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Nata

Client:

LumCAT: 3-1884-L

Luminaire: 92.70.131.00

Report No: NT2018011006

Test No: GC2018011006

LampCAT: CITIZEN CLU038

Lamp flux(lm): 2870.0

Number of Lamps: 1

Length(mm): 74

Phm Type: C

Voltage(V): 34.8000

Current(A): 0.6400

Power (W): 22.2720

PF: 0.0000

Ballast type: DC

Width(mm): 74

Height(mm): 0

Photometric Results

Lumens(lm): 2808.67, Efficiency(%): 97.86% , Luminous Efficacy(lm/W): 126.11

Central intensity(cd): 7295.249, Maximum intensity(cd): 7295.249

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=33.2

[C90/270]Total=33.2

Field angle(10%Imax): [C0/180]Total=63.8

[C90/270]Total=63.8

Maximum s/h(1/2): C0_180=0.55 C90_270=0.55

Maximum s/h(1/4): C0_180=0.55 C90_270=0.55

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 99.29%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.051%

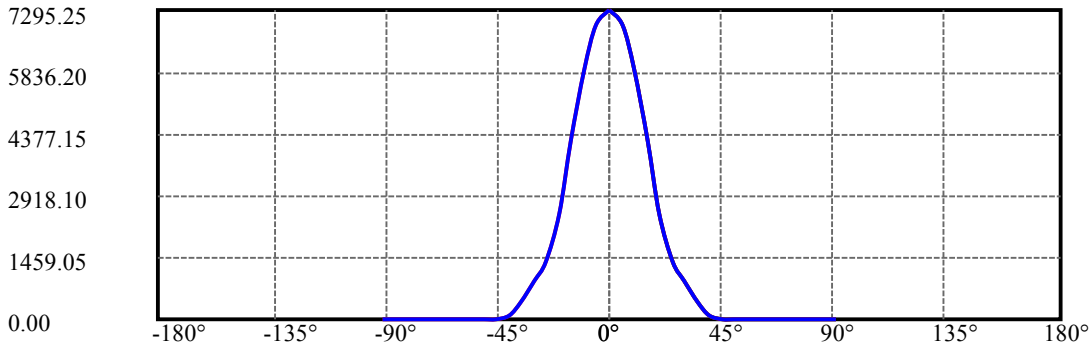
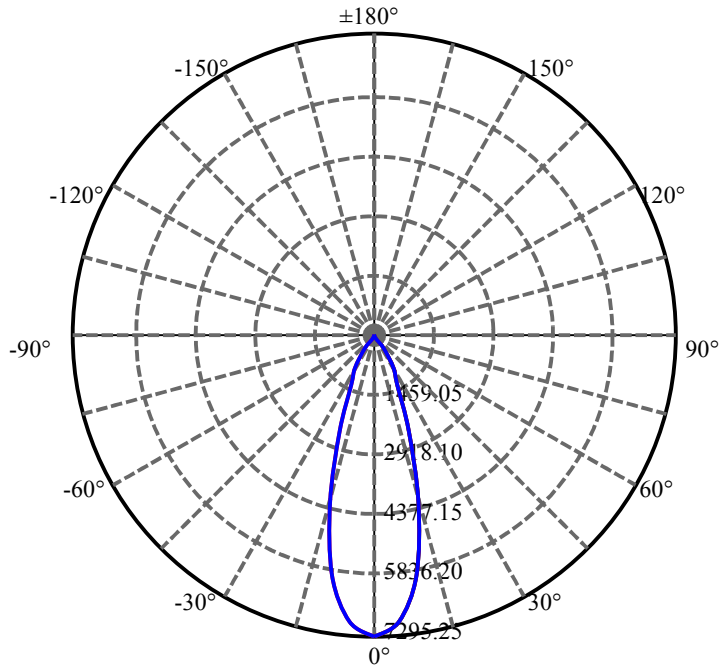
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7295.248	43.627	43.627	1.520%	1.553%
5.0	6947.292	331.895	375.522	11.564%	13.370%
10.0	5884.634	560.118	935.64	19.516%	33.313%
15.0	4197.293	595.463	1531.103	20.748%	54.513%
20.0	2494.950	467.738	1998.841	16.297%	71.167%
25.0	1353.596	313.564	2312.406	10.926%	82.331%
30.0	922.208	252.748	2565.154	8.807%	91.330%
35.0	412.262	129.615	2694.769	4.516%	95.945%
40.0	108.372	38.183	2732.952	1.330%	97.304%
45.0	22.215	8.610	2741.563	.300%	97.611%
50.0	19.036	7.993	2749.556	.279%	97.895%
55.0	17.604	7.904	2757.46	.275%	98.177%
60.0	17.123	8.128	2765.588	.283%	98.466%
65.0	16.992	8.441	2774.029	.294%	98.766%
70.0	16.200	8.344	2782.374	.291%	99.064%
75.0	14.700	7.783	2790.157	.271%	99.341%
80.0	13.881	7.493	2797.65	.261%	99.607%
85.0	13.565	7.407	2805.057	.258%	99.871%
90.0	13.200	3.618	2808.675	.126%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2565.15	89.38%	91.33%
0-40	2732.95	95.22%	97.30%
0-60	2765.59	96.36%	98.47%
0-90	2805.06	97.74%	99.87%
0-120	2805.06	97.74%	99.87%
0-180	2808.67	97.86%	100.00%
60-90	47.60	1.66%	1.69%
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%
0-23.96	2246.94	78.29%	80.00%

