



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440219 RIO 6W 4000K 600lm

Luminaire:

Report No:

Voltage(V): 230.0300

Test No: KYZ-A251011059-04-001

Current(A): 0.0299

LampCAT: LED

Power (W): 6.0000

Lamp flux(lm): -1.0

PF: 0.8738

Number of Lamps: 1

Ballast type:

Length(mm): -126

Width(mm): -126

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 600.00

Efficiency(%): 100.00%

Lumens(lm)/Power(W): 100.00

Central intensity(cd): 296.708

Maximum intensity(cd): 315.991

Angle of maximum intensity: C=112.5 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=82.8

[C90/270]Total=86.0

Field angle(10%Imax): [C0/180]Total=134.8

[C90/270]Total=144.5

Maximum s/h(1/2): C0_180=1.14 C90_270=1.15

Maximum s/h(1/4): C0_180=1.17 C90_270=1.21

Up flux rate of lamp(%): 1.94%

Down flux rate of lamp(%): 98.06%

Up flux rate of LUM(%): 1.94%

Down flux rate of LUM(%): 98.06%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 86.635%

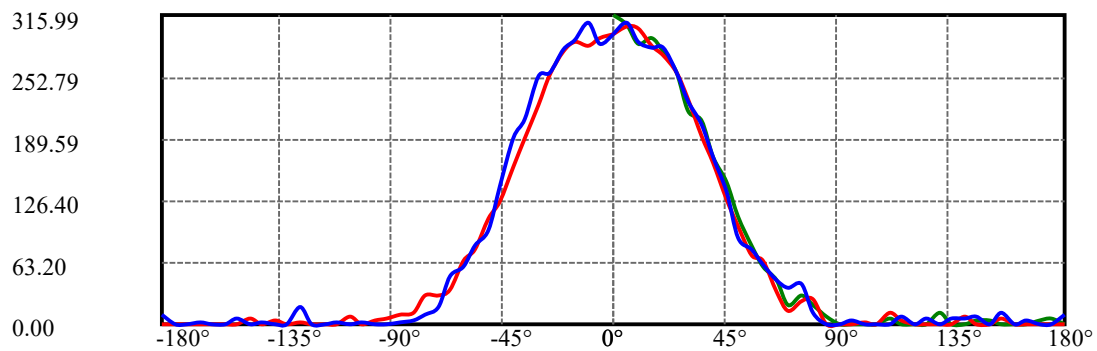
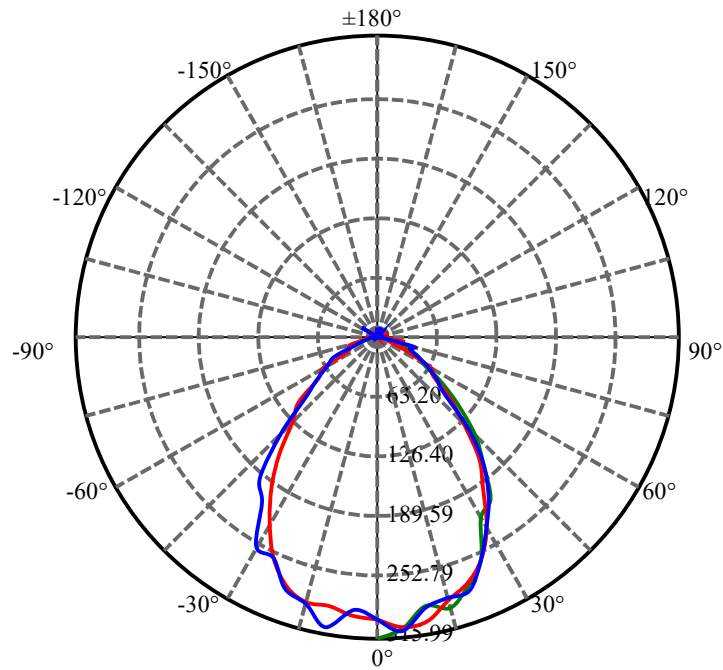
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	330.178	0.000	0	.000%	.000%
5.0	332.540	7.176	7.176	.000%	1.196%
10.0	326.458	21.353	28.529	.000%	4.755%
15.0	316.954	34.571	63.1	.000%	10.517%
20.0	301.694	46.182	109.282	.000%	18.214%
25.0	280.977	55.354	164.636	.000%	27.439%
30.0	248.122	60.649	225.285	.000%	37.547%
35.0	220.562	62.514	287.799	.000%	47.966%
40.0	189.961	62.039	349.839	.000%	58.306%
45.0	148.824	56.819	406.658	.000%	67.776%
50.0	107.851	46.978	453.636	.000%	75.606%
55.0	79.910	36.979	490.615	.000%	81.769%
60.0	59.546	29.198	519.813	.000%	86.635%
65.0	42.983	22.577	542.39	.000%	90.398%
70.0	29.977	16.733	559.123	.000%	93.187%
75.0	24.709	12.947	572.07	.000%	95.345%
80.0	14.282	9.450	581.52	.000%	96.920%
85.0	5.675	4.912	586.432	.000%	97.738%
90.0	2.199	1.953	588.385	.000%	98.064%
95.0	2.797	1.239	589.624	.000%	98.270%
100.0	1.222	0.989	590.613	.000%	98.435%
105.0	1.765	0.724	591.337	.000%	98.556%
110.0	1.521	0.778	592.115	.000%	98.685%
115.0	1.276	0.641	592.756	.000%	98.792%
120.0	1.711	0.658	593.414	.000%	98.902%
125.0	2.797	0.944	594.358	.000%	99.059%
130.0	1.249	0.797	595.155	.000%	99.192%
135.0	1.683	0.537	595.691	.000%	99.281%
140.0	2.987	0.783	596.475	.000%	99.412%
145.0	4.317	1.104	597.579	.000%	99.596%
150.0	2.009	0.844	598.422	.000%	99.737%
155.0	1.711	0.426	598.849	.000%	99.808%
160.0	1.874	0.340	599.189	.000%	99.864%
165.0	2.905	0.357	599.546	.000%	99.924%
170.0	1.982	0.263	599.809	.000%	99.968%
175.0	2.199	0.135	599.944	.000%	99.990%
180.0	3.204	0.059	600.003	.000%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	225.29	N.A.	37.55%
0-40	349.84	N.A.	58.31%
0-60	519.81	N.A.	86.64%
0-90	588.39	N.A.	98.06%
0-120	593.41	N.A.	98.90%
0-180	600.00	N.A.	100.00%
60-90	97.77	N.A.	16.29%
90-120	6.98	N.A.	1.16%
90-130	8.72	N.A.	1.45%
90-150	11.99	N.A.	2.00%
90-180	13.51	N.A.	2.25%
0-53.57	480.00	N.A.	80.00%

