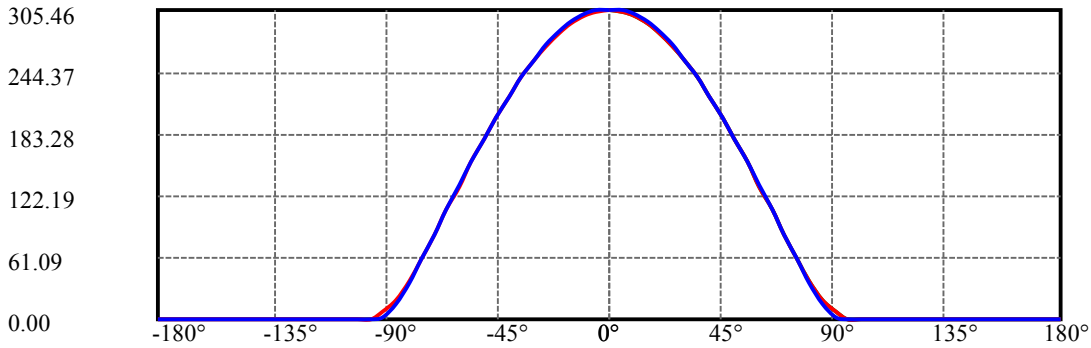
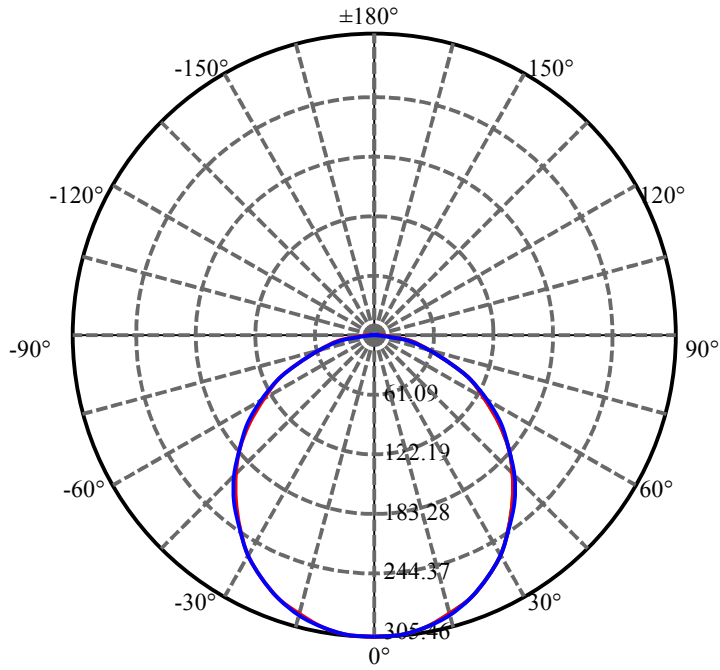
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	305.463	0.000	0	0.00%	0.00%
5.0	304.153	7.288	7.288	0.84%	0.84%
10.0	299.663	21.600	28.888	2.49%	3.33%
15.0	292.477	35.125	64.014	4.05%	7.38%
20.0	282.410	47.379	111.392	5.46%	12.85%
25.0	269.835	57.920	169.313	6.68%	19.53%
30.0	255.425	66.472	235.785	7.67%	27.19%
35.0	238.285	72.702	308.487	8.39%	35.58%
40.0	219.422	76.365	384.852	8.81%	44.39%
45.0	199.586	77.583	462.435	8.95%	53.34%
50.0	177.507	76.197	538.632	8.79%	62.12%
55.0	155.126	72.326	610.958	8.34%	70.47%
60.0	131.584	66.272	677.23	7.64%	78.11%
65.0	106.811	57.954	735.184	6.68%	84.79%
70.0	82.409	47.912	783.096	5.53%	90.32%
75.0	59.279	37.035	820.131	4.27%	94.59%
80.0	36.228	25.555	845.686	2.95%	97.54%
85.0	16.169	14.238	859.924	1.64%	99.18%
90.0	2.516	5.116	865.04	0.59%	99.77%
95.0	0.000	0.689	865.729	0.08%	99.85%
100.0	0.038	0.010	865.739	0.00%	99.85%
105.0	0.075	0.030	865.769	0.00%	99.85%
110.0	0.037	0.029	865.799	0.00%	99.86%
115.0	0.000	0.009	865.808	0.00%	99.86%
120.0	0.037	0.009	865.817	0.00%	99.86%
125.0	0.000	0.009	865.826	0.00%	99.86%
130.0	0.000	0.000	865.826	0.00%	99.86%
135.0	0.000	0.000	865.826	0.00%	99.86%
140.0	0.187	0.035	865.861	0.00%	99.86%
145.0	0.823	0.169	866.029	0.02%	99.88%
150.0	0.898	0.254	866.283	0.03%	99.91%
155.0	0.898	0.227	866.51	0.03%	99.94%
160.0	0.898	0.188	866.698	0.02%	99.96%
165.0	0.898	0.148	866.846	0.02%	99.98%
170.0	0.898	0.107	866.953	0.01%	99.99%
175.0	0.936	0.066	867.019	0.01%	100.00%
180.0	0.449	0.017	867.035	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	235.78	27.19%	27.19%
0-40	384.85	44.39%	44.39%
0-60	677.23	78.11%	78.11%
0-90	865.04	99.77%	99.77%
0-120	865.82	99.86%	99.86%
0-180	867.04	100.00%	100.00%
60-90	187.81	21.66%	21.66%
90-120	0.78	0.09%	0.09%
90-130	0.79	0.09%	0.09%
90-150	1.24	0.14%	0.14%
90-180	1.98	0.23%	0.23%
0-61.41	693.63	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	28.89
10-20	82.50
20-30	124.39
30-40	149.07
40-50	153.78
50-60	138.60
60-70	105.87
70-80	62.59
80-90	19.35
90-100	0.70
100-110	0.06
110-120	0.02
120-130	0.01
130-140	0.03
140-150	0.42
150-160	0.42
160-170	0.25
170-180	0.07



