



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440220 RIO 11.5W 4000K 1150lm

Luminaire:

Report No:

Voltage(V): 230.2500

Test No: KYZ-A251020063-02-008

Current(A): 0.0545

LampCAT: LED

Power (W): 11.5000

Lamp flux(lm): -1.0

PF: 0.9172

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): 590.265

Maximum intensity(cd): 599.239

Angle of maximum intensity: C=90.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=81.8

[C90/270]Total=83.2

Field angle(10%Imax): [C0/180]Total=137.1

[C90/270]Total=140.0

Maximum s/h(1/2): C0_180=1.07 C90_270=1.11

Maximum s/h(1/4): C0_180=1.11 C90_270=1.17

Up flux rate of lamp(%): 0.96%

Down flux rate of lamp(%): 99.04%

Up flux rate of LUM(%): 0.96%

Down flux rate of LUM(%): 99.04%

CIE Type : Direct lighting

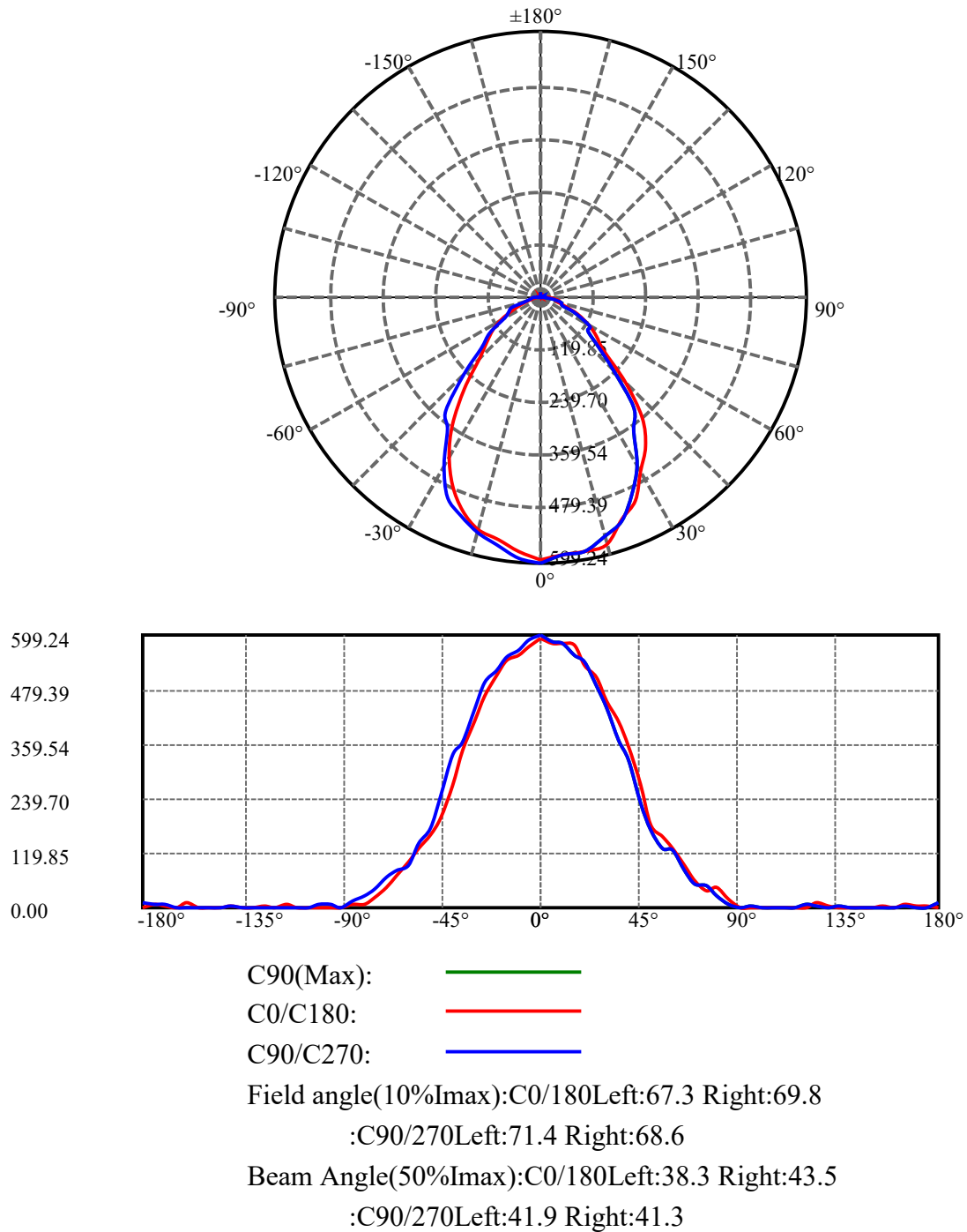
Output flux ratio in π solid angle : 86.444%

