



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440217 RIO 5.4W 3000K 540lm

Luminaire:

Report No:

Voltage(V): 232.25

Test No: KYZ-A251030009-06-005

Current(A): 0.0274

LampCAT: LED

Power (W): 5.4000

Lamp flux(lm): -1.0

PF: 0.8548

Number of Lamps: 1

Ballast type:

Length(mm): -47

Width(mm): -47

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 540.00

Efficiency(%): 100.00%

Lumens(lm)/Power(W): 100.00

Central intensity(cd): 272.699

Maximum intensity(cd): 292.211

Angle of maximum intensity: C=45.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=82.3

[C90/270]Total=82.5

Field angle(10%Imax): [C0/180]Total=138.6

[C90/270]Total=140.8

Maximum s/h(1/2): C0_180=1.16 C90_270=1.12

Maximum s/h(1/4): C0_180=1.16 C90_270=1.19

Up flux rate of lamp(%): 2.29%

Down flux rate of lamp(%): 97.71%

Up flux rate of LUM(%): 2.29%

Down flux rate of LUM(%): 97.71%

CIE Type : Direct lighting

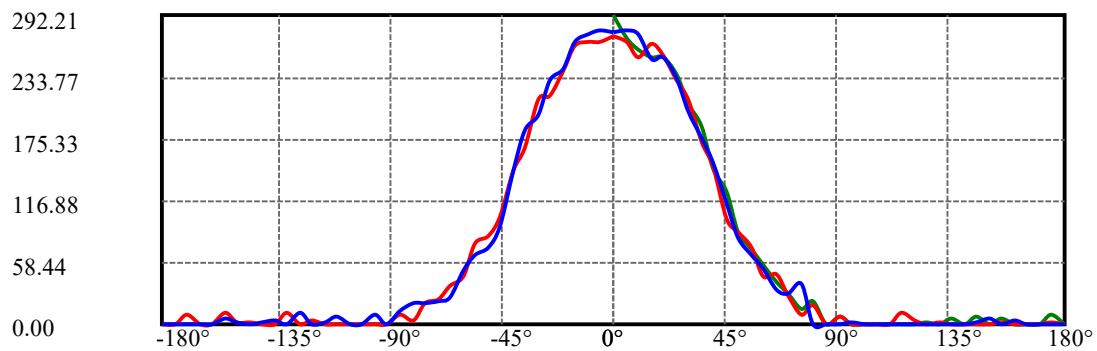
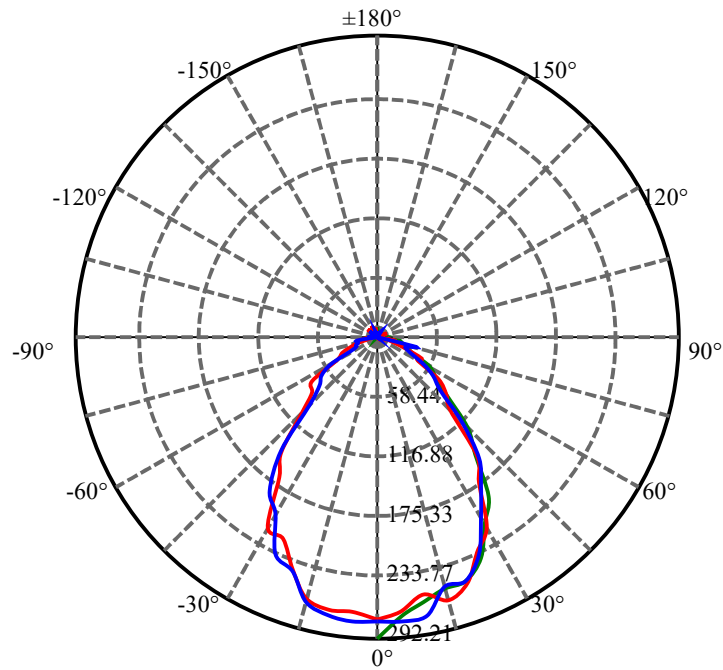
Output flux ratio in π solid angle : 85.318%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	254.089	0.000	0	.000%	.000%
5.0	248.653	6.549	6.549	.000%	1.213%
10.0	246.255	19.292	25.842	.000%	4.785%
15.0	237.409	31.264	57.106	.000%	10.575%
20.0	228.510	41.842	98.948	.000%	18.324%
25.0	208.792	49.979	148.927	.000%	27.579%
30.0	189.395	54.911	203.838	.000%	37.747%
35.0	160.937	56.216	260.054	.000%	48.158%
40.0	134.079	53.636	313.69	.000%	58.090%
45.0	102.744	47.783	361.473	.000%	66.939%
50.0	77.431	39.673	401.146	.000%	74.286%
55.0	60.751	32.740	433.886	.000%	80.349%
60.0	45.777	26.832	460.719	.000%	85.318%
65.0	34.905	21.373	482.092	.000%	89.276%
70.0	25.952	16.792	498.884	.000%	92.385%
75.0	17.799	12.462	511.345	.000%	94.693%
80.0	14.655	9.463	520.808	.000%	96.445%
85.0	2.451	5.065	525.873	.000%	97.383%
90.0	3.464	1.765	527.638	.000%	97.710%
95.0	1.919	1.606	529.244	.000%	98.007%
100.0	0.640	0.757	530.001	.000%	98.148%
105.0	1.332	0.575	530.576	.000%	98.254%
110.0	1.972	0.941	531.517	.000%	98.428%
115.0	1.332	0.912	532.429	.000%	98.597%
120.0	1.705	0.805	533.234	.000%	98.746%
125.0	2.505	1.060	534.294	.000%	98.943%
130.0	2.665	1.225	535.519	.000%	99.169%
135.0	2.345	1.103	536.622	.000%	99.374%
140.0	0.107	0.495	537.117	.000%	99.465%
145.0	3.197	0.601	537.717	.000%	99.576%
150.0	1.546	0.761	538.478	.000%	99.717%
155.0	3.038	0.632	539.11	.000%	99.834%
160.0	0.480	0.402	539.512	.000%	99.909%
165.0	1.226	0.153	539.665	.000%	99.937%
170.0	1.546	0.179	539.845	.000%	99.970%
175.0	1.918	0.135	539.98	.000%	99.995%
180.0	0.000	0.025	540.005	.000%	100.000%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	203.84	N.A.	37.75%
0-40	313.69	N.A.	58.09%
0-60	460.72	N.A.	85.32%
0-90	527.64	N.A.	97.71%
0-120	533.23	N.A.	98.75%
0-180	540.00	N.A.	100.00%
60-90	93.75	N.A.	17.36%
90-120	7.36	N.A.	1.36%
90-130	9.65	N.A.	1.79%
90-150	12.61	N.A.	2.33%
90-180	14.11	N.A.	2.61%
0-54.71	432.00	N.A.	80.00%

