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

Nata

LumCAT: NA01D020060BW
Luminaire:
Report No: 200402-B002
Test No: 200402-C002
LampCAT: BRIDGELUX 3030
Lamp flux(lm): 110.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 6.6000
Current(A): 0.1510
Power (W): 0.9970
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 102.25
Efficiency(%): 92.95%
Lumens(lm)/Power(W): 102.55
Central intensity(cd): 91.575
Maximum intensity(cd): 91.575
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=58.8
[C90/270]Total=58.8
Field angle(10%Imax): [C0/180]Total=102.1
[C90/270]Total=102.1
Maximum s/h(1/2): C0_180=0.89 C90_270=0.89
Maximum s/h(1/4): C0_180=0.90 C90_270=0.90
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 92.95%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 92.895%

Nata NA01D020060BW

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	91.575	0.000	0	.000%	.000%
1.0	91.491	0.088	0.088	.080%	.086%
2.0	91.273	0.262	0.35	.238%	.342%
3.0	90.935	0.436	0.786	.396%	.768%
4.0	90.513	0.607	1.393	.552%	1.362%
5.0	90.063	0.777	2.17	.706%	2.122%
6.0	89.360	0.943	3.113	.857%	3.044%
7.0	88.629	1.105	4.218	1.004%	4.125%
8.0	87.778	1.263	5.48	1.148%	5.360%
9.0	86.857	1.415	6.895	1.287%	6.744%
10.0	85.929	1.564	8.459	1.421%	8.273%
11.0	85.043	1.708	10.167	1.553%	9.944%
12.0	83.988	1.848	12.015	1.680%	11.751%
13.0	82.575	1.977	13.992	1.797%	13.684%
14.0	81.155	2.096	16.088	1.905%	15.734%
15.0	79.643	2.208	18.295	2.007%	17.893%
16.0	78.012	2.310	20.605	2.100%	20.152%
17.0	75.973	2.398	23.003	2.180%	22.498%
18.0	74.123	2.475	25.478	2.250%	24.918%
19.0	72.169	2.545	28.023	2.314%	27.407%
20.0	70.017	2.602	30.625	2.366%	29.953%
21.0	67.591	2.642	33.268	2.402%	32.537%
22.0	65.222	2.669	35.937	2.426%	35.147%
23.0	62.761	2.685	38.622	2.441%	37.774%
24.0	59.970	2.683	41.306	2.439%	40.398%
25.0	57.396	2.669	43.974	2.426%	43.008%
26.0	54.865	2.650	46.624	2.409%	45.600%
27.0	52.277	2.621	49.245	2.383%	48.163%
28.0	49.416	2.575	51.82	2.341%	50.681%
29.0	46.807	2.517	54.337	2.289%	53.144%
30.0	44.269	2.459	56.796	2.235%	55.549%
31.0	41.639	2.391	59.187	2.173%	57.887%
32.0	39.101	2.313	61.5	2.103%	60.149%
33.0	36.780	2.235	63.736	2.032%	62.335%
34.0	34.538	2.158	65.894	1.962%	64.446%
35.0	32.126	2.070	67.964	1.882%	66.471%
36.0	30.080	1.981	69.945	1.801%	68.408%
37.0	28.048	1.896	71.841	1.723%	70.262%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	26.170	1.810	73.651	1.645%	72.032%
39.0	24.159	1.718	75.368	1.562%	73.712%
40.0	22.465	1.626	76.995	1.478%	75.303%
41.0	20.904	1.544	78.539	1.404%	76.813%
42.0	19.280	1.460	79.999	1.327%	78.241%
43.0	17.747	1.372	81.37	1.247%	79.583%
44.0	16.474	1.292	82.662	1.174%	80.846%
45.0	15.209	1.218	83.88	1.107%	82.037%
46.0	13.894	1.138	85.018	1.035%	83.150%
47.0	12.839	1.063	86.081	.967%	84.190%
48.0	11.841	0.998	87.079	.907%	85.165%
49.0	10.898	0.934	88.012	.849%	86.079%
50.0	9.970	0.870	88.882	.791%	86.930%
51.0	9.197	0.811	89.693	.737%	87.723%
52.0	8.508	0.760	90.453	.691%	88.466%
53.0	7.812	0.710	91.163	.645%	89.160%
54.0	7.200	0.662	91.825	.602%	89.807%
55.0	6.673	0.619	92.444	.563%	90.413%
56.0	6.159	0.580	93.024	.527%	90.980%
57.0	5.646	0.540	93.564	.491%	91.508%
58.0	5.259	0.504	94.068	.458%	92.001%
59.0	4.852	0.473	94.541	.430%	92.463%
60.0	4.486	0.441	94.982	.401%	92.895%
61.0	4.177	0.413	95.395	.376%	93.299%
62.0	3.916	0.390	95.785	.355%	93.681%
63.0	3.656	0.368	96.153	.335%	94.041%
64.0	3.403	0.346	96.5	.315%	94.380%
65.0	3.178	0.326	96.825	.296%	94.698%
66.0	2.988	0.308	97.133	.280%	94.999%
67.0	2.855	0.294	97.427	.267%	95.286%
68.0	2.721	0.282	97.709	.257%	95.563%
69.0	2.609	0.272	97.981	.247%	95.829%
70.0	2.524	0.264	98.245	.240%	96.086%
71.0	2.447	0.257	98.502	.234%	96.338%
72.0	2.391	0.252	98.753	.229%	96.584%
73.0	2.348	0.248	99.001	.225%	96.826%
74.0	2.320	0.245	99.247	.223%	97.066%
75.0	2.306	0.244	99.491	.222%	97.305%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	2.257	0.242	99.733	.220%	97.542%
77.0	2.222	0.239	99.972	.217%	97.776%
78.0	2.201	0.237	100.209	.215%	98.007%
79.0	2.159	0.234	100.443	.213%	98.236%
80.0	2.152	0.232	100.675	.211%	98.464%
81.0	2.116	0.231	100.906	.210%	98.689%
82.0	2.074	0.227	101.133	.207%	98.912%
83.0	1.997	0.221	101.355	.201%	99.128%
84.0	1.913	0.213	101.568	.194%	99.336%
85.0	1.758	0.200	101.768	.182%	99.532%
86.0	1.399	0.173	101.941	.157%	99.701%
87.0	0.872	0.124	102.065	.113%	99.823%
88.0	0.584	0.080	102.145	.072%	99.900%
89.0	0.450	0.057	102.201	.052%	99.956%
90.0	0.373	0.045	102.246	.041%	100.000%

