



NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.cn
Tel:+86 750 3770000 Fax:+86 750 3771111
Address:380Jinou Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

Client:

LumCAT: 2-1778-L

Luminaire: 92.70.131.00

Report No: NT2018010911

Test No: GC2018010911

LampCAT: SEOUL SAWx15

Lamp flux(lm): 3105.0

Number of Lamps: 1

Length(mm): 64

Phm Type: C

Voltage(V): 34.6000

Current(A): 0.6400

Power (W): 22.1440

PF: 0.0000

Ballast type: DC

Width(mm): 64

Height(mm): 0

Photometric Results

Lumens(lm): 3027.20, Efficiency(%): 97.49% , Luminous Efficacy(lm/W): 136.71

Central intensity(cd): 9793.295, Maximum intensity(cd): 9793.295

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=28.2

[C90/270]Total=28.2

Field angle(10%Imax): [C0/180]Total=58.2

[C90/270]Total=58.2

Maximum s/h(1/2): C0_180=0.48 C90_270=0.48

Maximum s/h(1/4): C0_180=0.47 C90_270=0.47

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 : 96.587%

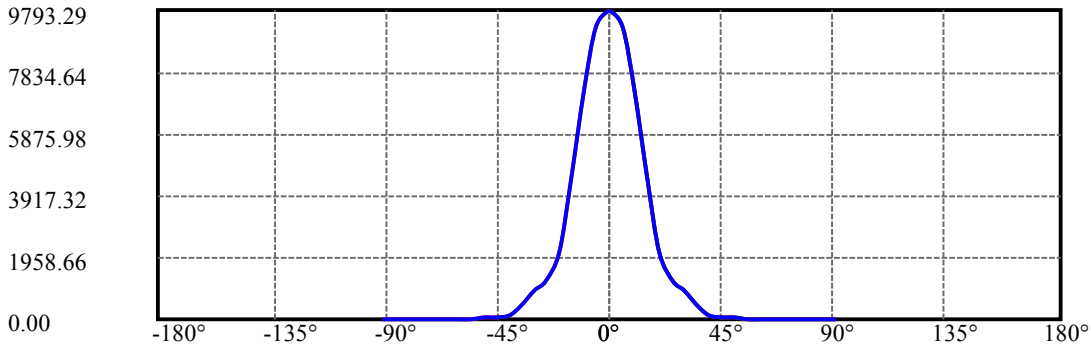
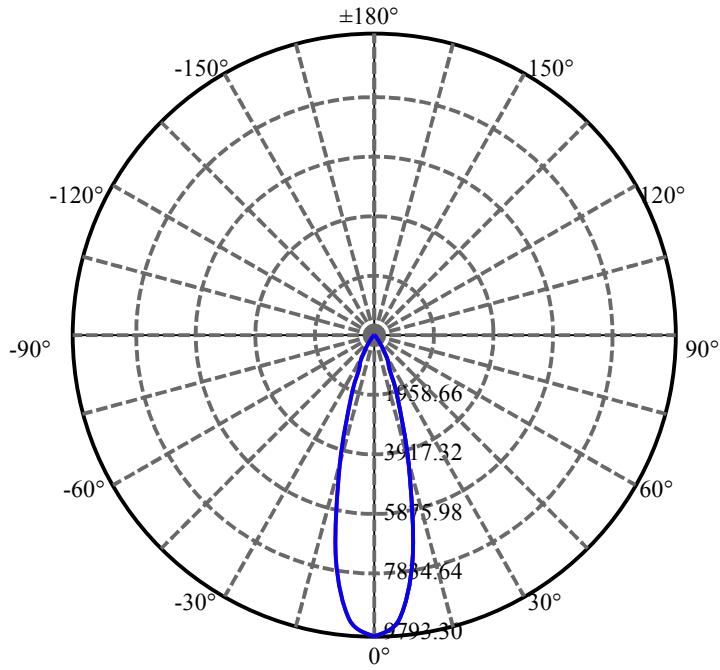
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	9793.295	58.566	58.566	1.886%	1.935%
5.0	9264.616	442.601	501.167	14.254%	16.555%
10.0	7323.121	697.037	1198.204	22.449%	39.581%
15.0	4372.029	620.253	1818.457	19.976%	60.071%
20.0	2120.566	397.551	2216.008	12.804%	73.203%
25.0	1211.385	280.621	2496.629	9.038%	82.473%
30.0	931.203	255.214	2751.843	8.219%	90.904%
35.0	450.905	141.764	2893.607	4.566%	95.587%
40.0	95.447	33.629	2927.236	1.083%	96.698%
45.0	34.947	13.545	2940.781	.436%	97.145%
50.0	31.203	13.102	2953.883	.422%	97.578%
55.0	27.246	12.234	2966.117	.394%	97.982%
60.0	24.314	11.542	2977.659	.372%	98.364%
65.0	21.424	10.643	2988.302	.343%	98.715%
70.0	18.685	9.624	2997.926	.310%	99.033%
75.0	16.531	8.752	3006.679	.282%	99.322%
80.0	15.567	8.403	3015.082	.271%	99.600%
85.0	15.079	8.234	3023.316	.265%	99.872%
90.0	14.170	3.884	3027.199	.125%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2751.84	88.63%	90.90%
0-40	2927.24	94.27%	96.70%
0-60	2977.66	95.90%	98.36%
0-90	3023.32	97.37%	99.87%
0-120	3023.32	97.37%	99.87%
0-180	3027.20	97.49%	100.00%
60-90	57.20	1.84%	1.89%
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%
0-23.67	2421.76	78.00%	80.00%

