



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

Nata

Client:

LumCAT: 2-1318-E

Luminaire: 99.02.73.171

Report No:

Voltage(V): 34.2900

Test No: GC2019083007

Current(A): 0.3550

LampCAT: XICATO XOB LES 9.8MM

Power (W): 12.1700

Lamp flux(lm): 1120.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 35

Width(mm): 35

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1031.07, Efficiency(%): 92.06% , Luminous Efficacy(lm/W): 84.72

Central intensity(cd): 2355.328, Maximum intensity(cd): 2355.328

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=33.8

[C90/270]Total=33.8

Field angle(10%Imax): [C0/180]Total=67.8

[C90/270]Total=67.8

Maximum s/h(1/2): C0_180=0.53 C90_270=0.53

Maximum s/h(1/4): C0_180=0.62 C90_270=0.62

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 92.06%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.427%

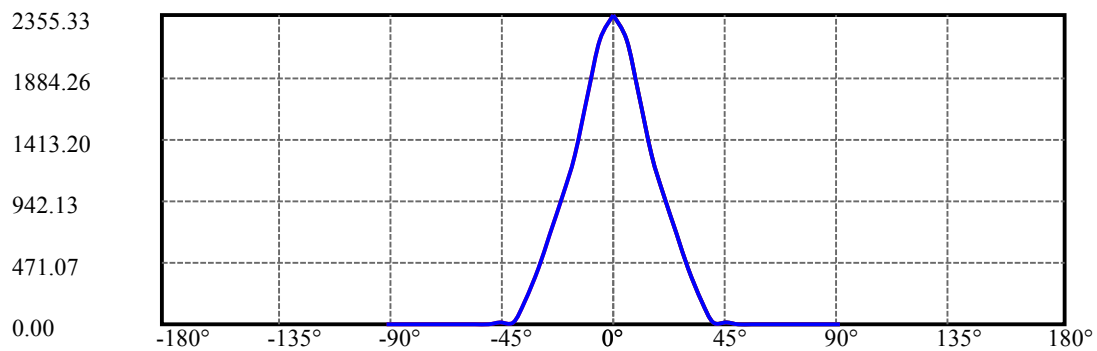
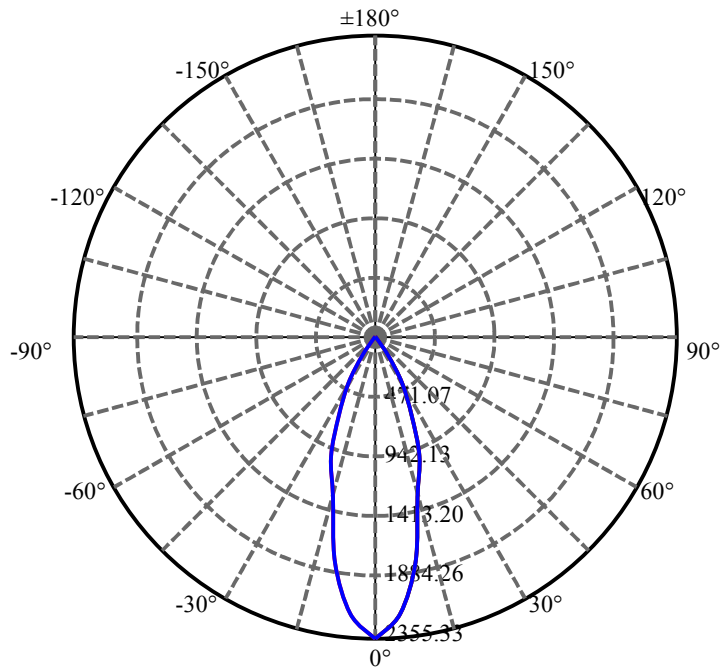
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2355.328	0.000	0	.000%	.000%
5.0	2169.281	54.090	54.09	4.830%	5.246%
10.0	1776.164	141.141	195.231	12.602%	18.935%
15.0	1293.307	182.079	377.31	16.257%	36.594%
20.0	991.160	188.272	565.583	16.810%	54.854%
25.0	680.892	175.367	740.95	15.658%	71.862%
30.0	420.855	139.427	880.377	12.449%	85.385%
35.0	181.385	88.684	969.061	7.918%	93.986%
40.0	16.439	33.005	1002.067	2.947%	97.187%
45.0	7.741	4.477	1006.544	.400%	97.622%
50.0	6.574	2.893	1009.437	.258%	97.902%
55.0	5.970	2.727	1012.164	.244%	98.167%
60.0	5.667	2.690	1014.854	.240%	98.427%
65.0	5.456	2.704	1017.558	.241%	98.690%
70.0	5.309	2.726	1020.284	.243%	98.954%
75.0	5.175	2.740	1023.024	.245%	99.220%
80.0	5.034	2.732	1025.756	.244%	99.485%
85.0	4.880	2.694	1028.45	.241%	99.746%
90.0	4.683	2.618	1031.068	.234%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	880.38	78.61%	85.38%
0-40	1002.07	89.47%	97.19%
0-60	1014.85	90.61%	98.43%
0-90	1028.45	91.83%	99.75%
0-120	1028.45	91.83%	99.75%
0-180	1031.07	92.06%	100.00%
60-90	16.29	1.45%	1.58%
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%
0-28.01	824.85	73.65%	80.00%

