



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440228 KAI 25W 4000K 3000lm

Luminaire:

Report No:

Voltage(V): 230.1500

Test No: KYZ-A251011059-01-003

Current(A): 0.1140

LampCAT: LED

Power (W): 25.0000

Lamp flux(lm): -1.0

PF: 0.9514

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): 120.00

Central intensity(cd): 1478.541

Maximum intensity(cd): 1498.770

Angle of maximum intensity: C=112.5 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=84.3

[C90/270]Total=84.4

Field angle(10%Imax): [C0/180]Total=144.5

[C90/270]Total=146.4

Maximum s/h(1/2): C0_180=1.10 C90_270=1.14

Maximum s/h(1/4): C0_180=1.16 C90_270=1.20

Up flux rate of lamp(%): 0.56%

Down flux rate of lamp(%): 99.44%

Up flux rate of LUM(%): 0.56%

Down flux rate of LUM(%): 99.44%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 85.363%

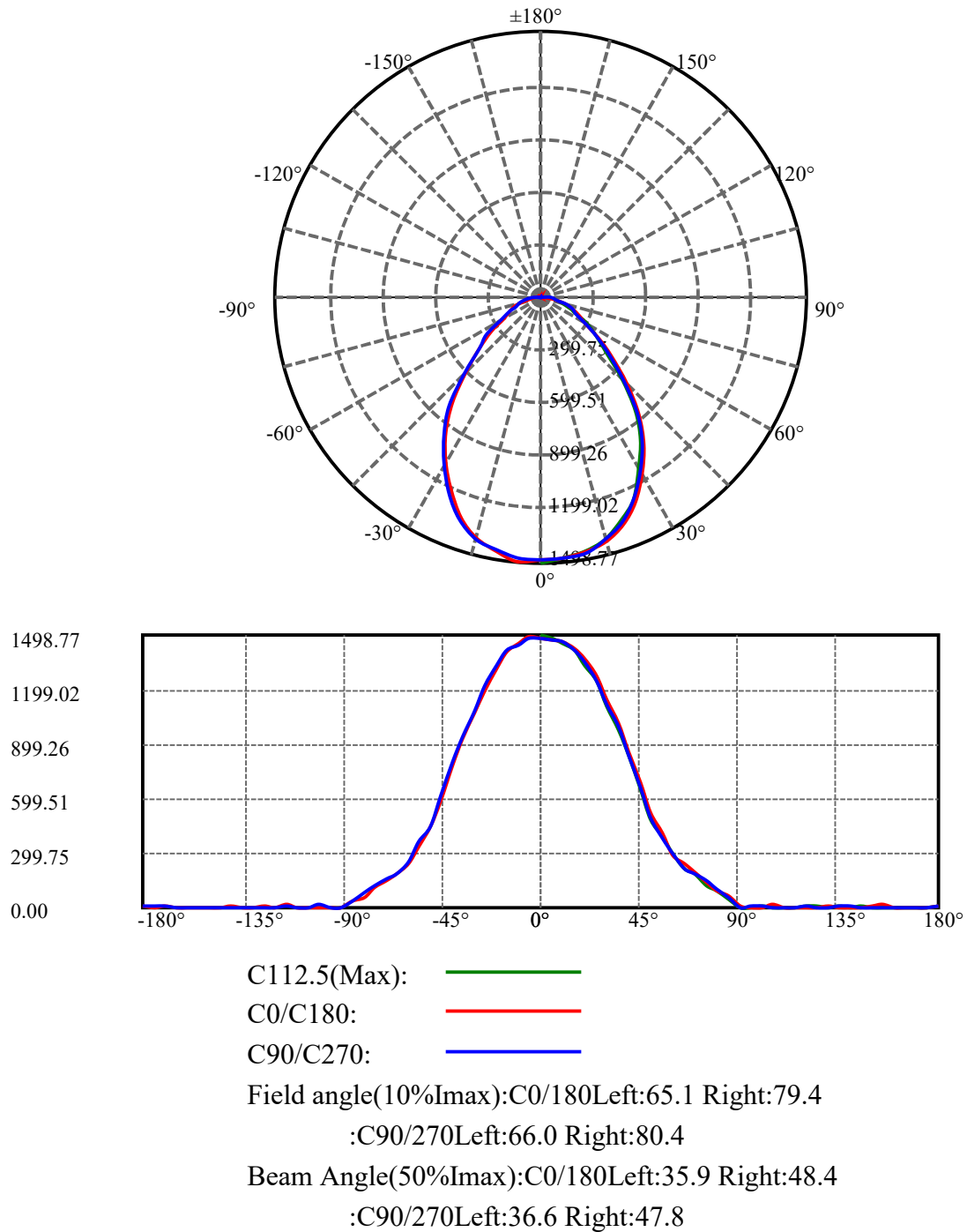
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1466.032	0.000	0	.000%	.000%
5.0	1460.248	35.413	35.413	.000%	1.180%
10.0	1435.186	104.851	140.263	.000%	4.675%
15.0	1396.738	170.051	310.315	.000%	10.344%
20.0	1323.398	226.931	537.245	.000%	17.908%
25.0	1221.521	270.193	807.439	.000%	26.915%
30.0	1093.251	296.534	1103.973	.000%	36.799%
35.0	958.221	305.804	1409.777	.000%	46.993%
40.0	811.487	298.889	1708.666	.000%	56.955%
45.0	645.448	273.077	1981.743	.000%	66.058%
50.0	492.714	232.807	2214.55	.000%	73.818%
55.0	377.206	191.473	2406.023	.000%	80.201%
60.0	284.615	154.857	2560.88	.000%	85.363%
65.0	223.196	124.966	2685.846	.000%	89.528%
70.0	176.927	102.558	2788.404	.000%	92.947%
75.0	133.266	82.075	2870.479	.000%	95.683%
80.0	92.482	61.146	2931.625	.000%	97.721%
85.0	46.160	38.135	2969.76	.000%	98.992%
90.0	2.661	13.532	2983.292	.000%	99.443%
95.0	3.231	1.633	2984.925	.000%	99.497%
100.0	4.290	2.069	2986.994	.000%	99.566%
105.0	3.150	2.015	2989.009	.000%	99.634%
110.0	2.471	1.487	2990.496	.000%	99.683%
115.0	1.711	1.072	2991.568	.000%	99.719%
120.0	2.308	0.989	2992.557	.000%	99.752%
125.0	2.960	1.233	2993.789	.000%	99.793%
130.0	1.439	0.968	2994.758	.000%	99.825%
135.0	2.281	0.761	2995.518	.000%	99.851%
140.0	3.611	1.104	2996.623	.000%	99.887%
145.0	1.195	0.812	2997.435	.000%	99.914%
150.0	1.874	0.457	2997.892	.000%	99.930%
155.0	2.498	0.560	2998.452	.000%	99.948%
160.0	2.199	0.499	2998.951	.000%	99.965%
165.0	3.258	0.455	2999.406	.000%	99.980%
170.0	2.824	0.365	2999.771	.000%	99.992%
175.0	1.439	0.154	2999.926	.000%	99.997%
180.0	4.996	0.078	3000.003	.000%	100.000%

