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## Nata

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### Client:

LumCAT: 2-1680-M

Luminaire: 92.70.125.00

Report No: NT2018010504

Test No: GC2018010504

LampCAT: BXRV-DR-1830-H-1000-A-13

Lamp flux(lm): 610.0

Number of Lamps: 1

Length(mm): 70

Phm Type: C

Voltage(V): 17.6000

Current(A): 0.4000

Power (W): 7.0400

PF: 0.0000

Ballast type: DC

Width(mm): 70

Height(mm): 0

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## Photometric Results

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Lumens(lm): 540.71, Efficiency(%): 88.64% , Luminous Efficacy(lm/W): 76.80

Central intensity(cd): 2128.343, Maximum intensity(cd): 2128.343

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=22.2

[C90/270]Total=22.2

Field angle(10%Imax): [C0/180]Total=56.2

[C90/270]Total=56.2

Maximum s/h(1/2): C0\_180=0.38 C90\_270=0.38

Maximum s/h(1/4): C0\_180=0.38 C90\_270=0.38

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 90.64%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 96.427%

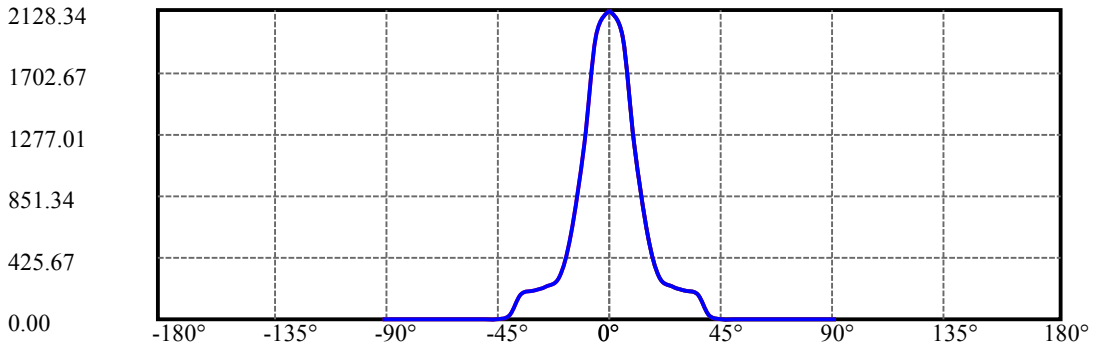
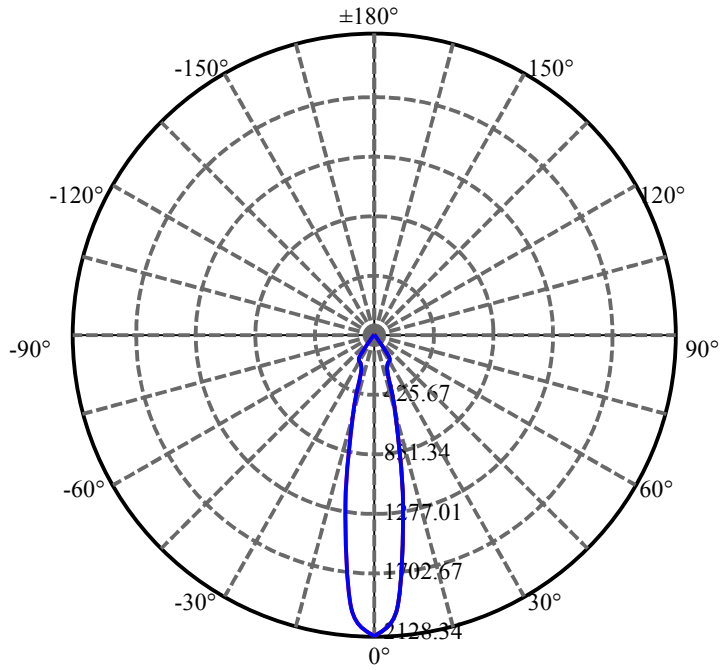
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2128.343	12.728	12.728	2.087%	2.354%
5.0	1937.504	92.561	105.289	15.174%	19.473%
10.0	1207.862	114.968	220.257	18.847%	40.735%
15.0	579.916	82.272	302.529	13.487%	55.951%
20.0	290.994	54.554	357.082	8.943%	66.040%
25.0	227.521	52.706	409.788	8.640%	75.788%
30.0	204.046	55.923	465.711	9.168%	86.130%
35.0	167.275	52.591	518.302	8.621%	95.857%
40.0	24.541	8.647	526.949	1.418%	97.456%
45.0	4.480	1.736	528.685	.285%	97.777%
50.0	3.703	1.555	530.24	.255%	98.065%
55.0	3.310	1.486	531.726	.244%	98.339%
60.0	3.021	1.434	533.16	.235%	98.605%
65.0	2.808	1.395	534.555	.229%	98.863%
70.0	2.684	1.382	535.938	.227%	99.118%
75.0	2.581	1.366	537.304	.224%	99.371%
80.0	2.519	1.360	538.664	.223%	99.622%
85.0	2.498	1.364	540.028	.224%	99.875%
90.0	2.471	0.677	540.705	.111%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	465.71	76.35%	86.13%
0-40	526.95	86.39%	97.46%
0-60	533.16	87.40%	98.60%
0-90	540.03	88.53%	99.87%
0-120	540.03	88.53%	99.87%
0-180	540.71	88.64%	100.00%
60-90	8.30	1.36%	1.54%
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%
0-27.04	432.56	70.91%	80.00%

