



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: 3-2033-M	
Luminaire: 92.70.131.00	
Report No: NATA0100	Voltage(V): 34.1000
Test No: GC2018071709	Current(A): 0.3000
LampCAT: BIRDGELUX V9 HD	Power (W): 10.2300
Lamp flux(lm): 1178.0	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): 1056.46
Efficiency(%): 89.68%
Lumens(lm)/Power(W): 104.65
Central intensity(cd): 14961.580
Maximum intensity(cd): 14961.580
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=10.6
 [C90/270]Total=10.6
Field angle(10%Imax): [C0/180]Total=20.2
 [C90/270]Total=20.2
Maximum s/h(1/2): C0_180=0.18 C90_270=0.18
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(%): 90.88%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.387%

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/7/17
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	14961.577	14.318	14.318	1.215%	1.355%
2.0	13330.393	102.030	116.347	8.661%	11.013%
4.0	9960.253	152.377	268.725	12.935%	25.436%
6.0	6144.157	140.852	409.576	11.957%	38.769%
8.0	3157.416	96.372	505.949	8.181%	47.891%
10.0	1522.433	57.979	563.928	4.922%	53.379%
12.0	830.670	37.877	601.805	3.215%	56.964%
14.0	617.045	32.738	634.543	2.779%	60.063%
16.0	534.405	32.305	666.849	2.742%	63.121%
18.0	491.798	33.330	700.178	2.829%	66.276%
20.0	452.687	33.956	734.134	2.883%	69.490%
22.0	419.282	34.447	768.581	2.924%	72.751%
24.0	397.445	35.453	804.034	3.010%	76.107%
26.0	381.458	36.674	840.708	3.113%	79.578%
28.0	369.360	38.030	878.738	3.228%	83.178%
30.0	358.823	39.347	918.085	3.340%	86.902%
32.0	347.186	40.349	958.434	3.425%	90.722%
34.0	313.037	38.390	996.825	3.259%	94.355%
36.0	197.852	25.505	1022.33	2.165%	96.770%
38.0	63.439	8.566	1030.895	.727%	97.580%
40.0	14.129	1.992	1032.887	.169%	97.769%
42.0	9.119	1.338	1034.225	.114%	97.896%
44.0	7.212	1.099	1035.324	.093%	98.000%
46.0	6.029	0.951	1036.275	.081%	98.090%
48.0	5.636	0.919	1037.194	.078%	98.177%
50.0	5.402	0.908	1038.101	.077%	98.263%
52.0	5.251	0.907	1039.009	.077%	98.348%
54.0	5.100	0.905	1039.914	.077%	98.434%
56.0	4.976	0.905	1040.818	.077%	98.520%
58.0	4.886	0.909	1041.727	.077%	98.606%
60.0	4.811	0.914	1042.641	.078%	98.692%
62.0	4.735	0.917	1043.558	.078%	98.779%
64.0	4.687	0.924	1044.482	.078%	98.866%
66.0	4.632	0.928	1045.41	.079%	98.954%
68.0	4.618	0.939	1046.349	.080%	99.043%
70.0	4.570	0.942	1047.29	.080%	99.132%
72.0	4.549	0.949	1048.239	.081%	99.222%
74.0	4.522	0.953	1049.192	.081%	99.312%

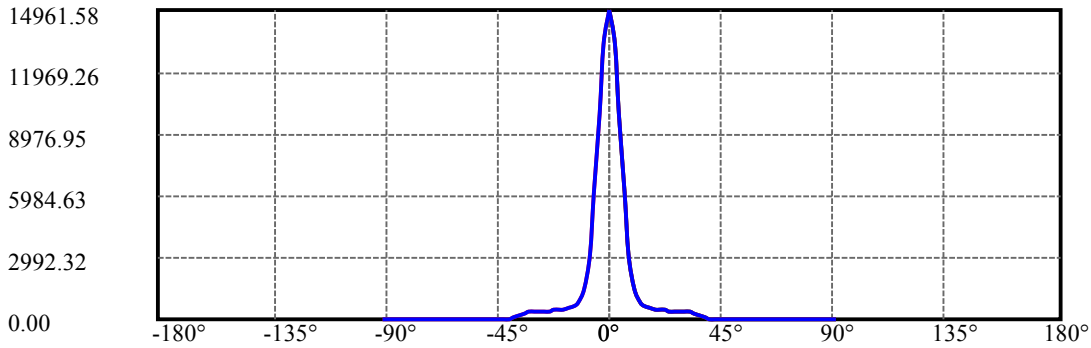
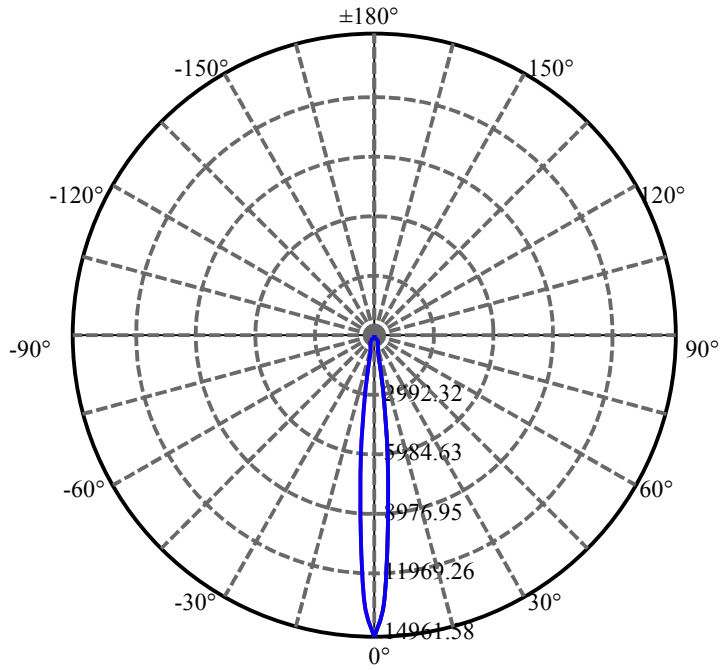
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.508	0.959	1050.152	.081%	99.403%
78.0	4.501	0.966	1051.117	.082%	99.495%
80.0	4.480	0.968	1052.085	.082%	99.586%
82.0	4.473	0.972	1053.056	.082%	99.678%
84.0	4.453	0.971	1054.027	.082%	99.770%
86.0	4.453	0.974	1055.002	.083%	99.862%
88.0	4.425	0.970	1055.972	.082%	99.954%
90.0	4.425	0.485	1056.457	.041%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	918.09	77.94%	86.90%
0-40	1032.89	87.68%	97.77%
0-60	1042.64	88.51%	98.69%
0-90	1055.97	89.64%	99.95%
0-120	1055.97	89.64%	99.95%
0-180	1056.46	89.68%	100.00%
60-90	14.24	1.21%	1.35%
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%
0-26.23	845.17	71.75%	80.00%

