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Nata

LumCAT: LN01D05015DA-N
Luminaire: 97.70.234.00
Report No: 210624-B001
Test No: 210624-C001
LampCAT: Fortimo LED SLM 1201 G7N
Lamp flux(lm): 1175.3
Number of Lamps: 1
Length(mm): 570
Phm Type: C

Voltage(V): 39.5600
Current(A): 0.2510
Power (W): 9.9290
PF: 0.0000
Ballast type: DC
Width(mm): 45
Height(mm): 20

Photometric Results

Lumens(lm): 1048.96
Efficiency(%): 89.25%
Lumens(lm)/Power(W): 105.65
Central intensity(cd): 6065.860
Maximum intensity(cd): 6065.860
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=19.8
[C90/270]Total=19.8
Field angle(10%Imax): [C0/180]Total=39.4
[C90/270]Total=39.4
Maximum s/h(1/2): C0_180=0.34 C90_270=0.34
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(%): 89.25%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.601%

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2021/6/24
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.50

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6065.859	0.000	0	.000%	.000%
1.0	6031.969	5.789	5.789	.493%	.552%
2.0	5904.844	17.133	22.921	1.458%	2.185%
3.0	5688.633	27.728	50.649	2.359%	4.829%
4.0	5411.461	37.156	87.805	3.161%	8.371%
5.0	5045.414	44.985	132.79	3.827%	12.659%
6.0	4623.609	50.813	183.603	4.323%	17.503%
7.0	4224.586	54.921	238.524	4.673%	22.739%
8.0	3811.992	57.516	296.04	4.894%	28.222%
9.0	3400.242	58.451	354.491	4.973%	33.795%
10.0	2999.039	57.911	412.402	4.927%	39.315%
11.0	2607.258	56.018	468.421	4.766%	44.656%
12.0	2259.984	53.206	521.627	4.527%	49.728%
13.0	1916.016	49.559	571.185	4.217%	54.453%
14.0	1601.304	45.021	616.207	3.830%	58.745%
15.0	1371.586	40.813	657.02	3.472%	62.636%
16.0	1154.897	37.020	694.04	3.150%	66.165%
17.0	971.522	33.114	727.154	2.817%	69.322%
18.0	817.228	29.493	756.646	2.509%	72.133%
19.0	691.291	26.245	782.892	2.233%	74.635%
20.0	573.511	23.149	806.041	1.970%	76.842%
21.0	476.374	20.160	826.201	1.715%	78.764%
22.0	402.778	17.667	843.868	1.503%	80.448%
23.0	339.476	15.574	859.442	1.325%	81.933%
24.0	286.291	13.682	873.124	1.164%	83.237%
25.0	246.853	12.123	885.246	1.031%	84.393%
26.0	210.987	10.807	896.054	.920%	85.423%
27.0	177.989	9.516	905.57	.810%	86.331%
28.0	153.879	8.402	913.972	.715%	87.132%
29.0	134.023	7.532	921.505	.641%	87.850%
30.0	117.865	6.801	928.306	.579%	88.498%
31.0	104.484	6.188	934.493	.526%	89.088%
32.0	93.052	5.659	940.152	.481%	89.627%
33.0	83.841	5.211	945.364	.443%	90.124%
34.0	76.282	4.846	950.209	.412%	90.586%
35.0	68.934	4.510	954.719	.384%	91.016%
36.0	63.042	4.202	958.922	.358%	91.417%
37.0	58.191	3.954	962.875	.336%	91.794%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	53.459	3.727	966.602	.317%	92.149%
39.0	49.106	3.501	970.103	.298%	92.483%
40.0	45.577	3.302	973.405	.281%	92.797%
41.0	42.202	3.126	976.531	.266%	93.095%
42.0	38.869	2.945	979.476	.251%	93.376%
43.0	36.056	2.775	982.252	.236%	93.641%
44.0	33.398	2.621	984.873	.223%	93.891%
45.0	30.895	2.471	987.344	.210%	94.126%
46.0	28.659	2.329	989.673	.198%	94.348%
47.0	26.677	2.201	991.874	.187%	94.558%
48.0	24.877	2.084	993.958	.177%	94.757%
49.0	23.393	1.982	995.94	.169%	94.946%
50.0	21.902	1.889	997.829	.161%	95.126%
51.0	20.686	1.802	999.631	.153%	95.298%
52.0	19.695	1.733	1001.363	.147%	95.463%
53.0	18.682	1.669	1003.033	.142%	95.622%
54.0	17.754	1.606	1004.639	.137%	95.775%
55.0	17.037	1.553	1006.192	.132%	95.923%
56.0	16.348	1.509	1007.7	.128%	96.067%
57.0	15.609	1.461	1009.161	.124%	96.206%
58.0	15.026	1.417	1010.578	.121%	96.341%
59.0	14.491	1.380	1011.958	.117%	96.473%
60.0	13.894	1.341	1013.299	.114%	96.601%
61.0	13.402	1.303	1014.602	.111%	96.725%
62.0	12.952	1.270	1015.871	.108%	96.846%
63.0	12.537	1.240	1017.111	.105%	96.964%
64.0	12.164	1.212	1018.323	.103%	97.080%
65.0	11.827	1.187	1019.51	.101%	97.193%
66.0	11.637	1.171	1020.681	.100%	97.304%
67.0	11.616	1.169	1021.85	.099%	97.416%
68.0	11.813	1.187	1023.037	.101%	97.529%
69.0	12.185	1.224	1024.261	.104%	97.646%
70.0	12.649	1.275	1025.537	.109%	97.767%
71.0	13.620	1.358	1026.894	.116%	97.897%
72.0	14.400	1.457	1028.351	.124%	98.036%
73.0	15.033	1.539	1029.891	.131%	98.182%
74.0	15.553	1.608	1031.499	.137%	98.336%
75.0	16.052	1.670	1033.168	.142%	98.495%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	15.863	1.694	1034.863	.144%	98.656%
77.0	15.694	1.682	1036.545	.143%	98.817%
78.0	15.483	1.669	1038.214	.142%	98.976%
79.0	14.372	1.604	1039.818	.136%	99.129%
80.0	12.867	1.469	1041.287	.125%	99.269%
81.0	11.046	1.293	1042.58	.110%	99.392%
82.0	9.239	1.100	1043.68	.094%	99.497%
83.0	7.798	0.926	1044.606	.079%	99.585%
84.0	6.785	0.794	1045.4	.068%	99.661%
85.0	6.321	0.715	1046.116	.061%	99.729%
86.0	5.498	0.646	1046.762	.055%	99.791%
87.0	5.161	0.583	1047.345	.050%	99.846%
88.0	4.943	0.553	1047.899	.047%	99.899%
89.0	4.809	0.535	1048.433	.045%	99.950%
90.0	4.739	0.524	1048.957	.045%	100.000%

