



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440219 RIO 15W 3000K 1500lm

Luminaire:

Report No:

Voltage(V): 230.4200

Test No: KYZ-A251030009-04-006

Current(A): 0.0689

LampCAT: LED

Power (W): 15.0000

Lamp flux(lm): -1.0

PF: 0.9736

Number of Lamps: 1

Ballast type:

Length(mm): -126

Width(mm): -126

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1500.00

Efficiency(%): 100.00%

Lumens(lm)/Power(W): 100.00

Central intensity(cd): 756.949

Maximum intensity(cd): 770.630

Angle of maximum intensity: C=135.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=85.3

[C90/270]Total=85.1

Field angle(10%Imax): [C0/180]Total=139.0

[C90/270]Total=144.0

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

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

Up flux rate of lamp(%): 0.85%

Down flux rate of lamp(%): 99.15%

Up flux rate of LUM(%): 0.85%

Down flux rate of LUM(%): 99.15%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 86.551%

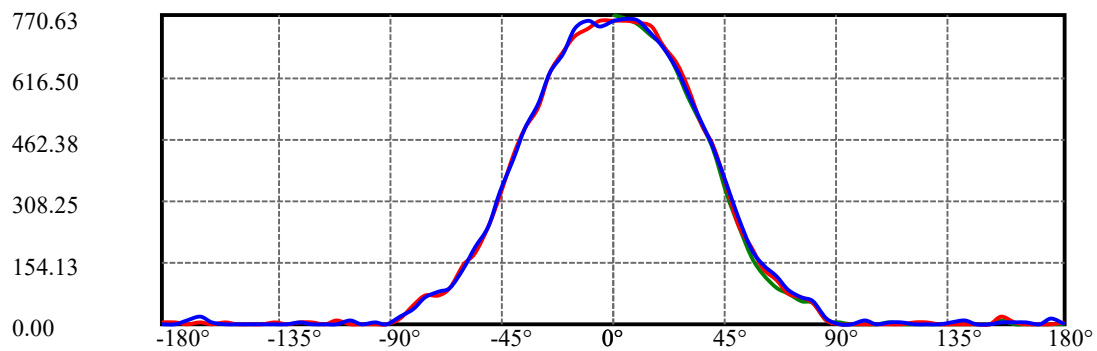
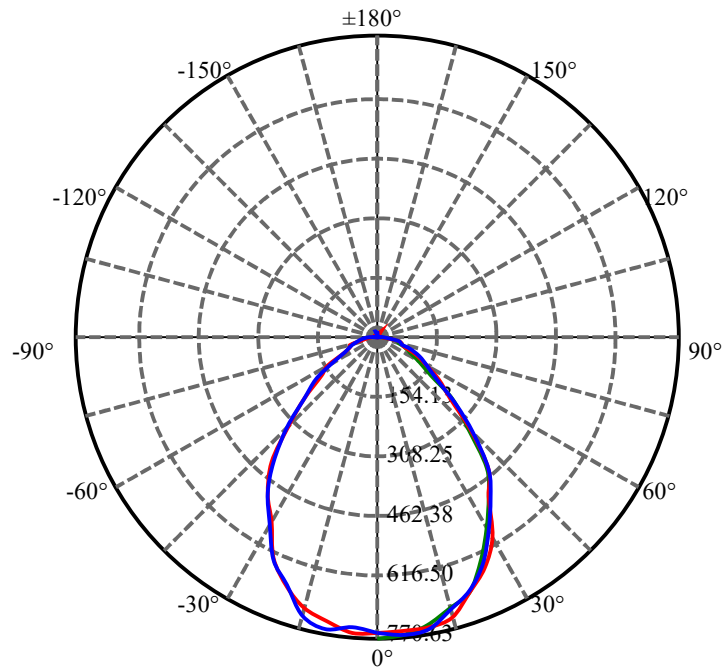
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	781.878	0.000	0	.000%	.000%
5.0	777.668	18.129	18.129	.000%	1.209%
10.0	770.314	53.846	71.974	.000%	4.798%
15.0	746.759	87.504	159.478	.000%	10.632%
20.0	708.284	116.601	276.08	.000%	18.405%
25.0	650.890	138.612	414.692	.000%	27.646%
30.0	580.973	151.584	566.276	.000%	37.752%
35.0	506.739	155.746	722.022	.000%	48.135%
40.0	436.556	153.031	875.053	.000%	58.337%
