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Nata

LumCAT: 1-1060-N
Luminaire: 92.70.246.00

Report No: 210706-B011	Voltage(V): 36.5800
Test No: 210706-C011	Current(A): 0.4510
LampCAT: Fortimo LED SLM 1203 G7N	Power (W): 16.4970
Lamp flux(lm): 2143.4	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): 1763.39
Efficiency(%): 82.27%
Lumens(lm)/Power(W): 106.89
Central intensity(cd): 9428.063
Maximum intensity(cd): 9428.063
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=18.2
[C90/270]Total=18.2
Field angle(10%Imax): [C0/180]Total=46.8
[C90/270]Total=46.8
Maximum s/h(1/2): C0_180=0.31 C90_270=0.31
Maximum s/h(1/4): C0_180=0.35 C90_270=0.35
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 82.27%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.167%

Equipment: GMS1980	Date: 2021/7/06	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	9428.063	0.000	0	.000%	.000%
1.0	9353.602	8.987	8.987	.419%	.510%
2.0	9134.086	26.535	35.522	1.238%	2.014%
3.0	8775.070	42.833	78.355	1.998%	4.443%
4.0	8290.969	57.125	135.48	2.665%	7.683%
5.0	7743.375	68.979	204.459	3.218%	11.595%
6.0	6992.367	77.440	281.899	3.613%	15.986%
7.0	6226.313	82.048	363.948	3.828%	20.639%
8.0	5530.500	84.141	448.089	3.926%	25.411%
9.0	4782.516	83.581	531.67	3.899%	30.151%
10.0	4122.633	80.588	612.259	3.760%	34.721%
11.0	3639.445	77.559	689.818	3.618%	39.119%
12.0	3209.977	74.874	764.692	3.493%	43.365%
13.0	2833.031	71.715	836.407	3.346%	47.432%
14.0	2557.336	68.996	905.403	3.219%	51.345%
15.0	2313.422	66.868	972.271	3.120%	55.137%
16.0	2094.398	64.587	1036.858	3.013%	58.799%
17.0	1894.078	62.111	1098.969	2.898%	62.322%
18.0	1711.547	59.449	1158.418	2.774%	65.693%
19.0	1545.961	56.674	1215.092	2.644%	68.907%
20.0	1377.914	53.515	1268.607	2.497%	71.942%
21.0	1237.472	50.221	1318.828	2.343%	74.790%
22.0	1103.541	47.044	1365.872	2.195%	77.457%
23.0	992.728	43.985	1409.857	2.052%	79.952%
24.0	868.359	40.690	1450.547	1.898%	82.259%
25.0	763.397	37.103	1487.65	1.731%	84.363%
26.0	664.966	33.717	1521.366	1.573%	86.275%
27.0	569.405	30.199	1551.565	1.409%	87.988%
28.0	479.306	26.551	1578.117	1.239%	89.494%
29.0	399.354	22.988	1601.105	1.072%	90.797%
30.0	324.035	19.531	1620.636	.911%	91.905%
31.0	256.043	16.143	1636.779	.753%	92.820%
32.0	195.272	12.930	1649.708	.603%	93.553%
33.0	140.998	9.907	1659.615	.462%	94.115%
34.0	109.399	7.578	1667.193	.354%	94.545%
35.0	88.924	6.159	1673.352	.287%	94.894%
36.0	77.182	5.289	1678.641	.247%	95.194%
37.0	68.428	4.749	1683.39	.222%	95.464%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	60.012	4.287	1687.677	.200%	95.707%
39.0	52.109	3.827	1691.504	.179%	95.924%
40.0	46.448	3.437	1694.941	.160%	96.119%
41.0	41.098	3.117	1698.059	.145%	96.295%
42.0	36.302	2.812	1700.871	.131%	96.455%
43.0	32.681	2.555	1703.426	.119%	96.600%
44.0	29.735	2.356	1705.782	.110%	96.733%
45.0	27.113	2.185	1707.967	.102%	96.857%
46.0	24.863	2.033	1709.999	.095%	96.973%
47.0	23.091	1.907	1711.907	.089%	97.081%
48.0	21.635	1.808	1713.715	.084%	97.183%
49.0	20.348	1.724	1715.439	.080%	97.281%
50.0	19.118	1.645	1717.084	.077%	97.374%
51.0	18.141	1.576	1718.661	.074%	97.464%
52.0	17.339	1.522	1720.183	.071%	97.550%
53.0	16.530	1.473	1721.656	.069%	97.634%
54.0	15.863	1.428	1723.084	.067%	97.715%
55.0	15.307	1.391	1724.475	.065%	97.793%
56.0	14.801	1.360	1725.836	.063%	97.871%
57.0	14.330	1.332	1727.168	.062%	97.946%
58.0	14.006	1.310	1728.478	.061%	98.020%
59.0	13.697	1.295	1729.773	.060%	98.094%
60.0	13.451	1.283	1731.056	.060%	98.167%
61.0	13.212	1.272	1732.328	.059%	98.239%
62.0	13.001	1.263	1733.591	.059%	98.310%
63.0	12.832	1.256	1734.848	.059%	98.382%
64.0	12.628	1.249	1736.097	.058%	98.453%
65.0	12.438	1.241	1737.338	.058%	98.523%
66.0	12.326	1.236	1738.573	.058%	98.593%
67.0	12.164	1.231	1739.805	.057%	98.663%
68.0	11.946	1.221	1741.026	.057%	98.732%
69.0	11.700	1.206	1742.232	.056%	98.800%
70.0	11.412	1.187	1743.419	.055%	98.868%
71.0	11.152	1.166	1744.585	.054%	98.934%
72.0	10.849	1.144	1745.729	.053%	98.999%
73.0	10.561	1.120	1746.849	.052%	99.062%
74.0	10.322	1.098	1747.947	.051%	99.124%
75.0	10.111	1.080	1749.026	.050%	99.186%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	9.914	1.063	1750.089	.050%	99.246%
77.0	9.731	1.047	1751.137	.049%	99.305%
78.0	9.570	1.033	1752.17	.048%	99.364%
79.0	9.394	1.019	1753.189	.048%	99.422%
80.0	9.239	1.005	1754.193	.047%	99.479%
81.0	9.098	0.992	1755.185	.046%	99.535%
82.0	8.951	0.979	1756.164	.046%	99.590%
83.0	8.789	0.964	1757.128	.045%	99.645%
84.0	8.613	0.948	1758.076	.044%	99.699%
85.0	8.416	0.929	1759.006	.043%	99.752%
86.0	8.241	0.910	1759.916	.042%	99.803%
87.0	8.065	0.892	1760.809	.042%	99.854%
88.0	7.889	0.874	1761.683	.041%	99.903%
89.0	7.755	0.858	1762.54	.040%	99.952%
90.0	7.664	0.845	1763.385	.039%	100.000%

