
Nata

Client:

LumCAT: 3-2115-N

Luminaire: 92.70.131.00

Report No: nata0100

Test No: GC2018041201

LampCAT: SAMSUNG LC0026D

Lamp flux(lm): 2667.6

Number of Lamps: 1

Length(mm): 81

Phm Type: C

Voltage(V): 34.5000

Current(A): 0.5400

Power (W): 18.6300

PF: 0.0000

Ballast type: DC

Width(mm): 81

Height(mm): 0

Photometric Results

Lumens(lm): 2363.74, Efficiency(%): 88.61% , Luminous Efficacy(lm/W): 126.88

Central intensity(cd): 12285.700, Maximum intensity(cd): 12285.700

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=17.8

[C90/270]Total=17.8

Field angle(10%Imax): [C0/180]Total=47.6

[C90/270]Total=47.6

Maximum s/h(1/2): C0_180=0.31 C90_270=0.31

Maximum s/h(1/4): C0_180=0.35 C90_270=0.35

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 88.61%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.071%

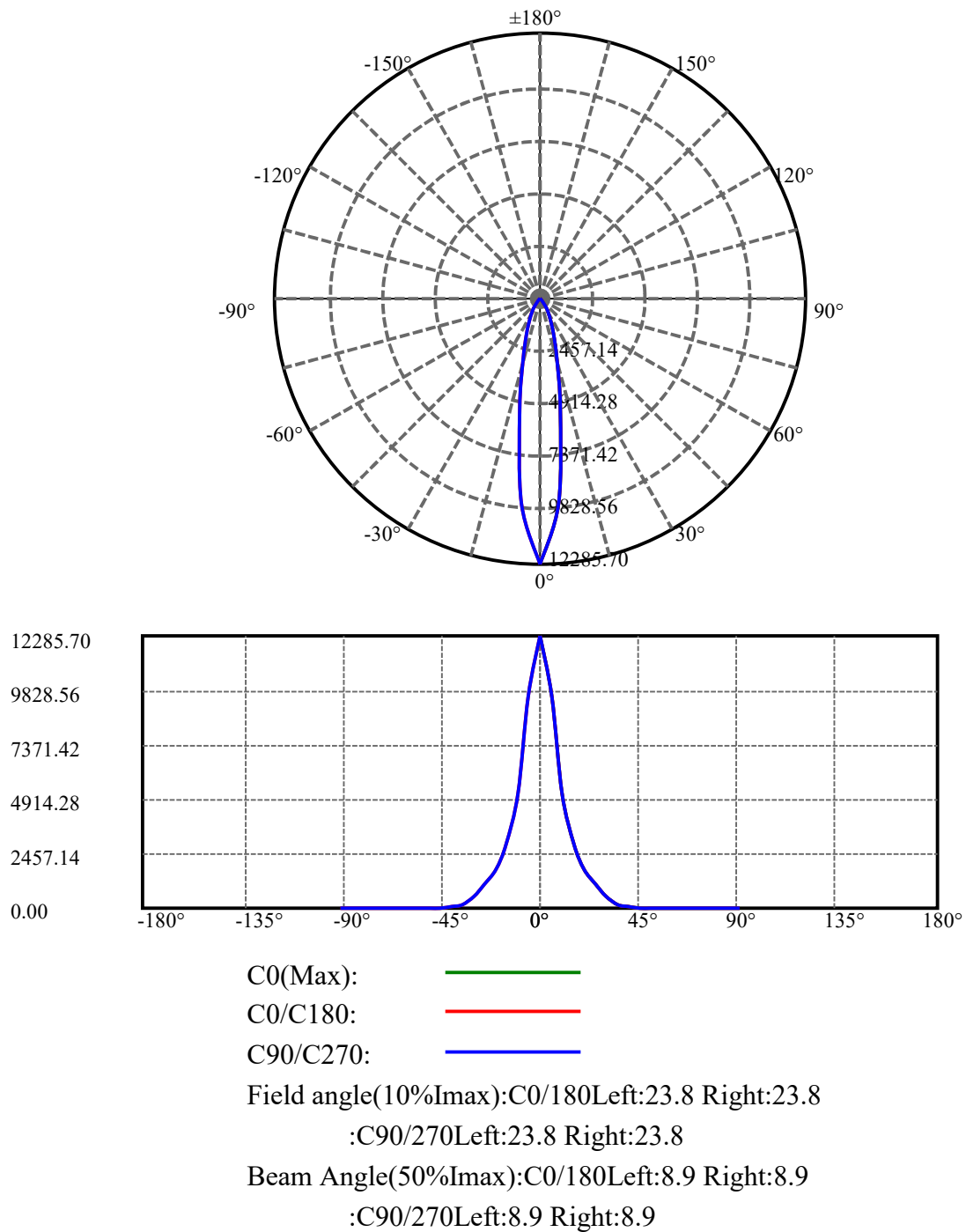
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	12285.698	0.000	0	.000%	.000%
5.0	9524.826	260.739	260.739	9.774%	11.031%
10.0	5199.320	526.729	787.468	19.745%	33.314%
15.0	2880.000	479.260	1266.727	17.966%	53.590%
20.0	1728.358	379.793	1646.521	14.237%	69.657%
25.0	1063.001	292.762	1939.283	10.975%	82.043%
30.0	561.438	205.574	2144.857	7.706%	90.740%
35.0	143.147	103.755	2248.612	3.889%	95.129%
40.0	40.054	30.566	2279.178	1.146%	96.423%
45.0	25.422	12.123	2291.301	.454%	96.935%
50.0	20.832	9.346	2300.647	.350%	97.331%
55.0	19.180	8.700	2309.347	.326%	97.699%
60.0	18.836	8.787	2318.135	.329%	98.071%
65.0	18.148	8.991	2327.126	.337%	98.451%
70.0	15.361	8.485	2335.61	.318%	98.810%
75.0	14.370	7.771	2343.381	.291%	99.139%
80.0	13.998	7.590	2350.972	.285%	99.460%
85.0	11.507	6.930	2357.902	.260%	99.753%
90.0	9.814	5.838	2363.74	.219%	100.000%