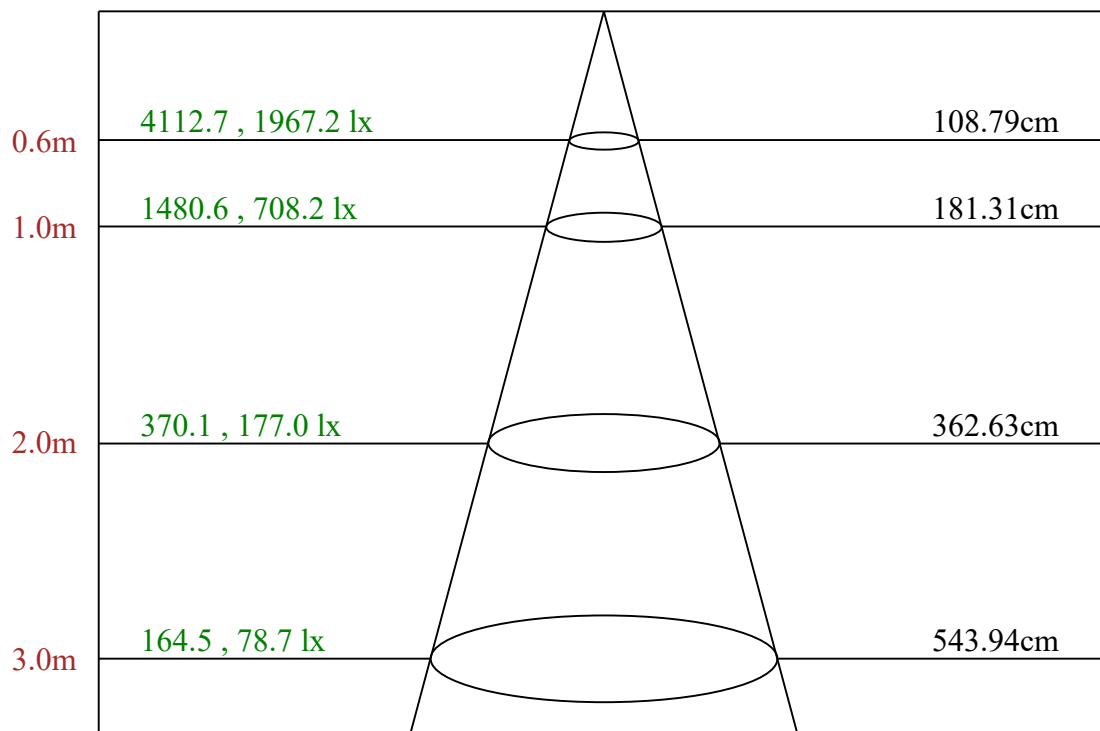
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1103.97	N.A.	36.80%
0-40	1708.67	N.A.	56.96%
0-60	2560.88	N.A.	85.36%
0-90	2983.29	N.A.	99.44%
0-120	2992.56	N.A.	99.75%
0-180	3000.00	N.A.	100.00%
60-90	577.27	N.A.	19.24%
90-120	22.80	N.A.	0.76%
90-130	25.00	N.A.	0.83%
90-150	28.13	N.A.	0.94%
90-180	30.17	N.A.	1.01%
0-54.84	2400.00	N.A.	80.00%

