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Nata

LumCAT: LM01D01560BY
Luminaire:

Report No: 200417-B009	Voltage(V): 9.2600
Test No: 200417-C009	Current(A): 0.3010
LampCAT: BRIDGELUX 5050	Power (W): 2.7870
Lamp flux(lm): 338.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 318.48
Efficiency(%): 94.21%
Lumens(lm)/Power(W): 114.27
Central intensity(cd): 236.630
Maximum intensity(cd): 236.665
Angle of maximum intensity: C=0.0 γ=1.0
Beam Angle(50%Imax): [C0/180]Total=63.8
[C90/270]Total=63.8
Field angle(10%Imax): [C0/180]Total=116.4
[C90/270]Total=116.4
Maximum s/h(1/2): C0_180=0.94 C90_270=0.94
Maximum s/h(1/4): C0_180=0.96 C90_270=0.96
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 94.21%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 89.053%

Nata LM01D01560BY

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	236.630	0.000	0	.000%	.000%
1.0	236.665	0.226	0.226	.067%	.071%
2.0	236.370	0.679	0.905	.201%	.284%
3.0	235.842	1.129	2.035	.334%	.639%
4.0	235.195	1.577	3.611	.466%	1.134%
5.0	234.323	2.020	5.631	.598%	1.768%
6.0	233.290	2.457	8.089	.727%	2.540%
7.0	232.017	2.888	10.977	.854%	3.447%
8.0	230.414	3.310	14.286	.979%	4.486%
9.0	228.410	3.719	18.005	1.100%	5.653%
10.0	226.069	4.113	22.118	1.217%	6.945%
11.0	223.516	4.492	26.61	1.329%	8.355%
12.0	220.845	4.858	31.468	1.437%	9.881%
13.0	217.702	5.204	36.672	1.540%	11.515%
14.0	214.003	5.526	42.198	1.635%	13.250%
15.0	210.445	5.827	48.025	1.724%	15.079%
16.0	206.255	6.106	54.131	1.806%	16.997%
17.0	201.909	6.356	60.487	1.880%	18.992%
18.0	197.255	6.581	67.068	1.947%	21.059%
19.0	192.713	6.785	73.853	2.007%	23.189%
20.0	187.552	6.960	80.813	2.059%	25.375%
21.0	182.222	7.100	87.913	2.100%	27.604%
22.0	176.991	7.219	95.132	2.135%	29.871%
23.0	171.225	7.307	102.438	2.161%	32.165%
24.0	165.713	7.367	109.805	2.179%	34.478%
25.0	159.827	7.402	117.207	2.190%	36.802%
26.0	153.963	7.407	124.614	2.191%	39.128%
27.0	147.902	7.385	131.999	2.185%	41.447%
28.0	142.165	7.344	139.343	2.172%	43.753%
29.0	135.844	7.273	146.617	2.152%	46.036%
30.0	130.092	7.180	153.797	2.124%	48.291%
31.0	123.757	7.064	160.861	2.090%	50.509%
32.0	117.640	6.916	167.777	2.046%	52.680%
33.0	112.092	6.768	174.545	2.002%	54.806%
34.0	106.024	6.601	181.146	1.953%	56.878%
35.0	100.413	6.411	187.557	1.897%	58.891%
36.0	94.690	6.212	193.769	1.838%	60.842%
37.0	89.325	6.002	199.77	1.775%	62.726%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	83.630	5.773	205.543	1.708%	64.539%
39.0	78.483	5.533	211.077	1.637%	66.276%
40.0	73.849	5.313	216.39	1.572%	67.944%
41.0	69.286	5.097	221.487	1.508%	69.545%
42.0	64.821	4.872	226.359	1.441%	71.075%
43.0	60.602	4.646	231.005	1.374%	72.534%
44.0	56.820	4.432	235.437	1.311%	73.925%
45.0	53.093	4.224	239.661	1.250%	75.251%
46.0	49.845	4.026	243.687	1.191%	76.515%
47.0	46.533	3.833	247.52	1.134%	77.719%
48.0	43.643	3.645	251.165	1.078%	78.864%
49.0	40.859	3.470	254.635	1.027%	79.953%
50.0	38.194	3.296	257.931	.975%	80.988%
51.0	35.902	3.135	261.066	.927%	81.972%
52.0	33.827	2.992	264.058	.885%	82.912%
53.0	31.753	2.853	266.911	.844%	83.808%
54.0	29.869	2.716	269.627	.803%	84.661%
55.0	28.245	2.594	272.221	.767%	85.475%
56.0	26.655	2.481	274.702	.734%	86.254%
57.0	25.249	2.373	277.075	.702%	86.999%
58.0	23.906	2.273	279.348	.672%	87.713%
59.0	22.704	2.179	281.527	.645%	88.397%
60.0	21.530	2.090	283.617	.618%	89.053%
61.0	20.447	2.003	285.62	.593%	89.682%
62.0	19.427	1.921	287.541	.568%	90.286%
63.0	18.513	1.845	289.387	.546%	90.865%
64.0	17.620	1.773	291.16	.525%	91.422%
65.0	16.770	1.702	292.862	.503%	91.956%
66.0	15.968	1.633	294.495	.483%	92.469%
67.0	15.230	1.569	296.064	.464%	92.961%
68.0	14.548	1.508	297.572	.446%	93.435%
69.0	13.929	1.453	299.025	.430%	93.891%
70.0	13.373	1.402	300.427	.415%	94.332%
71.0	12.818	1.354	301.781	.400%	94.757%
72.0	12.298	1.306	303.087	.386%	95.167%
73.0	11.848	1.263	304.349	.374%	95.563%
74.0	11.440	1.224	305.574	.362%	95.947%
75.0	11.018	1.187	306.76	.351%	96.320%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	10.624	1.149	307.909	.340%	96.681%
77.0	10.266	1.114	309.023	.329%	97.031%
78.0	9.900	1.079	310.102	.319%	97.369%
79.0	9.570	1.046	311.148	.309%	97.698%
80.0	9.232	1.014	312.162	.300%	98.016%
81.0	8.866	0.979	313.141	.290%	98.324%
82.0	8.487	0.941	314.082	.278%	98.619%
83.0	8.058	0.899	314.981	.266%	98.901%
84.0	7.495	0.847	315.829	.251%	99.167%
85.0	6.778	0.779	316.608	.230%	99.412%
86.0	5.442	0.668	317.276	.198%	99.622%
87.0	3.839	0.508	317.784	.150%	99.781%
88.0	2.285	0.335	318.119	.099%	99.887%
89.0	1.505	0.208	318.327	.061%	99.952%
90.0	1.294	0.153	318.48	.045%	100.000%

