



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: 3-2031-M	
Luminaire: 92.70.125.00	
Report No: NATA0100	Voltage(V): 38.8000
Test No: GC2018070516	Current(A): 0.2000
LampCAT: NICHIA NTCWT012B-V3	Power (W): 7.7600
Lamp flux(lm): 745.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 79	Width(mm): 79
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 658.07
Efficiency(%): 88.33%
Lumens(lm)/Power(W): 84.80
Central intensity(cd): 10546.740
Maximum intensity(cd): 10546.740
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=10.0
 [C90/270]Total=10.0
Field angle(10%Imax): [C0/180]Total=17.7
 [C90/270]Total=17.7
Maximum s/h(1/2): C0_180=0.17 C90_270=0.17
Maximum s/h(1/4): C0_180=0.17 C90_270=0.17
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.67%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.168%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	10546.742	10.093	10.093	1.355%	1.534%
2.0	9618.766	73.621	83.714	9.882%	12.721%
4.0	6860.784	104.960	188.674	14.089%	28.671%
6.0	3712.866	85.116	273.79	11.425%	41.605%
8.0	1352.818	41.291	315.081	5.542%	47.880%
10.0	669.961	25.514	340.595	3.425%	51.757%
12.0	472.267	21.534	362.13	2.891%	55.029%
14.0	380.158	20.170	382.3	2.707%	58.094%
16.0	331.302	20.028	402.327	2.688%	61.138%
18.0	303.416	20.563	422.89	2.760%	64.262%
20.0	283.162	21.240	444.13	2.851%	67.490%
22.0	268.923	22.094	466.224	2.966%	70.847%
24.0	258.923	23.097	489.32	3.100%	74.357%
26.0	252.014	24.229	513.549	3.252%	78.039%
28.0	245.084	25.234	538.783	3.387%	81.874%
30.0	237.912	26.089	564.872	3.502%	85.838%
32.0	230.714	26.813	591.685	3.599%	89.912%
34.0	221.788	27.200	618.885	3.651%	94.046%
36.0	138.309	17.829	636.714	2.393%	96.755%
38.0	24.610	3.323	640.037	.446%	97.260%
40.0	10.254	1.446	641.483	.194%	97.480%
42.0	6.607	0.970	642.452	.130%	97.627%
44.0	5.616	0.856	643.308	.115%	97.757%
46.0	5.189	0.819	644.126	.110%	97.881%
48.0	4.838	0.789	644.915	.106%	98.001%
50.0	4.522	0.760	645.675	.102%	98.117%
52.0	4.260	0.736	646.411	.099%	98.229%
54.0	4.026	0.714	647.125	.096%	98.337%
56.0	3.792	0.689	647.815	.093%	98.442%
58.0	3.592	0.668	648.483	.090%	98.543%
60.0	3.469	0.659	649.142	.088%	98.644%
62.0	3.331	0.645	649.787	.087%	98.742%
64.0	3.214	0.634	650.42	.085%	98.838%
66.0	3.131	0.627	651.047	.084%	98.933%
68.0	3.056	0.621	651.669	.083%	99.028%
70.0	2.987	0.616	652.284	.083%	99.121%
72.0	2.952	0.616	652.9	.083%	99.215%
74.0	2.918	0.615	653.515	.083%	99.308%

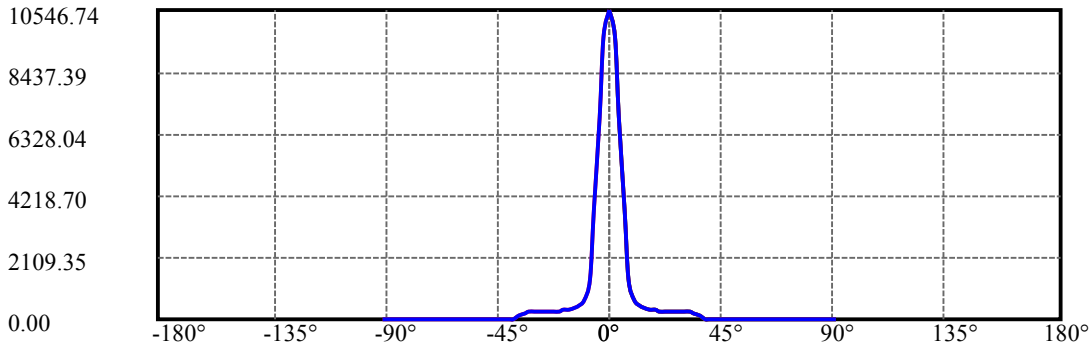
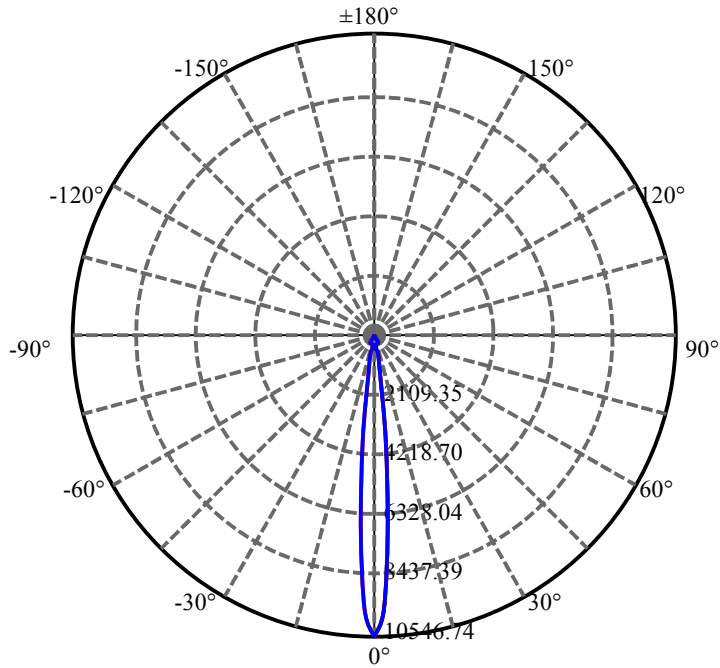
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	2.884	0.614	654.129	.082%	99.401%
78.0	2.849	0.611	654.74	.082%	99.494%
80.0	2.835	0.612	655.352	.082%	99.587%
82.0	2.815	0.611	655.964	.082%	99.680%
84.0	2.787	0.608	656.572	.082%	99.773%
86.0	2.760	0.604	657.175	.081%	99.864%
88.0	2.718	0.596	657.771	.080%	99.955%
90.0	2.705	0.297	658.068	.040%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	564.87	75.82%	85.84%
0-40	641.48	86.11%	97.48%
0-60	649.14	87.13%	98.64%
0-90	657.77	88.29%	99.95%
0-120	657.77	88.29%	99.95%
0-180	658.07	88.33%	100.00%
60-90	9.29	1.25%	1.41%
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%
0-27.02	526.45	70.67%	80.00%