ZONAL LUMEN SUMMARY

0-10	25.84
10-20	73.11
20-30	104.89
30-40	109.85
40-50	87.46
50-60	59.57
60-70	38.16
70-80	21.92
80-90	6.83
90-100	2.36
100-110	1.52
110-120	1.72
120-130	2.29
130-140	1.60
140-150	1.36
150-160	1.03
160-170	0.33
170-180	0.14

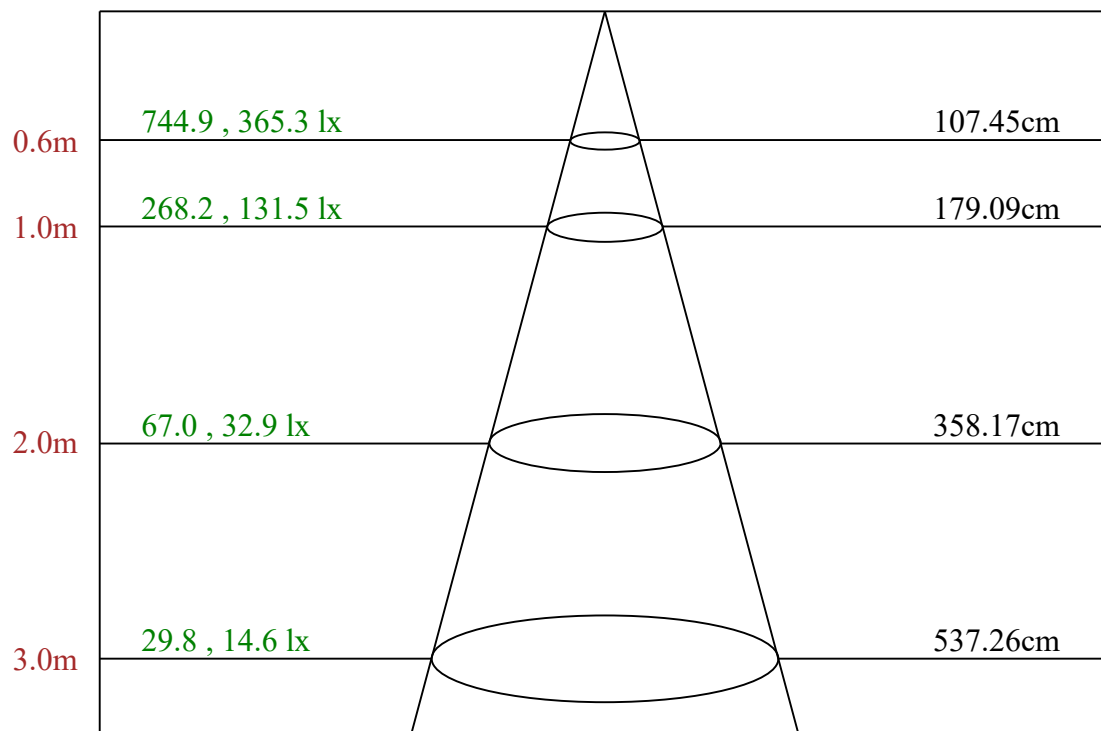
C45(Max): C0/C180: C90/C270: 