Zonal flux distribution table

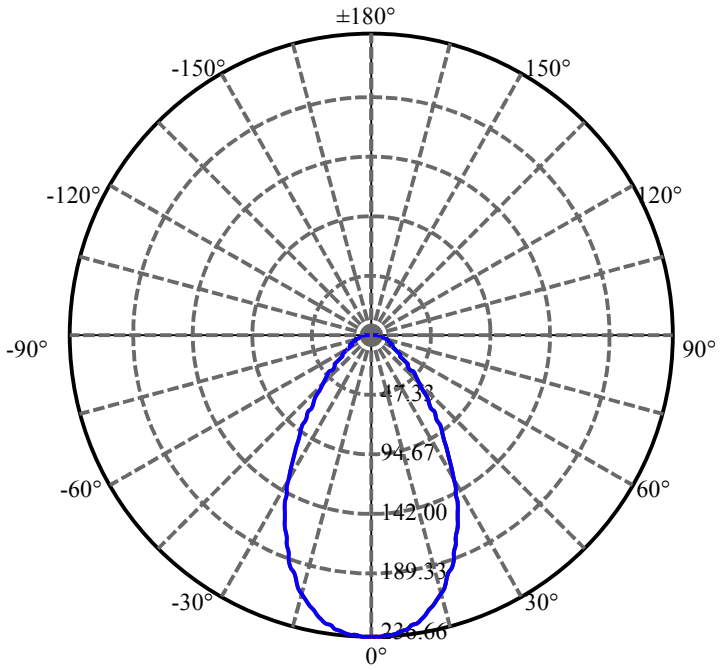
ZONAL LUMEN SUMMARY

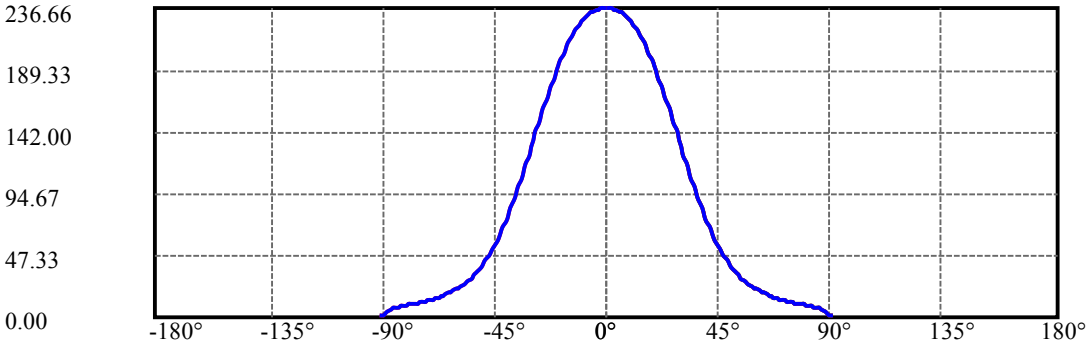
Zone	Lumens	%Lamp	%Fixt
0-30	153.80	45.50%	48.29%
0-40	216.39	64.01%	67.94%
0-60	283.62	83.90%	89.05%
0-90	318.33	94.17%	99.95%
0-120	318.33	94.17%	99.95%
0-180	318.48	94.21%	100.00%
60-90	36.80	10.89%	11.55%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-49.05	254.78	75.37%	80.00%

ZONAL LUMEN SUMMARY

0-10	22.12
10-20	58.69
20-30	72.98
30-40	62.59
40-50	41.54
50-60	25.69
60-70	16.81
70-80	11.73
80-90	6.16
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:59.2 Right:57.2
:C90/270Left:59.2 Right:57.2

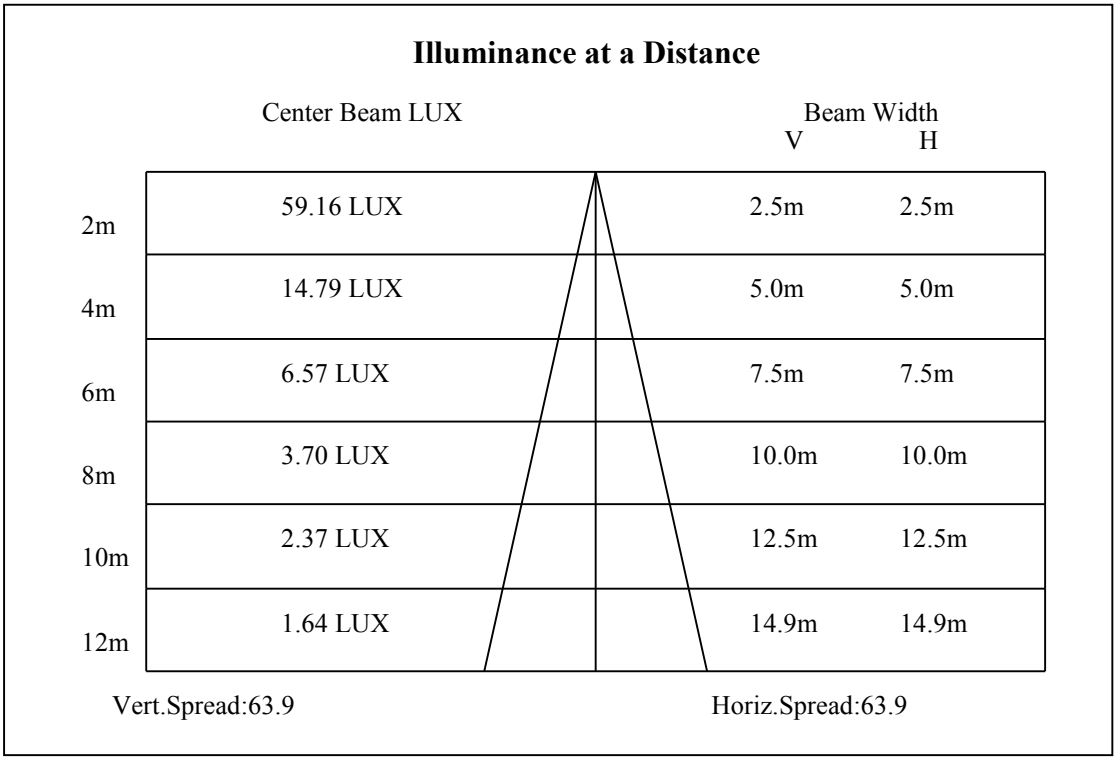
Beam Angle(50%Imax):C0/180Left:32.9 Right:30.9
:C90/270Left:32.9 Right:30.9