ZONAL LUMEN SUMMARY

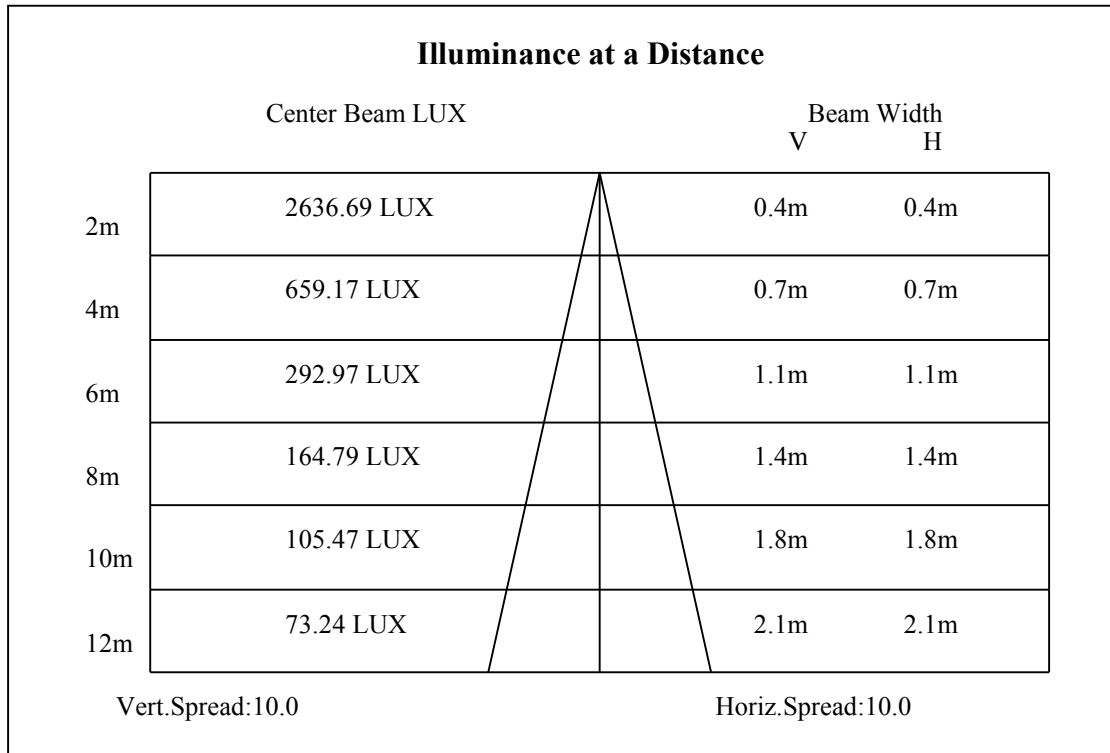
0-10	340.60
10-20	103.53
20-30	120.74
30-40	76.61
40-50	4.19
50-60	3.47
60-70	3.14
70-80	3.07
80-90	2.42
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

