



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440226 KAI 9.6W 4000K 1150lm

Luminaire:

Report No:

Voltage(V): 230.4500

Test No: KYZ-A251011059-03-003

Current(A): 0.0440

LampCAT: LED

Power (W): 9.6000

Lamp flux(lm): -1.0

PF: 0.9472

Number of Lamps: 1

Ballast type:

Length(mm): -175

Width(mm): -175

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1150.00

Efficiency(%): 100.00%

Lumens(lm)/Power(W): 119.79

Central intensity(cd): 547.387

Maximum intensity(cd): 561.351

Angle of maximum intensity: C=112.5 γ =10.0

Beam Angle(50%Imax): [C0/180]Total=85.6

[C90/270]Total=86.3

Field angle(10%Imax): [C0/180]Total=144.2

[C90/270]Total=150.2

Maximum s/h(1/2): C0_180=1.23 C90_270=1.20

Maximum s/h(1/4): C0_180=1.23 C90_270=1.21

Up flux rate of lamp(%): 0.94%

Down flux rate of lamp(%): 99.06%

Up flux rate of LUM(%): 0.94%

Down flux rate of LUM(%): 99.06%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 86.164%

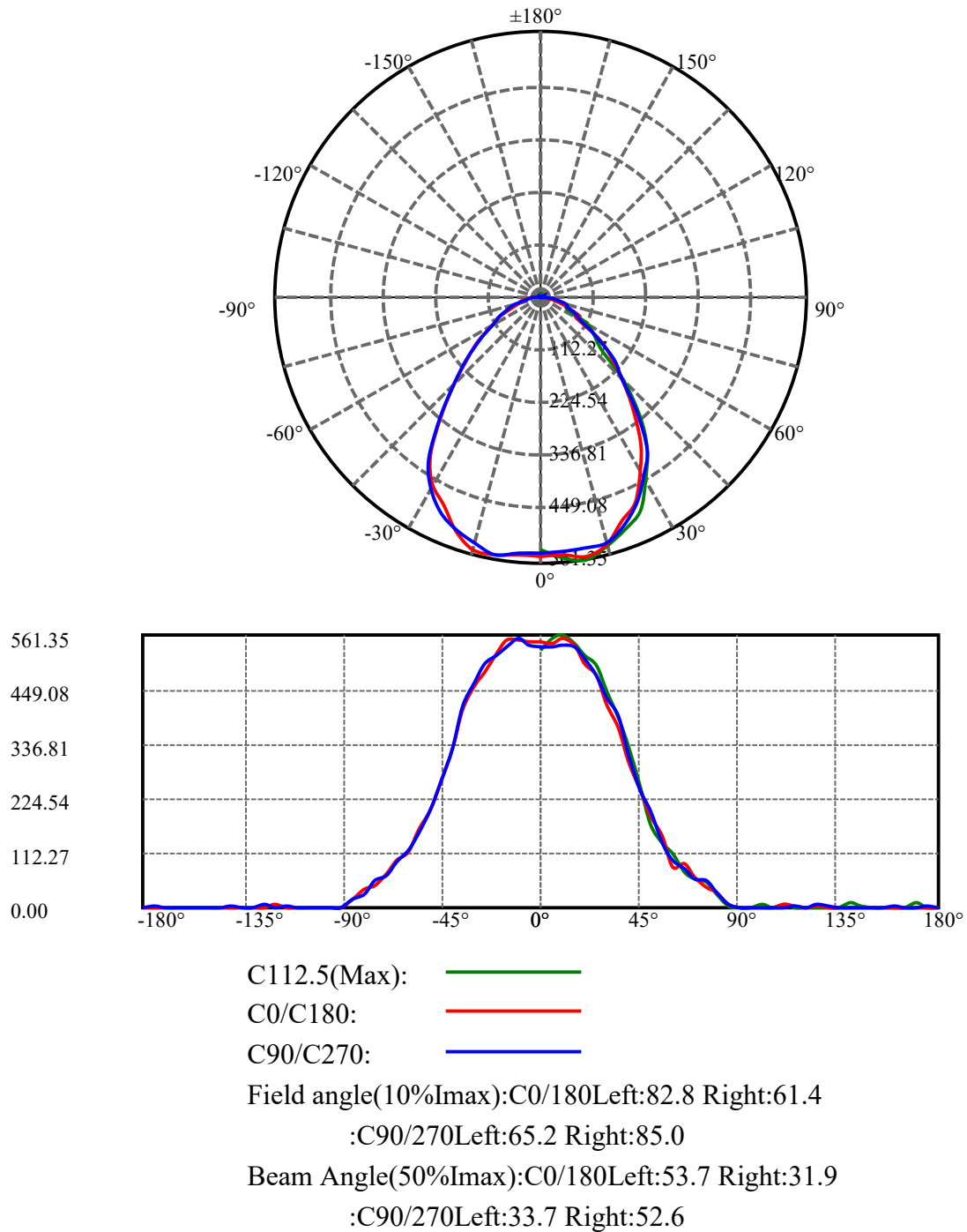
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	544.335	0.000	0	.000%	.000%
5.0	547.783	13.030	13.03	.000%	1.133%
10.0	549.307	39.168	52.198	.000%	4.539%
15.0	540.487	64.517	116.715	.000%	10.149%
20.0	516.126	86.906	203.621	.000%	17.706%
25.0	483.020	104.583	308.203	.000%	26.800%
30.0	443.068	116.963	425.167	.000%	36.971%
35.0	389.100	122.298	547.465	.000%	47.606%
40.0	324.537	118.827	666.292	.000%	57.938%
45.0	250.855	106.326	772.618	.000%	67.184%
50.0	189.715	88.846	861.463	.000%	74.910%
55.0	143.117	72.224	933.688	.000%	81.190%
60.0	104.814	57.194	990.882	.000%	86.164%
65.0	82.527	45.452	1036.334	.000%	90.116%
70.0	62.988	36.772	1073.106	.000%	93.314%
75.0	48.422	29.063	1102.169	.000%	95.841%
80.0	31.682	21.391	1123.56	.000%	97.701%
85.0	12.168	11.891	1135.451	.000%	98.735%
90.0	1.449	3.721	1139.172	.000%	99.058%
95.0	1.599	0.833	1140.005	.000%	99.131%
100.0	1.824	0.928	1140.933	.000%	99.212%
105.0	1.499	0.887	1141.82	.000%	99.289%
110.0	1.674	0.828	1142.648	.000%	99.361%
115.0	3.273	1.250	1143.898	.000%	99.469%
120.0	1.649	1.194	1145.092	.000%	99.573%
125.0	2.948	1.061	1146.153	.000%	99.665%
130.0	1.024	0.862	1147.015	.000%	99.740%
135.0	1.599	0.529	1147.544	.000%	99.786%
140.0	1.424	0.559	1148.103	.000%	99.835%
145.0	1.374	0.466	1148.569	.000%	99.876%
150.0	1.249	0.386	1148.954	.000%	99.909%
155.0	0.475	0.218	1149.172	.000%	99.928%
160.0	0.500	0.102	1149.274	.000%	99.937%
165.0	1.699	0.181	1149.455	.000%	99.953%
170.0	3.673	0.318	1149.773	.000%	99.980%
175.0	2.024	0.203	1149.976	.000%	99.998%
180.0	0.000	0.024	1150	.000%	100.000%

