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: 1-0927-M
Luminaire: 92.70.124.00

Report No: 210715-B003	Voltage(V): 36.6400
Test No: 210715-C003	Current(A): 0.3050
LampCAT: Fortimo LED SLM 1202 G7N	Power (W): 11.1750
Lamp flux(lm): 1428.3	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): 1095.23
Efficiency(%): 76.68%
Lumens(lm)/Power(W): 98.01
Central intensity(cd): 5056.453
Maximum intensity(cd): 5056.453
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=27.0
[C90/270]Total=27.0
Field angle(10%Imax): [C0/180]Total=43.3
[C90/270]Total=43.3
Maximum s/h(1/2): C0_180=0.46 C90_270=0.46
Maximum s/h(1/4): C0_180=0.44 C90_270=0.44
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 76.68%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.593%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5056.453	0.000	0	.000%	.000%
1.0	5041.617	4.832	4.832	.338%	.441%
2.0	5000.555	14.413	19.245	1.009%	1.757%
3.0	4919.977	23.727	42.972	1.661%	3.924%
4.0	4816.477	32.591	75.563	2.282%	6.899%
5.0	4685.766	40.878	116.441	2.862%	10.632%
6.0	4502.742	48.288	164.729	3.381%	15.041%
7.0	4303.547	54.660	219.39	3.827%	20.031%
8.0	4095.914	60.113	279.503	4.209%	25.520%
9.0	3845.953	64.365	343.867	4.506%	31.397%
10.0	3567.305	67.087	410.955	4.697%	37.522%
11.0	3300.891	68.627	479.582	4.805%	43.788%
12.0	3015.492	69.047	548.629	4.834%	50.093%
13.0	2674.898	67.531	616.16	4.728%	56.259%
14.0	2387.250	64.795	680.955	4.536%	62.175%
15.0	2099.109	61.591	742.546	4.312%	67.798%
16.0	1794.691	57.055	799.601	3.995%	73.008%
17.0	1516.198	51.559	851.16	3.610%	77.715%
18.0	1254.839	45.688	896.849	3.199%	81.887%
19.0	1011.361	39.427	936.276	2.760%	85.487%
20.0	817.608	33.475	969.751	2.344%	88.543%
21.0	620.339	27.611	997.362	1.933%	91.065%
22.0	444.797	21.404	1018.767	1.499%	93.019%
23.0	308.763	15.812	1034.579	1.107%	94.463%
24.0	197.318	11.065	1045.643	.775%	95.473%
25.0	122.280	7.267	1052.91	.509%	96.136%
26.0	76.106	4.683	1057.593	.328%	96.564%
27.0	36.654	2.759	1060.352	.193%	96.816%
28.0	22.444	1.496	1061.848	.105%	96.952%
29.0	17.332	1.041	1062.889	.073%	97.047%
30.0	14.913	0.871	1063.759	.061%	97.127%
31.0	13.212	0.783	1064.542	.055%	97.198%
32.0	12.030	0.723	1065.265	.051%	97.264%
33.0	11.095	0.681	1065.947	.048%	97.327%
34.0	10.195	0.644	1066.591	.045%	97.385%
35.0	9.513	0.612	1067.203	.043%	97.441%
36.0	8.951	0.588	1067.791	.041%	97.495%
37.0	8.445	0.567	1068.358	.040%	97.547%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	8.044	0.550	1068.909	.039%	97.597%
39.0	7.671	0.536	1069.445	.038%	97.646%
40.0	7.355	0.524	1069.969	.037%	97.694%
41.0	7.116	0.515	1070.484	.036%	97.741%
42.0	6.877	0.508	1070.993	.036%	97.787%
43.0	6.666	0.502	1071.494	.035%	97.833%
44.0	6.511	0.497	1071.992	.035%	97.879%
45.0	6.363	0.495	1072.486	.035%	97.924%
46.0	6.209	0.492	1072.978	.034%	97.969%
47.0	6.089	0.489	1073.467	.034%	98.013%
48.0	5.977	0.488	1073.955	.034%	98.058%
49.0	5.885	0.487	1074.442	.034%	98.102%
50.0	5.794	0.487	1074.929	.034%	98.147%
51.0	5.709	0.487	1075.416	.034%	98.191%
52.0	5.632	0.487	1075.902	.034%	98.236%
53.0	5.562	0.487	1076.389	.034%	98.280%
54.0	5.505	0.488	1076.877	.034%	98.325%
55.0	5.435	0.488	1077.365	.034%	98.369%
56.0	5.386	0.489	1077.854	.034%	98.414%
57.0	5.330	0.490	1078.344	.034%	98.459%
58.0	5.288	0.491	1078.835	.034%	98.503%
59.0	5.245	0.492	1079.328	.034%	98.548%
60.0	5.203	0.494	1079.821	.035%	98.593%
61.0	5.161	0.495	1080.316	.035%	98.639%
62.0	5.126	0.496	1080.812	.035%	98.684%
63.0	5.105	0.498	1081.309	.035%	98.729%
64.0	5.063	0.499	1081.808	.035%	98.775%
65.0	5.034	0.500	1082.308	.035%	98.820%
66.0	5.027	0.502	1082.81	.035%	98.866%
67.0	4.999	0.504	1083.314	.035%	98.912%
68.0	4.978	0.505	1083.819	.035%	98.958%
69.0	4.950	0.506	1084.326	.035%	99.005%
70.0	4.922	0.507	1084.833	.035%	99.051%
71.0	4.901	0.508	1085.34	.036%	99.097%
72.0	4.908	0.510	1085.85	.036%	99.144%
73.0	4.880	0.512	1086.362	.036%	99.191%
74.0	4.873	0.513	1086.875	.036%	99.237%
75.0	4.859	0.514	1087.389	.036%	99.284%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.859	0.516	1087.905	.036%	99.332%
77.0	4.852	0.518	1088.423	.036%	99.379%
78.0	4.838	0.519	1088.941	.036%	99.426%
79.0	4.845	0.520	1089.462	.036%	99.474%
80.0	4.838	0.522	1089.984	.037%	99.521%
81.0	4.852	0.524	1090.507	.037%	99.569%
82.0	4.852	0.526	1091.034	.037%	99.617%
83.0	4.880	0.529	1091.563	.037%	99.665%
84.0	4.915	0.534	1092.096	.037%	99.714%
85.0	4.985	0.540	1092.637	.038%	99.764%
86.0	4.753	0.532	1093.169	.037%	99.812%
87.0	4.683	0.516	1093.685	.036%	99.859%
88.0	4.683	0.513	1094.198	.036%	99.906%
89.0	4.690	0.514	1094.712	.036%	99.953%
90.0	4.690	0.514	1095.226	.036%	100.000%

