NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.com
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: LN01D05024DA-N
Luminaire: 97.70.234.00

Report No: 210623-B014	Voltage(V): 39.5700
Test No: 210623-C014	Current(A): 0.2520
LampCAT: Fortimo LED SLM 1201 G7N	Power (W): 9.9710
Lamp flux(lm): 1187.6	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 570	Width(mm): 45
Phm Type: C	Height(mm): 20

Photometric Results

Lumens(lm): 1051.66
Efficiency(%): 88.55%
Lumens(lm)/Power(W): 105.47
Central intensity(cd): 3676.992
Maximum intensity(cd): 3676.992
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=28.6
[C90/270]Total=28.6
Field angle(10%Imax): [C0/180]Total=48.4
[C90/270]Total=48.4
Maximum s/h(1/2): C0_180=0.48 C90_270=0.48
Maximum s/h(1/4): C0_180=0.46 C90_270=0.46
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 88.55%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.622%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3676.992	0.000	0	.000%	.000%
1.0	3667.852	3.514	3.514	.296%	.334%
2.0	3639.797	10.489	14.003	.883%	1.332%
3.0	3591.773	17.296	31.299	1.456%	2.976%
4.0	3525.047	23.822	55.121	2.006%	5.241%
5.0	3443.766	29.979	85.1	2.524%	8.092%
6.0	3328.805	35.592	120.692	2.997%	11.476%
7.0	3207.867	40.573	161.265	3.416%	15.334%
8.0	3073.359	44.954	206.218	3.785%	19.609%
9.0	2911.008	48.500	254.719	4.084%	24.221%
10.0	2727.492	51.026	305.745	4.297%	29.073%
11.0	2545.945	52.692	358.437	4.437%	34.083%
12.0	2348.438	53.503	411.94	4.505%	39.171%
13.0	2106.773	52.872	464.812	4.452%	44.198%
14.0	1900.266	51.290	516.102	4.319%	49.075%
15.0	1694.180	49.346	565.448	4.155%	53.767%
16.0	1483.664	46.564	612.012	3.921%	58.195%
17.0	1265.871	42.818	654.83	3.605%	62.266%
18.0	1092.108	38.878	693.708	3.274%	65.963%
19.0	946.969	35.476	729.184	2.987%	69.337%
20.0	799.249	31.961	761.144	2.691%	72.376%
21.0	667.448	28.164	789.308	2.371%	75.054%
22.0	558.429	24.635	813.942	2.074%	77.396%
23.0	466.467	21.505	835.448	1.811%	79.441%
24.0	381.839	18.547	853.995	1.562%	81.205%
25.0	317.095	15.892	869.887	1.338%	82.716%
26.0	263.939	13.715	883.602	1.155%	84.020%
27.0	223.256	11.919	895.521	1.004%	85.153%
28.0	185.154	10.340	905.862	.871%	86.137%
29.0	158.878	9.001	914.862	.758%	86.992%
30.0	138.277	8.023	922.886	.676%	87.755%
31.0	121.106	7.218	930.104	.608%	88.442%
32.0	107.227	6.541	936.645	.551%	89.064%
33.0	96.082	5.990	942.635	.504%	89.633%
34.0	86.843	5.536	948.171	.466%	90.160%
35.0	78.012	5.120	953.29	.431%	90.646%
36.0	71.128	4.749	958.039	.400%	91.098%
37.0	65.229	4.447	962.486	.374%	91.521%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	59.752	4.172	966.658	.351%	91.918%
39.0	54.577	3.902	970.56	.329%	92.289%
40.0	50.379	3.660	974.221	.308%	92.637%
41.0	46.406	3.446	977.667	.290%	92.964%
42.0	42.736	3.239	980.906	.273%	93.272%
43.0	39.284	3.038	983.944	.256%	93.561%
44.0	36.253	2.851	986.795	.240%	93.832%
45.0	33.581	2.684	989.479	.226%	94.088%
46.0	30.818	2.519	991.997	.212%	94.327%
47.0	28.512	2.360	994.357	.199%	94.551%
48.0	26.487	2.223	996.58	.187%	94.763%
49.0	24.595	2.098	998.678	.177%	94.962%
50.0	22.725	1.973	1000.651	.166%	95.150%
51.0	21.277	1.862	1002.513	.157%	95.327%
52.0	19.983	1.770	1004.283	.149%	95.495%
53.0	18.759	1.685	1005.969	.142%	95.656%
54.0	17.712	1.607	1007.576	.135%	95.808%
55.0	16.875	1.544	1009.12	.130%	95.955%
56.0	16.137	1.492	1010.612	.126%	96.097%
57.0	15.391	1.442	1012.053	.121%	96.234%
58.0	14.808	1.397	1013.45	.118%	96.367%
59.0	14.238	1.358	1014.808	.114%	96.496%
60.0	13.718	1.321	1016.128	.111%	96.622%
61.0	13.219	1.285	1017.414	.108%	96.744%
62.0	12.790	1.253	1018.667	.106%	96.863%
63.0	12.424	1.226	1019.893	.103%	96.980%
64.0	12.059	1.201	1021.095	.101%	97.094%
65.0	11.798	1.181	1022.275	.099%	97.206%
66.0	11.637	1.169	1023.445	.098%	97.317%
67.0	11.637	1.170	1024.615	.099%	97.429%
68.0	12.059	1.200	1025.815	.101%	97.543%
69.0	12.523	1.254	1027.069	.106%	97.662%
70.0	12.902	1.306	1028.375	.110%	97.786%
71.0	13.767	1.378	1029.753	.116%	97.917%
72.0	14.344	1.462	1031.215	.123%	98.056%
73.0	14.906	1.530	1032.745	.129%	98.202%
74.0	15.476	1.597	1034.342	.134%	98.354%
75.0	16.010	1.664	1036.006	.140%	98.512%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	16.031	1.701	1037.706	.143%	98.673%
77.0	15.729	1.693	1039.4	.143%	98.834%
78.0	15.398	1.666	1041.066	.140%	98.993%
79.0	14.273	1.594	1042.66	.134%	99.144%
80.0	12.544	1.446	1044.106	.122%	99.282%
81.0	11.116	1.280	1045.386	.108%	99.404%
82.0	9.232	1.103	1046.489	.093%	99.509%
83.0	7.706	0.921	1047.41	.078%	99.596%
84.0	6.623	0.781	1048.19	.066%	99.670%
85.0	6.096	0.694	1048.885	.058%	99.736%
86.0	5.498	0.634	1049.518	.053%	99.797%
87.0	5.055	0.578	1050.096	.049%	99.852%
88.0	4.816	0.541	1050.637	.046%	99.903%
89.0	4.627	0.518	1051.154	.044%	99.952%
90.0	4.549	0.503	1051.657	.042%	100.000%

