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Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: NA01D0202050CA
Luminaire:
Report No: 200402-B020
Test No: 200402-C020
LampCAT: OSRAM 3030 DURIS S5
Lamp flux(lm): 126.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 6.5600
Current(A): 0.1570
Power (W): 1.0300
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 99.94
Efficiency(%): 79.32%
Lumens(lm)/Power(W): 97.03
Central intensity(cd): 128.363
Maximum intensity(cd): 183.713
Angle of maximum intensity: C=180.0 γ=7.0
Beam Angle(50%Imax): [C0/180]Total=21.1
[C90/270]Total=47.4
Field angle(10%Imax): [C0/180]Total=53.5
[C90/270]Total=82.2
Maximum s/h(1/2): C0_180=0.72 C90_270=0.78
Maximum s/h(1/4): C0_180=0.65 C90_270=0.77
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 79.32%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 84.668%

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

Nata NA01D0202050CA

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	125.578	0.000	0	.000%	.000%
1.0	125.269	0.120	0.12	.095%	.120%
2.0	125.381	0.360	0.48	.286%	.480%
3.0	125.065	0.599	1.079	.475%	1.079%
4.0	124.439	0.835	1.914	.663%	1.915%
5.0	123.588	1.067	2.981	.847%	2.983%
6.0	122.583	1.294	4.275	1.027%	4.277%
7.0	121.043	1.512	5.787	1.200%	5.790%
8.0	119.039	1.718	7.505	1.364%	7.509%
9.0	116.494	1.909	9.414	1.515%	9.419%
10.0	113.407	2.081	11.494	1.651%	11.501%
11.0	110.088	2.233	13.728	1.772%	13.735%
12.0	106.320	2.366	16.093	1.877%	16.102%
13.0	101.714	2.469	18.562	1.959%	18.573%
14.0	97.334	2.548	21.11	2.022%	21.122%
15.0	92.679	2.609	23.718	2.070%	23.732%
16.0	88.059	2.648	26.367	2.102%	26.382%
17.0	82.863	2.662	29.028	2.112%	29.045%
18.0	77.984	2.652	31.681	2.105%	31.699%
19.0	73.209	2.630	34.311	2.088%	34.330%
20.0	68.513	2.594	36.905	2.059%	36.926%
21.0	63.647	2.538	39.443	2.014%	39.465%
22.0	59.231	2.469	41.912	1.960%	41.936%
23.0	55.090	2.399	44.311	1.904%	44.336%
24.0	50.716	2.313	46.624	1.836%	46.650%
25.0	46.997	2.222	48.846	1.763%	48.874%
26.0	43.453	2.135	50.981	1.695%	51.010%
27.0	40.029	2.042	53.023	1.621%	53.053%
28.0	36.647	1.941	54.964	1.541%	54.996%
29.0	33.729	1.841	56.806	1.461%	56.838%
30.0	30.952	1.746	58.552	1.386%	58.585%
31.0	28.378	1.651	60.203	1.310%	60.237%
32.0	26.016	1.558	61.761	1.237%	61.797%
33.0	23.836	1.469	63.23	1.166%	63.266%
34.0	21.938	1.385	64.615	1.099%	64.652%
35.0	20.039	1.304	65.919	1.035%	65.956%
36.0	18.415	1.224	67.143	.972%	67.182%
37.0	17.002	1.155	68.298	.917%	68.337%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	15.764	1.094	69.392	.868%	69.432%
39.0	14.386	1.029	70.421	.817%	70.461%
40.0	13.380	0.968	71.39	.769%	71.430%
41.0	12.466	0.920	72.31	.730%	72.351%
42.0	11.588	0.874	73.184	.694%	73.226%
43.0	10.779	0.829	74.012	.658%	74.055%
44.0	10.146	0.790	74.802	.627%	74.845%
45.0	9.534	0.756	75.559	.600%	75.602%
46.0	8.986	0.724	76.283	.575%	76.326%
47.0	8.536	0.697	76.98	.553%	77.024%
48.0	8.121	0.673	77.653	.534%	77.697%
49.0	7.791	0.653	78.307	.519%	78.351%
50.0	7.453	0.636	78.942	.504%	78.987%
51.0	7.165	0.618	79.561	.491%	79.606%
52.0	6.926	0.605	80.165	.480%	80.211%
53.0	6.694	0.592	80.758	.470%	80.804%
54.0	6.462	0.580	81.337	.460%	81.384%
55.0	6.279	0.569	81.906	.451%	81.953%
56.0	6.110	0.560	82.466	.444%	82.513%
57.0	5.934	0.551	83.017	.437%	83.064%
58.0	5.794	0.542	83.559	.430%	83.607%
59.0	5.639	0.534	84.094	.424%	84.141%
60.0	5.498	0.526	84.62	.418%	84.668%
61.0	5.393	0.520	85.14	.413%	85.188%
62.0	5.280	0.514	85.654	.408%	85.703%
63.0	5.182	0.509	86.163	.404%	86.212%
64.0	5.098	0.504	86.667	.400%	86.716%
65.0	5.041	0.502	87.169	.398%	87.218%
66.0	4.999	0.501	87.67	.398%	87.720%
67.0	4.978	0.502	88.172	.398%	88.222%
68.0	4.943	0.503	88.674	.399%	88.724%
69.0	4.887	0.501	89.176	.398%	89.226%
70.0	4.830	0.499	89.675	.396%	89.726%
71.0	4.788	0.497	90.172	.395%	90.223%
72.0	4.739	0.495	90.667	.393%	90.719%
73.0	4.711	0.494	91.161	.392%	91.213%
74.0	4.690	0.494	91.656	.392%	91.708%
75.0	4.690	0.496	92.151	.393%	92.204%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.662	0.496	92.648	.394%	92.700%
77.0	4.676	0.498	93.145	.395%	93.198%
78.0	4.676	0.501	93.646	.397%	93.699%
79.0	4.711	0.504	94.15	.400%	94.204%
80.0	4.774	0.511	94.662	.406%	94.715%
81.0	4.852	0.521	95.182	.413%	95.236%
82.0	4.978	0.533	95.715	.423%	95.770%
83.0	5.077	0.547	96.262	.434%	96.317%
84.0	5.161	0.558	96.82	.443%	96.875%
85.0	5.224	0.567	97.386	.450%	97.442%
86.0	5.133	0.566	97.952	.449%	98.008%
87.0	4.978	0.553	98.506	.439%	98.562%
88.0	4.739	0.532	99.038	.422%	99.094%
89.0	4.662	0.515	99.553	.409%	99.610%
90.0	2.447	0.390	99.943	.309%	100.000%