ZONAL LUMEN SUMMARY

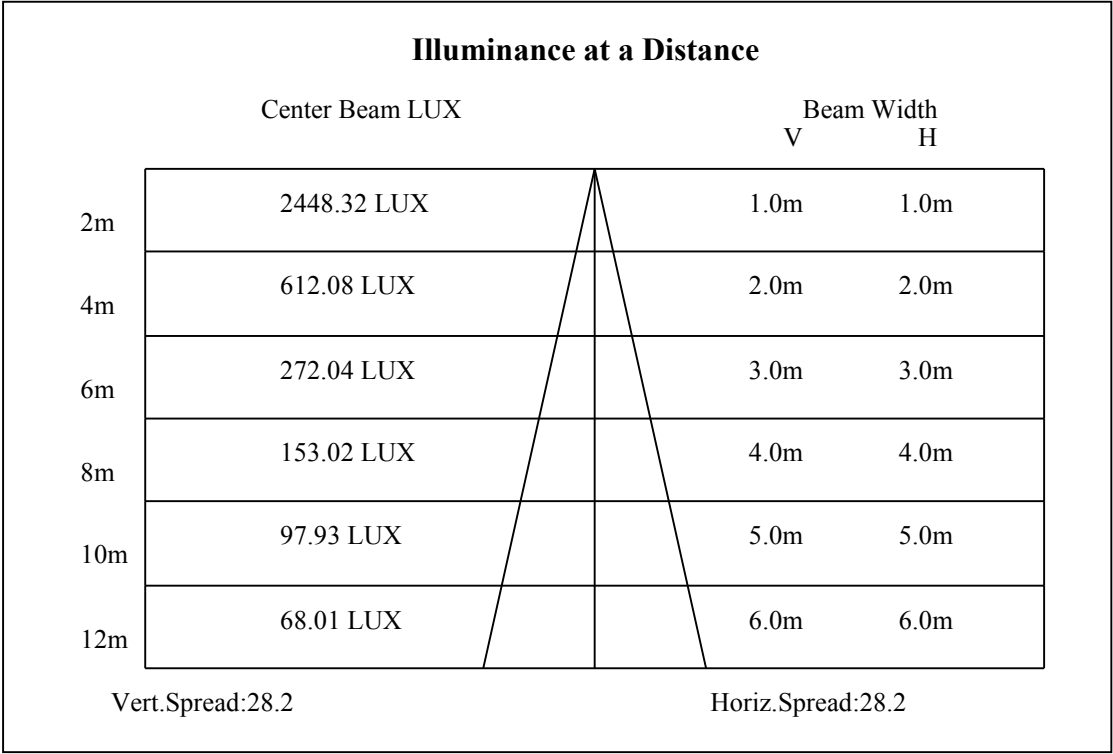
0-10	1198.20
10-20	1017.80
20-30	535.83
30-40	175.39
40-50	26.65
50-60	23.78
60-70	20.27
70-80	17.16
80-90	8.23
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