Zonal flux distribution table

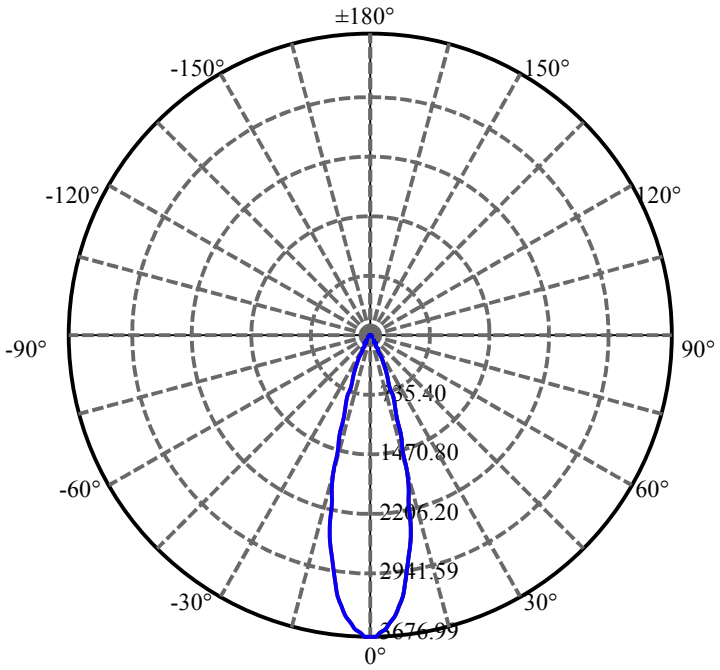
ZONAL LUMEN SUMMARY

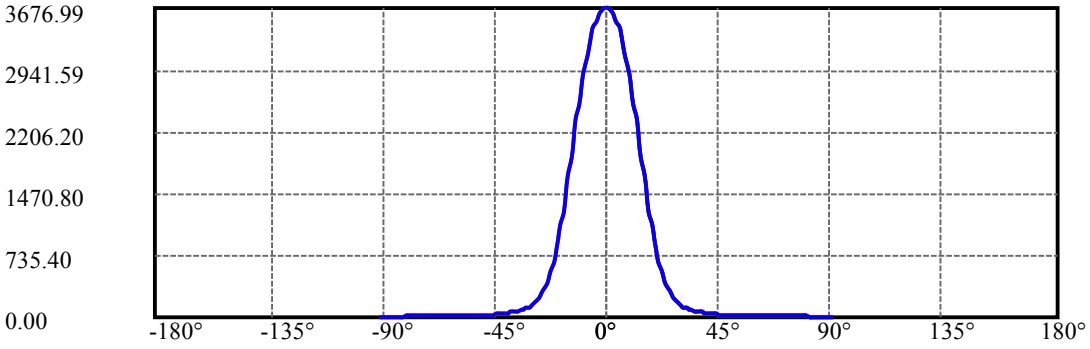
Zone	Lumens	%Lamp	%Fixt
0-30	922.89	77.71%	87.76%
0-40	974.22	82.03%	92.64%
0-60	1016.13	85.56%	96.62%
0-90	1051.15	88.51%	99.95%
0-120	1051.15	88.51%	99.95%
0-180	1051.66	88.55%	100.00%
60-90	36.35	3.06%	3.46%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-23.32	841.33	70.84%	80.00%

ZONAL LUMEN SUMMARY

0-10	305.74
10-20	455.40
20-30	161.74
30-40	51.34
40-50	26.43
50-60	15.48
60-70	12.25
70-80	15.73
80-90	7.05
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):

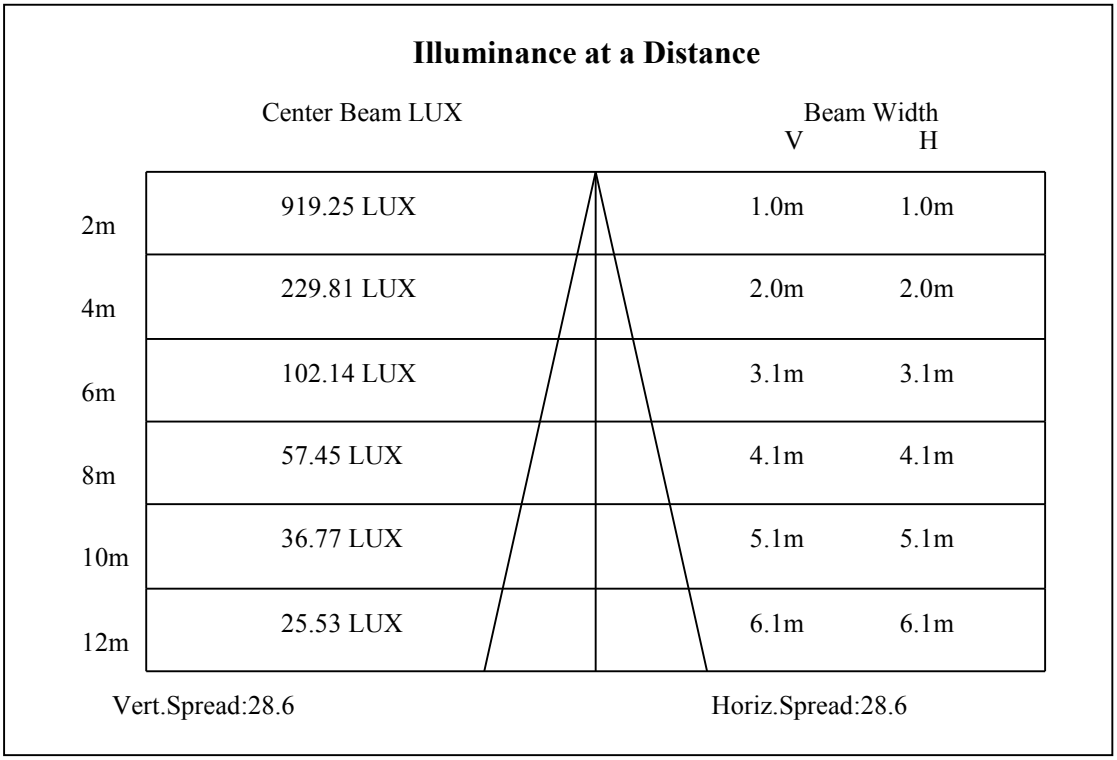
C0/C180:

C90/C270:

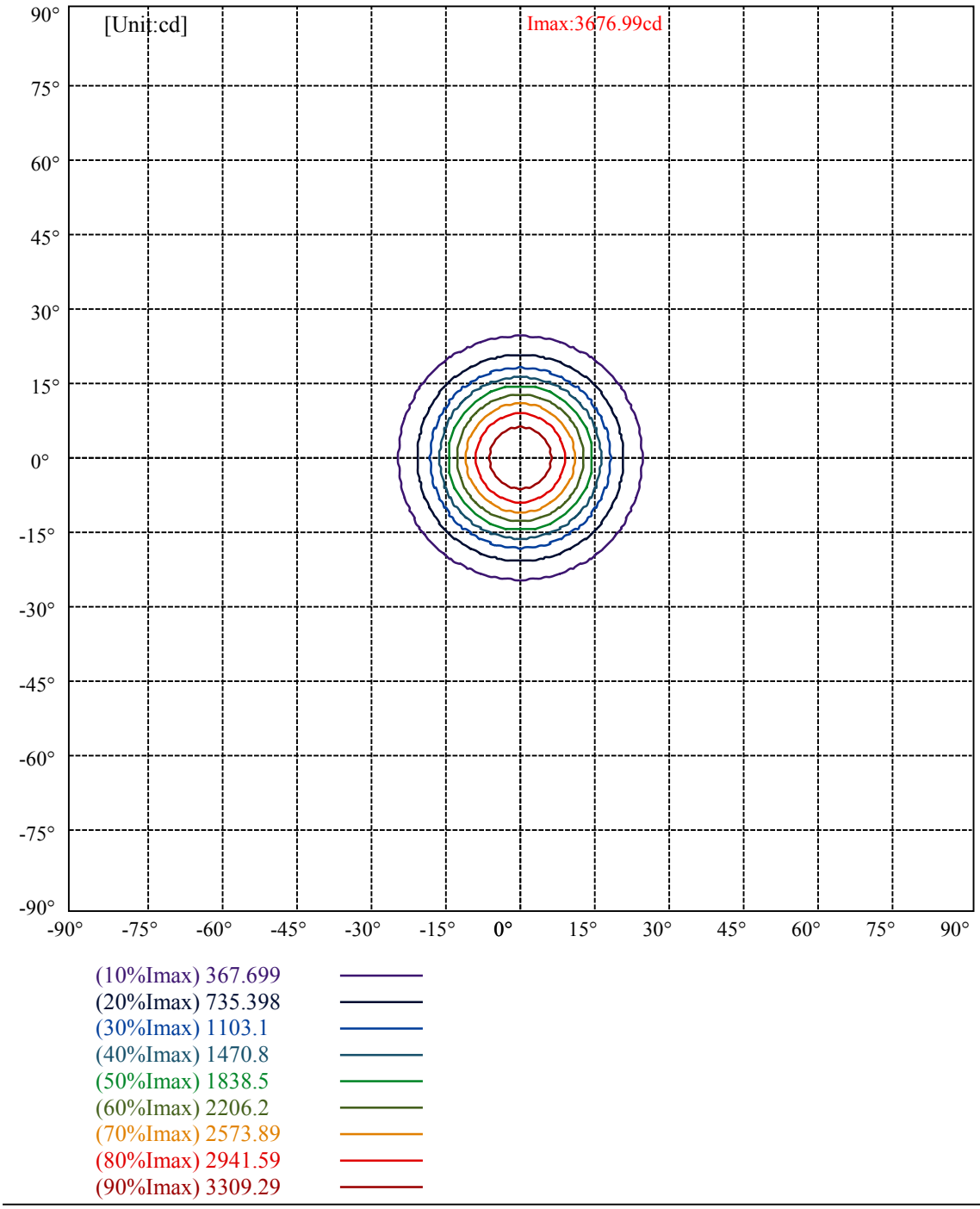
Field angle(10%Imax):C0/180Left:24.2 Right:24.2
:C90/270Left:24.2 Right:24.2

Beam Angle(50%Imax):C0/180Left:14.3 Right:14.3
:C90/270Left:14.3 Right:14.3

Lux distance Curve



ISO-Intensity(V-H)



