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Nata

LumCAT: 1-1008-M
Luminaire: 92.70.124.00

Report No: 210715-B011	Voltage(V): 36.7700
Test No: 210715-C011	Current(A): 0.3050
LampCAT: Fortimo LED SLM 1202 G7N	Power (W): 11.2140
Lamp flux(lm): 1504.1	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): 1104.39
Efficiency(%): 73.43%
Lumens(lm)/Power(W): 98.48
Central intensity(cd): 8362.827
Maximum intensity(cd): 8362.827
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=17.3
[C90/270]Total=17.3
Field angle(10%Imax): [C0/180]Total=38.5
[C90/270]Total=38.5
Maximum s/h(1/2): C0_180=0.30 C90_270=0.30
Maximum s/h(1/4): C0_180=0.33 C90_270=0.33
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 73.43%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.573%

Equipment: GMS1980	Date: 2021/7/15	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8362.828	0.000	0	.000%	.000%
1.0	8245.617	7.947	7.947	.528%	.720%
2.0	7847.578	23.098	31.045	1.536%	2.811%
3.0	7354.758	36.359	67.404	2.417%	6.103%
4.0	6857.930	47.574	114.979	3.163%	10.411%
5.0	6273.984	56.493	171.472	3.756%	15.526%
6.0	5738.484	63.129	234.6	4.197%	21.243%
7.0	5142.375	67.537	302.138	4.490%	27.358%
8.0	4540.430	69.298	371.436	4.607%	33.633%
9.0	3997.336	69.194	440.629	4.600%	39.898%
10.0	3520.125	68.030	508.66	4.523%	46.058%
11.0	3092.273	66.071	574.731	4.393%	52.041%
12.0	2727.211	63.615	638.347	4.230%	57.801%
13.0	2376.703	60.571	698.917	4.027%	63.285%
14.0	2035.266	56.473	755.39	3.755%	68.399%
15.0	1774.125	52.297	807.687	3.477%	73.134%
16.0	1501.566	47.998	855.685	3.191%	77.480%
17.0	1261.104	43.022	898.707	2.860%	81.376%
18.0	1069.165	38.421	937.128	2.554%	84.855%
19.0	887.161	34.036	971.164	2.263%	87.937%
20.0	688.212	28.834	999.998	1.917%	90.548%
21.0	518.365	23.169	1023.167	1.540%	92.646%
22.0	385.144	18.156	1041.323	1.207%	94.290%
23.0	261.626	13.571	1054.894	.902%	95.518%
24.0	158.203	9.179	1064.073	.610%	96.350%
25.0	70.945	5.210	1069.283	.346%	96.821%
26.0	31.971	2.429	1071.713	.162%	97.041%
27.0	16.980	1.198	1072.91	.080%	97.150%
28.0	12.769	0.753	1073.664	.050%	97.218%
29.0	10.814	0.617	1074.281	.041%	97.274%
30.0	9.752	0.555	1074.836	.037%	97.324%
31.0	8.993	0.522	1075.357	.035%	97.371%
32.0	8.346	0.497	1075.854	.033%	97.416%
33.0	7.847	0.477	1076.331	.032%	97.460%
34.0	7.446	0.463	1076.794	.031%	97.501%
35.0	7.095	0.452	1077.246	.030%	97.542%
36.0	6.820	0.443	1077.689	.029%	97.582%
37.0	6.595	0.438	1078.126	.029%	97.622%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	6.377	0.433	1078.559	.029%	97.661%
39.0	6.216	0.430	1078.989	.029%	97.700%
40.0	6.089	0.429	1079.418	.029%	97.739%
41.0	5.991	0.430	1079.848	.029%	97.778%
42.0	5.885	0.431	1080.28	.029%	97.817%
43.0	5.815	0.433	1080.713	.029%	97.856%
44.0	5.752	0.437	1081.15	.029%	97.896%
45.0	5.688	0.440	1081.589	.029%	97.936%
46.0	5.639	0.443	1082.032	.029%	97.976%
47.0	5.597	0.447	1082.479	.030%	98.016%
48.0	5.527	0.450	1082.929	.030%	98.057%
49.0	5.498	0.453	1083.382	.030%	98.098%
50.0	5.463	0.457	1083.839	.030%	98.139%
51.0	5.449	0.462	1084.3	.031%	98.181%
52.0	5.400	0.466	1084.766	.031%	98.223%
53.0	5.379	0.469	1085.235	.031%	98.266%
54.0	5.358	0.473	1085.708	.031%	98.309%
55.0	5.330	0.477	1086.185	.032%	98.352%
56.0	5.309	0.481	1086.666	.032%	98.395%
57.0	5.295	0.485	1087.151	.032%	98.439%
58.0	5.259	0.488	1087.639	.032%	98.483%
59.0	5.252	0.491	1088.13	.033%	98.528%
60.0	5.224	0.495	1088.625	.033%	98.573%
61.0	5.217	0.498	1089.123	.033%	98.618%
62.0	5.210	0.502	1089.626	.033%	98.663%
63.0	5.182	0.505	1090.131	.034%	98.709%
64.0	5.168	0.508	1090.639	.034%	98.755%
65.0	5.161	0.511	1091.15	.034%	98.801%
66.0	5.147	0.514	1091.665	.034%	98.848%
67.0	5.154	0.518	1092.183	.034%	98.895%
68.0	5.133	0.521	1092.704	.035%	98.942%
69.0	5.126	0.523	1093.227	.035%	98.989%
70.0	5.112	0.526	1093.753	.035%	99.037%
71.0	5.105	0.528	1094.281	.035%	99.085%
72.0	5.105	0.531	1094.812	.035%	99.133%
73.0	5.098	0.534	1095.345	.035%	99.181%
74.0	5.098	0.536	1095.881	.036%	99.230%
75.0	5.070	0.537	1096.418	.036%	99.278%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.077	0.539	1096.957	.036%	99.327%
77.0	5.055	0.540	1097.497	.036%	99.376%
78.0	5.034	0.540	1098.037	.036%	99.425%
79.0	5.020	0.540	1098.578	.036%	99.474%
80.0	4.950	0.538	1099.115	.036%	99.523%
81.0	4.915	0.533	1099.649	.035%	99.571%
82.0	4.887	0.532	1100.18	.035%	99.619%
83.0	4.873	0.531	1100.711	.035%	99.667%
84.0	4.859	0.530	1101.241	.035%	99.715%
85.0	4.852	0.530	1101.771	.035%	99.763%
86.0	4.788	0.527	1102.298	.035%	99.811%
87.0	4.781	0.524	1102.821	.035%	99.858%
88.0	4.767	0.523	1103.344	.035%	99.905%
89.0	4.753	0.522	1103.866	.035%	99.953%
90.0	4.767	0.522	1104.388	.035%	100.000%

