



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440222 RIO 25W 4000K 2500lm

Luminaire:

Report No:

Voltage(V): 230.3000

Test No: KYZ-A250922053-01-005

Current(A): 0.1153

LampCAT: LED

Power (W): 25.0000

Lamp flux(lm): -1.0

PF: 0.9416

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): 1289.098

Maximum intensity(cd): 1289.098

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=83.9

[C90/270]Total=84.8

Field angle(10%Imax): [C0/180]Total=144.0

[C90/270]Total=146.1

Maximum s/h(1/2): C0_180=1.08 C90_270=1.14

Maximum s/h(1/4): C0_180=1.14 C90_270=1.19

Up flux rate of lamp(%): 0.39%

Down flux rate of lamp(%): 99.61%

Up flux rate of LUM(%): 0.39%

Down flux rate of LUM(%): 99.61%

CIE Type : Direct lighting

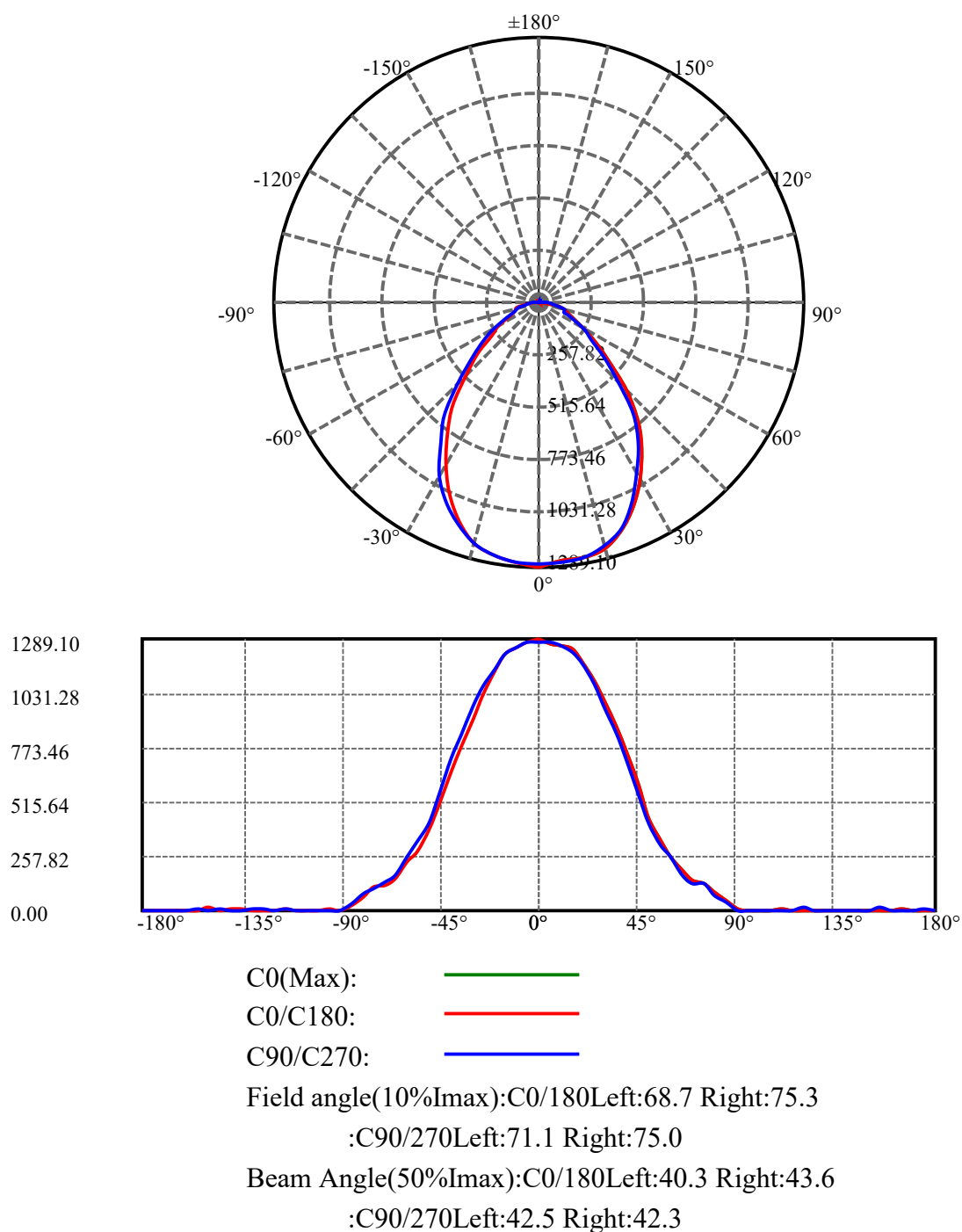
Output flux ratio in π solid angle : 86.809%