Zonal flux distribution table

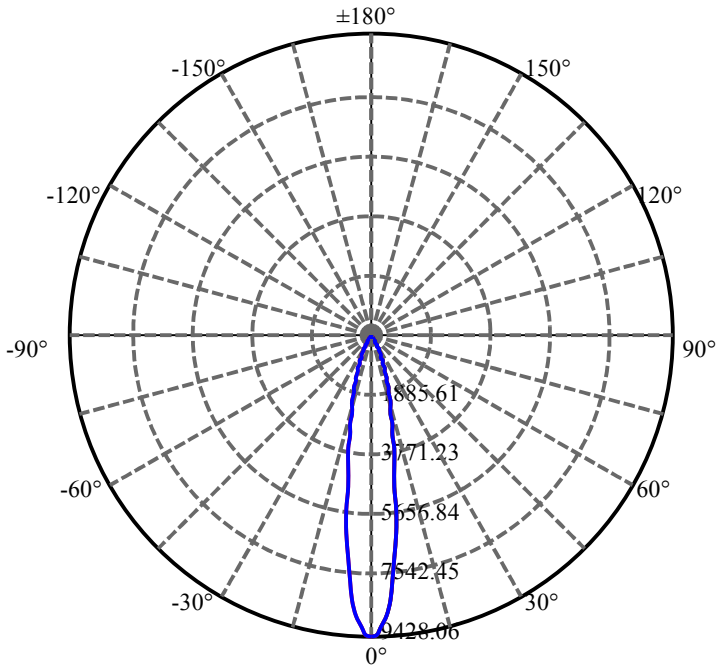
ZONAL LUMEN SUMMARY

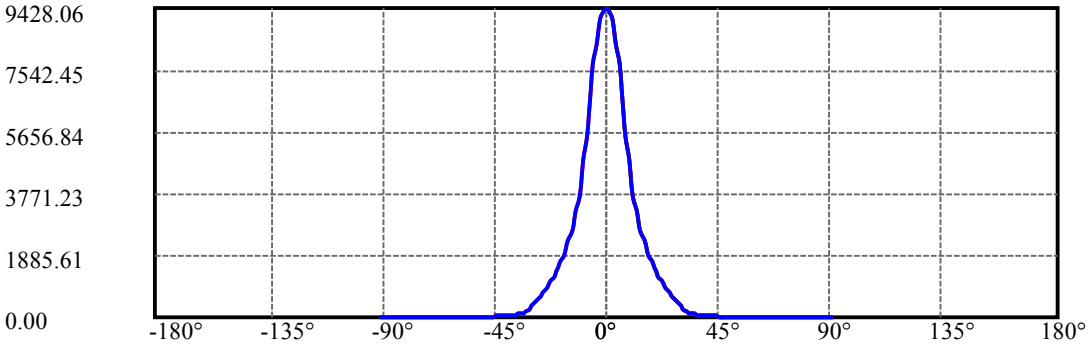
Zone	Lumens	%Lamp	%Fixt
0-30	1620.64	75.61%	91.90%
0-40	1694.94	79.08%	96.12%
0-60	1731.06	80.76%	98.17%
0-90	1762.54	82.23%	99.95%
0-120	1762.54	82.23%	99.95%
0-180	1763.39	82.27%	100.00%
60-90	32.77	1.53%	1.86%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-23.02	1410.71	65.82%	80.00%

ZONAL LUMEN SUMMARY

0-10	612.26
10-20	656.35
20-30	352.03
30-40	74.31
40-50	22.14
50-60	13.97
60-70	12.36
70-80	10.77
80-90	8.35
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):