ZONAL LUMEN SUMMARY

0-10	220.26
10-20	136.83
20-30	108.63
30-40	61.24
40-50	3.29
50-60	2.92
60-70	2.78
70-80	2.73
80-90	1.36
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



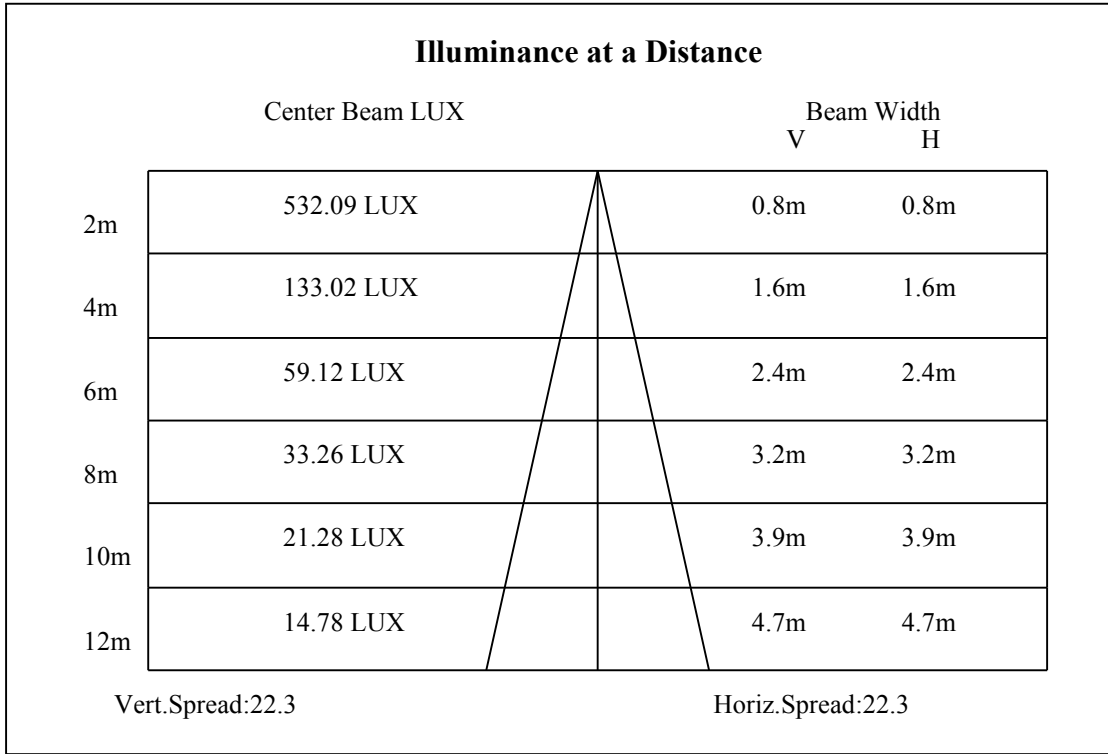
C0(Max): —————

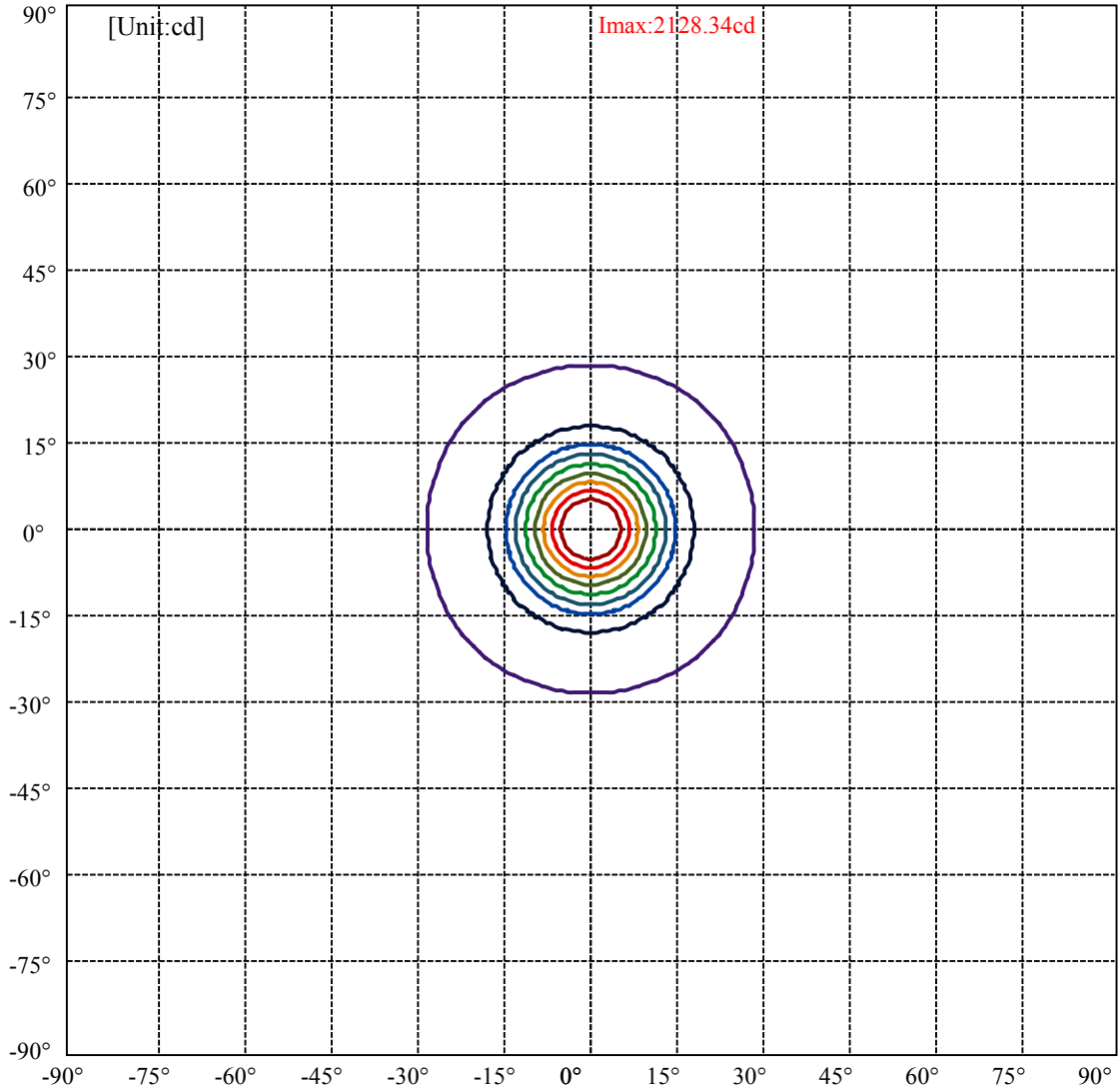
C0/C180: —————

C90/C270: —————

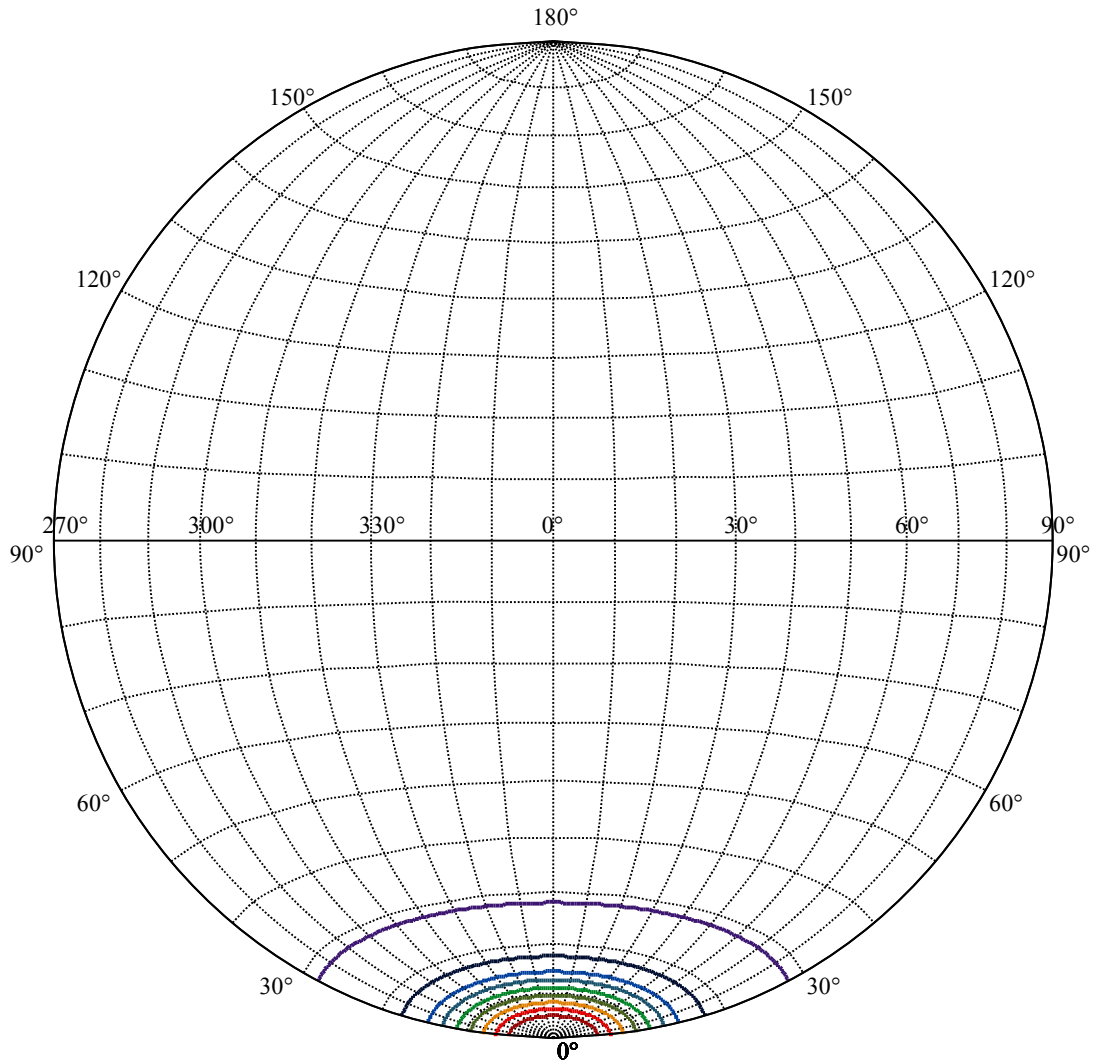
Field angle(10%Imax):C0/180Left:28.1 Right:28.1  
:C90/270Left:28.1 Right:28.1

Beam Angle(50%Imax):C0/180Left:11.1 Right:11.1  
:C90/270Left:11.1 Right:11.1





(10%Imax) 212.834	—
(20%Imax) 425.669	—
(30%Imax) 638.503	—
(40%Imax) 851.337	—
(50%Imax) 1064.17	—
(60%Imax) 1277.01	—
(70%Imax) 1489.84	—
(80%Imax) 1702.67	—
(90%Imax) 1915.51	—