Zonal flux distribution table

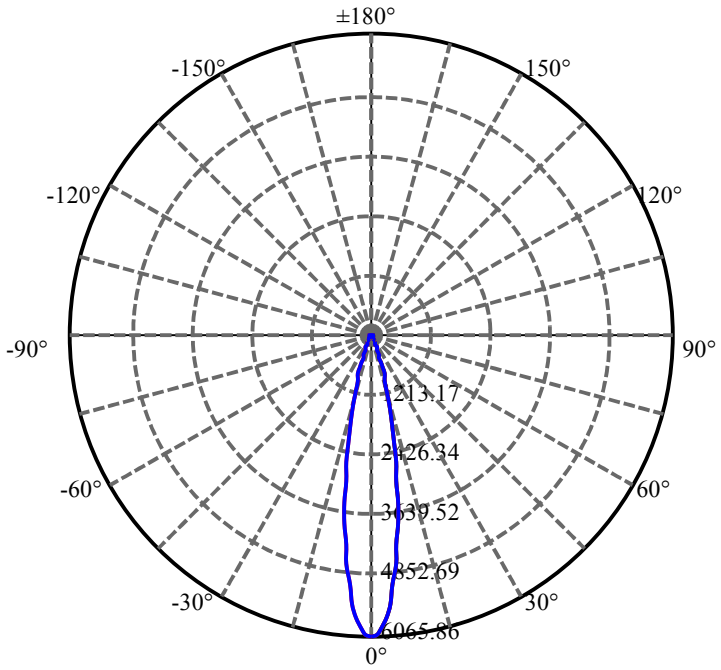
ZONAL LUMEN SUMMARY

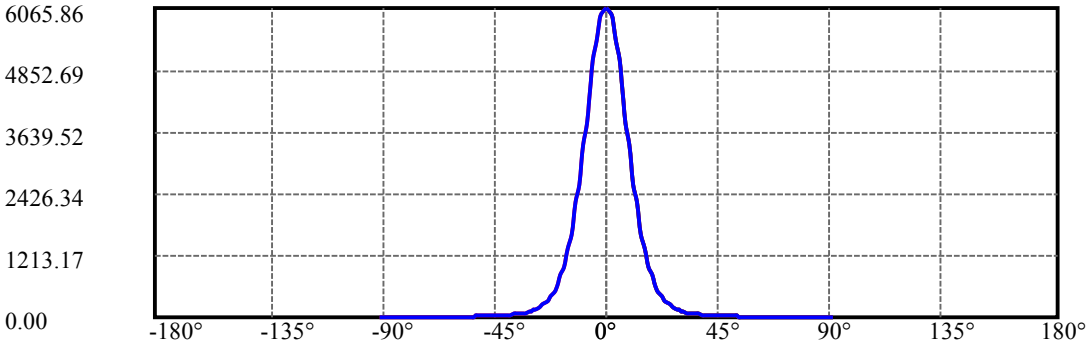
Zone	Lumens	%Lamp	%Fixt
0-30	928.31	78.98%	88.50%
0-40	973.41	82.82%	92.80%
0-60	1013.30	86.21%	96.60%
0-90	1048.43	89.20%	99.95%
0-120	1048.43	89.20%	99.95%
0-180	1048.96	89.25%	100.00%
60-90	36.48	3.10%	3.48%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-21.73	839.17	71.40%	80.00%

ZONAL LUMEN SUMMARY

0-10	412.40
10-20	393.64
20-30	122.26
30-40	45.10
40-50	24.42
50-60	15.47
60-70	12.24
70-80	15.75
80-90	7.15
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):

