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## Nata

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LumCAT: 2-2136-M  
Luminaire: BJB 47.360.1010  
Report No: NATA0100  
Test No: GC2019102812  
LampCAT: TRIDONIC SLE G7 15MM  
Lamp flux(lm): 2030.0  
Number of Lamps: 1  
Length(mm): 0  
Phm Type: C

Voltage(V): 33.8400  
Current(A): 0.4470  
Power (W): 15.1200  
PF: 1.0000  
Ballast type: DC  
Width(mm): 0  
Height(mm): 0

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## Photometric Results

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Lumens(lm): 1548.52  
Efficiency(%): 76.28%  
Lumens(lm)/Power(W): 102.42  
Central intensity(cd): 8334.984  
Maximum intensity(cd): 8334.984  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=23.5  
                                  [C90/270]Total=23.5  
Field angle(10%Imax): [C0/180]Total=41.9  
                                  [C90/270]Total=41.9  
Maximum s/h(1/2): C0\_180=0.40 C90\_270=0.40  
Maximum s/h(1/4): C0\_180=0.40 C90\_270=0.40  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 76.28%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.023%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8334.984	0.000	0	.000%	.000%
1.0	8298.000	7.959	7.959	.392%	.514%
2.0	8183.883	23.656	31.615	1.165%	2.042%
3.0	7989.328	38.681	70.296	1.905%	4.540%
4.0	7734.727	52.633	122.929	2.593%	7.939%
5.0	7408.898	65.147	188.076	3.209%	12.146%
6.0	7015.359	75.803	263.88	3.734%	17.041%
7.0	6560.438	84.265	348.145	4.151%	22.482%
8.0	6104.953	90.644	438.788	4.465%	28.336%
9.0	5577.609	94.681	533.469	4.664%	34.450%
10.0	5052.164	96.196	629.665	4.739%	40.662%
11.0	4554.141	95.987	725.651	4.728%	46.861%
12.0	4049.789	94.053	819.705	4.633%	52.935%
13.0	3549.234	90.181	909.886	4.442%	58.759%
14.0	3101.273	85.126	995.012	4.193%	64.256%
15.0	2678.133	79.342	1074.354	3.908%	69.380%
16.0	2286.563	72.747	1147.101	3.584%	74.077%
17.0	1936.617	65.766	1212.867	3.240%	78.324%
18.0	1615.781	58.571	1271.438	2.885%	82.107%
19.0	1250.473	49.867	1321.305	2.457%	85.327%
20.0	1065.705	42.392	1363.698	2.088%	88.065%
21.0	823.282	36.272	1399.97	1.787%	90.407%
22.0	623.081	29.065	1429.036	1.432%	92.284%
23.0	442.434	22.357	1451.393	1.101%	93.728%
24.0	293.421	16.088	1467.481	.793%	94.767%
25.0	195.244	11.111	1478.593	.547%	95.484%
26.0	81.823	6.540	1485.133	.322%	95.907%
27.0	34.249	2.840	1487.972	.140%	96.090%
28.0	23.070	1.451	1489.424	.071%	96.184%
29.0	19.125	1.104	1490.528	.054%	96.255%
30.0	17.198	0.981	1491.508	.048%	96.319%
31.0	15.806	0.918	1492.427	.045%	96.378%
32.0	14.738	0.875	1493.302	.043%	96.434%
33.0	13.943	0.845	1494.147	.042%	96.489%
34.0	13.324	0.825	1494.972	.041%	96.542%
35.0	12.783	0.811	1495.783	.040%	96.595%
36.0	12.361	0.801	1496.583	.039%	96.646%
37.0	12.023	0.795	1497.379	.039%	96.698%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	11.749	0.793	1498.172	.039%	96.749%
39.0	11.517	0.794	1498.966	.039%	96.800%
40.0	11.334	0.797	1499.763	.039%	96.852%
41.0	11.166	0.801	1500.564	.039%	96.903%
42.0	11.053	0.807	1501.372	.040%	96.956%
43.0	10.927	0.814	1502.186	.040%	97.008%
44.0	10.835	0.821	1503.007	.040%	97.061%
45.0	10.730	0.829	1503.836	.041%	97.115%
46.0	10.645	0.836	1504.672	.041%	97.169%
47.0	10.554	0.843	1505.515	.042%	97.223%
48.0	10.484	0.850	1506.365	.042%	97.278%
49.0	10.413	0.858	1507.224	.042%	97.333%
50.0	10.371	0.867	1508.09	.043%	97.389%
51.0	10.357	0.877	1508.967	.043%	97.446%
52.0	10.406	0.891	1509.858	.044%	97.504%
53.0	10.448	0.907	1510.765	.045%	97.562%
54.0	10.568	0.926	1511.692	.046%	97.622%
55.0	10.779	0.953	1512.645	.047%	97.683%
56.0	11.004	0.984	1513.629	.048%	97.747%
57.0	11.243	1.017	1514.646	.050%	97.813%
58.0	11.531	1.053	1515.699	.052%	97.881%
59.0	11.735	1.088	1516.787	.054%	97.951%
60.0	11.904	1.117	1517.904	.055%	98.023%
61.0	12.066	1.144	1519.048	.056%	98.097%
62.0	12.213	1.170	1520.217	.058%	98.173%
63.0	12.410	1.198	1521.415	.059%	98.250%
64.0	12.642	1.229	1522.644	.061%	98.329%
65.0	12.776	1.258	1523.902	.062%	98.410%
66.0	12.698	1.271	1525.173	.063%	98.493%
67.0	12.480	1.266	1526.439	.062%	98.574%
68.0	12.206	1.251	1527.69	.062%	98.655%
69.0	11.988	1.234	1528.924	.061%	98.735%
70.0	11.721	1.218	1530.142	.060%	98.813%
71.0	11.377	1.194	1531.336	.059%	98.891%
72.0	11.173	1.172	1532.508	.058%	98.966%
73.0	10.751	1.146	1533.655	.056%	99.040%
74.0	10.202	1.102	1534.756	.054%	99.111%
75.0	9.689	1.051	1535.807	.052%	99.179%