Zonal flux distribution table

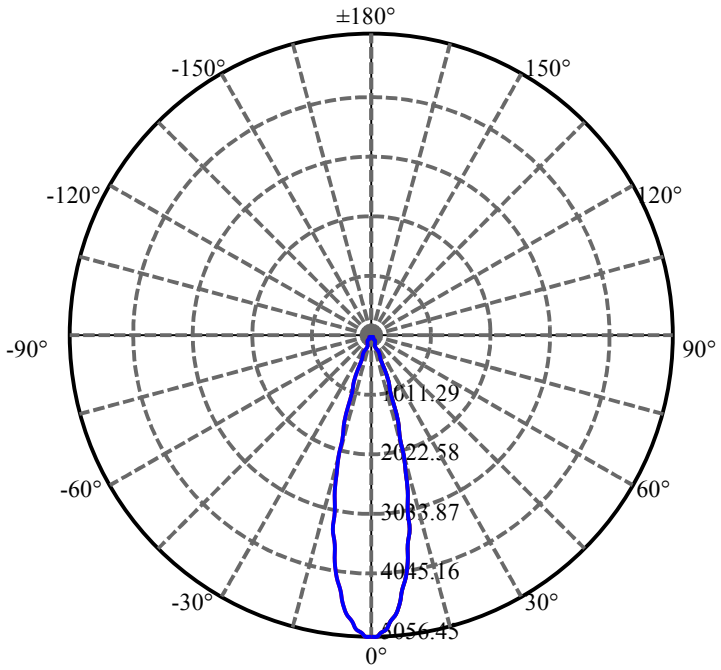
ZONAL LUMEN SUMMARY

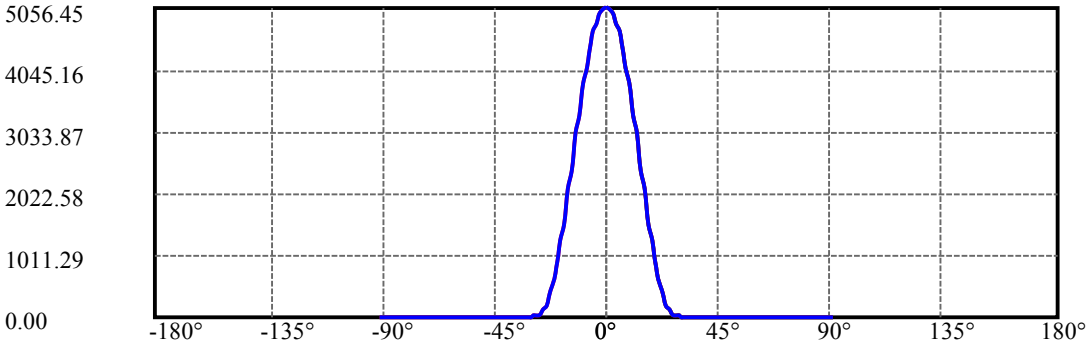
Zone	Lumens	%Lamp	%Fixt
0-30	1063.76	74.48%	97.13%
0-40	1069.97	74.91%	97.69%
0-60	1079.82	75.60%	98.59%
0-90	1094.71	76.64%	99.95%
0-120	1094.71	76.64%	99.95%
0-180	1095.23	76.68%	100.00%
60-90	15.38	1.08%	1.40%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-17.55	876.18	61.34%	80.00%

ZONAL LUMEN SUMMARY

0-10	410.95
10-20	558.80
20-30	94.01
30-40	6.21
40-50	4.96
50-60	4.89
60-70	5.01
70-80	5.15
80-90	4.73
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:21.7 Right:21.7
:C90/270Left:21.7 Right:21.7

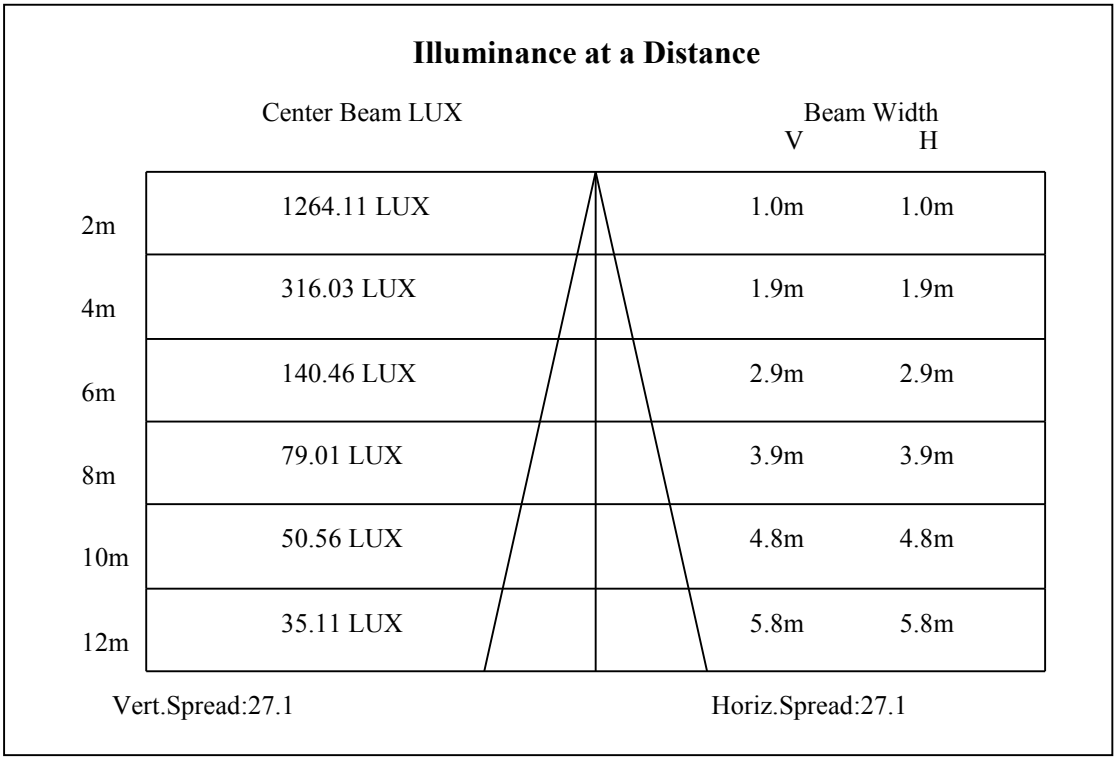
Beam Angle(50%Imax):C0/180Left:13.5 Right:13.5
:C90/270Left:13.5 Right:13.5