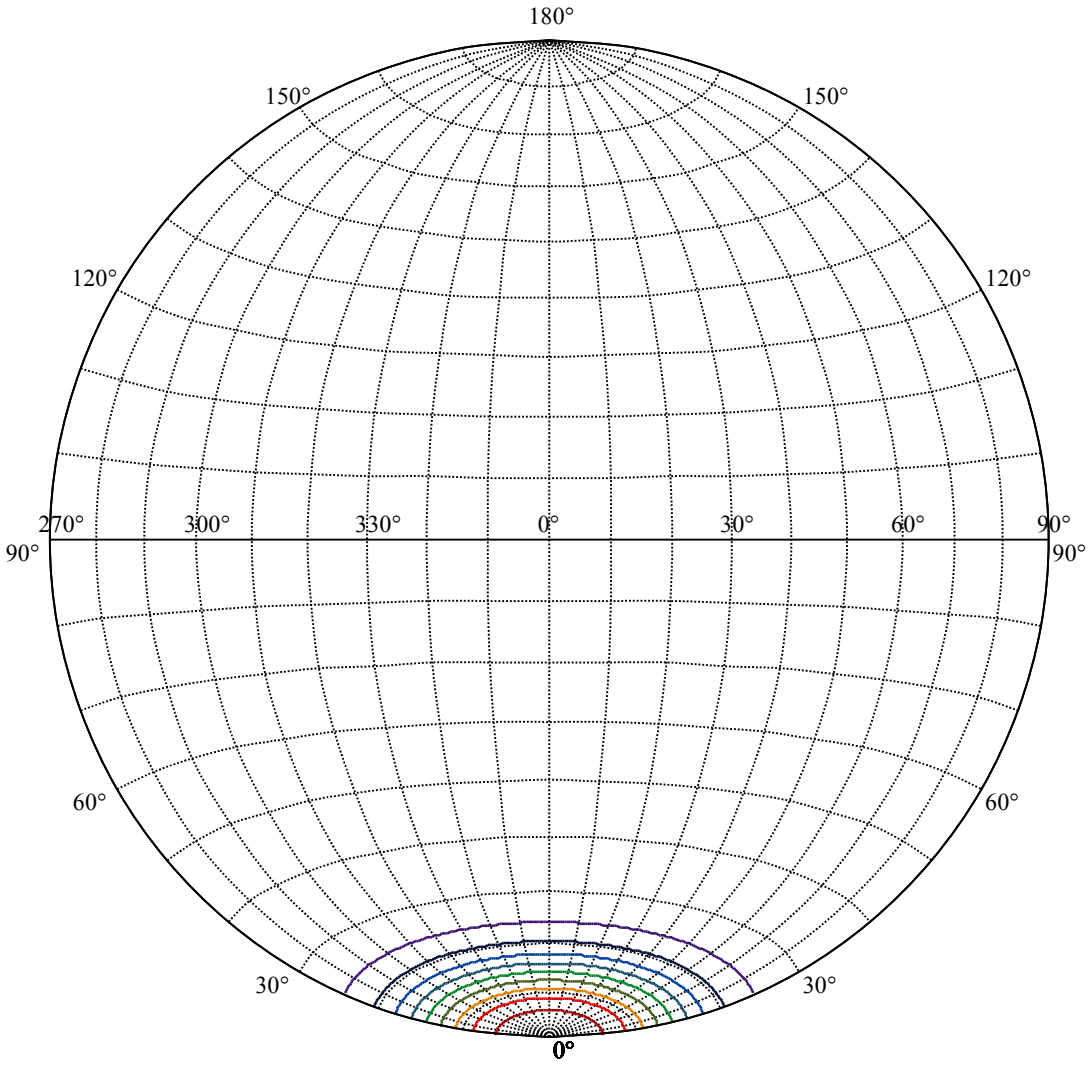
(10%Imax) 367.699
(20%Imax) 735.398
(30%Imax) 1103.1
(40%Imax) 1470.8
(50%Imax) 1838.5
(60%Imax) 2206.2
(70%Imax) 2573.89
(80%Imax) 2941.59
(90%Imax) 3309.29

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/6/23
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:3676.99

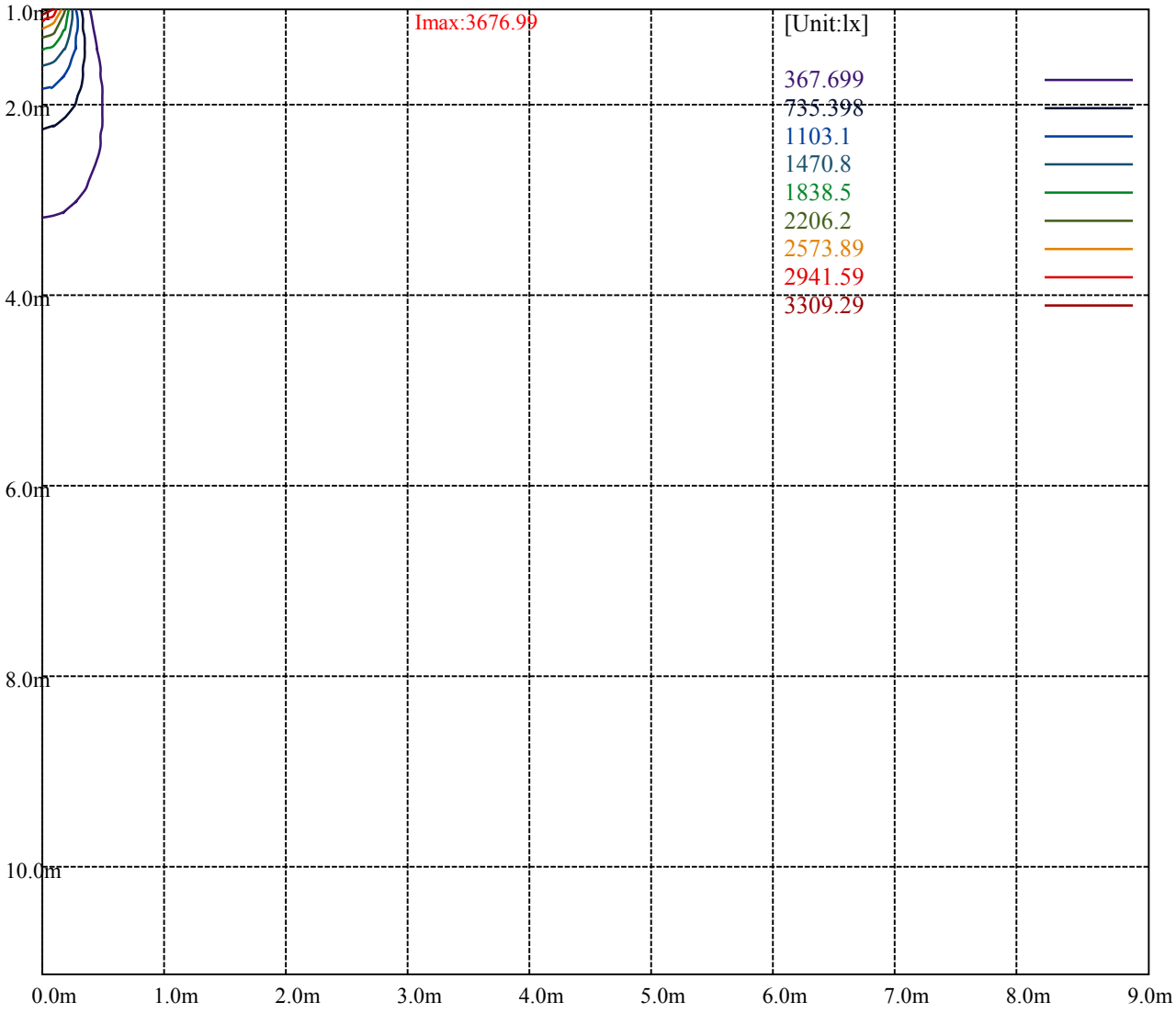
(10%Imax) 367.699
(20%Imax) 735.398
(30%Imax) 1103.1
(40%Imax) 1470.8
(50%Imax) 1838.5
(60%Imax) 2206.2
(70%Imax) 2573.89
(80%Imax) 2941.59
(90%Imax) 3309.29

