



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440222 RIO 25W 3000K 2500lm

Luminaire:

Report No:

Voltage(V): 230.2800

Test No: KYZ-A250922053-01-004

Current(A): 0.1151

LampCAT: LED

Power (W): 25.0000

Lamp flux(lm): -1.0

PF: 0.9436

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): 1266.442

Maximum intensity(cd): 1296.388

Angle of maximum intensity: C=157.5 γ =0.0

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

[C90/270]Total=84.7

Field angle(10%Imax): [C0/180]Total=143.3

[C90/270]Total=144.5

Maximum s/h(1/2): C0_180=1.15 C90_270=1.11

Maximum s/h(1/4): C0_180=1.21 C90_270=1.18

Up flux rate of lamp(%): 0.37%

Down flux rate of lamp(%): 99.63%

Up flux rate of LUM(%): 0.37%

Down flux rate of LUM(%): 99.63%

CIE Type : Direct lighting

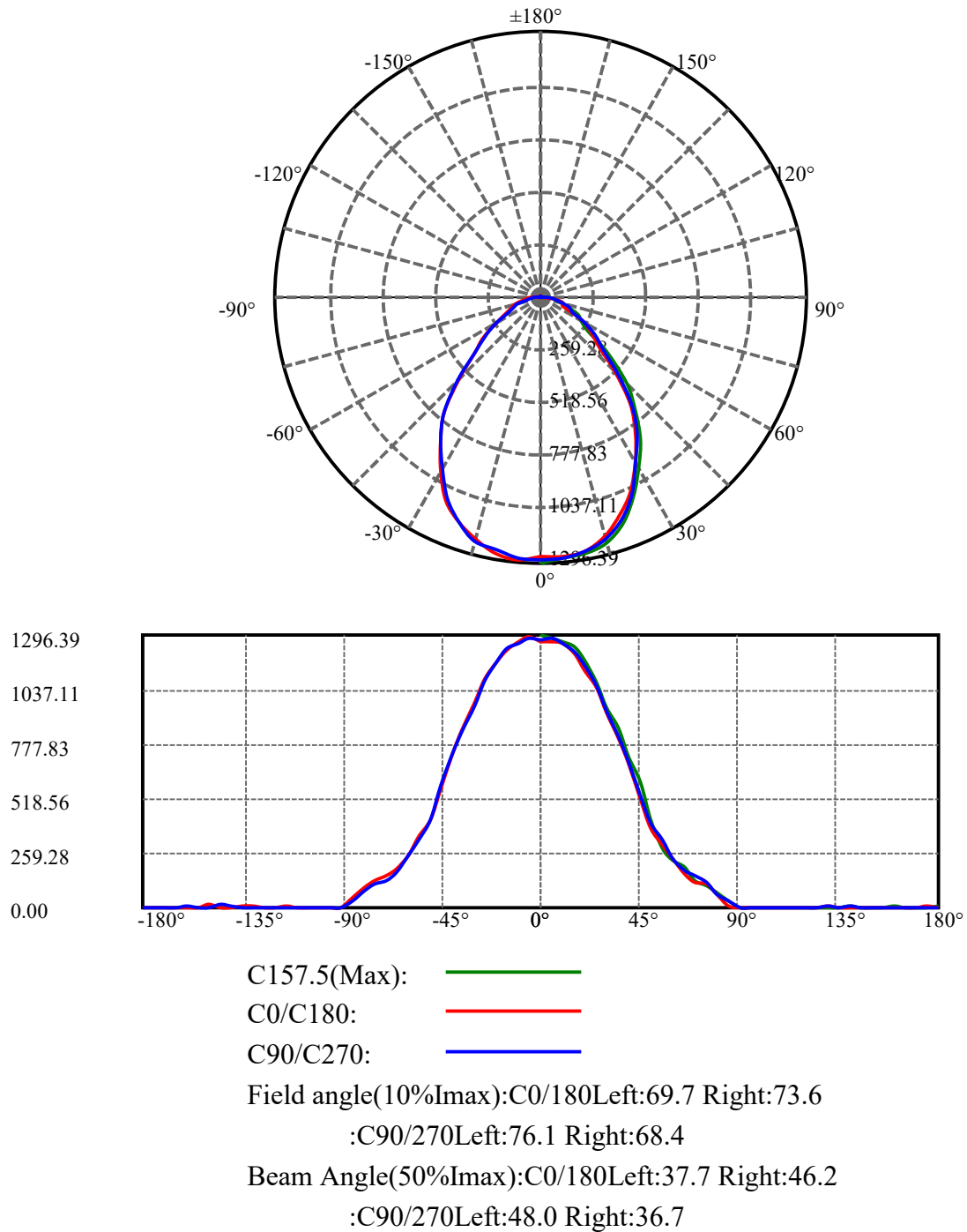
Output flux ratio in π solid angle : 86.830%