ZONAL LUMEN SUMMARY

0-10	935.64
10-20	1063.20
20-30	566.31
30-40	167.80
40-50	16.60
50-60	16.03
60-70	16.79
70-80	15.28
80-90	7.41
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



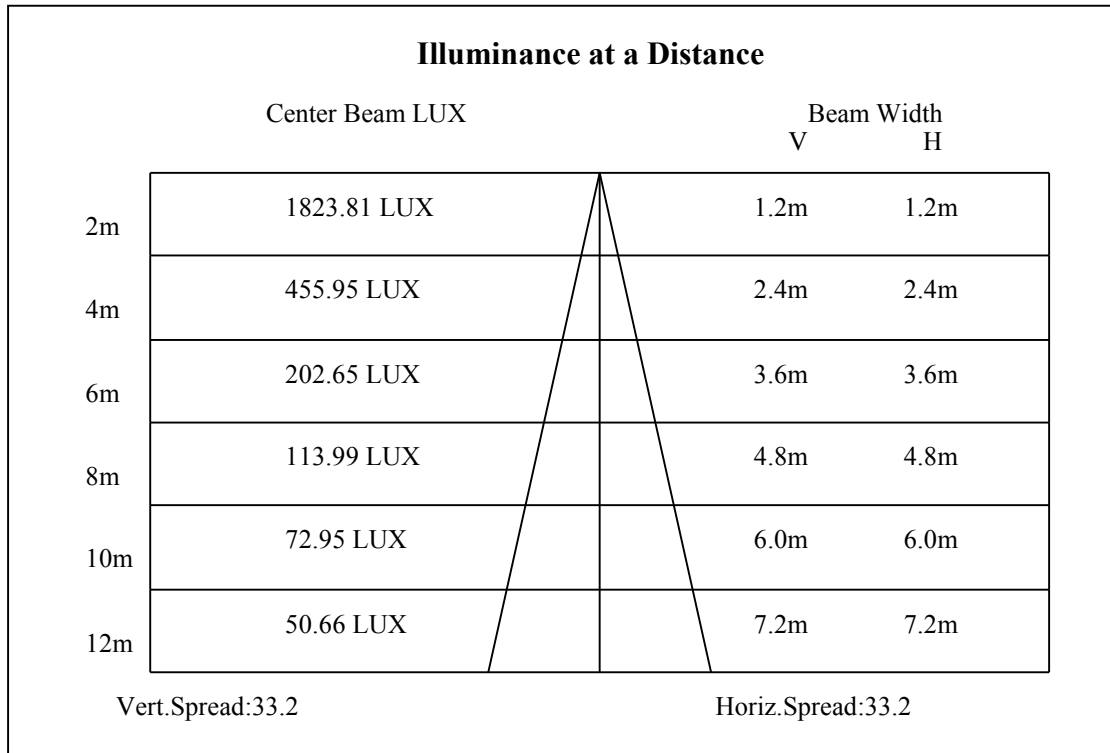
