



Bell-Southcn Testing Laboratory(Shenzhen)

[Http://www.bell-southcn.com](http://www.bell-southcn.com)

[Email:Marketing@bell-southcn.com](mailto:Marketing@bell-southcn.com)

Tel:+86 755 29405577 Fax:+86 755 29405799

Address:Junxiangda Building, West of Zhongshan Park Road, Nanshan District, Shenzhen, Guangdong, China

SOLERGIE(QINGDAO) RENEWABLE ENERGY CO.,LTD

LumCAT: SLT2-96G13-840

Luminaire: LED Tube

Report No: BSR1409170101-10

Voltage(V): 230.000

Test No: BSR1409170101-10

Current(A): 0.117

LampCAT:

Power (W): 24.340

Lamp flux(lm)

PF: 0.908

Number of Lamps: 1

Ballast type:

Length(mm): 1460

Width(mm): 26

Phm Type: C

Height(mm): 13

Photometric Results

Lumens(lm): 2443.55

Lumens(lm)/Power(W): 100.39

Central intensity(cd): 593.902

Maximum intensity(cd): 593.902

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Left=53.8 Right=53.8

[C90/270]Left=80.9 Right=80.9

Field angle(10%Imax): [C0/180]Left=80.5 Right=80.5

[C90/270]Left=113.1 Right=113.1

Maximum s/h: C0_180=1.24 C90_270=1.40

Up flux rate of LUM(%): 11.02%

Down flux rate of LUM(%): 88.98%

CIE Type : Semidirect lighting

Output flux ratio in π solid angle : 59.191%

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Zonal flux distribution table

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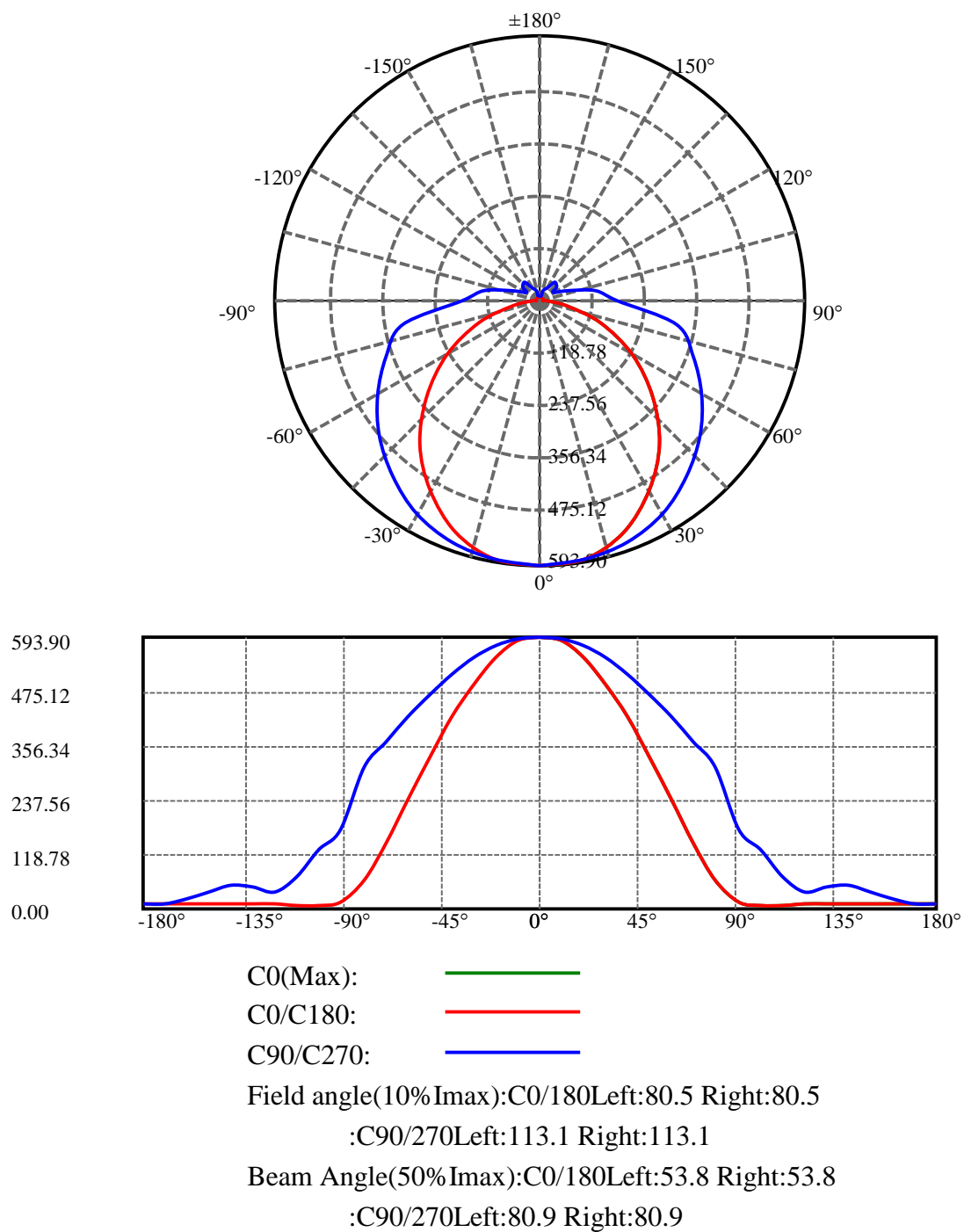
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	593.902	.000	.000	.000%	.000%
10.0	585.618	56.296	56.296	2.304%	2.304%
20.0	559.887	162.356	218.652	6.644%	8.948%
30.0	518.370	249.544	468.196	10.212%	19.160%
40.0	465.797	309.126	777.322	12.651%	31.811%
50.0	403.751	336.709	1114.031	13.779%	45.591%
60.0	337.104	332.333	1446.364	13.600%	59.191%
70.0	270.078	301.350	1747.714	12.332%	71.523%
80.0	207.838	252.797	2000.511	10.345%	81.869%
90.0	110.485	173.655	2174.166	7.107%	88.976%
100.0	62.603	94.425	2268.591	3.864%	92.840%
110.0	36.791	52.575	2321.166	2.152%	94.991%
120.0	31.050	33.670	2354.835	1.378%	96.369%
130.0	36.379	30.247	2385.083	1.238%	97.607%
140.0	32.541	26.687	2411.770	1.092%	98.699%
150.0	23.367	17.561	2429.331	.719%	99.418%
160.0	16.424	9.209	2438.540	.377%	99.795%
170.0	11.618	3.974	2442.514	.163%	99.957%
180.0	10.157	1.039	2443.553	.043%	100.000%

