



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440222 RIO 25W 6500K 2500lm

Luminaire:

Report No:

Voltage(V): 230.3000

Test No: KYZ-A250922053-01-006

Current(A): 0.1150

LampCAT: LED

Power (W): 25.0000

Lamp flux(lm): -1.0

PF: 0.9438

Number of Lamps: 1

Ballast type:

Length(mm): -249

Width(mm): -249

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2500.00

Efficiency(%): 100.00%

Lumens(lm)/Power(W): 100.00

Central intensity(cd): 1294.573

Maximum intensity(cd): 1295.348

Angle of maximum intensity: C=270.0 γ =5.0

Beam Angle(50%Imax): [C0/180]Total=83.5

[C90/270]Total=83.9

Field angle(10%Imax): [C0/180]Total=145.7

[C90/270]Total=145.6

Maximum s/h(1/2): C0_180=1.13 C90_270=1.12

Maximum s/h(1/4): C0_180=1.20 C90_270=1.17

Up flux rate of lamp(%): 0.30%

Down flux rate of lamp(%): 99.70%

Up flux rate of LUM(%): 0.30%

Down flux rate of LUM(%): 99.70%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 87.115%

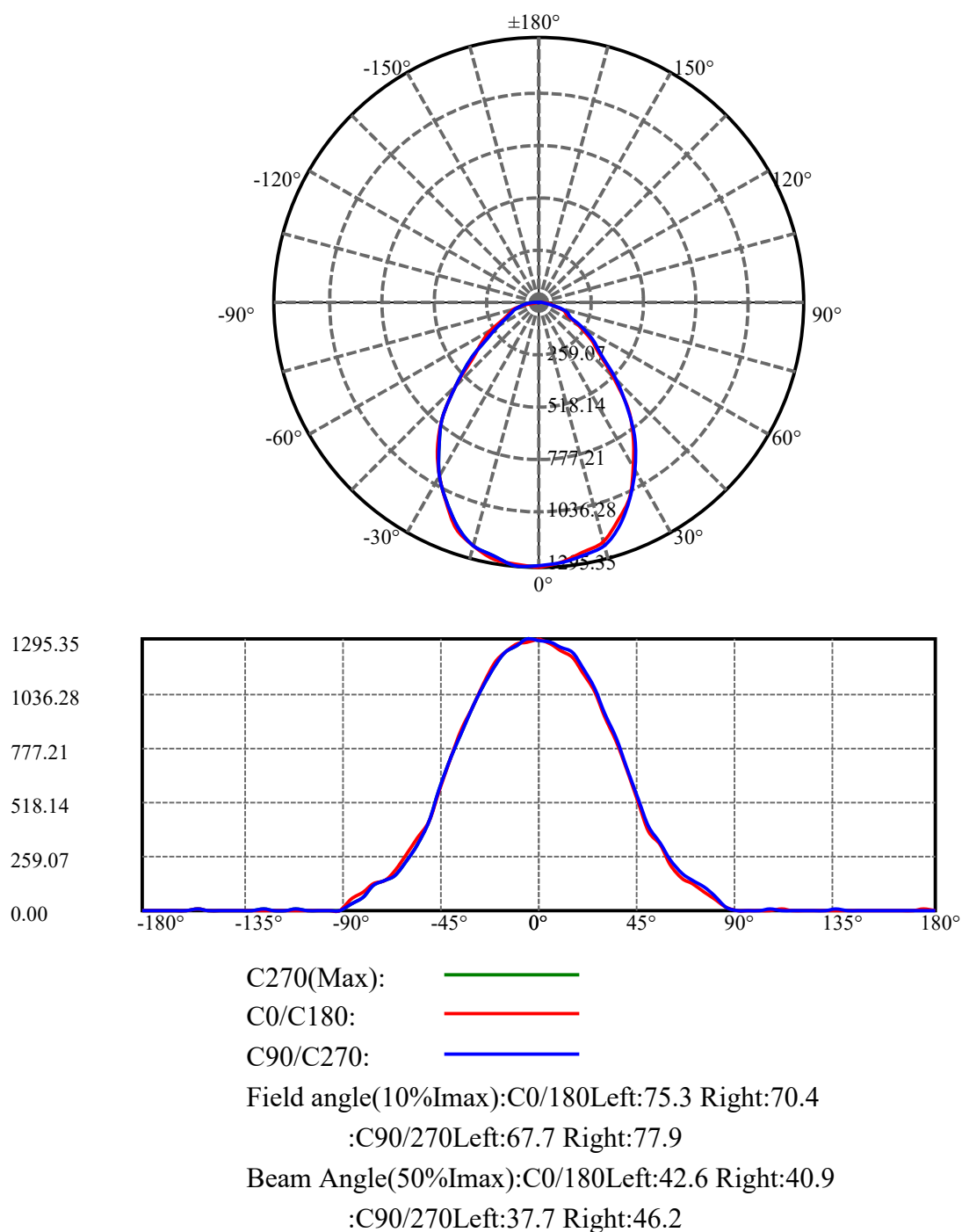
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1360.911	0.000	0	.000%	.000%
5.0	1352.479	30.641	30.641	.000%	1.226%
10.0	1332.564	90.731	121.372	.000%	4.855%
15.0	1295.221	147.243	268.615	.000%	10.745%
20.0	1227.813	196.414	465.029	.000%	18.601%
25.0	1130.419	233.633	698.662	.000%	27.946%
30.0	1007.471	255.563	954.225	.000%	38.169%
35.0	883.165	262.986	1217.211	.000%	48.688%
40.0	750.656	257.489	1474.701	.000%	58.988%
45.0	583.317	233.313	1708.013	.000%	68.321%
50.0	428.280	193.084	1901.097	.000%	76.044%
55.0	321.531	154.002	2055.099	.000%	82.204%
60.0	240.795	122.779	2177.879	.000%	87.115%
65.0	181.974	97.082	2274.961	.000%	90.998%
70.0	139.095	76.793	2351.754	.000%	94.070%
75.0	109.543	61.390	2413.144	.000%	96.526%
80.0	72.405	45.987	2459.131	.000%	98.365%
85.0	27.604	25.669	2484.8	.000%	99.392%
90.0	1.897	7.630	2492.43	.000%	99.697%
95.0	0.666	0.663	2493.093	.000%	99.724%
100.0	0.538	0.309	2493.402	.000%	99.736%
105.0	0.897	0.363	2493.765	.000%	99.751%
110.0	1.410	0.570	2494.335	.000%	99.773%
115.0	1.256	0.638	2494.972	.000%	99.799%
120.0	0.461	0.394	2495.366	.000%	99.815%
125.0	1.999	0.537	2495.904	.000%	99.836%
130.0	1.769	0.774	2496.678	.000%	99.867%
135.0	1.102	0.548	2497.225	.000%	99.889%
140.0	1.743	0.498	2497.723	.000%	99.909%
145.0	1.076	0.444	2498.167	.000%	99.927%
150.0	1.768	0.396	2498.563	.000%	99.943%
155.0	2.614	0.524	2499.087	.000%	99.964%
160.0	1.589	0.416	2499.503	.000%	99.980%
165.0	1.205	0.217	2499.721	.000%	99.989%
170.0	1.282	0.139	2499.86	.000%	99.994%
175.0	1.794	0.104	2499.964	.000%	99.999%
180.0	1.333	0.035	2499.999	.000%	100.000%