Field angle(10%Imax):C0/180Left:68.8 Right:69.8

:C90/270Left:69.4 Right:71.4

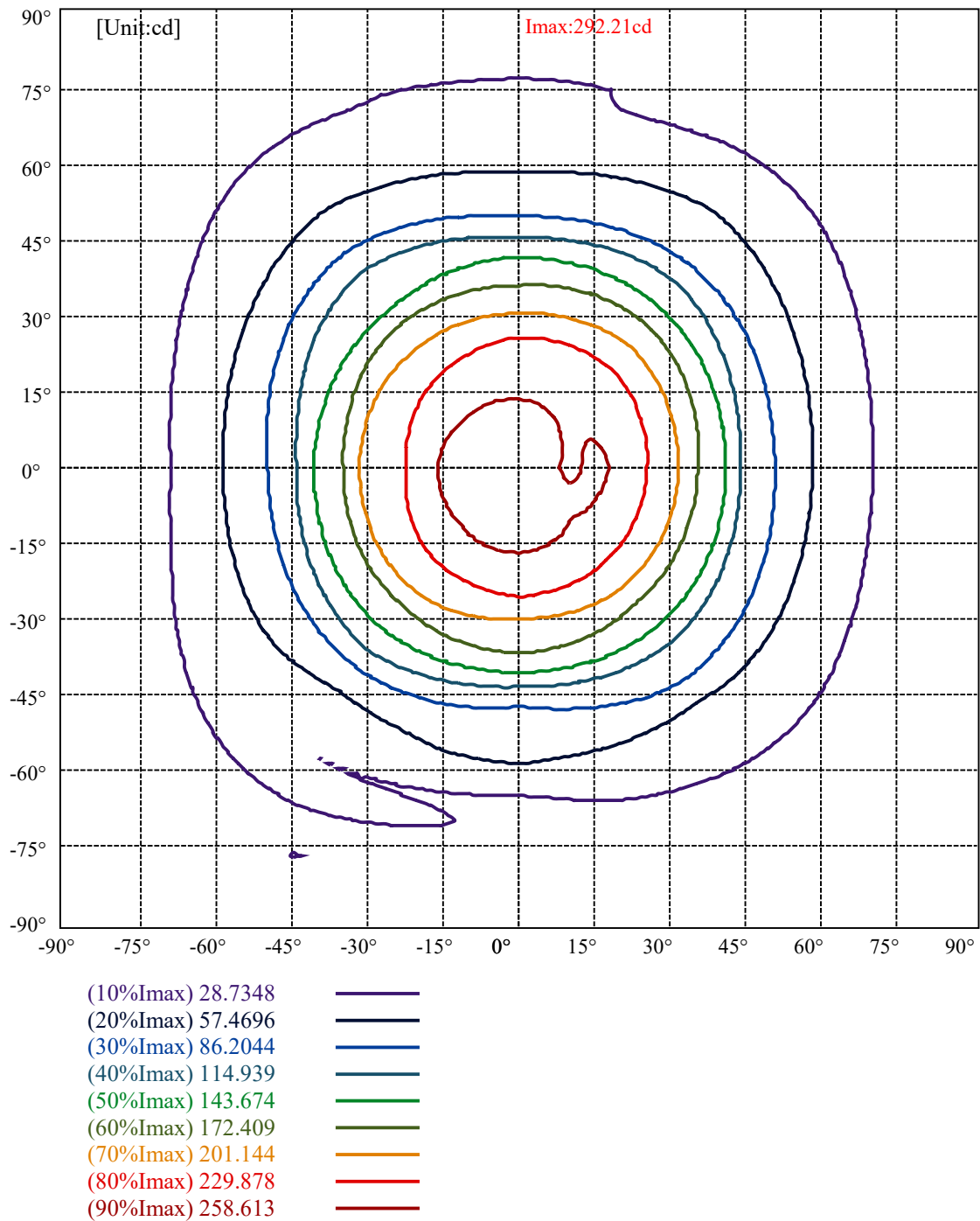
Beam Angle(50%Imax):C0/180Left:41.0 Right:41.3

