



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440220 RIO 11.5W 3000K 1150lm

Luminaire:

Report No:

Voltage(V): 230.2000

Test No: KYZ-A251020063-02-009

Current(A): 0.0543

LampCAT: LED

Power (W): 11.5000

Lamp flux(lm): -1.0

PF: 0.9200

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): 585.840

Maximum intensity(cd): 596.453

Angle of maximum intensity: C=180.0 γ =5.0

Beam Angle(50%Imax): [C0/180]Total=80.5

[C90/270]Total=82.2

Field angle(10%Imax): [C0/180]Total=139.8

[C90/270]Total=139.4

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

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

Up flux rate of lamp(%): 1.14%

Down flux rate of lamp(%): 98.86%

Up flux rate of LUM(%): 1.14%

Down flux rate of LUM(%): 98.86%

CIE Type : Direct lighting

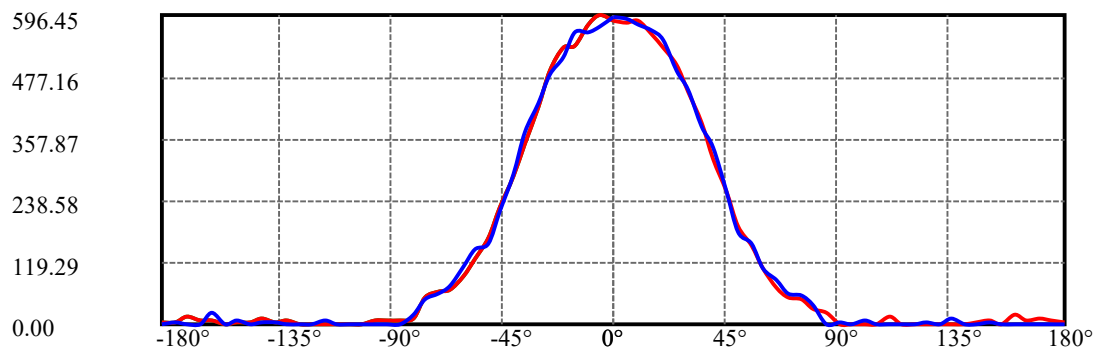
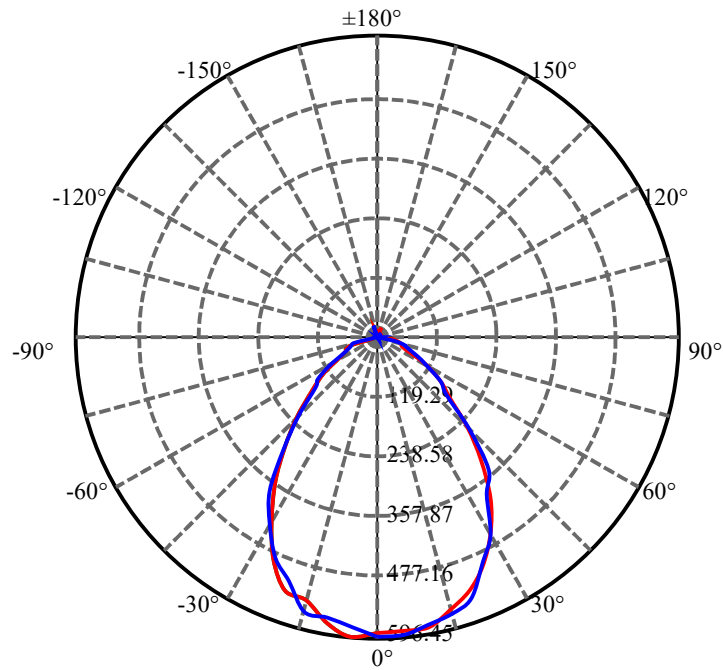
Output flux ratio in π solid angle : 86.118%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	595.866	0.000	0	.000%	.000%
5.0	595.113	14.044	14.044	.000%	1.221%
10.0	580.050	41.467	55.511	.000%	4.827%
15.0	566.547	67.089	122.599	.000%	10.661%
20.0	536.474	89.666	212.266	.000%	18.458%
25.0	498.223	107.042	319.308	.000%	27.766%
30.0	446.147	117.883	437.191	.000%	38.017%
35.0	380.513	120.073	557.265	.000%	48.458%
40.0	316.709	114.742	672.006	.000%	58.435%
45.0	247.256	103.000	775.007	.000%	67.392%
50.0	185.980	86.349	861.356	.000%	74.901%
55.0	146.223	71.248	932.604	.000%	81.096%
60.0	107.058	57.748	990.352	.000%	86.118%
65.0	82.580	45.473	1035.825	.000%	90.072%
70.0	62.191	36.157	1071.982	.000%	93.216%
75.0	50.947	29.169	1101.152	.000%	95.752%
80.0	28.405	20.943	1122.095	.000%	97.574%
85.0	11.244	10.627	1132.722	.000%	98.498%
90.0	3.981	4.112	1136.834	.000%	98.855%
95.0	0.861	1.308	1138.141	.000%	98.969%
100.0	1.184	0.548	1138.689	.000%	99.017%
105.0	0.915	0.554	1139.243	.000%	99.065%
110.0	2.744	0.943	1140.186	.000%	99.147%
115.0	1.022	0.941	1141.127	.000%	99.229%
120.0	1.775	0.671	1141.797	.000%	99.287%
125.0	1.614	0.773	1142.57	.000%	99.354%
130.0	2.152	0.808	1143.378	.000%	99.424%
135.0	2.582	0.944	1144.321	.000%	99.506%
140.0	4.304	1.258	1145.579	.000%	99.616%
145.0	0.968	0.868	1146.447	.000%	99.691%
150.0	3.874	0.703	1147.15	.000%	99.752%
155.0	0.592	0.557	1147.707	.000%	99.801%
160.0	6.994	0.785	1148.492	.000%	99.869%
165.0	2.475	0.770	1149.262	.000%	99.936%
170.0	3.658	0.359	1149.621	.000%	99.967%
175.0	3.981	0.270	1149.89	.000%	99.991%
180.0	5.165	0.108	1149.998	.000%	100.000%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	437.19	N.A.	38.02%
0-40	672.01	N.A.	58.44%
0-60	990.35	N.A.	86.12%
0-90	1136.83	N.A.	98.86%
0-120	1141.80	N.A.	99.29%
0-180	1150.00	N.A.	100.00%
60-90	204.23	N.A.	17.76%
90-120	9.08	N.A.	0.79%
90-130	10.66	N.A.	0.93%
90-150	14.43	N.A.	1.25%
90-180	17.17	N.A.	1.49%
0-54.12	920.00	N.A.	80.00%

