



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440222 RIO 30W 4000K 3000lm

Luminaire:

Report No:

Voltage(V): 230.31

Test No: KYZ-A250922053-01-008

Current(A): 0.1357

LampCAT: LED

Power (W): 30.0000

Lamp flux(lm): -1.0

PF: 0.9529

Number of Lamps: 1

Ballast type:

Length(mm): -249

Width(mm): -249

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 3000.00

Efficiency(%): 100.00%

Lumens(lm)/Power(W): 100.00

Central intensity(cd): 1532.968

Maximum intensity(cd): 1545.957

Angle of maximum intensity: C=67.5 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=84.4

[C90/270]Total=84.4

Field angle(10%Imax): [C0/180]Total=145.8

[C90/270]Total=143.1

Maximum s/h(1/2): C0_180=1.16 C90_270=1.12

Maximum s/h(1/4): C0_180=1.20 C90_270=1.18

Up flux rate of lamp(%): 0.26%

Down flux rate of lamp(%): 99.74%

Up flux rate of LUM(%): 0.26%

Down flux rate of LUM(%): 99.74%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 86.964%

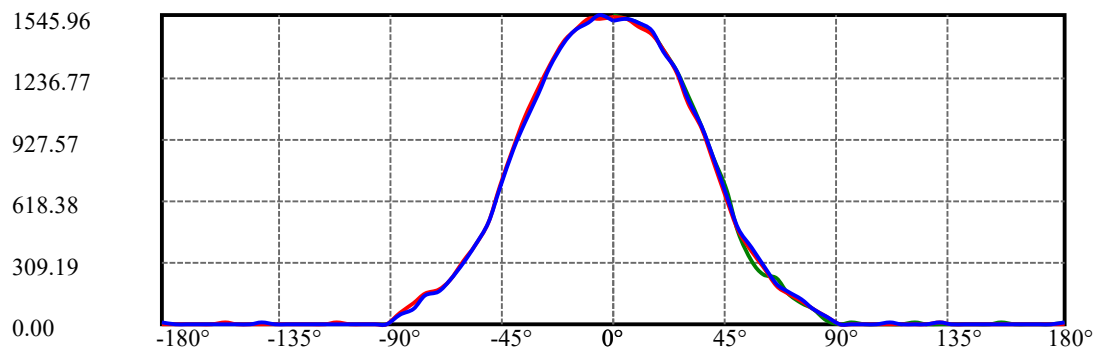
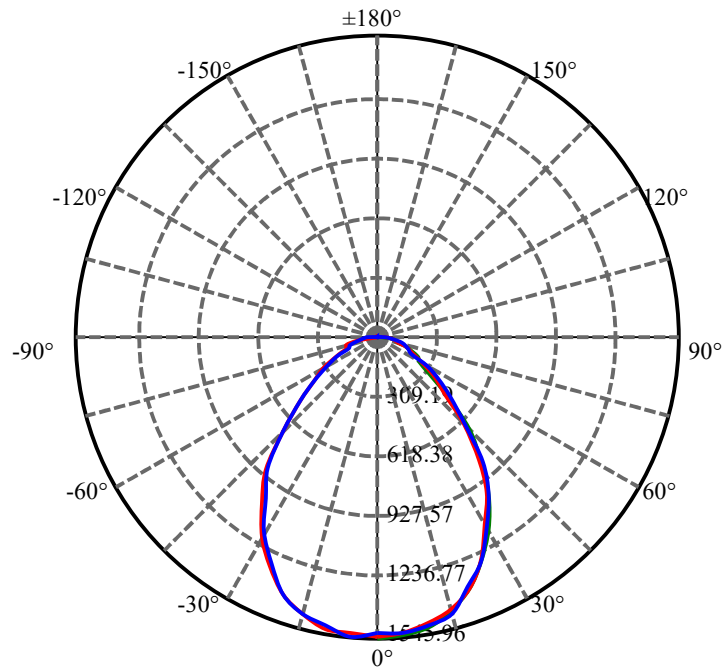
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1645.765	0.000	0	.000%	.000%
5.0	1637.358	36.561	36.561	.000%	1.219%
10.0	1617.879	108.476	145.037	.000%	4.835%
15.0	1570.899	176.203	321.24	.000%	10.708%
20.0	1488.011	234.834	556.073	.000%	18.536%
25.0	1369.651	279.192	835.265	.000%	27.842%
30.0	1224.738	305.839	1141.104	.000%	38.037%
35.0	1070.034	314.781	1455.884	.000%	48.529%
40.0	911.460	307.958	1763.843	.000%	58.795%
45.0	711.750	279.969	2043.812	.000%	68.127%
50.0	523.906	232.584	2276.396	.000%	75.880%
55.0	388.733	184.849	2461.245	.000%	82.041%
60.0	297.105	147.673	2608.919	.000%	86.964%
65.0	224.802	118.188	2727.107	.000%	90.903%
70.0	168.031	92.657	2819.764	.000%	93.992%
75.0	134.200	73.589	2893.352	.000%	96.445%
80.0	87.783	55.329	2948.681	.000%	98.289%
85.0	41.700	32.774	2981.456	.000%	99.382%
90.0	0.974	10.884	2992.34	.000%	99.745%
95.0	1.615	0.660	2993	.000%	99.767%
100.0	0.308	0.487	2993.487	.000%	99.783%
105.0	1.717	0.505	2993.992	.000%	99.800%
110.0	1.410	0.761	2994.753	.000%	99.825%
115.0	0.641	0.484	2995.236	.000%	99.841%
120.0	1.384	0.459	2995.695	.000%	99.856%
125.0	0.948	0.502	2996.197	.000%	99.873%
130.0	1.410	0.478	2996.675	.000%	99.889%
135.0	1.897	0.622	2997.297	.000%	99.910%
140.0	1.820	0.641	2997.938	.000%	99.931%
145.0	0.820	0.410	2998.348	.000%	99.945%
150.0	1.230	0.281	2998.63	.000%	99.954%
155.0	1.871	0.366	2998.995	.000%	99.966%
160.0	2.025	0.381	2999.376	.000%	99.979%
165.0	1.358	0.260	2999.636	.000%	99.988%
170.0	1.871	0.178	2999.814	.000%	99.994%
175.0	2.153	0.134	2999.948	.000%	99.998%
180.0	2.871	0.056	3000.004	.000%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1141.10	N.A.	38.04%
0-40	1763.84	N.A.	58.79%
0-60	2608.92	N.A.	86.96%
0-90	2992.34	N.A.	99.74%
0-120	2995.70	N.A.	99.86%
0-180	3000.00	N.A.	100.00%
60-90	531.09	N.A.	17.70%
90-120	14.24	N.A.	0.47%
90-130	15.22	N.A.	0.51%
90-150	17.17	N.A.	0.57%
90-180	18.49	N.A.	0.62%
0-53.34	2400.00	N.A.	80.00%