Zonal flux distribution table

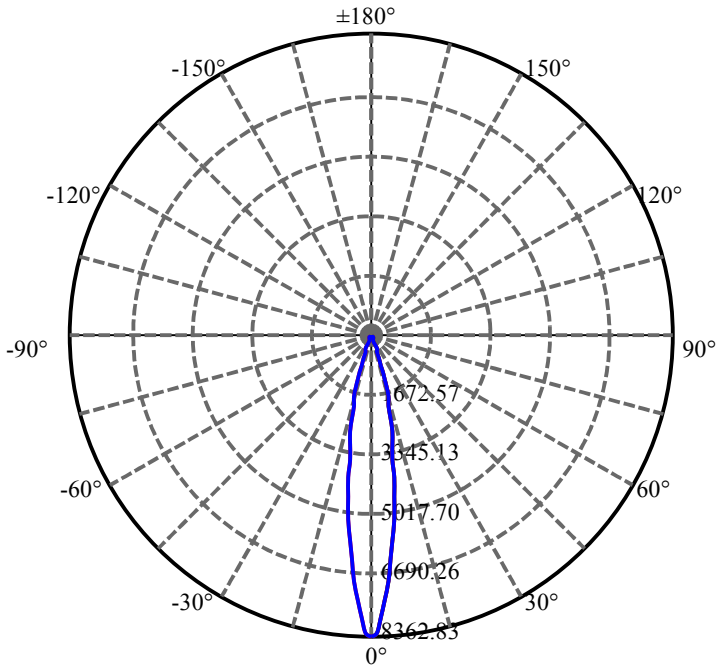
ZONAL LUMEN SUMMARY

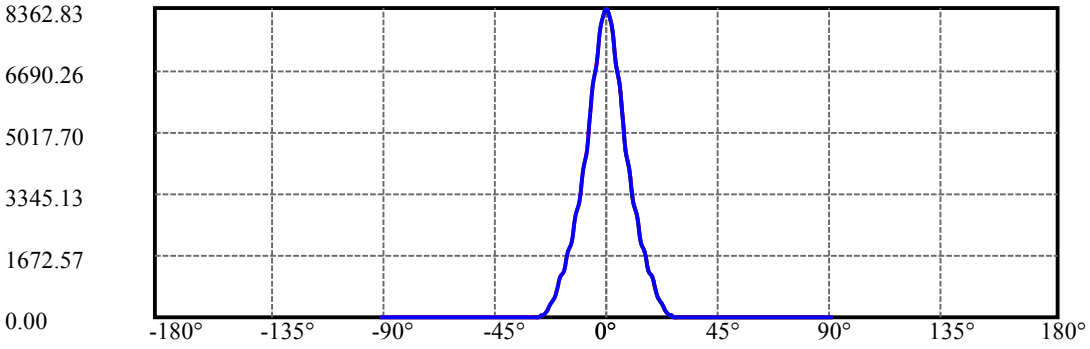
Zone	Lumens	%Lamp	%Fixt
0-30	1074.84	71.46%	97.32%
0-40	1079.42	71.77%	97.74%
0-60	1088.63	72.38%	98.57%
0-90	1103.87	73.39%	99.95%
0-120	1103.87	73.39%	99.95%
0-180	1104.39	73.43%	100.00%
60-90	15.74	1.05%	1.42%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-16.65	883.51	58.74%	80.00%

ZONAL LUMEN SUMMARY

0-10	508.66
10-20	491.34
20-30	74.84
30-40	4.58
40-50	4.42
50-60	4.79
60-70	5.13
70-80	5.36
80-90	4.75
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):

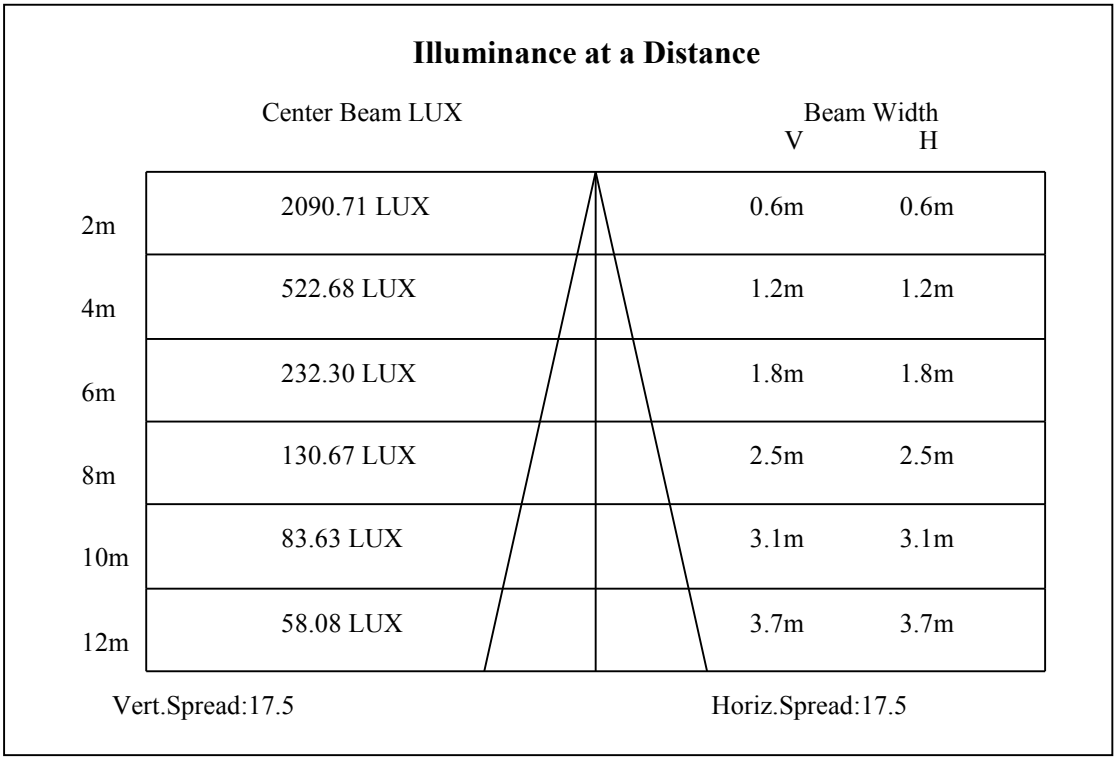
C0/C180:

C90/C270:

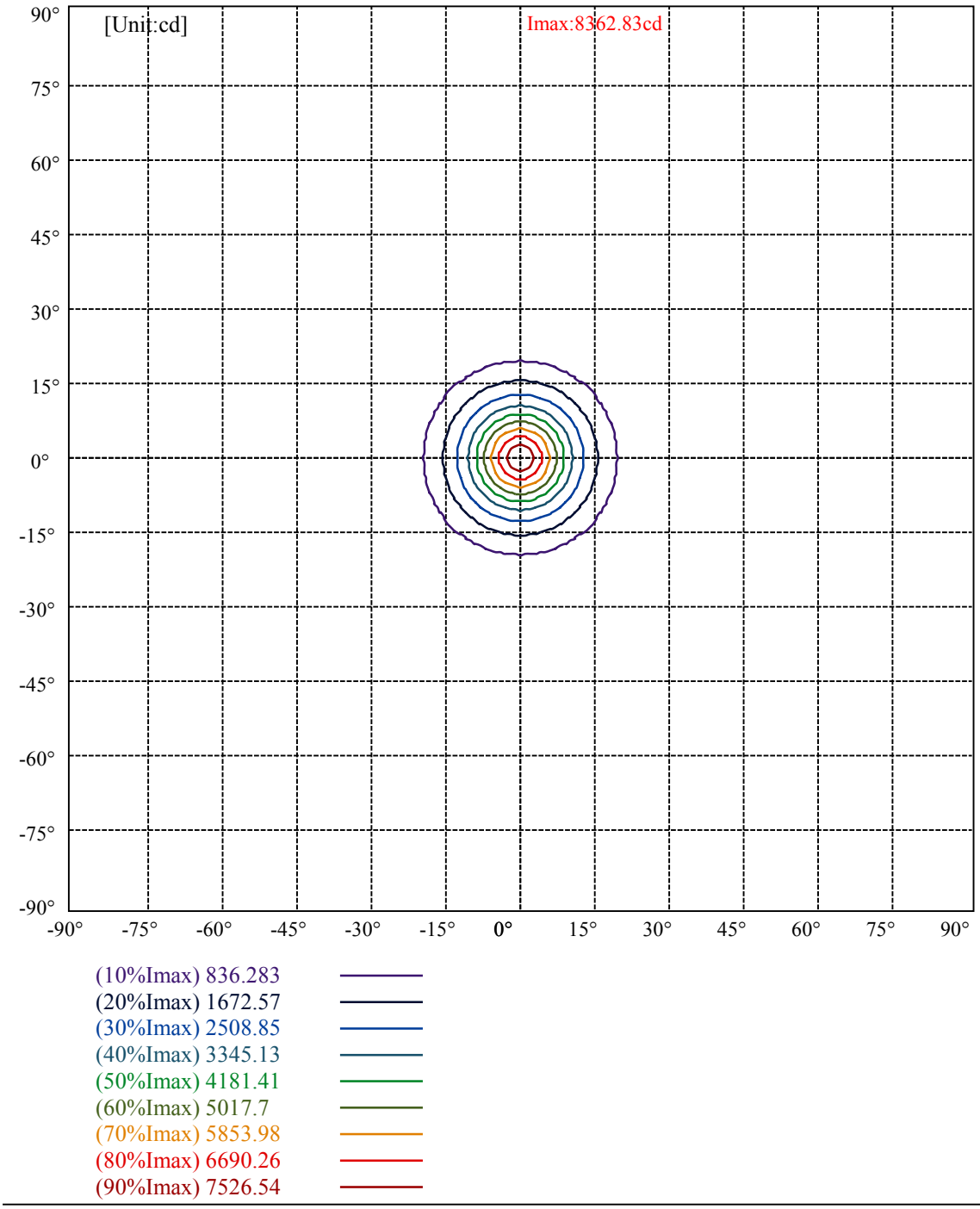
Field angle(10%Imax):C0/180Left:19.3 Right:19.3
:C90/270Left:19.3 Right:19.3

Beam Angle(50%Imax):C0/180Left:8.7 Right:8.7
:C90/270Left:8.7 Right:8.7

Lux distance Curve



ISO-Intensity(V-H)