C0(Max): ———

C0/C180: ———

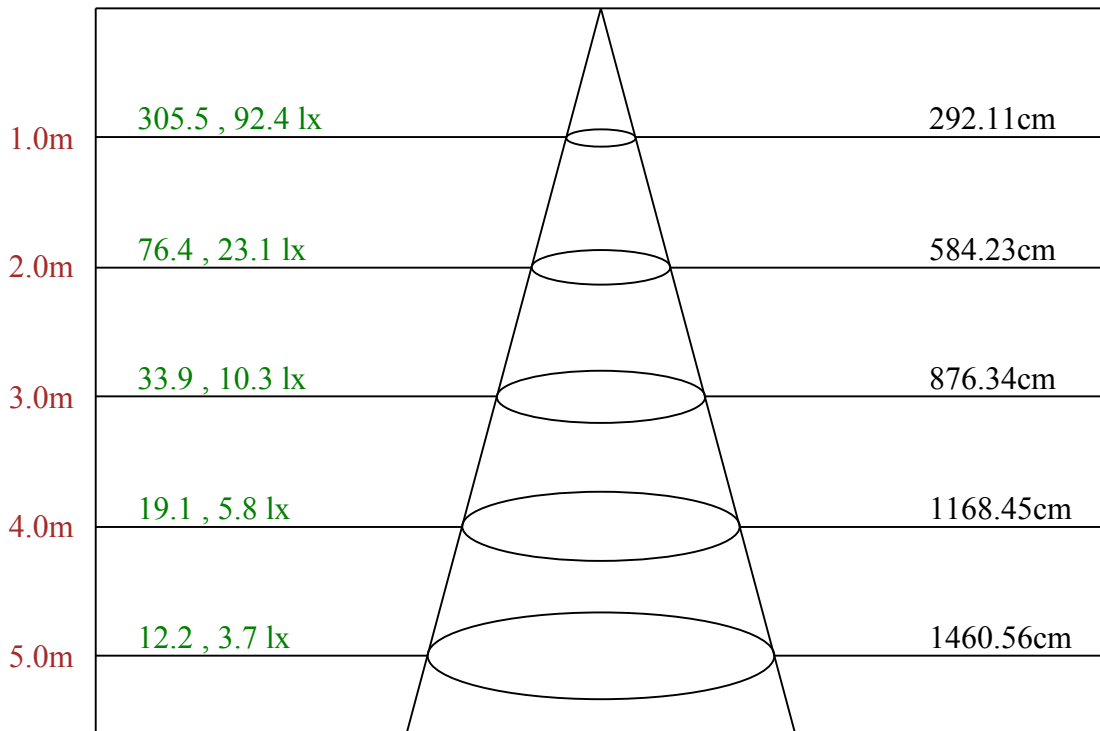
C90/C270: ———

Field angle(10%Imax):C0/180Left:81.8 Right:81.8

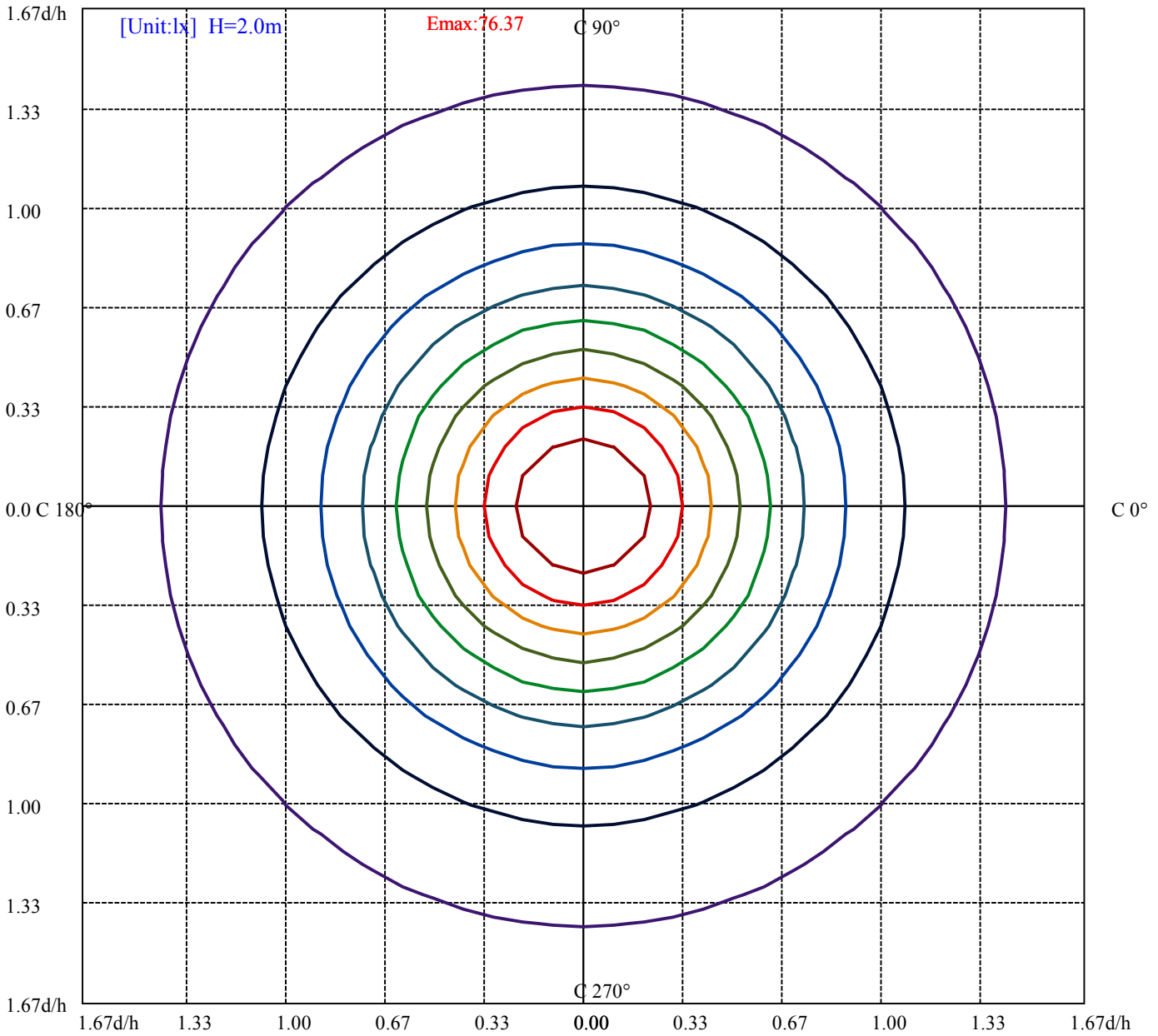
:C90/270Left:86.3 Right:76.3

Beam Angle(50%Imax):C0/180Left:55.5 Right:55.5

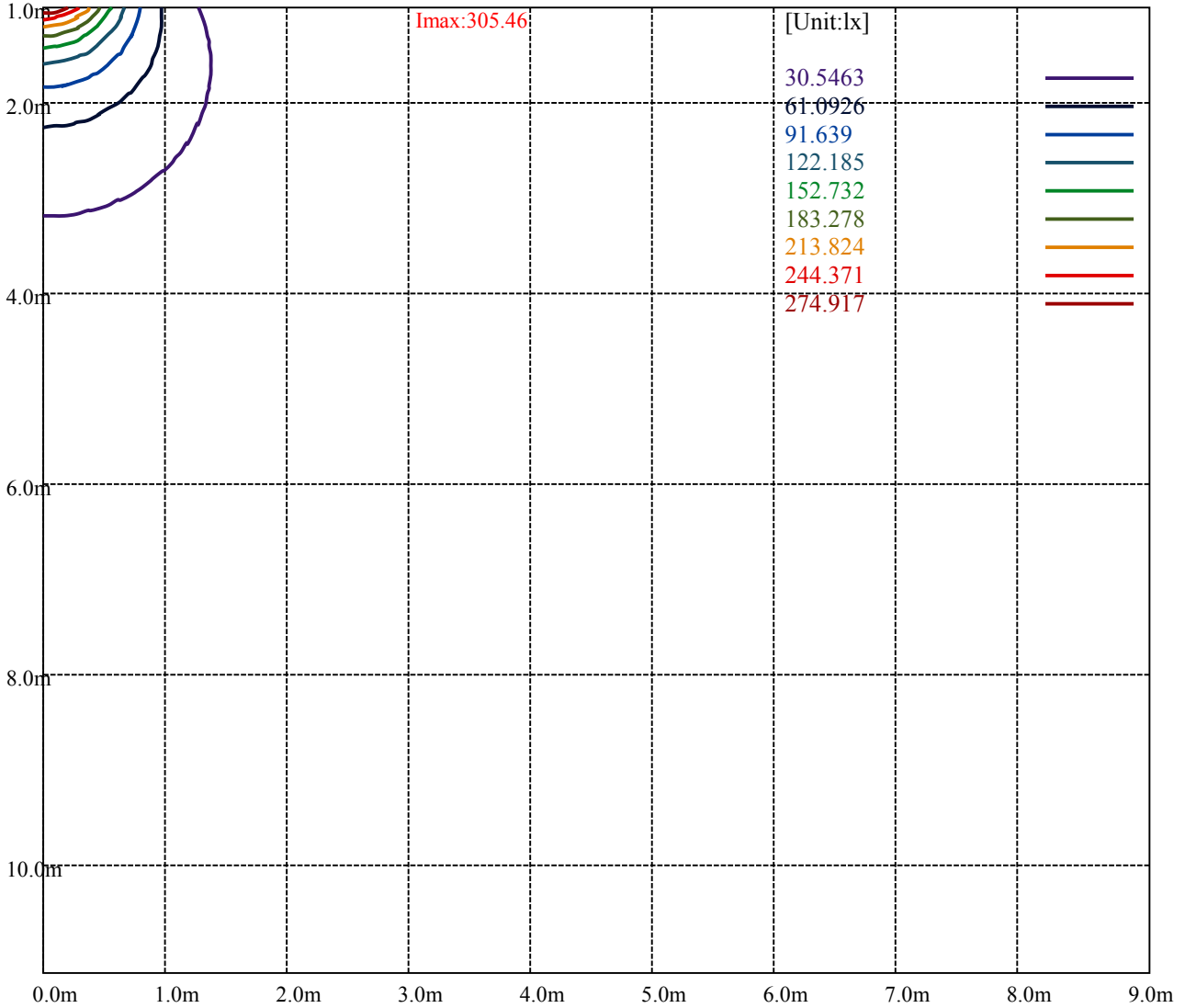
