



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440220 RIO 14W 3000K 1400lm

Luminaire:

Report No:

Voltage(V): 230.2800

Test No: KYZ-A251020063-02-004

Current(A): 0.0645

LampCAT: LED

Power (W): 14.0000

Lamp flux(lm): -1.0

PF: 0.9427

Number of Lamps: 1

Ballast type:

Length(mm): -175

Width(mm): -175

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1400.00

Efficiency(%): 100.00%

Lumens(lm)/Power(W): 100.00

Central intensity(cd): 707.597

Maximum intensity(cd): 725.169

Angle of maximum intensity: C=45.0 γ =5.0

Beam Angle(50%Imax): [C0/180]Total=83.1

[C90/270]Total=84.1

Field angle(10%Imax): [C0/180]Total=138.0

[C90/270]Total=139.2

Maximum s/h(1/2): C0_180=1.10 C90_270=1.16

Maximum s/h(1/4): C0_180=1.16 C90_270=1.22

Up flux rate of lamp(%): 1.25%

Down flux rate of lamp(%): 98.75%

Up flux rate of LUM(%): 1.25%

Down flux rate of LUM(%): 98.75%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 86.316%

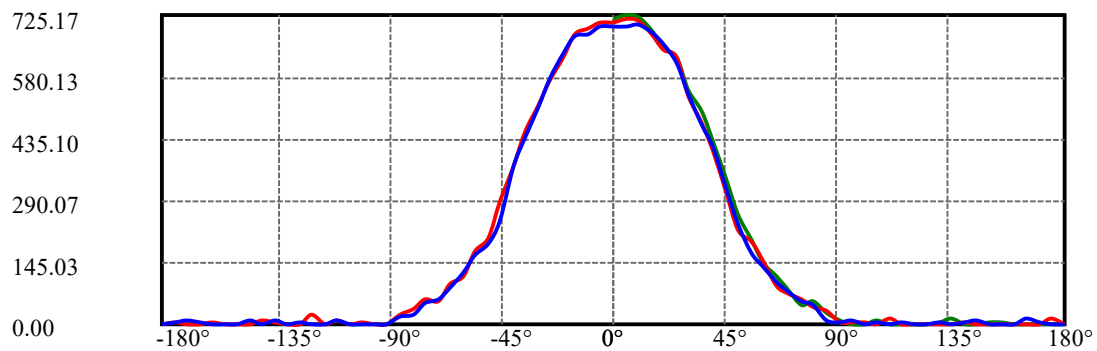
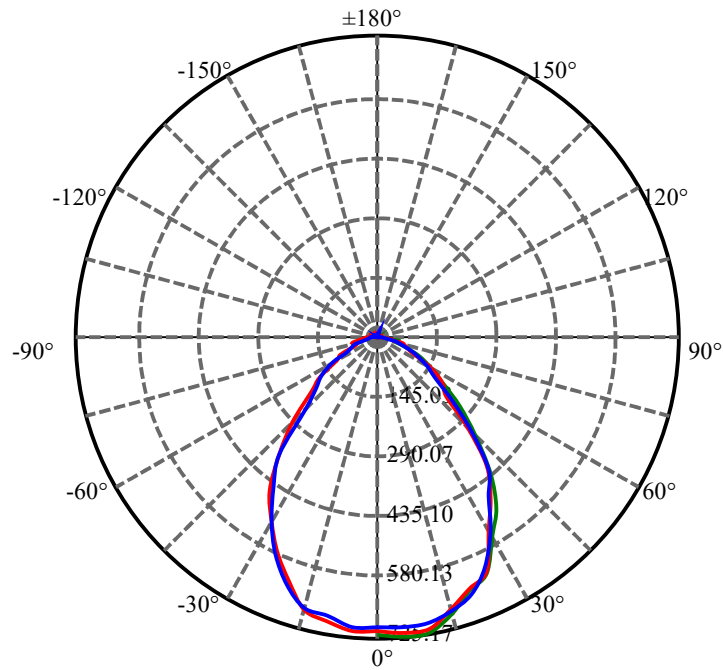
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	711.532	0.000	0	.000%	.000%
5.0	710.671	16.931	16.931	.000%	1.209%
10.0	704.269	50.406	67.337	.000%	4.810%
15.0	683.503	81.978	149.315	.000%	10.665%
20.0	644.607	108.998	258.313	.000%	18.451%
25.0	600.170	130.009	388.322	.000%	27.737%
30.0	528.511	142.239	530.561	.000%	37.897%
35.0	461.049	145.111	675.672	.000%	48.262%
40.0	392.080	141.744	817.416	.000%	58.387%
45.0	298.794	127.387	944.803	.000%	67.486%
50.0	224.391	105.276	1050.078	.000%	75.006%
55.0	178.609	87.260	1137.338	.000%	81.239%
60.0	130.191	71.080	1208.419	.000%	86.316%
65.0	93.393	54.127	1262.545	.000%	90.182%
70.0	70.852	41.414	1303.96	.000%	93.140%
75.0	54.874	32.726	1336.685	.000%	95.478%
80.0	39.219	25.071	1361.757	.000%	97.269%
85.0	17.538	15.358	1377.114	.000%	98.366%
90.0	2.098	5.354	1382.468	.000%	98.748%
95.0	1.614	1.012	1383.481	.000%	98.820%
100.0	3.604	1.412	1384.893	.000%	98.921%
105.0	3.013	1.763	1386.656	.000%	99.047%
110.0	4.842	2.044	1388.7	.000%	99.193%
115.0	2.260	1.791	1390.491	.000%	99.321%
120.0	3.013	1.276	1391.767	.000%	99.412%
125.0	2.744	1.325	1393.092	.000%	99.507%
130.0	1.291	0.874	1393.966	.000%	99.569%
135.0	4.304	1.126	1395.092	.000%	99.650%
140.0	2.905	1.329	1396.421	.000%	99.745%
145.0	2.744	0.939	1397.359	.000%	99.812%
150.0	2.905	0.828	1398.188	.000%	99.871%
155.0	1.722	0.583	1398.771	.000%	99.912%
160.0	0.753	0.258	1399.029	.000%	99.931%
165.0	2.744	0.287	1399.316	.000%	99.951%
170.0	3.712	0.381	1399.698	.000%	99.979%
175.0	3.389	0.253	1399.951	.000%	99.997%
180.0	0.538	0.047	1399.997	.000%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	530.56	N.A.	37.90%
0-40	817.42	N.A.	58.39%
0-60	1208.42	N.A.	86.32%
0-90	1382.47	N.A.	98.75%
0-120	1391.77	N.A.	99.41%
0-180	1400.00	N.A.	100.00%
60-90	245.13	N.A.	17.51%
90-120	14.65	N.A.	1.05%
90-130	16.85	N.A.	1.20%
90-150	21.07	N.A.	1.51%
90-180	22.84	N.A.	1.63%
0-54.01	1120.00	N.A.	80.00%