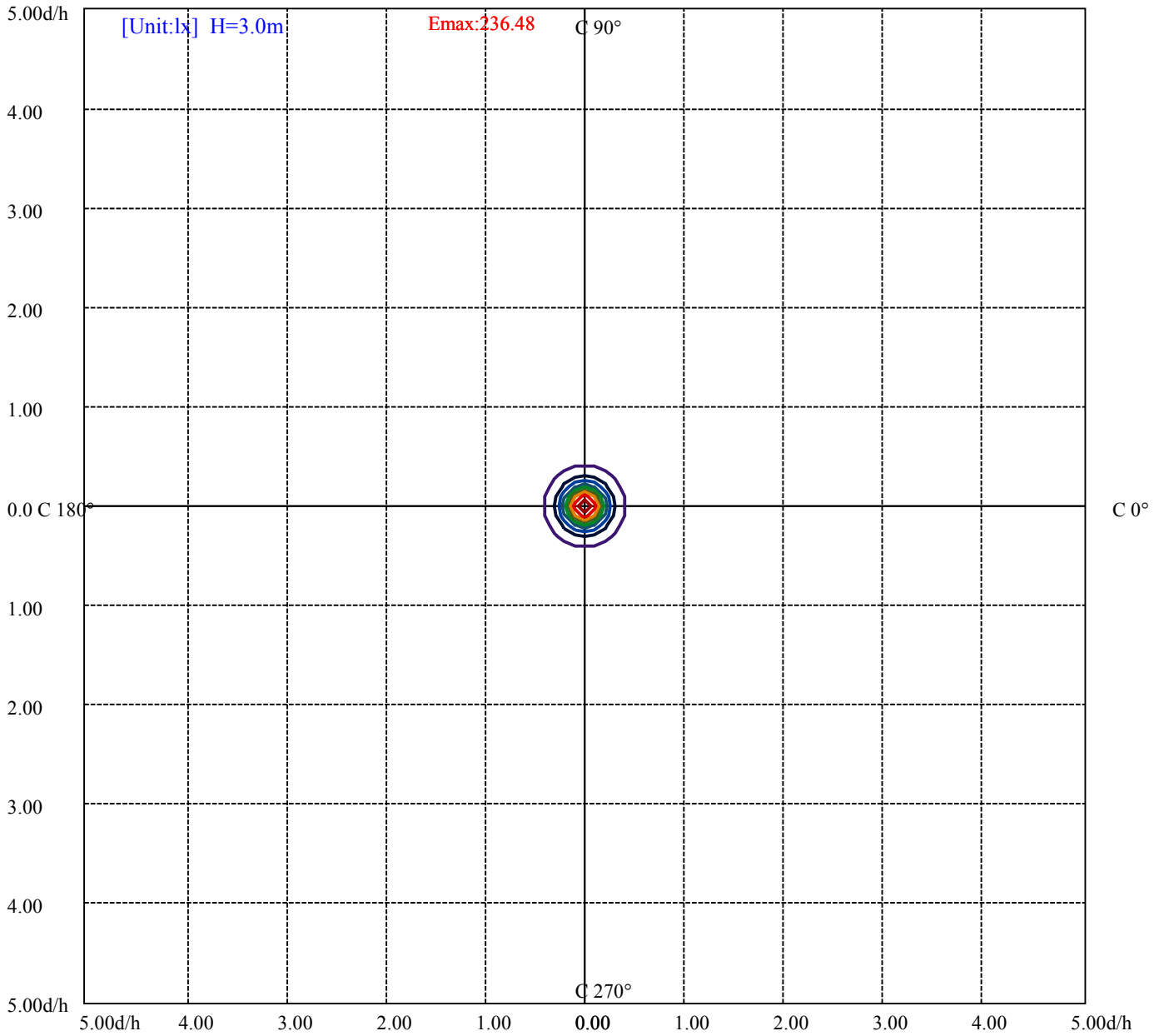
House

[Unit:cd]