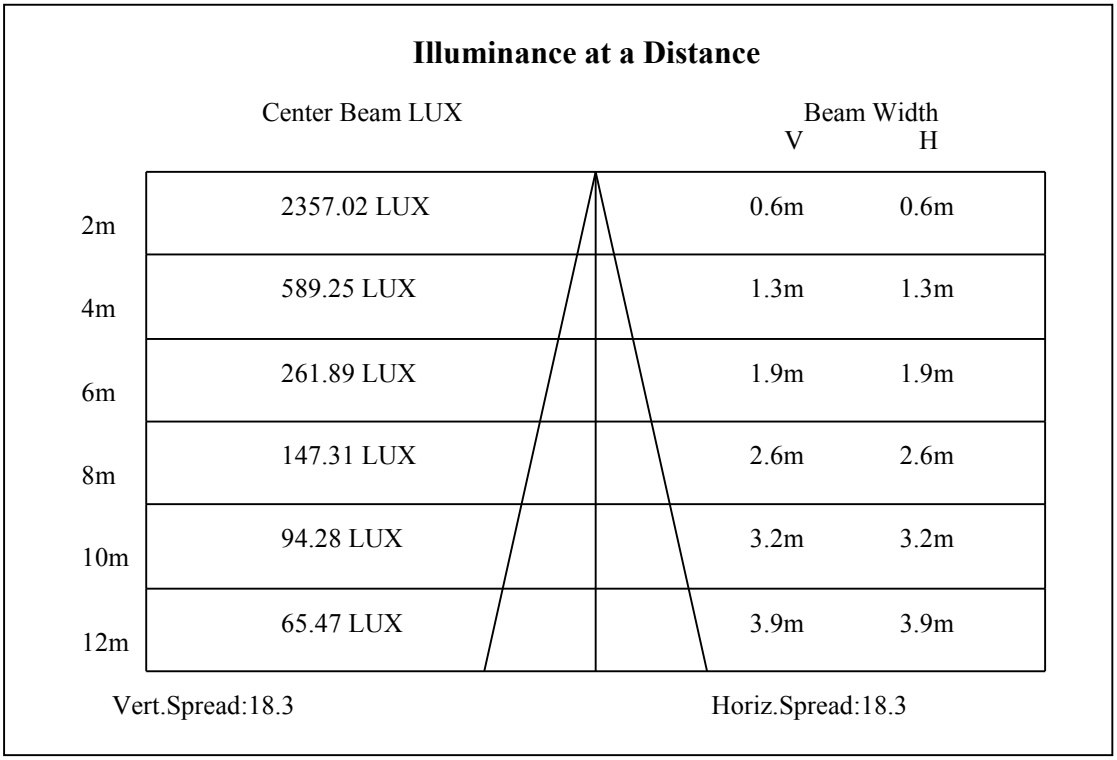
C0/C180:

C90/C270:

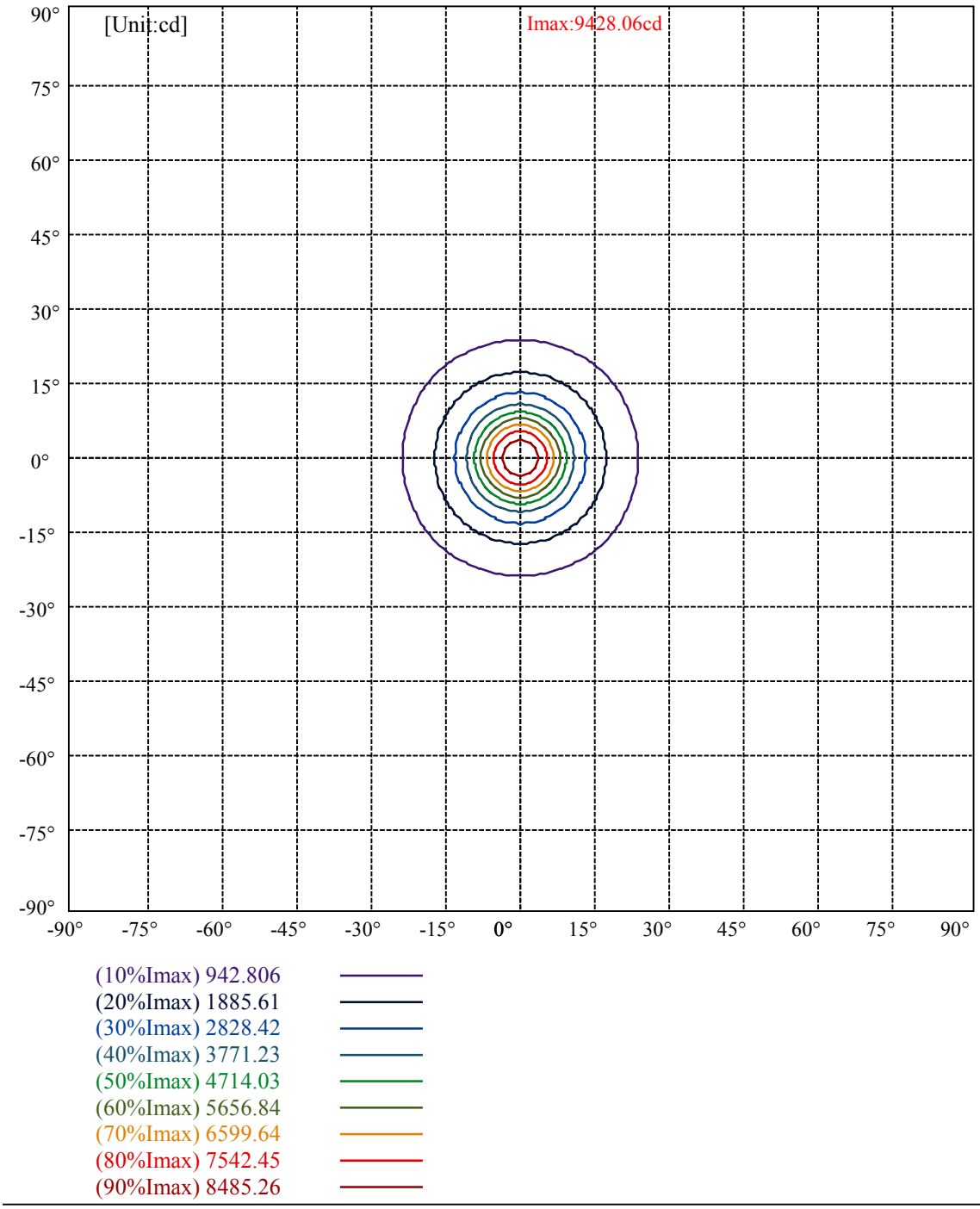
Field angle(10%Imax):C0/180Left:23.4 Right:23.4
:C90/270Left:23.4 Right:23.4

Beam Angle(50%Imax):C0/180Left:9.1 Right:9.1
:C90/270Left:9.1 Right:9.1

Lux distance Curve



ISO-Intensity(V-H)