ZONAL LUMEN SUMMARY

0-10	28.53
10-20	80.75
20-30	116.00
30-40	124.55
40-50	103.80
50-60	66.18
60-70	39.31
70-80	22.40
80-90	6.86
90-100	2.23
100-110	1.50
110-120	1.30
120-130	1.74
130-140	1.32
140-150	1.95
150-160	0.77
160-170	0.62
170-180	0.14



C112.5(Max):

C0/C180:

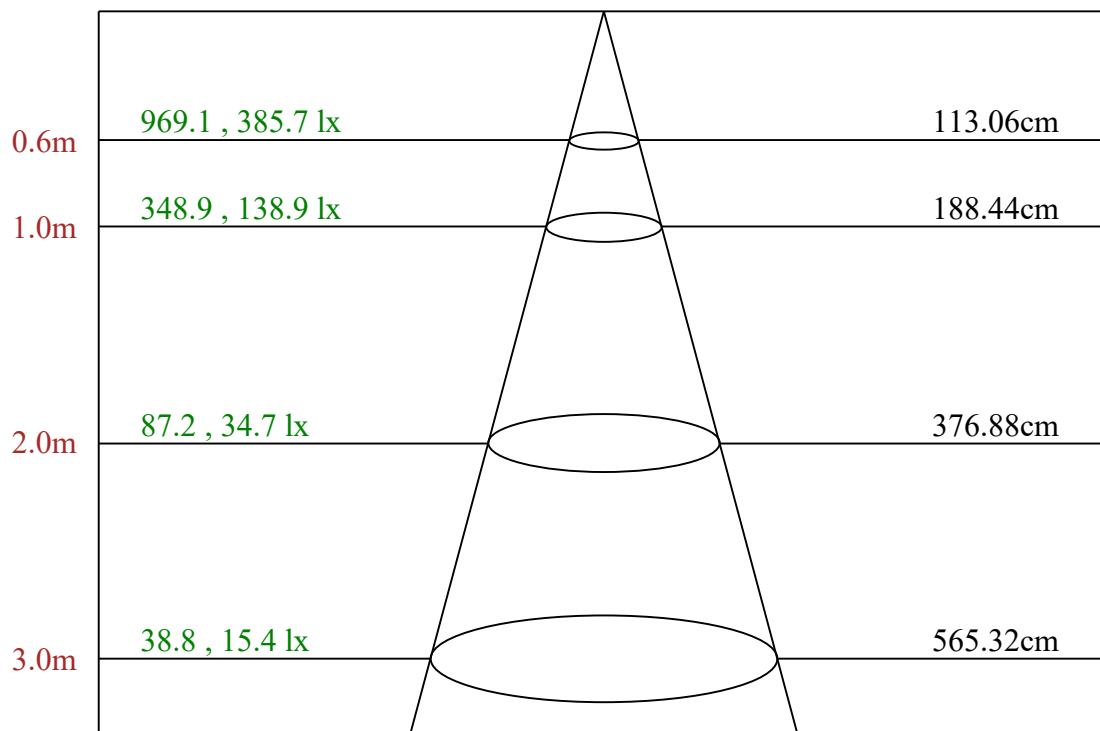
C90/C270:

