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Nata

Client:

LumCAT: 3-1884-L

Luminaire: 92.70.131.00

Report No: NT2018010915

Test No: GC2018010915

LampCAT:SEOUL SAWx15

Lamp flux(lm): 3105.0

Number of Lamps: 1

Length(mm): 74

Phm Type: C

Voltage(V): 34.6000

Current(A): 0.6400

Power (W): 21.1140

PF: 0.0000

Ballast type: DC

Width(mm): 74

Height(mm): 0

Photometric Results

Lumens(lm): 3046.55, Efficiency(%): 98.12% , Luminous Efficacy(lm/W): 144.29

Central intensity(cd): 7585.809, Maximum intensity(cd): 7585.809

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=34.6

[C90/270]Total=34.6

Field angle(10%Imax): [C0/180]Total=64.6

[C90/270]Total=64.6

Maximum s/h(1/2): C0_180=0.58 C90_270=0.58

Maximum s/h(1/4): C0_180=0.56 C90_270=0.56

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 99.49%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.113%

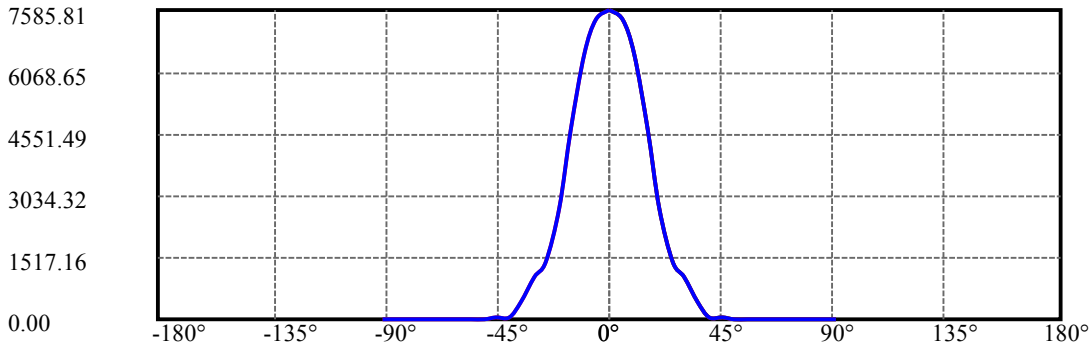
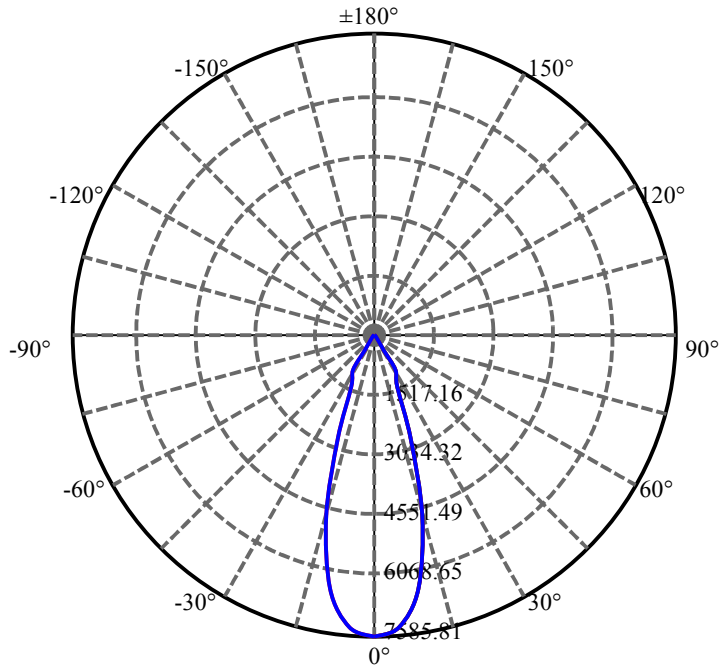
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7585.808	45.365	45.365	1.461%	1.489%
5.0	7356.636	351.451	396.816	11.319%	13.025%
10.0	6485.782	617.337	1014.152	19.882%	33.289%
15.0	4685.024	664.657	1678.809	21.406%	55.105%
20.0	2751.375	515.811	2194.62	16.612%	72.036%
25.0	1422.244	329.467	2524.087	10.611%	82.851%
30.0	1024.785	280.862	2804.949	9.045%	92.070%
35.0	443.748	139.514	2944.463	4.493%	96.649%
40.0	55.772	19.651	2964.113	.633%	97.294%
45.0	24.025	9.312	2973.425	.300%	97.600%
50.0	20.804	8.736	2982.161	.281%	97.887%
55.0	19.345	8.686	2990.847	.280%	98.172%
60.0	18.933	8.987	2999.834	.289%	98.467%
65.0	18.430	9.156	3008.99	.295%	98.767%
70.0	17.508	9.018	3018.008	.290%	99.063%
75.0	15.953	8.446	3026.454	.272%	99.341%
80.0	15.072	8.136	3034.59	.262%	99.608%
85.0	14.776	8.068	3042.659	.260%	99.872%
90.0	14.184	3.887	3046.546	.125%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2804.95	90.34%	92.07%
0-40	2964.11	95.46%	97.29%
0-60	2999.83	96.61%	98.47%
0-90	3042.66	97.99%	99.87%
0-120	3042.66	97.99%	99.87%
0-180	3046.55	98.12%	100.00%
60-90	51.81	1.67%	1.70%
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%
0-23.68	2437.24	78.49%	80.00%

