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Nata

Client:

LumCAT: 2-1779-L

Luminaire: 92.70.131.00

Report No: NT2018011003

Test No: GC2018011003

LampCAT: CITIZEN CLU038

Lamp flux(lm): 2870.0

Number of Lamps: 1

Length(mm): 64

Phm Type: C

Voltage(V): 34.8000

Current(A): 0.6400

Power (W): 22.2720

PF: 0.0000

Ballast type: DC

Width(mm): 64

Height(mm): 0

Photometric Results

Lumens(lm): 2778.69, Efficiency(%): 96.82% , Luminous Efficacy(lm/W): 124.76

Central intensity(cd): 5871.077, Maximum intensity(cd): 5871.077

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=38.2

[C90/270]Total=38.2

Field angle(10%Imax): [C0/180]Total=67.6

[C90/270]Total=67.6

Maximum s/h(1/2): C0_180=0.63 C90_270=0.63

Maximum s/h(1/4): C0_180=0.61 C90_270=0.61

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 97.95%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.285%

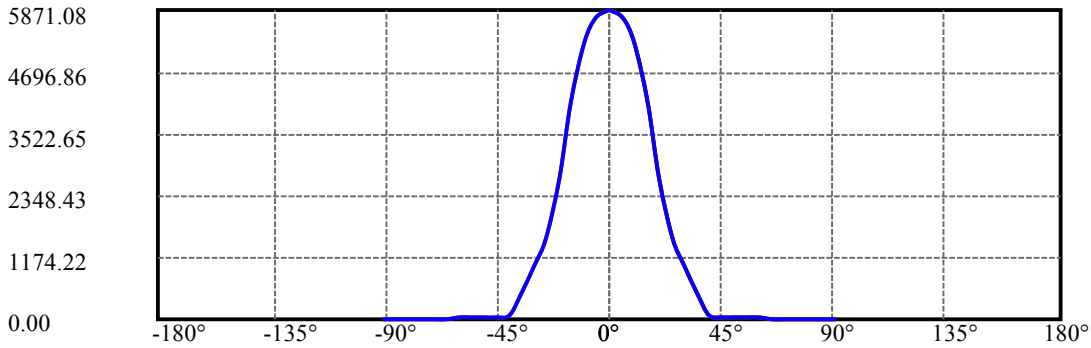
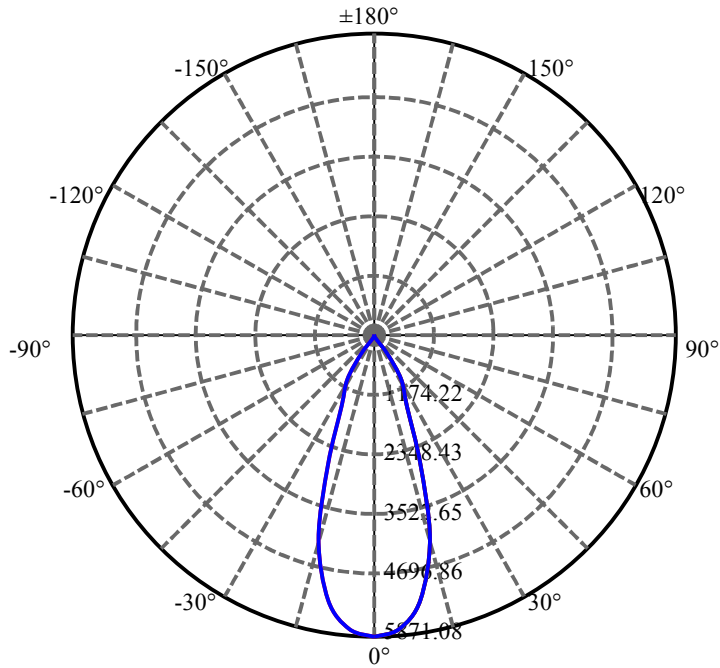
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5871.077	35.110	35.11	1.223%	1.264%
5.0	5733.918	273.928	309.039	9.545%	11.122%
10.0	5237.102	498.483	807.522	17.369%	29.061%
15.0	4120.283	584.538	1392.06	20.367%	50.098%
20.0	2675.328	501.555	1893.614	17.476%	68.148%
25.0	1518.593	351.786	2245.401	12.257%	80.808%
30.0	1013.946	277.891	2523.292	9.683%	90.809%
35.0	458.744	144.228	2667.52	5.025%	95.999%
40.0	85.331	30.065	2697.585	1.048%	97.081%
45.0	25.243	9.784	2707.369	.341%	97.433%
50.0	21.513	9.033	2716.403	.315%	97.758%
55.0	20.371	9.147	2725.549	.319%	98.087%
60.0	19.579	9.294	2734.844	.324%	98.422%
65.0	18.134	9.009	2743.853	.314%	98.746%
70.0	16.503	8.500	2752.353	.296%	99.052%
75.0	14.666	7.765	2760.118	.271%	99.332%
80.0	14.005	7.560	2767.678	.263%	99.604%
85.0	13.613	7.433	2775.111	.259%	99.871%
90.0	13.069	3.582	2778.693	.125%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2523.29	87.92%	90.81%
0-40	2697.59	93.99%	97.08%
0-60	2734.84	95.29%	98.42%
0-90	2775.11	96.69%	99.87%
0-120	2775.11	96.69%	99.87%
0-180	2778.69	96.82%	100.00%
60-90	49.56	1.73%	1.78%
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%
0-24.68	2222.95	77.45%	80.00%