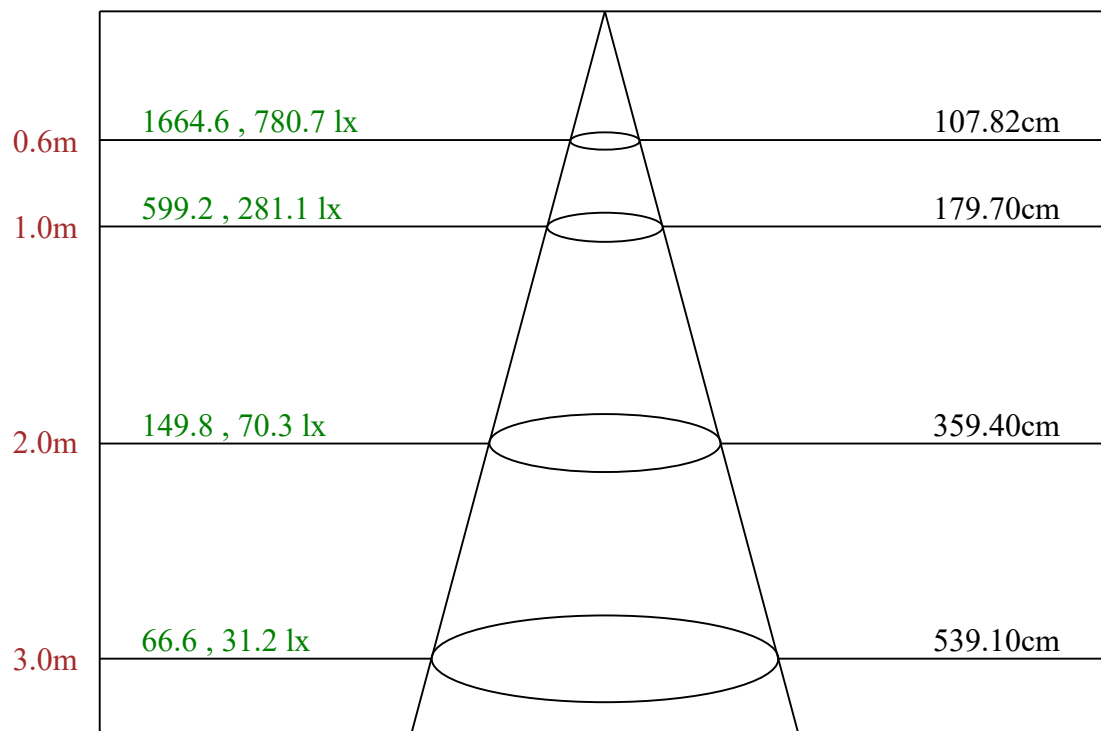
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	591.489	0.000	0	.000%	.000%
5.0	585.319	14.068	14.068	.000%	1.223%
10.0	569.359	41.306	55.375	.000%	4.815%
15.0	558.804	66.922	122.297	.000%	10.635%
20.0	530.198	89.749	212.046	.000%	18.439%
25.0	488.896	106.884	318.93	.000%	27.733%
30.0	433.317	116.707	435.637	.000%	37.882%
35.0	378.196	119.501	555.138	.000%	48.273%
40.0	322.412	116.891	672.029	.000%	58.437%
45.0	245.723	105.195	777.223	.000%	67.585%
50.0	186.319	87.300	864.524	.000%	75.176%
55.0	142.519	71.500	936.024	.000%	81.394%
60.0	108.763	58.083	994.107	.000%	86.444%
65.0	82.655	46.534	1040.641	.000%	90.491%
70.0	61.851	36.590	1077.231	.000%	93.672%
75.0	41.608	27.043	1104.274	.000%	96.024%
80.0	25.750	18.023	1122.297	.000%	97.591%
85.0	16.674	11.528	1133.824	.000%	98.594%
90.0	1.989	5.110	1138.934	.000%	99.038%
95.0	1.989	1.089	1140.023	.000%	99.133%
100.0	1.530	0.956	1140.979	.000%	99.216%
105.0	0.255	0.478	1141.457	.000%	99.257%
110.0	1.530	0.467	1141.923	.000%	99.298%
115.0	1.224	0.697	1142.621	.000%	99.358%
120.0	1.683	0.707	1143.327	.000%	99.420%
125.0	5.354	1.626	1144.954	.000%	99.561%
130.0	0.510	1.275	1146.229	.000%	99.672%
135.0	0.765	0.258	1146.486	.000%	99.695%
140.0	3.009	0.699	1147.185	.000%	99.755%
145.0	1.785	0.800	1147.985	.000%	99.825%
150.0	1.173	0.436	1148.42	.000%	99.863%
155.0	0.561	0.219	1148.639	.000%	99.882%
160.0	3.671	0.444	1149.083	.000%	99.920%
165.0	1.224	0.403	1149.487	.000%	99.956%
170.0	1.683	0.172	1149.659	.000%	99.971%
175.0	4.946	0.237	1149.896	.000%	99.991%
180.0	3.570	0.102	1149.998	.000%	100.000%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	435.64	N.A.	37.88%
0-40	672.03	N.A.	58.44%
0-60	994.11	N.A.	86.44%
0-90	1138.93	N.A.	99.04%
0-120	1143.33	N.A.	99.42%
0-180	1150.00	N.A.	100.00%
60-90	202.91	N.A.	17.64%
90-120	9.50	N.A.	0.83%
90-130	12.40	N.A.	1.08%
90-150	14.60	N.A.	1.27%
90-180	16.07	N.A.	1.40%
0-53.88	920.00	N.A.	80.00%