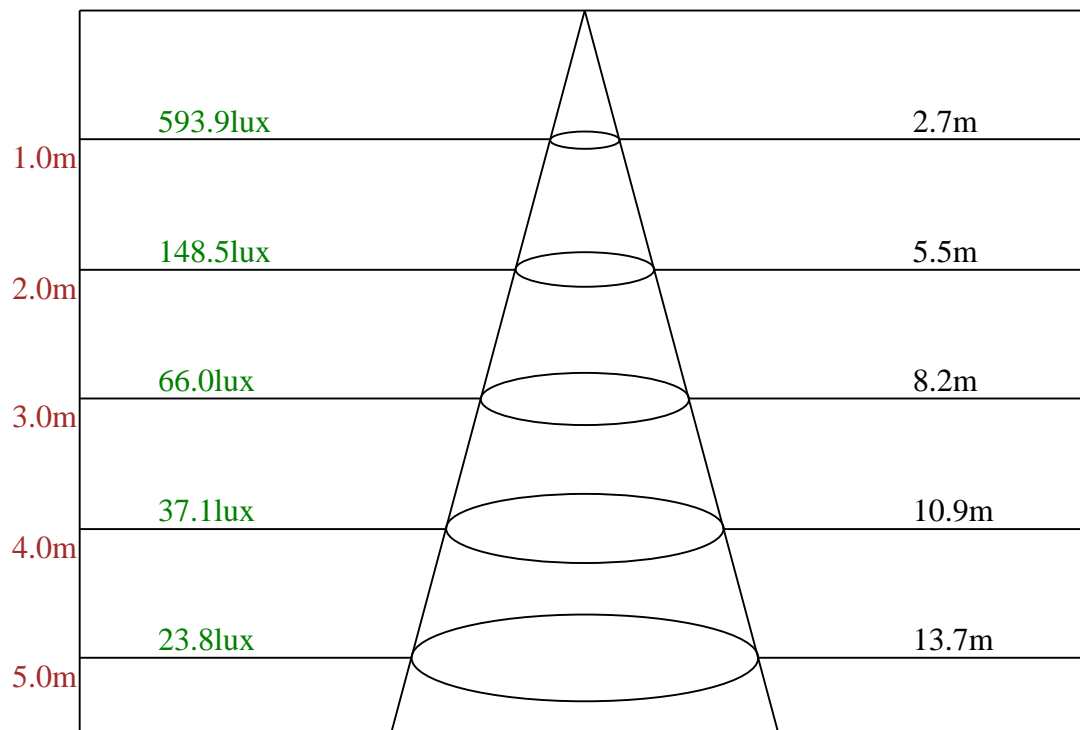
ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-30	468.20	19.16%
0-40	777.32	31.81%
0-60	1446.36	59.19%
0-90	2174.17	88.98%
0-120	2354.84	96.37%
0-180	2443.55	100.00%
60-90	1060.14	43.38%
90-120	180.67	7.39%
90-130	210.92	8.63%
90-150	255.16	10.44%
90-180	268.35	10.98%
0-78.19	1954.84	80.00%