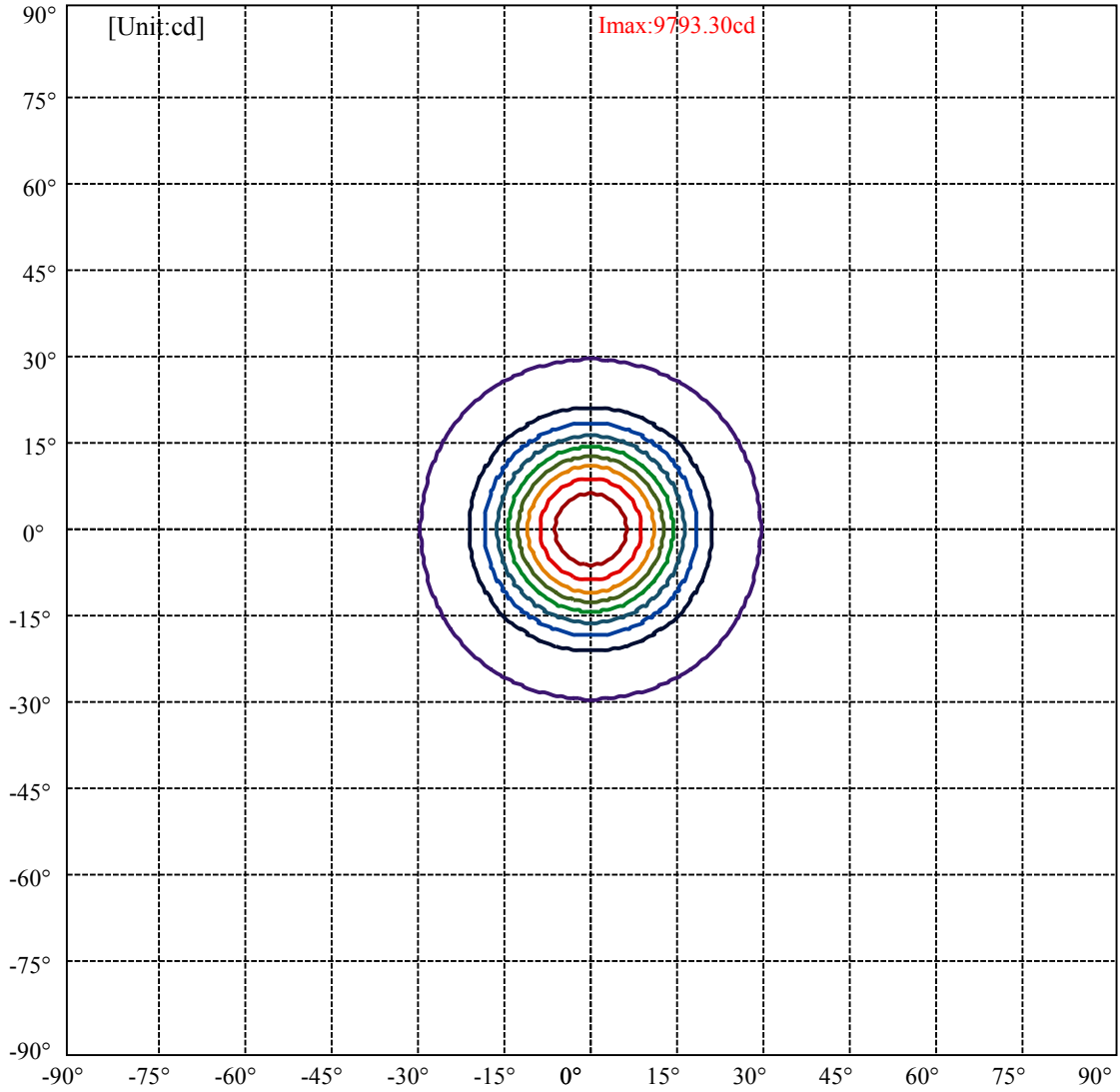


C0(Max): ———
C0/C180: ———
C90/C270: ———

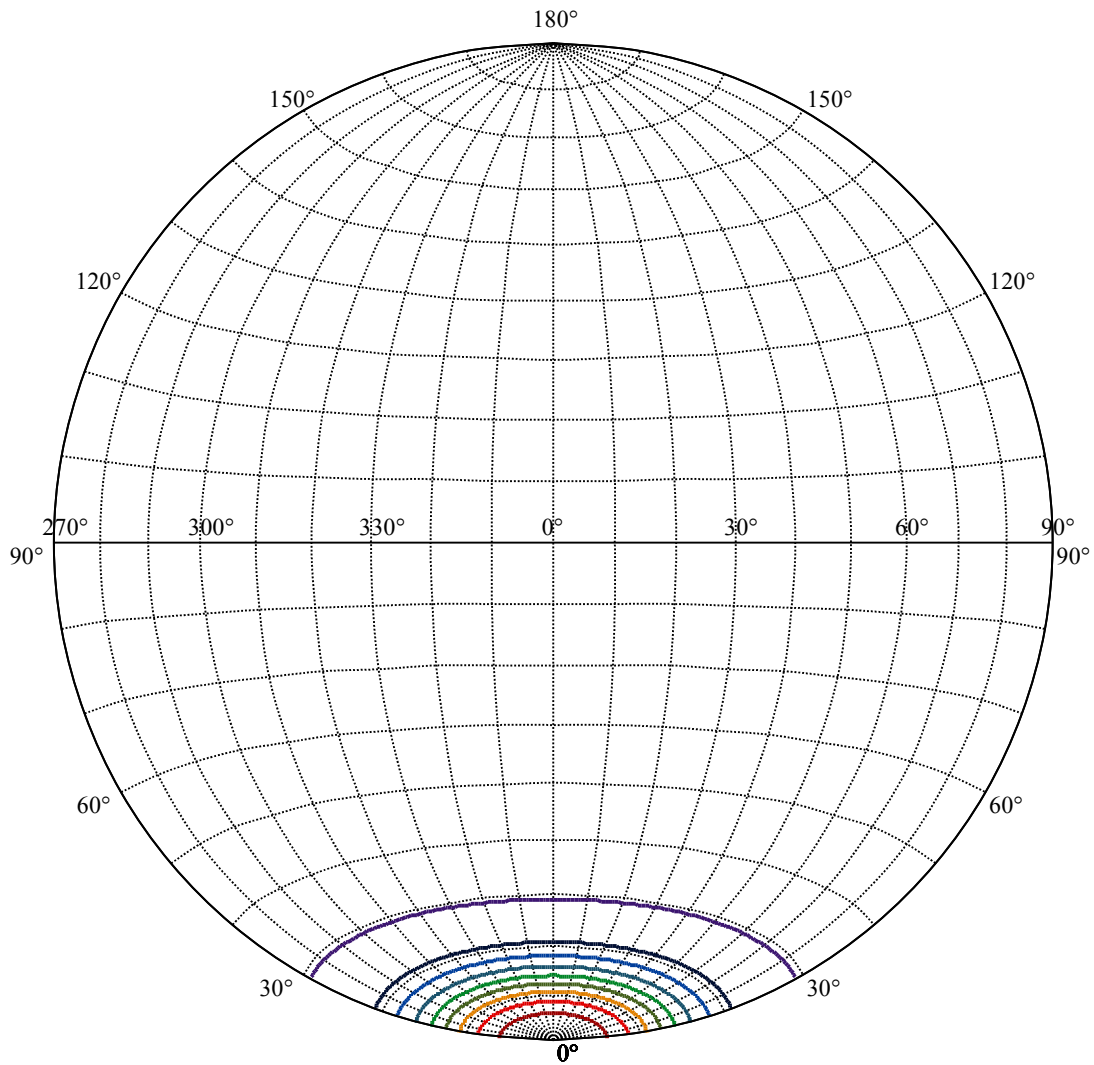
Field angle(10%Imax):C0/180Left:29.1 Right:29.1
:C90/270Left:29.1 Right:29.1