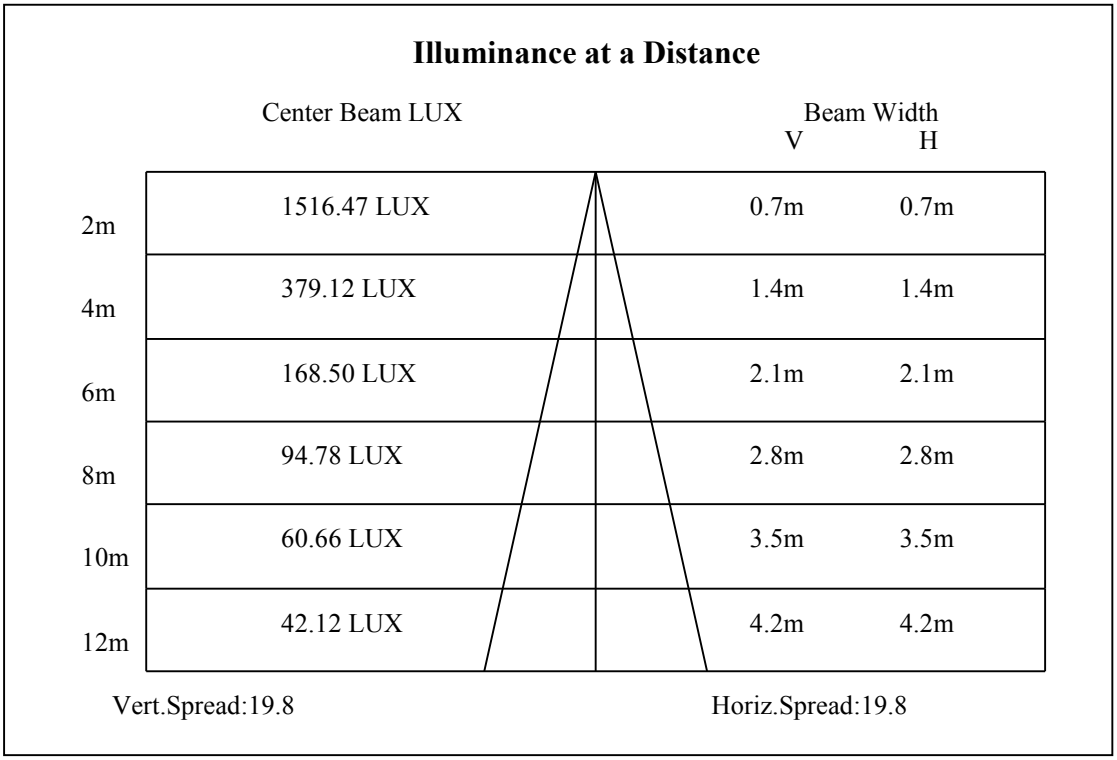
C0/C180:

C90/C270:

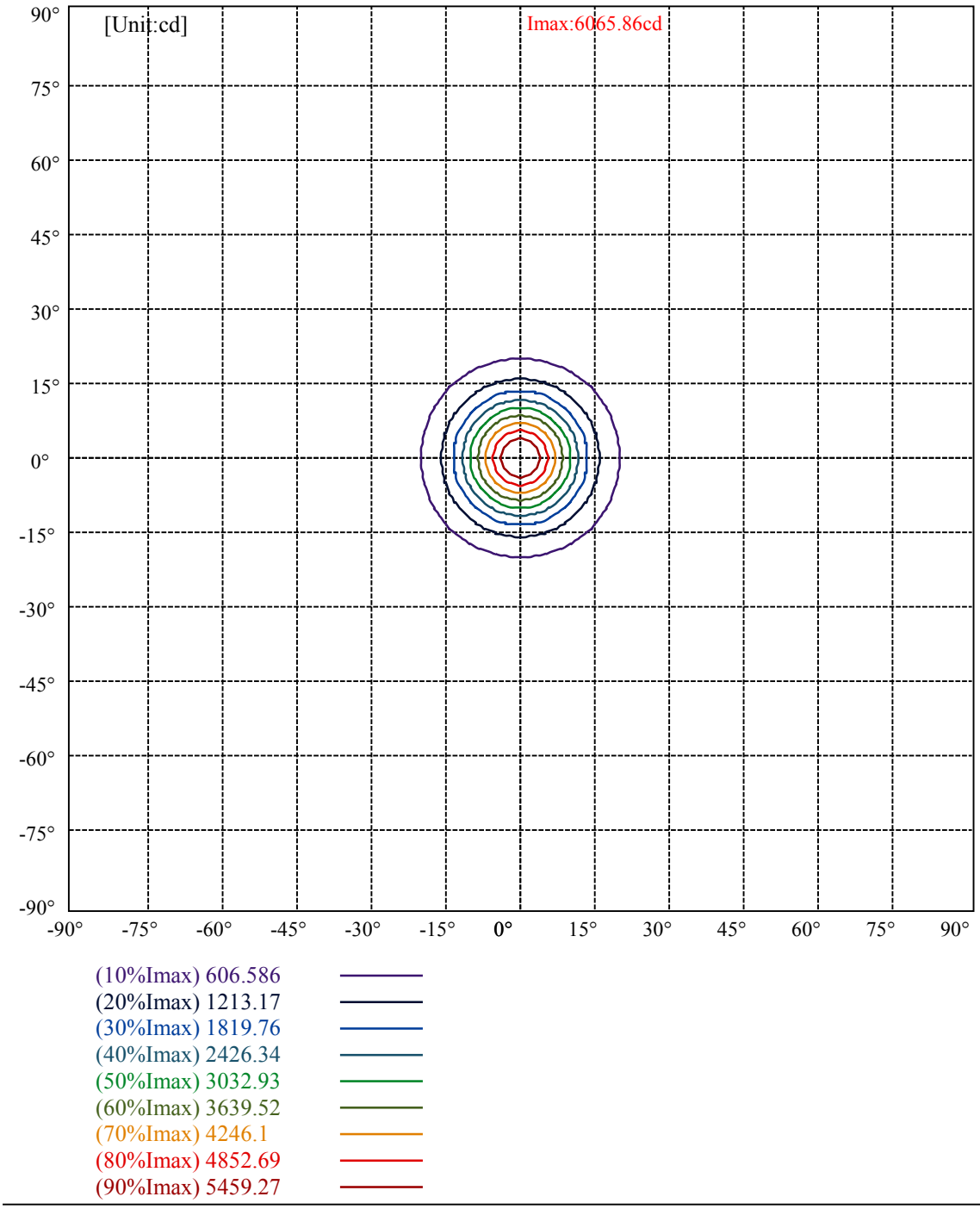
Field angle(10%Imax):C0/180Left:19.7 Right:19.7
:C90/270Left:19.7 Right:19.7

Beam Angle(50%Imax):C0/180Left:9.9 Right:9.9
:C90/270Left:9.9 Right:9.9

Lux distance Curve



ISO-Intensity(V-H)