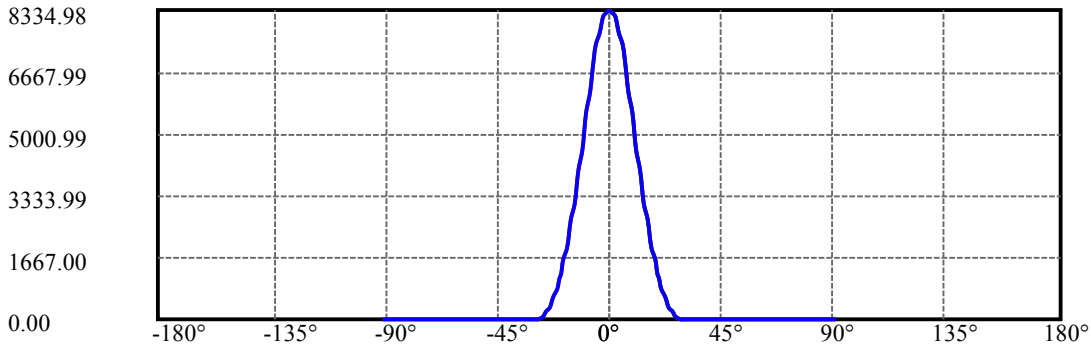
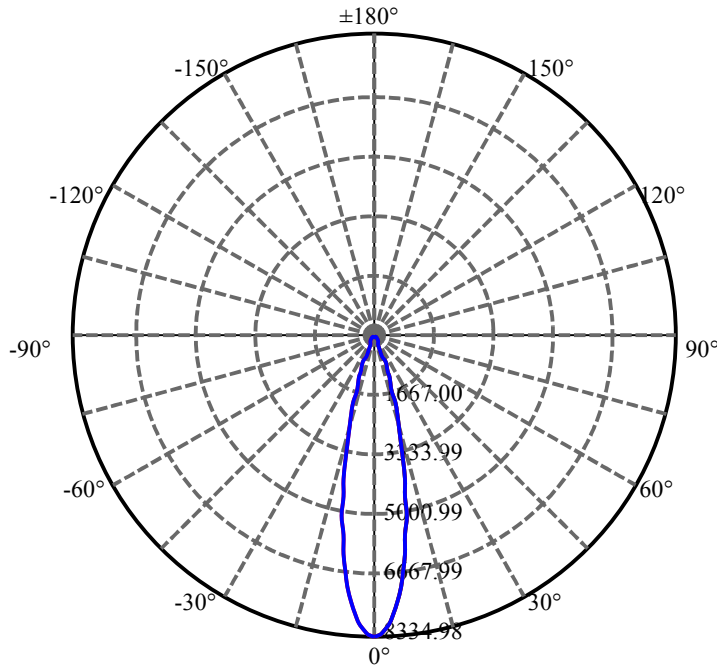
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	9.197	1.003	1536.81	.049%	99.244%
77.0	8.902	0.965	1537.775	.048%	99.306%
78.0	8.613	0.938	1538.712	.046%	99.367%
79.0	8.290	0.908	1539.62	.045%	99.426%
80.0	7.938	0.875	1540.495	.043%	99.482%
81.0	7.763	0.849	1541.344	.042%	99.537%
82.0	7.615	0.834	1542.178	.041%	99.591%
83.0	7.488	0.821	1542.999	.040%	99.644%
84.0	7.432	0.813	1543.812	.040%	99.696%
85.0	7.390	0.809	1544.621	.040%	99.748%
86.0	7.320	0.804	1545.425	.040%	99.800%
87.0	7.144	0.792	1546.217	.039%	99.852%
88.0	6.982	0.774	1546.99	.038%	99.901%
89.0	6.947	0.763	1547.754	.038%	99.951%
90.0	6.954	0.762	1548.516	.038%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1491.51	73.47%	96.32%
0-40	1499.76	73.88%	96.85%
0-60	1517.90	74.77%	98.02%
0-90	1547.75	76.24%	99.95%
0-120	1547.75	76.24%	99.95%
0-180	1548.52	76.28%	100.00%
60-90	30.97	1.53%	2.00%
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%
0-17.44	1238.81	61.03%	80.00%

ZONAL LUMEN SUMMARY

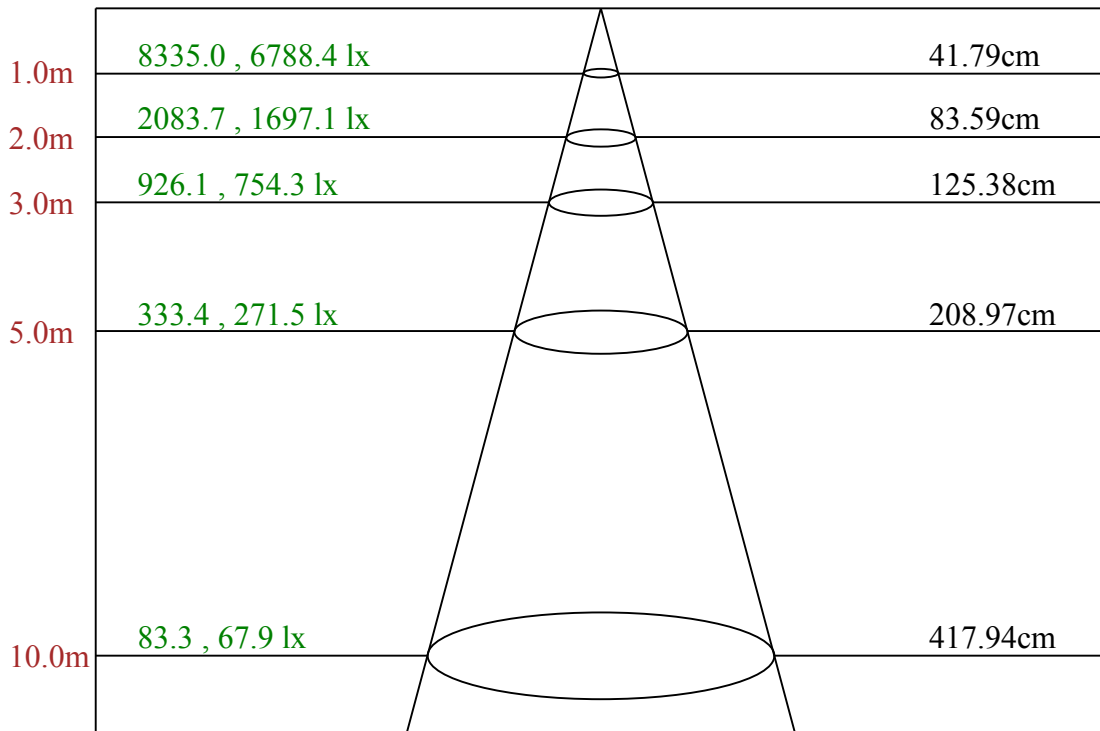
0-10	629.66
10-20	734.03
20-30	127.81
30-40	8.25
40-50	8.33
50-60	9.81
60-70	12.24
70-80	10.35
80-90	7.26
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