Equipment: GMS1980
Temperature(°C): 25.0

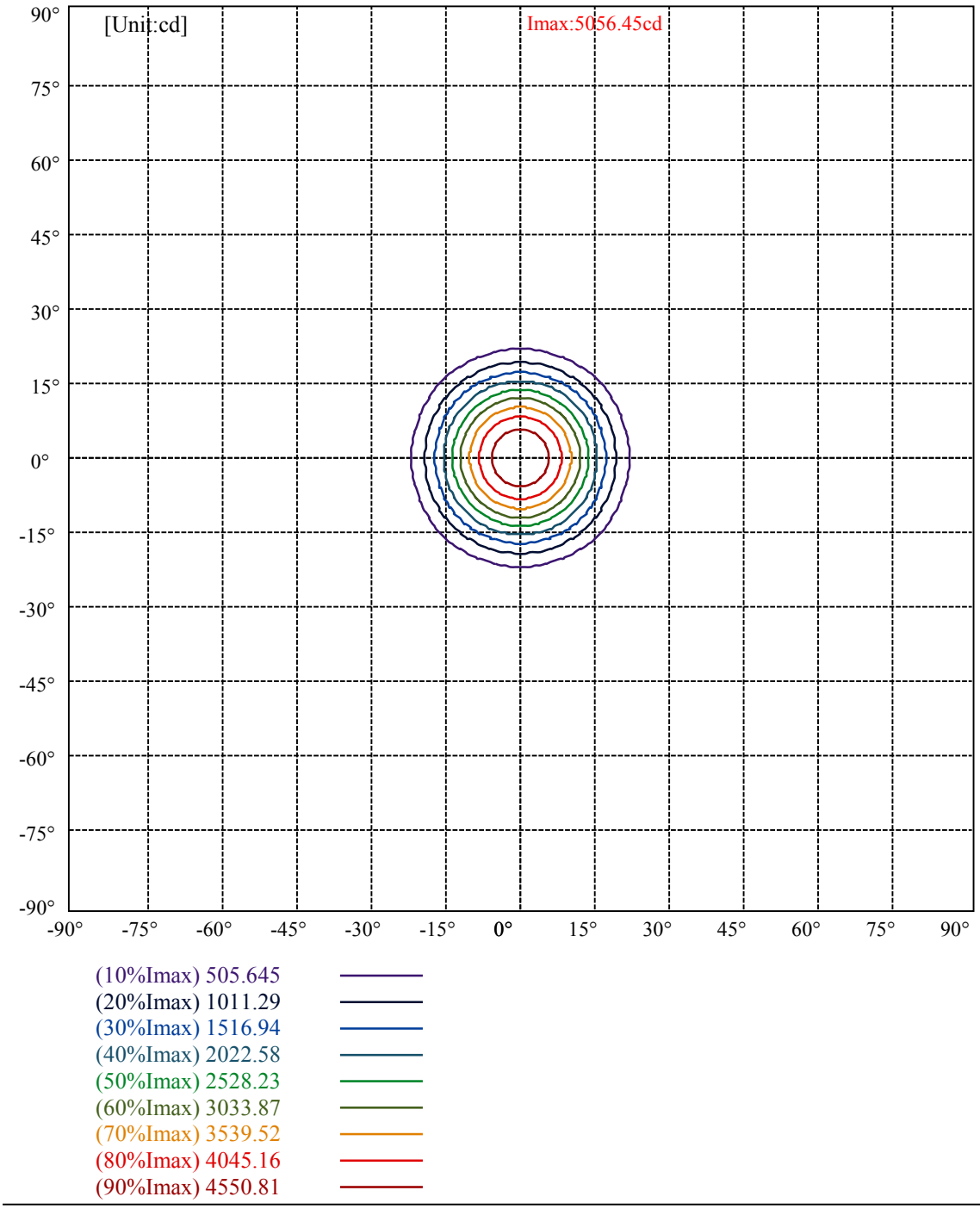
Date: 2021/7/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Lux distance Curve



ISO-Intensity(V-H)