45.0	340.686	139.935	1014.988	.000%	67.666%
50.0	255.954	117.227	1132.215	.000%	75.481%
55.0	183.426	92.895	1225.11	.000%	81.674%
60.0	142.072	73.158	1298.268	.000%	86.551%
65.0	103.970	58.160	1356.428	.000%	90.429%
70.0	78.284	44.872	1401.3	.000%	93.420%
75.0	63.416	36.014	1437.315	.000%	95.821%
80.0	46.576	28.617	1465.932	.000%	97.729%
85.0	16.307	16.614	1482.546	.000%	98.837%
90.0	1.545	4.753	1487.299	.000%	99.153%
95.0	1.652	0.851	1488.15	.000%	99.210%
100.0	3.624	1.394	1489.544	.000%	99.303%
105.0	2.505	1.594	1491.139	.000%	99.409%
110.0	2.505	1.273	1492.412	.000%	99.494%
115.0	1.066	0.879	1493.291	.000%	99.553%
120.0	1.439	0.592	1493.883	.000%	99.592%
125.0	2.025	0.779	1494.662	.000%	99.644%
130.0	0.000	0.428	1495.09	.000%	99.673%
135.0	1.865	0.366	1495.456	.000%	99.697%
140.0	3.570	0.979	1496.435	.000%	99.763%
145.0	0.267	0.622	1497.057	.000%	99.804%
150.0	1.972	0.320	1497.378	.000%	99.825%
155.0	4.850	0.839	1498.217	.000%	99.881%
160.0	1.812	0.679	1498.896	.000%	99.927%
165.0	3.411	0.419	1499.315	.000%	99.955%
170.0	3.304	0.387	1499.702	.000%	99.980%
175.0	2.931	0.217	1499.919	.000%	99.995%
180.0	3.730	0.077	1499.997	.000%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	566.28	N.A.	37.75%
0-40	875.05	N.A.	58.34%
0-60	1298.27	N.A.	86.55%
0-90	1487.30	N.A.	99.15%
0-120	1493.88	N.A.	99.59%
0-180	1500.00	N.A.	100.00%
60-90	262.19	N.A.	17.48%
90-120	11.34	N.A.	0.76%
90-130	12.54	N.A.	0.84%
90-150	14.83	N.A.	0.99%
90-180	17.37	N.A.	1.16%
0-53.65	1200.00	N.A.	80.00%