ZONAL LUMEN SUMMARY

0-10	195.23
10-20	370.35
20-30	314.79
30-40	121.69
40-50	7.37
50-60	5.42
60-70	5.43
70-80	5.47
80-90	2.69
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: —————

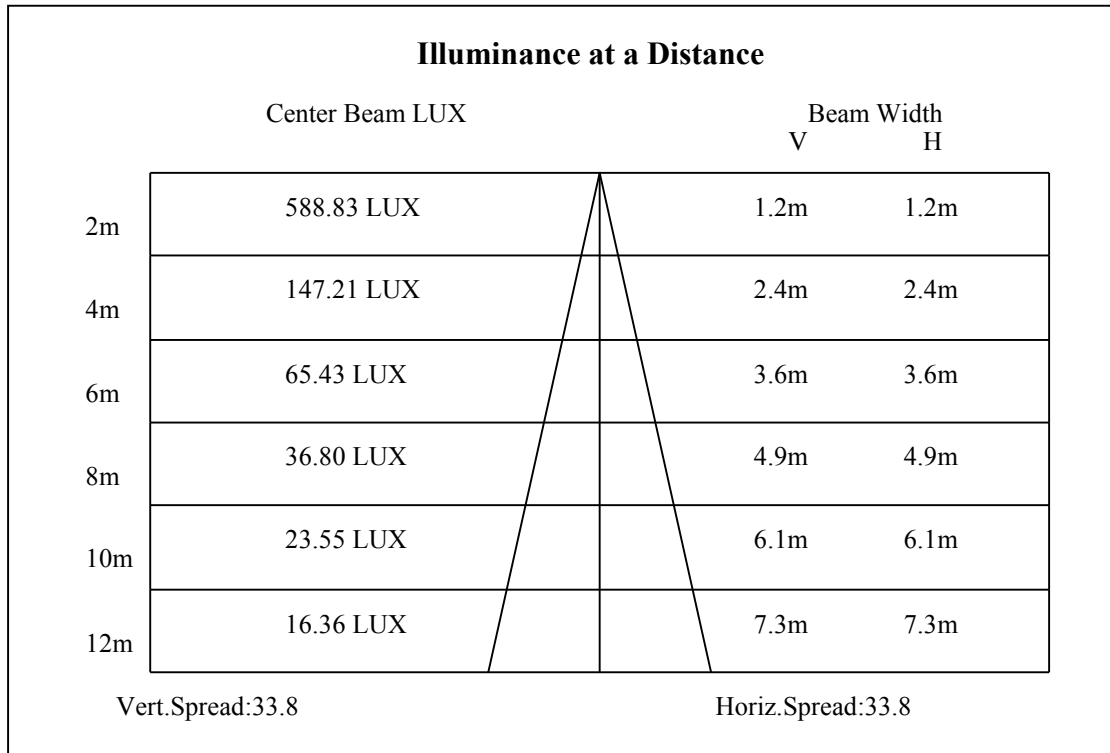
C90/C270: —————

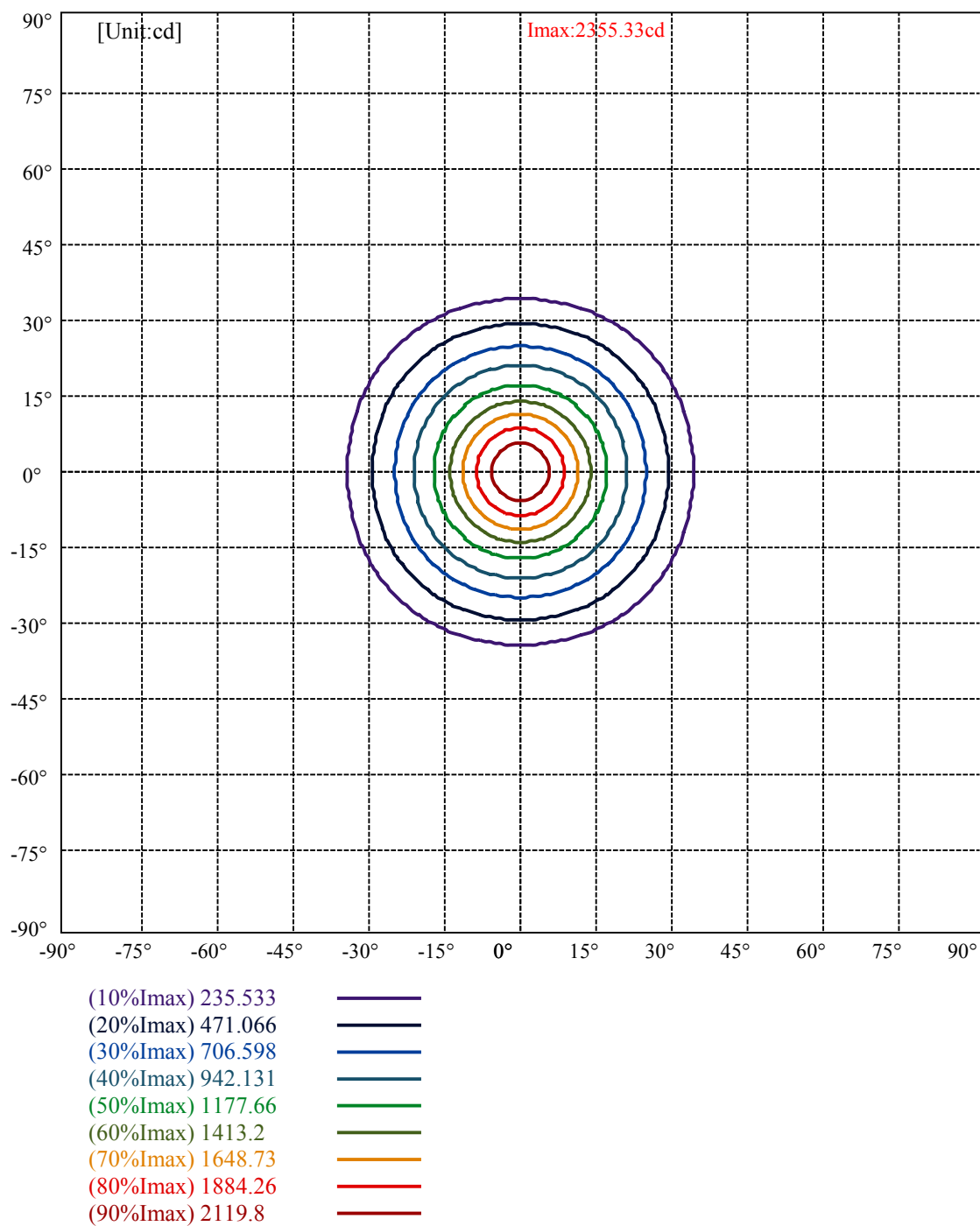
Field angle(10%Imax):C0/180Left:33.9 Right:33.9