C0(Max): —————

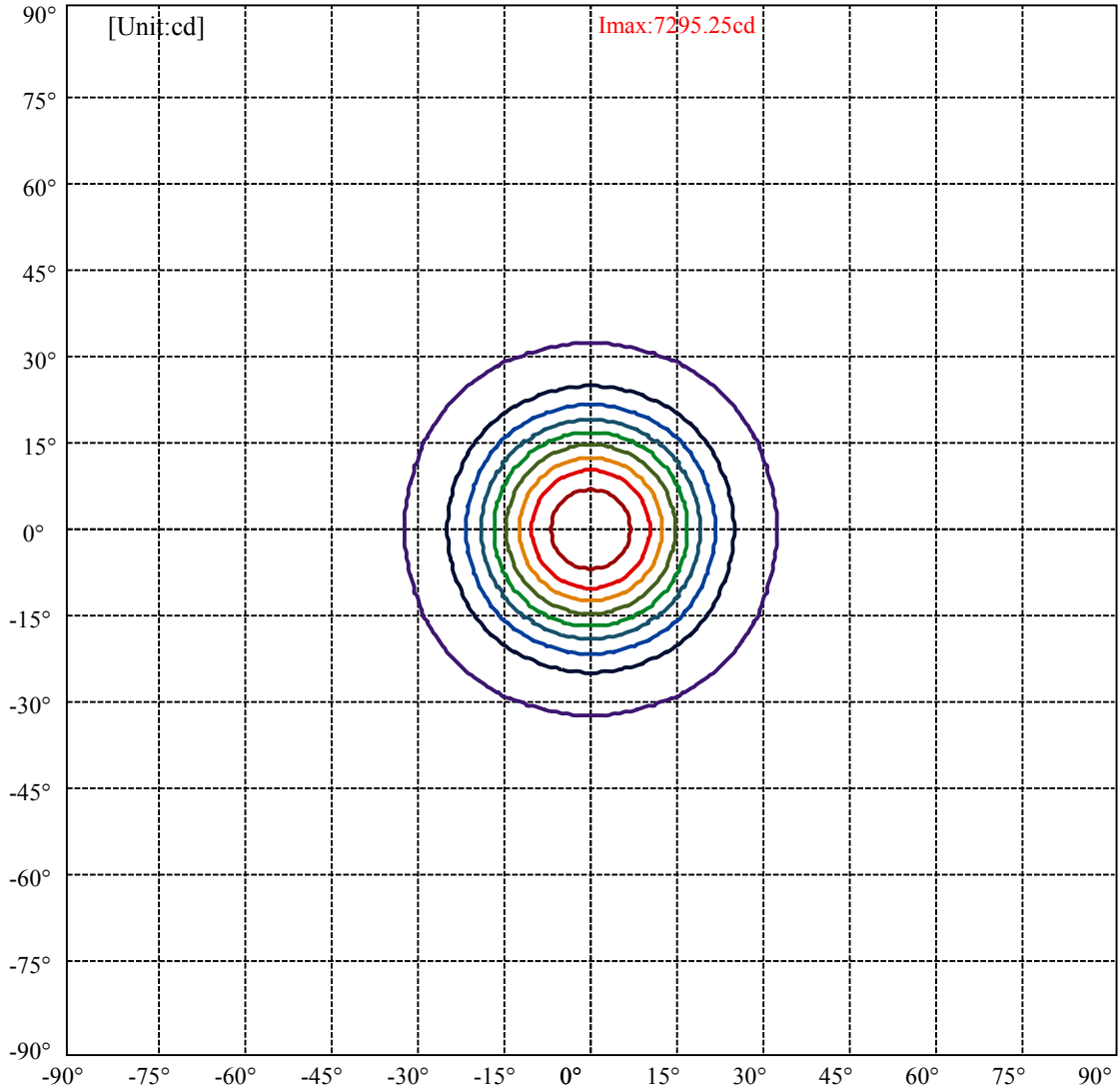
C0/C180: —————

C90/C270: —————

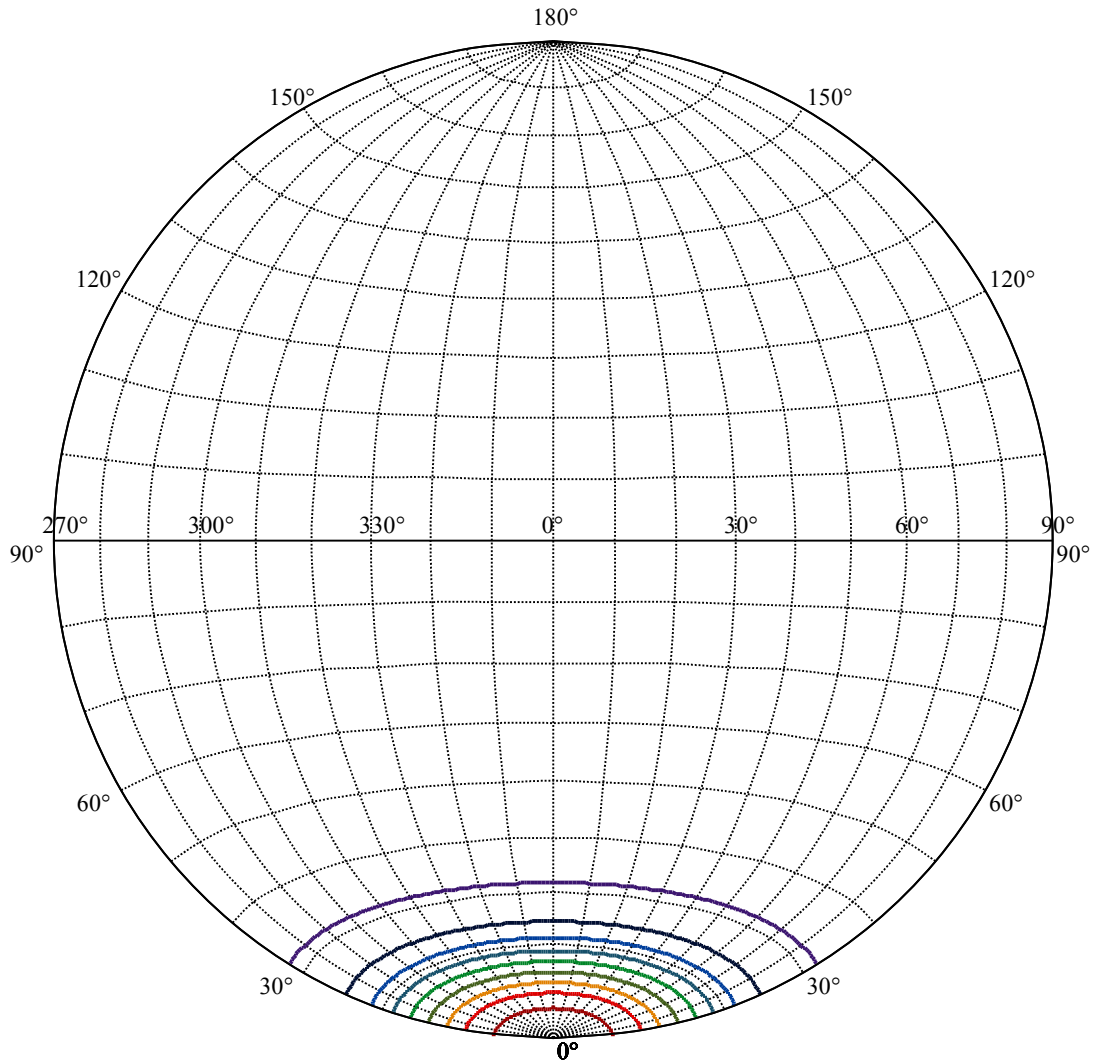
Field angle(10%Imax):C0/180Left:31.9 Right:31.9
:C90/270Left:31.9 Right:31.9