Field angle(10%Imax):C0/180Left:74.0 Right:60.8

:C90/270Left:72.9 Right:71.6

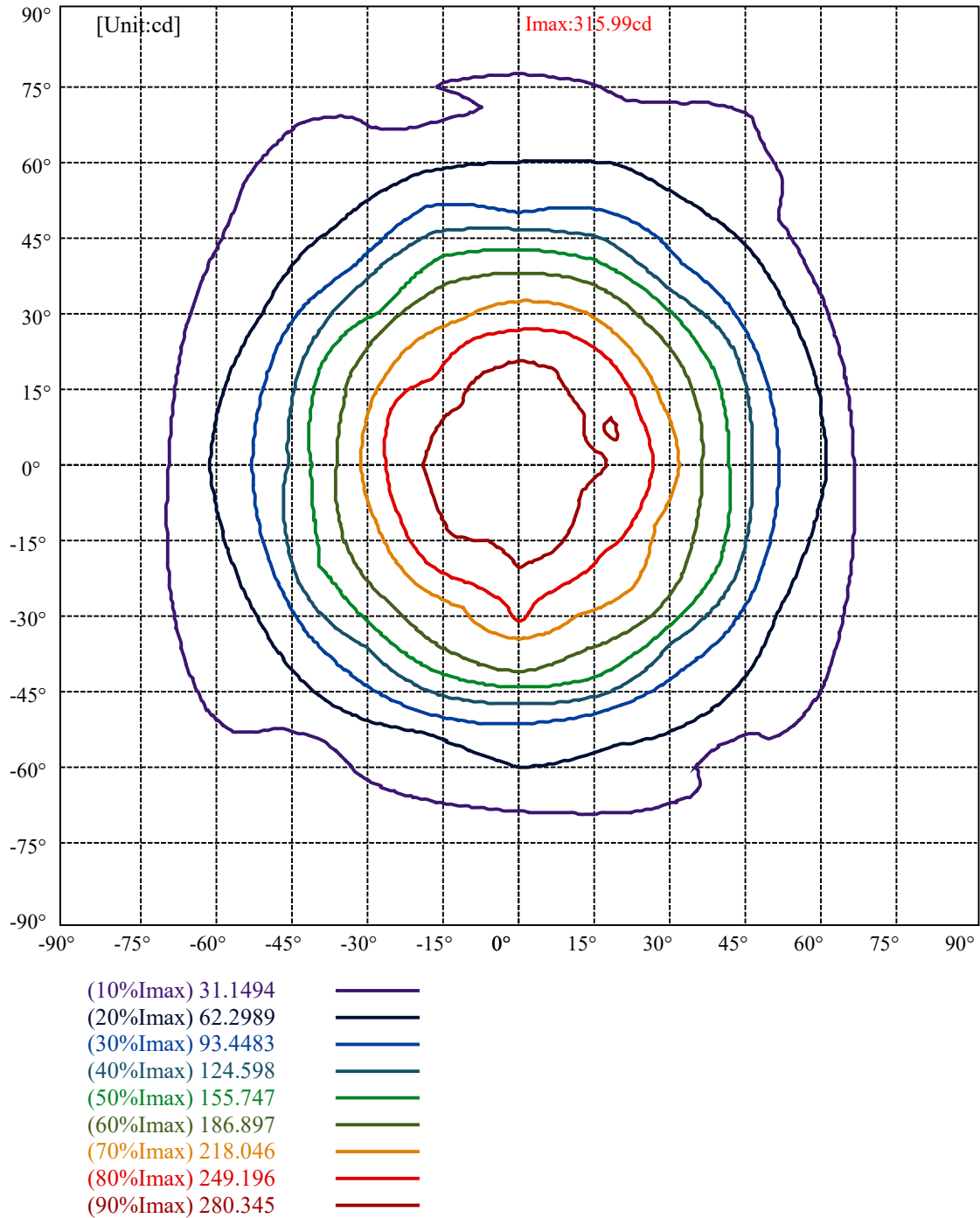
Beam Angle(50%Imax):C0/180Left:46.1 Right:36.7