ZONAL LUMEN SUMMARY

0-10	1014.15
10-20	1180.47
20-30	610.33
30-40	159.16
40-50	18.05
50-60	17.67
60-70	18.17
70-80	16.58
80-90	8.07
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: —————

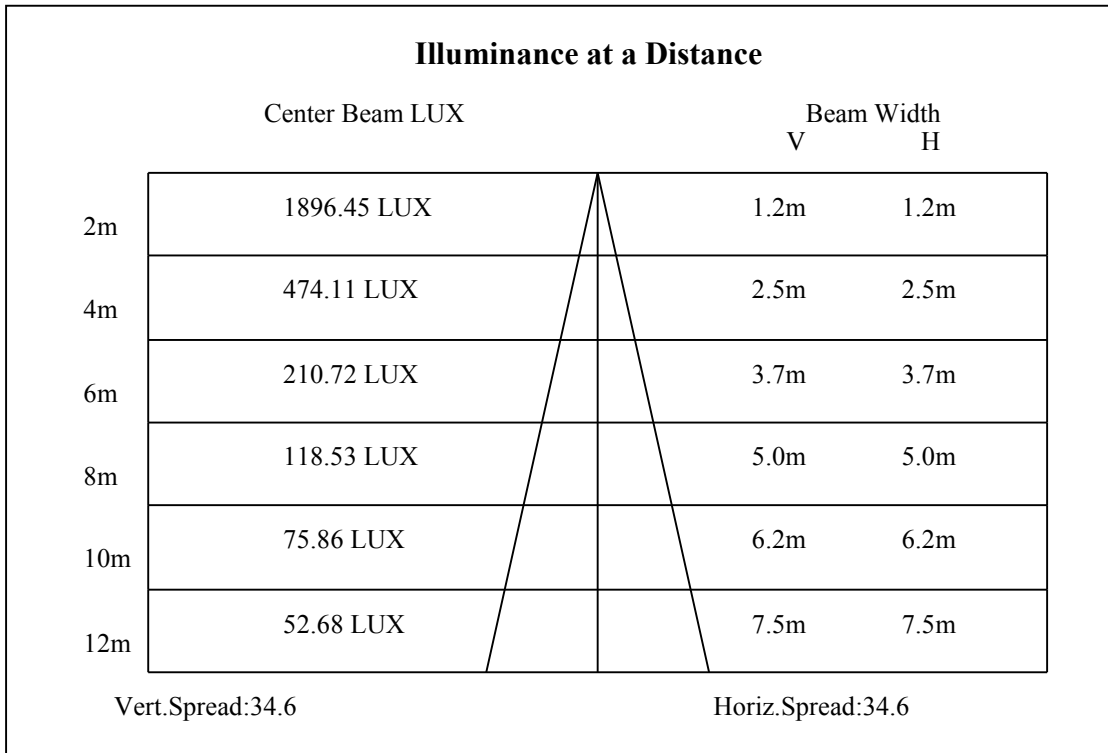
C90/C270: —————

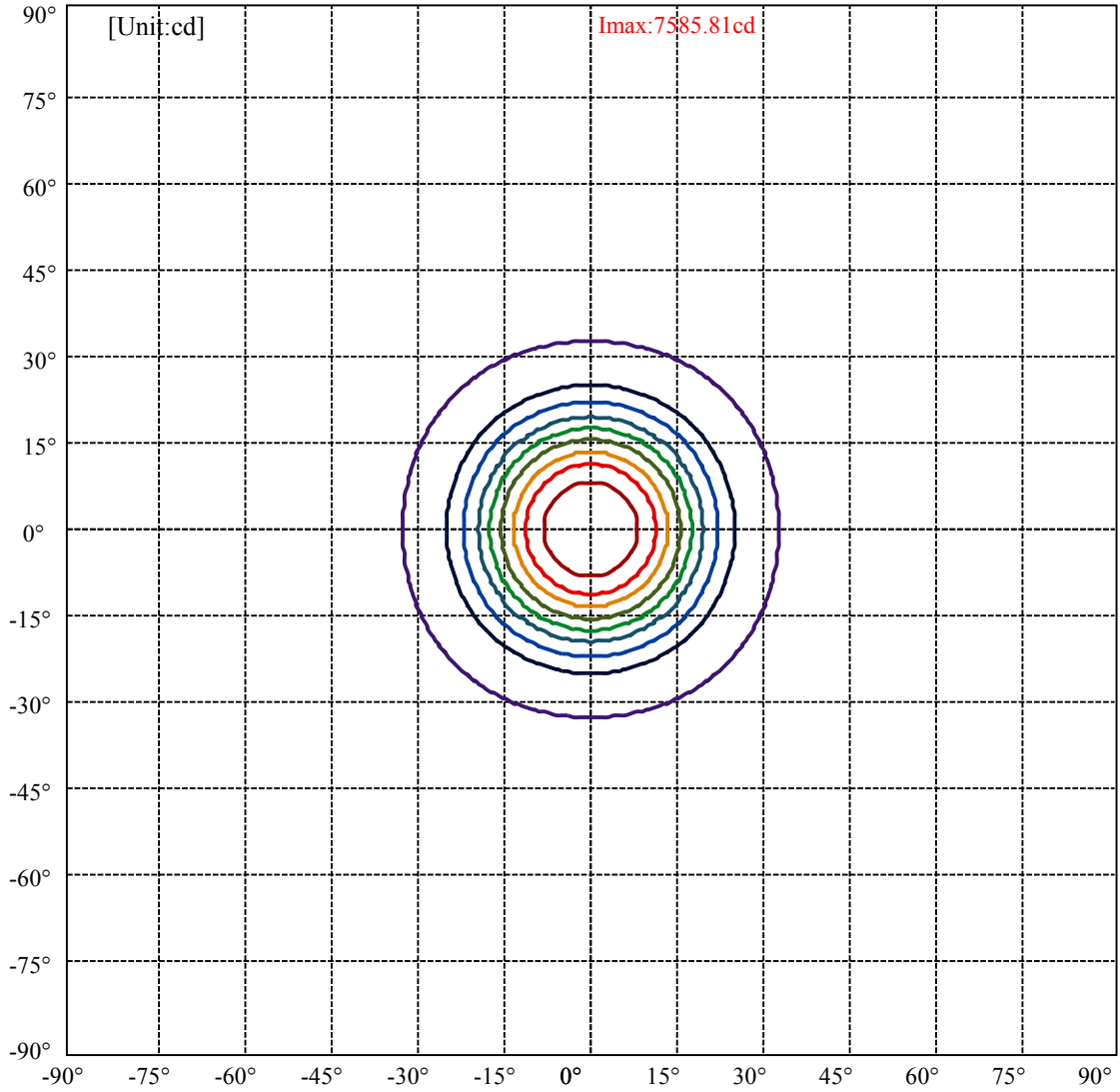
Field angle(10%Imax):C0/180Left:32.3 Right:32.3