Beam Angle(50%Imax):C0/180Left:14.1 Right:14.1
:C90/270Left:14.1 Right:14.1





(10%Imax) 979.329	—
(20%Imax) 1958.66	—
(30%Imax) 2937.99	—
(40%Imax) 3917.32	—
(50%Imax) 4896.65	—
(60%Imax) 5875.98	—
(70%Imax) 6855.31	—
(80%Imax) 7834.64	—
(90%Imax) 8813.97	—



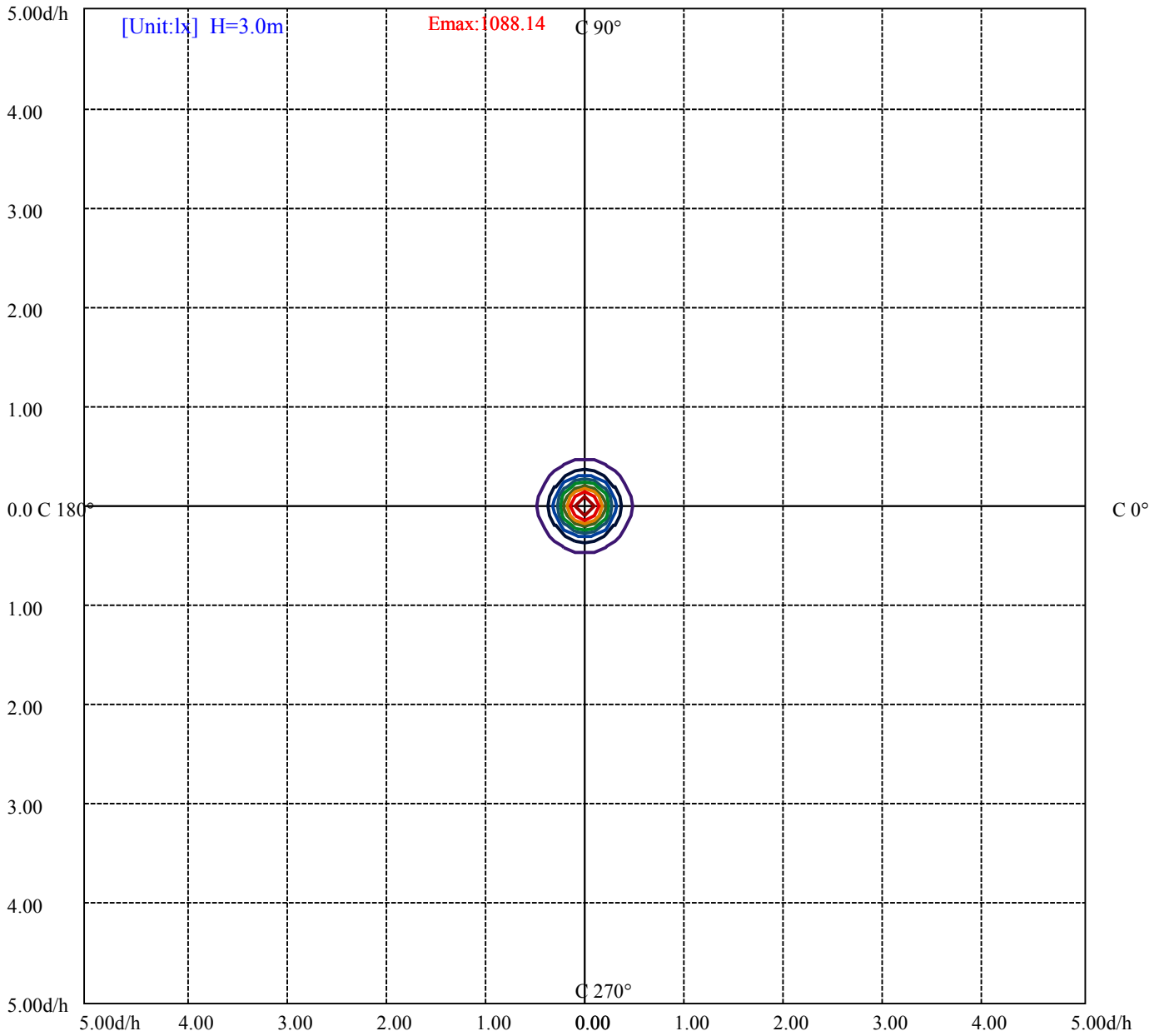
House

[Unit:cd]

