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Nata

LumCAT: 1-1009-M
Luminaire: 92.70.124.00

Report No: 210715-B010	Voltage(V): 36.7300
Test No: 210715-C010	Current(A): 0.3050
LampCAT: Fortimo LED SLM 1202 G7N	Power (W): 11.2020
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): 1108.28
Efficiency(%): 73.69%
Lumens(lm)/Power(W): 98.94
Central intensity(cd): 5196.796
Maximum intensity(cd): 5196.796
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=26.9
[C90/270]Total=26.9
Field angle(10%Imax): [C0/180]Total=43.0
[C90/270]Total=43.0
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(%): 73.69%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.532%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5196.797	0.000	0	.000%	.000%
1.0	5182.383	4.966	4.966	.330%	.448%
2.0	5140.125	14.816	19.782	.985%	1.785%
3.0	5062.078	24.400	44.182	1.622%	3.987%
4.0	4955.625	33.532	77.715	2.229%	7.012%
5.0	4806.281	41.995	119.71	2.792%	10.801%
6.0	4638.305	49.634	169.344	3.300%	15.280%
7.0	4434.961	56.318	225.661	3.744%	20.361%
8.0	4210.453	61.874	287.535	4.114%	25.944%
9.0	3951.492	66.148	353.683	4.398%	31.913%
10.0	3665.109	68.927	422.611	4.583%	38.132%
11.0	3369.938	70.295	492.905	4.674%	44.475%
12.0	3070.055	70.398	563.304	4.681%	50.827%
13.0	2747.180	69.036	632.339	4.590%	57.056%
14.0	2414.039	66.063	698.403	4.392%	63.017%
15.0	2117.320	62.209	760.611	4.136%	68.630%
16.0	1811.531	57.569	818.18	3.828%	73.824%
17.0	1519.418	51.872	870.052	3.449%	78.505%
18.0	1225.230	45.253	915.305	3.009%	82.588%
19.0	1004.984	38.801	954.106	2.580%	86.089%
20.0	799.833	33.033	987.139	2.196%	89.070%
21.0	595.955	26.802	1013.941	1.782%	91.488%
22.0	435.727	20.732	1034.673	1.378%	93.358%
23.0	296.852	15.371	1050.045	1.022%	94.745%
24.0	171.338	10.236	1060.281	.681%	95.669%
25.0	103.922	6.259	1066.54	.416%	96.234%
26.0	47.306	3.570	1070.11	.237%	96.556%
27.0	28.062	1.844	1071.954	.123%	96.722%
28.0	20.988	1.242	1073.195	.083%	96.834%
29.0	17.445	1.006	1074.201	.067%	96.925%
30.0	15.356	0.886	1075.086	.059%	97.005%
31.0	13.760	0.810	1075.897	.054%	97.078%
32.0	12.452	0.751	1076.648	.050%	97.146%
33.0	11.468	0.705	1077.352	.047%	97.209%
34.0	10.631	0.669	1078.021	.044%	97.270%
35.0	9.970	0.640	1078.661	.043%	97.328%
36.0	9.330	0.615	1079.276	.041%	97.383%
37.0	8.859	0.593	1079.869	.039%	97.436%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	8.430	0.577	1080.446	.038%	97.489%
39.0	8.030	0.562	1081.008	.037%	97.539%
40.0	7.748	0.550	1081.558	.037%	97.589%
41.0	7.495	0.543	1082.101	.036%	97.638%
42.0	7.242	0.535	1082.636	.036%	97.686%
43.0	7.045	0.529	1083.166	.035%	97.734%
44.0	6.870	0.525	1083.691	.035%	97.781%
45.0	6.708	0.522	1084.213	.035%	97.828%
46.0	6.574	0.519	1084.732	.035%	97.875%
47.0	6.448	0.518	1085.25	.034%	97.922%
48.0	6.335	0.517	1085.767	.034%	97.969%
49.0	6.230	0.516	1086.283	.034%	98.015%
50.0	6.131	0.515	1086.798	.034%	98.062%
51.0	6.047	0.515	1087.313	.034%	98.108%
52.0	5.984	0.516	1087.829	.034%	98.155%
53.0	5.913	0.518	1088.347	.034%	98.201%
54.0	5.850	0.518	1088.865	.034%	98.248%
55.0	5.794	0.520	1089.385	.035%	98.295%
56.0	5.738	0.521	1089.906	.035%	98.342%
57.0	5.688	0.522	1090.429	.035%	98.389%
58.0	5.667	0.525	1090.954	.035%	98.437%
59.0	5.618	0.528	1091.481	.035%	98.484%
60.0	5.562	0.528	1092.01	.035%	98.532%
61.0	5.520	0.529	1092.538	.035%	98.580%
62.0	5.498	0.531	1093.069	.035%	98.628%
63.0	5.463	0.533	1093.602	.035%	98.676%
64.0	5.428	0.534	1094.137	.036%	98.724%
65.0	5.407	0.536	1094.673	.036%	98.772%
66.0	5.372	0.538	1095.211	.036%	98.821%
67.0	5.358	0.540	1095.75	.036%	98.869%
68.0	5.330	0.541	1096.292	.036%	98.918%
69.0	5.309	0.543	1096.834	.036%	98.967%
70.0	5.273	0.543	1097.378	.036%	99.016%
71.0	5.259	0.544	1097.922	.036%	99.065%
72.0	5.238	0.546	1098.468	.036%	99.115%
73.0	5.224	0.547	1099.015	.036%	99.164%
74.0	5.217	0.549	1099.564	.036%	99.214%
75.0	5.203	0.551	1100.115	.037%	99.263%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.161	0.550	1100.665	.037%	99.313%
77.0	5.161	0.550	1101.215	.037%	99.363%
78.0	5.119	0.550	1101.766	.037%	99.412%
79.0	5.084	0.548	1102.314	.036%	99.462%
80.0	5.041	0.546	1102.86	.036%	99.511%
81.0	5.034	0.545	1103.404	.036%	99.560%
82.0	5.013	0.545	1103.949	.036%	99.609%
83.0	4.985	0.544	1104.493	.036%	99.658%
84.0	4.978	0.543	1105.036	.036%	99.707%
85.0	4.964	0.543	1105.578	.036%	99.756%
86.0	4.950	0.542	1106.12	.036%	99.805%
87.0	4.943	0.541	1106.662	.036%	99.854%
88.0	4.915	0.540	1107.202	.036%	99.903%
89.0	4.915	0.539	1107.74	.036%	99.951%
90.0	4.922	0.539	1108.28	.036%	100.000%