ZONAL LUMEN SUMMARY

0-10	145.04
10-20	411.04
20-30	585.03
30-40	622.74
40-50	512.55
50-60	332.52
60-70	210.84
70-80	128.92
80-90	43.66
90-100	1.15
100-110	1.27
110-120	0.94
120-130	0.98
130-140	1.26
140-150	0.69
150-160	0.75
160-170	0.44
170-180	0.13



C67.5(Max): ———

C0/C180: ———

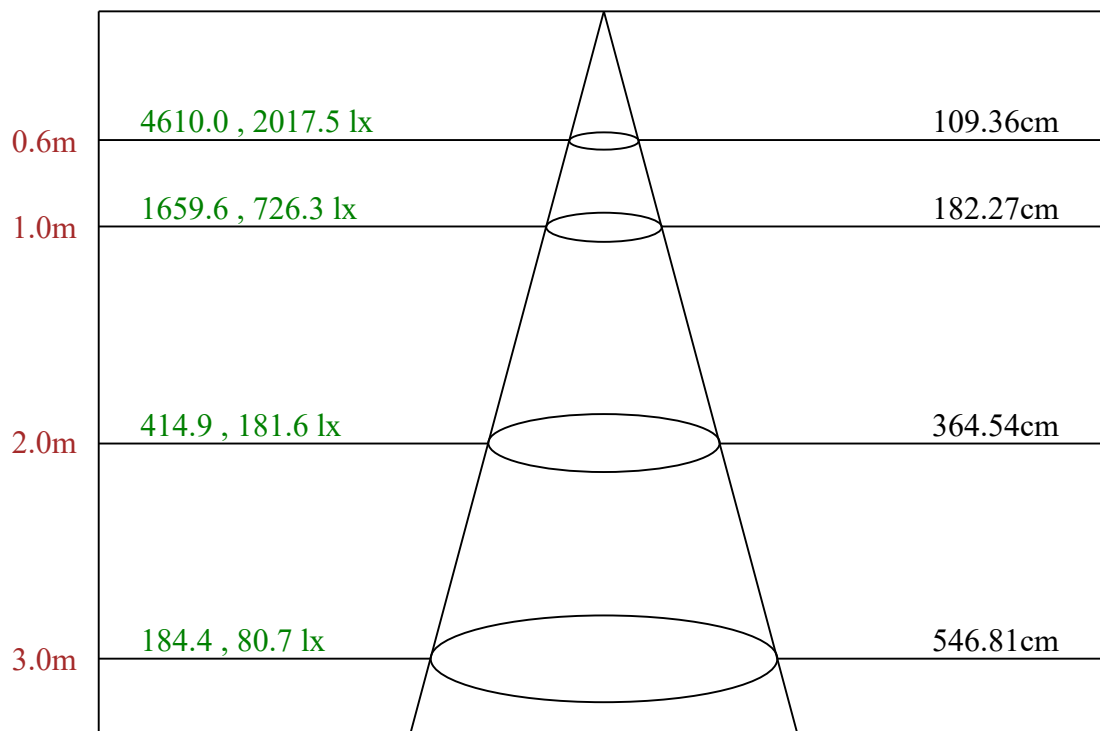