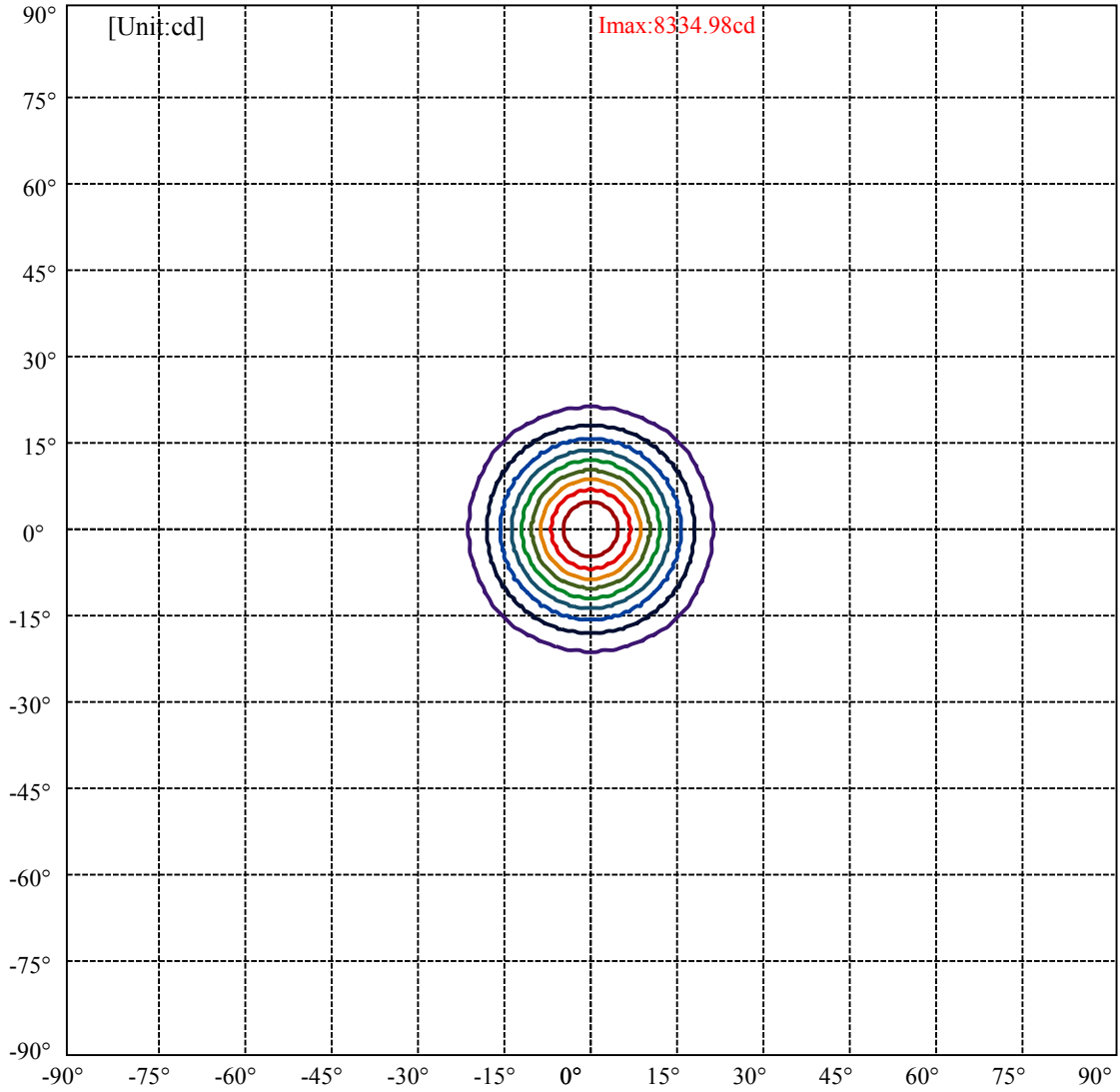
C0(Max): ———  
 C0/C180: ———  
 C90/C270: ———

