



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

---

## Nata

---

LumCAT: 1-0940-N	
Luminaire: 92.70.360.000	
Report No: 220512-B005	Voltage(V): 36.8400
Test No: 220512-C005	Current(A): 0.2010
LampCAT: NICHIA NVNWS007Z-V1	Power (W): 7.4040
Lamp flux(lm): 848.6	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 43	Width(mm): 43
Phm Type: C	Height(mm): 0

---

## Photometric Results

---

Lumens(lm): 680.46  
Efficiency(%): 80.18%  
Lumens(lm)/Power(W): 91.90  
Central intensity(cd): 4049.603  
Maximum intensity(cd): 4049.603  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=17.2  
                                  [C90/270]Total=17.2  
Field angle(10%Imax): [C0/180]Total=44.5  
                                  [C90/270]Total=44.5  
Maximum s/h(1/2): C0\_180=0.29 C90\_270=0.29  
Maximum s/h(1/4): C0\_180=0.33 C90\_270=0.33  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 80.18%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.132%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4049.603	0.000	0	.000%	.000%
1.0	4019.204	3.861	3.861	.455%	.567%
2.0	3919.865	11.395	15.256	1.343%	2.242%
3.0	3755.544	18.357	33.613	2.163%	4.940%
4.0	3533.114	24.397	58.01	2.875%	8.525%
5.0	3217.320	29.040	87.05	3.422%	12.793%
6.0	2893.982	32.117	119.167	3.785%	17.513%
7.0	2535.614	33.701	152.868	3.971%	22.466%
8.0	2204.733	33.926	186.794	3.998%	27.451%
9.0	1892.673	33.207	220.001	3.913%	32.331%
10.0	1612.992	31.725	251.726	3.738%	36.994%
11.0	1418.922	30.295	282.021	3.570%	41.446%
12.0	1228.706	28.942	310.964	3.411%	45.699%
13.0	1105.361	27.700	338.663	3.264%	49.770%
14.0	982.577	26.725	365.389	3.149%	53.698%
15.0	882.214	25.601	390.989	3.017%	57.460%
16.0	793.526	24.554	415.543	2.893%	61.068%
17.0	714.548	23.485	439.028	2.767%	64.520%
18.0	643.292	22.388	461.416	2.638%	67.810%
19.0	585.093	21.371	482.787	2.518%	70.951%
20.0	524.018	20.300	503.087	2.392%	73.934%
21.0	467.783	19.045	522.132	2.244%	76.733%
22.0	417.897	17.798	539.93	2.097%	79.348%
23.0	367.480	16.479	556.409	1.942%	81.770%
24.0	325.078	15.142	571.551	1.784%	83.995%
25.0	290.265	13.992	585.543	1.649%	86.052%
26.0	242.657	12.580	598.122	1.482%	87.900%
27.0	202.697	10.896	609.018	1.284%	89.501%
28.0	169.422	9.421	618.439	1.110%	90.886%
29.0	136.281	7.998	626.437	.942%	92.061%
30.0	107.055	6.570	633.007	.774%	93.027%
31.0	81.869	5.257	638.265	.620%	93.800%
32.0	59.514	4.050	642.315	.477%	94.395%
33.0	43.747	3.042	645.357	.358%	94.842%
34.0	32.506	2.308	647.665	.272%	95.181%
35.0	26.172	1.822	649.487	.215%	95.449%
36.0	22.729	1.557	651.044	.183%	95.678%
37.0	20.443	1.408	652.452	.166%	95.885%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	18.329	1.294	653.746	.153%	96.075%
39.0	16.410	1.186	654.932	.140%	96.249%
40.0	14.811	1.089	656.021	.128%	96.409%
41.0	13.332	1.002	657.023	.118%	96.556%
42.0	11.846	0.915	657.938	.108%	96.691%
43.0	10.673	0.834	658.772	.098%	96.813%
44.0	9.628	0.766	659.538	.090%	96.926%
45.0	8.664	0.703	660.241	.083%	97.029%
46.0	7.970	0.651	660.892	.077%	97.125%
47.0	7.342	0.609	661.501	.072%	97.214%
48.0	6.872	0.575	662.075	.068%	97.299%
49.0	6.468	0.548	662.623	.065%	97.379%
50.0	6.117	0.525	663.148	.062%	97.456%
51.0	5.856	0.507	663.655	.060%	97.531%
52.0	5.632	0.493	664.148	.058%	97.603%
53.0	5.408	0.480	664.628	.057%	97.674%
54.0	5.213	0.468	665.096	.055%	97.743%
55.0	5.072	0.459	665.555	.054%	97.810%
56.0	4.907	0.451	666.006	.053%	97.876%
57.0	4.773	0.443	666.448	.052%	97.941%
58.0	4.661	0.436	666.885	.051%	98.006%
59.0	4.564	0.431	667.316	.051%	98.069%
60.0	4.467	0.427	667.743	.050%	98.132%
61.0	4.407	0.423	668.166	.050%	98.194%
62.0	4.354	0.422	668.588	.050%	98.256%
63.0	4.295	0.421	669.009	.050%	98.318%
64.0	4.242	0.419	669.428	.049%	98.379%
65.0	4.198	0.418	669.845	.049%	98.441%
66.0	4.130	0.416	670.261	.049%	98.502%
67.0	4.078	0.413	670.674	.049%	98.562%
68.0	4.041	0.411	671.085	.048%	98.623%
69.0	3.996	0.410	671.495	.048%	98.683%
70.0	3.921	0.407	671.902	.048%	98.743%
71.0	3.847	0.401	672.303	.047%	98.802%
72.0	3.787	0.397	672.7	.047%	98.860%
73.0	3.712	0.392	673.092	.046%	98.918%
74.0	3.645	0.387	673.479	.046%	98.975%
75.0	3.593	0.382	673.861	.045%	99.031%