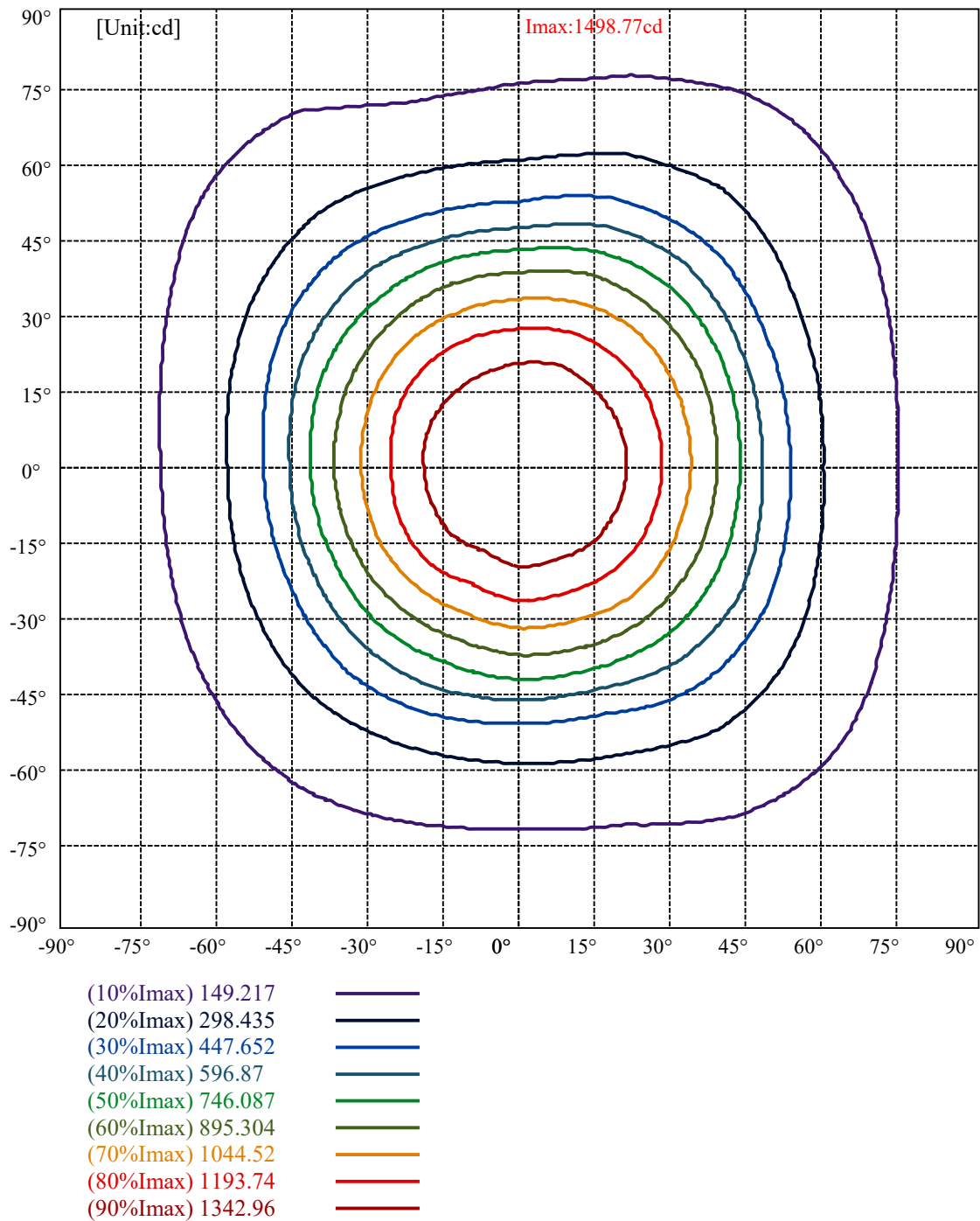
ZONAL LUMEN SUMMARY

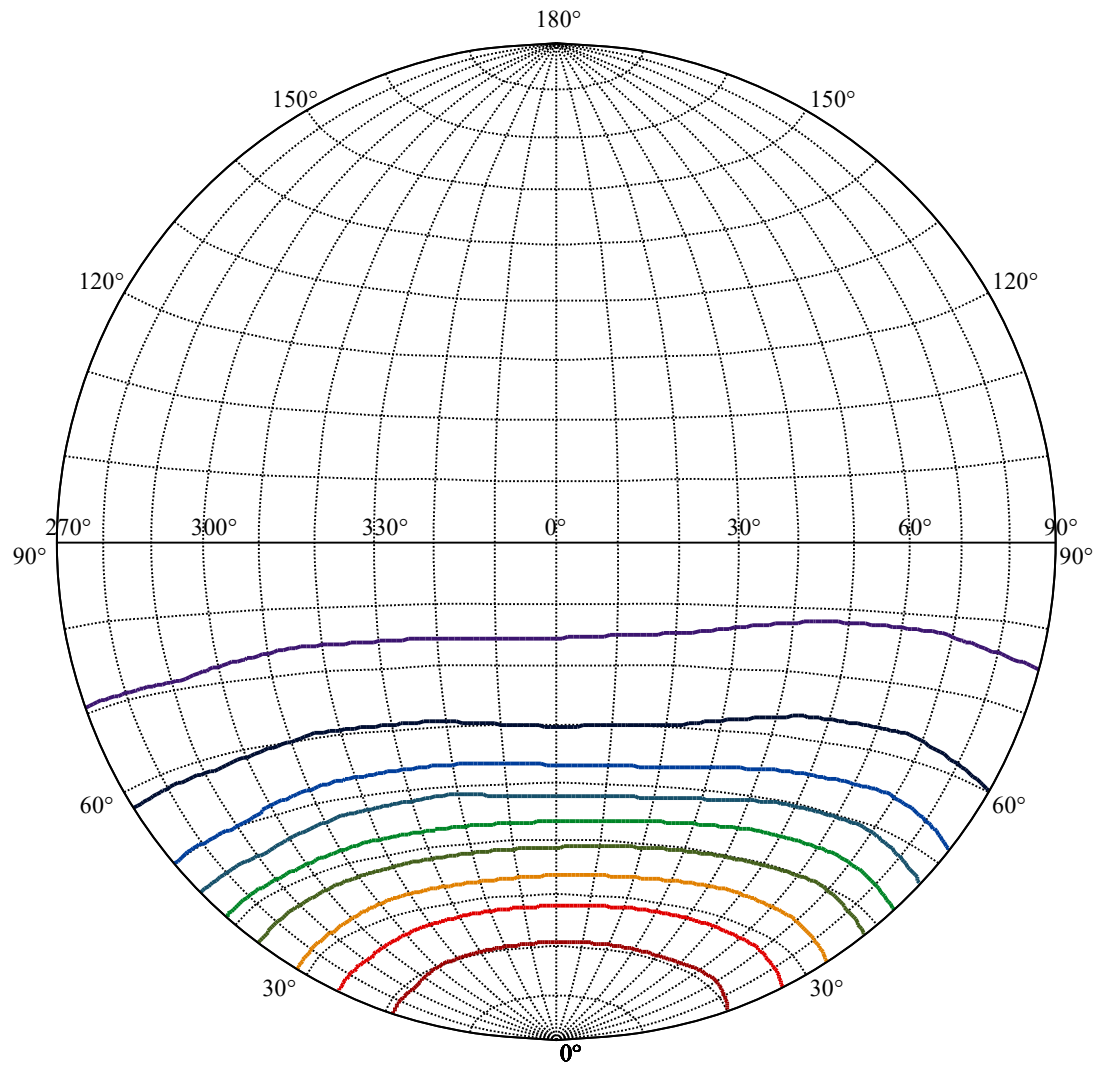
0-10	140.26
10-20	396.98
20-30	566.73
30-40	604.69
40-50	505.88
50-60	346.33
60-70	227.52
70-80	143.22
80-90	51.67
90-100	3.70
100-110	3.50
110-120	2.06
120-130	2.20
130-140	1.87
140-150	1.27
150-160	1.06
160-170	0.82
170-180	0.15