ZONAL LUMEN SUMMARY

0-10	67.34
10-20	190.98
20-30	272.25
30-40	286.85
40-50	232.66
50-60	158.34
60-70	95.54
70-80	57.80
80-90	20.71
90-100	2.42
100-110	3.81
110-120	3.07
120-130	2.20
130-140	2.46
140-150	1.77
150-160	0.84
160-170	0.67
170-180	0.25



C45(Max): —————

C0/C180: —————

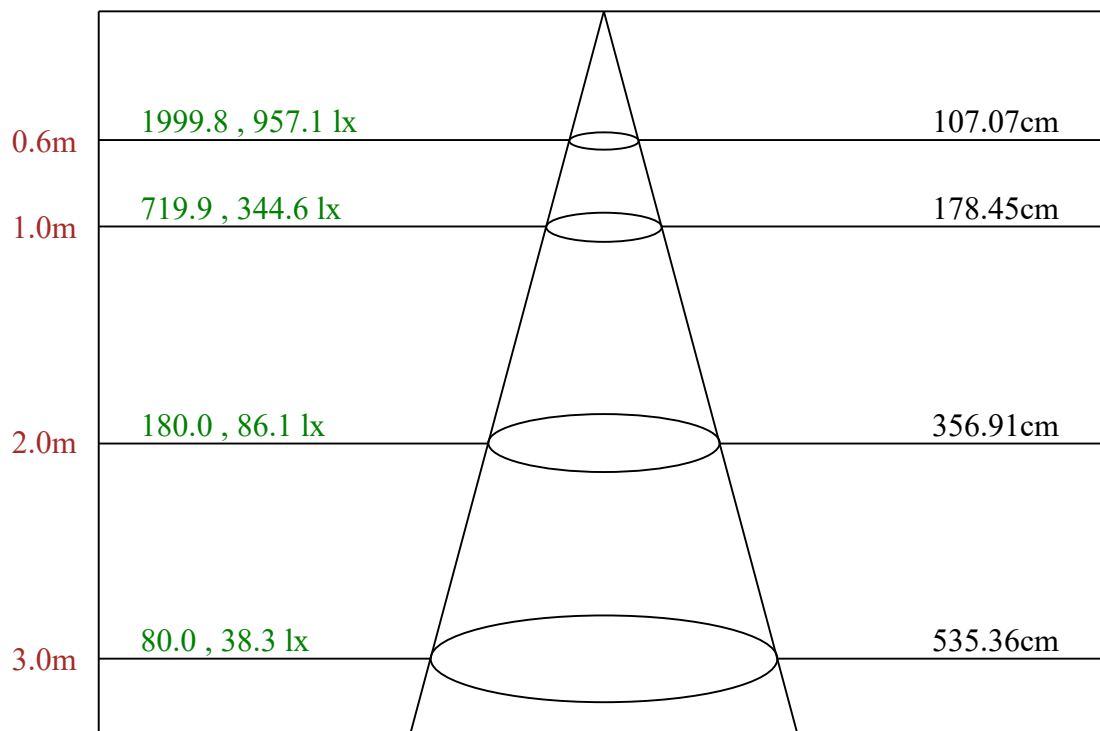
C90/C270: —————

Field angle(10%Imax):C0/180Left:72.8 Right:65.2

:C90/270Left:77.7 Right:61.5

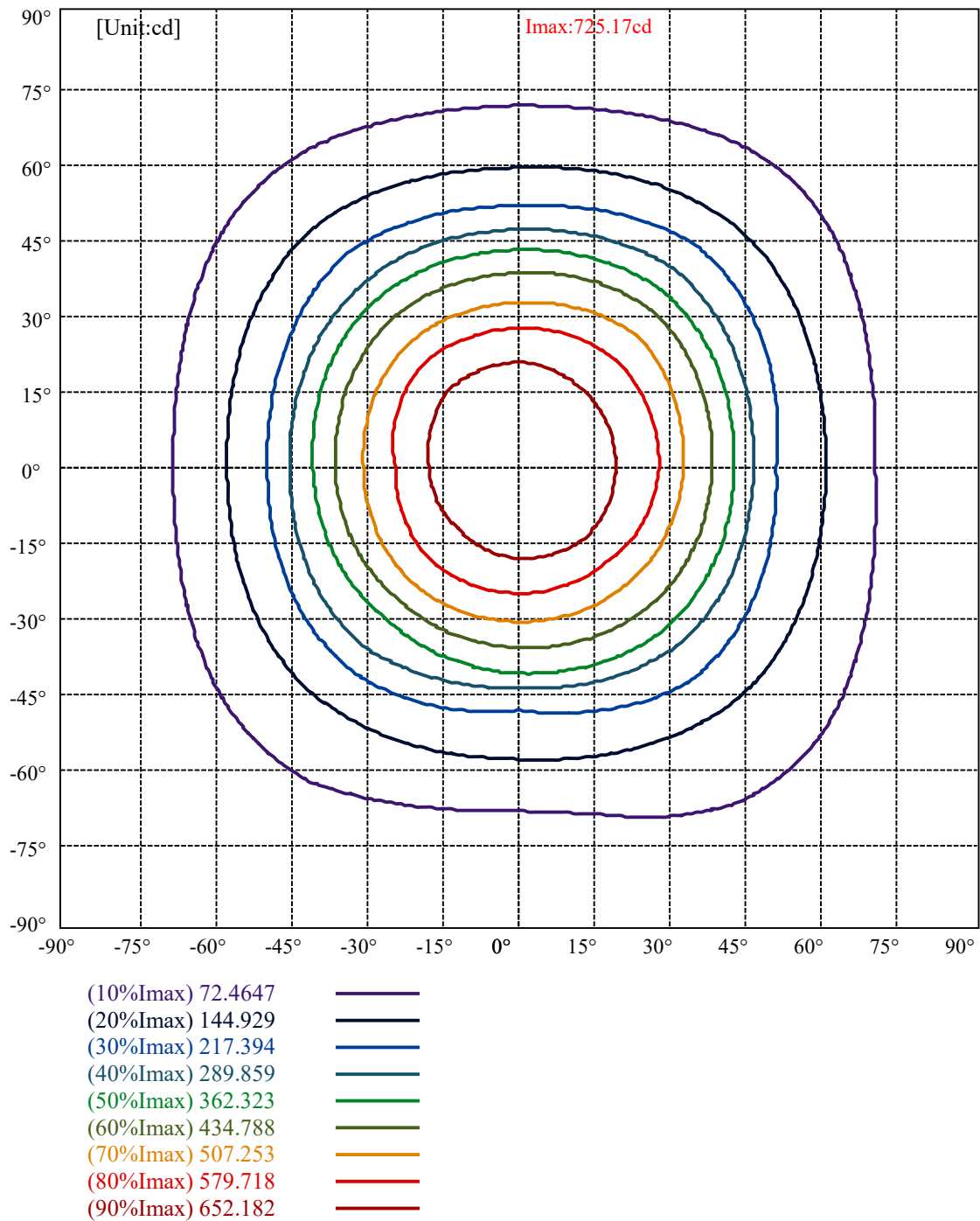
Beam Angle(50%Imax):C0/180Left:45.6 Right:37.5