Field angle(10%Imax):C0/180Left:21.0 Right:21.0  
 :C90/270Left:21.0 Right:21.0

Beam Angle(50%Imax):C0/180Left:11.8 Right:11.8  
 :C90/270Left:11.8 Right:11.8

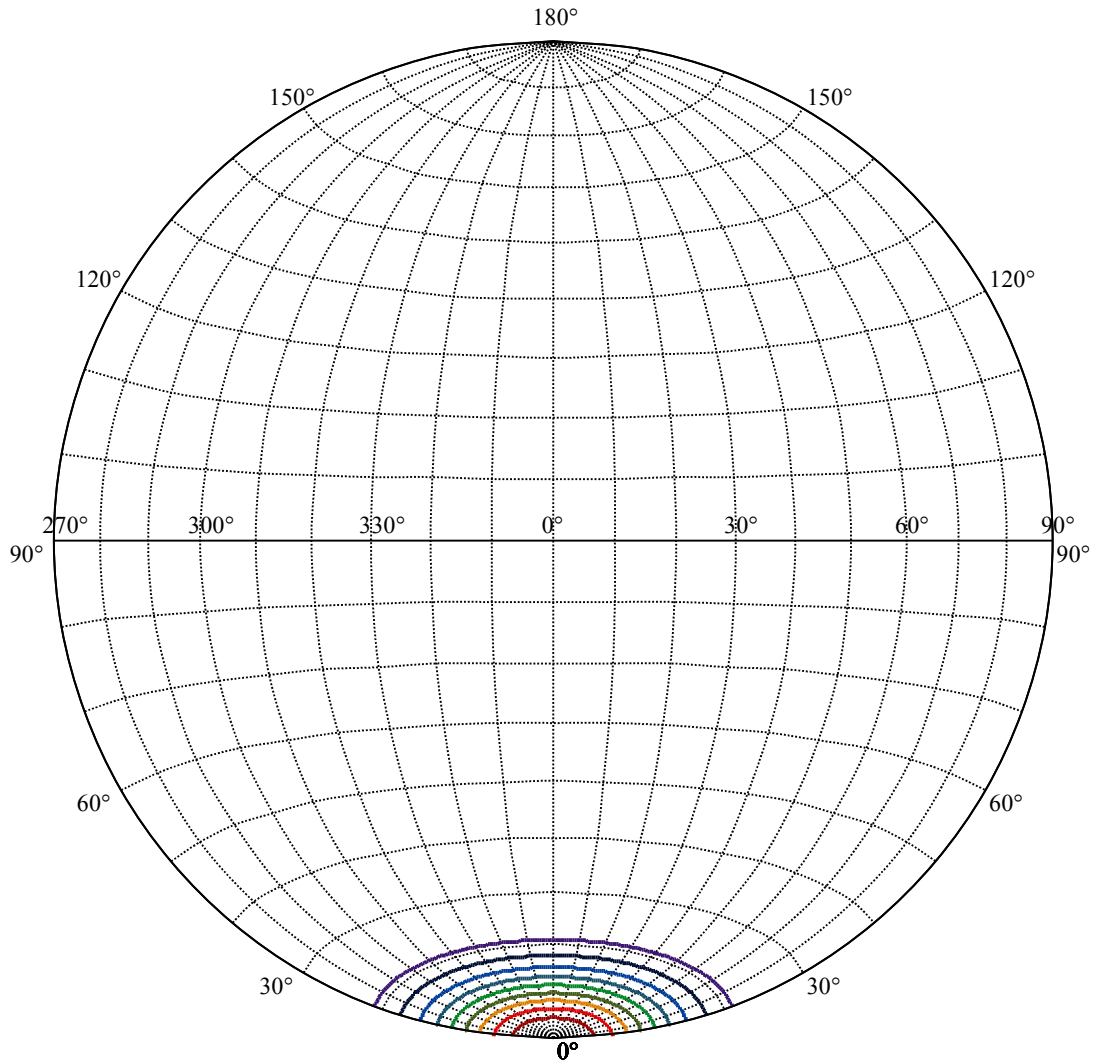


Max , Ave      Beam angle of C0 plane 23.61



(10%Imax) 833.498	—
(20%Imax) 1667	—
(30%Imax) 2500.5	—
(40%Imax) 3333.99	—
(50%Imax) 4167.49	—
(60%Imax) 5000.99	—
(70%Imax) 5834.49	—
(80%Imax) 6667.99	—
(90%Imax) 7501.49	—





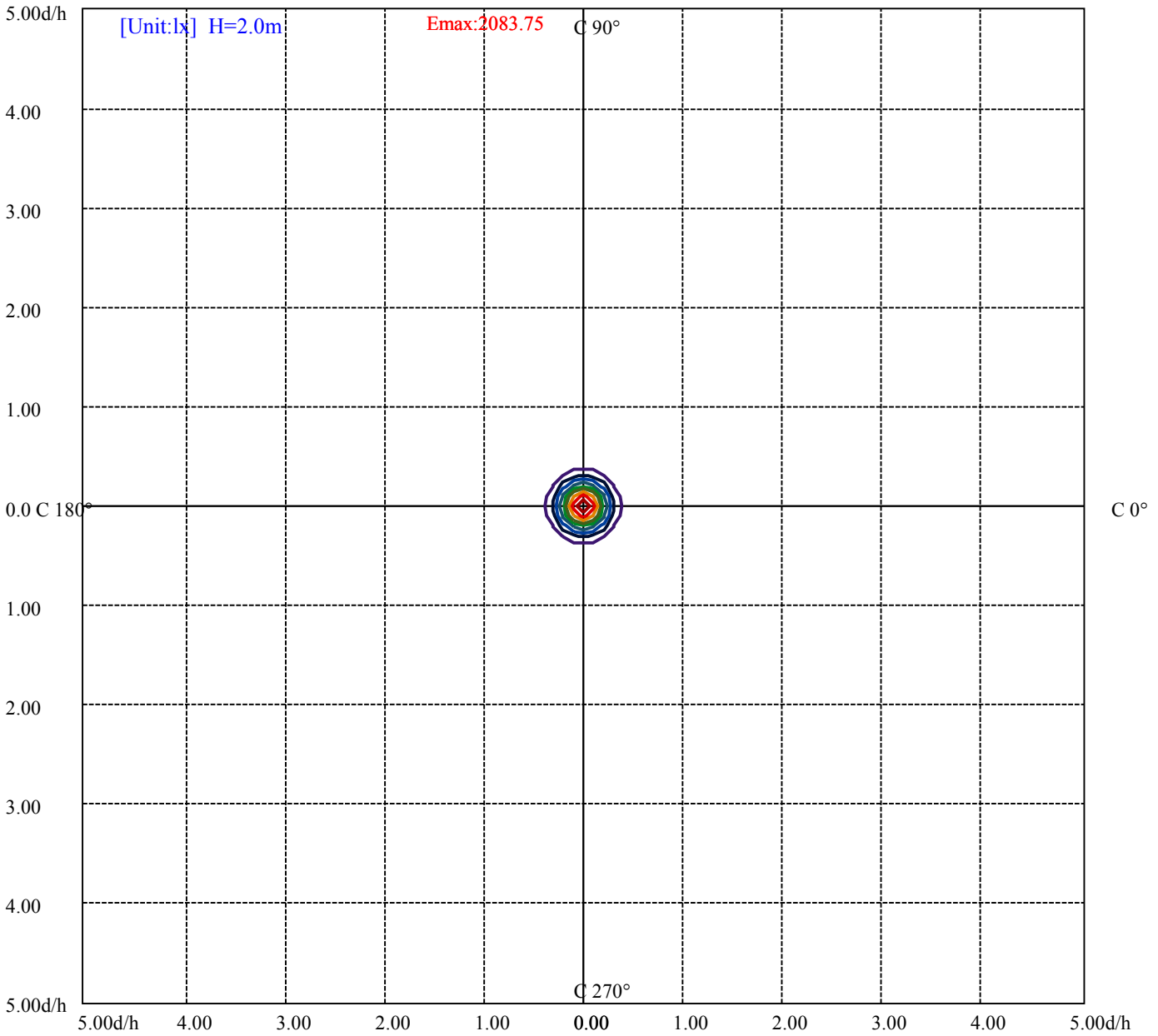
House

[Unit:cd]