Max , Ave Beam angle of C112.5 plane 84.39



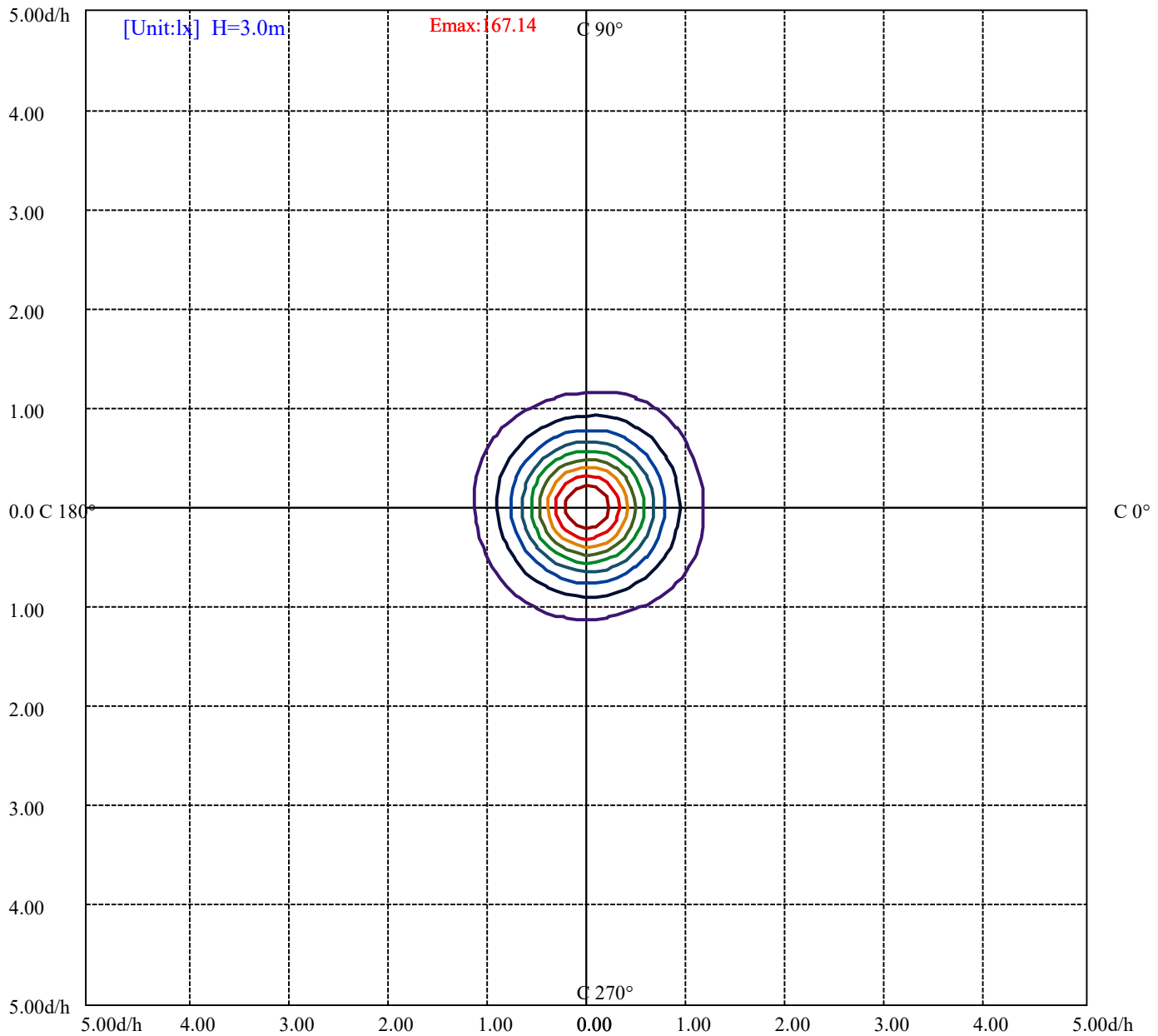


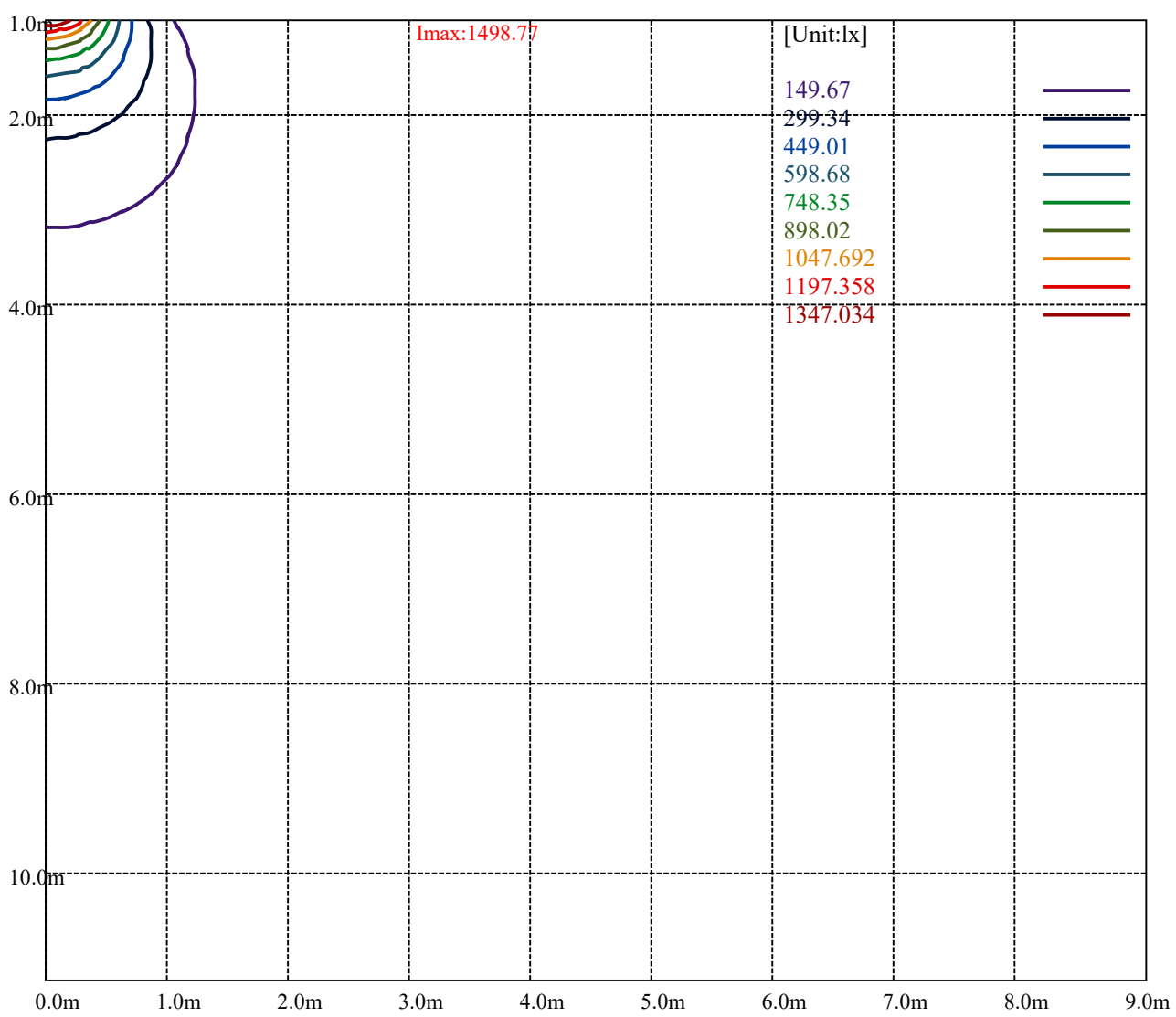
House

[Unit:cd]

Road

I _{max} :1498.77	
(10%I _{max}) 151.6774	
(20%I _{max}) 303.3547	
(30%I _{max}) 455.032	
(40%I _{max}) 606.7094	
(50%I _{max}) 758.3868	
(60%I _{max}) 910.0641	
(70%I _{max}) 1061.742	
(80%I _{max}) 1213.423	
(90%I _{max}) 1365.093	