Zonal flux distribution table

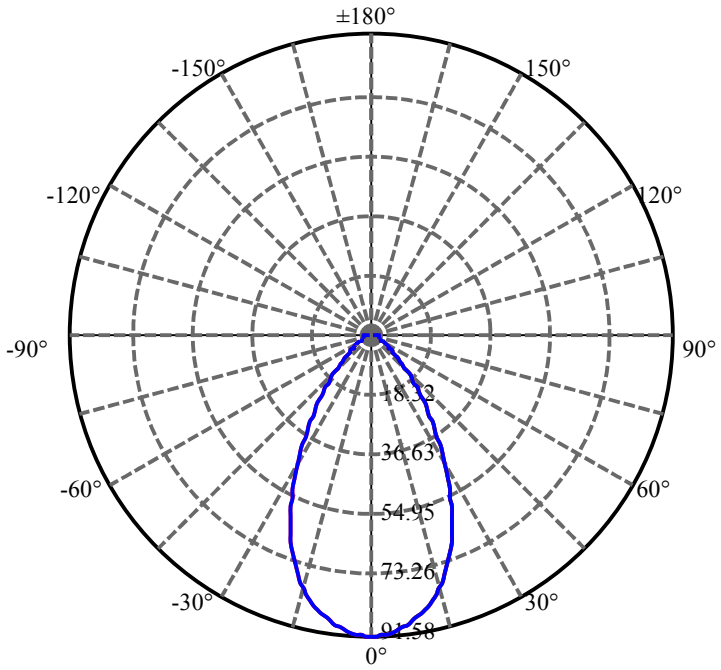
ZONAL LUMEN SUMMARY

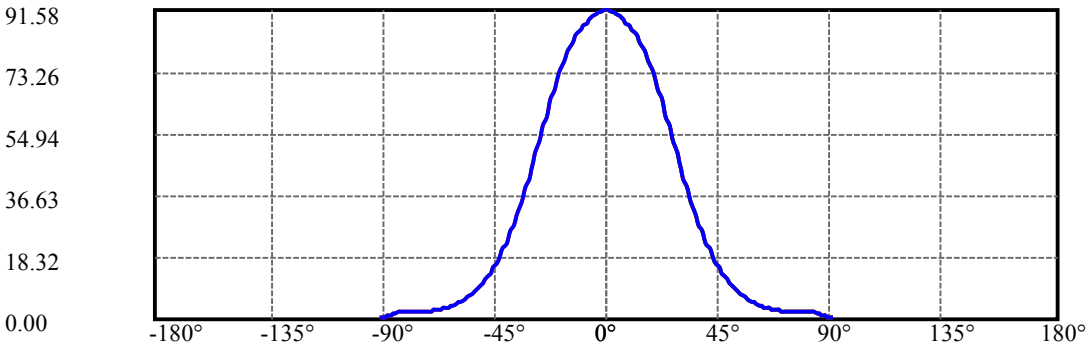
Zone	Lumens	%Lamp	%Fixt
0-30	56.80	51.63%	55.55%
0-40	76.99	70.00%	75.30%
0-60	94.98	86.35%	92.89%
0-90	102.20	92.91%	99.96%
0-120	102.20	92.91%	99.96%
0-180	102.25	92.95%	100.00%
60-90	7.66	6.96%	7.49%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-43.33	81.80	74.36%	80.00%

ZONAL LUMEN SUMMARY

0-10	8.46
10-20	22.17
20-30	26.17
30-40	20.20
40-50	11.89
50-60	6.10
60-70	3.26
70-80	2.43
80-90	1.53
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:51.1 Right:51.1
:C90/270Left:51.1 Right:51.1

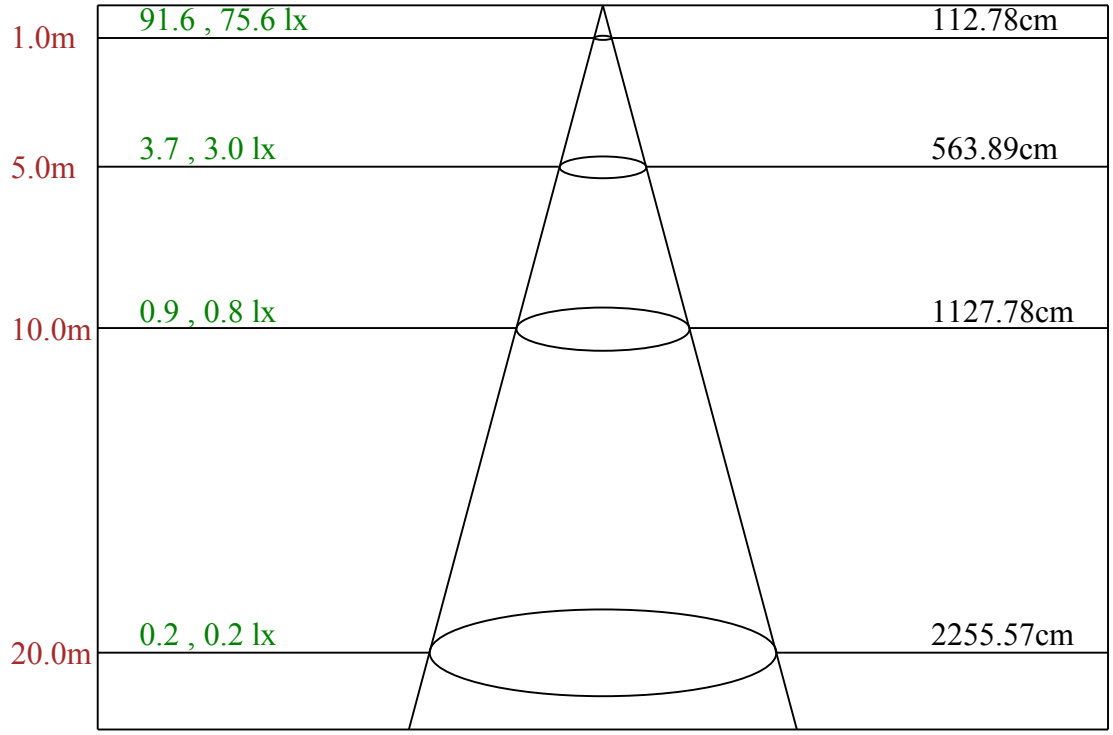
Beam Angle(50%Imax):C0/180Left:29.4 Right:29.4
:C90/270Left:29.4 Right:29.4