Road

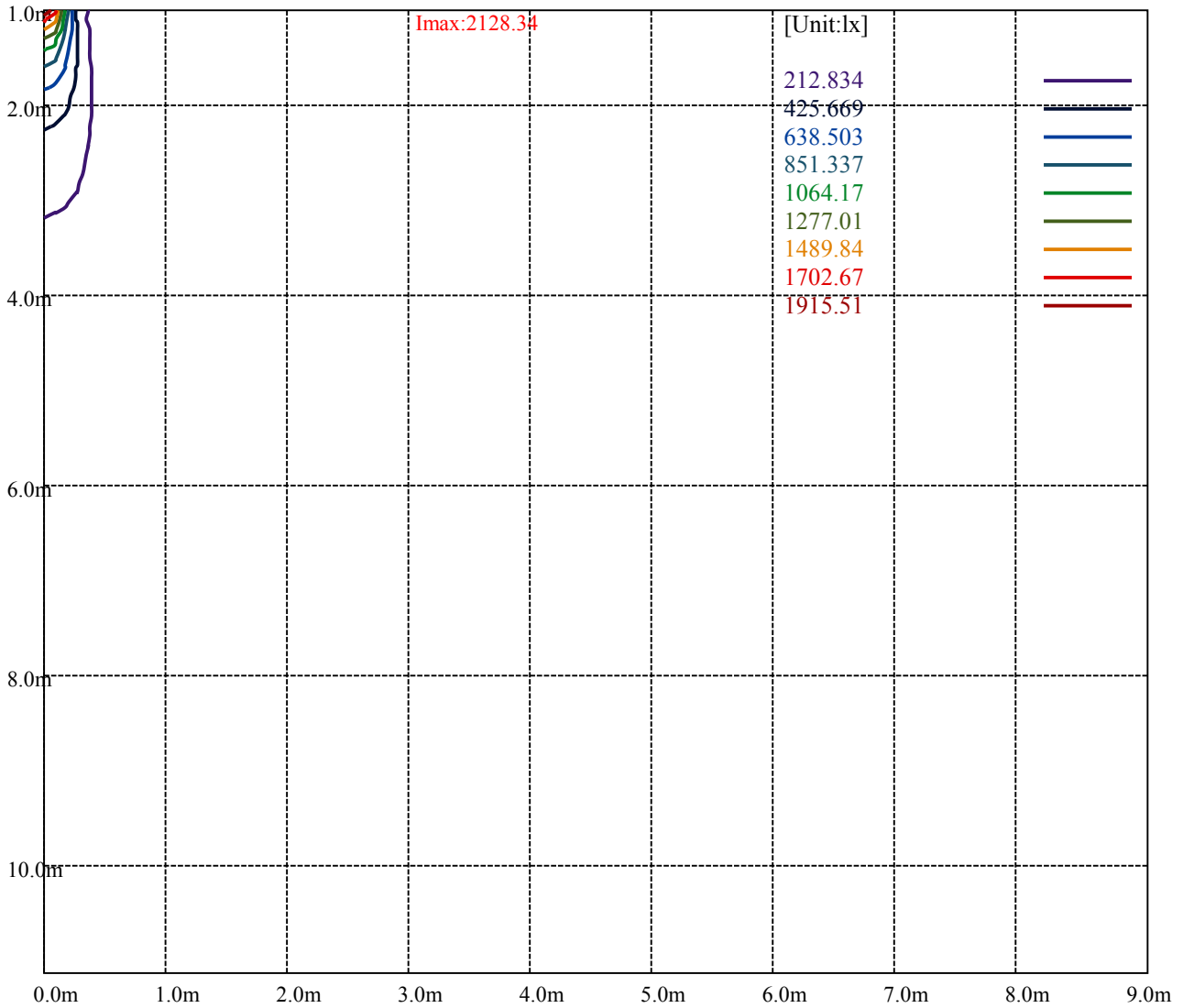
**I<sub>max</sub>:2128.34**

(10%I <sub>max</sub> ) 212.834	—
(20%I <sub>max</sub> ) 425.669	—
(30%I <sub>max</sub> ) 638.503	—
(40%I <sub>max</sub> ) 851.337	—
(50%I <sub>max</sub> ) 1064.17	—
(60%I <sub>max</sub> ) 1277.01	—
(70%I <sub>max</sub> ) 1489.84	—
(80%I <sub>max</sub> ) 1702.67	—
(90%I <sub>max</sub> ) 1915.51	—



- (10%Emax) 23.64822
- (20%Emax) 47.29633
- (30%Emax) 70.94455
- (40%Emax) 94.59278
- (50%Emax) 118.2411
- (60%Emax) 141.8889
- (70%Emax) 165.5378
- (80%Emax) 189.1856
- (90%Emax) 212.8333





Luminance Table

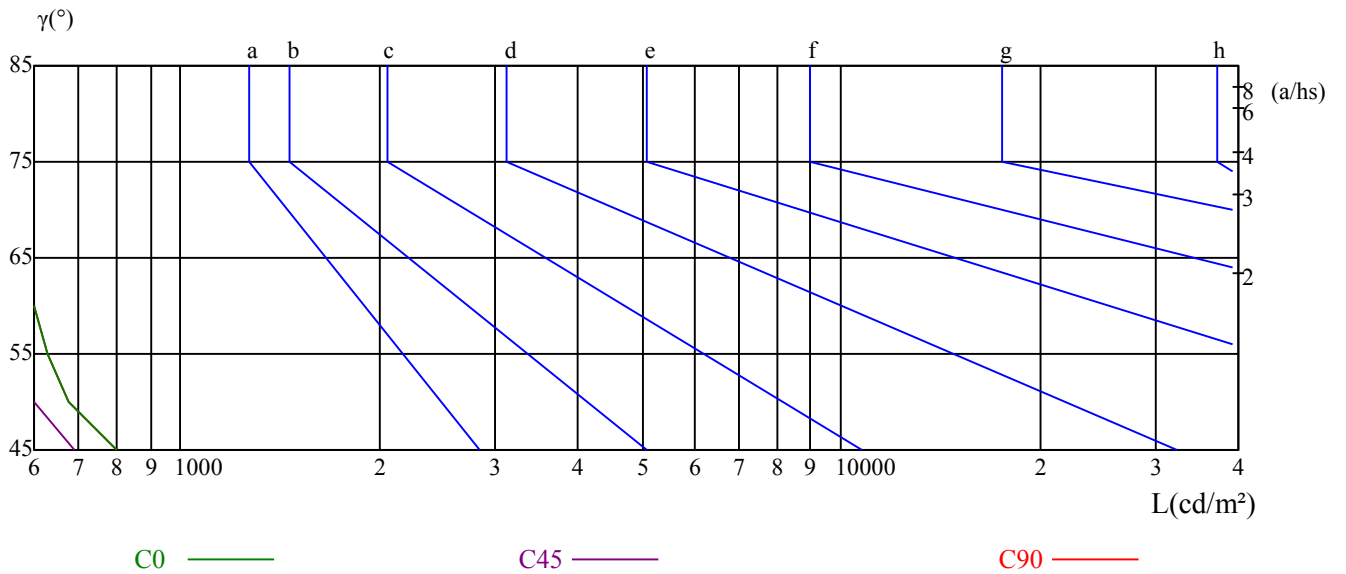
$\gamma$	45	50	55	60	65	70	75	80	85
C0	801	679	627	597	585	596	618	660	729
C45	692	578	526	492	474	473	480	499	535
C90	801	679	627	597	585	596	618	660	729