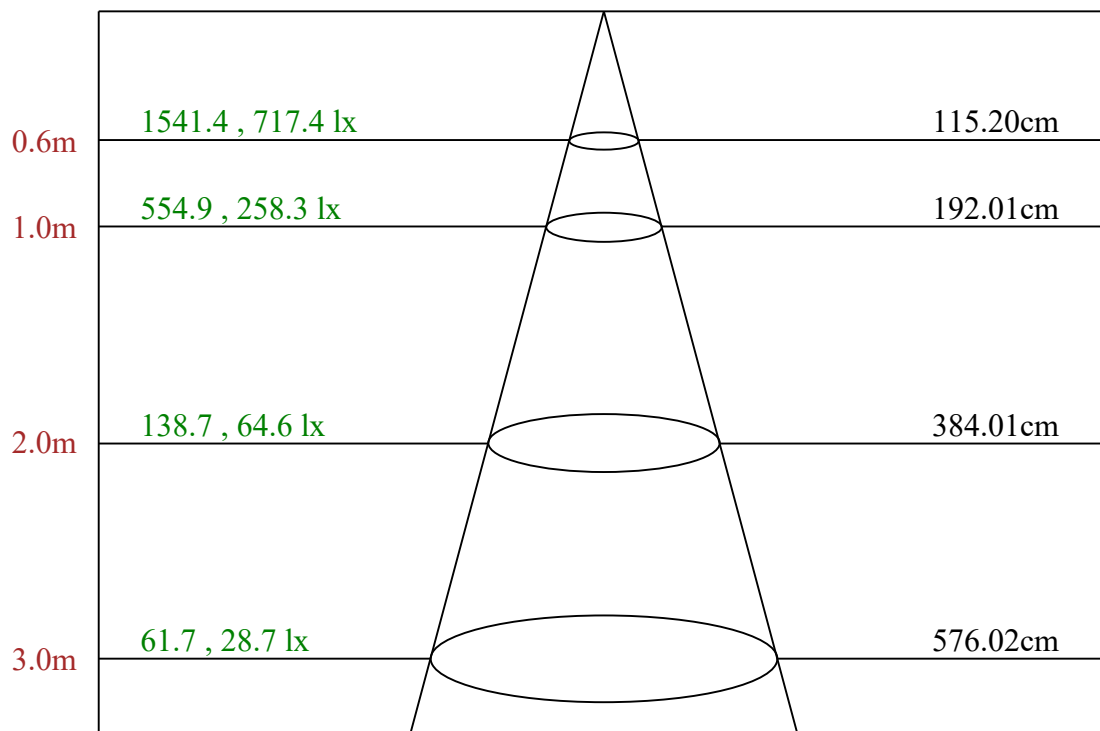
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	425.17	N.A.	36.97%
0-40	666.29	N.A.	57.94%
0-60	990.88	N.A.	86.16%
0-90	1139.17	N.A.	99.06%
0-120	1145.09	N.A.	99.57%
0-180	1150.00	N.A.	100.00%
60-90	205.48	N.A.	17.87%
90-120	9.64	N.A.	0.84%
90-130	11.56	N.A.	1.01%
90-150	13.50	N.A.	1.17%
90-180	14.53	N.A.	1.26%
0-54.05	920.00	N.A.	80.00%