Zonal flux distribution table

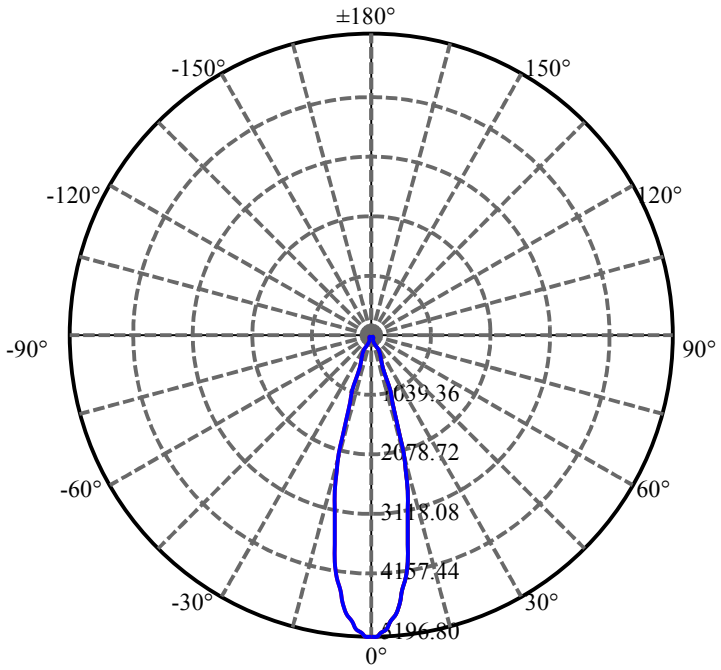
ZONAL LUMEN SUMMARY

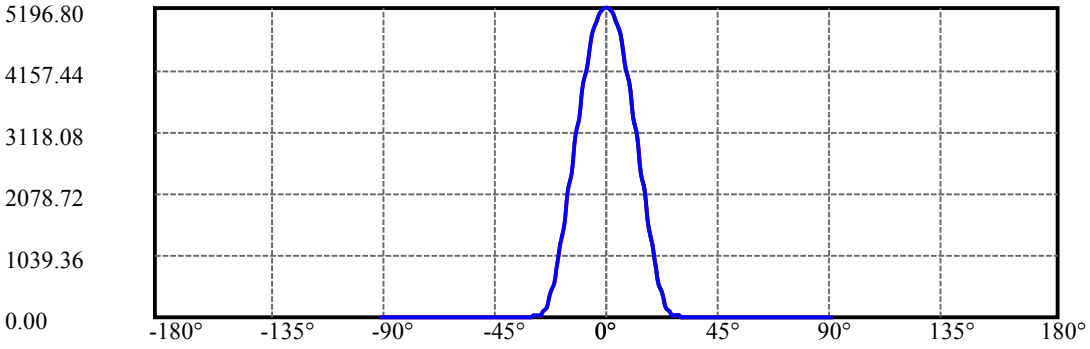
Zone	Lumens	%Lamp	%Fixt
0-30	1075.09	71.48%	97.00%
0-40	1081.56	71.91%	97.59%
0-60	1092.01	72.60%	98.53%
0-90	1107.74	73.65%	99.95%
0-120	1107.74	73.65%	99.95%
0-180	1108.28	73.69%	100.00%
60-90	16.26	1.08%	1.47%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-17.37	886.62	58.95%	80.00%

ZONAL LUMEN SUMMARY

0-10	422.61
10-20	564.53
20-30	87.95
30-40	6.47
40-50	5.24
50-60	5.21
60-70	5.37
70-80	5.48
80-90	4.88
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:21.5 Right:21.5
:C90/270Left:21.5 Right:21.5

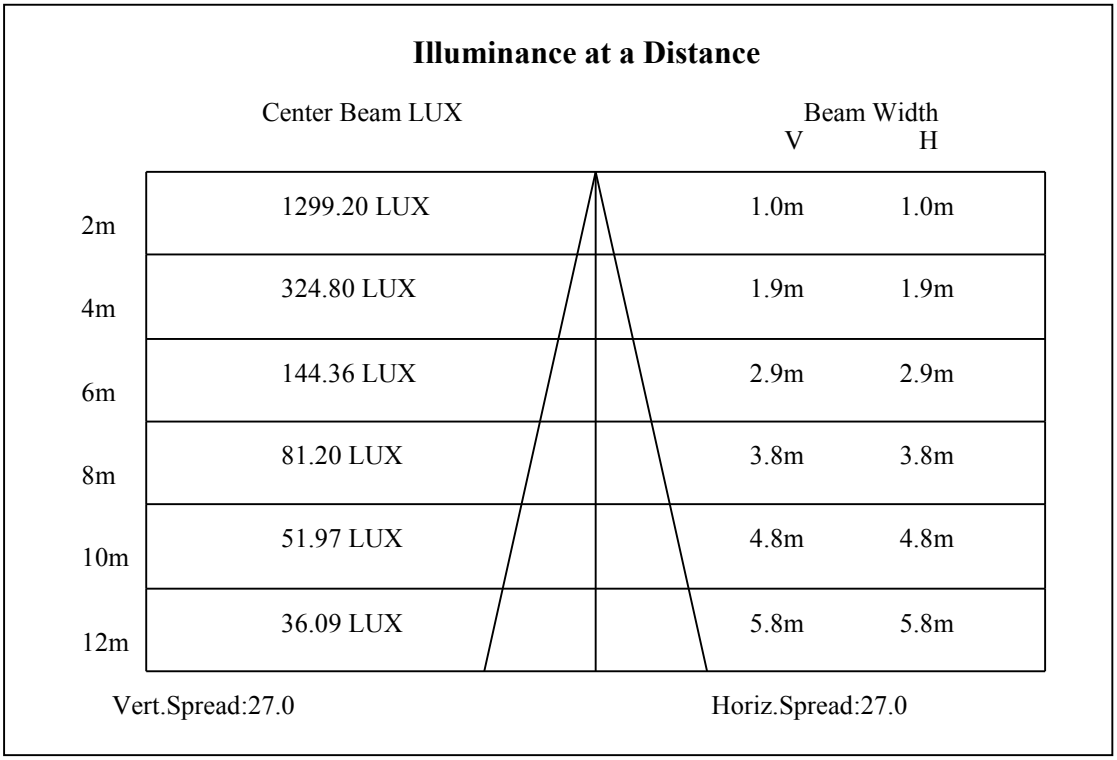
Beam Angle(50%Imax):C0/180Left:13.4 Right:13.4
:C90/270Left:13.4 Right:13.4