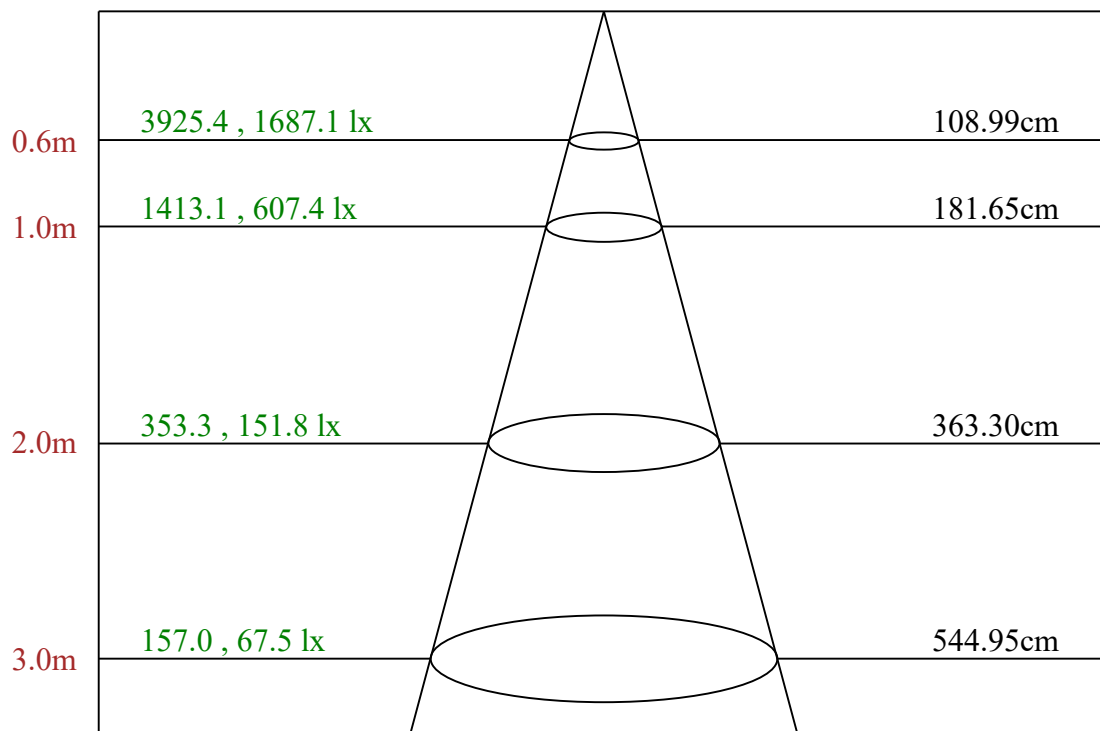
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1400.843	0.000	0	.000%	.000%
5.0	1390.206	30.437	30.437	.000%	1.217%
10.0	1375.623	90.257	120.694	.000%	4.828%
15.0	1336.665	146.768	267.462	.000%	10.698%
20.0	1266.951	195.739	463.201	.000%	18.528%
25.0	1166.352	232.806	696.007	.000%	27.840%
30.0	1043.507	255.111	951.118	.000%	38.045%
35.0	909.897	262.402	1213.52	.000%	48.541%
40.0	771.545	255.910	1469.43	.000%	58.777%
45.0	606.307	232.726	1702.156	.000%	68.086%
50.0	442.915	193.400	1895.556	.000%	75.822%
55.0	326.682	152.647	2048.203	.000%	81.928%
60.0	252.021	122.024	2170.227	.000%	86.809%
65.0	189.099	97.824	2268.051	.000%	90.722%
70.0	145.016	77.174	2345.225	.000%	93.809%
75.0	114.387	61.852	2407.077	.000%	96.283%
80.0	75.506	46.350	2453.427	.000%	98.137%
85.0	35.780	27.585	2481.011	.000%	99.240%
90.0	1.205	9.238	2490.249	.000%	99.610%
95.0	1.256	0.615	2490.864	.000%	99.634%
100.0	1.538	0.692	2491.556	.000%	99.662%
105.0	0.179	0.419	2491.975	.000%	99.679%
110.0	1.589	0.422	2492.397	.000%	99.696%
115.0	1.153	0.633	2493.03	.000%	99.721%
120.0	1.589	0.608	2493.638	.000%	99.745%
125.0	2.691	0.903	2494.541	.000%	99.782%
130.0	2.896	1.108	2495.649	.000%	99.826%
135.0	2.255	0.950	2496.599	.000%	99.864%
140.0	1.640	0.658	2497.257	.000%	99.890%
145.0	2.025	0.558	2497.815	.000%	99.913%
150.0	2.025	0.544	2498.359	.000%	99.934%
155.0	2.025	0.467	2498.826	.000%	99.953%
160.0	2.102	0.395	2499.221	.000%	99.969%
165.0	2.537	0.349	2499.57	.000%	99.983%
170.0	1.230	0.204	2499.773	.000%	99.991%
175.0	3.973	0.170	2499.943	.000%	99.998%
180.0	1.333	0.058	2500.001	.000%	100.000%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	951.12	N.A.	38.04%
0-40	1469.43	N.A.	58.78%
0-60	2170.23	N.A.	86.81%
0-90	2490.25	N.A.	99.61%
0-120	2493.64	N.A.	99.75%
0-180	2500.00	N.A.	100.00%
60-90	442.05	N.A.	17.68%
90-120	12.63	N.A.	0.51%
90-130	14.64	N.A.	0.59%
90-150	17.35	N.A.	0.69%
90-180	18.93	N.A.	0.76%
0-53.42	2000.00	N.A.	80.00%