Beam Angle(50%Imax):C0/180Left:16.6 Right:16.6
:C90/270Left:16.6 Right:16.6





(10%Imax) 729.525	—
(20%Imax) 1459.05	—
(30%Imax) 2188.57	—
(40%Imax) 2918.1	—
(50%Imax) 3647.62	—
(60%Imax) 4377.15	—
(70%Imax) 5106.67	—
(80%Imax) 5836.2	—
(90%Imax) 6565.72	—



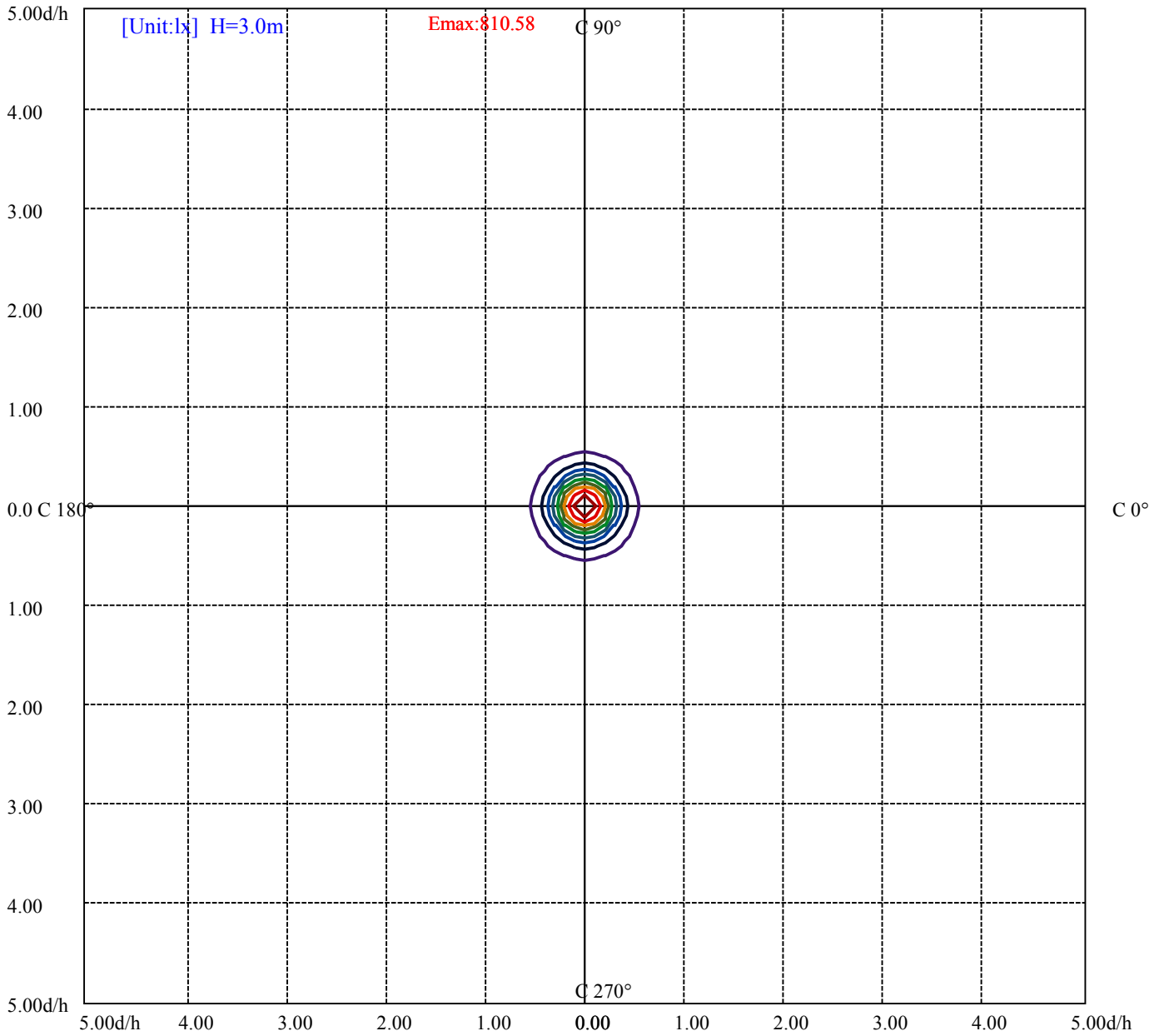
House

[Unit:cd]