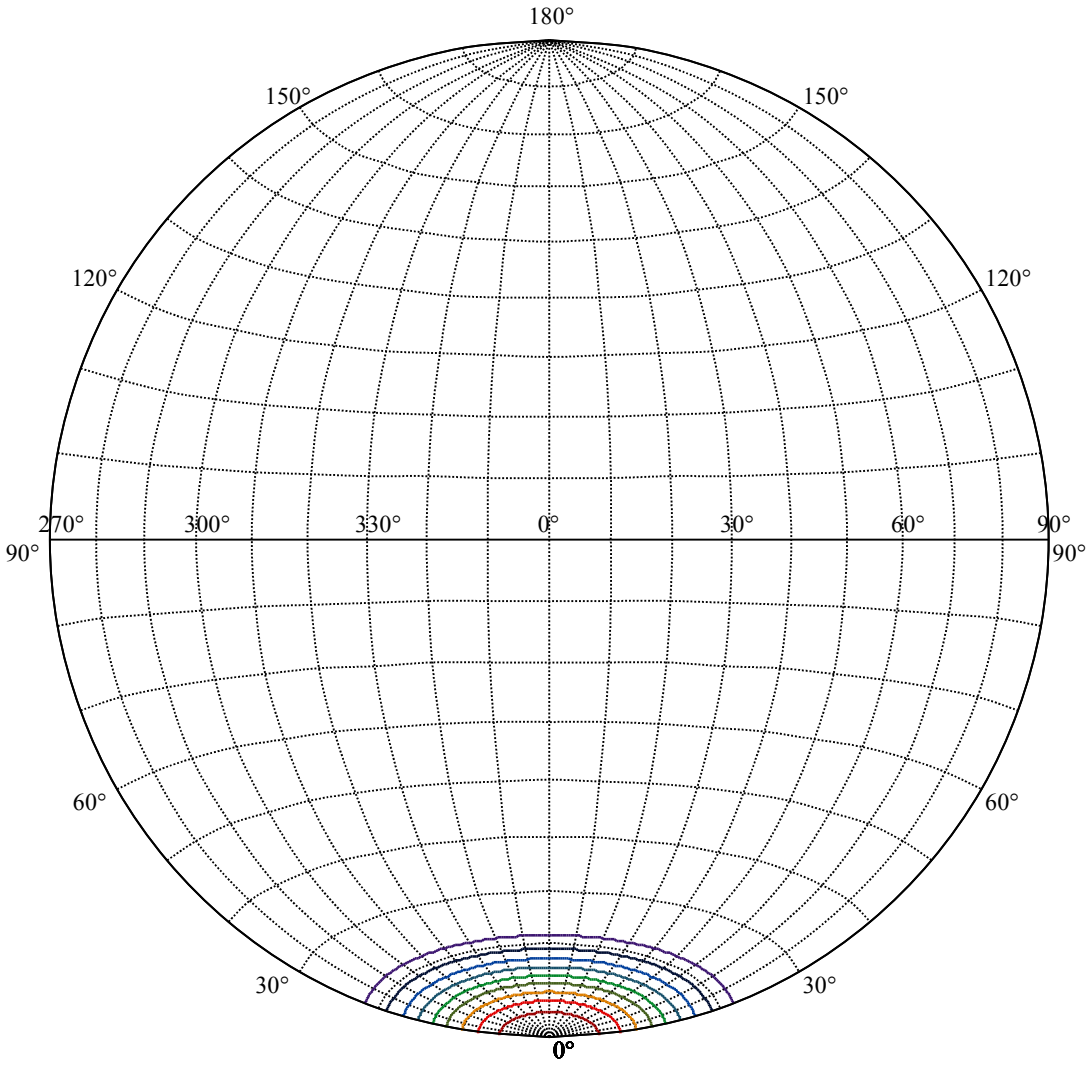
(10%Imax) 505.645
(20%Imax) 1011.29
(30%Imax) 1516.94
(40%Imax) 2022.58
(50%Imax) 2528.23
(60%Imax) 3033.87
(70%Imax) 3539.52
(80%Imax) 4045.16
(90%Imax) 4550.81

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:5056.45

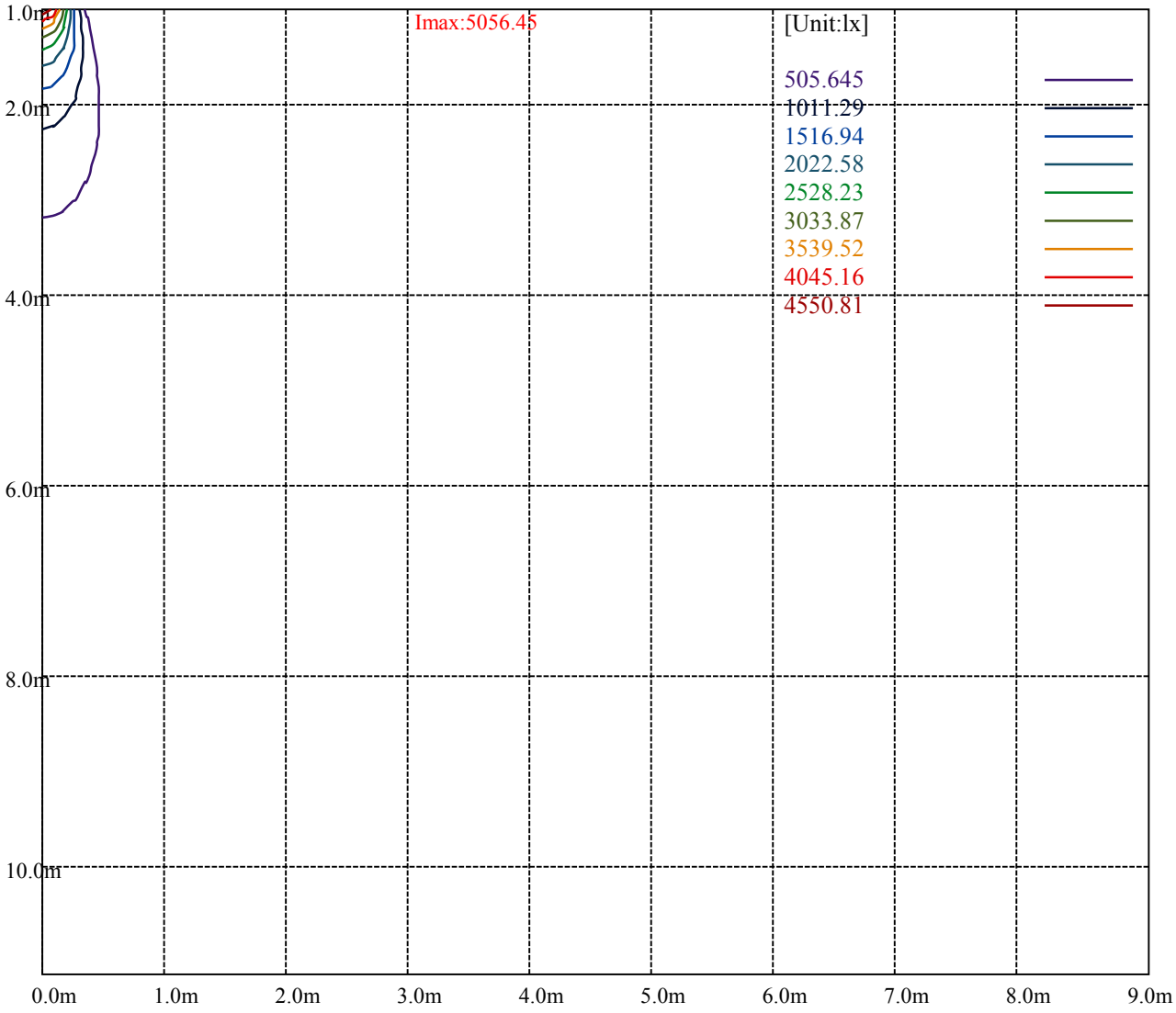
(10%Imax) 505.645
(20%Imax) 1011.29
(30%Imax) 1516.94
(40%Imax) 2022.58
(50%Imax) 2528.23
(60%Imax) 3033.87
(70%Imax) 3539.52
(80%Imax) 4045.16
(90%Imax) 4550.81