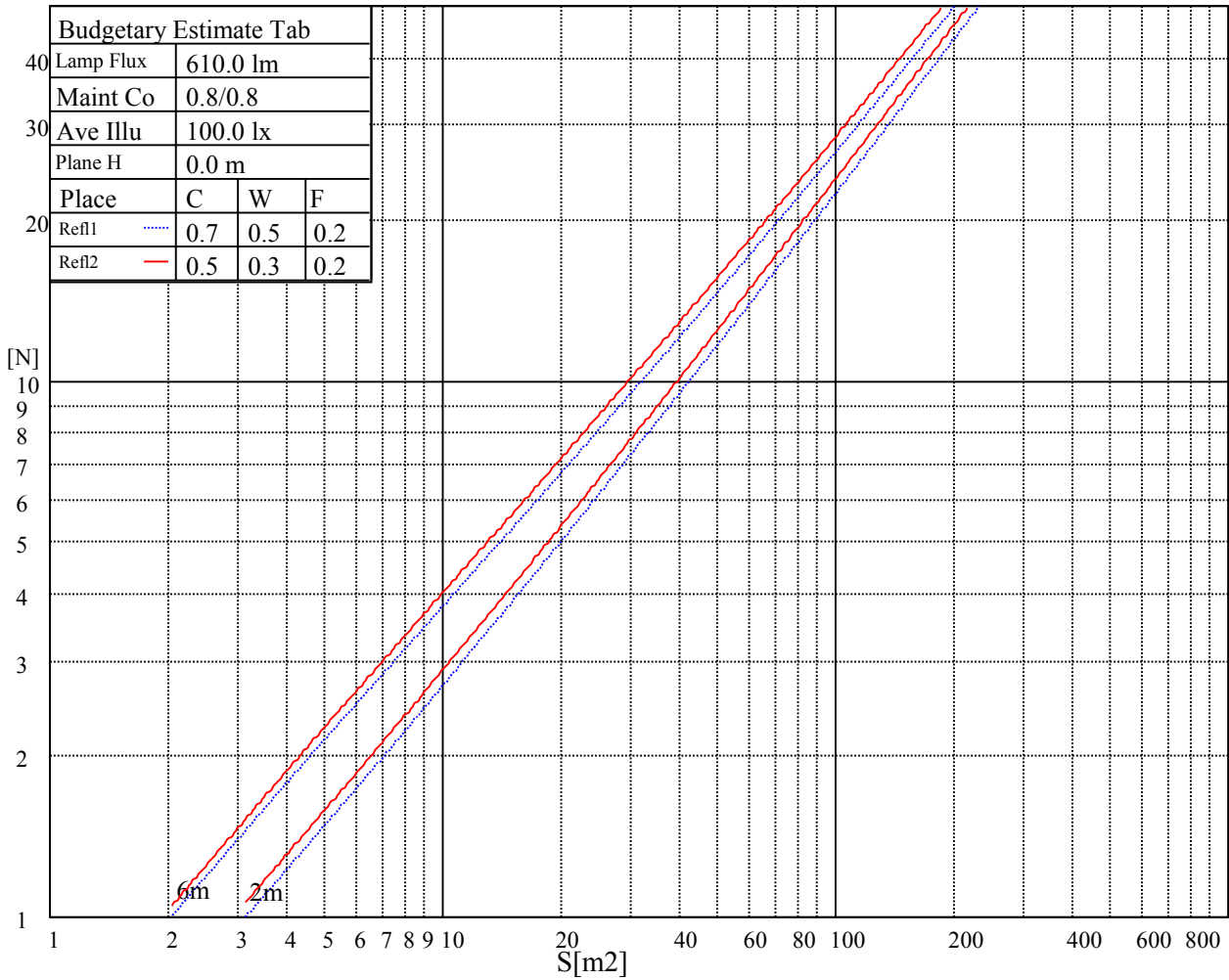
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1356	1356	1356	2035	2035	2035	5850	5850	5850