Equipment: GMS1980
Temperature(°C): 25.0

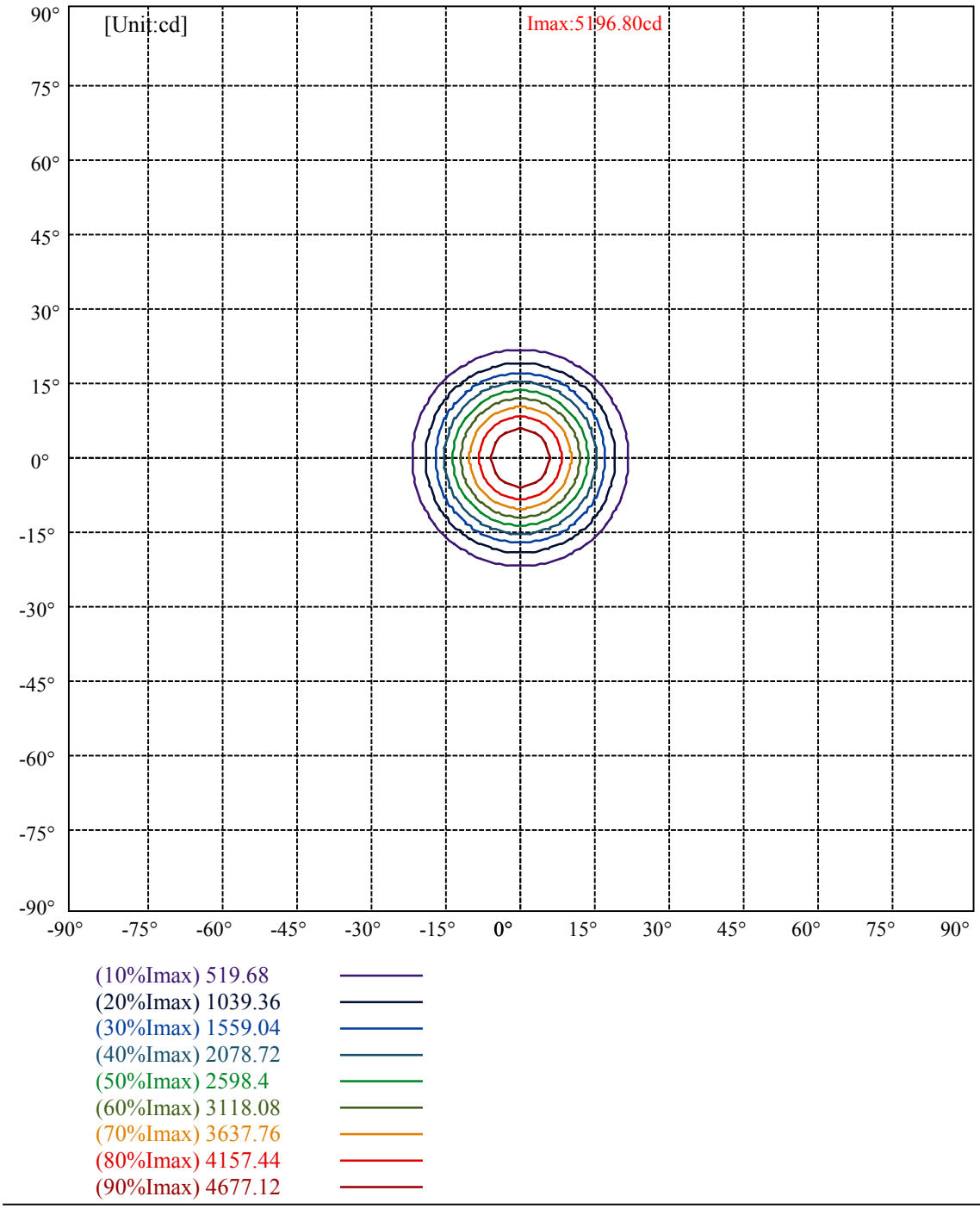
Date: 2021/7/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Lux distance Curve



ISO-Intensity(V-H)



