



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

LumCAT: 4-2273-M	
Luminaire: 92.70.135.00	
Report No: NATA0100	Voltage(V): 33.8000
Test No: GC2018062011	Current(A): 0.4900
LampCAT: NICHIA NFCW108B-V3	Power (W): 16.5620
Lamp flux(lm): 2207.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 100	Width(mm): 100
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1984.69
Efficiency(%): 89.93%
Lumens(lm)/Power(W): 119.83
Central intensity(cd): 25138.750
Maximum intensity(cd): 25138.750
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=11.0
 [C90/270]Total=11.0
Field angle(10%Imax): [C0/180]Total=22.4
 [C90/270]Total=22.4
Maximum s/h(1/2): C0_180=0.19 C90_270=0.19
Maximum s/h(1/4): C0_180=0.19 C90_270=0.19
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 91.00%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.544%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	25138.752	24.057	24.057	1.090%	1.212%
2.0	23144.334	177.145	201.202	8.027%	10.138%
4.0	17573.314	268.846	470.048	12.182%	23.684%
6.0	10792.362	247.409	717.457	11.210%	36.150%
8.0	5984.287	182.656	900.113	8.276%	45.353%
10.0	3353.761	127.723	1027.835	5.787%	51.788%
12.0	1967.647	89.720	1117.556	4.065%	56.309%
14.0	1257.488	66.718	1184.274	3.023%	59.670%
16.0	1004.552	60.726	1245	2.752%	62.730%
18.0	874.530	59.268	1304.268	2.685%	65.716%
20.0	816.700	61.260	1365.529	2.776%	68.803%
22.0	778.325	63.944	1429.473	2.897%	72.025%
24.0	746.833	66.620	1496.092	3.019%	75.382%
26.0	723.916	69.598	1565.69	3.154%	78.888%
28.0	703.242	72.407	1638.097	3.281%	82.537%
30.0	680.642	74.637	1712.734	3.382%	86.297%
32.0	656.004	76.240	1788.974	3.454%	90.139%
34.0	568.168	69.679	1858.653	3.157%	93.649%
36.0	381.025	49.118	1907.771	2.226%	96.124%
38.0	202.945	27.402	1935.173	1.242%	97.505%
40.0	48.656	6.859	1942.032	.311%	97.851%
42.0	18.237	2.676	1944.708	.121%	97.985%
44.0	11.452	1.745	1946.453	.079%	98.073%
46.0	9.869	1.557	1948.01	.071%	98.152%
48.0	9.539	1.555	1949.564	.070%	98.230%
50.0	9.298	1.562	1951.126	.071%	98.309%
52.0	9.091	1.571	1952.698	.071%	98.388%
54.0	8.919	1.583	1954.28	.072%	98.468%
56.0	8.788	1.598	1955.878	.072%	98.548%
58.0	8.685	1.615	1957.493	.073%	98.630%
60.0	8.596	1.633	1959.126	.074%	98.712%
62.0	8.534	1.652	1960.778	.075%	98.795%
64.0	8.486	1.673	1962.451	.076%	98.879%
66.0	8.437	1.690	1964.141	.077%	98.965%
68.0	8.389	1.706	1965.847	.077%	99.051%
70.0	8.375	1.726	1967.573	.078%	99.138%
72.0	8.348	1.741	1969.315	.079%	99.225%
74.0	8.334	1.757	1971.072	.080%	99.314%

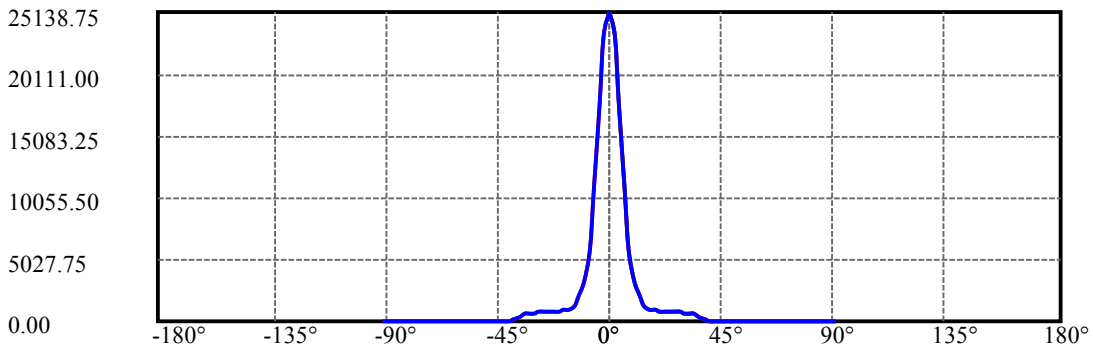
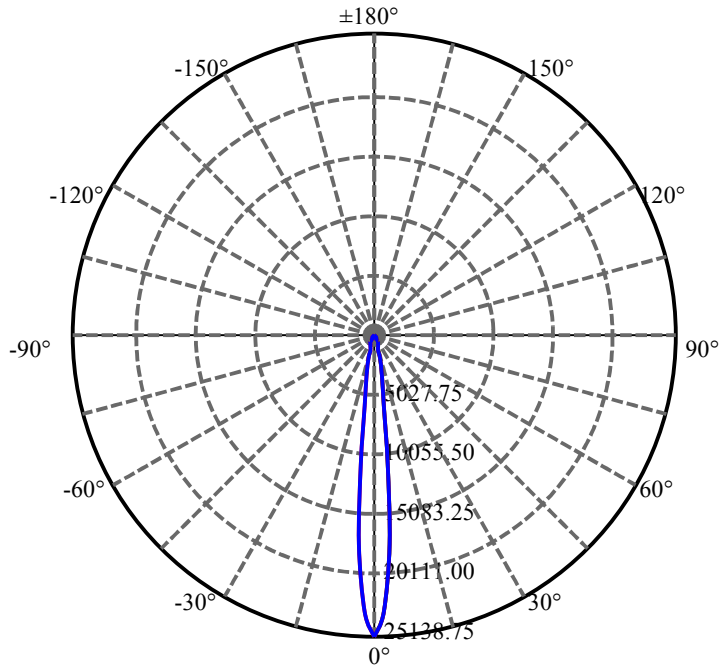
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.348	1.776	1972.848	.080%	99.403%
78.0	8.410	1.804	1974.652	.082%	99.494%
80.0	8.472	1.830	1976.482	.083%	99.586%
82.0	8.465	1.838	1978.32	.083%	99.679%
84.0	8.403	1.833	1980.153	.083%	99.771%
86.0	8.341	1.825	1981.978	.083%	99.863%
88.0	8.258	1.810	1983.788	.082%	99.954%
90.0	8.238	0.903	1984.691	.041%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1712.73	77.60%	86.30%
0-40	1942.03	87.99%	97.85%
0-60	1959.13	88.77%	98.71%
0-90	1983.79	89.89%	99.95%
0-120	1983.79	89.89%	99.95%
0-180	1984.69	89.93%	100.00%
60-90	26.29	1.19%	1.32%
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%
0-26.61	1587.75	71.94%	80.00%

