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

Nata

LumCAT: NA01D020038BW
Luminaire:
Report No: 200402-B007
Test No: 200402-C007
LampCAT: CREE 3030
Lamp flux(lm): 141.9
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 6.2100
Current(A): 0.1600
Power (W): 0.9940
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 133.20
Efficiency(%): 93.89%
Lumens(lm)/Power(W): 134.00
Central intensity(cd): 239.020
Maximum intensity(cd): 239.020
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=34.0
[C90/270]Total=34.0
Field angle(10%Imax): [C0/180]Total=74.4
[C90/270]Total=74.4
Maximum s/h(1/2): C0_180=0.55 C90_270=0.55
Maximum s/h(1/4): C0_180=0.59 C90_270=0.59
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 93.89%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 92.708%

Nata NA01D020038BW

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	239.020	0.000	0	.000%	.000%
1.0	238.472	0.228	0.228	.161%	.172%
2.0	236.742	0.682	0.911	.481%	.684%
3.0	233.895	1.126	2.036	.793%	1.529%
4.0	230.020	1.553	3.589	1.095%	2.695%
5.0	225.077	1.958	5.547	1.380%	4.164%
6.0	218.911	2.333	7.88	1.645%	5.916%
7.0	211.985	2.675	10.555	1.885%	7.924%
8.0	204.539	2.981	13.536	2.101%	10.162%
9.0	195.891	3.245	16.781	2.288%	12.599%
10.0	186.680	3.462	20.243	2.441%	15.198%
11.0	177.609	3.640	23.883	2.566%	17.931%
12.0	167.927	3.777	27.66	2.663%	20.766%
13.0	157.570	3.863	31.523	2.723%	23.666%
14.0	147.600	3.906	35.429	2.754%	26.599%
15.0	137.981	3.921	39.35	2.764%	29.543%
16.0	128.468	3.904	43.254	2.752%	32.474%
17.0	119.538	3.862	47.116	2.722%	35.373%
18.0	110.566	3.794	50.91	2.674%	38.222%
19.0	102.860	3.713	54.623	2.618%	41.009%
20.0	94.964	3.621	58.244	2.552%	43.728%
21.0	87.314	3.500	61.744	2.467%	46.355%
22.0	80.705	3.376	65.121	2.380%	48.890%
23.0	74.440	3.255	68.376	2.295%	51.334%
24.0	68.520	3.126	71.501	2.203%	53.681%
25.0	63.070	2.992	74.494	2.109%	55.927%
26.0	58.254	2.864	77.357	2.019%	58.077%
27.0	53.501	2.734	80.092	1.927%	60.130%
28.0	49.366	2.604	82.696	1.836%	62.085%
29.0	45.422	2.480	85.176	1.748%	63.947%
30.0	41.934	2.359	87.534	1.663%	65.718%
31.0	38.573	2.240	89.775	1.579%	67.400%
32.0	35.515	2.123	91.897	1.496%	68.993%
33.0	32.878	2.015	93.912	1.420%	70.506%
34.0	30.319	1.913	95.825	1.348%	71.942%
35.0	28.118	1.815	97.64	1.279%	73.305%
36.0	26.030	1.724	99.364	1.215%	74.599%
37.0	24.237	1.639	101.003	1.156%	75.830%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	22.507	1.560	102.563	1.100%	77.001%
39.0	20.918	1.482	104.046	1.045%	78.114%
40.0	19.561	1.412	105.457	.995%	79.174%
41.0	18.345	1.350	106.807	.951%	80.187%
42.0	17.149	1.290	108.097	.909%	81.155%
43.0	16.038	1.229	109.326	.867%	82.078%
44.0	15.096	1.175	110.501	.828%	82.961%
45.0	14.161	1.124	111.626	.793%	83.805%
46.0	13.289	1.074	112.699	.757%	84.611%
47.0	12.516	1.026	113.725	.723%	85.381%
48.0	11.791	0.983	114.708	.693%	86.119%
49.0	11.067	0.939	115.647	.662%	86.824%
50.0	10.385	0.894	116.541	.630%	87.495%
51.0	9.773	0.853	117.394	.601%	88.135%
52.0	9.204	0.814	118.208	.574%	88.747%
53.0	8.634	0.776	118.984	.547%	89.329%
54.0	8.121	0.739	119.723	.521%	89.884%
55.0	7.657	0.704	120.427	.496%	90.413%
56.0	7.193	0.671	121.098	.473%	90.916%
57.0	6.778	0.639	121.737	.450%	91.396%
58.0	6.398	0.609	122.346	.430%	91.853%
59.0	6.061	0.582	122.929	.411%	92.291%
60.0	5.702	0.556	123.484	.392%	92.708%
61.0	5.386	0.529	124.014	.373%	93.105%
62.0	5.112	0.506	124.519	.357%	93.485%
63.0	4.866	0.485	125.005	.342%	93.849%
64.0	4.620	0.465	125.47	.328%	94.199%
65.0	4.388	0.446	125.916	.314%	94.533%
66.0	4.219	0.429	126.345	.303%	94.856%
67.0	4.008	0.414	126.759	.292%	95.166%
68.0	3.832	0.397	127.156	.280%	95.464%
69.0	3.670	0.383	127.539	.270%	95.752%
70.0	3.537	0.370	127.909	.261%	96.030%
71.0	3.403	0.359	128.268	.253%	96.299%
72.0	3.291	0.348	128.616	.245%	96.560%
73.0	3.178	0.338	128.954	.238%	96.814%
74.0	3.101	0.330	129.284	.233%	97.062%
75.0	3.016	0.323	129.607	.228%	97.305%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	2.981	0.318	129.926	.224%	97.544%
77.0	2.918	0.315	130.24	.222%	97.780%
78.0	2.848	0.309	130.549	.218%	98.012%
79.0	2.805	0.304	130.853	.214%	98.240%
80.0	2.770	0.301	131.153	.212%	98.465%
81.0	2.707	0.296	131.449	.209%	98.688%
82.0	2.651	0.291	131.74	.205%	98.906%
83.0	2.538	0.282	132.022	.199%	99.118%
84.0	2.412	0.270	132.292	.190%	99.320%
85.0	2.250	0.254	132.546	.179%	99.511%
86.0	1.814	0.222	132.768	.157%	99.678%
87.0	1.315	0.171	132.939	.121%	99.806%
88.0	0.823	0.117	133.057	.083%	99.894%
89.0	0.612	0.079	133.135	.055%	99.953%
90.0	0.520	0.062	133.197	.044%	100.000%

