



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440220 RIO 11.5W 6500K 1150lm

Luminaire:

Report No:

Voltage(V): 230.2700

Test No: KYZ-A251020063-02-007

Current(A): 0.0543

LampCAT: LED

Power (W): 11.5000

Lamp flux(lm): -1.0

PF: 0.9190

Number of Lamps: 1

Ballast type:

Length(mm): -175

Width(mm): -175

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1150.00

Efficiency(%): 100.00%

Lumens(lm)/Power(W): 100.00

Central intensity(cd): 580.978

Maximum intensity(cd): 602.358

Angle of maximum intensity: C=0.0 γ =5.0

Beam Angle(50%Imax): [C0/180]Total=81.7

[C90/270]Total=82.8

Field angle(10%Imax): [C0/180]Total=138.8

[C90/270]Total=140.9

Maximum s/h(1/2): C0_180=1.15 C90_270=1.07

Maximum s/h(1/4): C0_180=1.20 C90_270=1.13

Up flux rate of lamp(%): 1.42%

Down flux rate of lamp(%): 98.58%

Up flux rate of LUM(%): 1.42%

Down flux rate of LUM(%): 98.58%

CIE Type : Direct lighting

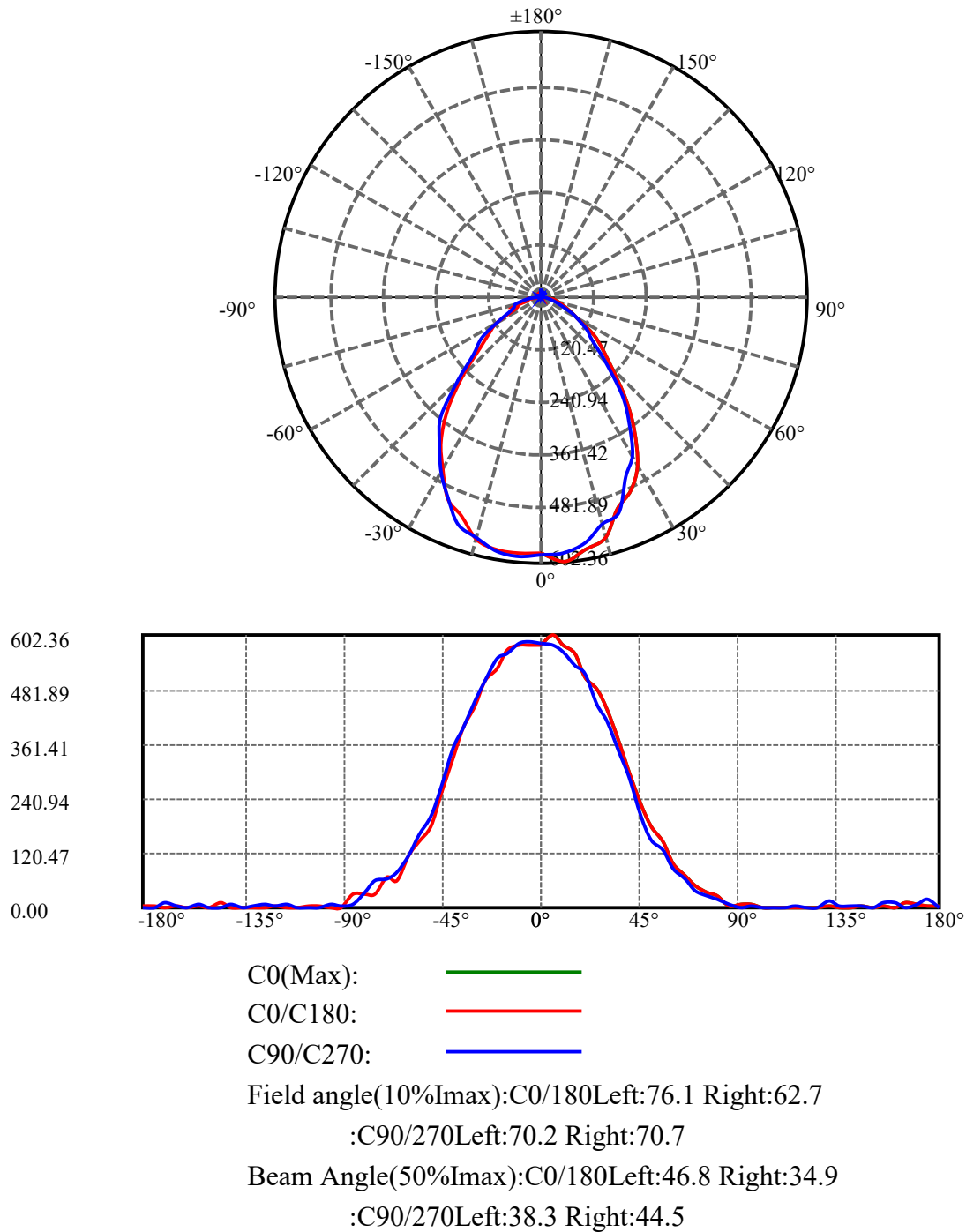
Output flux ratio in π solid angle : 86.333%