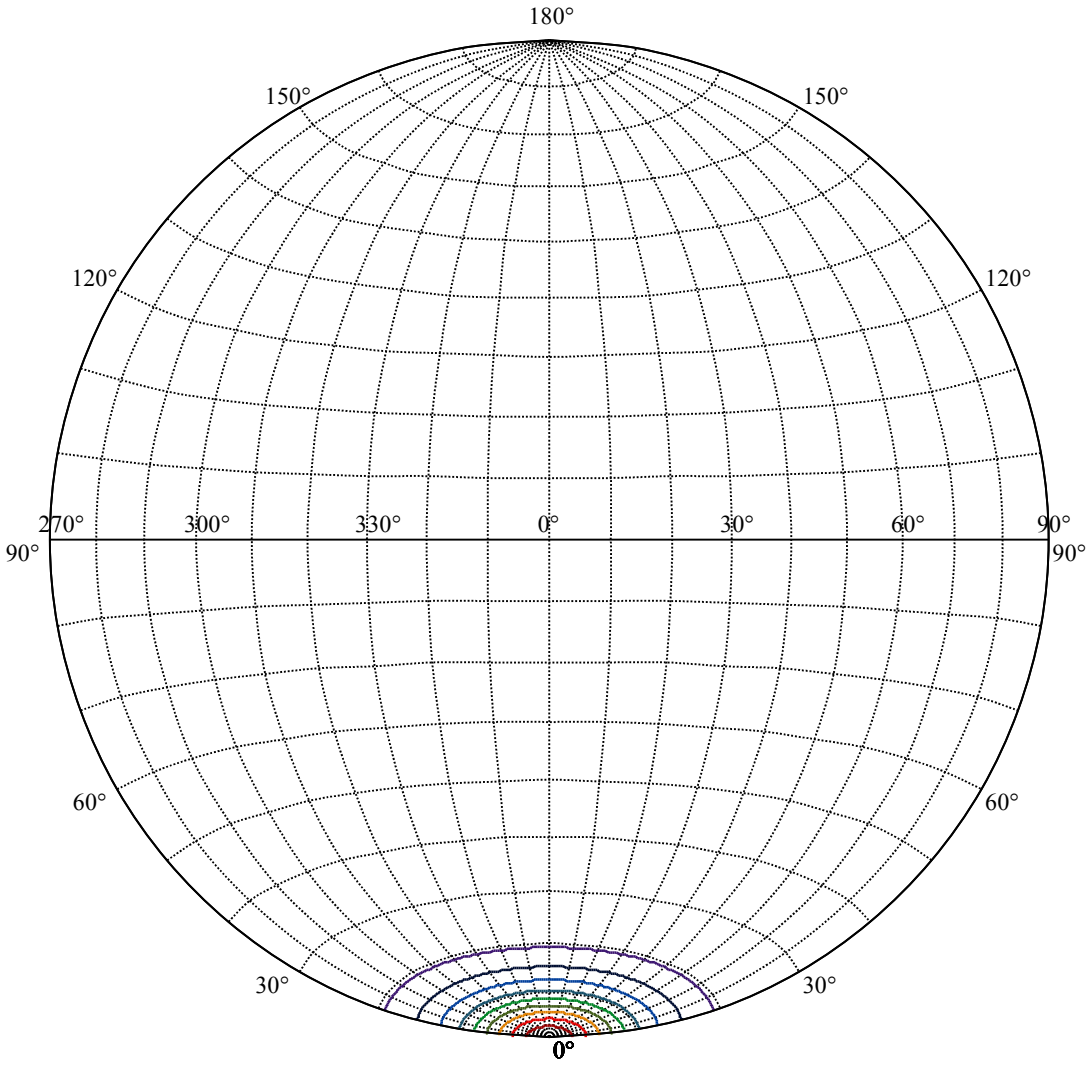
(10%Imax) 836.283
(20%Imax) 1672.57
(30%Imax) 2508.85
(40%Imax) 3345.13
(50%Imax) 4181.41
(60%Imax) 5017.7
(70%Imax) 5853.98
(80%Imax) 6690.26
(90%Imax) 7526.54

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:8362.83

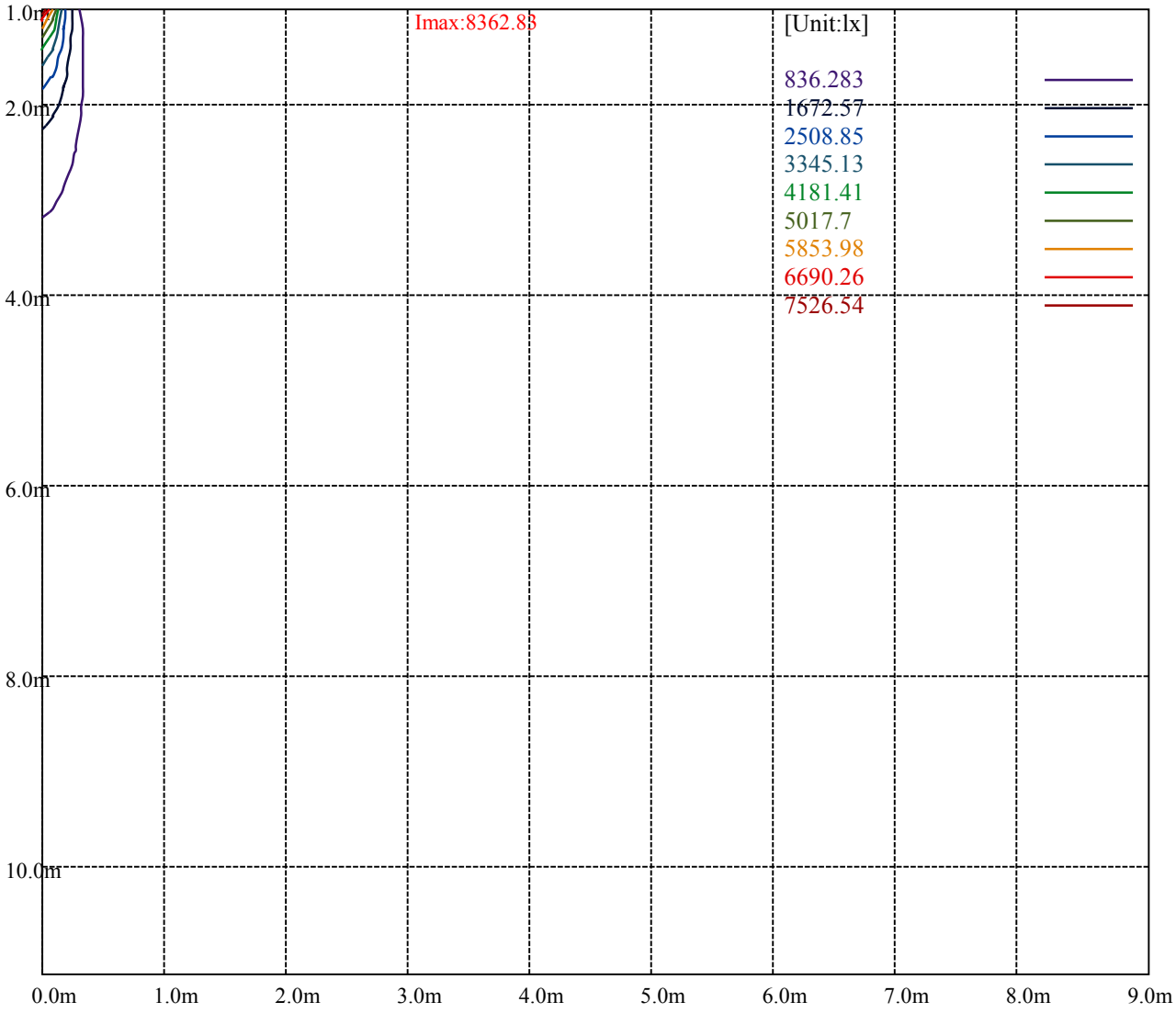
(10%Imax) 836.283
(20%Imax) 1672.57
(30%Imax) 2508.85
(40%Imax) 3345.13
(50%Imax) 4181.41
(60%Imax) 5017.7
(70%Imax) 5853.98
(80%Imax) 6690.26
(90%Imax) 7526.54