:C90/270Left:32.3 Right:32.3

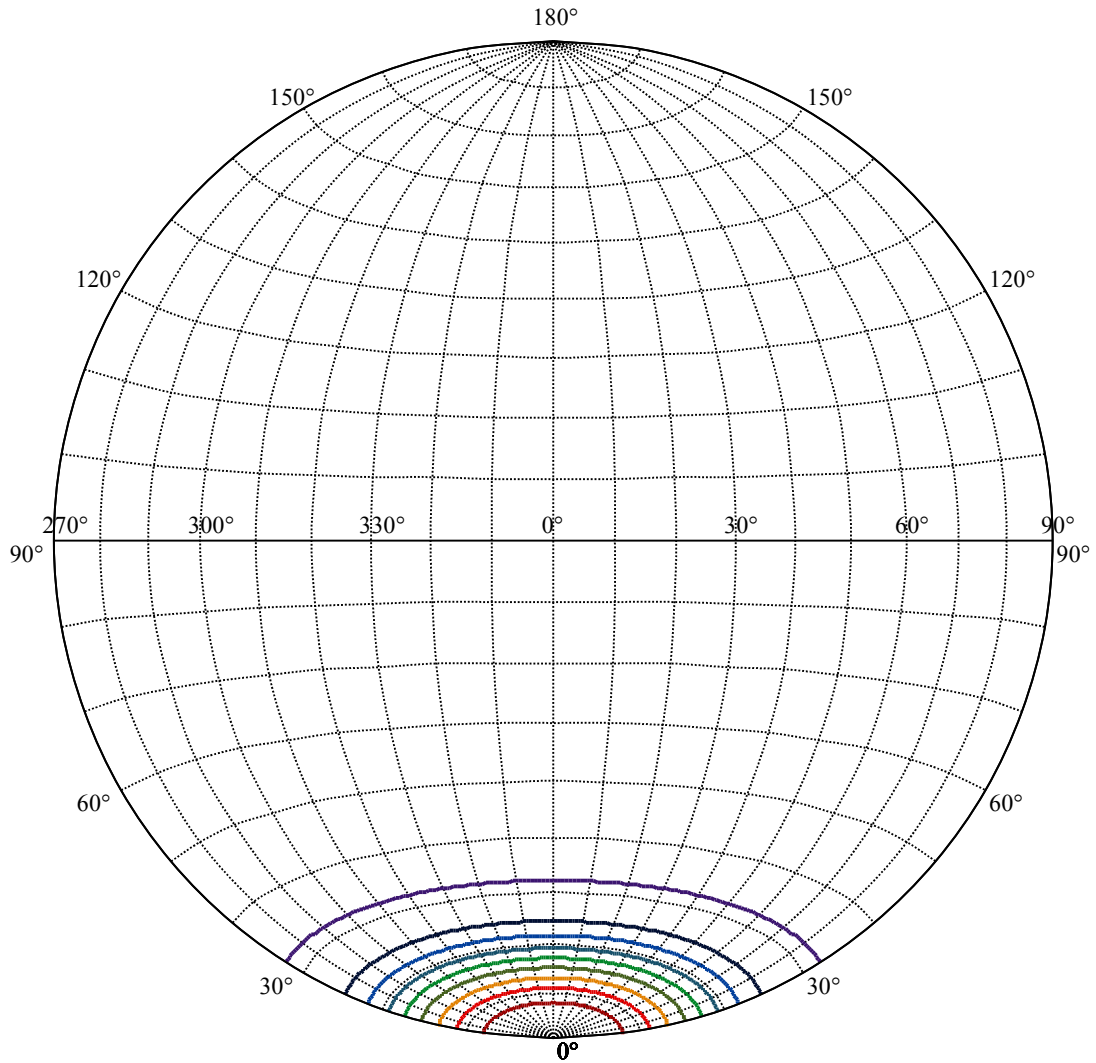
Beam Angle(50%Imax):C0/180Left:17.3 Right:17.3