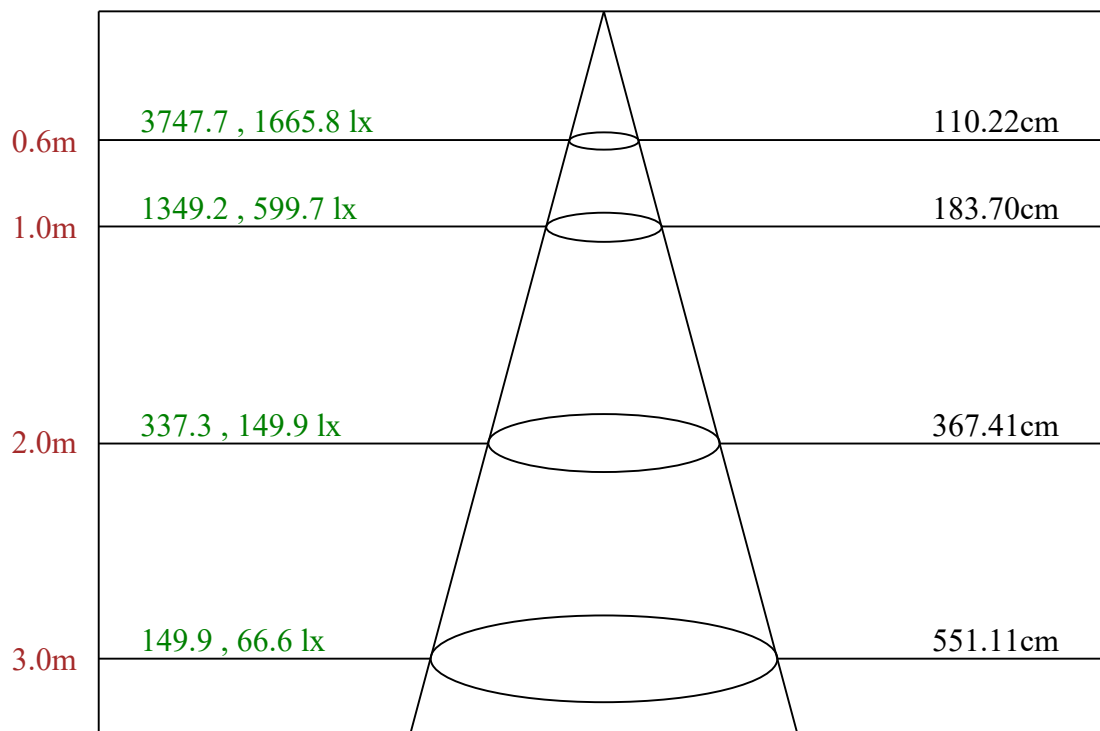
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1329.335	0.000	0	.000%	.000%
5.0	1326.464	30.507	30.507	.000%	1.220%
10.0	1304.499	90.436	120.943	.000%	4.838%
15.0	1269.462	146.712	267.655	.000%	10.706%
20.0	1203.900	195.865	463.52	.000%	18.541%
25.0	1105.839	232.772	696.291	.000%	27.852%
30.0	989.709	254.818	951.11	.000%	38.044%
35.0	864.096	262.306	1213.415	.000%	48.537%
40.0	734.740	256.317	1469.733	.000%	58.789%
45.0	575.295	233.074	1702.807	.000%	68.112%
50.0	417.567	192.773	1895.58	.000%	75.823%
55.0	312.791	152.591	2048.171	.000%	81.927%
60.0	239.130	122.584	2170.755	.000%	86.830%
65.0	179.539	97.797	2268.552	.000%	90.742%
70.0	136.019	76.776	2345.327	.000%	93.813%
75.0	110.594	61.939	2407.266	.000%	96.291%
80.0	72.918	47.182	2454.448	.000%	98.178%
85.0	32.115	27.423	2481.871	.000%	99.275%
90.0	1.615	8.874	2490.745	.000%	99.630%
95.0	0.948	0.674	2491.42	.000%	99.657%
100.0	1.897	0.743	2492.162	.000%	99.687%
105.0	0.590	0.639	2492.802	.000%	99.712%
110.0	0.692	0.322	2493.123	.000%	99.725%
115.0	1.948	0.642	2493.766	.000%	99.751%
120.0	0.436	0.557	2494.322	.000%	99.773%
125.0	1.871	0.512	2494.835	.000%	99.794%
130.0	3.281	1.076	2495.911	.000%	99.837%
135.0	1.615	0.950	2496.862	.000%	99.875%
140.0	1.615	0.575	2497.436	.000%	99.898%
145.0	2.179	0.608	2498.044	.000%	99.922%
150.0	2.204	0.620	2498.664	.000%	99.947%
155.0	1.230	0.418	2499.082	.000%	99.963%
160.0	2.486	0.375	2499.456	.000%	99.978%
165.0	0.564	0.242	2499.698	.000%	99.988%
170.0	1.820	0.136	2499.834	.000%	99.993%
175.0	1.076	0.100	2499.933	.000%	99.997%
180.0	4.408	0.063	2499.996	.000%	100.000%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	951.11	N.A.	38.04%
0-40	1469.73	N.A.	58.79%
0-60	2170.75	N.A.	86.83%
0-90	2490.75	N.A.	99.63%
0-120	2494.32	N.A.	99.77%
0-180	2500.00	N.A.	100.00%
60-90	442.57	N.A.	17.70%
90-120	12.45	N.A.	0.50%
90-130	14.04	N.A.	0.56%
90-150	16.79	N.A.	0.67%
90-180	18.06	N.A.	0.72%
0-53.42	2000.00	N.A.	80.00%