Zonal flux distribution table

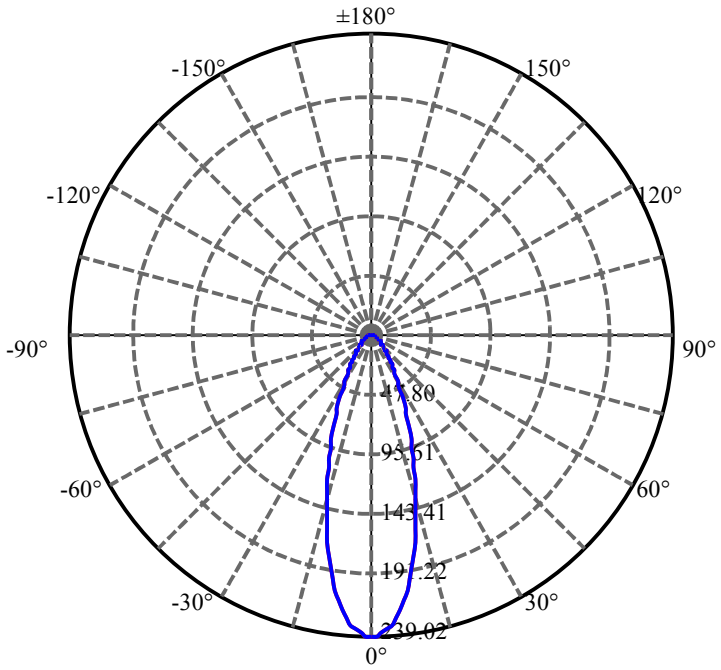
ZONAL LUMEN SUMMARY

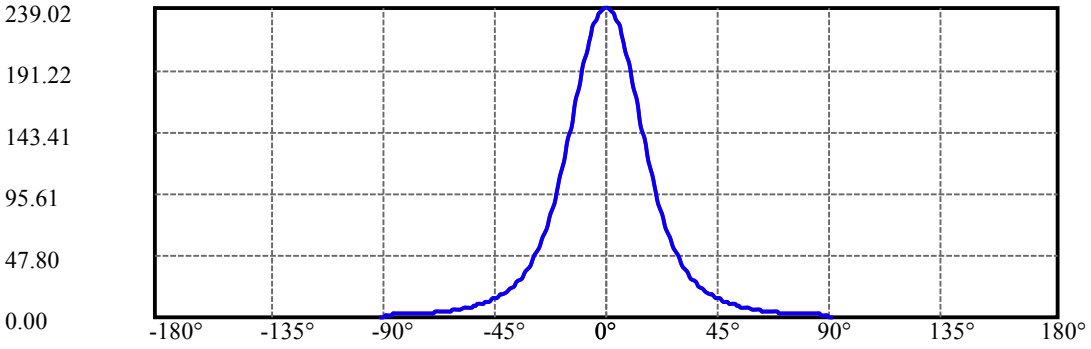
Zone	Lumens	%Lamp	%Fixt
0-30	87.53	61.70%	65.72%
0-40	105.46	74.34%	79.17%
0-60	123.48	87.05%	92.71%
0-90	133.14	93.85%	99.95%
0-120	133.14	93.85%	99.95%
0-180	133.20	93.89%	100.00%
60-90	10.21	7.19%	7.66%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-40.82	106.56	75.11%	80.00%

ZONAL LUMEN SUMMARY

0-10	20.24
10-20	38.00
20-30	29.29
30-40	17.92
40-50	11.08
50-60	6.94
60-70	4.42
70-80	3.24
80-90	1.98
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]





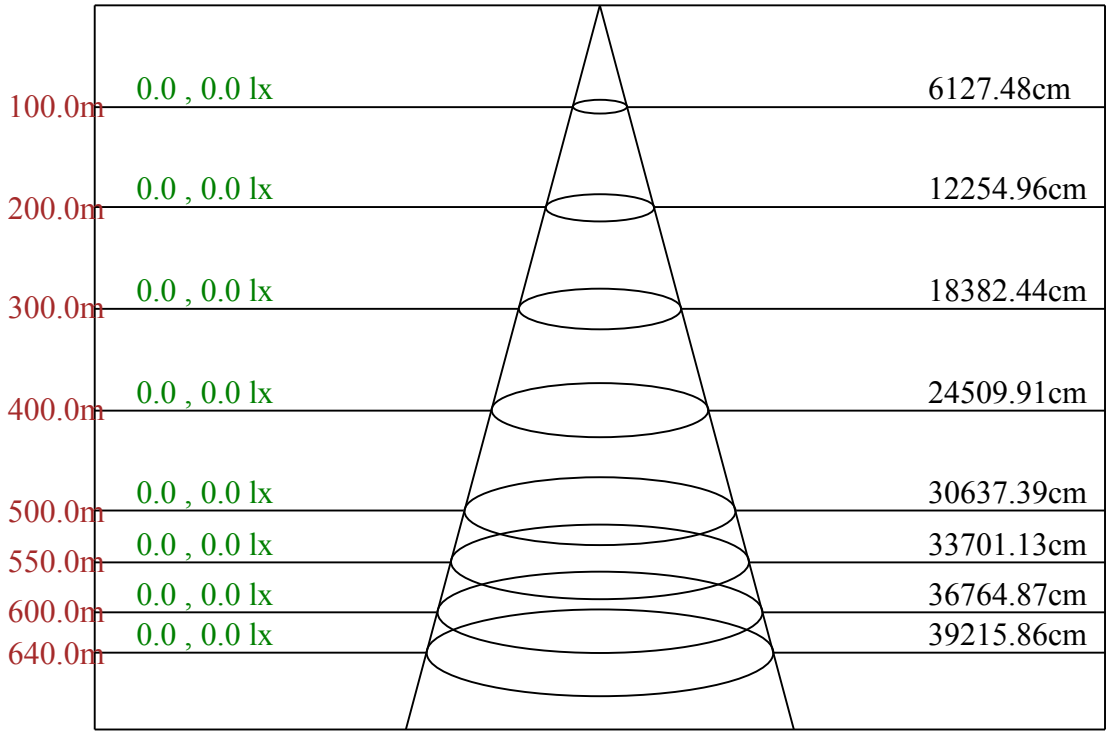
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:37.2 Right:37.2
:C90/270Left:37.2 Right:37.2