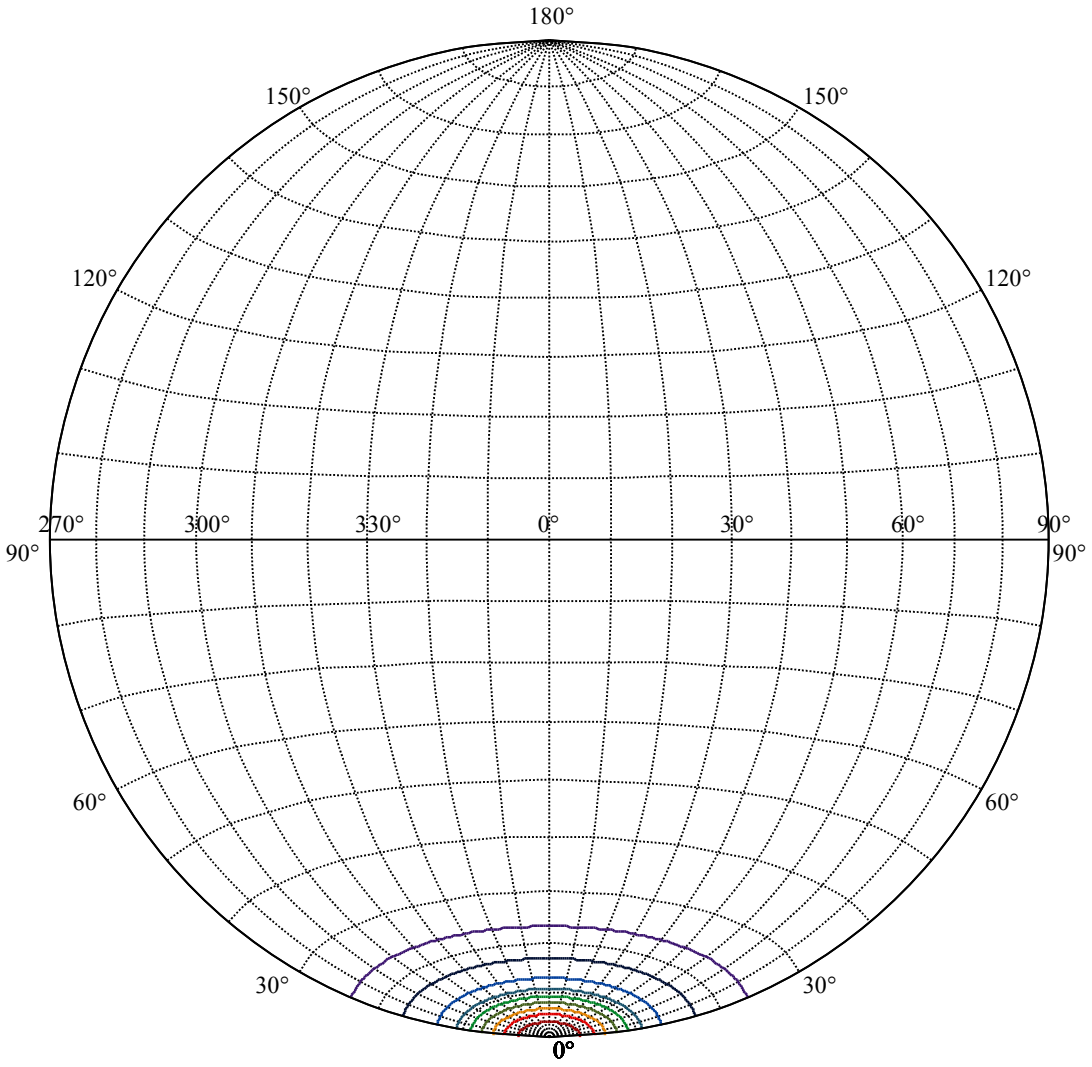


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/06
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