C90/C270: ———

Field angle(10%Imax):C0/180Left:75.5 Right:70.3

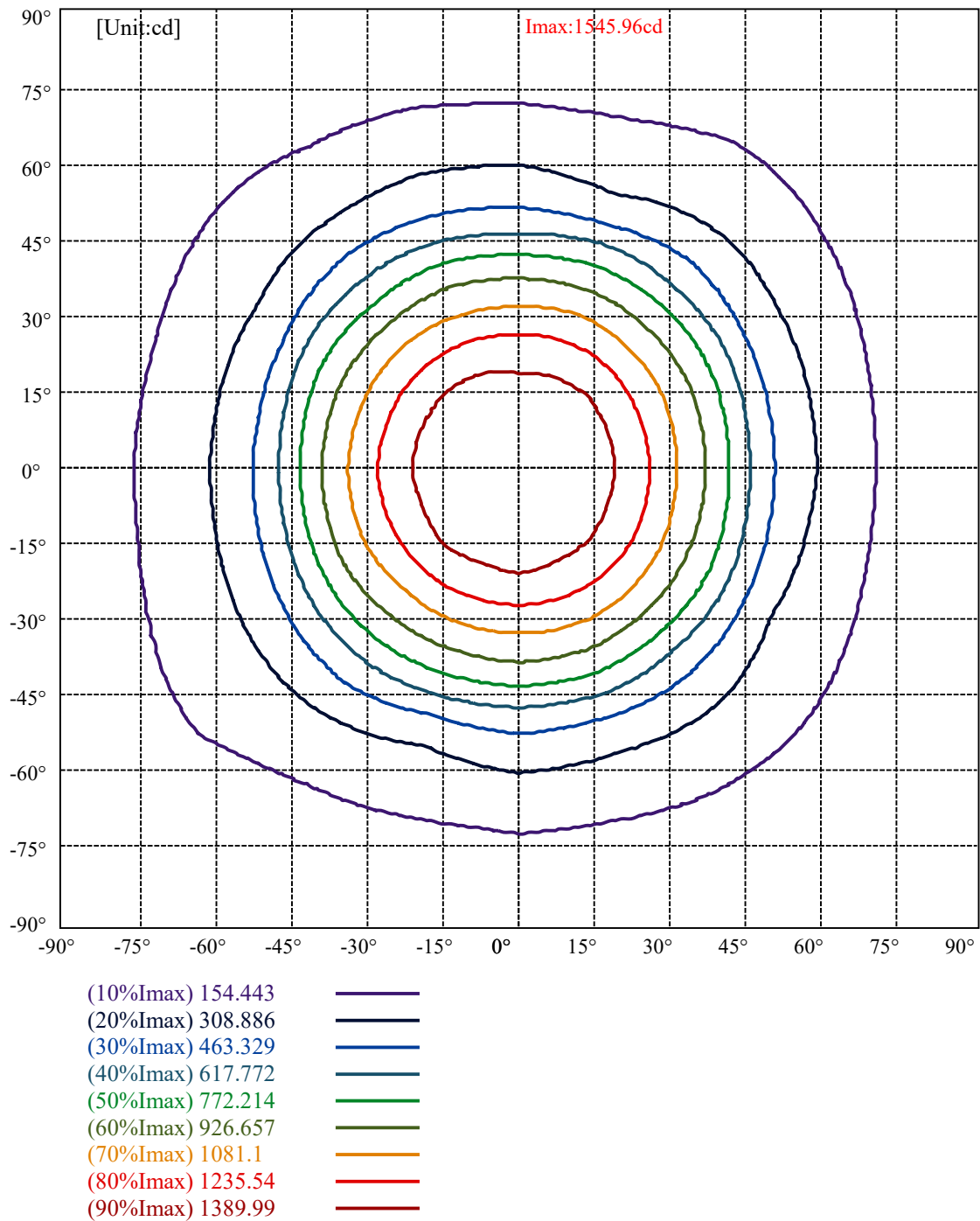
:C90/270Left:66.7 Right:76.4

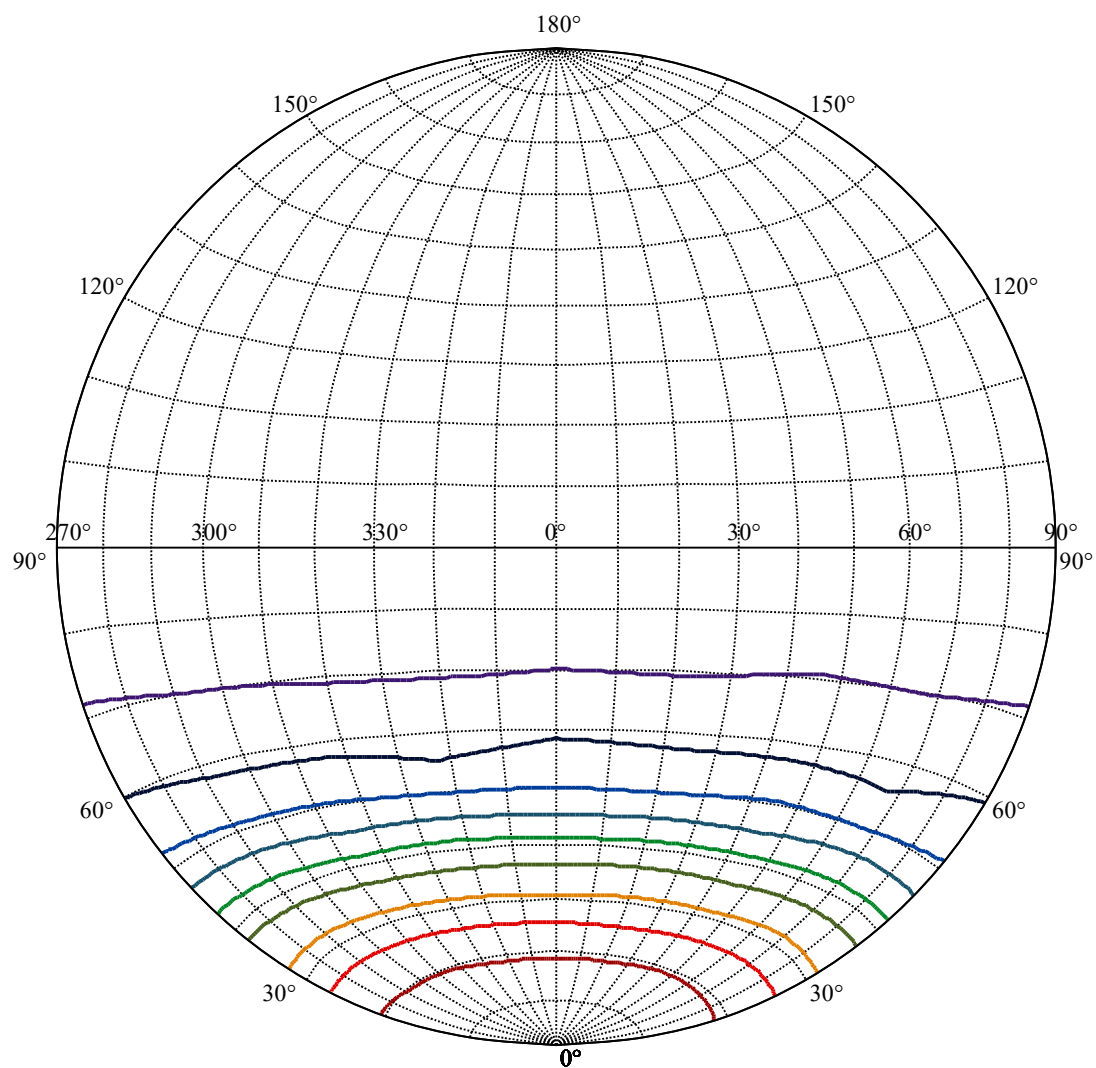
Beam Angle(50%Imax):C0/180Left:43.0 Right:41.4

:C90/270Left:37.7 Right:46.7



Max , Ave Beam angle of C67.5 plane 84.69





House

[Unit:cd]