ZONAL LUMEN SUMMARY

0-10	563.93
10-20	170.21
20-30	183.95
30-40	114.80
40-50	5.21
50-60	4.54
60-70	4.65
70-80	4.79
80-90	3.89
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



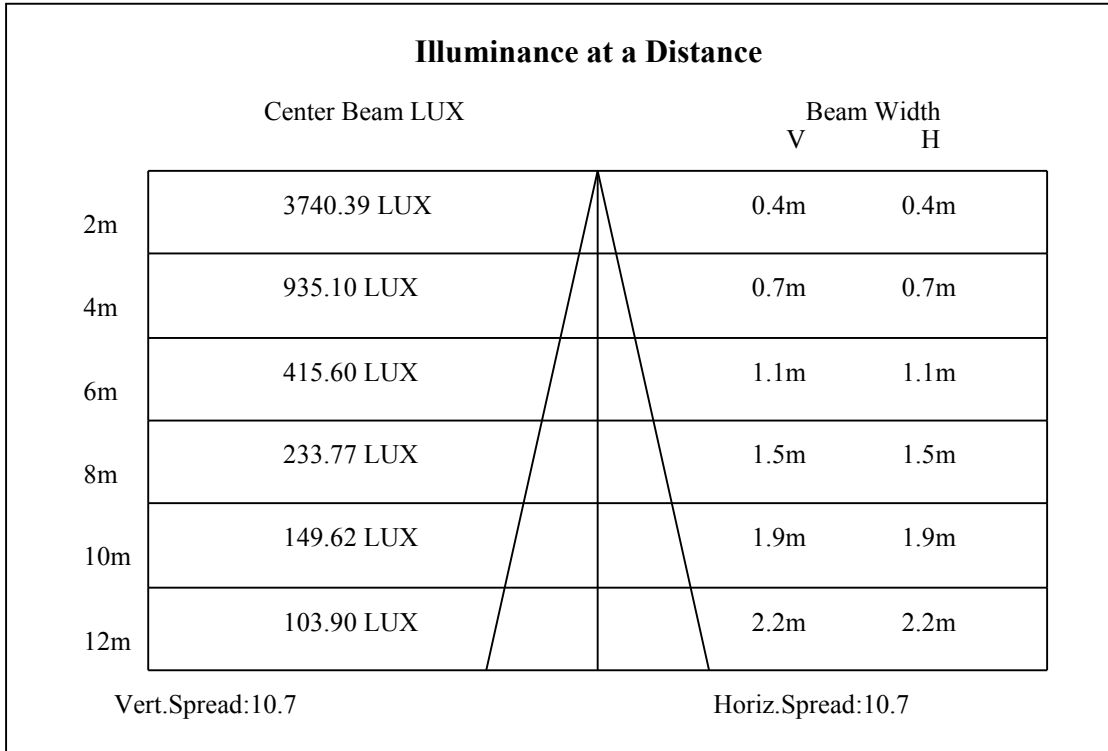