Beam Angle(50%Imax):C0/180Left:17.0 Right:17.0
:C90/270Left:17.0 Right:17.0

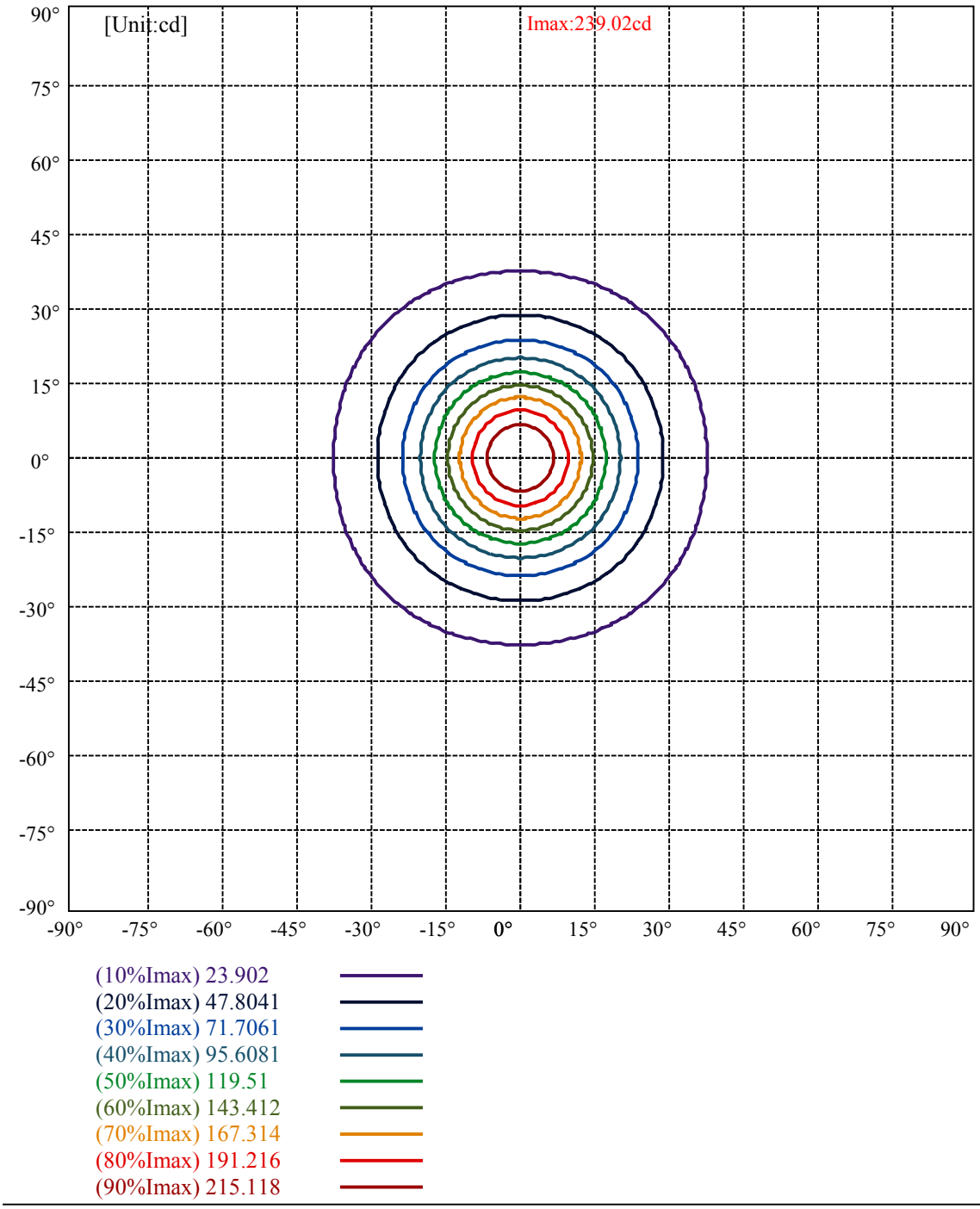
Lux distance Curve



Max , Ave

Beam angle of C0 plane 34.07

ISO-Intensity(V-H)