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/6/23
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/6/23
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Nata LN01D05024DA-N

Luminance Limitting Curve(no luminous side)

Luminance Table

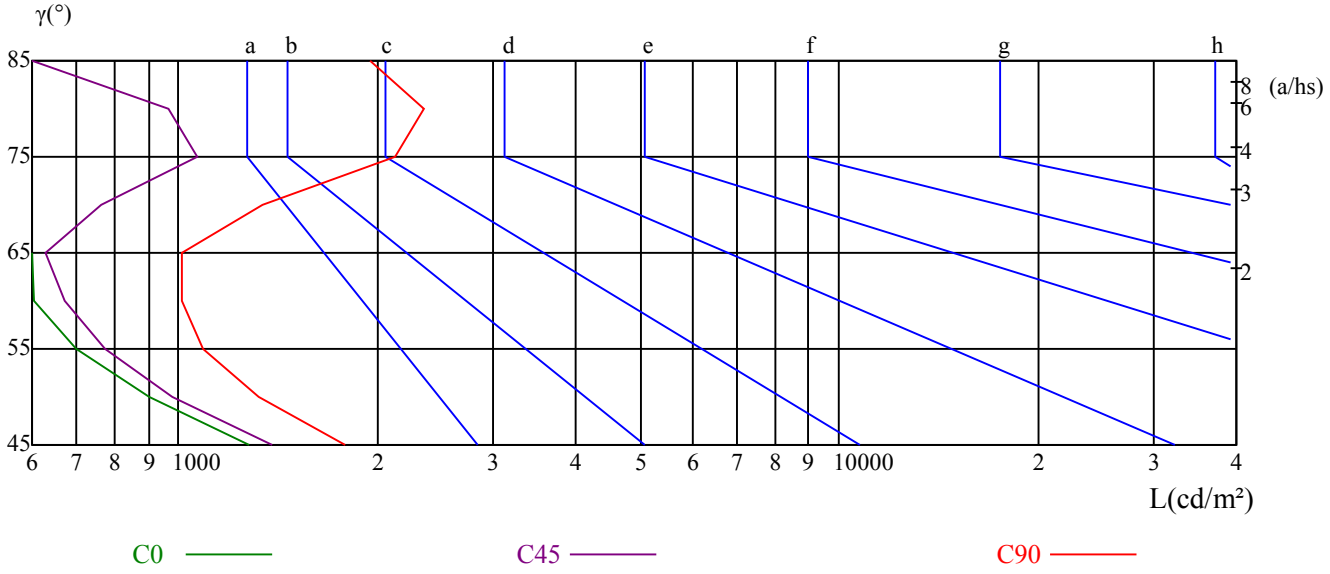
γ	45	50	55	60	65	70	75	80	85
C0	1282	901	702	604	557	662	907	800	449
C45	1383	982	773	674	630	761	1065	963	559
C90	1789	1323	1092	1008	1012	1341	2132	2349	1946

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1088	1088	1088	2412	2412	2412	2727	2727	2727