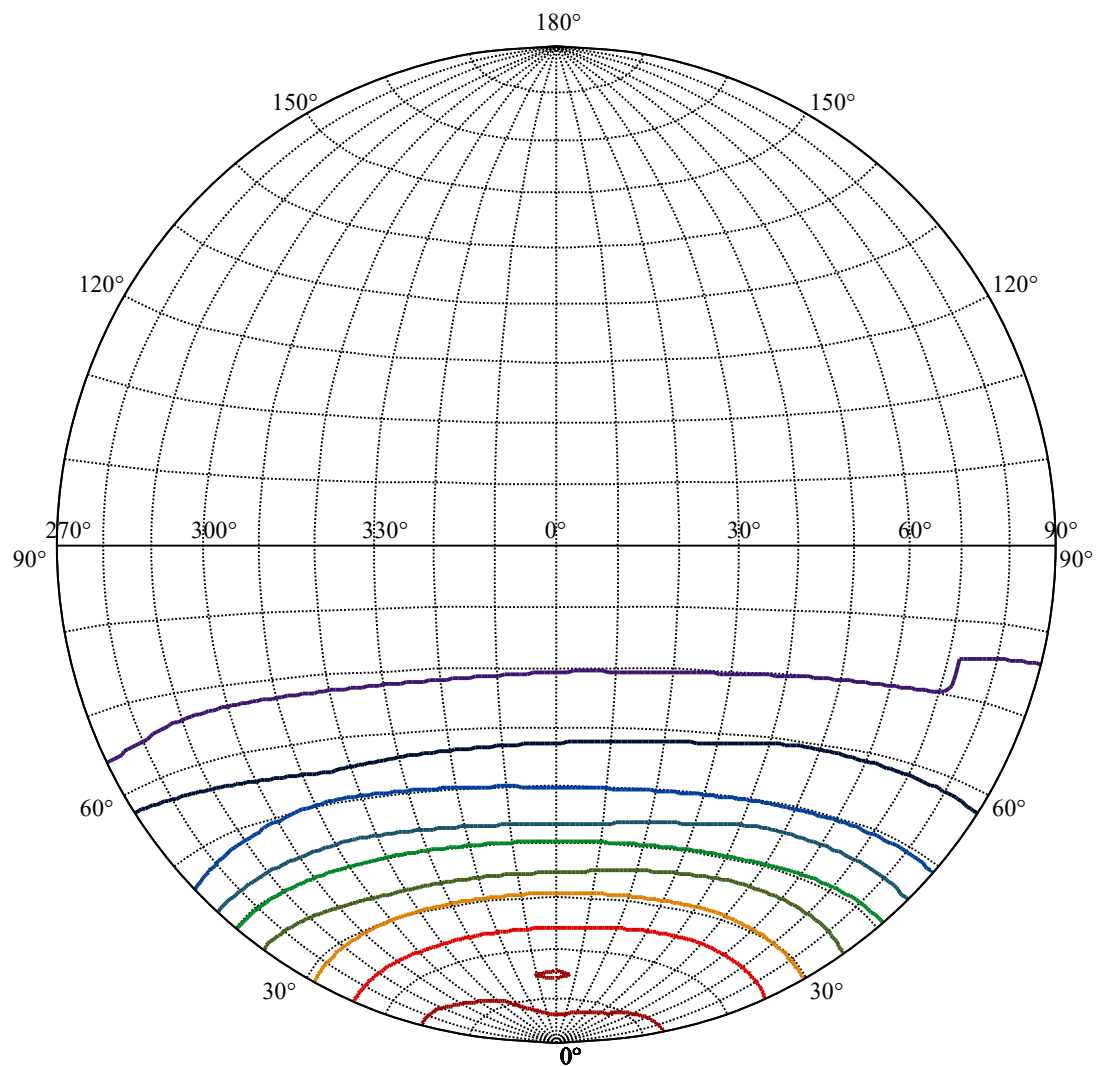
:C90/270Left:45.6 Right:36.9



Max , Ave

Beam angle of C45 plane 83.68





House

[Unit:cd]