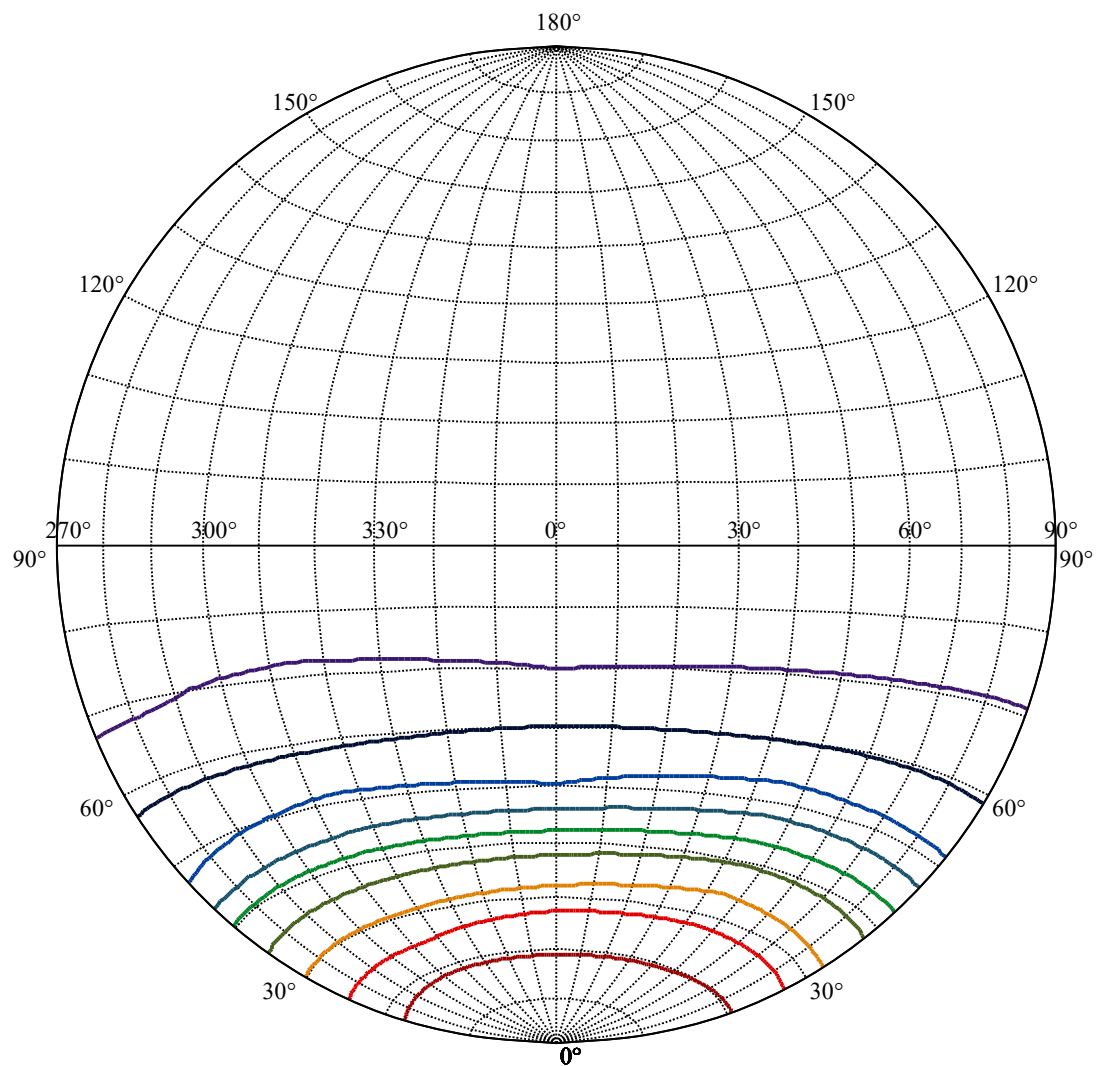
:C90/270Left:50.8 Right:33.3



Max , Ave

Beam angle of C45 plane 83.48





House

[Unit:cd]