ZONAL LUMEN SUMMARY

0-10	71.97
10-20	204.11
20-30	290.20
30-40	308.78
40-50	257.16
50-60	166.05
60-70	103.03
70-80	64.63
80-90	21.37
90-100	2.25
100-110	2.87
110-120	1.47
120-130	1.21
130-140	1.35
140-150	0.94
150-160	1.52
160-170	0.81
170-180	0.22

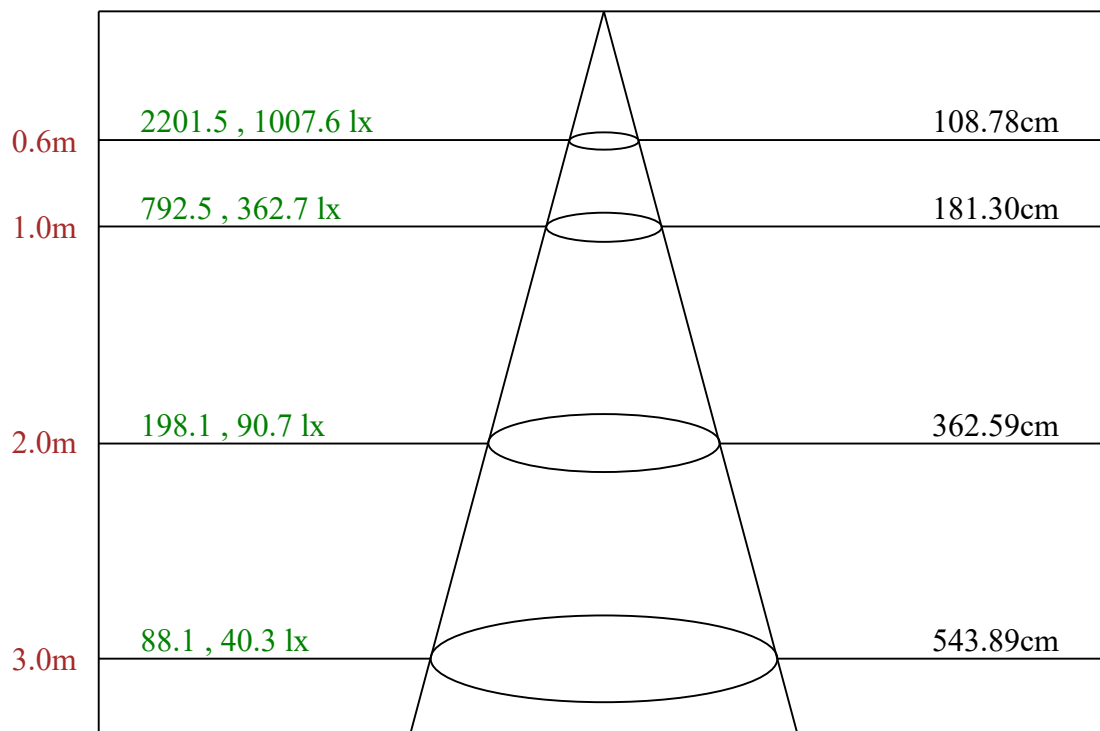
C135(Max): —C0/C180: —C90/C270: —