ZONAL LUMEN SUMMARY

0-10	807.52
10-20	1086.09
20-30	629.68
30-40	174.29
40-50	18.82
50-60	18.44
60-70	17.51
70-80	15.32
80-90	7.43
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



C0(Max): —————

C0/C180: —————

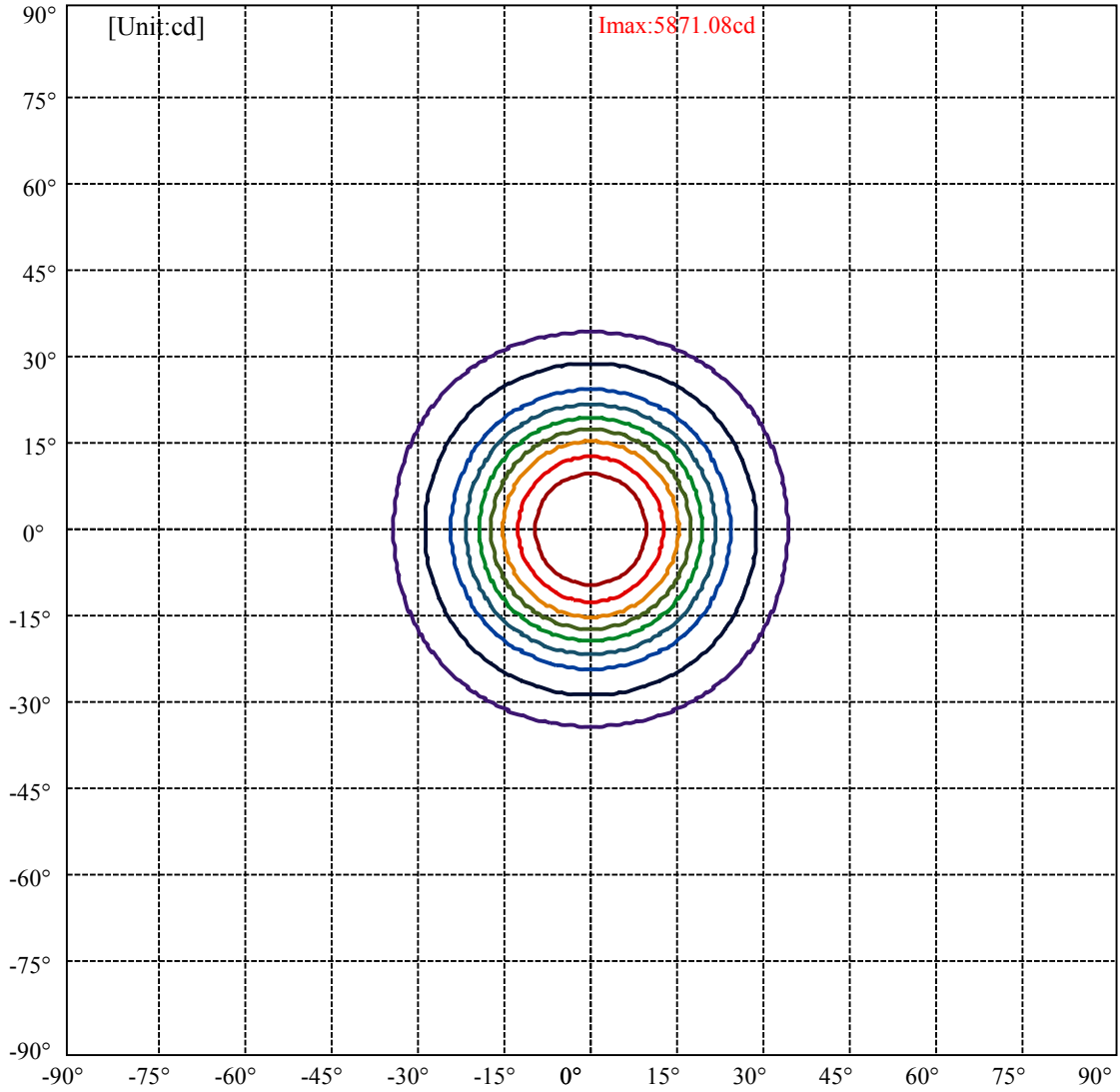
C90/C270: —————

Field angle(10%Imax):C0/180Left:33.8 Right:33.8