ZONAL LUMEN SUMMARY

0-10	55.51
10-20	156.76
20-30	224.93
30-40	234.82
40-50	189.35
50-60	129.00
60-70	81.63
70-80	50.11
80-90	14.74
90-100	1.86
100-110	1.50
110-120	1.61
120-130	1.58
130-140	2.20
140-150	1.57
150-160	1.34
160-170	1.13
170-180	0.27



C180(Max):

C0/C180:

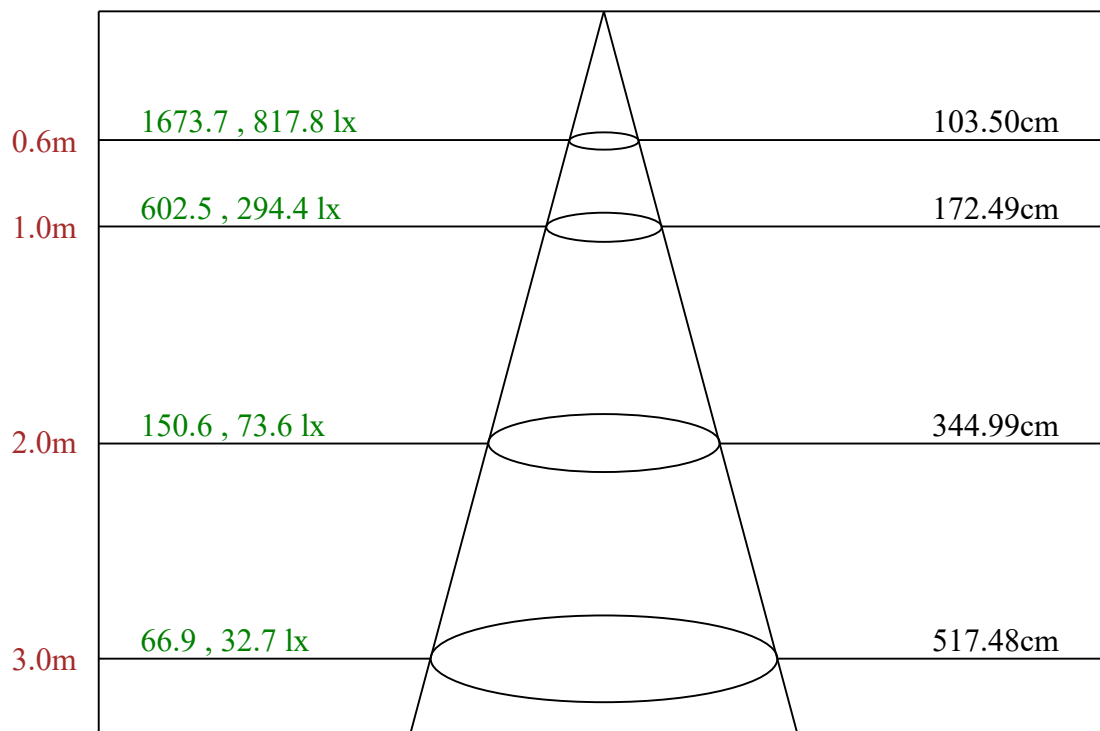
C90/C270:

Field angle(10%Imax):C0/180Left:66.8 Right:73.0

:C90/270Left:69.4 Right:70.0

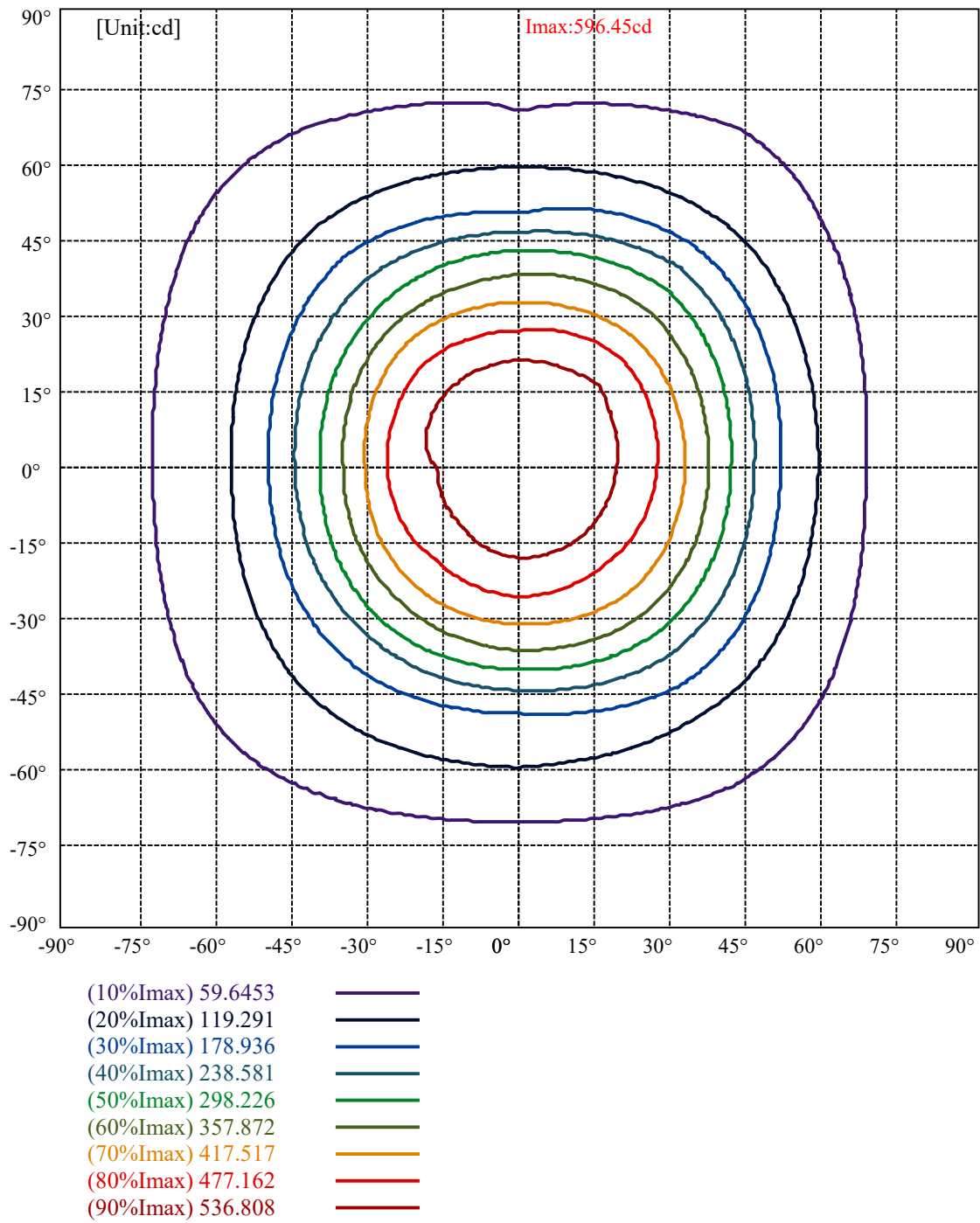
Beam Angle(50%Imax):C0/180Left:33.9 Right:46.6