Luminance Table

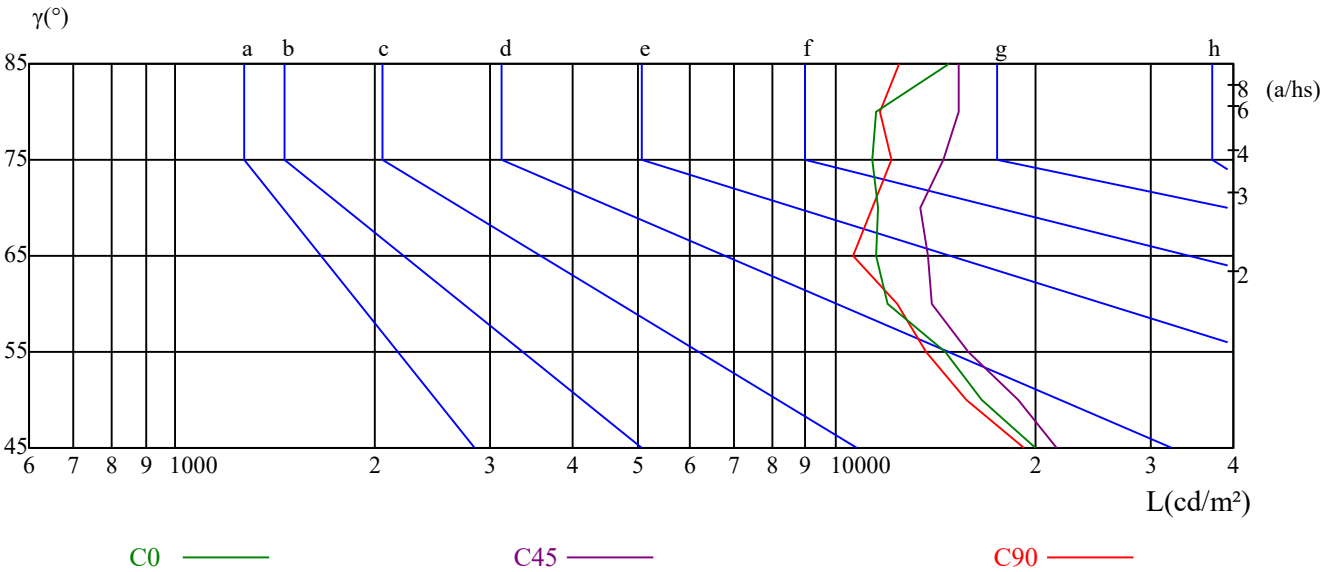
γ	45	50	55	60	65	70	75	80	85
C0	20091	16635	14612	11993	11540	11566	11375	11546	14818
C45	21636	18925	15903	13980	13762	13467	14586	15343	15336
C90	19222	15750	13683	12391	10621	11328	12108	11702	12435

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
10375	9798	11550	10032	10678	11672	11347	10207	10544