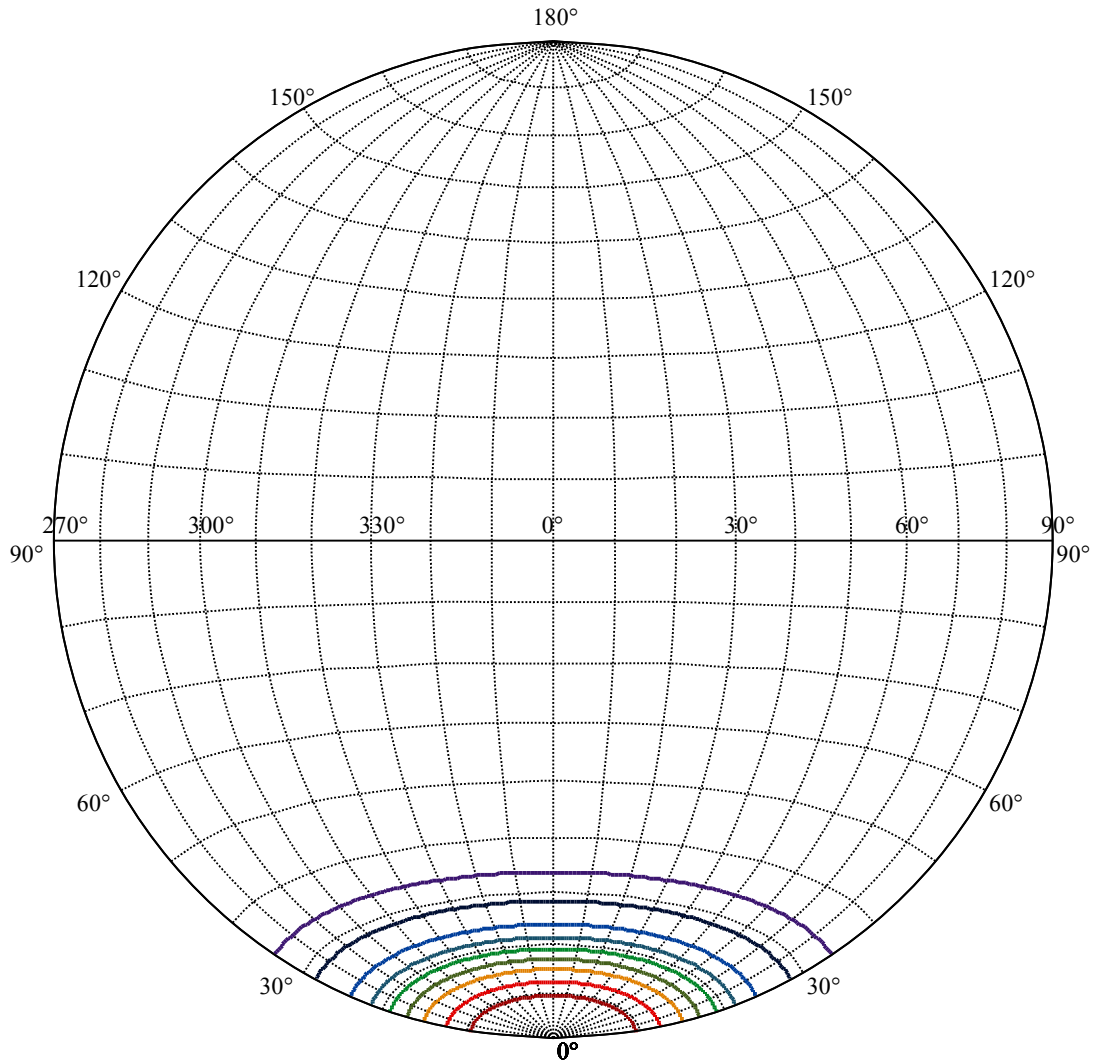
:C90/270Left:33.8 Right:33.8

Beam Angle(50%Imax):C0/180Left:19.1 Right:19.1

:C90/270Left:19.1 Right:19.1



(10%Imax) 587.108	—
(20%Imax) 1174.22	—
(30%Imax) 1761.32	—
(40%Imax) 2348.43	—
(50%Imax) 2935.54	—
(60%Imax) 3522.65	—
(70%Imax) 4109.75	—
(80%Imax) 4696.86	—
(90%Imax) 5283.97	—