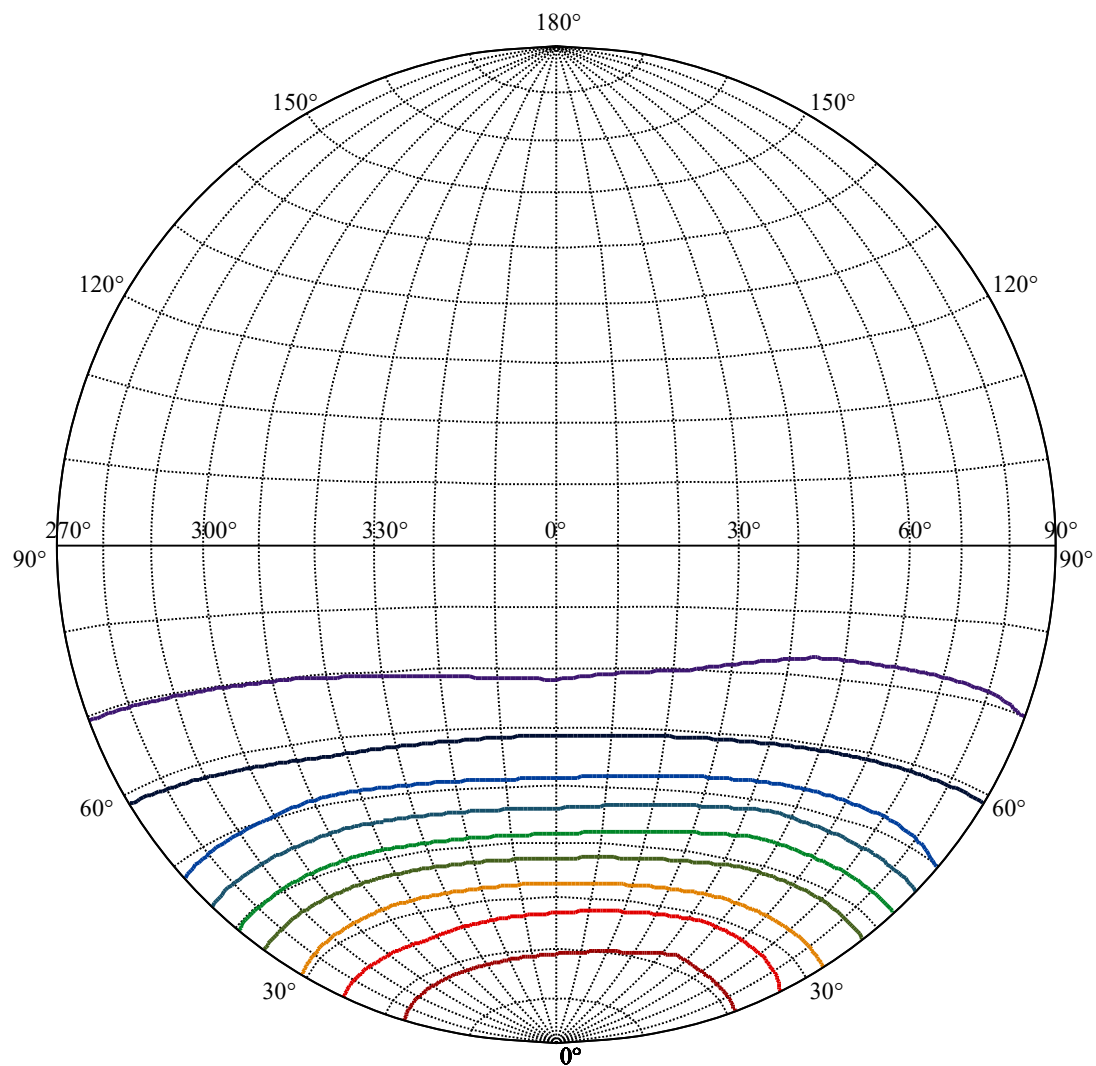
:C90/270Left:39.6 Right:42.6



Max , Ave

Beam angle of C180 plane 81.55





House

[Unit:cd]