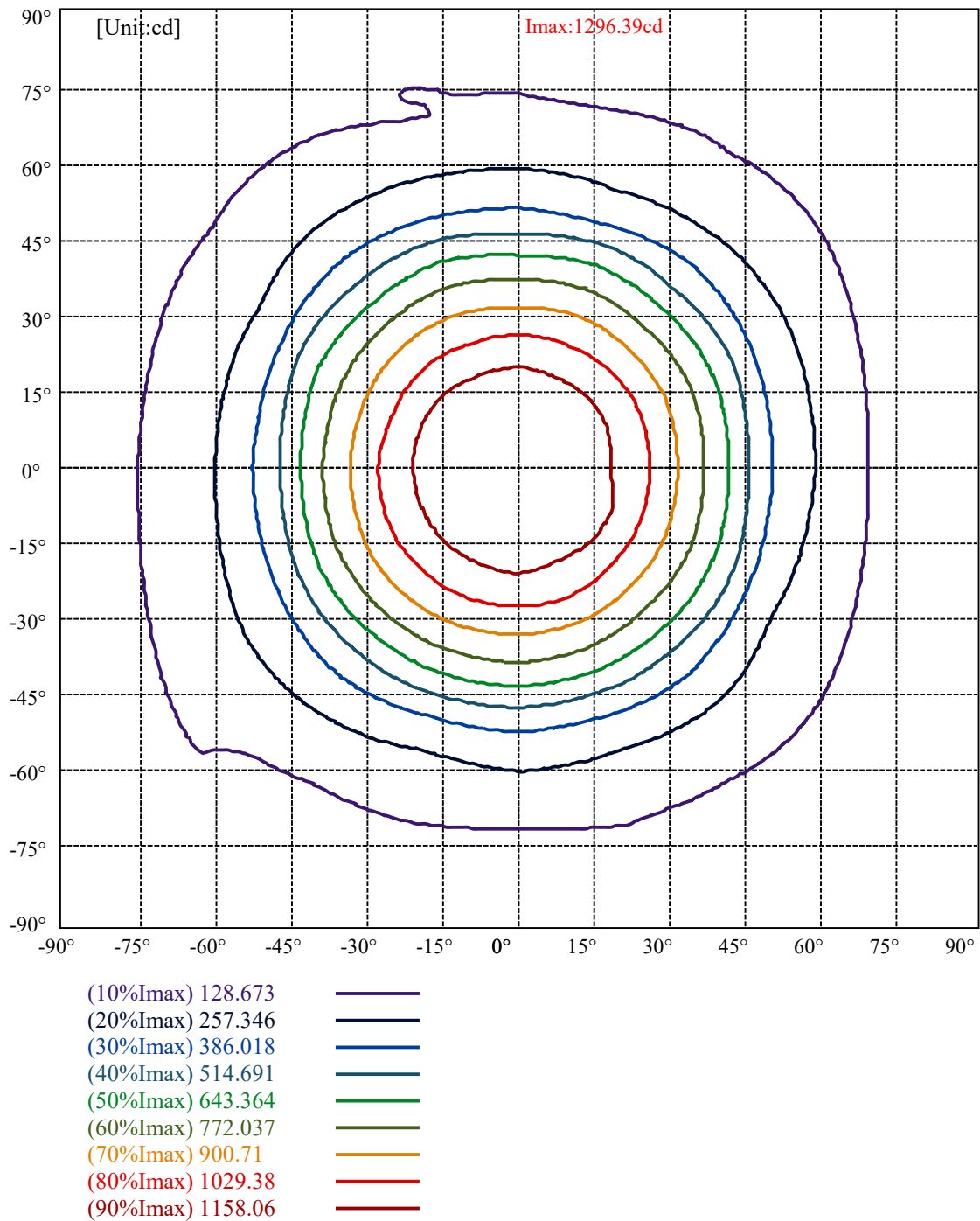
ZONAL LUMEN SUMMARY

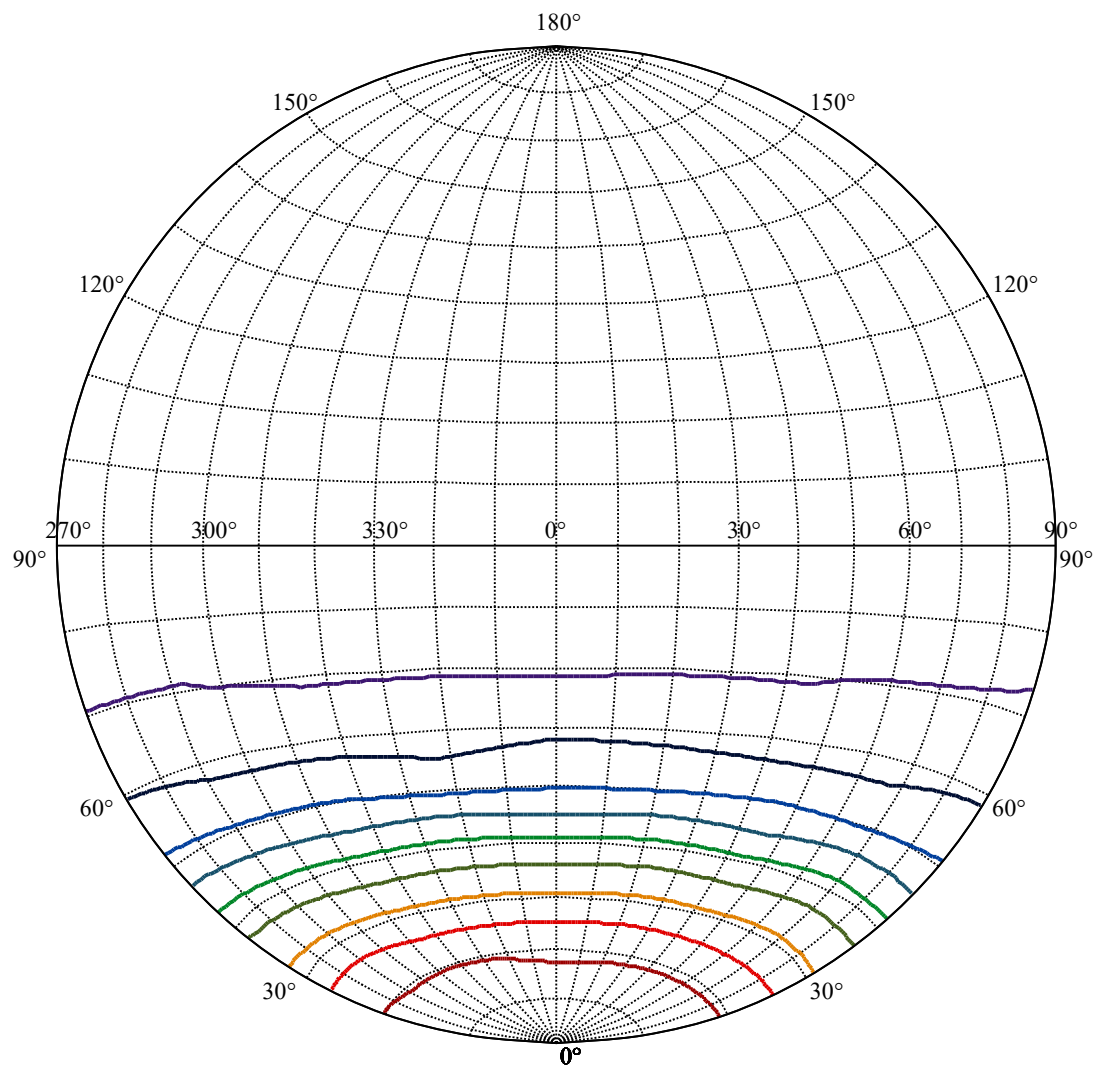
0-10	120.94
10-20	342.58
20-30	487.59
30-40	518.62
40-50	425.85
50-60	275.17
60-70	174.57
70-80	109.12
80-90	36.30
90-100	1.42
100-110	0.96
110-120	1.20
120-130	1.59
130-140	1.53
140-150	1.23
150-160	0.79
160-170	0.38
170-180	0.10





Max , Ave Beam angle of C157.5 plane 85.14





House

[Unit:cd]