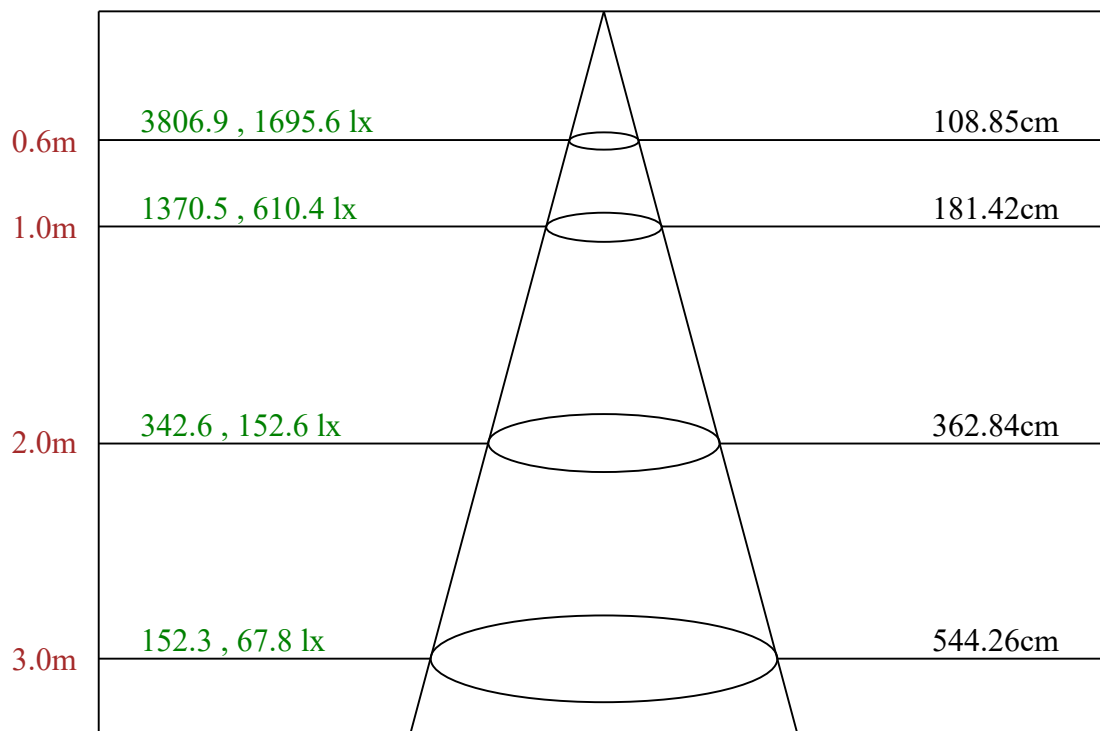
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	954.23	N.A.	38.17%
0-40	1474.70	N.A.	58.99%
0-60	2177.88	N.A.	87.12%
0-90	2492.43	N.A.	99.70%
0-120	2495.37	N.A.	99.81%
0-180	2500.00	N.A.	100.00%
60-90	437.33	N.A.	17.49%
90-120	10.57	N.A.	0.42%
90-130	11.88	N.A.	0.48%
90-150	13.76	N.A.	0.55%
90-180	15.16	N.A.	0.61%
0-53.21	2000.00	N.A.	80.00%