:C90/270Left:60.8 Right:50.8



Max , Ave Beam angle of C0 plane 111.20



- (10%Emax) 7.636575
- (20%Emax) 15.27315
- (30%Emax) 22.90973
- (40%Emax) 30.54625
- (50%Emax) 38.183
- (60%Emax) 45.8195
- (70%Emax) 53.456
- (80%Emax) 61.09275
- (90%Emax) 68.72925



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Luminance Limiting Curve(no luminous side)

Luminance Table

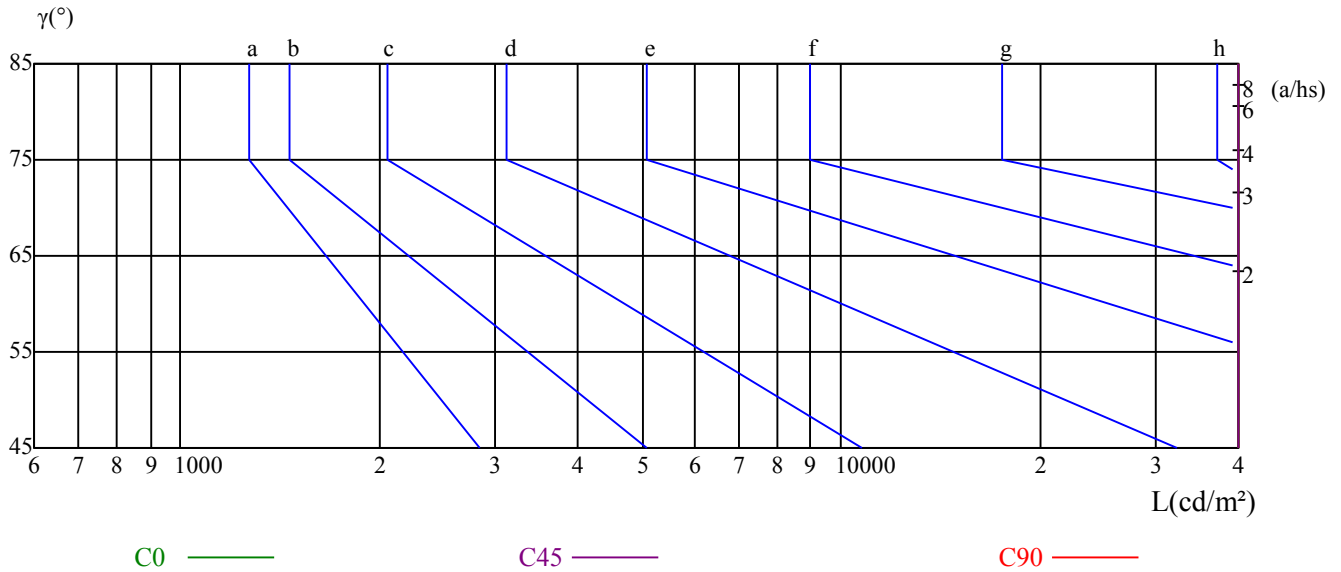
γ	45	50	55	60	65	70	75	80	85
C0	63790	62535	61165	59119	57601	54727	51770	48889	46942
C45	64563	62405	61159	59177	57262	54404	51464	47137	42000
C90	63890	62827	61696	59964	57431	54863	51617	46395	40953