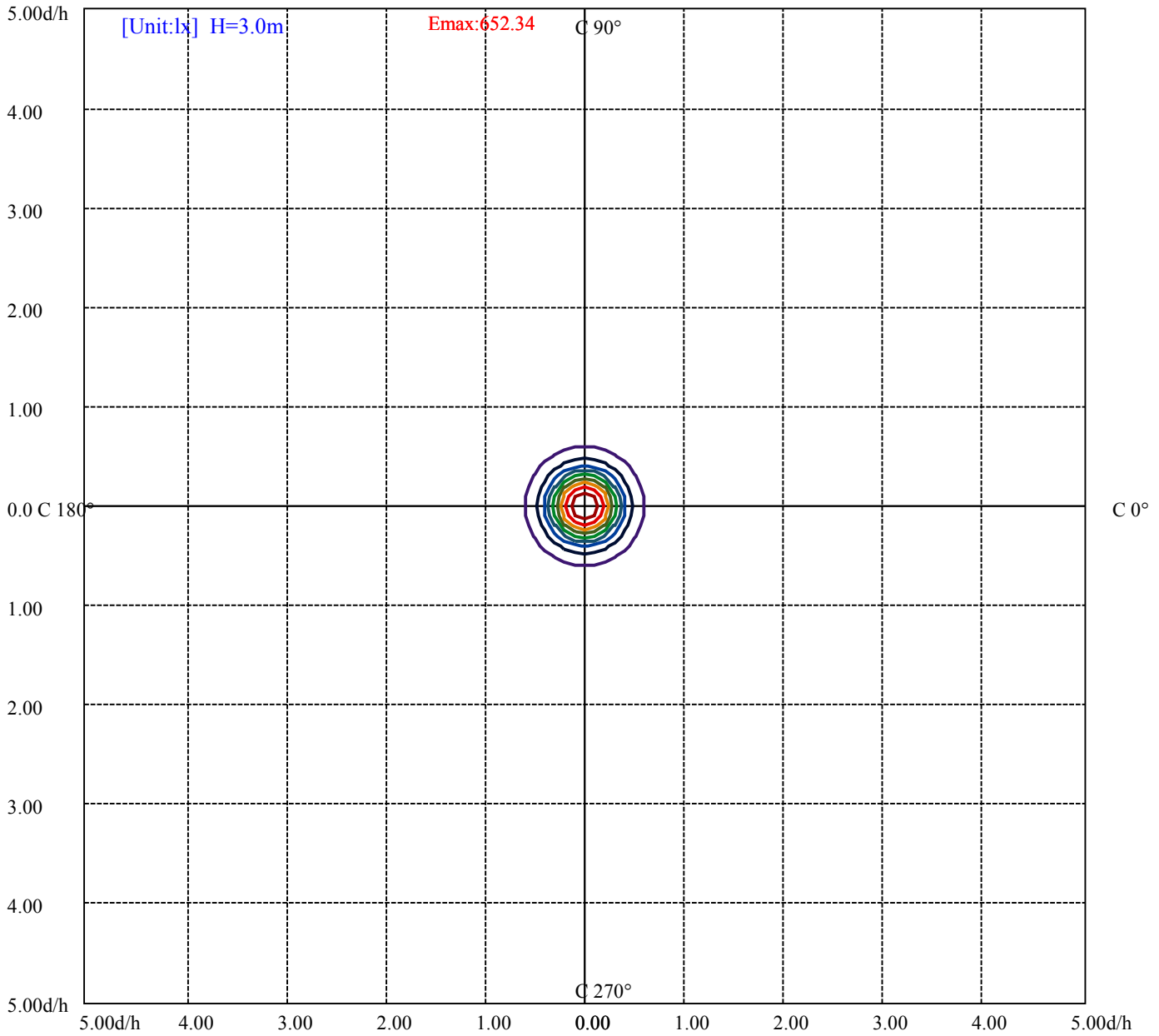
House

[Unit:cd]