Road

Imax:1296.39

(10%Imax) 124.522

(20%Imax) 249.0449

(30%Imax) 373.5669

(40%Imax) 498.0898

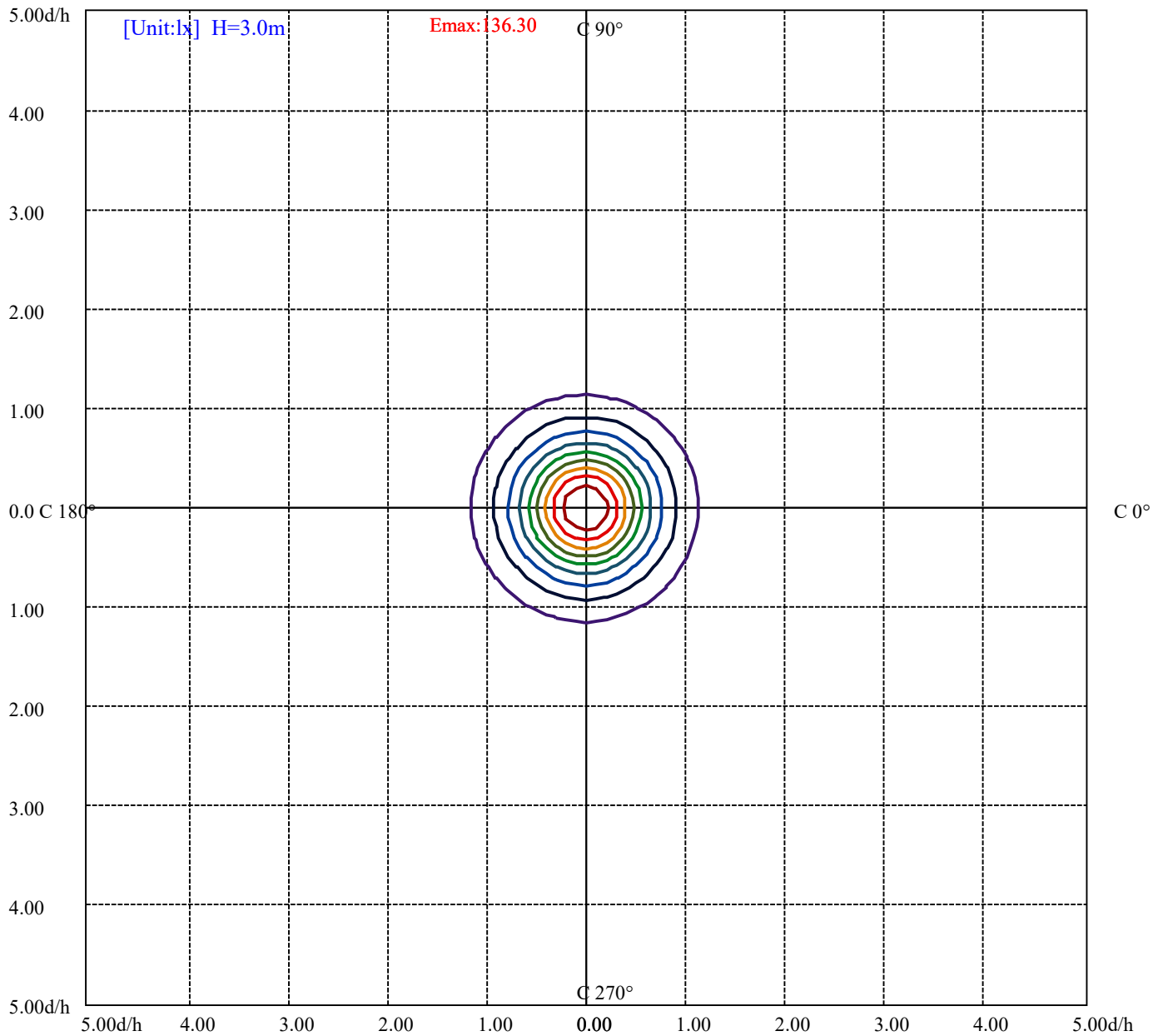
(50%Imax) 622.6117

(60%Imax) 747.1346

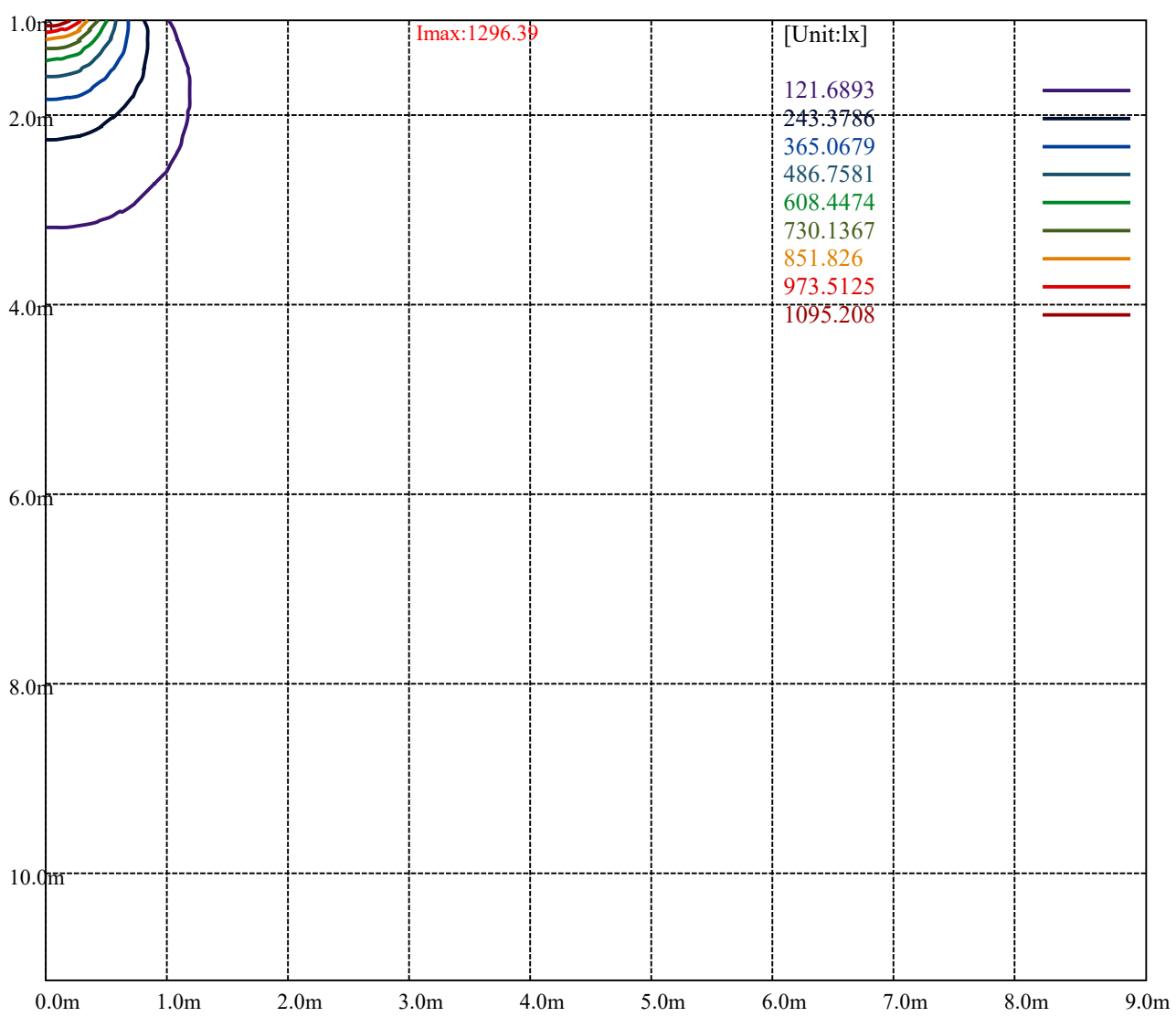
(70%Imax) 871.6566

(80%Imax) 996.1796

(90%Imax) 1120.7



(10%Emax)	13.63047	
(20%Emax)	27.26083	
(30%Emax)	40.8913	
(40%Emax)	54.52166	
(50%Emax)	68.15212	
(60%Emax)	81.78248	
(70%Emax)	95.41294	
(80%Emax)	109.0435	
(90%Emax)	122.6741	



Luminance Limiting Curve(no luminous side)