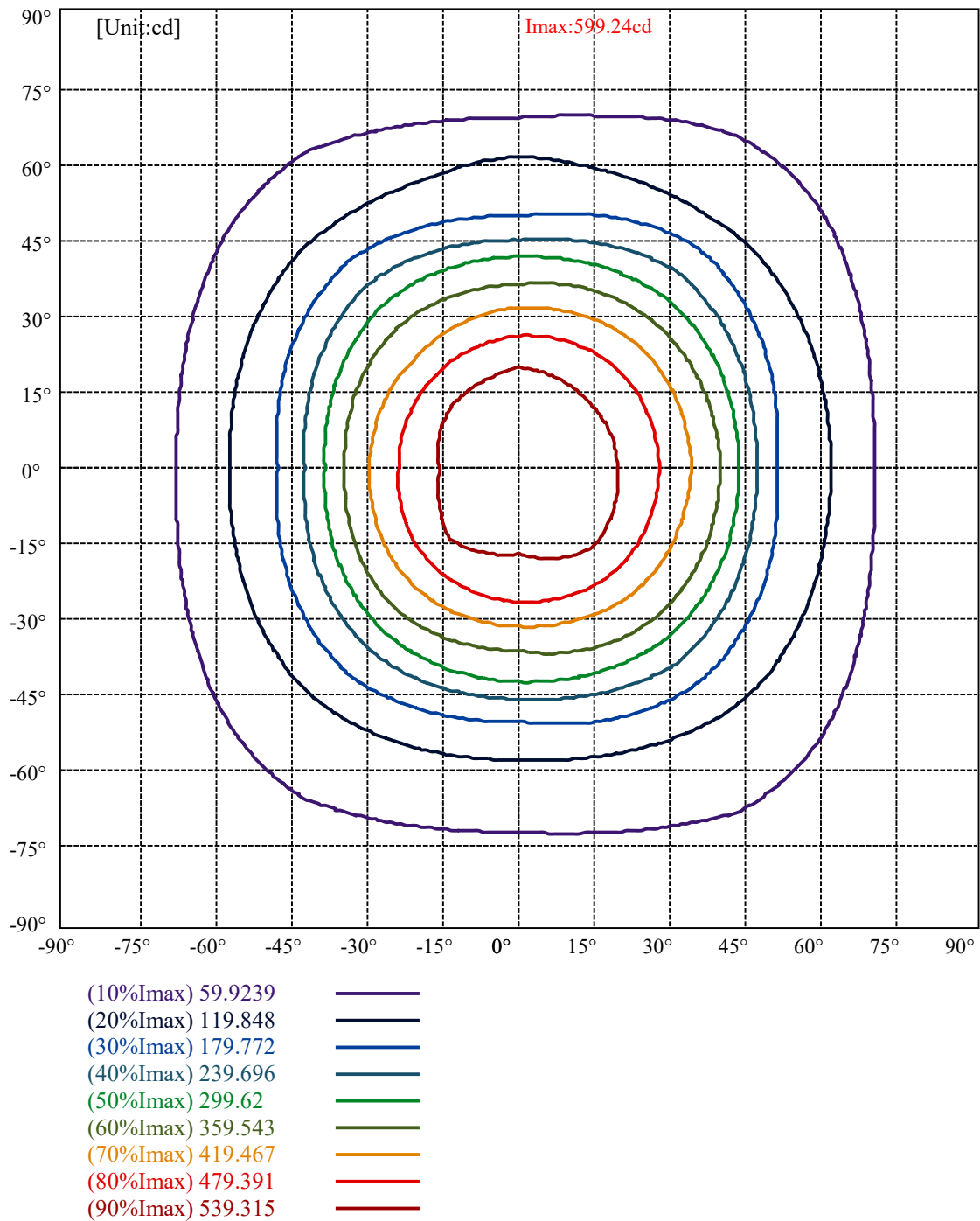
ZONAL LUMEN SUMMARY

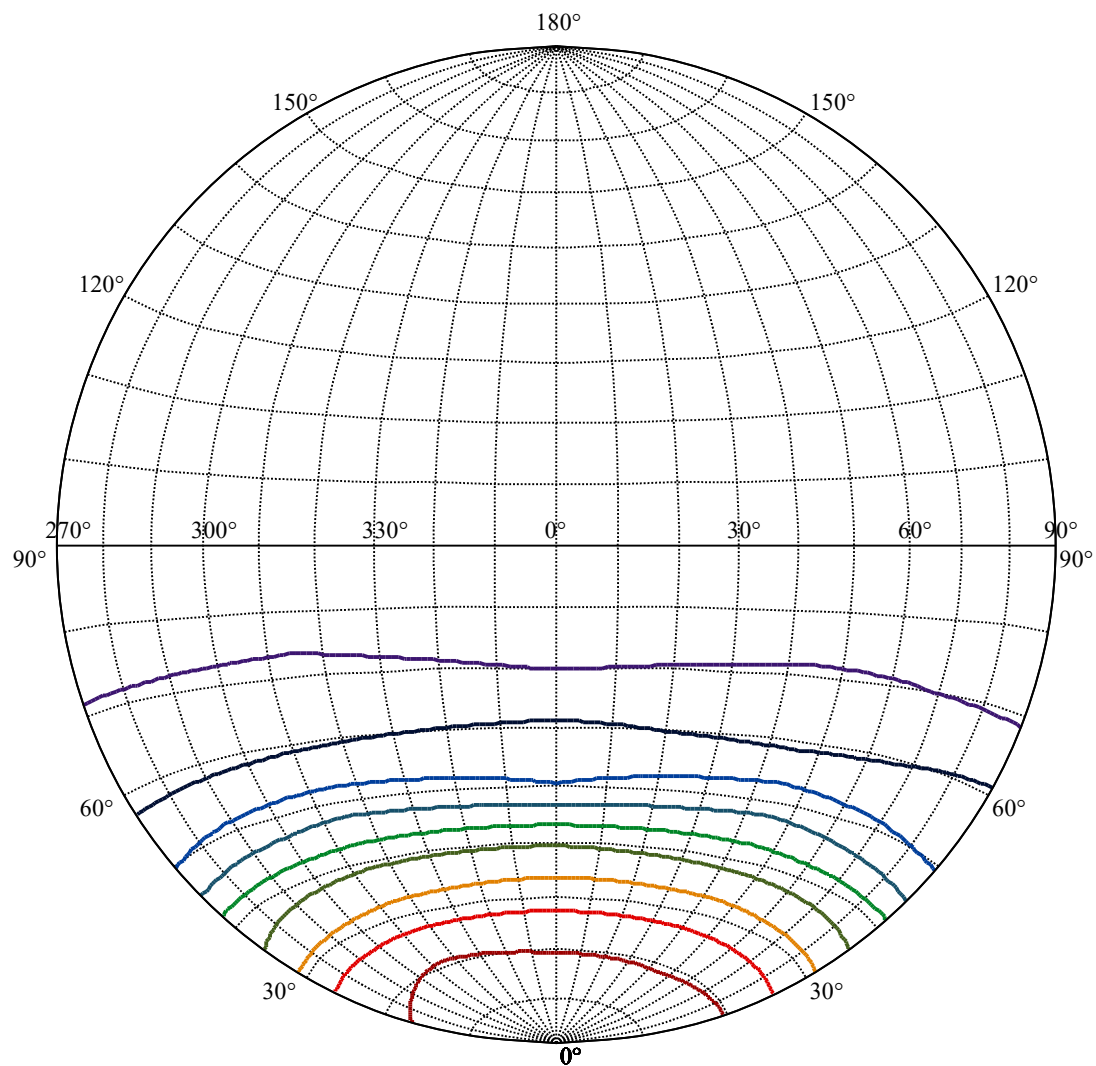
0-10	55.37
10-20	156.67
20-30	223.59
30-40	236.39
40-50	192.50
50-60	129.58
60-70	83.12
70-80	45.07
80-90	16.64
90-100	2.05
100-110	0.94
110-120	1.40
120-130	2.90
130-140	0.96
140-150	1.24
150-160	0.66
160-170	0.58
170-180	0.24





Max , Ave Beam angle of C90 plane 83.88





[Unit:cd]