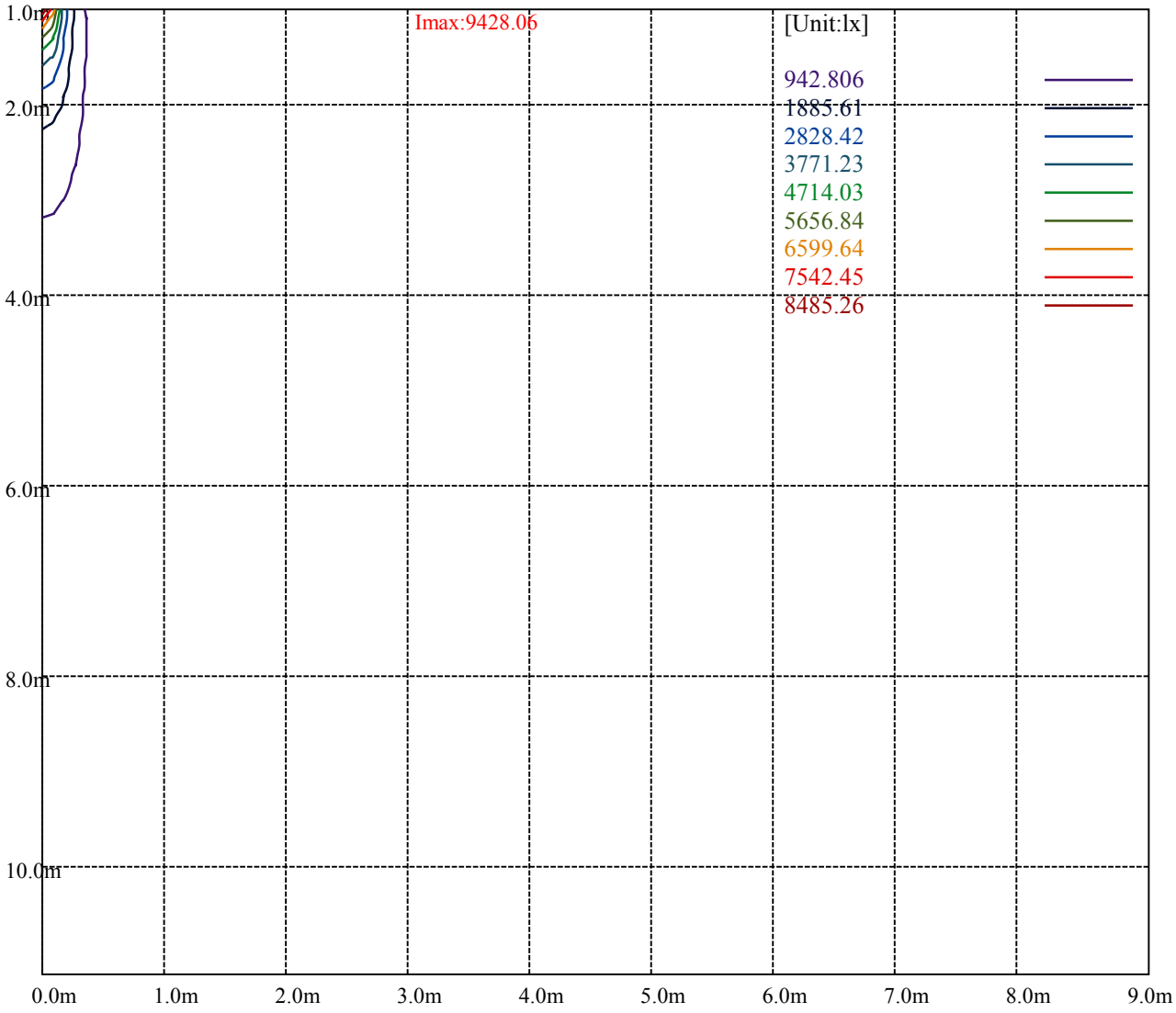
House [Unit:cd] Road

Imax:9428.06

(10%Imax) 942.806
(20%Imax) 1885.61
(30%Imax) 2828.42
(40%Imax) 3771.23
(50%Imax) 4714.03
(60%Imax) 5656.84
(70%Imax) 6599.64
(80%Imax) 7542.45
(90%Imax) 8485.26

Equipment: GMS1980 Date: 2021/7/06 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/06
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Nata 1-1060-N

Luminance Limitting Curve(no luminous side)

Luminance Table

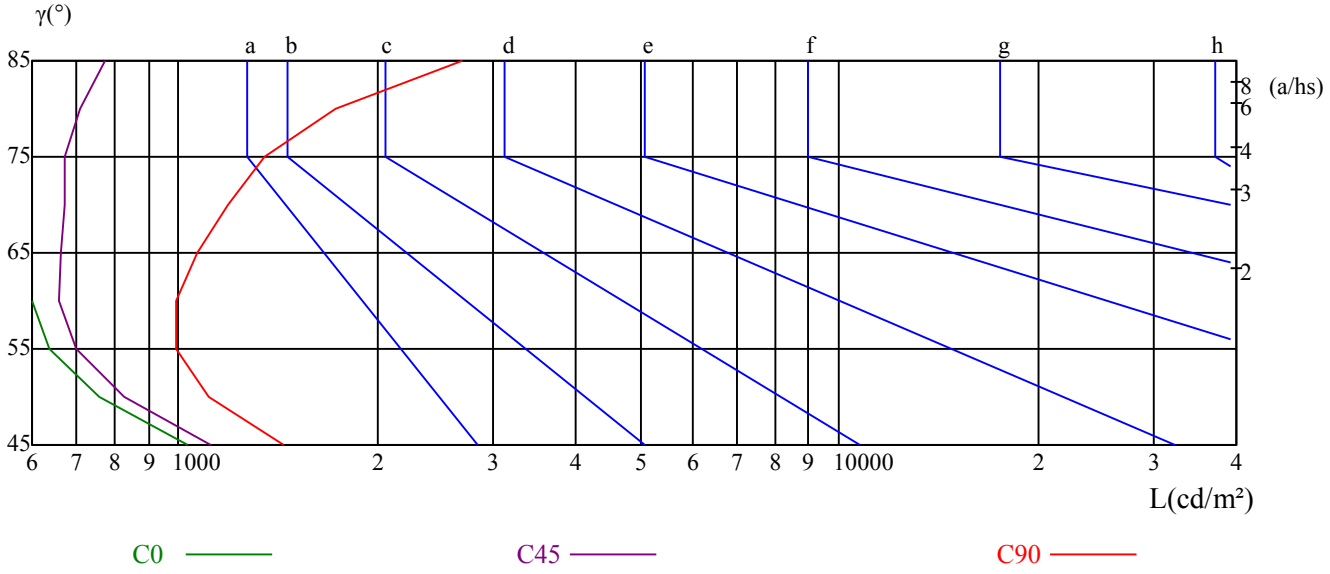
γ	45	50	55	60	65	70	75	80	85
C0	1035	758	636	593	587	586	573	589	619
C45	1116	826	701	661	664	673	672	710	772
C90	1444	1113	991	989	1067	1186	1347	1730	2687

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1147	1147	1147	1523	1523	1523	3765	3765	3765