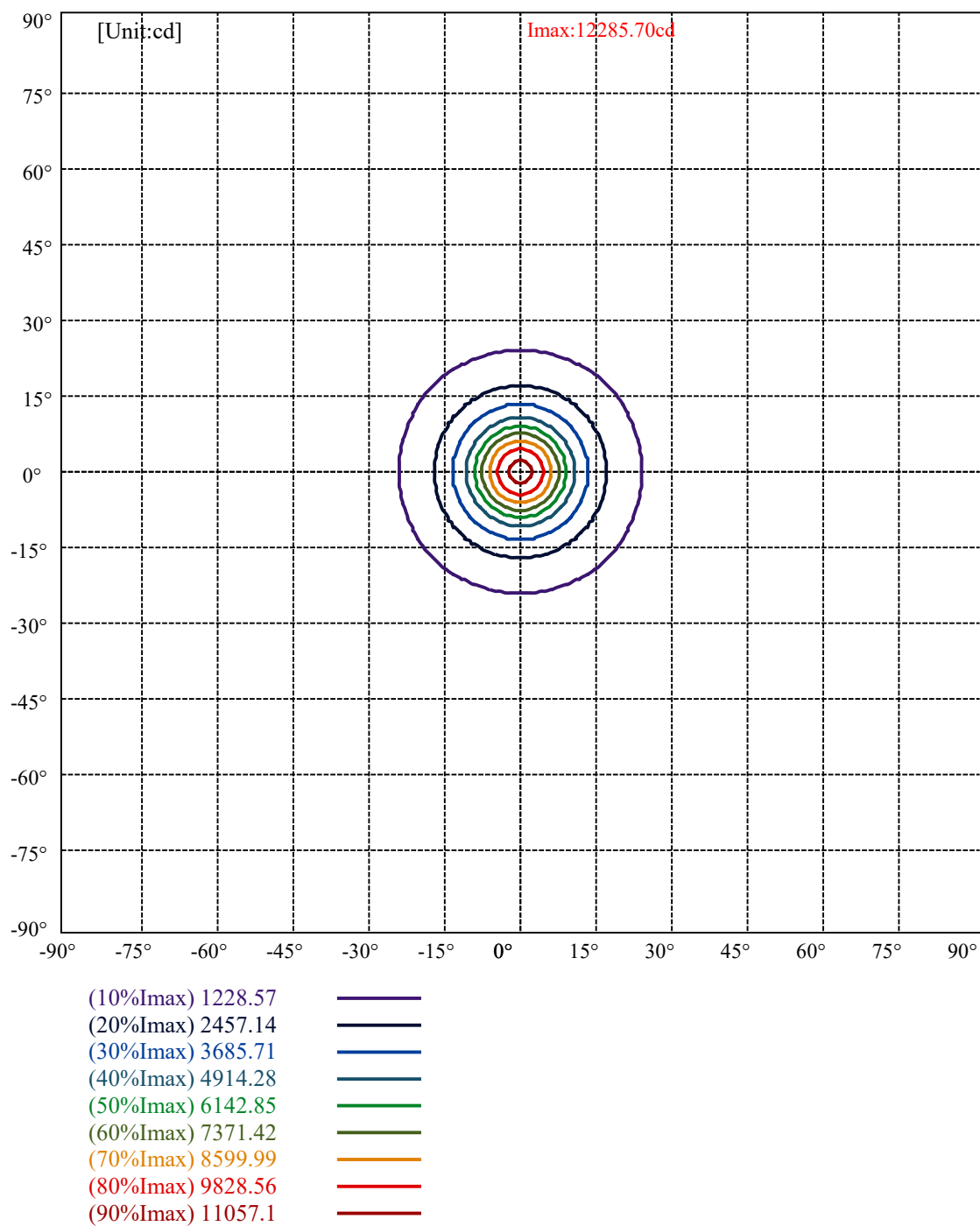
ZONAL LUMEN SUMMARY

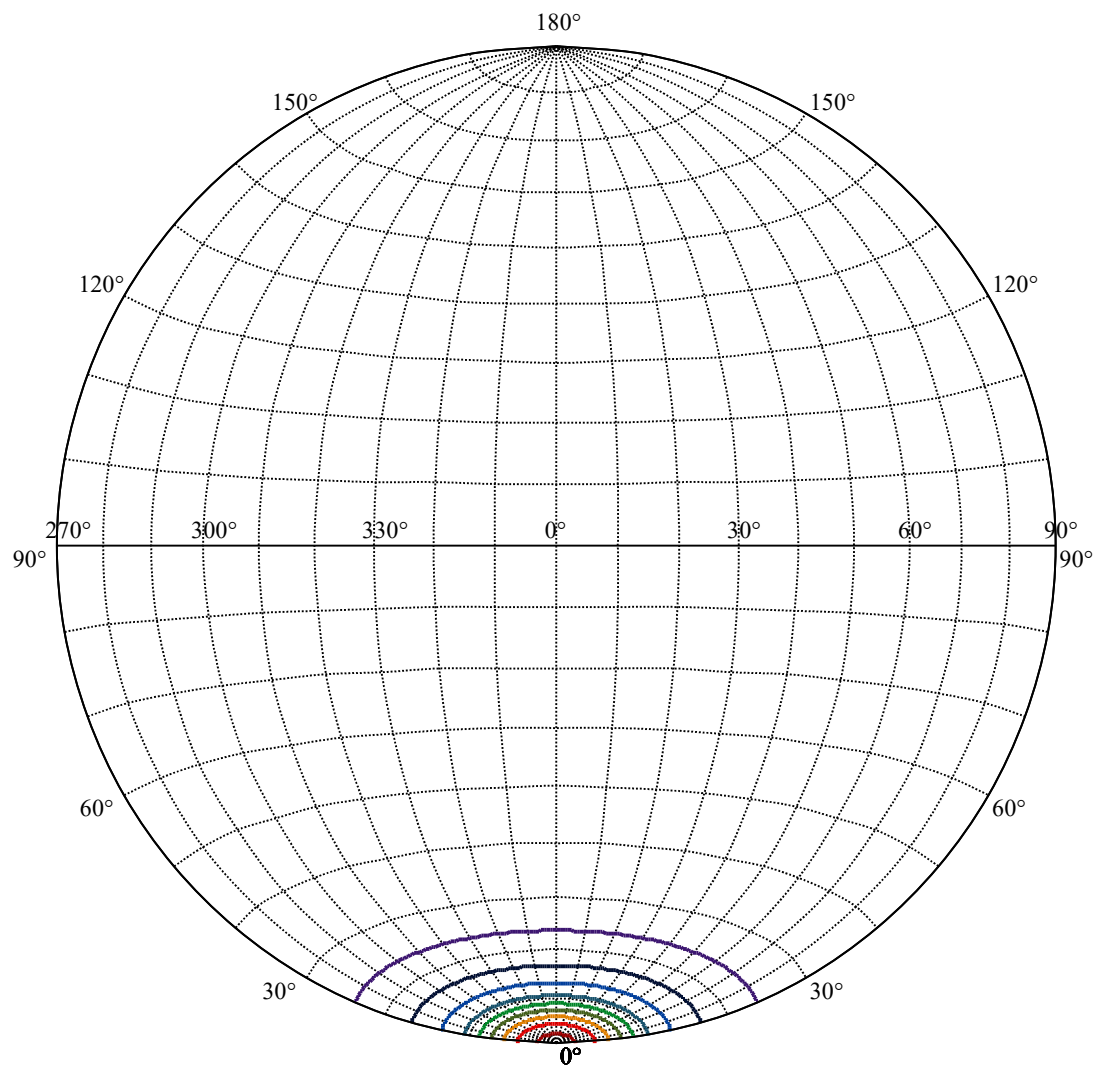
Zone	Lumens	%Lamp	%Fixt
0-30	2144.86	80.40%	90.74%
0-40	2279.18	85.44%	96.42%
0-60	2318.13	86.90%	98.07%
0-90	2357.90	88.39%	99.75%
0-120	2357.90	88.39%	99.75%
0-180	2363.74	88.61%	100.00%
60-90	48.55	1.82%	2.05%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-24.18	1890.99	70.89%	80.00%

ZONAL LUMEN SUMMARY

0-10	787.47
10-20	859.05
20-30	498.34
30-40	134.32
40-50	21.47
50-60	17.49
60-70	17.48
70-80	15.36
80-90	6.93
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00