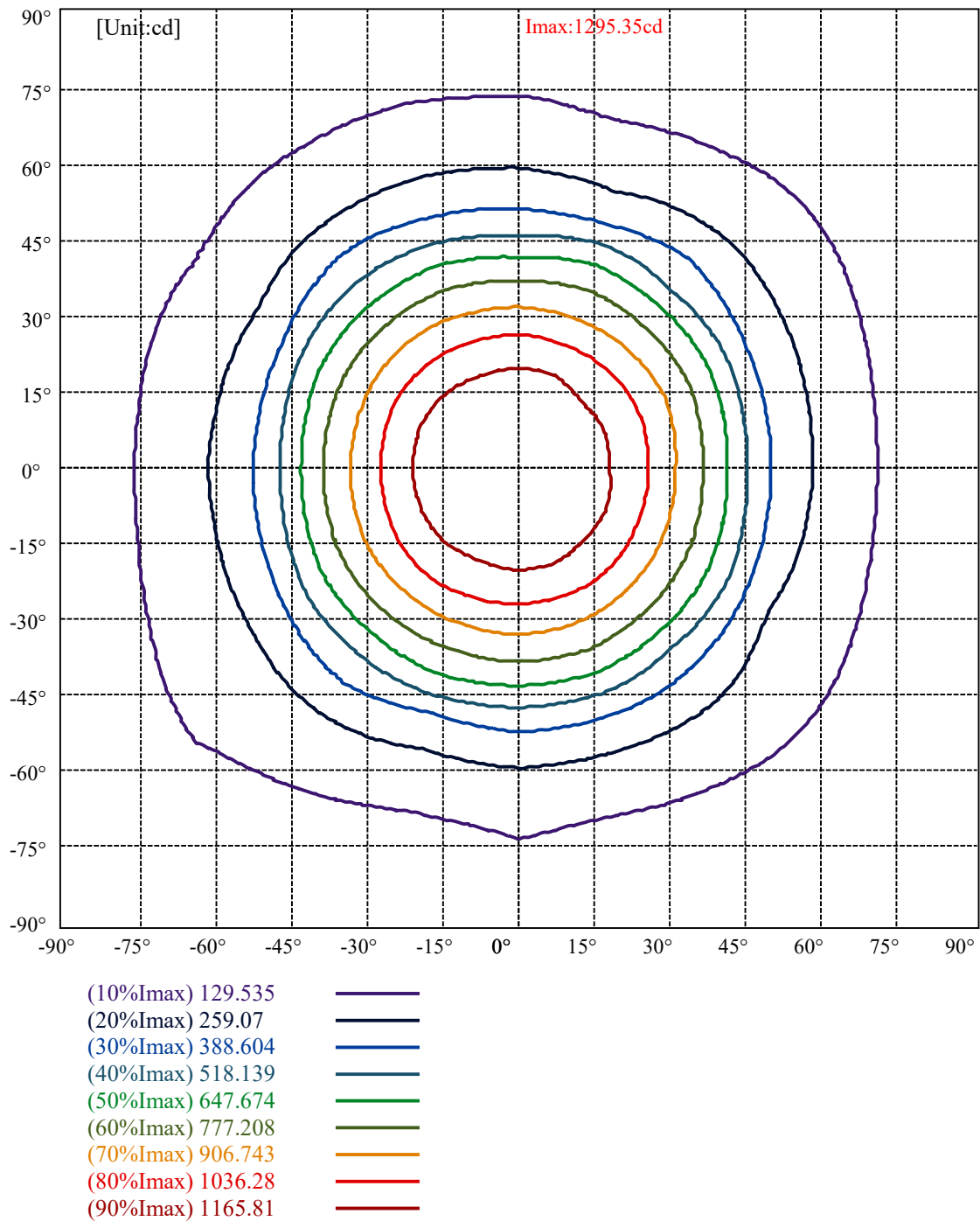
ZONAL LUMEN SUMMARY

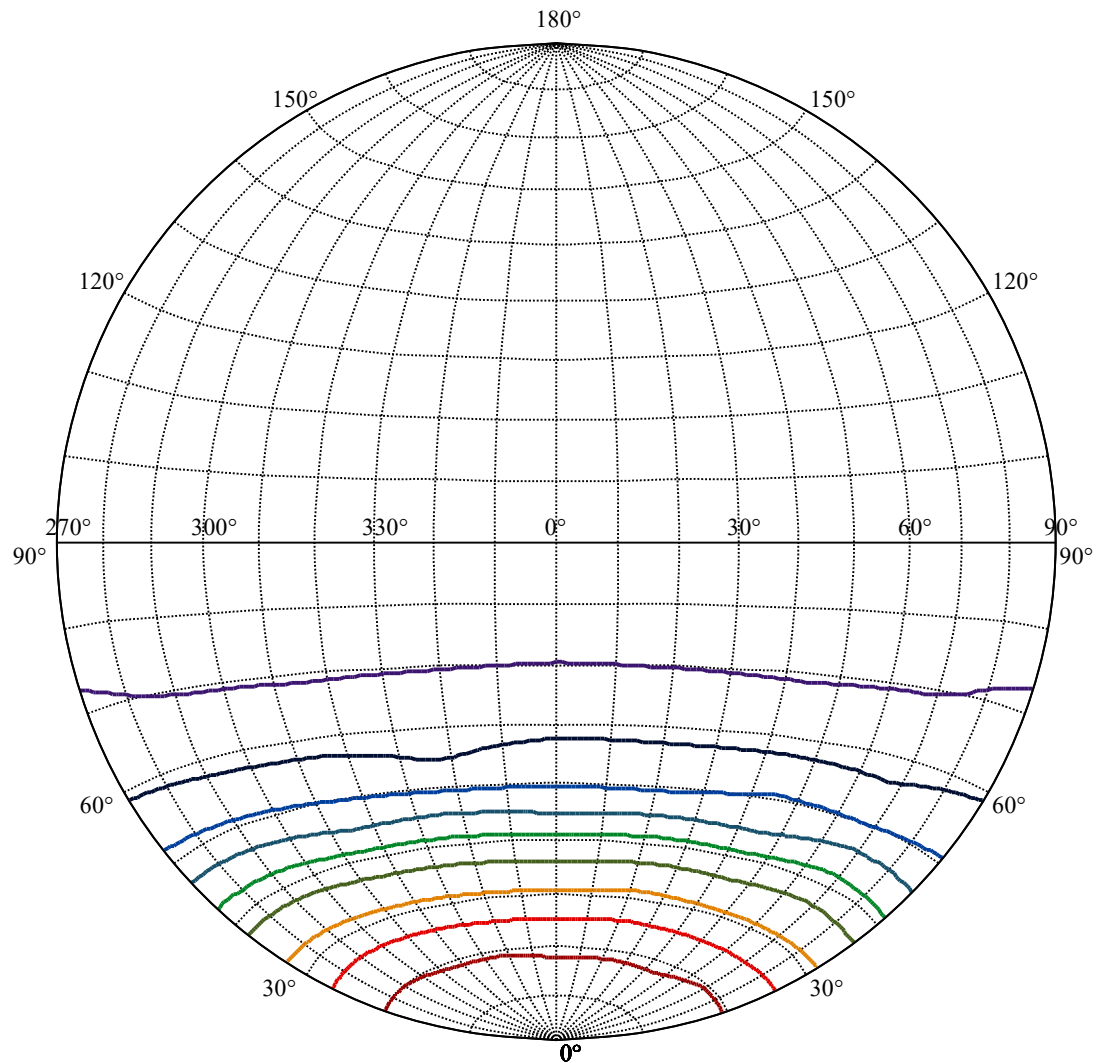
0-10	121.37
10-20	343.66
20-30	489.20
30-40	520.48
40-50	426.40
50-60	276.78
60-70	173.88
70-80	107.38
80-90	33.30
90-100	0.97
100-110	0.93
110-120	1.03
120-130	1.31
130-140	1.05
140-150	0.84
150-160	0.94
160-170	0.36
170-180	0.10