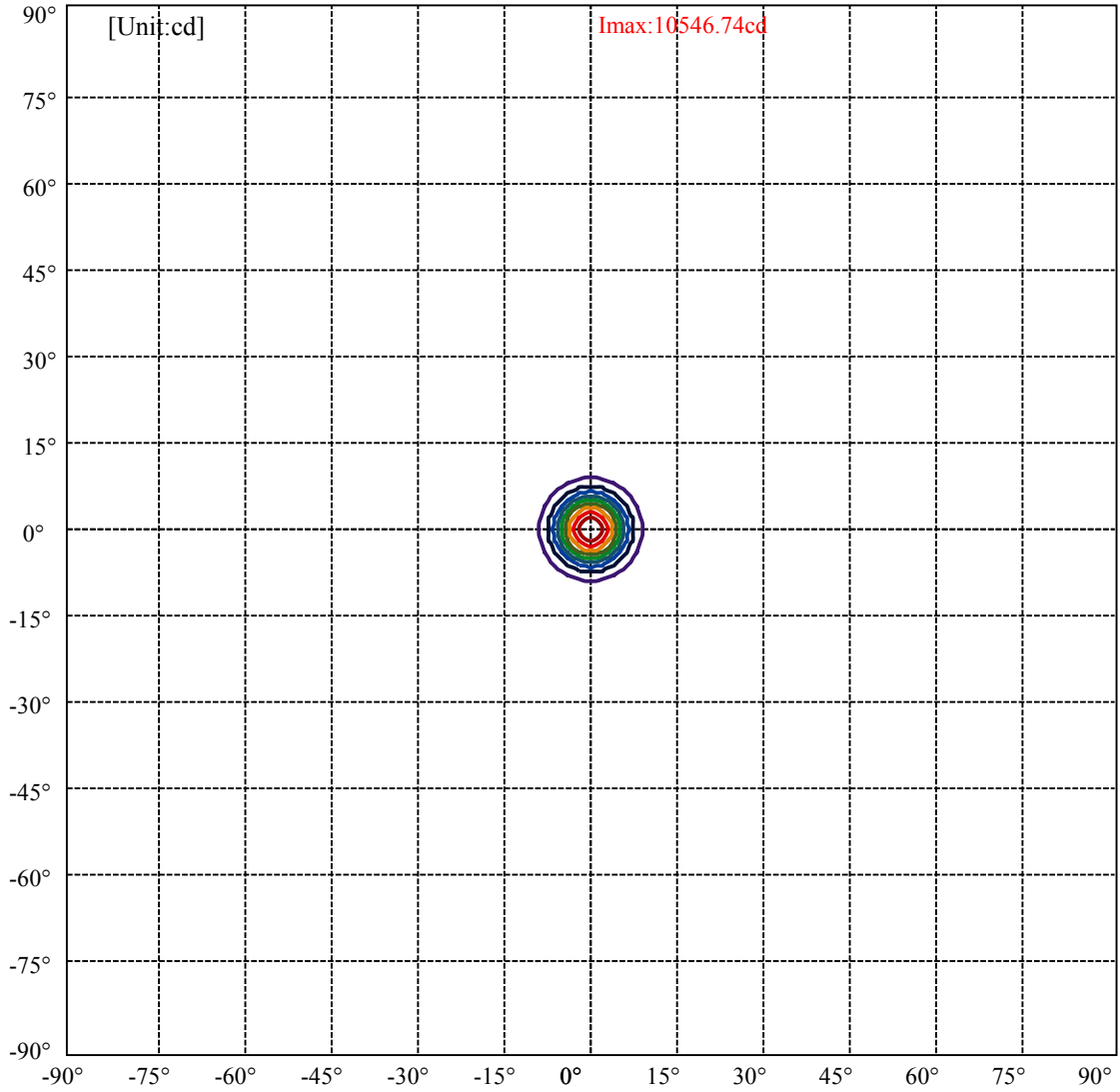


C0(Max): —————
C0/C180: —————
C90/C270: —————

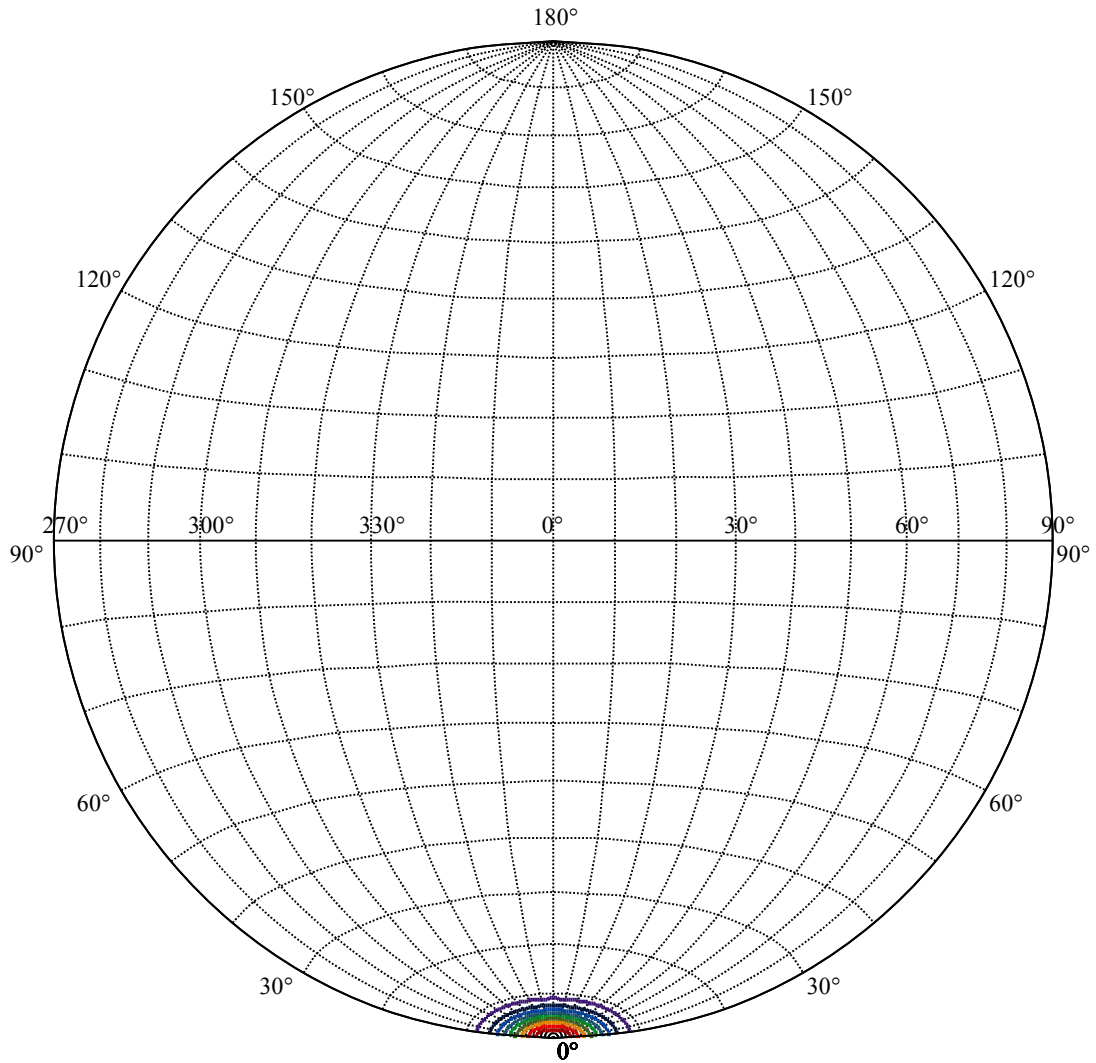
Field angle(10%Imax):C0/180Left:8.9 Right:8.9
:C90/270Left:8.9 Right:8.9