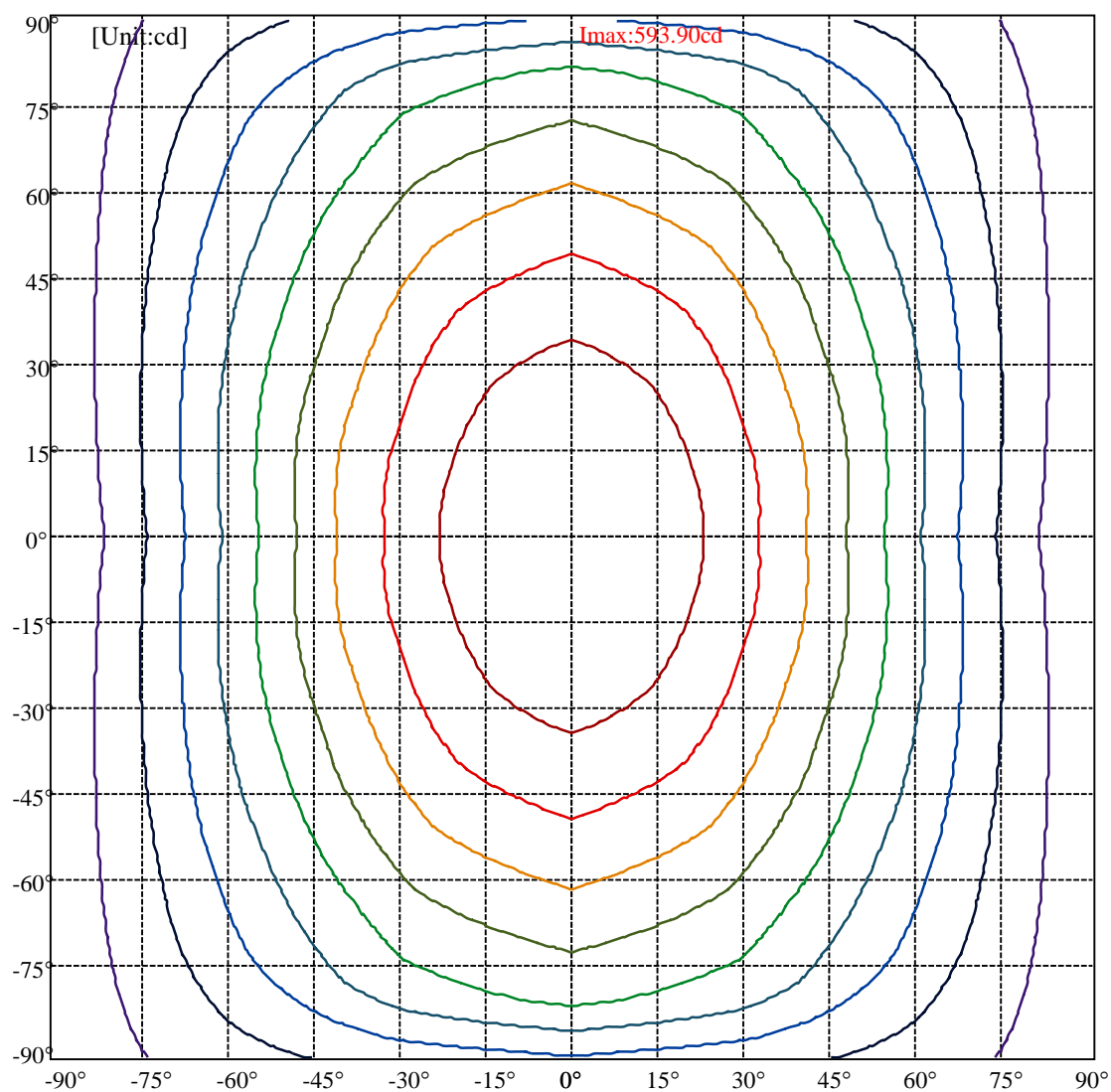
ZONAL LUMEN SUMMARY

0-10	56.30
10-20	162.36
20-30	249.54
30-40	309.13
40-50	336.71
50-60	332.33
60-70	301.35
70-80	252.80
80-90	173.66
90-100	94.42
100-110	52.57
110-120	33.67
120-130	30.25
130-140	26.69
140-150	17.56
150-160	9.21
160-170	3.97
170-180	0.00