Max , Ave Beam angle of C270 plane 84.42





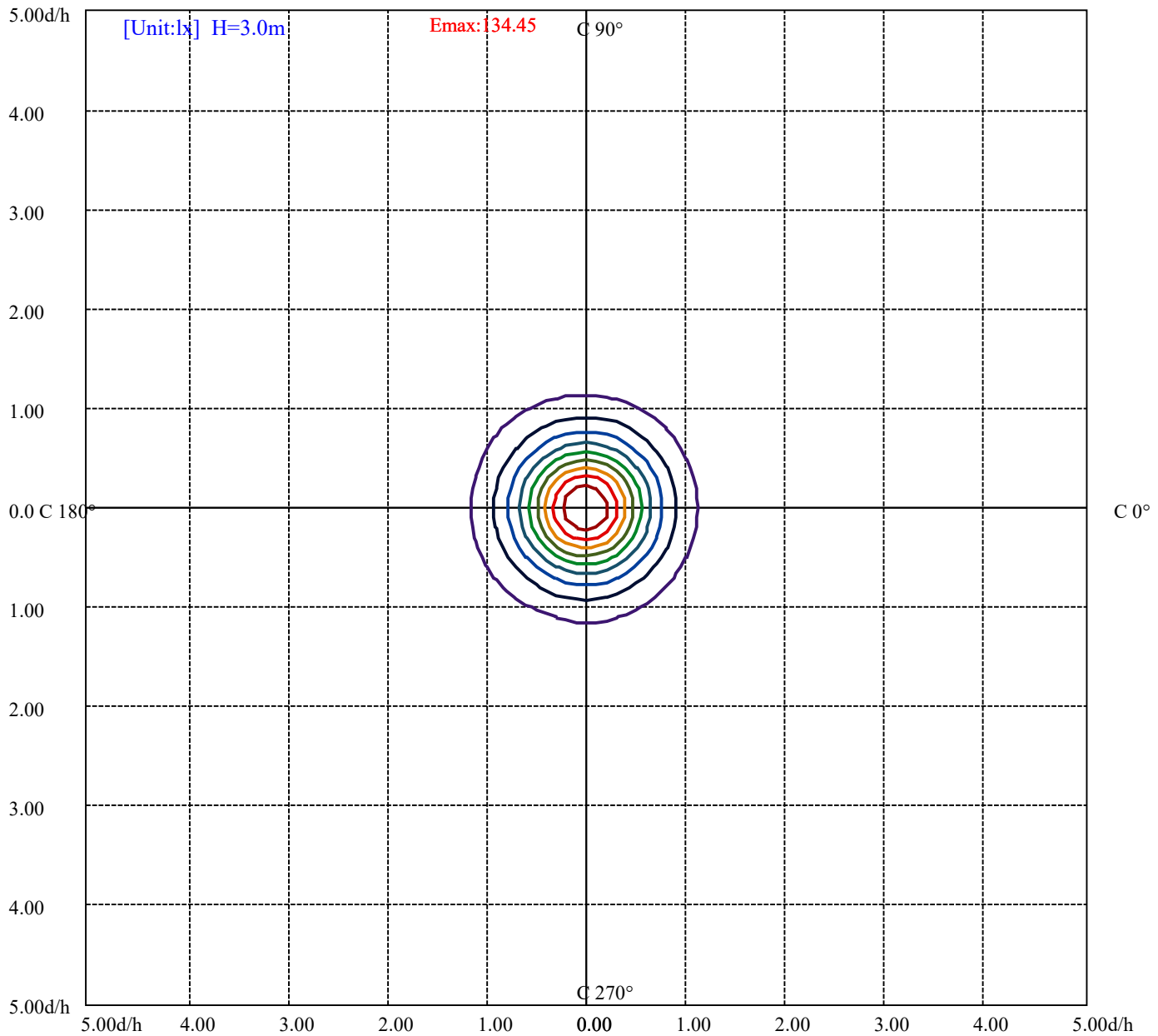
House

[Unit:cd]

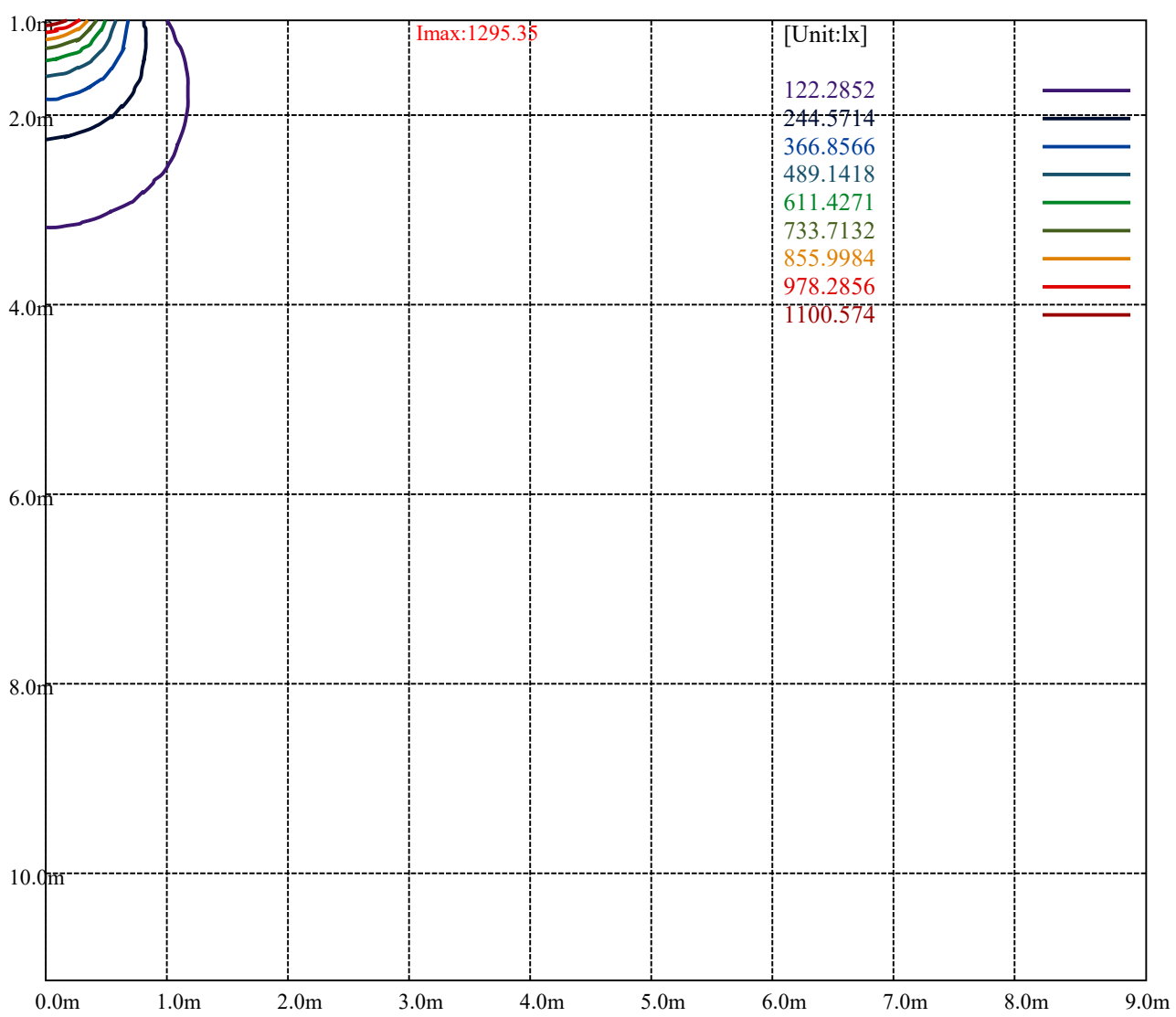
Road

Imax:1295.35
(10%Imax) 122.3589
(20%Imax) 244.7178
(30%Imax) 367.0757
(40%Imax) 489.4346
(50%Imax) 611.7936
(60%Imax) 734.1515
(70%Imax) 856.5104
(80%Imax) 978.8712
(90%Imax) 1101.225





(10%Emax)	13.44503	
(20%Emax)	26.88996	
(30%Emax)	40.33499	
(40%Emax)	53.77992	
(50%Emax)	67.22495	
(60%Emax)	80.66988	
(70%Emax)	94.11491	
(80%Emax)	107.5596	
(90%Emax)	121.0045	