ZONAL LUMEN SUMMARY

0-10	1027.84
10-20	337.69
20-30	347.21
30-40	229.30
40-50	9.09
50-60	8.00
60-70	8.45
70-80	8.91
80-90	7.31
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



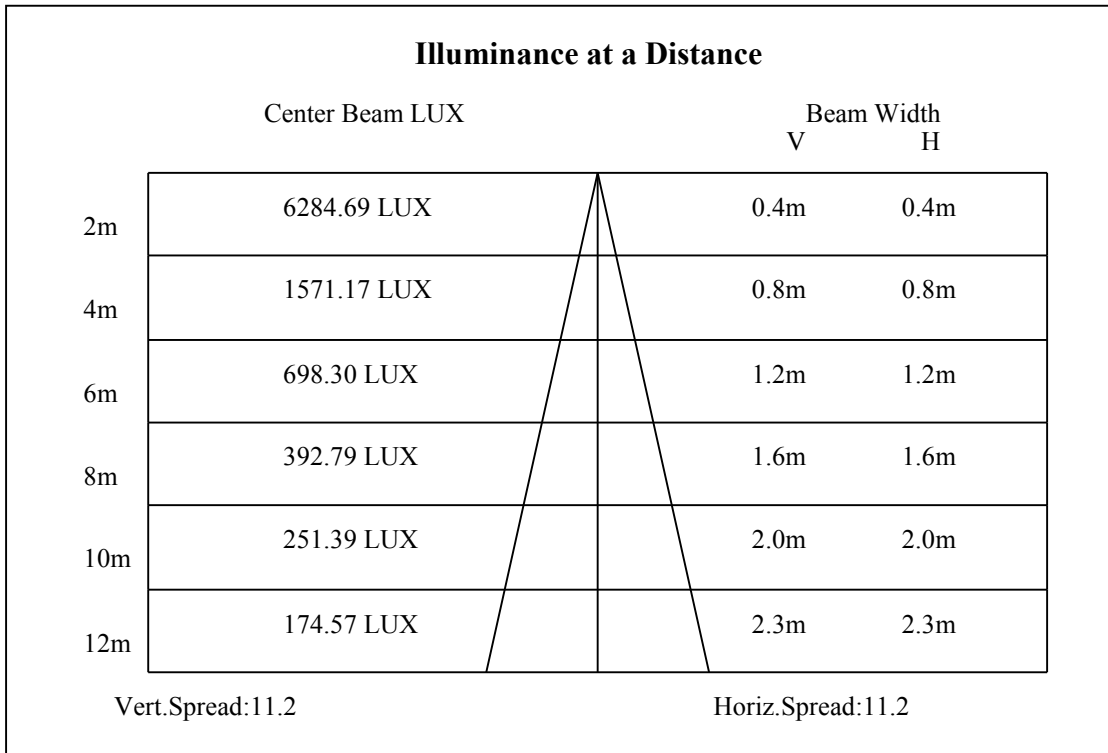