Road

Imax:725.17

(10%Imax) 72.21401

(20%Imax) 144.4284

(30%Imax) 216.6426

(40%Imax) 288.8559

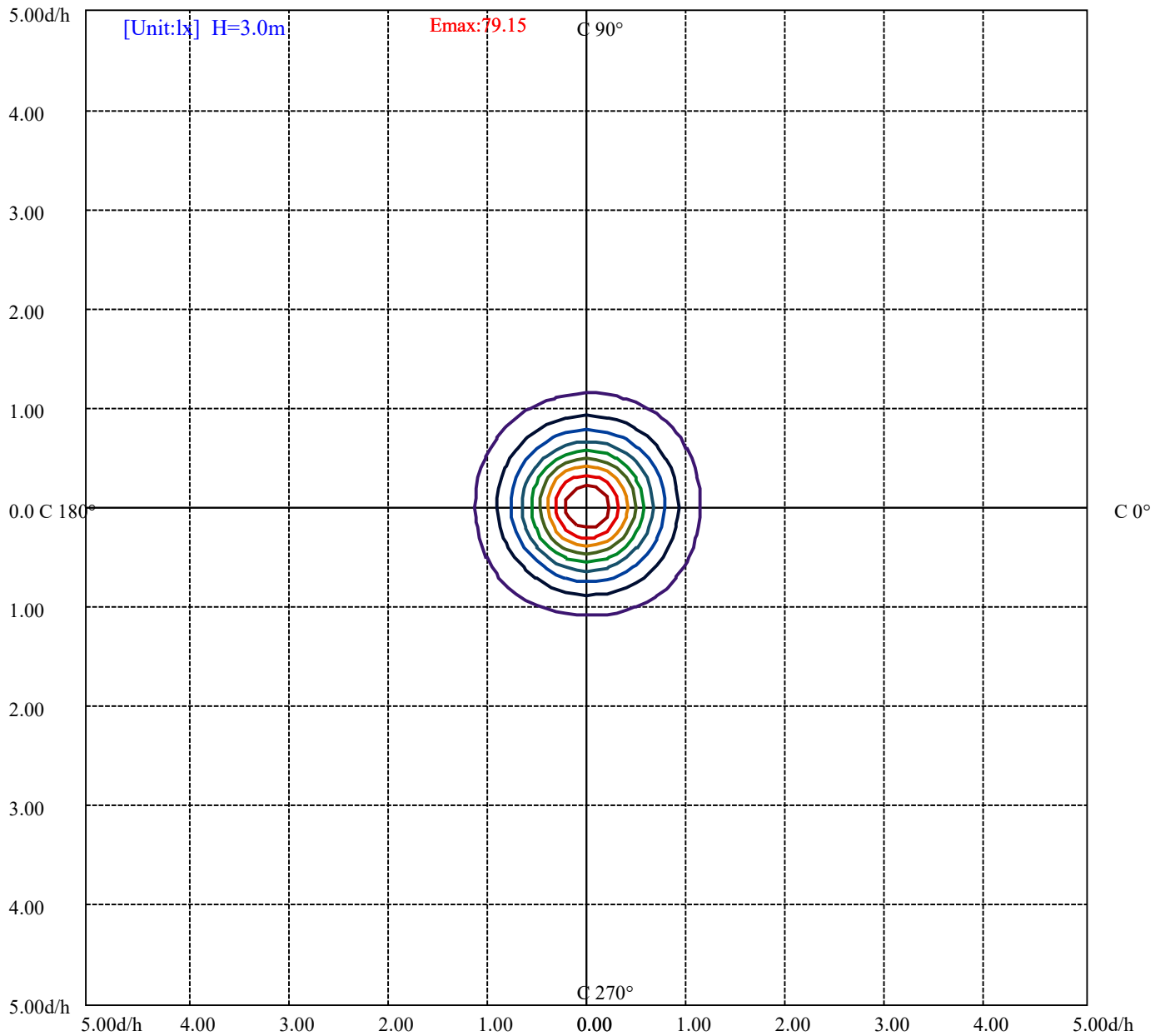
(50%Imax) 361.0701

(60%Imax) 433.2843

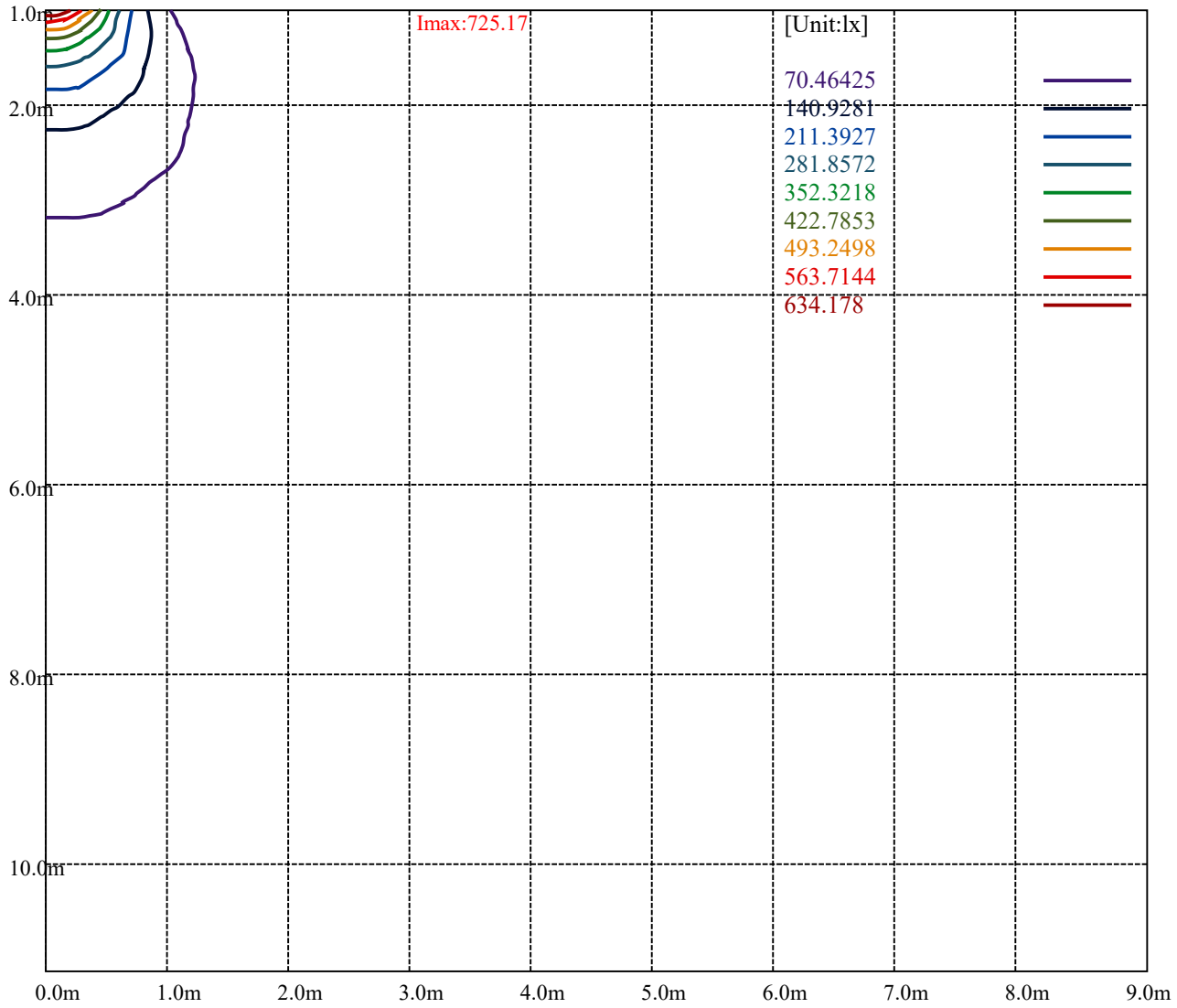
(70%Imax) 505.4985

(80%Imax) 577.7127

(90%Imax) 649.9269



(10%Emax)	7.914714	—
(20%Emax)	15.82941	—
(30%Emax)	23.74411	—
(40%Emax)	31.65881	—
(50%Emax)	39.57352	—
(60%Emax)	47.48822	—