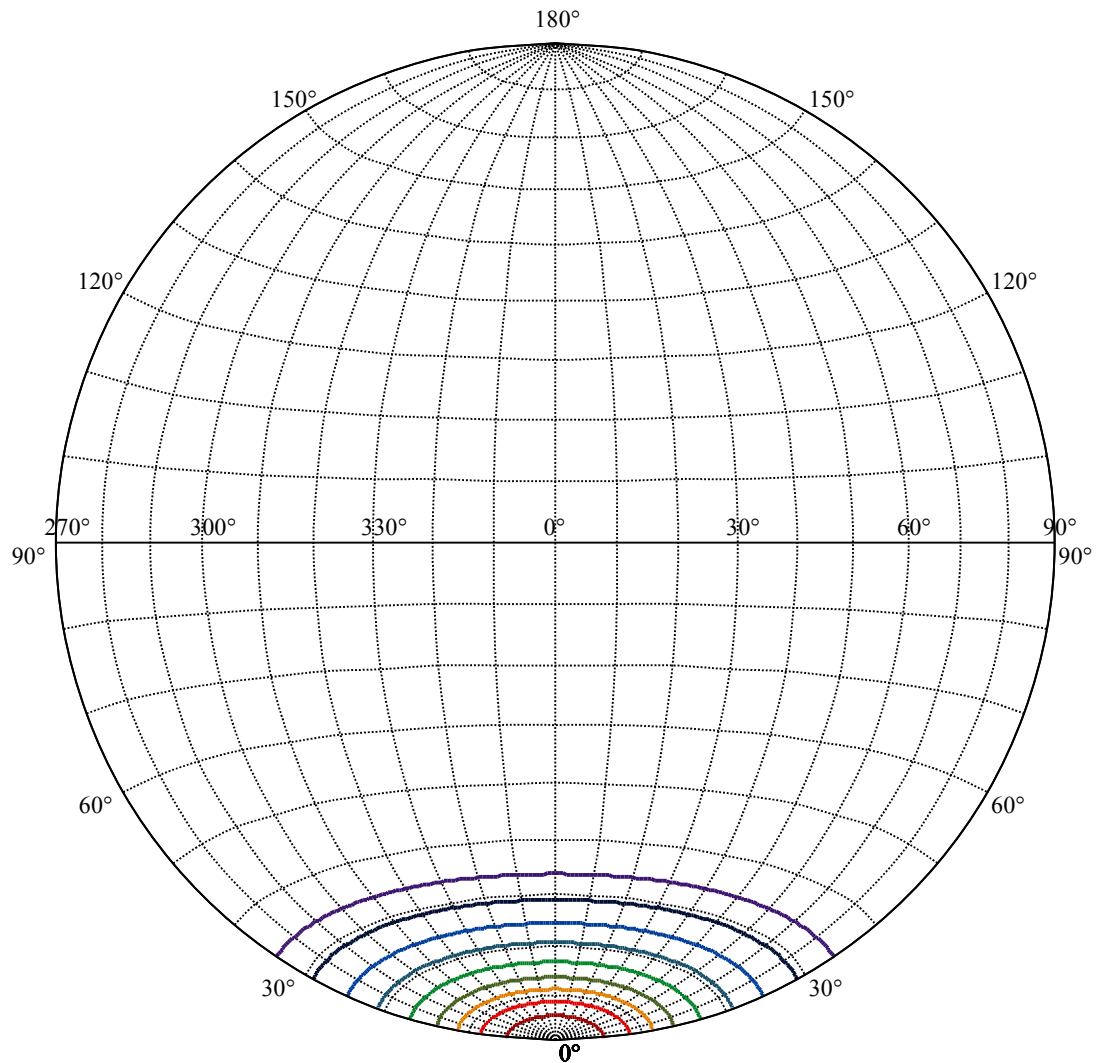
:C90/270Left:33.9 Right:33.9

Beam Angle(50%Imax):C0/180Left:16.9 Right:16.9