Equipment: GMS1980
Temperature(°C): 25.0

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

Operator: NT07
Distance(m): 7.50

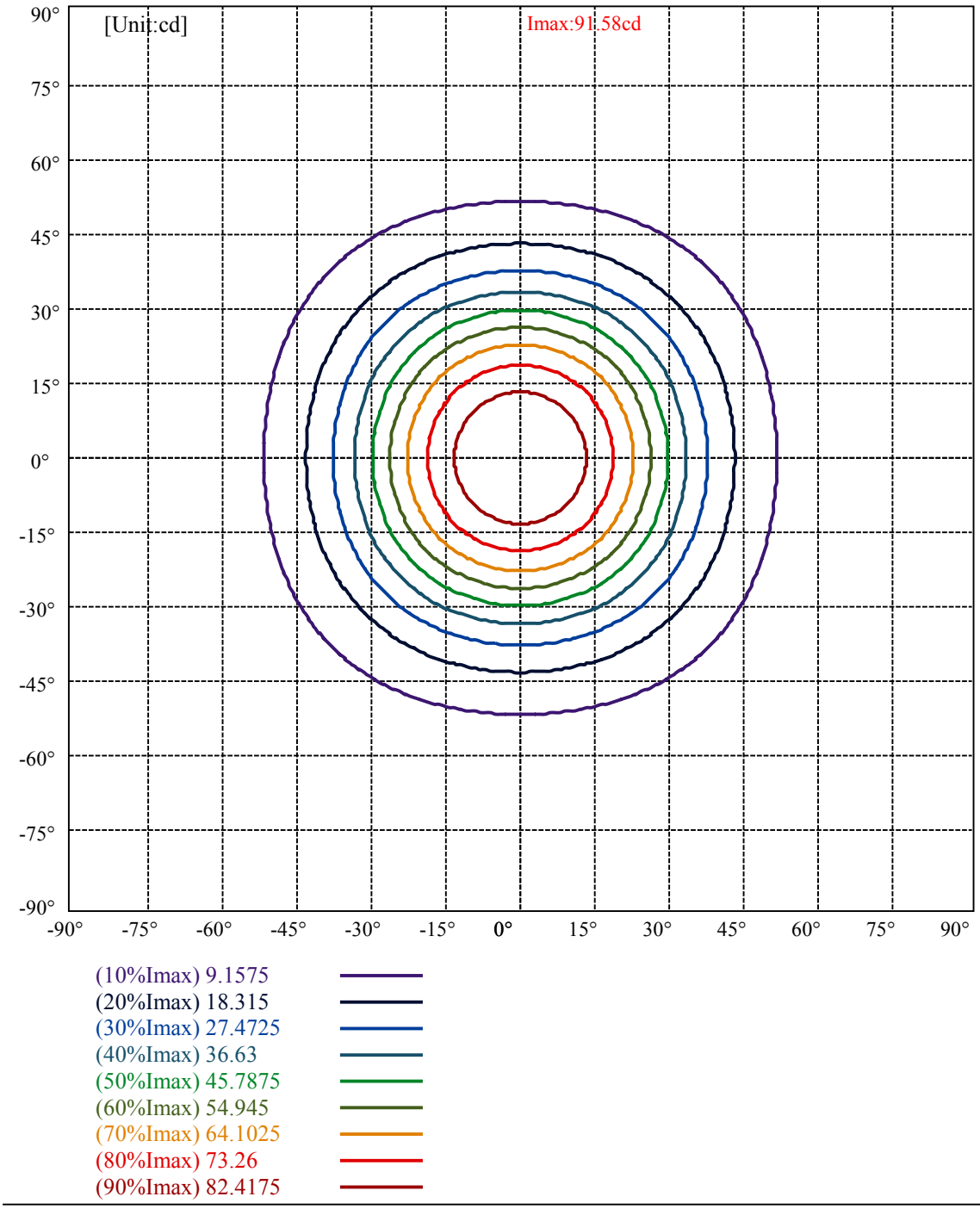
Lux distance Curve



Max , Ave

Beam angle of C0 plane 58.84

ISO-Intensity(V-H)