:C90/270Left:17.3 Right:17.3





(10%Imax) 758.581	—
(20%Imax) 1517.16	—
(30%Imax) 2275.74	—
(40%Imax) 3034.32	—
(50%Imax) 3792.9	—
(60%Imax) 4551.49	—
(70%Imax) 5310.07	—
(80%Imax) 6068.65	—
(90%Imax) 6827.23	—



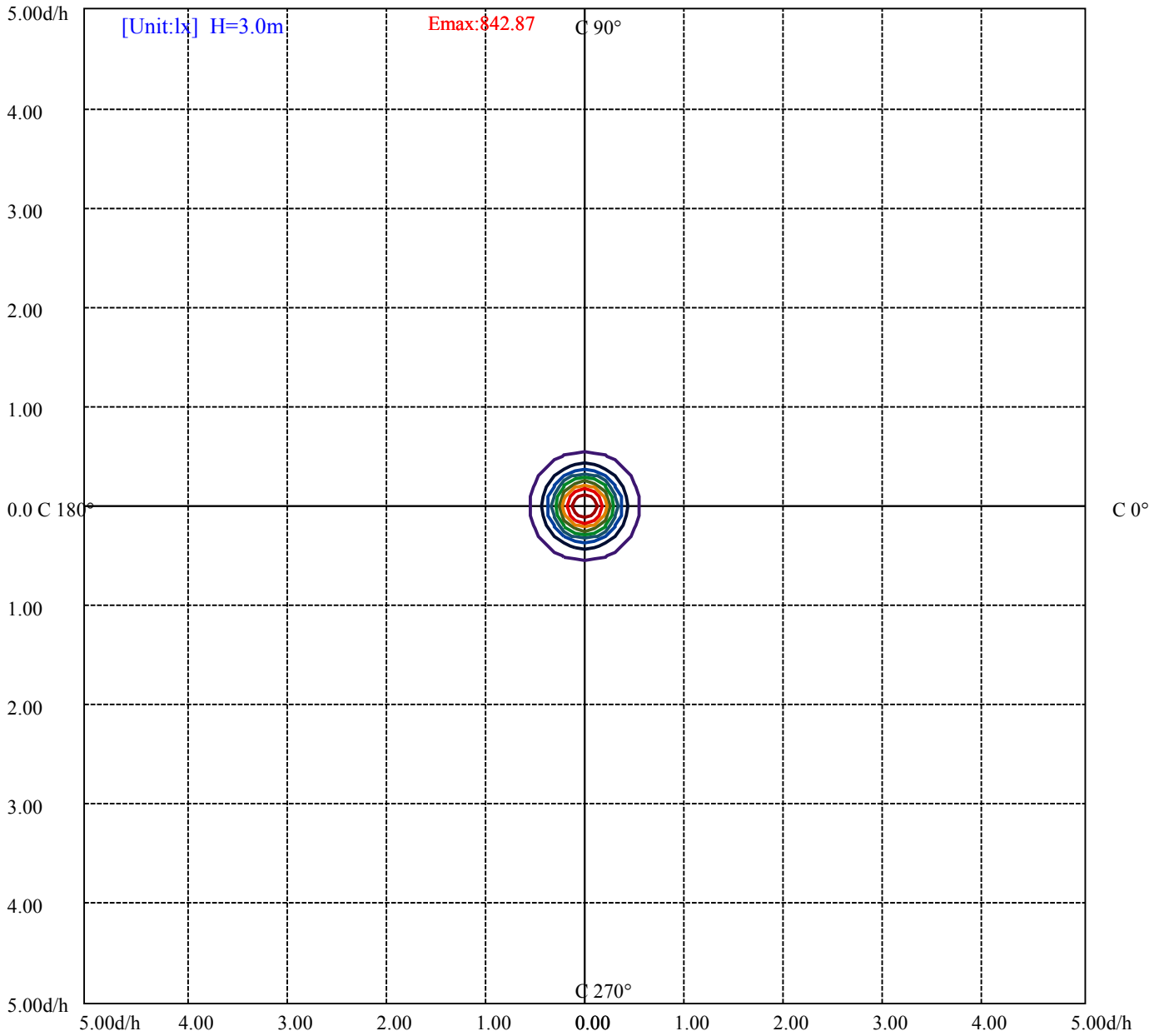
House

[Unit:cd]