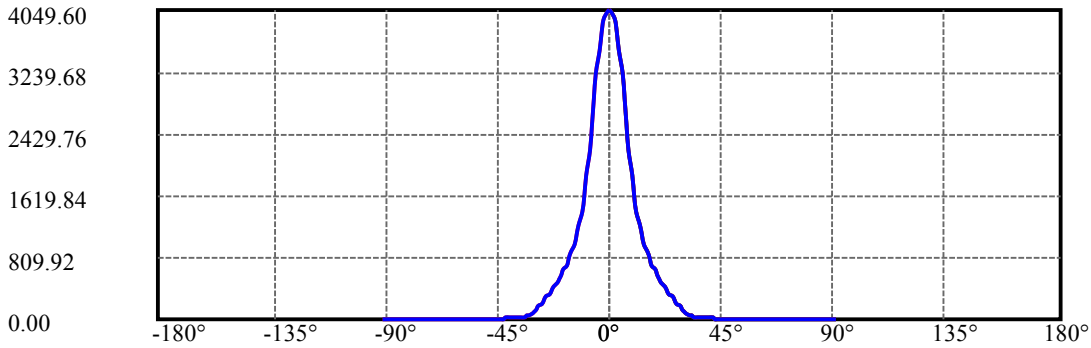
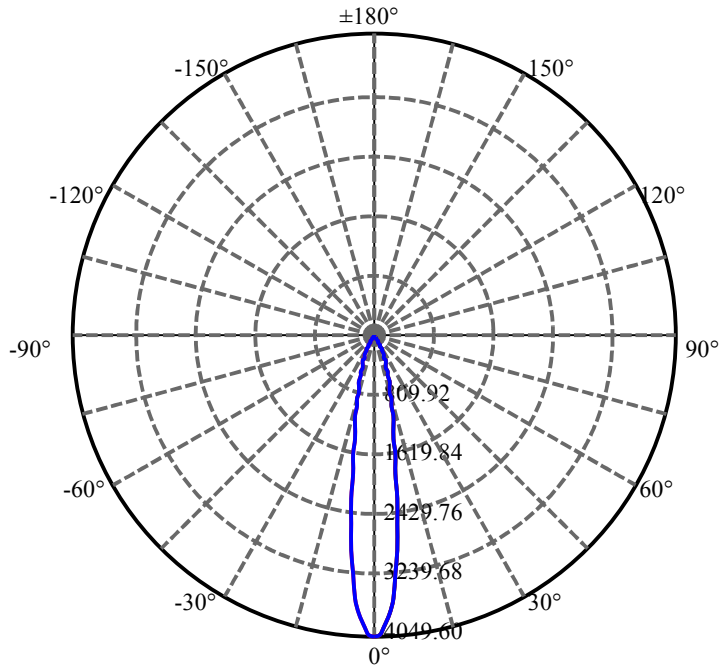
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.555	0.379	674.241	.045%	99.087%
77.0	3.510	0.377	674.617	.044%	99.142%
78.0	3.481	0.374	674.992	.044%	99.197%
79.0	3.443	0.372	675.364	.044%	99.252%
80.0	3.600	0.380	675.743	.045%	99.307%
81.0	3.757	0.398	676.141	.047%	99.366%
82.0	4.041	0.423	676.564	.050%	99.428%
83.0	4.847	0.483	677.047	.057%	99.499%
84.0	5.452	0.561	677.608	.066%	99.582%
85.0	5.057	0.574	678.182	.068%	99.666%
86.0	4.452	0.520	678.702	.061%	99.742%
87.0	4.018	0.464	679.165	.055%	99.810%
88.0	3.959	0.437	679.602	.051%	99.875%
89.0	3.944	0.433	680.035	.051%	99.938%
90.0	3.727	0.421	680.456	.050%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	633.01	74.59%	93.03%
0-40	656.02	77.31%	96.41%
0-60	667.74	78.69%	98.13%
0-90	680.04	80.14%	99.94%
0-120	680.04	80.14%	99.94%
0-180	680.46	80.18%	100.00%
60-90	12.72	1.50%	1.87%
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%
0-22.27	544.36	64.15%	80.00%

ZONAL LUMEN SUMMARY

0-10	251.73
10-20	251.36
20-30	129.92
30-40	23.01
40-50	7.13
50-60	4.59
60-70	4.16
70-80	3.84
80-90	4.29
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