Glare Table

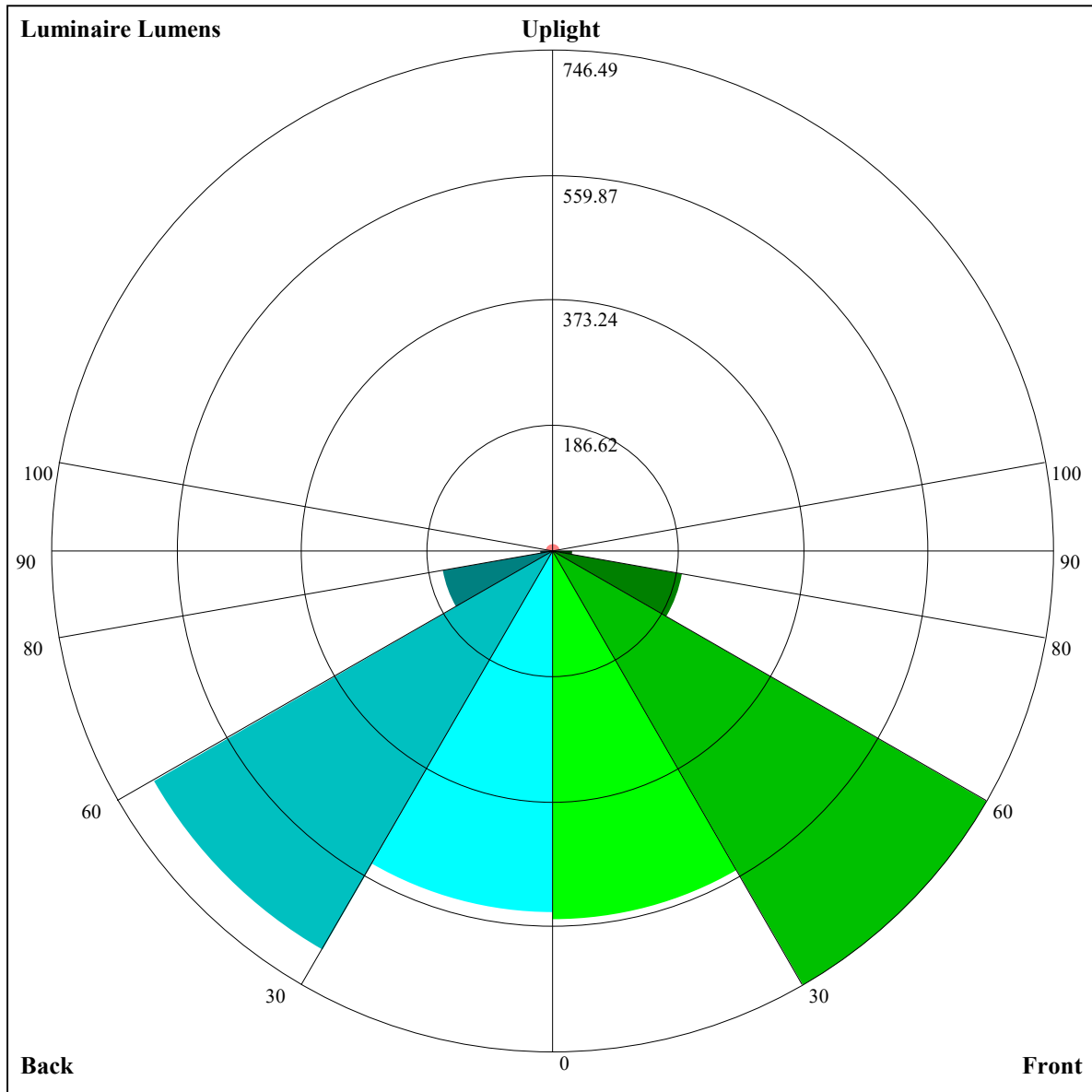
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	16.58	18.05	16.95	18.37	18.70	16.83	18.30	17.20	18.62	18.95
	3H	17.81	19.13	18.20	19.48	19.84	18.00	19.32	18.39	19.67	20.03
	4H	18.38	19.62	18.79	19.98	20.36	18.60	19.84	19.01	20.20	20.58
	6H	18.92	20.06	19.33	20.44	20.85	19.18	20.32	19.59	20.70	21.11
	8H	19.13	20.24	19.55	20.62	21.04	19.38	20.49	19.80	20.88	21.29
	12H	19.34	20.40	19.76	20.79	21.22	19.54	20.60	19.97	21.00	21.42
4H	2H	17.18	18.42	17.58	18.78	19.16	17.38	18.61	17.78	18.98	19.35
	3H	18.64	19.69	19.07	20.09	20.51	18.81	19.85	19.23	20.25	20.68
	4H	19.41	20.34	19.86	20.77	21.22	19.64	20.57	20.08	20.99	21.45
	6H	20.06	20.89	20.54	21.34	21.80	20.38	21.21	20.85	21.66	22.12
	8H	20.37	21.15	20.86	21.60	22.08	20.70	21.48	21.19	21.93	22.41
	12H	20.67	21.39	21.16	21.84	22.36	20.97	21.68	21.45	22.13	22.65
8H	4H	19.81	20.58	20.29	21.04	21.51	20.01	20.78	20.49	21.24	21.71
	6H	20.65	21.30	21.15	21.78	22.29	20.99	21.64	21.49	22.11	22.63
	8H	21.12	21.69	21.65	22.21	22.71	21.52	22.08	22.04	22.60	23.10
	12H	21.53	22.00	22.06	22.52	23.05	21.93	22.41	22.47	22.93	23.45
12H	4H	19.88	20.60	20.37	21.05	21.57	20.06	20.78	20.55	21.23	21.75
	6H	20.84	21.40	21.36	21.92	22.43	21.15	21.71	21.67	22.23	22.73
	8H	21.33	21.80	21.86	22.32	22.85	21.71	22.18	22.24	22.70	23.22
Variation with the observer position at spacings:											
S = 1.0H		0.3/-0.7					0.2/-0.6				
S = 1.5H		0.5/-0.9					0.6/-1.0				
S = 2.0H		0.8/-1.1					0.9/-1.0				
Standard tables:		BKBF					BKBF				