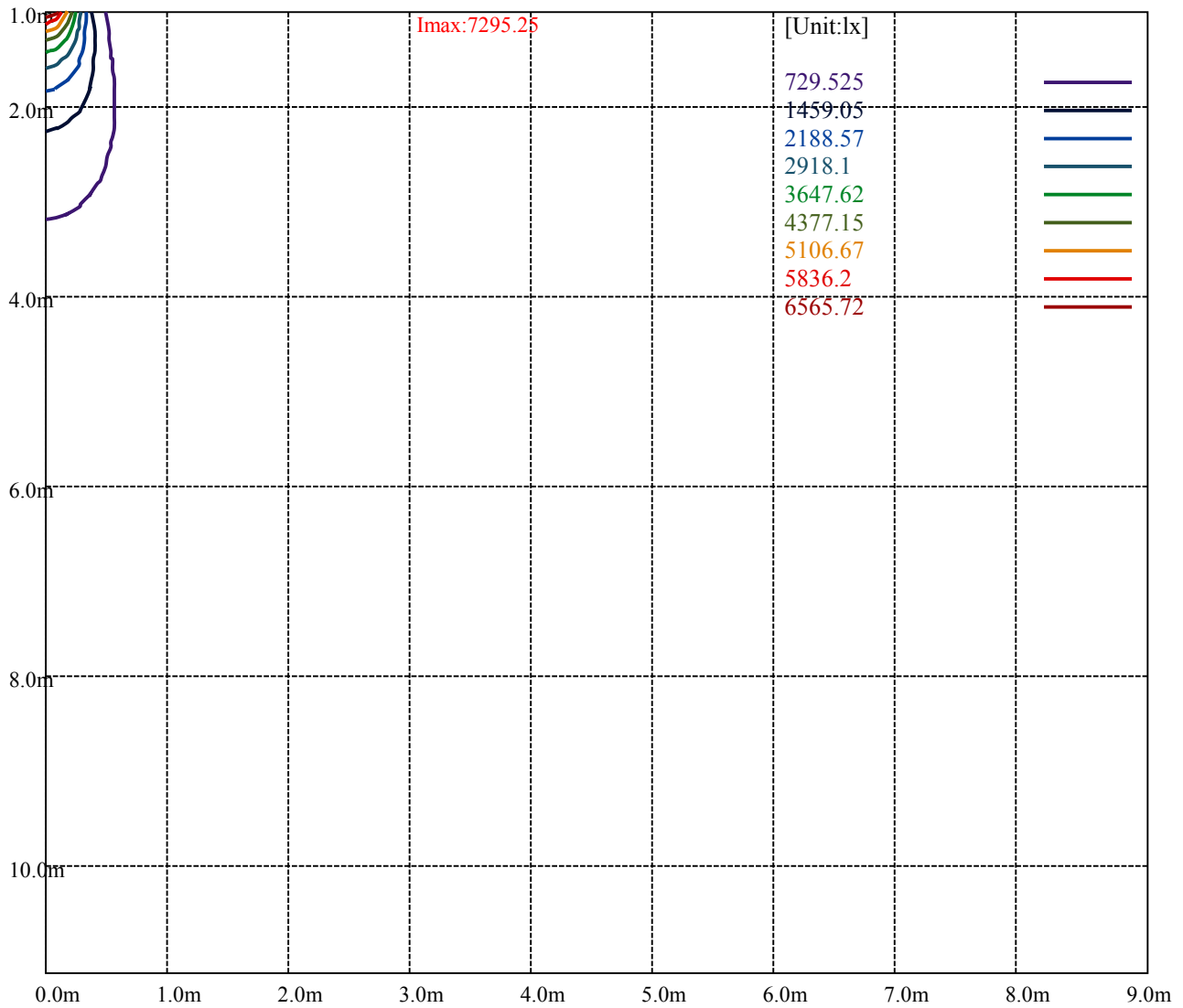
Road

Imax:7295.25

(10%Imax) 729.525	—
(20%Imax) 1459.05	—
(30%Imax) 2188.57	—
(40%Imax) 2918.1	—
(50%Imax) 3647.62	—
(60%Imax) 4377.15	—
(70%Imax) 5106.67	—
(80%Imax) 5836.2	—
(90%Imax) 6565.72	—



- (10%Emax) 81.05822
- (20%Emax) 162.1167
- (30%Emax) 243.1745
- (40%Emax) 324.2333
- (50%Emax) 405.2911
- (60%Emax) 486.3489
- (70%Emax) 567.4078
- (80%Emax) 648.4656
- (90%Emax) 729.5233



Luminance Table

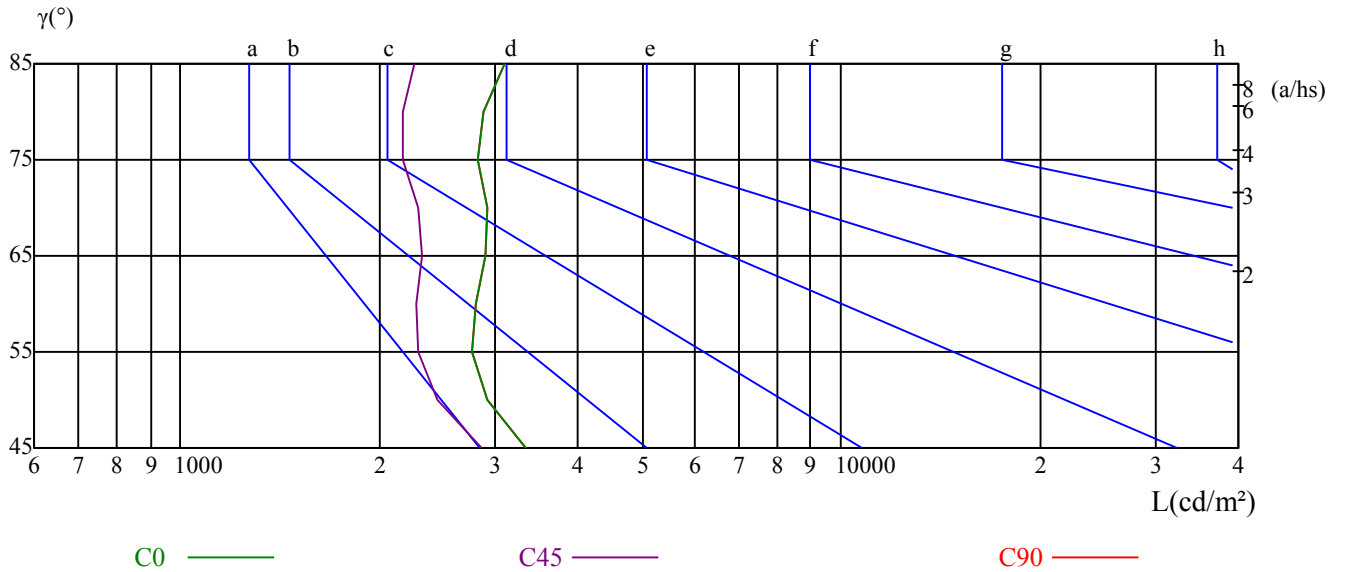
γ	45	50	55	60	65	70	75	80	85
C0	3343	2918	2771	2791	2895	2915	2824	2884	3094
C45	2850	2450	2291	2270	2315	2287	2170	2164	2260
C90	3343	2918	2771	2791	2895	2915	2824	2884	3094