C0(Max): —————

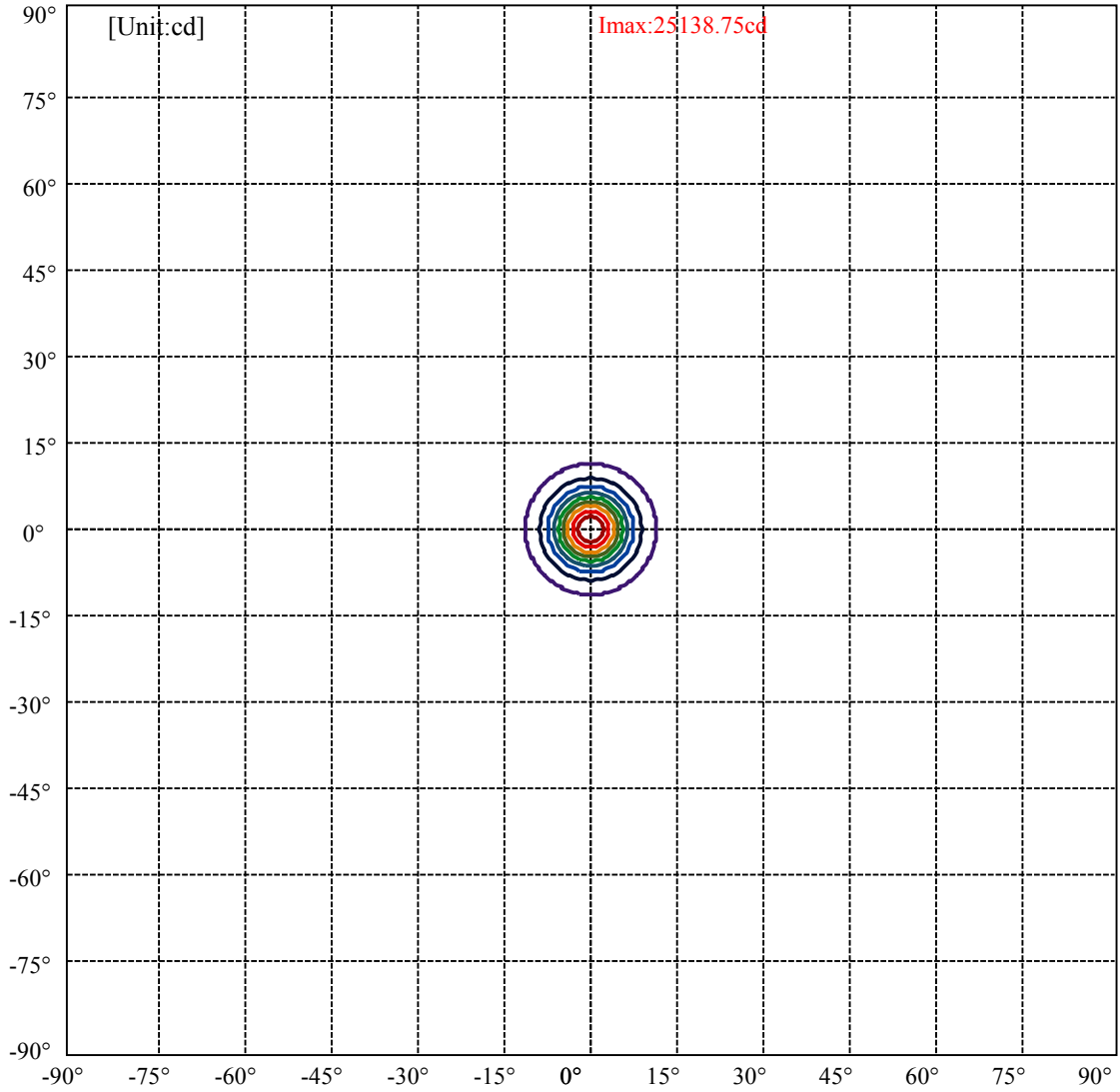
C0/C180: —————

C90/C270: —————

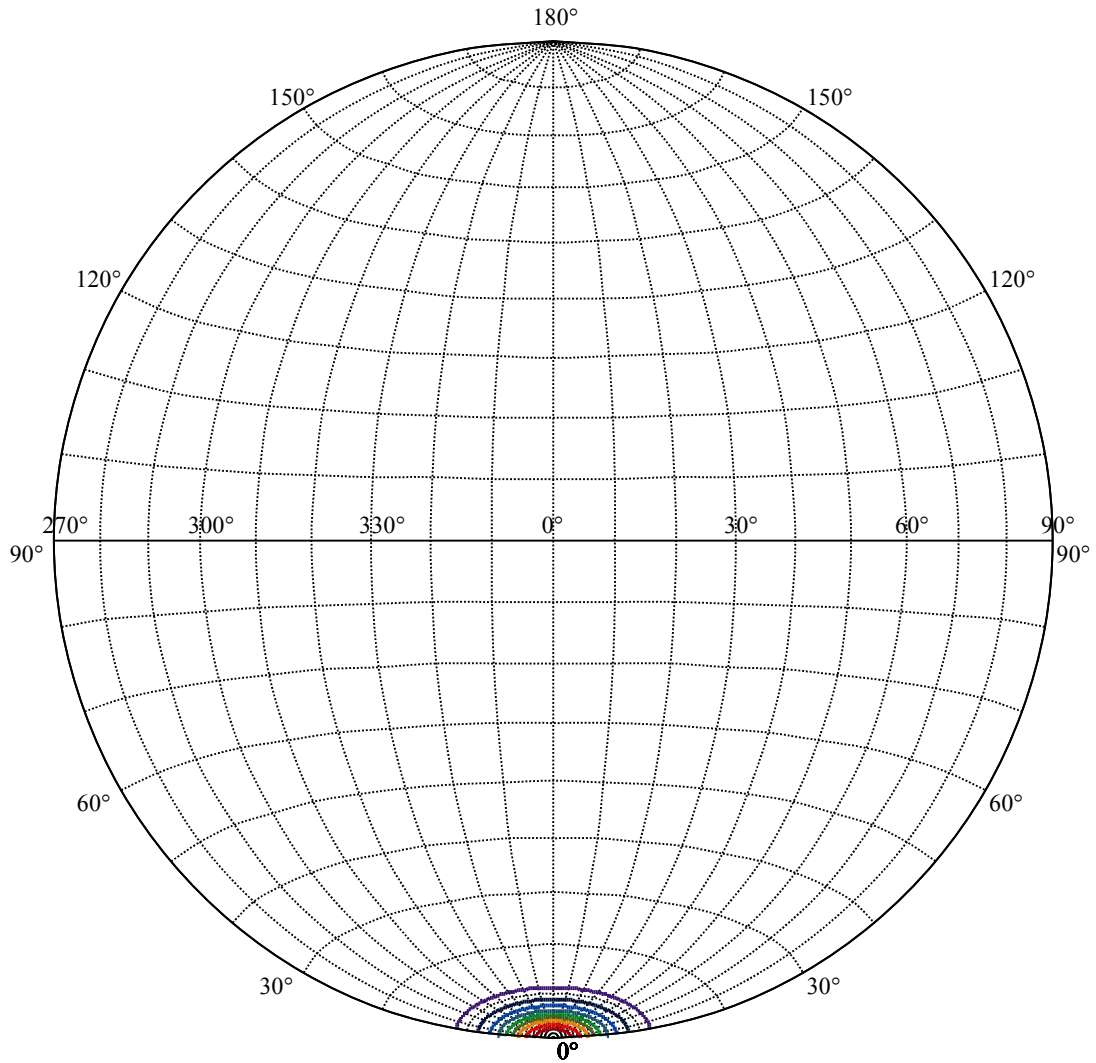
Field angle(10%Imax):C0/180Left:11.2 Right:11.2
:C90/270Left:11.2 Right:11.2