Field angle(10%Imax):C0/180Left:64.0 Right:75.0

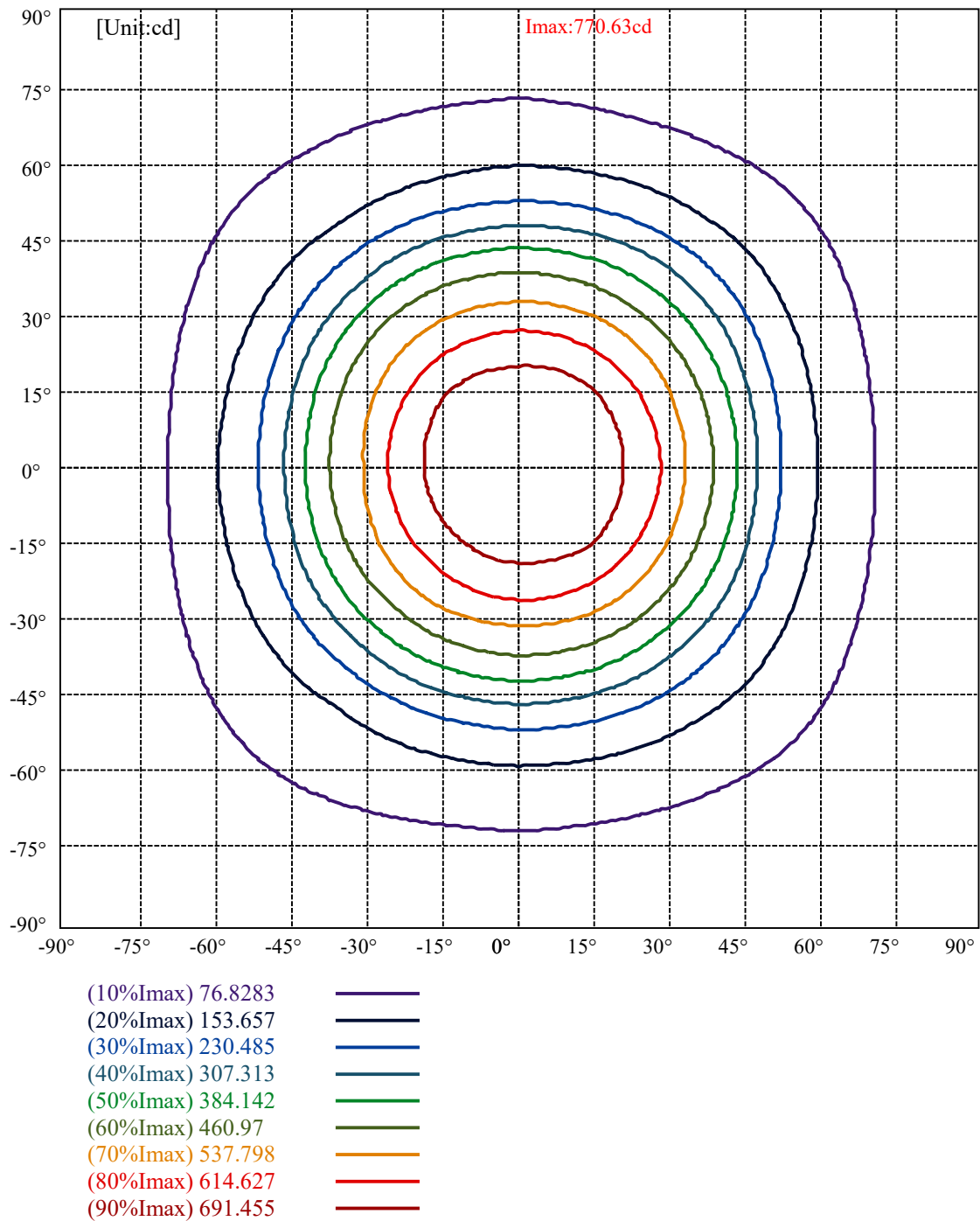
:C90/270Left:76.4 Right:67.6

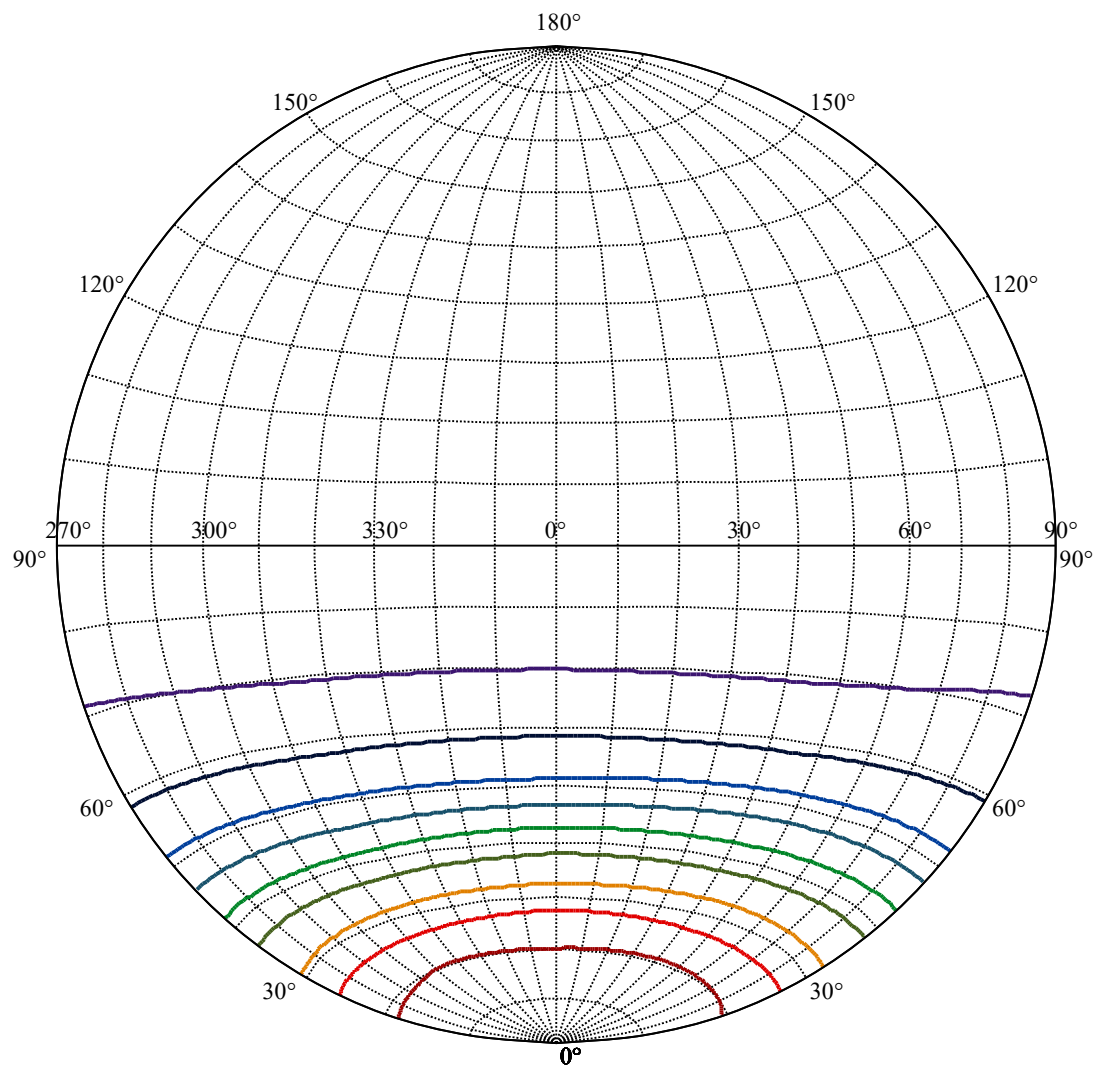
Beam Angle(50%Imax):C0/180Left:37.1 Right:48.2

:C90/270Left:46.9 Right:38.2



Max , Ave Beam angle of C135 plane 84.38





[Unit:cd]