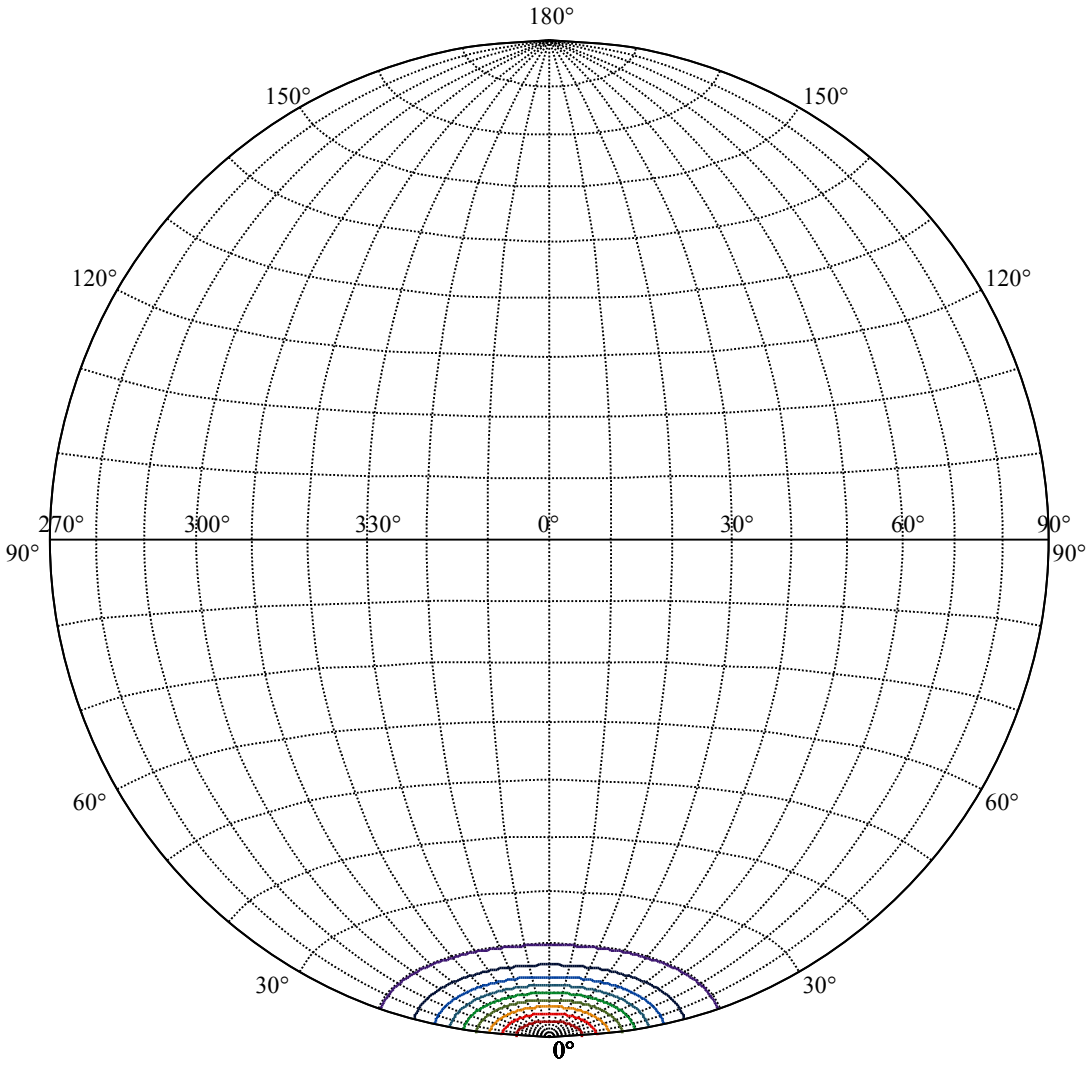
(10%Imax) 606.586
(20%Imax) 1213.17
(30%Imax) 1819.76
(40%Imax) 2426.34
(50%Imax) 3032.93
(60%Imax) 3639.52
(70%Imax) 4246.1
(80%Imax) 4852.69
(90%Imax) 5459.27

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/6/24
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:6065.86