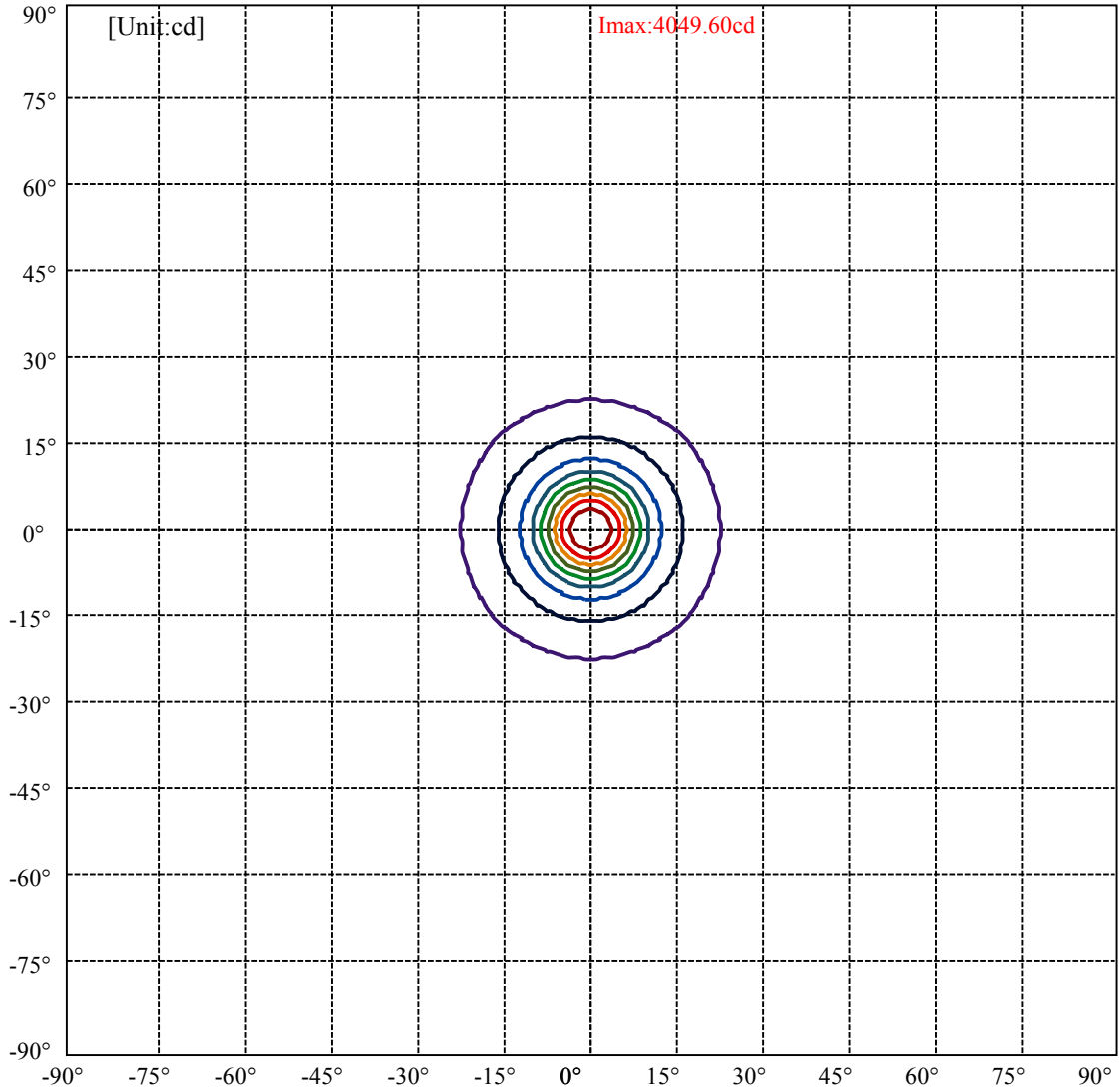


C0(Max): ———  
C0/C180: ———  
C90/C270: ———

Field angle(10%Imax):C0/180Left:22.3 Right:22.3  
:C90/270Left:22.3 Right:22.3

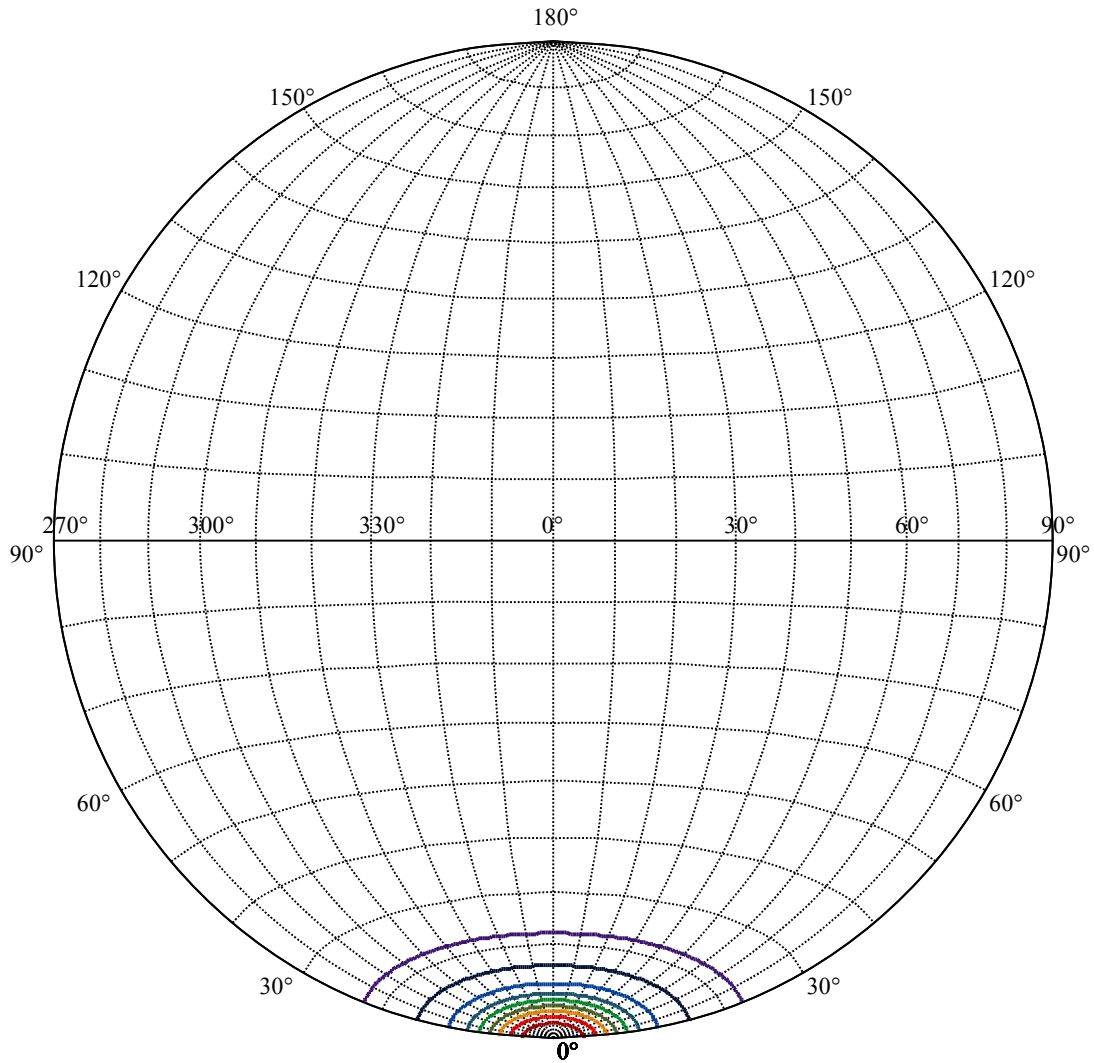
Beam Angle(50%Imax):C0/180Left:8.6 Right:8.6  
:C90/270Left:8.6 Right:8.6