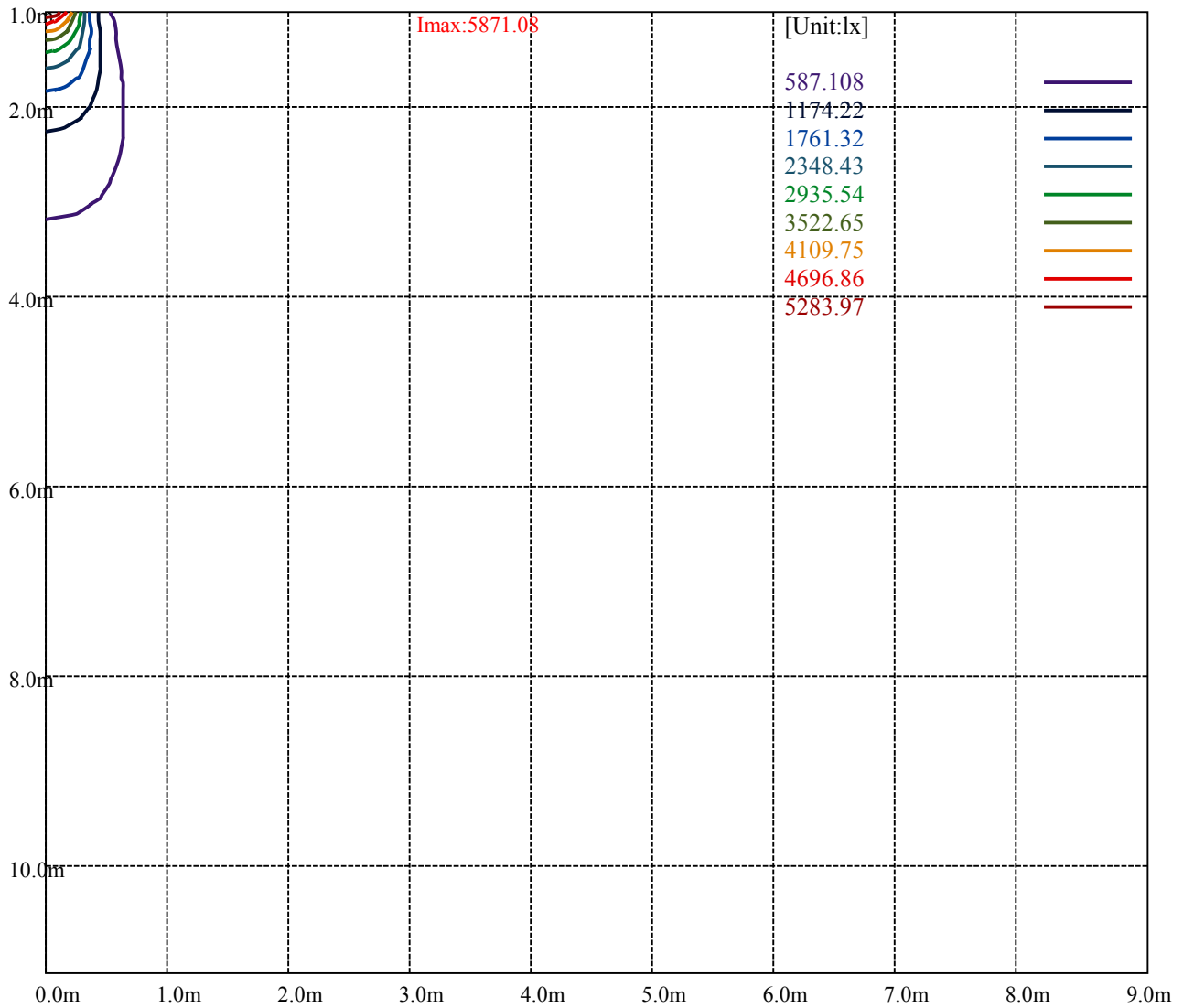
Road

Imax:5871.08

(10%Imax) 587.108	—
(20%Imax) 1174.22	—
(30%Imax) 1761.32	—
(40%Imax) 2348.43	—
(50%Imax) 2935.54	—
(60%Imax) 3522.65	—
(70%Imax) 4109.75	—
(80%Imax) 4696.86	—
(90%Imax) 5283.97	—



- (10%Emax) 65.23411
- (20%Emax) 130.4678
- (30%Emax) 195.7022
- (40%Emax) 260.9366
- (50%Emax) 326.1711
- (60%Emax) 391.4044
- (70%Emax) 456.6389
- (80%Emax) 521.8733
- (90%Emax) 587.1067



Luminance Table

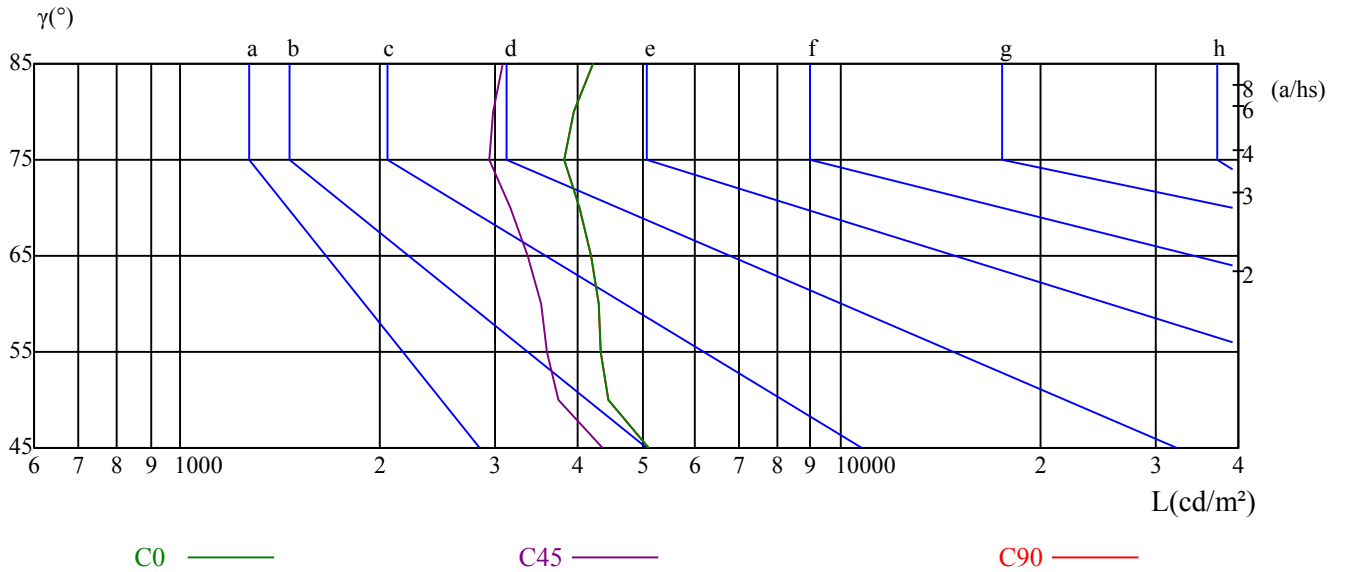
γ	45	50	55	60	65	70	75	80	85
C0	5117	4446	4326	4311	4177	4018	3817	3948	4220
C45	4370	3740	3583	3512	3344	3157	2936	2966	3084
C90	5117	4446	4326	4311	4177	4018	3817	3948	4220