C0(Max): —————

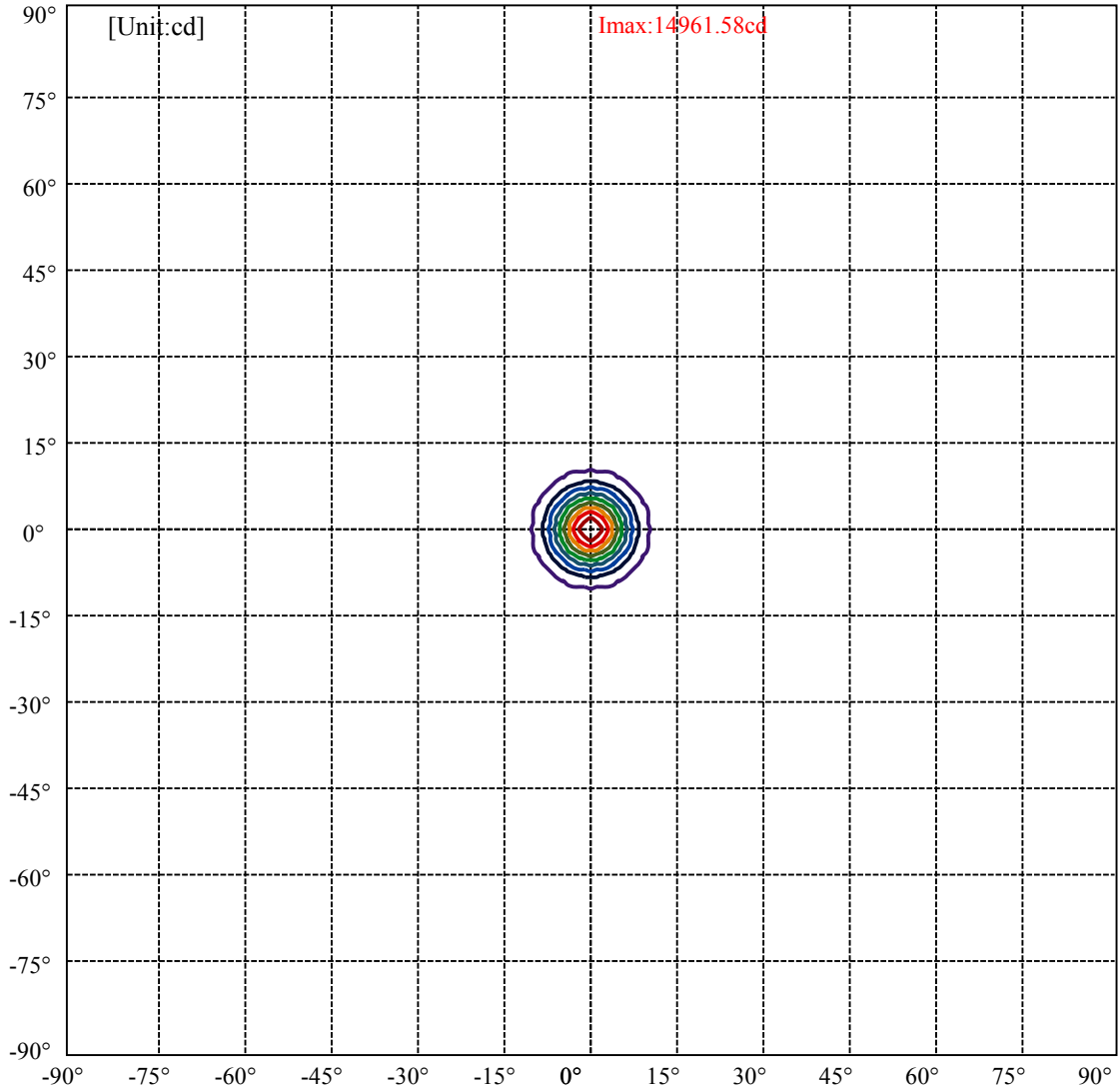
C0/C180: —————

C90/C270: —————

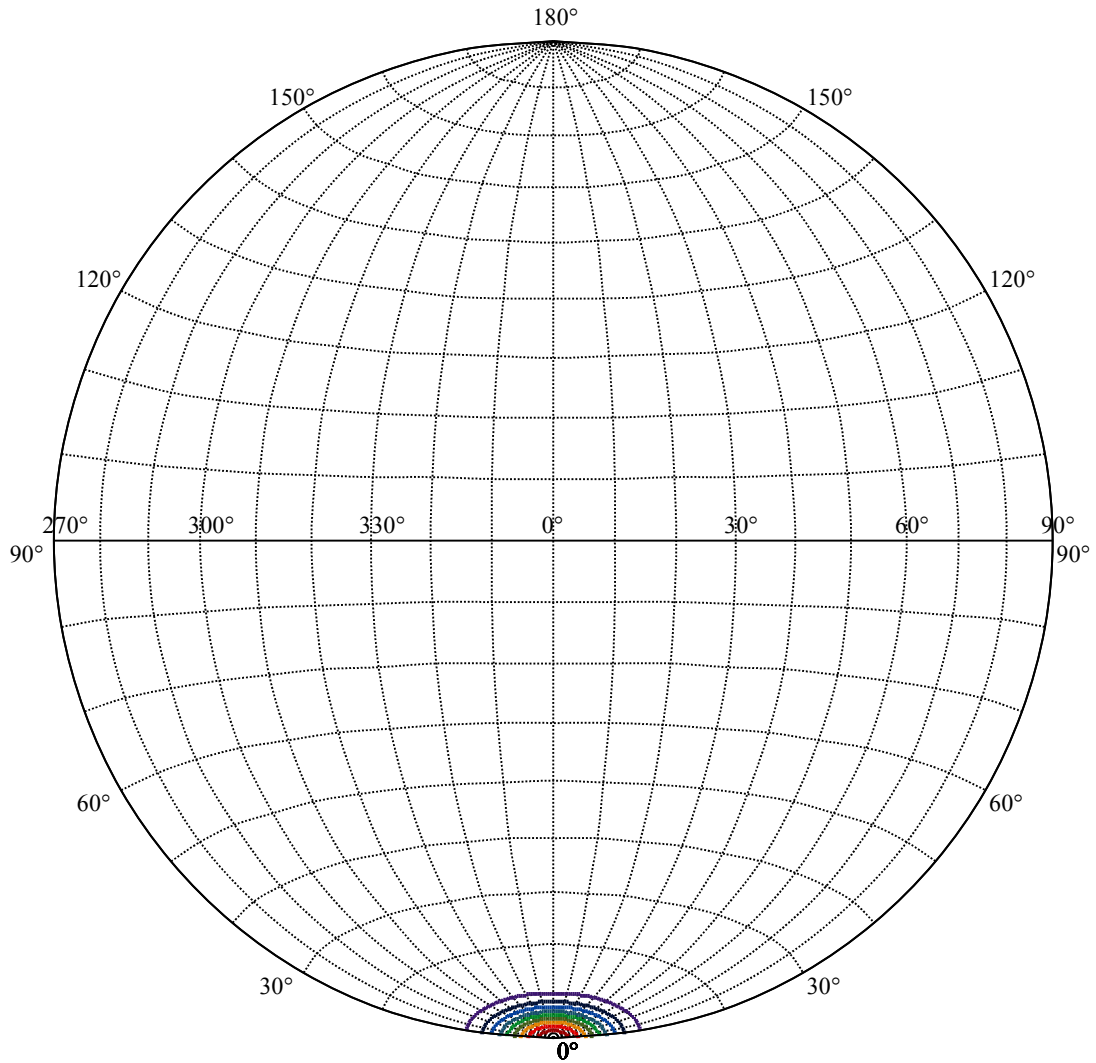
Field angle(10%Imax):C0/180Left:10.1 Right:10.1
:C90/270Left:10.1 Right:10.1