(10%Imax) 404.96	—
(20%Imax) 809.921	—
(30%Imax) 1214.88	—
(40%Imax) 1619.84	—
(50%Imax) 2024.8	—
(60%Imax) 2429.76	—
(70%Imax) 2834.72	—
(80%Imax) 3239.68	—
(90%Imax) 3644.64	—





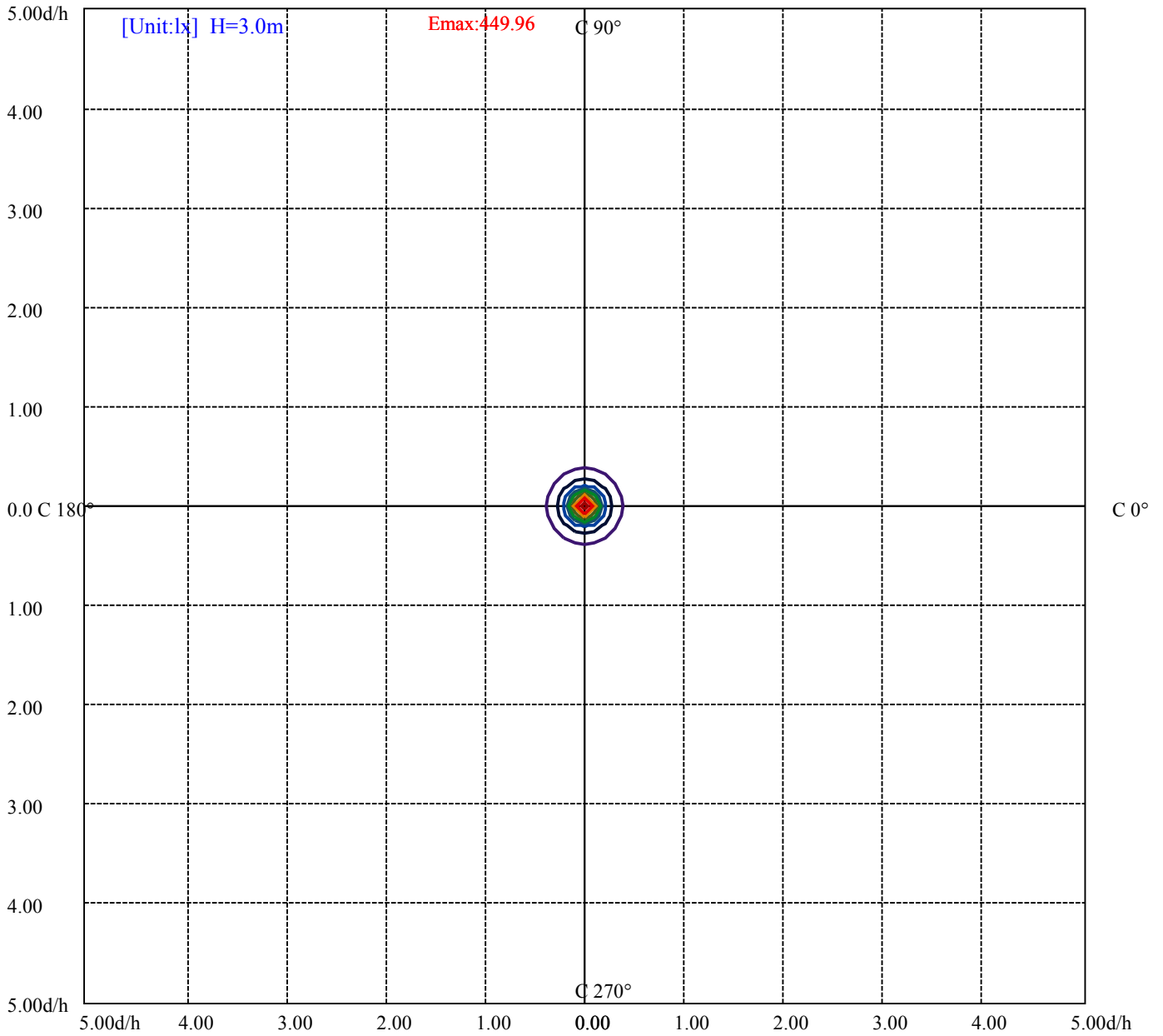
House

[Unit:cd]