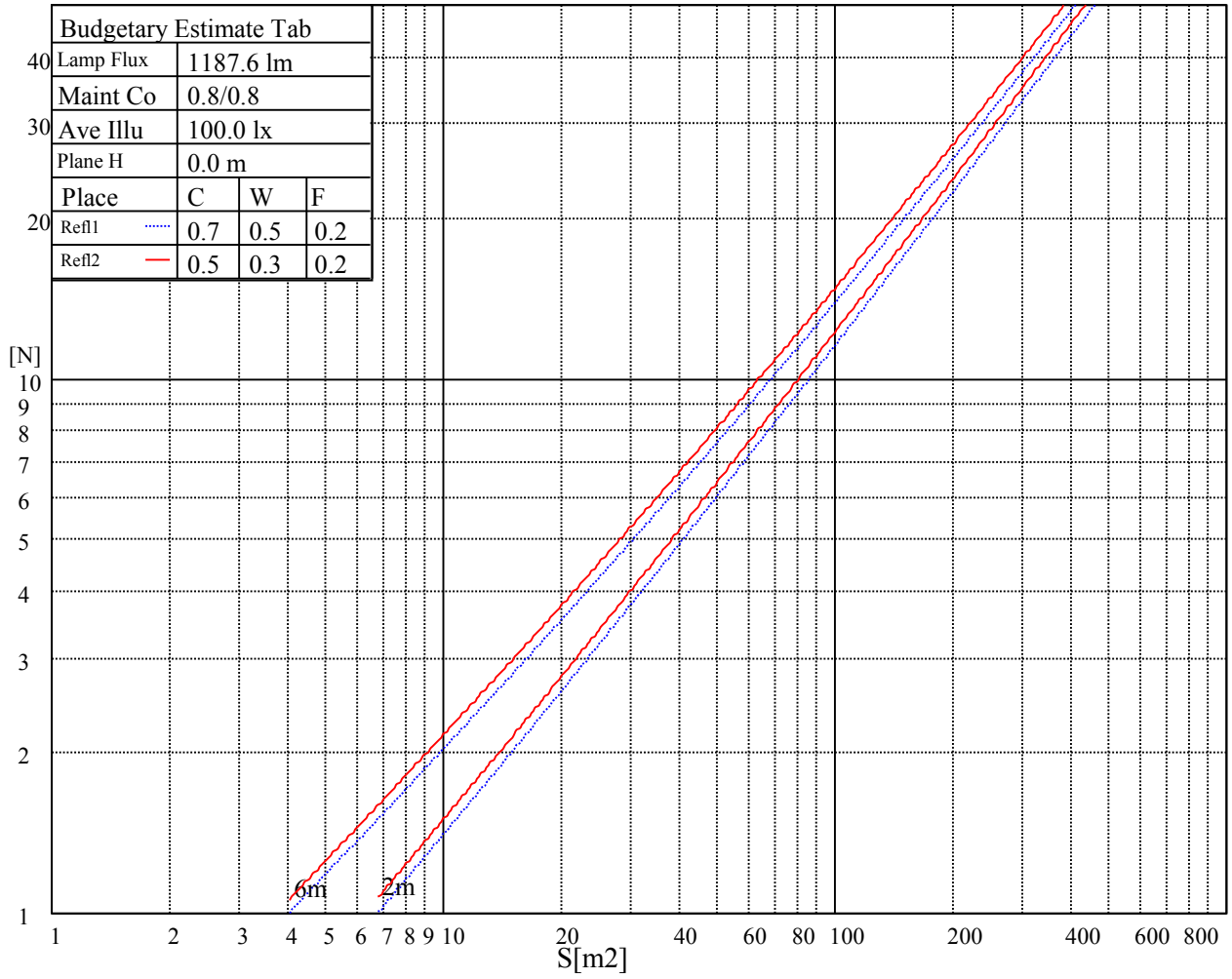
Glare Table

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

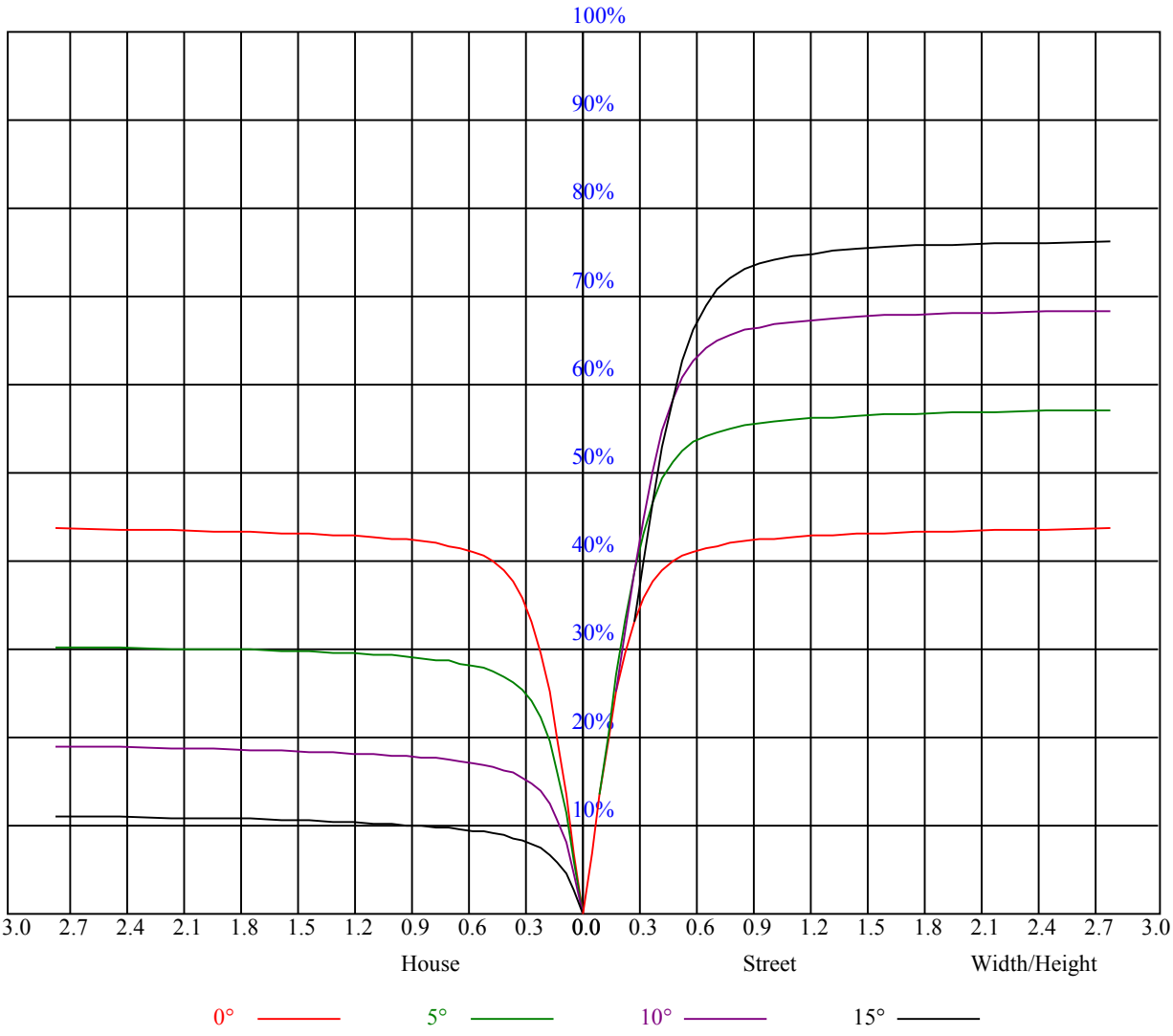


Equipment: GMS1980	Date: 2021/6/23	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

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	1.05	1.05	1.05	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.89
1	0.99	0.97	0.95	0.97	0.95	0.93	0.93	0.92	0.90	0.90	0.89	0.88	0.87	0.86	0.85	0.84
2	0.93	0.90	0.87	0.92	0.89	0.86	0.89	0.87	0.85	0.86	0.84	0.83	0.84	0.82	0.81	0.80
3	0.88	0.85	0.82	0.87	0.84	0.81	0.85	0.82	0.80	0.83	0.81	0.79	0.81	0.79	0.77	0.76
4	0.84	0.80	0.77	0.83	0.80	0.77	0.82	0.78	0.76	0.80	0.77	0.75	0.78	0.76	0.74	0.73
5	0.81	0.77	0.73	0.80	0.76	0.73	0.78	0.75	0.73	0.77	0.74	0.72	0.76	0.73	0.71	0.70
6	0.78	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.71	0.69	0.73	0.71	0.69	0.68
7	0.75	0.70	0.68	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.65
8	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.63
9	0.70	0.66	0.63	0.69	0.65	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.61
10	0.67	0.63	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.66	0.63	0.60	0.65	0.62	0.60	0.59

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2021/6/23	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	3686.63	3670.31	3623.06	3572.44	3508.31	3405.38	3274.88	3146.06	2986.31
45.0	3672.56	3638.25	3583.69	3513.38	3420.56	3322.13	3188.81	3035.25	2878.31
90.0	3668.63	3636.56	3583.69	3517.88	3417.75	3327.19	3196.13	3049.31	2902.50
135.0	3678.19	3679.31	3659.63	3618.00	3557.25	3480.75	3367.13	3262.50	3161.25
180.0	3686.63	3687.19	3665.25	3622.50	3570.19	3492.00	3387.38	3269.25	3121.31
225.0	3676.50	3690.00	3683.81	3654.00	3610.13	3552.19	3452.06	3360.38	3243.94
270.0	3668.63	3678.19	3684.38	3656.25	3616.31	3555.56	3458.25	3363.19	3251.81
315.0	3678.19	3663.00	3634.88	3579.75	3499.88	3414.94	3305.81	3177.00	3041.44
360.0	3686.63	3670.31	3623.06	3572.44	3508.31	3405.38	3274.88	3146.06	2986.31