Road

Imax:1545.96

(10%Imax) 143.9684

(20%Imax) 287.9359

(30%Imax) 431.9043

(40%Imax) 575.8718

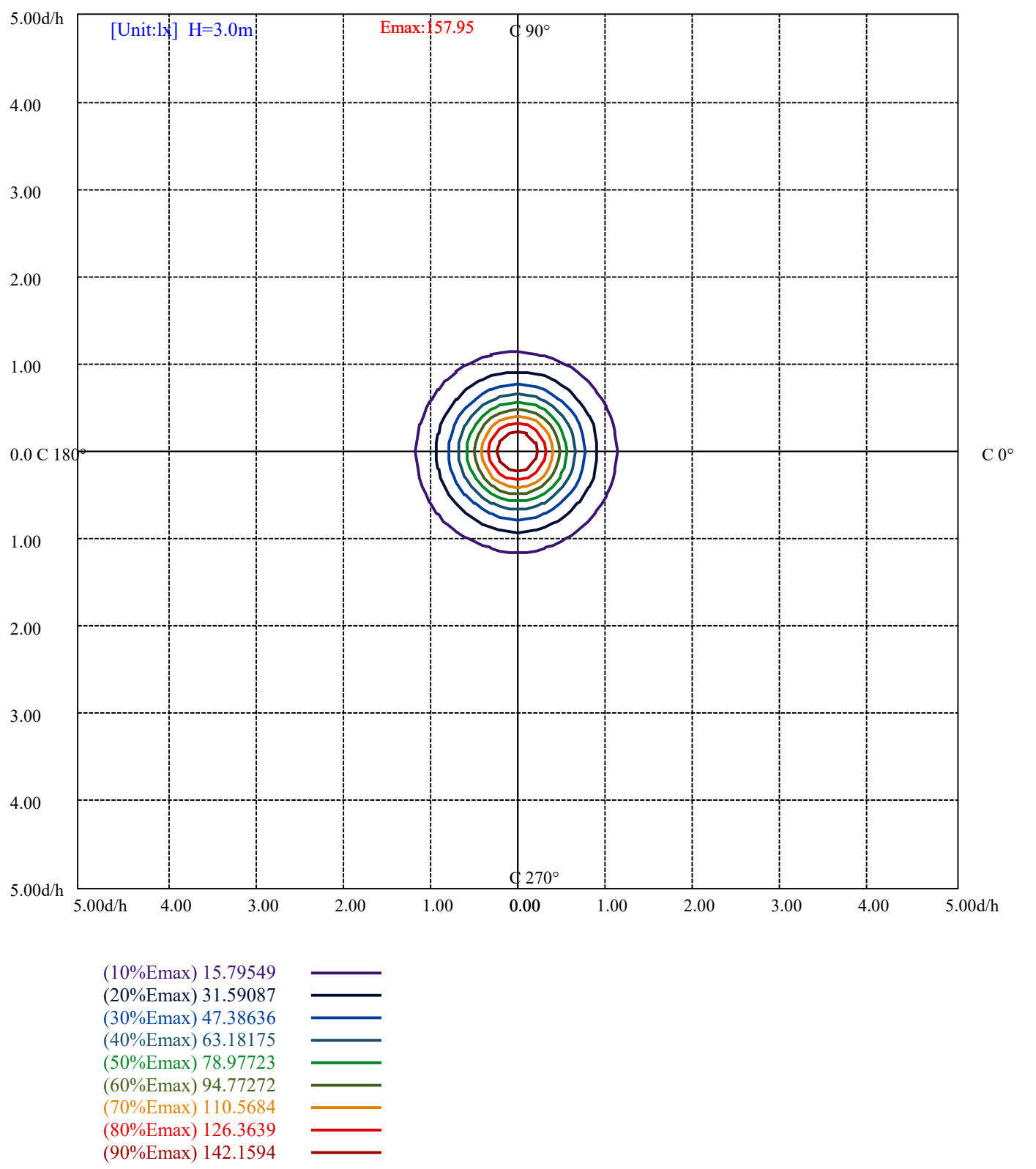
(50%Imax) 719.8401

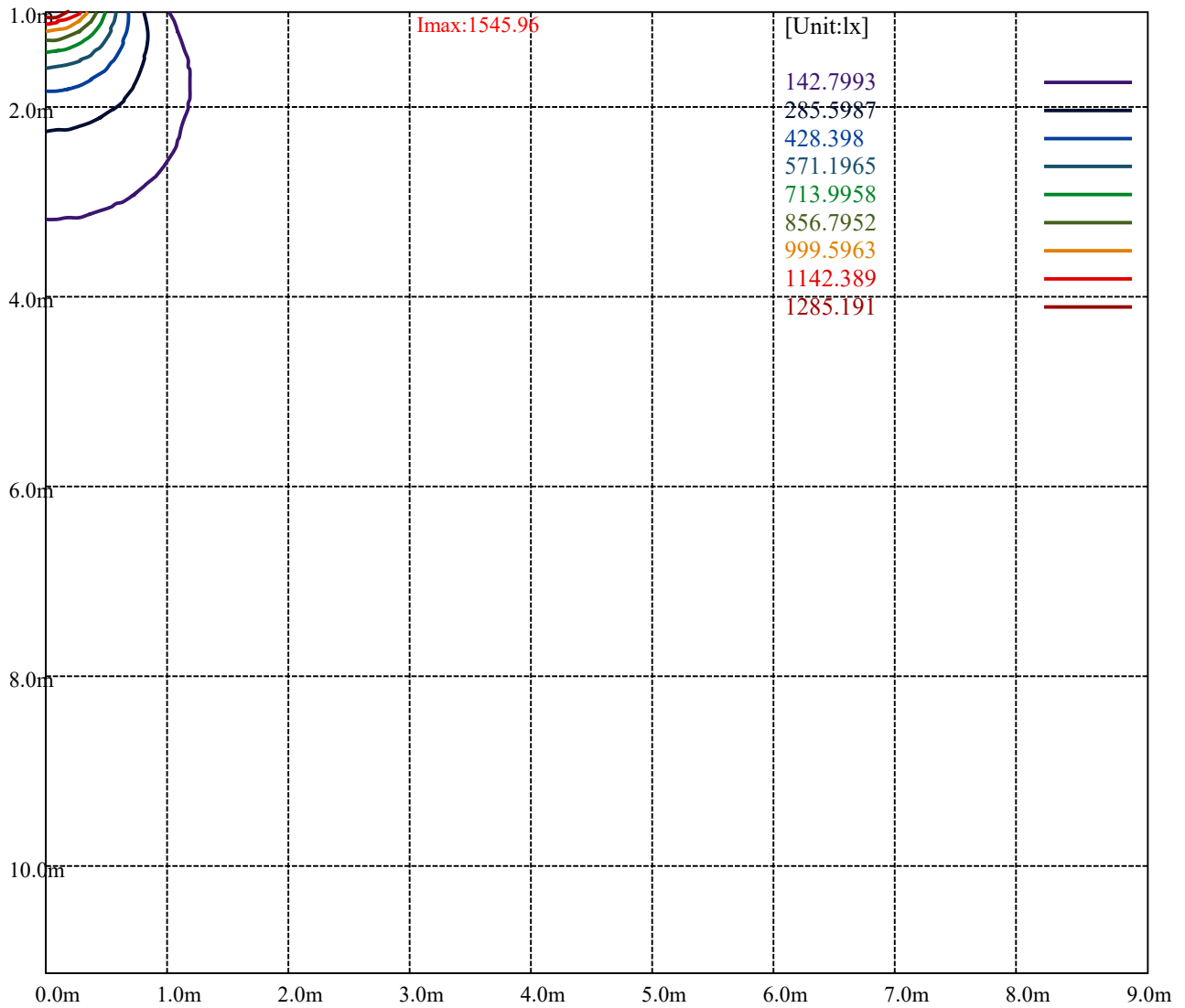
(60%Imax) 863.8077

(70%Imax) 1007.775

(80%Imax) 1151.742

(90%Imax) 1295.708





Luminance Table