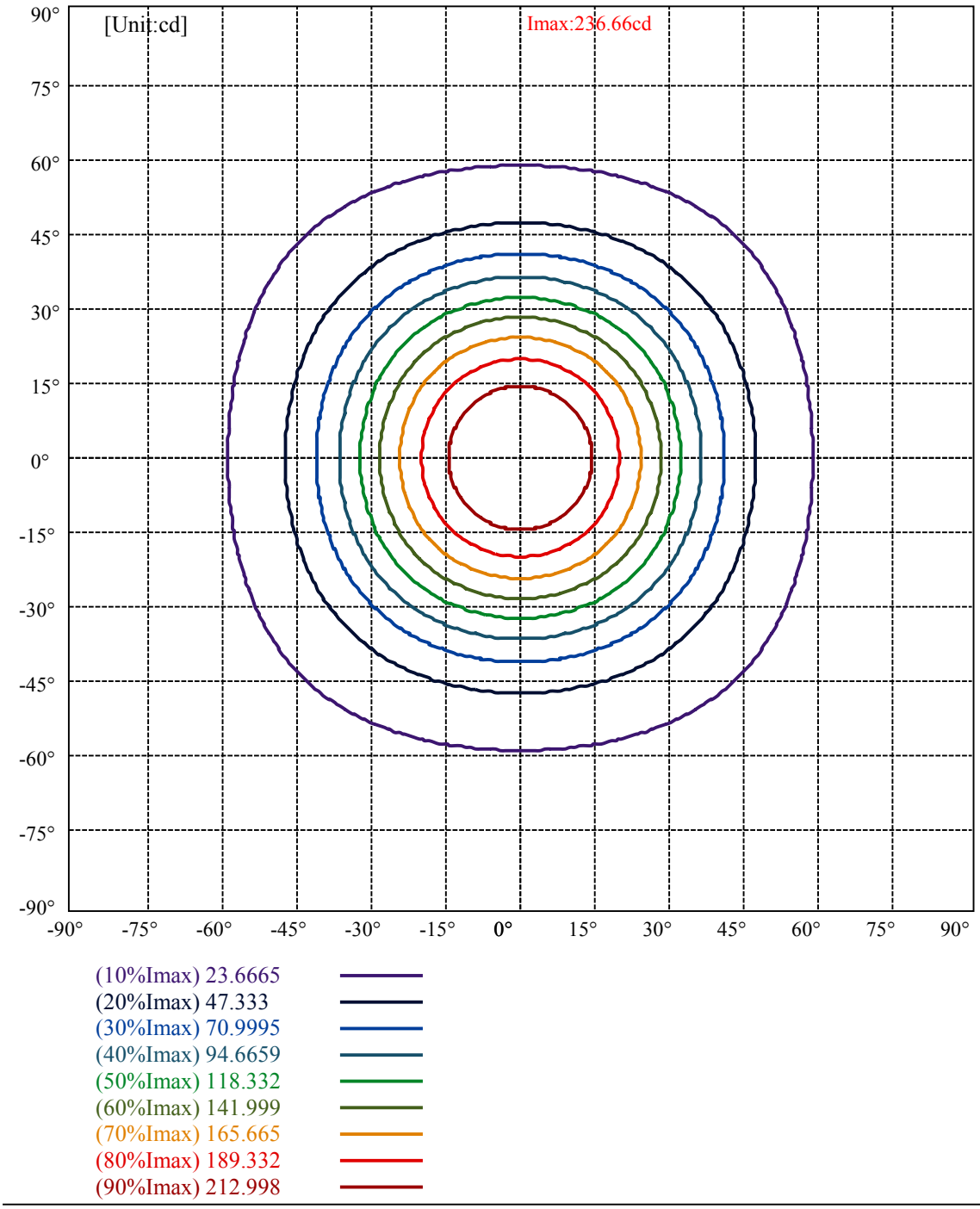
Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/4/17
Humidity(%): 65.0%