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

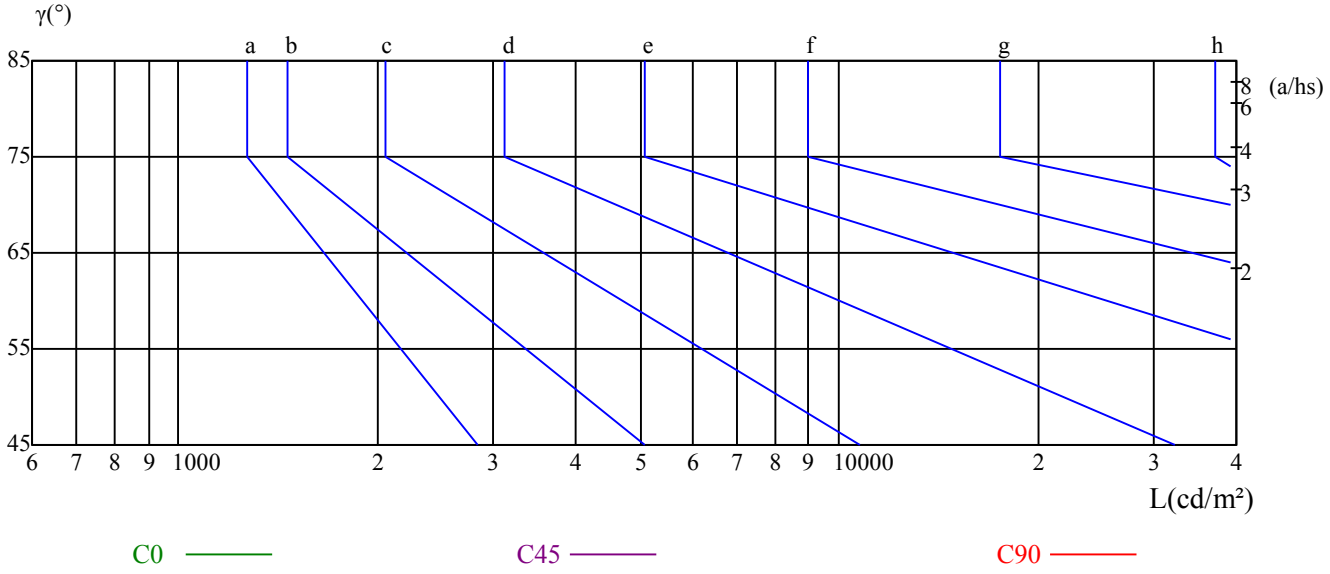
γ	45	50	55	60	65	70	75	80	85
C0	217	217	222	230	244	262	287	316	357
C45	234	236	244	257	276	302	337	380	445
C90	303	318	345	384	443	531	675	927	1549

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
476	476	476	764	764	764	2170	2170	2170