Beam Angle(50%Imax):C0/180Left:5.3 Right:5.3
:C90/270Left:5.3 Right:5.3





(10%Imax) 1496.16	—
(20%Imax) 2992.32	—
(30%Imax) 4488.47	—
(40%Imax) 5984.63	—
(50%Imax) 7480.79	—
(60%Imax) 8976.95	—
(70%Imax) 10473.1	—
(80%Imax) 11969.3	—
(90%Imax) 13465.4	—



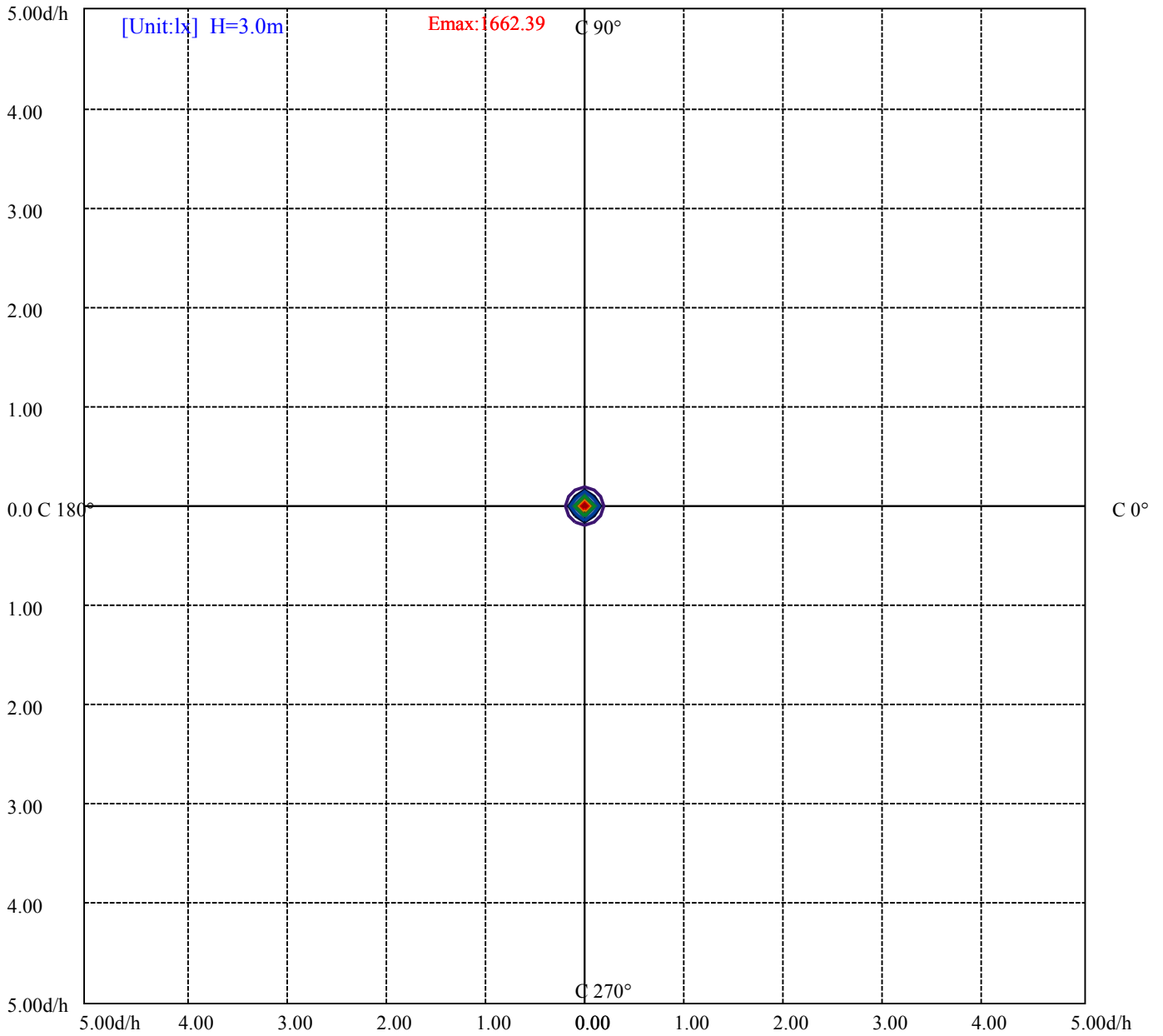