Road

Imax:292.21

(10%Imax) 31.84218

(20%Imax) 63.68447

(30%Imax) 95.52666

(40%Imax) 127.3694

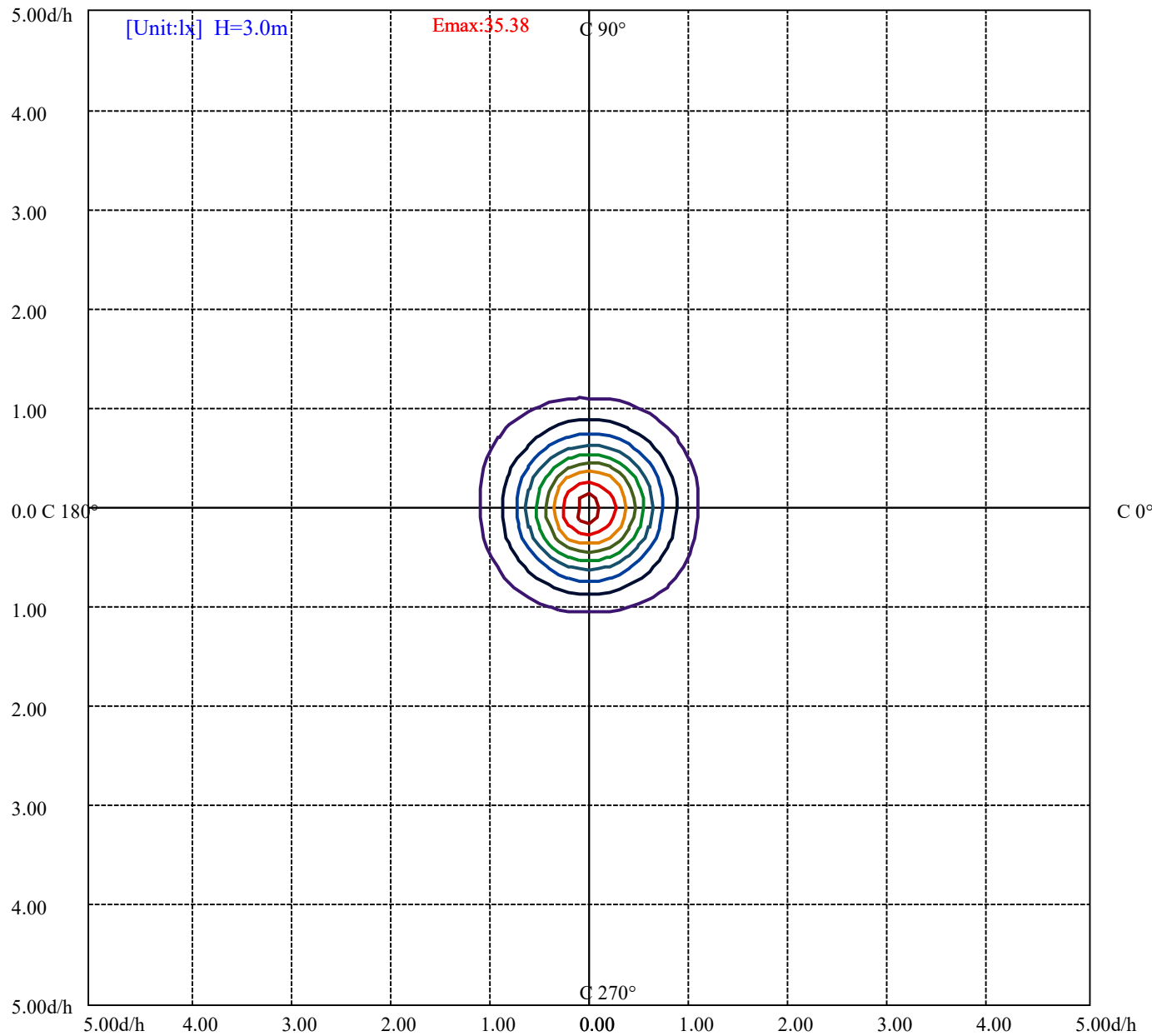
(50%Imax) 159.2115

(60%Imax) 191.0535

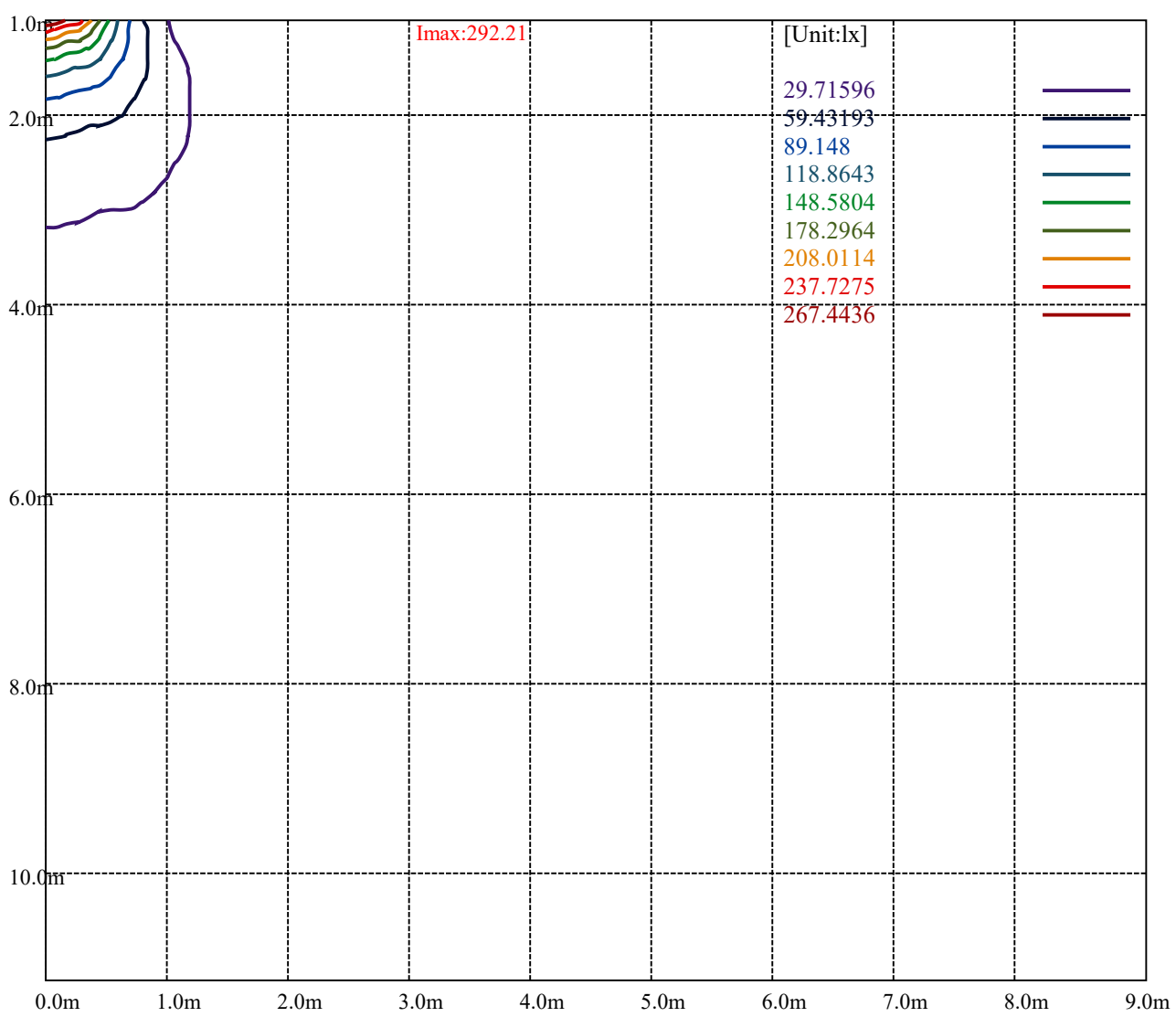
(70%Imax) 222.8956

(80%Imax) 254.7377

(90%Imax) 286.5797



(10%Emax)	3.537996	
(20%Emax)	7.076004	
(30%Emax)	10.614	
(40%Emax)	14.15203	
(50%Emax)	17.69004	
(60%Emax)	21.22805	
