NATA LIGHTING CO.,LTD.
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Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: NA01D0201530CA
Luminaire:
Report No: 200402-B003
Test No: 200402-C003
LampCAT: BRIDGELUX 3030
Lamp flux(lm): 110.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 6.6200
Current(A): 0.1510
Power (W): 0.9970
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 102.46
Efficiency(%): 93.15%
Lumens(lm)/Power(W): 102.77
Central intensity(cd): 174.994
Maximum intensity(cd): 346.500
Angle of maximum intensity: C=0.0 γ=9.0
Beam Angle(50%Imax): [C0/180]Total=18.6
[C90/270]Total=31.5
Field angle(10%Imax): [C0/180]Total=41.7
[C90/270]Total=61.2
Maximum s/h(1/2): C0_180=0.18 C90_270=0.51
Maximum s/h(1/4): C0_180=0.24 C90_270=0.53
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 93.15%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 92.685%

Nata NA01D0201530CA

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	179.339	0.000	0	.000%	.000%
1.0	179.705	0.172	0.172	.156%	.168%
2.0	180.225	0.517	0.688	.470%	.672%
3.0	179.958	0.861	1.55	.783%	1.513%
4.0	180.408	1.206	2.756	1.097%	2.690%
5.0	180.956	1.555	4.311	1.413%	4.207%
6.0	180.520	1.900	6.21	1.727%	6.061%
7.0	179.726	2.236	8.446	2.033%	8.243%
8.0	178.284	2.562	11.009	2.329%	10.744%
9.0	175.648	2.868	13.877	2.608%	13.543%
10.0	171.464	3.141	17.018	2.856%	16.609%
11.0	166.366	3.376	20.394	3.069%	19.903%
12.0	160.207	3.570	23.964	3.245%	23.387%
13.0	152.213	3.708	27.671	3.371%	27.006%
14.0	143.522	3.785	31.457	3.441%	30.700%
15.0	134.726	3.820	35.277	3.473%	34.428%
16.0	125.079	3.807	39.084	3.461%	38.144%
17.0	114.258	3.727	42.811	3.388%	41.781%
18.0	104.716	3.610	46.421	3.282%	45.305%
19.0	95.041	3.475	49.896	3.159%	48.696%
20.0	85.732	3.309	53.205	3.008%	51.925%
21.0	77.105	3.127	56.332	2.843%	54.977%
22.0	69.061	2.937	59.269	2.670%	57.844%
23.0	61.819	2.746	62.015	2.497%	60.524%
24.0	55.252	2.560	64.575	2.327%	63.022%
25.0	49.085	2.372	66.947	2.157%	65.337%
26.0	43.868	2.194	69.142	1.995%	67.479%
27.0	39.150	2.031	71.173	1.846%	69.461%
28.0	34.390	1.862	73.034	1.693%	71.278%
29.0	30.755	1.704	74.739	1.549%	72.941%
30.0	27.422	1.571	76.31	1.428%	74.474%
31.0	24.342	1.441	77.75	1.310%	75.880%
32.0	21.586	1.316	79.066	1.196%	77.164%
33.0	19.484	1.210	80.276	1.100%	78.345%
34.0	17.466	1.118	81.394	1.017%	79.436%
35.0	15.546	1.025	82.419	.932%	80.437%
36.0	14.105	0.944	83.363	.858%	81.358%
37.0	12.804	0.878	84.241	.798%	82.215%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	11.588	0.814	85.055	.740%	83.009%
39.0	10.498	0.754	85.809	.685%	83.745%
40.0	9.591	0.701	86.509	.637%	84.429%
41.0	8.817	0.655	87.165	.596%	85.068%
42.0	8.093	0.614	87.779	.559%	85.668%
43.0	7.460	0.576	88.355	.524%	86.230%
44.0	6.919	0.543	88.898	.493%	86.760%
45.0	6.434	0.513	89.411	.466%	87.261%
46.0	5.984	0.486	89.897	.441%	87.735%
47.0	5.604	0.461	90.358	.419%	88.185%
48.0	5.280	0.440	90.798	.400%	88.614%
49.0	4.964	0.421	91.219	.382%	89.025%
50.0	4.669	0.402	91.62	.365%	89.416%
51.0	4.409	0.384	92.004	.349%	89.791%
52.0	4.184	0.369	92.373	.335%	90.151%
53.0	3.973	0.355	92.728	.323%	90.497%
54.0	3.818	0.343	93.071	.312%	90.833%
55.0	3.670	0.334	93.405	.304%	91.159%
56.0	3.523	0.325	93.73	.295%	91.476%
57.0	3.410	0.317	94.047	.288%	91.785%
58.0	3.319	0.311	94.358	.283%	92.089%
59.0	3.248	0.307	94.666	.279%	92.389%
60.0	3.171	0.303	94.969	.276%	92.685%
61.0	3.115	0.300	95.269	.273%	92.977%
62.0	3.052	0.297	95.566	.270%	93.267%
63.0	3.016	0.295	95.861	.268%	93.555%
64.0	2.960	0.293	96.154	.267%	93.842%
65.0	2.876	0.289	96.443	.263%	94.123%
66.0	2.820	0.284	96.727	.258%	94.401%
67.0	2.770	0.281	97.008	.256%	94.675%
68.0	2.749	0.280	97.288	.254%	94.948%
69.0	2.784	0.282	97.57	.257%	95.223%
70.0	2.756	0.285	97.855	.259%	95.501%
71.0	2.693	0.282	98.136	.256%	95.776%
72.0	2.651	0.278	98.414	.253%	96.047%
73.0	2.616	0.275	98.69	.250%	96.316%
74.0	2.609	0.275	98.964	.250%	96.584%
75.0	2.573	0.274	99.238	.249%	96.851%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	2.559	0.272	99.511	.248%	97.117%
77.0	2.545	0.272	99.783	.247%	97.383%
78.0	2.510	0.271	100.053	.246%	97.647%
79.0	2.496	0.269	100.322	.245%	97.909%
80.0	2.447	0.266	100.589	.242%	98.170%
81.0	2.412	0.263	100.852	.239%	98.426%
82.0	2.348	0.258	101.11	.235%	98.678%
83.0	2.278	0.252	101.361	.229%	98.923%
84.0	2.145	0.241	101.602	.219%	99.158%
85.0	1.976	0.225	101.827	.204%	99.378%
86.0	1.659	0.199	102.026	.181%	99.572%
87.0	1.146	0.154	102.179	.140%	99.722%
88.0	0.921	0.113	102.293	.103%	99.832%
89.0	0.788	0.094	102.386	.085%	99.924%
90.0	0.640	0.078	102.464	.071%	100.000%