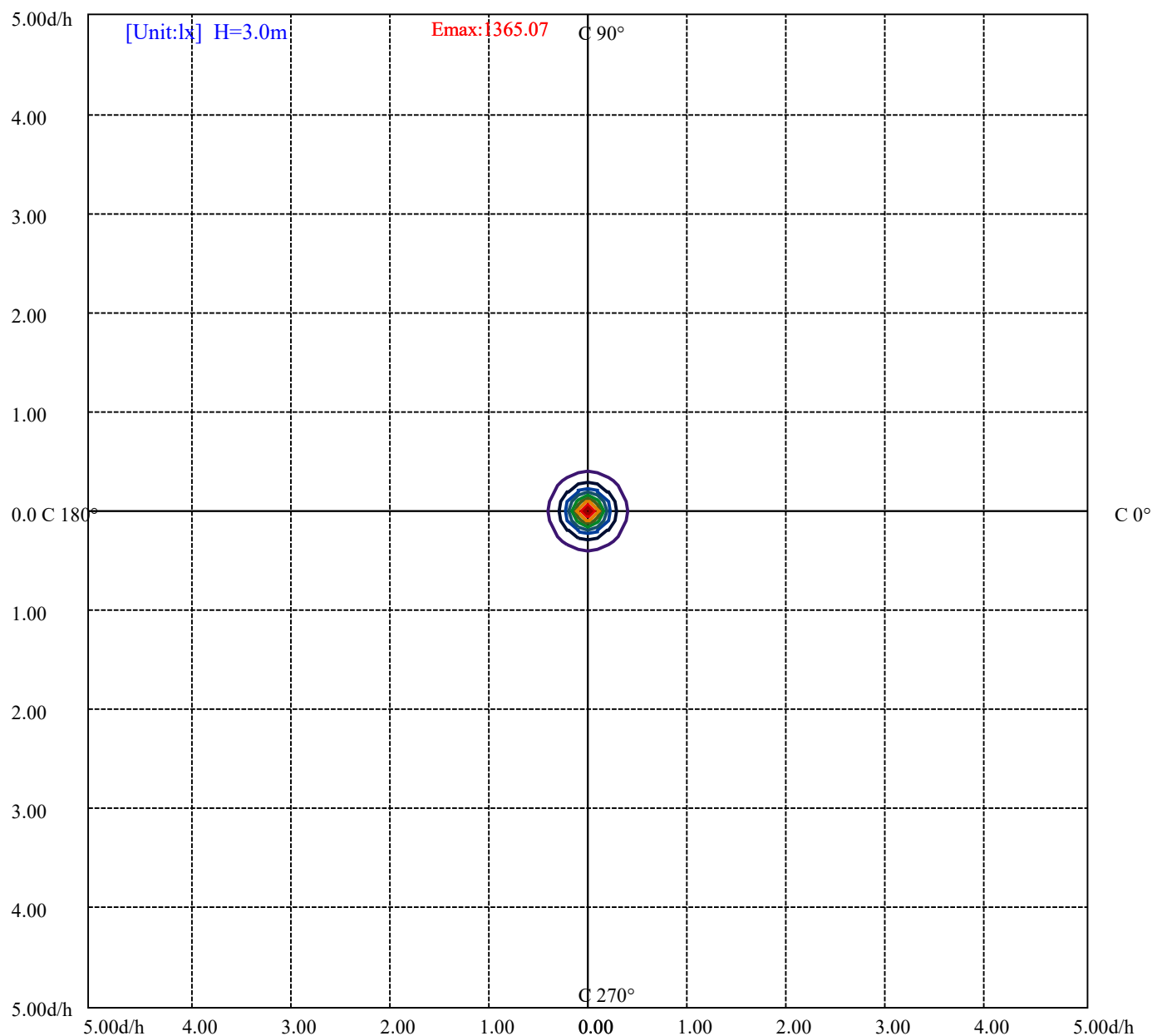


House

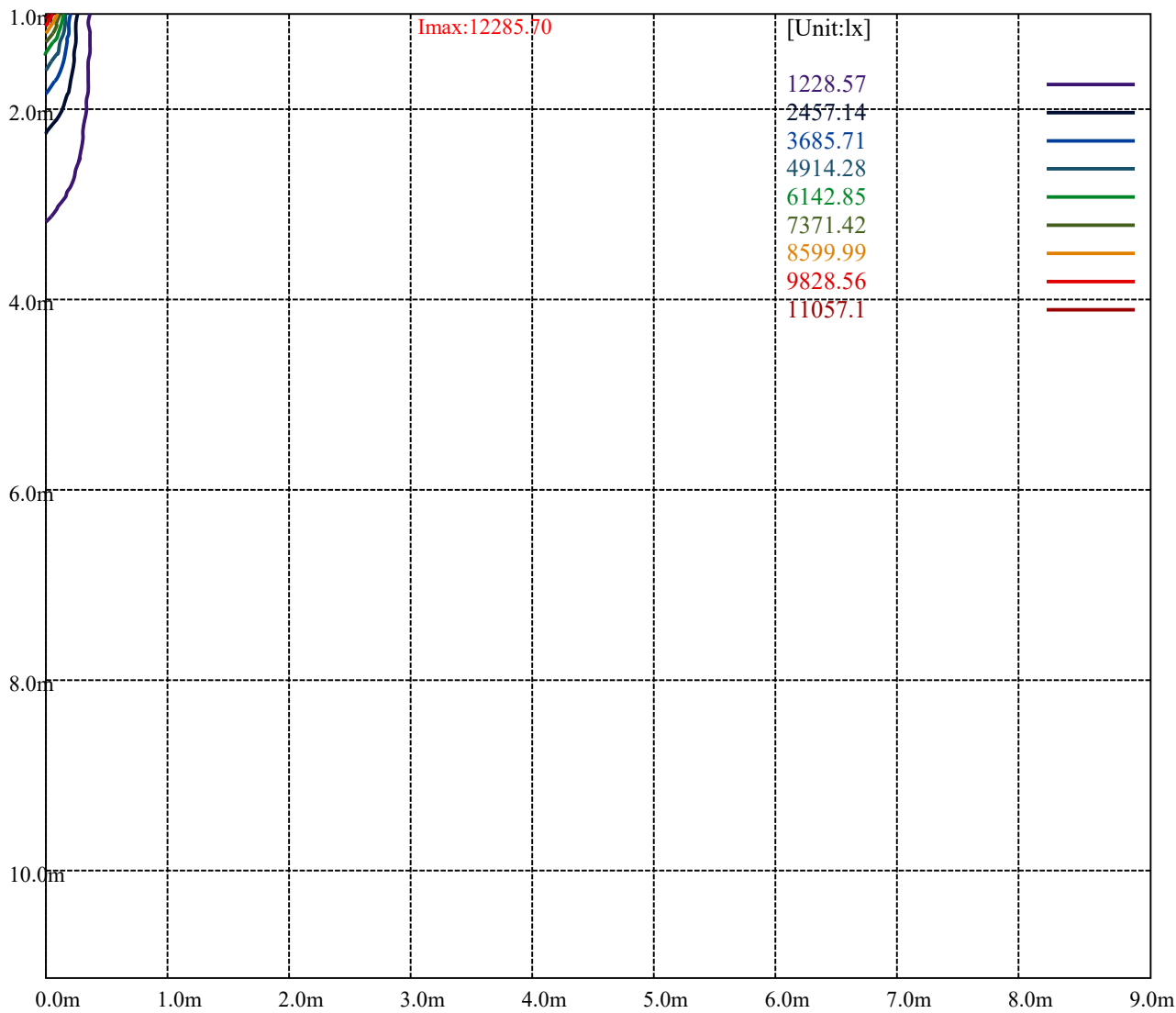
[Unit:cd]