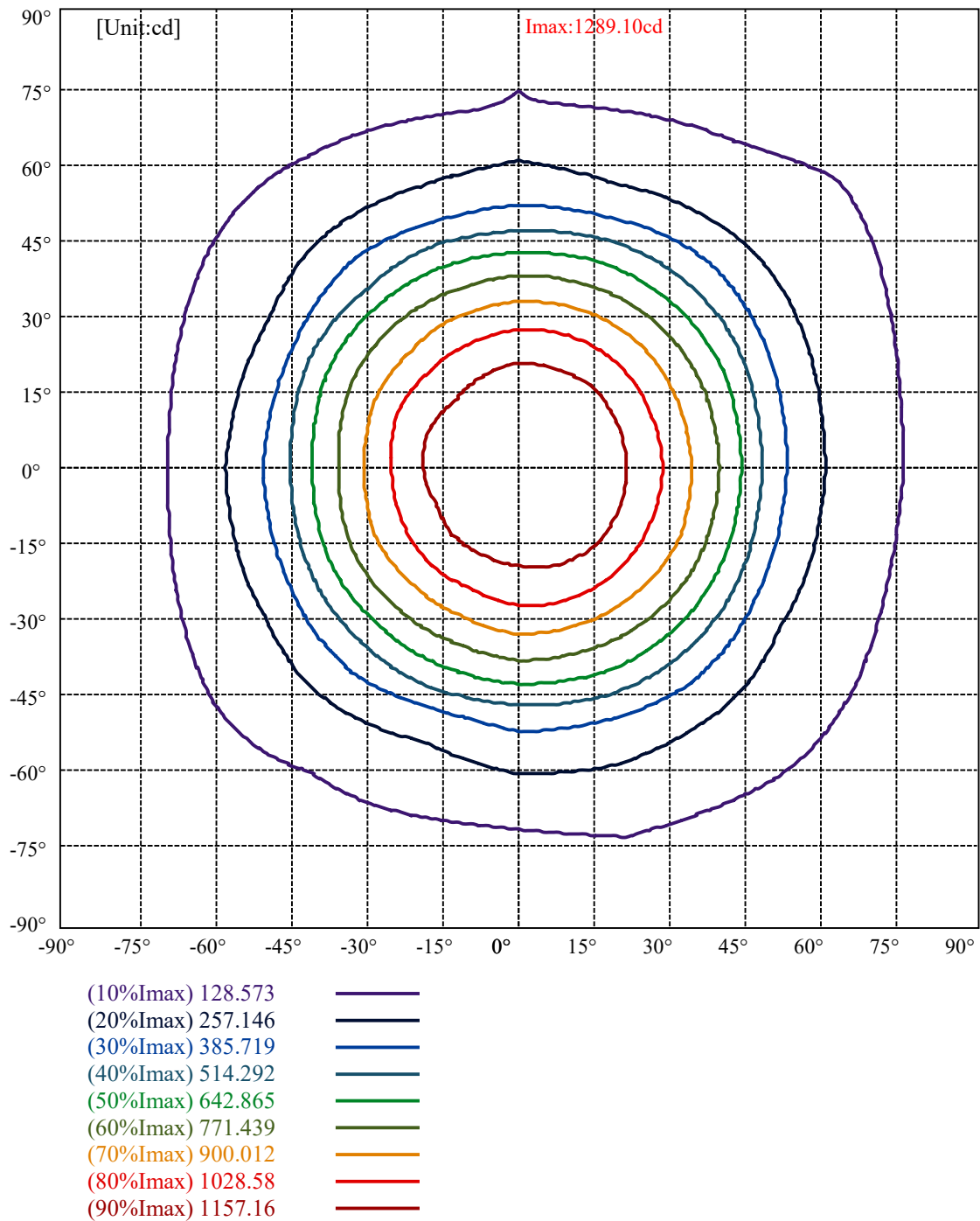
ZONAL LUMEN SUMMARY

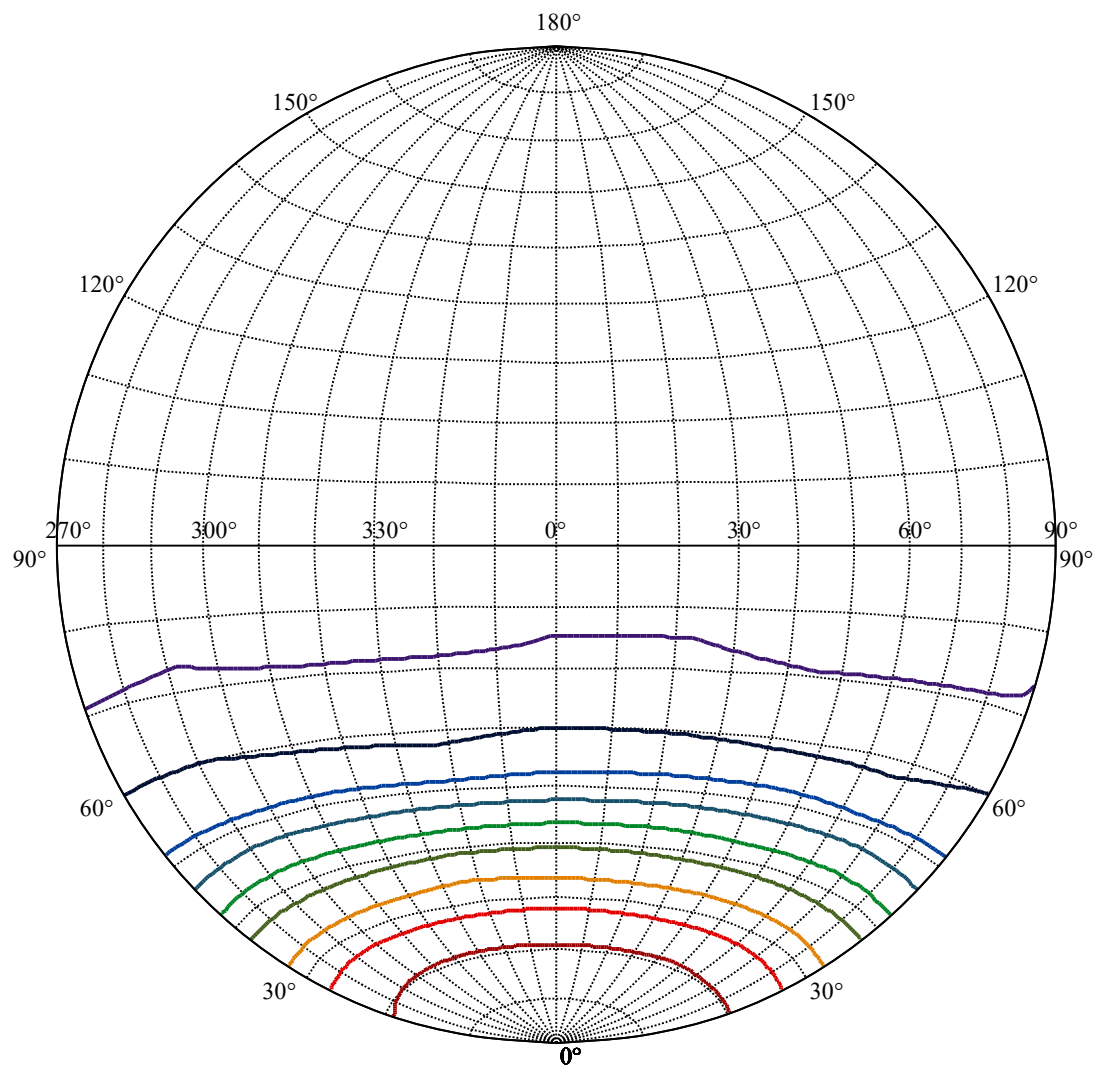
0-10	120.69
10-20	342.51
20-30	487.92
30-40	518.31
40-50	426.13
50-60	274.67
60-70	175.00
70-80	108.20
80-90	36.82