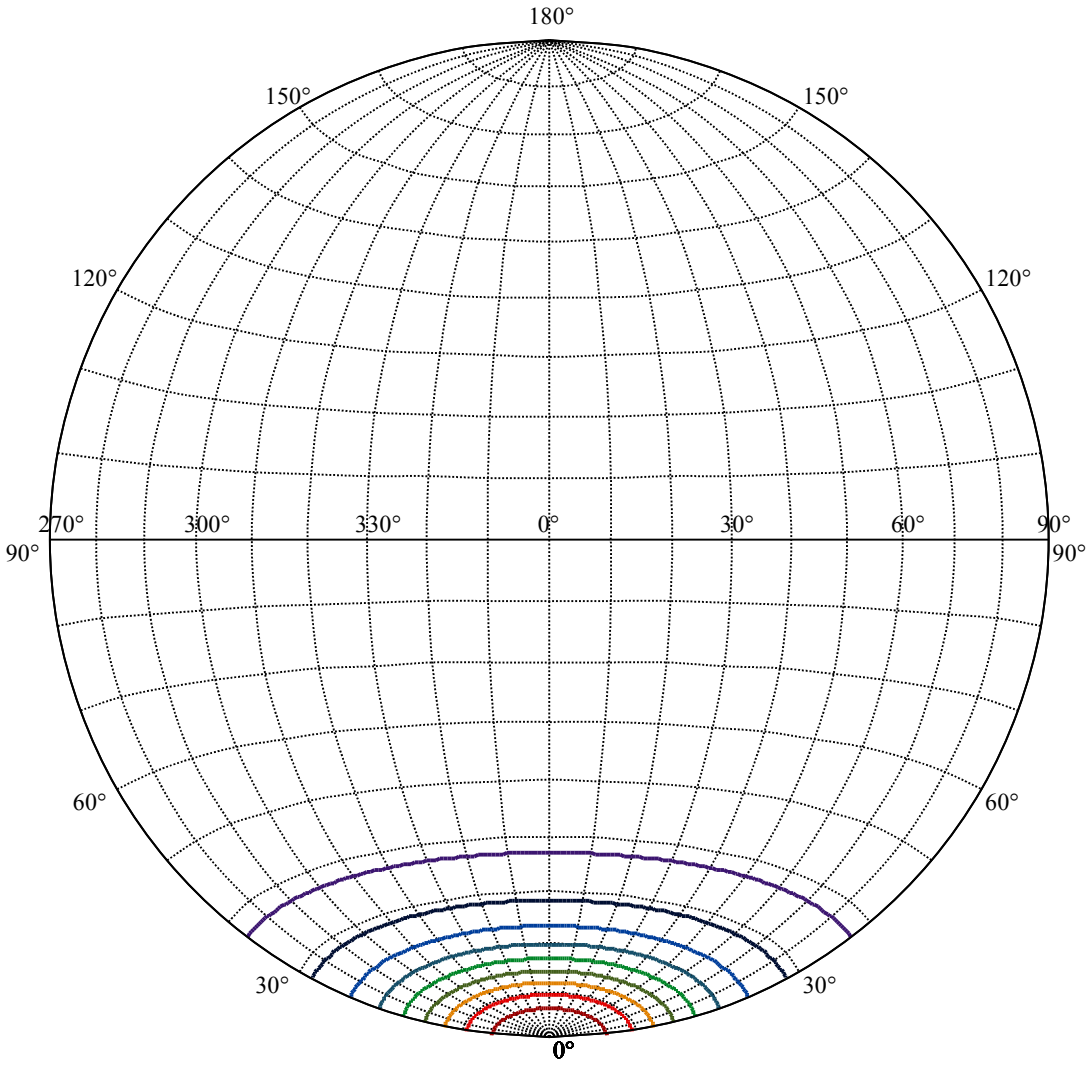


Equipment: GMS1980
Temperature(°C): 25.0

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

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:239.02

(10%Imax) 23.902
(20%Imax) 47.8041
(30%Imax) 71.7061
(40%Imax) 95.6081
(50%Imax) 119.51
(60%Imax) 143.412
(70%Imax) 167.314
(80%Imax) 191.216
(90%Imax) 215.118

Equipment: GMS1980
Temperature(°C): 25.0

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

Operator: NT07
Distance(m): 7.50

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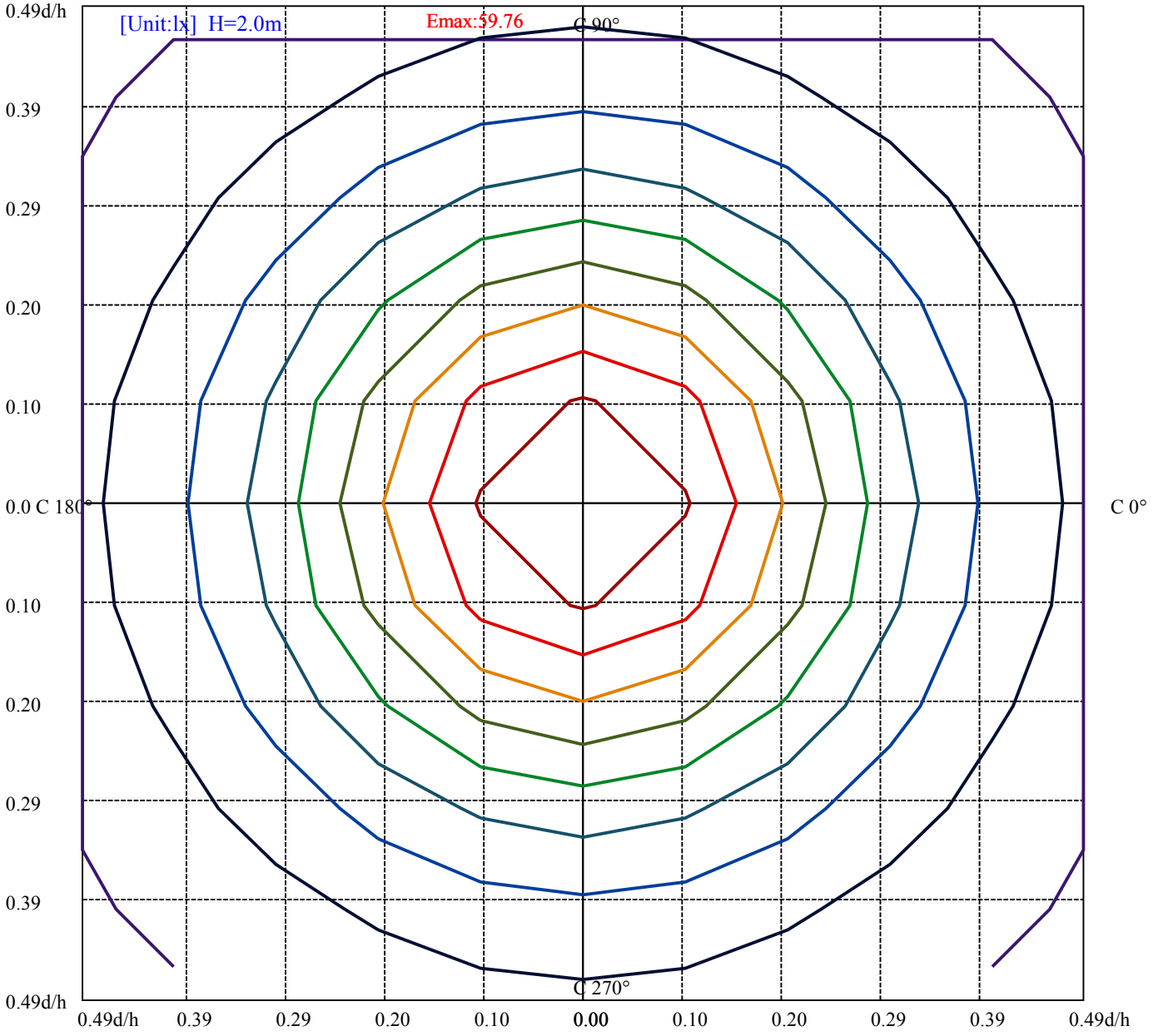
ISO illuminance diagram