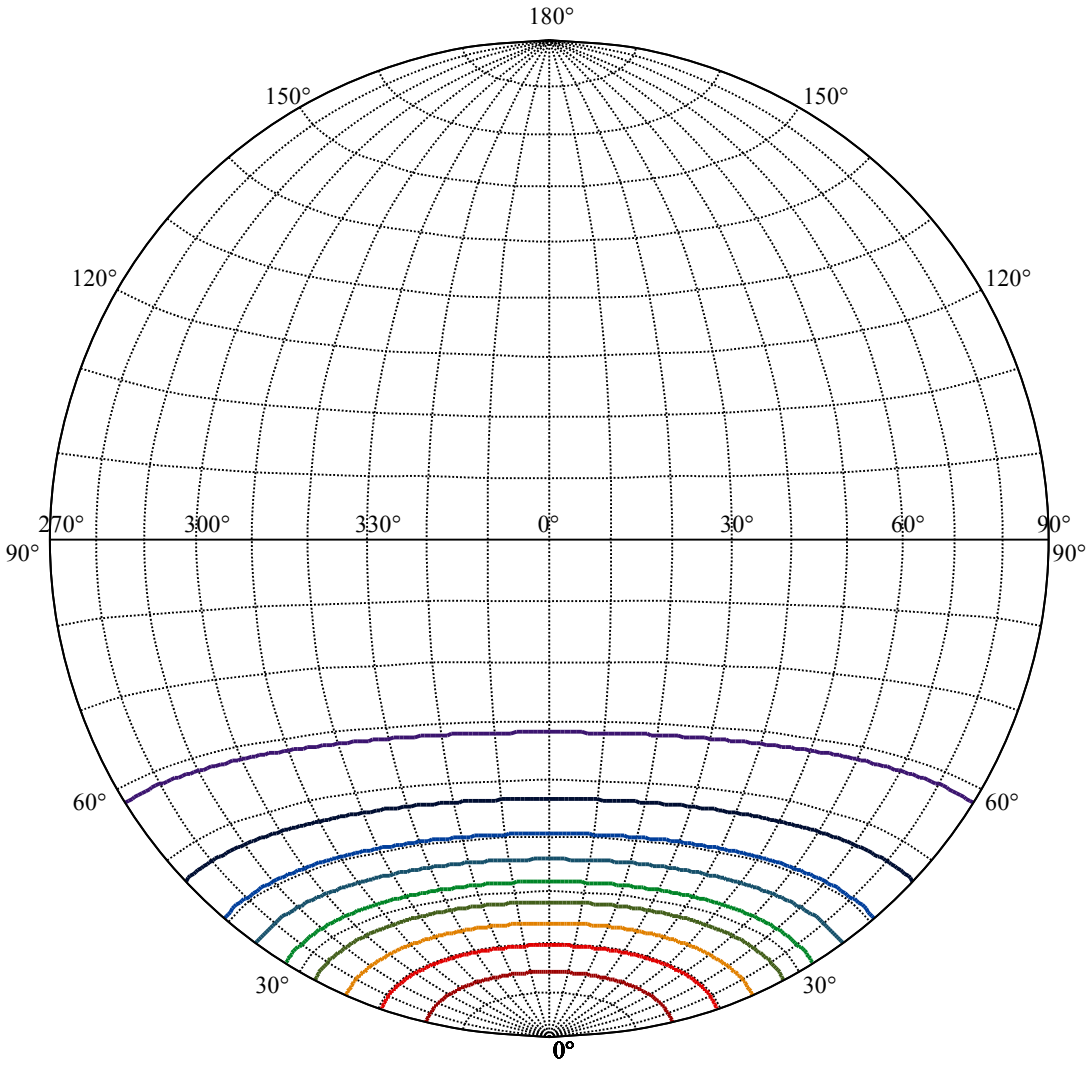
Operator: NT07
Distance(m): 7.50

Lux distance Curve




[Unit:cd]
Imax:236.66cd
90°
75°
60°
45°
30°
15°
0°
-15°
-30°
-45°
-60°
-75°
-90°
-90° -75° -60° -45° -30° -15° 0° 15° 30° 45° 60° 75° 90°
(10%Imax) 23.6665
(20%Imax) 47.333
(30%Imax) 70.9995
(40%Imax) 94.6659
(50%Imax) 118.332
(60%Imax) 141.999
(70%Imax) 165.665
(80%Imax) 189.332
(90%Imax) 212.998

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:236.66

(10%Imax) 23.6665
(20%Imax) 47.333
(30%Imax) 70.9995
(40%Imax) 94.6659
(50%Imax) 118.332
(60%Imax) 141.999
(70%Imax) 165.665
(80%Imax) 189.332
(90%Imax) 212.998

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/4/17
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

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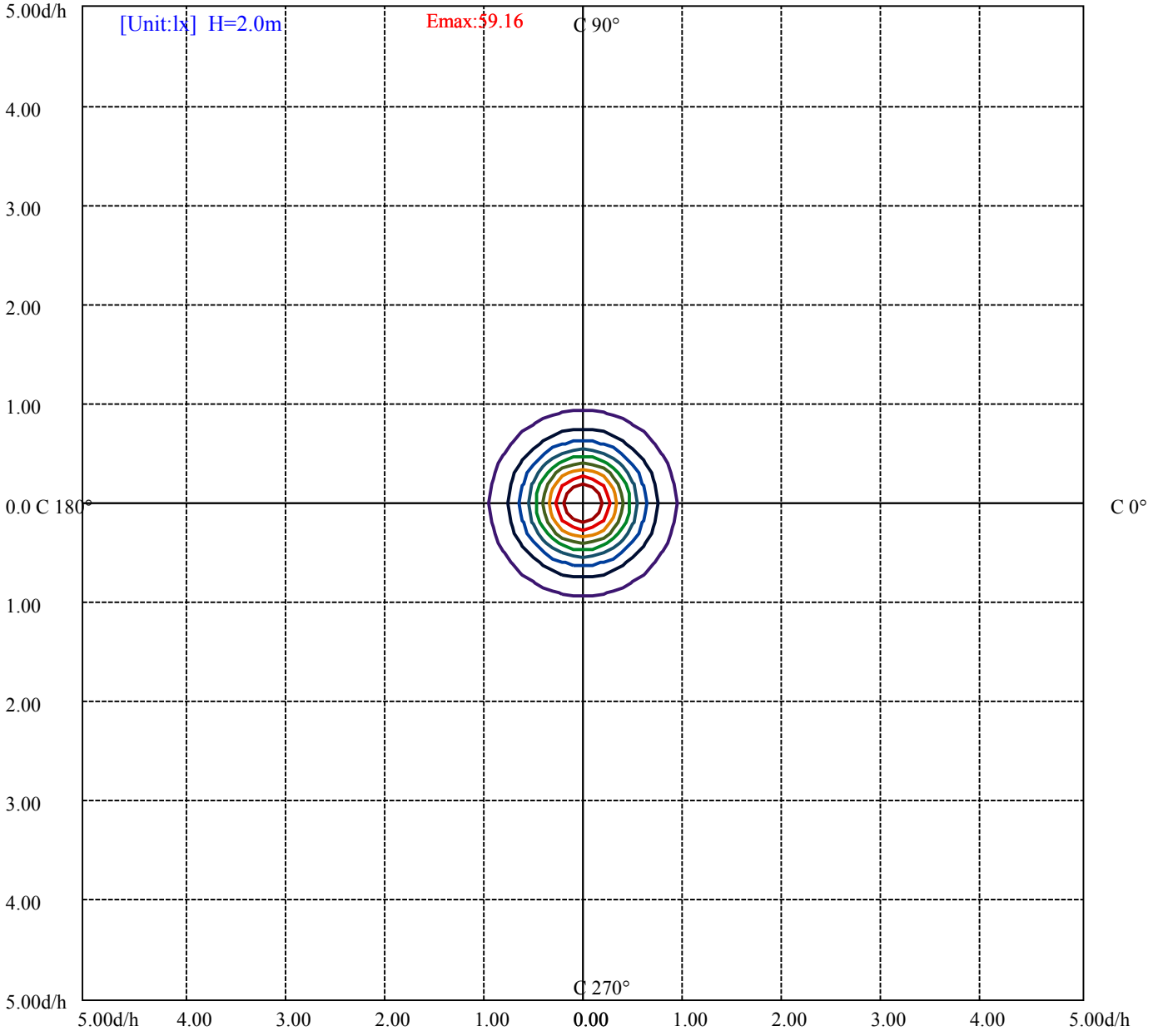
ISO illuminance diagram