Zonal flux distribution table

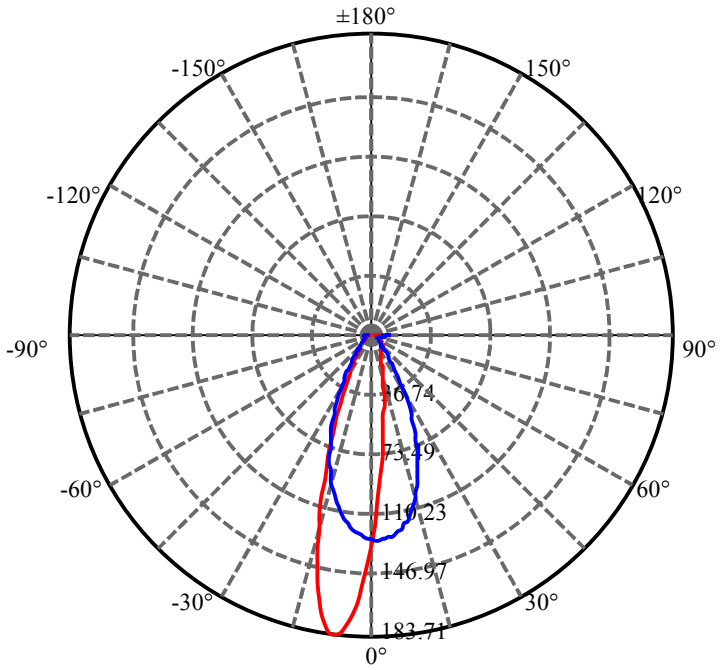
ZONAL LUMEN SUMMARY

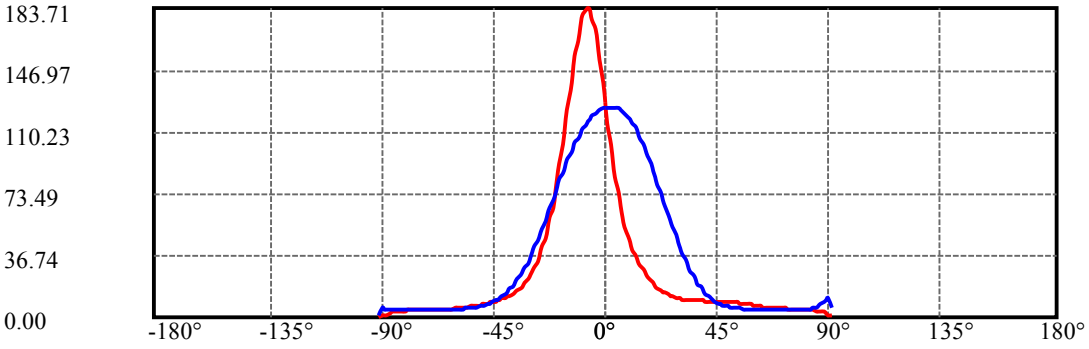
Zone	Lumens	%Lamp	%Fixt
0-30	58.55	46.47%	58.59%
0-40	71.39	56.66%	71.43%
0-60	84.62	67.16%	84.67%
0-90	99.55	79.01%	99.61%
0-120	99.55	79.01%	99.61%
0-180	99.94	79.32%	100.00%
60-90	15.46	12.27%	15.47%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-51.65	79.95	63.46%	80.00%

ZONAL LUMEN SUMMARY

0-10	11.49
10-20	25.41
20-30	21.65
30-40	12.84
40-50	7.55
50-60	5.68
60-70	5.05
70-80	4.99
80-90	4.89
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

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:26.3 Right:27.3

:C90/270Left:43.2 Right:39.0

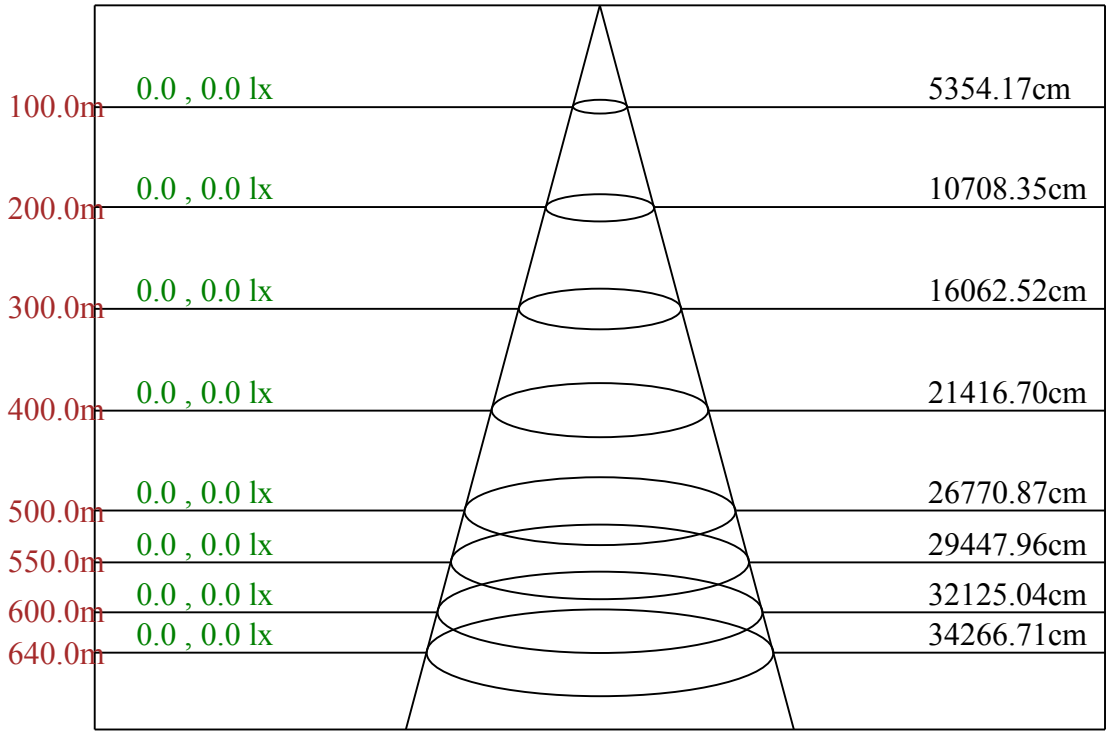
Beam Angle(50%Imax):C0/180Left:11.0 Right:10.1