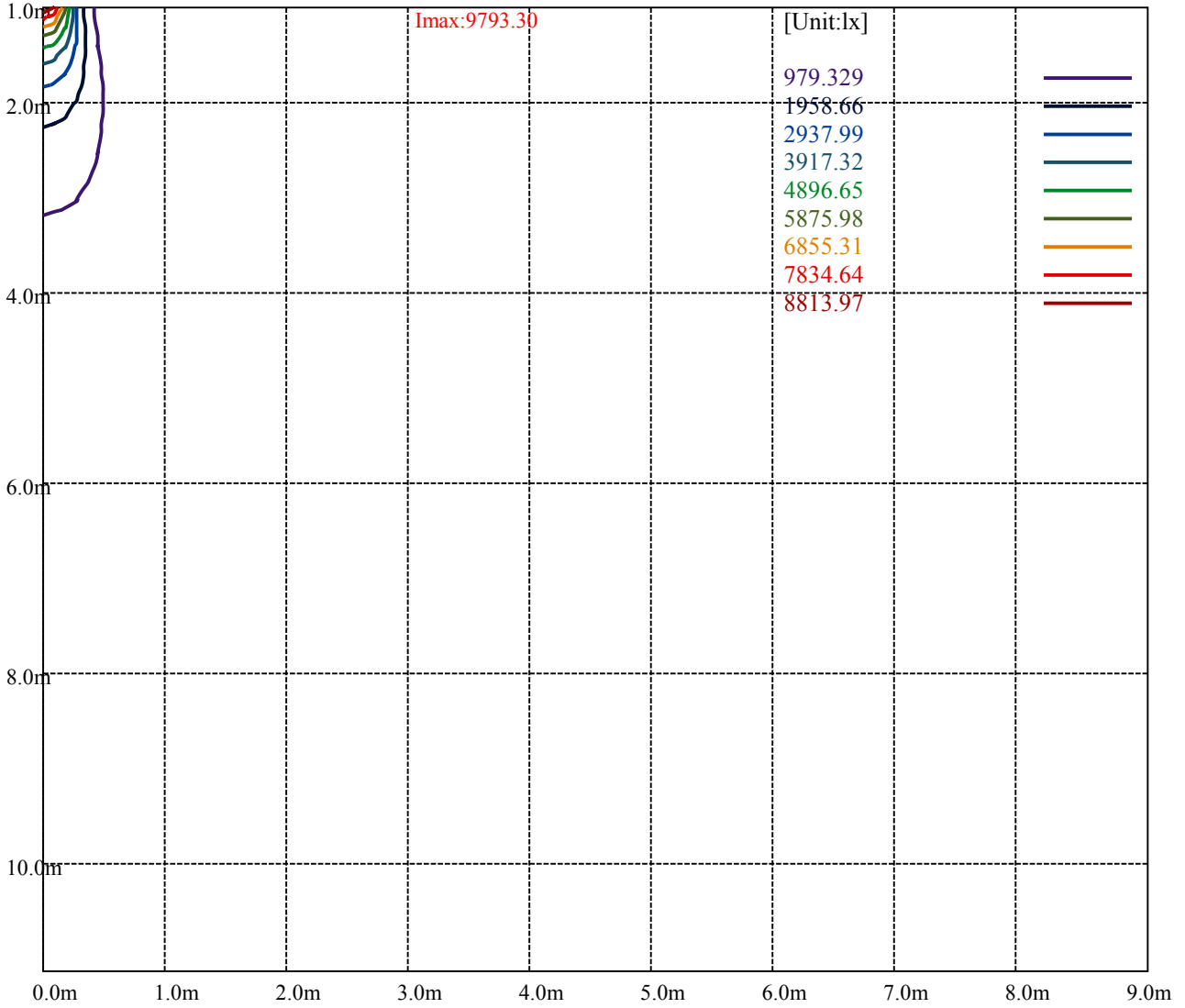
Road

Imax:9793.30

(10%Imax) 979.329	—
(20%Imax) 1958.66	—
(30%Imax) 2937.99	—
(40%Imax) 3917.32	—
(50%Imax) 4896.65	—
(60%Imax) 5875.98	—
(70%Imax) 6855.31	—
(80%Imax) 7834.64	—
(90%Imax) 8813.97	—



- (10%E_{max}) 108.8142
- (20%E_{max}) 217.6289
- (30%E_{max}) 326.4422
- (40%E_{max}) 435.2567
- (50%E_{max}) 544.0711
- (60%E_{max}) 652.8856
- (70%E_{max}) 761.7
- (80%E_{max}) 870.5134
- (90%E_{max}) 979.3278



Luminance Table

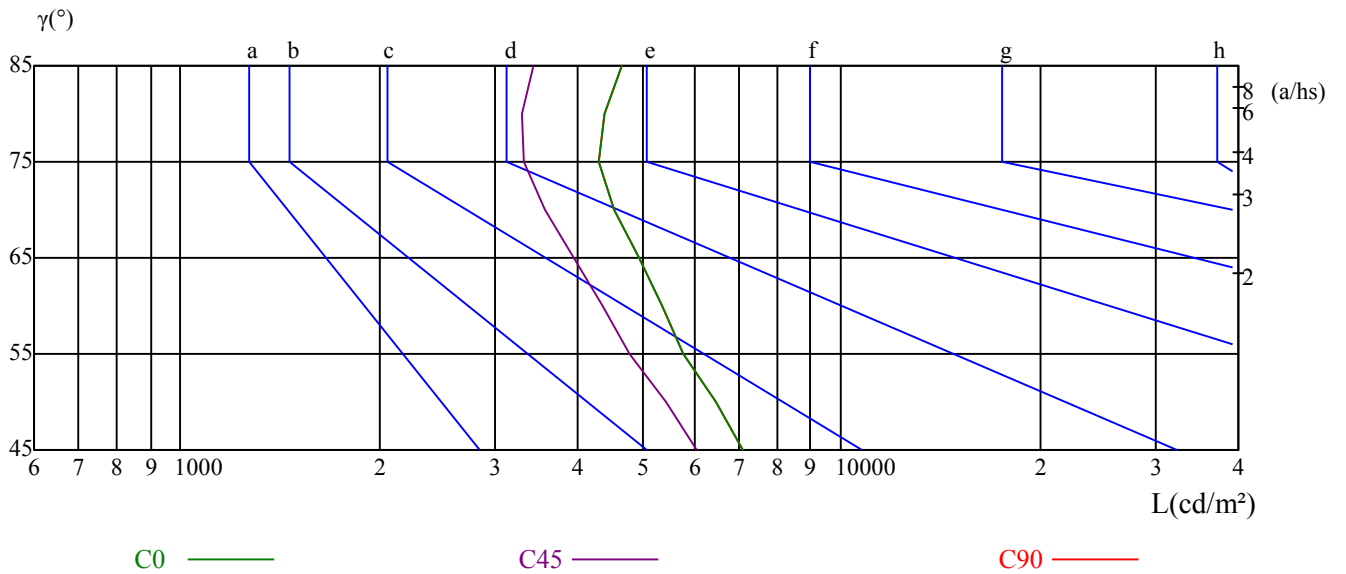
γ	45	50	55	60	65	70	75	80	85
C0	7085	6448	5787	5353	4935	4549	4303	4388	4674
C45	6050	5424	4792	4361	3951	3574	3310	3297	3416
C90	7085	6448	5787	5353	4935	4549	4303	4388	4674