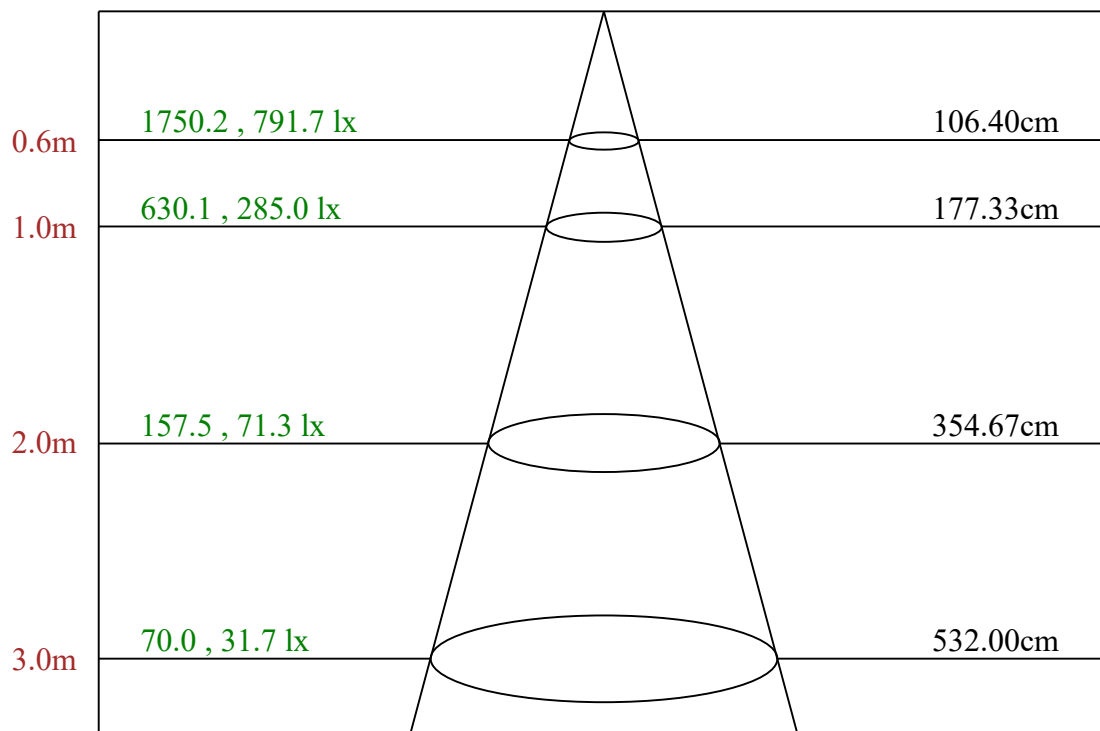
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	615.341	0.000	0	.000%	.000%
5.0	613.512	14.035	14.035	.000%	1.220%
10.0	602.269	41.550	55.585	.000%	4.833%
15.0	582.471	67.140	122.725	.000%	10.672%
20.0	551.160	89.255	211.98	.000%	18.433%
25.0	510.704	106.397	318.377	.000%	27.685%
30.0	458.681	117.199	435.576	.000%	37.876%
35.0	395.362	120.148	555.724	.000%	48.324%
40.0	331.288	115.823	671.547	.000%	58.395%
45.0	255.218	103.747	775.294	.000%	67.417%
50.0	198.461	87.579	862.873	.000%	75.033%
55.0	148.160	72.002	934.874	.000%	81.294%
60.0	114.267	57.951	992.825	.000%	86.333%
65.0	76.931	44.405	1037.23	.000%	90.194%
70.0	59.662	33.042	1070.272	.000%	93.067%
75.0	48.580	27.029	1097.301	.000%	95.418%
80.0	31.956	20.587	1117.888	.000%	97.208%
85.0	13.127	11.703	1129.591	.000%	98.225%
90.0	2.636	4.123	1133.715	.000%	98.584%
95.0	4.734	1.928	1135.642	.000%	98.752%
100.0	1.991	1.746	1137.388	.000%	98.903%
105.0	1.345	0.853	1138.241	.000%	98.978%
110.0	0.699	0.510	1138.751	.000%	99.022%
115.0	2.206	0.703	1139.454	.000%	99.083%
120.0	1.076	0.762	1140.216	.000%	99.149%
125.0	2.098	0.701	1140.917	.000%	99.210%
130.0	6.940	1.877	1142.794	.000%	99.374%
135.0	2.152	1.755	1144.55	.000%	99.526%
140.0	2.744	0.866	1145.416	.000%	99.602%
145.0	5.057	1.243	1146.659	.000%	99.710%
150.0	0.161	0.734	1147.393	.000%	99.773%
155.0	4.949	0.618	1148.011	.000%	99.827%
160.0	2.851	0.782	1148.793	.000%	99.895%
165.0	3.712	0.517	1149.309	.000%	99.940%
170.0	3.282	0.396	1149.706	.000%	99.975%
175.0	3.497	0.232	1149.937	.000%	99.995%
180.0	1.829	0.061	1149.998	.000%	100.000%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	435.58	N.A.	37.88%
0-40	671.55	N.A.	58.40%
0-60	992.83	N.A.	86.33%
0-90	1133.71	N.A.	98.58%
0-120	1140.22	N.A.	99.15%
0-180	1150.00	N.A.	100.00%
60-90	198.84	N.A.	17.29%
90-120	10.62	N.A.	0.92%
90-130	13.20	N.A.	1.15%
90-150	17.80	N.A.	1.55%
90-180	20.35	N.A.	1.77%
0-53.97	920.00	N.A.	80.00%