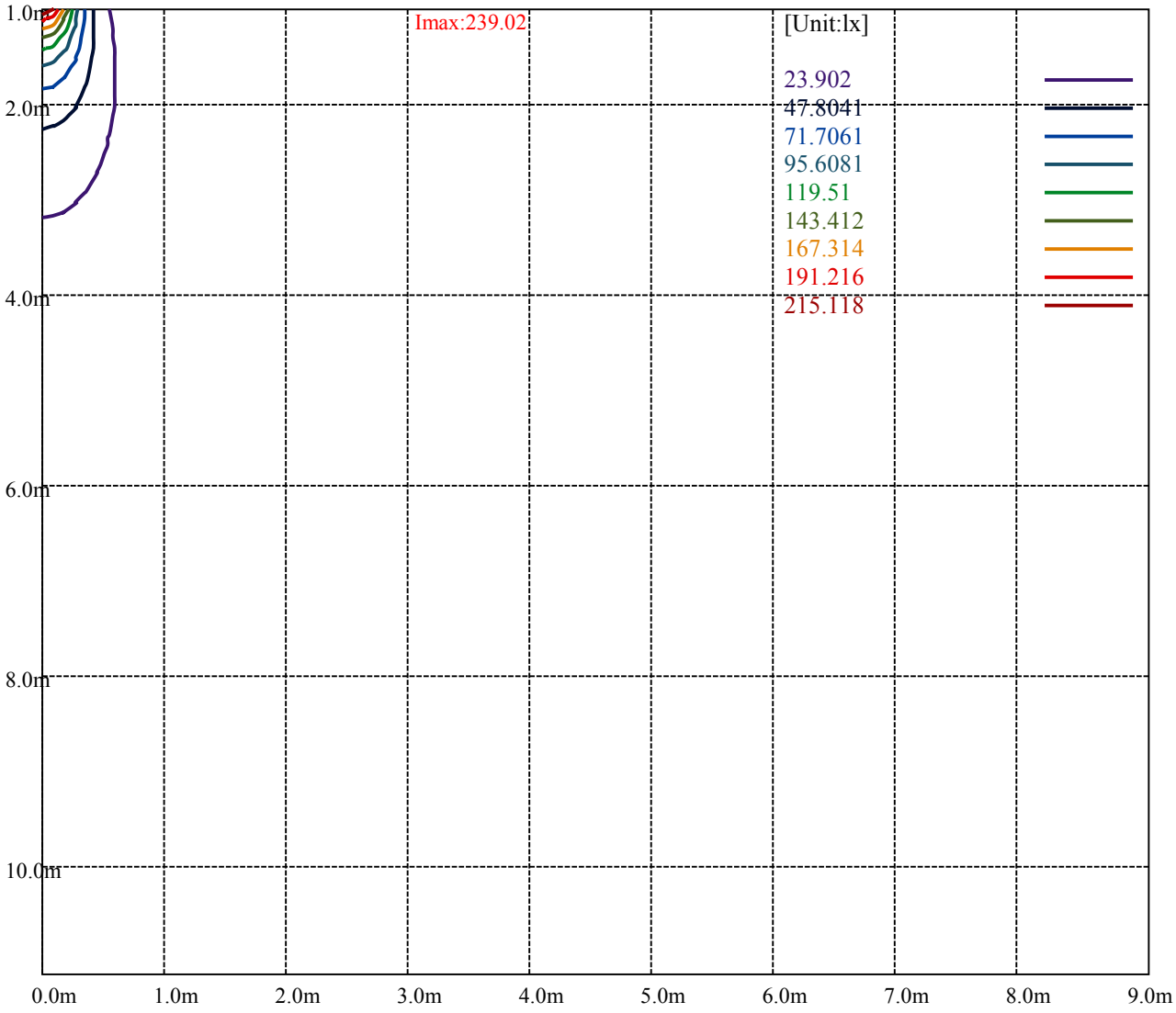
(10%Emax) 5.9755
(20%Emax) 11.95103
(30%Emax) 17.92653
(40%Emax) 23.90203
(50%Emax) 29.8775
(60%Emax) 35.853
(70%Emax) 41.8285
(80%Emax) 47.804
(90%Emax) 53.7795

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

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Luminance Limitting Curve(no luminous side)

Luminance Table

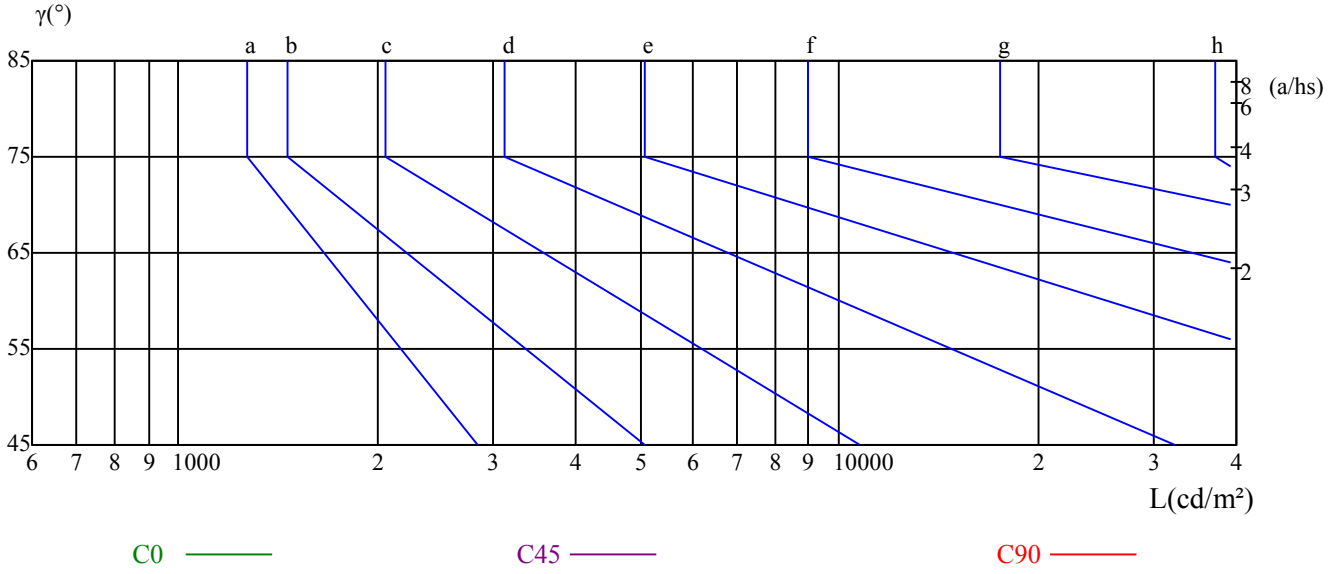
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