Beam Angle(50%Imax):C0/180Left:5.5 Right:5.5
:C90/270Left:5.5 Right:5.5





(10%Imax) 2513.88	—
(20%Imax) 5027.75	—
(30%Imax) 7541.63	—
(40%Imax) 10055.5	—
(50%Imax) 12569.4	—
(60%Imax) 15083.3	—
(70%Imax) 17597.1	—
(80%Imax) 20111	—
(90%Imax) 22624.9	—



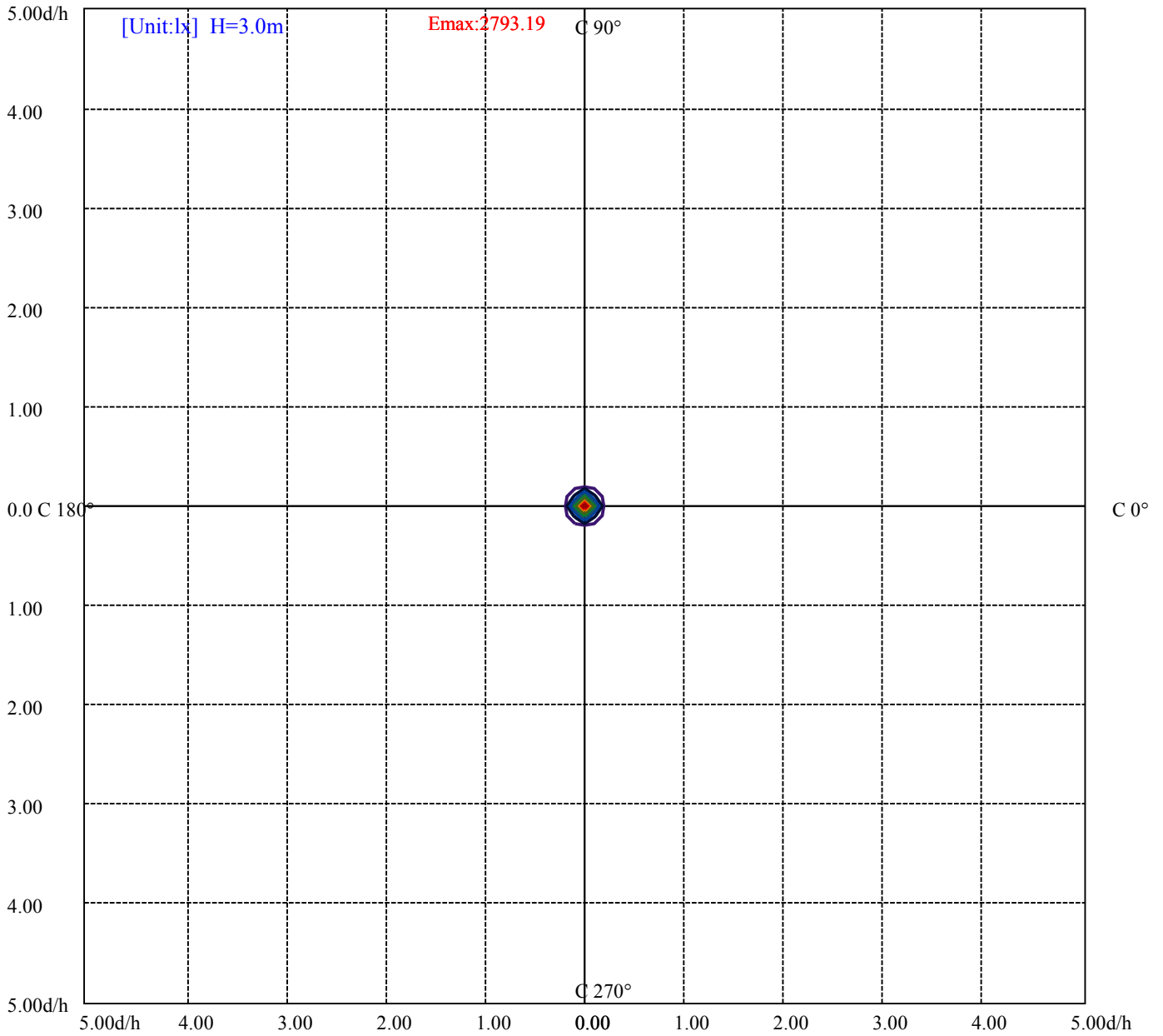
House

[Unit:cd]