Glare Table

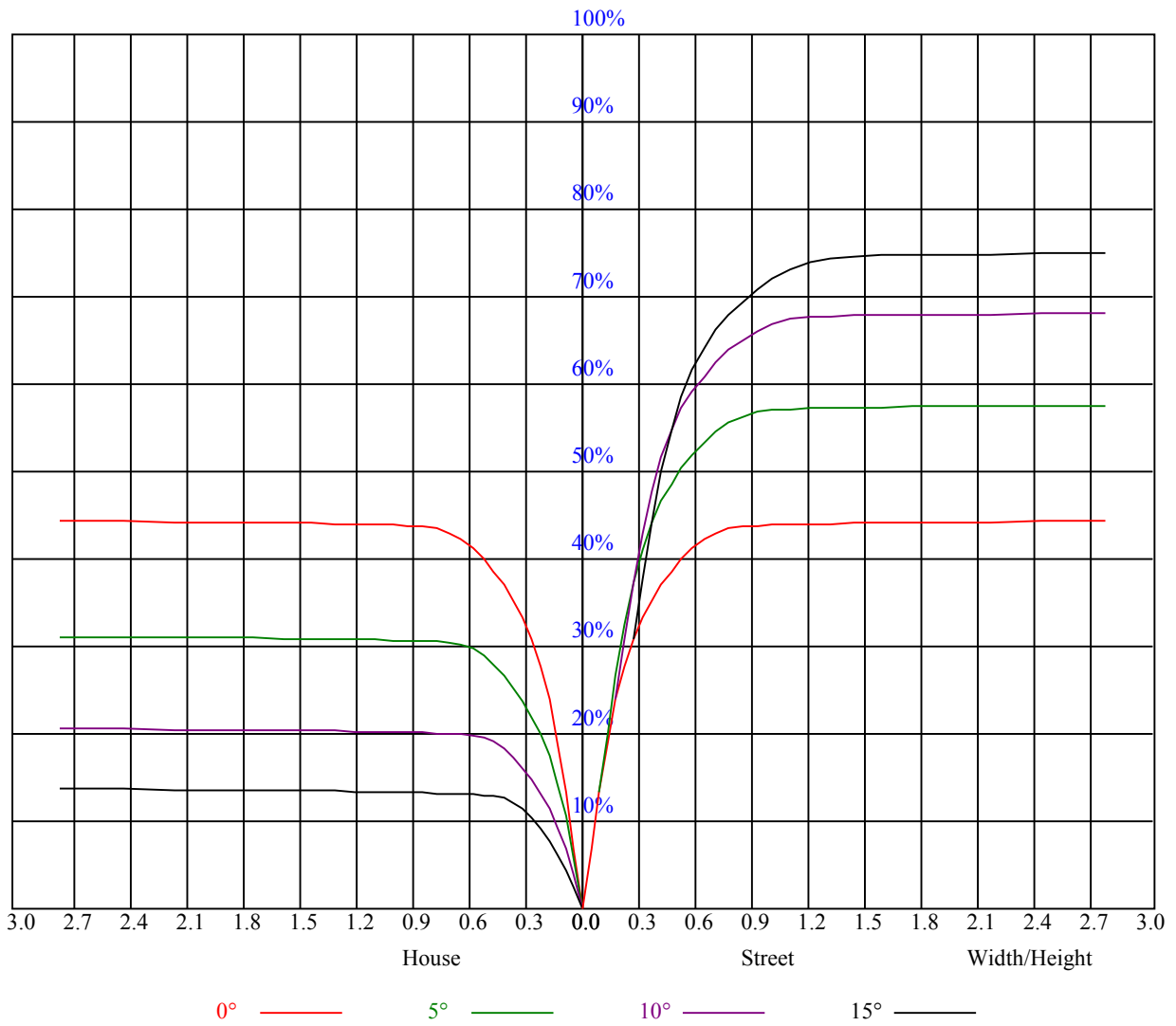
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