:C90/270Left:16.9 Right:16.9







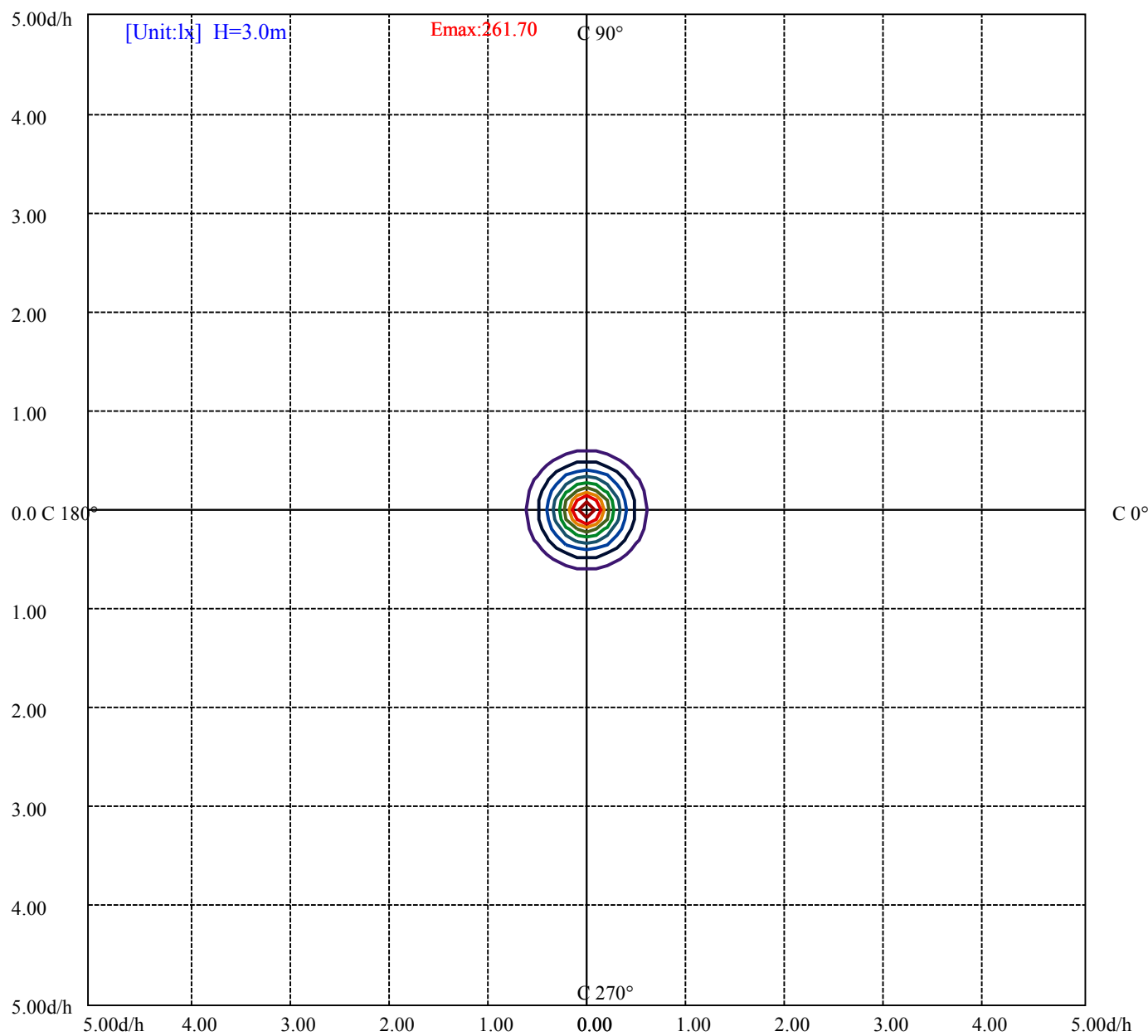
House

[Unit:cd]