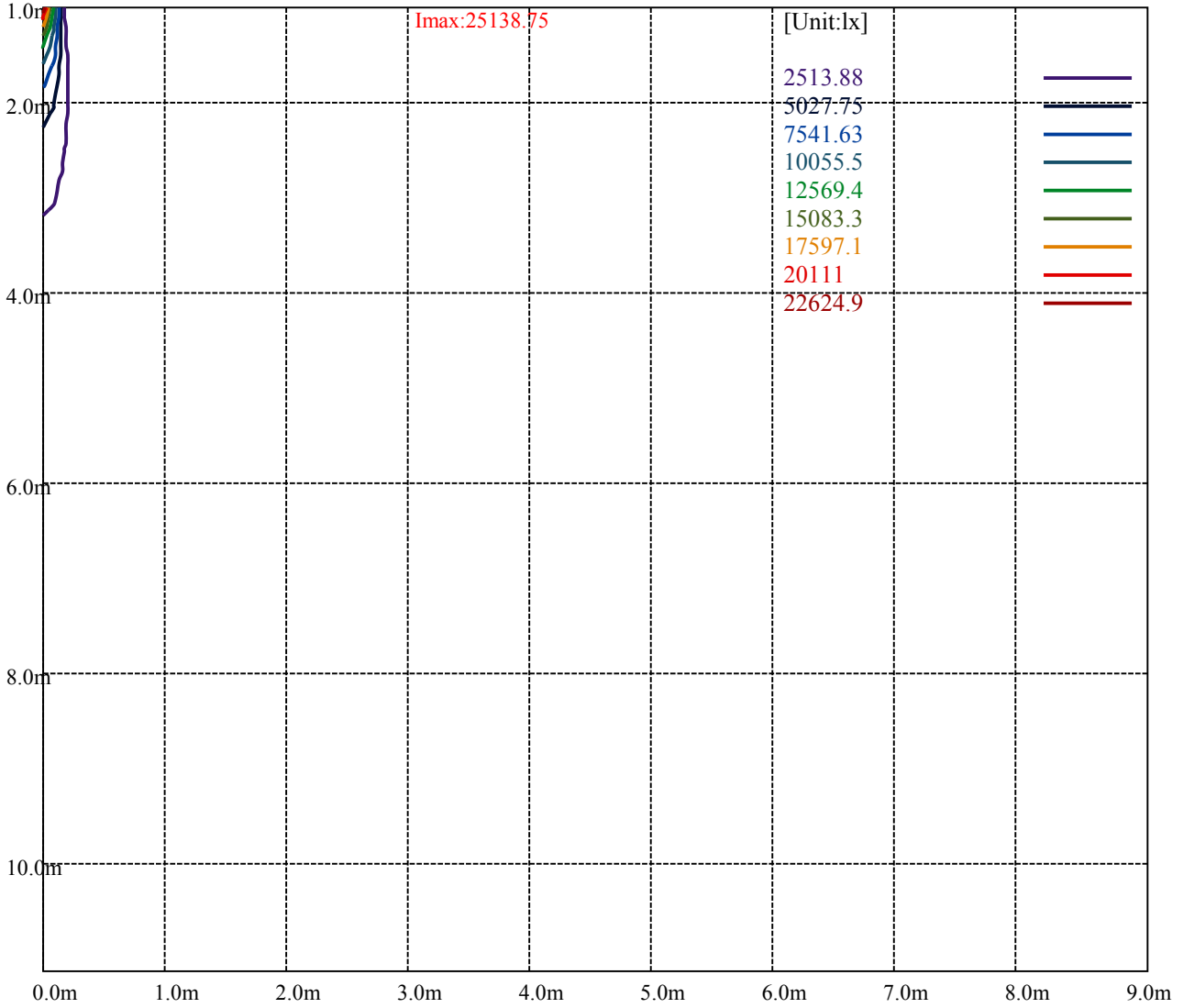
Road

Imax:25138.75

(10%Imax) 2513.88	—
(20%Imax) 5027.75	—
(30%Imax) 7541.63	—
(40%Imax) 10055.5	—
(50%Imax) 12569.4	—
(60%Imax) 15083.3	—
(70%Imax) 17597.1	—
(80%Imax) 20111	—
(90%Imax) 22624.9	—



- (10%Emax) 279.3178
- (20%Emax) 558.6356
- (30%Emax) 837.9534
- (40%Emax) 1117.267
- (50%Emax) 1396.589
- (60%Emax) 1675.911
- (70%Emax) 1955.222
- (80%Emax) 2234.544
- (90%Emax) 2513.855