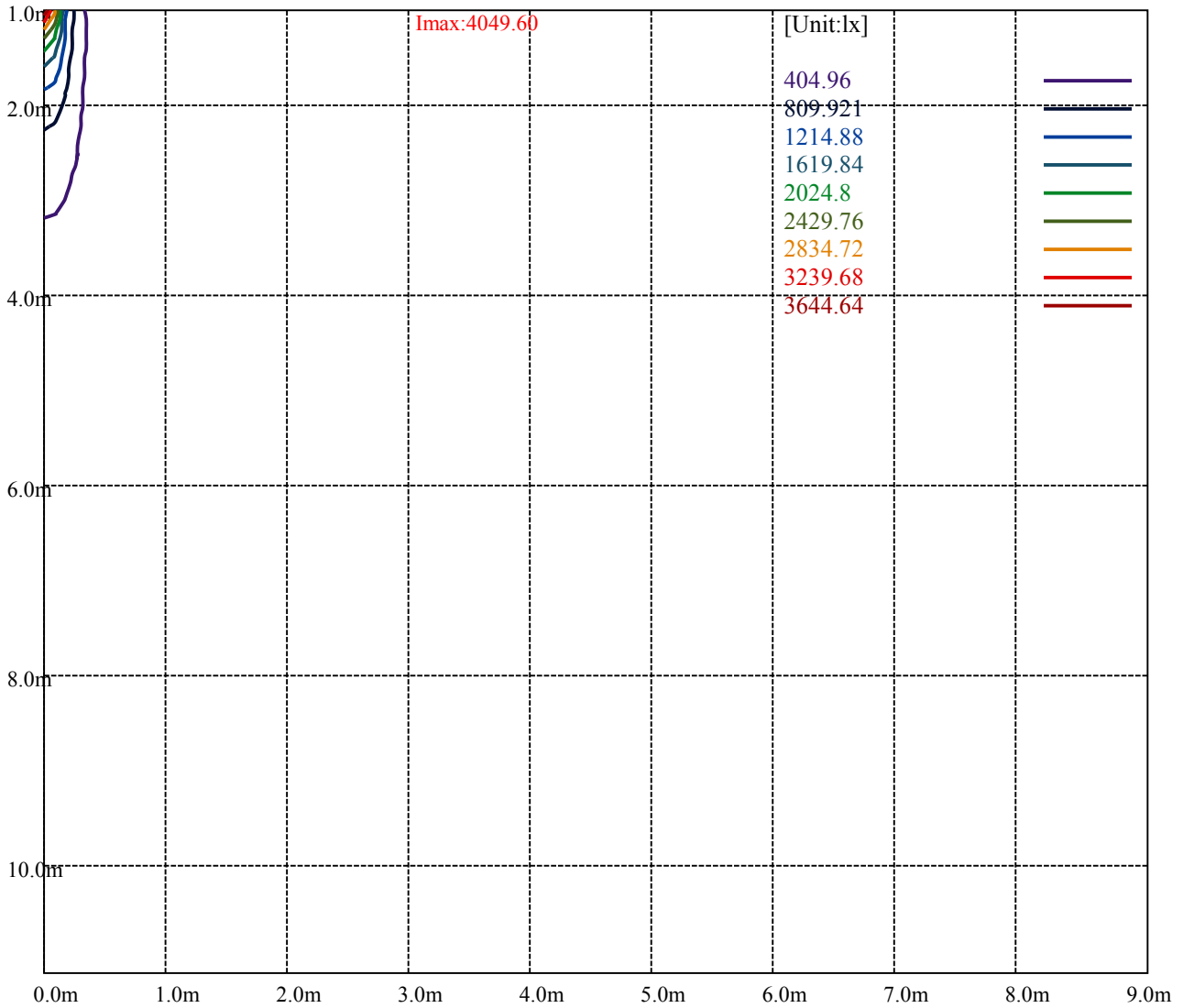
Road

**Imax:4049.60**

(10%Imax) 404.96	—
(20%Imax) 809.921	—
(30%Imax) 1214.88	—
(40%Imax) 1619.84	—
(50%Imax) 2024.8	—
(60%Imax) 2429.76	—
(70%Imax) 2834.72	—
(80%Imax) 3239.68	—
(90%Imax) 3644.64	—



(10%Emax) 44.99556	—
(20%Emax) 89.99111	—
(30%Emax) 134.9867	—
(40%Emax) 179.9822	—
(50%Emax) 224.9778	—
(60%Emax) 269.9733	—
(70%Emax) 314.9689	—
(80%Emax) 359.9644	—
(90%Emax) 404.96	—



Luminance Table

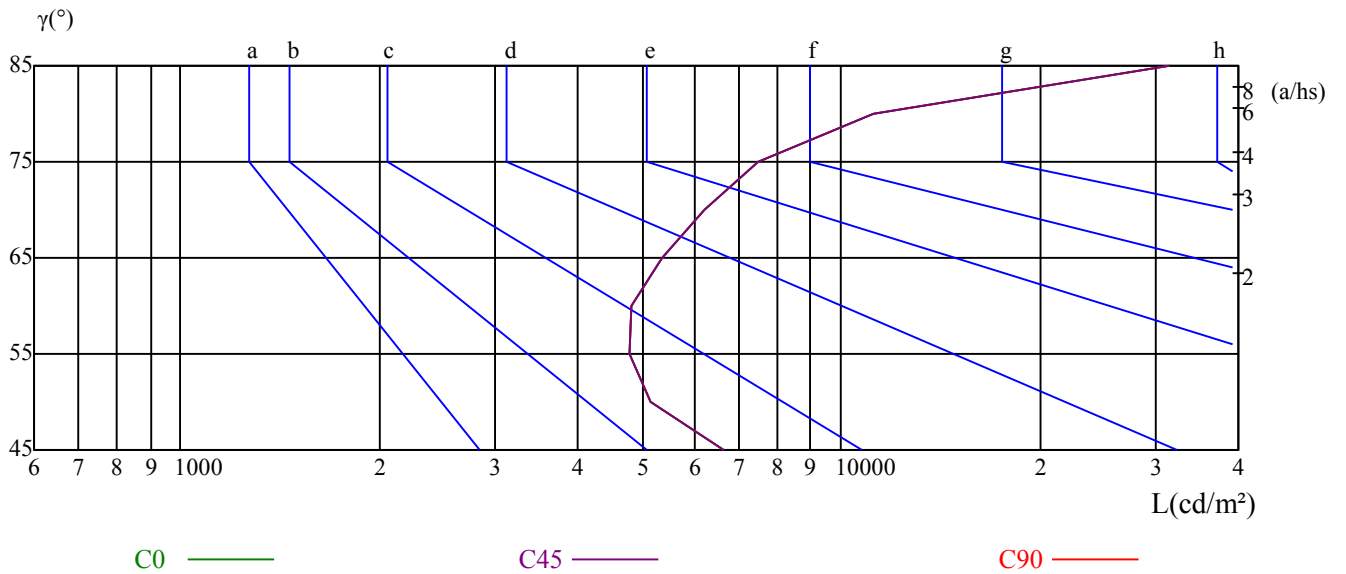
$\gamma$	45	50	55	60	65	70	75	80	85
C0	6627	5147	4782	4831	5372	6201	7507	11213	31378
C45	6627	5147	4782	4831	5372	6201	7507	11213	31378
C90	6627	5147	4782	4831	5372	6201	7507	11213	31378