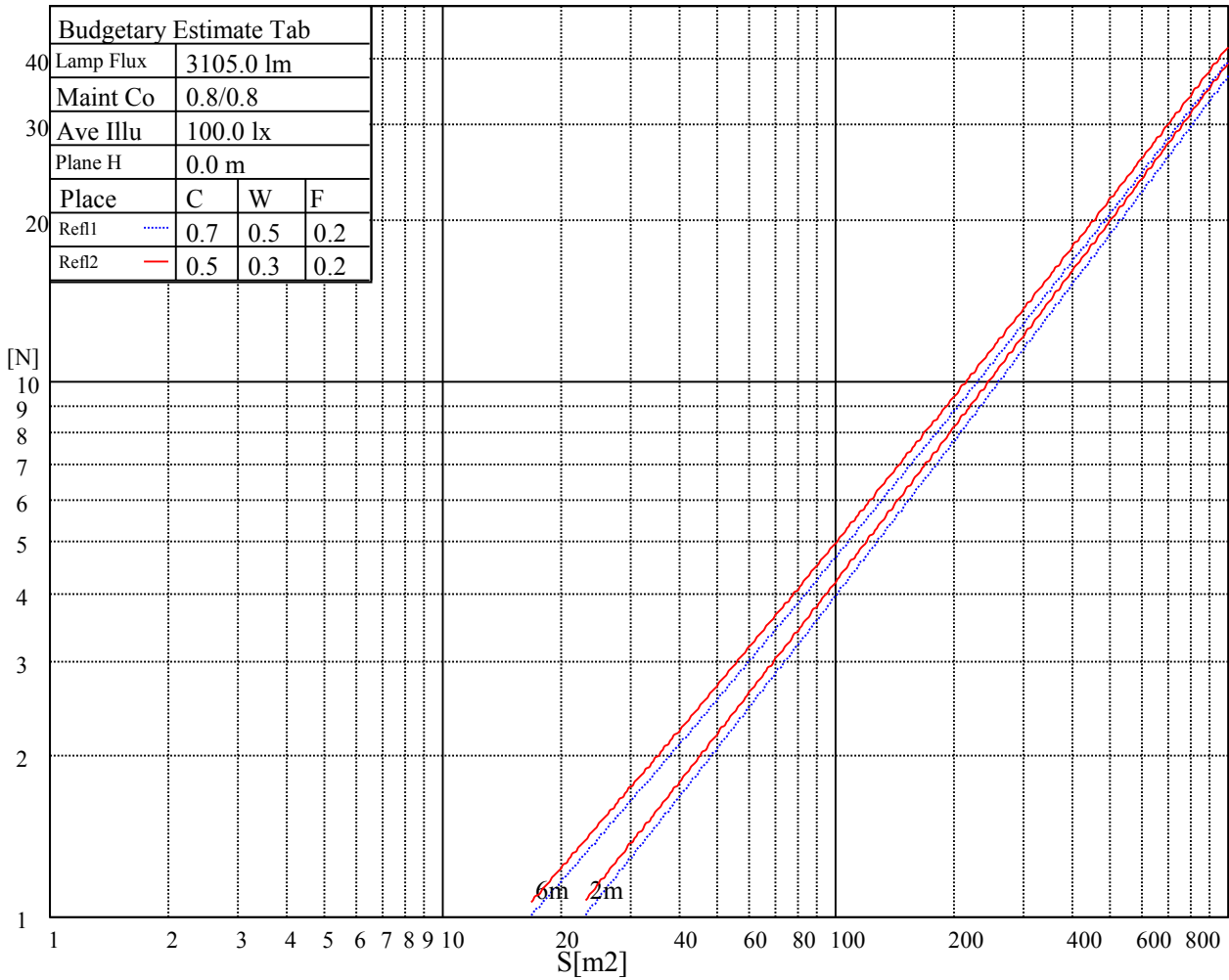
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
12376	12376	12376	15593	15593	15593	42238	42238	42238