:C90/270Left:24.7 Right:22.7

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

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

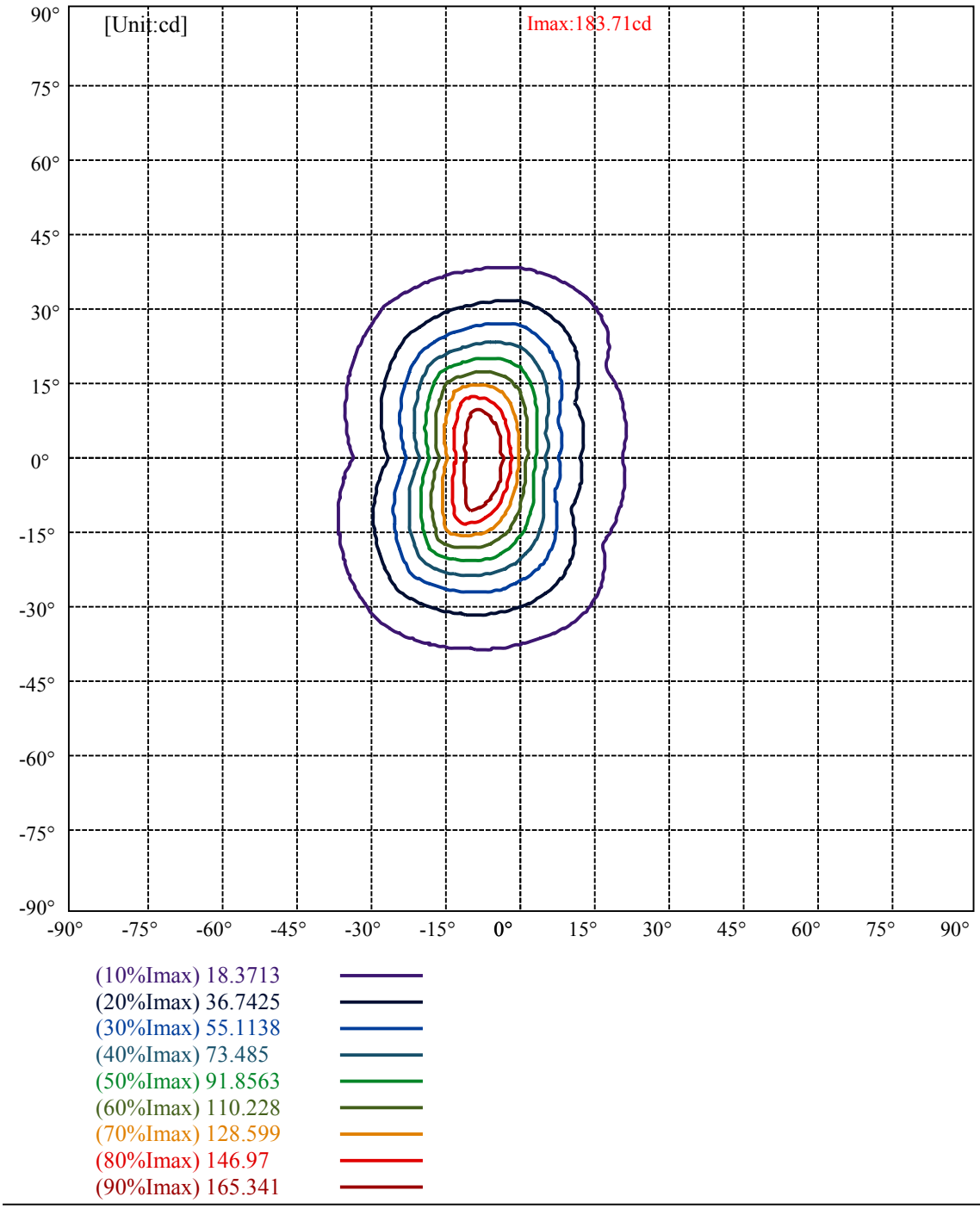
Lux distance Curve



Max , Ave

Beam angle of C180 plane 29.46

ISO-Intensity(V-H)