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Luminance Table

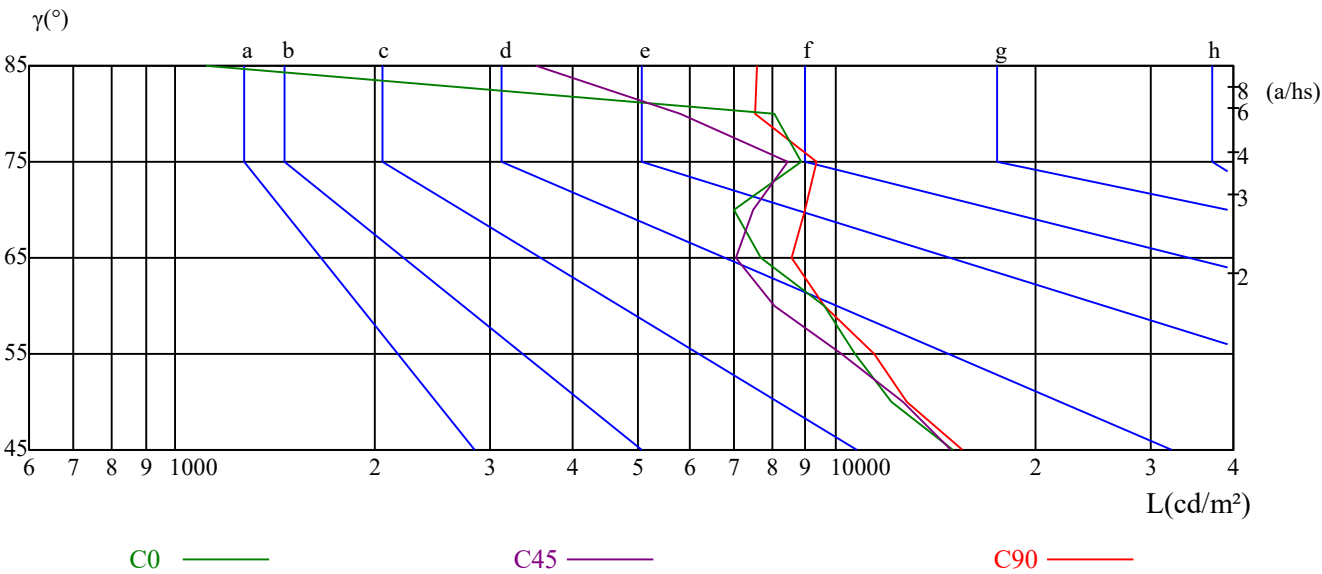
γ	45	50	55	60	65	70	75	80	85
C0	15003	12123	10708	9613	7697	7027	8848	8062	1114
C45	14957	12601	10228	8076	7065	7500	8441	5825	3528
C90	15518	12778	11441	9613	8597	8967	9348	7549	7613

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
8300	8482	7487	9473	9254	7707	5942	7242	6453