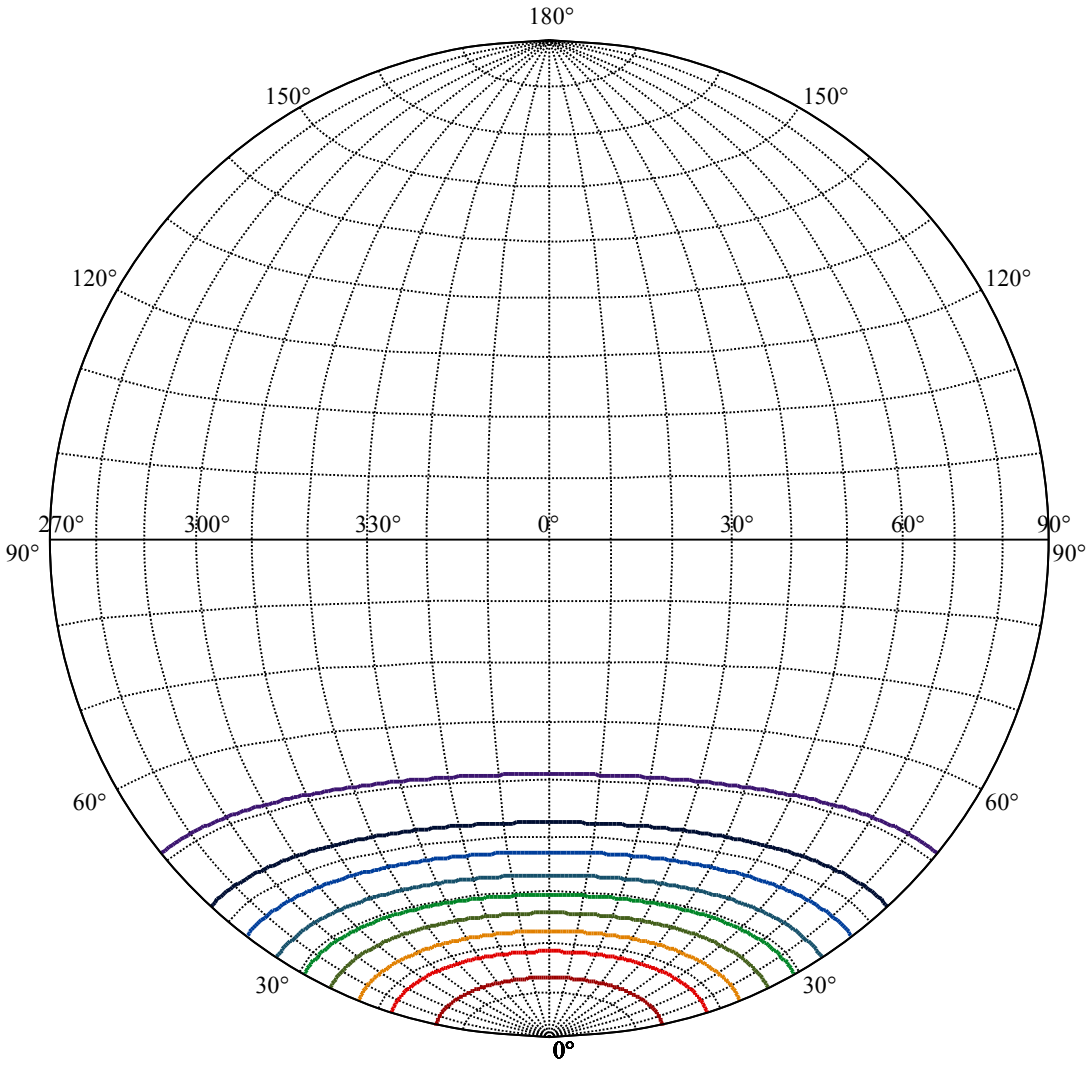
(10%Imax) 9.1575
(20%Imax) 18.315
(30%Imax) 27.4725
(40%Imax) 36.63
(50%Imax) 45.7875
(60%Imax) 54.945
(70%Imax) 64.1025
(80%Imax) 73.26
(90%Imax) 82.4175

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:91.58

(10%Imax) 9.1575
(20%Imax) 18.315
(30%Imax) 27.4725
(40%Imax) 36.63
(50%Imax) 45.7875
(60%Imax) 54.945
(70%Imax) 64.1025
(80%Imax) 73.26
(90%Imax) 82.4175

Equipment: GMS1980
Temperature(°C): 25.0

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

Operator: NT07
Distance(m): 7.50

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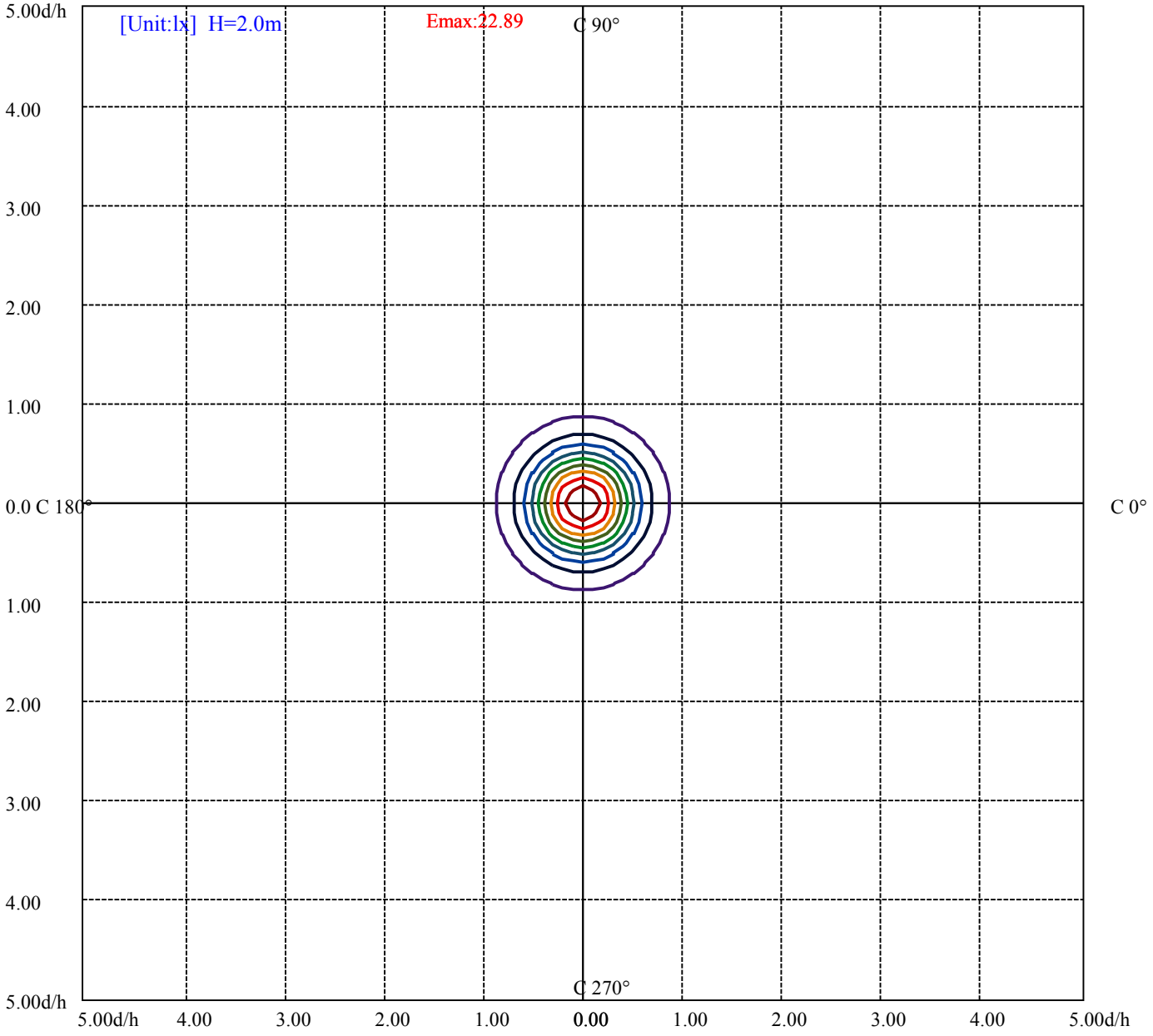
ISO illuminance diagram