Beam Angle(50%Imax):C0/180Left:5.0 Right:5.0
:C90/270Left:5.0 Right:5.0





(10%Imax) 1054.67	—
(20%Imax) 2109.35	—
(30%Imax) 3164.02	—
(40%Imax) 4218.7	—
(50%Imax) 5273.37	—
(60%Imax) 6328.04	—
(70%Imax) 7382.72	—
(80%Imax) 8437.39	—
(90%Imax) 9492.07	—



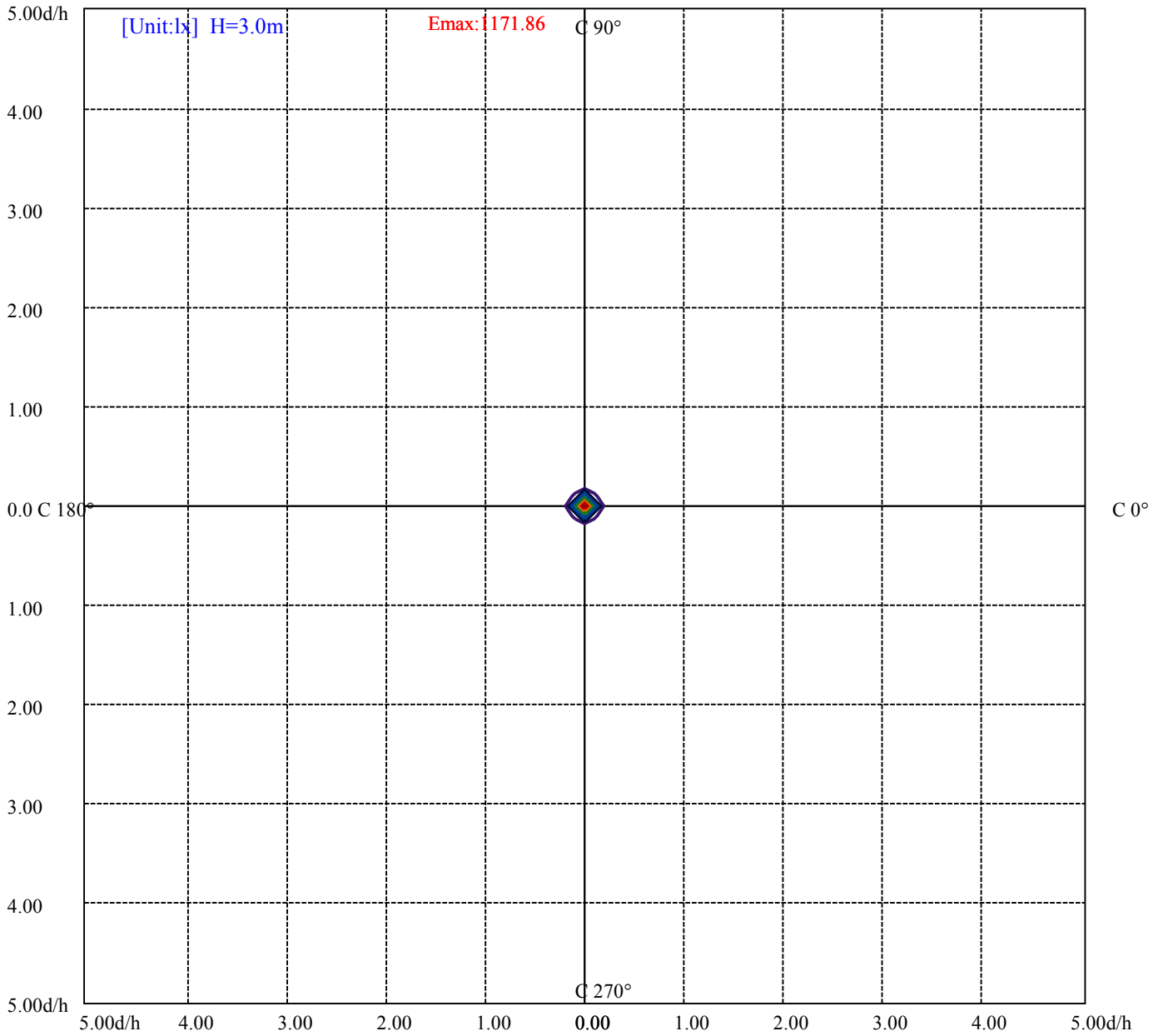
House

[Unit:cd]