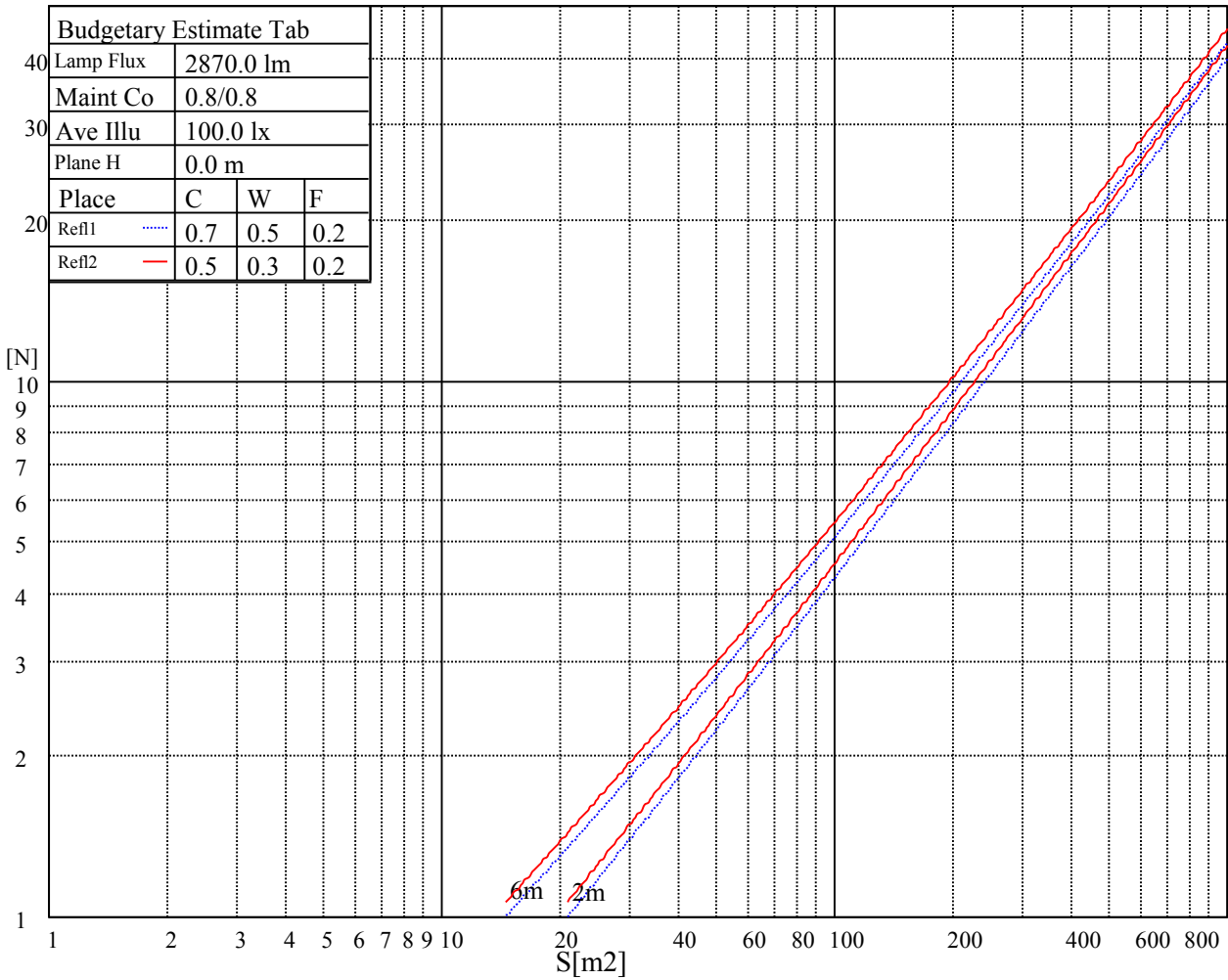
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7342	7342	7342	10372	10372	10372	28421	28421	28421