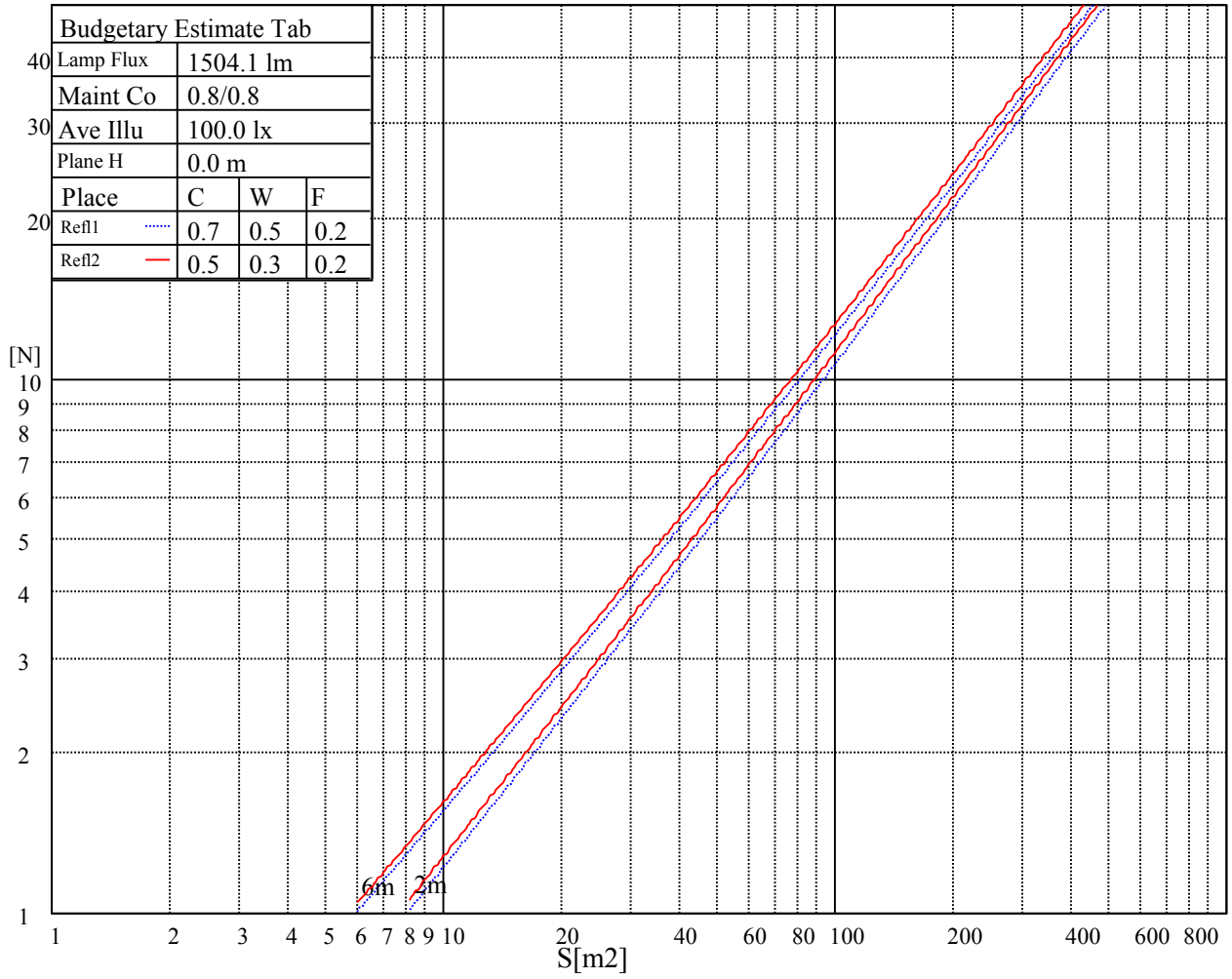
Glare Table

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

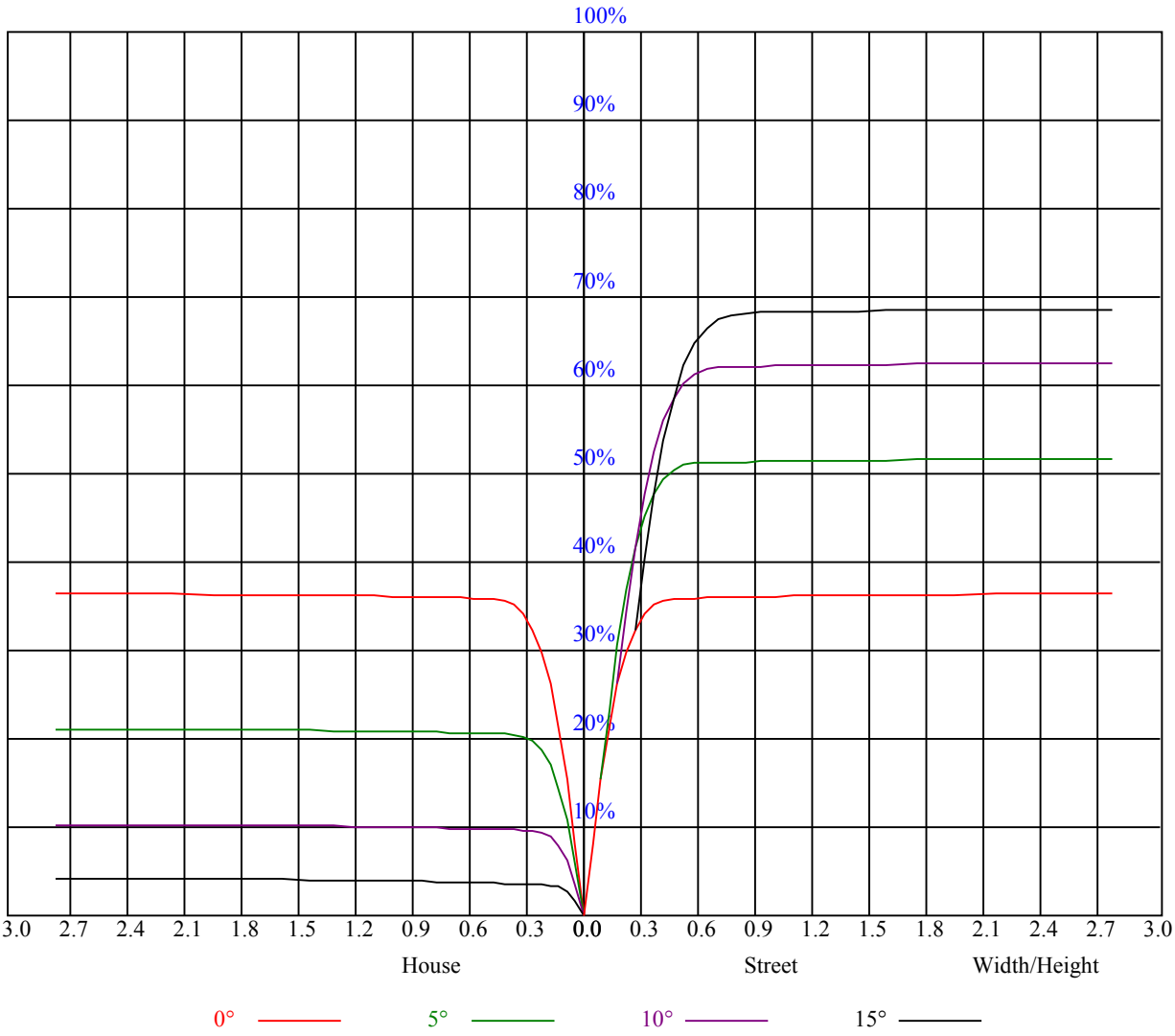


Equipment: GMS1980 Date: 2021/7/15 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.87	0.87	0.87	0.85	0.85	0.85	0.82	0.82	0.82	0.78	0.78	0.78	0.75	0.75	0.75	0.73
1	0.83	0.82	0.80	0.81	0.80	0.79	0.79	0.78	0.77	0.76	0.75	0.74	0.73	0.73	0.72	0.71
2	0.79	0.77	0.76	0.78	0.76	0.75	0.76	0.75	0.73	0.74	0.73	0.72	0.72	0.71	0.70	0.69
3	0.77	0.74	0.72	0.76	0.73	0.72	0.74	0.72	0.70	0.72	0.71	0.69	0.71	0.69	0.68	0.67
4	0.74	0.71	0.69	0.73	0.71	0.69	0.72	0.70	0.68	0.71	0.69	0.67	0.69	0.68	0.67	0.66
5	0.72	0.69	0.67	0.71	0.69	0.67	0.70	0.68	0.66	0.69	0.67	0.66	0.68	0.66	0.65	0.64
6	0.70	0.67	0.65	0.69	0.67	0.65	0.68	0.66	0.65	0.68	0.66	0.64	0.67	0.65	0.64	0.63
7	0.68	0.65	0.63	0.68	0.65	0.63	0.67	0.65	0.63	0.66	0.64	0.63	0.66	0.64	0.62	0.62
8	0.66	0.64	0.62	0.66	0.64	0.62	0.66	0.63	0.62	0.65	0.63	0.61	0.64	0.63	0.61	0.61
9	0.65	0.62	0.61	0.65	0.62	0.61	0.64	0.62	0.60	0.64	0.62	0.60	0.63	0.61	0.60	0.59
10	0.64	0.61	0.59	0.63	0.61	0.59	0.63	0.61	0.59	0.62	0.60	0.59	0.62	0.60	0.59	0.58

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2021/7/15	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	8277.19	8417.25	8253.56	7903.69	7319.81	6800.06	6311.81	5720.63	5149.13
45.0	8391.94	8376.19	8049.38	7605.00	7144.88	6530.63	6013.13	5454.00	4800.94
90.0	8389.69	8188.31	7761.38	7227.56	6708.38	6145.88	5600.81	4932.56	4291.88
135.0	8392.50	8245.69	7761.38	7275.38	6813.00	6176.81	5643.00	5052.94	4428.56
180.0	8277.19	7952.06	7417.13	6822.00	6347.25	5813.44	5171.63	4547.81	4026.38
225.0	8391.94	8164.13	7675.31	7096.50	6618.94	6039.56	5506.31	4884.75	4293.00