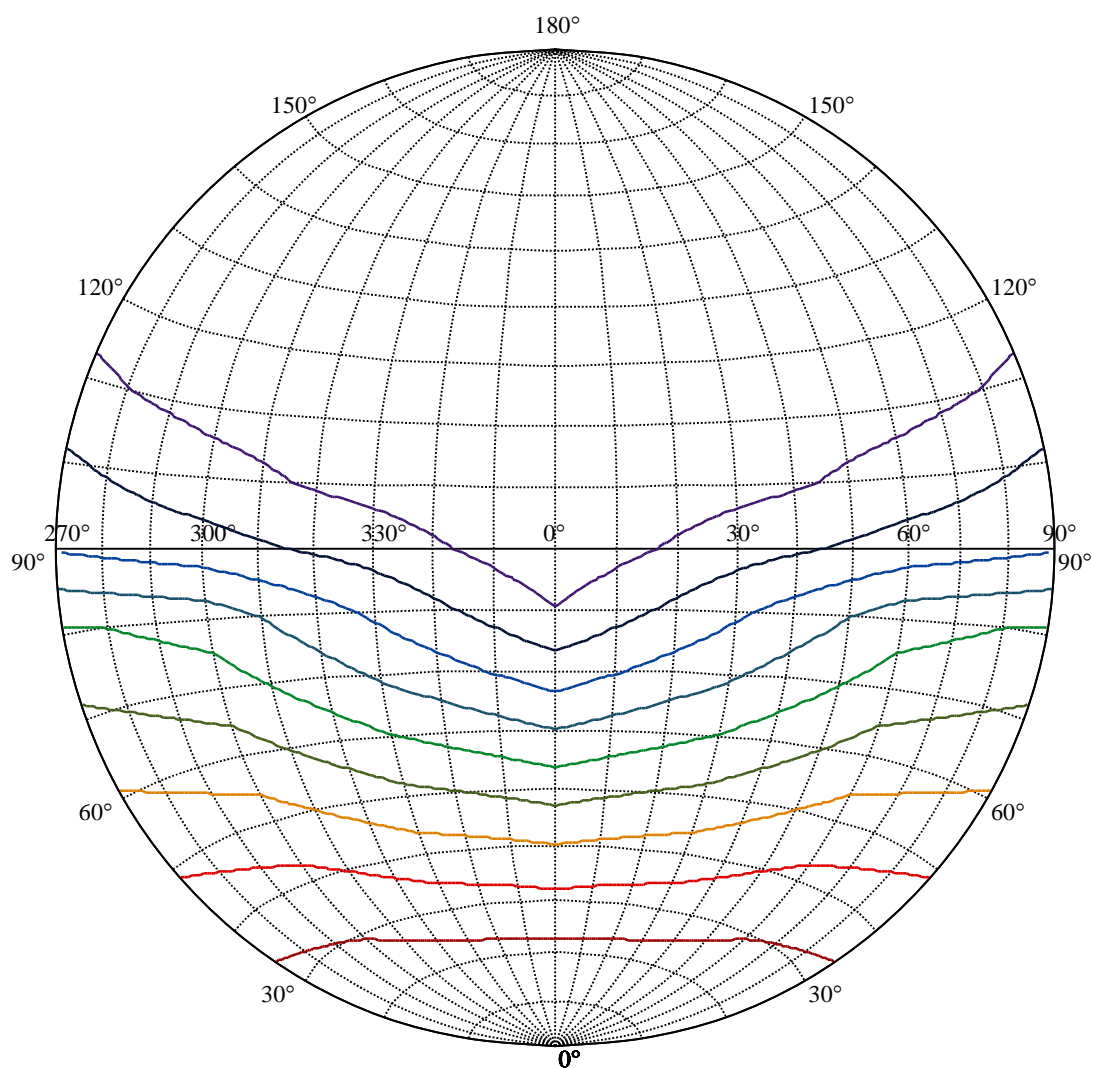




Beam angle of C0plane107.67



(10%Imax) 59.3902
(20%Imax) 118.78
(30%Imax) 178.17
(40%Imax) 237.561
(50%Imax) 296.951
(60%Imax) 356.341
(70%Imax) 415.731
(80%Imax) 475.121
(90%Imax) 534.511



House

[Unit:cd]