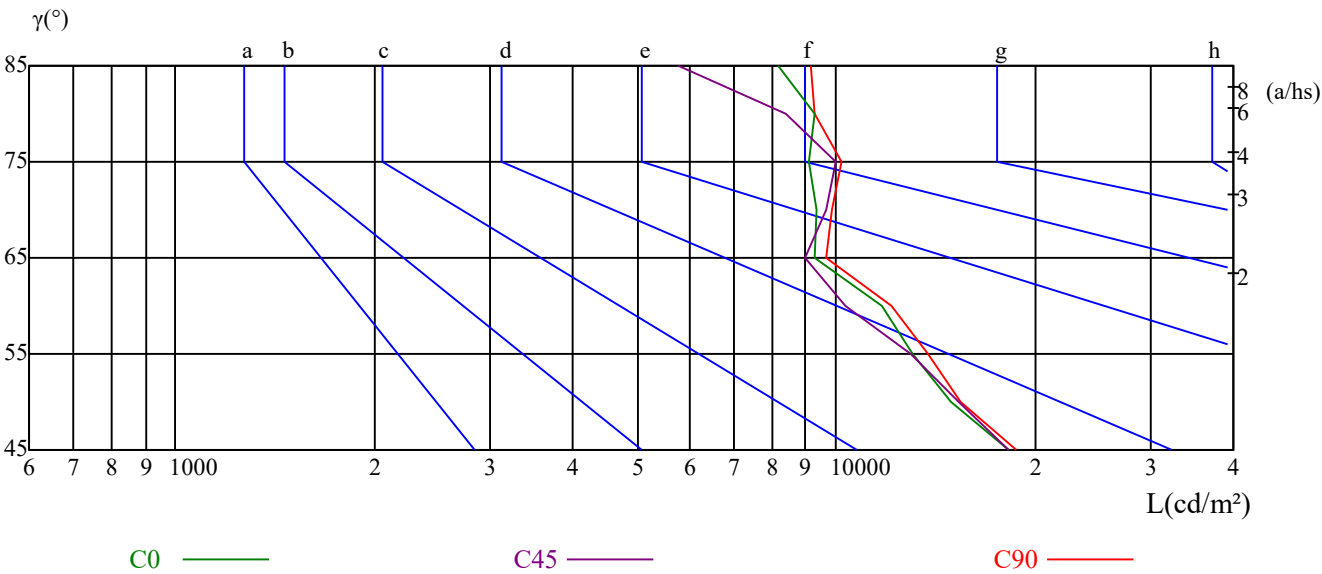
γ	45	50	55	60	65	70	75	80	85
C0	18250	14962	13034	11736	9281	9335	9123	9261	8191
C45	18272	15353	12966	10308	9003	9656	9972	8403	5760
C90	18716	15402	13827	12128	9652	9863	10184	9306	9181

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
10014	10274	9119	10836	10684	9244	10891	10126	8911