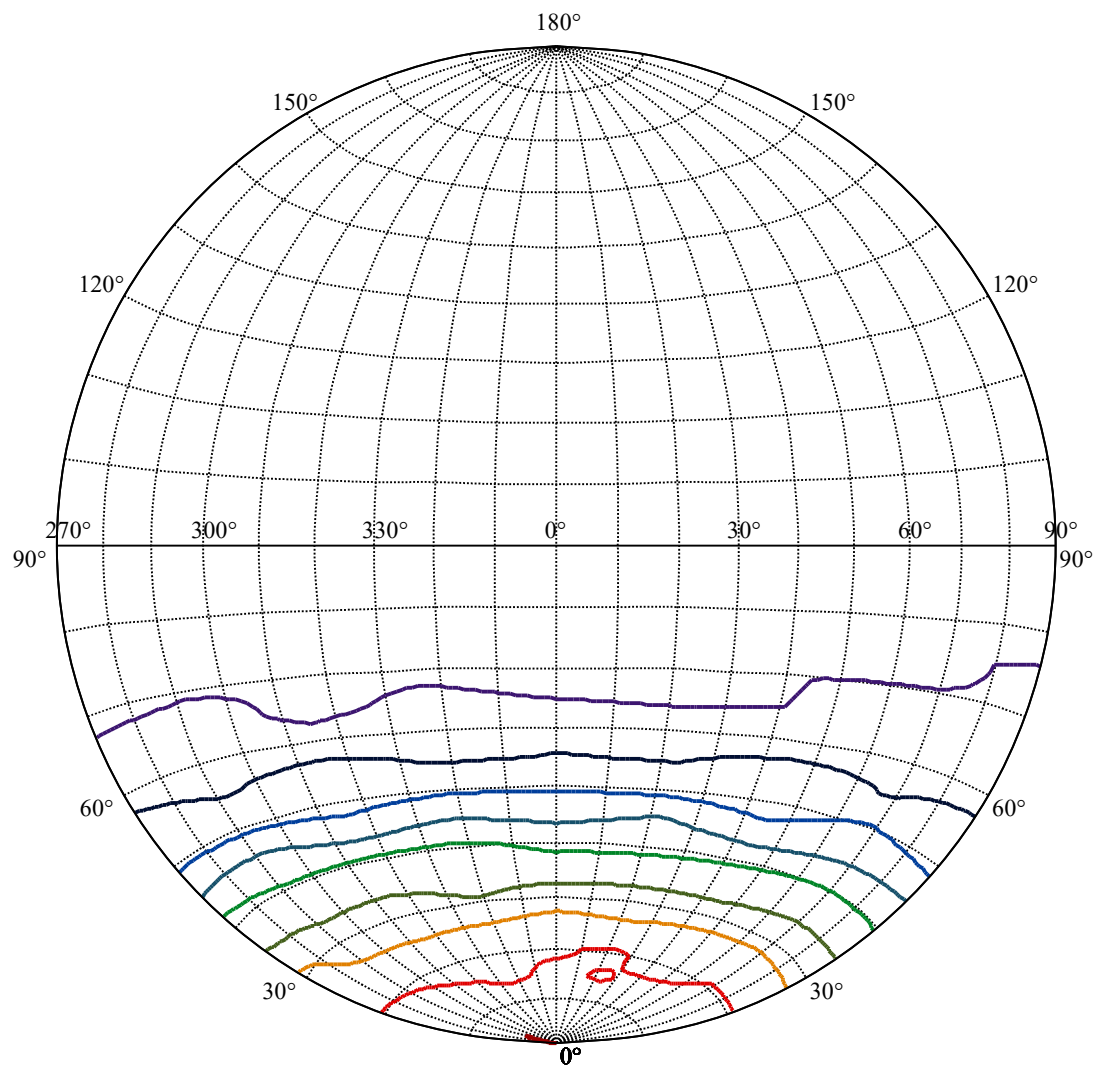
:C90/270Left:48.7 Right:37.3



Max , Ave

Beam angle of C112.5 plane 86.59





House

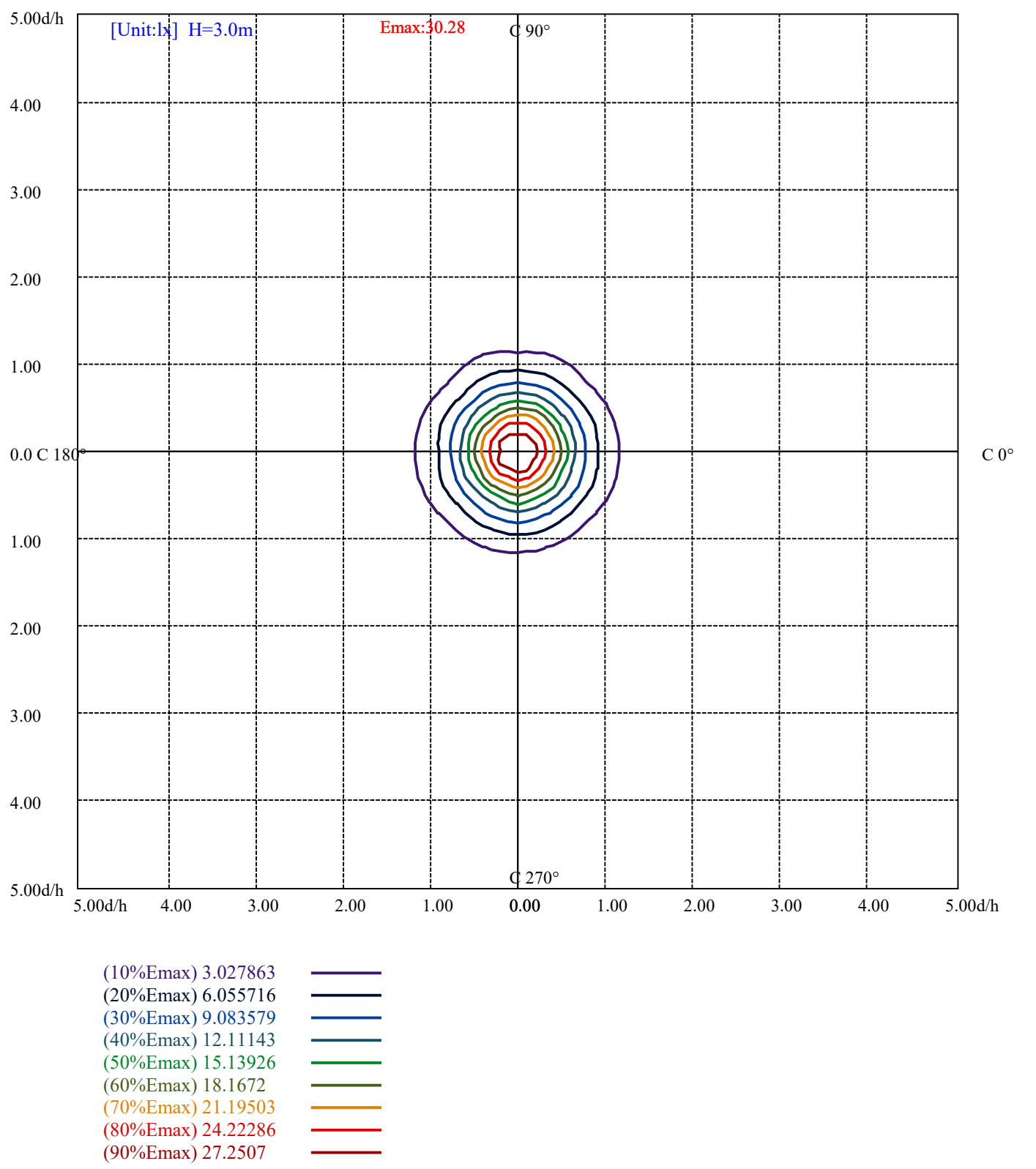
[Unit:cd]