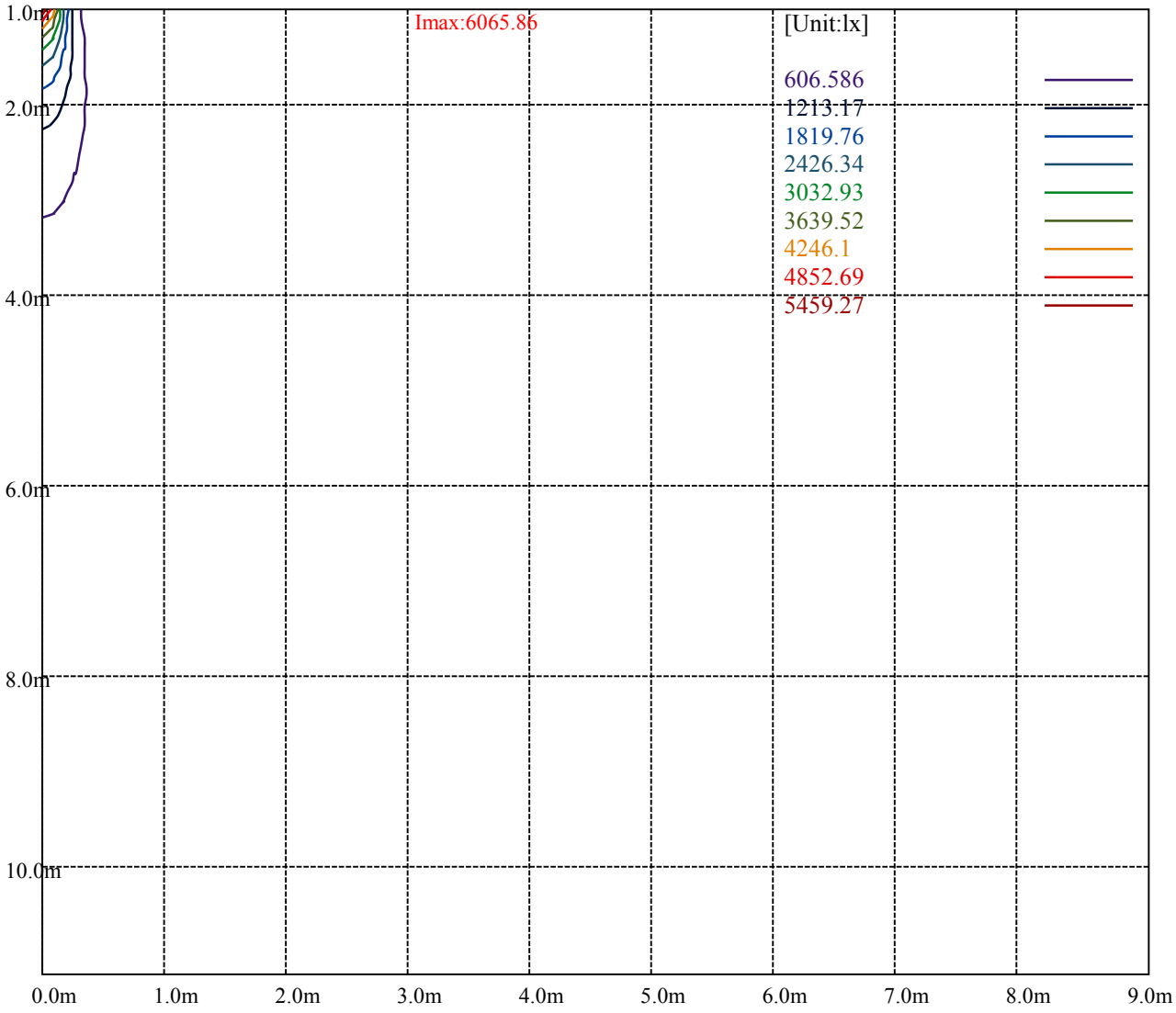
(10%Imax) 606.586
(20%Imax) 1213.17
(30%Imax) 1819.76
(40%Imax) 2426.34
(50%Imax) 3032.93
(60%Imax) 3639.52
(70%Imax) 4246.1
(80%Imax) 4852.69
(90%Imax) 5459.27

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/6/24
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/6/24
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Nata LN01D05015DA-N

Luminance Limitting Curve(no luminous side)

Luminance Table

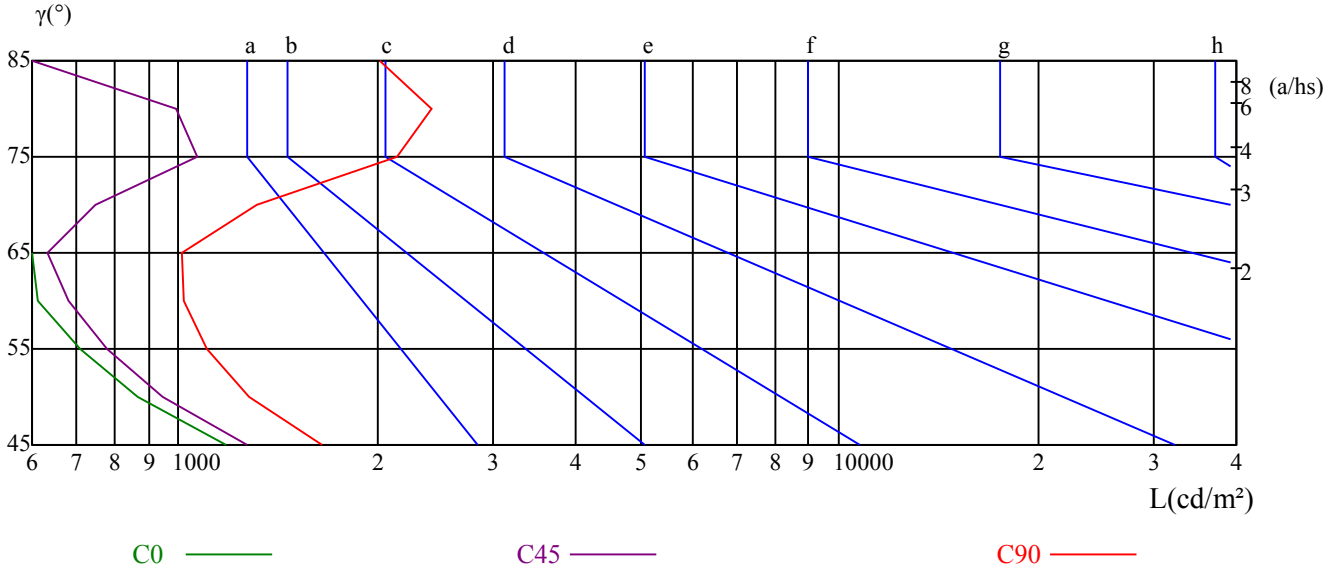
γ	45	50	55	60	65	70	75	80	85
C0	1179	868	708	612	559	649	909	821	465
C45	1272	946	780	682	632	746	1067	988	580
C90	1646	1275	1103	1021	1015	1315	2138	2409	2018

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1091	1091	1091	2418	2418	2418	2828	2828	2828