Glare Table

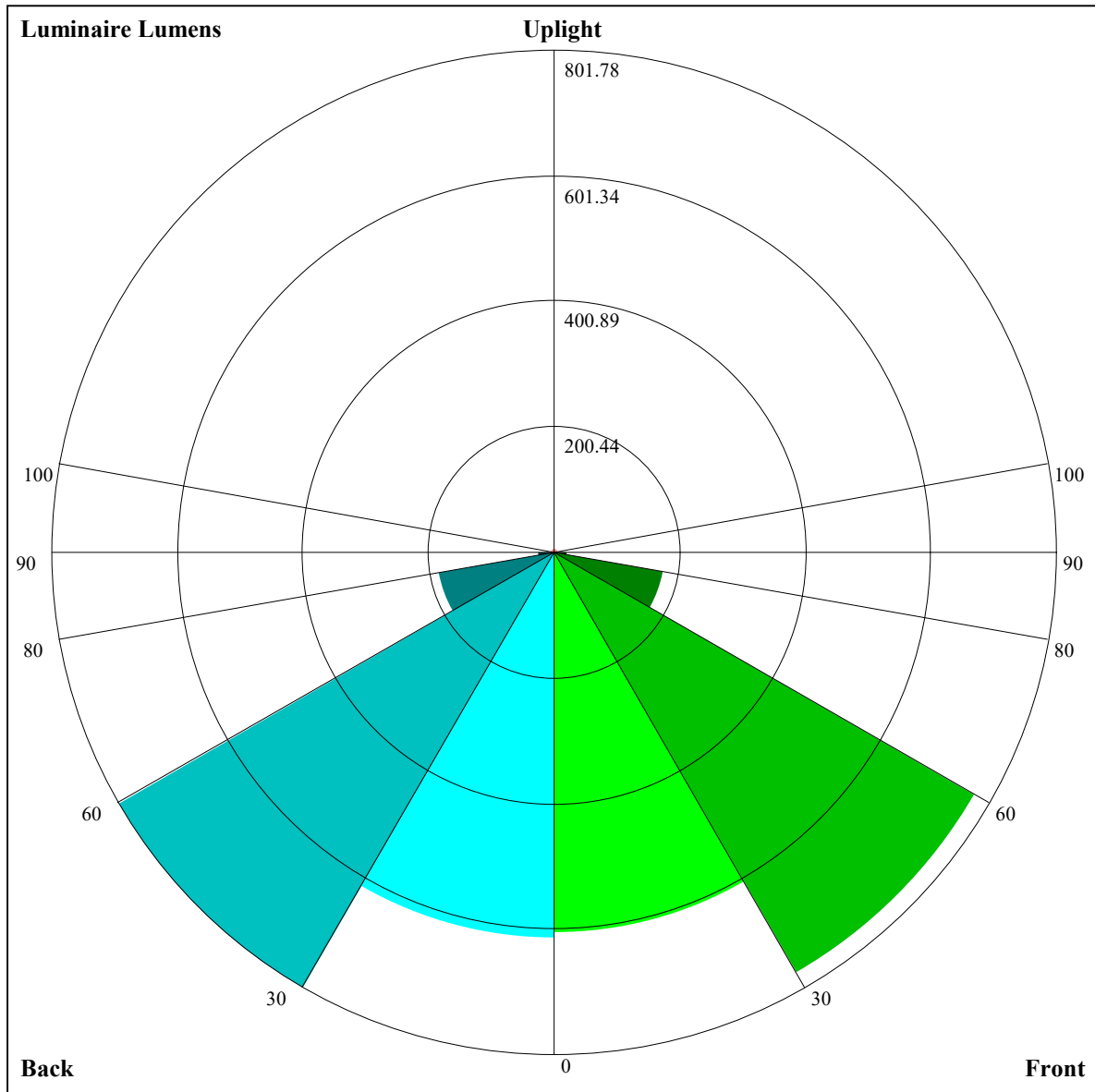
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	16.31	17.76	16.67	18.07	18.40	16.36	17.81	16.72	18.13	18.45
	3H	17.27	18.57	17.65	18.91	19.26	17.44	18.75	17.83	19.09	19.44
	4H	17.75	18.97	18.15	19.33	19.70	17.95	19.17	18.35	19.52	19.89
	6H	18.21	19.34	18.62	19.71	20.11	18.41	19.54	18.82	19.91	20.31
	8H	18.36	19.45	18.78	19.83	20.24	18.55	19.64	18.97	20.02	20.43
	12H	18.46	19.50	18.88	19.89	20.31	18.64	19.69	19.07	20.08	20.49
4H	2H	16.66	17.88	17.06	18.24	18.61	16.72	17.94	17.12	18.30	18.67
	3H	17.84	18.87	18.26	19.26	19.68	18.00	19.04	18.43	19.43	19.84
	4H	18.53	19.44	18.97	19.86	20.31	18.67	19.58	19.11	20.00	20.45
	6H	19.09	19.90	19.56	20.35	20.80	19.23	20.04	19.70	20.49	20.94
	8H	19.34	20.09	19.82	20.55	21.02	19.45	20.21	19.93	20.66	21.13
	12H	19.52	20.22	20.01	20.67	21.18	19.61	20.32	20.10	20.76	21.27
8H	4H	18.77	19.53	19.25	19.98	20.45	18.89	19.65	19.37	20.10	20.57
	6H	19.46	20.09	19.96	20.57	21.07	19.57	20.20	20.07	20.68	21.18
	8H	19.85	20.40	20.37	20.91	21.41	19.91	20.46	20.43	20.97	21.47
	12H	20.14	20.60	20.67	21.12	21.63	20.11	20.57	20.64	21.08	21.60
12H	4H	18.79	19.49	19.27	19.94	20.45	18.91	19.61	19.39	20.06	20.57
	6H	19.55	20.10	20.07	20.62	21.12	19.66	20.21	20.18	20.73	21.22
	8H	19.94	20.40	20.47	20.91	21.43	19.98	20.44	20.51	20.96	21.47
Variation with the observer position at spacings:											
S = 1.0H		0.2/-0.7					0.4/-0.7				
S = 1.5H		0.9/-1.0					0.7/-1.0				
S = 2.0H		1.6/-1.1					1.5/-1.2				
Standard tables:		BK3					BK3				
Uncorrected UGR		5.4					5.4				

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



Luminaire Lumens:

FL=608.15,FM=773.94,FH=176.95,FVH=21.2

BL=615.03,BM=801.78,BH=189.14,BVH=25.77

UL=1.23,UH=6.99

BUG Rating:B2-U1-G1

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	1532.97	1524.95	1492.09	1450.84	1371.00	1256.78	1102.45	979.07	818.25
22.5	1539.08	1530.29	1500.88	1456.19	1367.56	1249.52	1117.73	976.78	828.94
45.0	1526.09	1528.38	1493.62	1454.28	1379.79	1262.51	1119.26	965.70	827.80
67.5	1545.96	1527.62	1510.81	1458.10	1372.53	1267.48	1142.18	991.67	831.62
90.0	1516.16	1524.56	1504.70	1465.74	1359.54	1266.33	1121.55	989.38	836.20
112.5	1533.73	1517.69	1510.43	1460.39	1387.81	1278.56	1132.25	993.97	858.36
135.0	1529.53	1516.92	1518.07	1471.85	1397.36	1279.70	1145.62	1003.13	830.09
157.5	1540.99	1528.00	1513.87	1477.20	1399.27	1289.63	1157.84	1018.80	867.52
180.0	1532.97	1526.09	1523.04	1472.99	1407.29	1296.51	1181.91	1035.60	881.28
202.5	1539.08	1520.36	1514.25	1470.70	1394.68	1293.84	1163.57	1035.60	885.10
225.0	1526.09	1537.17	1502.03	1467.65	1408.05	1290.40	1150.59	994.35	863.70
247.5	1545.96	1527.24	1510.43	1472.99	1387.81	1288.49	1147.91	1003.52	850.72
270.0	1516.16	1544.43	1502.79	1471.08	1404.62	1285.05	1152.88	1003.90	877.84
292.5	1533.73	1526.09	1505.85	1466.88	1384.37	1277.79	1154.41	1006.95	857.97
315.0	1529.53	1509.28	1508.90	1453.13	1383.61	1269.77	1141.04	980.98	830.47
337.5	1540.99	1514.63	1501.64	1443.20	1372.53	1261.37	1122.70	968.75	838.87
360.0	1532.97	1524.95	1492.09	1450.84	1371.00	1256.78	1102.45	979.07	818.25
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	628.39	468.33	364.05	285.74	191.00	155.47	114.98	78.31	34.76
22.5	636.03	456.87	341.13	271.60	194.06	147.45	118.42	74.87	45.08
45.0	629.15	480.56	362.14	250.97	185.27	160.82	125.68	71.05	24.45
67.5	667.74	459.93	319.35	248.68	229.20	152.04	107.72	77.55	22.16
90.0	644.44	482.08	386.20	295.29	198.64	164.26	128.35	78.69	38.96
112.5	663.54	499.27	372.07	301.78	236.08	166.93	130.64	87.86	38.96
135.0	663.92	502.33	371.69	269.69	194.82	153.56	118.80	79.07	47.37
157.5	696.77	493.16	346.86	280.77	221.18	163.11	125.68	89.01	45.46
180.0	688.37	512.64	398.04	318.59	221.18	168.46	158.15	108.11	57.68
202.5	683.78	514.55	382.38	301.40	221.18	167.32	149.74	97.79	46.22
225.0	682.25	522.19	378.94	273.51	197.49	148.22	113.84	74.49	43.17
247.5	684.16	481.70	329.28	256.70	223.85	153.56	119.57	82.89	34.76
270.0	683.40	512.64	394.99	305.60	224.23	161.20	140.96	78.31	46.99
292.5	678.82	489.72	362.14	274.66	221.94	154.33	136.76	87.10	28.65