Luminance Table

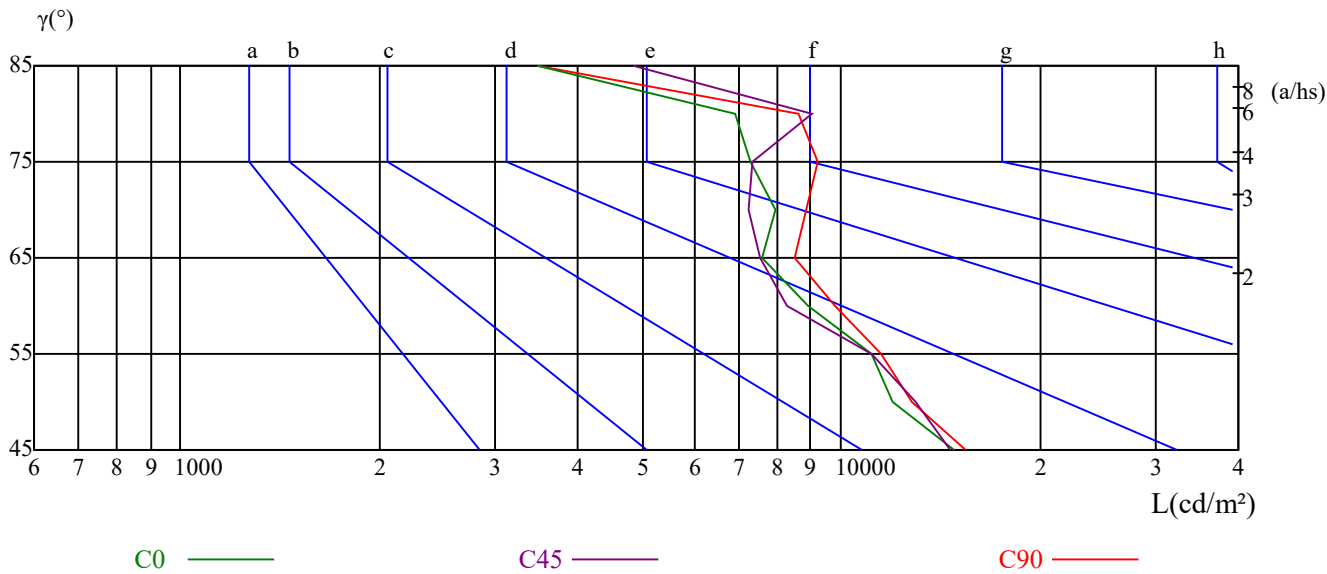
γ	45	50	55	60	65	70	75	80	85
C0	14861	11980	11137	8893	7586	7954	7315	6917	3468
C45	14636	12982	11095	8305	7567	7233	7346	9025	4837
C90	15424	12796	11525	9769	8527	8861	9221	8612	3468

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
8423	8433	7731	8898	9313	7492	7986	5066	4837