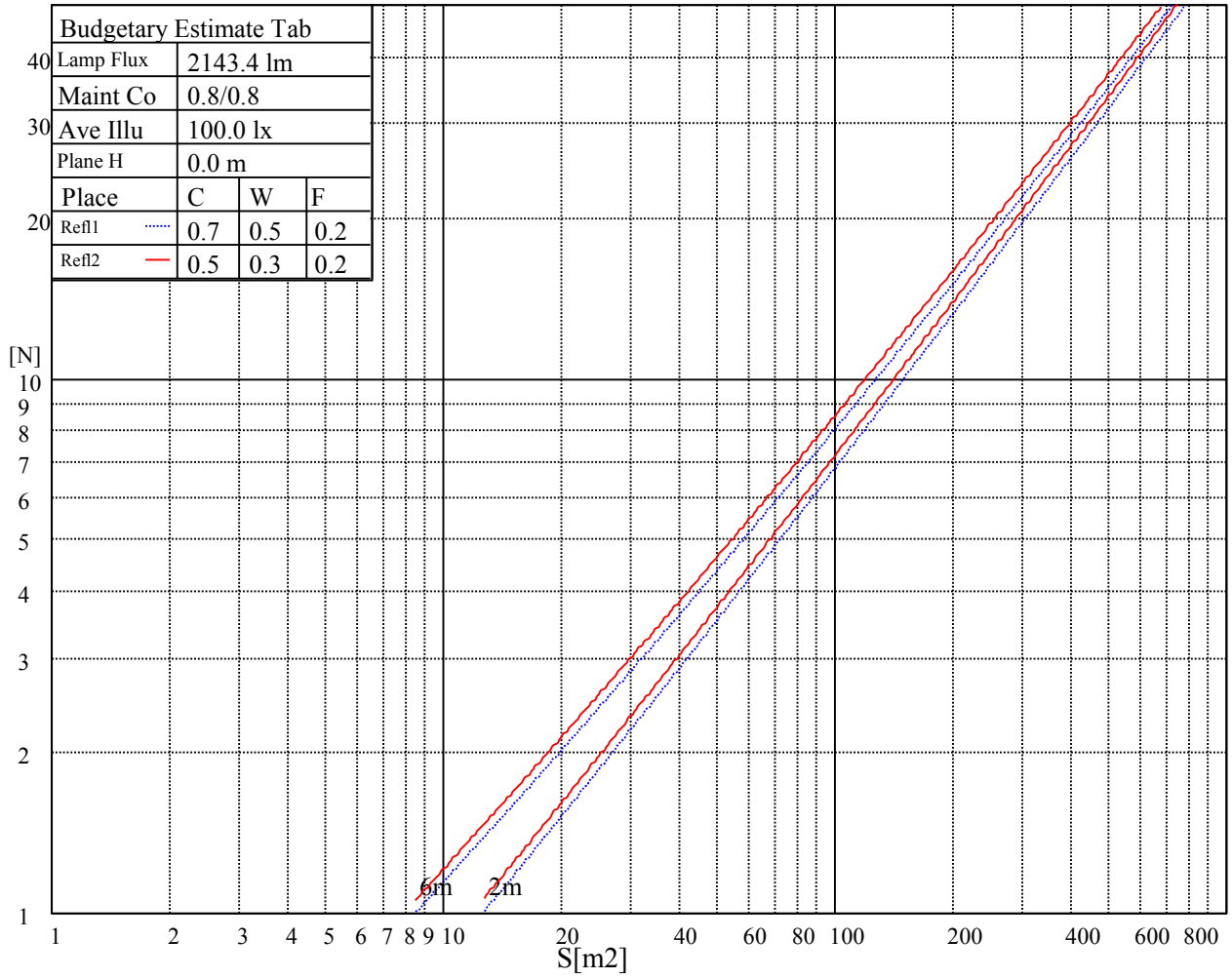
Glare Table

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

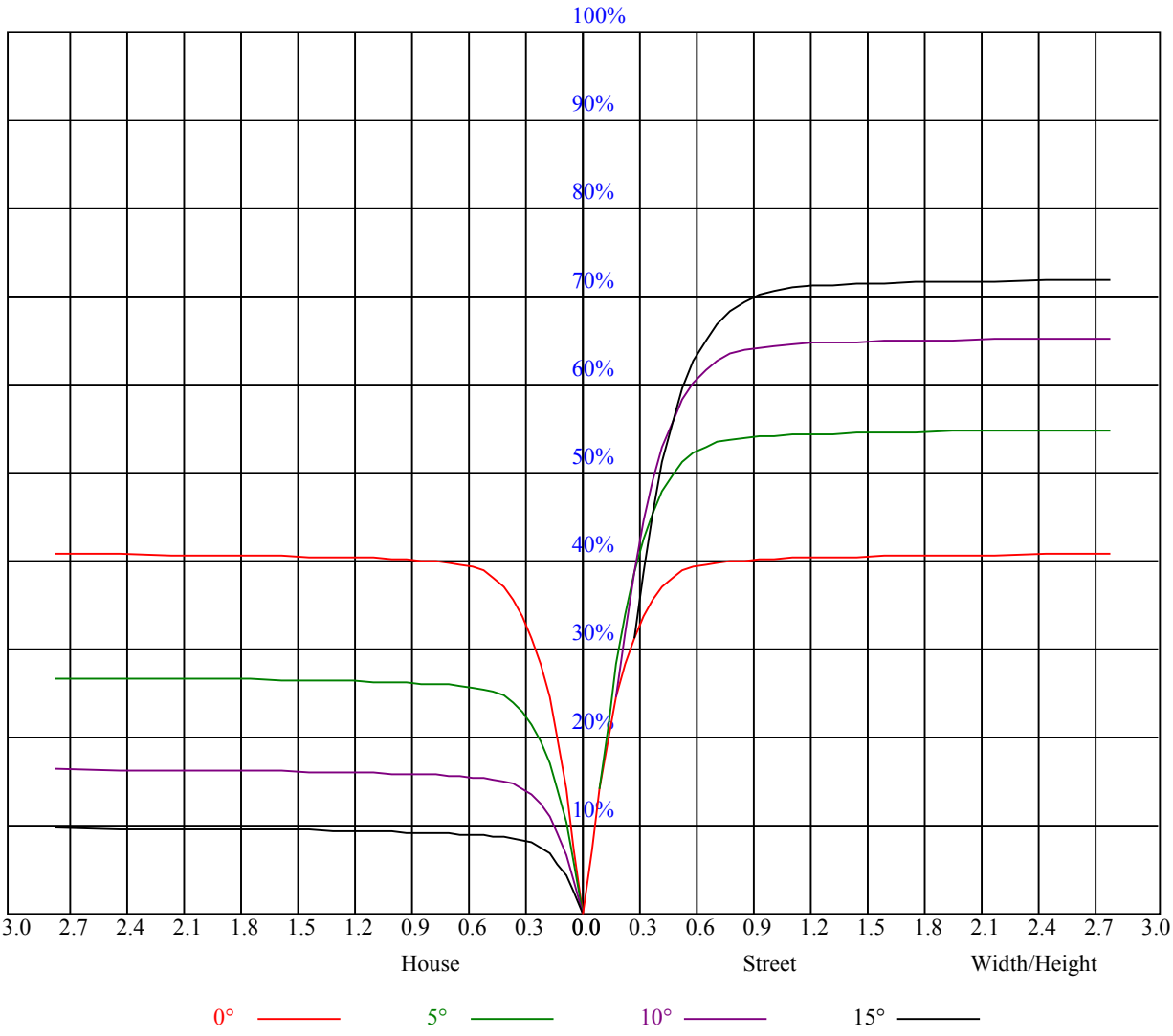


Equipment: GMS1980 Date: 2021/7/06 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.98	0.98	0.98	0.96	0.96	0.96	0.91	0.91	0.91	0.88	0.88	0.88	0.84	0.84	0.84	0.82
1	0.92	0.91	0.89	0.91	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.79
2	0.88	0.85	0.83	0.86	0.84	0.82	0.84	0.82	0.80	0.81	0.80	0.78	0.79	0.78	0.77	0.75
3	0.83	0.80	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.78	0.76	0.75	0.77	0.75	0.74	0.72
4	0.80	0.76	0.74	0.79	0.76	0.73	0.77	0.75	0.72	0.76	0.74	0.72	0.74	0.72	0.71	0.70
5	0.77	0.73	0.70	0.76	0.73	0.70	0.75	0.72	0.70	0.73	0.71	0.69	0.72	0.70	0.68	0.67
6	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.69	0.67	0.70	0.68	0.66	0.65
7	0.71	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.68	0.66	0.64	0.63
8	0.69	0.65	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.66	0.64	0.62	0.61
9	0.67	0.63	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.65	0.62	0.60	0.65	0.62	0.60	0.59
10	0.65	0.61	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.64	0.61	0.59	0.63	0.60	0.59	0.58

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2021/7/06	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	9365.63	9500.63	9475.88	9307.69	8991.00	8617.50	8026.88	7350.75	6661.13
45.0	9475.88	9408.38	9169.31	8836.31	8408.25	7894.13	7095.94	6410.25	5683.50
90.0	9404.44	9178.88	8856.56	8351.44	7647.19	7074.56	6374.25	5365.13	4760.44
135.0	9466.31	9249.19	8883.56	8434.13	7812.56	7161.19	6351.75	5515.31	4817.81
180.0	9365.63	9095.63	8677.13	8080.88	7477.88	6784.88	5859.00	5123.25	4467.94
225.0	9475.88	9398.81	9165.38	8818.88	8283.38	7681.50	6900.19	6094.13	5376.94
270.0	9404.44	9486.56	9420.75	9190.69	8866.13	8352.00	7681.50	6983.44	6241.50
315.0	9466.31	9510.75	9424.13	9180.56	8841.38	8381.25	7649.44	6968.25	6234.75
360.0	9365.63	9500.63	9475.88	9307.69	8991.00	8617.50	8026.88	7350.75	6661.13