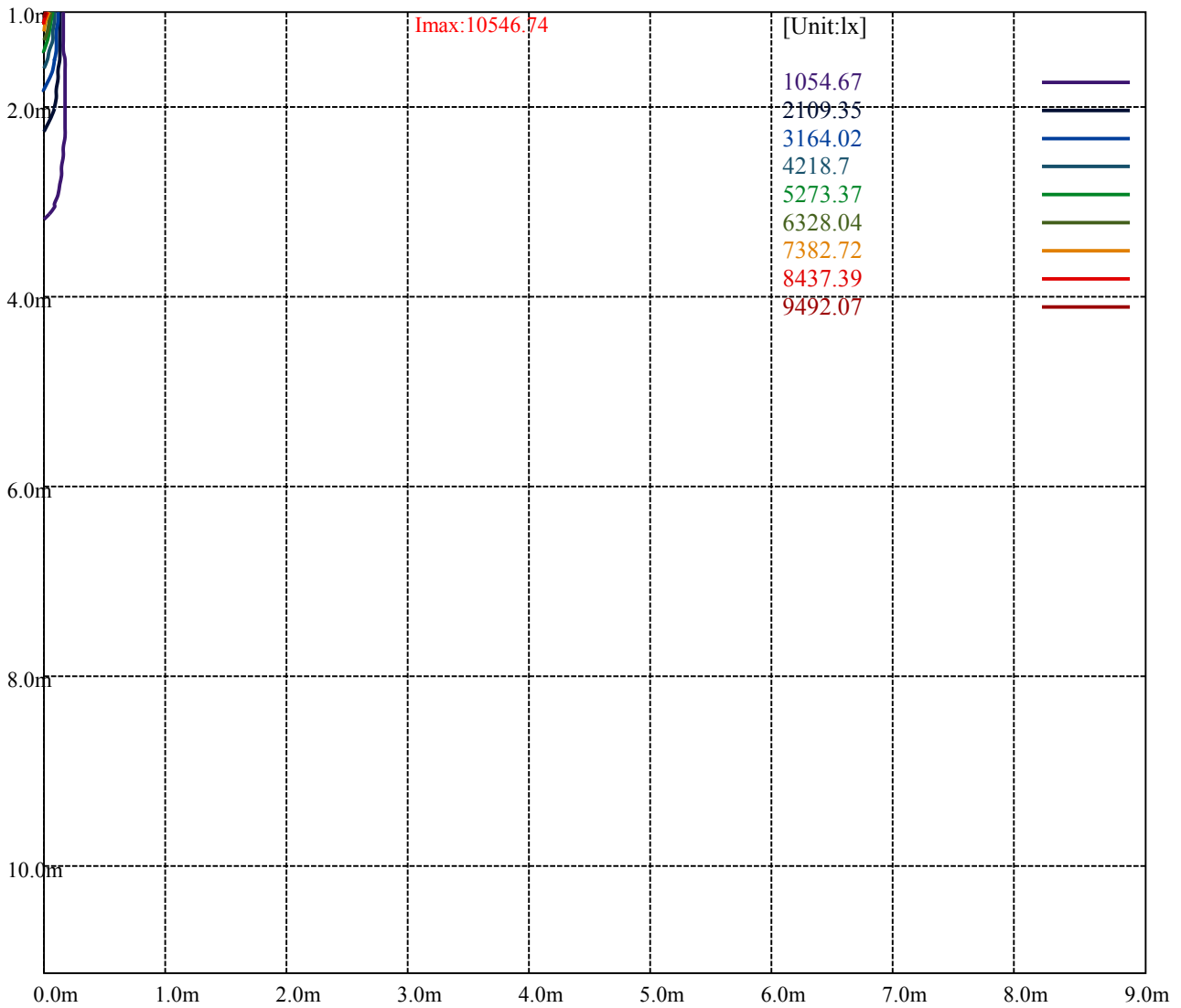
Road

Imax:10546.74

(10%Imax) 1054.67	—
(20%Imax) 2109.35	—
(30%Imax) 3164.02	—
(40%Imax) 4218.7	—
(50%Imax) 5273.37	—
(60%Imax) 6328.04	—
(70%Imax) 7382.72	—
(80%Imax) 8437.39	—
(90%Imax) 9492.07	—



- (10%Emax) 117.1856
- (20%Emax) 234.37
- (30%Emax) 351.5555
- (40%Emax) 468.7411
- (50%Emax) 585.9266
- (60%Emax) 703.1111
- (70%Emax) 820.2966
- (80%Emax) 937.4822
- (90%Emax) 1054.667