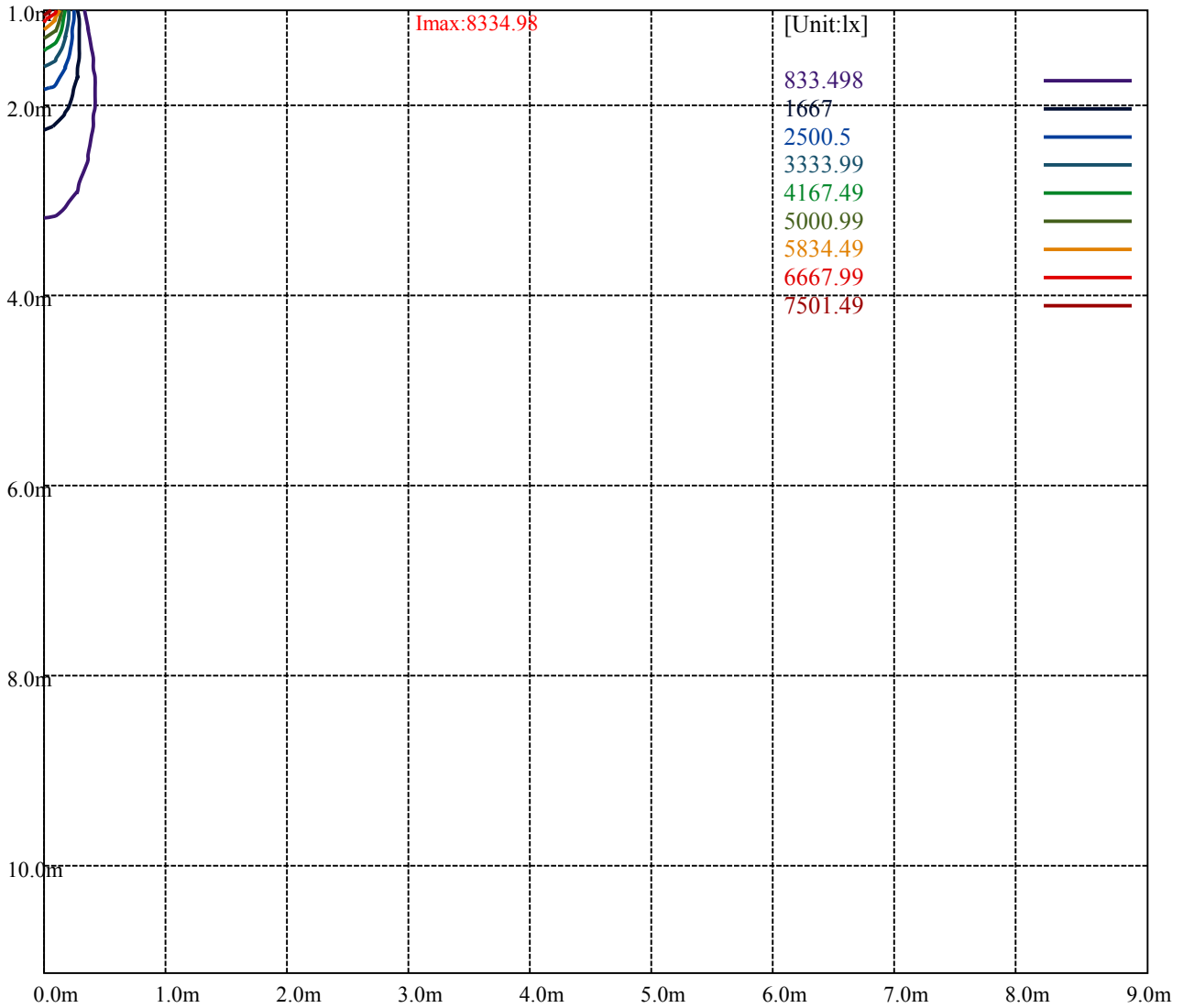
Road

**Imax:8334.98**

(10%Imax) 833.498	—
(20%Imax) 1667	—
(30%Imax) 2500.5	—
(40%Imax) 3333.99	—
(50%Imax) 4167.49	—
(60%Imax) 5000.99	—
(70%Imax) 5834.49	—
(80%Imax) 6667.99	—
(90%Imax) 7501.49	—



- (10%Emax) 208.3745
- (20%Emax) 416.75
- (30%Emax) 625.1225
- (40%Emax) 833.4975
- (50%Emax) 1041.873
- (60%Emax) 1250.248
- (70%Emax) 1458.62
- (80%Emax) 1666.995
- (90%Emax) 1875.37



Luminance Table

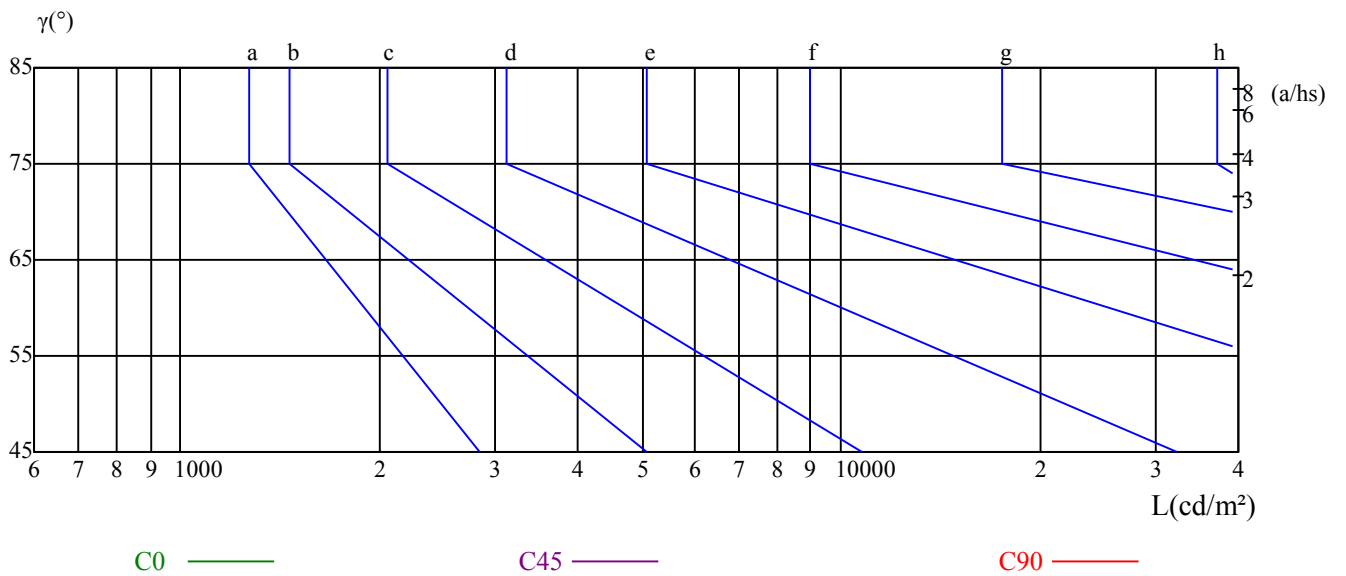
$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

