
Nata

Client:

LumCAT: 3-2046-M

Luminaire: 92.70.131.00

Report No: GC2019031803

Test No:

LampCAT: BMTC MA-1919 20W

Lamp flux(lm): 2561.0

Number of Lamps: 1

Length(mm): 85

Phm Type: C

Voltage(V): 220.1000

Current(A): 0.1300

Power (W): 27.0000

PF: 0.9410

Ballast type: DC

Width(mm): 85

Height(mm): 0

Photometric Results

Lumens(lm): 2365.63, Efficiency(%): 92.37% , Luminous Efficacy(lm/W): 87.62

Central intensity(cd): 5311.704, Maximum intensity(cd): 5311.704

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=35.8

[C90/270]Total=35.8

Field angle(10%Imax): [C0/180]Total=68.6

[C90/270]Total=68.6

Maximum s/h(1/2): C0_180=0.59 C90_270=0.59

Maximum s/h(1/4): C0_180=0.59 C90_270=0.59

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 92.37%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.767%

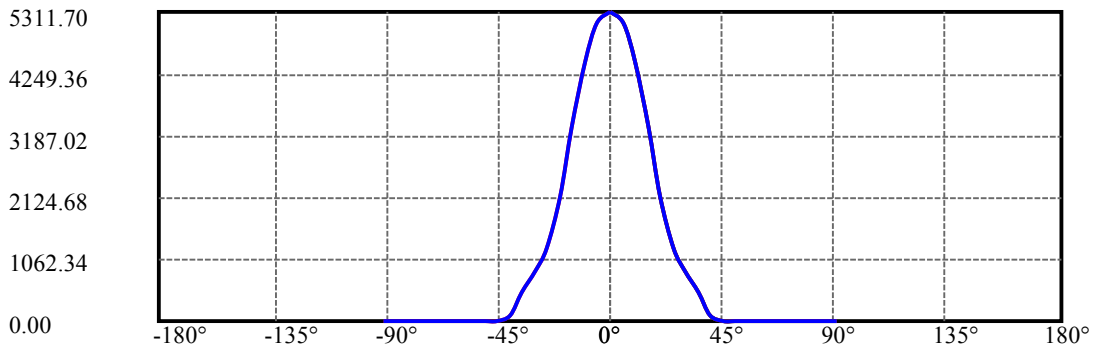
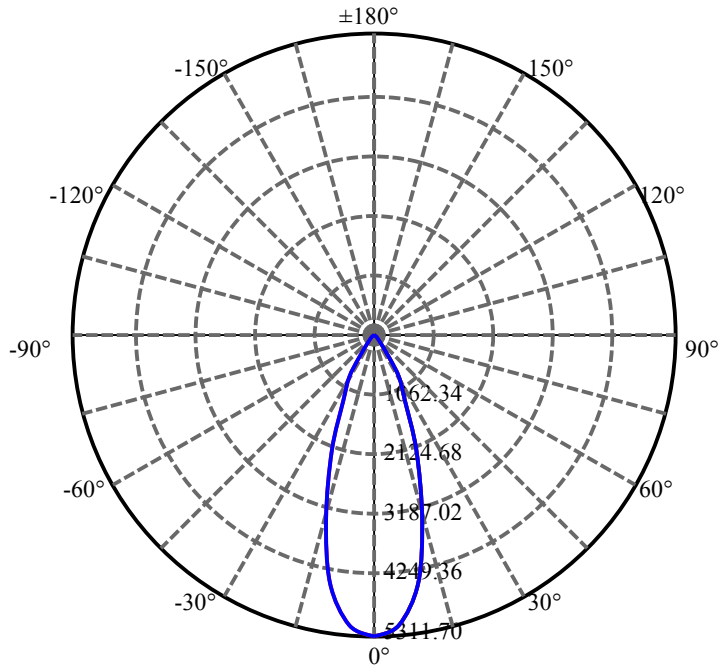
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5311.704	0.000	0	.000%	.000%
5.0	5124.374	124.760	124.76	4.872%	5.274%
10.0	4442.294	342.230	466.99	13.363%	19.741%
15.0	3330.568	461.081	928.071	18.004%	39.231%
20.0	2147.406	451.462	1379.533	17.628%	58.316%
25.0	1255.630	356.916	1736.449	13.937%	73.403%
30.0	864.537	268.309	2004.758	10.477%	84.745%
35.0	480.525	198.070	2202.828	7.734%	93.118%
40.0	108.736	98.314	2301.141	3.839%	97.274%
45.0	11.369	22.239	2323.38	.868%	98.214%
50.0	10.041	4.326	2327.706	.169%	98.397%
55.0	9.738	4.301	2332.007	.168%	98.579%
60.0	9.539	4.456	2336.463	.174%	98.767%
65.0	9.422	4.609	2341.072	.180%	98.962%
70.0	9.305	4.742	2345.813	.185%	99.162%
75.0	9.270	4.855	2350.668	.190%	99.367%
80.0	9.188	4.939	2355.607	.193%	99.576%
85.0	9.194	4.995	2360.602	.195%	99.787%
90.0	9.174	5.029	2365.631	.196%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2004.76	78.28%	84.75%
0-40	2301.14	89.85%	97.27%
0-60	2336.46	91.23%	98.77%
0-90	2360.60	92.18%	99.79%
0-120	2360.60	92.18%	99.79%
0-180	2365.63	92.37%	100.00%
60-90	28.60	1.12%	1.21%
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%
0-27.91	1892.51	73.90%	80.00%