Luminance Table

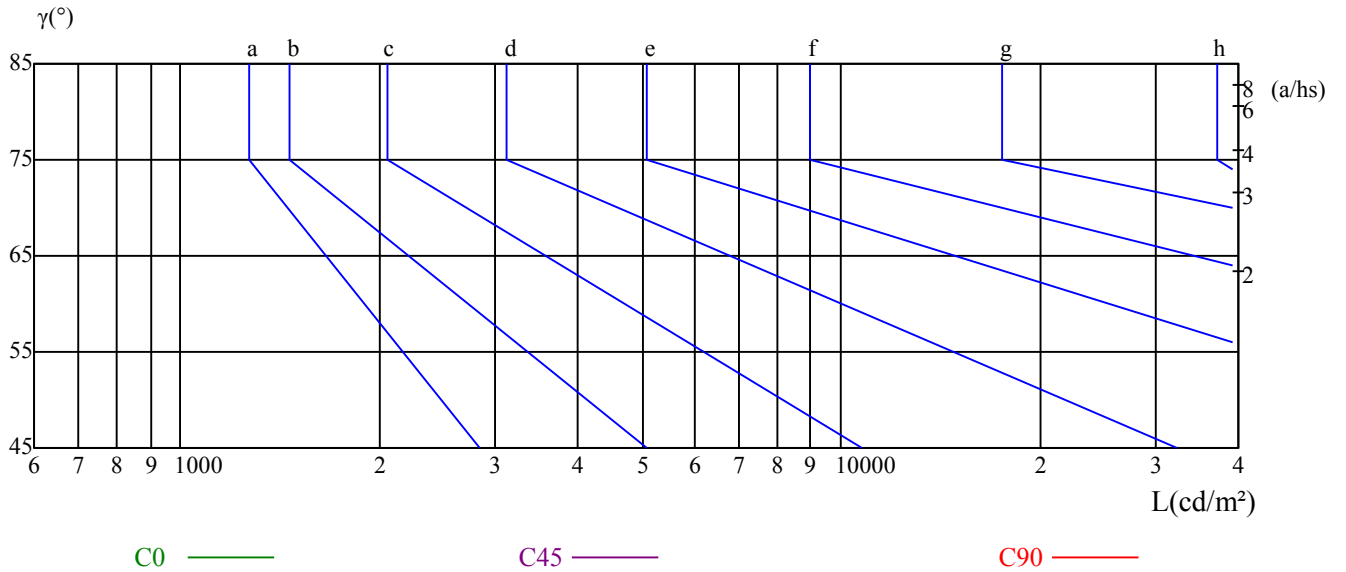
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

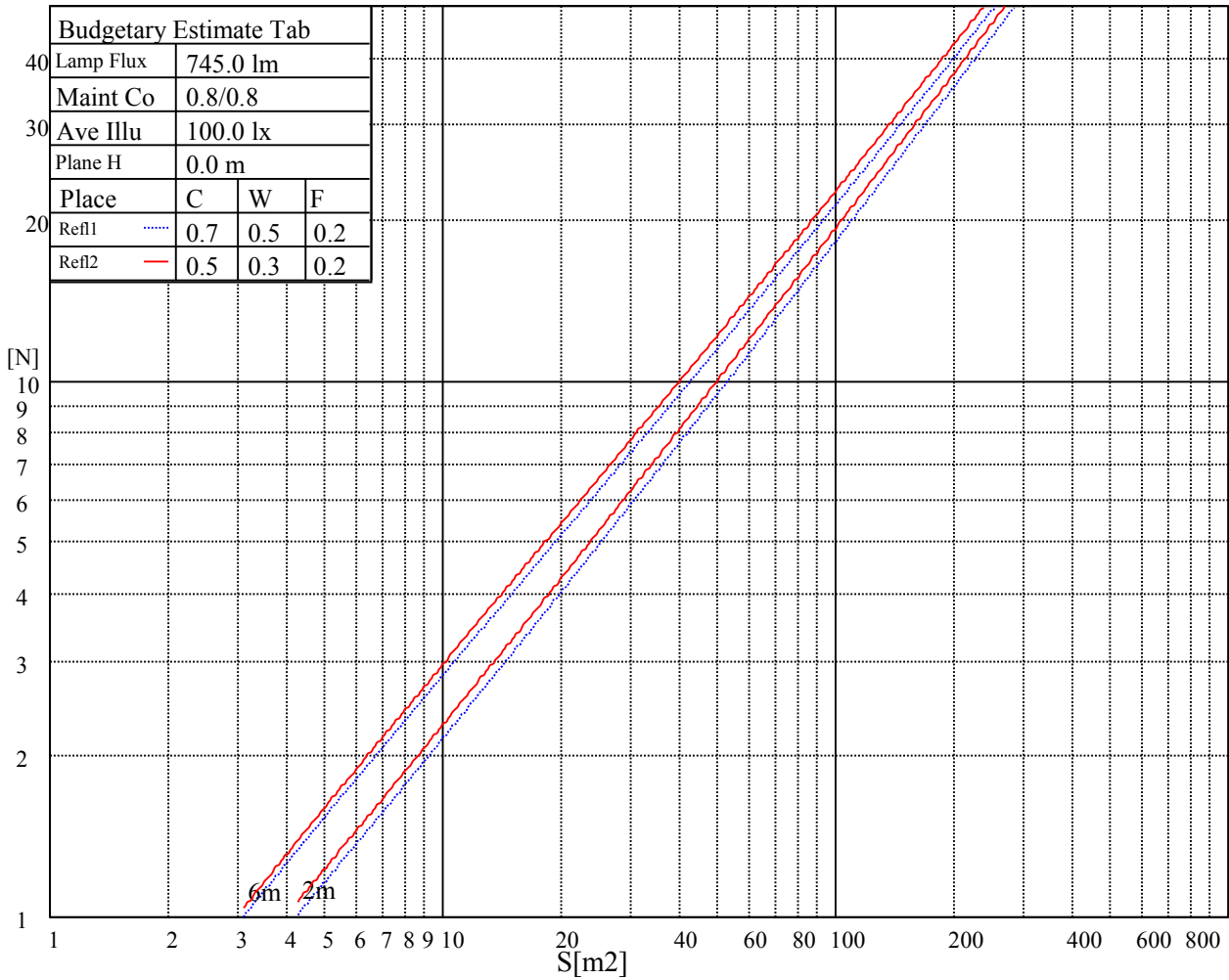
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