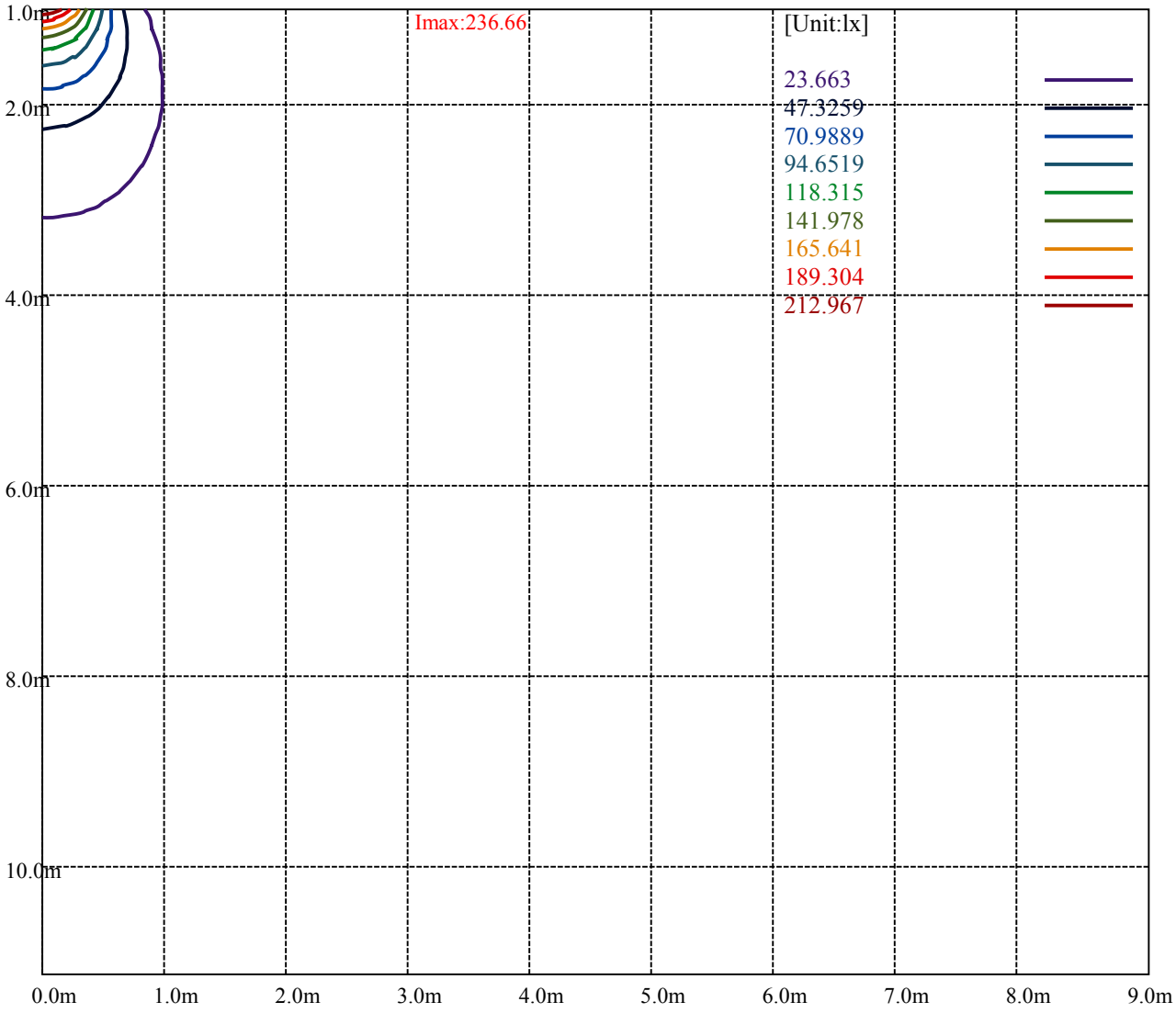


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/4/17
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/4/17
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

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Luminance Limitting Curve(no luminous side)

Luminance Table

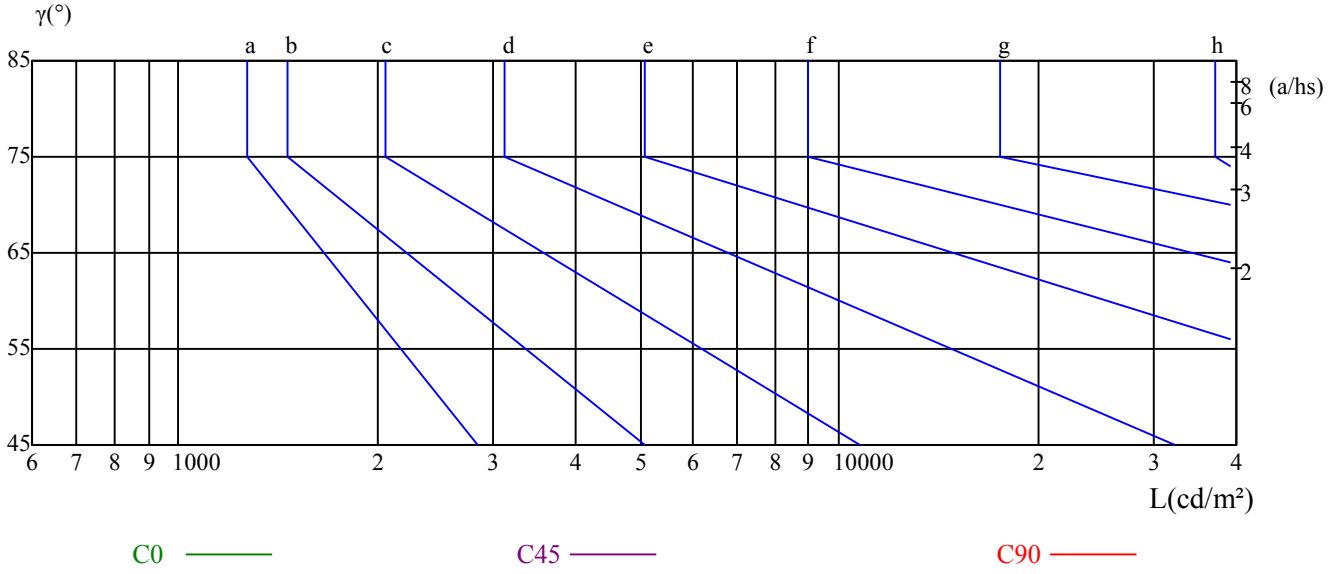
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