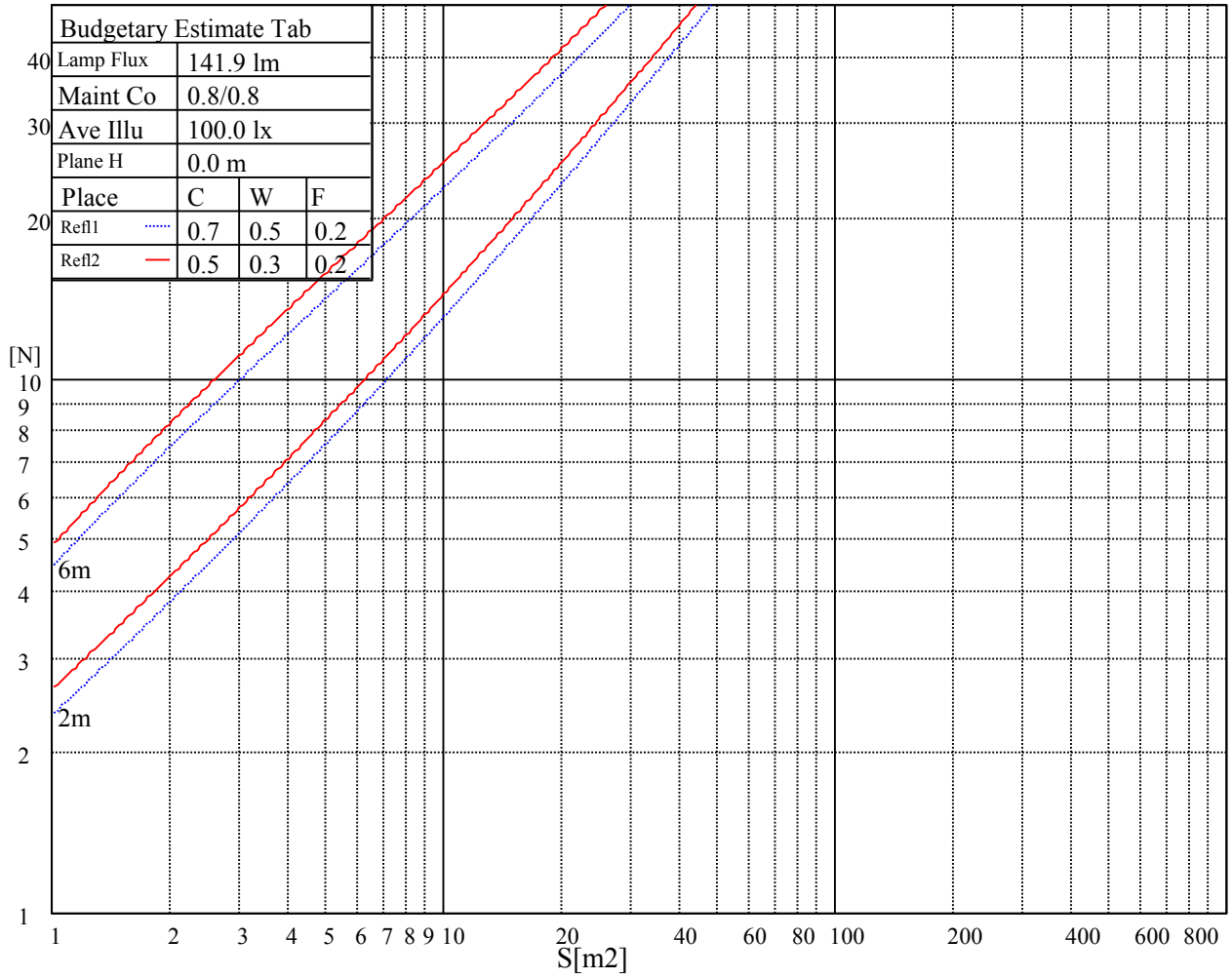
Glare Table

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

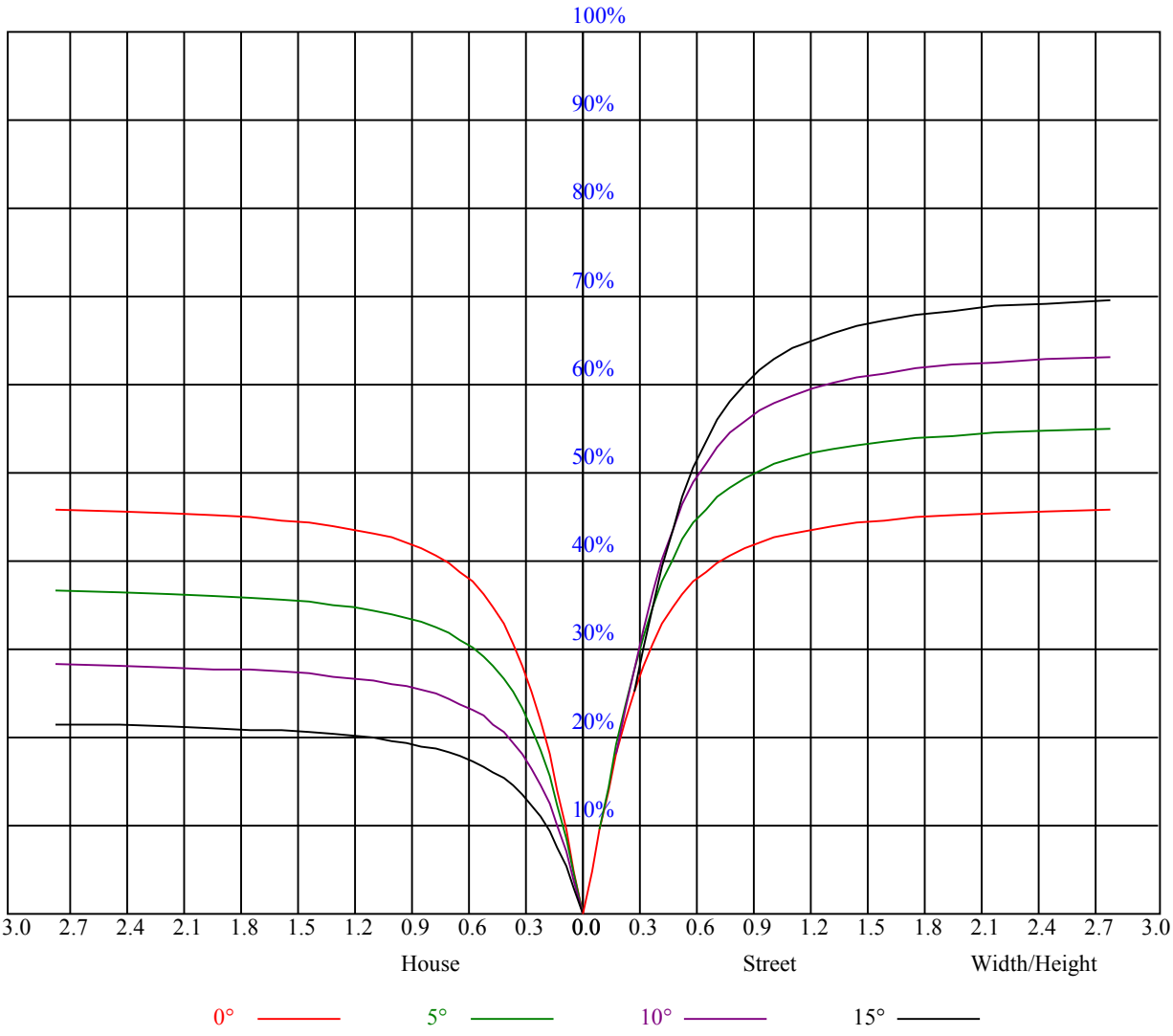


Equipment: GMS1980	Date: 2020/4/2	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

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	1.12	1.12	1.12	1.09	1.09	1.09	1.04	1.04	1.04	1.00	1.00	1.00	0.96	0.96	0.96	0.94
1	1.02	0.99	0.97	1.00	0.98	0.95	0.96	0.94	0.92	0.93	0.91	0.90	0.89	0.88	0.87	0.85
2	0.94	0.90	0.86	0.92	0.88	0.85	0.89	0.86	0.83	0.86	0.84	0.81	0.84	0.82	0.80	0.78
3	0.87	0.82	0.78	0.86	0.81	0.77	0.83	0.79	0.76	0.81	0.77	0.74	0.79	0.76	0.73	0.72
4	0.81	0.75	0.71	0.80	0.75	0.71	0.78	0.73	0.70	0.76	0.72	0.69	0.74	0.71	0.68	0.67
5	0.76	0.70	0.66	0.75	0.69	0.65	0.73	0.68	0.65	0.72	0.67	0.64	0.70	0.66	0.63	0.62
6	0.71	0.65	0.61	0.70	0.65	0.61	0.69	0.64	0.60	0.68	0.63	0.60	0.66	0.63	0.59	0.58
7	0.67	0.61	0.57	0.67	0.61	0.57	0.65	0.60	0.57	0.64	0.60	0.56	0.63	0.59	0.56	0.55
8	0.64	0.58	0.54	0.63	0.57	0.54	0.62	0.57	0.53	0.61	0.56	0.53	0.60	0.56	0.53	0.52
9	0.60	0.55	0.51	0.60	0.54	0.51	0.59	0.54	0.51	0.58	0.54	0.50	0.57	0.53	0.50	0.49
10	0.57	0.52	0.48	0.57	0.52	0.48	0.56	0.51	0.48	0.55	0.51	0.48	0.55	0.51	0.48	0.46

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	237.04	237.94	237.43	235.69	232.59	228.15	223.14	216.28	209.25
45.0	239.46	239.68	238.78	237.21	233.72	228.88	223.65	217.24	210.04
90.0	239.74	238.73	237.04	233.83	229.44	224.66	218.03	210.54	203.06
135.0	239.85	238.73	236.14	233.04	229.28	223.09	217.29	210.83	202.56
180.0	237.04	235.07	232.65	228.38	223.93	218.87	212.23	204.47	197.16