Zonal flux distribution table

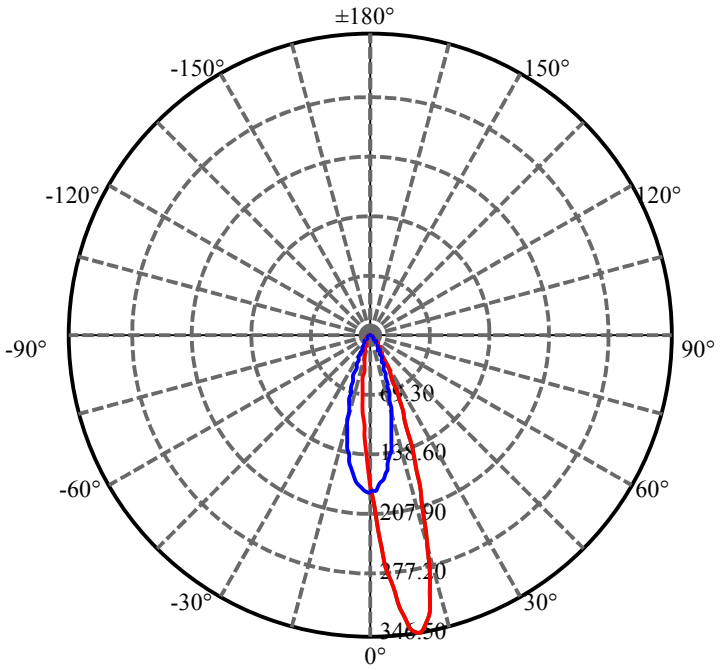
ZONAL LUMEN SUMMARY

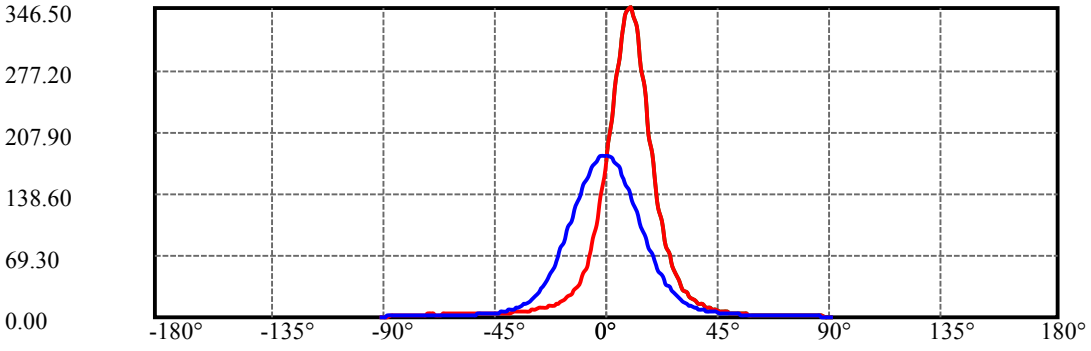
Zone	Lumens	%Lamp	%Fixt
0-30	76.31	69.37%	74.47%
0-40	86.51	78.64%	84.43%
0-60	94.97	86.34%	92.68%
0-90	102.39	93.08%	99.92%
0-120	102.39	93.08%	99.92%
0-180	102.46	93.15%	100.00%
60-90	7.72	7.02%	7.53%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-34.56	81.97	74.52%	80.00%

ZONAL LUMEN SUMMARY

0-10	17.02
10-20	36.19
20-30	23.10
30-40	10.20
40-50	5.11
50-60	3.35
60-70	2.89
70-80	2.73
80-90	1.80
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

Light Distribution Curve [Unit:cd]





C0(Max):

C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:20.6 Right:21.1

:C90/270Left:29.7 Right:31.5

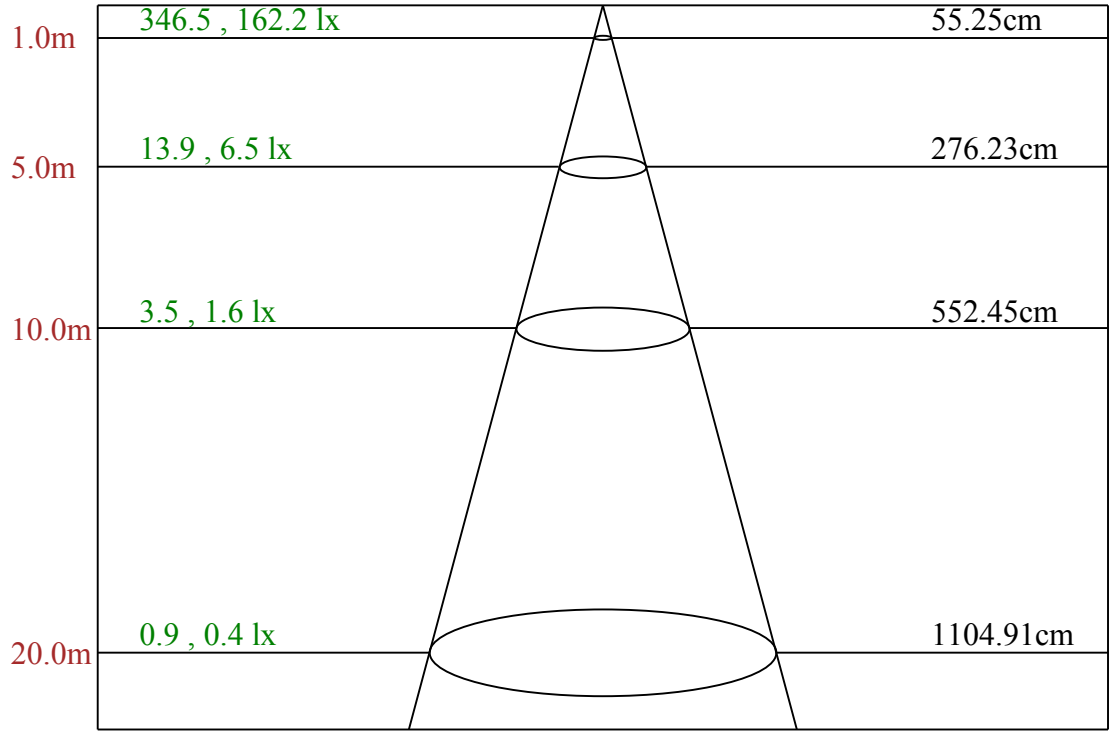
Beam Angle(50%Imax):C0/180Left:9.1 Right:9.5