Luminance Table

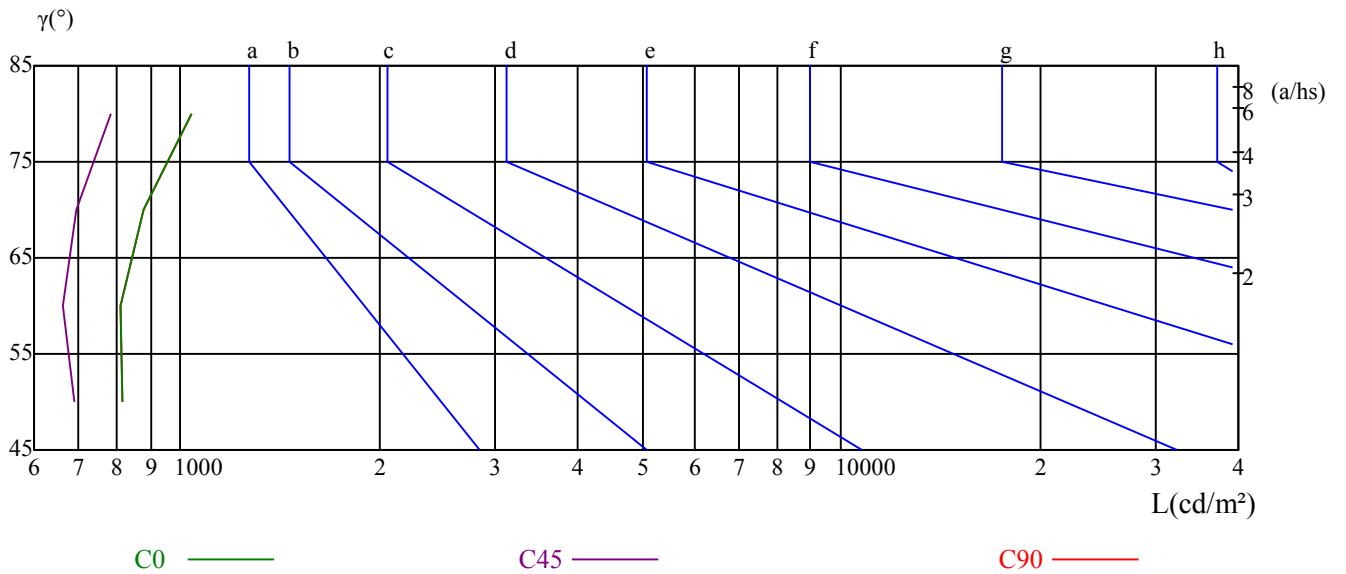
γ	45	50	55	60	65	70	75	80	85
C0	0	815	0	809	0	879	0	1041	0
C45	0	690	0	663	0	695	0	785	0
C90	0	815	0	809	0	879	0	1041	0

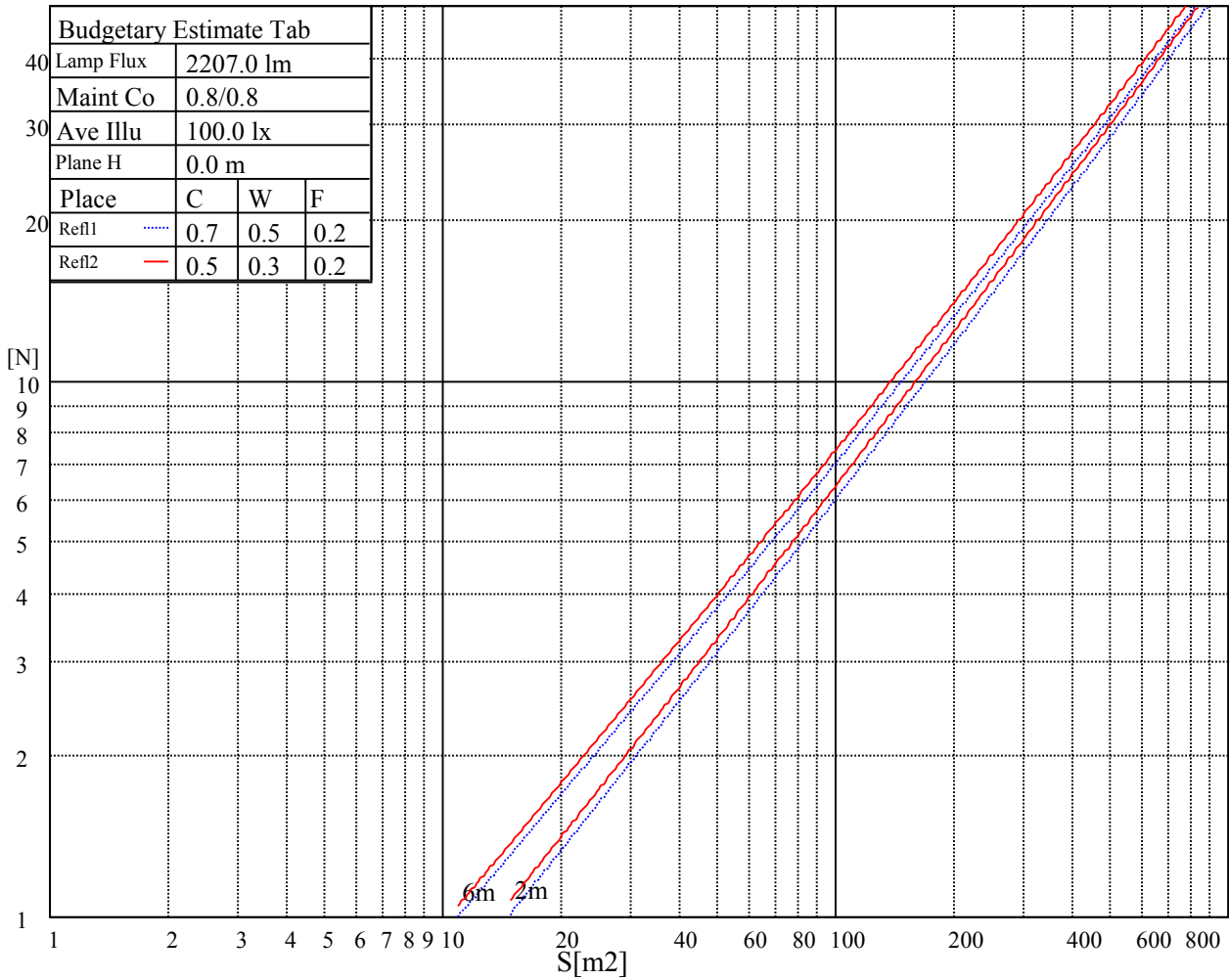
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
66127	67339	65958	44682	45150	45267	15161	15666	14971