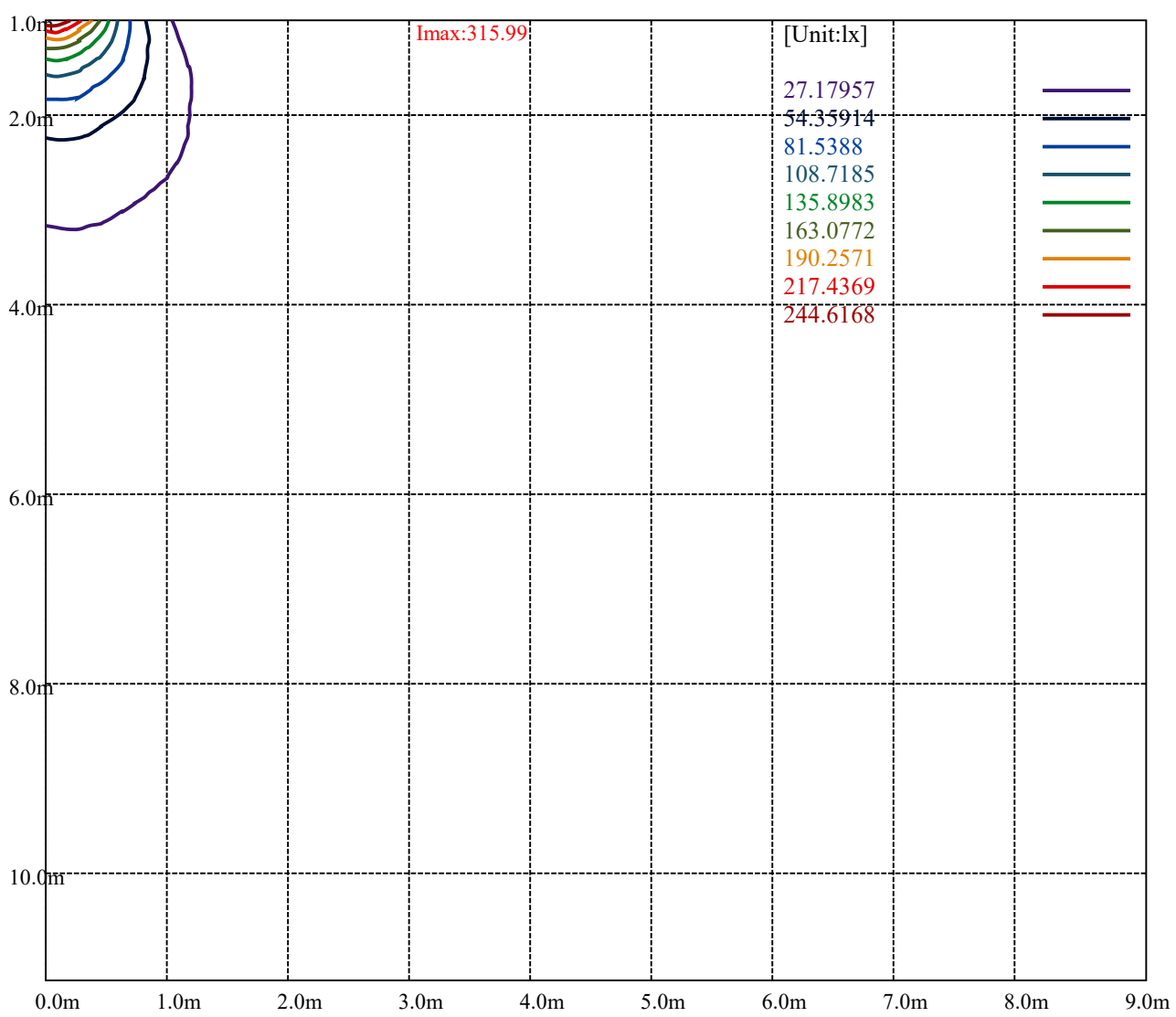
Road

Imax:315.99

(10%Imax) 31.4815
(20%Imax) 62.96309
(30%Imax) 94.44422
(40%Imax) 125.9265
(50%Imax) 157.408
(60%Imax) 188.8894
(70%Imax) 220.3708
(80%Imax) 251.8522
(90%Imax) 283.3336