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2811.94	2639.25	2430.00	2233.69	2001.94	1766.81	1567.69	1375.88	1152.56
45.0	2687.06	2476.13	2277.00	2095.88	1813.50	1609.88	1444.50	1218.94	1035.00
90.0	2723.06	2518.31	2325.38	2127.38	1847.81	1678.50	1486.69	1231.31	1099.13
135.0	2976.19	2820.94	2670.75	2432.81	2208.94	2031.75	1780.88	1588.50	1398.94
180.0	2979.56	2806.88	2615.06	2428.88	2214.00	1985.06	1777.50	1581.19	1344.38
225.0	3111.19	2923.88	2760.19	2582.44	2337.19	2133.56	1926.56	1697.06	1472.63
270.0	3103.31	2945.81	2788.31	2588.06	2391.75	2160.00	1926.00	1724.63	1504.13
315.0	2895.75	2688.75	2500.88	2298.38	2039.06	1836.56	1643.63	1451.81	1120.22
360.0	2811.94	2639.25	2430.00	2233.69	2001.94	1766.81	1567.69	1375.88	1152.56

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	995.63	856.13	702.56	594.56	500.63	420.19	338.06	289.69	235.58
45.0	906.75	742.50	615.38	526.50	414.56	347.63	293.06	231.41	196.76
90.0	947.81	809.66	658.41	556.48	467.78	383.40	314.89	265.67	220.84
135.0	1180.13	1022.06	880.31	717.19	601.31	510.19	409.50	343.13	287.44
180.0	1122.13	1003.89	845.89	706.95	599.74	494.10	406.52	342.06	282.04
225.0	1226.81	1095.47	944.27	792.06	657.79	553.05	452.64	369.68	309.77
270.0	1297.13	1131.19	979.88	807.75	688.50	582.19	479.25	392.63	328.50
315.0	1060.48	914.85	767.31	638.10	537.13	441.00	360.79	302.51	250.59
360.0	995.63	856.13	702.56	594.56	500.63	420.19	338.06	289.69	235.58

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	196.26	166.16	144.90	126.06	111.21	100.24	89.89	81.90	74.03
45.0	169.14	144.00	125.83	112.95	98.16	90.06	81.39	73.69	67.05
90.0	185.96	161.21	138.66	122.29	107.44	95.51	86.51	78.69	70.43
135.0	235.41	199.13	169.71	145.35	125.94	112.78	99.73	89.78	80.89
180.0	238.28	198.90	168.24	146.25	128.76	111.71	100.74	91.35	81.45
225.0	260.16	210.88	180.62	156.60	135.62	118.97	106.82	95.40	85.89
270.0	287.44	221.06	189.23	161.33	141.47	123.58	108.90	98.16	87.92
315.0	213.41	179.89	153.84	135.39	120.26	104.96	94.67	85.78	76.44
360.0	196.26	166.16	144.90	126.06	111.21	100.24	89.89	81.90	74.03