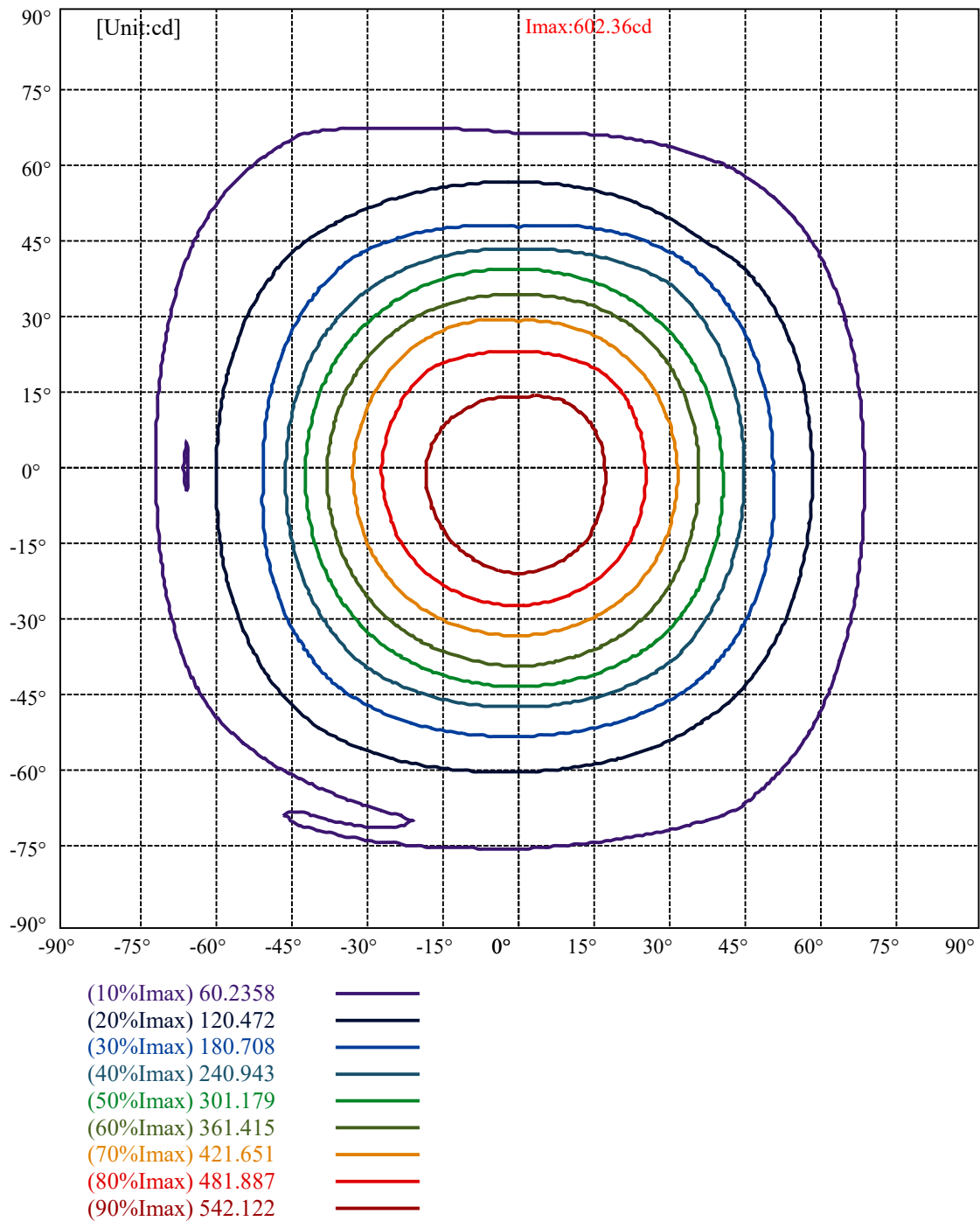
ZONAL LUMEN SUMMARY

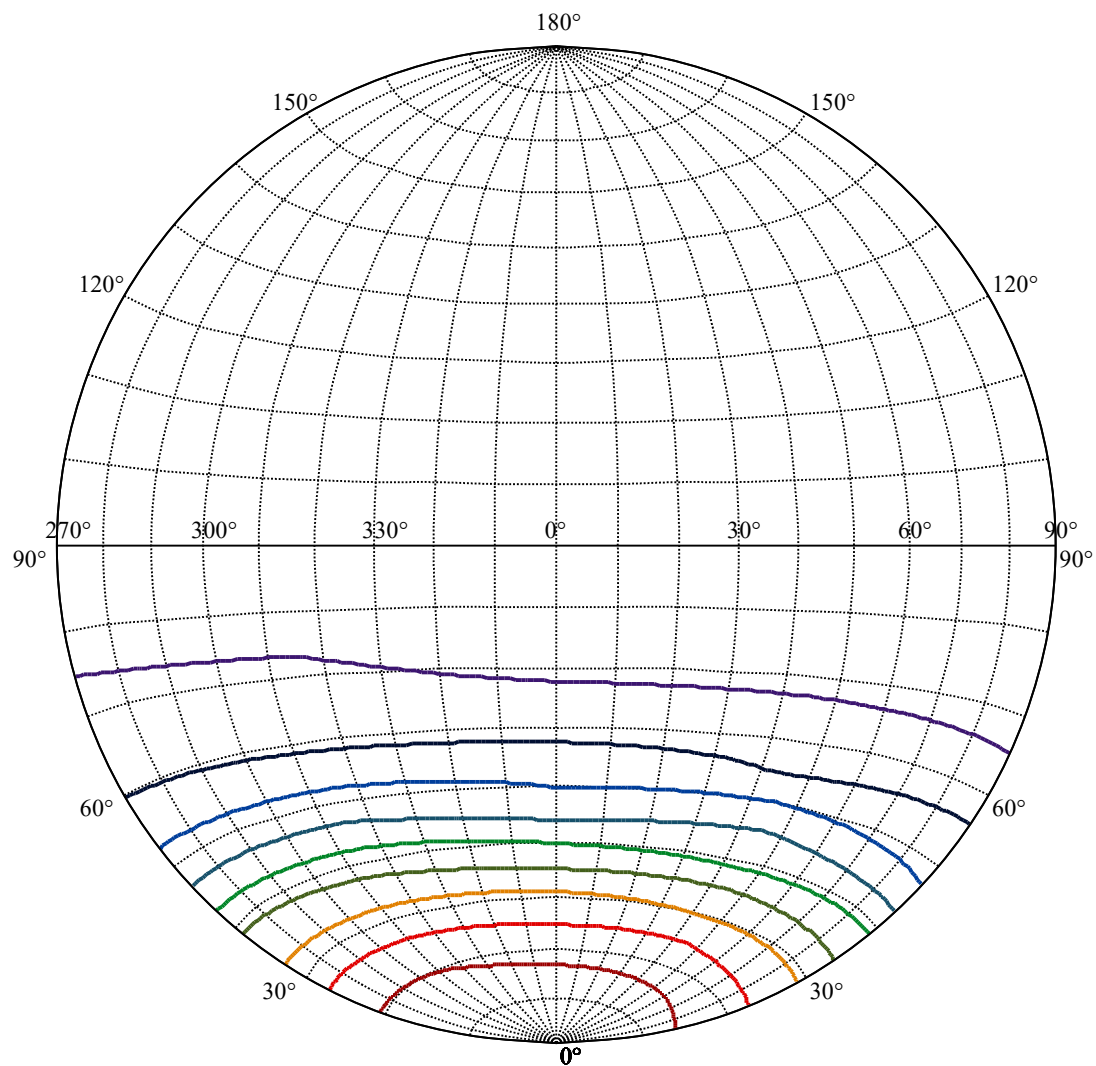
0-10	55.58
10-20	156.40
20-30	223.60
30-40	235.97
40-50	191.33
50-60	129.95
60-70	77.45
70-80	47.62
80-90	15.83
90-100	3.67
100-110	1.36
110-120	1.46
120-130	2.58
130-140	2.62
140-150	1.98
150-160	1.40
160-170	0.91
170-180	0.23