Road

Imax:596.45

(10%Imax) 58.8329

(20%Imax) 117.6662

(30%Imax) 176.4988

(40%Imax) 235.3314

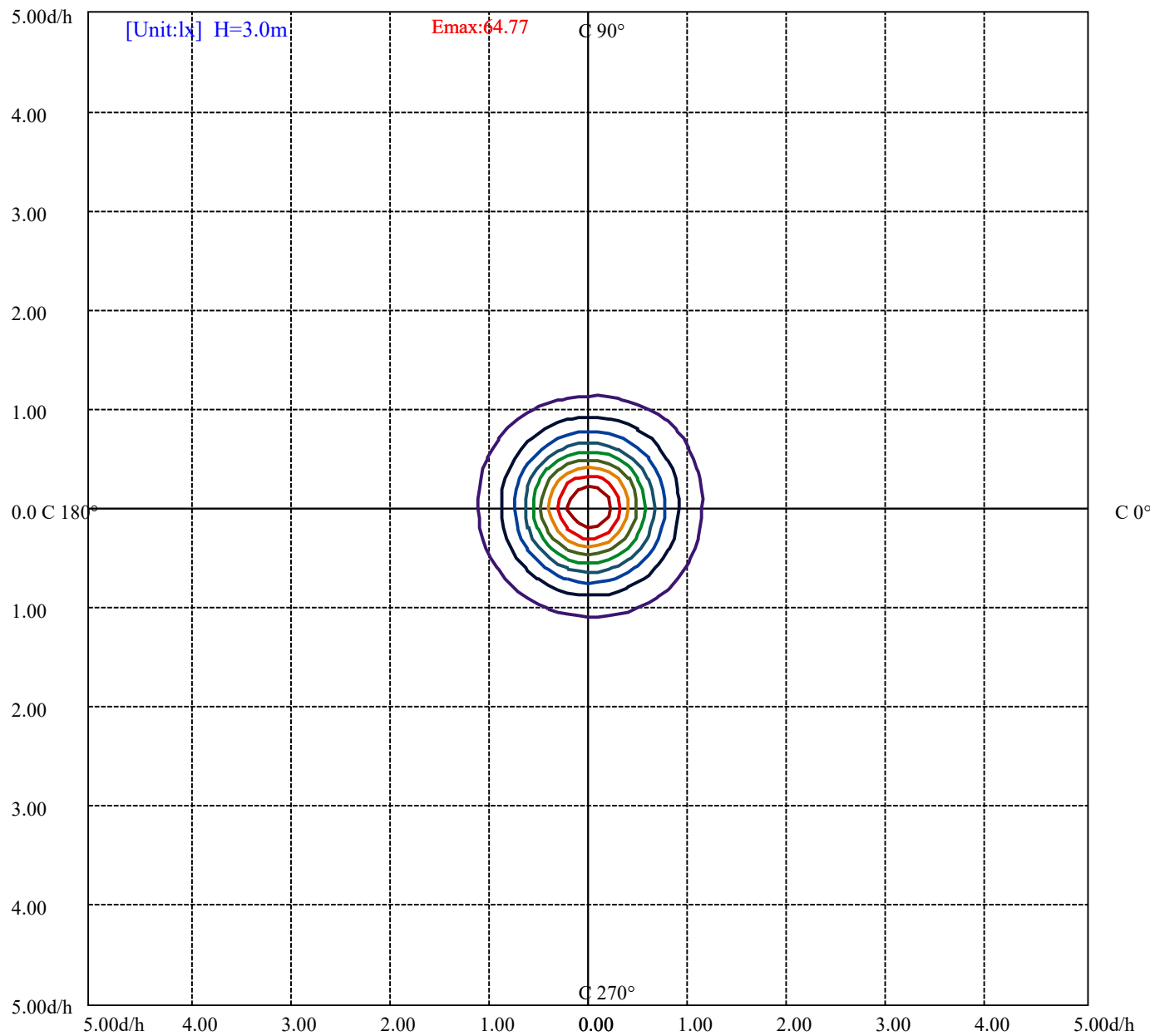
(50%Imax) 294.164

(60%Imax) 352.9976

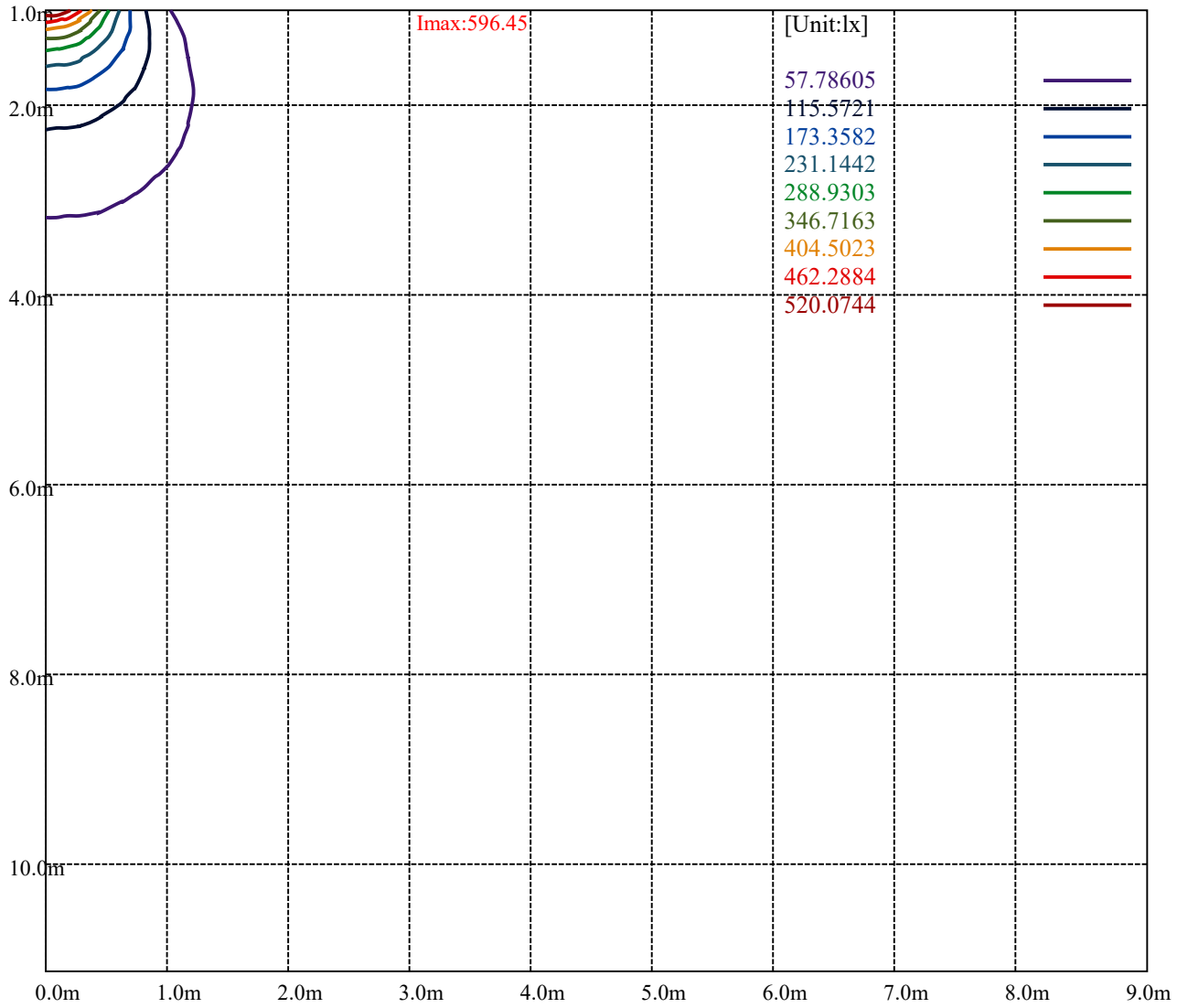
(70%Imax) 411.8302

(80%Imax) 470.6628

(90%Imax) 529.4963



(10%Emax)	6.476501	
(20%Emax)	12.95302	
(30%Emax)	19.42948	
(40%Emax)	25.90605	
(50%Emax)	32.38251	
(60%Emax)	38.85907	