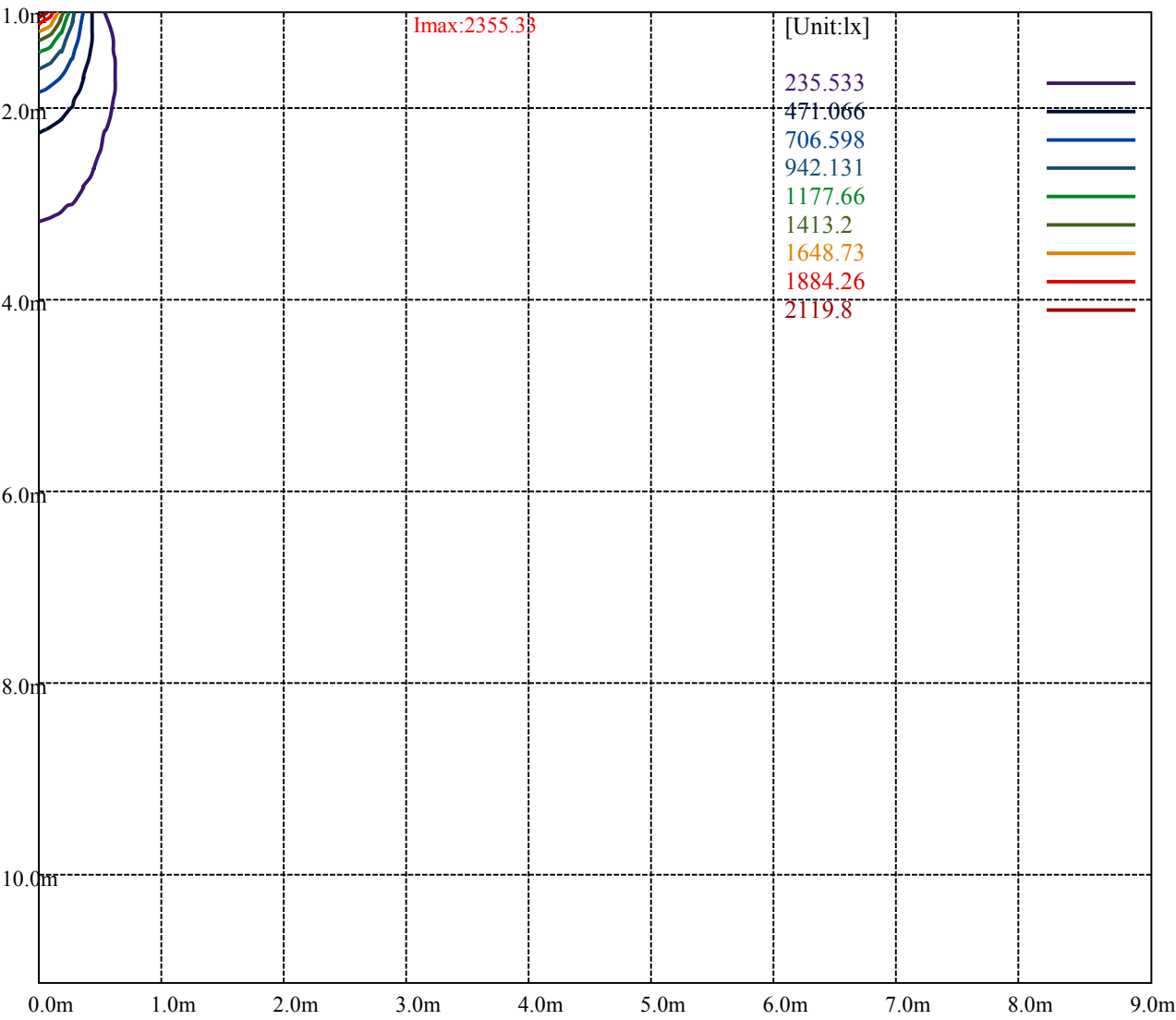
Road

Imax:2355.33

(10%Imax)	235.533	—
(20%Imax)	471.066	—
(30%Imax)	706.598	—
(40%Imax)	942.131	—
(50%Imax)	1177.66	—
(60%Imax)	1413.2	—
(70%Imax)	1648.73	—
(80%Imax)	1884.26	—
(90%Imax)	2119.8	—



(10%E _{max}) 26.17022	—
(20%E _{max}) 52.34044	—
(30%E _{max}) 78.51077	—
(40%E _{max}) 104.681	—
(50%E _{max}) 130.8511	—
(60%E _{max}) 157.0211	—
(70%E _{max}) 183.1922	—
(80%E _{max}) 209.3622	—
(90%E _{max}) 235.5322	—



Luminance Table

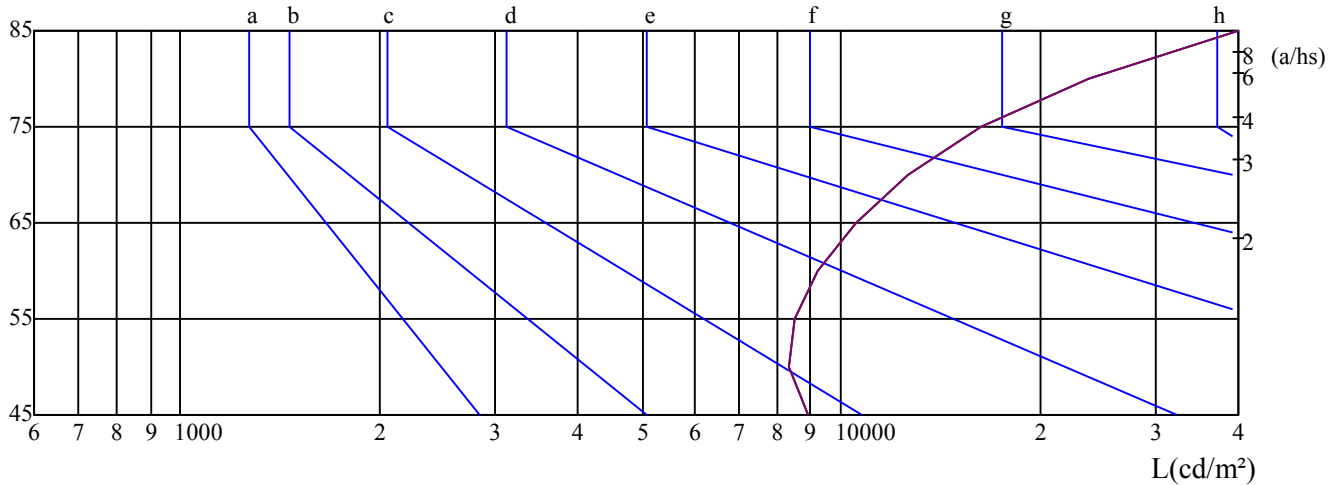
γ	45	50	55	60	65	70	75	80	85
C0	8937	8349	8496	9253	10539	12670	16322	23667	45705
C45	8937	8349	8496	9253	10539	12670	16322	23667	45705
C90	8937	8349	8496	9253	10539	12670	16322	23667	45705