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
57601	57431	57262	51770	51617	51464	46942	40953	42000

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	1.04	0.99	0.95	1.01	0.97	0.94	0.97	0.94	0.91	0.93	0.90	0.88	0.89	0.87	0.85	0.83
2	0.90	0.83	0.77	0.88	0.82	0.76	0.85	0.79	0.75	0.81	0.77	0.73	0.78	0.75	0.71	0.69
3	0.79	0.71	0.64	0.77	0.70	0.64	0.74	0.68	0.62	0.72	0.66	0.61	0.69	0.64	0.60	0.58
4	0.70	0.61	0.54	0.69	0.60	0.54	0.66	0.59	0.53	0.64	0.58	0.52	0.62	0.56	0.52	0.49
5	0.63	0.53	0.47	0.61	0.53	0.47	0.59	0.52	0.46	0.57	0.51	0.45	0.55	0.50	0.45	0.43
6	0.56	0.47	0.41	0.55	0.47	0.41	0.53	0.46	0.40	0.52	0.45	0.40	0.50	0.44	0.39	0.37
7	0.51	0.42	0.36	0.50	0.42	0.36	0.49	0.41	0.36	0.47	0.40	0.35	0.46	0.40	0.35	0.33
8	0.47	0.38	0.32	0.46	0.38	0.32	0.45	0.37	0.32	0.43	0.37	0.32	0.42	0.36	0.31	0.29
9	0.43	0.34	0.29	0.42	0.34	0.29	0.41	0.34	0.29	0.40	0.33	0.28	0.39	0.33	0.28	0.26
10	0.39	0.31	0.26	0.39	0.31	0.26	0.38	0.31	0.26	0.37	0.30	0.26	0.36	0.30	0.26	0.24