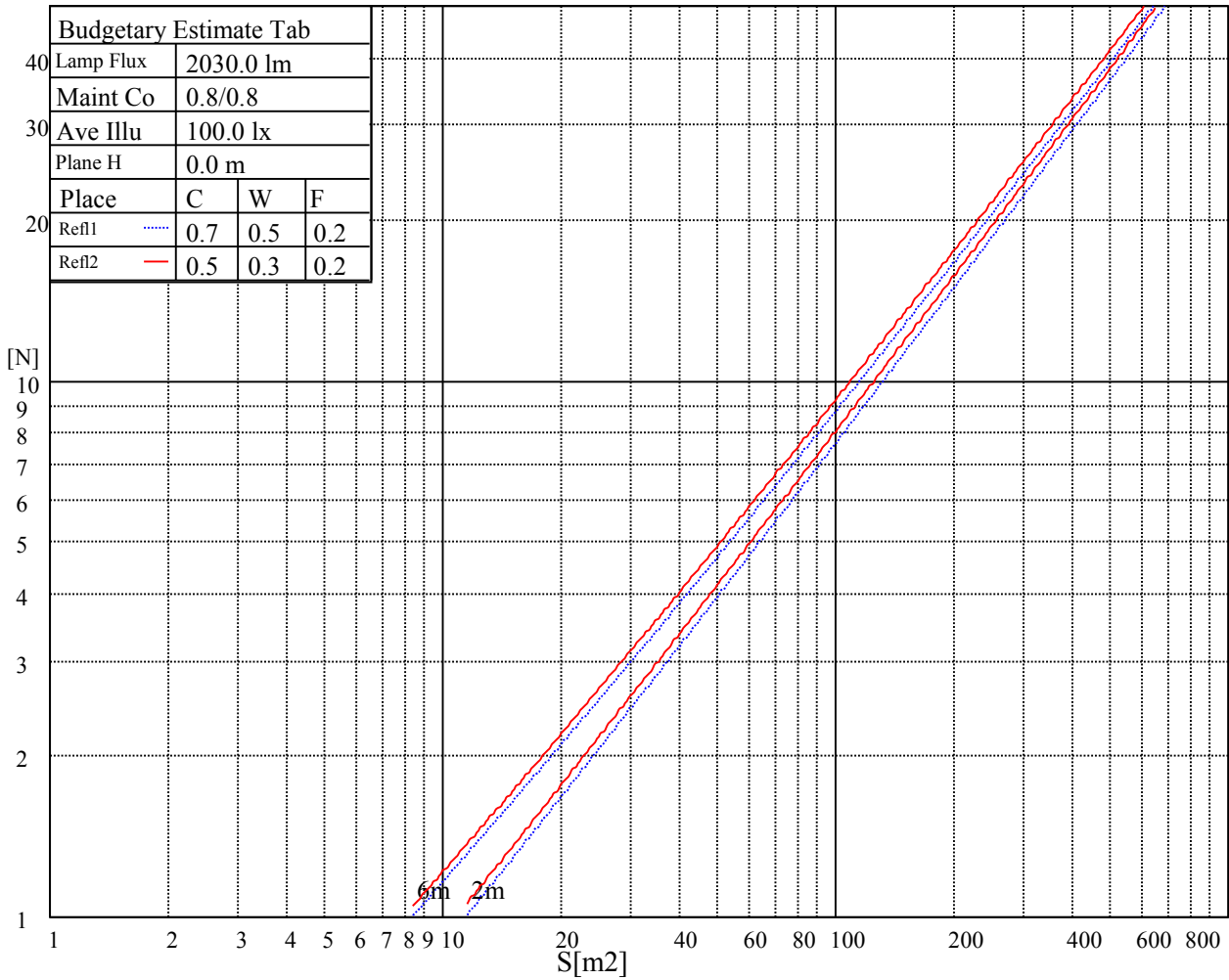
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