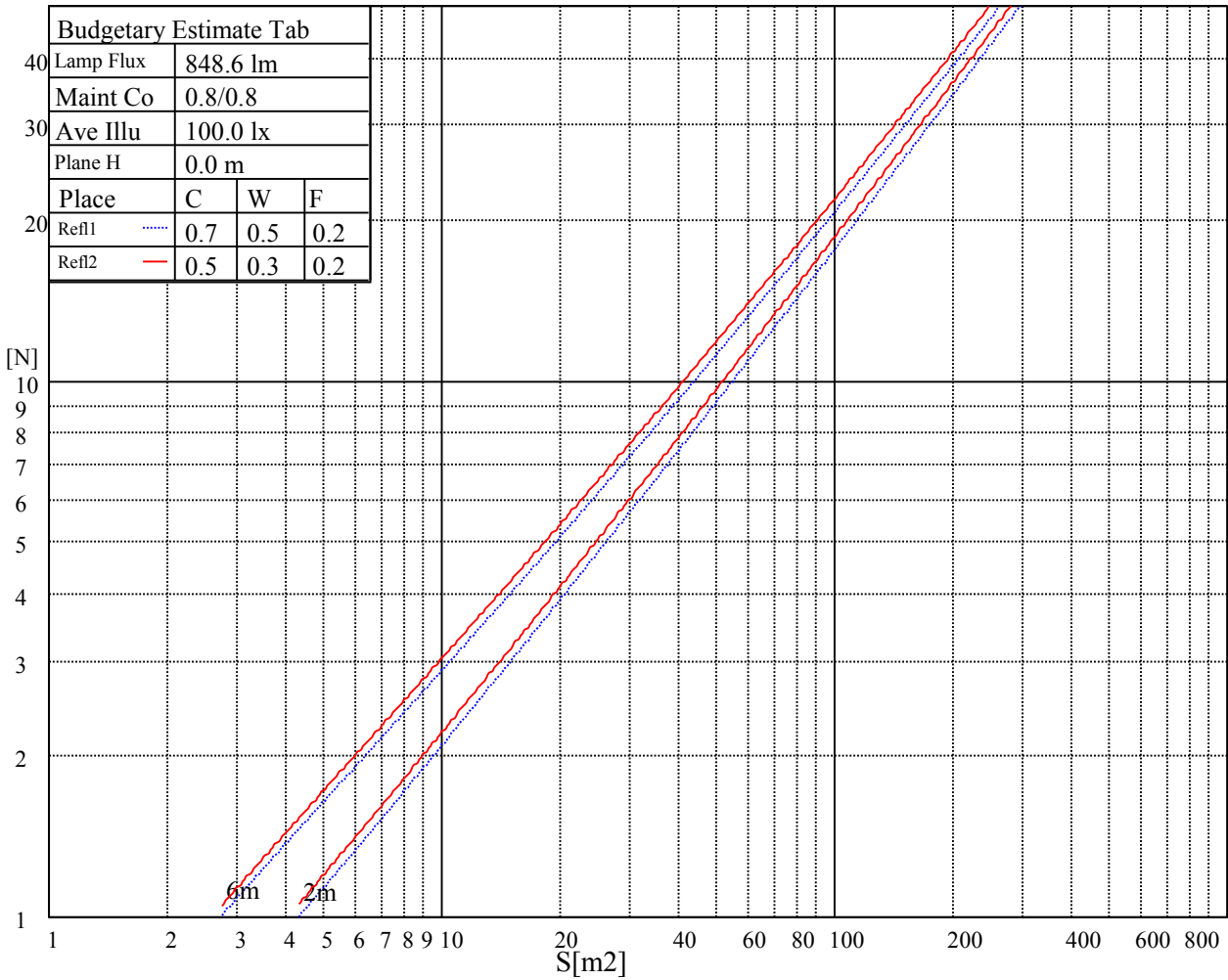
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5372	5372	5372	7507	7507	7507	31378	31378	31378