Road

Imax:12285.70	
(10%Imax) 1228.57	—
(20%Imax) 2457.14	—
(30%Imax) 3685.71	—
(40%Imax) 4914.28	—
(50%Imax) 6142.85	—
(60%Imax) 7371.42	—
(70%Imax) 8599.99	—
(80%Imax) 9828.56	—
(90%Imax) 11057.1	—



(10%Emax) 136.5067	—
(20%Emax) 273.0133	—
(30%Emax) 409.52	—
(40%Emax) 546.0278	—
(50%Emax) 682.5344	—
(60%Emax) 819.0411	—
(70%Emax) 955.5477	—
(80%Emax) 1092.054	—
(90%Emax) 1228.567	—



Luminance Table

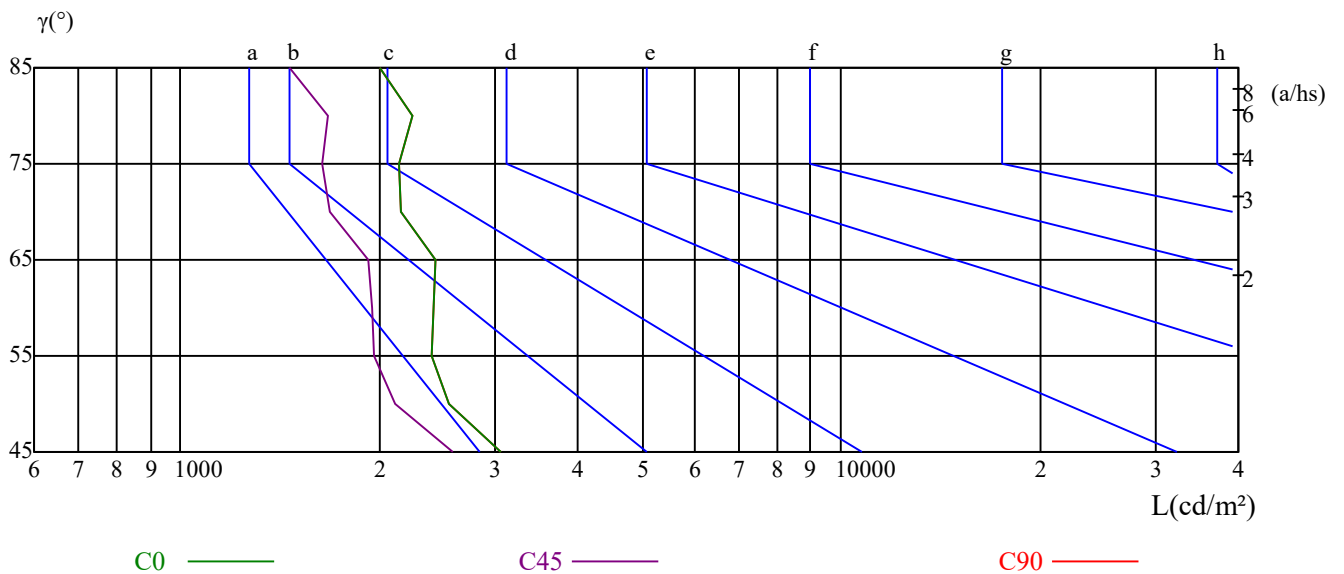
γ	45	50	55	60	65	70	75	80	85
C0	3061	2544	2395	2424	2429	2159	2143	2242	2006
C45	2588	2118	1963	1956	1927	1682	1637	1675	1461
C90	3061	2544	2395	2424	2429	2159	2143	2242	2006