ZONAL LUMEN SUMMARY

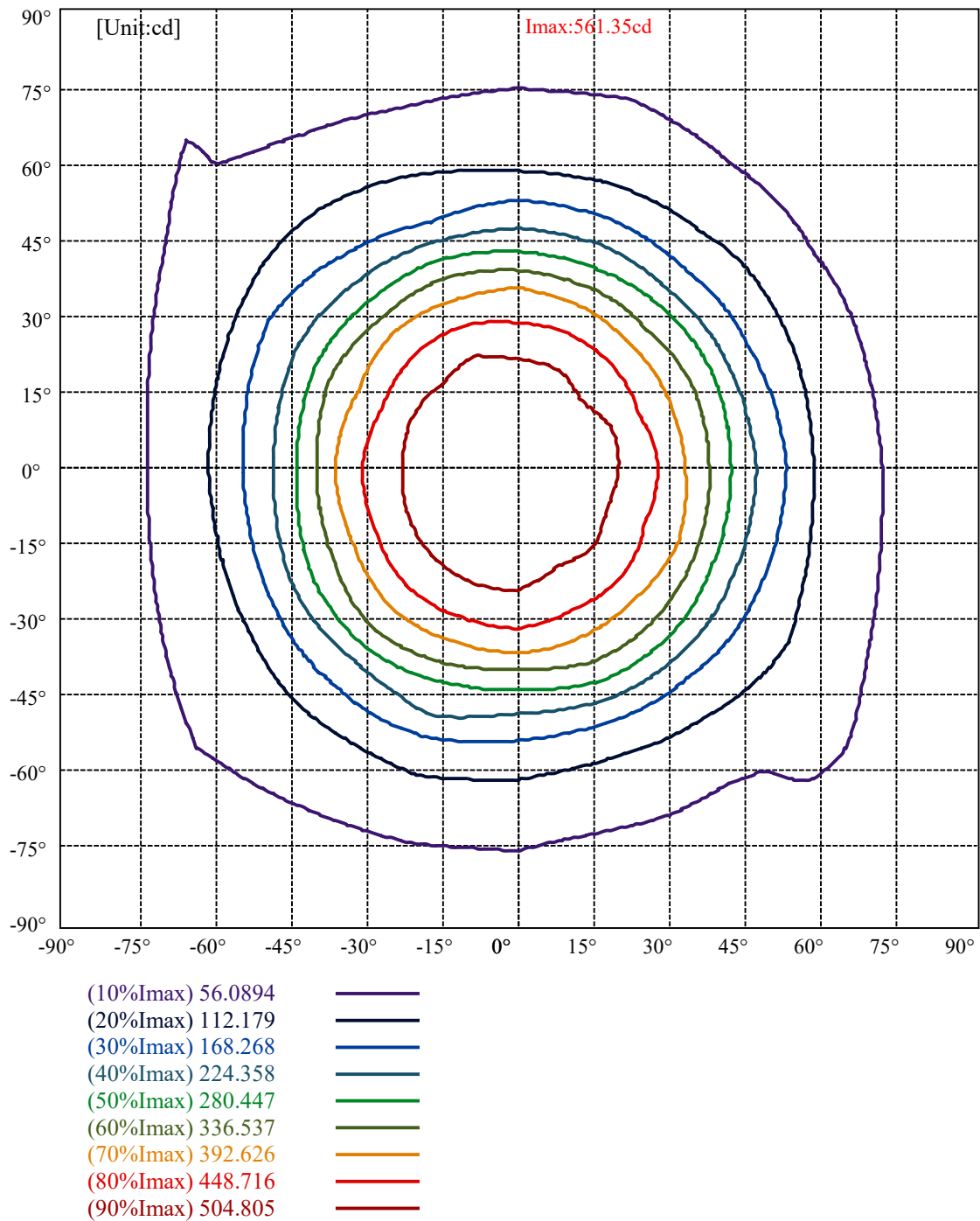
0-10	52.20
10-20	151.42
20-30	221.55
30-40	241.13
40-50	195.17
50-60	129.42
60-70	82.22
70-80	50.45
80-90	15.61
90-100	1.76
100-110	1.72
110-120	2.44
120-130	1.92
130-140	1.09
140-150	0.85
150-160	0.32
160-170	0.50
170-180	0.20