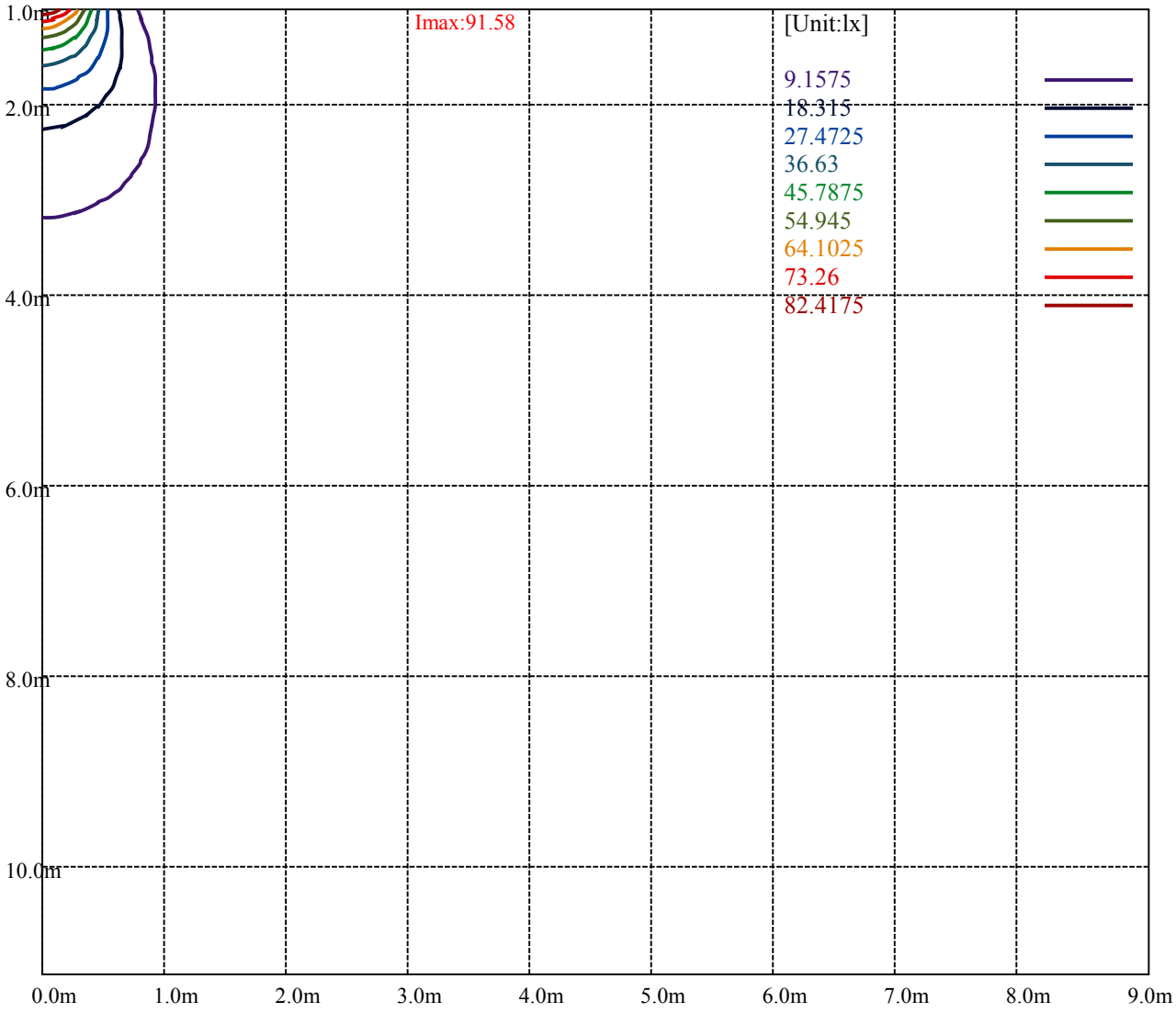
(10%Emax) 2.289375
(20%Emax) 4.57875
(30%Emax) 6.868125
(40%Emax) 9.1575
(50%Emax) 11.44687
(60%Emax) 13.73625
(70%Emax) 16.02563
(80%Emax) 18.315
(90%Emax) 20.60438

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 NA01D020060BW

Luminance Limitting Curve(no luminous side)

Luminance Table

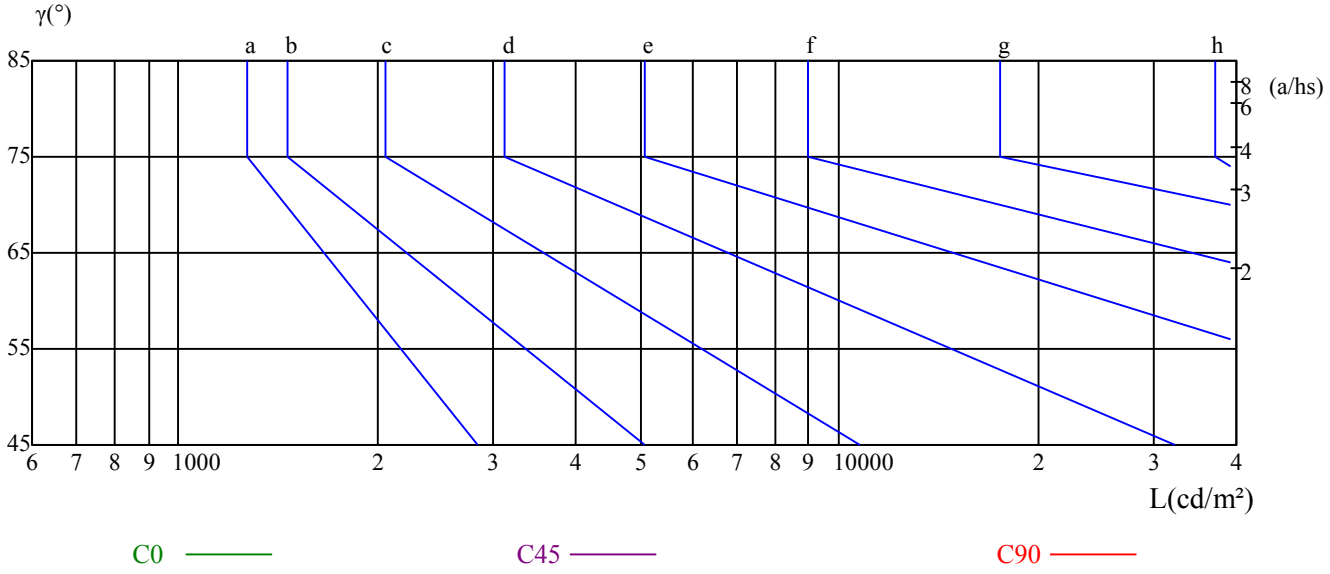
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