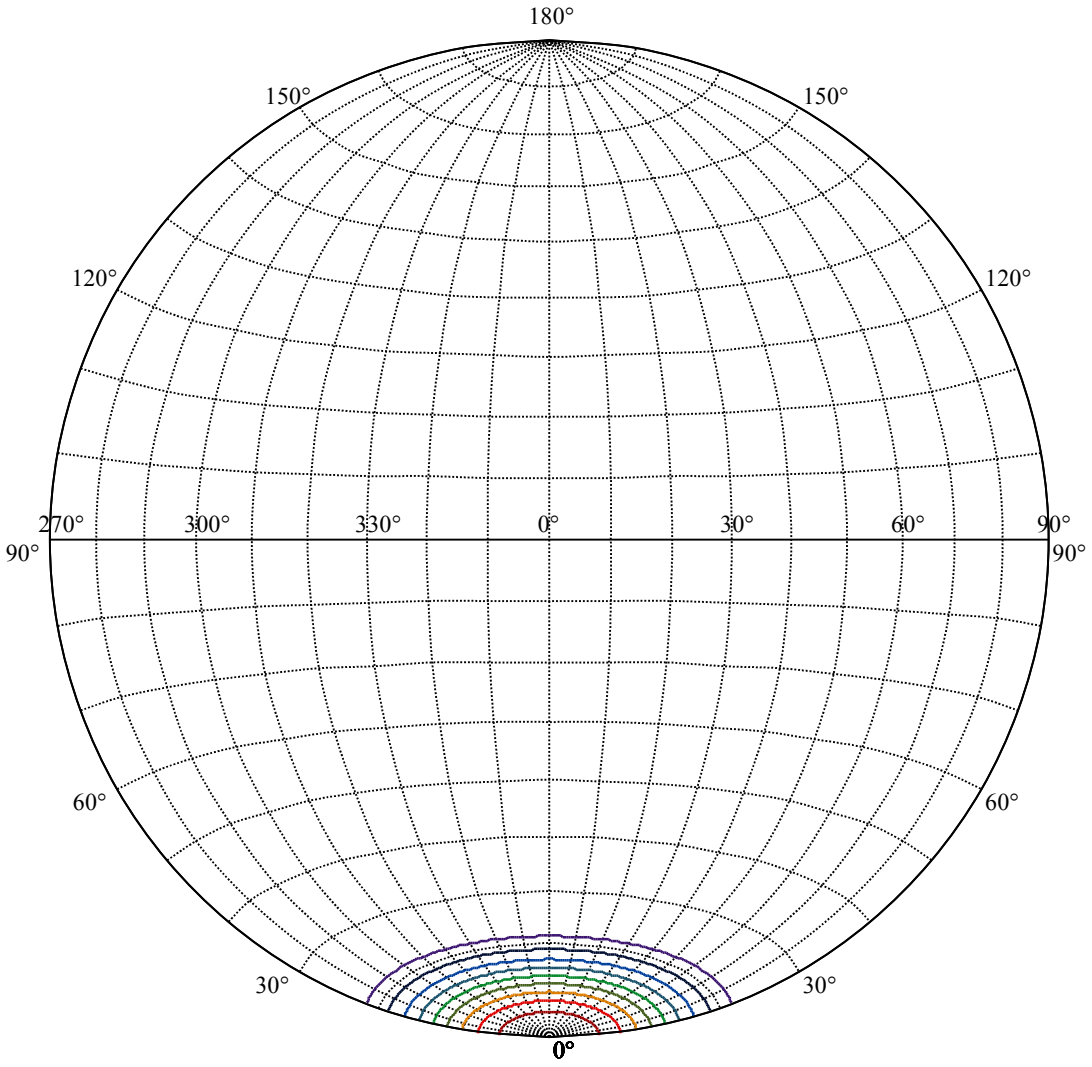
(10%Imax) 519.68
(20%Imax) 1039.36
(30%Imax) 1559.04
(40%Imax) 2078.72
(50%Imax) 2598.4
(60%Imax) 3118.08
(70%Imax) 3637.76
(80%Imax) 4157.44
(90%Imax) 4677.12

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:5196.80

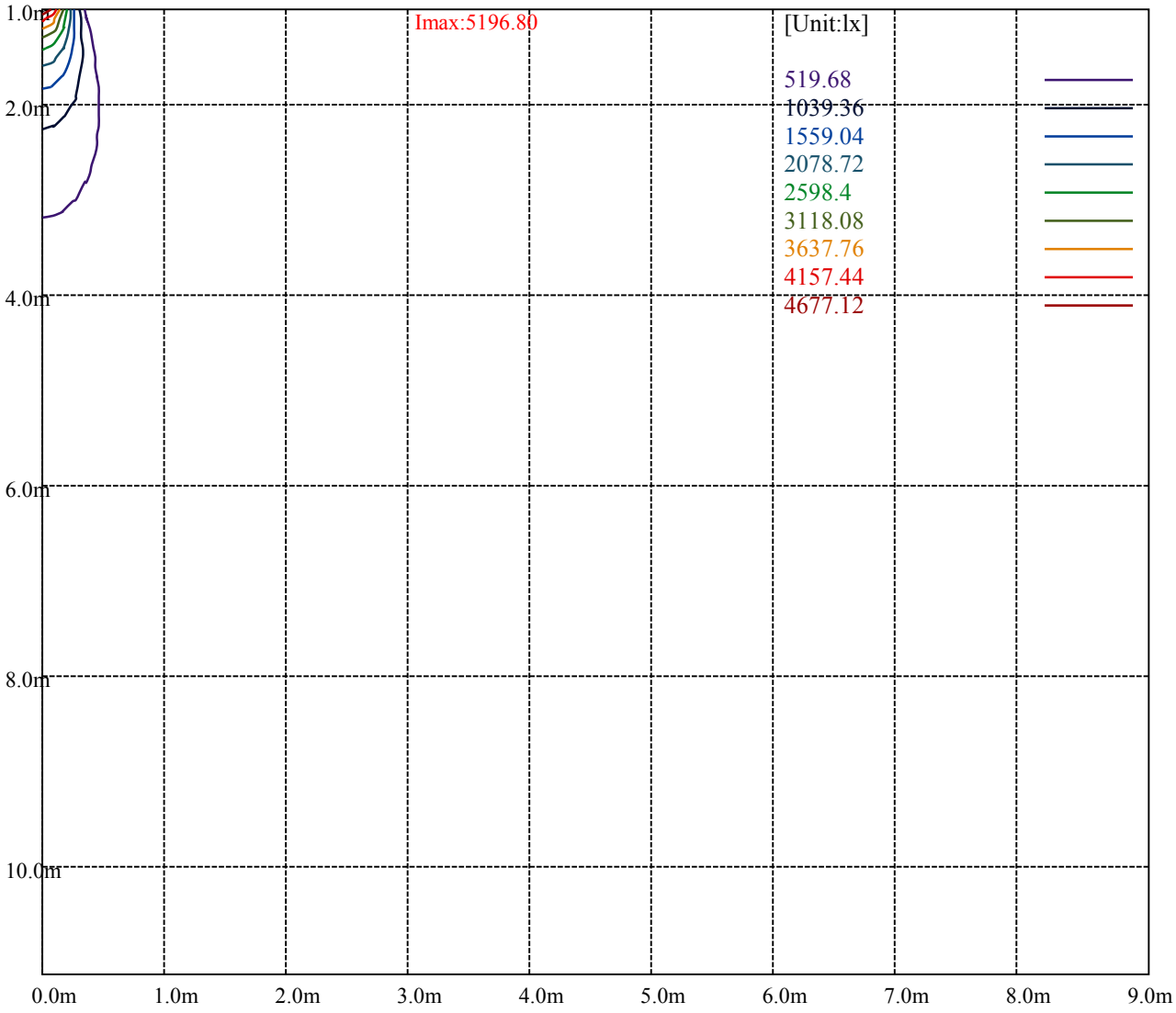
(10%Imax) 519.68
(20%Imax) 1039.36
(30%Imax) 1559.04
(40%Imax) 2078.72
(50%Imax) 2598.4
(60%Imax) 3118.08
(70%Imax) 3637.76
(80%Imax) 4157.44
(90%Imax) 4677.12