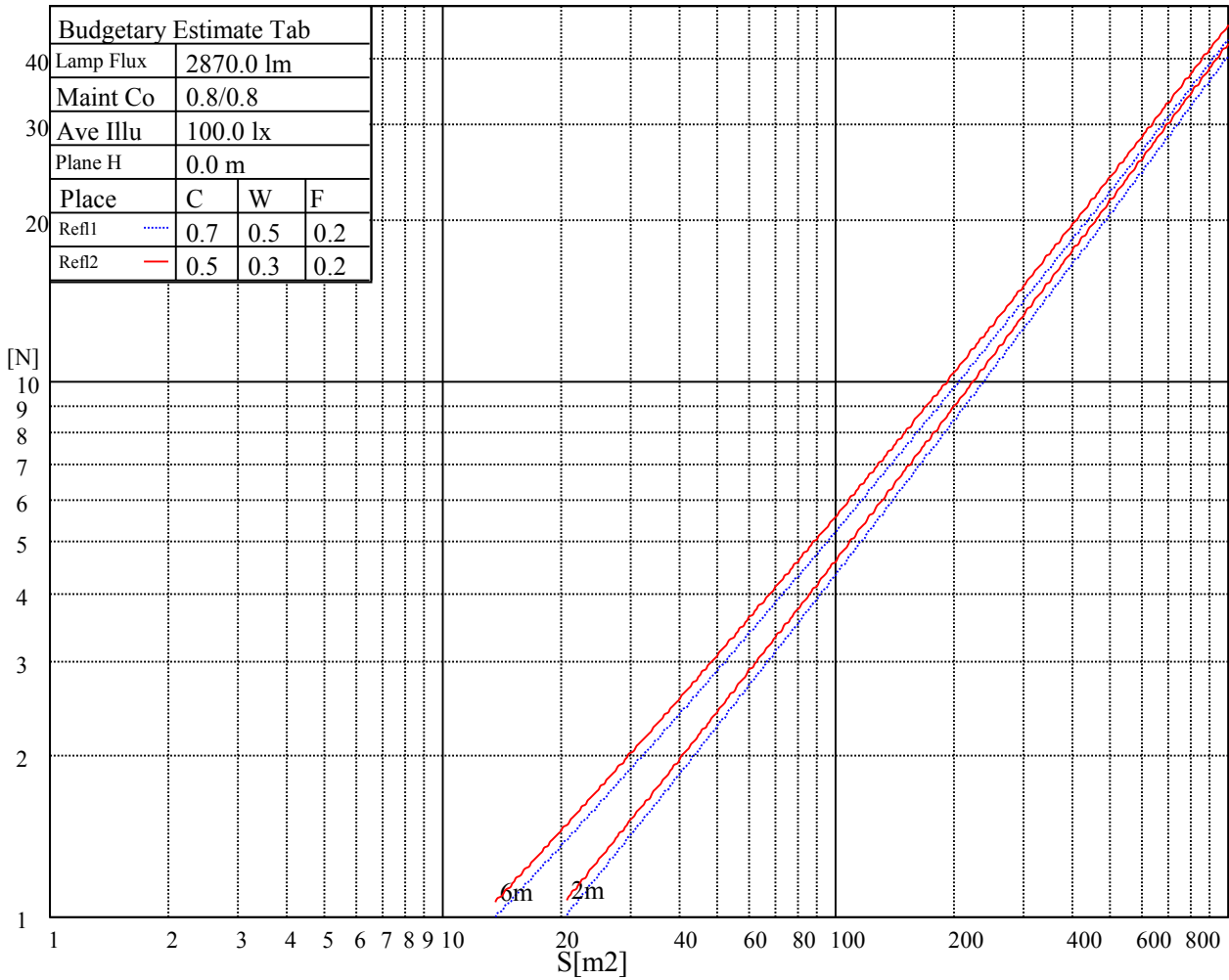
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
10476	10476	10476	13834	13834	13834	38132	38132	38132