Road

Imax:593.90

(10%Imax) 59.3902

(20%Imax) 118.78

(30%Imax) 178.17

(40%Imax) 237.561

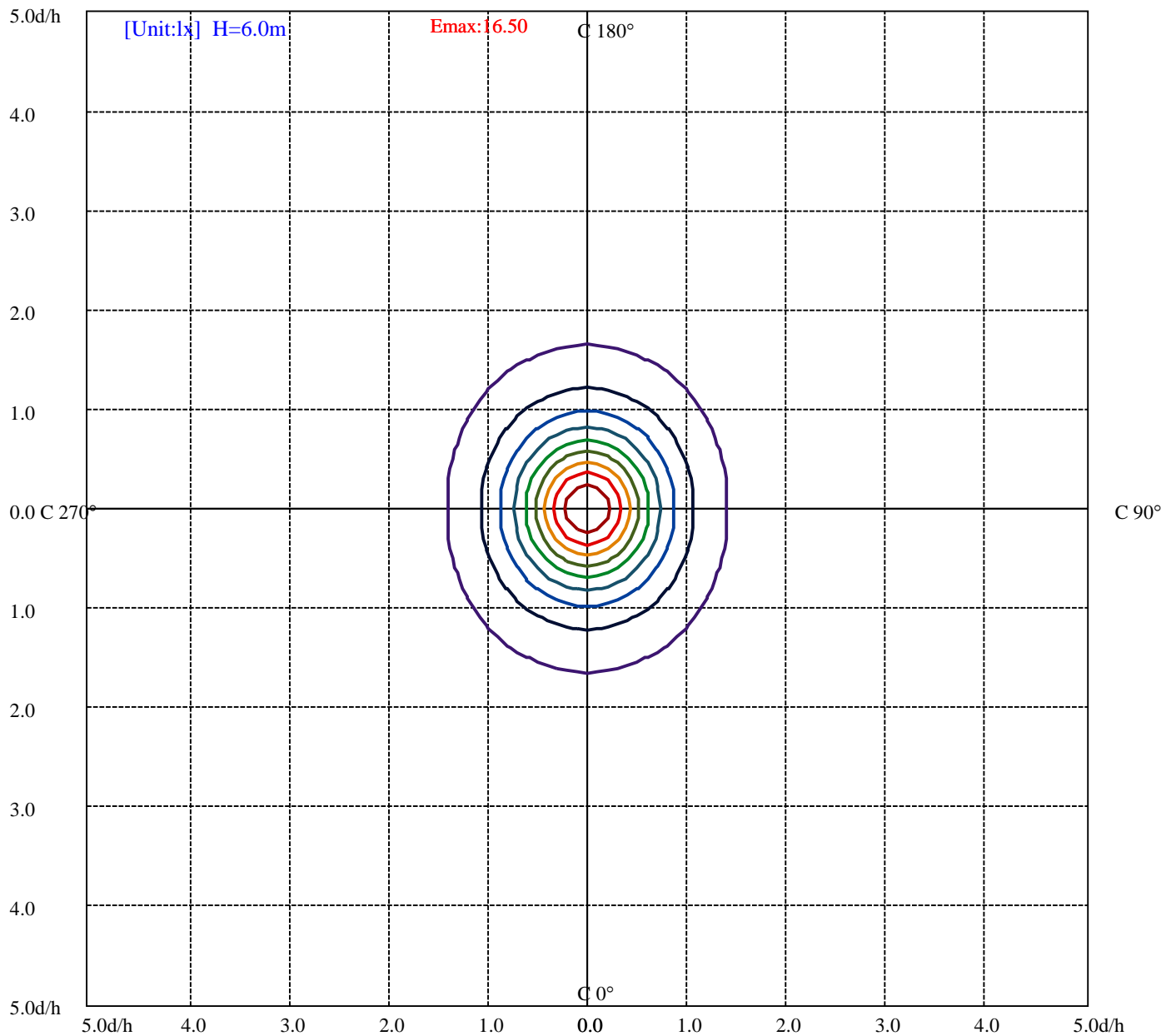
(50%Imax) 296.951

(60%Imax) 356.341

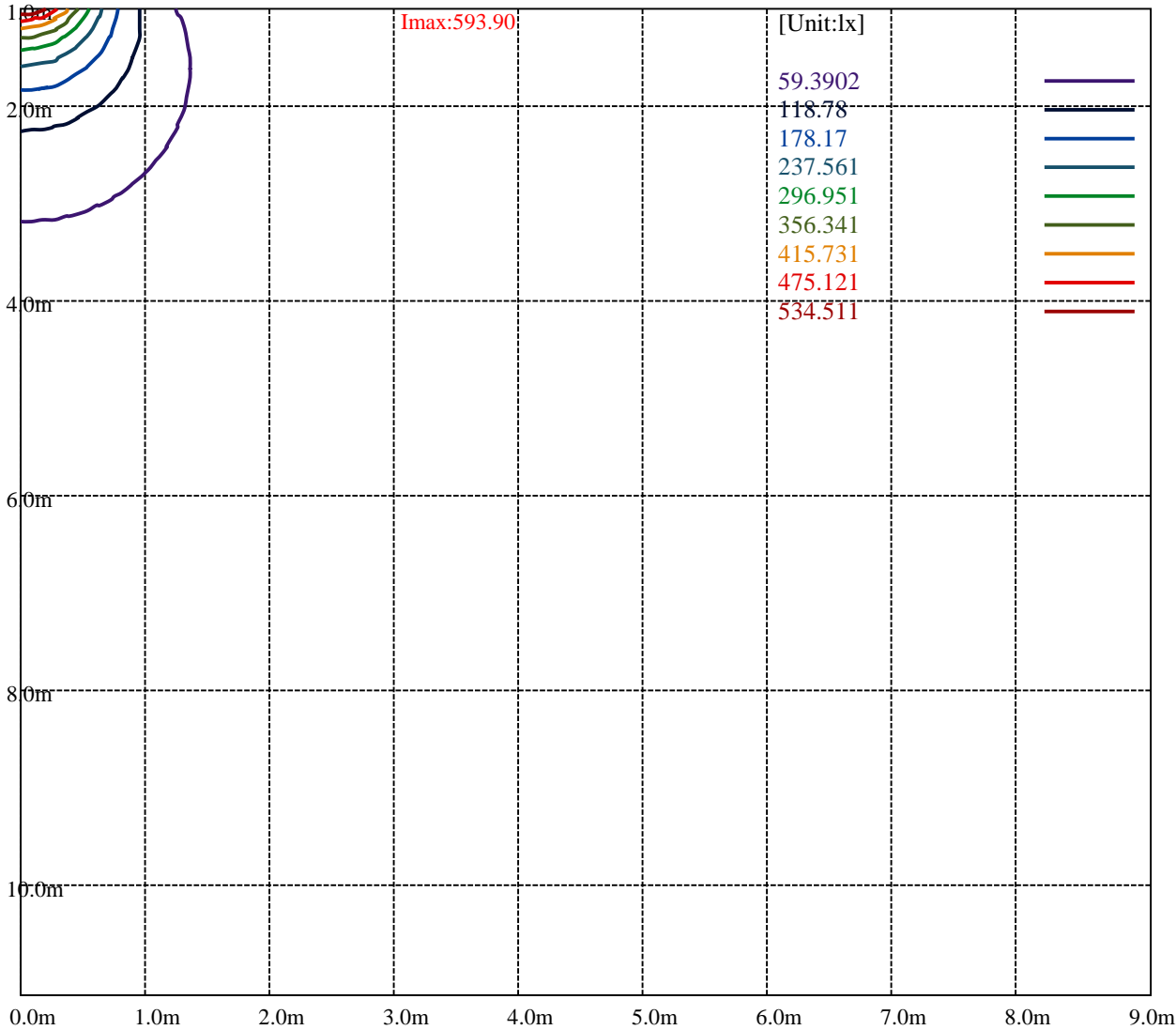
(70%Imax) 415.731

(80%Imax) 475.121

(90%Imax) 534.511



(10%Emax) 1.649725	—
(20%Emax) 3.299444	—