Imax:599.24

(10%Imax) 59.9239

(20%Imax) 119.848

(30%Imax) 179.772

(40%Imax) 239.696

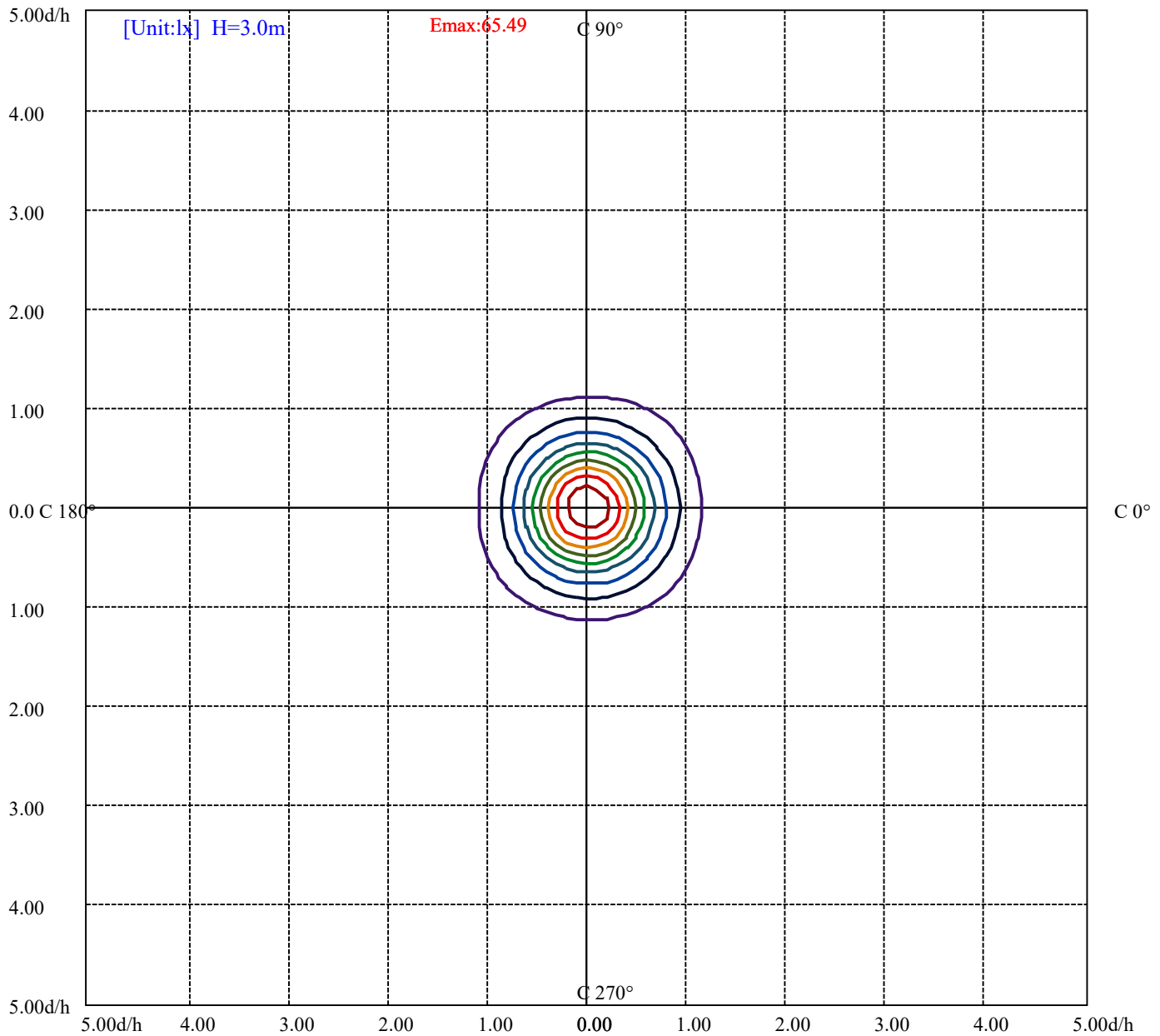
(50%Imax) 299.62

(60%Imax) 359.543

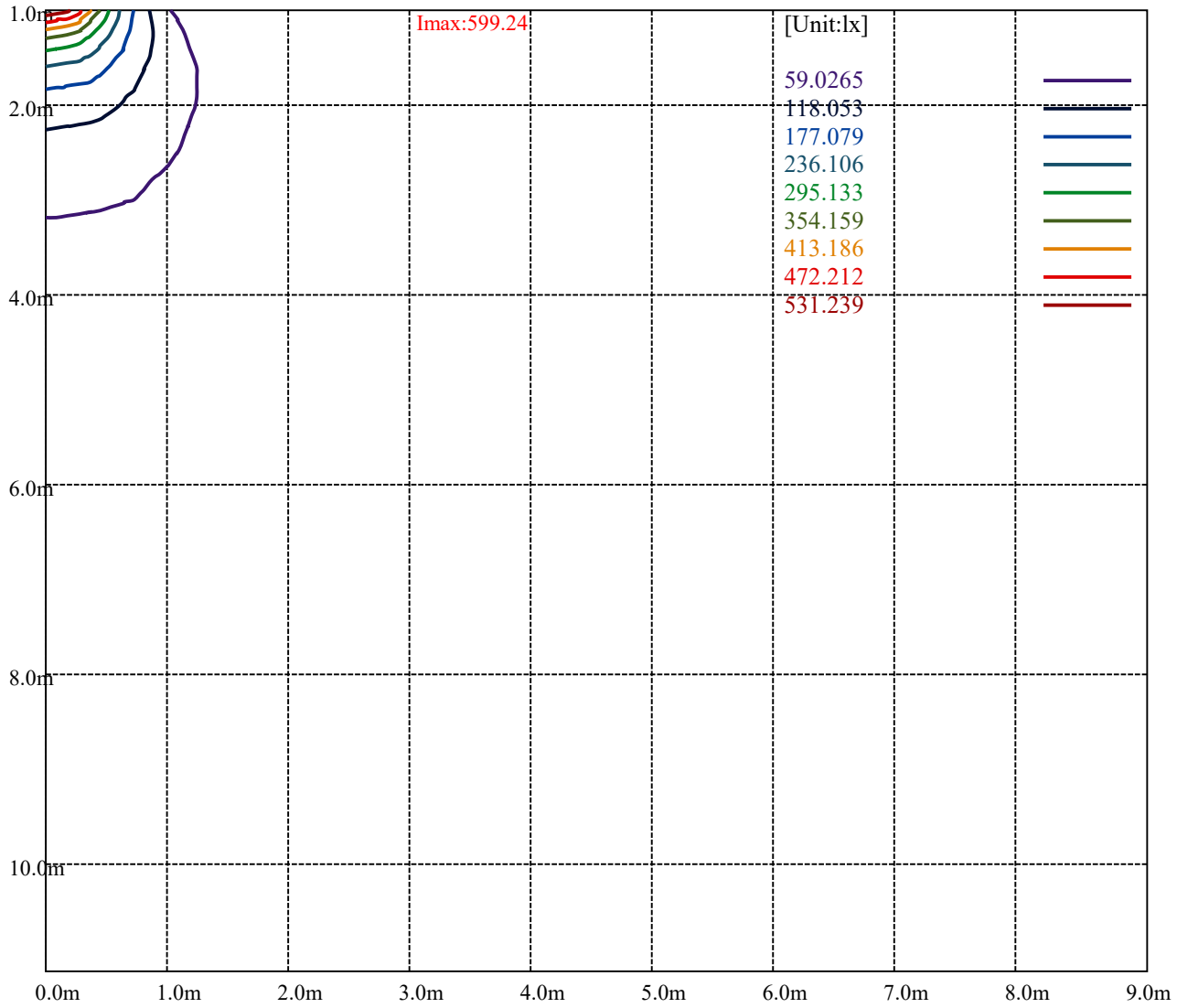
(70%Imax) 419.467

(80%Imax) 479.391

(90%Imax) 539.315



(10%Emax)	6.549444	—
(20%Emax)	13.09889	—
(30%Emax)	19.64833	—
(40%Emax)	26.19778	—
(50%Emax)	32.74722	—
(60%Emax)	39.29667	—