Luminance Table

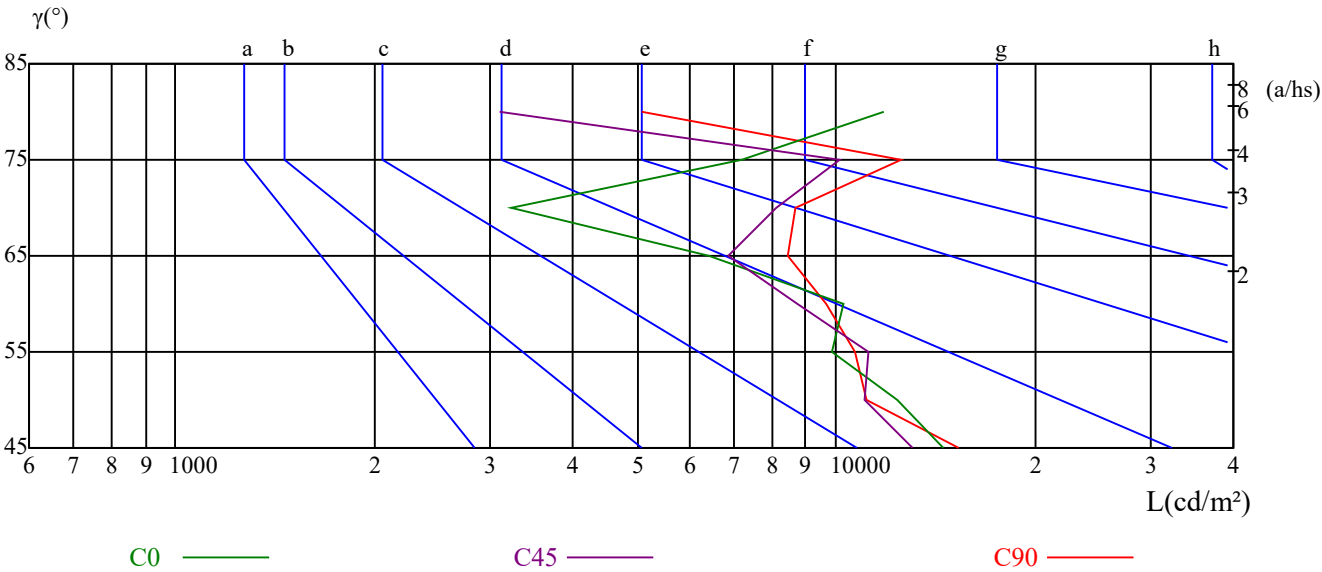
γ	45	50	55	60	65	70	75	80	85
C0	14505	12422	9849	10288	6422	3230	7194	11813	0
C45	13077	11047	11225	8774	6870	8120	10121	3090	0
C90	15309	11096	10674	9657	8438	8674	12559	5089	0

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6646	8812	5526	8048	7804	6707	4888	1267	4617

Glare Table

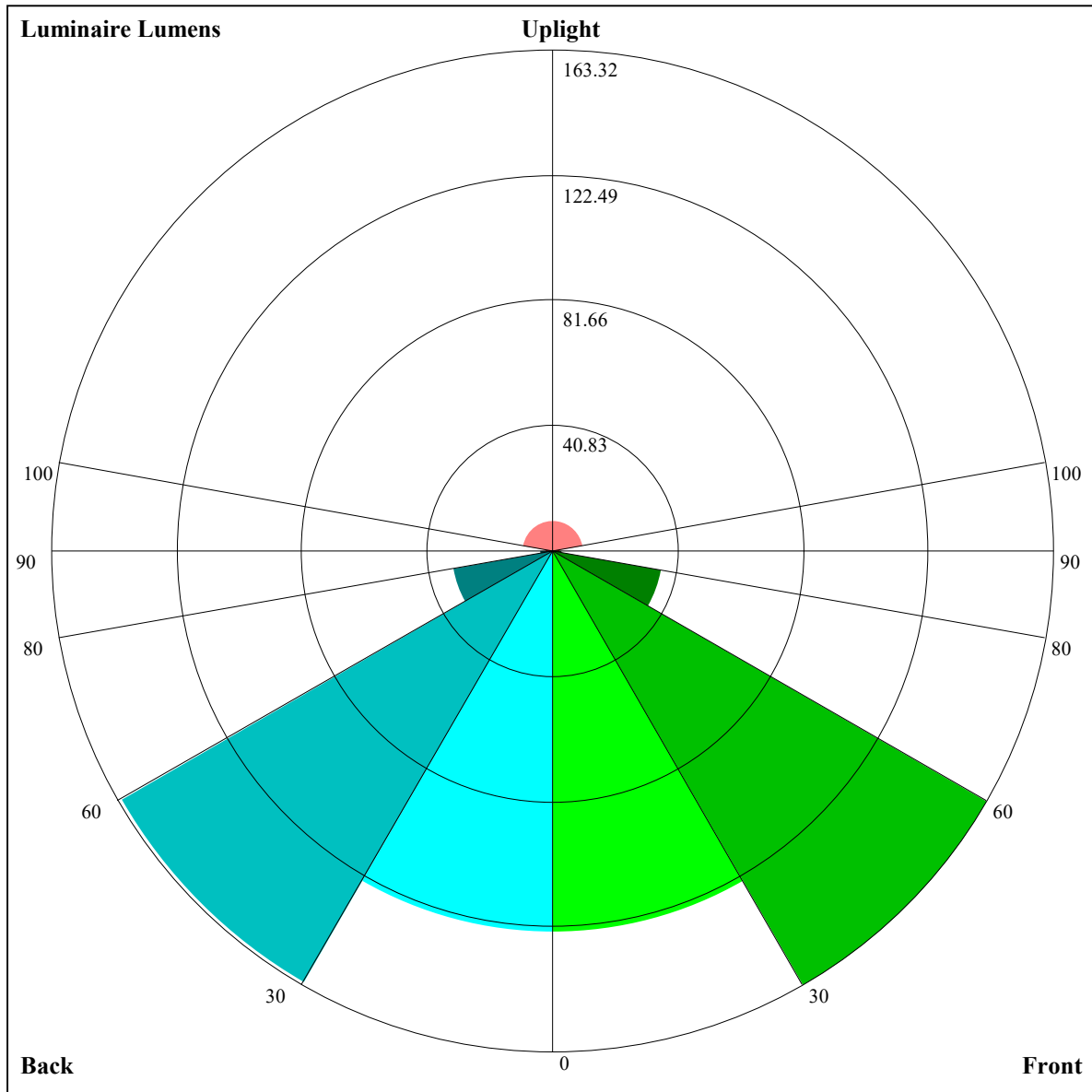
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve