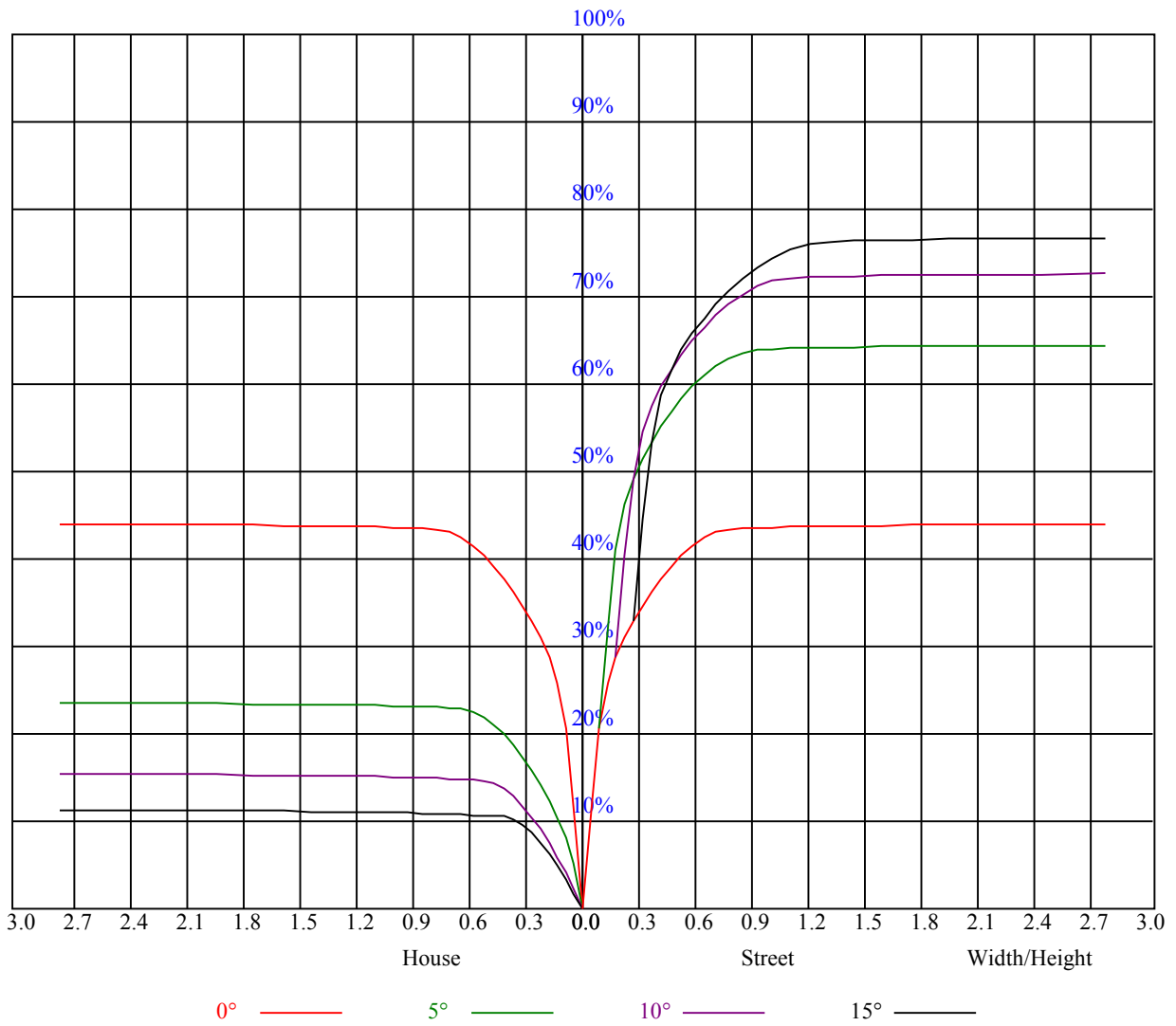
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.07	1.07	1.07	1.04	1.04	1.04	1.00	1.00	1.00	0.95	0.95	0.95	0.92	0.92	0.92	0.90
1	0.99	0.97	0.95	0.97	0.95	0.93	0.94	0.92	0.90	0.90	0.89	0.88	0.87	0.86	0.85	0.84
2	0.94	0.91	0.88	0.93	0.90	0.87	0.90	0.87	0.85	0.87	0.85	0.84	0.85	0.83	0.82	0.80
3	0.90	0.86	0.83	0.89	0.85	0.83	0.87	0.84	0.81	0.84	0.82	0.80	0.83	0.81	0.79	0.78
4	0.86	0.82	0.79	0.85	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	0.83	0.79	0.76	0.82	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.78	0.76	0.74	0.73
6	0.80	0.76	0.73	0.80	0.76	0.73	0.78	0.75	0.73	0.77	0.74	0.72	0.76	0.74	0.72	0.71
7	0.78	0.74	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
8	0.75	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.73	0.70	0.68	0.67
9	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.65
10	0.72	0.68	0.65	0.71	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.69	0.67	0.65	0.64