(70%Emax)	45.33553	
(80%Emax)	51.81199	
(90%Emax)	58.28856	



Luminance Table

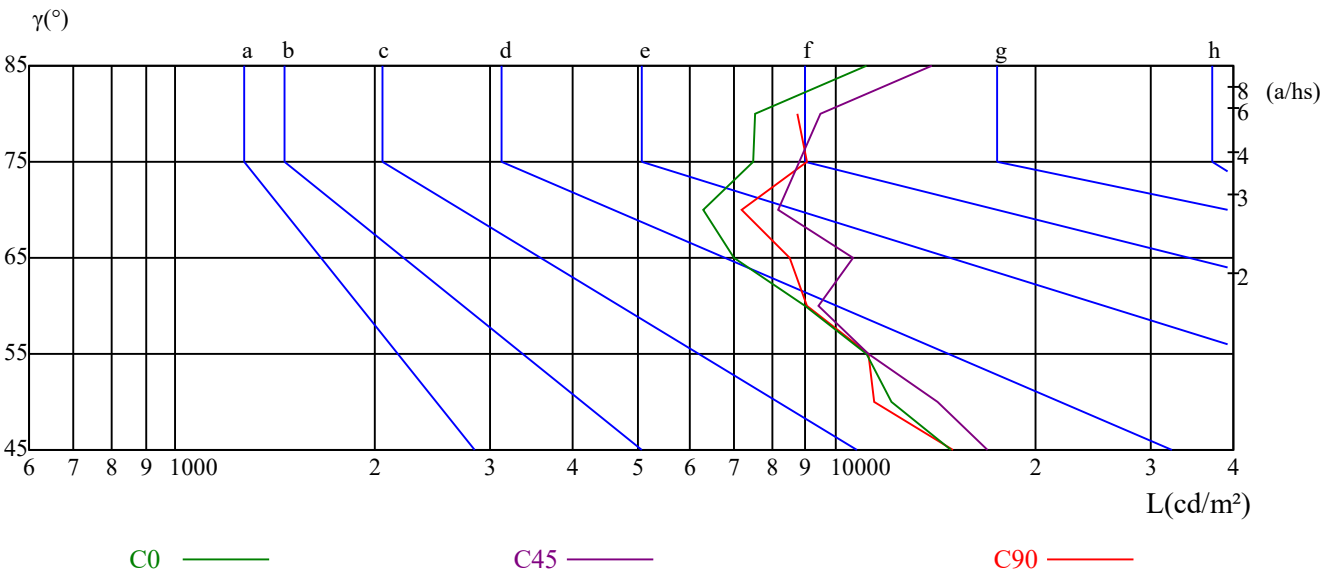
γ	45	50	55	60	65	70	75	80	85
C0	14951	12164	11108	9001	7016	6296	7501	7521	11138
C45	16998	14306	11170	9390	10649	8153	8797	9453	13973
C90	15076	11450	11201	9072	8520	7225	9070	8741	0

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6724	7830	8749	8013	8320	7979	7493	0	6834