(70%Emax)	45.84611	—
(80%Emax)	52.39555	—
(90%Emax)	58.945	—



Luminance Table

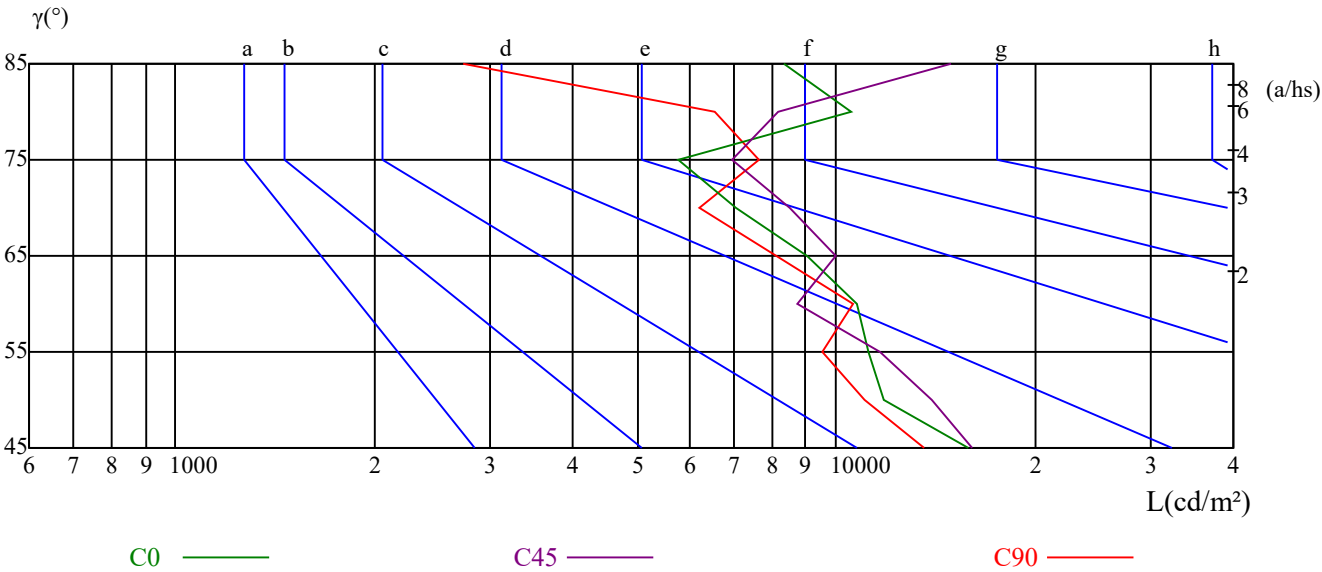
γ	45	50	55	60	65	70	75	80	85
C0	15878	11820	11236	10786	9069	7041	5766	10548	8367
C45	16094	13957	11679	8751	9992	8529	6946	8204	14984
C90	13647	11055	9521	10651	8146	6198	7667	6544	2724

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7966	8066	8247	4620	7110	7503	6324	4670	10410