House

[Unit:cd]

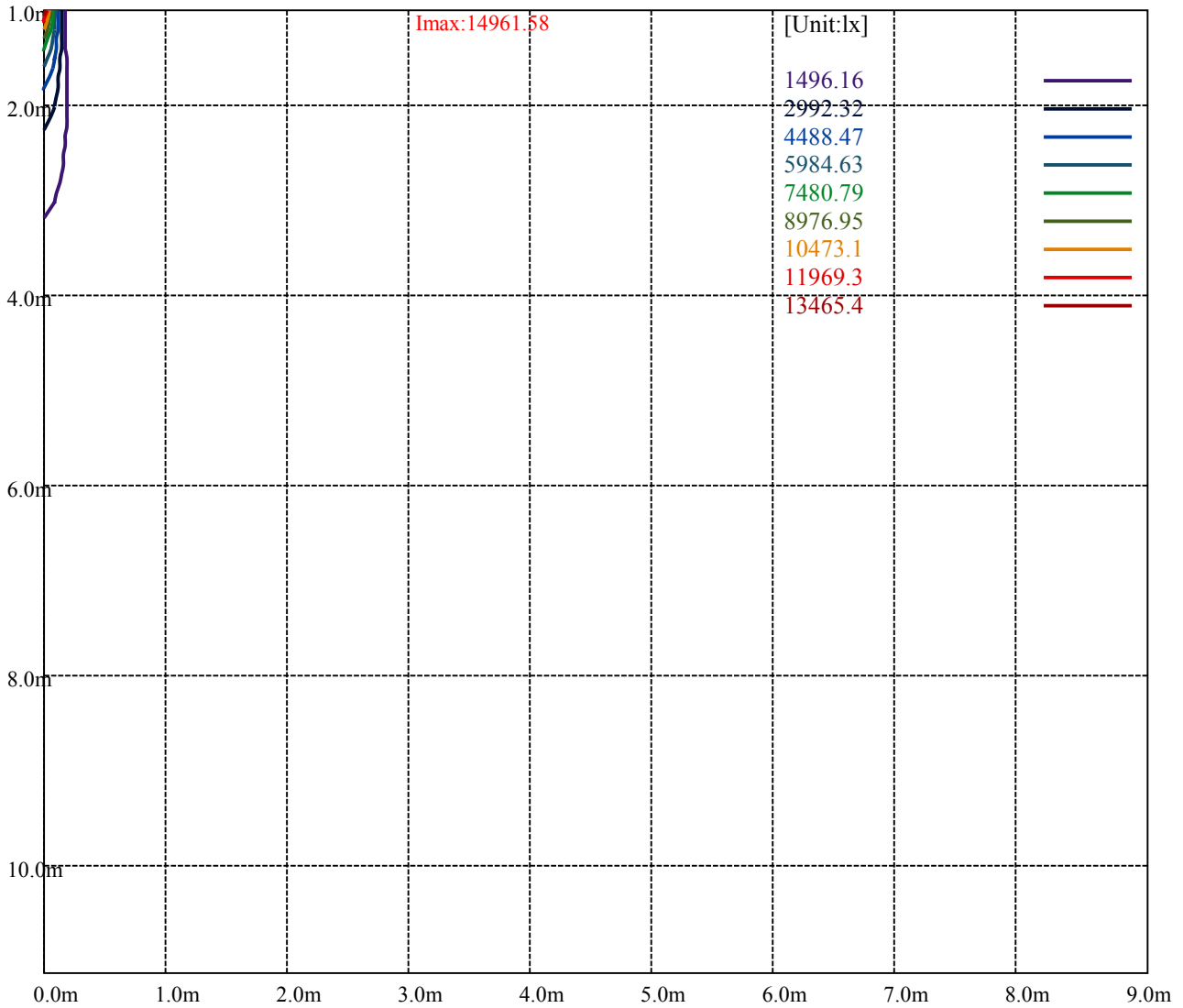
Road

Imax:14961.58

(10%Imax) 1496.16	—
(20%Imax) 2992.32	—
(30%Imax) 4488.47	—
(40%Imax) 5984.63	—
(50%Imax) 7480.79	—
(60%Imax) 8976.95	—
(70%Imax) 10473.1	—
(80%Imax) 11969.3	—
(90%Imax) 13465.4	—