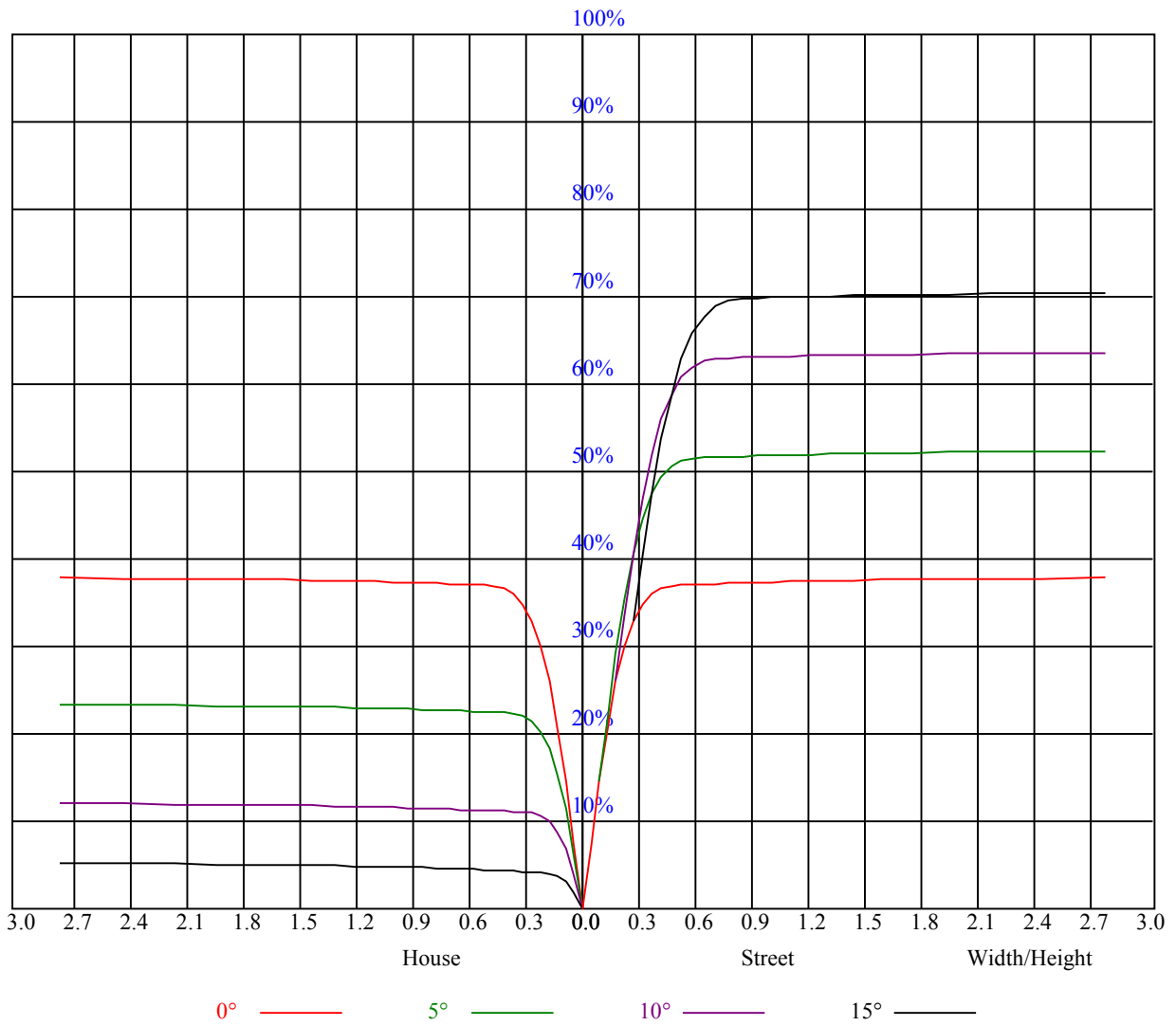
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.91	0.91	0.91	0.89	0.89	0.89	0.85	0.85	0.85	0.81	0.81	0.81	0.78	0.78	0.78	0.76
1	0.86	0.84	0.83	0.84	0.83	0.82	0.81	0.80	0.79	0.79	0.78	0.77	0.76	0.75	0.75	0.73
2	0.82	0.80	0.78	0.81	0.79	0.77	0.78	0.77	0.75	0.76	0.75	0.74	0.74	0.73	0.72	0.71
3	0.79	0.76	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.74	0.73	0.71	0.73	0.71	0.70	0.69
4	0.76	0.73	0.71	0.75	0.73	0.70	0.74	0.71	0.70	0.72	0.70	0.69	0.71	0.69	0.68	0.67
5	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.71	0.69	0.67	0.70	0.68	0.66	0.66
6	0.71	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.66	0.69	0.67	0.65	0.68	0.66	0.65	0.64
7	0.69	0.66	0.64	0.69	0.66	0.64	0.68	0.66	0.64	0.67	0.65	0.64	0.67	0.65	0.63	0.62
8	0.68	0.65	0.63	0.67	0.64	0.62	0.67	0.64	0.62	0.66	0.64	0.62	0.65	0.63	0.62	0.61
9	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.64	0.62	0.61	0.64	0.62	0.60	0.60
10	0.64	0.62	0.60	0.64	0.61	0.60	0.64	0.61	0.59	0.63	0.61	0.59	0.63	0.61	0.59	0.59



Intensity data(cd)

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	8328.94	8287.88	8145.00	7959.94	7714.69	7315.31	6940.13	6533.44	6041.25
45.0	8345.81	8303.06	8169.75	7965.00	7719.19	7374.38	6960.94	6534.56	6082.88
90.0	8335.69	8245.69	8127.56	7908.75	7577.44	7287.75	6846.75	6293.25	5886.56
135.0	8329.50	8327.81	8242.31	8074.13	7867.69	7557.19	7169.06	6757.88	6371.44
180.0	8328.94	8303.06	8195.63	8006.06	7782.19	7440.19	7075.13	6608.25	6090.19
225.0	8345.81	8316.56	8215.88	8035.31	7773.75	7466.63	7106.06	6596.44	6148.13
270.0	8335.69	8332.88	8259.19	8073.00	7855.31	7573.50	7144.31	6752.81	6318.56
315.0	8329.50	8267.06	8115.75	7892.44	7587.56	7256.25	6880.50	6406.88	5900.63
360.0	8328.94	8287.88	8145.00	7959.94	7714.69	7315.31	6940.13	6533.44	6041.25
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	5525.44	5058.56	4528.13	4057.88	3552.75	3126.38	2685.38	2278.13	1909.69
45.0	5504.63	5032.13	4553.44	4024.13	3519.56	3099.38	2661.19	2260.13	1937.25
90.0	5403.38	4800.94	4326.75	3868.88	3327.75	2923.88	2545.88	2154.94	1796.63
135.0	5733.56	5251.50	4821.75	4213.69	3700.13	3324.38	2819.25	2399.63	2100.38
180.0	5604.75	5051.25	4498.88	4027.50	3577.50	3051.56	2662.31	2304.56	1935.56
225.0	5672.25	5063.06	4567.50	4080.94	3560.63	3083.06	2688.19	2273.06	1940.06
270.0	5745.38	5266.69	4784.63	4240.13	3720.94	3282.75	2822.06	2435.63	2047.50
315.0	5431.50	4893.19	4352.06	3885.19	3434.63	2918.81	2540.81	2186.44	1825.88
360.0	5525.44	5058.56	4528.13	4057.88	3552.75	3126.38	2685.38	2278.13	1909.69
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1616.06	1346.06	1060.88	813.38	621.56	421.31	289.13	217.69	88.14
45.0	1636.88	1327.50	1051.31	829.13	611.44	428.63	289.13	166.28	83.53
90.0	1509.75	1118.48	972.73	736.48	555.24	380.19	238.50	137.14	60.36
135.0	1715.06	1442.25	1185.75	899.44	697.50	517.50	325.13	287.44	108.00
180.0	1608.75	1119.77	1029.60	814.95	624.09	419.46	298.58	171.06	66.88
225.0	1614.94	1110.04	1081.69	842.34	605.19	458.38	313.14	153.73	81.45
270.0	1707.19	1438.88	1162.69	908.44	709.31	530.44	340.88	291.38	110.98
315.0	1517.63	1100.81	981.00	742.11	560.31	383.57	252.90	137.25	55.24
360.0	1616.06	1346.06	1060.88	813.38	621.56	421.31	289.13	217.69	88.14
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	32.51	23.63	19.52	17.61	16.26	15.30	14.46	13.73	13.22
45.0	39.99	25.37	20.59	18.62	16.93	15.98	15.13	14.46	13.95
90.0	31.28	22.78	18.84	17.10	15.75	14.68	13.95	13.44	12.83
135.0	37.97	23.63	19.29	16.48	14.68	13.44	12.43	11.76	11.25
180.0	31.39	21.99	18.34	16.88	15.75	14.57	13.95	13.44	12.94
225.0	33.92	23.74	20.19	18.39	17.04	15.98	15.19	14.57	14.06
270.0	40.61	23.29	19.63	17.38	16.03	15.13	14.40	13.73	13.11
315.0	26.33	20.14	16.59	15.13	14.01	12.83	12.04	11.48	10.91
360.0	32.51	23.63	19.52	17.61	16.26	15.30	14.46	13.73	13.22
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	12.77	12.43	12.15	11.98	11.81	11.64	11.53	11.42	11.36
45.0	13.61	13.28	12.99	12.83	12.60	12.43	12.38	12.21	12.09
90.0	12.49	12.21	11.87	11.64	11.48	11.31	11.19	11.03	10.91
135.0	10.74	10.41	10.13	9.84	9.73	9.51	9.39	9.28	9.17
180.0	12.54	12.26	12.04	11.81	11.64	11.53	11.42	11.31	11.25
225.0	13.61	13.22	12.99	12.71	12.49	12.32	12.21	12.09	11.98
270.0	12.66	12.26	11.98	11.70	11.48	11.31	11.14	10.97	10.91
315.0	10.46	10.13	9.84	9.62	9.45	9.28	9.17	9.11	9.00
360.0	12.77	12.43	12.15	11.98	11.81	11.64	11.53	11.42	11.36