Glare Table

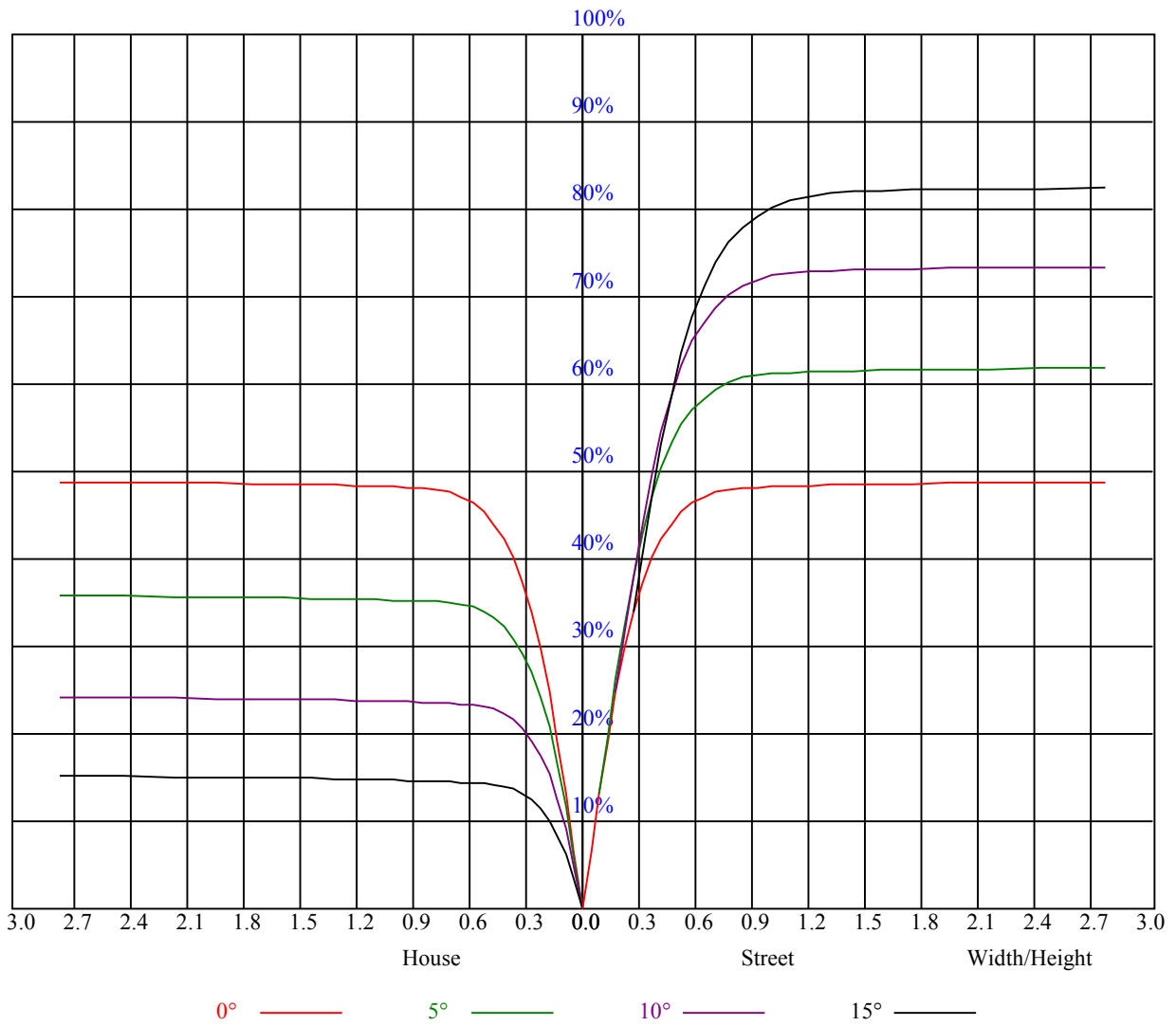
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