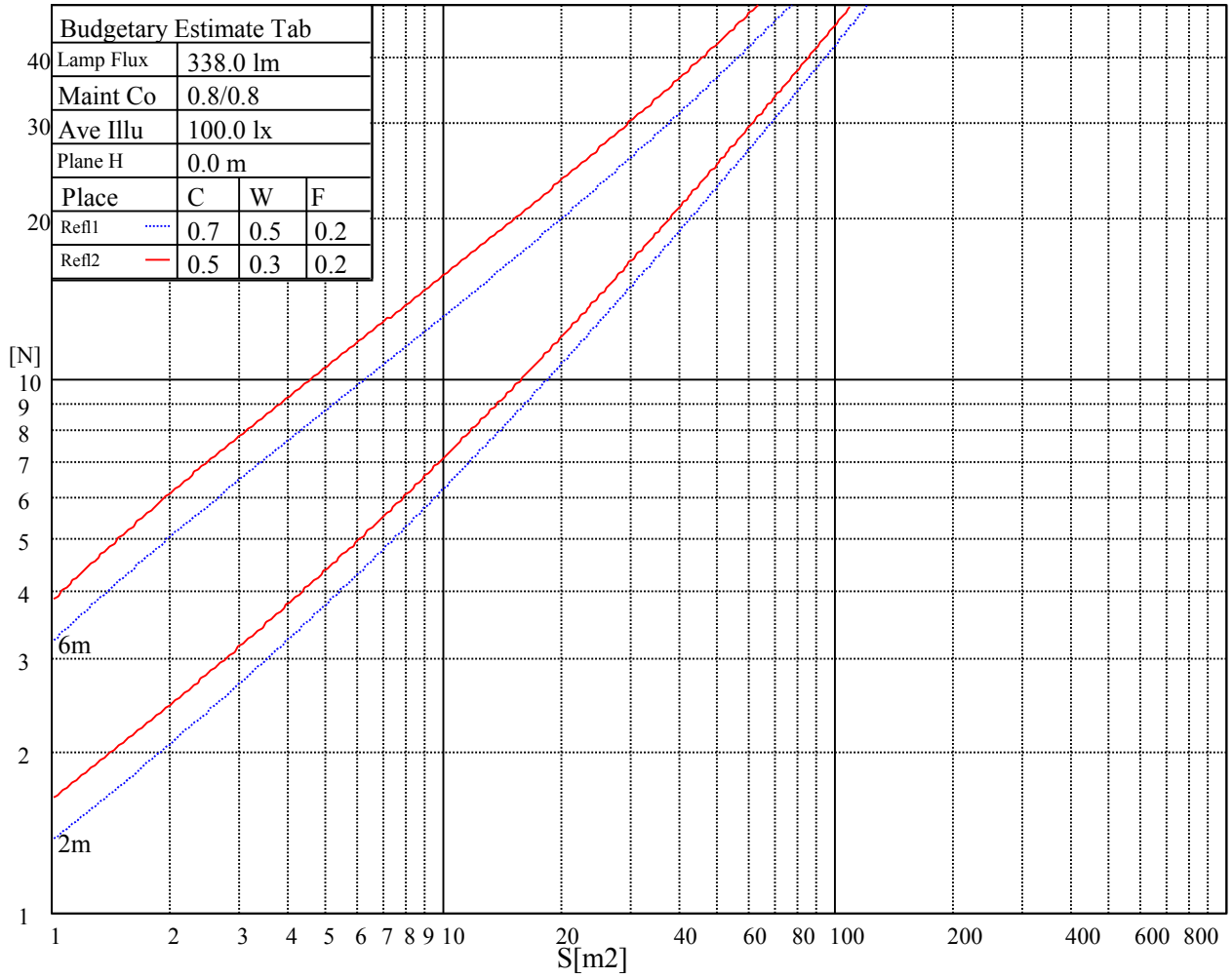
Glare Table

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

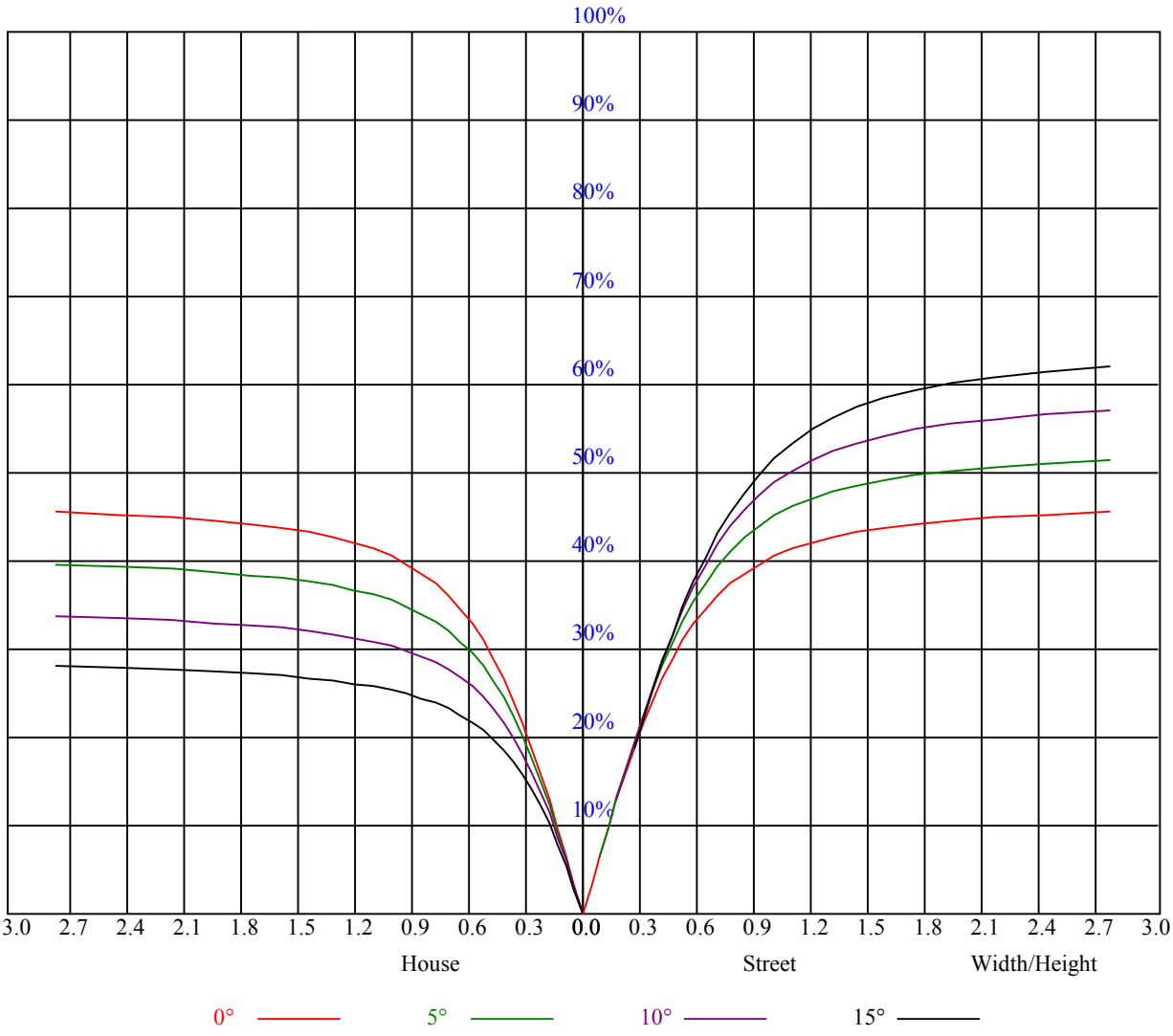


Equipment: GMS1980	Date: 2020/4/17	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

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	1.10	1.10	1.10	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.94
1	1.01	0.97	0.94	0.99	0.96	0.93	0.95	0.92	0.90	0.91	0.89	0.87	0.88	0.86	0.85	0.83
2	0.91	0.86	0.81	0.89	0.84	0.80	0.86	0.82	0.78	0.83	0.80	0.77	0.80	0.77	0.75	0.73
3	0.82	0.76	0.71	0.81	0.75	0.70	0.78	0.73	0.69	0.76	0.72	0.68	0.74	0.70	0.67	0.65
4	0.75	0.68	0.63	0.74	0.68	0.63	0.72	0.66	0.62	0.70	0.65	0.61	0.68	0.64	0.60	0.59
5	0.69	0.62	0.57	0.68	0.61	0.56	0.66	0.60	0.56	0.64	0.59	0.55	0.63	0.58	0.55	0.53
6	0.64	0.56	0.51	0.63	0.56	0.51	0.61	0.55	0.51	0.60	0.54	0.50	0.58	0.54	0.50	0.48
7	0.59	0.52	0.47	0.58	0.51	0.47	0.57	0.51	0.46	0.56	0.50	0.46	0.54	0.50	0.46	0.44
8	0.55	0.48	0.43	0.54	0.48	0.43	0.53	0.47	0.43	0.52	0.46	0.43	0.51	0.46	0.42	0.41
9	0.51	0.44	0.40	0.51	0.44	0.40	0.50	0.44	0.40	0.49	0.43	0.39	0.48	0.43	0.39	0.38
10	0.48	0.41	0.37	0.47	0.41	0.37	0.46	0.41	0.37	0.46	0.40	0.37	0.45	0.40	0.37	0.35

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2020/4/17	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	234.45	234.45	234.45	234.17	233.89	233.44	232.59	231.58	230.01
45.0	237.66	237.21	236.48	235.86	234.90	233.83	232.88	231.64	230.12
90.0	236.93	236.36	235.46	234.23	233.44	232.31	231.30	229.89	228.15
135.0	237.49	237.09	236.36	235.35	234.45	232.99	231.24	229.78	228.09
180.0	234.45	234.23	233.66	232.88	231.86	230.57	229.11	227.19	224.66