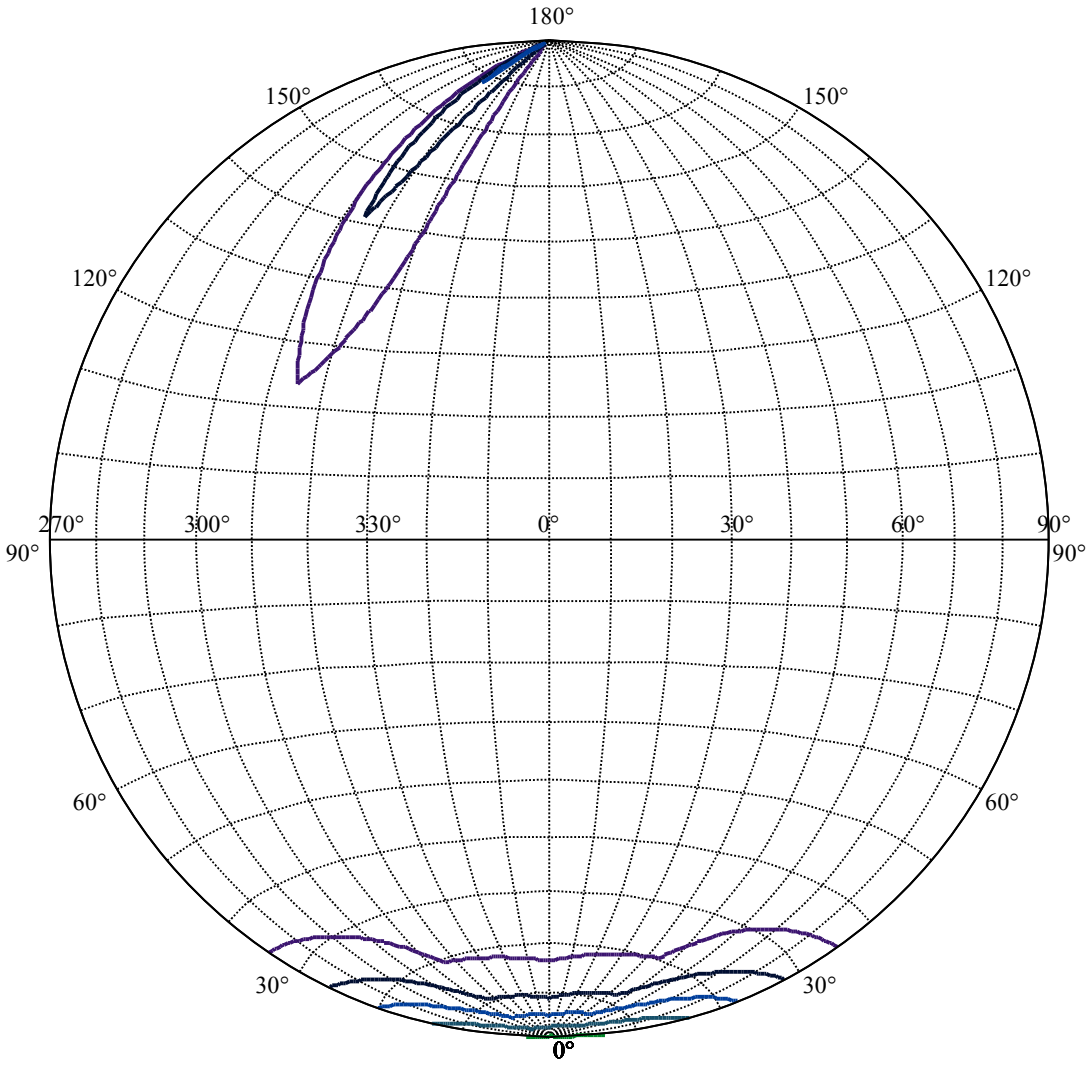


Equipment: GMS1980
Temperature(°C): 25.0

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

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:183.71

(10%Imax) 24.5306

(20%Imax) 49.0612

(30%Imax) 73.5919

(40%Imax) 98.1225

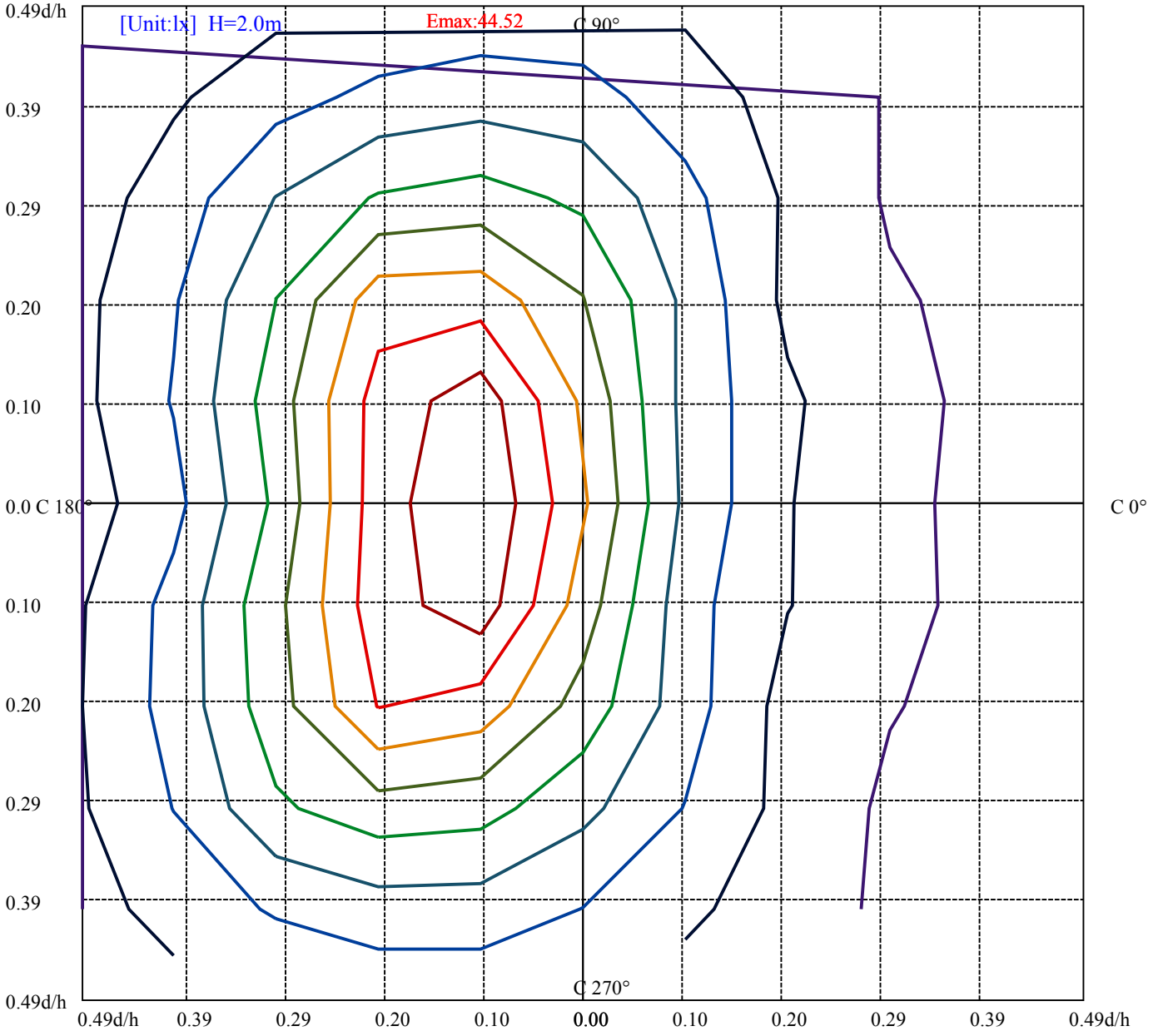
(50%Imax) 122.653

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

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

Nata NA01D0202050CA