90-100	1.31
100-110	0.84
110-120	1.24
120-130	2.01
130-140	1.61
140-150	1.10
150-160	0.86
160-170	0.55
170-180	0.17





Max , Ave Beam angle of C0 plane 84.49





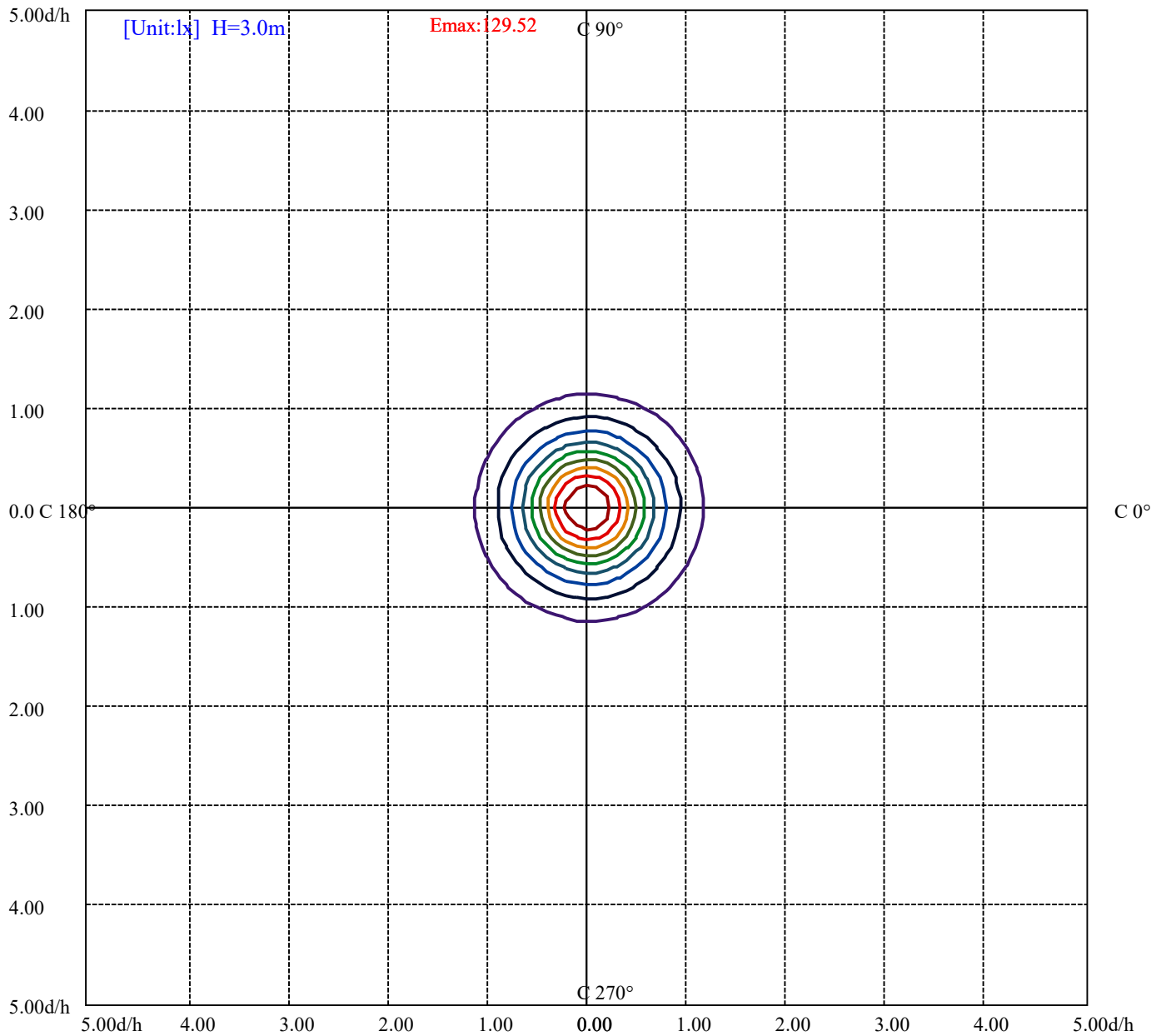
House

[Unit:cd]