Glare Table

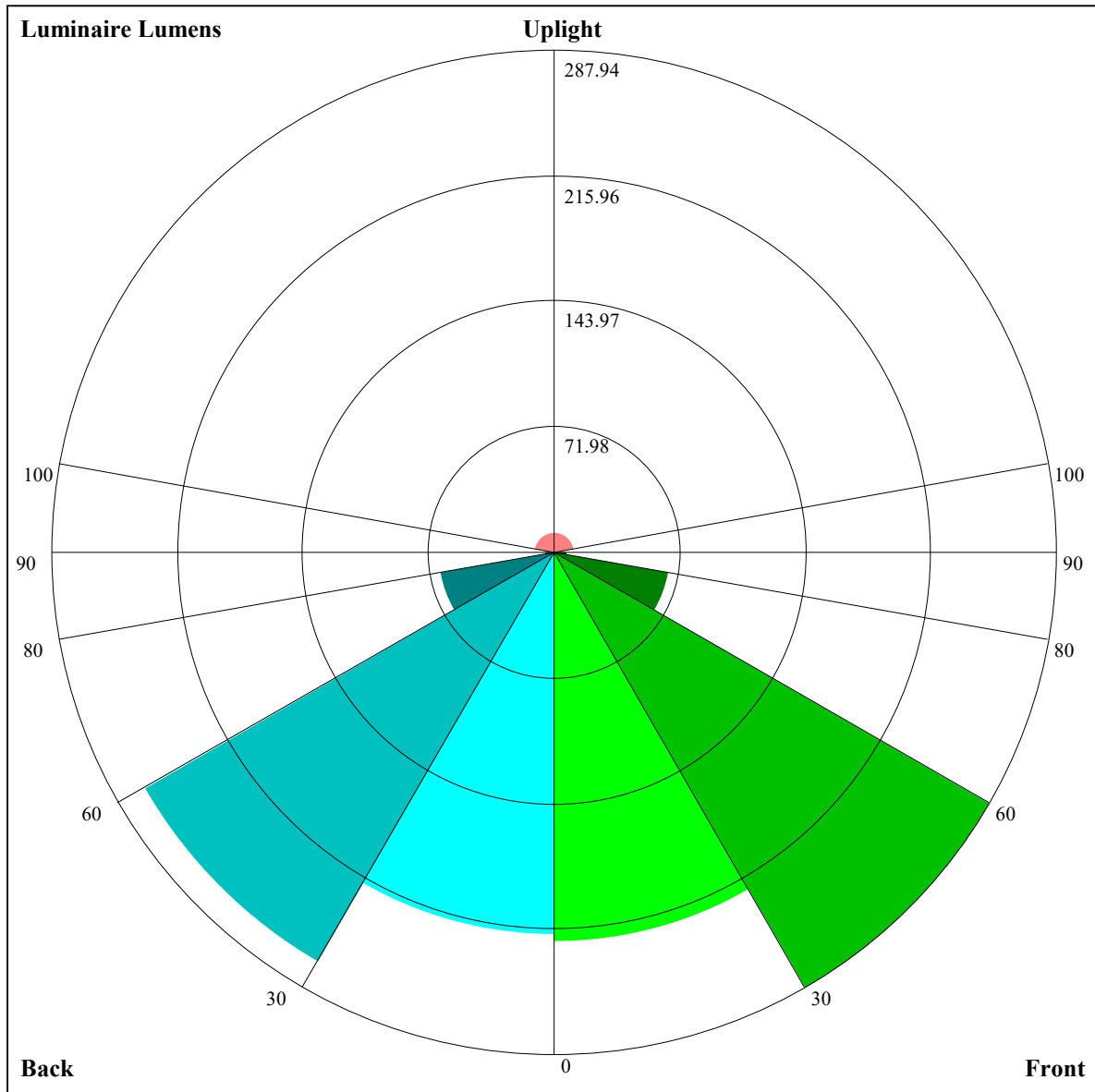
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	15.66	17.09	16.04	17.43	17.77	15.72	17.15	16.10	17.49	17.83
	3H	16.49	17.78	16.89	18.14	18.51	16.75	18.04	17.15	18.40	18.77
	4H	16.94	18.14	17.35	18.52	18.91	17.32	18.52	17.73	18.90	19.29
	6H	17.41	18.52	17.84	18.92	19.34	17.87	18.99	18.30	19.38	19.80
	8H	17.61	18.69	18.05	19.09	19.52	17.98	19.06	18.41	19.46	19.89
	12H	17.85	18.88	18.29	19.29	19.73	17.96	18.99	18.40	19.40	19.83
4H	2H	16.17	17.37	16.58	17.75	18.14	16.23	17.43	16.64	17.81	18.20
	3H	17.20	18.21	17.64	18.62	19.06	17.44	18.46	17.88	18.87	19.30
	4H	17.86	18.75	18.31	19.19	19.66	18.21	19.11	18.67	19.55	20.01
	6H	18.44	19.24	18.93	19.70	20.18	18.88	19.68	19.37	20.15	20.62
	8H	18.76	19.50	19.25	19.97	20.46	19.08	19.82	19.57	20.29	20.78
	12H	19.12	19.81	19.62	20.27	20.80	19.10	19.79	19.60	20.26	20.79
8H	4H	18.16	18.90	18.65	19.37	19.86	18.47	19.22	18.97	19.69	20.18
	6H	18.94	19.56	19.45	20.05	20.58	19.32	19.94	19.83	20.43	20.96
	8H	19.44	19.98	19.98	20.51	21.03	19.66	20.20	20.19	20.73	21.25
	12H	19.96	20.41	20.50	20.94	21.48	19.74	20.20	20.29	20.73	21.26
12H	4H	18.21	18.90	18.70	19.36	19.89	18.51	19.20	19.01	19.66	20.20
	6H	19.11	19.65	19.64	20.18	20.70	19.47	20.01	20.01	20.54	21.06
	8H	19.65	20.11	20.20	20.64	21.17	19.84	20.29	20.38	20.82	21.36
Variation with the observer position at spacings:											
S = 1.0H		0.3/-0.7					0.3/-0.8				
S = 1.5H		0.8/-0.9					0.7/-1.0				
S = 2.0H		1.3/-1.2					1.3/-1.4				
Standard tables:		BK4					BK4				
Uncorrected UGR		6.1					6.0				