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
10539	10539	10539	16322	16322	16322	45705	45705	45705

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

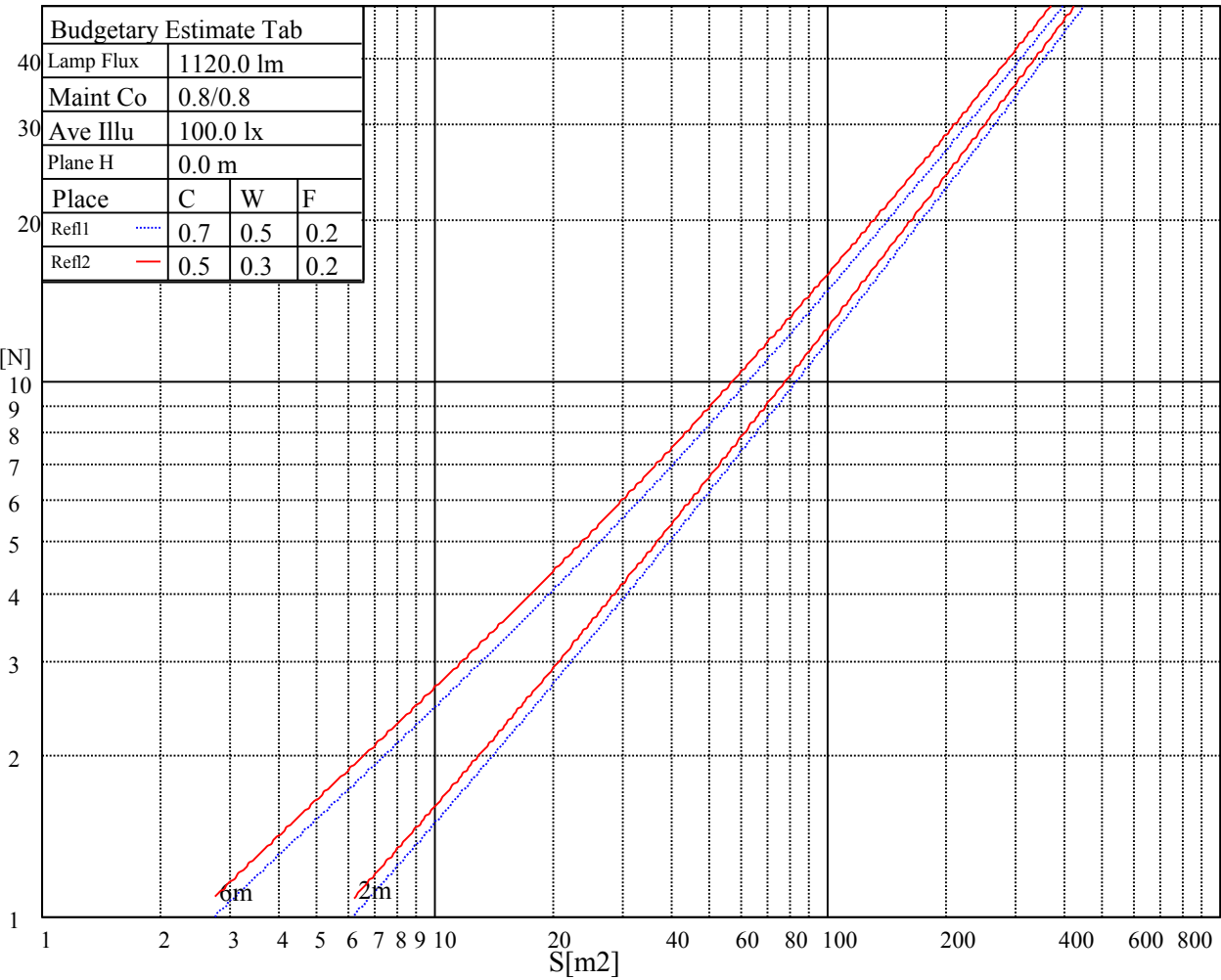
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