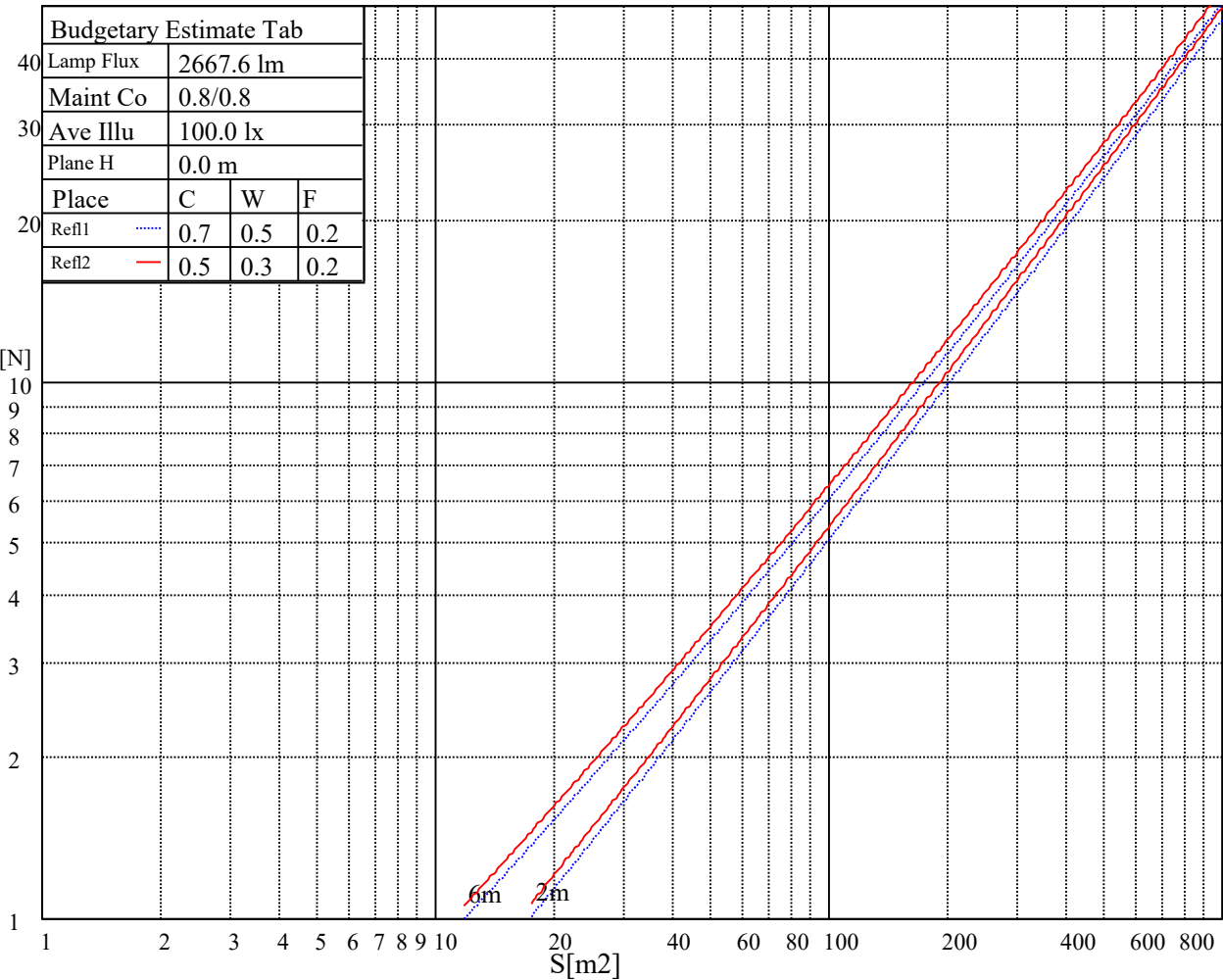
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6545	6545	6545	8462	8462	8462	20123	20123	20123