:C90/270Left:15.2 Right:16.4

Equipment: GMS1980 Date: 2020/4/2 Operator: NT07

Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

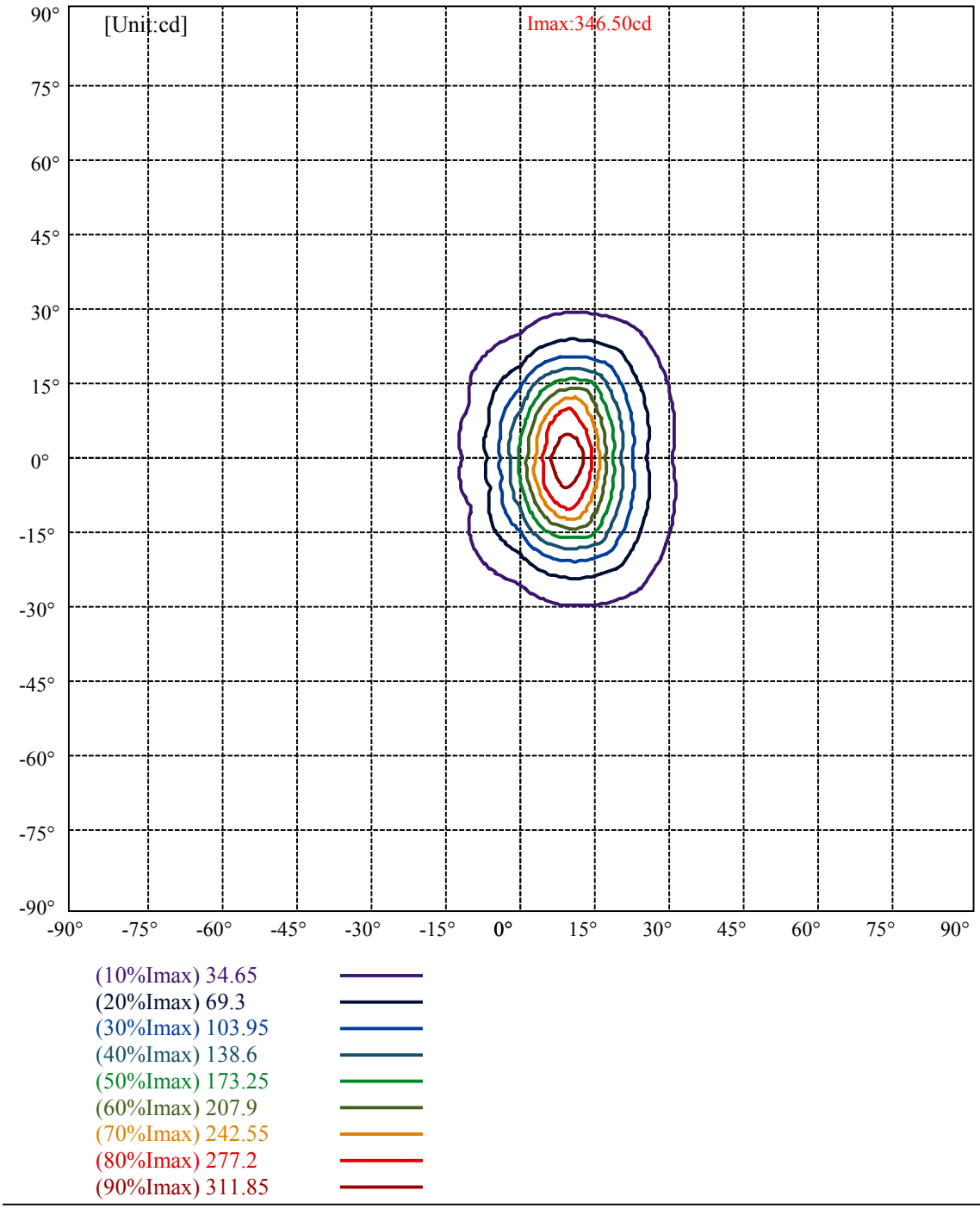
Lux distance Curve



Max , Ave

Beam angle of C0 plane 30.07

ISO-Intensity(V-H)