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

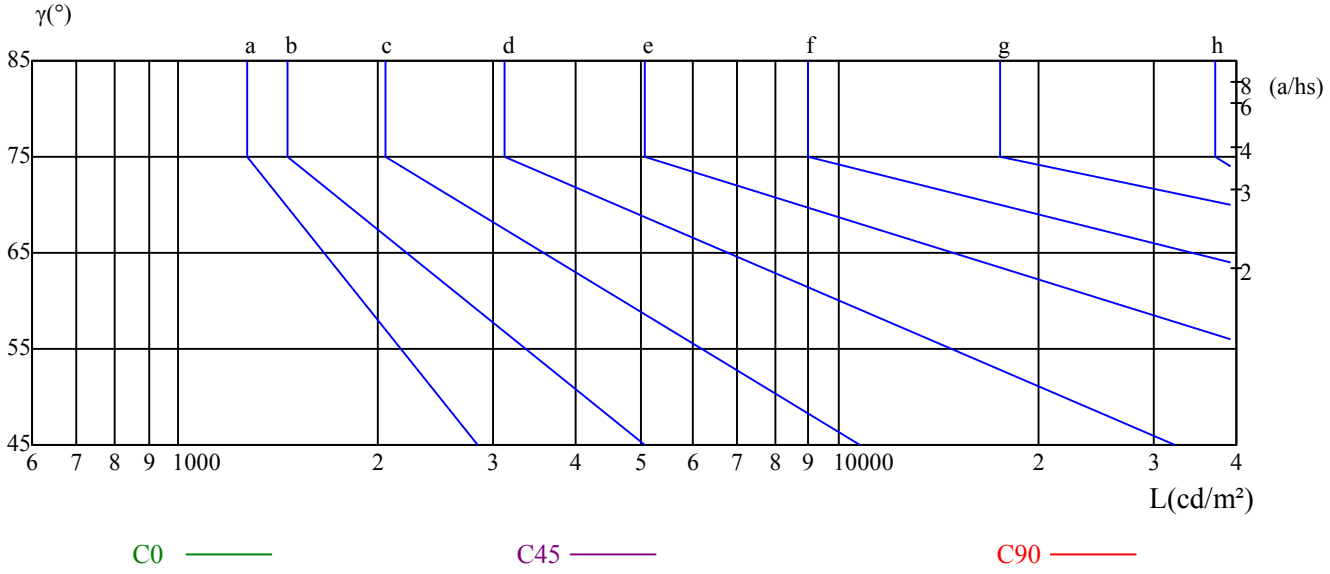
γ	45	50	55	60	65	70	75	80	85
C0	256	243	241	245	255	271	295	322	365
C45	276	265	265	273	289	311	346	387	455
C90	357	357	375	409	464	548	693	944	1585

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
499	499	499	784	784	784	2221	2221	2221