Glare Table

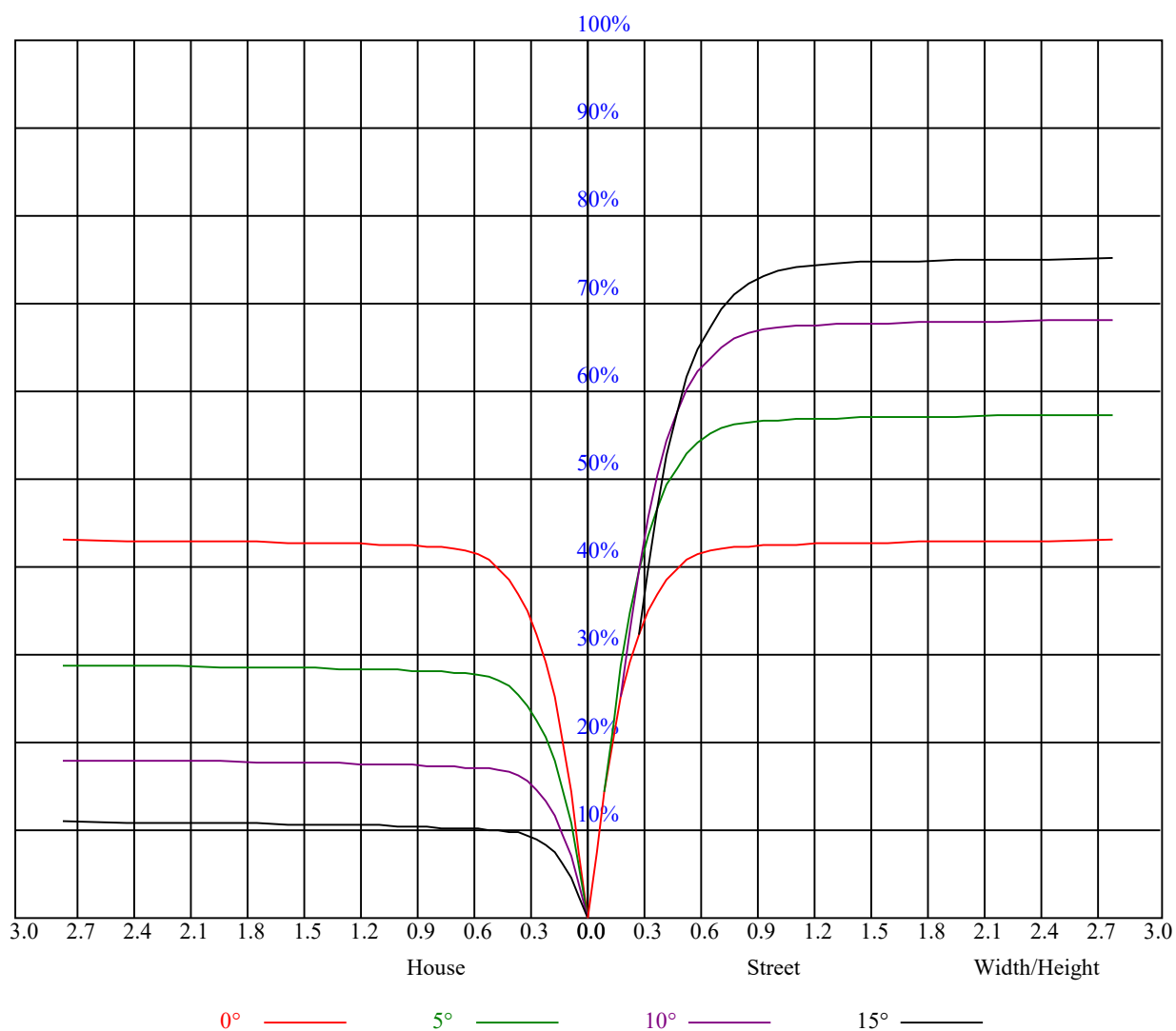
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