(70%Emax)	55.40303	—
(80%Emax)	63.31774	—
(90%Emax)	71.23244	—



Luminance Table

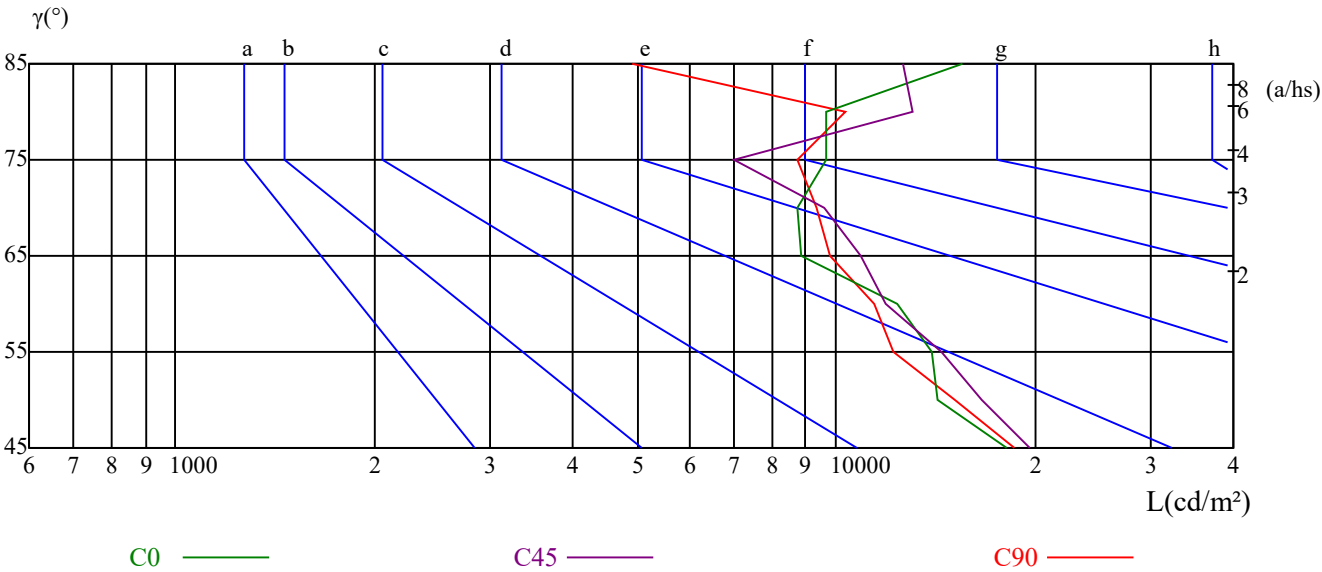
γ	45	50	55	60	65	70	75	80	85
C0	18118	14221	14011	12366	8854	8752	9638	9646	15538
C45	19731	16605	14477	11903	10920	9586	7022	13032	12676
C90	18647	15163	12209	11404	9782	9326	8743	10364	4907

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
9149	9023	9212	9673	8261	8588	13187	6235	6951