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

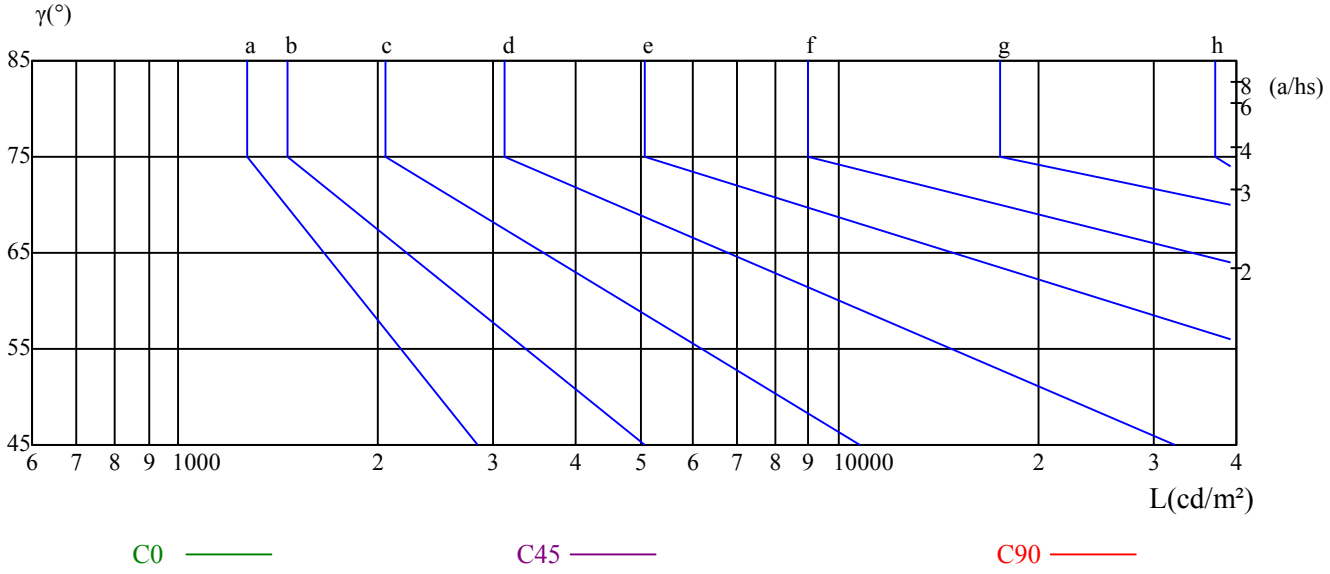
γ	45	50	55	60	65	70	75	80	85
C0	243	230	226	229	238	253	275	308	367
C45	262	250	249	256	269	290	323	372	457
C90	339	337	352	382	432	512	647	906	1592

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
464	464	464	732	732	732	2230	2230	2230