Illumination assessment according UGR											
Rf of Ceiling		70	70	50	50	30	70	70	50	50	30
Rf of Wall		50	30	50	30	30	50	30	50	30	30
Rf of Floor		20	20	20	20	20	20	20	20	20	20
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	15.74	17.14	16.13	17.50	17.86	16.10	17.50	16.49	17.86	18.22
	3H	16.24	17.50	16.65	17.88	18.27	17.30	18.56	17.71	18.94	19.33
	4H	16.64	17.82	17.07	18.21	18.62	18.12	19.29	18.54	19.69	20.10
	6H	17.43	18.52	17.87	18.93	19.37	18.54	19.62	18.98	20.03	20.48
	8H	17.68	18.73	18.12	19.14	19.59	18.53	19.58	18.98	20.00	20.45
	12H	17.68	18.68	18.13	19.11	19.56	18.48	19.49	18.94	19.91	20.37
4H	2H	16.11	17.28	16.53	17.68	18.09	16.44	17.62	16.87	18.01	18.42
	3H	16.88	17.87	17.33	18.30	18.76	17.87	18.86	18.32	19.29	19.75
	4H	17.47	18.34	17.93	18.79	19.28	18.85	19.73	19.32	20.18	20.67
	6H	18.27	19.04	18.76	19.52	20.01	19.33	20.10	19.82	20.58	21.07
	8H	18.57	19.30	19.08	19.78	20.29	19.37	20.10	19.88	20.58	21.09
	12H	18.61	19.28	19.12	19.76	20.31	19.36	20.03	19.87	20.51	21.06
8H	4H	17.80	18.53	18.31	19.01	19.52	19.04	19.76	19.54	20.24	20.75
	6H	18.59	19.20	19.12	19.70	20.25	19.56	20.16	20.08	20.66	21.21
	8H	18.96	19.48	19.51	20.03	20.56	19.69	20.22	20.24	20.76	21.30
	12H	19.01	19.45	19.57	20.00	20.55	19.69	20.13	20.24	20.67	21.23
12H	4H	17.81	18.48	18.32	18.96	19.51	19.02	19.69	19.53	20.17	20.72
	6H	18.63	19.16	19.18	19.70	20.24	19.58	20.11	20.13	20.65	21.19
	8H	18.96	19.40	19.52	19.94	20.50	19.68	20.12	20.24	20.67	21.22
Variation with the observer position at spacings:											
S = 1.0H		0.4/-0.6					0.6/-0.8				
S = 1.5H		0.8/-0.9					0.8/-1.1				
S = 2.0H		1.5/-1.1					1.7/-1.4				
Standard tables:		BK3					BK3				
Uncorrected UGR		4.9					4.4				

UGR calculation is based on CIE Publ. 117 ,S/H = 0.25



Luminaire Lumens:

FL=124.65,FM=163.32,FH=35.79,FVH=2.94

BL=124.23,BM=162.57,BH=32.93,BVH=4.13

UL=2.46,UH=10.36

BUG Rating:B1-U2-G0

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	296.71	304.97	302.22	284.90	274.28	257.36	229.02	192.03	165.28
22.5	300.64	299.46	298.28	274.67	284.12	253.03	219.19	200.69	164.09
45.0	291.20	308.51	304.18	287.66	262.47	262.87	224.70	195.97	169.21
67.5	295.13	301.43	290.81	288.84	280.18	265.23	231.39	204.63	174.72
90.0	296.31	308.12	288.84	282.94	281.75	257.75	227.84	204.23	170.78
112.5	315.99	306.55	286.08	292.77	278.21	256.96	218.79	207.38	171.57
135.0	299.86	302.61	288.84	283.33	270.74	240.04	221.15	207.38	151.11
157.5	296.71	291.59	299.86	289.23	272.31	266.80	226.27	188.89	183.77
180.0	296.71	292.77	285.30	287.66	277.82	255.78	223.51	191.25	160.16
202.5	300.64	299.07	297.10	297.89	265.23	251.85	216.83	203.45	160.55
225.0	291.20	311.27	291.59	301.82	273.88	255.78	219.97	192.43	170.00
247.5	295.13	293.95	290.41	284.90	258.54	249.49	216.43	202.27	181.02
270.0	296.31	286.48	307.73	290.41	280.57	256.18	253.03	210.53	191.25
292.5	315.99	312.45	309.30	291.59	273.88	249.09	223.91	202.66	177.08
315.0	299.86	289.63	293.17	282.15	262.87	244.37	232.17	201.87	181.02
337.5	296.71	310.48	297.50	272.70	275.46	249.49	211.71	190.85	181.41
360.0	296.71	304.97	302.22	284.90	274.28	257.36	229.02	192.03	165.28
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	127.89	99.56	70.44	64.14	33.84	13.77	23.22	25.58	0.00
22.5	142.45	94.84	68.47	59.42	27.94	27.94	20.07	11.41	3.54
45.0	115.30	88.54	80.28	54.70	36.20	34.63	32.66	6.69	0.00
67.5	133.40	108.22	68.47	65.32	48.01	35.42	27.55	14.17	2.75
90.0	134.97	88.93	76.34	60.21	44.47	36.99	40.53	11.02	0.00
112.5	145.21	109.79	81.06	59.03	44.86	19.28	28.73	19.68	7.87
135.0	130.65	83.03	67.68	46.83	33.45	46.43	22.82	0.00	1.18
157.5	130.65	103.10	65.72	51.55	40.14	23.61	7.08	9.44	12.20
180.0	125.14	107.43	76.34	64.93	36.20	29.12	28.73	12.20	10.62
202.5	153.08	99.95	71.62	48.40	43.29	35.02	17.71	20.86	12.20
225.0	125.92	96.02	74.77	39.74	22.82	19.28	10.23	5.90	18.89
247.5	140.48	102.71	59.03	35.42	44.07	7.48	18.50	22.04	1.57
270.0	141.27	96.02	79.49	59.81	48.40	18.50	9.84	3.54	2.75
292.5	148.75	95.23	67.68	54.30	51.55	29.91	19.68	17.71	5.90
315.0	121.99	90.90	84.21	48.80	24.00	31.09	20.86	11.02	0.00
337.5	139.70	98.77	66.50	50.37	43.68	25.97	29.91	15.74	2.75
360.0	127.89	99.56	70.44	64.14	33.84	13.77	23.22	25.58	0.00
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	0.00	0.00	2.75	0.00	12.20	3.54	0.00	0.00	0.00
22.5	3.15	0.00	0.00	0.00	0.00	0.00	4.33	0.00	0.00
45.0	1.57	0.00	2.36	5.90	0.00	0.79	0.00	0.00	0.00
67.5	9.05	0.39	1.97	0.00	0.00	0.00	0.00	0.00	2.75
90.0	0.00	4.72	0.00	0.00	0.00	7.08	0.00	5.90	0.00
112.5	0.00	0.00	0.00	0.00	6.69	0.00	0.00	0.00	12.20
135.0	0.00	8.26	0.79	0.00	0.00	0.00	6.30	0.00	0.00
157.5	0.00	6.69	0.00	6.69	0.39	0.00	0.00	0.00	0.00
180.0	6.69	4.72	0.00	7.08	0.00	0.00	0.00	2.36	0.00
202.5	0.00	7.08	0.00	0.00	0.00	0.00	3.54	0.00	0.00
225.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
247.5	1.18	0.00	0.00	5.90	0.00	0.00	0.00	5.12	0.00
270.0	0.00	0.00	1.18	0.00	2.75	0.00	0.39	18.50	0.00
292.5	10.23	0.00	7.08	0.00	0.00	6.69	0.00	0.00	0.00
315.0	0.00	8.66	1.57	0.00	0.00	0.39	0.00	1.57	3.15
337.5	0.00	0.00	0.00	0.00	0.00	0.00	10.23	7.08	0.00
360.0	0.00	0.00	2.75	0.00	12.20	3.54	0.00	0.00	0.00

0017440219 RIO 6W 4000K 600lm

Intensity data(cd)

Appendix Page: 14 Total:14

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.00	7.48	0.00	0.79	6.30	0.00	0.00	0.00	0.00
22.5	3.54	3.54	1.18	6.69	0.00	2.36	15.74	0.00	0.00
45.0	0.79	8.66	5.90	0.00	0.00	0.00	0.00	0.00	0.00
67.5	0.00	3.15	9.44	0.00	1.97	7.87	0.00	1.57	0.00
90.0	6.30	6.30	7.08	0.00	11.41	0.00	4.72	0.00	0.00
112.5	0.00	0.00	3.15	4.33	0.00	0.00	0.00	3.54	6.69
135.0	0.00	0.00	11.41	6.30	0.00	0.00	11.02	0.00	0.00
157.5	0.39	5.90	6.69	0.00	0.00	0.79	0.00	0.00	7.48
180.0	4.72	0.00	6.30	0.00	0.00	0.00	0.00	0.00	0.00
202.5	0.00	0.00	0.00	0.00	0.00	0.00	1.57	0.00	0.00
225.0	2.36	0.79	0.00	0.00	0.79	0.00	2.36	8.66	0.00
247.5	5.12	0.00	6.30	0.00	0.00	0.00	1.97	9.05	4.72
270.0	0.00	1.18	0.00	5.12	0.00	0.00	1.57	0.00	0.00
292.5	0.00	1.97	0.00	0.00	0.00	10.62	0.00	0.00	12.99
315.0	1.18	0.00	5.12	0.00	1.57	5.51	0.00	0.00	0.00
337.5	0.00	4.33	0.00	5.90	2.75	0.00	3.15	5.90	0.00
360.0	0.00	7.48	0.00	0.79	6.30	0.00	0.00	0.00	0.00

C/γ(°)	180.0
0.0	0.79
22.5	7.48
45.0	5.51
67.5	0.00
90.0	9.44
112.5	0.00
135.0	0.00
157.5	0.00
180.0	0.79
202.5	7.48
225.0	5.51
247.5	0.00
270.0	9.44
292.5	0.00
315.0	0.00
337.5	0.00
360.0	0.79