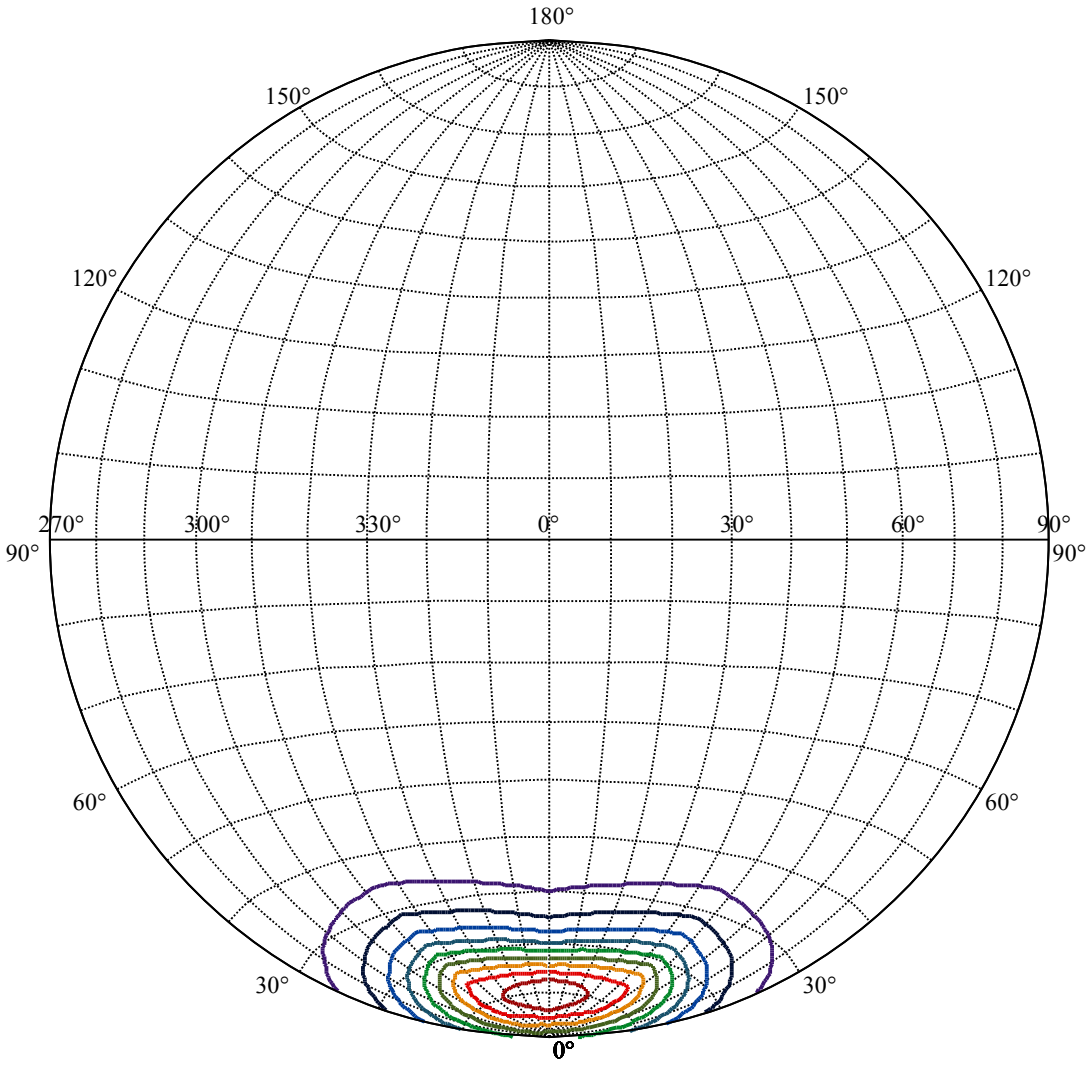


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/4/2
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



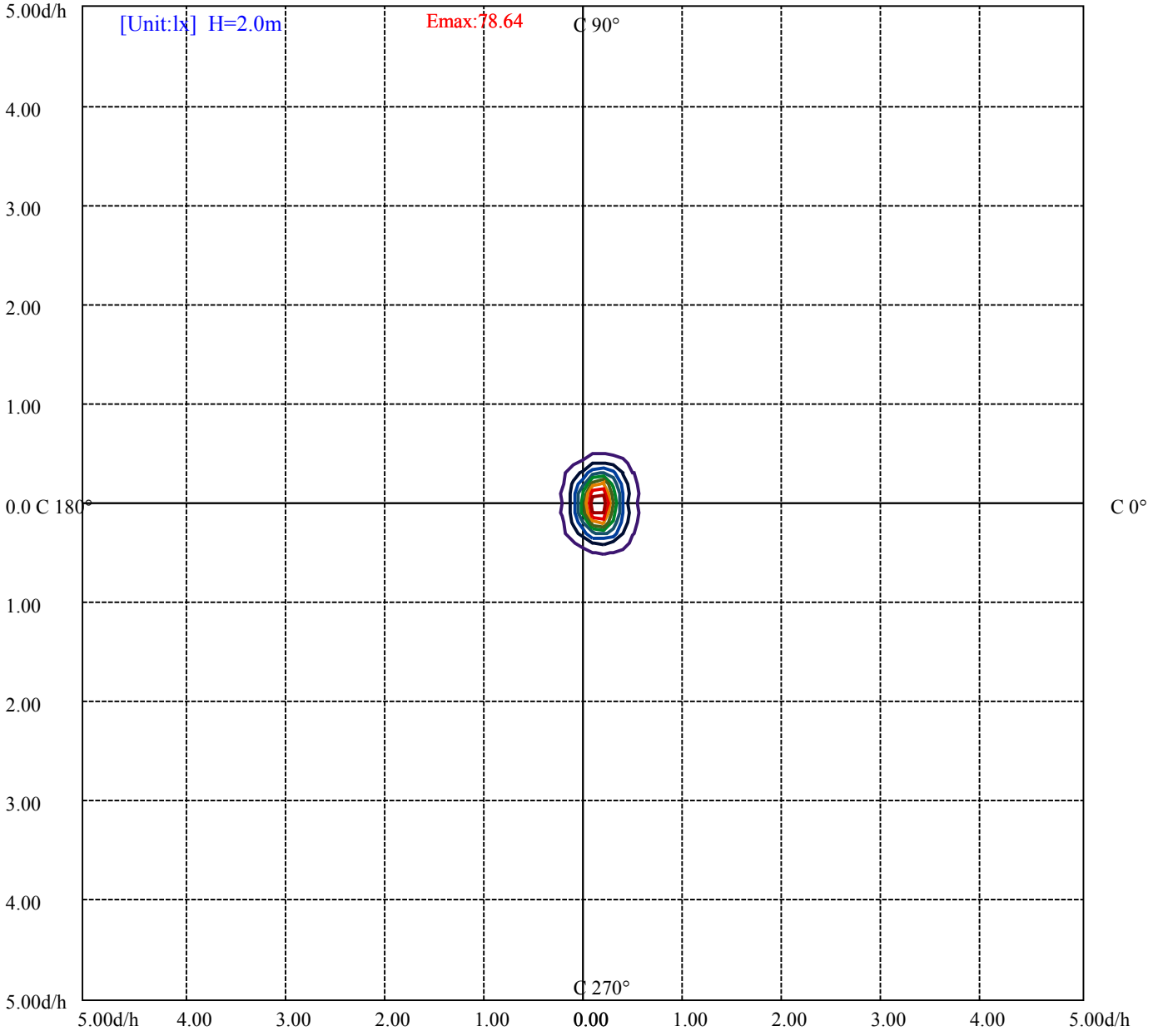
House [Unit:cd] Road

Imax:346.50

(10%Imax) 34.65
(20%Imax) 69.3
(30%Imax) 103.95
(40%Imax) 138.6
(50%Imax) 173.25
(60%Imax) 207.9
(70%Imax) 242.55
(80%Imax) 277.2
(90%Imax) 311.85

Equipment: GMS1980 Date: 2020/4/2 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