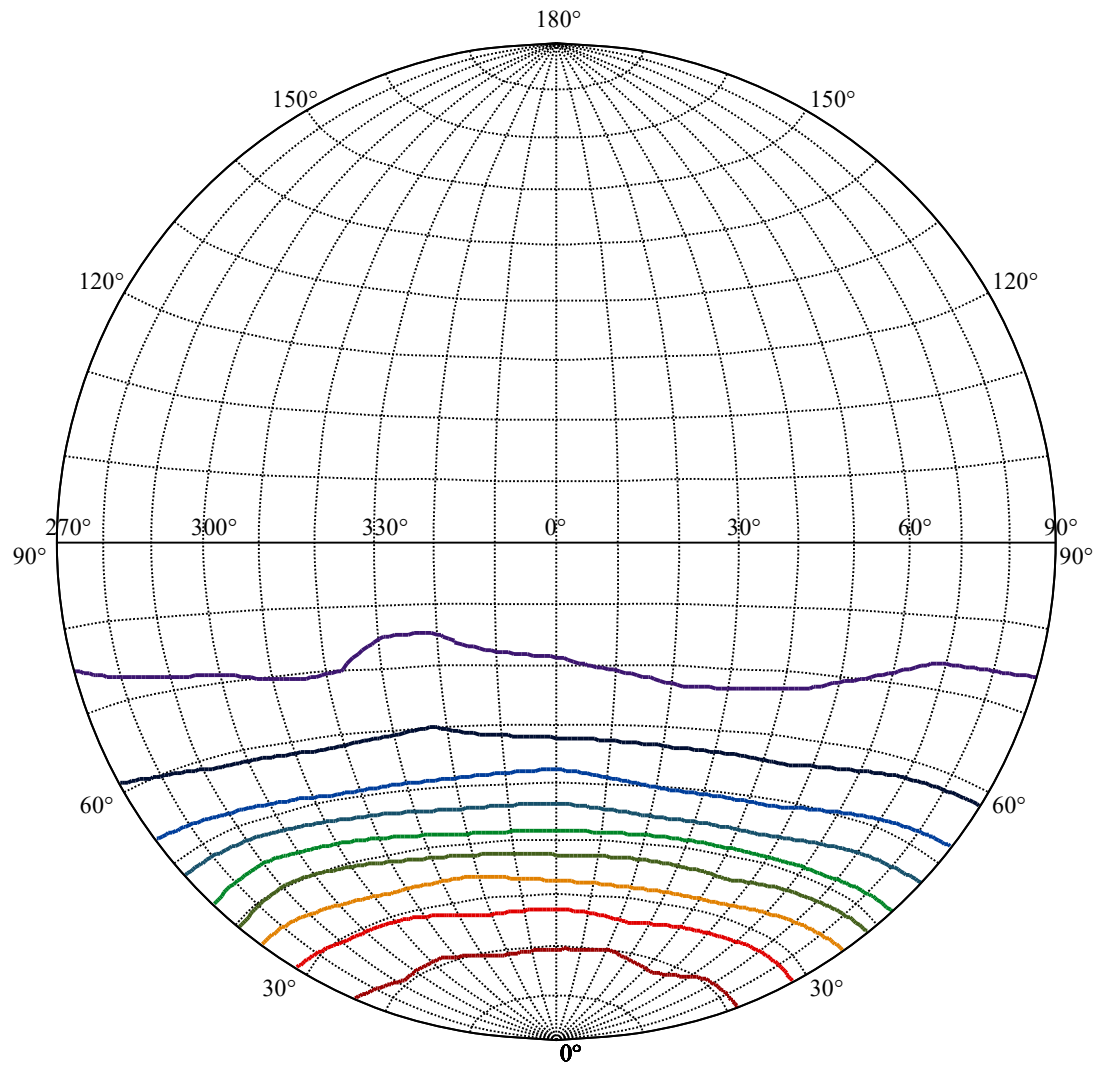




Max , Ave

Beam angle of C112.5 plane 87.66



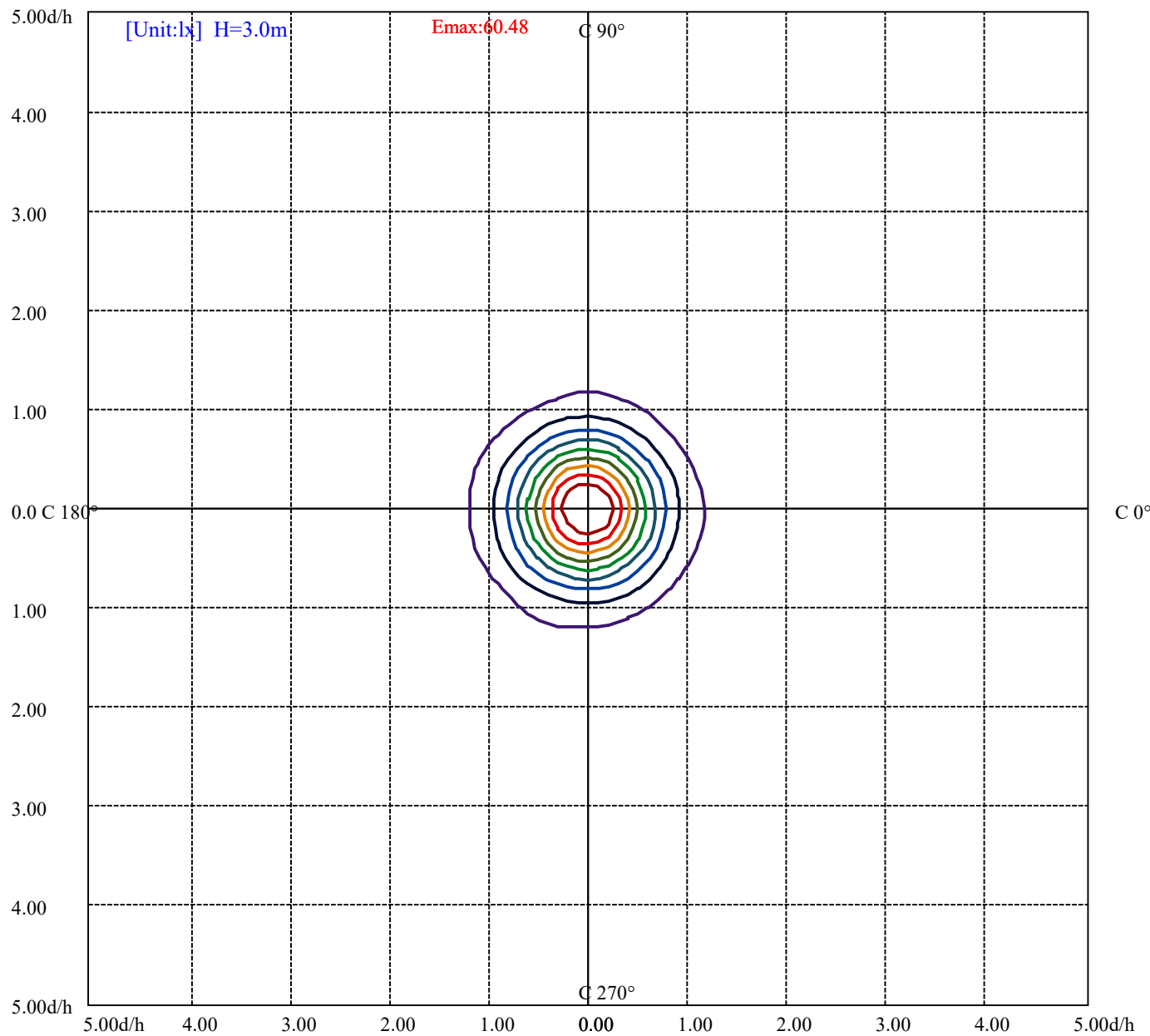


House

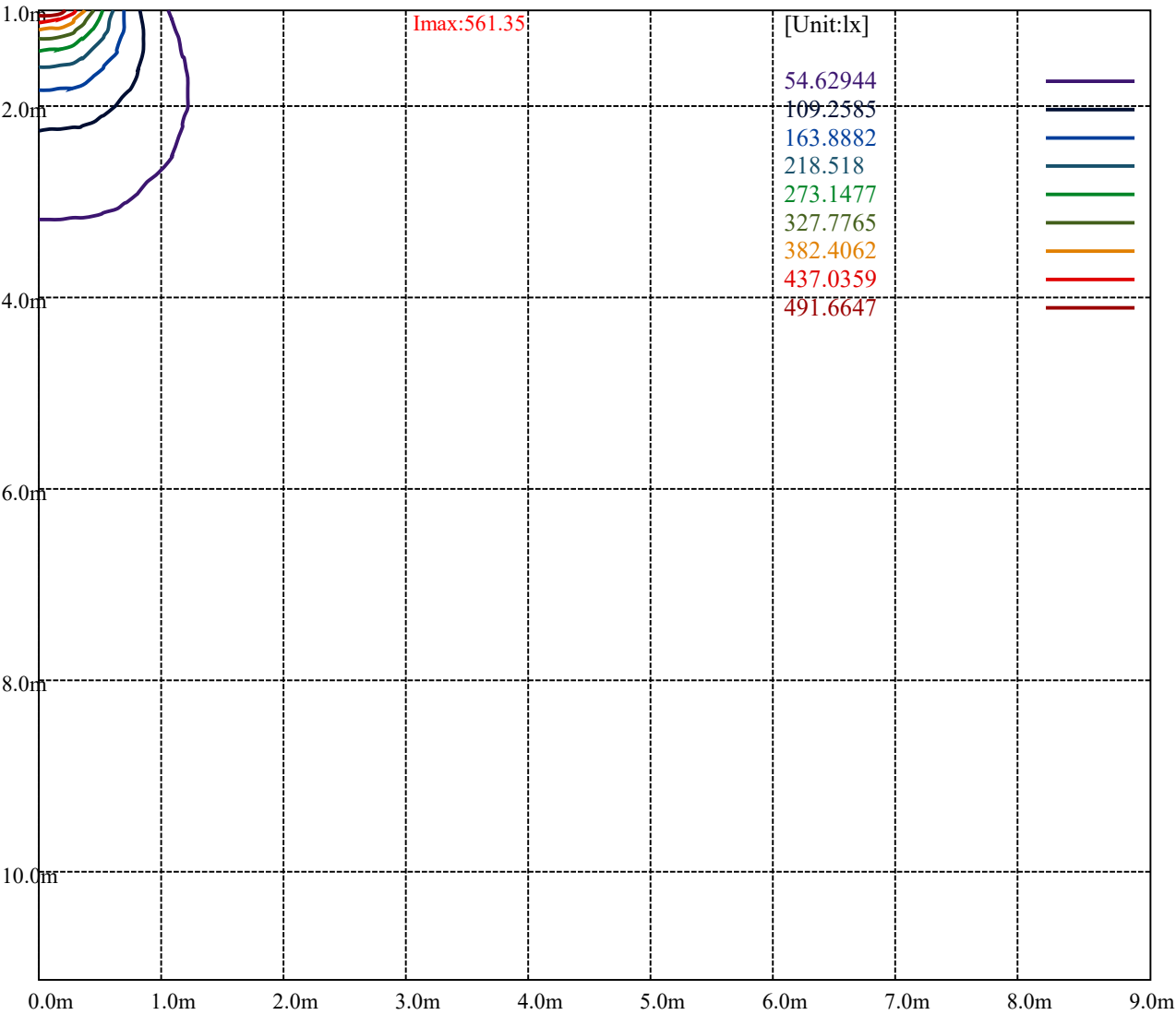
[Unit:cd]

Road

Imax:561.35	
(10%Imax) 56.01597	
(20%Imax) 112.0319	
(30%Imax) 168.0479	
(40%Imax) 224.0639	
(50%Imax) 280.0799	
(60%Imax) 336.0958	
(70%Imax) 392.1118	
(80%Imax) 448.1277	
(90%Imax) 504.1437	



(10%E _{max}) 6.047827	
(20%E _{max}) 12.0957	
(30%E _{max}) 18.14349	
(40%E _{max}) 24.19128	
(50%E _{max}) 30.23919	
(60%E _{max}) 36.28698	
(70%E _{max}) 42.33478	
(80%E _{max}) 48.38268	
(90%E _{max}) 54.43047	