Glare Table

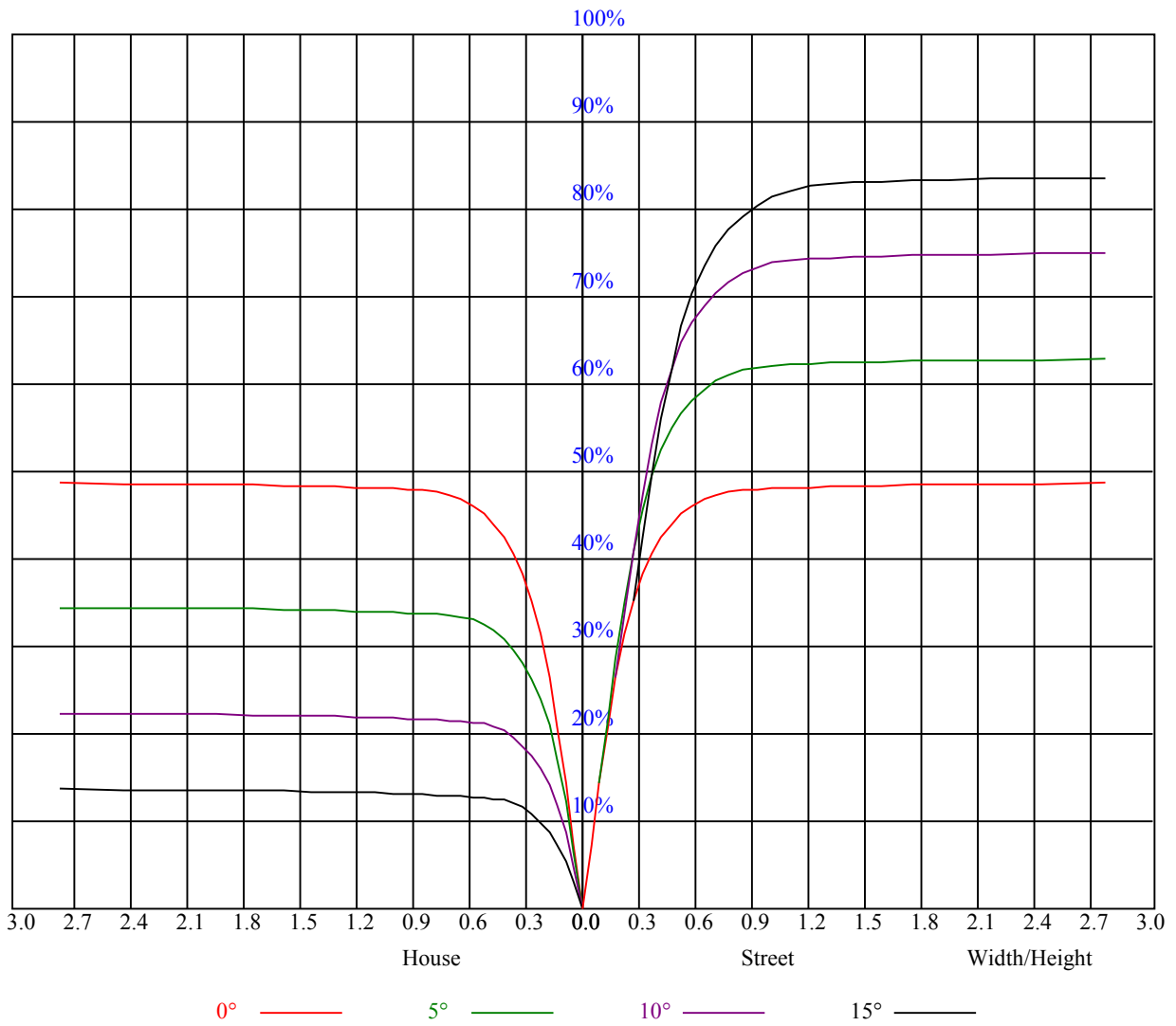
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