Lotus LED Lights LFR-4R-FE-9W-5CCT-3500K

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	305.46	307.27	305.46	300.94	293.71	282.87	270.22	254.85	237.68
15.0	305.46	306.36	303.66	299.16	291.05	280.23	267.62	253.20	235.18
30.0	305.46	305.46	303.66	297.35	289.24	278.43	265.82	250.50	232.48
45.0	305.46	305.46	303.66	298.25	289.24	278.43	264.01	248.70	230.67
60.0	305.46	305.46	300.97	295.58	286.60	275.82	262.34	246.17	228.20
75.0	305.46	305.46	300.97	295.58	285.70	274.92	260.54	243.47	225.50
90.0	305.46	305.46	301.86	295.55	286.54	274.83	259.51	243.29	225.27
105.0	305.46	303.68	299.21	292.96	283.13	270.63	257.23	240.26	222.40
120.0	305.46	304.57	300.09	293.82	283.96	271.42	256.19	240.97	222.16
135.0	305.46	304.57	300.09	292.92	283.07	271.42	257.09	240.97	222.16
150.0	305.46	305.46	300.98	293.82	284.86	272.32	257.99	240.97	222.16
165.0	305.46	304.57	300.10	293.85	284.03	272.42	258.13	241.16	222.40
180.0	305.46	300.94	295.52	284.68	272.02	257.57	240.39	222.32	200.63
195.0	305.46	301.86	294.65	284.74	272.12	257.71	240.59	222.56	201.84
210.0	305.46	300.96	293.75	285.64	274.83	260.41	244.19	224.37	205.44
225.0	305.46	301.86	296.45	287.44	275.73	261.31	245.09	227.97	208.15
240.0	305.46	301.87	297.38	287.49	276.71	263.24	247.07	229.10	209.33
255.0	305.46	303.67	297.38	289.29	277.61	264.14	249.76	232.69	212.93
270.0	305.46	305.46	300.06	291.95	281.13	267.62	253.20	234.28	215.36
285.0	305.46	302.78	298.32	290.28	279.56	266.16	250.98	235.80	215.25
300.0	305.46	303.67	299.19	292.03	281.28	268.74	253.51	236.49	217.68
315.0	305.46	304.57	299.19	292.03	282.17	268.74	254.40	237.38	218.57
330.0	305.46	304.57	300.09	292.03	282.17	268.74	261.57	236.49	217.68
345.0	305.46	303.68	299.21	292.07	281.35	267.95	252.77	234.90	217.04
360.0	305.46	307.27	305.46	300.94	293.71	282.87	270.22	254.85	237.68
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	219.61	198.82	177.13	153.64	131.04	105.74	81.34	57.84	35.25
15.0	216.26	196.43	173.91	151.38	127.95	102.72	78.39	54.97	32.44
30.0	213.55	193.73	172.10	148.68	124.35	100.02	76.59	51.36	29.74
45.0	211.75	191.03	168.50	145.07	121.64	96.41	72.99	48.66	27.03
60.0	208.43	187.77	165.31	141.95	118.59	93.44	69.18	45.82	24.26
75.0	206.64	185.07	163.51	139.26	115.90	90.74	67.38	43.12	21.56
90.0	204.54	183.82	162.19	138.76	113.53	89.21	64.88	40.55	19.82
105.0	201.86	180.42	158.98	134.87	110.75	85.74	62.52	39.30	18.76
120.0	202.45	180.95	158.55	134.37	111.08	86.00	61.81	38.52	17.92
135.0	201.55	179.16	157.66	133.47	110.18	85.10	61.81	38.52	17.92
150.0	202.45	180.95	158.55	134.37	110.18	86.00	61.81	39.41	17.92
165.0	203.64	181.31	158.98	135.76	111.65	87.53	63.41	39.30	18.76
180.0	178.94	156.35	132.85	107.54	84.05	59.65	37.05	17.17	0.90
195.0	180.21	157.69	134.26	109.93	84.70	61.27	38.75	18.92	0.90
210.0	182.92	160.39	137.86	112.63	88.30	63.98	41.45	20.72	2.70
225.0	186.52	163.09	140.57	115.34	91.91	67.58	44.15	23.43	5.41
240.0	188.67	167.11	142.85	119.49	94.33	70.08	47.62	26.05	8.09
255.0	194.06	169.80	147.34	123.08	97.93	73.67	50.31	28.75	9.88
270.0	194.63	173.01	150.48	126.15	100.92	76.59	53.16	30.64	11.71