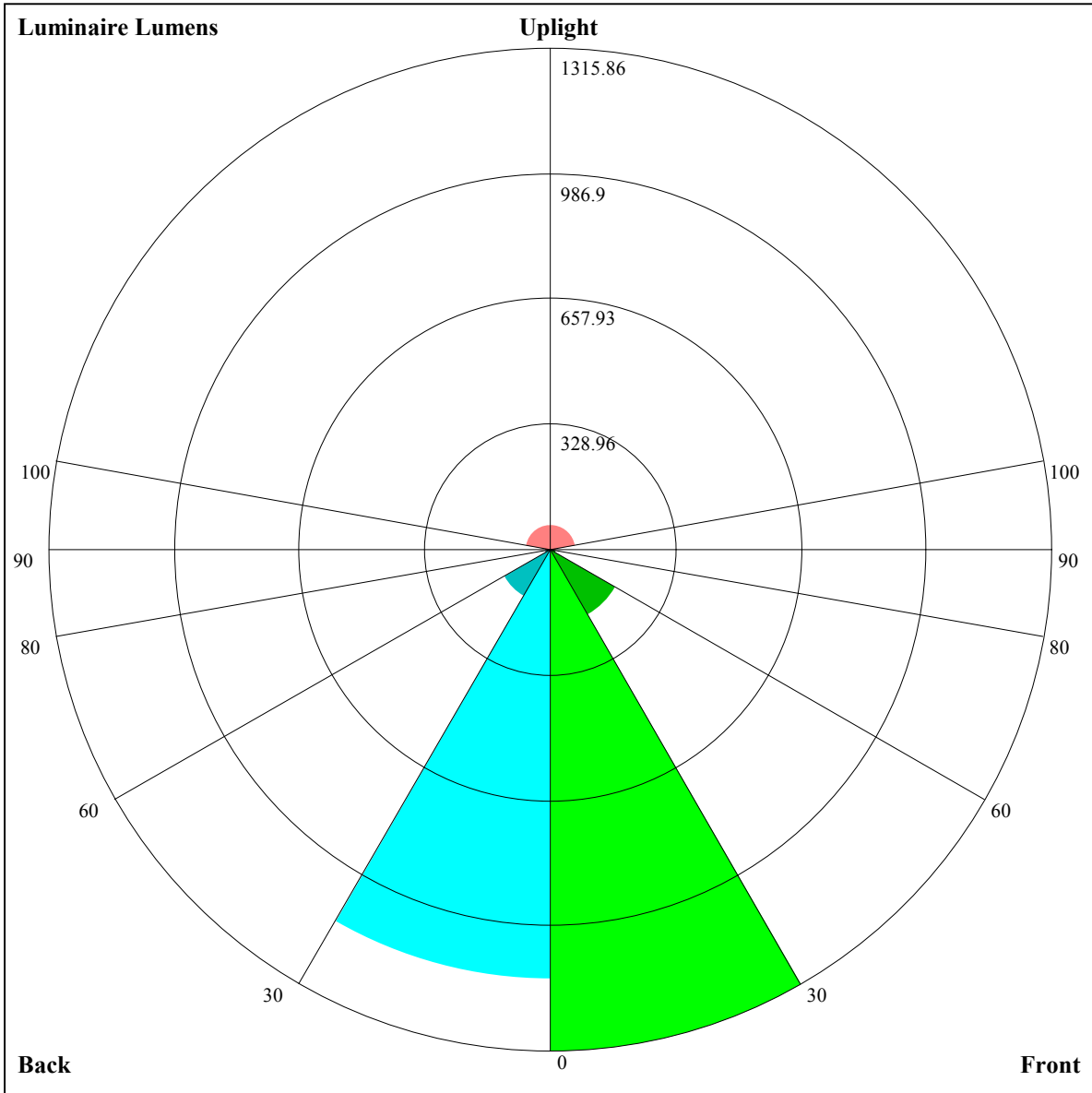
Luminance Limiting Curve





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	1.15	1.15	1.15	1.10	1.10	1.10	1.06	1.06	1.06	1.01	1.01	1.01	0.99
1	1.09	1.07	1.04	1.07	1.05	1.03	1.03	1.01	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	0.91	0.90	0.88
3	0.99	0.94	0.91	0.97	0.93	0.90	0.95	0.92	0.89	0.92	0.90	0.87	0.90	0.88	0.86	0.85
4	0.94	0.90	0.86	0.93	0.89	0.86	0.91	0.88	0.85	0.89	0.86	0.84	0.88	0.85	0.83	0.82
5	0.90	0.86	0.82	0.90	0.85	0.82	0.88	0.84	0.81	0.86	0.83	0.80	0.85	0.82	0.80	0.79
6	0.87	0.82	0.79	0.86	0.82	0.79	0.85	0.81	0.78	0.84	0.80	0.78	0.82	0.79	0.77	0.76
7	0.84	0.79	0.76	0.83	0.79	0.76	0.82	0.78	0.75	0.81	0.77	0.75	0.80	0.77	0.74	0.73
8	0.81	0.76	0.73	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.72	0.78	0.74	0.72	0.71
9	0.78	0.74	0.71	0.78	0.73	0.70	0.77	0.73	0.70	0.76	0.73	0.70	0.75	0.72	0.70	0.69
10	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	0.68	0.67





Luminaire Lumens:

FL=1315.86,FM=195.73,FH=16.63,FVH=7.4

BL=1129.81,BM=139.66,BH=15.74,BVH=7.34

UL=14.4,UH=68.53

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	7253.68	7209.09	6594.11	5272.20	3537.37	1701.79	1085.16	671.69	301.71
45.0	7302.68	7181.01	6345.80	4468.93	2388.35	1209.59	916.14	392.00	34.13
90.0	7324.70	7033.46	5606.39	3430.01	1855.40	1086.43	788.35	226.34	26.26
135.0	7299.93	6961.33	5573.36	3684.37	1915.96	1169.40	807.68	291.80	27.80
180.0	7253.68	6510.97	5241.92	3319.90	1614.25	1045.08	684.90	117.71	22.46
225.0	7302.68	6640.90	5543.08	3991.59	2190.69	1086.26	878.65	312.94	29.57
270.0	7324.70	7005.93	6032.53	4729.90	3262.09	1752.45	1127.00	660.13	301.71
315.0	7299.93	7035.66	6139.89	4681.45	3195.47	1777.77	1089.79	625.50	123.33
360.0	7253.68	7209.09	6594.11	5272.20	3537.37	1701.79	1085.16	671.69	301.71

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	25.11	21.80	20.32	19.21	18.33	17.12	15.53	14.42	13.87
45.0	20.76	17.89	16.13	15.64	15.69	15.36	14.42	13.71	13.38
90.0	17.84	16.13	15.42	15.42	15.75	15.14	13.82	13.49	13.32
135.0	18.66	16.90	16.46	16.74	16.79	15.58	14.20	13.82	13.43
180.0	18.17	16.79	16.08	16.02	16.02	15.25	14.20	13.93	13.82
225.0	18.83	16.96	15.97	15.58	15.53	15.20	14.20	13.65	13.38
270.0	26.92	21.31	18.88	18.11	18.00	17.45	15.36	13.82	13.43
315.0	31.44	24.50	21.58	20.26	19.82	18.50	15.86	14.20	13.87
360.0	25.11	21.80	20.32	19.21	18.33	17.12	15.53	14.42	13.87

C/γ(°)	90.0
0.0	13.54
45.0	13.05
90.0	12.99
135.0	13.16
180.0	13.38
225.0	13.10
270.0	13.16
315.0	13.21
360.0	13.54