Intensity data(cd)

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	11.19	11.08	10.97	10.91	10.80	10.74	10.63	10.58	10.46
45.0	11.98	11.87	11.81	11.70	11.64	11.64	11.70	11.98	12.43
90.0	10.80	10.74	10.63	10.58	10.46	10.35	10.29	10.24	10.13
135.0	9.11	9.06	9.00	8.89	8.83	8.83	8.83	8.83	8.78
180.0	11.19	11.08	10.97	10.91	10.86	10.74	10.63	10.58	10.46
225.0	11.87	11.76	11.70	11.59	11.53	11.59	11.76	12.09	12.49
270.0	10.74	10.69	10.58	10.52	10.46	10.35	10.29	10.24	10.18
315.0	8.94	8.89	8.78	8.78	8.72	8.72	8.72	8.72	8.66
360.0	11.19	11.08	10.97	10.91	10.80	10.74	10.63	10.58	10.46
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	10.35	10.29	10.18	10.13	10.13	10.07	10.07	10.18	10.35
45.0	13.05	14.06	15.30	16.43	17.44	18.23	18.84	19.35	19.80
90.0	10.07	10.01	9.96	9.90	9.84	9.79	9.73	9.68	9.62
135.0	8.78	8.78	8.72	8.72	8.72	8.66	8.66	8.61	8.61
180.0	10.35	10.29	10.18	10.13	10.13	10.13	10.18	10.24	10.35
225.0	13.16	14.06	15.08	16.14	17.55	18.56	19.35	20.19	20.76
270.0	10.13	10.07	9.96	9.90	9.84	9.84	9.79	9.73	9.73
315.0	8.66	8.66	8.66	8.61	8.61	8.61	8.61	8.55	8.49
360.0	10.35	10.29	10.18	10.13	10.13	10.07	10.07	10.18	10.35
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	10.52	10.69	10.86	10.91	10.97	11.03	11.08	10.97	10.74
45.0	20.42	21.32	21.77	21.54	20.36	19.01	18.06	16.88	15.58
90.0	9.56	9.56	9.56	9.56	9.79	10.18	10.29	10.18	10.29
135.0	8.61	8.55	8.55	8.49	8.55	8.55	8.55	8.55	8.66
180.0	10.52	10.69	10.97	11.08	11.14	11.19	11.19	11.14	11.03
225.0	21.43	22.11	22.28	21.83	20.81	19.29	18.17	17.33	16.09
270.0	9.73	9.73	9.73	9.73	9.79	9.96	10.07	10.24	10.13
315.0	8.49	8.49	8.49	8.44	8.44	8.44	8.49	8.49	8.49
360.0	10.52	10.69	10.86	10.91	10.97	11.03	11.08	10.97	10.74
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	10.46	10.07	9.62	9.17	8.83	8.61	8.44	8.27	8.04
45.0	15.08	13.33	11.25	9.23	8.55	8.38	8.16	7.99	7.82
90.0	10.58	10.41	10.41	10.18	9.84	9.28	8.55	8.27	8.04
135.0	8.78	8.89	9.00	9.23	9.23	9.17	8.89	8.38	7.76
180.0	10.74	10.46	10.07	9.79	9.39	9.17	8.94	8.72	8.44
225.0	14.96	13.95	12.26	10.91	8.94	8.38	8.21	7.99	7.82
270.0	10.24	10.24	10.29	10.18	9.96	9.51	9.17	8.61	8.04
315.0	8.55	8.66	8.72	8.83	8.83	8.72	8.55	8.10	7.54
360.0	10.46	10.07	9.62	9.17	8.83	8.61	8.44	8.27	8.04
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	7.82	7.65	7.59	7.54	7.48	7.43	7.09	6.98	7.03
45.0	7.71	7.65	7.54	7.54	7.48	7.37	6.98	6.92	6.86
90.0	7.88	7.71	7.54	7.43	7.43	7.26	7.03	6.92	6.92
135.0	7.48	7.43	7.37	7.31	7.26	7.20	7.14	7.03	6.98
180.0	8.16	7.82	7.59	7.48	7.43	7.37	7.26	6.98	6.98
225.0	7.71	7.59	7.48	7.48	7.43	7.43	7.31	6.98	6.92
270.0	7.88	7.65	7.48	7.43	7.43	7.37	7.26	7.03	6.92
315.0	7.48	7.43	7.31	7.26	7.20	7.14	7.09	7.03	6.98
360.0	7.82	7.65	7.59	7.54	7.48	7.43	7.09	6.98	7.03

Intensity data(cd)

C/ $\gamma$ (°)	90.0
0.0	7.03
45.0	6.92
90.0	6.92
135.0	7.03
180.0	6.98
225.0	6.92
270.0	6.86
315.0	6.98
360.0	7.03