Glare Table

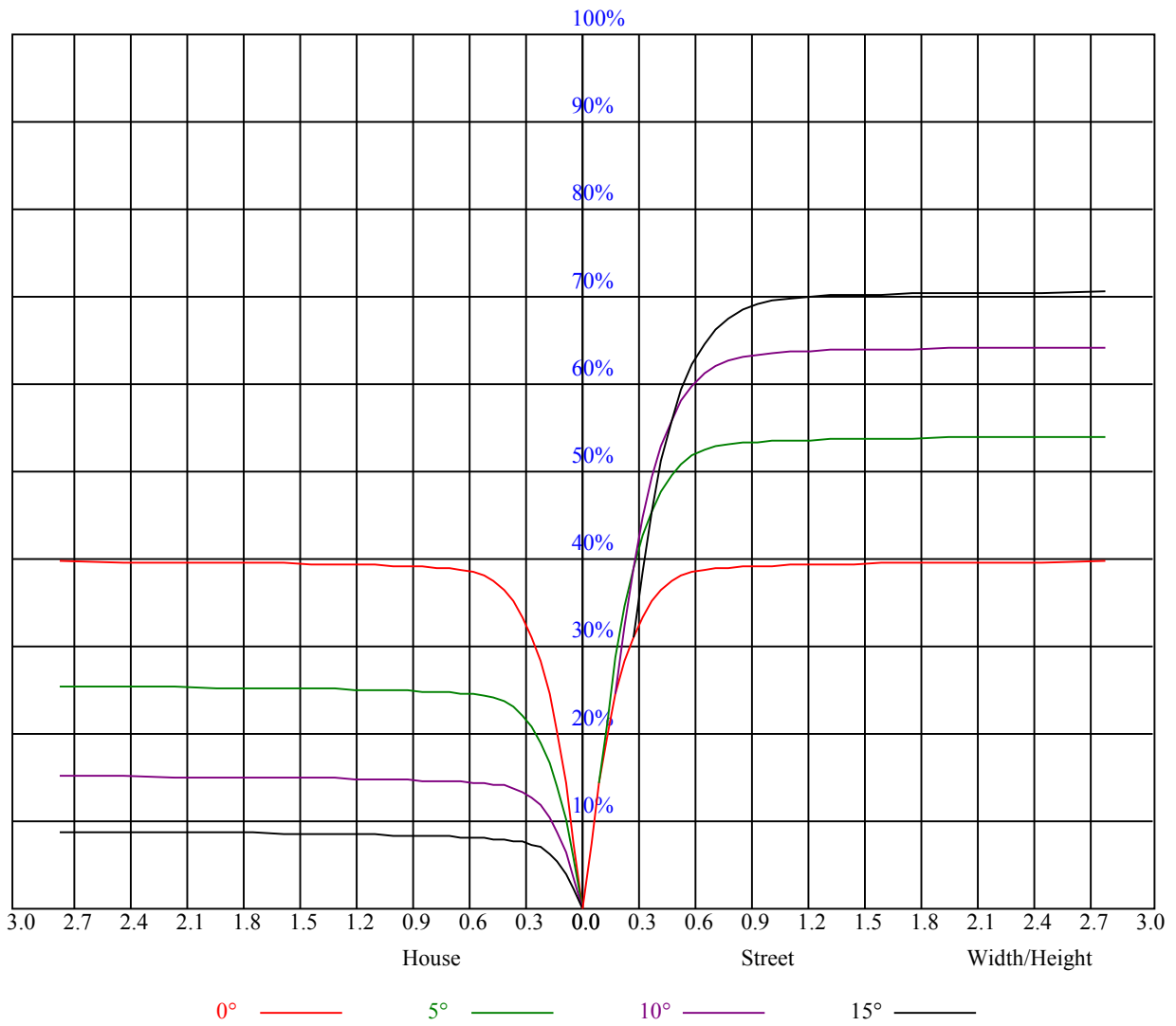
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.95	0.95	0.95	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.82	0.82	0.82	0.80
1	0.90	0.88	0.87	0.88	0.87	0.85	0.85	0.84	0.83	0.82	0.81	0.80	0.79	0.79	0.78	0.77
2	0.85	0.83	0.81	0.84	0.82	0.80	0.82	0.80	0.78	0.79	0.78	0.76	0.77	0.76	0.75	0.74
3	0.82	0.79	0.76	0.81	0.78	0.76	0.79	0.76	0.74	0.77	0.75	0.73	0.75	0.73	0.72	0.71
4	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.74	0.72	0.70	0.73	0.71	0.70	0.69
5	0.75	0.72	0.69	0.75	0.71	0.69	0.73	0.71	0.68	0.72	0.70	0.68	0.71	0.69	0.67	0.66
6	0.73	0.69	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.70	0.68	0.66	0.69	0.67	0.65	0.64
7	0.70	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.66	0.64	0.67	0.65	0.63	0.62
8	0.68	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.66	0.64	0.62	0.66	0.63	0.62	0.61
9	0.66	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.65	0.62	0.60	0.64	0.62	0.60	0.59
10	0.64	0.61	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.63	0.60	0.58	0.62	0.60	0.58	0.58



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	3994.48	4047.66	4038.70	3962.21	3837.93	3583.98	3316.88	3012.74	2655.42
45.0	4072.76	4058.42	3976.56	3821.20	3628.79	3335.41	2983.46	2651.24	2326.78
90.0	4075.15	4023.16	3923.97	3742.32	3477.62	3184.23	2854.99	2433.14	2112.86
135.0	4056.03	4024.36	3905.45	3746.51	3515.26	3148.38	2812.57	2470.78	2112.27
180.0	3994.48	3892.30	3676.60	3428.02	3129.86	2714.57	2414.02	2053.11	1713.71
225.0	4072.76	4020.18	3918.60	3733.36	3466.27	3169.29	2834.08	2419.99	2108.08
270.0	4075.15	4052.44	3977.75	3830.16	3624.61	3321.66	2964.34	2634.51	2354.86
315.0	4056.03	4035.11	3941.30	3780.57	3584.58	3281.03	2971.51	2609.41	2253.88
360.0	3994.48	4047.66	4038.70	3962.21	3837.93	3583.98	3316.88	3012.74	2655.42
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2301.68	2008.89	1718.49	1505.77	1308.59	1149.05	1029.54	916.61	819.21
45.0	1950.93	1689.81	1472.31	1258.40	1124.55	1009.82	901.07	806.66	730.18
90.0	1830.23	1539.83	1355.20	1182.81	1072.33	938.54	847.65	767.77	687.28
135.0	1799.76	1562.54	1347.43	1196.85	1058.22	944.10	855.06	767.23	688.35
180.0	1517.72	1185.20	1168.89	1038.39	939.14	841.74	756.23	688.95	626.81
225.0	1832.62	1544.01	1358.78	1187.59	1065.45	949.59	860.14	772.31	693.85
270.0	1947.35	1697.58	1489.04	1278.71	1141.88	1037.31	911.23	815.03	748.70
315.0	1961.09	1676.07	1441.24	1181.14	1132.74	990.46	896.77	813.66	721.99
360.0	2301.68	2008.89	1718.49	1505.77	1308.59	1149.05	1029.54	916.61	819.21
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	744.52	678.20	606.49	551.52	498.94	436.79	390.19	347.16	302.35
45.0	652.50	596.93	532.40	475.63	422.45	370.47	324.46	304.14	247.80
90.0	615.81	558.81	497.92	441.81	395.27	348.36	309.64	264.88	223.24
135.0	623.22	569.45	501.92	452.33	402.73	347.16	310.12	304.74	236.68
180.0	556.24	503.36	452.75	394.07	350.93	312.27	268.35	225.93	191.99
225.0	631.71	568.73	516.56	460.28	406.26	362.10	322.25	278.69	237.58
270.0	665.05	606.49	552.12	486.39	436.79	390.19	338.80	303.54	254.01
315.0	657.28	598.78	531.98	480.23	429.80	372.50	336.83	293.03	247.62
360.0	744.52	678.20	606.49	551.52	498.94	436.79	390.19	347.16	302.35
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	254.49	217.20	180.63	152.01	121.90	93.63	70.99	49.83	35.31
45.0	204.12	171.73	140.06	108.63	80.67	61.31	44.40	32.92	25.93
90.0	190.67	157.45	125.84	98.53	74.27	49.30	36.81	29.28	24.92
135.0	189.36	157.69	130.08	95.60	69.49	53.84	36.87	27.49	23.84
180.0	157.51	129.54	99.37	72.54	52.70	36.45	27.55	23.06	20.73
225.0	201.49	168.38	129.60	103.67	80.37	56.59	42.36	30.89	25.28
270.0	208.30	175.79	146.75	112.69	87.72	65.91	45.65	33.52	27.13
315.0	215.65	177.59	137.91	112.75	87.84	59.10	45.35	33.04	26.23
360.0	254.49	217.20	180.63	152.01	121.90	93.63	70.99	49.83	35.31
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	28.20	23.84	20.79	18.88	17.21	15.42	13.98	12.67	11.23
45.0	22.77	20.85	18.88	17.21	15.24	13.74	12.01	10.93	9.92
90.0	22.41	20.26	18.22	16.31	14.70	13.15	11.77	10.40	9.32
135.0	21.39	19.54	17.87	15.89	14.34	12.85	11.35	10.34	9.38
180.0	18.40	16.91	15.36	13.62	12.67	11.65	9.86	8.90	8.19
225.0	22.29	20.08	17.93	15.95	14.22	12.67	11.47	10.34	9.32
270.0	23.60	21.33	19.00	16.85	15.12	13.74	12.13	10.88	9.86
315.0	22.77	20.73	18.58	16.55	15.00	13.44	12.19	10.93	9.80
360.0	28.20	23.84	20.79	18.88	17.21	15.42	13.98	12.67	11.23