225.0	239.46	238.11	235.07	231.19	226.91	221.74	214.26	207.51	200.31
270.0	239.74	239.63	238.33	235.63	232.03	228.04	221.06	214.54	207.62
315.0	239.85	239.91	238.50	236.19	232.26	227.19	221.63	214.48	206.33
360.0	237.04	237.94	237.43	235.69	232.59	228.15	223.14	216.28	209.25

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	201.15	191.81	183.43	174.21	162.39	153.06	143.78	132.64	123.86
45.0	201.38	191.87	182.53	173.25	161.44	152.27	143.21	132.41	124.37
90.0	195.02	184.11	174.88	165.99	154.07	144.79	135.73	125.94	116.61
135.0	194.12	185.85	176.01	166.84	156.71	146.53	137.36	127.18	117.51
180.0	188.04	179.04	170.78	160.76	151.93	141.81	132.13	123.53	115.31
225.0	190.52	182.25	173.70	162.34	154.29	143.89	132.69	125.21	116.94
270.0	198.73	190.24	181.69	171.68	160.93	151.14	140.68	131.63	122.40
315.0	198.17	188.27	177.86	168.36	158.79	147.32	138.26	129.21	119.31
360.0	201.15	191.81	183.43	174.21	162.39	153.06	143.78	132.64	123.86

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	115.59	108.00	98.89	92.03	84.71	78.64	72.23	66.94	61.37
45.0	115.76	106.82	98.61	91.07	83.14	76.39	70.88	64.91	60.41
90.0	108.45	99.73	92.59	85.05	78.02	72.39	66.38	60.86	56.48
135.0	109.07	101.25	92.64	86.06	79.71	72.39	67.11	61.99	57.15
180.0	105.47	98.16	91.13	83.14	77.23	71.61	65.93	60.69	56.36
225.0	106.71	100.58	93.77	84.77	79.31	73.63	67.67	62.16	57.66
270.0	113.34	105.75	97.54	89.61	83.08	76.84	69.86	64.63	59.57
315.0	110.14	102.60	94.56	86.79	80.44	73.63	68.12	62.38	57.04
360.0	115.59	108.00	98.89	92.03	84.71	78.64	72.23	66.94	61.37