Luminance Table

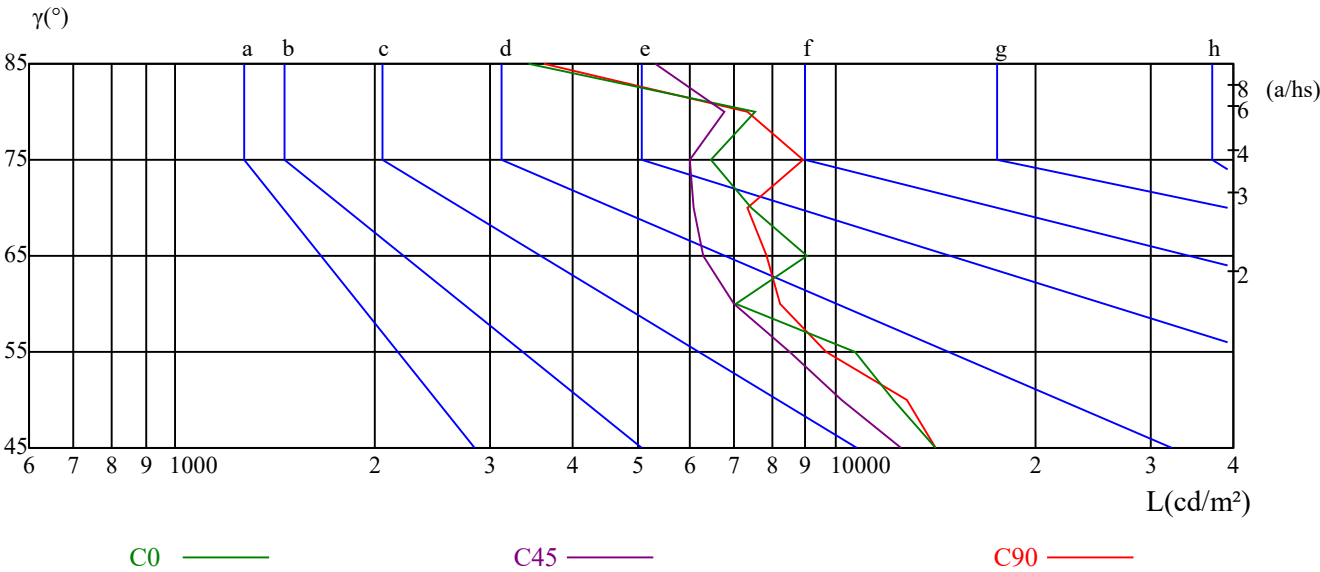
γ	45	50	55	60	65	70	75	80	85
C0	14169	12232	10700	7066	9067	7469	6473	7546	3426
C45	12527	10193	8531	7033	6280	6111	6024	6782	5329
C90	14145	12851	9688	8227	7850	7323	8908	7355	3616

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
9322	8517	7496	6857	8972	6569	6281	6376	3093