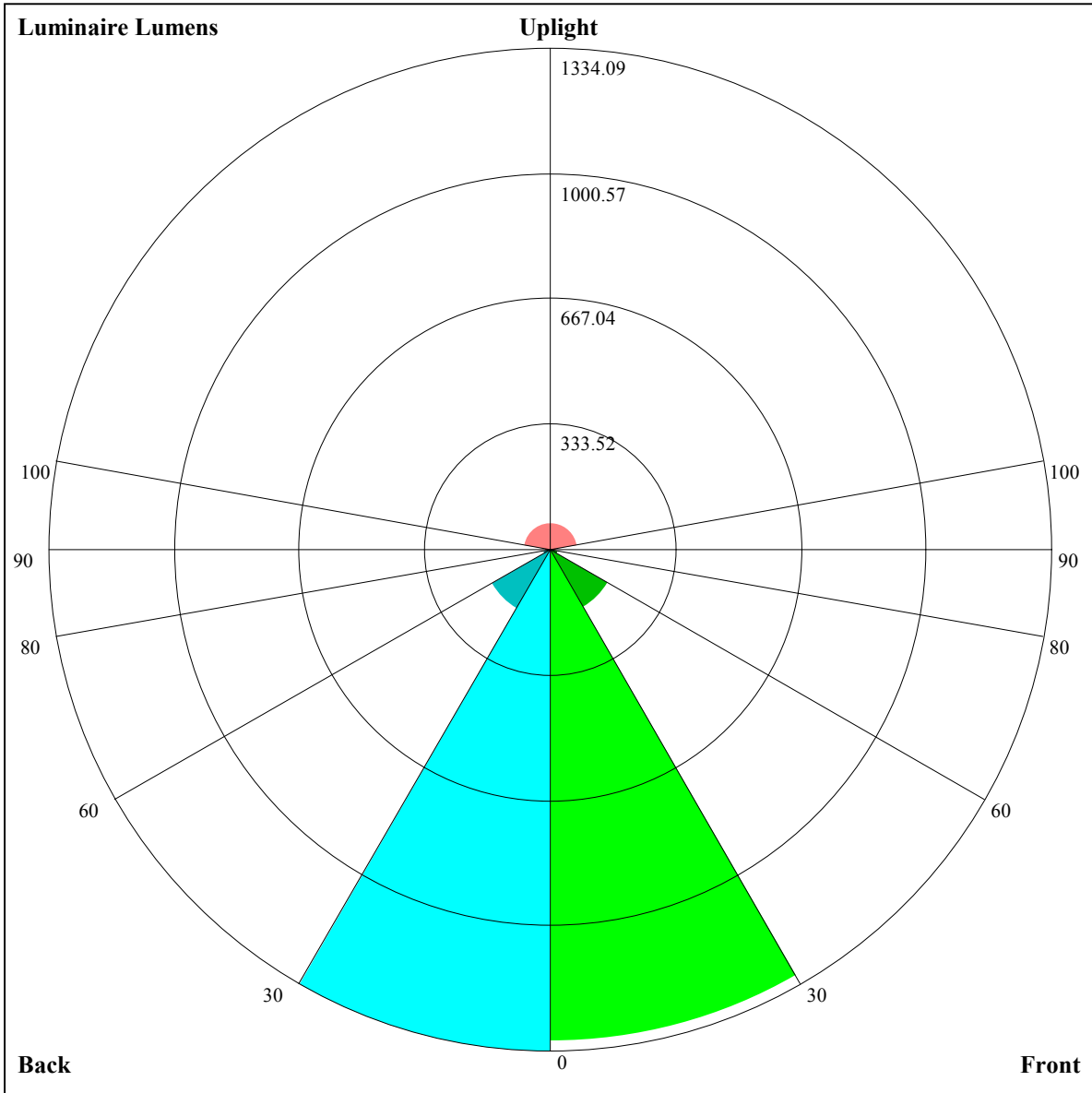
Luminance Limiting Curve





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	1.06	1.04	1.07	1.04	1.02	1.03	1.01	0.99	0.99	0.98	0.96	0.96	0.95	0.93	0.92
2	1.03	1.00	0.97	1.02	0.98	0.96	0.99	0.96	0.93	0.96	0.93	0.91	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	0.95	0.90	0.86	0.93	0.89	0.86	0.91	0.88	0.85	0.90	0.86	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	0.88	0.83	0.80	0.87	0.82	0.79	0.85	0.82	0.79	0.84	0.81	0.78	0.83	0.80	0.78	0.77
7	0.85	0.80	0.77	0.84	0.80	0.77	0.83	0.79	0.76	0.82	0.78	0.76	0.81	0.78	0.75	0.74
8	0.82	0.77	0.74	0.81	0.77	0.74	0.80	0.77	0.74	0.80	0.76	0.74	0.79	0.76	0.73	0.72
9	0.79	0.75	0.72	0.79	0.75	0.72	0.78	0.74	0.72	0.77	0.74	0.71	0.77	0.74	0.71	0.70
10	0.77	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.70	0.75	0.72	0.69	0.68





Luminaire Lumens:

FL=1309.08,FM=175.22,FH=19.38,FVH=8.18

BL=1334.09,BM=183.34,BH=19.69,BVH=8.16

UL=15.46,UH=73.57

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	9800.59	9269.30	7320.30	4485.44	2131.78	1199.68	902.37	465.23	76.69
45.0	9797.29	9111.28	6774.14	3696.49	1815.76	1194.17	928.80	396.96	55.28
90.0	9793.98	8910.88	6387.09	3501.04	1721.61	1084.78	873.03	354.23	41.62
135.0	9781.32	9460.34	7398.48	4303.76	2108.66	1271.80	964.04	491.65	85.17
180.0	9800.59	9274.80	7194.77	4091.24	1873.02	1093.31	869.73	404.99	71.30
225.0	9797.29	9406.94	7859.30	4837.26	2292.00	1282.26	995.75	510.26	91.72
270.0	9793.98	9515.95	8206.16	5608.04	2808.98	1378.06	1020.20	554.42	281.89
315.0	9781.32	9167.44	7444.73	4452.96	2212.72	1187.02	895.71	429.49	59.90
360.0	9800.59	9269.30	7320.30	4485.44	2131.78	1199.68	902.37	465.23	76.69
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	35.79	31.05	26.59	23.45	20.48	18.11	16.52	15.80	15.20
45.0	33.14	29.73	26.26	23.29	20.65	17.78	16.02	15.14	15.03
90.0	31.11	29.51	25.88	22.90	21.03	18.28	16.08	15.20	15.03
135.0	34.63	32.26	28.96	25.71	22.24	18.88	16.52	15.31	14.70
180.0	37.99	33.20	28.63	24.94	21.31	18.39	16.57	15.86	14.98
225.0	38.15	32.92	27.97	24.89	21.80	18.94	16.85	15.75	15.20
270.0	35.46	31.11	27.53	24.56	21.80	19.82	17.07	15.86	15.20
315.0	33.31	29.84	26.15	24.78	22.08	19.27	16.63	15.64	15.31
360.0	35.79	31.05	26.59	23.45	20.48	18.11	16.52	15.80	15.20
C/ γ (°)	90.0								
0.0	14.15								
45.0	13.93								
90.0	13.93								
135.0	13.98								
180.0	14.04								
225.0	14.42								
270.0	14.53								
315.0	14.37								
360.0	14.15								