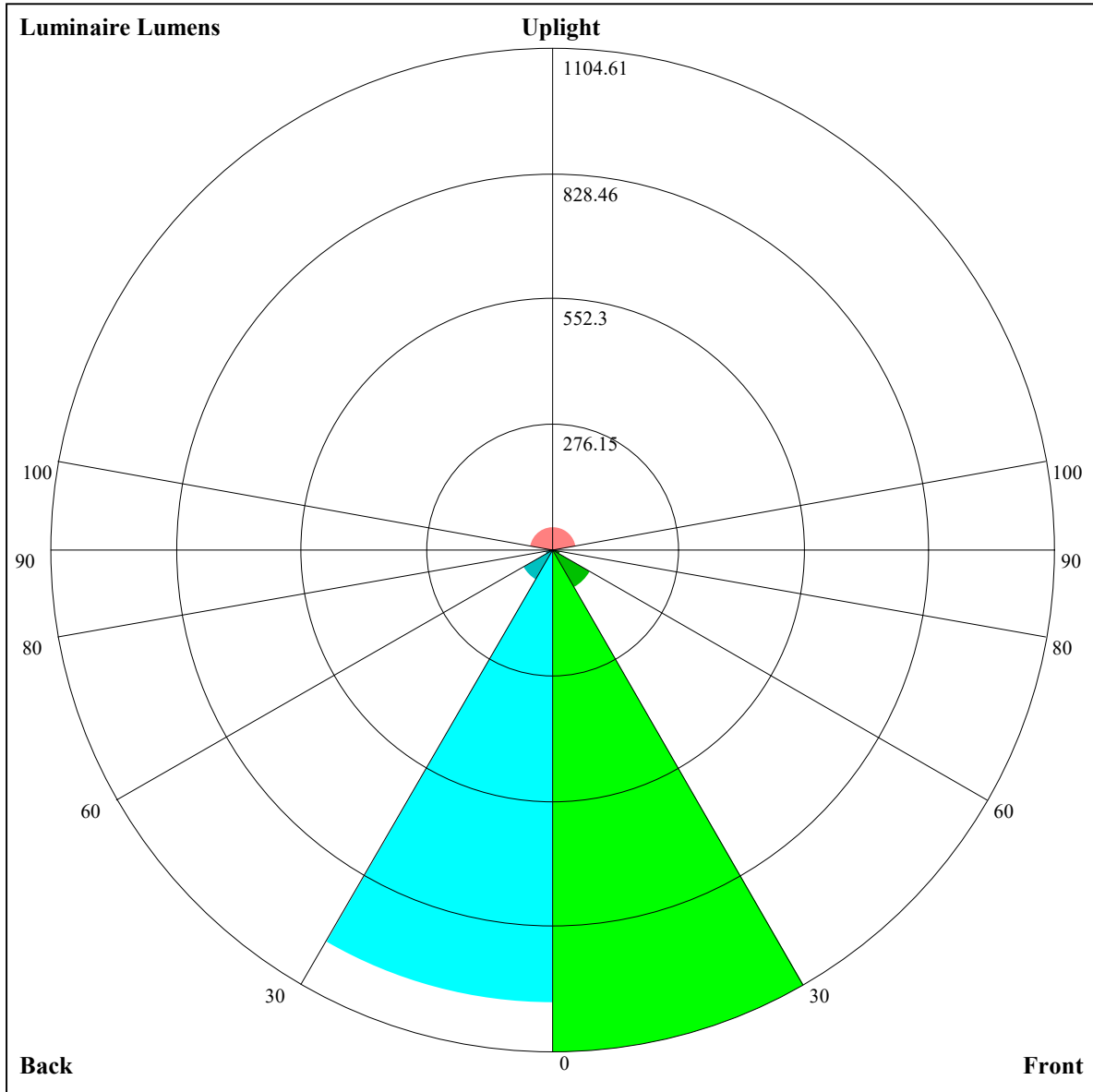
Luminance Limiting Curve





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	1.05	1.05	1.05	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.89
1	0.99	0.97	0.96	0.97	0.96	0.94	0.94	0.92	0.91	0.91	0.90	0.89	0.88	0.87	0.86	0.84
2	0.94	0.91	0.89	0.93	0.90	0.88	0.90	0.88	0.86	0.87	0.85	0.84	0.85	0.83	0.82	0.81
3	0.90	0.86	0.83	0.88	0.85	0.83	0.86	0.84	0.81	0.84	0.82	0.80	0.82	0.80	0.79	0.78
4	0.86	0.82	0.79	0.85	0.81	0.78	0.83	0.80	0.78	0.81	0.79	0.77	0.80	0.78	0.76	0.75
5	0.82	0.78	0.75	0.81	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.74	0.77	0.75	0.73	0.72
6	0.79	0.75	0.72	0.78	0.75	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.73	0.71	0.70
7	0.76	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.67
8	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.65
9	0.71	0.67	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.69	0.66	0.64	0.63
10	0.69	0.65	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.61





Luminaire Lumens:

FL=1104.61,FM=96.69,FH=16.65,FVH=6.58

BL=998.92,BM=76.97,BH=16.58,BVH=6.46

UL=10.71,UH=50.95

BUG Rating:B2-U2-G0

Intensity data(cd)										Appendix Page: 15 Total:15	
C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	12580.39	10736.00	5863.51	3237.32	1869.16	1186.47	689.86	290.70	45.15		
45.0	12696.01	9249.48	5131.26	2840.91	1737.03	1085.16	550.01	88.15	36.17		
90.0	10911.63	7545.48	3918.91	2230.33	1443.58	841.48	335.18	52.52	29.62		
135.0	12954.77	8115.31	4299.90	2785.85	1557.55	934.86	412.92	60.18	31.49		
180.0	12580.39	8002.45	4372.03	2427.44	1488.73	937.06	415.35	65.96	34.96		
225.0	12696.01	9576.51	5023.90	2736.30	1711.70	1081.31	564.00	99.93	40.47		
270.0	10911.63	12090.39	6854.52	3584.17	2171.97	1356.59	817.04	293.45	53.13		
315.0	12954.77	10883.00	6130.53	3197.68	1847.14	1081.09	707.14	194.29	49.44		
360.0	12580.39	10736.00	5863.51	3237.32	1869.16	1186.47	689.86	290.70	45.15		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	26.65	21.31	19.05	18.55	19.21	15.64	13.93	12.66	11.18		
45.0	23.67	19.82	18.55	18.39	18.17	15.31	13.65	14.87	11.89		
90.0	22.41	20.10	19.32	19.32	17.73	15.47	18.77	21.86	12.99		
135.0	23.23	20.21	19.32	19.55	18.11	15.09	14.09	11.73	10.57		
180.0	25.55	21.58	20.54	20.15	18.17	15.53	14.09	13.87	11.84		
225.0	24.67	20.37	19.10	18.88	17.62	14.59	13.10	12.00	10.90		
270.0	28.85	21.91	18.83	18.00	18.17	16.19	13.87	12.72	11.51		
315.0	28.35	21.36	18.72	17.84	18.00	15.09	13.43	12.28	11.18		
360.0	26.65	21.31	19.05	18.55	19.21	15.64	13.93	12.66	11.18		
C/ γ (°)	90.0										
0.0	9.91										
45.0	9.41										
90.0	9.58										
135.0	9.74										
180.0	9.86										
225.0	9.47										
270.0	10.41										
315.0	10.13										
360.0	9.91										