Imax:770.63

(10%Imax) 74.93291

(20%Imax) 149.8658

(30%Imax) 224.7987

(40%Imax) 299.7316

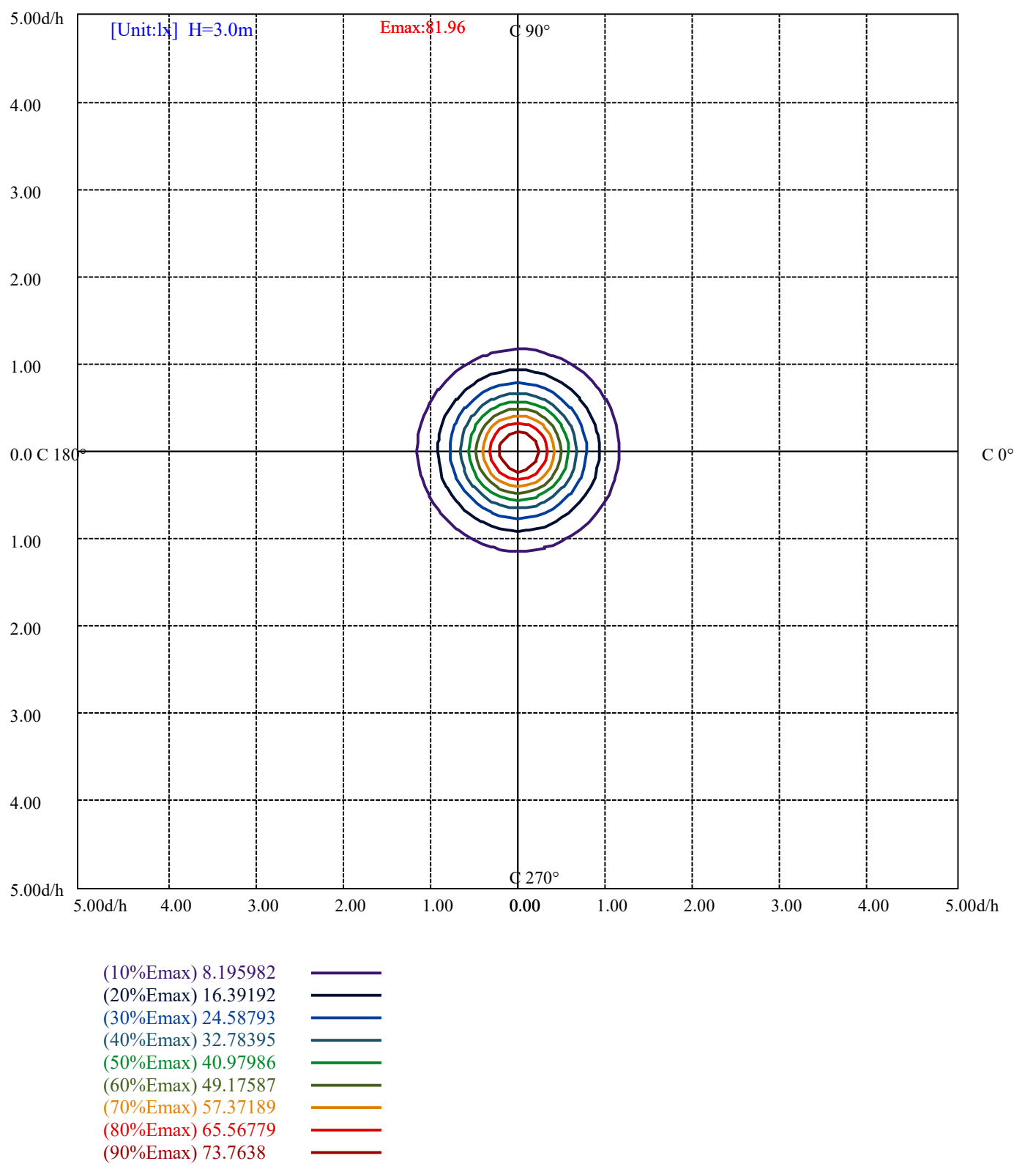
(50%Imax) 374.6645

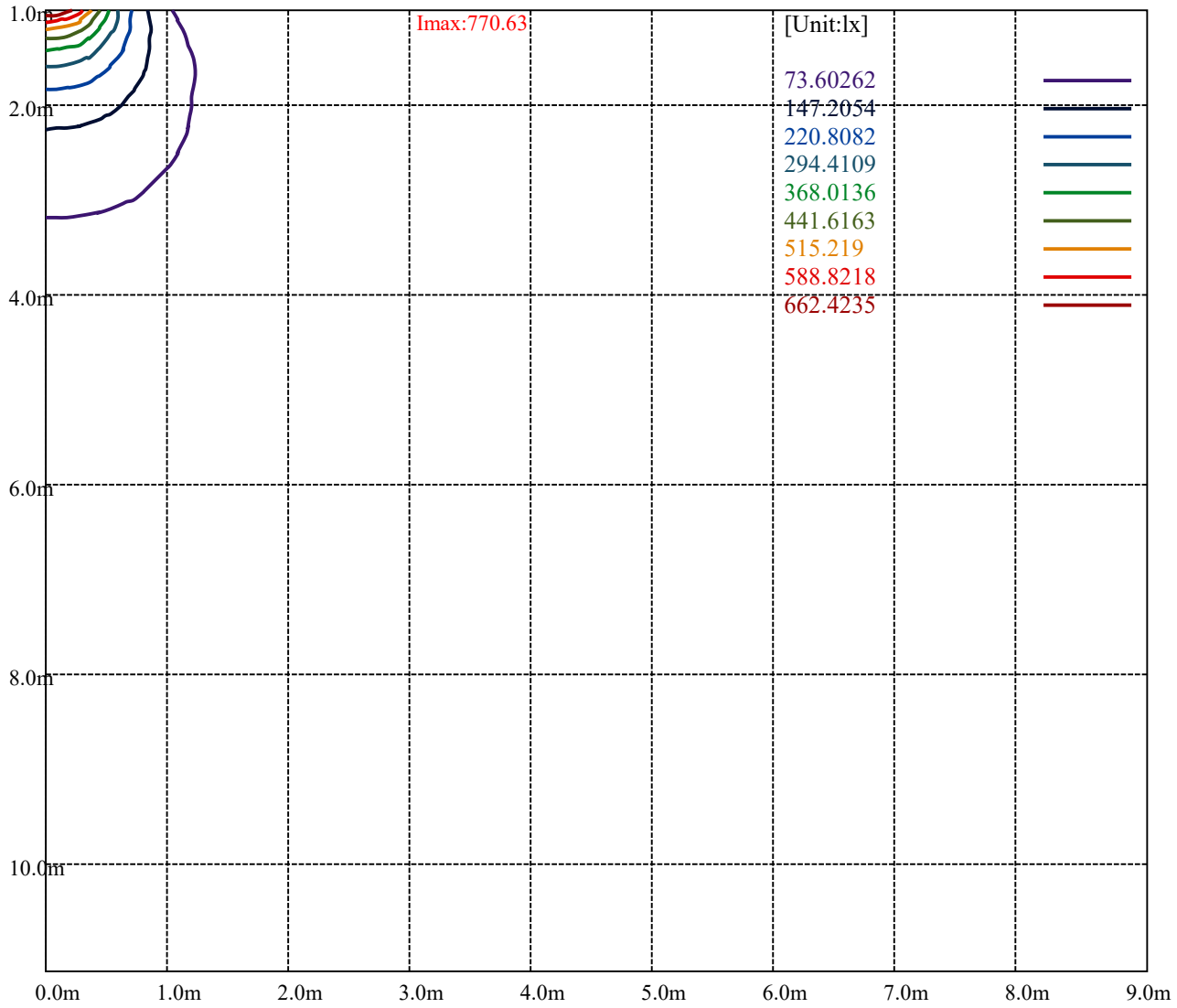
(60%Imax) 449.5974

(70%Imax) 524.5303

(80%Imax) 599.4633

(90%Imax) 674.3962





Luminance Table

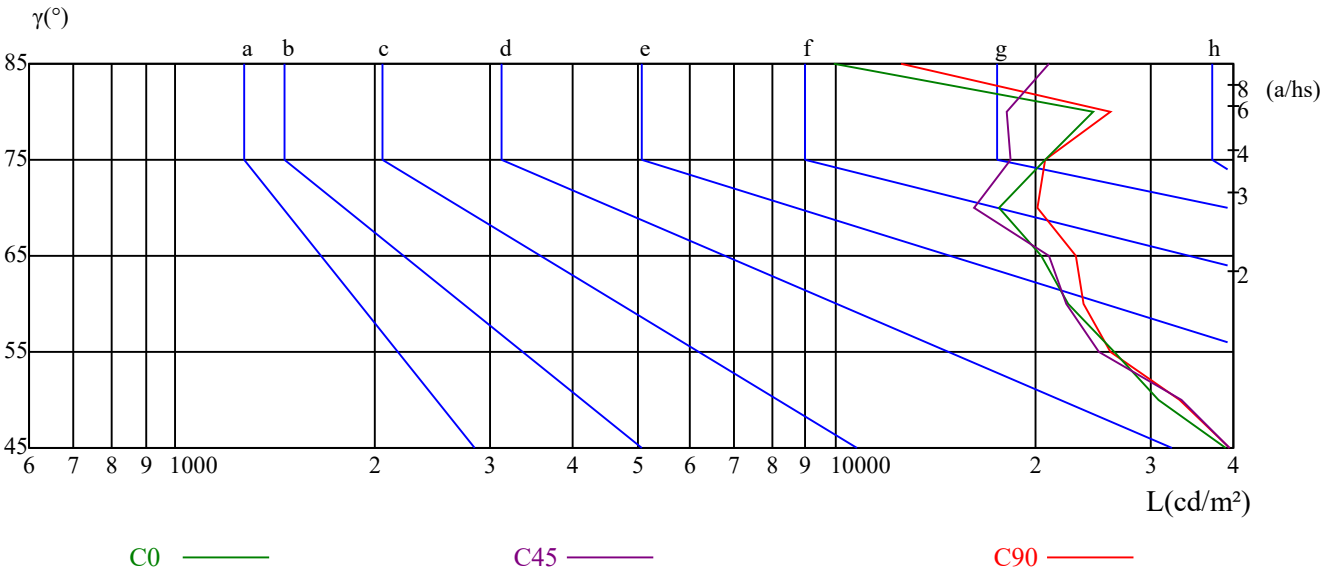
γ	45	50	55	60	65	70	75	80	85
C0	38836	30774	26489	22541	20453	17691	20809	24506	9917
C45	39400	33360	25098	22408	21004	16233	18368	18188	20980
C90	39447	33153	26141	23671	23049	20218	20681	26038	12588

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
19037	20335	18683	21708	20681	17020	11062	15258	16021