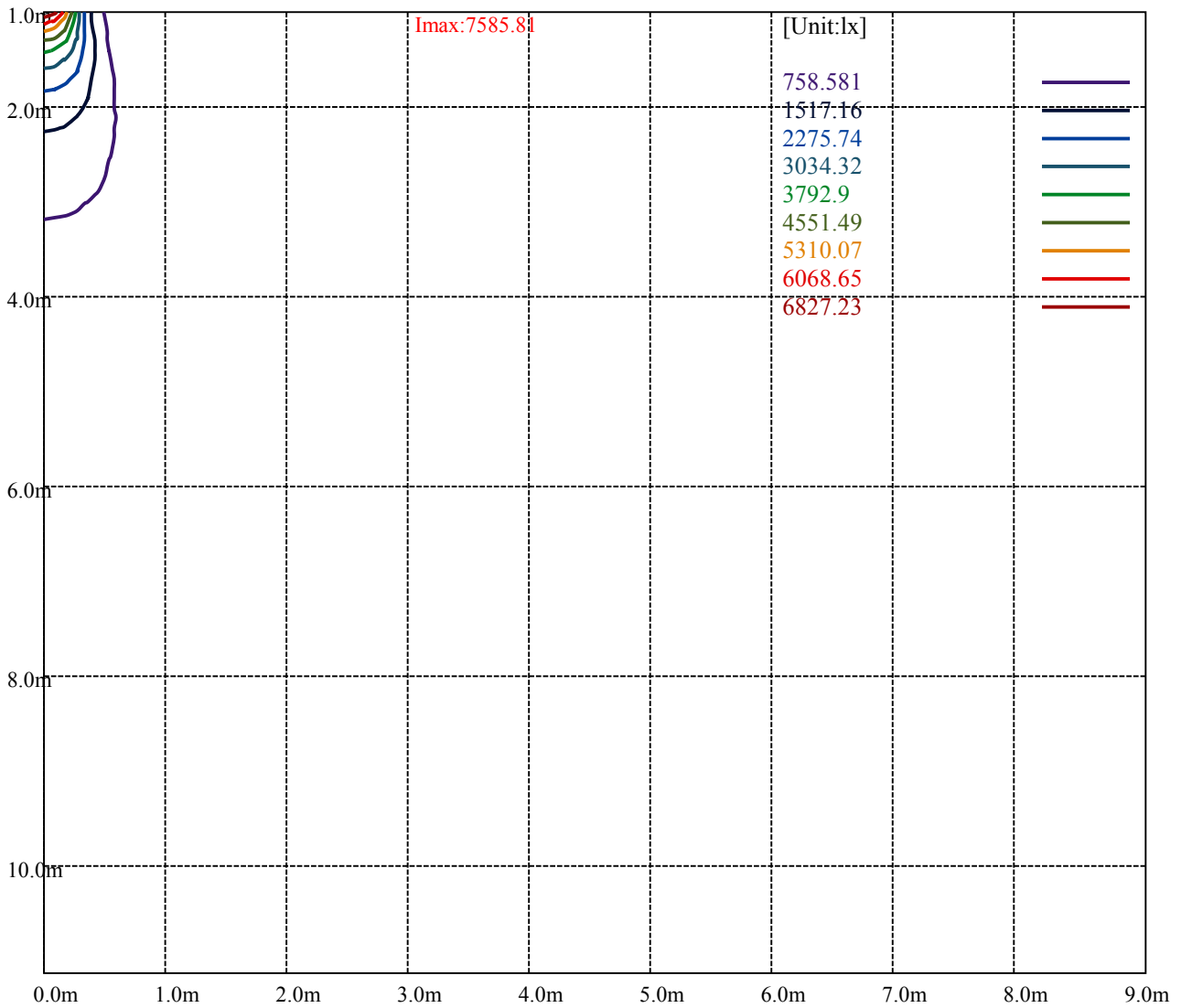
Road

Imax:7585.81

(10%Imax)	758.581	—
(20%Imax)	1517.16	—
(30%Imax)	2275.74	—
(40%Imax)	3034.32	—
(50%Imax)	3792.9	—
(60%Imax)	4551.49	—
(70%Imax)	5310.07	—
(80%Imax)	6068.65	—
(90%Imax)	6827.23	—



- (10%Emax) 84.28667
- (20%Emax) 168.5733
- (30%Emax) 252.86
- (40%Emax) 337.1467
- (50%Emax) 421.4333
- (60%Emax) 505.72
- (70%Emax) 590.0067
- (80%Emax) 674.2933
- (90%Emax) 758.58



Luminance Table

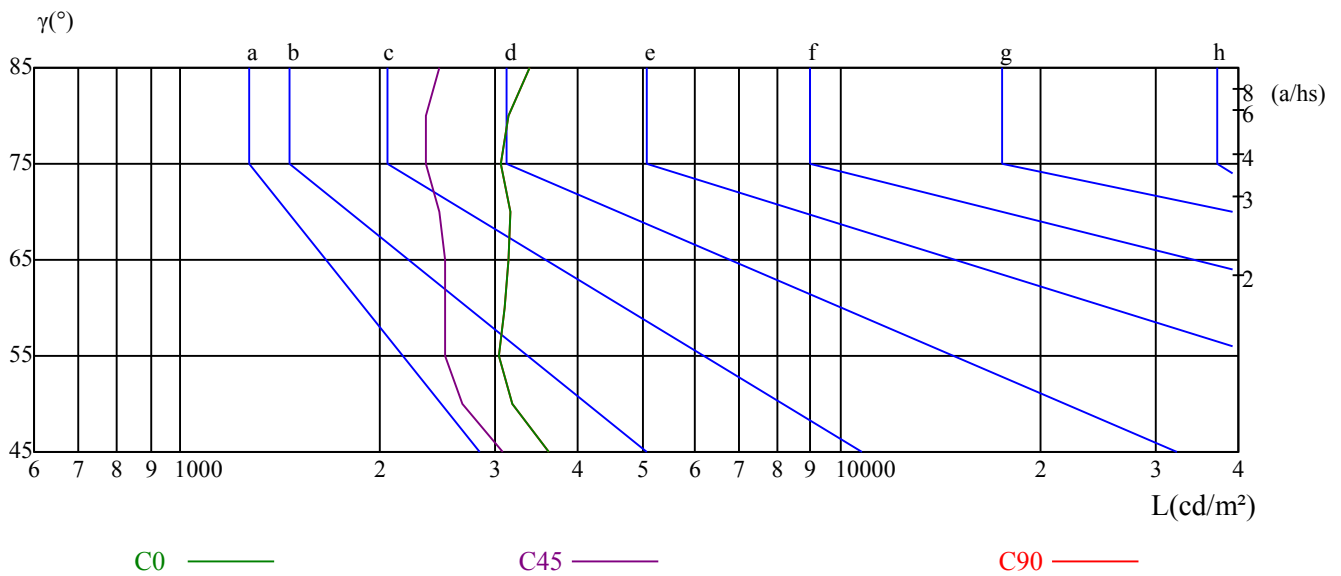
γ	45	50	55	60	65	70	75	80	85
C0	3615	3189	3045	3086	3140	3150	3064	3131	3370
C45	3082	2678	2518	2510	2511	2471	2355	2350	2462
C90	3615	3189	3045	3086	3140	3150	3064	3131	3370