Glare Table

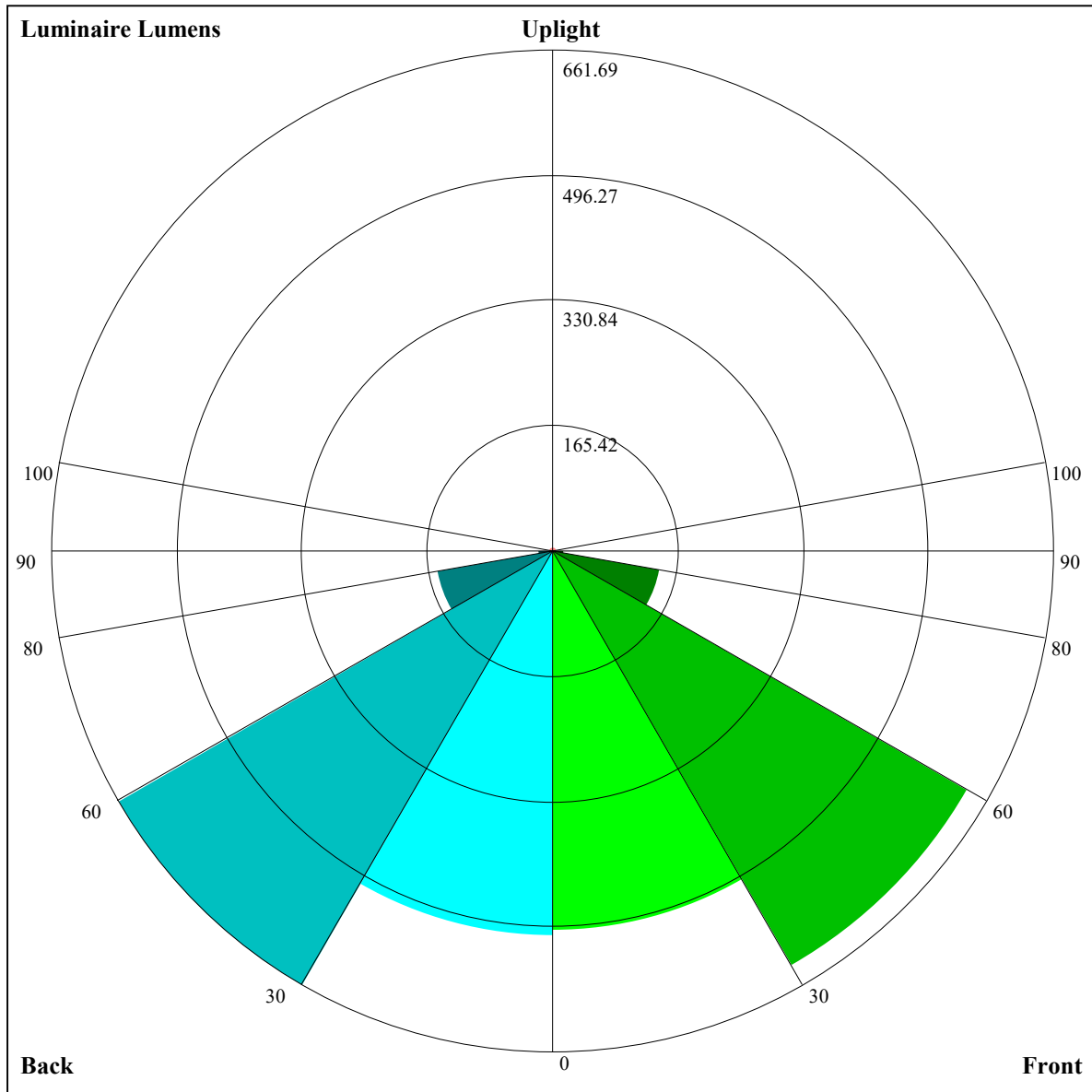
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	15.51	16.96	15.88	17.28	17.60	15.63	17.07	15.99	17.39	17.72
	3H	16.53	17.83	16.91	18.17	18.52	16.74	18.04	17.12	18.38	18.73
	4H	17.01	18.23	17.41	18.59	18.96	17.35	18.56	17.75	18.92	19.29
	6H	17.41	18.54	17.83	18.91	19.32	17.87	18.99	18.28	19.37	19.77
	8H	17.50	18.59	17.92	18.97	19.38	17.99	19.07	18.40	19.45	19.86
	12H	17.52	18.55	17.94	18.95	19.37	18.00	19.04	18.42	19.43	19.85
4H	2H	15.87	17.09	16.27	17.45	17.82	15.97	17.19	16.37	17.55	17.92
	3H	17.09	18.12	17.52	18.51	18.93	17.26	18.28	17.68	18.68	19.09
	4H	17.80	18.70	18.23	19.12	19.57	18.07	18.98	18.51	19.40	19.85
	6H	18.29	19.09	18.76	19.54	20.00	18.68	19.49	19.15	19.93	20.39
	8H	18.46	19.21	18.94	19.66	20.13	18.87	19.62	19.35	20.08	20.55
	12H	18.53	19.23	19.02	19.68	20.19	18.94	19.64	19.43	20.09	20.60
8H	4H	18.03	18.78	18.51	19.23	19.70	18.28	19.03	18.76	19.48	19.96
	6H	18.67	19.30	19.17	19.78	20.28	19.01	19.64	19.51	20.12	20.62
	8H	18.97	19.51	19.49	20.03	20.53	19.31	19.86	19.84	20.38	20.87
	12H	19.11	19.56	19.64	20.08	20.60	19.42	19.88	19.95	20.40	20.91
12H	4H	18.06	18.75	18.54	19.20	19.72	18.30	19.00	18.79	19.45	19.96
	6H	18.79	19.34	19.32	19.86	20.35	19.12	19.67	19.64	20.19	20.68
	8H	19.08	19.54	19.61	20.06	20.58	19.41	19.87	19.94	20.39	20.90
Variation with the observer position at spacings:											
S = 1.0H		0.3/-0.7					0.4/-0.7				
S = 1.5H		0.8/-0.9					0.8/-1.1				
S = 2.0H		1.6/-1.1					1.6/-1.3				
Standard tables:		BK3					BK3				
Uncorrected UGR		4.8					4.6				

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



Luminaire Lumens:

FL=500.76,FM=633.03,FH=143.74,FVH=15.16

BL=508.11,BM=661.69,BH=155.88,BVH=19.77

UL=1.03,UH=6.98

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	1294.57	1275.20	1240.34	1208.96	1131.88	1047.43	924.64	804.94	678.66
22.5	1275.20	1273.27	1253.90	1203.15	1145.82	1054.02	945.17	819.28	695.32
45.0	1281.02	1272.11	1243.05	1202.77	1135.37	1047.43	931.61	808.43	682.54
67.5	1287.60	1278.69	1255.45	1218.65	1157.45	1050.15	928.51	822.76	708.49
90.0	1283.73	1279.08	1255.84	1229.50	1157.83	1060.22	941.68	819.28	685.25
112.5	1282.56	1281.79	1264.75	1225.23	1157.83	1064.87	945.17	830.12	713.91
135.0	1290.70	1288.37	1277.14	1233.37	1168.29	1069.51	970.35	835.55	710.81
157.5	1288.76	1277.92	1269.39	1216.71	1179.91	1093.92	967.25	857.63	727.08
180.0	1294.57	1282.56	1274.82	1234.14	1179.14	1075.32	971.51	863.05	734.06
202.5	1275.20	1273.27	1258.55	1248.86	1179.14	1090.82	968.41	867.31	732.51
225.0	1281.02	1272.88	1267.46	1224.07	1170.62	1098.18	962.99	846.78	717.79
247.5	1287.60	1264.36	1246.93	1236.85	1160.16	1076.87	971.90	839.81	720.11
270.0	1283.73	1295.35	1259.32	1229.50	1167.13	1067.19	970.74	848.33	730.18
292.5	1282.56	1277.53	1255.06	1225.62	1164.42	1074.94	954.08	845.23	727.05
315.0	1290.70	1279.85	1250.03	1219.04	1150.47	1064.09	941.68	822.38	694.16
337.5	1288.76	1268.62	1267.84	1219.04	1151.25	1049.76	930.84	816.95	692.22
360.0	1294.57	1275.20	1240.34	1208.96	1131.88	1047.43	924.64	804.94	678.66
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	511.71	374.97	311.05	216.54	156.11	132.48	92.19	58.49	14.72
22.5	522.56	366.83	283.94	228.93	167.73	127.06	102.65	58.10	27.89
45.0	503.96	406.35	309.89	202.20	155.72	120.47	92.58	76.31	20.53
67.5	556.26	385.81	275.80	211.11	177.41	120.86	108.07	58.88	21.69
90.0	531.08	400.54	321.90	237.84	175.48	147.59	116.21	72.82	14.72
112.5	552.77	411.77	316.48	245.20	178.19	146.81	115.43	90.64	22.08
135.0	557.80	441.98	317.25	223.12	163.08	131.32	101.49	62.37	22.47
157.5	582.60	412.93	294.40	223.51	183.61	125.51	114.27	79.41	39.90
180.0	569.04	422.61	342.04	273.48	190.58	145.65	132.09	87.16	53.07
202.5	586.86	426.49	316.86	238.62	196.01	146.04	127.83	75.92	42.22
225.0	560.52	433.85	330.81	231.64	160.76	134.03	89.48	67.40	25.95
247.5	589.57	392.01	282.39	226.22	174.70	117.37	83.67	58.49	28.28
270.0	576.01	429.59	314.93	241.33	171.60	142.16	118.53	65.46	28.28
292.5	563.62	412.16	291.69	230.09	177.80	120.47	99.17	60.43	26.34
315.0	517.52	387.36	299.82	204.14	156.88	119.70	94.13	56.56	13.17
337.5	534.18	367.61	250.24	205.30	164.63	124.73	67.79	65.85	15.88
360.0	511.71	374.97	311.05	216.54	156.11	132.48	92.19	58.49	14.72
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	3.87	0.00	0.00	0.00	6.58	0.00	0.00	0.00	0.00
22.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	3.87
45.0	0.00	4.65	0.00	0.00	0.39	8.13	6.58	0.00	0.00
67.5	0.00	5.04	0.00	0.00	0.00	0.00	0.00	0.00	17.04
90.0	2.32	0.00	0.39	6.58	0.00	0.00	0.00	2.71	0.00
112.5	0.00	0.00	0.39	0.00	0.00	0.00	0.00	6.97	0.00
135.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157.5	14.33	0.00	0.00	0.00	0.00	0.00	0.00	5.81	1.94
180.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
202.5	1.94	0.00	7.36	2.71	0.77	6.20	0.00	0.00	2.71
225.0	3.49	0.00	0.00	0.00	0.00	3.10	0.00	2.71	0.00
247.5	0.00	0.00	0.00	0.00	0.00	0.00	0.39	5.42	0.00
270.0	0.00	0.00	0.00	0.00	10.07	0.00	0.00	5.81	0.00
292.5	0.00	0.00	0.00	0.00	0.00	1.55	0.00	0.00	0.00
315.0	2.71	0.00	0.00	4.26	3.49	0.00	0.00	0.00	0.77
337.5	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.39
360.0	3.87	0.00	0.00	0.00	6.58	0.00	0.00	0.00	0.00

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	1.16	0.00	0.00	0.00	0.00	0.00	2.71	0.00	9.68
22.5	3.10	2.71	1.55	0.00	4.26	0.00	5.81	3.10	0.00
45.0	0.00	0.00	0.00	0.00	0.00	2.32	0.00	0.00	6.58
67.5	0.00	5.81	8.91	0.00	0.00	0.00	0.00	0.00	0.00
90.0	5.42	0.00	0.00	0.00	0.00	0.00	1.16	0.00	0.00
112.5	0.00	0.00	0.00	1.94	0.00	5.81	0.00	0.00	0.00
135.0	0.00	7.36	0.00	0.00	0.00	5.04	0.00	0.00	1.55
157.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.65	0.00
180.0	0.00	0.00	1.55	0.00	4.26	0.00	0.00	0.00	0.00
202.5	0.00	0.00	0.00	15.88	3.10	4.65	1.55	0.00	0.00
225.0	2.71	8.52	0.00	0.00	4.65	0.00	0.00	3.87	0.00
247.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.04	0.00
270.0	0.00	1.94	0.77	0.00	9.68	0.00	0.00	0.77	0.00
292.5	0.00	0.00	2.32	0.00	0.77	0.00	6.58	1.94	9.30
315.0	0.00	0.00	0.00	0.39	12.78	6.20	0.39	0.00	0.00
337.5	4.26	0.00	1.16	8.52	0.00	0.00	0.00	0.00	0.00
360.0	1.16	0.00	0.00	0.00	0.00	0.00	2.71	0.00	9.68

C/γ(°)	180.0
0.0	0.00
22.5	0.00
45.0	0.00
67.5	7.75
90.0	0.00
112.5	0.00
135.0	0.00
157.5	2.32
180.0	0.00
202.5	0.00
225.0	0.00
247.5	7.75
270.0	0.00
292.5	0.00
315.0	0.00
337.5	2.32
360.0	0.00