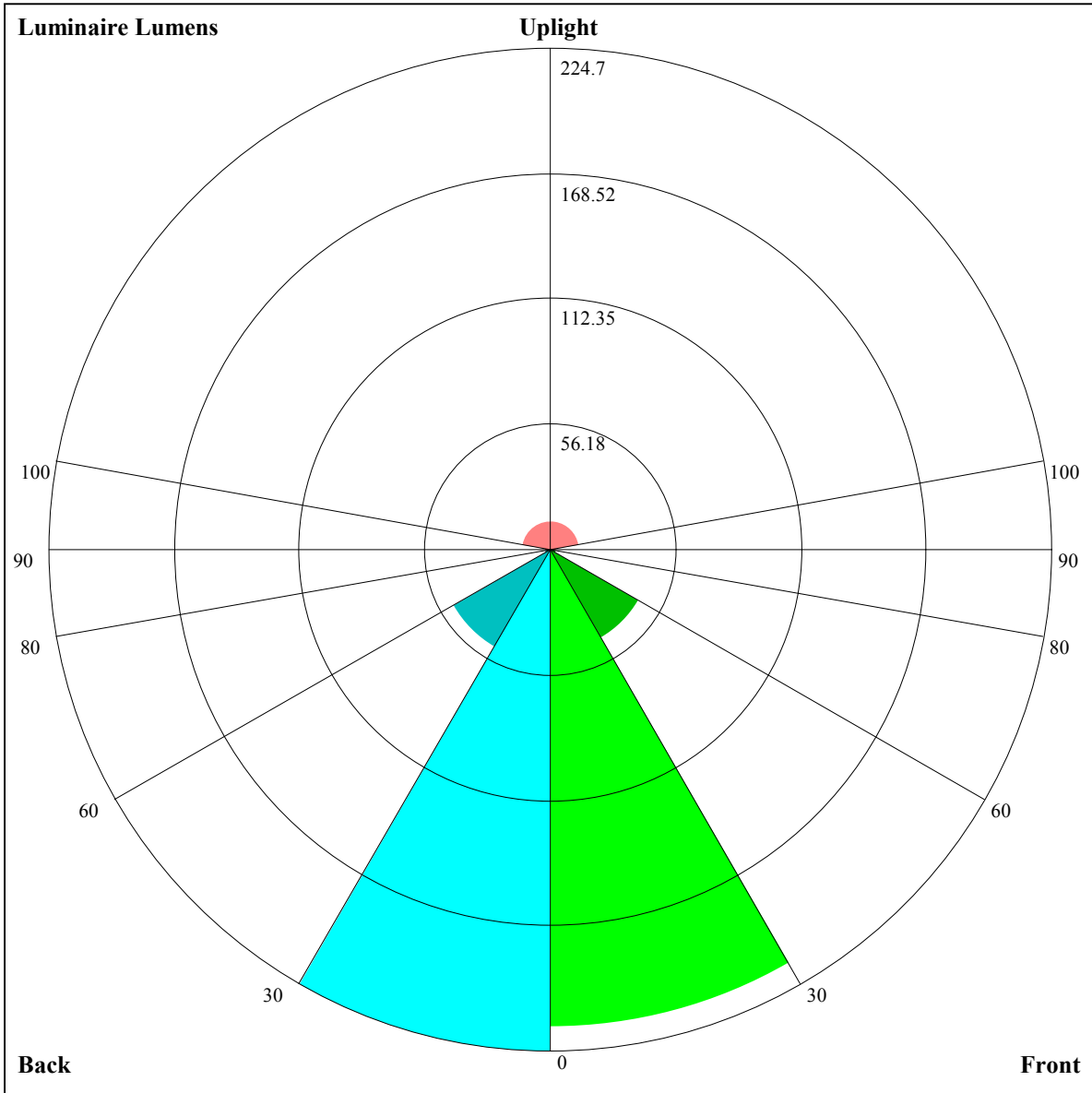
Luminance Limiting Curve





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	1.08	1.08	1.08	1.05	1.05	1.05	1.01	1.01	1.01	0.96	0.96	0.96	0.92	0.92	0.92	0.91
1	0.99	0.96	0.94	0.97	0.95	0.92	0.93	0.91	0.90	0.90	0.88	0.87	0.87	0.86	0.84	0.83
2	0.94	0.90	0.87	0.92	0.89	0.86	0.89	0.87	0.84	0.87	0.84	0.82	0.84	0.82	0.81	0.79
3	0.89	0.85	0.82	0.88	0.84	0.81	0.86	0.82	0.80	0.83	0.81	0.79	0.81	0.79	0.77	0.76
4	0.85	0.81	0.77	0.84	0.80	0.77	0.82	0.79	0.76	0.80	0.78	0.75	0.79	0.76	0.74	0.73
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	0.72	0.70
6	0.78	0.74	0.71	0.78	0.74	0.70	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.68
7	0.76	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.67	0.66
8	0.73	0.69	0.66	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.64
9	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.62
10	0.68	0.64	0.62	0.68	0.64	0.61	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.60





Luminaire Lumens:  
FL=214.33,FM=45.6,FH=2.74,FVH=1.36  
BL=224.7,BM=50.4,BH=2.81,BVH=1.36  
UL=2.7,UH=12.83

BUG Rating:B1-U2-G0

Intensity data(cd)

<b>C/γ(°)</b>	<b>0.0</b>	<b>5.0</b>	<b>10.0</b>	<b>15.0</b>	<b>20.0</b>	<b>25.0</b>	<b>30.0</b>	<b>35.0</b>	<b>40.0</b>
<b>0.0</b>	2146.10	1892.29	1241.52	535.15	290.70	229.86	206.02	169.68	14.87
<b>45.0</b>	2131.23	1909.91	1275.66	590.20	286.84	225.29	201.07	164.29	17.56
<b>90.0</b>	2122.42	1913.21	1053.72	570.27	286.79	226.28	201.12	168.64	20.65
<b>135.0</b>	2113.62	2049.75	1578.47	769.69	331.44	231.18	207.23	188.35	62.27
<b>180.0</b>	2146.10	2028.28	1062.97	563.72	288.33	221.82	200.85	175.80	24.45
<b>225.0</b>	2131.23	1989.19	1087.25	575.56	293.01	230.52	206.35	169.46	23.23
<b>270.0</b>	2122.42	1940.74	1325.76	590.20	288.50	232.83	207.12	171.45	24.22
<b>315.0</b>	2113.62	1776.67	1037.54	444.53	262.34	222.37	202.61	130.54	9.08
<b>360.0</b>	2146.10	1892.29	1241.52	535.15	290.70	229.86	206.02	169.68	14.87
<b>C/γ(°)</b>	<b>45.0</b>	<b>50.0</b>	<b>55.0</b>	<b>60.0</b>	<b>65.0</b>	<b>70.0</b>	<b>75.0</b>	<b>80.0</b>	<b>85.0</b>
<b>0.0</b>	4.07	3.58	3.19	2.92	2.75	2.64	2.53	2.48	2.48
<b>45.0</b>	4.51	3.58	3.25	2.97	2.81	2.64	2.59	2.53	2.53
<b>90.0</b>	4.18	3.63	3.25	2.97	2.75	2.64	2.59	2.53	2.53
<b>135.0</b>	5.07	3.85	3.47	3.14	2.86	2.75	2.64	2.53	2.48
<b>180.0</b>	4.79	3.85	3.47	3.14	2.86	2.75	2.59	2.53	2.48
<b>225.0</b>	4.46	3.85	3.41	3.14	2.92	2.75	2.59	2.53	2.53
<b>270.0</b>	4.79	3.74	3.30	3.03	2.81	2.70	2.59	2.53	2.48
<b>315.0</b>	3.96	3.52	3.14	2.86	2.70	2.59	2.53	2.48	2.48
<b>360.0</b>	4.07	3.58	3.19	2.92	2.75	2.64	2.53	2.48	2.48
<b>C/γ(°)</b>	<b>90.0</b>								
<b>0.0</b>	2.48								
<b>45.0</b>	2.48								
<b>90.0</b>	2.48								
<b>135.0</b>	2.48								
<b>180.0</b>	2.48								
<b>225.0</b>	2.48								
<b>270.0</b>	2.42								
<b>315.0</b>	2.48								
<b>360.0</b>	2.48								