285.0	194.71	173.27	150.95	126.83	101.82	78.60	66.09	32.15	13.40
300.0	197.07	175.57	153.18	139.74	103.91	79.72	55.54	34.04	13.44
315.0	206.93	175.57	153.18	128.99	103.91	79.72	56.43	34.04	14.33
330.0	197.97	175.57	153.18	128.99	103.02	79.72	56.43	34.04	13.44
345.0	194.71	173.27	150.95	127.72	101.82	78.60	53.59	32.15	12.50
360.0	219.61	198.82	177.13	153.64	131.04	105.74	81.34	57.84	35.25

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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	14.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.0	12.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0	9.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45.0	8.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.0	6.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75.0	3.59	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	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0	0.00	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	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0	0.90	0.00	0.90	0.90	0.00	0.00	0.00	0.00	0.00
195.0	0.00	0.00	0.00	0.90	0.00	0.00	0.00	0.00	0.00
210.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
225.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
240.0	0.00	0.00	0.00	0.00	0.90	0.00	0.00	0.00	0.00
255.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
270.0	0.90	0.00	0.00	0.00	0.00	0.00	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	0.90	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	14.46	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	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
15.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
30.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
45.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	1.80
60.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
75.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
90.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
105.0	0.00	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
120.0	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
135.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
150.0	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
165.0	0.00	0.00	0.89	0.89	0.89	0.89	0.89	0.89	0.89
180.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
195.0	0.00	0.00	0.00	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	0.00	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	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
285.0	0.00	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
300.0	0.00	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90
315.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
330.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
345.0	0.00	0.00	0.89	0.89	0.89	0.89	0.89	0.89	0.89
360.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90

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	0.89
120.0	0.90
135.0	0.90
150.0	0.90
165.0	0.89
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	0.90