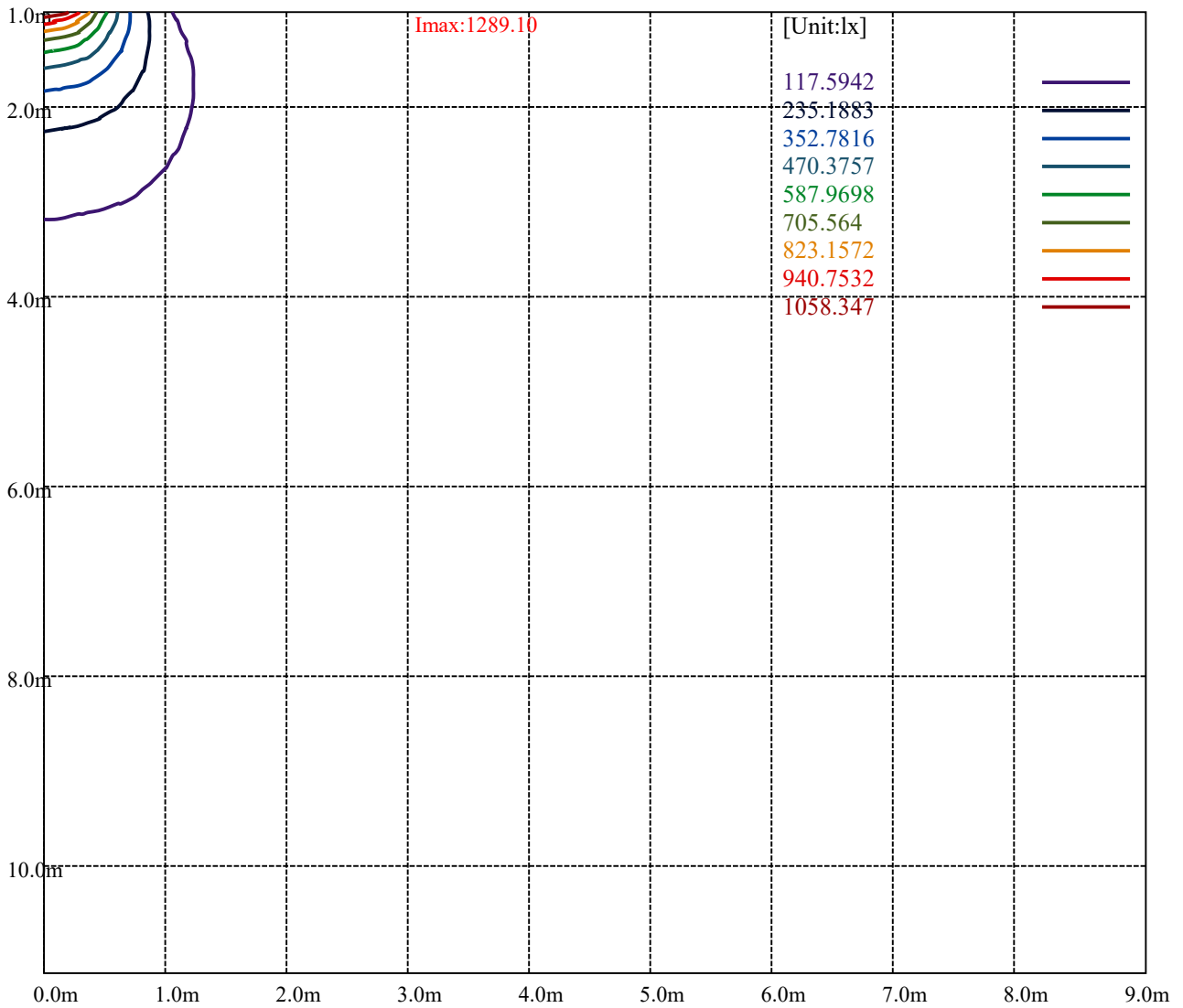
Road

Imax:1289.10
(10%Imax) 117.5942
(20%Imax) 235.1883
(30%Imax) 352.7816
(40%Imax) 470.3757
(50%Imax) 587.9698
(60%Imax) 705.564
(70%Imax) 823.1572
(80%Imax) 940.7532
(90%Imax) 1058.347





(10%E _{max}) 12.95229	
(20%E _{max}) 25.90449	
(30%E _{max}) 38.85678	
(40%E _{max}) 51.80897	
(50%E _{max}) 64.76126	
(60%E _{max}) 77.71346	
(70%E _{max}) 90.66575	
(80%E _{max}) 103.6179	
(90%E _{max}) 116.5704	