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	56.25	51.92	47.59	43.99	40.39	37.01	34.31	31.33	29.14
45.0	55.13	50.74	46.80	43.43	39.54	36.39	34.03	30.77	28.58
90.0	52.20	47.53	43.99	40.67	36.90	34.14	31.67	28.91	26.94
135.0	52.31	48.60	44.66	41.23	37.69	34.65	32.23	29.70	27.39
180.0	51.86	48.09	44.27	40.67	37.74	34.88	32.12	29.93	27.84
225.0	52.99	49.22	45.39	41.85	38.98	35.94	33.02	30.71	28.63
270.0	54.62	50.12	46.52	42.86	39.54	36.79	33.75	31.44	28.91
315.0	52.65	48.71	44.16	40.78	37.80	34.31	31.89	29.76	27.51
360.0	56.25	51.92	47.59	43.99	40.39	37.01	34.31	31.33	29.14

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	27.11	25.26	23.12	21.54	20.19	18.79	17.55	16.54	15.41
45.0	26.66	24.58	22.84	21.43	19.97	18.79	17.49	16.37	15.41
90.0	25.14	23.12	21.77	20.25	18.68	17.66	16.59	15.30	14.51
135.0	25.54	23.91	21.94	20.59	19.29	18.06	16.71	15.75	14.85
180.0	25.59	23.96	22.39	20.76	19.46	18.23	17.10	16.03	15.13
225.0	26.16	24.41	22.78	20.93	19.69	18.45	17.38	16.09	15.19
270.0	26.61	24.81	23.12	21.26	19.86	18.68	17.33	16.26	15.30
315.0	25.43	23.85	22.11	20.59	19.35	18.11	17.04	15.98	14.96
360.0	27.11	25.26	23.12	21.54	20.19	18.79	17.55	16.54	15.41

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	14.46	13.61	12.83	12.09	11.31	10.58	9.96	9.45	8.78
45.0	14.40	13.50	12.71	11.98	11.14	10.58	9.96	9.28	8.72
90.0	13.73	12.66	12.04	11.36	10.63	9.96	9.39	8.83	8.33
135.0	13.84	13.05	12.43	11.64	10.97	10.41	9.73	9.17	8.55
180.0	14.18	13.44	12.60	11.87	11.25	10.58	9.96	9.39	8.89
225.0	14.29	13.39	12.54	11.93	11.14	10.41	9.79	9.23	8.72
270.0	14.34	13.44	12.66	11.87	11.19	10.52	9.90	9.34	8.72
315.0	14.06	13.22	12.32	11.59	10.91	10.07	9.51	8.94	8.38
360.0	14.46	13.61	12.83	12.09	11.31	10.58	9.96	9.45	8.78

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	8.33	7.88	7.26	6.86	6.53	6.13	5.74	5.46	5.06
45.0	8.21	7.71	7.20	6.81	6.41	6.08	5.74	5.40	5.12
90.0	7.82	7.31	6.92	6.47	6.13	5.79	5.51	5.12	4.89
135.0	7.99	7.59	7.14	6.75	6.41	6.08	5.68	5.40	5.18
180.0	8.27	7.82	7.43	6.98	6.58	6.30	5.91	5.57	5.34
225.0	8.21	7.71	7.31	6.92	6.41	6.13	5.79	5.51	5.23
270.0	8.21	7.76	7.37	6.86	6.53	6.19	5.74	5.46	5.18
315.0	7.93	7.48	6.92	6.58	6.19	5.79	5.51	5.18	4.89
360.0	8.33	7.88	7.26	6.86	6.53	6.13	5.74	5.46	5.06

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	4.84	4.61	4.33	4.16	3.94	3.71	3.54	3.43	3.26
45.0	4.89	4.56	4.33	4.16	3.94	3.77	3.60	3.49	3.32
90.0	4.61	4.33	4.16	3.94	3.77	3.54	3.43	3.32	3.15
135.0	4.95	4.67	4.44	4.22	3.99	3.88	3.66	3.54	3.43
180.0	5.01	4.84	4.61	4.44	4.22	4.05	3.88	3.77	3.60
225.0	5.01	4.78	4.56	4.44	4.22	4.05	3.88	3.71	3.66
270.0	4.89	4.67	4.44	4.28	4.11	3.94	3.77	3.60	3.43
315.0	4.73	4.50	4.22	4.11	3.88	3.71	3.60	3.43	3.38
360.0	4.84	4.61	4.33	4.16	3.94	3.71	3.54	3.43	3.26

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.15	3.04	2.93	2.87	2.87	2.81	2.70	2.64	2.64
45.0	3.21	3.09	3.04	2.98	2.93	2.87	2.81	2.76	2.76
90.0	3.04	2.98	2.87	2.76	2.70	2.64	2.53	2.48	2.36
135.0	3.32	3.21	3.15	3.04	2.98	2.87	2.87	2.81	2.81
180.0	3.49	3.32	3.26	3.15	3.15	3.09	2.98	3.04	2.93
225.0	3.49	3.38	3.32	3.26	3.21	3.15	3.09	3.04	2.98
270.0	3.38	3.26	3.21	3.09	3.09	3.04	2.98	2.93	2.93
315.0	3.26	3.15	3.04	2.98	2.93	2.87	2.81	2.76	2.76
360.0	3.15	3.04	2.93	2.87	2.87	2.81	2.70	2.64	2.64

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.59	2.48	2.31	2.19	2.03	1.24	0.79	0.68	0.51
45.0	2.64	2.59	2.42	2.25	2.03	1.29	0.84	0.68	0.51
90.0	2.31	2.19	1.97	1.69	1.41	1.18	0.79	0.62	0.51
135.0	2.70	2.70	2.64	2.59	2.42	2.14	1.58	0.90	0.68
180.0	2.87	2.87	2.76	2.59	2.48	2.31	1.86	1.01	0.73
225.0	2.98	2.93	2.87	2.87	2.76	2.48	2.03	1.07	0.73
270.0	2.87	2.81	2.76	2.70	2.64	2.36	1.74	0.96	0.73
315.0	2.70	2.64	2.59	2.42	2.25	1.52	0.90	0.68	0.51
360.0	2.59	2.48	2.31	2.19	2.03	1.24	0.79	0.68	0.51

Intensity data(cd)

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