315.0	635.27	475.21	369.39	256.70	173.05	151.27	107.72	70.29	36.29
337.5	642.14	457.25	315.15	236.46	217.36	136.37	103.14	72.96	30.56
360.0	628.39	468.33	364.05	285.74	191.00	155.47	114.98	78.31	34.76
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	0.00	0.00	0.00	0.00	0.00	0.00	5.35
22.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45.0	1.53	0.00	0.00	0.00	0.00	0.00	3.82	0.00	0.00
67.5	0.00	9.17	0.00	0.00	0.00	0.00	7.26	0.00	0.00
90.0	0.00	0.00	0.00	0.00	7.64	0.00	0.00	0.00	8.40
112.5	0.00	4.20	0.00	3.06	0.00	1.53	0.00	0.00	0.00
135.0	0.00	0.00	0.00	0.00	2.29	0.00	4.20	0.00	2.67
157.5	0.00	0.00	0.00	0.00	0.00	3.06	0.00	0.00	0.00
180.0	0.00	2.67	0.00	0.00	8.79	2.67	0.00	0.00	0.00
202.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
225.0	12.61	0.00	0.00	0.00	0.00	0.00	0.00	1.15	0.00
247.5	0.00	0.00	0.00	0.00	0.00	0.00	4.97	12.61	1.15
270.0	0.38	0.00	0.00	0.00	2.29	2.29	0.00	0.00	0.00
292.5	0.00	0.00	3.44	10.31	0.00	0.00	0.00	0.00	0.00
315.0	0.00	5.35	1.15	9.55	0.00	0.00	0.38	0.38	3.44
337.5	0.00	2.67	0.00	2.67	0.00	0.00	0.00	0.00	0.00
360.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.35

0017440222 RIO 30W 4000K 3000lm

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	0.00	0.00	0.00	0.00	0.00	1.53	0.00	0.00
22.5	0.00	0.00	1.53	7.64	5.35	11.84	0.00	2.67	16.81
45.0	0.00	0.00	0.00	2.29	0.00	4.97	0.00	11.84	0.00
67.5	3.82	0.00	0.00	0.00	9.17	0.00	0.00	0.00	4.58
90.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.58	0.00
112.5	0.00	5.35	3.44	0.00	0.00	0.00	0.00	0.00	0.00
135.0	0.00	14.52	3.06	8.40	0.00	0.00	3.06	4.58	0.00
157.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0	0.00	0.00	0.38	0.00	13.37	1.53	0.00	0.00	0.00
202.5	0.76	0.00	3.44	0.00	0.00	3.44	9.55	0.00	3.44
225.0	7.26	0.00	0.00	0.00	0.00	0.76	0.00	0.00	0.00
247.5	16.43	0.00	0.38	0.00	0.00	0.76	6.11	0.00	0.00
270.0	0.00	7.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
292.5	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	6.88	0.00	0.00	7.26
337.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.20	0.00
360.0	0.00	0.00	0.00	0.00	0.00	0.00	1.53	0.00	0.00
C/γ(°)	180.0								
0.0	0.00								
22.5	0.00								
45.0	0.00								
67.5	7.64								
90.0	13.75								
112.5	0.00								
135.0	0.00								
157.5	0.00								
180.0	0.00								
202.5	0.00								
225.0	0.00								
247.5	7.64								
270.0	13.75								
292.5	0.00								
315.0	0.00								
337.5	0.00								
360.0	0.00								