Uncorrected UGR		10.7					10.4				

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



Luminaire Lumens:

FL=550.33,FM=746.49,FH=195.94,FVH=29.98

BL=538.7,BM=687.32,BH=167.8,BVH=20.63

UL=3.66,UH=12.84

BUG Rating:B2-U2-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	1478.54	1471.94	1456.99	1427.09	1364.20	1276.24	1141.23	1012.81	860.21
22.5	1491.73	1479.86	1466.67	1435.00	1367.72	1273.60	1161.46	1018.53	884.40
45.0	1486.02	1484.26	1459.63	1417.41	1361.56	1273.60	1160.14	1038.76	891.43
67.5	1470.19	1490.41	1463.59	1430.16	1374.75	1272.72	1154.42	1026.45	897.59
90.0	1477.22	1472.82	1460.95	1413.89	1351.00	1249.42	1121.44	992.58	841.74
112.5	1498.77	1478.10	1455.23	1412.57	1335.61	1248.54	1107.37	980.27	838.66
135.0	1480.74	1475.90	1453.03	1406.42	1330.77	1235.34	1109.56	962.68	806.12
157.5	1489.10	1477.66	1435.44	1418.73	1329.90	1225.67	1088.90	937.61	811.39
180.0	1478.54	1492.17	1454.79	1408.18	1316.70	1190.48	1067.35	932.77	778.41
202.5	1491.73	1478.98	1440.72	1390.58	1319.34	1202.36	1060.31	912.54	741.91
225.0	1486.02	1470.19	1436.32	1404.22	1315.82	1202.36	1051.95	905.07	753.78
247.5	1470.19	1471.06	1442.04	1405.54	1287.24	1181.69	1048.44	906.83	754.66
270.0	1477.22	1478.54	1445.12	1415.21	1334.29	1223.47	1084.50	943.33	799.52
292.5	1498.77	1478.54	1451.27	1393.66	1335.61	1220.39	1090.21	960.48	807.44
315.0	1480.74	1479.42	1459.63	1417.41	1351.00	1244.14	1124.96	993.90	825.91
337.5	1489.10	1471.06	1463.59	1426.21	1358.92	1264.37	1134.63	995.22	850.09
360.0	1478.54	1471.94	1456.99	1427.09	1364.20	1276.24	1141.23	1012.81	860.21