225.0	237.66	238.28	238.28	237.99	237.26	236.81	235.91	234.68	233.10
270.0	236.93	237.77	238.28	238.39	238.33	237.83	237.49	236.81	235.86
315.0	237.49	237.94	237.99	237.88	237.43	236.81	235.80	234.56	233.33
360.0	234.45	234.45	234.45	234.17	233.89	233.44	232.59	231.58	230.01

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	228.09	226.24	223.93	221.46	218.42	214.76	211.33	206.94	202.44
45.0	228.43	226.24	223.54	220.89	217.74	214.54	211.22	207.28	202.73
90.0	225.79	222.98	220.67	218.31	214.93	211.11	207.28	202.44	198.45
135.0	225.23	223.20	220.73	217.52	214.20	210.71	206.78	202.61	198.68
180.0	222.75	219.71	215.94	213.30	210.09	204.81	201.38	197.27	192.26
225.0	230.96	228.60	226.29	223.37	220.44	216.96	213.13	209.19	205.20
270.0	234.23	232.14	229.84	227.36	223.99	221.29	218.08	213.47	209.42
315.0	231.81	229.44	227.19	224.55	221.79	217.86	214.37	210.83	206.10
360.0	228.09	226.24	223.93	221.46	218.42	214.76	211.33	206.94	202.44

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	198.11	193.67	187.59	182.70	177.53	170.94	165.66	160.37	154.18
45.0	198.56	194.06	188.44	183.26	177.86	170.78	165.26	159.81	153.28
90.0	193.61	188.49	183.71	178.14	172.29	167.12	161.49	154.41	148.78
135.0	194.23	189.68	184.11	178.65	173.53	167.63	161.72	156.43	150.86
180.0	187.20	182.70	177.58	172.13	167.06	161.38	156.32	150.64	144.79
225.0	199.91	195.75	191.42	185.40	180.62	175.56	169.54	163.35	157.89
270.0	205.20	200.42	195.64	190.74	185.18	180.34	174.83	168.92	163.52
315.0	201.21	196.93	191.93	186.75	181.86	176.06	170.89	164.70	158.40
360.0	198.11	193.67	187.59	182.70	177.53	170.94	165.66	160.37	154.18