(30%Emax) 4.949167	—
(40%Emax) 6.598917	—
(50%Emax) 8.248638	—
(60%Emax) 9.898361	—
(70%Emax) 11.54808	—
(80%Emax) 13.19781	—
(90%Emax) 14.84753	—



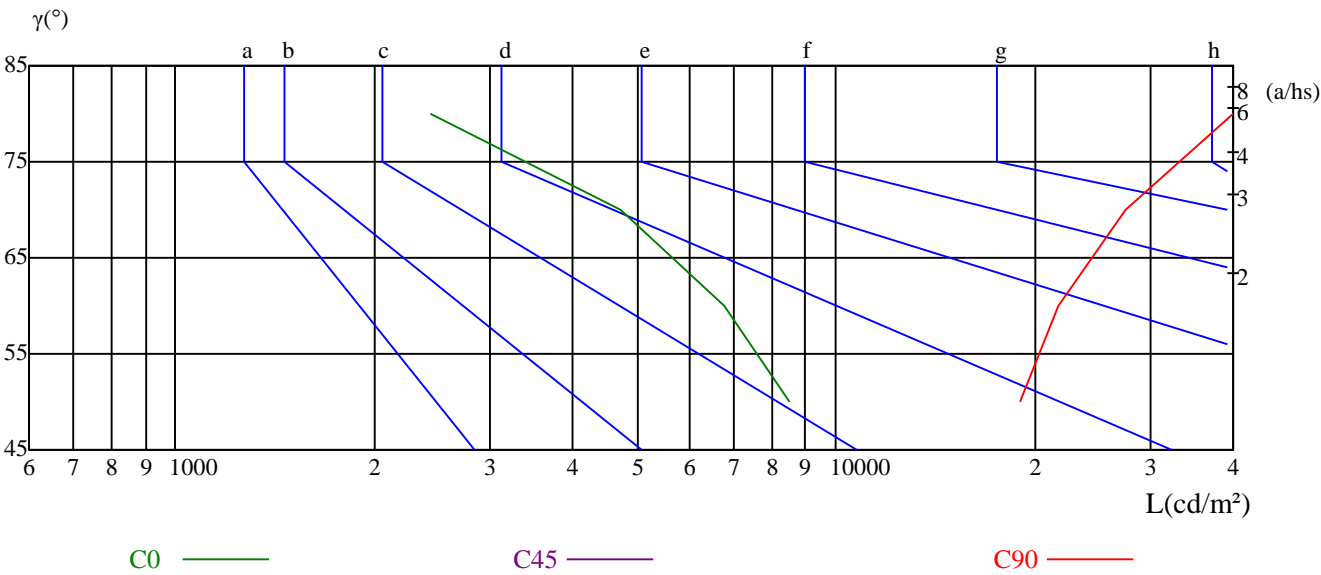
Luminance Table

γ	45	50	55	60	65	70	75	80	85
C0	0	8539	0	6770	0	4720	0	2436	0
C45	0	0	0	0	0	0	0	0	0
C90	0	19019	0	21791	0	27487	0	44702	0