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

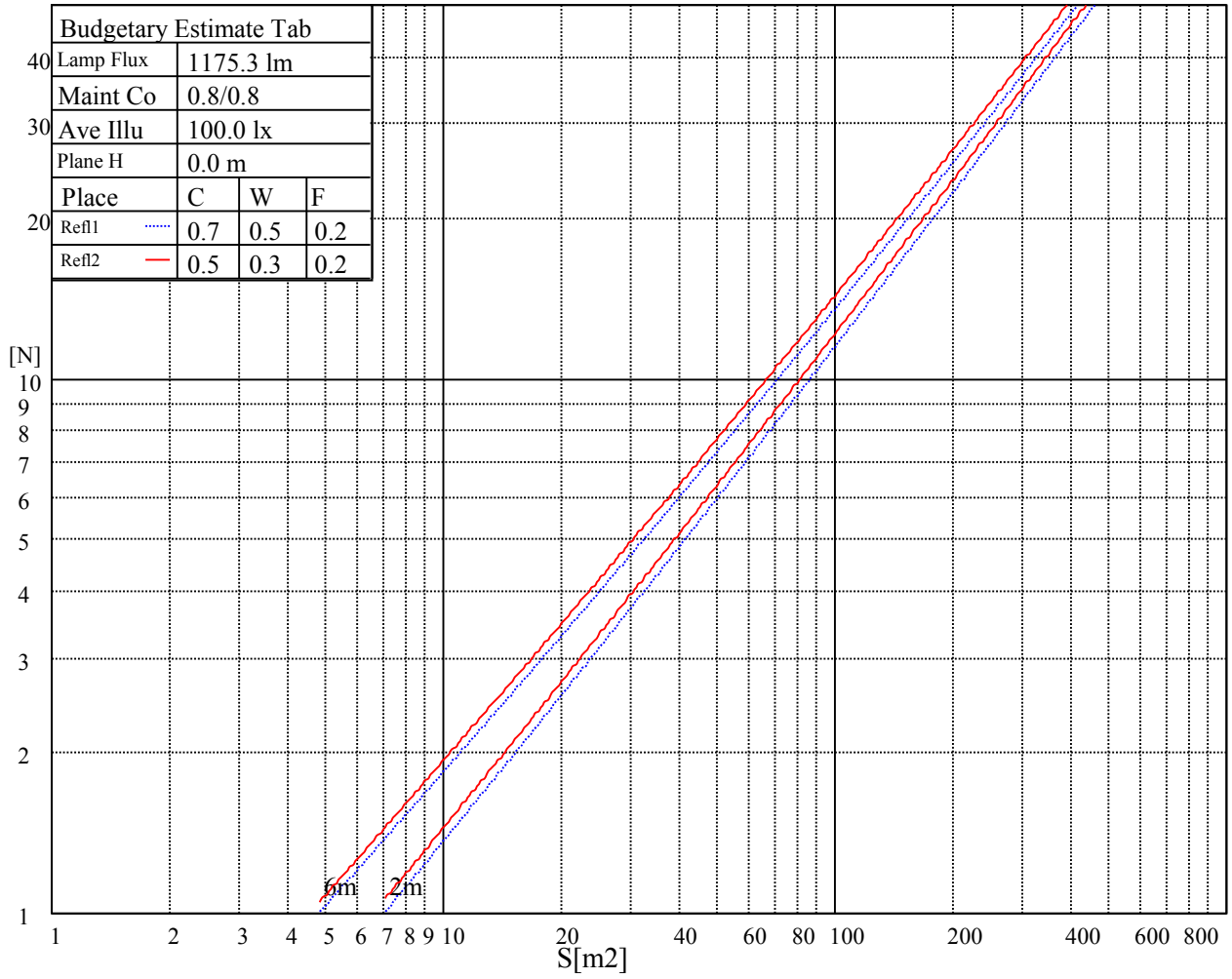


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/6/24
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Budgetary Estimate Table