Max , Ave Beam angle of C0 plane 83.13





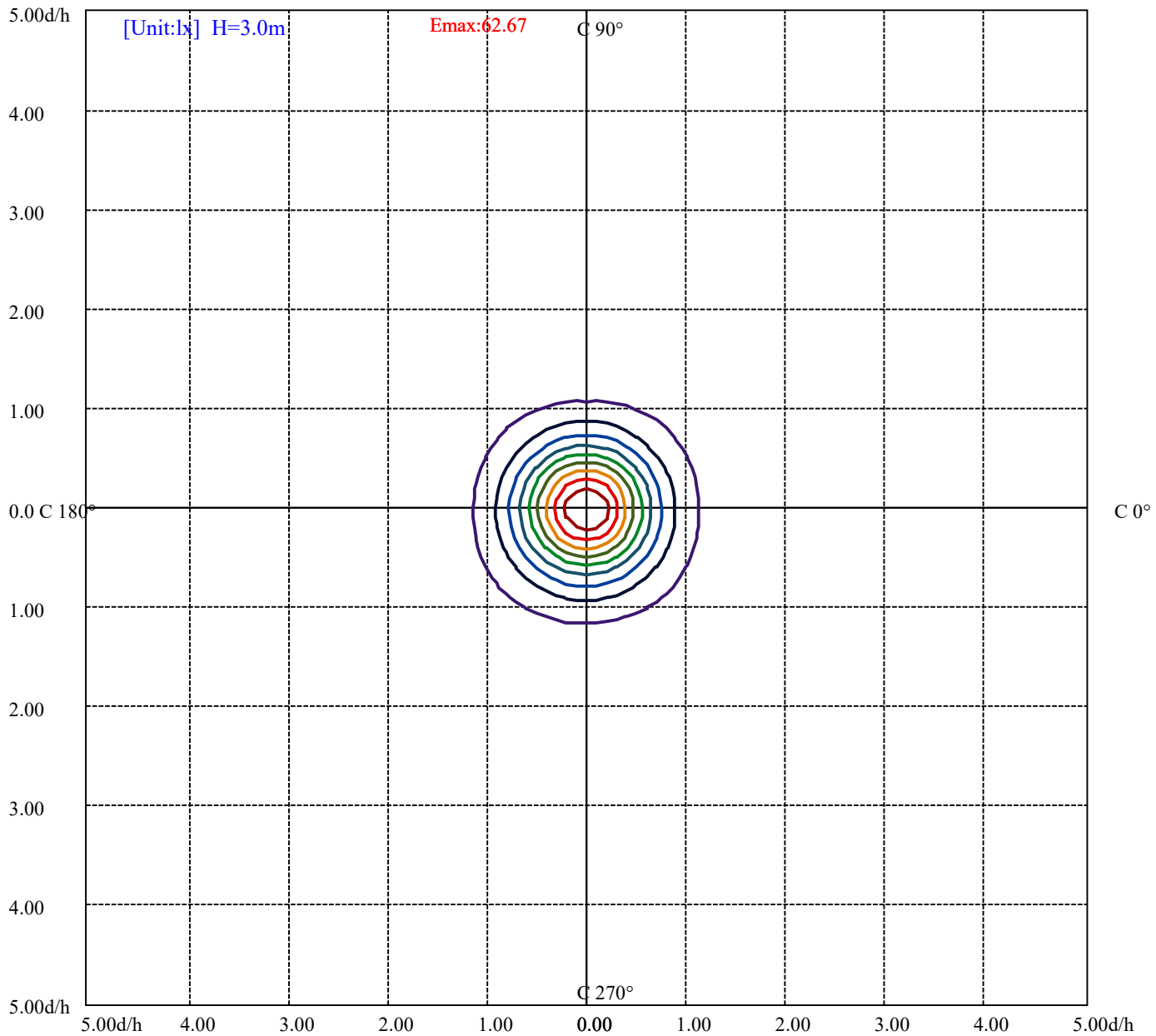
House

[Unit:cd]