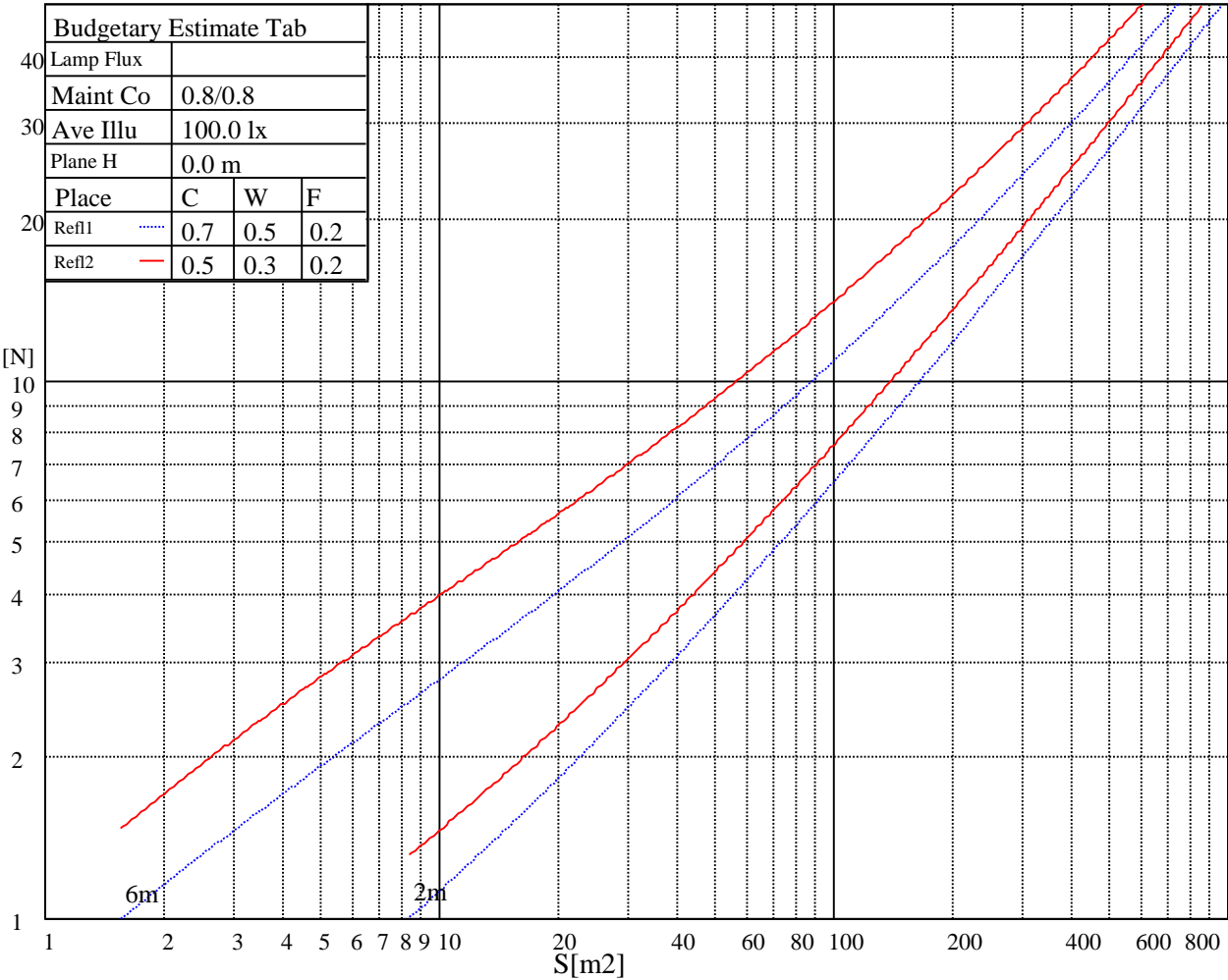
Glare Table

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 Limitting Curve



Illuminatin assessment acconding 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	15.7	17.1	16.2	17.5	18.0	18.4	19.7	18.8	20.2	20.6
	3H	17.1	18.3	17.6	18.8	19.3	21.1	22.3	21.6	22.8	23.3
	4H	17.4	18.5	18.0	19.0	19.6	22.4	23.5	23.0	24.0	24.6
	6H	17.8	18.9	18.4	19.4	20.0	24.2	25.2	24.7	25.7	26.3
	8H	18.0	19.0	18.5	19.5	20.1	25.0	26.1	25.6	26.6	27.2
4H	12H	17.8	18.6	18.4	19.2	19.9	25.7	26.5	26.3	27.1	27.7
	2H	16.7	17.8	17.3	18.3	18.9	18.7	19.7	19.2	20.3	20.8
	3H	18.3	19.2	18.9	19.7	20.4	21.7	22.5	22.3	23.1	23.7
	4H	19.1	19.9	19.7	20.5	21.2	23.4	24.2	24.0	24.8	25.5
	6H	19.7	20.5	20.3	21.1	21.7	25.3	26.2	25.9	26.7	27.4
8H	8H	19.7	20.2	20.4	20.8	21.6	26.1	26.6	26.8	27.3	28.0
	12H	19.8	20.3	20.5	21.0	21.7	27.1	27.6	27.7	28.2	29.0
	4H	20.1	20.6	20.7	21.2	22.0	23.6	24.1	24.3	24.8	25.5
	6H	21.0	21.4	21.6	22.1	22.8	25.7	26.2	26.4	26.9	27.6
	8H	21.3	21.8	22.0	22.4	23.2	26.9	27.4	27.5	28.0	28.7
12H	12H	21.6	22.0	22.2	22.7	23.4	28.0	28.5	28.7	29.1	29.9
	4H	20.4	20.9	21.1	21.6	22.3	23.7	24.2	24.3	24.8	25.5
	6H	21.5	22.0	22.1	22.6	23.3	25.8	26.3	26.5	27.0	27.7
	8H	21.9	22.4	22.6	23.1	23.8	27.0	27.5	27.7	28.2	28.9
Variation with the observer position at spacings:											
S = 1.0H		0.2/-0.5					0.2/-1.2				
S = 1.5H		0.4/-0.6					0.3/-1.1				
S = 2.0H		0.6/-0.8					0.2/-0.8				
Standard tables:		BKBF					BKBF				
Uncorrected UGR		5.4					10.2				
According 1000lm											