ZONAL LUMEN SUMMARY

0-10	466.99
10-20	912.54
20-30	625.22
30-40	296.38
40-50	26.56
50-60	8.76
60-70	9.35
70-80	9.79
80-90	4.99
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: —————

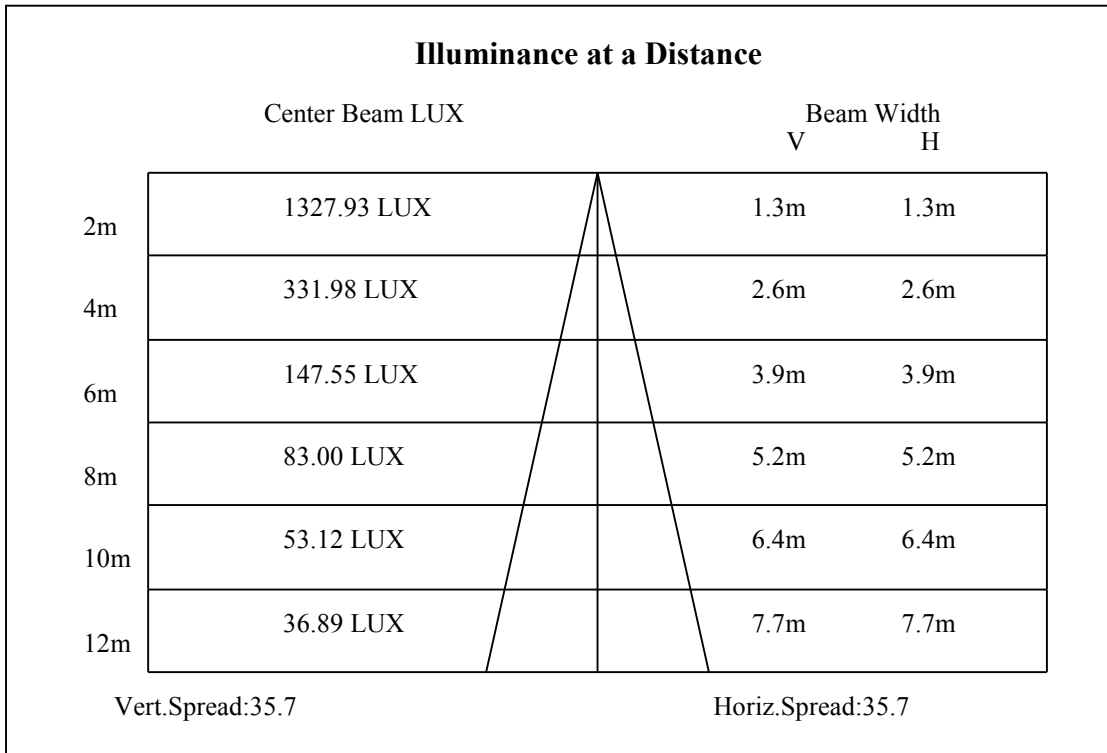
C90/C270: —————

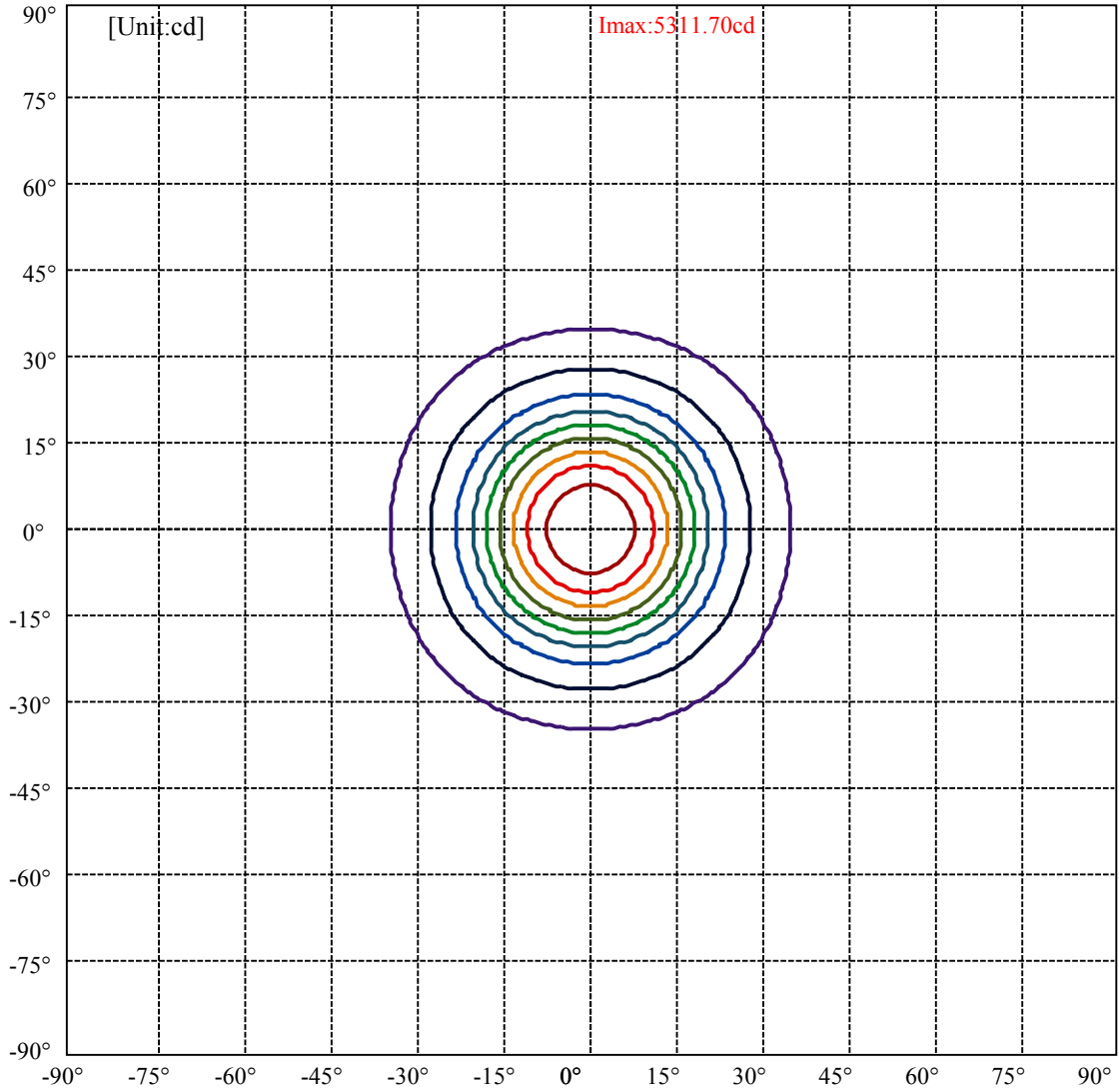
Field angle(10%Imax):C0/180Left:34.3 Right:34.3