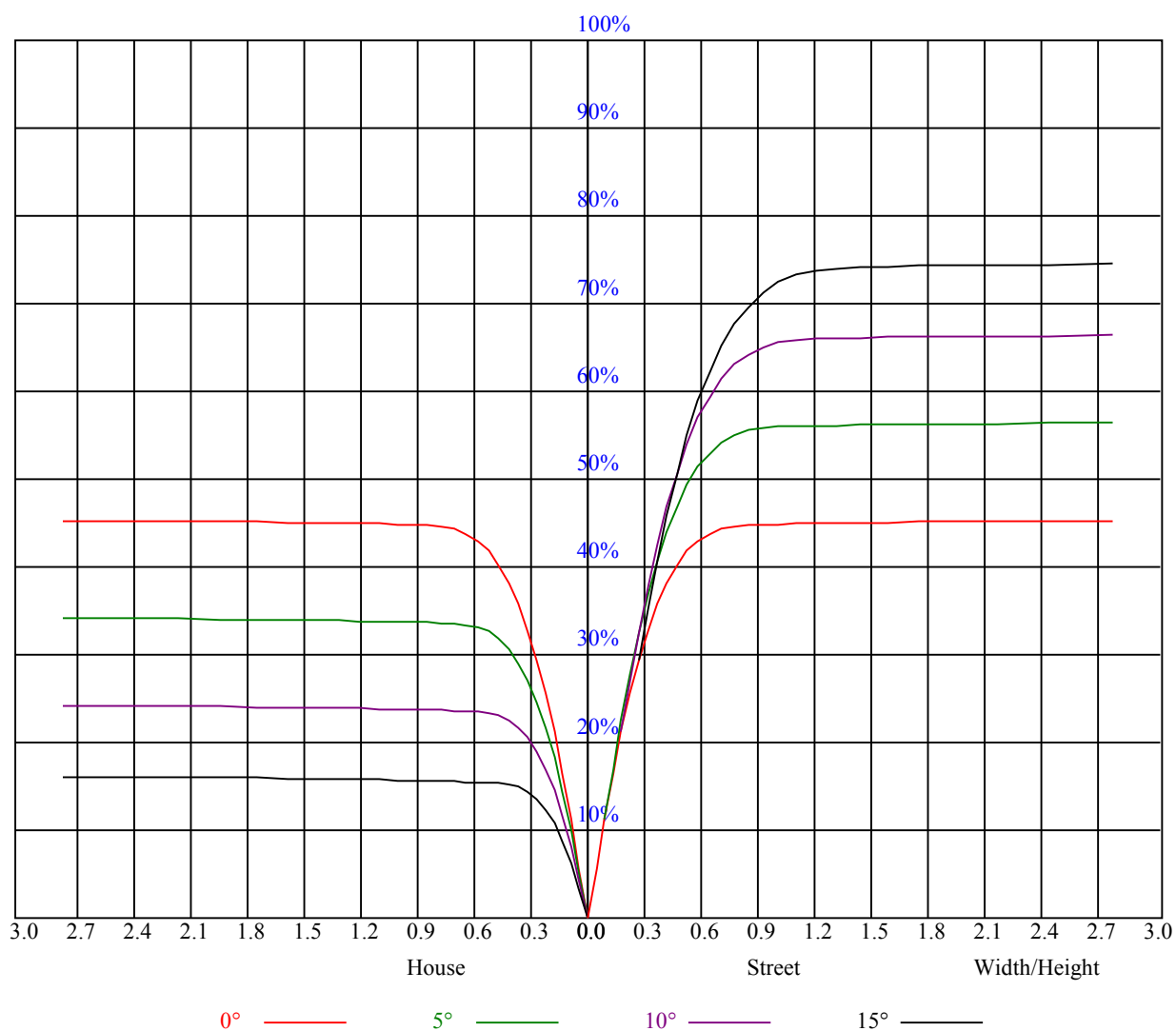
C0 ———

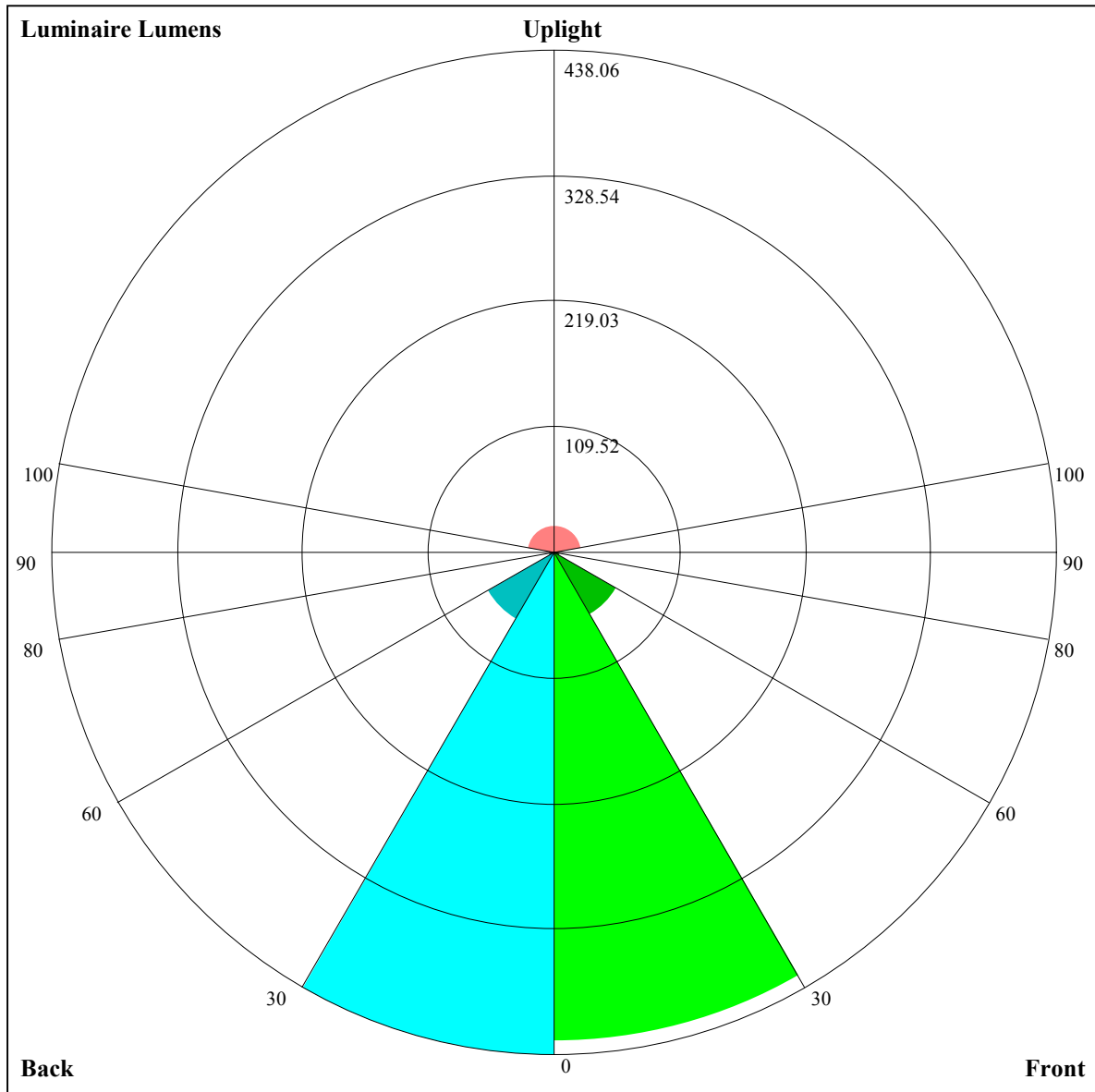
C45 ———

C90 ———



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	1.10	1.10	1.10	1.07	1.07	1.07	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.02	1.00	0.98	1.01	0.99	0.97	0.97	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87
2	0.96	0.93	0.90	0.95	0.92	0.89	0.92	0.89	0.87	0.89	0.87	0.85	0.87	0.85	0.84	0.82
3	0.91	0.87	0.84	0.90	0.86	0.83	0.87	0.84	0.82	0.85	0.83	0.80	0.83	0.81	0.79	0.78
4	0.86	0.82	0.78	0.85	0.81	0.78	0.83	0.80	0.77	0.81	0.78	0.76	0.80	0.77	0.75	0.74
5	0.82	0.77	0.74	0.81	0.77	0.73	0.79	0.76	0.73	0.78	0.75	0.72	0.76	0.74	0.71	0.70
6	0.78	0.73	0.70	0.77	0.73	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.73	0.70	0.68	0.67
7	0.74	0.69	0.66	0.74	0.69	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.64
8	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.68	0.64	0.62	0.61
9	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.66	0.62	0.59	0.65	0.62	0.59	0.58
10	0.65	0.60	0.57	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.63	0.59	0.57	0.56





Luminaire Lumens:

FL=427.22,FM=62.37,FH=5.45,FVH=2.65

BL=438.06,BM=67.45,BH=5.5,BVH=2.67

UL=5.11,UH=24.31

BUG Rating:B1-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	2342.81	2185.88	1801.13	1372.50	1004.06	658.69	408.38	141.24	13.78		