Glare Table

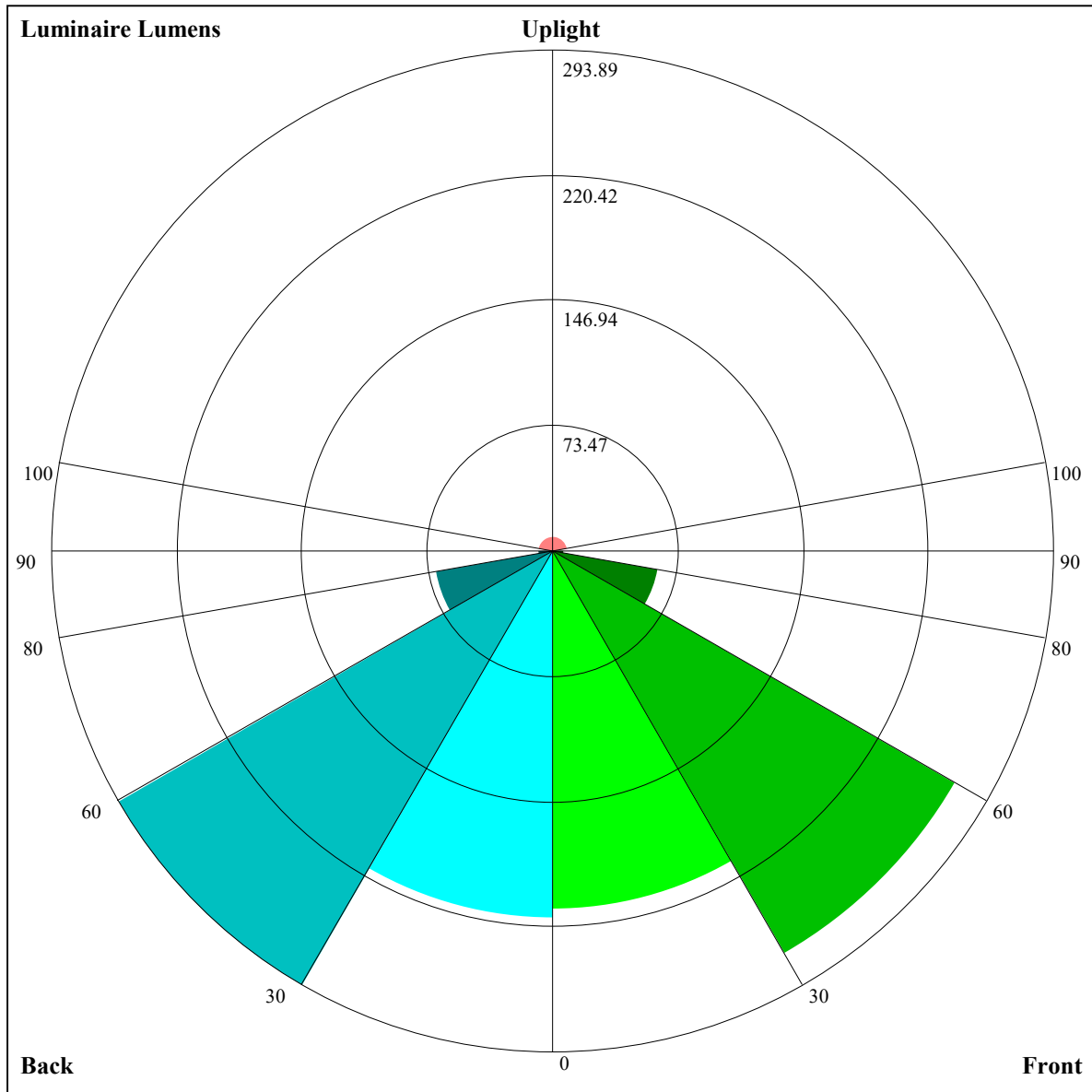
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	14.38	15.82	14.76	16.16	16.50	14.71	16.15	15.09	16.49	16.83
	3H	15.42	16.72	15.82	17.08	17.44	15.93	17.22	16.32	17.58	17.95
	4H	15.84	17.05	16.25	17.42	17.81	16.59	17.81	17.00	18.18	18.56
	6H	16.33	17.45	16.75	17.84	18.26	17.11	18.23	17.53	18.62	19.03
	8H	16.48	17.56	16.91	17.95	18.38	17.21	18.29	17.64	18.69	19.11
	12H	16.50	17.54	16.94	17.94	18.38	17.23	18.26	17.66	18.67	19.10
4H	2H	14.70	15.91	15.11	16.28	16.67	15.00	16.22	15.41	16.59	16.97
	3H	15.83	16.85	16.26	17.26	17.69	16.45	17.48	16.89	17.88	18.32
	4H	16.40	17.30	16.85	17.74	18.20	17.35	18.26	17.80	18.69	19.15
	6H	17.02	17.82	17.50	18.28	18.75	17.95	18.75	18.43	19.21	19.68
	8H	17.25	18.00	17.74	18.47	18.96	18.13	18.88	18.62	19.34	19.83
	12H	17.33	18.03	17.83	18.49	19.02	18.20	18.89	18.69	19.35	19.88
8H	4H	16.63	17.38	17.12	17.84	18.33	17.49	18.24	17.98	18.70	19.19
	6H	17.39	18.01	17.89	18.50	19.02	18.20	18.83	18.71	19.31	19.84
	8H	17.73	18.27	18.26	18.80	19.31	18.49	19.03	19.02	19.56	20.07
	12H	17.83	18.29	18.37	18.81	19.34	18.60	19.06	19.15	19.59	20.12
12H	4H	16.66	17.36	17.15	17.82	18.34	17.50	18.20	17.99	18.66	19.18
	6H	17.50	18.05	18.03	18.57	19.08	18.29	18.84	18.82	19.36	19.87
	8H	17.83	18.29	18.37	18.81	19.34	18.57	19.02	19.11	19.55	20.08
Variation with the observer position at spacings:											
S = 1.0H		0.3/-0.7					0.3/-0.6				
S = 1.5H		0.9/-1.0					1.1/-1.2				
S = 2.0H		1.6/-1.1					2.1/-1.5				
Standard tables:		BK3					BK3				
Uncorrected UGR		4.5					4.1				

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



Luminaire Lumens:

FL=210.12,FM=273.03,FH=63.07,FVH=6.95

BL=215.69,BM=293.89,BH=70.51,BVH=8.63

UL=1.76,UH=9.09

BUG Rating:B1-U1-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	547.39	545.39	554.97	540.60	501.51	475.97	418.52	369.45	299.63
22.5	545.39	536.22	552.18	527.84	504.70	453.63	415.33	359.07	307.61
45.0	545.39	548.98	545.79	525.04	488.74	462.81	424.11	347.90	300.03
67.5	550.58	537.01	553.77	529.03	510.68	465.20	436.47	377.03	297.63
90.0	538.61	536.61	539.01	536.22	513.87	478.37	433.28	394.98	315.19
112.5	531.43	554.17	561.35	543.80	519.86	498.71	444.85	392.19	330.75
135.0	544.20	548.58	558.16	548.19	512.28	490.73	445.65	399.37	318.78
157.5	543.00	550.58	539.81	539.41	536.61	483.55	440.06	386.60	342.32
180.0	547.39	546.99	550.58	551.38	524.65	485.95	455.62	407.75	329.15
202.5	545.39	548.19	542.20	538.21	533.42	493.93	454.03	396.58	335.53
225.0	545.39	560.15	550.98	535.82	527.04	498.31	465.60	406.15	361.07
247.5	550.58	550.18	549.38	538.61	532.23	499.51	462.81	406.55	343.91
270.0	538.61	541.00	553.37	538.21	519.86	500.71	463.20	414.13	326.76
292.5	531.43	554.17	542.60	548.58	507.89	485.15	445.25	392.99	340.72
315.0	544.20	534.62	537.01	548.58	512.28	479.56	441.66	376.63	328.35
337.5	543.00	554.17	540.21	541.00	495.92	460.81	428.49	385.80	304.81
360.0	547.39	545.39	554.97	540.60	501.51	475.97	418.52	369.45	299.63
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	240.98	189.11	147.62	84.98	92.16	61.44	40.30	31.52	7.18
22.5	221.03	163.98	127.67	83.39	65.43	38.30	33.51	27.53	5.19
45.0	213.05	157.59	117.70	84.58	63.84	50.27	37.50	28.33	11.17
67.5	234.20	179.54	126.87	97.35	84.58	64.63	52.66	26.33	9.97
90.0	240.58	198.69	133.66	98.94	79.79	60.24	55.46	30.72	7.58
112.5	247.76	169.96	133.26	110.12	72.61	57.85	53.86	26.33	4.39
135.0	247.76	183.13	140.84	115.30	75.41	71.42	31.52	38.30	1.20
157.5	258.53	206.27	167.97	115.70	74.21	77.80	61.84	55.46	21.15
180.0	259.73	201.08	160.39	115.30	97.35	69.02	45.08	38.30	19.15
202.5	278.48	205.87	150.41	104.93	88.57	62.24	56.26	19.55	24.34
225.0	280.08	189.11	159.59	111.31	88.97	70.62	44.29	38.70	5.19
247.5	266.11	233.40	165.97	118.49	104.13	75.01	54.26	27.93	22.74
270.0	258.53	203.47	152.01	117.30	93.36	67.82	56.26	27.13	19.15
292.5	268.91	190.71	135.65	102.53	82.59	63.04	41.49	25.53	15.56
315.0	253.35	176.34	131.66	100.14	76.60	52.26	50.27	27.13	8.38
337.5	236.59	181.13	134.05	113.31	78.20	63.84	58.65	37.10	11.97
360.0	240.98	189.11	147.62	84.98	92.16	61.44	40.30	31.52	7.18
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	0.80	6.78	3.19	0.00	3.99	0.00
22.5	0.00	1.60	0.00	3.19	0.00	0.00	0.00	6.38	0.40
45.0	0.00	8.78	0.00	0.00	5.19	0.40	0.00	14.76	7.18
67.5	0.00	2.39	11.17	0.00	3.99	7.58	0.40	0.00	0.00
90.0	0.00	0.00	0.40	0.00	0.00	2.79	0.00	8.38	2.39
112.5	0.00	0.00	5.99	0.00	5.59	1.20	0.00	0.00	0.40
135.0	1.60	0.00	0.00	0.00	0.00	3.19	0.00	0.00	0.00
157.5	7.18	0.00	0.00	5.19	0.00	0.00	0.00	0.80	0.00
180.0	0.00	0.00	0.00	0.00	0.00	1.60	7.98	0.00	0.00
202.5	0.00	0.00	0.00	0.00	0.00	15.16	7.58	0.00	0.00
225.0	0.00	5.59	1.20	0.00	5.19	5.59	4.79	0.00	0.00
247.5	8.78	4.79	1.20	0.00	0.00	0.00	5.59	0.80	0.80
270.0	0.00	0.00	0.00	0.00	0.00	3.59	0.00	6.78	0.00
292.5	0.00	0.00	1.20	0.00	0.00	6.38	0.00	5.19	0.40
315.0	0.00	0.00	0.00	1.20	0.00	1.60	0.00	0.00	0.00
337.5	5.59	2.39	7.98	13.56	0.00	0.00	0.00	0.00	4.79
360.0	0.00	0.00	0.00	0.80	6.78	3.19	0.00	3.99	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	0.00	0.00	0.00	0.00	0.00	0.00	1.60	0.00	0.00
22.5	0.00	0.00	2.39	0.00	1.60	0.00	0.00	10.77	0.00
45.0	4.79	0.00	0.00	0.00	1.60	0.00	8.38	8.38	13.56
67.5	0.00	0.00	1.20	0.00	0.00	0.00	3.59	0.00	0.00
90.0	0.00	1.60	0.00	0.80	0.00	3.99	0.00	0.00	2.39
112.5	0.00	9.58	2.00	0.00	0.00	0.00	0.00	9.58	0.00
135.0	11.17	0.00	3.19	5.99	0.00	0.00	0.00	0.00	0.00
157.5	4.79	4.79	0.00	1.60	0.00	0.00	0.00	8.38	5.59
180.0	0.00	0.00	0.00	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	0.00	12.77	2.79
225.0	1.60	3.59	9.18	0.00	0.00	0.00	8.78	0.00	0.00
247.5	0.00	0.00	0.00	0.00	0.40	3.99	0.00	0.00	0.00
270.0	0.00	3.19	0.00	0.00	0.00	0.00	1.20	0.00	5.19
292.5	0.00	0.00	0.00	0.00	0.00	0.00	3.59	8.78	2.00
315.0	3.19	0.00	3.99	2.39	3.99	0.00	0.00	0.00	0.80
337.5	0.00	0.00	0.00	9.18	0.00	0.00	0.00	0.00	0.00
360.0	0.00	0.00	0.00	0.00	0.00	0.00	1.60	0.00	0.00

C/γ(°)	180.0
0.0	0.00
22.5	0.00
45.0	0.00
67.5	0.00
90.0	0.00
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	0.00
270.0	0.00
292.5	0.00
315.0	0.00
337.5	0.00
360.0	0.00