270.0	8389.69	8343.00	7956.56	7506.00	7016.06	6337.69	5826.38	5310.56	4711.50
315.0	8392.50	8278.31	7905.94	7401.94	6895.13	6347.81	5834.81	5235.75	4622.06
360.0	8277.19	8417.25	8253.56	7903.69	7319.81	6800.06	6311.81	5720.63	5149.13

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4531.50	3966.75	3533.06	3148.88	2738.25	2359.13	2065.50	1767.94	1500.75
45.0	4188.38	3705.19	3233.81	2852.44	2462.06	2119.50	1854.00	1584.56	1325.25
90.0	3808.69	3333.38	2917.69	2563.88	2245.50	1893.38	1645.88	1422.00	1110.99
135.0	3873.94	3439.69	2995.88	2629.69	2259.56	1945.69	1697.06	1440.56	1200.38
180.0	3524.06	3076.88	2711.25	2337.75	2052.56	1767.38	1503.00	1115.78	1093.16
225.0	3812.06	3344.63	2926.69	2583.00	2268.56	1921.50	1676.25	1446.75	1111.05
270.0	4128.19	3678.19	3236.63	2881.13	2507.06	2171.25	1908.56	1630.13	1371.38
315.0	4111.88	3616.31	3183.19	2820.94	2480.06	2104.31	1842.75	1604.81	1375.88
360.0	4531.50	3966.75	3533.06	3148.88	2738.25	2359.13	2065.50	1767.94	1500.75

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1282.50	1111.50	862.88	694.13	541.13	368.44	296.44	140.57	63.51
45.0	1133.44	939.94	717.75	561.38	424.69	297.56	165.32	82.80	36.56
90.0	970.88	792.45	604.52	442.13	315.96	189.68	110.53	43.82	19.74
135.0	1022.63	828.00	620.44	465.75	348.75	295.31	112.11	48.54	20.53
180.0	861.86	689.85	537.81	363.15	242.49	142.93	67.73	26.49	15.86
225.0	1000.52	819.17	636.69	462.94	335.76	208.13	118.69	47.25	21.77
270.0	1159.31	977.06	761.63	591.19	447.75	303.75	220.95	97.48	42.08
315.0	1122.19	939.32	763.99	566.27	424.63	287.21	173.87	80.61	35.72
360.0	1282.50	1111.50	862.88	694.13	541.13	368.44	296.44	140.57	63.51