:C90/270Left:34.3 Right:34.3

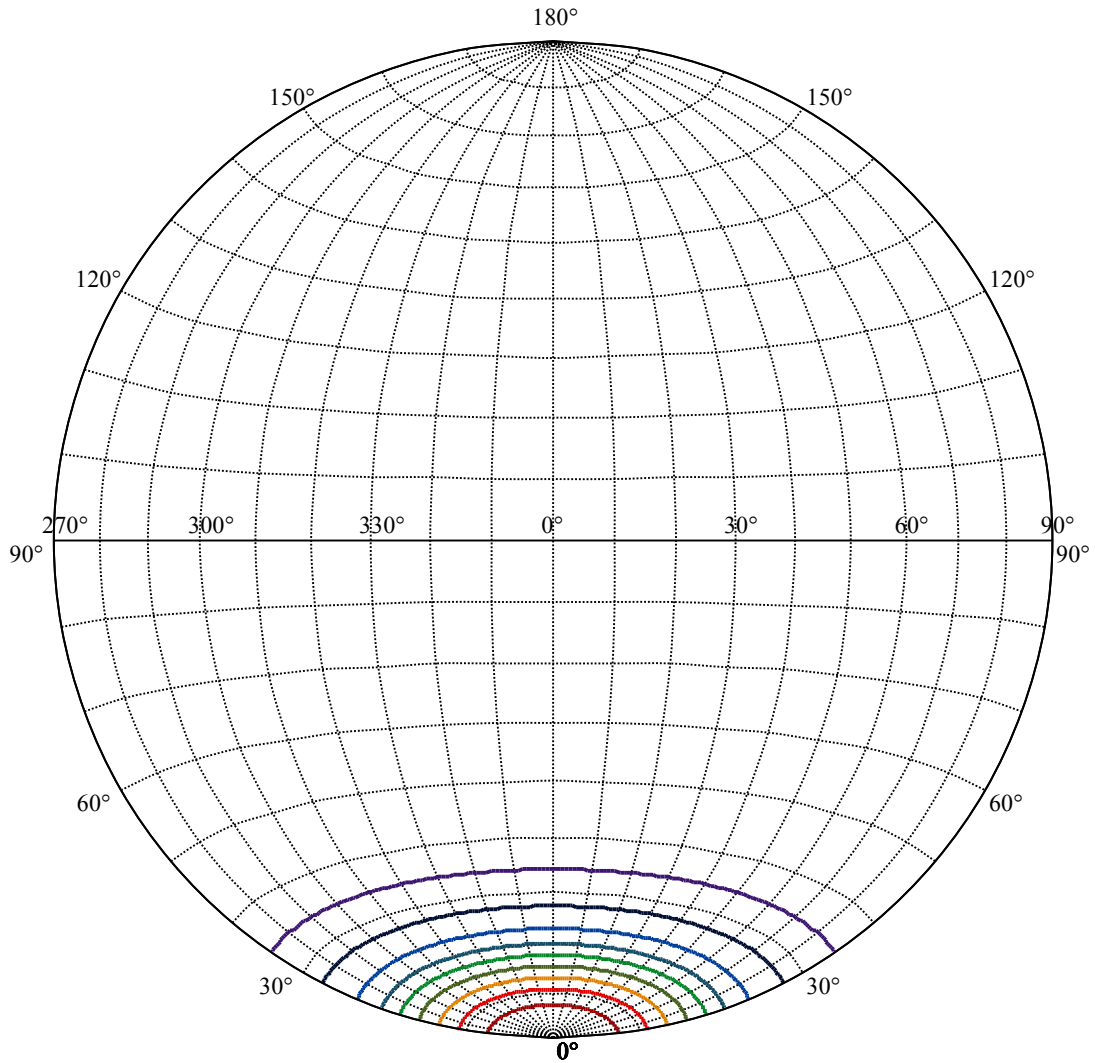
Beam Angle(50%Imax):C0/180Left:17.9 Right:17.9