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	691.77	520.70	408.12	292.01	237.48	192.62	143.37	97.63	62.89
22.5	716.40	527.74	408.56	305.65	254.63	204.94	154.36	111.26	63.33
45.0	744.99	592.38	444.18	340.39	283.22	224.29	183.83	129.74	65.09
67.5	733.99	585.35	447.70	345.23	277.94	210.21	168.88	134.13	81.80
90.0	661.87	492.99	382.17	301.69	218.57	188.67	152.60	98.95	52.77
112.5	651.75	483.32	388.77	294.21	212.85	183.39	122.70	93.23	50.57
135.0	656.59	509.71	382.17	299.05	239.68	190.42	153.04	104.23	56.29
157.5	639.44	492.99	382.61	276.62	221.21	178.99	137.65	82.24	37.38
180.0	590.62	446.82	335.99	245.84	189.54	149.96	109.51	60.25	33.42
202.5	573.03	421.31	328.52	246.72	199.66	137.21	92.35	69.05	21.55
225.0	595.90	455.17	333.35	255.51	187.35	151.72	110.82	61.57	17.15
247.5	609.54	460.01	328.52	267.83	202.74	160.08	105.99	76.96	21.11
270.0	613.49	447.26	367.22	248.04	184.71	155.24	116.54	80.92	33.86
292.5	610.41	451.65	365.02	266.51	216.81	159.64	119.62	83.12	44.86
315.0	677.70	525.10	394.04	310.49	240.56	189.99	140.73	102.91	40.46
337.5	686.50	567.76	412.51	314.00	248.04	188.23	146.45	111.70	65.09
360.0	691.77	520.70	408.12	292.01	237.48	192.62	143.37	97.63	62.89

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	12.75	0.00	0.00	15.83	0.00	0.00	0.00	0.00	13.63
22.5	0.00	4.40	0.00	0.00	0.00	0.00	13.19	0.00	1.32
45.0	5.28	0.00	0.00	0.88	4.40	0.00	0.00	0.00	0.00
67.5	2.20	18.91	0.00	0.00	0.00	0.00	5.72	0.00	0.00
90.0	0.00	7.92	5.28	0.00	0.00	0.00	7.48	0.00	0.44
112.5	0.00	4.40	11.43	0.00	0.00	0.00	4.84	8.36	0.00
135.0	0.00	0.00	0.00	6.16	0.00	0.00	6.16	14.07	0.00
157.5	0.00	0.00	9.24	0.44	0.00	0.00	0.00	0.00	0.00
180.0	0.00	0.00	0.00	0.00	0.00	17.15	0.00	8.80	0.00
202.5	0.00	5.72	0.88	15.83	0.00	3.08	0.00	0.00	2.20
225.0	6.16	0.00	2.64	0.00	0.00	0.00	0.00	0.00	0.00
247.5	0.00	6.60	0.00	7.04	17.15	0.00	0.00	0.00	2.20
270.0	0.00	0.00	20.67	0.00	0.00	5.28	0.00	0.00	0.00
292.5	0.00	0.00	11.43	0.00	6.60	2.20	0.00	0.00	0.00
315.0	7.48	3.52	0.00	0.00	10.56	0.00	0.00	0.00	3.52
337.5	9.24	0.88	7.92	4.84	1.32	0.00	0.00	16.71	0.00
360.0	12.75	0.00	0.00	15.83	0.00	0.00	0.00	0.00	13.63

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	4.84	21.11	0.00	4.40	0.00	0.00
22.5	0.00	10.99	0.00	7.04	3.08	1.76	0.00	5.28	6.60
45.0	0.00	0.00	7.04	0.00	0.00	0.00	0.00	5.28	0.00
67.5	0.00	0.00	6.60	0.00	0.00	0.00	0.00	0.00	0.44
90.0	8.80	11.43	0.00	0.44	0.00	0.00	0.00	0.00	2.20
112.5	11.87	2.64	5.28	3.96	0.00	0.00	3.08	0.00	0.00
135.0	0.00	12.75	0.00	0.00	0.00	2.64	0.00	0.00	0.00
157.5	2.20	0.00	0.00	9.24	0.44	9.24	5.28	6.60	0.00
180.0	0.00	7.92	0.00	1.32	0.00	0.00	0.00	7.04	0.00
202.5	11.43	0.00	0.00	0.00	8.80	0.00	9.68	0.00	9.24
225.0	0.00	0.00	0.00	0.00	4.84	0.00	0.00	0.00	0.00
247.5	0.00	5.72	0.00	0.00	0.00	0.00	11.43	0.00	0.00
270.0	0.00	0.00	0.00	0.00	0.00	0.00	4.40	5.72	4.84
292.5	0.00	6.16	0.00	0.00	0.00	0.00	12.75	0.88	0.00
315.0	2.64	0.88	0.44	3.52	2.20	15.83	1.76	2.64	0.00
337.5	0.00	0.00	0.00	0.00	0.00	6.16	0.00	12.31	0.00
360.0	0.00	0.00	0.00	4.84	21.11	0.00	4.40	0.00	0.00

C/γ(°)	180.0
0.0	7.04
22.5	5.28
45.0	1.76
67.5	0.00
90.0	6.60
112.5	10.56
135.0	5.28
157.5	3.96
180.0	7.04
202.5	5.28
225.0	1.76
247.5	0.00
270.0	6.60
292.5	10.56
315.0	5.28
337.5	3.96
360.0	7.04