Glare Table

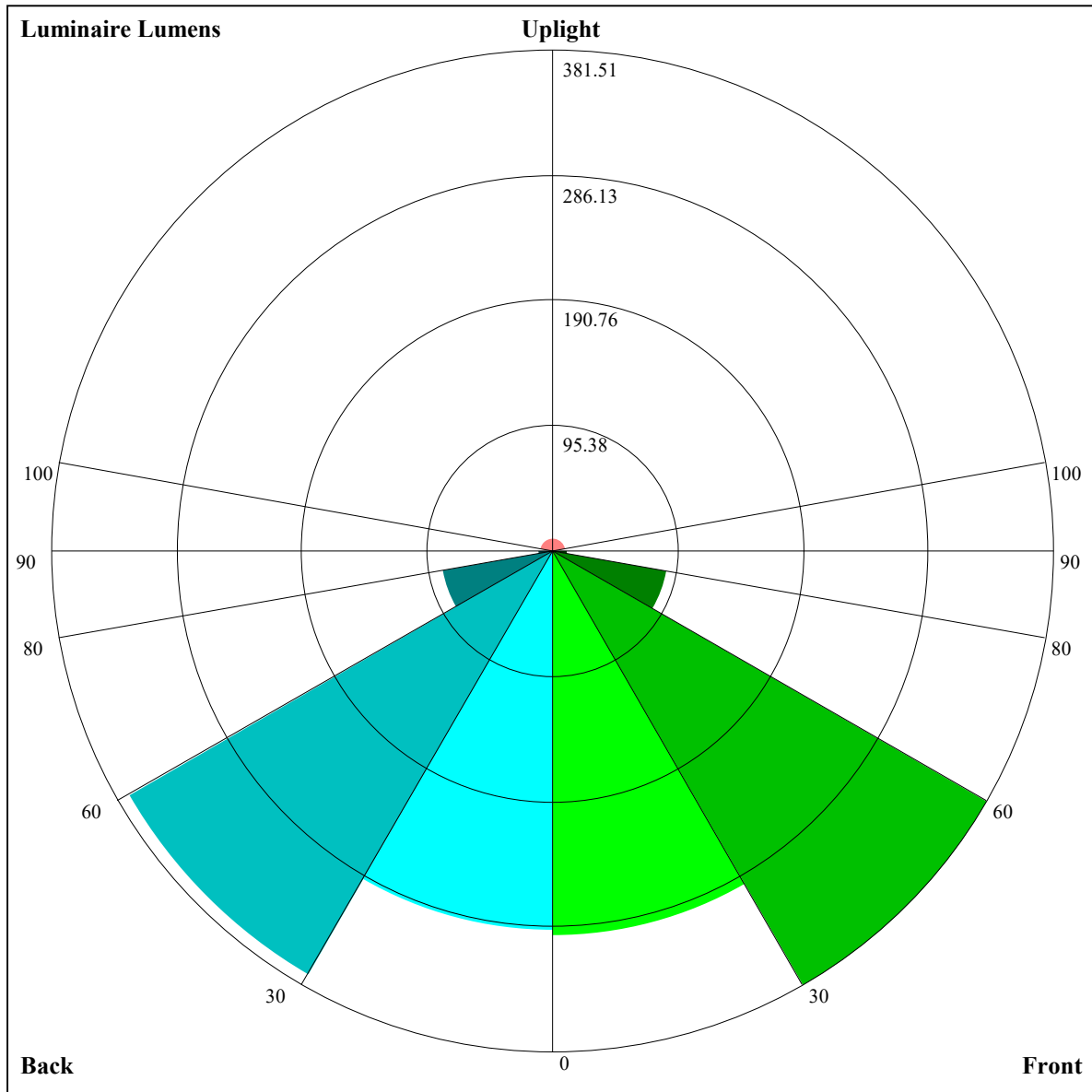
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	18.74	20.18	19.11	20.51	20.84	18.87	20.30	19.24	20.64	20.97
	3H	19.68	20.97	20.07	21.33	21.69	19.95	21.25	20.35	21.60	21.97
	4H	20.20	21.41	20.61	21.78	22.16	20.46	21.67	20.87	22.04	22.42
	6H	20.83	21.95	21.25	22.34	22.75	21.09	22.21	21.51	22.59	23.01
	8H	21.02	22.10	21.45	22.50	22.92	21.30	22.38	21.72	22.77	23.19
	12H	21.07	22.10	21.50	22.50	22.93	21.36	22.39	21.79	22.80	23.23
4H	2H	19.13	20.34	19.53	20.70	21.09	19.24	20.45	19.65	20.82	21.20
	3H	20.22	21.24	20.65	21.65	22.08	20.47	21.49	20.90	21.90	22.33
	4H	20.95	21.85	21.40	22.28	22.74	21.17	22.07	21.62	22.50	22.97
	6H	21.71	22.51	22.19	22.97	23.44	21.94	22.74	22.41	23.20	23.66
	8H	22.00	22.75	22.49	23.21	23.69	22.25	22.99	22.73	23.46	23.94
	12H	22.10	22.80	22.60	23.25	23.78	22.38	23.07	22.87	23.53	24.05
8H	4H	21.15	21.90	21.64	22.36	22.85	21.35	22.10	21.84	22.56	23.05
	6H	22.06	22.69	22.57	23.17	23.69	22.27	22.89	22.77	23.38	23.90
	8H	22.49	23.03	23.01	23.56	24.07	22.71	23.26	23.24	23.79	24.29
	12H	22.65	23.11	23.19	23.63	24.16	22.91	23.37	23.45	23.90	24.43
12H	4H	21.19	21.88	21.68	22.34	22.87	21.38	22.08	21.87	22.53	23.06
	6H	22.18	22.72	22.71	23.25	23.76	22.37	22.92	22.90	23.44	23.95
	8H	22.60	23.06	23.14	23.58	24.11	22.82	23.28	23.36	23.80	24.33
Variation with the observer position at spacings:											
S = 1.0H		0.3/-0.8					0.3/-0.8				
S = 1.5H		0.8/-1.0					0.7/-1.0				
S = 2.0H		1.2/-1.0					1.4/-1.2				
Standard tables:		BK3					BK3				
Uncorrected UGR		8.5					8.3				