ISO illuminance diagram

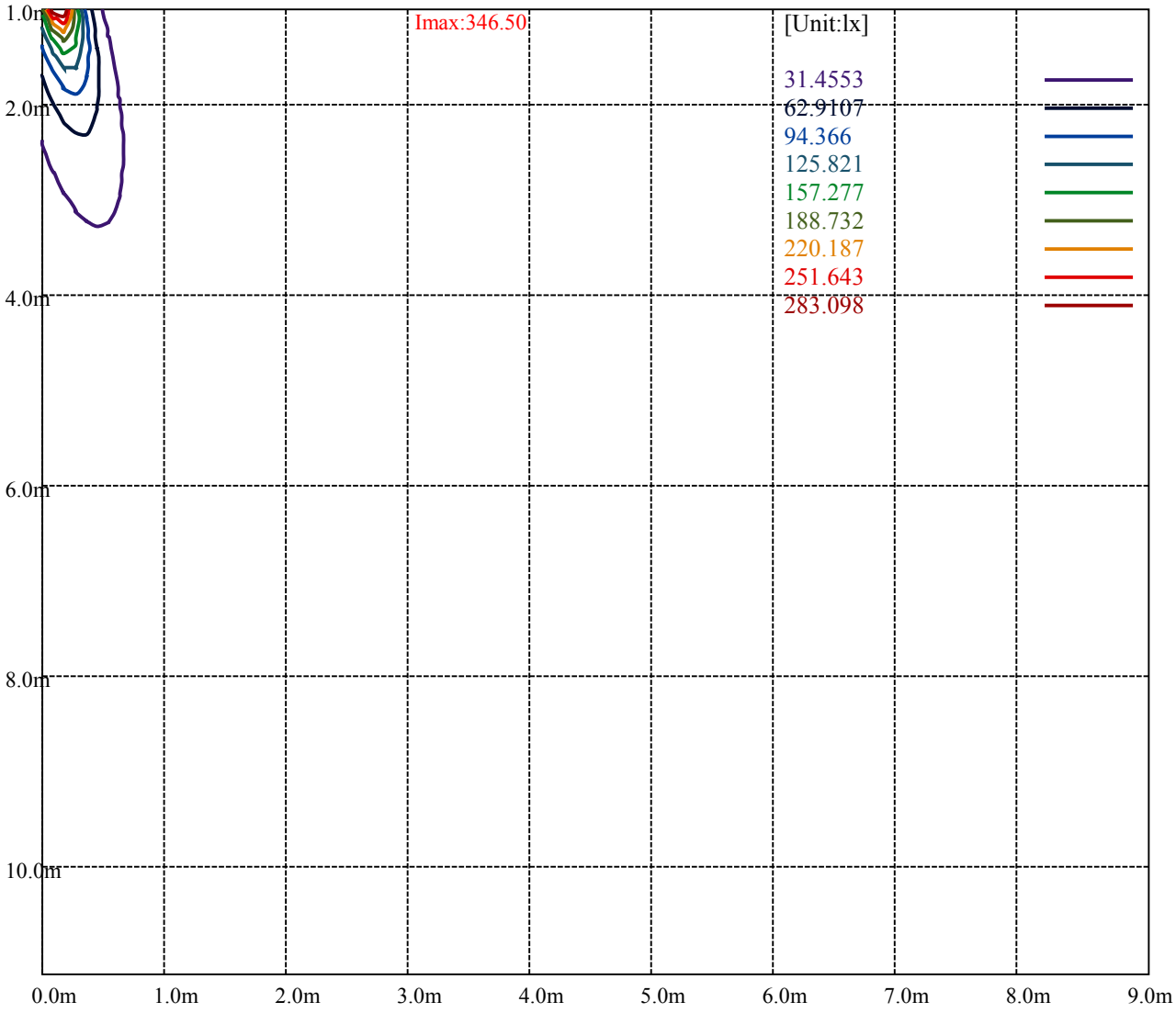


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/4/2
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/4/2
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Nata NA01D0201530CA

Luminance Limitting Curve(no luminous side)

Luminance Table

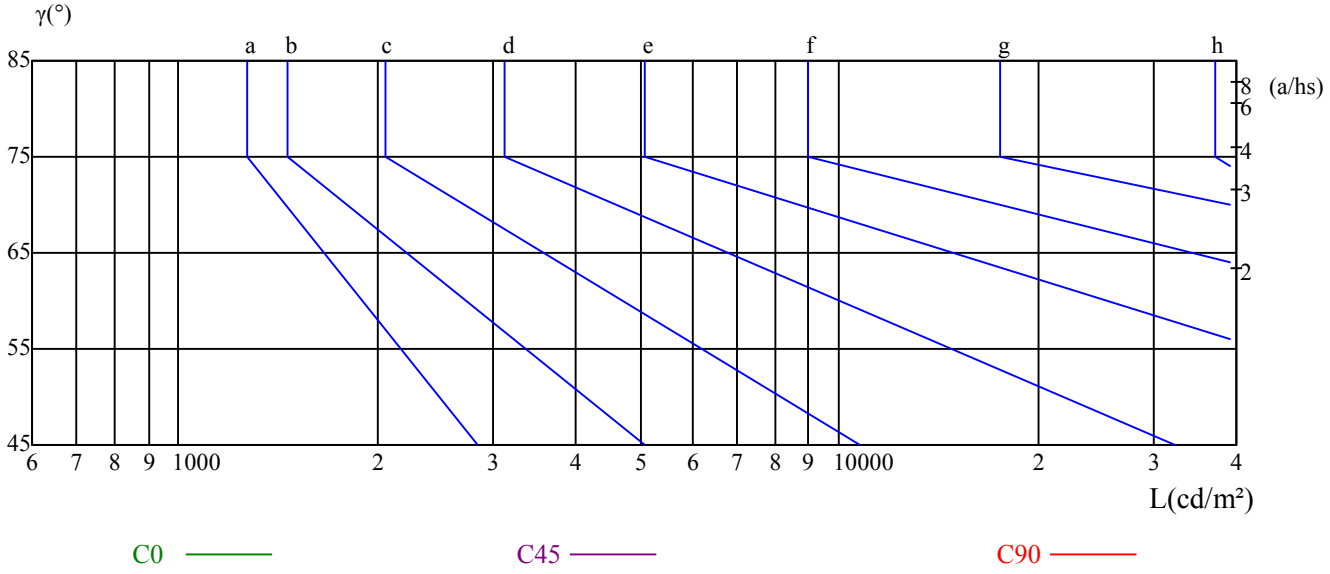
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