RHOC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	1.16	1.16	1.16	1.12	1.12	1.12	1.05	1.05	1.05	0.98	0.98	0.98	0.92	0.92	0.92	0.89
1	0.97	0.92	0.87	0.94	0.89	0.85	0.87	0.84	0.80	0.82	0.78	0.75	0.76	0.74	0.71	0.68
2	0.83	0.75	0.69	0.80	0.73	0.67	0.75	0.69	0.64	0.70	0.65	0.60	0.65	0.61	0.57	0.55
3	0.72	0.63	0.56	0.70	0.61	0.54	0.65	0.58	0.52	0.61	0.55	0.50	0.57	0.52	0.48	0.45
4	0.63	0.54	0.46	0.61	0.52	0.45	0.57	0.50	0.44	0.54	0.47	0.42	0.50	0.45	0.40	0.37
5	0.56	0.47	0.39	0.54	0.45	0.39	0.51	0.43	0.37	0.48	0.41	0.36	0.45	0.39	0.34	0.32
6	0.50	0.41	0.34	0.49	0.40	0.33	0.46	0.38	0.32	0.43	0.36	0.31	0.40	0.35	0.30	0.28
7	0.45	0.36	0.30	0.44	0.35	0.29	0.42	0.34	0.28	0.39	0.32	0.27	0.37	0.31	0.26	0.24
8	0.41	0.32	0.26	0.40	0.32	0.26	0.38	0.30	0.25	0.36	0.29	0.24	0.34	0.28	0.24	0.21
9	0.38	0.29	0.24	0.37	0.29	0.23	0.35	0.28	0.23	0.33	0.26	0.22	0.31	0.25	0.21	0.19
10	0.35	0.27	0.21	0.34	0.26	0.21	0.32	0.25	0.20	0.30	0.24	0.20	0.29	0.23	0.19	0.17

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Intensity data(cd)									Page: 14 Total:14	
C/ γ (°)	0.0	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	
0.0	593.90	587.16	549.79	490.71	419.00	332.51	239.76	145.45	61.60	
30.0	593.90	584.17	553.53	503.87	442.60	372.17	299.40	229.33	167.25	
60.0	593.90	584.36	564.27	531.41	488.78	438.33	382.05	325.39	270.70	
90.0	593.90	589.50	573.92	548.96	513.02	469.00	419.98	365.59	309.54	
120.0	593.90	584.36	564.27	531.41	488.78	438.33	382.05	325.39	270.70	
150.0	593.90	584.17	553.53	503.87	442.60	372.17	299.40	229.33	167.25	
180.0	593.90	587.16	549.79	490.71	419.00	332.51	239.76	145.45	61.60	
210.0	593.90	584.17	553.53	503.87	442.60	372.17	299.40	229.33	167.25	
240.0	593.90	584.36	564.27	531.41	488.78	438.33	382.05	325.39	270.70	
270.0	593.90	589.50	573.92	548.96	513.02	469.00	419.98	365.59	309.54	
300.0	593.90	584.36	564.27	531.41	488.78	438.33	382.05	325.39	270.70	
330.0	593.90	584.17	553.53	503.87	442.60	372.17	299.40	229.33	167.25	
360.0	593.90	587.16	549.79	490.71	419.00	332.51	239.76	145.45	61.60	
C/ γ (°)	90.0	100.0	110.0	120.0	130.0	140.0	150.0	160.0	170.0	
0.0	16.10	7.66	8.37	9.25	9.92	10.07	10.32	10.62	11.43	
30.0	93.21	38.44	29.12	35.29	28.95	22.95	17.79	13.68	11.44	
60.0	144.02	81.57	42.27	34.74	50.49	42.96	29.27	18.77	11.26	
90.0	172.35	127.93	69.61	36.99	49.49	53.35	35.77	23.02	12.87	
120.0	144.02	81.57	42.27	34.74	50.49	42.96	29.27	18.77	11.26	
150.0	93.21	38.44	29.12	35.29	28.95	22.95	17.79	13.68	11.44	
180.0	16.10	7.66	8.37	9.25	9.92	10.07	10.32	10.62	11.43	
210.0	93.21	38.44	29.12	35.29	28.95	22.95	17.79	13.68	11.44	
240.0	144.02	81.57	42.27	34.74	50.49	42.96	29.27	18.77	11.26	
270.0	172.35	127.93	69.61	36.99	49.49	53.35	35.77	23.02	12.87	
300.0	144.02	81.57	42.27	34.74	50.49	42.96	29.27	18.77	11.26	
330.0	93.21	38.44	29.12	35.29	28.95	22.95	17.79	13.68	11.44	
360.0	16.10	7.66	8.37	9.25	9.92	10.07	10.32	10.62	11.43	
C/ γ (°)	180.0									
0.0	10.16									
30.0	10.16									
60.0	10.16									
90.0	10.16									
120.0	10.16									
150.0	10.16									
180.0	10.16									
210.0	10.16									
240.0	10.16									
270.0	10.16									
300.0	10.16									
330.0	10.16									
360.0	10.16									