Glare Table

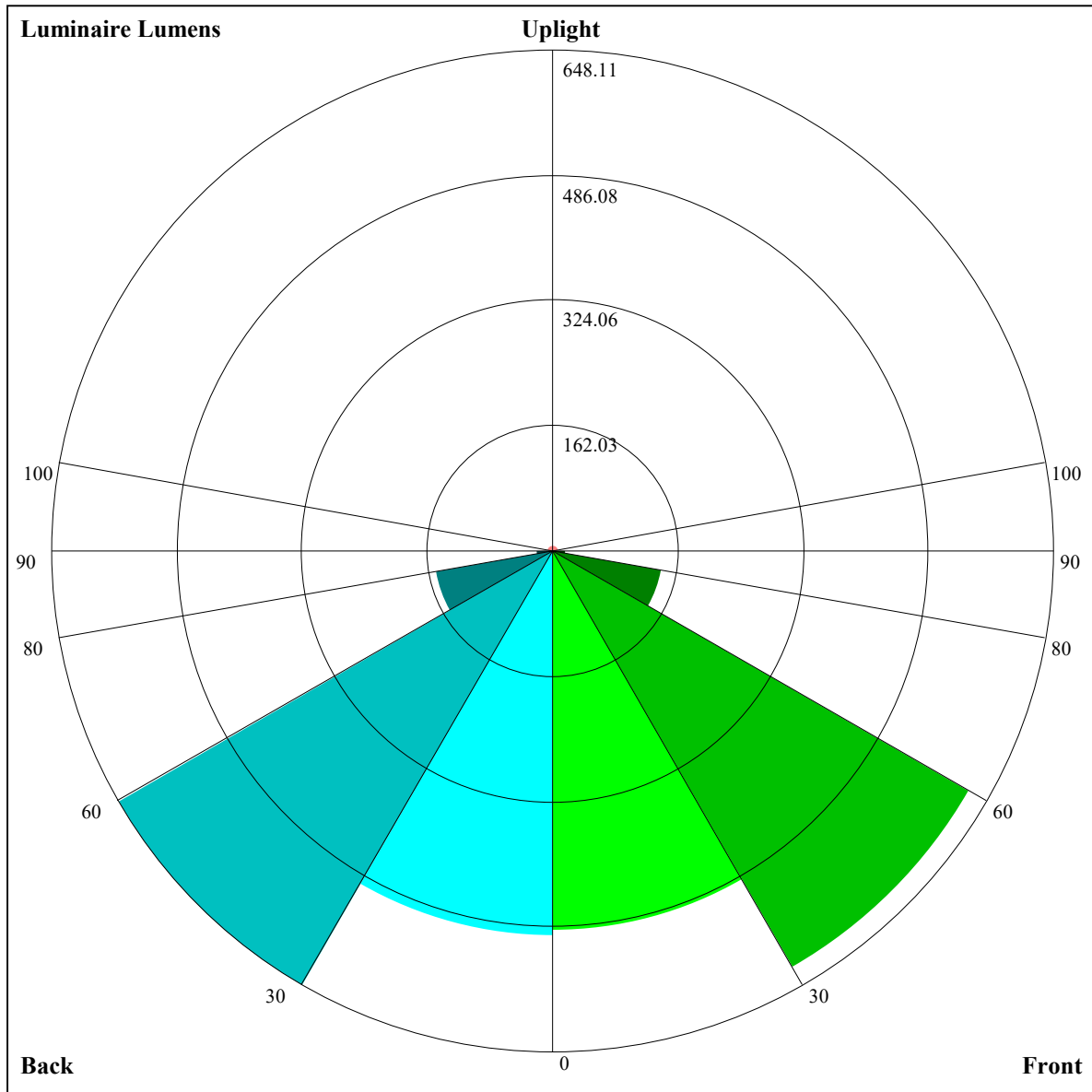
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	15.47	16.92	15.83	17.24	17.56	15.50	16.95	15.87	17.27	17.59
	3H	16.41	17.71	16.80	18.06	18.41	16.71	18.01	17.09	18.35	18.70
	4H	16.95	18.17	17.35	18.53	18.90	17.23	18.45	17.63	18.81	19.18
	6H	17.45	18.58	17.86	18.95	19.36	17.68	18.81	18.09	19.18	19.59
	8H	17.55	18.64	17.97	19.02	19.43	17.81	18.90	18.23	19.28	19.69
	12H	17.54	18.58	17.96	18.97	19.39	17.90	18.94	18.33	19.34	19.76
4H	2H	15.80	17.02	16.20	17.38	17.75	15.83	17.05	16.23	17.41	17.78
	3H	16.95	17.98	17.38	18.38	18.80	17.23	18.26	17.66	18.65	19.07
	4H	17.69	18.59	18.13	19.02	19.46	17.88	18.78	18.32	19.21	19.66
	6H	18.26	19.07	18.73	19.52	19.97	18.42	19.23	18.89	19.68	20.13
	8H	18.44	19.19	18.92	19.65	20.12	18.64	19.40	19.12	19.85	20.32
	12H	18.48	19.18	18.96	19.63	20.14	18.81	19.51	19.29	19.96	20.47
8H	4H	17.90	18.65	18.38	19.11	19.58	18.06	18.81	18.54	19.27	19.74
	6H	18.56	19.19	19.06	19.67	20.18	18.72	19.35	19.22	19.83	20.33
	8H	18.86	19.41	19.38	19.93	20.43	19.07	19.61	19.59	20.13	20.63
	12H	18.97	19.43	19.51	19.95	20.47	19.29	19.75	19.82	20.27	20.78
12H	4H	17.91	18.61	18.40	19.06	19.58	18.07	18.77	18.55	19.22	19.73
	6H	18.64	19.19	19.16	19.71	20.20	18.79	19.34	19.31	19.86	20.35
	8H	18.92	19.38	19.45	19.90	20.42	19.12	19.58	19.65	20.09	20.61
Variation with the observer position at spacings:											
S = 1.0H		0.3/-0.7					0.4/-0.8				
S = 1.5H		0.8/-1.2					0.8/-1.0				
S = 2.0H		1.6/-1.0					1.6/-1.3				
Standard tables:		BK3					BK3				
Uncorrected UGR		4.9					4.7				

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



Luminaire Lumens:

FL=491.49,FM=620.95,FH=143.01,FVH=16.68

BL=497.21,BM=648.11,BH=153.67,BVH=21.05

UL=1.47,UH=8.14

BUG Rating:B1-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	1266.44	1267.62	1255.41	1207.34	1124.98	1044.60	929.54	803.05	684.05
22.5	1282.60	1271.56	1236.10	1195.51	1149.02	1051.30	937.81	817.63	689.17
45.0	1276.69	1266.44	1255.41	1211.28	1147.05	1046.57	931.11	801.08	675.78
67.5	1269.99	1269.59	1236.10	1225.07	1142.32	1044.20	941.36	823.94	701.78
90.0	1275.90	1277.87	1255.80	1219.16	1154.53	1053.66	930.72	816.45	694.30
112.5	1275.11	1258.56	1249.50	1224.28	1151.38	1048.93	949.63	829.85	720.30
135.0	1275.50	1282.99	1265.65	1220.34	1162.42	1061.94	956.33	839.30	700.21
157.5	1296.39	1278.66	1264.08	1237.28	1173.05	1067.85	953.18	851.12	717.15
180.0	1266.44	1284.96	1262.11	1221.52	1169.51	1089.12	971.31	852.31	734.49
202.5	1282.60	1275.90	1260.93	1240.04	1166.36	1080.85	981.55	853.09	733.70
225.0	1276.69	1281.02	1253.83	1220.34	1163.20	1074.94	968.94	851.52	715.18
247.5	1269.99	1270.38	1252.26	1219.94	1162.02	1080.46	969.34	848.37	719.52
270.0	1275.90	1276.29	1252.65	1231.37	1170.69	1080.06	961.46	846.40	729.37
292.5	1275.11	1276.29	1263.68	1229.01	1152.96	1077.70	959.48	830.24	709.27
315.0	1275.50	1282.20	1243.19	1216.00	1159.66	1049.33	940.18	806.99	683.26
337.5	1296.39	1272.75	1248.71	1198.27	1159.66	1049.72	933.87	813.30	688.39
360.0	1266.44	1267.62	1255.41	1207.34	1124.98	1044.60	929.54	803.05	684.05
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	516.59	379.46	299.08	234.06	158.40	117.03	111.51	68.17	4.73
22.5	538.26	384.19	279.37	236.42	178.11	119.39	96.93	55.95	30.73
45.0	515.01	394.43	285.68	196.63	145.40	124.91	106.39	49.25	14.97
67.5	553.62	379.07	273.07	222.63	182.05	143.04	74.47	66.59	22.85
90.0	534.32	399.95	319.57	234.06	176.92	149.34	117.82	63.83	32.31
112.5	573.33	406.25	309.32	238.00	187.96	124.12	132.40	80.78	23.25
135.0	558.75	409.80	320.75	226.97	157.62	136.73	93.39	72.50	31.13
157.5	597.36	416.89	283.31	228.15	196.23	129.24	103.63	70.93	34.28
180.0	563.48	421.62	339.66	249.03	183.23	150.52	127.27	95.75	45.71
202.5	575.30	418.08	316.41	260.07	189.14	138.70	130.43	74.08	46.10
225.0	558.75	414.92	328.63	230.12	164.71	118.21	93.39	82.35	38.62
247.5	567.81	407.44	289.22	219.48	182.83	136.34	93.78	67.38	37.04
270.0	577.27	421.62	321.54	249.82	172.19	131.22	115.45	78.81	29.16
292.5	547.71	403.50	282.92	234.06	171.80	132.00	120.18	72.11	38.62
315.0	526.04	397.19	297.50	214.36	148.55	121.76	95.36	62.26	24.82
337.5	541.02	365.27	262.82	202.54	165.10	118.61	87.87	60.29	39.40
360.0	516.59	379.46	299.08	234.06	158.40	117.03	111.51	68.17	4.73
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	1.58	0.00	0.00	0.00	0.00	0.00	8.28
22.5	0.00	0.00	0.00	0.00	0.00	5.91	0.00	3.15	0.00
45.0	7.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.97	4.73
90.0	0.00	0.00	0.00	0.00	0.00	0.00	0.79	1.58	9.06
112.5	0.00	6.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0	11.03	0.00	0.00	0.00	0.00	0.00	5.91	7.49	4.33
157.5	0.00	3.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0	0.00	0.00	0.00	0.00	0.00	7.09	0.00	0.00	8.67
202.5	4.33	0.39	11.82	0.00	0.00	0.00	0.00	14.58	0.00
225.0	1.18	0.00	11.82	0.00	0.00	5.91	0.00	0.00	3.15
247.5	0.00	0.00	2.76	0.00	9.06	0.00	0.00	0.00	0.00
270.0	0.00	0.00	1.18	3.15	0.00	2.76	0.00	0.00	0.00
292.5	0.00	0.00	0.00	5.91	0.00	0.00	0.00	0.00	0.00
315.0	0.00	3.55	0.00	0.00	0.00	6.70	0.00	0.00	0.00
337.5	0.79	0.00	0.00	0.00	1.58	1.58	0.00	0.00	12.22
360.0	0.00	0.00	1.58	0.00	0.00	0.00	0.00	0.00	8.28

Intensity data(cd)

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C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.39	0.00	0.00	0.00	0.00	0.00	0.79	0.00	4.33
22.5	0.00	1.97	0.00	7.09	3.94	0.00	1.18	0.00	7.88
45.0	0.00	0.00	1.18	9.46	3.94	2.76	2.76	0.00	0.00
67.5	0.00	0.00	1.18	0.00	1.97	0.00	0.00	9.85	0.00
90.0	0.00	5.12	0.00	0.00	0.00	3.55	0.00	0.00	1.97
112.5	0.00	0.00	0.00	0.00	0.00	4.33	0.00	0.00	0.00
135.0	0.00	0.00	5.12	0.00	0.00	0.00	0.00	0.00	0.00
157.5	0.00	4.73	0.00	2.36	0.00	9.46	1.58	0.00	0.00
180.0	6.70	0.00	0.00	12.61	0.00	0.00	0.00	0.00	0.79
202.5	3.15	7.88	0.00	0.00	1.18	0.00	0.00	0.00	0.00
225.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.18	0.00
247.5	0.00	0.00	0.00	2.36	1.58	1.58	0.00	13.40	0.00
270.0	0.00	5.12	14.97	0.00	0.00	10.64	0.79	1.18	0.00
292.5	0.00	0.00	0.00	0.00	6.30	0.00	0.00	0.00	0.00
315.0	13.00	0.00	11.03	0.00	0.00	0.00	0.00	0.00	1.58
337.5	1.58	0.00	0.00	0.00	0.00	5.91	1.58	2.36	0.00
360.0	0.39	0.00	0.00	0.00	0.00	0.00	0.79	0.00	4.33

C/γ(°)	180.0
0.0	1.58
22.5	7.09
45.0	9.06
67.5	0.00
90.0	0.00
112.5	7.49
135.0	1.58
157.5	7.09
180.0	1.58
202.5	7.09
225.0	9.06
247.5	0.00
270.0	0.00
292.5	7.49
315.0	1.58
337.5	7.09
360.0	1.58