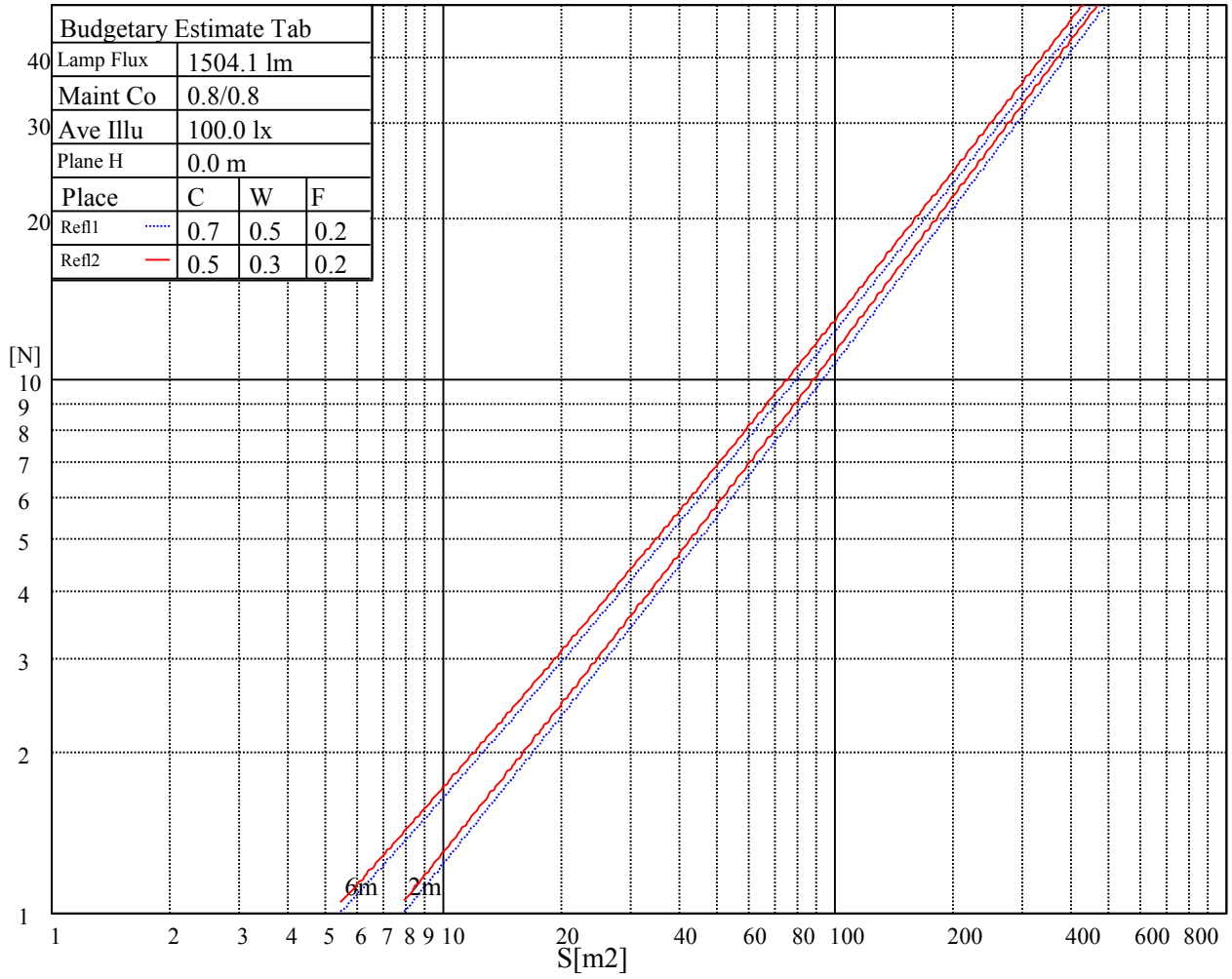
Glare Table

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

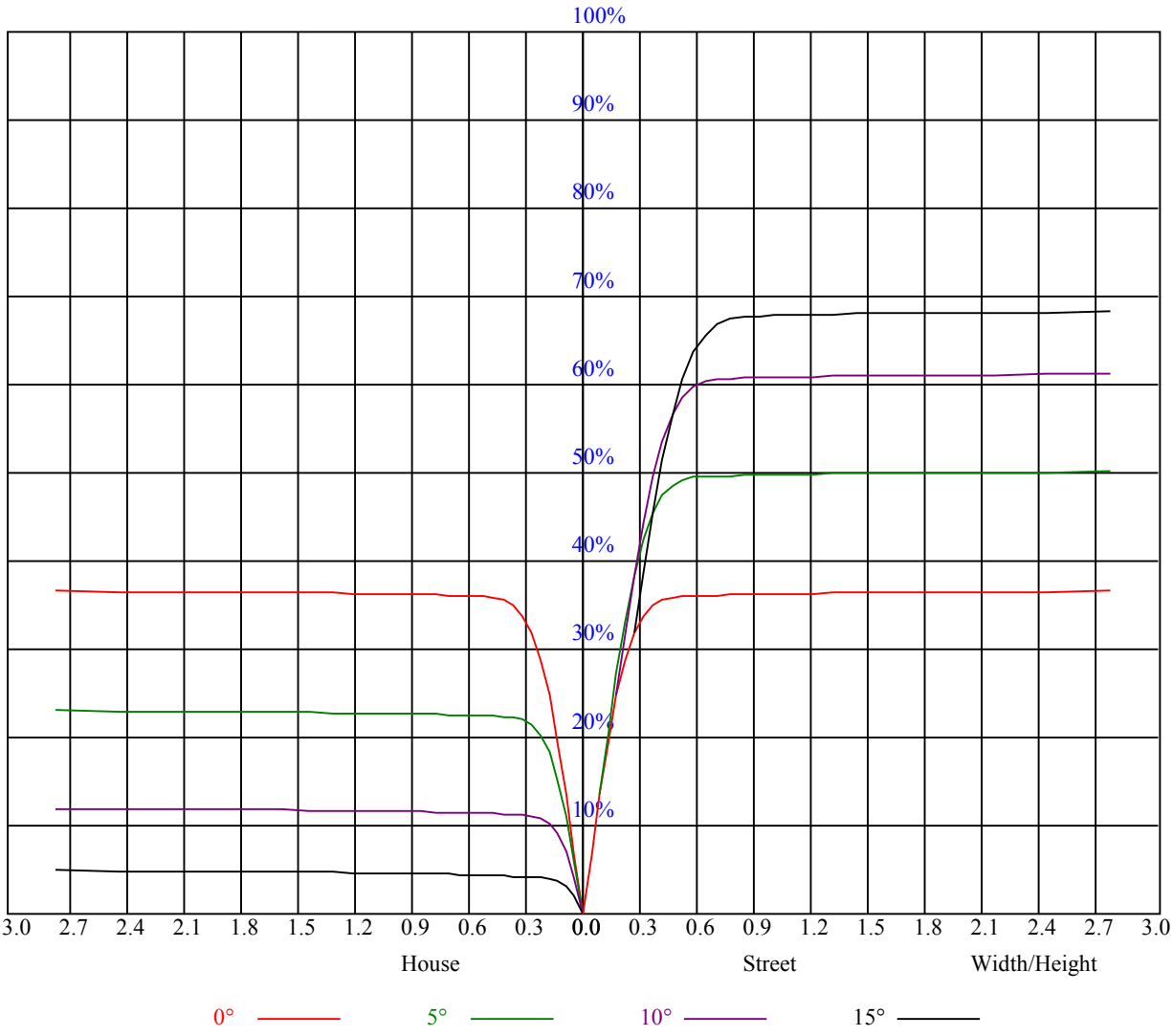


Equipment: GMS1980 Date: 2021/7/15 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.88	0.88	0.88	0.86	0.86	0.86	0.82	0.82	0.82	0.78	0.78	0.78	0.75	0.75	0.75	0.74
1	0.83	0.82	0.80	0.82	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	0.75	0.78	0.76	0.75	0.76	0.74	0.73	0.74	0.72	0.71	0.72	0.71	0.70	0.69
3	0.76	0.74	0.72	0.75	0.73	0.71	0.73	0.71	0.70	0.72	0.70	0.69	0.70	0.69	0.68	0.67
4	0.73	0.71	0.69	0.73	0.70	0.68	0.71	0.69	0.67	0.70	0.68	0.67	0.69	0.67	0.66	0.65
5	0.71	0.68	0.66	0.70	0.68	0.66	0.69	0.67	0.65	0.68	0.66	0.65	0.67	0.66	0.64	0.63
6	0.69	0.66	0.64	0.68	0.66	0.64	0.67	0.65	0.63	0.67	0.65	0.63	0.66	0.64	0.63	0.62
7	0.67	0.64	0.62	0.67	0.64	0.62	0.66	0.63	0.62	0.65	0.63	0.61	0.64	0.62	0.61	0.60
8	0.65	0.62	0.60	0.65	0.62	0.60	0.64	0.62	0.60	0.64	0.61	0.60	0.63	0.61	0.60	0.59
9	0.64	0.61	0.59	0.63	0.61	0.59	0.63	0.60	0.59	0.62	0.60	0.58	0.62	0.60	0.58	0.58
10	0.62	0.59	0.57	0.62	0.59	0.57	0.61	0.59	0.57	0.61	0.59	0.57	0.60	0.58	0.57	0.56

Coefficient Utilization Curve



Equipment: GMS1980
Temperature(°C): 25.0

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

Operator: NT07
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	5211.56	5185.69	5130.56	5047.31	4919.63	4758.75	4588.31	4371.19	4155.19
45.0	5196.38	5146.88	5054.63	4941.56	4802.06	4597.31	4395.38	4178.81	3906.00
90.0	5180.63	5131.13	5049.56	4928.06	4775.63	4573.69	4370.06	4113.56	3842.44
135.0	5198.63	5185.69	5150.25	5088.94	4979.81	4817.25	4653.56	4447.69	4239.56
180.0	5211.56	5205.94	5179.50	5103.00	5000.63	4890.38	4726.13	4538.81	4347.00
225.0	5196.38	5219.44	5214.38	5170.50	5110.31	4997.81	4881.94	4718.25	4516.88
270.0	5180.63	5200.88	5202.00	5164.88	5109.19	4996.69	4867.88	4698.00	4476.94
315.0	5198.63	5183.44	5140.13	5052.38	4947.75	4818.38	4623.19	4413.38	4199.63
360.0	5211.56	5185.69	5130.56	5047.31	4919.63	4758.75	4588.31	4371.19	4155.19