Luminance Table

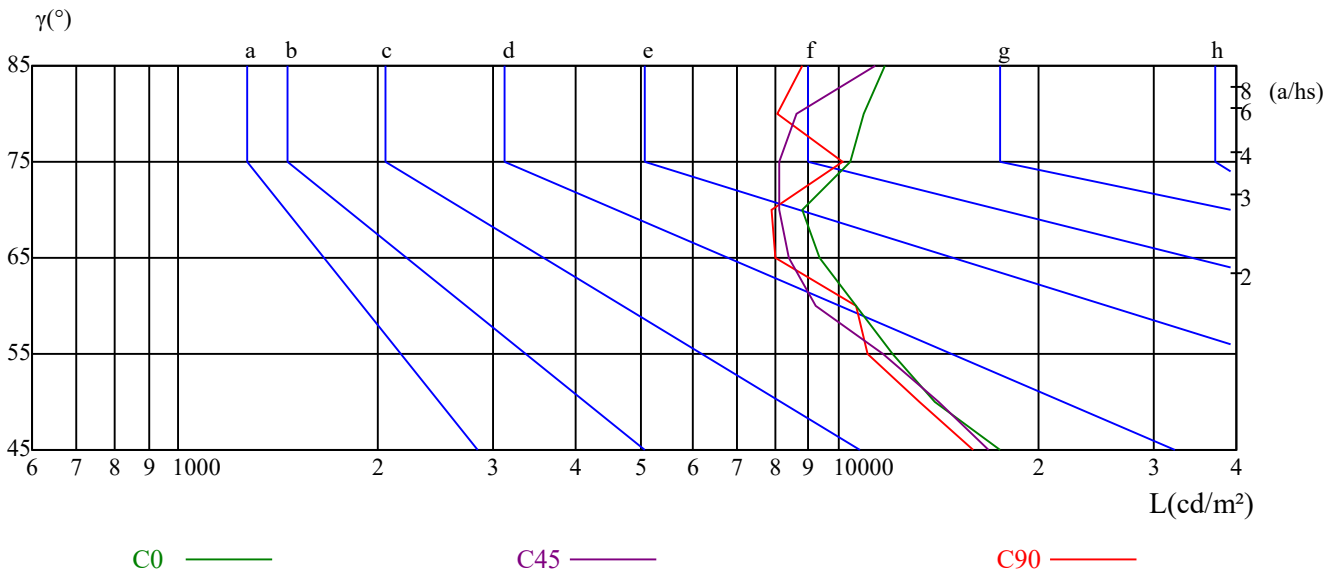
γ	45	50	55	60	65	70	75	80	85
C0	17491	13983	12094	10632	9361	8805	10418	10883	11723
C45	16894	14186	11639	9203	8380	8108	8133	8627	11370
C90	15992	13278	11050	10647	8016	7929	10121	8096	8814

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
8453	8134	7794	9572	9261	7354	8726	8550	7162