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	10544.40	9531.36	6748.26	3407.99	1371.45	645.81	463.02	377.69	329.24
45.0	10509.72	9880.97	7408.94	4260.81	1737.03	727.30	493.86	396.41	339.70
90.0	10558.17	9407.49	6425.08	3332.01	1080.65	614.43	449.15	369.15	324.23
135.0	10574.68	9867.21	7348.38	4205.21	1683.62	735.55	508.17	394.75	342.45
180.0	10544.40	9690.48	6929.95	3823.67	1090.28	671.85	466.38	374.99	326.59
225.0	10509.72	9239.57	6251.10	3089.77	1080.98	623.35	444.36	364.64	320.98
270.0	10558.17	9847.94	7308.74	4111.06	1680.32	733.35	506.52	396.41	340.80
315.0	10574.68	9485.12	6465.82	3472.41	1098.21	608.04	446.67	367.23	326.43
360.0	10544.40	9531.36	6748.26	3407.99	1371.45	645.81	463.02	377.69	329.24
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	300.61	282.44	268.62	260.42	254.42	247.26	240.49	232.94	224.85
45.0	308.87	286.29	269.17	259.76	253.31	246.54	238.39	231.13	224.46
90.0	298.02	279.08	264.77	256.40	248.85	242.58	235.59	227.93	217.64
135.0	313.27	287.94	272.03	257.17	249.74	243.24	235.48	228.43	220.50
180.0	300.61	281.78	265.92	256.89	250.78	243.07	235.75	229.59	220.72
225.0	293.12	277.43	264.27	256.18	249.30	241.48	234.49	226.72	214.00
270.0	312.17	289.05	278.03	263.17	256.07	249.52	242.47	235.09	226.50
315.0	300.66	281.28	268.57	261.41	253.64	246.98	240.65	233.88	225.62
360.0	300.61	282.44	268.62	260.42	254.42	247.26	240.49	232.94	224.85
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	139.46	20.04	10.24	6.94	5.78	5.34	5.01	4.68	4.40
45.0	145.35	25.71	11.12	6.88	5.73	5.34	4.96	4.62	4.40
90.0	114.85	15.64	9.14	6.22	5.45	5.12	4.73	4.46	4.18
135.0	164.89	39.26	11.29	6.83	5.67	5.18	4.84	4.51	4.24
180.0	149.81	31.93	10.74	6.55	5.51	5.12	4.79	4.46	4.24
225.0	95.69	14.26	9.25	6.28	5.51	5.12	4.73	4.46	4.18
270.0	167.70	30.34	10.41	6.77	5.67	5.12	4.79	4.46	4.18
315.0	128.72	19.71	9.86	6.39	5.62	5.18	4.84	4.51	4.24
360.0	139.46	20.04	10.24	6.94	5.78	5.34	5.01	4.68	4.40
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	4.13	3.91	3.69	3.52	3.36	3.25	3.19	3.08	3.03
45.0	4.13	3.85	3.69	3.52	3.41	3.25	3.19	3.14	3.03
90.0	3.96	3.74	3.58	3.47	3.30	3.19	3.08	3.03	2.97
135.0	4.02	3.80	3.58	3.47	3.36	3.25	3.14	3.08	2.97
180.0	4.02	3.80	3.58	3.47	3.30	3.19	3.14	3.03	2.97
225.0	3.96	3.74	3.52	3.41	3.30	3.19	3.08	3.03	2.97
270.0	3.96	3.74	3.58	3.47	3.30	3.19	3.14	3.03	2.97
315.0	4.02	3.74	3.52	3.41	3.30	3.19	3.08	3.03	2.97
360.0	4.13	3.91	3.69	3.52	3.36	3.25	3.19	3.08	3.03
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	2.97	2.92	2.92	2.86	2.86	2.81	2.81	2.75	2.70
45.0	3.03	2.97	2.92	2.92	2.92	2.86	2.86	2.75	2.75
90.0	2.92	2.92	2.86	2.81	2.81	2.81	2.75	2.75	2.70
135.0	2.92	2.92	2.86	2.81	2.81	2.81	2.75	2.75	2.75
180.0	2.92	2.92	2.86	2.86	2.81	2.81	2.75	2.75	2.75
225.0	2.97	2.92	2.92	2.86	2.86	2.86	2.86	2.81	2.70
270.0	2.97	2.86	2.86	2.86	2.81	2.81	2.75	2.75	2.70
315.0	2.92	2.92	2.86	2.81	2.81	2.75	2.75	2.75	2.70
360.0	2.97	2.92	2.92	2.86	2.86	2.81	2.81	2.75	2.70

Intensity data(cd)

C/ γ (°)	90.0
0.0	2.70
45.0	2.75
90.0	2.70
135.0	2.70
180.0	2.70
225.0	2.70
270.0	2.70
315.0	2.70
360.0	2.70