Glare Table

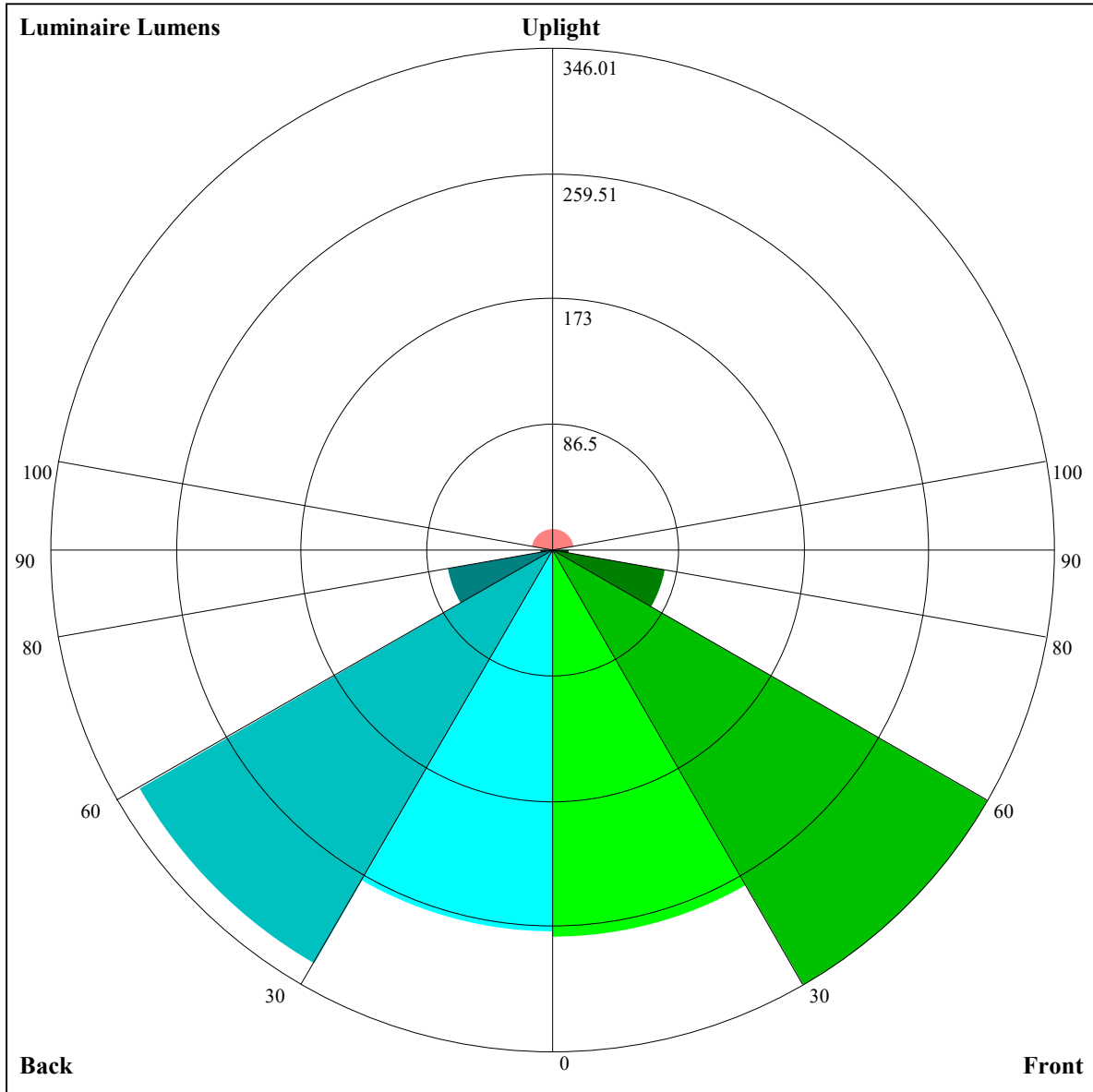
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	16.40	17.82	16.78	18.16	18.51	16.29	17.72	16.67	18.06	18.40
	3H	17.24	18.52	17.64	18.88	19.26	17.26	18.54	17.66	18.91	19.28
	4H	17.67	18.87	18.09	19.25	19.65	17.65	18.85	18.07	19.23	19.62
	6H	18.16	19.27	18.59	19.67	20.09	18.15	19.26	18.58	19.65	20.08
	8H	18.40	19.46	18.83	19.87	20.30	18.31	19.38	18.74	19.78	20.21
	12H	18.68	19.70	19.12	20.12	20.56	18.34	19.37	18.78	19.78	20.22
4H	2H	16.81	18.01	17.23	18.39	18.79	16.73	17.93	17.15	18.31	18.71
	3H	17.83	18.84	18.27	19.26	19.70	17.86	18.87	18.30	19.29	19.73
	4H	18.43	19.32	18.88	19.76	20.23	18.40	19.30	18.86	19.74	20.21
	6H	19.06	19.85	19.54	20.32	20.79	19.05	19.85	19.54	20.31	20.79
	8H	19.42	20.16	19.92	20.63	21.13	19.32	20.06	19.81	20.53	21.02
	12H	19.83	20.52	20.34	20.99	21.52	19.42	20.11	19.92	20.58	21.11
8H	4H	18.61	19.35	19.10	19.82	20.32	18.59	19.33	19.08	19.80	20.29
	6H	19.49	20.11	20.01	20.61	21.14	19.49	20.11	20.00	20.60	21.13
	8H	20.05	20.59	20.59	21.12	21.64	19.92	20.46	20.45	20.99	21.51
	12H	20.61	21.07	21.16	21.60	22.14	20.10	20.55	20.65	21.09	21.62
12H	4H	18.67	19.36	19.17	19.82	20.36	18.65	19.33	19.15	19.80	20.34
	6H	19.68	20.22	20.21	20.75	21.27	19.67	20.21	20.20	20.74	21.26
	8H	20.26	20.71	20.80	21.24	21.78	20.12	20.57	20.66	21.10	21.64
Variation with the observer position at spacings:											
S = 1.0H		0.4/-0.8					0.4/-0.7				
S = 1.5H		0.7/-1.2					0.6/-1.1				
S = 2.0H		1.3/-1.2					1.4/-1.4				
Standard tables:		BK4					BK4				
Uncorrected UGR		6.6					6.8				