:C90/270Left:17.9 Right:17.9





(10%Imax) 531.17	—
(20%Imax) 1062.34	—
(30%Imax) 1593.51	—
(40%Imax) 2124.68	—
(50%Imax) 2655.85	—
(60%Imax) 3187.02	—
(70%Imax) 3718.19	—
(80%Imax) 4249.36	—
(90%Imax) 4780.53	—



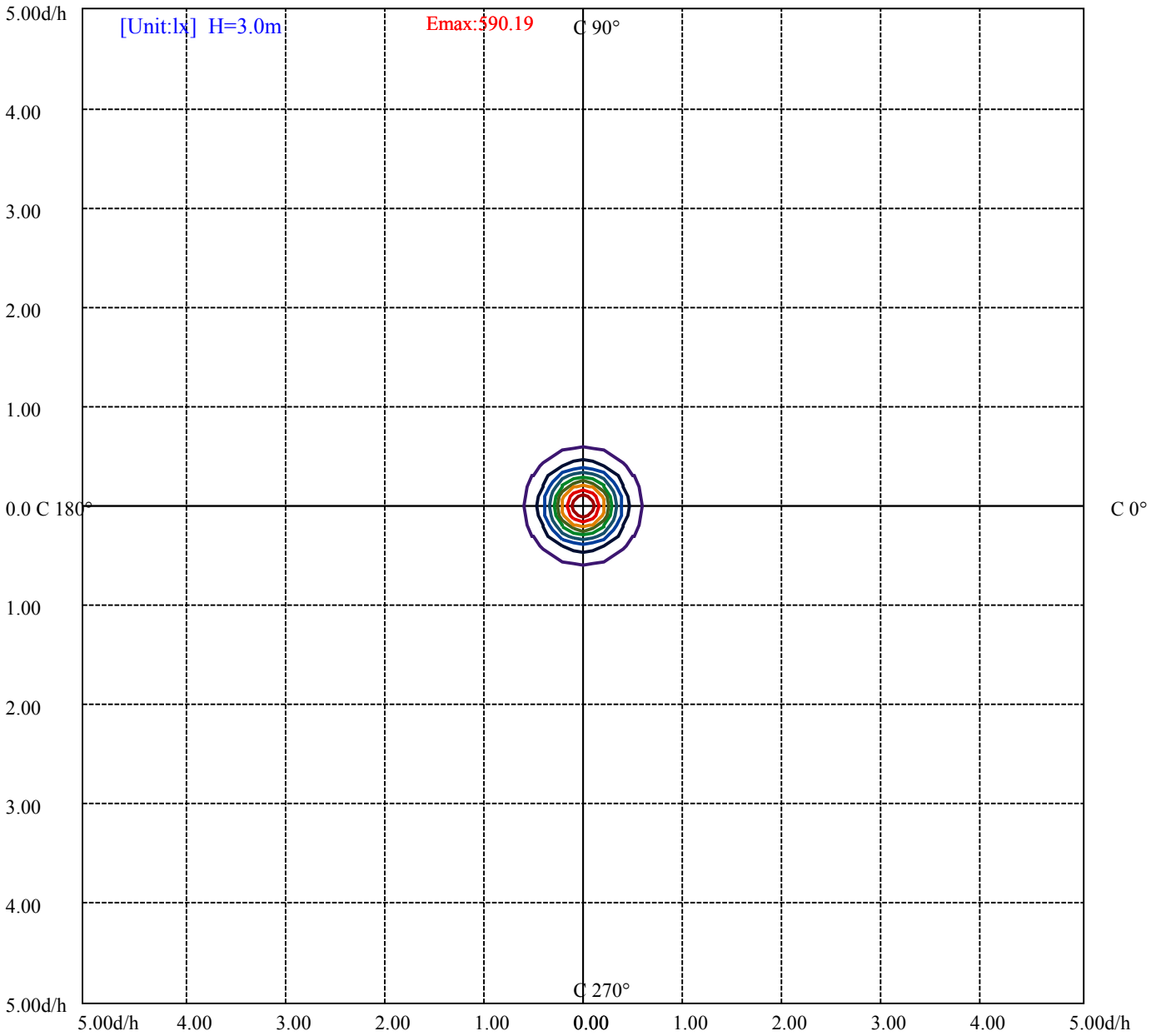
House

[Unit:cd]