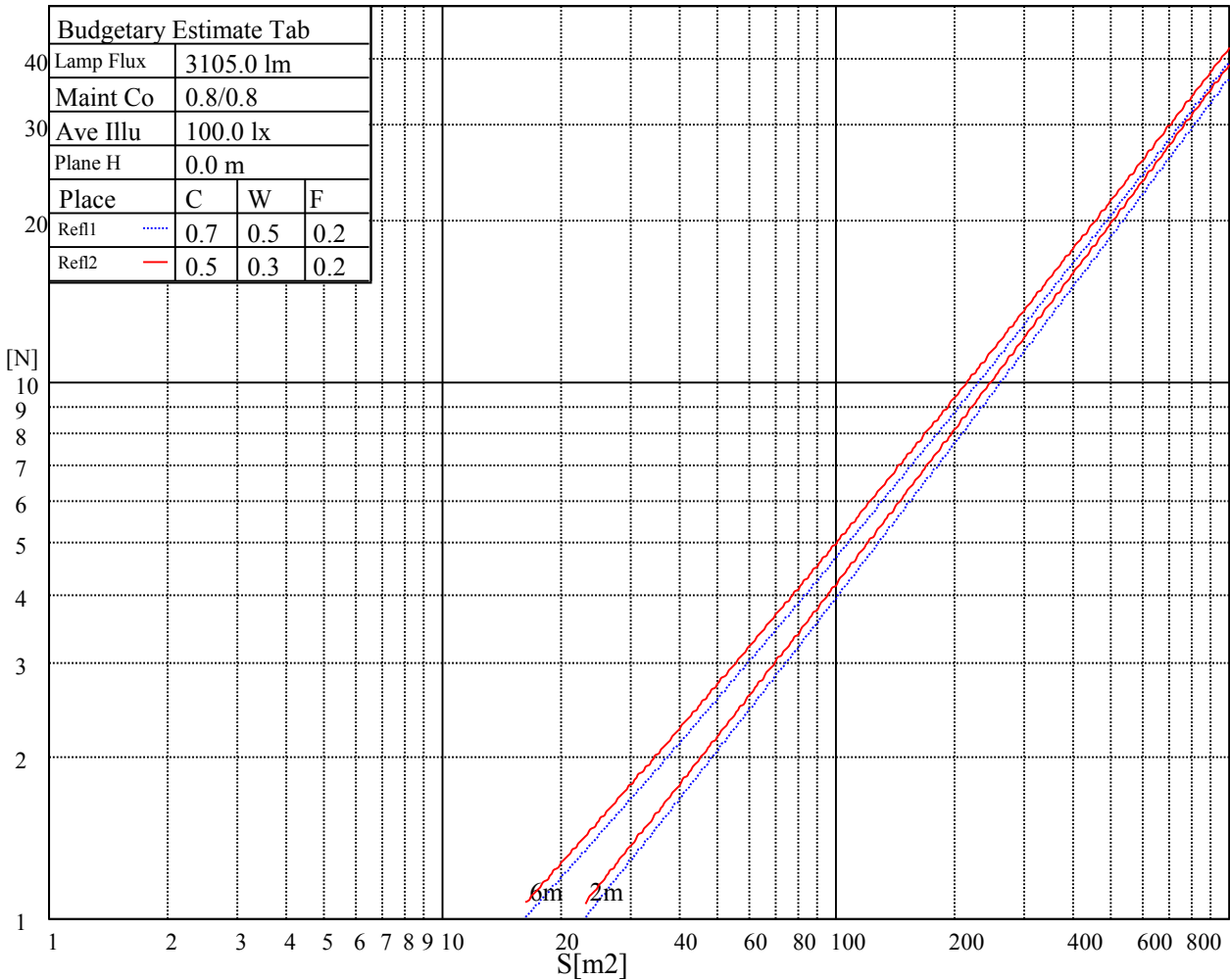
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7964	7964	7964	11256	11256	11256	30959	30959	30959