Glare Table

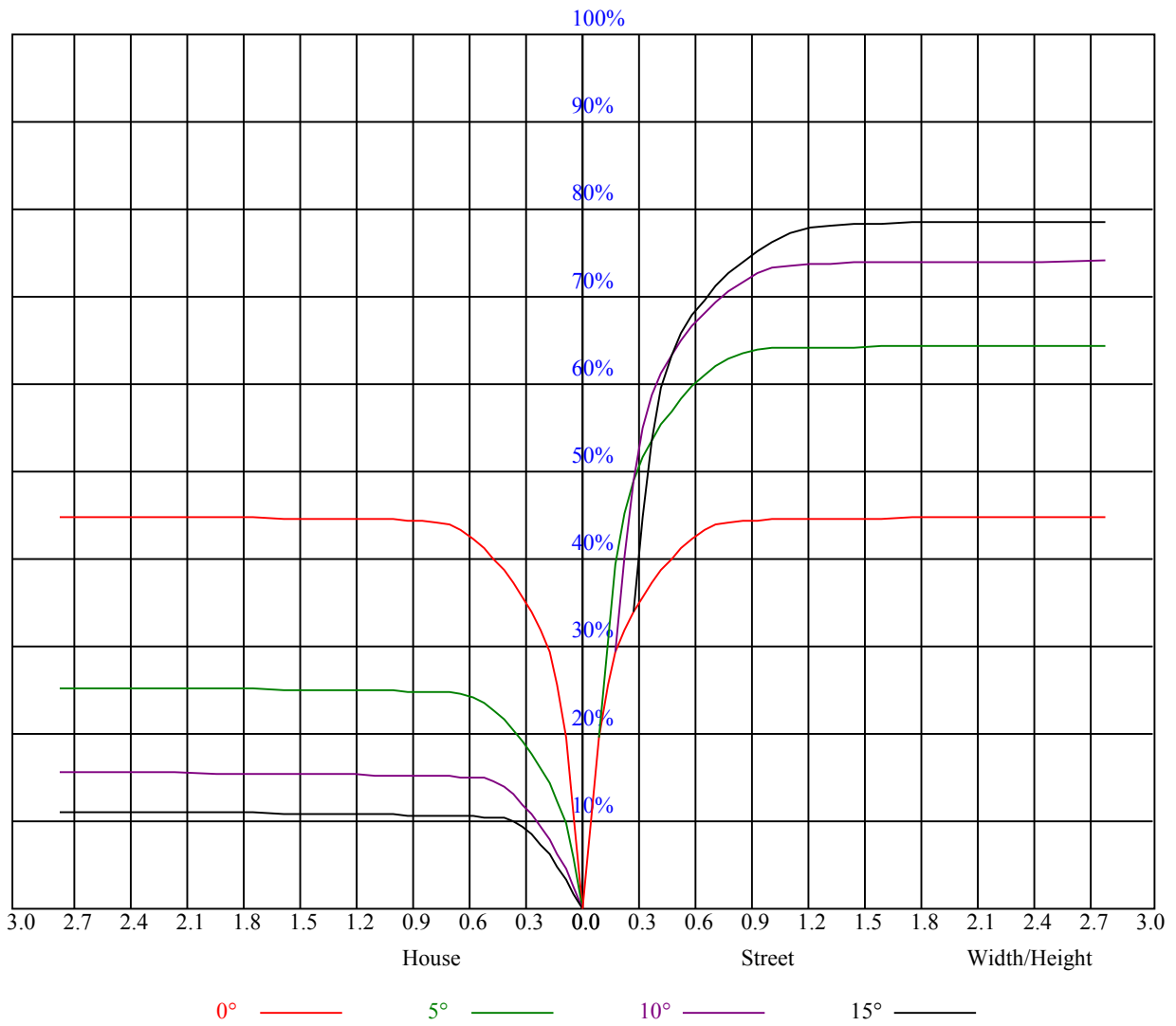
Glare	Quality	Service Values Illuminance(lx)							
		a	b	c	d	e	f	g	h
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.06	1.06	1.06	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.01	0.99	0.97	0.99	0.97	0.95	0.95	0.94	0.92	0.92	0.91	0.90	0.89	0.88	0.87	0.85
2	0.96	0.93	0.90	0.95	0.92	0.89	0.92	0.89	0.87	0.89	0.87	0.86	0.87	0.85	0.84	0.82
3	0.92	0.88	0.85	0.91	0.87	0.85	0.88	0.86	0.83	0.86	0.84	0.82	0.84	0.82	0.81	0.80
4	0.88	0.84	0.81	0.87	0.84	0.81	0.85	0.82	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.77
5	0.85	0.81	0.78	0.84	0.81	0.78	0.83	0.80	0.77	0.81	0.79	0.76	0.80	0.78	0.76	0.75
6	0.82	0.78	0.75	0.82	0.78	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.78	0.76	0.74	0.73
7	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.74	0.72	0.71
8	0.77	0.73	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.72	0.70	0.69
9	0.75	0.71	0.69	0.75	0.71	0.69	0.74	0.71	0.69	0.73	0.71	0.68	0.73	0.70	0.68	0.67
10	0.73	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.67	0.72	0.69	0.67	0.71	0.69	0.67	0.66