Glare Table

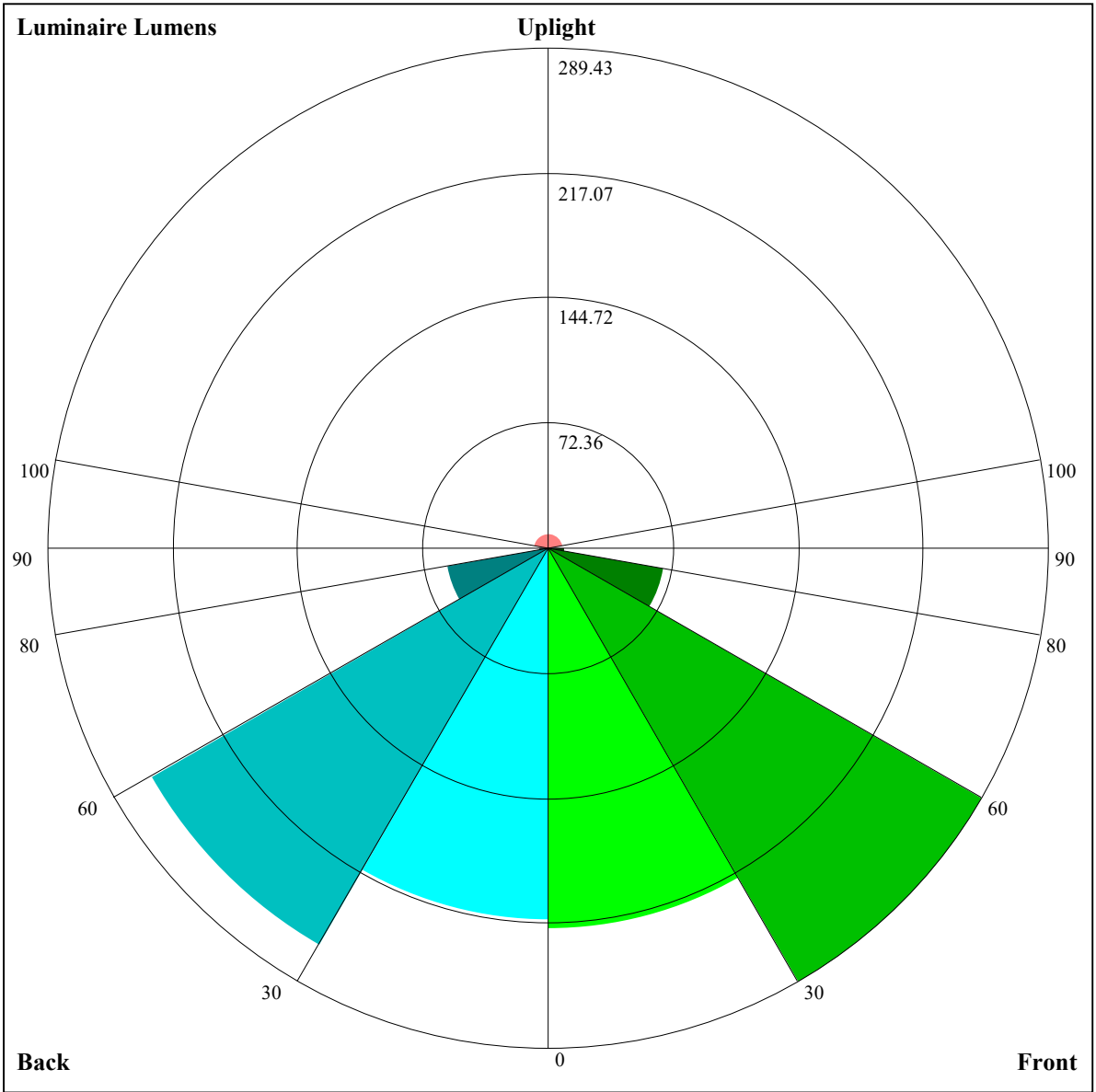
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	15.82	17.25	16.19	17.58	17.92	15.49	16.92	15.86	17.25	17.59
	3H	16.80	18.09	17.19	18.44	18.81	16.41	17.70	16.81	18.06	18.43
	4H	17.08	18.28	17.49	18.65	19.04	16.84	18.05	17.25	18.42	18.81
	6H	17.62	18.74	18.04	19.13	19.54	17.23	18.35	17.66	18.74	19.15
	8H	17.90	18.97	18.33	19.37	19.79	17.31	18.39	17.74	18.78	19.21
	12H	18.06	19.09	18.50	19.50	19.93	17.32	18.35	17.75	18.75	19.19
4H	2H	16.26	17.47	16.67	17.84	18.22	15.99	17.20	16.40	17.57	17.95
	3H	17.40	18.42	17.84	18.83	19.26	17.10	18.12	17.53	18.52	18.96
	4H	17.84	18.74	18.29	19.17	19.64	17.69	18.59	18.14	19.02	19.49
	6H	18.52	19.32	19.00	19.78	20.25	18.17	18.97	18.65	19.43	19.89
	8H	18.92	19.67	19.41	20.13	20.62	18.33	19.08	18.82	19.54	20.03
	12H	19.20	19.89	19.69	20.35	20.88	18.41	19.10	18.90	19.56	20.09
8H	4H	18.02	18.77	18.51	19.23	19.72	17.89	18.63	18.38	19.10	19.59
	6H	18.91	19.53	19.41	20.01	20.54	18.53	19.15	19.04	19.64	20.16
	8H	19.50	20.04	20.03	20.56	21.08	18.86	19.40	19.39	19.93	20.44
	12H	19.92	20.37	20.46	20.90	21.43	19.04	19.49	19.58	20.02	20.55
12H	4H	18.05	18.74	18.54	19.20	19.73	17.93	18.62	18.43	19.08	19.61
	6H	19.04	19.59	19.58	20.11	20.63	18.70	19.24	19.23	19.77	20.28
	8H	19.67	20.13	20.21	20.65	21.19	19.07	19.52	19.61	20.05	20.58
Variation with the observer position at spacings:											
S = 1.0H		0.4/-0.9					0.3/-0.8				
S = 1.5H		0.9/-0.8					0.8/-1.0				
S = 2.0H		1.4/-1.4					1.2/-1.2				
Standard tables:		BK4					BK4				
Uncorrected UGR		5.8					6.3				