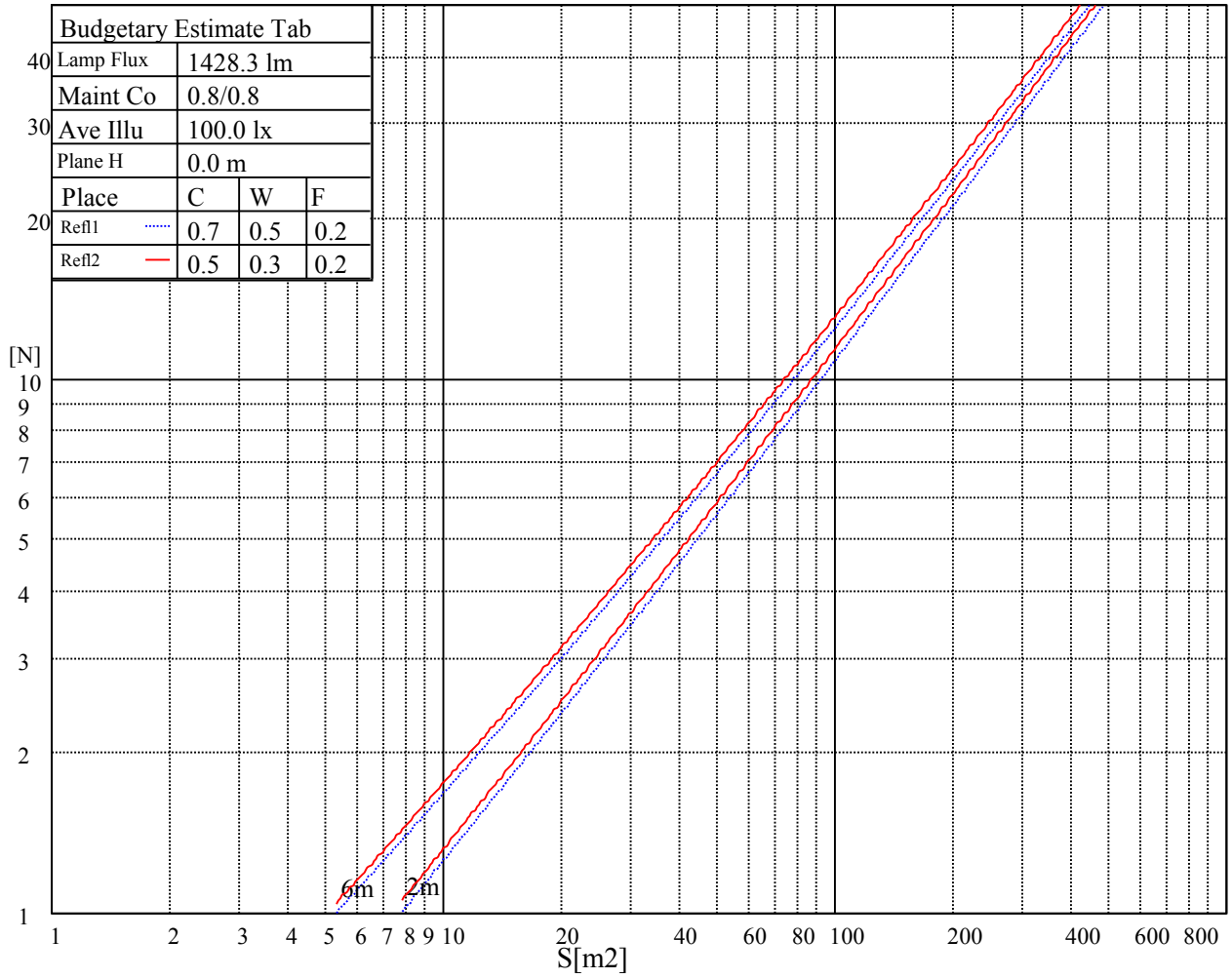
Glare Table

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

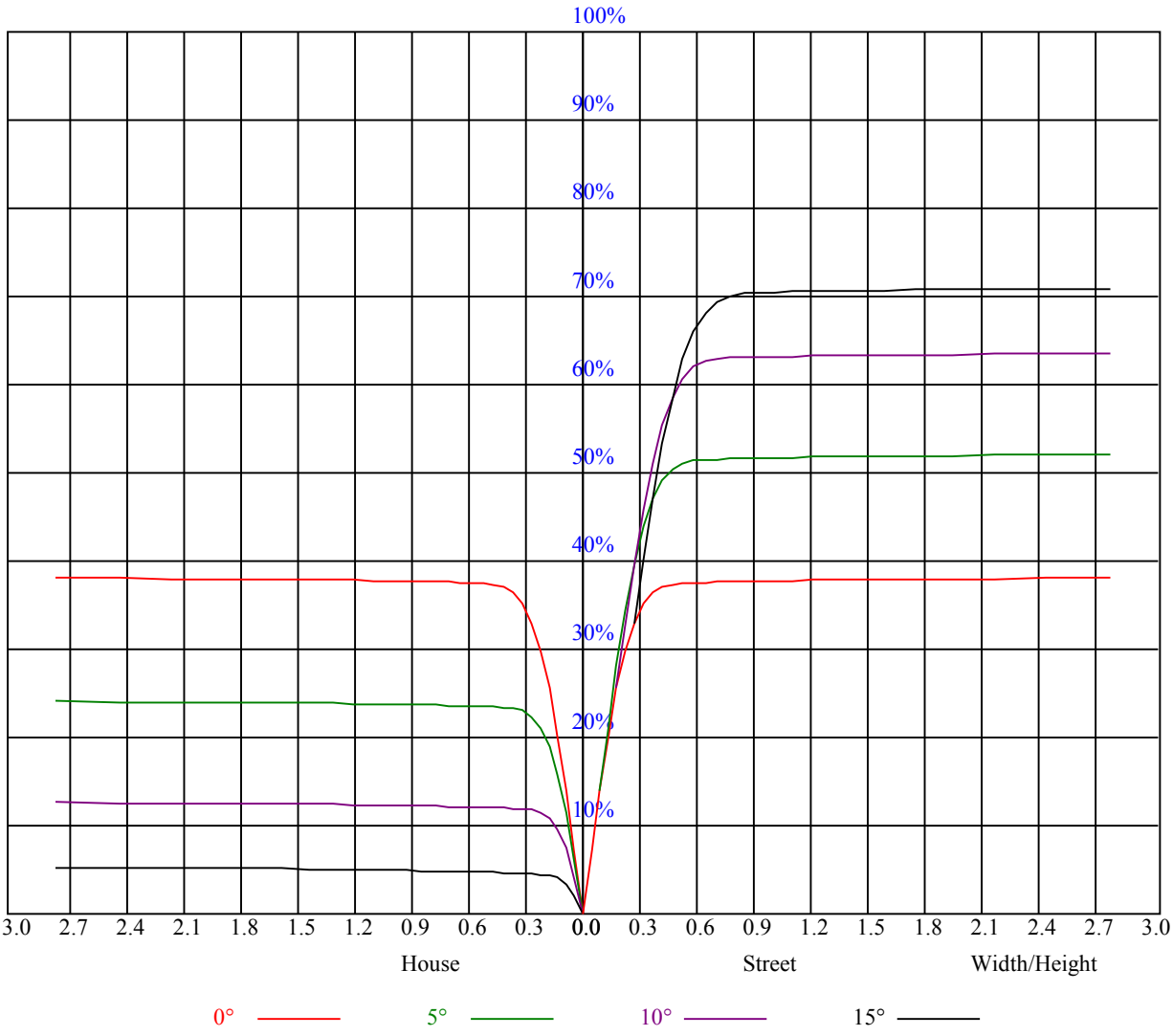


Equipment: GMS1980 Date: 2021/7/15 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.91	0.91	0.91	0.89	0.89	0.89	0.85	0.85	0.85	0.82	0.82	0.82	0.78	0.78	0.78	0.77
1	0.86	0.85	0.84	0.85	0.84	0.82	0.82	0.81	0.80	0.79	0.78	0.77	0.76	0.76	0.75	0.74
2	0.83	0.80	0.78	0.81	0.79	0.78	0.79	0.77	0.76	0.77	0.75	0.74	0.75	0.74	0.73	0.72
3	0.79	0.77	0.74	0.78	0.76	0.74	0.76	0.74	0.73	0.75	0.73	0.72	0.73	0.72	0.71	0.70
4	0.76	0.73	0.71	0.76	0.73	0.71	0.74	0.72	0.70	0.73	0.71	0.69	0.71	0.70	0.69	0.68
5	0.74	0.71	0.69	0.73	0.70	0.68	0.72	0.70	0.68	0.71	0.69	0.67	0.70	0.68	0.67	0.66
6	0.72	0.69	0.66	0.71	0.68	0.66	0.70	0.68	0.66	0.69	0.67	0.65	0.68	0.66	0.65	0.64
7	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.66	0.64	0.68	0.65	0.64	0.67	0.65	0.63	0.63
8	0.68	0.65	0.63	0.67	0.64	0.63	0.67	0.64	0.62	0.66	0.64	0.62	0.65	0.63	0.62	0.61
9	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.65	0.62	0.61	0.64	0.62	0.60	0.60
10	0.64	0.61	0.60	0.64	0.61	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.63	0.61	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	5037.19	5086.69	5121.00	5109.19	5087.81	5027.63	4912.88	4797.56	4662.56
45.0	5058.00	5096.81	5101.31	5075.44	5013.00	4919.06	4816.69	4658.63	4505.63
90.0	5064.75	5052.94	5007.38	4921.31	4831.88	4696.88	4462.31	4282.88	4056.75
135.0	5065.88	5022.00	4942.69	4829.06	4695.75	4539.94	4336.88	4093.31	3861.56
180.0	5037.19	4944.38	4831.88	4672.13	4482.00	4291.88	4057.31	3788.44	3524.63
225.0	5058.00	5004.00	4921.88	4775.06	4614.19	4433.63	4209.19	3976.88	3737.25
270.0	5064.75	5052.38	5010.75	4954.50	4841.44	4704.75	4522.50	4299.75	4085.44
315.0	5065.88	5073.75	5067.56	5023.13	4965.75	4872.38	4704.19	4530.94	4333.50
360.0	5037.19	5086.69	5121.00	5109.19	5087.81	5027.63	4912.88	4797.56	4662.56