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



Luminaire Lumens:

FL=267.6,FM=346.01,FH=78.54,FVH=11.35

BL=264.04,BM=329.75,BH=74.21,BVH=8.66

UL=2.43,UH=15.18

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	707.60	714.03	713.60	678.88	645.88	624.02	537.02	473.16	406.73
45.0	715.31	725.17	721.31	688.31	648.02	627.02	549.88	499.73	427.30
90.0	698.17	698.60	701.17	684.88	658.31	612.02	540.88	469.30	414.44
135.0	713.17	706.74	691.31	692.60	654.45	616.31	534.02	464.59	405.87
180.0	707.60	707.60	695.60	680.60	625.74	570.45	512.16	451.73	367.30
225.0	715.31	699.88	698.60	665.60	625.74	577.31	510.88	423.44	337.30
270.0	698.17	700.31	681.88	674.17	633.88	574.74	509.59	438.44	369.44
315.0	713.17	709.31	707.17	680.17	643.31	579.45	516.02	452.59	395.16
360.0	707.60	714.03	713.60	678.88	645.88	624.02	537.02	473.16	406.73
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	308.15	219.87	193.29	148.72	90.00	72.00	60.00	40.29	32.57
45.0	335.58	256.72	199.72	143.15	111.00	78.86	43.72	54.43	26.57
90.0	317.15	234.44	168.43	137.15	99.43	76.72	54.43	43.29	10.29
135.0	302.15	232.72	188.58	128.15	96.43	70.29	59.57	45.00	6.43
180.0	288.01	204.44	170.15	111.43	96.00	52.72	60.43	38.14	22.71
225.0	291.87	213.01	162.43	114.43	84.86	69.00	54.00	26.14	12.86
270.0	243.87	190.72	161.15	122.58	84.00	57.86	48.43	24.43	15.86
315.0	293.58	235.72	179.15	131.58	82.29	87.00	56.57	40.72	12.43
360.0	308.15	219.87	193.29	148.72	90.00	72.00	60.00	40.29	32.57
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	3.86	3.86	4.29	0.00	15.43	0.00	0.00	0.00	0.00
45.0	9.00	0.00	0.00	10.72	0.43	0.00	0.00	0.00	4.29
90.0	3.86	7.71	0.43	4.29	0.00	6.00	0.00	0.00	6.00
135.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.29	0.00
180.0	0.00	0.00	4.71	0.43	9.86	0.00	20.57	1.71	0.00
225.0	0.00	1.29	10.29	6.86	0.00	12.00	1.29	0.00	0.00
270.0	0.00	0.00	1.29	0.00	9.43	0.00	0.00	2.57	0.00
315.0	0.00	0.00	7.71	1.71	3.43	0.00	2.14	7.29	0.00
360.0	3.86	3.86	4.29	0.00	15.43	0.00	0.00	0.00	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	2.57	0.00	0.00	0.00	0.00	0.00	0.00	13.71
45.0	12.86	0.00	0.00	3.43	3.00	0.00	0.00	0.00	0.00
90.0	0.00	6.00	7.29	0.00	0.00	0.00	15.00	2.57	0.00
135.0	0.00	0.00	6.43	17.57	0.00	2.14	0.00	7.29	0.00
180.0	3.86	9.86	0.00	0.00	0.00	3.86	1.29	0.00	6.00
225.0	0.00	4.71	0.00	2.14	6.43	0.00	0.00	0.00	0.00
270.0	7.71	0.00	8.14	0.00	0.00	0.00	5.57	8.14	6.43
315.0	9.86	0.00	0.00	0.00	4.29	0.00	0.00	11.57	0.86
360.0	0.00	2.57	0.00	0.00	0.00	0.00	0.00	0.00	13.71
C/γ(°)	180.0								
0.0	0.43								
45.0	0.00								
90.0	1.71								
135.0	0.00								
180.0	0.43								
225.0	0.00								
270.0	1.71								
315.0	0.00								
360.0	0.43								