ISO illuminance diagram



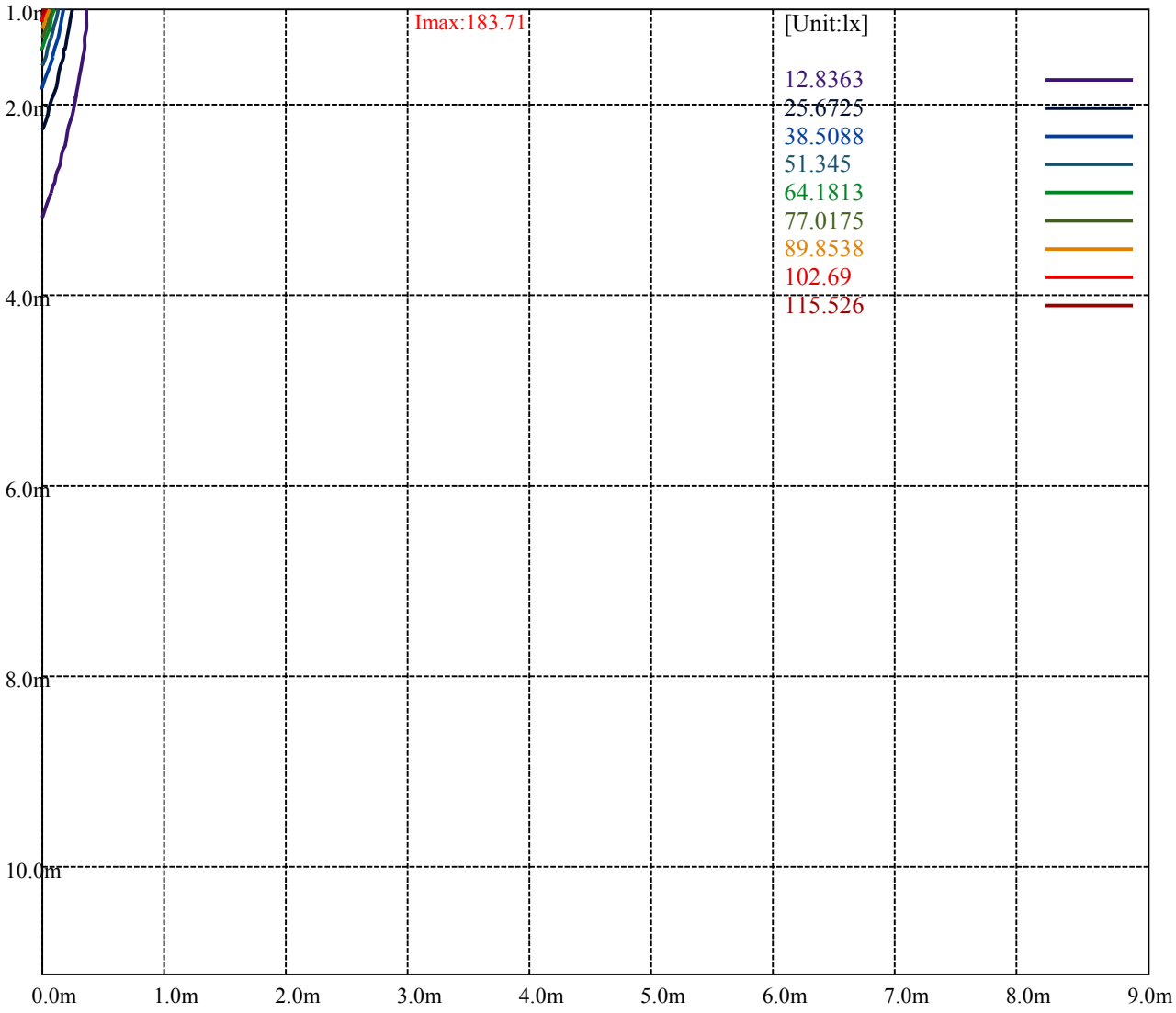
(10%Emax) 4.452075
(20%Emax) 8.90415
(30%Emax) 13.35623
(40%Emax) 17.8083
(50%Emax) 22.26037
(60%Emax) 26.7125
(70%Emax) 31.1645
(80%Emax) 35.6165
(90%Emax) 40.06875

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 NA01D0202050CA

Luminance Limitting Curve(no luminous side)

Luminance Table

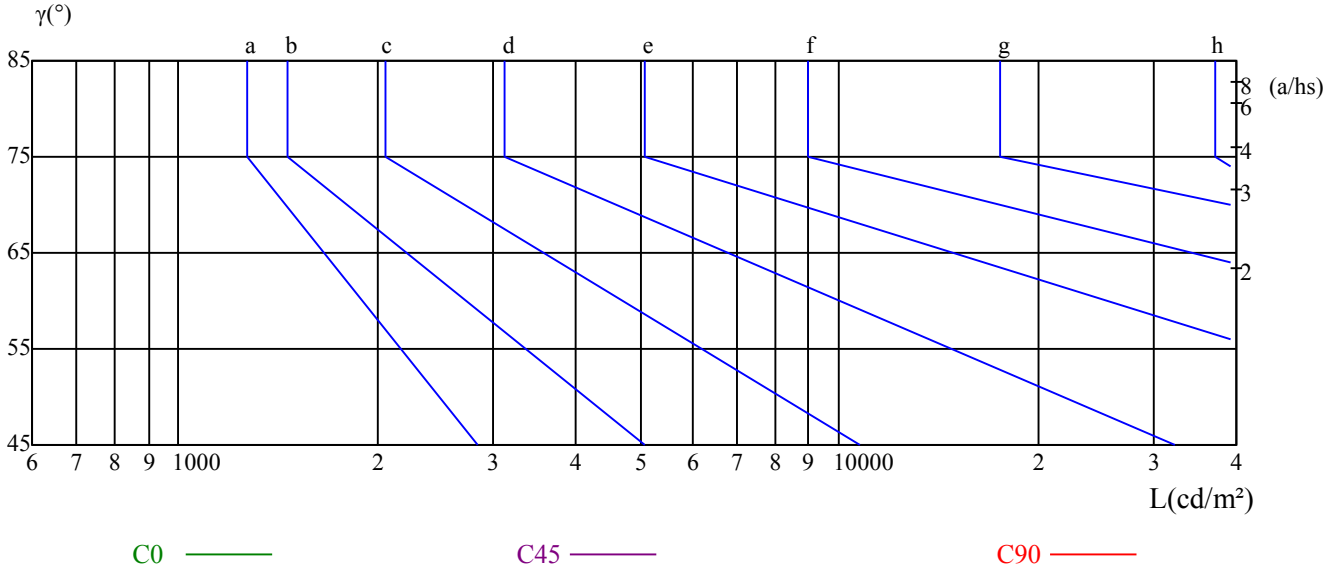
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