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	5859.00	5058.56	4420.13	3871.69	3318.75	2972.81	2684.81	2412.56	2175.75
45.0	4827.94	4212.56	3697.31	3230.44	2866.50	2592.00	2325.94	2122.31	1913.06
90.0	4146.75	3478.50	3151.69	2835.56	2544.75	2289.94	2090.25	1888.31	1719.00
135.0	4137.75	3573.56	3182.06	2872.13	2576.81	2328.75	2134.13	1953.00	1747.13
180.0	3854.81	3369.38	3025.69	2709.00	2434.50	2221.88	2008.13	1829.81	1649.25
225.0	4700.25	3985.88	3521.81	3147.19	2763.56	2505.94	2286.00	2036.81	1854.56
270.0	5329.69	4667.06	4081.50	3531.38	3106.69	2797.31	2507.63	2256.19	2055.94
315.0	5403.94	4635.56	4035.38	3482.44	3052.69	2750.06	2470.50	2256.19	2037.94
360.0	5859.00	5058.56	4420.13	3871.69	3318.75	2972.81	2684.81	2412.56	2175.75

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1983.38	1791.00	1617.75	1469.81	1314.00	1184.63	1044.00	924.19	812.81
45.0	1719.56	1553.06	1399.50	1245.94	1118.81	1001.25	874.69	764.44	669.38
90.0	1540.13	1374.75	1197.00	1092.60	980.61	865.91	765.62	659.81	563.68
135.0	1584.00	1430.44	1262.25	1134.00	1018.69	897.75	781.88	680.06	582.75
180.0	1475.44	1337.63	1107.00	1045.80	940.44	833.57	697.33	612.23	533.87
225.0	1693.13	1505.81	1384.88	1200.38	1107.96	978.64	860.96	756.17	648.73
270.0	1855.69	1691.44	1522.69	1361.81	1230.19	1092.38	970.31	865.69	763.31
315.0	1841.06	1683.56	1532.25	1349.44	1117.63	1087.71	952.09	844.59	745.20
360.0	1983.38	1791.00	1617.75	1469.81	1314.00	1184.63	1044.00	924.19	812.81

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	713.25	590.63	518.06	434.81	345.94	288.56	211.05	159.19	109.97
45.0	574.88	486.00	412.88	327.94	292.50	189.45	137.48	102.83	88.14
90.0	486.00	409.11	317.03	248.12	187.76	127.97	100.80	88.59	77.63
135.0	505.13	415.69	329.63	288.00	192.21	138.26	105.86	91.46	79.31
180.0	432.56	362.87	292.50	210.66	163.58	115.14	90.79	81.23	70.99
225.0	561.83	474.08	389.87	319.56	254.98	182.81	134.72	104.96	87.19
270.0	642.94	555.75	474.75	388.69	307.13	290.25	180.11	124.76	101.93
315.0	638.66	540.34	460.13	374.51	304.26	229.73	167.18	122.18	96.24
360.0	713.25	590.63	518.06	434.81	345.94	288.56	211.05	159.19	109.97