Glare Table

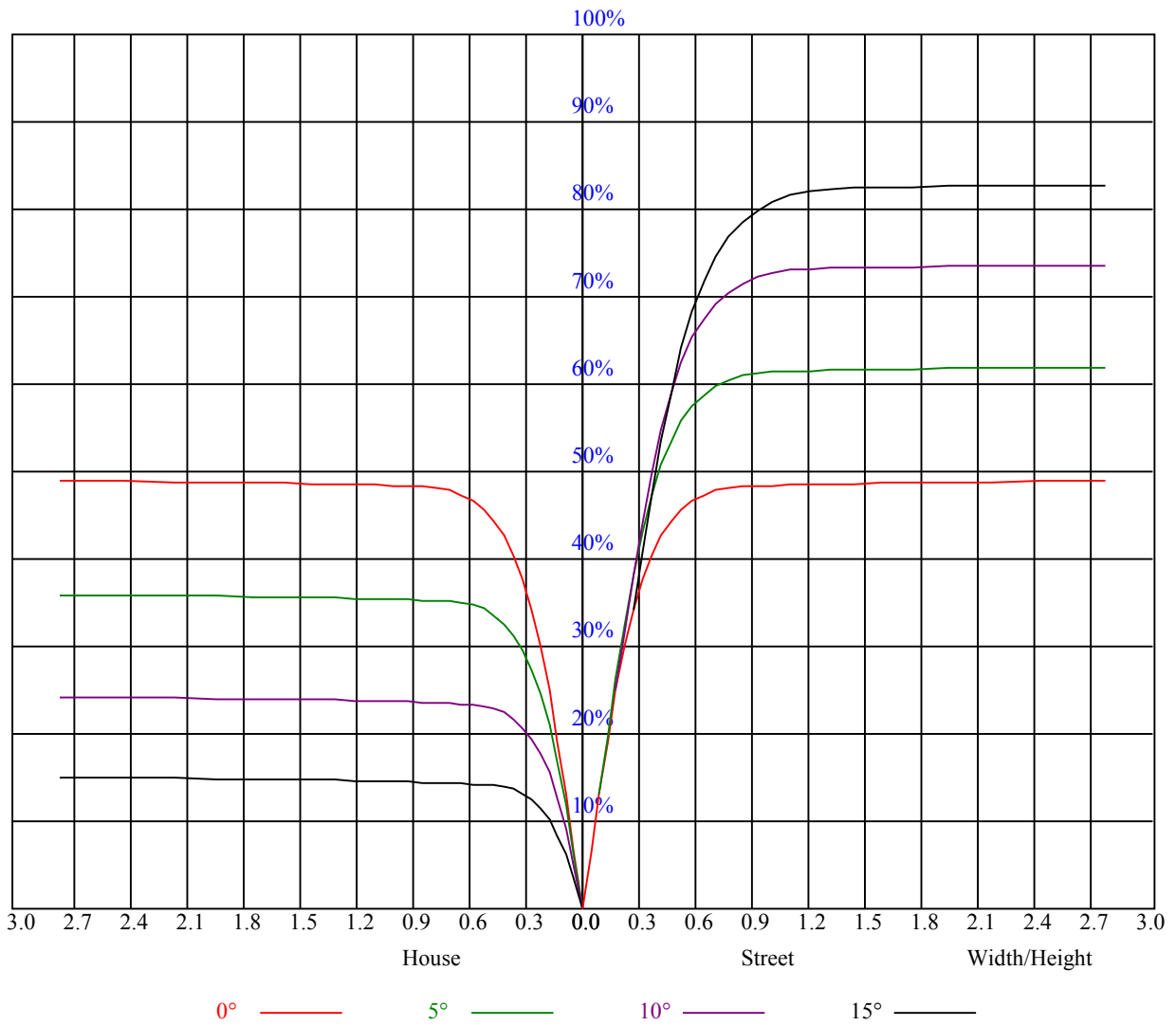
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