- (10%Emax) 166.2389
- (20%Emax) 332.4767
- (30%Emax) 498.7155
- (40%Emax) 664.9534
- (50%Emax) 831.1922
- (60%Emax) 997.43
- (70%Emax) 1163.667
- (80%Emax) 1329.911
- (90%Emax) 1496.144



Luminance Table

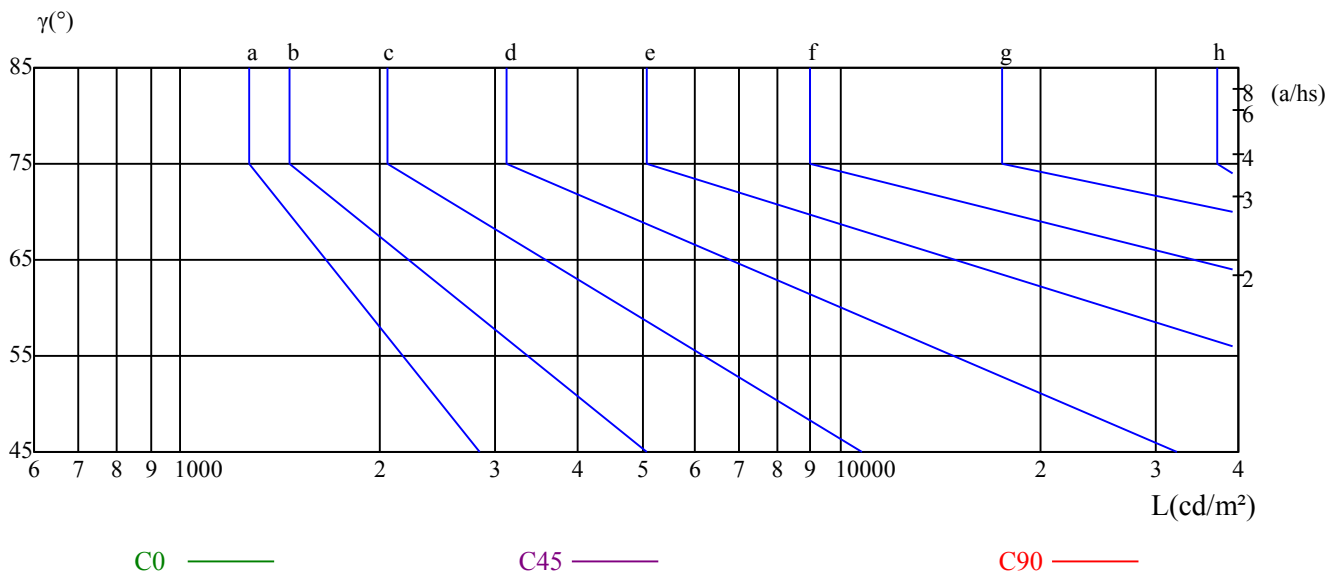
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

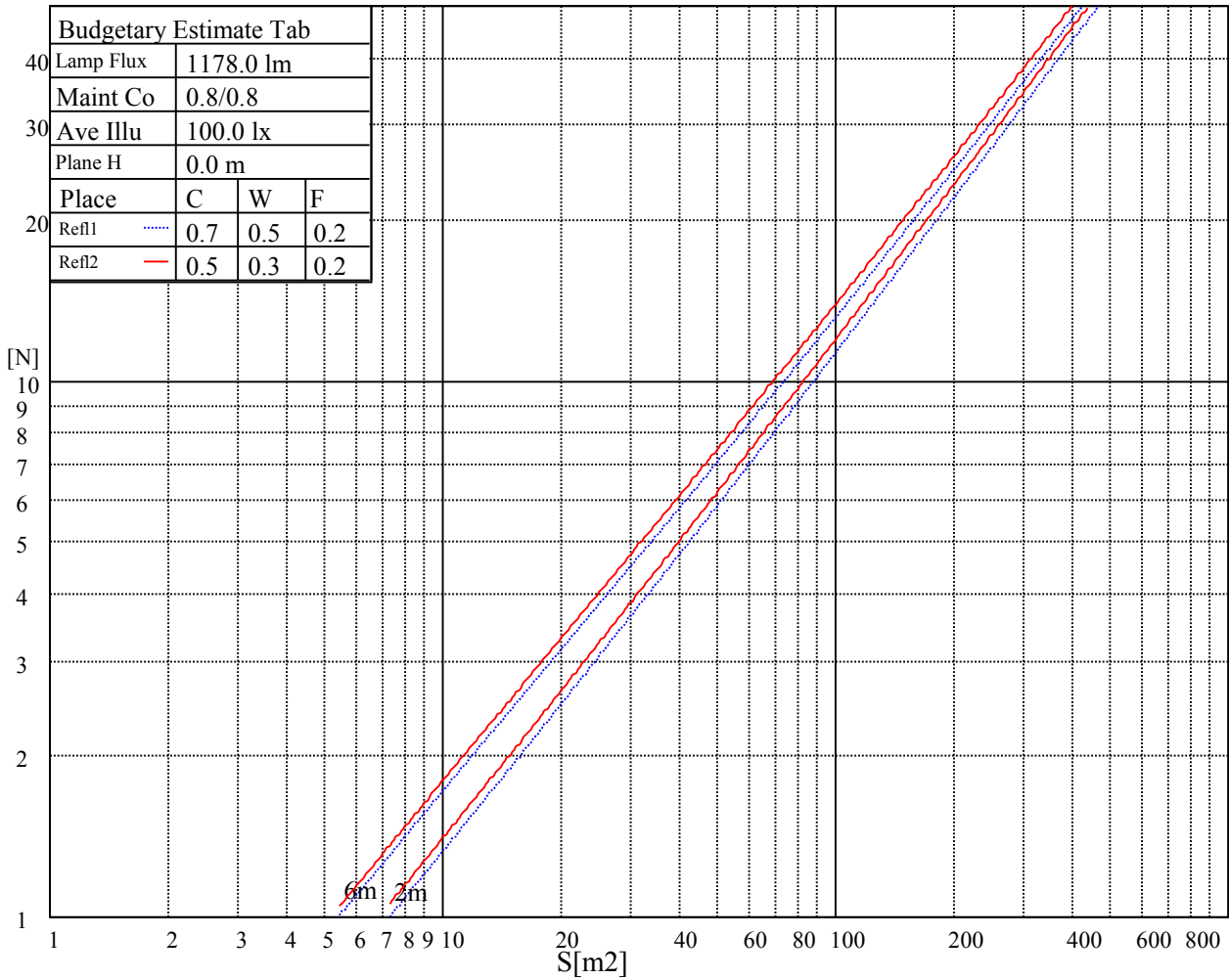
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