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	67.33	61.93	57.15	51.81	47.93	44.49	40.56	37.80	35.16
45.0	61.88	56.76	52.54	48.32	44.38	41.23	37.91	34.88	32.46
90.0	64.52	59.29	53.66	49.50	45.73	41.74	38.19	35.33	32.40
135.0	72.68	66.71	61.31	55.52	51.19	47.25	42.75	39.43	36.45
180.0	74.76	68.85	62.27	57.60	53.44	48.60	45.62	42.08	38.53
225.0	78.64	71.55	66.04	60.47	55.58	51.53	47.87	43.71	40.61
270.0	79.26	72.51	66.43	59.79	55.24	51.02	47.08	42.75	39.54
315.0	69.98	64.24	58.61	53.61	49.56	45.39	41.91	38.31	34.88
360.0	67.33	61.93	57.15	51.81	47.93	44.49	40.56	37.80	35.16

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	32.46	29.98	28.01	25.82	24.19	22.44	20.87	19.74	18.56
45.0	30.26	27.73	25.82	24.19	22.28	20.98	19.80	18.56	17.55
90.0	30.04	27.56	25.37	23.63	21.88	20.36	19.13	18.11	16.99
135.0	33.41	30.66	28.35	26.10	24.30	22.39	20.87	19.63	18.23
180.0	36.28	33.53	30.77	29.03	27.17	24.81	23.46	21.99	20.64
225.0	37.74	34.48	32.12	29.93	27.56	25.48	23.85	22.16	20.87
270.0	36.28	33.24	30.71	28.24	26.16	24.08	22.22	20.87	19.63
315.0	32.18	29.36	26.94	24.98	23.23	21.26	20.03	18.79	17.61
360.0	32.46	29.98	28.01	25.82	24.19	22.44	20.87	19.74	18.56

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	17.55	16.82	16.14	15.30	14.74	14.18	13.61	13.16	12.71
45.0	16.76	15.98	15.41	14.79	14.23	13.73	13.16	12.71	12.32
90.0	16.26	15.58	14.96	14.34	13.89	13.33	12.94	12.54	12.15
135.0	17.27	16.43	15.75	15.02	14.51	13.95	13.39	12.99	12.66
180.0	19.35	18.39	17.44	16.59	15.92	15.19	14.63	14.01	13.44
225.0	19.52	18.45	17.61	16.76	15.98	15.36	14.79	14.18	13.67
270.0	18.34	17.44	16.65	15.86	15.24	14.74	14.23	13.56	13.11
315.0	16.65	15.92	15.13	14.46	13.95	13.44	12.99	12.60	12.26
360.0	17.55	16.82	16.14	15.30	14.74	14.18	13.61	13.16	12.71

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	12.32	11.93	11.64	11.31	11.03	10.74	10.41	10.13	9.84
45.0	11.93	11.53	11.25	10.97	10.63	10.29	10.01	9.73	9.45
90.0	11.87	11.59	11.36	11.25	11.31	11.59	11.87	12.66	14.96
135.0	12.32	12.09	11.98	12.21	12.88	15.08	17.72	19.18	21.54
180.0	12.99	12.54	12.09	11.70	11.42	10.97	10.69	10.41	10.13
225.0	13.28	12.71	12.32	11.93	11.53	11.19	10.91	10.52	10.29
270.0	12.71	12.32	12.04	11.70	11.42	11.19	11.08	11.19	11.42
315.0	11.98	11.76	11.70	12.04	12.88	15.41	17.49	19.41	22.50
360.0	12.32	11.93	11.64	11.31	11.03	10.74	10.41	10.13	9.84

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	9.51	9.17	8.89	8.55	8.27	7.99	7.65	7.31	7.09
45.0	9.11	8.83	8.55	8.21	7.99	7.71	7.43	7.14	6.86
90.0	16.26	16.54	16.82	18.00	17.89	16.09	13.61	11.93	9.11
135.0	24.02	25.76	27.68	29.59	30.66	30.15	30.83	28.01	24.36
180.0	9.79	9.51	9.17	8.78	8.49	8.16	7.88	7.59	7.26
225.0	9.96	9.62	9.28	9.00	8.66	8.44	8.16	7.82	7.54
270.0	11.87	13.44	15.13	16.03	16.26	16.71	17.33	16.82	14.63
315.0	24.24	26.38	28.29	29.93	30.04	30.60	30.32	27.56	23.51
360.0	9.51	9.17	8.89	8.55	8.27	7.99	7.65	7.31	7.09

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	6.75	6.47	6.19	5.91	5.63	5.12	4.84	4.61	4.44
45.0	6.58	6.24	6.08	5.85	5.40	5.06	4.84	4.67	4.61
90.0	7.71	6.98	6.64	6.08	5.34	5.01	4.73	4.56	4.44
135.0	20.70	14.68	10.58	7.48	6.47	5.34	5.06	4.78	4.56
180.0	7.03	6.75	6.36	6.19	5.91	5.34	5.06	4.84	4.61
225.0	7.31	6.98	6.75	6.53	6.24	6.02	5.51	5.29	5.01
270.0	12.88	10.86	8.38	7.14	6.86	6.47	5.46	5.12	4.84
315.0	19.97	14.91	10.69	7.82	6.92	5.63	4.95	4.67	4.50
360.0	6.75	6.47	6.19	5.91	5.63	5.12	4.84	4.61	4.44

Intensity data(cd)

C/γ(°)	90.0
0.0	4.44
45.0	4.61
90.0	4.50
135.0	4.44
180.0	4.44
225.0	4.84
270.0	4.61
315.0	4.50
360.0	4.44