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4471.31	4284.00	4045.50	3748.50	3439.13	3153.94	2823.75	2520.00	2183.06
45.0	4296.94	4038.19	3777.75	3511.69	3162.38	2876.63	2583.00	2225.25	1938.38
90.0	3798.00	3521.25	3256.31	2939.06	2622.94	2338.31	2019.38	1747.13	1459.69
135.0	3580.31	3272.06	2987.44	2737.69	2336.63	2054.81	1815.75	1494.56	1226.81
180.0	3238.31	2880.56	2590.31	2300.06	1955.25	1688.06	1436.06	1122.47	938.42
225.0	3443.06	3129.75	2846.81	2516.63	2223.00	1909.69	1613.81	1374.19	1118.48
270.0	3845.25	3574.69	3312.56	3045.38	2687.63	2396.25	2111.06	1801.69	1509.19
315.0	4094.44	3837.94	3590.44	3324.94	2972.25	2680.31	2390.06	2072.25	1755.56
360.0	4471.31	4284.00	4045.50	3748.50	3439.13	3153.94	2823.75	2520.00	2183.06

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1864.69	1591.88	1342.69	1081.69	842.63	652.50	446.06	300.38	284.63
45.0	1670.63	1380.94	1115.44	905.63	680.63	490.50	352.13	298.13	117.06
90.0	1074.21	965.53	764.66	566.89	393.24	267.64	151.37	70.26	36.73
135.0	1032.19	770.06	570.38	431.44	284.63	151.26	68.40	33.19	21.88
180.0	739.97	536.74	383.06	235.97	126.39	62.16	30.71	20.36	16.76
225.0	879.41	697.95	526.84	341.66	217.01	126.96	55.18	28.13	20.76
270.0	1278.00	1032.19	830.81	626.63	439.88	307.69	215.78	81.84	40.33
315.0	1499.63	1115.61	1006.99	772.82	573.98	411.41	258.92	145.97	70.71
360.0	1864.69	1591.88	1342.69	1081.69	842.63	652.50	446.06	300.38	284.63

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	99.73	45.00	27.62	20.64	16.99	15.19	13.78	12.43	11.36
45.0	55.91	31.22	20.14	16.76	14.85	13.39	12.21	11.19	10.41
90.0	23.40	17.44	15.47	14.01	12.66	11.53	10.74	9.90	9.28
135.0	17.78	15.30	13.95	12.71	11.53	10.69	9.90	9.17	8.66
180.0	14.91	13.28	12.15	11.25	10.35	9.73	9.17	8.55	8.16
225.0	17.66	15.36	13.95	12.71	11.64	10.69	9.96	9.28	8.78
270.0	25.26	18.73	16.48	14.79	13.16	12.04	11.14	10.24	9.51
315.0	38.59	23.23	18.90	16.43	14.51	12.99	11.87	10.80	9.96
360.0	99.73	45.00	27.62	20.64	16.99	15.19	13.78	12.43	11.36