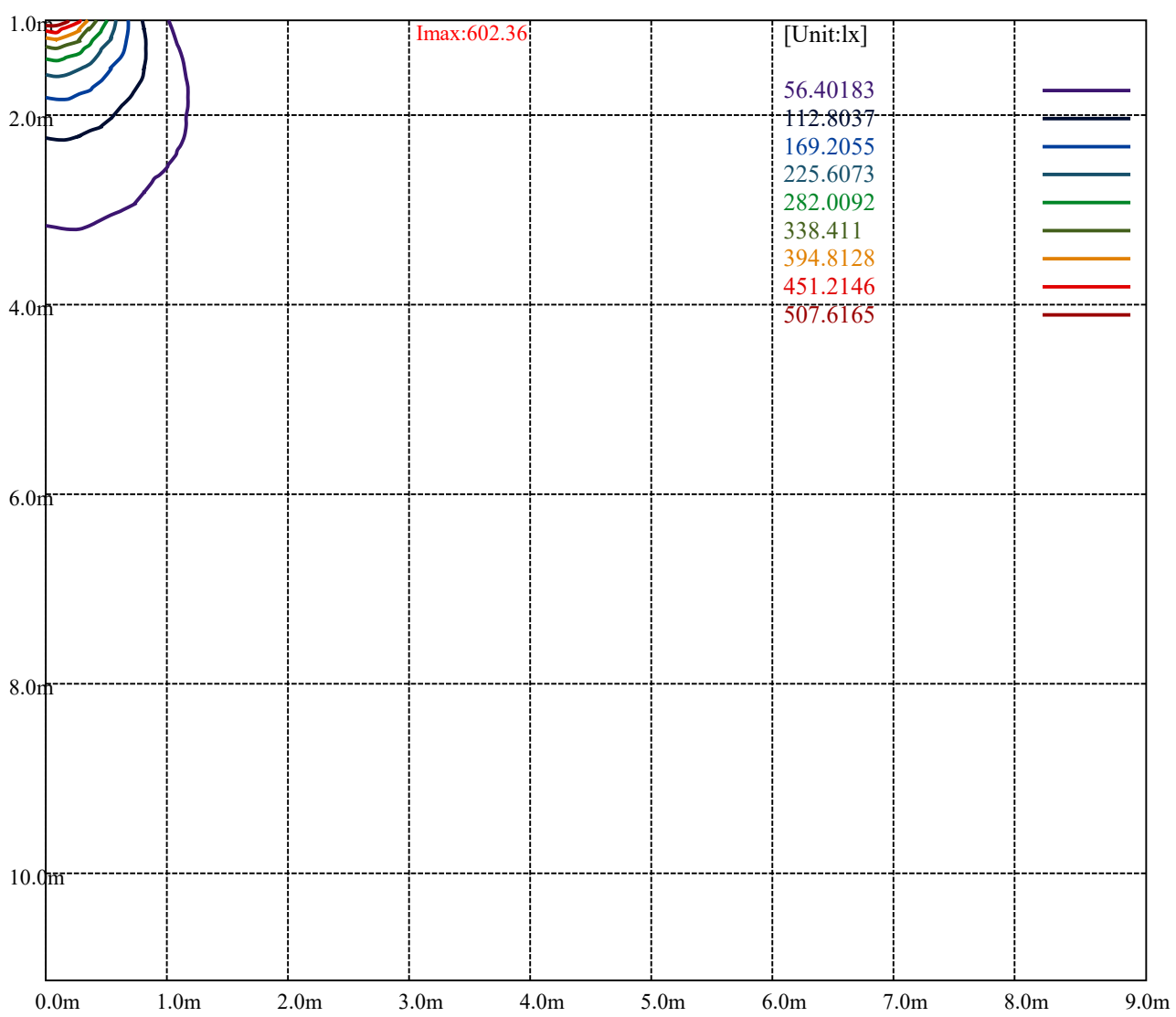
Road

Imax:602.36
(10%Imax) 57.54615
(20%Imax) 115.0927
(30%Imax) 172.639
(40%Imax) 230.1844
(50%Imax) 287.7307
(60%Imax) 345.2771
(70%Imax) 402.8234
(80%Imax) 460.3697
(90%Imax) 517.9151





(10%Emax)	6.26686	
(20%Emax)	12.53374	
(30%Emax)	18.80061	
(40%Emax)	25.06748	
(50%Emax)	31.33435	
(60%Emax)	37.60111	
(70%Emax)	43.86798	
(80%Emax)	50.13485	
(90%Emax)	56.40172	



Luminance Table

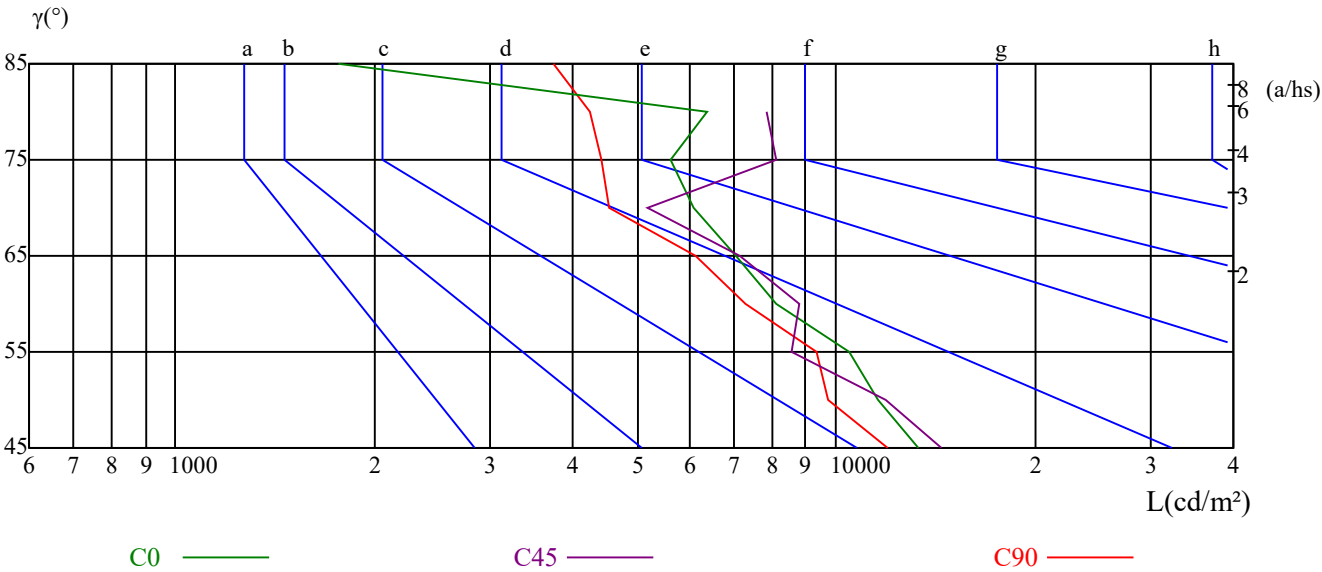
γ	45	50	55	60	65	70	75	80	85
C0	13369	11595	10461	8137	7078	6098	5614	6399	1765
C45	14481	11888	8553	8821	7159	5198	8124	7875	0
C90	11967	9733	9328	7282	6148	4548	4425	4233	3726

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6431	6998	7746	5350	7034	8718	7649	3726	6276