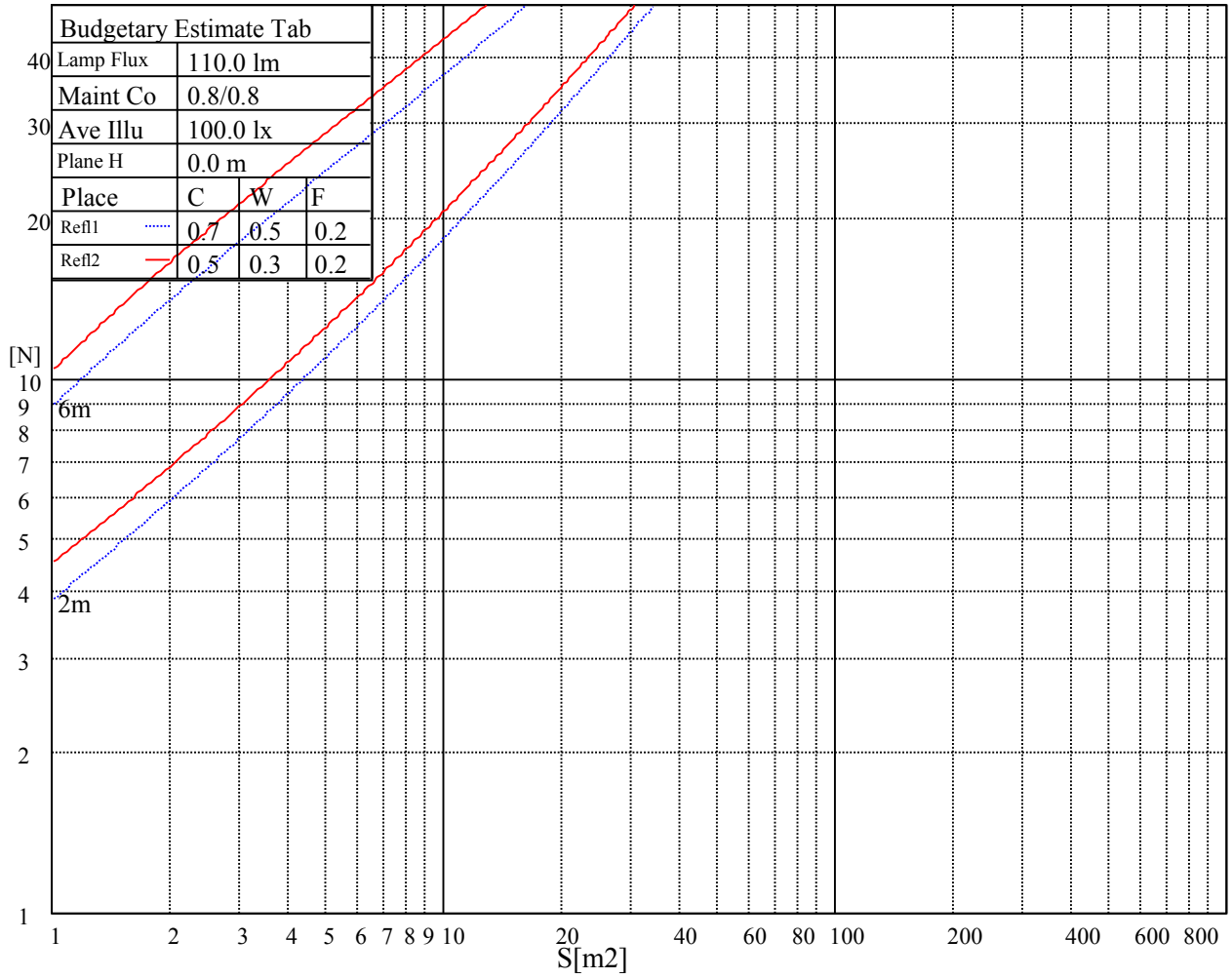
Glare Table

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

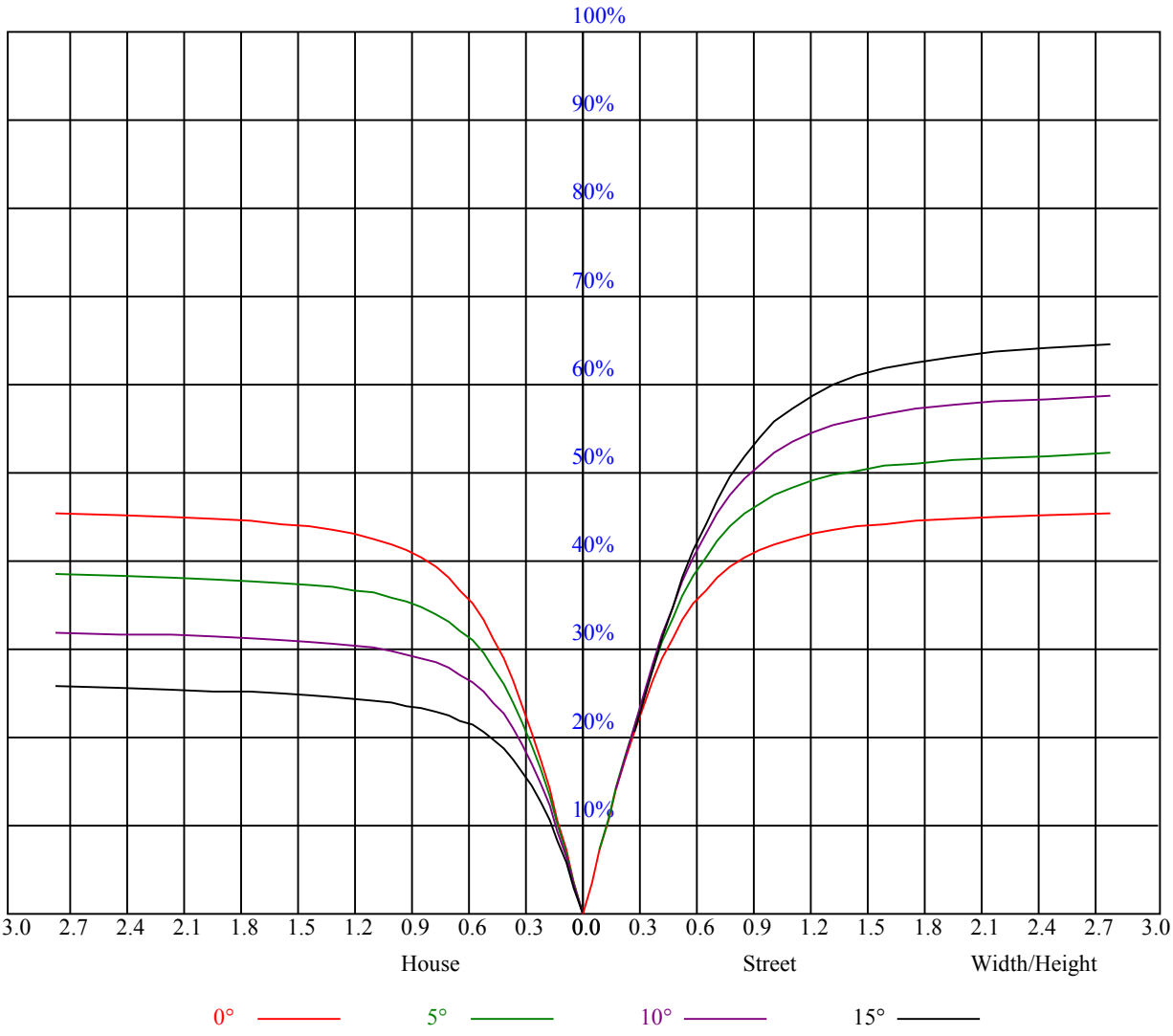


Equipment: GMS1980	Date: 2020/4/2	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

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	1.00	0.98	0.95	0.98	0.96	0.93	0.95	0.92	0.90	0.91	0.89	0.88	0.88	0.86	0.85	0.83
2	0.92	0.87	0.83	0.90	0.86	0.82	0.87	0.83	0.80	0.84	0.81	0.78	0.81	0.79	0.77	0.75
3	0.84	0.78	0.74	0.83	0.77	0.73	0.80	0.76	0.72	0.78	0.74	0.71	0.75	0.72	0.70	0.68
4	0.77	0.71	0.66	0.76	0.70	0.66	0.74	0.69	0.65	0.72	0.68	0.64	0.70	0.67	0.63	0.62
5	0.71	0.65	0.60	0.70	0.64	0.60	0.69	0.63	0.59	0.67	0.62	0.59	0.65	0.61	0.58	0.57
6	0.66	0.60	0.55	0.65	0.59	0.55	0.64	0.58	0.54	0.63	0.58	0.54	0.61	0.57	0.54	0.52
7	0.62	0.55	0.51	0.61	0.55	0.50	0.60	0.54	0.50	0.58	0.54	0.50	0.57	0.53	0.50	0.48
8	0.58	0.51	0.47	0.57	0.51	0.47	0.56	0.50	0.46	0.55	0.50	0.46	0.54	0.49	0.46	0.45
9	0.54	0.48	0.44	0.53	0.47	0.43	0.53	0.47	0.43	0.52	0.47	0.43	0.51	0.46	0.43	0.42
10	0.51	0.45	0.41	0.50	0.44	0.41	0.49	0.44	0.40	0.49	0.44	0.40	0.48	0.43	0.40	0.39

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	92.76	92.76	92.53	92.25	91.80	91.24	90.56	89.72	88.82
45.0	90.84	90.84	90.68	90.17	89.38	88.88	88.43	87.75	87.08
90.0	91.07	90.84	90.45	89.83	89.21	88.71	88.03	87.24	86.23
135.0	91.63	91.24	90.73	90.17	89.44	88.59	87.53	86.68	85.61
180.0	92.76	92.59	92.14	91.52	91.01	90.34	89.21	88.14	86.96