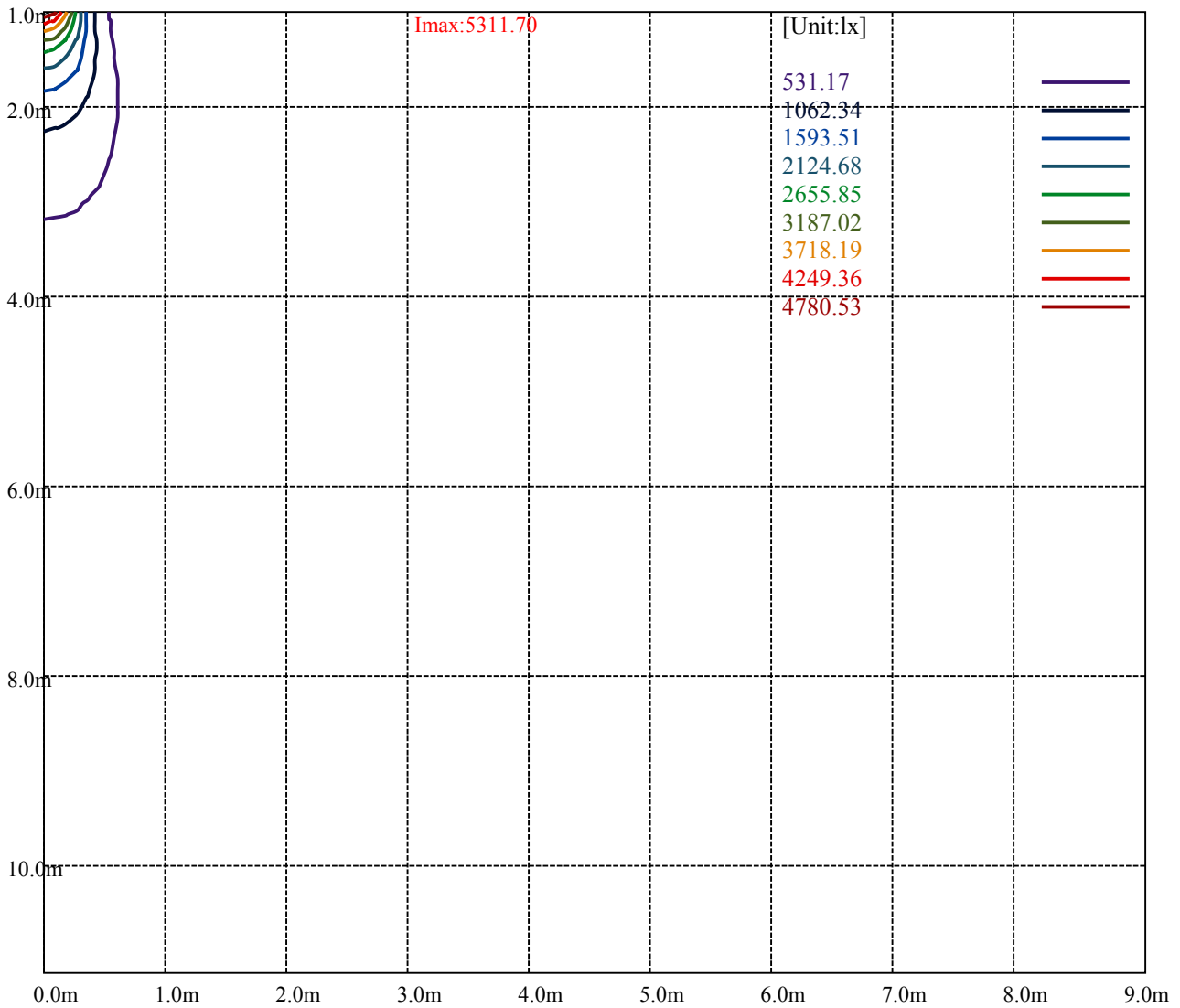
Road

Imax:5311.70

(10%Imax) 531.17	—
(20%Imax) 1062.34	—
(30%Imax) 1593.51	—
(40%Imax) 2124.68	—
(50%Imax) 2655.85	—
(60%Imax) 3187.02	—
(70%Imax) 3718.19	—
(80%Imax) 4249.36	—
(90%Imax) 4780.53	—



- (10%Emax) 59.01889
- (20%Emax) 118.0378
- (30%Emax) 177.0567
- (40%Emax) 236.0755
- (50%Emax) 295.0945
- (60%Emax) 354.1133
- (70%Emax) 413.1322
- (80%Emax) 472.1511
- (90%Emax) 531.17



Luminance Table

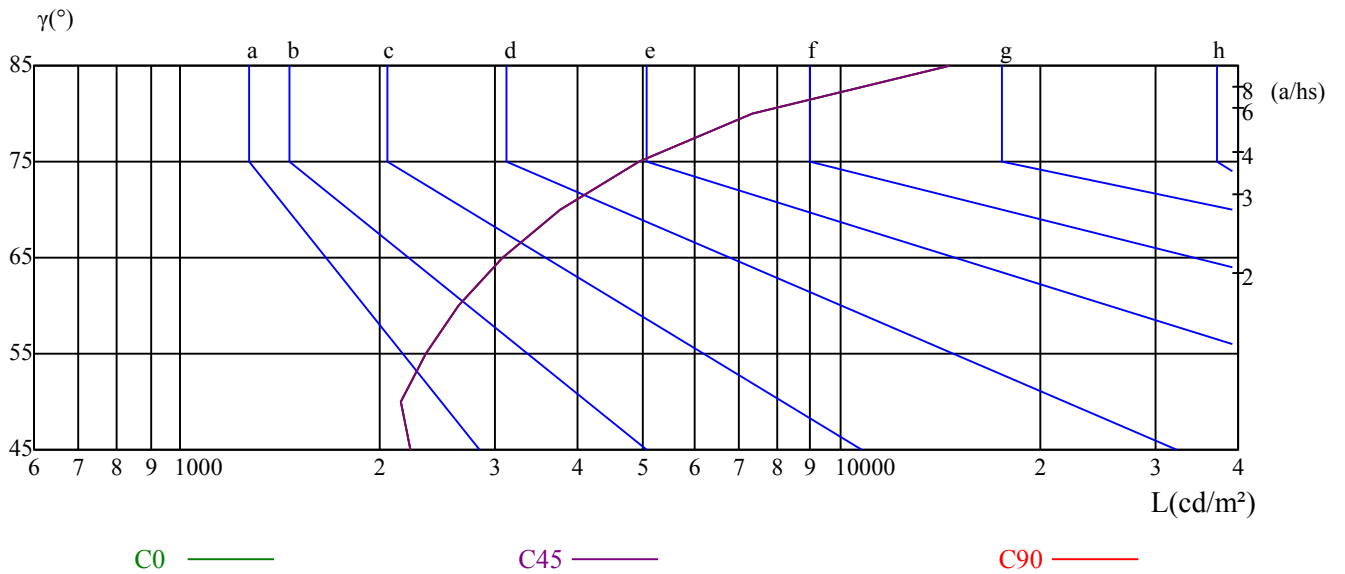
γ	45	50	55	60	65	70	75	80	85
C0	2225	2162	2350	2640	3086	3765	4957	7323	14601
C45	2225	2162	2350	2640	3086	3765	4957	7323	14601
C90	2225	2162	2350	2640	3086	3765	4957	7323	14601