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3876.75	3572.44	3290.63	2995.31	2613.94	2310.19	2020.50	1671.75	1408.50
45.0	3612.94	3324.38	2982.94	2679.19	2343.94	2017.13	1743.19	1452.94	1188.56
90.0	3584.25	3267.00	2934.00	2640.38	2347.31	1992.94	1723.50	1465.88	1117.97
135.0	3983.63	3688.31	3400.88	3105.56	2734.88	2435.06	2147.63	1798.88	1528.31
180.0	4078.69	3775.50	3495.38	3160.13	2874.38	2545.31	2211.75	1929.94	1657.13
225.0	4307.06	4037.63	3749.06	3471.75	3178.13	2805.19	2509.31	2211.19	1886.63
270.0	4240.69	4020.75	3753.00	3489.75	3173.06	2834.44	2529.56	2191.50	1866.94
315.0	3927.94	3634.88	3353.63	3018.38	2711.81	2372.06	2053.13	1770.19	1501.31
360.0	3876.75	3572.44	3290.63	2995.31	2613.94	2310.19	2020.50	1671.75	1408.50

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1170.00	930.38	711.56	525.94	354.38	291.38	123.53	55.69	31.33
45.0	971.44	768.38	543.38	391.50	284.63	143.83	55.80	29.14	21.77
90.0	954.23	750.38	566.49	370.86	236.53	137.64	60.19	27.51	20.76
135.0	1298.25	1062.56	802.13	619.31	450.00	296.44	160.99	76.39	34.88
180.0	1116.62	1088.21	878.51	640.01	471.15	318.43	202.22	96.30	45.11
225.0	1582.31	1119.88	1063.63	823.22	633.38	472.22	304.99	181.29	87.02
270.0	1594.69	1343.25	1054.13	846.00	654.75	450.00	312.19	294.75	98.49
315.0	1114.31	976.84	778.84	550.80	401.01	264.88	150.81	70.31	39.09
360.0	1170.00	930.38	711.56	525.94	354.38	291.38	123.53	55.69	31.33

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	23.51	19.13	16.82	15.13	13.50	12.43	11.48	10.58	9.96
45.0	17.55	15.58	13.89	12.66	11.59	10.69	10.01	9.39	8.94
90.0	17.21	15.24	13.61	12.32	11.36	10.52	9.84	9.28	8.83
135.0	21.88	18.34	15.75	14.12	12.88	11.76	10.97	10.18	9.56
180.0	26.04	19.69	16.76	14.96	13.44	12.21	11.31	10.52	9.90
225.0	44.61	27.62	21.49	18.51	16.37	14.34	12.99	11.98	11.08
270.0	47.08	31.05	23.40	19.58	16.82	14.85	13.44	12.21	11.25
315.0	26.61	21.26	17.83	15.58	14.12	12.83	11.70	10.91	10.24
360.0	23.51	19.13	16.82	15.13	13.50	12.43	11.48	10.58	9.96