Glare Table

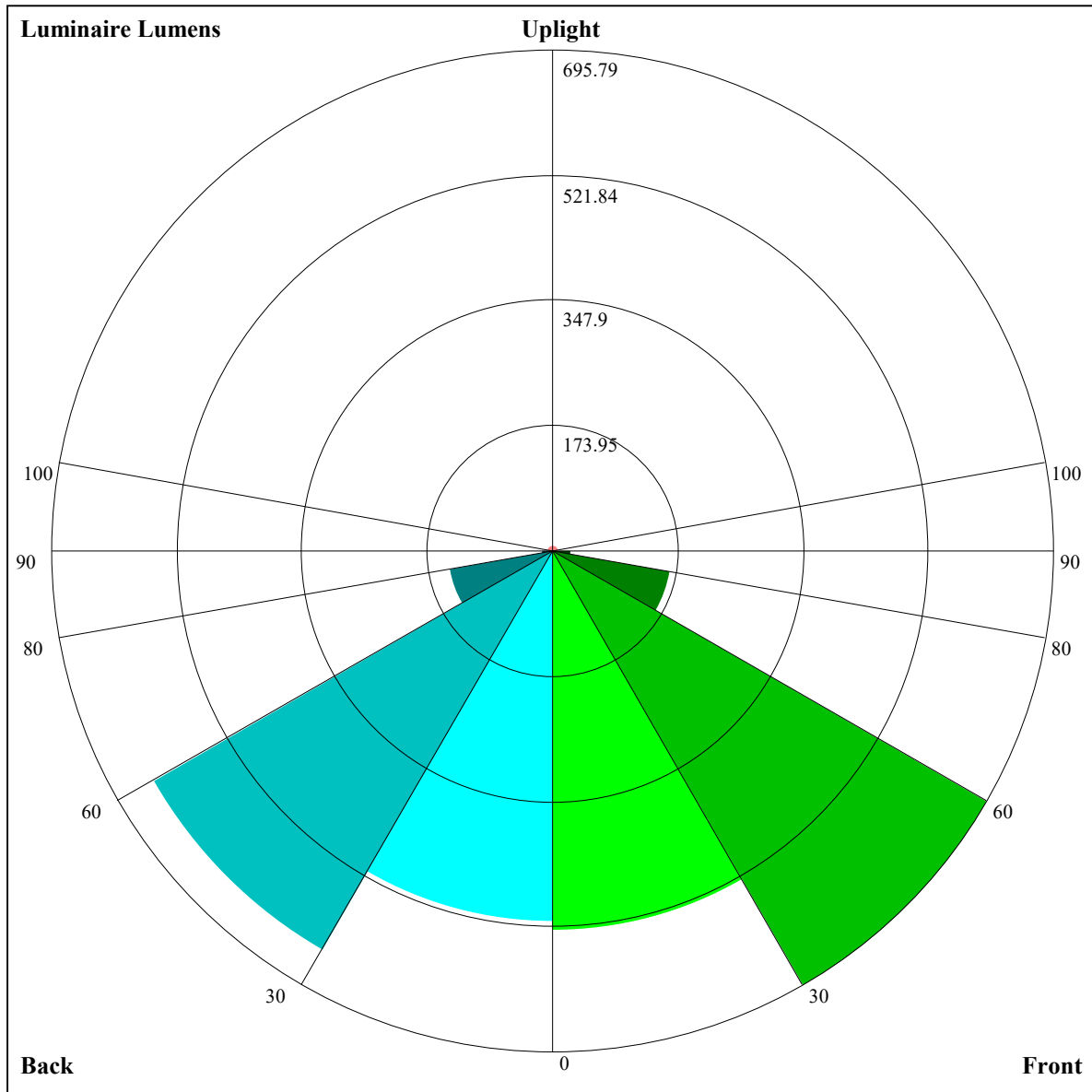
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	16.60	18.04	16.96	18.36	18.69	16.22	17.67	16.59	17.99	18.32
	3H	17.68	18.98	18.07	19.33	19.68	17.24	18.54	17.62	18.88	19.23
	4H	18.33	19.54	18.73	19.90	20.27	17.80	19.02	18.20	19.38	19.75
	6H	18.97	20.09	19.38	20.47	20.87	18.32	19.44	18.73	19.82	20.22
	8H	19.22	20.30	19.63	20.69	21.10	18.48	19.56	18.90	19.95	20.36
	12H	19.42	20.46	19.85	20.86	21.28	18.60	19.64	19.03	20.04	20.46
4H	2H	16.93	18.14	17.33	18.50	18.88	16.62	17.84	17.02	18.20	18.57
	3H	18.24	19.27	18.66	19.66	20.08	17.83	18.86	18.25	19.25	19.67
	4H	19.13	20.03	19.57	20.46	20.91	18.53	19.44	18.97	19.86	20.31
	6H	19.90	20.70	20.37	21.15	21.61	19.17	19.98	19.64	20.43	20.88
	8H	20.26	21.01	20.74	21.46	21.94	19.44	20.19	19.92	20.65	21.12
	12H	20.58	21.28	21.06	21.73	22.24	19.65	20.35	20.14	20.80	21.32
8H	4H	19.32	20.07	19.80	20.53	21.00	18.77	19.53	19.25	19.98	20.46
	6H	20.24	20.87	20.74	21.35	21.86	19.58	20.21	20.08	20.69	21.20
	8H	20.78	21.33	21.30	21.85	22.34	20.01	20.55	20.53	21.07	21.57
	12H	21.26	21.72	21.79	22.24	22.75	20.31	20.77	20.84	21.29	21.81
12H	4H	19.34	20.04	19.83	20.49	21.01	18.82	19.52	19.31	19.97	20.48
	6H	20.36	20.91	20.88	21.42	21.92	19.72	20.27	20.25	20.79	21.29
	8H	20.91	21.37	21.44	21.89	22.41	20.16	20.62	20.69	21.14	21.66
Variation with the observer position at spacings:											
S = 1.0H		0.3/-0.8					0.3/-0.7				
S = 1.5H		0.7/-1.0					0.6/-0.9				
S = 2.0H		1.3/-1.2					1.1/-1.1				
Standard tables:		BK3					BKBF				
Uncorrected UGR		5.3					9.2				

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



Luminaire Lumens:

FL=527.74,FM=695.79,FH=165.16,FVH=24.69

BL=513.87,BM=641.52,BH=146.5,BVH=16.01

UL=1.43,UH=9.26

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	1289.10	1264.78	1259.17	1241.96	1177.25	1092.33	992.45	872.37	756.03
22.5	1275.63	1268.15	1265.16	1230.74	1179.49	1076.99	990.95	859.65	745.93
45.0	1277.88	1263.66	1265.16	1236.35	1179.49	1090.08	977.86	861.14	725.73
67.5	1278.62	1266.28	1273.39	1228.50	1167.52	1085.22	976.36	849.17	715.25
90.0	1273.01	1271.52	1260.29	1223.26	1166.77	1074.37	960.65	840.57	711.14
112.5	1277.88	1275.26	1253.56	1221.76	1143.95	1050.81	947.18	810.64	689.44
135.0	1277.88	1255.43	1247.95	1201.19	1126.00	1038.09	913.89	804.28	681.58
157.5	1273.01	1266.28	1240.09	1203.43	1146.57	1053.05	919.13	803.16	681.58
180.0	1289.10	1272.26	1250.19	1214.66	1137.22	1025.37	904.16	775.85	653.90
202.5	1275.63	1252.44	1246.83	1191.84	1125.25	1029.48	921.00	794.56	664.75
225.0	1277.88	1278.62	1241.96	1200.07	1135.72	1034.72	910.90	790.44	652.03
247.5	1278.62	1265.90	1240.09	1198.94	1137.97	1038.09	922.12	802.41	676.35
270.0	1273.01	1269.27	1252.44	1214.66	1146.57	1068.39	968.51	834.58	718.99
292.5	1277.88	1273.01	1257.67	1227.75	1164.90	1087.84	970.38	844.31	716.75
315.0	1277.88	1273.01	1252.44	1228.12	1177.25	1090.08	971.50	855.16	727.22
337.5	1273.01	1274.88	1271.52	1246.08	1179.86	1088.59	983.47	882.09	744.43
360.0	1289.10	1264.78	1259.17	1241.96	1177.25	1092.33	992.45	872.37	756.03
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	602.28	437.68	337.80	258.87	192.65	146.64	131.30	92.02	49.75
22.5	601.53	444.79	332.56	250.64	191.91	149.26	131.30	81.92	57.61
45.0	581.70	444.04	325.08	224.08	172.45	135.04	102.50	72.95	48.26
67.5	583.57	418.98	288.79	228.94	187.79	140.28	89.41	78.56	35.91
90.0	550.65	415.61	308.62	259.24	164.97	132.05	127.56	68.46	37.41
112.5	543.55	387.93	286.17	222.21	176.19	124.94	103.25	56.86	29.18
135.0	502.02	391.29	280.94	207.99	158.99	117.09	88.66	62.10	14.22
157.5	525.59	347.15	256.25	196.02	171.71	115.97	90.53	56.11	10.47
180.0	504.64	387.93	283.18	229.69	155.25	119.33	109.98	61.35	24.32
202.5	505.02	364.73	261.49	223.70	167.59	124.57	87.54	54.62	9.73
225.0	507.63	383.44	277.94	199.76	140.28	115.59	83.05	48.63	19.83
247.5	539.06	358.37	266.72	201.63	172.45	123.82	98.76	59.48	29.55
270.0	552.90	413.36	329.57	257.00	169.84	133.17	105.87	78.93	35.16
292.5	583.95	418.60	313.86	259.99	176.94	144.40	122.33	64.72	30.30
315.0	578.71	422.34	328.45	231.18	169.84	145.14	96.51	77.81	39.28
337.5	586.57	428.33	290.66	227.44	191.16	149.26	101.00	87.54	51.25
360.0	602.28	437.68	337.80	258.87	192.65	146.64	131.30	92.02	49.75
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	9.35	0.00	3.37	0.00	5.61	0.00	0.00	0.00	2.62
22.5	0.37	1.12	1.87	0.00	0.00	0.00	0.75	3.74	0.00
45.0	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	4.12
67.5	6.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.35
90.0	0.00	0.00	0.00	0.00	0.00	0.00	16.46	0.00	0.00
112.5	0.00	0.00	0.00	0.00	9.73	0.00	0.75	0.00	0.00
135.0	0.37	0.00	6.36	0.00	0.00	1.12	2.62	7.86	1.50
157.5	0.00	11.97	0.00	0.00	0.00	0.00	0.00	4.12	0.00
180.0	0.00	4.86	0.00	0.00	0.00	7.48	0.00	2.24	0.00
202.5	0.00	0.00	0.00	0.00	0.00	0.00	1.87	7.48	0.00
225.0	0.00	0.00	0.00	0.75	3.74	0.00	0.00	9.73	0.00
247.5	0.00	0.00	0.00	0.00	0.00	2.99	0.00	0.00	0.00
270.0	0.00	0.00	0.00	0.00	0.00	5.24	0.00	4.12	4.49
292.5	0.75	0.00	1.50	1.87	0.00	0.00	0.00	0.00	0.00
315.0	0.00	0.37	0.00	0.00	4.12	0.00	0.00	0.00	0.75
337.5	0.00	0.00	9.35	0.00	0.00	0.00	0.00	0.00	19.45
360.0	9.35	0.00	3.37	0.00	5.61	0.00	0.00	0.00	2.62

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	0.37	0.00	0.00	0.00	0.00	0.00	5.99	0.00	0.00
22.5	0.00	0.00	8.23	0.00	0.00	17.21	0.00	2.24	3.74
45.0	0.00	0.00	0.00	0.00	1.12	0.00	4.49	0.00	5.61
67.5	0.00	0.00	6.36	4.12	0.00	0.37	0.00	1.50	5.99
90.0	0.00	0.75	1.12	0.00	19.83	0.00	3.37	0.75	8.60
112.5	0.00	0.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00
135.0	0.00	7.48	0.00	0.00	0.00	6.73	0.00	0.75	0.00
157.5	13.09	2.62	0.00	0.00	1.12	2.62	0.00	8.98	9.35
180.0	7.48	11.97	0.00	15.34	0.00	0.00	0.00	0.00	0.00
202.5	0.00	0.00	0.00	0.00	0.00	0.00	4.12	1.12	0.00
225.0	6.36	1.12	0.00	10.10	0.00	0.00	7.11	2.62	0.00
247.5	5.61	0.00	0.00	0.00	0.00	0.00	6.36	0.00	0.00
270.0	0.00	0.00	5.61	0.00	5.61	0.00	1.12	0.00	1.12
292.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.85
315.0	0.00	0.00	6.36	0.00	0.00	3.74	0.00	0.00	5.61
337.5	0.00	0.00	0.00	0.00	1.87	0.00	4.49	0.00	7.11
360.0	0.37	0.00	0.00	0.00	0.00	0.00	5.99	0.00	0.00

C/γ(°)	180.0
0.0	0.00
22.5	0.00
45.0	0.00
67.5	2.62
90.0	0.00
112.5	7.11
135.0	0.00
157.5	0.00
180.0	0.00
202.5	0.00
225.0	0.00
247.5	2.62
270.0	0.00
292.5	7.11
315.0	0.00
337.5	0.00
360.0	0.00