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	10.52	9.73	9.17	8.61	8.10	7.76	7.43	7.14	6.92
45.0	9.79	9.28	8.66	8.27	7.99	7.59	7.26	7.09	6.86
90.0	8.78	8.33	7.99	7.59	7.31	7.09	6.86	6.69	6.53
135.0	8.21	7.82	7.54	7.26	7.03	6.81	6.64	6.47	6.36
180.0	7.82	7.48	7.26	7.03	6.81	6.69	6.53	6.30	6.24
225.0	8.27	7.88	7.54	7.26	6.98	6.81	6.64	6.47	6.30
270.0	8.94	8.38	7.99	7.59	7.26	7.03	6.75	6.58	6.41
315.0	9.28	8.66	8.21	7.76	7.37	7.14	6.92	6.58	6.47
360.0	10.52	9.73	9.17	8.61	8.10	7.76	7.43	7.14	6.92

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	6.75	6.53	6.36	6.19	6.13	6.02	5.91	5.79	5.68
45.0	6.69	6.53	6.36	6.24	6.13	6.02	5.91	5.79	5.68
90.0	6.36	6.19	6.08	5.96	5.85	5.79	5.68	5.63	5.57
135.0	6.19	6.08	6.02	5.85	5.79	5.74	5.63	5.57	5.51
180.0	6.13	6.02	5.91	5.85	5.74	5.68	5.68	5.57	5.51
225.0	6.19	6.08	5.96	5.91	5.79	5.68	5.63	5.57	5.51
270.0	6.30	6.13	6.02	5.91	5.85	5.74	5.63	5.57	5.51
315.0	6.30	6.13	6.02	5.91	5.79	5.68	5.63	5.57	5.51
360.0	6.75	6.53	6.36	6.19	6.13	6.02	5.91	5.79	5.68

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	5.63	5.57	5.51	5.46	5.40	5.40	5.29	5.29	5.23
45.0	5.68	5.57	5.51	5.46	5.40	5.34	5.29	5.29	5.23
90.0	5.51	5.40	5.34	5.29	5.29	5.23	5.18	5.12	5.06
135.0	5.46	5.40	5.34	5.29	5.23	5.18	5.18	5.12	5.06
180.0	5.46	5.40	5.34	5.34	5.29	5.23	5.23	5.18	5.18
225.0	5.46	5.40	5.34	5.29	5.23	5.23	5.18	5.12	5.12
270.0	5.46	5.40	5.34	5.29	5.23	5.18	5.18	5.12	5.06
315.0	5.40	5.34	5.34	5.23	5.23	5.18	5.12	5.06	5.06
360.0	5.63	5.57	5.51	5.46	5.40	5.40	5.29	5.29	5.23

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	5.23	5.18	5.12	5.12	5.06	5.06	5.01	5.01	4.95
45.0	5.18	5.12	5.06	5.06	5.06	5.01	5.01	4.95	4.89
90.0	5.01	5.01	5.01	4.95	4.95	4.89	4.89	4.84	4.84
135.0	5.06	5.01	5.01	5.01	4.95	4.95	4.89	4.89	4.89
180.0	5.18	5.12	5.06	5.06	5.06	5.06	5.01	5.01	5.01
225.0	5.12	5.06	5.06	5.06	5.01	5.01	5.01	4.95	4.95
270.0	5.06	5.01	5.01	5.01	4.95	4.95	4.89	4.89	4.84
315.0	5.01	5.01	4.95	4.95	4.95	4.89	4.89	4.84	4.84
360.0	5.23	5.18	5.12	5.12	5.06	5.06	5.01	5.01	4.95

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	4.95	4.95	4.95	4.95	4.95	4.89	4.89	4.89	4.84
45.0	4.89	4.84	4.84	4.84	4.84	4.84	4.78	4.78	4.78
90.0	4.84	4.84	4.78	4.78	4.78	4.78	4.73	4.73	4.73
135.0	4.89	4.84	4.84	4.78	4.84	4.78	4.78	4.78	4.78
180.0	5.01	5.01	4.95	4.95	4.95	5.01	4.95	5.01	4.95
225.0	4.95	4.95	5.01	4.95	4.95	4.95	5.01	5.01	5.06
270.0	4.89	4.84	4.84	4.84	4.78	4.78	4.78	4.78	4.78
315.0	4.84	4.78	4.78	4.78	4.78	4.78	4.78	4.78	4.78
360.0	4.95	4.95	4.95	4.95	4.95	4.89	4.89	4.89	4.84

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	4.89	4.89	4.84	4.89	4.89	4.84	4.78	4.78	4.78
45.0	4.78	4.78	4.73	4.73	4.73	4.73	4.67	4.73	4.73
90.0	4.73	4.73	4.73	4.67	4.61	4.67	4.61	4.61	4.61
135.0	4.78	4.73	4.78	4.78	4.78	4.67	4.67	4.61	4.67
180.0	5.01	5.06	5.18	5.34	5.74	4.73	4.78	4.78	4.78
225.0	5.06	5.06	5.18	5.29	5.46	4.89	4.67	4.67	4.67
270.0	4.78	4.78	4.84	4.84	4.89	4.84	4.61	4.61	4.61
315.0	4.78	4.78	4.78	4.78	4.78	4.67	4.67	4.67	4.67
360.0	4.89	4.89	4.84	4.89	4.89	4.84	4.78	4.78	4.78

Intensity data(cd)

C/γ(°)	90.0
0.0	4.78
45.0	4.73
90.0	4.61
135.0	4.67
180.0	4.78
225.0	4.73
270.0	4.61
315.0	4.61
360.0	4.78