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	91.63	81.06	71.10	62.10	55.35	48.38	42.86	38.36	34.26
45.0	77.23	68.63	60.98	53.21	46.69	41.29	36.11	32.57	30.04
90.0	68.01	60.53	52.82	46.58	41.57	36.79	33.19	29.81	27.17
135.0	70.54	62.44	54.06	47.48	42.47	37.29	33.13	30.15	27.62
180.0	61.71	54.96	48.99	41.57	37.69	34.09	30.49	27.56	25.54
225.0	76.61	67.11	58.16	50.63	44.83	39.21	35.04	31.56	28.41
270.0	88.48	78.47	68.12	59.18	52.43	46.46	40.22	36.06	32.74
315.0	83.25	74.25	65.87	56.14	50.57	45.28	39.38	35.38	32.12
360.0	91.63	81.06	71.10	62.10	55.35	48.38	42.86	38.36	34.26

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	31.05	27.96	25.59	23.79	22.22	20.59	19.52	18.51	17.49
45.0	27.39	24.81	23.12	21.71	20.36	19.18	18.23	17.33	16.54
90.0	25.14	23.46	21.71	20.53	19.46	18.28	17.44	16.76	16.03
135.0	25.37	23.51	21.88	20.59	19.58	18.39	17.55	16.82	15.98
180.0	23.63	21.94	20.76	19.69	18.51	17.61	16.71	16.09	15.47
225.0	26.21	24.13	22.39	21.09	19.91	18.68	17.78	17.04	16.26
270.0	29.31	27.00	25.03	23.40	21.66	20.42	19.35	18.34	17.44
315.0	28.80	26.10	24.24	22.28	21.09	19.80	18.56	17.83	17.04
360.0	31.05	27.96	25.59	23.79	22.22	20.59	19.52	18.51	17.49

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	16.82	16.14	15.53	14.96	14.57	14.12	13.89	13.67	13.33
45.0	15.92	15.30	14.85	14.34	14.06	13.78	13.50	13.22	13.05
90.0	15.41	14.91	14.46	14.06	13.84	13.50	13.28	13.05	12.88
135.0	15.41	14.96	14.46	14.12	13.84	13.56	13.33	13.22	12.99
180.0	14.85	14.40	14.01	13.61	13.39	13.22	12.99	12.77	12.66
225.0	15.64	15.08	14.57	14.12	13.78	13.50	13.28	12.99	12.77
270.0	16.71	16.03	15.41	14.91	14.46	14.12	13.84	13.50	13.28
315.0	16.14	15.64	15.13	14.51	14.12	13.78	13.50	13.28	13.05
360.0	16.82	16.14	15.53	14.96	14.57	14.12	13.89	13.67	13.33

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	13.16	12.94	12.71	12.66	12.49	12.26	12.09	11.81	11.64
45.0	12.88	12.66	12.49	12.32	12.15	11.98	11.76	11.48	11.08
90.0	12.71	12.60	12.32	12.21	12.09	11.81	11.48	11.14	10.91
135.0	12.83	12.60	12.38	12.32	12.15	11.87	11.53	11.25	10.91
180.0	12.49	12.32	12.21	12.09	11.87	11.64	11.36	11.03	10.80
225.0	12.66	12.49	12.32	12.15	12.04	11.81	11.59	11.36	11.03
270.0	13.11	12.83	12.66	12.54	12.32	12.15	11.98	11.70	11.42
315.0	12.83	12.60	12.43	12.32	12.21	12.04	11.81	11.53	11.42
360.0	13.16	12.94	12.71	12.66	12.49	12.26	12.09	11.81	11.64

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	11.31	10.97	10.74	10.46	10.24	10.07	9.90	9.73	9.56
45.0	10.97	10.58	10.35	10.18	9.96	9.79	9.62	9.51	9.39
90.0	10.63	10.35	10.13	9.96	9.79	9.56	9.39	9.28	9.11
135.0	10.63	10.41	10.18	9.96	9.79	9.56	9.39	9.17	9.06
180.0	10.46	10.24	10.01	9.84	9.62	9.45	9.28	9.11	8.94
225.0	10.69	10.46	10.24	10.01	9.84	9.68	9.51	9.34	9.17
270.0	11.14	10.80	10.52	10.24	10.07	9.90	9.73	9.56	9.34
315.0	10.97	10.69	10.41	10.24	10.01	9.84	9.73	9.45	9.34
360.0	11.31	10.97	10.74	10.46	10.24	10.07	9.90	9.73	9.56

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	9.39	9.23	9.06	8.89	8.83	8.66	8.49	8.27	8.04
45.0	9.28	9.28	9.23	9.06	8.38	8.21	8.04	7.82	7.65
90.0	9.00	8.89	8.55	8.33	8.10	7.99	7.82	7.65	7.59
135.0	8.89	8.66	8.49	8.38	8.21	8.04	7.88	7.76	7.65
180.0	8.78	8.61	8.49	8.27	8.16	7.99	7.88	7.71	7.71
225.0	9.06	8.89	8.72	8.49	8.44	8.16	7.93	7.82	7.71
270.0	9.23	9.00	8.89	8.72	8.55	8.38	8.16	7.99	7.82
315.0	9.17	9.06	8.89	8.78	8.66	8.49	8.33	8.10	7.88
360.0	9.39	9.23	9.06	8.89	8.83	8.66	8.49	8.27	8.04

Intensity data(cd)

C/γ(°)	90.0
0.0	7.88
45.0	7.54
90.0	7.54
135.0	7.65
180.0	7.71
225.0	7.59
270.0	7.65
315.0	7.76
360.0	7.88