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



Luminaire Lumens:

FL=220.32,FM=289.43,FH=68.44,FVH=9.88

BL=214.79,BM=265.68,BH=59.68,BVH=5.89

UL=2.05,UH=9.01

BUG Rating:B1-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	590.27	580.88	580.88	578.03	533.97	507.05	452.80	409.56	354.89
45.0	589.45	596.79	567.42	555.18	533.16	498.08	450.76	398.54	335.72
90.0	599.24	584.15	580.07	556.00	538.05	487.47	437.70	367.54	324.30
135.0	587.00	597.20	567.01	564.16	519.29	469.11	407.92	367.13	306.35
180.0	590.27	573.54	555.59	542.13	510.31	465.85	410.78	347.96	266.78
225.0	589.45	576.80	562.53	557.22	536.83	480.53	424.24	372.84	307.57
270.0	599.24	588.23	567.42	549.47	522.14	495.63	434.85	364.28	334.91
315.0	587.00	584.96	573.95	568.24	547.84	507.46	447.49	397.73	348.77
360.0	590.27	580.88	580.88	578.03	533.97	507.05	452.80	409.56	354.89
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	270.05	182.75	155.01	129.72	92.19	57.93	35.90	44.06	17.54
45.0	273.72	215.79	161.13	105.24	101.57	70.16	43.24	34.27	31.41
90.0	232.11	170.92	131.35	128.09	82.81	50.99	47.73	27.33	5.71
135.0	242.71	184.79	136.66	97.09	68.94	58.74	43.24	22.84	13.05
180.0	196.21	158.68	129.31	101.98	69.76	46.10	21.62	8.16	8.97
225.0	237.41	185.20	137.06	99.13	81.18	65.68	46.91	13.87	18.36
270.0	243.94	175.81	141.14	94.23	81.18	67.31	40.79	24.48	13.87
315.0	269.64	216.61	148.48	114.63	83.63	77.91	53.44	31.00	24.48
360.0	270.05	182.75	155.01	129.72	92.19	57.93	35.90	44.06	17.54
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	1.63	0.00	0.00	0.41	0.00	0.00	0.00	10.61	3.67
45.0	0.41	3.67	3.26	0.00	10.20	0.00	6.53	9.38	0.41
90.0	0.00	4.90	1.22	0.00	0.00	1.63	6.94	2.45	0.00
135.0	0.00	0.00	0.00	0.82	0.00	0.00	0.00	1.22	0.00
180.0	0.00	0.00	0.00	0.00	0.00	6.53	0.00	5.30	0.00
225.0	0.00	0.00	0.00	0.00	2.04	0.00	0.00	8.97	0.00
270.0	0.00	7.34	5.71	0.82	0.00	0.00	0.00	0.00	0.00
315.0	13.87	0.00	2.04	0.00	0.00	1.63	0.00	4.90	0.00
360.0	1.63	0.00	0.00	0.41	0.00	0.00	0.00	10.61	3.67
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.82	0.00	0.00	0.00	2.45	0.00	5.71	2.45	4.49
45.0	0.00	0.00	0.00	0.00	0.00	6.53	0.00	0.00	0.82
90.0	2.04	0.00	0.00	0.00	0.00	0.00	4.08	0.00	0.82
135.0	3.26	12.65	6.94	0.00	0.00	0.00	0.00	0.00	0.41
180.0	0.00	4.49	0.00	0.00	0.00	9.38	0.00	5.30	7.75
225.0	0.00	0.00	7.34	3.67	0.00	13.46	0.00	0.00	15.09
270.0	0.00	2.04	0.00	0.00	0.00	0.00	0.00	5.71	5.71
315.0	0.00	4.89	0.00	5.71	2.04	0.00	0.00	0.00	4.49
360.0	0.82	0.00	0.00	0.00	2.45	0.00	5.71	2.45	4.49
C/γ(°)	180.0								
0.0	0.00								
45.0	1.63								
90.0	12.65								
135.0	0.00								
180.0	0.00								
225.0	1.63								
270.0	12.65								
315.0	0.00								
360.0	0.00								