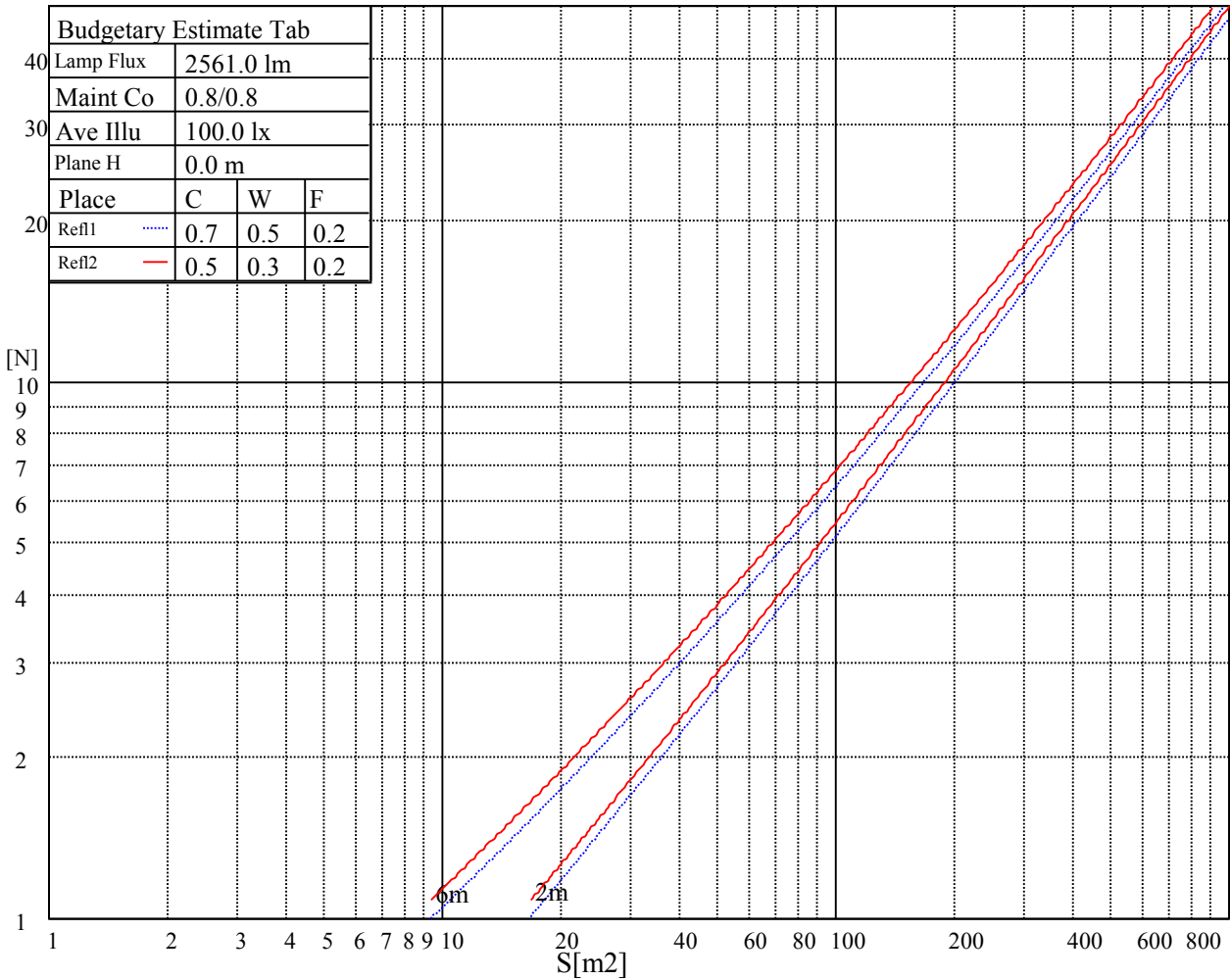
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3086	3086	3086	4957	4957	4957	14601	14601	14601