(70%Emax)	24.76606	
(80%Emax)	28.30407	
(90%Emax)	31.84196	



Luminance Table

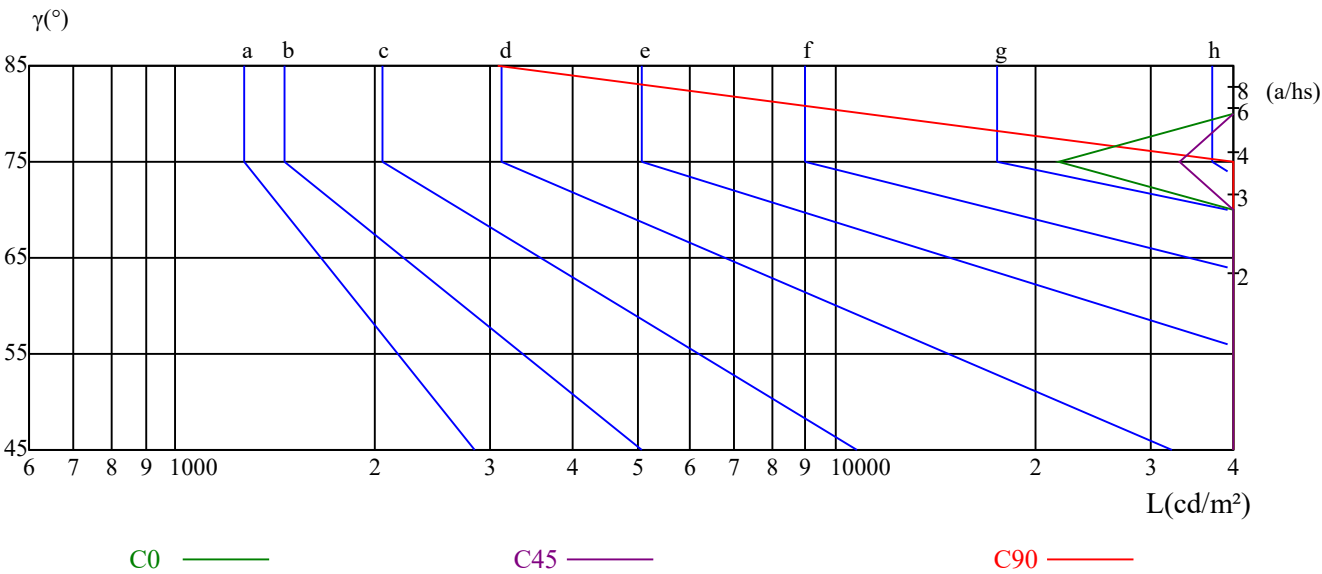
γ	45	50	55	60	65	70	75	80	85
C0	81417	77900	72360	51412	65260	44625	21727	63222	0
C45	101487	77483	70493	65871	54489	49322	33106	72474	0
C90	93535	72484	65357	59980	43718	49322	85870	0	3070

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
57657	38649	55598	32590	65179	37503	27651	43012	0