Glare Table

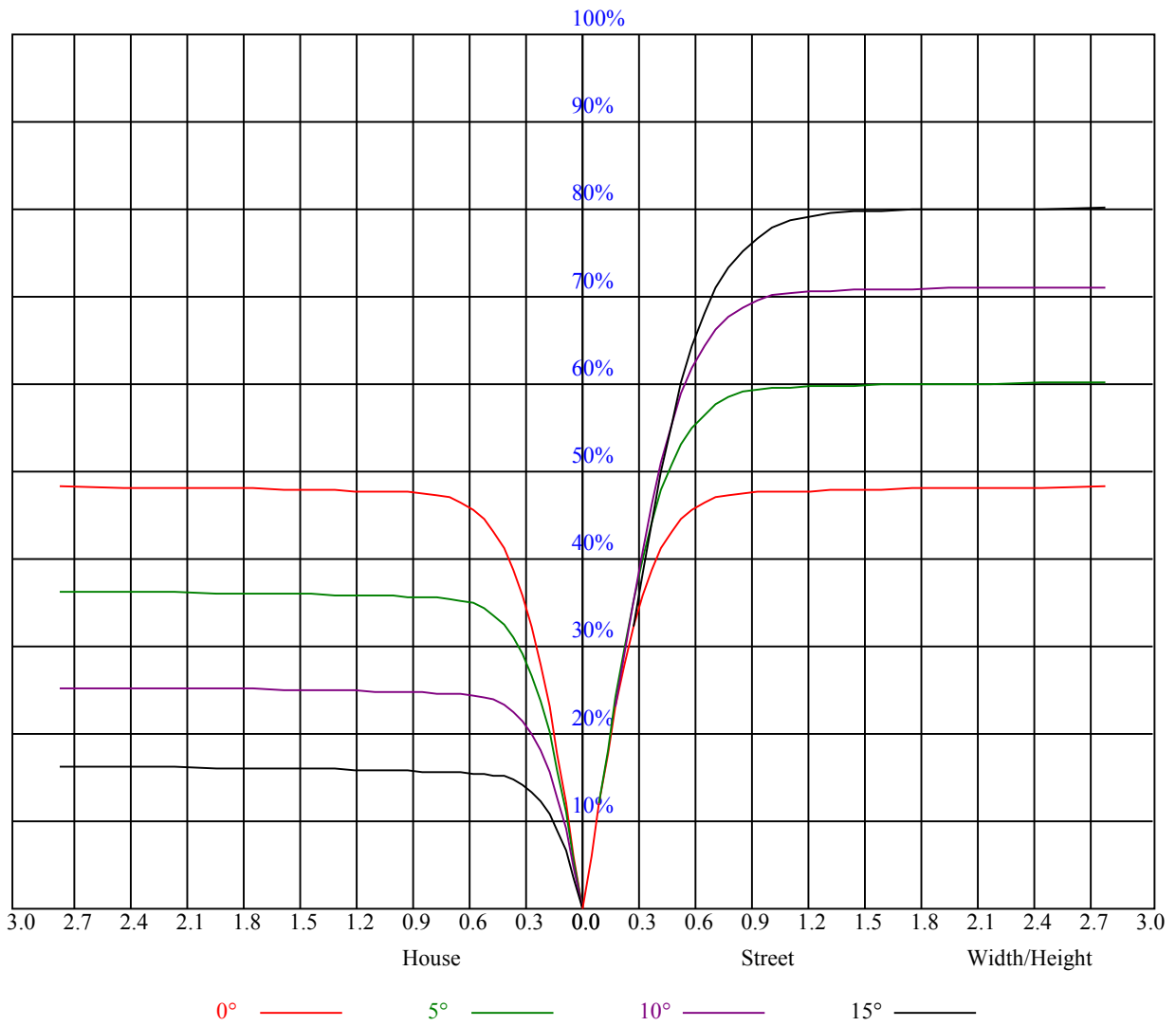
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