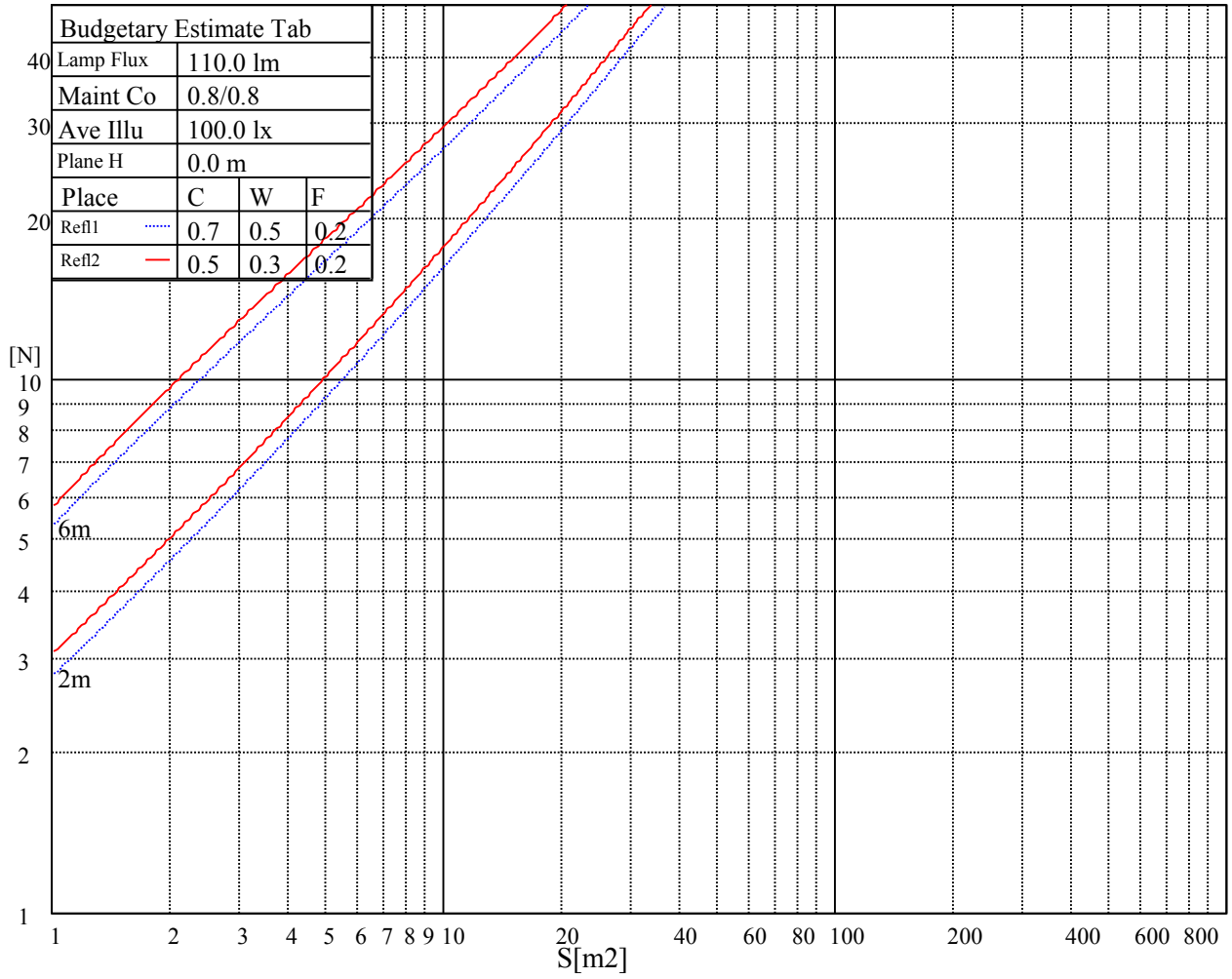
Glare Table

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 Limitting Curve



Budgetary Estimate Table

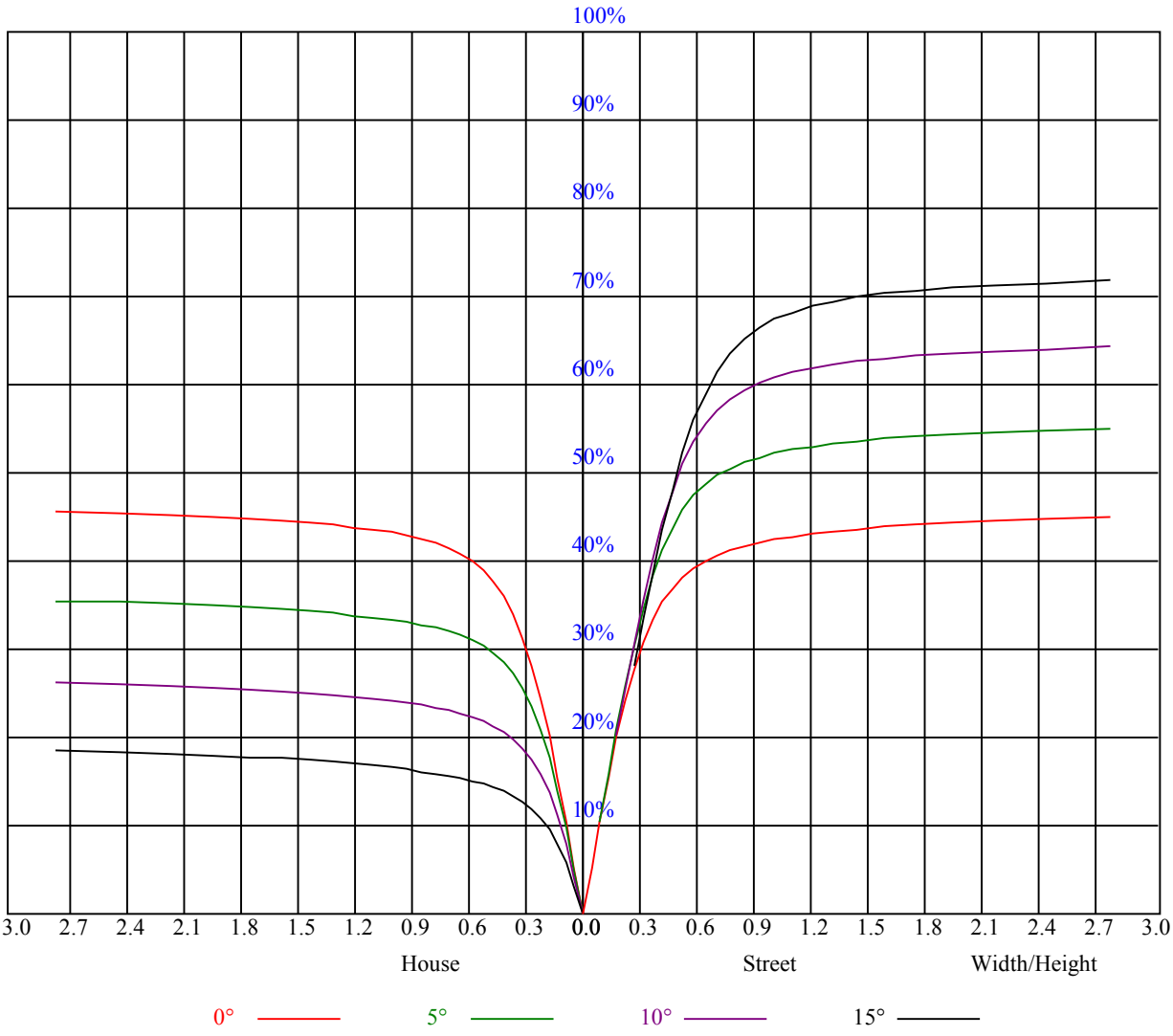


Equipment: GMS1980	Date: 2020/4/2	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

Utilization factor table for indoor luminaire

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	COEFFCIENTS OF UTILIZATION RHOFC=20 CU															
0	1.11	1.11	1.11	1.08	1.08	1.08	1.03	1.03	1.03	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.02	0.99	0.97	1.00	0.97	0.95	0.96	0.94	0.92	0.92	0.91	0.89	0.89	0.88	0.87	0.85
2	0.94	0.90	0.87	0.93	0.89	0.86	0.90	0.86	0.84	0.87	0.84	0.82	0.84	0.82	0.80	0.79
3	0.88	0.83	0.79	0.87	0.82	0.78	0.84	0.80	0.77	0.82	0.79	0.76	0.80	0.77	0.75	0.73
4	0.83	0.77	0.73	0.81	0.77	0.73	0.79	0.75	0.72	0.78	0.74	0.71	0.76	0.73	0.70	0.69
5	0.78	0.72	0.68	0.77	0.72	0.68	0.75	0.71	0.67	0.74	0.70	0.67	0.72	0.69	0.66	0.65
6	0.74	0.68	0.64	0.73	0.68	0.64	0.72	0.67	0.64	0.70	0.66	0.63	0.69	0.65	0.63	0.61
7	0.70	0.64	0.61	0.69	0.64	0.60	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.59	0.58
8	0.67	0.61	0.57	0.66	0.61	0.57	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.55
9	0.64	0.58	0.55	0.63	0.58	0.55	0.62	0.58	0.54	0.61	0.57	0.54	0.61	0.57	0.54	0.53
10	0.61	0.56	0.52	0.60	0.55	0.52	0.60	0.55	0.52	0.59	0.55	0.52	0.58	0.54	0.52	0.51

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2020/4/2	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

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	174.99	195.19	222.19	244.74	267.13	291.32	312.47	327.88	340.26
45.0	175.95	189.84	207.28	221.18	234.62	250.54	262.07	272.48	281.76