225.0	90.84	90.79	90.68	90.56	90.56	90.28	89.44	88.88	88.09
270.0	91.07	91.13	91.18	91.24	91.13	91.07	90.68	90.11	89.49
315.0	91.63	91.74	91.80	91.74	91.58	91.41	91.01	90.51	89.94
360.0	92.76	92.76	92.53	92.25	91.80	91.24	90.56	89.72	88.82

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	87.58	86.57	85.61	84.66	83.31	82.13	80.89	79.48	77.63
45.0	86.06	84.71	83.87	82.97	81.62	80.44	79.09	77.51	75.66
90.0	85.16	84.04	83.19	82.18	80.72	79.09	77.57	75.88	73.63
135.0	84.60	83.76	82.69	81.51	80.16	78.53	76.95	75.21	73.07
180.0	85.67	84.43	83.19	81.79	79.99	78.36	76.39	74.64	72.39
225.0	87.36	86.63	85.89	84.66	83.08	81.73	80.10	78.30	76.22
270.0	88.99	88.59	88.14	87.24	86.12	84.94	83.42	82.07	80.21
315.0	89.44	88.71	87.75	86.91	85.61	84.04	82.74	81.00	78.98
360.0	87.58	86.57	85.61	84.66	83.31	82.13	80.89	79.48	77.63

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	75.99	74.08	71.78	69.58	67.11	64.86	61.99	59.06	56.59
45.0	73.74	71.66	69.58	67.50	65.08	62.78	60.30	57.49	54.96
90.0	71.66	69.36	67.44	65.08	62.55	60.13	57.43	54.84	52.43
135.0	71.33	69.41	66.88	64.58	62.27	59.51	56.93	54.62	52.03
180.0	70.43	68.46	66.49	63.73	61.43	59.18	56.36	53.94	51.58
225.0	74.19	72.34	70.26	67.61	65.42	62.83	59.57	57.09	54.62
270.0	78.30	76.44	74.31	71.83	69.53	67.16	64.18	61.65	59.23
315.0	77.34	75.60	73.41	70.82	68.40	65.64	63.00	60.47	57.49
360.0	75.99	74.08	71.78	69.58	67.11	64.86	61.99	59.06	56.59