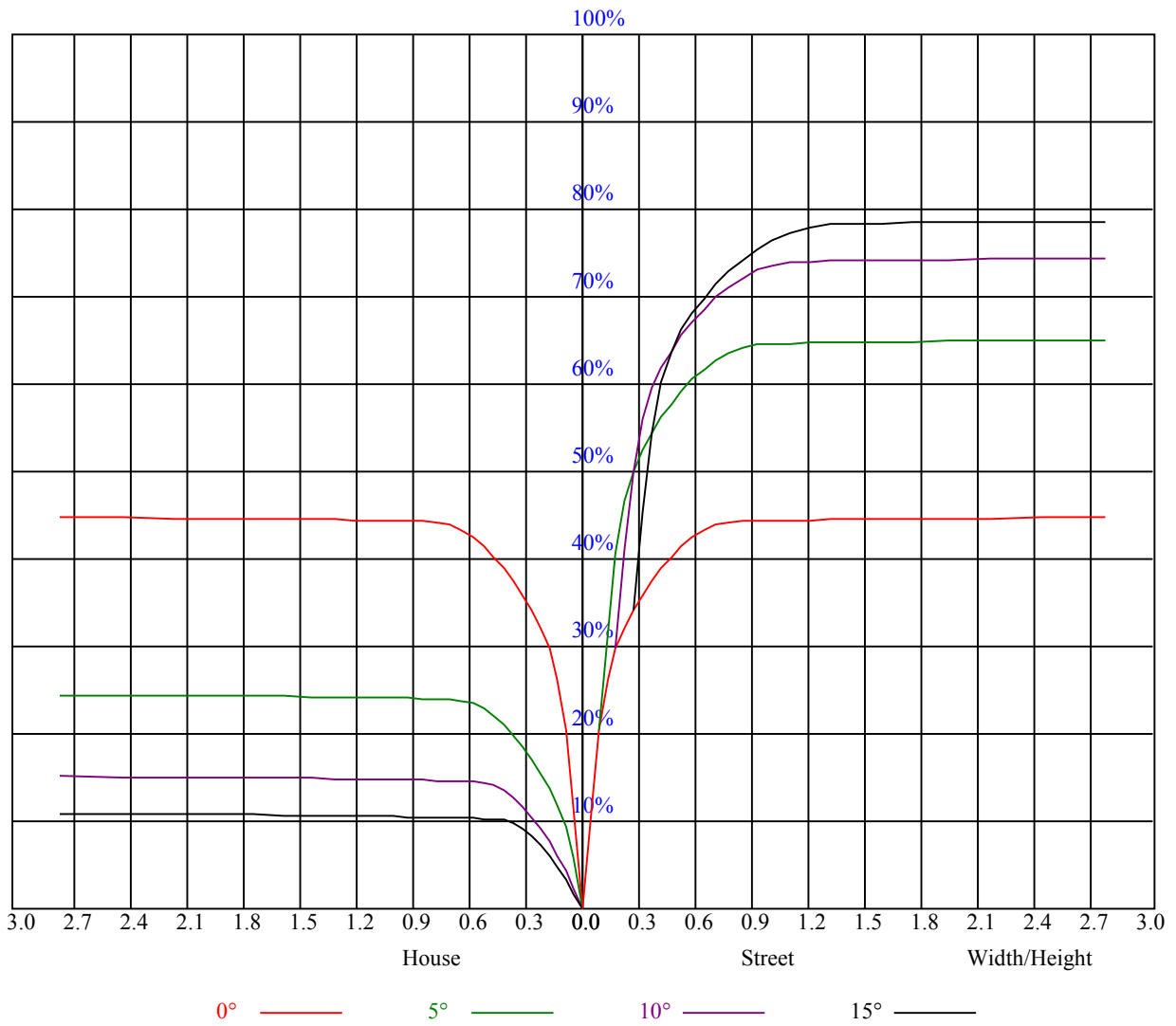
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.08	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	0.89	0.89	0.88	0.87	0.85
2	0.96	0.93	0.90	0.94	0.92	0.89	0.92	0.89	0.87	0.89	0.87	0.85	0.86	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	0.79
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	0.77	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	0.76	0.73	0.78	0.75	0.73	0.77	0.74	0.72	0.76	0.74	0.72	0.71
8	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.71	0.75	0.73	0.70	0.75	0.72	0.70	0.69
9	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.69	0.74	0.71	0.69	0.73	0.70	0.69	0.68
10	0.74	0.70	0.68	0.73	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.72	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	14562.42	15146.02	12470.27	8407.11	4762.38	3044.62	1016.89	688.76	574.79
45.0	15002.87	15101.97	12134.43	8065.76	4476.09	2277.68	973.40	654.07	547.26
90.0	15184.56	14006.35	10241.59	6101.90	3142.07	1087.14	799.03	606.94	530.03
135.0	15096.46	13323.65	9678.92	5951.60	3006.08	1367.60	843.46	618.28	524.14
180.0	14562.42	10946.31	7454.09	4105.56	1871.92	975.60	694.87	552.60	494.35
225.0	15002.87	10882.45	8010.71	4308.16	1994.69	1069.58	708.85	579.08	516.92
270.0	15184.56	13373.20	9590.82	5797.44	2901.47	1280.06	808.23	621.04	543.41
315.0	15096.46	13863.20	10101.20	6415.72	3104.63	1077.18	800.63	615.59	544.34
360.0	14562.42	15146.02	12470.27	8407.11	4762.38	3044.62	1016.89	688.76	574.79