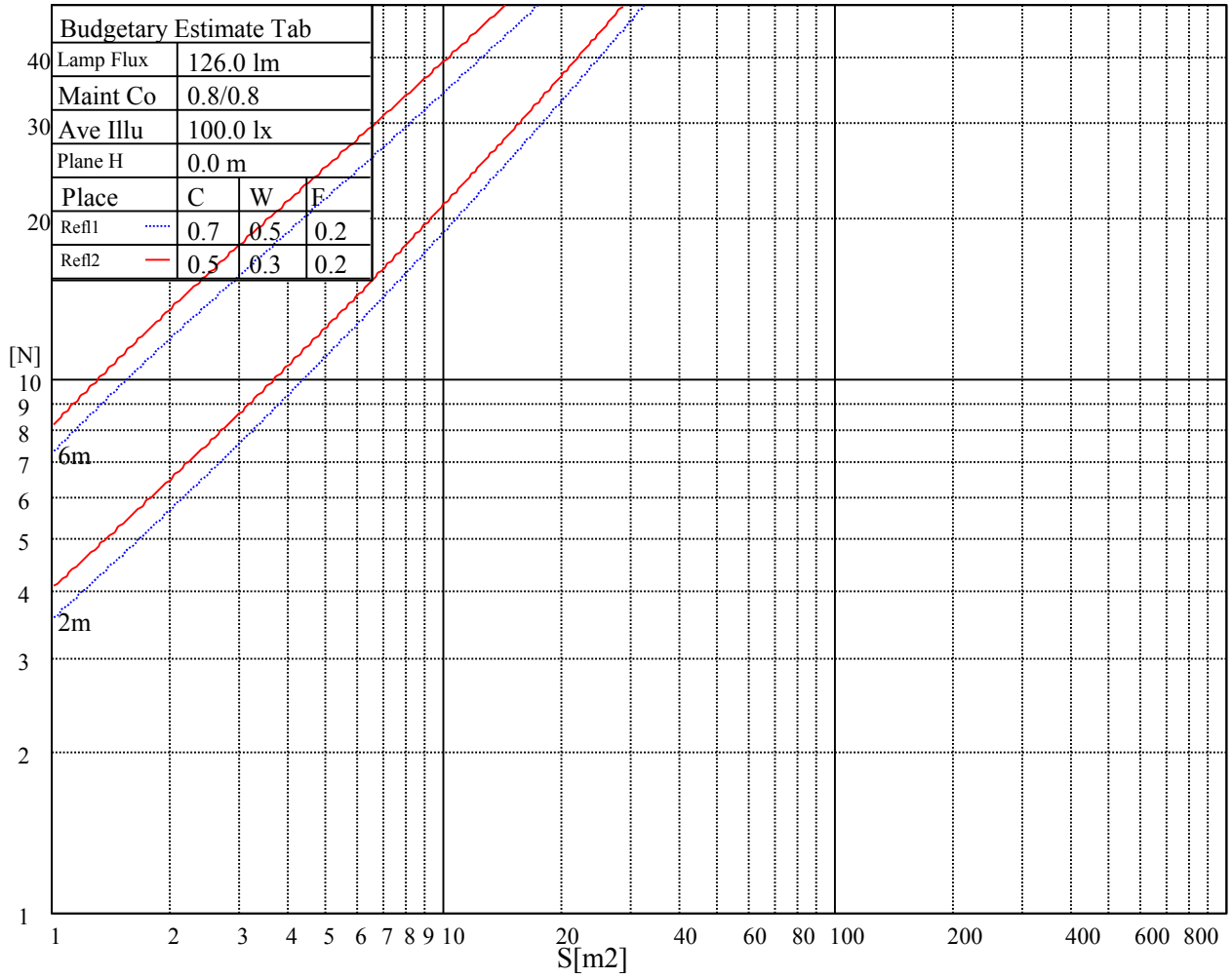
Glare Table

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

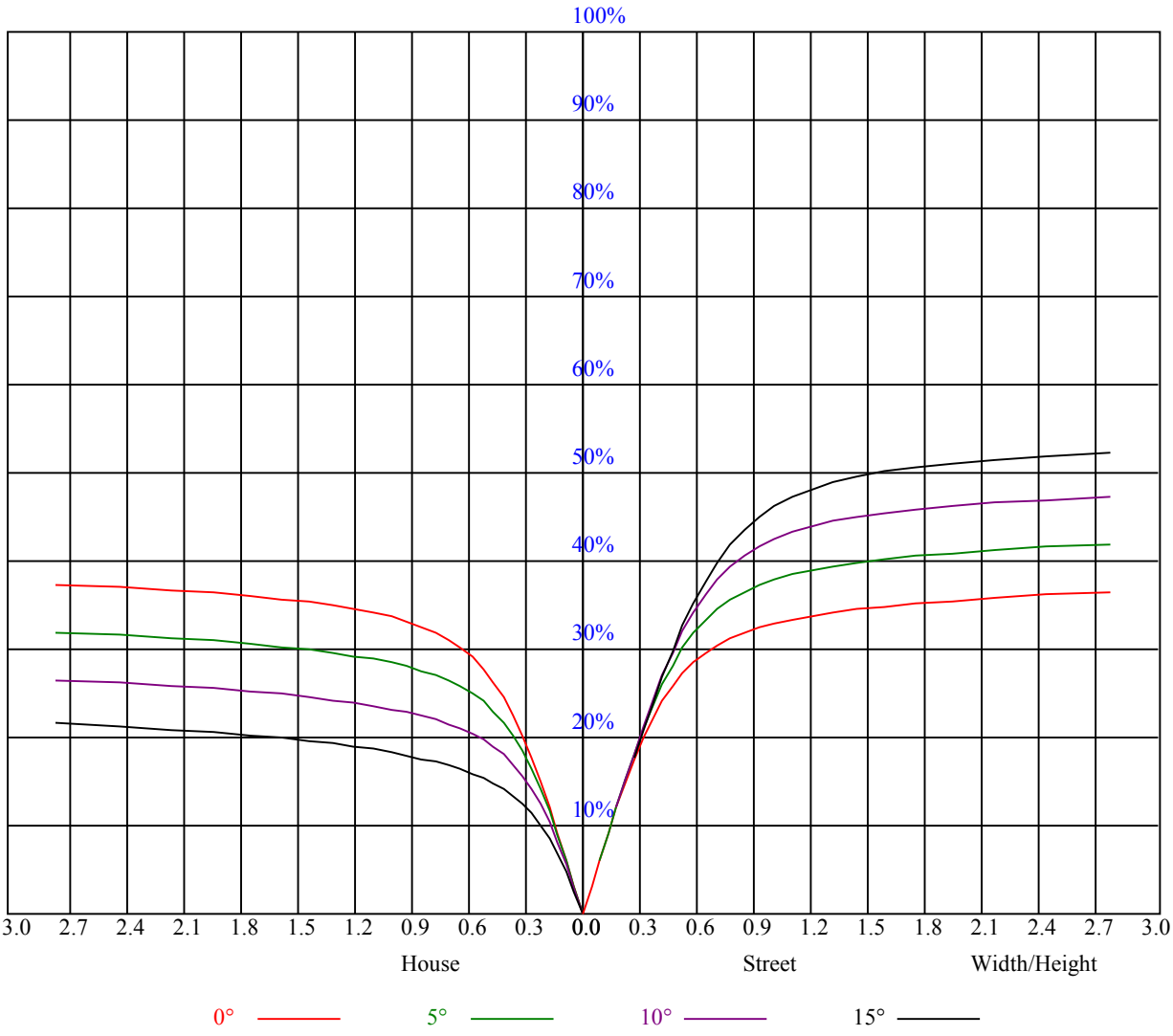


Equipment: GMS1980	Date: 2020/4/2	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

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	0.94	0.94	0.94	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84	0.81	0.81	0.81	0.79
1	0.84	0.81	0.78	0.82	0.79	0.77	0.79	0.76	0.74	0.76	0.74	0.72	0.73	0.71	0.70	0.68
2	0.76	0.71	0.68	0.74	0.70	0.67	0.72	0.68	0.65	0.69	0.66	0.64	0.67	0.65	0.62	0.61
3	0.70	0.64	0.60	0.68	0.64	0.60	0.66	0.62	0.59	0.64	0.61	0.58	0.62	0.59	0.57	0.55
4	0.64	0.59	0.55	0.63	0.58	0.54	0.62	0.57	0.54	0.60	0.56	0.53	0.58	0.55	0.52	0.51
5	0.60	0.54	0.50	0.59	0.54	0.50	0.57	0.53	0.49	0.56	0.52	0.49	0.55	0.51	0.48	0.47
6	0.56	0.50	0.46	0.55	0.50	0.46	0.54	0.49	0.46	0.53	0.49	0.45	0.52	0.48	0.45	0.44
7	0.52	0.47	0.43	0.52	0.47	0.43	0.51	0.46	0.43	0.50	0.46	0.42	0.49	0.45	0.42	0.41
8	0.49	0.44	0.40	0.49	0.44	0.40	0.48	0.43	0.40	0.47	0.43	0.40	0.46	0.43	0.40	0.38
9	0.47	0.41	0.38	0.46	0.41	0.38	0.46	0.41	0.38	0.45	0.41	0.38	0.44	0.40	0.37	0.36
10	0.44	0.39	0.36	0.44	0.39	0.36	0.43	0.39	0.36	0.43	0.38	0.36	0.42	0.38	0.35	0.34

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	128.36	115.54	103.22	92.76	83.42	74.03	65.76	59.51	53.44
45.0	127.24	118.46	110.14	102.66	94.44	87.92	80.66	73.86	68.23
90.0	124.48	124.88	124.93	124.71	124.43	123.86	123.08	121.78	120.60
135.0	122.23	130.50	140.68	148.16	154.97	161.89	167.85	172.07	175.22