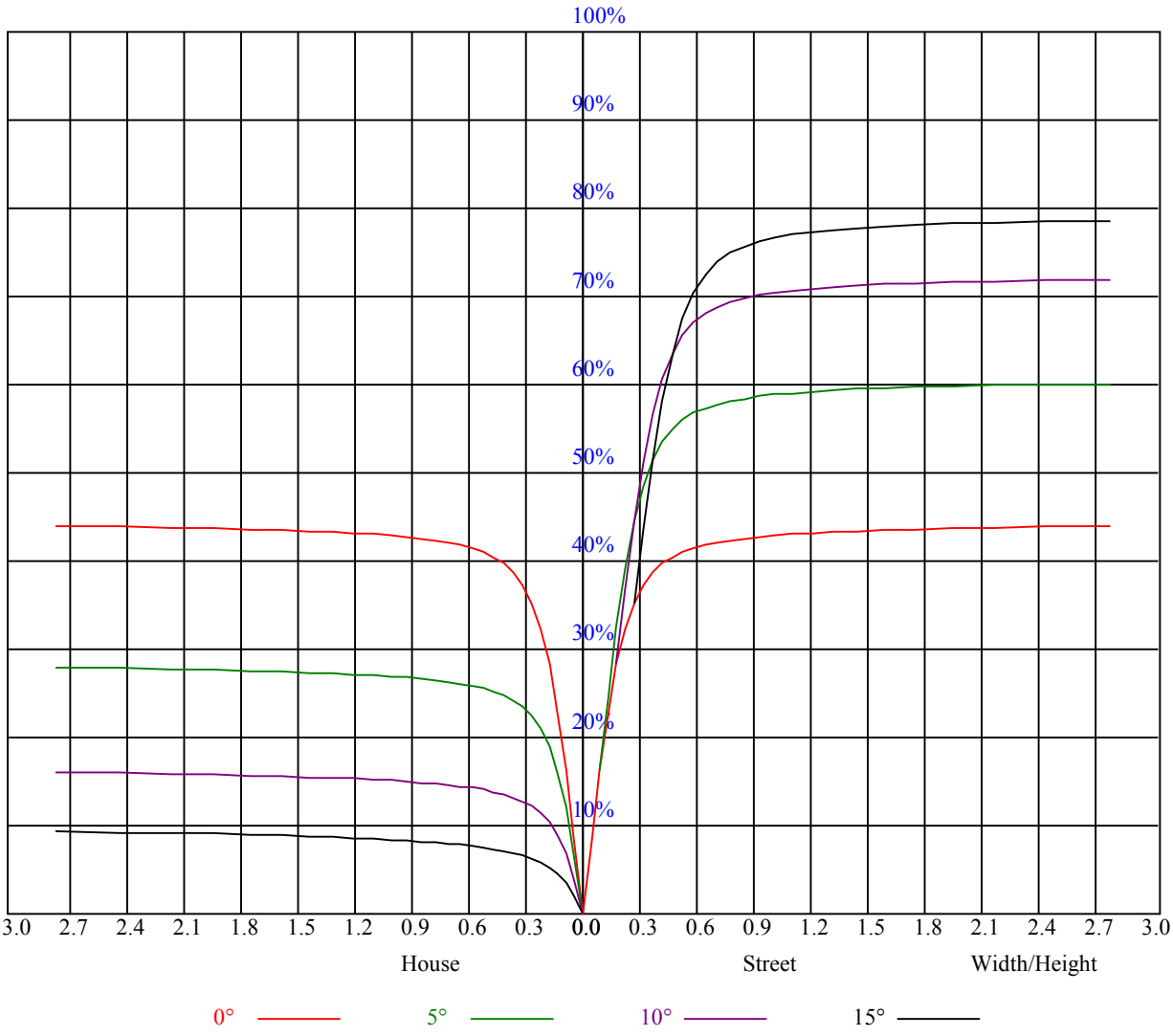


Equipment: GMS1980 Date: 2021/6/24 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	1.06	1.06	1.06	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	1.00	0.98	0.96	0.98	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85
2	0.95	0.92	0.89	0.93	0.90	0.88	0.90	0.88	0.86	0.88	0.86	0.84	0.85	0.84	0.83	0.81
3	0.90	0.87	0.84	0.89	0.86	0.83	0.87	0.84	0.82	0.85	0.82	0.81	0.83	0.81	0.79	0.78
4	0.86	0.83	0.80	0.85	0.82	0.79	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.78	0.77	0.75
5	0.83	0.79	0.76	0.82	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.78	0.76	0.74	0.73
6	0.80	0.76	0.73	0.80	0.76	0.73	0.78	0.75	0.73	0.77	0.74	0.72	0.76	0.74	0.72	0.71
7	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.74	0.72	0.70	0.69
8	0.75	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.73	0.70	0.68	0.67
9	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.65
10	0.71	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.70	0.67	0.65	0.69	0.67	0.65	0.64

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2021/6/24	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	5996.25	6093.56	6124.50	6098.06	5981.63	5760.56	5411.81	5002.31	4614.75
45.0	6108.19	6139.13	6121.13	6040.69	5863.50	5518.69	5160.38	4762.69	4325.06
90.0	6086.25	6051.94	5929.88	5682.94	5395.50	5017.50	4563.56	4164.75	3738.94
135.0	6072.75	5991.19	5799.38	5530.50	5141.25	4753.69	4306.50	3867.75	3502.13
180.0	5996.25	5799.94	5475.38	5091.19	4689.00	4290.19	3821.06	3440.25	3044.25
225.0	6108.19	6010.88	5761.13	5423.06	5073.75	4617.00	4223.81	3801.94	3369.38
270.0	6086.25	6080.63	5977.13	5774.06	5520.38	5078.81	4637.25	4279.50	3808.69
315.0	6072.75	6088.50	6050.25	5868.56	5626.69	5326.88	4864.50	4477.50	4092.75
360.0	5996.25	6093.56	6124.50	6098.06	5981.63	5760.56	5411.81	5002.31	4614.75

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4191.19	3771.00	3381.19	2992.50	2526.19	2171.25	1847.25	1548.56	1296.00
45.0	3900.94	3507.19	3052.69	2666.25	2256.75	1879.31	1616.63	1362.94	1144.13
90.0	3351.38	2921.63	2522.81	2186.44	1840.50	1553.06	1336.50	1102.56	961.48
135.0	3092.06	2683.13	2345.06	2031.75	1709.44	1432.69	1232.44	1057.50	866.81
180.0	2621.81	2229.19	1907.44	1593.56	1336.50	1114.93	925.99	800.04	658.35
225.0	2979.56	2557.69	2159.44	1847.25	1579.50	1230.75	1106.33	938.70	774.68
270.0	3402.56	3083.06	2628.56	2298.38	1982.81	1630.13	1393.88	1195.31	982.69
315.0	3662.44	3239.44	2860.88	2463.75	2096.44	1798.31	1513.69	1233.56	1088.04
360.0	4191.19	3771.00	3381.19	2992.50	2526.19	2171.25	1847.25	1548.56	1296.00

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1105.88	920.81	761.63	640.69	527.63	444.94	367.31	304.31	286.31
45.0	971.44	821.25	664.31	555.19	464.63	378.56	321.75	284.63	232.37
90.0	801.45	680.79	578.53	474.58	406.13	349.09	289.18	249.75	216.39
135.0	735.75	626.06	513.56	435.38	369.00	312.75	285.75	225.56	193.78
180.0	537.69	449.72	376.82	297.06	255.94	217.63	176.40	155.87	136.01
225.0	640.35	541.01	447.19	369.68	312.53	260.04	222.08	187.93	160.54
270.0	834.75	713.25	584.44	498.38	425.81	358.88	303.19	286.88	220.95
315.0	910.52	777.43	661.61	540.06	460.58	393.92	324.68	279.90	241.54
360.0	1105.88	920.81	761.63	640.69	527.63	444.94	367.31	304.31	286.31

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	218.03	183.88	157.11	137.76	120.04	105.58	94.67	86.79	76.44
45.0	193.44	168.75	146.93	127.01	110.53	99.23	88.31	78.47	72.11
90.0	185.01	159.24	140.06	121.95	108.84	96.30	86.06	78.36	70.65
135.0	169.65	148.44	128.31	113.91	100.63	90.39	82.41	74.59	67.22
180.0	118.29	103.84	92.98	82.97	75.77	69.08	63.39	59.06	54.73
225.0	140.57	123.64	106.76	95.79	86.68	77.06	70.54	64.74	59.79
270.0	192.15	165.71	144.17	127.86	112.95	100.29	90.68	82.46	73.52
315.0	206.78	177.53	155.87	135.68	120.43	106.48	94.67	85.78	77.01
360.0	218.03	183.88	157.11	137.76	120.04	105.58	94.67	86.79	76.44