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	25.59	16.71	12.71	11.08	10.01	9.23	8.55	7.99	7.54
45.0	17.27	12.88	11.03	9.90	9.17	8.55	8.04	7.59	7.31
90.0	13.78	11.31	10.07	9.23	8.61	7.99	7.59	7.31	7.03
135.0	13.56	10.97	9.79	9.00	8.44	7.88	7.48	7.14	6.86
180.0	11.76	10.07	9.11	8.44	7.88	7.43	7.09	6.81	6.58
225.0	15.81	12.43	10.69	9.79	9.06	8.33	7.82	7.43	6.98
270.0	19.52	14.40	11.81	10.46	9.51	8.83	8.21	7.76	7.31
315.0	18.56	13.39	11.31	10.13	9.28	8.55	7.99	7.54	7.14
360.0	25.59	16.71	12.71	11.08	10.01	9.23	8.55	7.99	7.54

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	7.20	6.86	6.58	6.36	6.24	6.08	5.96	5.85	5.79
45.0	6.98	6.75	6.58	6.41	6.30	6.19	6.02	5.96	5.91
90.0	6.81	6.58	6.41	6.30	6.13	6.08	5.96	5.91	5.85
135.0	6.69	6.53	6.30	6.19	6.08	5.96	5.91	5.85	5.79
180.0	6.41	6.24	6.08	5.96	5.85	5.79	5.74	5.63	5.57
225.0	6.69	6.53	6.24	6.13	5.96	5.85	5.79	5.74	5.63
270.0	6.98	6.75	6.47	6.24	6.13	6.08	5.91	5.85	5.79
315.0	6.81	6.53	6.36	6.13	6.02	5.91	5.79	5.74	5.68
360.0	7.20	6.86	6.58	6.36	6.24	6.08	5.96	5.85	5.79

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	5.74	5.63	5.63	5.51	5.51	5.46	5.46	5.34	5.34
45.0	5.85	5.79	5.74	5.68	5.63	5.57	5.57	5.51	5.51
90.0	5.79	5.74	5.68	5.63	5.63	5.57	5.57	5.51	5.51
135.0	5.68	5.68	5.63	5.57	5.51	5.51	5.51	5.46	5.40
180.0	5.57	5.51	5.46	5.40	5.40	5.34	5.29	5.29	5.23
225.0	5.57	5.51	5.51	5.46	5.40	5.34	5.34	5.29	5.29
270.0	5.68	5.68	5.63	5.51	5.46	5.46	5.46	5.40	5.40
315.0	5.63	5.57	5.51	5.46	5.46	5.46	5.40	5.40	5.34
360.0	5.74	5.63	5.63	5.51	5.51	5.46	5.46	5.34	5.34

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	5.34	5.29	5.23	5.23	5.23	5.23	5.18	5.18	5.12
45.0	5.46	5.46	5.40	5.34	5.34	5.34	5.29	5.29	5.29
90.0	5.46	5.46	5.46	5.40	5.40	5.40	5.34	5.34	5.34
135.0	5.40	5.34	5.34	5.34	5.29	5.29	5.29	5.23	5.23
180.0	5.23	5.23	5.18	5.18	5.12	5.06	5.06	5.06	5.06
225.0	5.29	5.23	5.23	5.23	5.18	5.18	5.12	5.12	5.12
270.0	5.40	5.34	5.34	5.34	5.29	5.29	5.29	5.29	5.29
315.0	5.29	5.29	5.29	5.29	5.23	5.23	5.23	5.23	5.23
360.0	5.34	5.29	5.23	5.23	5.23	5.23	5.18	5.18	5.12

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	5.12	5.12	5.12	5.06	5.06	5.06	5.01	5.01	5.01
45.0	5.29	5.23	5.23	5.18	5.23	5.18	5.18	5.12	5.12
90.0	5.29	5.29	5.29	5.29	5.29	5.29	5.29	5.29	5.29
135.0	5.23	5.18	5.18	5.18	5.12	5.12	5.12	5.12	5.06
180.0	5.06	5.06	5.01	5.01	5.01	4.95	4.95	4.95	4.95
225.0	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.01
270.0	5.23	5.23	5.23	5.23	5.29	5.23	5.29	5.23	5.29
315.0	5.18	5.18	5.18	5.18	5.18	5.18	5.12	5.12	5.12
360.0	5.12	5.12	5.12	5.06	5.06	5.06	5.01	5.01	5.01

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	5.01	5.01	5.01	4.95	5.01	4.89	4.89	4.95	4.89
45.0	5.12	5.12	5.06	5.06	5.06	5.06	5.01	5.01	5.01
90.0	5.29	5.29	5.29	5.29	5.29	5.23	5.18	5.06	4.89
135.0	5.06	5.06	5.06	5.06	5.01	5.06	5.01	5.01	4.95
180.0	4.95	4.95	4.95	4.89	4.89	4.89	4.89	4.89	4.84
225.0	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01	4.95
270.0	5.29	5.29	5.29	5.29	5.29	5.29	5.29	5.23	5.12
315.0	5.12	5.06	5.12	5.01	5.06	5.01	5.01	5.01	4.95
360.0	5.01	5.01	5.01	4.95	5.01	4.89	4.89	4.95	4.89

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	4.95	4.89	4.95	4.89	4.95	4.84	4.78	4.78	4.78
45.0	4.95	4.95	4.95	4.95	4.89	4.78	4.78	4.78	4.78
90.0	4.84	4.78	4.84	4.84	4.78	4.78	4.73	4.73	4.73
135.0	4.89	4.89	4.84	4.84	4.78	4.78	4.78	4.73	4.73
180.0	4.89	4.89	4.84	4.84	4.84	4.78	4.78	4.78	4.78
225.0	4.95	4.95	4.89	4.89	4.89	4.78	4.78	4.78	4.73
270.0	4.95	4.84	4.84	4.84	4.84	4.78	4.78	4.78	4.78
315.0	4.89	4.89	4.84	4.78	4.84	4.78	4.84	4.78	4.73
360.0	4.95	4.89	4.95	4.89	4.95	4.84	4.78	4.78	4.78

Intensity data(cd)

C/γ(°)	90.0
0.0	4.78
45.0	4.78
90.0	4.78
135.0	4.78
180.0	4.78
225.0	4.78
270.0	4.73
315.0	4.73
360.0	4.78