180.0	128.36	139.73	153.06	162.62	171.00	177.24	182.19	183.71	182.59
225.0	127.24	135.00	142.48	150.98	157.22	162.90	169.31	173.08	175.78
270.0	124.48	123.98	123.41	122.40	121.11	119.70	117.68	115.99	114.02
315.0	122.23	114.08	105.13	96.24	88.93	81.17	74.14	68.34	62.44
360.0	128.36	115.54	103.22	92.76	83.42	74.03	65.76	59.51	53.44

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	48.09	43.99	39.94	36.68	32.96	30.38	28.07	25.93	23.63
45.0	62.61	57.43	53.04	48.99	44.49	41.18	38.03	35.27	32.06
90.0	119.08	117.00	115.09	112.56	109.52	106.26	103.11	99.51	95.85
135.0	176.85	176.85	175.56	172.86	168.41	162.56	156.43	149.91	141.19
180.0	178.59	171.84	164.53	154.91	144.34	134.33	122.91	113.12	102.26
225.0	177.69	178.48	178.03	176.40	173.53	169.93	164.98	159.64	153.11
270.0	111.38	108.96	106.37	103.61	99.73	96.64	93.38	89.10	85.61
315.0	57.66	52.71	48.15	44.55	40.73	37.41	34.54	32.01	29.19
360.0	48.09	43.99	39.94	36.68	32.96	30.38	28.07	25.93	23.63

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	21.88	20.36	18.73	17.44	16.31	15.24	14.29	13.56	12.77
45.0	29.64	27.17	25.26	23.40	21.54	20.25	18.84	17.55	16.54
90.0	91.58	86.96	83.08	78.58	73.97	69.75	65.81	60.81	56.87
135.0	133.59	125.33	116.16	108.11	100.13	92.03	84.66	78.02	70.82
180.0	91.69	82.80	74.70	65.42	58.78	52.93	46.29	41.74	37.69
225.0	146.36	140.01	133.31	124.71	117.39	110.31	101.70	94.89	88.20
270.0	81.90	77.74	73.52	69.86	65.48	61.43	56.70	52.99	49.39
315.0	27.23	25.31	23.34	21.66	20.25	18.79	17.44	16.43	15.36
360.0	21.88	20.36	18.73	17.44	16.31	15.24	14.29	13.56	12.77