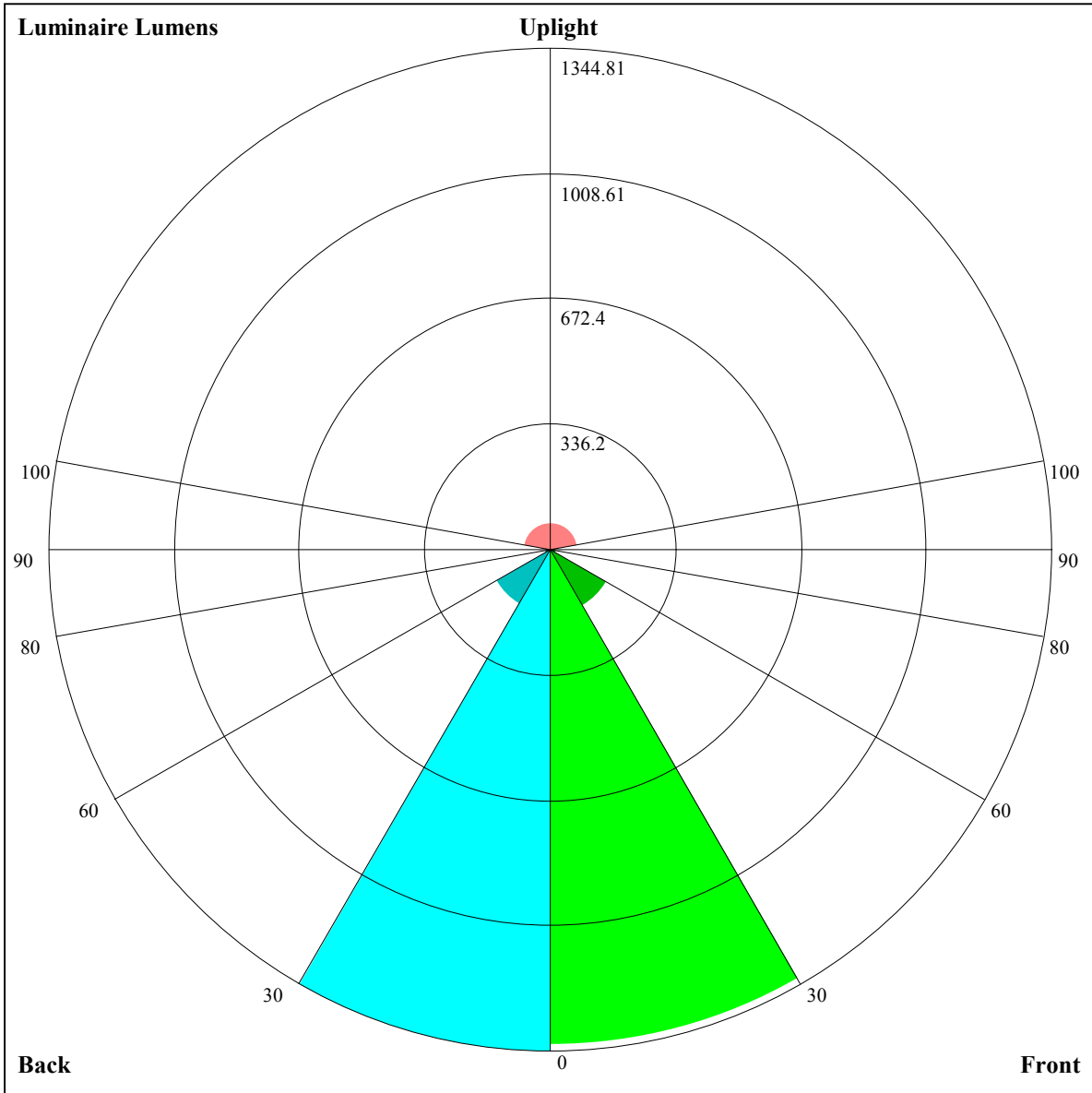
Luminance Limiting Curve





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	1.18	1.18	1.18	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	0.99
1	1.10	1.07	1.05	1.08	1.05	1.03	1.04	1.02	1.00	1.00	0.98	0.97	0.96	0.95	0.94	0.92
2	1.04	1.00	0.97	1.02	0.99	0.96	0.99	0.96	0.94	0.96	0.94	0.92	0.93	0.92	0.90	0.89
3	0.99	0.95	0.91	0.98	0.94	0.91	0.95	0.92	0.89	0.93	0.90	0.88	0.91	0.88	0.87	0.85
4	0.95	0.90	0.87	0.94	0.89	0.86	0.92	0.88	0.85	0.90	0.87	0.84	0.88	0.85	0.83	0.82
5	0.91	0.86	0.83	0.90	0.86	0.82	0.88	0.85	0.82	0.87	0.84	0.81	0.85	0.83	0.80	0.79
6	0.87	0.83	0.79	0.87	0.82	0.79	0.85	0.81	0.79	0.84	0.81	0.78	0.83	0.80	0.78	0.76
7	0.84	0.80	0.76	0.84	0.79	0.76	0.83	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.74
8	0.81	0.77	0.74	0.81	0.76	0.73	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.73	0.72
9	0.79	0.74	0.71	0.78	0.74	0.71	0.77	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.69
10	0.76	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.67





Luminaire Lumens:

FL=1329.87,FM=174.55,FH=17.88,FVH=7.96

BL=1344.81,BM=169,BH=17.54,BVH=8.05

UL=15.48,UH=73.64

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	7615.40	7322.50	6361.22	4740.36	2823.84	1400.08	1058.73	493.86	46.85
45.0	7599.43	7054.93	5910.30	4464.52	2889.91	1576.26	1106.63	436.05	49.44
90.0	7541.63	6920.04	5762.75	4259.71	2540.85	1369.80	977.03	333.53	40.14
135.0	7585.12	7424.36	6797.81	5081.71	2909.73	1375.31	978.90	457.52	33.14
180.0	7615.40	7554.29	6697.06	4444.15	2288.69	1187.02	914.16	298.57	32.32
225.0	7599.43	7575.21	6817.08	4831.75	2802.37	1520.11	1079.66	509.16	55.33
270.0	7541.63	7590.08	6938.76	5165.94	3144.82	1665.46	1153.43	606.17	154.93
315.0	7588.42	7411.69	6601.26	4492.05	2610.77	1283.92	929.74	415.13	34.02
360.0	7615.40	7322.50	6361.22	4740.36	2823.84	1400.08	1058.73	493.86	46.85
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	24.56	20.92	18.99	19.55	18.88	17.95	16.19	14.92	14.53
45.0	30.72	25.27	22.52	21.42	20.43	18.39	16.24	14.98	14.70
90.0	26.81	23.95	22.52	21.75	20.70	18.33	15.47	14.76	14.76
135.0	20.10	18.55	17.89	17.56	16.79	16.35	15.69	15.14	15.03
180.0	22.41	20.15	18.83	18.44	18.22	17.89	16.74	16.08	15.36
225.0	22.68	18.77	17.56	17.34	17.34	16.85	15.69	14.87	14.53
270.0	24.94	20.87	19.55	18.88	18.39	17.73	15.91	14.92	14.53
315.0	19.99	17.95	16.90	16.52	16.68	16.57	15.69	14.92	14.76
360.0	24.56	20.92	18.99	19.55	18.88	17.95	16.19	14.92	14.53
C/ γ (°)	90.0								
0.0	14.15								
45.0	14.15								
90.0	14.15								
135.0	14.26								
180.0	14.20								
225.0	14.20								
270.0	14.15								
315.0	14.20								
360.0	14.15								