Intensity data(cd)

C/γ(°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	24808.41	24401.00	20525.03	13830.17	8142.84	4696.31	2840.91	1696.29	1216.20
45.0	25210.33	23074.14	18086.03	11033.30	6237.89	3501.59	2049.20	1335.12	1031.21
90.0	25320.44	22677.73	17034.45	10084.13	5333.86	2978.55	1737.58	1095.95	940.31
135.0	25215.83	23437.51	17942.88	10493.75	5681.82	3143.72	1778.87	1138.02	928.80
180.0	24808.41	20921.43	12883.20	7745.88	4075.27	2268.32	1369.25	1006.32	881.78
225.0	25210.33	23657.74	17612.54	10610.47	5849.74	3161.34	1803.65	1092.10	951.54
270.0	25320.44	23883.47	18867.83	11556.34	6469.13	3639.23	2128.48	1351.63	1031.21
315.0	25215.83	23101.67	17634.56	10984.85	6083.73	3441.03	2033.23	1344.48	1055.38
360.0	24808.41	24401.00	20525.03	13830.17	8142.84	4696.31	2840.91	1696.29	1216.20
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	984.41	870.44	811.53	769.69	744.91	719.59	697.56	678.29	652.42
45.0	878.70	810.98	778.50	747.67	722.89	702.52	679.40	659.58	590.20
90.0	839.17	800.41	767.98	735.55	713.75	693.49	671.41	649.45	545.22
135.0	842.91	803.82	773.54	738.86	717.94	698.67	677.19	653.52	535.15
180.0	814.45	784.39	750.03	726.25	704.06	685.56	663.65	609.91	446.12
225.0	855.19	813.57	774.53	745.90	723.44	703.57	681.32	662.71	563.72
270.0	888.61	823.64	788.41	757.58	735.00	714.08	690.96	670.59	611.13
315.0	892.79	826.34	782.08	753.17	729.33	708.47	683.64	663.98	601.38
360.0	984.41	870.44	811.53	769.69	744.91	719.59	697.56	678.29	652.42
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	525.24	344.10	132.91	24.78	16.46	10.41	9.97	9.63	9.36
45.0	410.72	230.91	48.50	17.56	11.01	9.86	9.58	9.30	9.14
90.0	343.77	155.64	27.47	17.01	10.02	9.69	9.36	9.19	8.97
135.0	344.10	158.07	29.12	17.73	10.13	9.74	9.47	9.25	9.08
180.0	238.78	71.57	20.43	14.31	9.97	9.69	9.41	9.25	9.03
225.0	338.32	158.45	28.30	17.07	10.24	9.80	9.47	9.19	9.03
270.0	431.64	278.59	49.22	17.89	12.39	9.86	9.52	9.30	9.08
315.0	415.62	226.23	53.29	19.55	11.40	9.91	9.52	9.25	9.03
360.0	525.24	344.10	132.91	24.78	16.46	10.41	9.97	9.63	9.36
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	9.14	8.97	8.81	8.64	8.59	8.53	8.48	8.42	8.42
45.0	8.97	8.81	8.75	8.64	8.59	8.53	8.53	8.42	8.42
90.0	8.81	8.70	8.64	8.59	8.53	8.48	8.42	8.37	8.37
135.0	8.92	8.81	8.70	8.59	8.53	8.48	8.42	8.42	8.37
180.0	8.86	8.81	8.64	8.59	8.53	8.48	8.42	8.42	8.37
225.0	8.86	8.75	8.64	8.59	8.48	8.48	8.42	8.37	8.37
270.0	8.92	8.75	8.64	8.59	8.53	8.48	8.42	8.37	8.37
315.0	8.86	8.70	8.64	8.53	8.48	8.42	8.37	8.31	8.31
360.0	9.14	8.97	8.81	8.64	8.59	8.53	8.48	8.42	8.42
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	8.42	8.37	8.37	8.53	8.75	8.86	8.59	8.53	8.48
45.0	8.37	8.37	8.37	8.37	8.31	8.37	8.37	8.37	8.26
90.0	8.31	8.31	8.42	8.59	8.59	8.42	8.37	8.37	8.20
135.0	8.31	8.31	8.31	8.31	8.48	8.48	8.37	8.31	8.20
180.0	8.31	8.37	8.31	8.37	8.31	8.31	8.26	8.20	8.20
225.0	8.37	8.31	8.37	8.37	8.37	8.37	8.42	8.37	8.26
270.0	8.37	8.31	8.31	8.31	8.31	8.31	8.31	8.31	8.26
315.0	8.31	8.31	8.31	8.42	8.64	8.59	8.53	8.26	8.20
360.0	8.42	8.37	8.37	8.53	8.75	8.86	8.59	8.53	8.48

Intensity data(cd)

C/ γ (°)	90.0
0.0	8.26
45.0	8.26
90.0	8.20
135.0	8.26
180.0	8.20
225.0	8.26
270.0	8.26
315.0	8.20
360.0	8.26