90.0	180.96	179.83	178.03	174.26	171.28	167.18	160.31	155.19	149.23
135.0	185.46	170.72	154.52	138.77	125.78	113.06	98.66	88.09	78.41
180.0	174.99	156.38	136.63	117.84	103.33	88.88	76.05	66.04	56.59
225.0	175.95	162.17	146.48	131.96	118.97	105.41	94.78	83.70	73.52
270.0	180.96	181.18	179.78	177.86	173.87	170.38	166.16	159.75	154.18
315.0	185.46	202.33	216.90	233.04	248.29	260.89	273.66	284.68	292.33
360.0	174.99	195.19	222.19	244.74	267.13	291.32	312.47	327.88	340.26

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	346.50	345.83	337.73	324.51	304.31	280.46	257.68	234.06	204.92
45.0	288.23	291.09	292.33	290.59	286.14	276.64	266.57	254.25	236.48
90.0	141.58	133.48	126.00	117.79	109.13	101.70	93.15	86.12	78.41
135.0	67.84	60.24	53.61	46.91	41.23	36.79	32.29	28.97	25.82
180.0	49.44	42.69	37.13	33.02	29.25	25.93	23.40	21.21	18.90
225.0	65.48	57.38	50.40	44.83	39.77	34.26	30.54	27.34	24.58
270.0	148.28	140.06	133.14	125.78	116.27	108.51	100.74	91.97	83.76
315.0	297.84	300.94	300.60	298.24	291.60	283.89	273.43	256.73	241.20
360.0	346.50	345.83	337.73	324.51	304.31	280.46	257.68	234.06	204.92

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	182.81	162.45	139.33	122.57	107.89	93.26	80.61	70.59	60.81
45.0	220.56	203.12	184.05	167.63	151.88	133.76	120.71	108.84	95.79
90.0	70.65	64.18	58.11	51.36	46.46	42.08	37.24	33.53	30.15
135.0	23.01	20.98	19.07	17.27	15.86	14.63	13.22	12.26	11.48
180.0	17.27	15.75	14.46	13.44	12.66	11.93	11.31	10.86	10.41
225.0	21.66	19.63	17.83	15.86	14.46	13.33	12.09	11.03	10.18
270.0	77.01	69.81	62.72	56.53	50.23	45.11	39.88	35.33	31.61
315.0	224.78	204.41	190.29	172.18	153.06	140.46	126.96	110.25	100.52
360.0	182.81	162.45	139.33	122.57	107.89	93.26	80.61	70.59	60.81