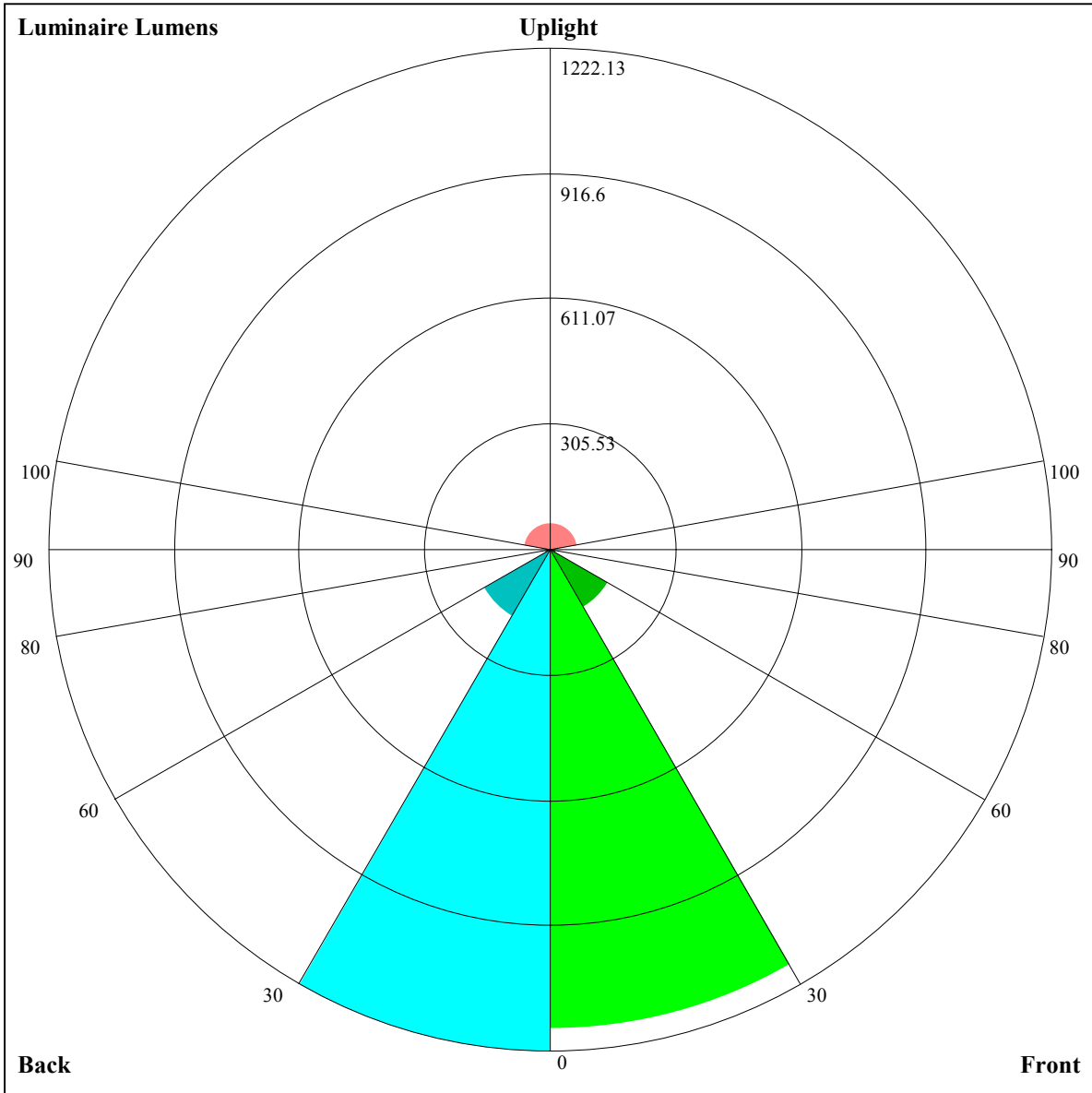
Luminance Limiting Curve





RHOCC	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	1.17	1.17	1.17	1.14	1.14	1.14	1.09	1.09	1.09	1.04	1.04	1.04	1.00	1.00	1.00	0.98
1	1.08	1.06	1.03	1.06	1.04	1.02	1.02	1.00	0.99	0.98	0.97	0.96	0.95	0.94	0.93	0.91
2	1.02	0.99	0.96	1.01	0.97	0.94	0.97	0.95	0.92	0.95	0.92	0.90	0.92	0.90	0.89	0.87
3	0.97	0.93	0.89	0.96	0.92	0.89	0.93	0.90	0.87	0.91	0.88	0.86	0.89	0.87	0.85	0.83
4	0.93	0.88	0.85	0.92	0.87	0.84	0.90	0.86	0.83	0.88	0.85	0.82	0.86	0.83	0.81	0.80
5	0.89	0.84	0.80	0.88	0.83	0.80	0.86	0.82	0.79	0.85	0.81	0.79	0.83	0.80	0.78	0.77
6	0.85	0.80	0.77	0.84	0.80	0.77	0.83	0.79	0.76	0.82	0.78	0.76	0.80	0.77	0.75	0.74
7	0.82	0.77	0.74	0.81	0.77	0.73	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.72	0.71
8	0.79	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.70	0.76	0.73	0.70	0.75	0.72	0.70	0.69
9	0.76	0.71	0.68	0.75	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.66
10	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.64





Luminaire Lumens:

FL=1167.66,FM=163.48,FH=16.86,FVH=7.37

BL=1222.13,BM=188.86,BH=16.91,BVH=7.43

UL=14.26,UH=67.86

BUG Rating:B3-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	5887.73	5698.34	5088.86	3991.04	2623.99	1535.52	997.62	426.14	53.35
45.0	5878.37	5606.94	5022.24	4070.87	2817.79	1478.26	955.23	438.25	53.13
90.0	5848.09	5573.36	4973.80	4050.50	2899.27	1767.31	1070.85	499.64	84.29
135.0	5870.11	5794.69	5472.61	4506.92	3211.99	1907.15	1276.21	677.19	288.50
180.0	5887.73	5841.48	5477.56	4342.30	2632.25	1387.42	965.36	443.37	55.88
225.0	5878.37	5863.51	5529.31	4219.52	2502.31	1213.44	926.16	439.30	52.63
270.0	5848.09	5821.66	5328.36	4183.74	2509.47	1447.43	1011.39	437.15	49.50
315.0	5870.11	5671.36	5004.08	3597.39	2205.56	1412.20	908.76	308.92	45.37
360.0	5887.73	5698.34	5088.86	3991.04	2623.99	1535.52	997.62	426.14	53.35
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	24.78	22.41	21.36	20.10	18.22	16.41	14.37	13.82	13.38
45.0	21.69	20.37	20.37	20.10	18.50	16.68	14.92	14.15	13.71
90.0	26.32	22.08	20.98	20.37	18.88	16.90	14.81	14.04	13.54
135.0	35.79	25.60	22.90	21.58	20.15	17.84	15.53	14.31	13.76
180.0	23.34	19.99	18.50	17.51	16.24	15.80	14.53	14.04	13.65
225.0	20.59	19.21	18.94	18.50	17.51	16.19	14.65	14.15	13.82
270.0	23.73	20.98	19.93	19.10	17.84	16.19	14.31	13.82	13.60
315.0	25.71	21.47	19.99	19.38	17.73	16.02	14.20	13.71	13.43
360.0	24.78	22.41	21.36	20.10	18.22	16.41	14.37	13.82	13.38
C/ γ (°)	90.0								
0.0	12.94								
45.0	13.27								
90.0	13.10								
135.0	12.99								
180.0	12.88								
225.0	13.32								
270.0	13.05								
315.0	12.99								
360.0	12.94								