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	147.99	142.54	136.29	130.84	124.71	118.74	113.63	107.78	101.93
45.0	146.81	141.19	134.61	129.04	122.51	116.33	111.04	104.79	99.06
90.0	143.33	137.14	130.89	125.21	118.86	112.89	107.72	101.81	96.64
135.0	143.89	138.49	133.14	126.73	120.04	115.09	109.41	102.88	97.71
180.0	139.50	133.99	127.13	121.84	116.55	110.14	104.96	99.73	94.61
225.0	151.59	145.86	139.44	132.75	126.90	120.49	114.02	108.17	102.43
270.0	157.33	151.09	145.35	140.29	132.24	126.51	120.66	113.51	107.78
315.0	152.78	147.04	139.89	134.04	128.25	120.94	115.31	109.52	103.16
360.0	147.99	142.54	136.29	130.84	124.71	118.74	113.63	107.78	101.93

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	96.81	91.63	85.22	80.38	75.83	71.10	66.54	62.72	58.61
45.0	94.28	89.72	82.86	78.53	74.64	69.24	64.69	61.26	57.04
90.0	91.01	85.56	80.83	75.71	70.88	66.71	62.72	57.99	54.68
135.0	91.91	86.91	81.45	76.28	71.94	67.67	62.66	58.95	55.52
180.0	88.48	83.64	78.92	73.52	69.41	65.36	61.09	57.04	53.72
225.0	95.57	90.23	84.88	78.69	74.14	69.75	65.08	60.69	56.98
270.0	102.54	95.40	89.21	84.60	78.41	73.80	69.24	64.07	60.19
315.0	96.92	91.52	85.67	80.16	75.54	70.65	66.54	62.10	57.83
360.0	96.81	91.63	85.22	80.38	75.83	71.10	66.54	62.72	58.61

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	54.84	51.58	48.09	45.23	42.19	39.43	37.24	35.21	32.79
45.0	53.27	50.63	47.03	44.27	41.68	38.70	36.51	34.54	32.23
90.0	51.41	48.04	44.94	42.36	39.60	37.07	34.93	32.74	30.94
135.0	51.41	48.32	45.51	42.47	39.66	37.41	34.99	33.02	30.99
180.0	50.18	47.19	44.10	41.23	38.87	36.34	33.98	32.06	30.32
225.0	53.16	49.78	46.41	43.31	40.67	38.03	35.61	33.58	31.73
270.0	56.03	52.14	48.94	45.90	42.41	39.83	37.41	34.93	32.68
315.0	54.45	51.08	47.25	44.38	41.79	38.76	36.56	34.54	32.34
360.0	54.84	51.58	48.09	45.23	42.19	39.43	37.24	35.21	32.79

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	31.05	29.48	27.73	26.33	25.09	23.68	22.50	21.43	20.31
45.0	30.49	28.91	27.11	25.82	24.53	23.23	21.99	21.09	19.91
90.0	29.14	27.39	25.99	24.69	23.29	22.22	21.21	19.97	19.07
135.0	29.14	27.56	25.99	24.47	23.29	22.16	20.87	19.97	18.96
180.0	28.18	26.72	25.37	23.96	22.61	21.54	20.42	19.35	18.45
225.0	29.70	28.13	26.66	25.09	23.74	22.61	21.43	20.31	19.35
270.0	30.88	29.03	27.34	25.99	24.47	23.29	21.99	20.76	19.74
315.0	30.38	28.74	27.06	25.65	24.24	22.89	21.83	20.70	19.63
360.0	31.05	29.48	27.73	26.33	25.09	23.68	22.50	21.43	20.31

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	19.41	18.51	17.61	16.88	16.03	15.24	14.63	14.06	13.33
45.0	19.01	18.00	17.10	16.37	15.58	14.85	14.23	13.67	13.05
90.0	18.23	17.27	16.54	15.75	15.02	14.34	13.67	13.11	12.60
135.0	18.00	17.04	16.31	15.47	14.74	14.12	13.61	13.11	12.66
180.0	17.55	16.82	15.98	15.19	14.57	13.95	13.33	12.83	12.38
225.0	18.39	17.61	16.76	15.86	15.19	14.57	13.89	13.39	12.94
270.0	18.79	17.83	17.04	16.20	15.36	14.68	14.06	13.39	12.71
315.0	18.73	17.89	16.82	16.03	15.36	14.63	14.01	13.44	12.88
360.0	19.41	18.51	17.61	16.88	16.03	15.24	14.63	14.06	13.33

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	12.83	12.26	11.81	11.36	10.97	10.46	10.01	9.68	9.34
45.0	12.60	12.21	11.81	11.36	10.97	10.63	10.24	9.96	9.68
90.0	12.09	11.59	11.19	10.80	10.29	9.96	9.62	9.23	8.89
135.0	12.21	11.81	11.48	11.14	10.86	10.52	10.18	9.90	9.68
180.0	11.81	11.36	10.97	10.52	10.18	9.79	9.45	9.11	8.66
225.0	12.38	11.98	11.59	11.19	10.86	10.58	10.24	9.96	9.62
270.0	12.15	11.64	11.19	10.69	10.24	9.90	9.45	9.06	8.66
315.0	12.32	11.93	11.48	11.08	10.63	10.29	10.01	9.68	9.34
360.0	12.83	12.26	11.81	11.36	10.97	10.46	10.01	9.68	9.34

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	8.94	8.55	7.99	7.59	7.03	6.53	5.63	2.98	1.80
45.0	9.28	8.94	8.44	7.71	6.81	5.23	2.76	1.69	1.29
90.0	8.61	8.16	7.71	6.92	6.24	3.94	2.03	1.35	1.29
135.0	9.34	9.00	8.61	7.76	6.92	4.61	2.53	1.58	1.29
180.0	8.27	7.76	7.31	6.86	6.36	4.22	2.25	1.46	1.29
225.0	9.17	8.89	8.55	8.04	7.14	6.36	4.50	2.64	1.46
270.0	8.33	7.93	7.59	7.20	6.81	6.19	5.68	3.60	1.97
315.0	9.00	8.66	8.27	7.88	6.92	6.47	5.34	2.98	1.63
360.0	8.94	8.55	7.99	7.59	7.03	6.53	5.63	2.98	1.80

Intensity data(cd)

C/γ(°)	90.0
0.0	1.29
45.0	1.24
90.0	1.29
135.0	1.29
180.0	1.35
225.0	1.29
270.0	1.29
315.0	1.29
360.0	1.29