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	9.98	9.08	8.25	7.59	6.93	6.45	6.15	5.86	5.56
45.0	8.78	8.01	7.41	6.99	6.51	6.15	5.92	5.68	5.50
90.0	8.60	7.95	7.17	6.75	6.45	6.09	5.86	5.68	5.44
135.0	8.25	7.65	7.17	6.69	6.33	6.04	5.74	5.56	5.32
180.0	7.47	6.99	6.57	6.21	5.98	5.68	5.44	5.20	5.08
225.0	8.48	7.77	7.11	6.69	6.33	5.98	5.74	5.56	5.26
270.0	8.84	8.19	7.65	7.05	6.63	6.33	6.09	5.86	5.62
315.0	8.90	8.13	7.41	6.99	6.57	6.21	5.92	5.68	5.50
360.0	9.98	9.08	8.25	7.59	6.93	6.45	6.15	5.86	5.56
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	5.38	5.20	4.96	4.84	4.66	4.60	4.48	4.36	4.36
45.0	5.26	5.08	4.90	4.78	4.66	4.54	4.48	4.42	4.30
90.0	5.26	5.14	4.96	4.84	4.78	4.66	4.54	4.48	4.48
135.0	5.14	5.02	4.90	4.72	4.60	4.54	4.42	4.36	4.30
180.0	4.90	4.78	4.66	4.54	4.42	4.36	4.36	4.30	4.24
225.0	5.14	4.96	4.84	4.72	4.60	4.48	4.36	4.36	4.30
270.0	5.38	5.26	5.08	4.90	4.84	4.72	4.60	4.54	4.48
315.0	5.26	5.14	4.96	4.84	4.72	4.60	4.48	4.42	4.36
360.0	5.38	5.20	4.96	4.84	4.66	4.60	4.48	4.36	4.36
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	4.30	4.30	4.24	4.18	4.12	4.06	4.06	3.94	3.88
45.0	4.24	4.12	4.12	4.06	4.00	3.94	3.94	3.82	3.76
90.0	4.42	4.36	4.30	4.24	4.18	4.12	4.06	4.00	3.94
135.0	4.24	4.18	4.12	4.06	4.00	4.00	3.94	3.88	3.76
180.0	4.18	4.12	4.06	4.00	4.00	3.94	3.88	3.82	3.70
225.0	4.24	4.24	4.18	4.12	4.06	4.00	3.94	3.88	3.82
270.0	4.42	4.36	4.36	4.24	4.18	4.18	4.12	4.06	4.00
315.0	4.30	4.24	4.18	4.12	4.06	4.06	4.00	3.94	3.88
360.0	4.30	4.30	4.24	4.18	4.12	4.06	4.06	3.94	3.88
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.82	3.76	3.64	3.59	3.53	3.47	3.41	3.35	4.60
45.0	3.70	3.64	3.59	3.53	3.47	3.41	3.41	3.35	3.29
90.0	3.94	3.88	3.82	3.82	3.76	3.76	3.76	3.76	3.94
135.0	3.70	3.59	3.53	3.47	3.47	3.41	3.35	3.29	3.23
180.0	3.59	3.53	3.47	3.41	3.41	3.29	3.29	3.23	3.17
225.0	3.76	3.70	3.59	3.53	3.47	3.47	3.41	3.35	3.35
270.0	3.94	3.88	3.88	3.82	3.76	3.76	3.76	3.76	3.82
315.0	3.82	3.70	3.64	3.59	3.53	3.47	3.47	3.47	3.41
360.0	3.82	3.76	3.64	3.59	3.53	3.47	3.41	3.35	4.60
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.02	4.96	7.59	12.43	12.19	12.13	12.01	12.01	11.95
45.0	3.29	3.17	3.17	3.11	2.99	2.93	2.87	2.81	2.81
90.0	4.84	6.69	8.84	6.81	2.93	2.87	2.87	2.81	2.81
135.0	3.23	3.17	3.11	3.11	2.99	2.87	2.81	2.75	2.75
180.0	3.17	3.11	3.05	3.05	2.93	2.81	2.81	2.75	2.81
225.0	3.29	3.23	3.23	3.17	3.11	3.05	2.93	2.87	2.81
270.0	3.88	4.72	6.57	8.72	10.10	5.98	2.93	2.81	2.81
315.0	3.35	3.29	3.23	3.23	3.23	2.99	2.93	2.87	2.81
360.0	5.02	4.96	7.59	12.43	12.19	12.13	12.01	12.01	11.95

Intensity data(cd)

C/ $\gamma$ (°)	90.0
0.0	10.22
45.0	2.81
90.0	2.81
135.0	2.81
180.0	2.75
225.0	2.81
270.0	2.81
315.0	2.81
360.0	10.22