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	54.00	51.13	48.15	45.62	42.92	40.28	37.97	35.72	33.02
45.0	52.54	49.61	47.14	44.55	41.57	39.32	37.13	34.82	32.51
90.0	50.12	47.19	44.78	42.53	39.60	37.46	35.27	32.74	30.77
135.0	49.67	47.03	44.33	42.08	39.49	36.79	34.88	32.79	30.26
180.0	48.83	46.01	43.71	41.01	38.76	36.17	33.75	31.67	29.53
225.0	51.75	48.88	46.41	43.76	41.40	38.81	36.23	34.03	31.56
270.0	56.42	53.44	50.79	47.93	45.17	42.81	40.16	37.97	35.49
315.0	54.90	52.03	49.16	46.69	44.21	41.18	38.87	36.56	33.86
360.0	54.00	51.13	48.15	45.62	42.92	40.28	37.97	35.72	33.02

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	30.99	28.97	26.66	24.86	23.23	21.43	19.80	18.45	17.04
45.0	30.49	28.35	26.55	24.64	22.73	21.21	19.52	17.94	16.71
90.0	28.91	26.66	25.09	23.23	21.26	19.86	18.51	16.71	15.69
135.0	28.41	26.49	24.81	22.73	21.21	19.80	18.06	16.82	15.64
180.0	27.45	25.65	23.96	21.94	20.42	19.07	17.55	16.14	15.02
225.0	29.53	27.39	25.59	23.46	21.88	20.31	18.79	17.04	15.81
270.0	33.08	31.05	29.03	26.78	25.03	23.40	21.38	19.86	18.45
315.0	31.78	29.81	27.68	25.65	23.96	22.16	20.64	19.01	17.44
360.0	30.99	28.97	26.66	24.86	23.23	21.43	19.80	18.45	17.04

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	15.81	14.51	13.33	12.32	11.31	10.41	9.62	9.00	8.10
45.0	15.47	14.06	12.99	11.98	10.97	10.07	9.28	8.49	7.76
90.0	14.51	13.05	12.21	11.25	10.41	9.51	8.78	8.04	7.48
135.0	14.40	13.28	12.32	11.31	10.46	9.51	8.83	8.21	7.54
180.0	13.78	12.66	11.76	10.80	10.01	9.17	8.44	7.82	7.26
225.0	14.57	13.22	12.21	11.31	10.29	9.45	8.72	8.04	7.48
270.0	16.99	15.58	14.40	13.22	12.15	11.08	10.13	9.34	8.55
315.0	16.14	14.79	13.50	12.54	11.59	10.58	9.79	9.11	8.33
360.0	15.81	14.51	13.33	12.32	11.31	10.41	9.62	9.00	8.10

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	7.54	7.03	6.47	5.96	5.63	5.12	4.73	4.44	4.11
45.0	7.14	6.58	6.13	5.63	5.18	4.78	4.39	4.11	3.83
90.0	6.92	6.30	5.91	5.40	5.01	4.61	4.28	3.94	3.71
135.0	6.92	6.47	5.96	5.40	5.12	4.78	4.39	4.16	3.94
180.0	6.69	6.24	5.74	5.23	4.89	4.56	4.22	3.94	3.77
225.0	6.86	6.36	5.91	5.40	4.95	4.61	4.28	3.88	3.66
270.0	7.82	7.26	6.69	6.13	5.68	5.23	4.78	4.44	4.16
315.0	7.71	7.14	6.47	6.02	5.63	5.12	4.84	4.50	4.16
360.0	7.54	7.03	6.47	5.96	5.63	5.12	4.73	4.44	4.11

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	3.83	3.60	3.32	3.15	2.98	2.81	2.70	2.59	2.48
45.0	3.60	3.32	3.09	2.93	2.81	2.70	2.53	2.48	2.42
90.0	3.49	3.26	3.04	2.87	2.76	2.64	2.53	2.48	2.42
135.0	3.66	3.38	3.21	3.04	2.93	2.76	2.64	2.59	2.53
180.0	3.49	3.26	3.09	2.87	2.76	2.64	2.59	2.53	2.42
225.0	3.43	3.26	3.04	2.87	2.70	2.59	2.48	2.42	2.36
270.0	3.83	3.49	3.26	3.04	2.87	2.76	2.64	2.48	2.36
315.0	3.94	3.66	3.38	3.15	3.04	2.87	2.76	2.64	2.59
360.0	3.83	3.60	3.32	3.15	2.98	2.81	2.70	2.59	2.48

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	2.42	2.36	2.31	2.31	2.25	2.25	2.25	2.19	2.14
45.0	2.36	2.31	2.36	2.31	2.25	2.19	2.19	2.19	2.19
90.0	2.36	2.31	2.31	2.31	2.31	2.25	2.19	2.14	2.19
135.0	2.53	2.53	2.53	2.53	2.42	2.42	2.42	2.36	2.36
180.0	2.36	2.31	2.31	2.25	2.19	2.14	2.08	2.08	2.03
225.0	2.31	2.25	2.19	2.19	2.19	2.19	2.14	2.08	2.08
270.0	2.31	2.25	2.19	2.19	2.08	2.03	2.03	1.97	1.97
315.0	2.48	2.48	2.36	2.36	2.36	2.31	2.31	2.25	2.25
360.0	2.42	2.36	2.31	2.31	2.25	2.25	2.25	2.19	2.14

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.14	2.14	2.03	1.91	1.80	1.69	1.18	0.68	0.56
45.0	2.14	2.19	2.14	2.14	2.03	1.80	1.52	0.68	0.56
90.0	2.14	2.08	2.03	2.08	1.86	1.63	0.79	0.62	0.51
135.0	2.31	2.25	2.19	2.08	1.86	1.69	0.84	0.62	0.45
180.0	1.97	1.91	1.80	1.69	1.63	0.84	0.62	0.45	0.34
225.0	2.08	2.03	1.86	1.69	1.52	0.79	0.56	0.45	0.34
270.0	1.91	1.80	1.80	1.69	1.52	1.24	0.68	0.56	0.39
315.0	2.25	2.19	2.14	2.03	1.86	1.52	0.79	0.62	0.45
360.0	2.14	2.14	2.03	1.91	1.80	1.69	1.18	0.68	0.56

Intensity data(cd)

C/γ(°)	90.0
0.0	0.39
45.0	0.39
90.0	0.39
135.0	0.39
180.0	0.34
225.0	0.34
270.0	0.34
315.0	0.39
360.0	0.39