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	12.15	11.64	11.19	10.86	10.58	10.35	10.24	10.13	10.01
45.0	15.58	14.63	13.78	13.11	12.32	11.76	11.31	10.80	10.29
90.0	53.21	48.94	44.83	41.23	37.46	33.86	30.77	27.62	25.03
135.0	64.86	58.56	52.88	48.04	43.14	39.26	35.33	32.18	28.52
180.0	33.58	30.15	27.39	24.64	22.50	20.48	18.73	17.38	15.98
225.0	80.94	73.86	68.06	61.99	56.81	51.41	46.35	42.19	37.97
270.0	45.39	41.74	38.76	35.38	32.34	29.81	27.17	24.86	22.50
315.0	14.51	13.67	12.94	12.38	11.87	11.19	10.80	10.35	10.01
360.0	12.15	11.64	11.19	10.86	10.58	10.35	10.24	10.13	10.01

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	9.96	9.90	9.84	9.73	9.68	9.56	9.56	9.51	9.51
45.0	10.01	9.68	9.34	9.00	8.72	8.38	8.16	7.93	7.76
90.0	22.33	19.86	17.89	15.86	13.95	12.49	11.25	9.90	9.06
135.0	26.04	23.74	21.77	19.46	17.89	16.43	15.02	13.84	12.77
180.0	14.79	13.89	13.11	12.15	11.53	10.91	10.35	9.84	9.39
225.0	34.20	30.99	28.13	24.86	22.67	20.64	18.51	16.43	14.79
270.0	20.25	18.51	16.82	15.02	13.78	12.71	11.42	10.52	9.73
315.0	9.73	9.45	9.23	9.00	8.83	8.61	8.44	8.27	8.16
360.0	9.96	9.90	9.84	9.73	9.68	9.56	9.56	9.51	9.51

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	9.45	9.45	9.45	9.34	9.28	9.17	9.06	9.00	8.72
45.0	7.65	7.48	7.31	7.14	6.98	6.75	6.64	6.47	6.30
90.0	8.33	7.76	7.20	6.75	6.41	6.08	5.85	5.57	5.40
135.0	11.70	10.69	9.90	9.17	8.61	8.04	7.59	7.26	6.98
180.0	9.00	8.61	8.27	7.93	7.65	7.37	7.09	6.86	6.58
225.0	13.16	11.70	10.69	9.68	9.00	8.33	7.76	7.31	6.98
270.0	8.94	8.33	7.76	7.31	6.92	6.53	6.19	5.91	5.74
315.0	8.04	7.88	7.71	7.65	7.48	7.37	7.14	7.03	6.86
360.0	9.45	9.45	9.45	9.34	9.28	9.17	9.06	9.00	8.72

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	8.55	8.33	8.10	7.76	7.54	7.20	6.86	6.58	6.30
45.0	6.13	5.96	5.85	5.74	5.63	5.51	5.40	5.29	5.23
90.0	5.23	5.06	4.95	4.84	4.73	4.61	4.56	4.50	4.44
135.0	6.64	6.47	6.30	6.13	5.96	5.79	5.68	5.57	5.46
180.0	6.30	6.13	5.91	5.74	5.57	5.40	5.18	5.01	4.89
225.0	6.64	6.41	6.19	5.96	5.85	5.74	5.68	5.68	5.63
270.0	5.51	5.34	5.23	5.06	4.95	4.89	4.78	4.73	4.61
315.0	6.69	6.53	6.36	6.24	6.13	5.96	5.85	5.79	5.68
360.0	8.55	8.33	8.10	7.76	7.54	7.20	6.86	6.58	6.30

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	6.08	5.85	5.68	5.74	5.85	5.79	5.63	5.51	5.29
45.0	5.12	5.12	5.06	5.01	5.01	5.01	4.95	4.89	4.89
90.0	4.33	4.28	4.22	4.22	4.16	4.16	4.11	4.11	4.11
135.0	5.40	5.29	5.29	5.29	5.23	5.23	5.23	5.23	5.23
180.0	4.73	4.61	4.56	4.44	4.39	4.33	4.28	4.22	4.22
225.0	5.63	5.57	5.57	5.57	5.57	5.57	5.57	5.51	5.40
270.0	4.56	4.50	4.50	4.39	4.39	4.33	4.33	4.28	4.33
315.0	5.63	5.57	5.46	5.34	5.23	5.12	5.01	4.89	4.84
360.0	6.08	5.85	5.68	5.74	5.85	5.79	5.63	5.51	5.29

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	5.18	5.01	4.89	4.78	4.67	4.56	4.50	4.39	4.33
45.0	4.89	4.89	4.95	4.95	4.95	5.01	5.01	5.06	5.12
90.0	4.11	4.11	4.11	4.11	4.11	4.16	4.16	4.28	4.44
135.0	5.29	5.34	5.34	5.40	5.40	5.46	5.51	5.63	5.79
180.0	4.16	4.11	4.11	4.11	4.05	4.05	3.99	3.99	3.94
225.0	5.23	5.23	5.23	5.29	5.29	5.34	5.40	5.51	5.74
270.0	4.28	4.28	4.22	4.22	4.22	4.22	4.22	4.22	4.28
315.0	4.78	4.73	4.67	4.67	4.61	4.61	4.61	4.61	4.56
360.0	5.18	5.01	4.89	4.78	4.67	4.56	4.50	4.39	4.33

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	4.22	4.16	3.99	3.83	3.66	3.49	3.21	2.31	1.69
45.0	5.18	5.29	5.34	5.34	5.23	5.01	4.84	4.05	3.21
90.0	4.61	4.95	5.46	6.19	7.31	8.55	9.51	10.24	11.76
135.0	6.08	6.24	6.36	6.30	6.24	6.08	5.40	5.06	4.95
180.0	3.83	3.77	3.60	3.38	2.98	2.03	1.52	1.07	0.73
225.0	6.02	6.47	6.81	7.14	7.37	7.26	7.48	7.82	7.43
270.0	4.33	4.39	4.50	4.67	4.73	4.67	4.56	4.73	5.23
315.0	4.56	4.56	4.56	4.44	4.28	3.99	3.32	2.64	2.31
360.0	4.22	4.16	3.99	3.83	3.66	3.49	3.21	2.31	1.69

Intensity data(cd)

C/γ(°)	90.0
0.0	1.24
45.0	2.87
90.0	6.02
135.0	4.28
180.0	0.45
225.0	0.45
270.0	1.07
315.0	3.21
360.0	1.24