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



Luminaire Lumens:

FL=292.97,FM=381.51,FH=88.73,FVH=11.12

BL=288.5,BM=372.31,BH=85.75,BVH=10.93

UL=2.31,UH=10.74

BUG Rating:B1-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	756.95	754.05	753.22	742.03	696.01	651.24	587.82	496.20	443.14
45.0	758.61	754.88	755.71	729.59	704.72	636.73	586.16	502.42	430.29
90.0	754.88	762.34	756.54	722.54	690.21	638.39	574.14	501.18	440.24
135.0	770.63	762.34	747.42	717.57	693.11	630.93	563.77	499.52	433.19
180.0	756.95	757.36	738.71	718.40	679.85	624.71	541.39	489.99	419.10
225.0	758.61	754.46	734.15	715.08	674.46	613.10	552.58	473.40	402.10
270.0	754.88	743.27	758.19	738.71	673.21	628.86	548.85	486.67	413.30
315.0	770.63	760.68	748.24	725.03	698.08	639.22	564.60	492.47	414.54
360.0	756.95	754.05	753.22	742.03	696.01	651.24	587.82	496.20	443.14
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	342.41	246.65	189.44	140.53	107.78	75.45	67.16	53.06	10.78
45.0	347.38	267.38	179.50	139.70	110.68	69.23	59.28	39.38	22.80
90.0	347.80	265.72	186.96	147.58	121.46	86.22	66.74	56.38	13.68
135.0	327.49	247.48	168.30	125.19	92.44	74.20	55.55	53.06	8.29
180.0	322.10	245.82	175.35	148.41	92.86	71.30	72.96	46.01	13.26
225.0	310.49	228.00	161.67	129.75	93.69	78.76	41.04	36.06	24.04
270.0	328.73	245.82	189.86	136.80	92.86	80.01	66.74	37.72	19.48
315.0	323.76	244.16	175.76	137.21	97.00	73.79	63.84	40.63	14.51
360.0	342.41	246.65	189.44	140.53	107.78	75.45	67.16	53.06	10.78
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	0.83	0.00	0.00	6.22	4.15	0.00
45.0	0.00	5.39	0.00	3.32	0.00	0.00	0.00	0.41	0.00
90.0	0.00	0.00	9.95	0.00	3.73	2.49	0.00	0.00	0.00
135.0	4.15	0.00	0.00	0.00	4.56	2.07	0.00	0.00	0.00
180.0	0.00	0.00	0.00	0.00	8.29	0.00	3.32	5.39	0.00
225.0	0.00	0.00	18.24	0.00	2.90	3.73	1.66	1.24	0.00
270.0	0.00	5.39	0.00	9.12	0.00	0.00	0.00	4.56	0.00
315.0	7.88	2.07	0.00	6.22	0.00	0.00	0.00	0.00	0.00
360.0	0.00	0.00	0.00	0.83	0.00	0.00	6.22	4.15	0.00
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	17.83	4.97	0.00	0.00	0.00
45.0	8.29	0.00	0.00	4.97	0.00	0.00	0.00	14.51	0.00
90.0	3.32	7.46	0.00	0.00	4.97	4.15	4.56	0.00	13.26
135.0	0.41	0.00	0.00	0.00	10.36	0.00	0.00	1.24	0.00
180.0	2.49	0.00	0.00	2.07	3.73	0.00	4.97	0.00	3.32
225.0	0.00	8.29	2.07	4.15	0.00	0.00	0.00	0.00	6.22
270.0	0.00	0.00	0.00	0.00	0.83	4.97	17.00	9.95	0.00
315.0	0.00	12.02	0.00	4.15	0.00	0.00	0.00	0.00	0.00
360.0	0.00	0.00	0.00	0.00	17.83	4.97	0.00	0.00	0.00
C/γ(°)	180.0								
0.0	6.22								
45.0	6.63								
90.0	0.00								
135.0	1.66								
180.0	6.22								
225.0	6.63								
270.0	0.00								
315.0	1.66								
360.0	6.22								