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	9.39	8.89	8.38	7.99	7.71	7.43	7.14	6.98	6.81
45.0	8.44	8.10	7.76	7.48	7.26	7.09	6.86	6.69	6.58
90.0	8.38	8.04	7.82	7.48	7.26	7.09	6.92	6.75	6.58
135.0	9.06	8.66	8.27	7.99	7.71	7.43	7.20	7.03	6.86
180.0	9.28	8.83	8.44	7.99	7.71	7.48	7.26	7.03	6.86
225.0	10.13	9.51	9.00	8.44	8.10	7.82	7.48	7.26	7.03
270.0	10.46	9.84	9.17	8.72	8.38	8.04	7.71	7.48	7.26
315.0	9.51	9.00	8.61	8.16	7.88	7.59	7.37	7.14	6.98
360.0	9.39	8.89	8.38	7.99	7.71	7.43	7.14	6.98	6.81

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	6.64	6.47	6.36	6.24	6.13	6.02	5.96	5.91	5.79
45.0	6.41	6.30	6.24	6.13	6.02	5.96	5.85	5.85	5.79
90.0	6.47	6.41	6.30	6.24	6.13	6.08	6.02	5.96	5.91
135.0	6.75	6.64	6.47	6.41	6.30	6.19	6.13	6.08	6.02
180.0	6.75	6.53	6.41	6.36	6.19	6.08	6.02	5.91	5.85
225.0	6.81	6.69	6.53	6.36	6.30	6.19	6.08	5.96	5.91
270.0	7.09	6.92	6.75	6.58	6.47	6.36	6.24	6.19	6.08
315.0	6.75	6.64	6.53	6.36	6.30	6.19	6.08	6.02	5.96
360.0	6.64	6.47	6.36	6.24	6.13	6.02	5.96	5.91	5.79

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	5.79	5.68	5.63	5.57	5.57	5.51	5.46	5.40	5.34
45.0	5.68	5.68	5.63	5.57	5.57	5.51	5.46	5.40	5.40
90.0	5.85	5.79	5.74	5.74	5.74	5.68	5.63	5.63	5.57
135.0	5.96	5.91	5.85	5.79	5.74	5.68	5.68	5.63	5.63
180.0	5.79	5.74	5.68	5.63	5.63	5.57	5.51	5.46	5.46
225.0	5.79	5.74	5.68	5.68	5.63	5.57	5.51	5.46	5.46
270.0	6.02	5.96	5.91	5.85	5.79	5.74	5.68	5.68	5.63
315.0	5.91	5.85	5.79	5.68	5.68	5.68	5.57	5.51	5.51
360.0	5.79	5.68	5.63	5.57	5.57	5.51	5.46	5.40	5.34

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	5.34	5.29	5.29	5.23	5.23	5.18	5.18	5.12	5.12
45.0	5.40	5.34	5.34	5.29	5.29	5.29	5.23	5.18	5.18
90.0	5.63	5.51	5.51	5.51	5.51	5.51	5.51	5.46	5.46
135.0	5.57	5.57	5.51	5.51	5.46	5.40	5.40	5.40	5.34
180.0	5.34	5.34	5.34	5.29	5.23	5.23	5.23	5.18	5.18
225.0	5.40	5.34	5.34	5.34	5.29	5.29	5.23	5.23	5.18
270.0	5.57	5.57	5.51	5.46	5.51	5.46	5.40	5.40	5.40
315.0	5.46	5.46	5.40	5.34	5.34	5.29	5.29	5.23	5.23
360.0	5.34	5.29	5.29	5.23	5.23	5.18	5.18	5.12	5.12

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	5.06	5.06	5.06	5.06	5.01	5.06	5.01	5.01	4.95
45.0	5.18	5.18	5.12	5.12	5.06	5.12	5.06	5.06	5.06
90.0	5.46	5.46	5.46	5.46	5.46	5.40	5.23	5.12	5.01
135.0	5.34	5.34	5.29	5.23	5.23	5.23	5.18	5.12	5.12
180.0	5.12	5.12	5.12	5.12	5.06	5.01	5.01	5.01	5.01
225.0	5.18	5.12	5.12	5.12	5.06	5.06	5.06	5.06	5.01
270.0	5.34	5.34	5.34	5.34	5.29	5.29	5.29	5.23	5.12
315.0	5.23	5.18	5.23	5.18	5.12	5.12	5.12	5.06	5.06
360.0	5.06	5.06	5.06	5.06	5.01	5.06	5.01	5.01	4.95

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.01	4.95	4.95	4.95	4.95	4.95	4.95	4.89	4.89
45.0	5.01	4.95	4.95	4.95	5.01	4.89	4.89	4.84	4.89
90.0	5.06	5.06	5.01	5.01	5.01	4.95	4.95	4.95	4.95
135.0	5.06	5.06	5.01	5.01	5.01	5.01	4.95	4.95	4.95
180.0	5.01	4.95	4.95	4.95	4.89	4.89	4.89	4.89	4.89
225.0	5.01	5.01	5.01	4.95	4.89	4.89	4.89	4.89	4.84
270.0	5.06	5.06	5.01	5.01	5.01	5.01	5.01	4.95	4.95
315.0	5.06	5.06	5.01	5.01	4.95	5.01	5.01	4.95	4.95
360.0	5.01	4.95	4.95	4.95	4.95	4.95	4.95	4.89	4.89

Intensity data(cd)

C/γ(°)	90.0
0.0	4.89
45.0	4.89
90.0	4.95
135.0	4.95
180.0	4.89
225.0	4.89
270.0	4.95
315.0	4.95
360.0	4.89