Glare Table

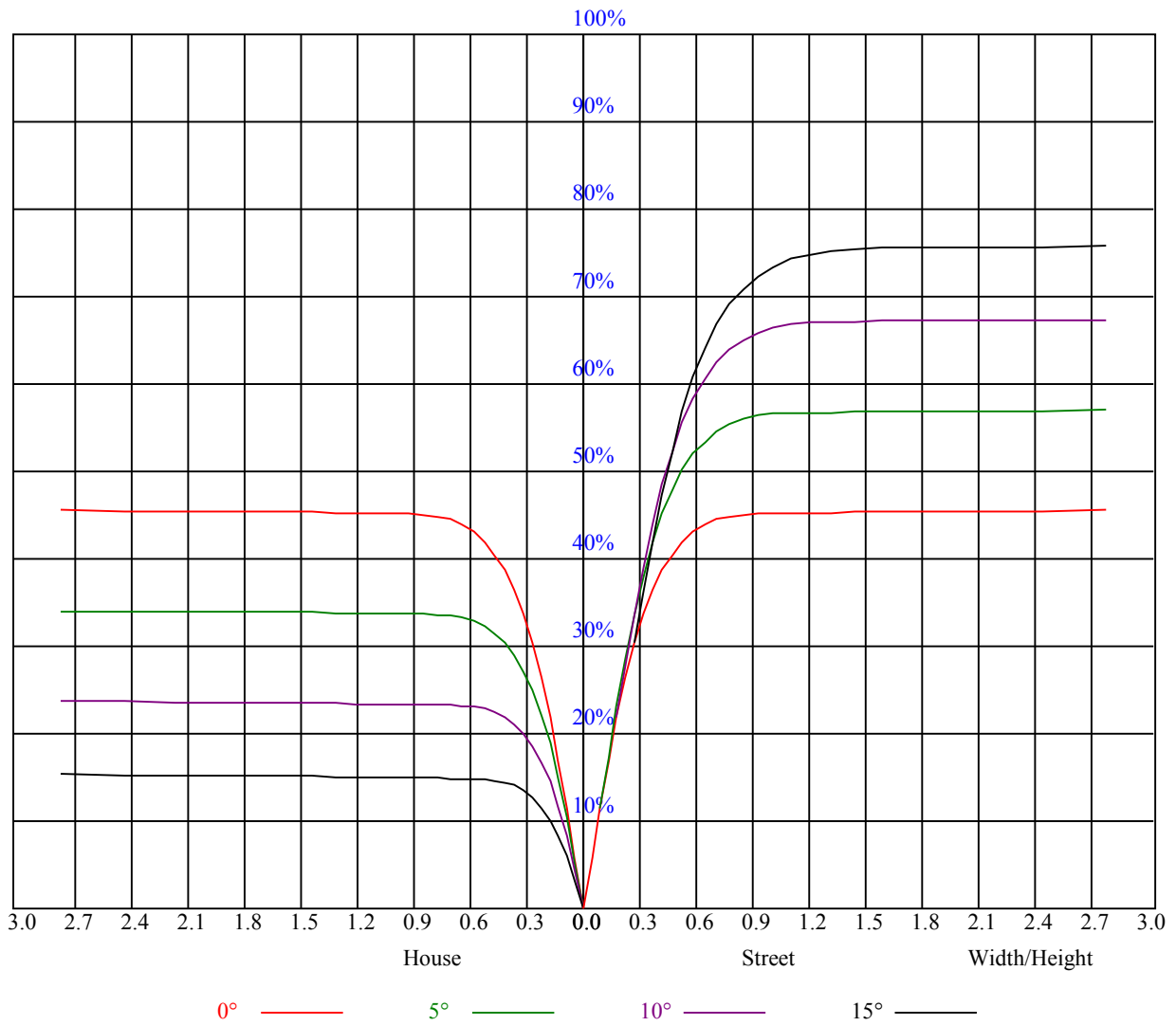
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