Glare Table

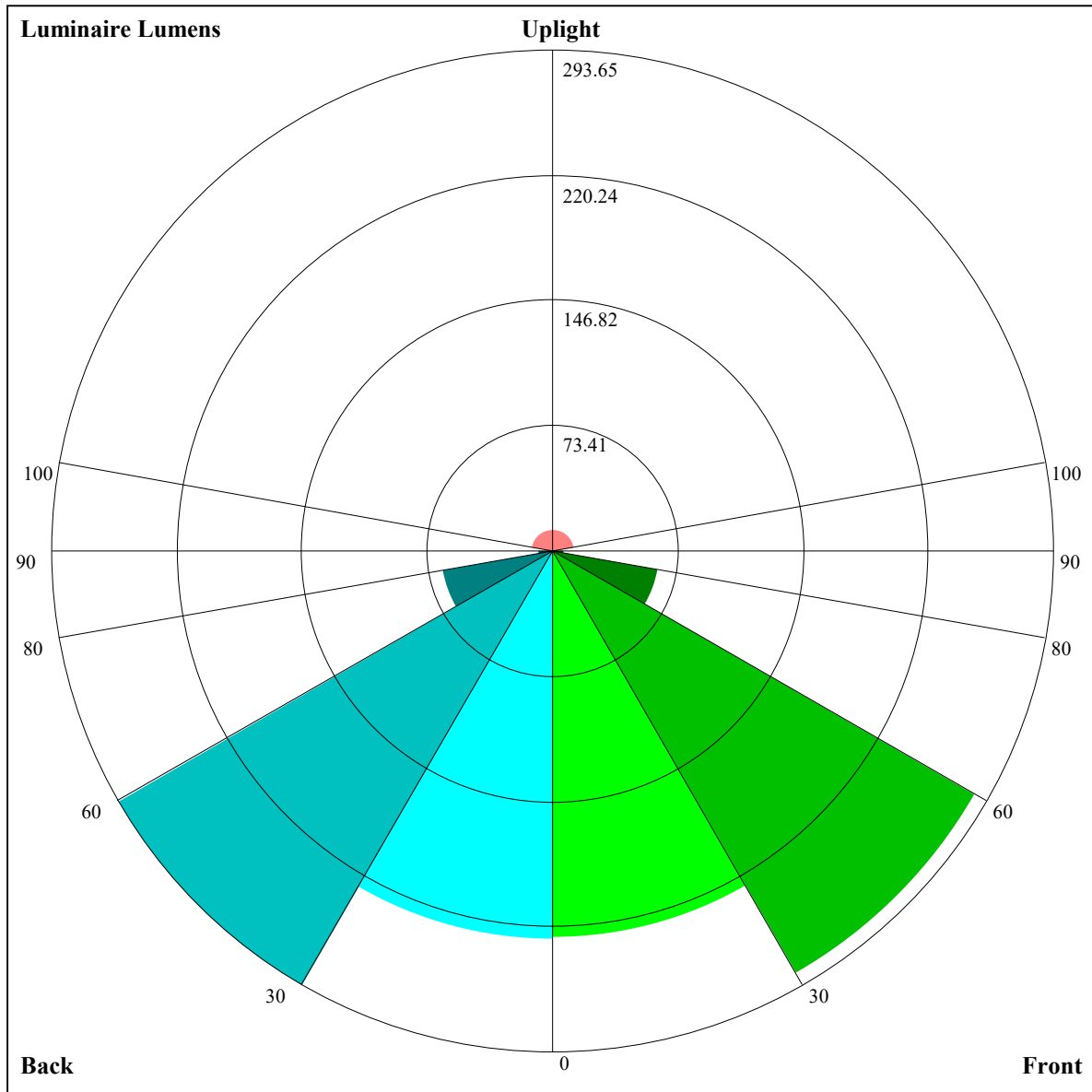
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	15.04	16.46	15.43	16.81	17.16	14.62	16.04	15.00	16.38	16.73
	3H	15.86	17.14	16.27	17.51	17.88	15.28	16.56	15.69	16.93	17.31
	4H	16.23	17.43	16.65	17.81	18.21	15.57	16.77	15.99	17.15	17.55
	6H	16.63	17.74	17.07	18.14	18.57	15.84	16.95	16.27	17.34	17.77
	8H	16.72	17.79	17.16	18.19	18.63	15.90	16.96	16.33	17.37	17.80
	12H	16.71	17.73	17.15	18.14	18.59	15.91	16.93	16.35	17.34	17.79
4H	2H	15.38	16.58	15.80	16.96	17.36	15.03	16.22	15.44	16.60	17.00
	3H	16.36	17.36	16.80	17.78	18.22	15.85	16.86	16.29	17.27	17.72
	4H	16.96	17.85	17.42	18.29	18.77	16.37	17.26	16.83	17.70	18.18
	6H	17.50	18.29	17.99	18.76	19.24	16.76	17.55	17.25	18.02	18.50
	8H	17.66	18.40	18.16	18.88	19.37	16.88	17.62	17.38	18.10	18.59
	12H	17.68	18.37	18.19	18.84	19.38	16.94	17.63	17.45	18.10	18.64
8H	4H	17.23	17.97	17.73	18.45	18.94	16.71	17.45	17.21	17.93	18.42
	6H	17.94	18.56	18.46	19.05	19.59	17.28	17.89	17.79	18.39	18.92
	8H	18.20	18.73	18.74	19.27	19.79	17.50	18.04	18.04	18.57	19.10
	12H	18.22	18.67	18.77	19.21	19.75	17.57	18.02	18.12	18.56	19.10
12H	4H	17.26	17.94	17.76	18.41	18.95	16.76	17.44	17.26	17.91	18.45
	6H	18.04	18.58	18.58	19.11	19.64	17.41	17.94	17.94	18.48	19.00
	8H	18.27	18.72	18.82	19.26	19.80	17.60	18.06	18.15	18.59	19.13
Variation with the observer position at spacings:											
S = 1.0H		0.4/-0.7					0.3/-0.6				
S = 1.5H		0.9/-1.2					0.7/-1.1				
S = 2.0H		2.0/-1.7					1.9/-1.4				
Standard tables:		BK3					BK3				
Uncorrected UGR		3.5					4.0				