Glare Table

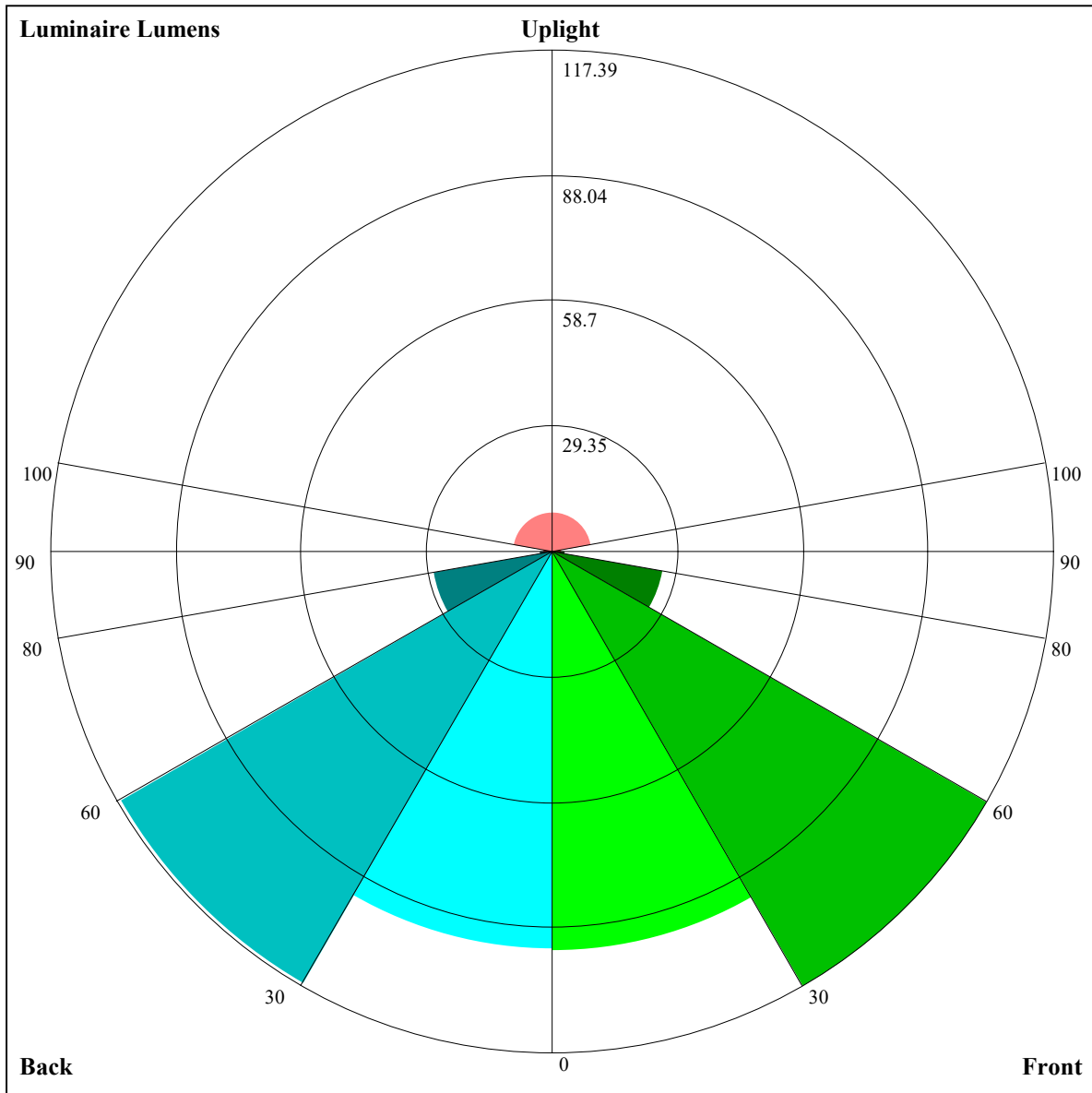
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	21.13	22.53	21.53	22.90	23.27	21.06	22.46	21.46	22.83	23.20
	3H	22.25	23.51	22.67	23.89	24.29	22.04	23.30	22.46	23.68	24.08
	4H	22.39	23.57	22.82	23.97	24.39	23.00	24.17	23.43	24.57	24.99
	6H	22.87	23.96	23.32	24.38	24.83	23.28	24.37	23.73	24.79	25.24
	8H	23.06	24.11	23.51	24.53	24.99	23.22	24.27	23.67	24.69	25.15
	12H	23.04	24.04	23.50	24.48	24.94	23.16	24.17	23.62	24.60	25.07
4H	2H	21.60	22.77	22.03	23.17	23.59	21.52	22.70	21.96	23.10	23.52
	3H	22.80	23.80	23.26	24.23	24.70	22.70	23.69	23.15	24.12	24.59
	4H	23.07	23.94	23.54	24.40	24.90	23.80	24.68	24.27	25.14	25.63
	6H	23.75	24.53	24.25	25.01	25.51	24.13	24.90	24.63	25.39	25.89
	8H	24.03	24.76	24.54	25.25	25.77	24.10	24.83	24.61	25.32	25.84
	12H	24.05	24.72	24.57	25.21	25.77	24.07	24.74	24.58	25.23	25.79
8H	4H	23.27	24.00	23.78	24.49	25.00	23.94	24.67	24.45	25.16	25.68
	6H	24.24	24.85	24.77	25.36	25.91	24.42	25.02	24.95	25.53	26.09
	8H	24.64	25.17	25.19	25.72	26.26	24.47	25.00	25.02	25.55	26.09
	12H	24.66	25.10	25.22	25.65	26.22	24.44	24.88	25.00	25.43	25.99
12H	4H	23.31	23.98	23.82	24.47	25.03	23.99	24.67	24.51	25.15	25.71
	6H	24.37	24.90	24.93	25.45	26.00	24.56	25.09	25.12	25.64	26.19
	8H	24.75	25.19	25.31	25.74	26.30	24.59	25.04	25.16	25.59	26.15
Variation with the observer position at spacings:											
S = 1.0H		0.5/-0.7					0.5/-0.6				
S = 1.5H		0.7/-0.8					1.1/-1.4				
S = 2.0H		1.8/-1.6					1.5/-0.9				
Standard tables:		BK3					BK3				
Uncorrected UGR		11.7					11.8				