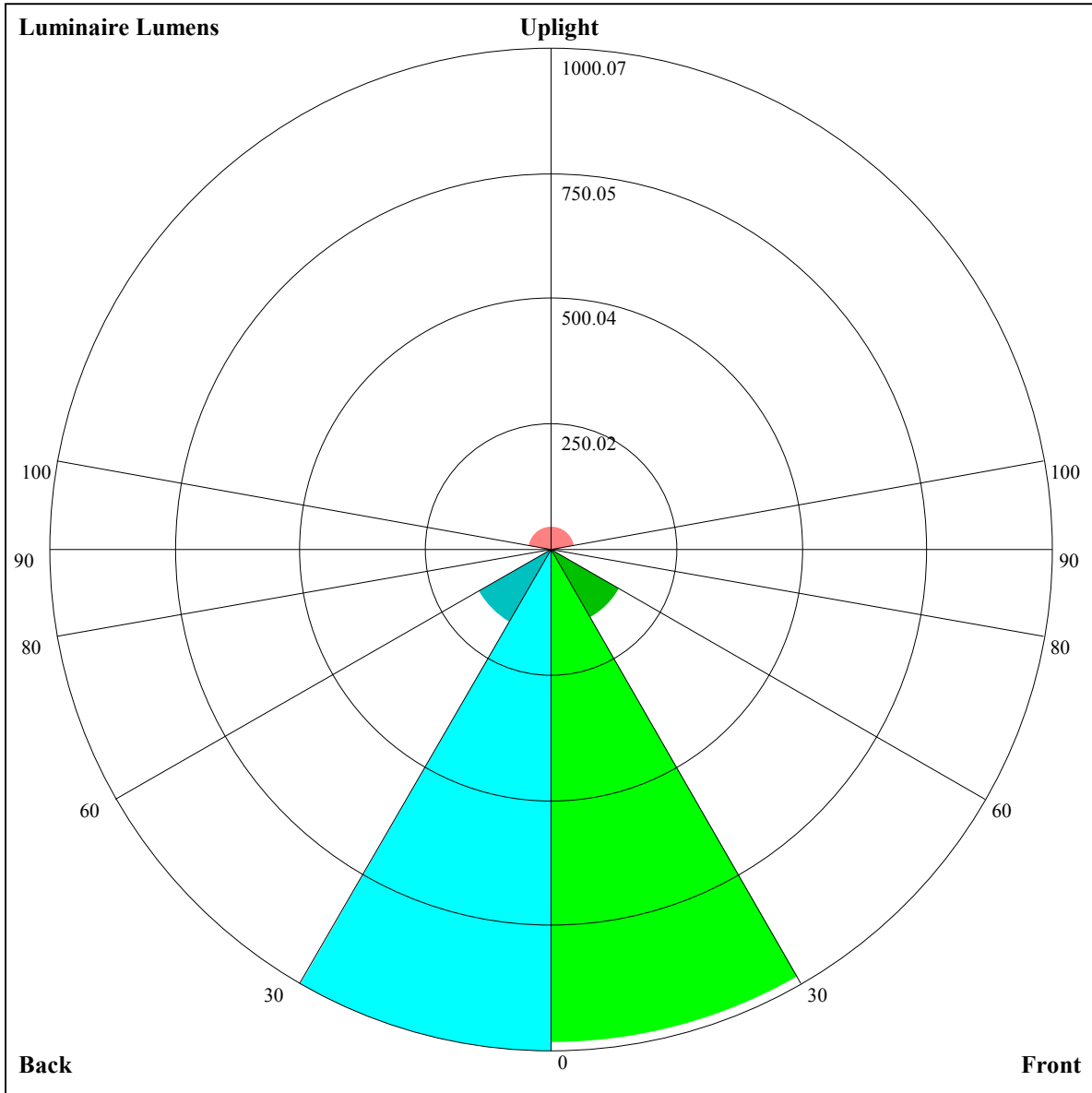
Luminance Limiting Curve





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	1.10	1.10	1.10	1.07	1.07	1.07	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.03	1.01	0.99	1.01	0.99	0.97	0.97	0.96	0.94	0.94	0.93	0.92	0.91	0.90	0.89	0.87
2	0.97	0.94	0.91	0.95	0.92	0.90	0.92	0.90	0.88	0.90	0.88	0.86	0.87	0.86	0.84	0.83
3	0.92	0.88	0.84	0.90	0.87	0.84	0.88	0.85	0.82	0.86	0.83	0.81	0.84	0.82	0.80	0.79
4	0.87	0.82	0.79	0.86	0.82	0.79	0.84	0.80	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.75
5	0.82	0.78	0.74	0.82	0.77	0.74	0.80	0.76	0.73	0.79	0.75	0.73	0.77	0.74	0.72	0.71
6	0.79	0.74	0.70	0.78	0.73	0.70	0.77	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.68
7	0.75	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.65
8	0.72	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.63	0.69	0.66	0.63	0.69	0.65	0.63	0.62
9	0.69	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.61	0.67	0.63	0.60	0.66	0.63	0.60	0.59
10	0.66	0.61	0.58	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.58	0.64	0.60	0.58	0.57





Luminaire Lumens:

FL=983.47,FM=158.16,FH=9.57,FVH=5.01

BL=1000.07,BM=166.26,BH=9.57,BVH=5.01

UL=10.01,UH=47.63

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	5311.84	5028.30	4274.03	3158.59	1982.03	1184.26	839.06	398.06	20.48
45.0	5320.10	5236.96	4772.29	3780.72	2510.57	1504.69	955.78	631.50	301.16
90.0	5322.30	5185.76	4569.68	3488.37	2274.38	1218.95	868.02	555.24	77.30
135.0	5292.57	5279.91	4791.56	3712.45	2483.04	1444.13	929.35	642.51	302.26
180.0	5311.84	5242.47	4686.95	3552.24	2278.78	1376.41	908.27	558.33	104.39
225.0	5320.10	4990.31	4075.27	2886.61	1771.16	1038.31	792.10	307.93	18.22
270.0	5322.30	5093.82	4296.05	3187.21	2029.93	1198.03	834.10	412.92	26.81
315.0	5292.57	4937.46	4072.52	2878.35	1849.34	1080.26	789.62	337.72	19.27
360.0	5311.84	5028.30	4274.03	3158.59	1982.03	1184.26	839.06	398.06	20.48
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	10.52	9.97	9.69	9.47	9.36	9.30	9.25	9.19	9.19
45.0	13.05	10.24	9.91	9.69	9.58	9.41	9.36	9.25	9.25
90.0	11.40	10.08	9.80	9.63	9.47	9.36	9.30	9.19	9.19
135.0	12.77	10.24	9.86	9.69	9.52	9.41	9.30	9.19	9.19
180.0	12.00	10.08	9.80	9.58	9.47	9.30	9.30	9.19	9.19
225.0	10.30	9.86	9.52	9.36	9.30	9.19	9.19	9.14	9.19
270.0	10.52	9.97	9.69	9.47	9.36	9.25	9.25	9.19	9.19
315.0	10.41	9.91	9.63	9.41	9.30	9.19	9.19	9.14	9.14
360.0	10.52	9.97	9.69	9.47	9.36	9.30	9.25	9.19	9.19
C/γ(°)	90.0								
0.0	9.14								
45.0	9.19								
90.0	9.19								
135.0	9.14								
180.0	9.14								
225.0	9.19								
270.0	9.19								
315.0	9.19								
360.0	9.14								