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	53.33	46.07	39.94	35.27	30.83	26.94	24.08	21.60	18.90
45.0	84.32	75.26	66.38	58.22	51.30	44.61	39.77	35.16	30.66
90.0	27.11	23.79	21.43	19.24	17.10	15.36	13.95	12.60	11.36
135.0	10.69	9.96	9.39	8.78	8.27	7.88	7.54	7.20	6.86
180.0	9.84	9.17	8.33	7.59	7.09	6.64	6.41	6.13	5.85
225.0	9.45	8.83	8.27	7.71	7.31	6.86	6.58	6.30	6.02
270.0	28.24	24.64	22.11	19.86	17.44	15.69	14.12	12.60	11.25
315.0	90.23	77.40	70.20	62.72	55.41	48.71	43.43	38.14	33.47
360.0	53.33	46.07	39.94	35.27	30.83	26.94	24.08	21.60	18.90

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	17.04	15.47	14.01	12.49	11.48	10.52	9.45	8.72	7.99
45.0	27.28	24.53	21.15	19.01	17.04	15.13	13.50	12.21	10.91
90.0	10.46	9.56	8.83	8.04	7.43	6.92	6.36	5.85	5.51
135.0	6.53	6.24	6.08	5.74	5.51	5.34	5.12	5.01	4.84
180.0	5.63	5.46	5.29	5.23	5.06	5.01	4.95	4.89	4.84
225.0	5.74	5.51	5.29	5.01	4.78	4.61	4.50	4.44	4.33
270.0	10.18	9.17	8.33	7.54	6.86	6.30	5.79	5.34	5.01
315.0	29.98	26.49	23.74	20.93	18.56	16.71	15.08	13.22	11.93
360.0	17.04	15.47	14.01	12.49	11.48	10.52	9.45	8.72	7.99

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	7.37	6.75	6.24	5.74	5.34	4.95	4.61	4.33	4.05
45.0	9.84	9.06	8.21	7.54	6.86	6.30	5.79	5.40	4.89
90.0	5.12	4.78	4.50	4.28	4.05	3.83	3.66	3.49	3.32
135.0	4.78	4.67	4.56	4.50	4.44	4.39	4.22	4.16	4.11
180.0	4.73	4.67	4.61	4.56	4.50	4.39	4.33	4.28	4.16
225.0	4.22	4.11	3.99	3.88	3.83	3.71	3.60	3.49	3.49
270.0	4.67	4.33	4.05	3.88	3.60	3.43	3.26	3.09	2.98
315.0	10.74	9.51	8.66	7.88	7.09	6.36	5.79	5.23	4.78
360.0	7.37	6.75	6.24	5.74	5.34	4.95	4.61	4.33	4.05

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	3.83	3.60	3.43	3.21	3.09	2.98	2.76	2.64	2.53
45.0	4.61	4.33	3.99	3.83	3.66	3.49	3.38	3.26	3.26
90.0	3.21	3.15	3.04	2.98	2.81	2.81	2.76	2.70	2.64
135.0	4.05	3.94	3.88	3.83	3.77	3.66	3.54	3.43	3.38
180.0	4.16	4.11	4.11	4.05	4.11	4.16	4.11	4.16	3.94
225.0	3.43	3.38	3.26	3.21	3.15	3.09	3.09	3.04	2.98
270.0	2.87	2.81	2.70	2.64	2.53	2.48	2.48	2.42	2.36
315.0	4.39	4.05	3.77	3.54	3.43	3.32	3.26	3.26	3.32
360.0	3.83	3.60	3.43	3.21	3.09	2.98	2.76	2.64	2.53

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	2.48	2.42	2.31	2.25	2.19	2.14	2.08	2.08	2.03
45.0	3.26	3.21	3.21	3.21	3.21	3.21	3.21	3.15	3.04
90.0	2.59	2.59	2.53	2.53	2.48	2.42	2.42	2.42	2.42
135.0	3.26	3.21	3.09	3.04	2.98	2.98	2.87	2.81	2.76
180.0	3.83	3.60	3.26	2.98	2.81	2.93	3.54	3.49	3.26
225.0	2.93	2.93	2.87	2.87	2.81	2.81	2.70	2.64	2.59
270.0	2.36	2.31	2.31	2.25	2.25	2.25	2.25	2.25	2.31
315.0	3.43	3.43	3.43	3.43	3.43	3.26	3.21	3.21	3.15
360.0	2.48	2.42	2.31	2.25	2.19	2.14	2.08	2.08	2.03

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	2.08	2.08	2.08	2.14	2.08	2.08	2.08	2.14	2.08
45.0	2.98	2.98	3.04	3.04	3.09	3.26	3.21	3.15	3.09
90.0	2.36	2.36	2.36	2.31	2.31	2.25	2.25	2.19	2.08
135.0	2.76	2.70	2.64	2.59	2.53	2.48	2.42	2.36	2.31
180.0	2.93	2.76	2.64	2.53	2.48	2.48	2.36	2.36	2.31
225.0	2.59	2.53	2.53	2.48	2.48	2.42	2.36	2.36	2.36
270.0	2.31	2.31	2.31	2.31	2.31	2.31	2.36	2.31	2.31
315.0	3.21	3.21	3.26	3.21	3.21	3.09	3.04	3.09	3.04
360.0	2.08	2.08	2.08	2.14	2.08	2.08	2.08	2.14	2.08

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.08	2.03	1.97	1.86	1.80	1.29	0.84	0.73	0.62
45.0	3.15	3.04	2.87	2.59	2.14	1.58	1.24	1.18	1.01
90.0	2.03	1.97	1.86	1.74	1.58	1.07	0.79	0.62	0.45
135.0	2.25	2.19	2.14	2.03	1.86	1.63	1.01	0.84	0.68
180.0	2.25	2.14	2.08	1.97	1.86	1.74	1.07	0.84	0.73
225.0	2.25	2.19	2.19	2.14	1.97	1.74	1.18	0.84	0.68
270.0	2.31	2.25	2.19	2.08	2.08	1.86	1.41	0.79	0.68
315.0	2.98	2.98	2.93	2.76	2.53	2.36	1.63	1.52	1.46
360.0	2.08	2.03	1.97	1.86	1.80	1.29	0.84	0.73	0.62

Intensity data(cd)

C/γ(°)	90.0
0.0	0.45
45.0	0.51
90.0	0.34
135.0	0.51
180.0	0.62
225.0	0.56
270.0	0.56
315.0	1.58
360.0	0.45