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



Luminaire Lumens:

FL=226.49,FM=286.24,FH=62.88,FVH=6.59

BL=228.02,BM=293.65,BH=66.08,BVH=9.1

UL=3.85,UH=13.2

BUG Rating:B1-U2-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	580.98	602.36	580.57	562.89	509.44	481.06	437.48	365.53	300.15
45.0	585.50	581.39	565.35	549.73	516.84	480.24	418.16	362.65	282.47
90.0	583.03	580.57	566.18	534.11	517.25	450.64	412.40	344.56	288.64
135.0	601.95	580.98	567.41	545.21	516.01	490.52	434.19	367.17	300.15
180.0	580.98	580.98	579.33	569.05	527.53	502.03	446.94	395.95	329.76
225.0	585.50	590.43	575.22	563.30	538.22	506.97	446.94	405.00	339.21
270.0	583.03	588.79	582.62	562.06	548.50	500.39	455.16	398.01	351.55
315.0	601.95	583.45	586.32	565.35	538.63	491.34	454.34	382.80	340.03
360.0	580.98	602.36	580.57	562.89	509.44	481.06	437.48	365.53	300.15
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	227.37	179.27	144.32	97.86	71.95	50.16	34.95	26.73	3.70
45.0	246.29	183.79	118.00	106.08	72.78	42.76	50.57	32.89	0.00
90.0	203.53	150.49	128.69	87.58	62.50	37.42	27.55	17.68	7.81
135.0	234.36	187.90	127.05	111.84	83.47	68.66	48.11	26.32	7.40
180.0	249.99	179.68	145.55	115.95	58.80	68.66	31.66	30.84	28.37
225.0	268.08	218.74	162.41	127.05	85.11	54.69	62.50	39.88	30.84
270.0	264.79	201.06	161.59	116.77	79.77	65.38	60.03	32.07	7.81
315.0	256.16	215.86	144.73	110.19	73.60	68.25	55.92	37.83	14.39
360.0	227.37	179.27	144.32	97.86	71.95	50.16	34.95	26.73	3.70
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	7.40	6.17	0.00	0.00	0.00	0.00	0.00	0.00	2.88
45.0	0.00	0.00	3.70	0.00	4.52	0.00	0.00	5.35	2.88
90.0	0.00	2.47	0.00	0.00	0.00	4.11	0.00	0.00	16.04
135.0	0.00	4.11	8.22	2.06	0.00	4.52	0.00	0.00	15.21
180.0	0.00	0.00	2.47	3.70	0.82	0.00	4.52	0.00	1.23
225.0	3.29	16.04	0.00	4.52	0.00	0.00	0.00	0.00	10.28
270.0	4.93	7.40	0.00	0.00	0.00	8.22	3.70	7.40	4.52
315.0	4.52	0.00	0.82	0.00	0.00	0.00	0.00	3.29	0.00
360.0	7.40	6.17	0.00	0.00	0.00	0.00	0.00	0.00	2.88
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	4.93	1.23	5.35	0.00	11.51	9.05	2.06
45.0	9.05	0.00	7.81	0.00	0.00	1.23	0.00	0.00	0.00
90.0	5.35	2.47	2.06	0.00	9.46	10.69	0.00	6.17	20.15
135.0	0.00	0.00	5.76	0.00	0.00	0.00	0.00	0.00	2.47
180.0	0.00	0.00	12.34	0.00	4.93	0.00	3.29	0.00	2.06
225.0	0.00	0.00	5.76	0.00	0.00	9.87	9.46	0.00	0.00
270.0	0.00	8.22	0.00	0.00	9.05	0.00	4.11	9.87	0.00
315.0	2.06	10.28	0.00	0.00	9.05	0.00	0.00	0.00	0.00
360.0	0.00	0.00	4.93	1.23	5.35	0.00	11.51	9.05	2.06
C/γ(°)	180.0								
0.0	3.29								
45.0	3.70								
90.0	0.00								
135.0	0.00								
180.0	3.29								
225.0	3.70								
270.0	0.00								
315.0	0.00								
360.0	3.29								