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



Luminaire Lumens:

FL=93.74,FM=117.39,FH=26.44,FVH=3.2

BL=93.17,BM=116.96,BH=28.29,BVH=2.97

UL=2.17,UH=9.19

BUG Rating:B0-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	272.70	266.66	253.19	264.80	253.65	230.42	211.84	172.82	149.59
45.0	292.21	271.31	260.16	252.26	251.79	236.46	209.05	187.68	147.73
90.0	275.49	277.34	274.56	251.33	251.79	232.75	202.09	175.60	152.84
135.0	267.12	262.94	276.88	255.05	250.86	220.67	202.55	178.86	136.12
180.0	272.70	267.12	267.59	262.48	239.25	215.09	212.31	166.78	145.41
225.0	292.21	275.02	274.56	259.69	253.65	224.85	210.45	170.03	146.34
270.0	275.49	277.34	273.16	266.66	242.04	231.35	197.44	182.57	144.48
315.0	267.12	269.91	266.66	257.37	249.01	228.57	205.34	168.64	146.34
360.0	272.70	266.66	253.19	264.80	253.65	230.42	211.84	172.82	149.59
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	99.88	86.87	72.01	44.60	47.85	26.48	9.76	19.05	0.00
45.0	124.50	86.41	70.15	57.14	39.95	29.27	14.87	21.83	0.00
90.0	114.75	80.83	65.04	52.03	32.05	29.27	38.56	0.00	0.46
135.0	134.72	97.09	70.15	57.14	51.10	35.77	22.76	12.54	0.00
180.0	102.20	83.16	76.19	45.06	36.70	24.16	19.51	4.18	8.36
225.0	116.61	76.19	51.57	51.10	28.34	45.06	16.26	29.73	0.00
270.0	93.38	72.47	65.97	51.57	24.62	22.30	19.98	20.44	12.54
315.0	109.64	91.98	58.54	40.42	43.67	13.94	13.47	19.98	0.00
360.0	99.88	86.87	72.01	44.60	47.85	26.48	9.76	19.05	0.00
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	6.97	0.00	0.00	0.00	0.00	10.68	3.72	0.00	0.93
45.0	7.90	0.00	0.00	0.00	0.00	0.00	0.00	1.39	0.00
90.0	0.00	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0	0.00	0.00	5.11	11.61	3.72	0.00	0.00	0.00	2.79
180.0	0.00	0.00	0.46	0.00	0.00	0.00	3.25	0.00	11.61
225.0	9.29	6.50	0.00	0.00	6.50	0.00	0.00	0.00	7.90
270.0	0.00	9.29	0.00	0.00	6.97	0.93	0.00	10.22	0.00
315.0	6.04	0.00	0.00	0.00	0.00	0.00	7.90	10.22	0.00
360.0	6.97	0.00	0.00	0.00	0.00	10.68	3.72	0.00	0.93
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	1.86	0.00	0.00	0.00	1.86
45.0	4.65	0.00	6.97	0.00	4.65	0.00	0.00	0.00	8.83
90.0	0.00	0.00	1.39	6.04	0.00	4.18	0.00	0.00	0.00
135.0	11.61	0.00	13.01	5.11	2.79	0.00	0.00	0.93	0.00
180.0	0.00	0.00	1.86	0.93	11.61	0.00	0.00	8.83	0.00
225.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
270.0	4.18	0.93	0.00	1.39	5.57	0.00	0.00	0.00	0.00
315.0	0.00	0.00	4.65	0.00	0.00	0.00	10.68	3.72	6.04
360.0	0.00	0.00	0.00	0.00	1.86	0.00	0.00	0.00	1.86
C/γ(°)	180.0								
0.0	0.00								
45.0	0.00								
90.0	0.00								
135.0	0.00								
180.0	0.00								
225.0	0.00								
270.0	0.00								
315.0	0.00								
360.0	0.00								