45.0	2365.88	2191.50	1800.00	1347.75	1018.69	702.56	435.38	296.44	17.04		
90.0	2354.63	2123.44	1710.00	1109.64	929.81	652.89	368.38	133.20	17.55		
135.0	2358.00	2196.00	1850.63	1402.31	1053.56	805.50	502.88	284.63	21.94		
180.0	2342.81	2172.94	1791.00	1362.38	1017.79	717.13	452.42	184.28	16.31		
225.0	2365.88	2160.56	1739.25	1220.63	990.51	676.29	418.11	152.49	15.24		
270.0	2354.63	2196.00	1789.88	1312.88	969.75	648.00	403.31	152.04	19.24		
315.0	2358.00	2127.94	1727.44	1218.38	945.11	586.07	378.00	106.76	10.41		
360.0	2342.81	2185.88	1801.13	1372.50	1004.06	658.69	408.38	141.24	13.78		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	6.98	6.08	5.68	5.46	5.29	5.18	5.06	5.01	4.84		
45.0	7.65	6.64	6.02	5.68	5.46	5.29	5.18	5.01	4.84		
90.0	8.10	6.75	6.19	5.85	5.63	5.40	5.29	5.12	4.95		
135.0	7.43	6.47	5.91	5.68	5.46	5.34	5.23	5.06	4.89		
180.0	7.09	6.30	5.85	5.63	5.40	5.29	5.12	5.01	4.89		
225.0	7.71	6.58	5.96	5.68	5.46	5.29	5.18	5.06	4.89		
270.0	9.79	7.54	6.41	5.91	5.63	5.46	5.23	5.01	4.89		
315.0	7.20	6.24	5.74	5.46	5.34	5.23	5.12	5.01	4.84		
360.0	6.98	6.08	5.68	5.46	5.29	5.18	5.06	5.01	4.84		
C/γ(°)	90.0										
0.0	4.61										
45.0	4.67										
90.0	4.67										
135.0	4.73										
180.0	4.73										
225.0	4.73										
270.0	4.67										
315.0	4.67										
360.0	4.61										