C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	531.29	486.70	442.10	408.52	391.45	376.04	366.13	352.91	341.35
45.0	504.87	463.57	427.24	399.16	384.84	371.08	359.52	347.41	336.95
90.0	485.82	447.77	411.60	389.52	372.51	361.28	352.69	341.29	312.06
135.0	482.29	444.31	415.68	395.30	379.34	367.23	357.32	346.30	316.02
180.0	456.69	426.19	401.03	389.25	372.35	362.16	351.43	340.41	277.48
225.0	473.98	440.23	411.33	394.26	380.27	369.54	358.25	348.01	287.94
270.0	498.81	456.42	423.38	402.46	385.95	375.48	365.02	354.01	311.07
315.0	500.63	456.31	421.90	401.09	384.95	372.07	360.23	347.13	321.42
360.0	531.29	486.70	442.10	408.52	391.45	376.04	366.13	352.91	341.35

C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	290.15	145.84	36.06	11.40	9.30	7.10	5.95	5.67	5.45
45.0	278.03	103.34	14.87	9.91	7.93	6.44	5.84	5.56	5.40
90.0	188.95	57.97	9.86	8.31	6.66	5.78	5.56	5.34	5.18
135.0	192.59	50.32	9.91	8.31	6.61	5.78	5.56	5.34	5.23
180.0	139.29	23.89	9.69	7.98	6.33	5.62	5.45	5.23	5.12
225.0	128.39	25.66	10.08	8.15	6.39	5.73	5.45	5.29	5.12
270.0	165.44	35.79	10.85	8.75	6.88	5.84	5.56	5.34	5.23
315.0	199.96	64.69	11.73	10.13	7.60	5.95	5.73	5.45	5.29
360.0	290.15	145.84	36.06	11.40	9.30	7.10	5.95	5.67	5.45

C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	5.29	5.12	5.01	4.90	4.79	4.73	4.68	4.62	4.57
45.0	5.23	5.07	5.01	4.90	4.79	4.73	4.68	4.68	4.62
90.0	5.07	4.96	4.84	4.79	4.73	4.68	4.62	4.62	4.57
135.0	5.07	4.96	4.84	4.79	4.73	4.68	4.62	4.62	4.57
180.0	4.96	4.90	4.79	4.73	4.68	4.62	4.57	4.57	4.51
225.0	5.01	4.90	4.84	4.79	4.73	4.68	4.62	4.62	4.57
270.0	5.07	4.96	4.90	4.79	4.73	4.68	4.62	4.62	4.57
315.0	5.12	4.96	4.84	4.79	4.68	4.68	4.62	4.57	4.57
360.0	5.29	5.12	5.01	4.90	4.79	4.73	4.68	4.62	4.57

C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	4.57	4.51	4.51	4.51	4.46	4.46	4.40	4.46	4.40
45.0	4.57	4.57	4.57	4.57	4.51	4.57	4.51	4.46	4.46
90.0	4.51	4.51	4.51	4.51	4.46	4.46	4.46	4.46	4.40
135.0	4.57	4.51	4.51	4.51	4.46	4.46	4.46	4.46	4.46
180.0	4.51	4.51	4.46	4.46	4.46	4.40	4.40	4.40	4.40
225.0	4.57	4.51	4.51	4.51	4.51	4.51	4.51	4.46	4.40
270.0	4.57	4.57	4.51	4.46	4.51	4.46	4.46	4.46	4.46
315.0	4.51	4.46	4.46	4.46	4.46	4.46	4.40	4.46	4.40
360.0	4.57	4.51	4.51	4.51	4.46	4.46	4.40	4.46	4.40

Intensity data(cd)

C/γ(°)	90.0
0.0	4.40
45.0	4.46
90.0	4.40
135.0	4.40
180.0	4.40
225.0	4.46
270.0	4.46
315.0	4.40
360.0	4.40