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



Luminaire Lumens:

FL=222.95,FM=287.94,FH=67.03,FVH=8.11

BL=219.53,BM=270.69,BH=66.25,BVH=5.44

UL=1.88,UH=11.45

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	585.84	582.44	584.14	560.37	531.93	498.39	448.72	390.14	318.82
45.0	590.93	595.18	579.90	570.98	545.51	527.26	464.00	397.78	349.38
90.0	594.33	590.09	579.47	567.16	548.06	490.75	450.84	379.95	341.32
135.0	579.90	596.03	569.28	558.67	538.72	497.96	449.57	378.25	306.50
180.0	585.84	596.45	576.50	537.87	532.35	487.78	419.00	348.96	283.58
225.0	590.93	586.26	553.15	545.51	502.63	470.79	422.40	350.23	292.07
270.0	594.33	574.80	564.19	562.92	514.95	480.13	424.52	370.18	290.80
315.0	579.90	574.80	570.56	567.16	519.19	478.44	441.50	387.16	316.69
360.0	585.84	582.44	584.14	560.37	531.93	498.39	448.72	390.14	318.82
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	254.29	188.06	153.25	108.25	71.32	51.79	46.70	31.41	23.35
45.0	289.10	221.18	154.10	112.92	108.25	67.07	54.76	39.48	29.29
90.0	256.41	177.03	154.53	109.10	86.60	59.43	56.46	36.51	0.00
135.0	250.89	194.43	145.19	108.25	92.97	72.59	47.97	34.39	2.97
180.0	225.42	166.41	127.78	92.97	65.38	63.25	53.07	12.74	8.07
225.0	206.74	170.66	131.60	108.68	75.56	59.86	51.37	25.47	11.46
270.0	219.05	156.22	143.91	111.23	72.59	57.73	47.12	16.98	0.00
315.0	249.19	193.58	143.49	93.39	78.96	59.01	44.57	27.17	13.58
360.0	254.29	188.06	153.25	108.25	71.32	51.79	46.70	31.41	23.35
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	0.42	0.00	13.16	0.00	0.85	0.00	0.85
45.0	1.27	0.00	0.00	2.55	0.00	0.00	8.07	2.12	0.00
90.0	5.09	0.00	8.91	0.00	0.00	0.00	0.00	2.97	0.00
135.0	1.27	0.00	0.00	1.27	0.00	0.00	2.12	0.00	3.82
180.0	8.91	6.79	0.00	0.00	0.42	0.00	0.00	1.27	6.79
225.0	11.04	0.00	0.00	3.40	0.00	0.00	2.97	0.00	5.52
270.0	0.00	0.00	0.00	0.00	0.00	8.07	0.00	0.00	0.00
315.0	3.82	0.00	0.00	0.00	8.07	0.00	0.00	6.37	0.00
360.0	0.00	0.00	0.42	0.00	13.16	0.00	0.85	0.00	0.85
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	2.12	8.49	1.27	18.68	8.91	11.89	6.37
45.0	0.00	9.76	0.00	5.09	0.00	3.40	2.12	0.00	0.00
90.0	12.74	0.00	1.70	3.40	0.42	0.00	1.27	0.00	0.00
135.0	0.00	11.04	0.00	0.00	2.55	0.00	1.27	0.00	0.00
180.0	3.40	9.76	3.82	2.12	0.00	7.64	5.94	16.56	4.25
225.0	0.00	0.00	0.00	2.12	0.00	1.70	0.00	0.42	16.13
270.0	4.25	3.40	0.00	6.79	0.00	23.77	0.00	0.00	4.67
315.0	0.00	0.00	0.00	2.55	0.42	0.00	0.00	0.00	0.00
360.0	0.00	0.00	2.12	8.49	1.27	18.68	8.91	11.89	6.37
C/γ(°)	180.0								
0.0	4.25								
45.0	3.82								
90.0	0.00								
135.0	12.31								
180.0	4.25								
225.0	3.82								
270.0	0.00								
315.0	12.31								
360.0	4.25								