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	70.09	65.25	59.29	54.62	51.24	47.03	43.65	41.18	37.91
45.0	65.76	60.53	55.18	51.58	47.87	44.72	40.95	38.19	35.66
90.0	64.13	58.84	54.28	49.05	45.28	41.91	38.36	35.10	32.46
135.0	61.88	56.87	52.03	47.98	44.16	40.61	37.24	34.43	31.61
180.0	50.85	47.64	44.78	41.40	38.81	36.39	33.75	31.44	29.42
225.0	54.62	50.79	47.25	43.71	40.39	37.69	34.99	32.46	30.32
270.0	67.44	61.93	56.48	51.81	48.09	44.10	40.61	37.80	34.71
315.0	69.58	63.68	58.39	52.71	48.77	45.17	41.40	37.86	35.10
360.0	70.09	65.25	59.29	54.62	51.24	47.03	43.65	41.18	37.91

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	35.49	33.24	30.66	28.69	26.89	24.92	23.51	22.28	20.93
45.0	32.79	30.71	28.80	26.83	25.09	23.68	22.39	21.15	20.03
90.0	29.70	27.28	25.37	23.40	21.88	20.48	19.18	18.23	17.38
135.0	29.31	26.72	24.64	23.06	21.83	20.36	19.29	18.51	17.44
180.0	27.39	25.71	24.30	22.84	21.77	20.59	19.58	18.79	18.00
225.0	28.13	26.44	24.64	23.23	22.05	20.81	19.69	18.84	18.00
270.0	32.29	29.76	27.68	25.88	24.19	22.44	21.26	20.25	19.07
315.0	32.06	29.42	27.34	25.09	23.46	21.94	20.59	19.52	18.62
360.0	35.49	33.24	30.66	28.69	26.89	24.92	23.51	22.28	20.93

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	19.97	19.07	18.23	17.38	16.71	16.03	15.30	14.79	14.23
45.0	19.01	18.17	17.38	16.59	15.92	15.36	14.51	14.01	13.50
90.0	16.43	15.69	15.13	14.40	13.89	13.44	12.88	12.49	12.15
135.0	16.65	16.03	15.41	14.74	14.18	13.73	13.28	12.77	12.38
180.0	17.10	16.48	15.86	15.19	14.68	14.18	13.73	13.11	12.66
225.0	17.04	16.37	15.69	15.02	14.40	13.89	13.28	12.77	12.32
270.0	18.23	17.55	16.82	16.14	15.58	14.96	14.46	13.95	13.50
315.0	17.61	16.93	16.26	15.41	14.85	14.34	13.73	13.33	12.88
360.0	19.97	19.07	18.23	17.38	16.71	16.03	15.30	14.79	14.23

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	13.73	13.28	12.71	12.38	11.98	11.59	11.31	11.03	10.63
45.0	12.94	12.43	12.04	11.48	11.14	10.80	10.46	10.18	9.84
90.0	11.87	11.64	11.59	11.98	13.05	15.30	17.72	19.86	22.33
135.0	11.98	11.70	11.42	11.25	11.36	11.64	12.04	12.71	15.24
180.0	12.32	11.87	11.48	11.19	10.86	10.46	10.24	9.84	9.56
225.0	11.87	11.53	11.08	10.74	10.46	10.13	9.73	9.39	9.06
270.0	13.16	12.83	12.54	12.49	12.71	13.39	14.68	16.65	20.48
315.0	12.43	12.04	11.76	11.59	11.36	11.19	11.31	11.53	11.81
360.0	13.73	13.28	12.71	12.38	11.98	11.59	11.31	11.03	10.63

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	10.29	9.96	9.62	9.28	9.00	8.72	8.49	8.33	8.04
45.0	9.45	9.11	8.78	8.44	8.16	7.88	7.59	7.43	7.14
90.0	24.02	26.27	27.73	29.48	29.14	29.42	29.14	26.66	23.34
135.0	17.55	18.28	18.73	19.69	19.46	18.45	17.10	14.85	12.49
180.0	9.23	9.00	8.72	8.21	7.93	7.71	7.48	7.20	6.98
225.0	8.66	8.38	8.16	7.88	7.65	7.48	7.20	6.98	6.69
270.0	22.78	23.91	25.88	28.29	27.96	27.62	28.63	26.55	23.46
315.0	13.22	15.36	16.82	17.16	17.61	18.28	18.23	16.99	14.79
360.0	10.29	9.96	9.62	9.28	9.00	8.72	8.49	8.33	8.04

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	8.21	7.99	7.71	7.43	7.09	6.92	6.30	6.02	5.79
45.0	6.86	6.58	6.36	6.08	5.85	5.46	5.12	4.84	4.67
90.0	18.45	14.06	10.63	7.37	6.53	5.06	4.73	4.50	4.39
135.0	10.01	8.33	7.31	6.92	6.41	5.12	4.89	4.73	4.67
180.0	6.69	6.41	6.13	5.85	5.29	5.06	4.84	4.78	4.73
225.0	6.41	6.19	5.91	5.68	5.34	5.01	4.73	4.61	4.50
270.0	19.07	14.23	9.90	7.59	7.09	5.63	5.29	4.95	4.84
315.0	12.66	10.13	8.44	7.37	6.98	5.74	5.40	5.12	4.89
360.0	8.21	7.99	7.71	7.43	7.09	6.92	6.30	6.02	5.79

Intensity data(cd)

C/γ(°)	90.0
0.0	5.63
45.0	4.56
90.0	4.33
135.0	4.61
180.0	4.73
225.0	4.56
270.0	4.73
315.0	4.78
360.0	5.63