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Nata

LumCAT: LN01D04515DA-N
Luminaire: 97.70.234.00
Report No: 210707-B002
Test No: 210707-C002
LampCAT: Fortimo LED SLM 1203 G7N
Lamp flux(lm): 2182.7
Number of Lamps: 1
Length(mm): 570
Phm Type: C

Voltage(V): 36.6900
Current(A): 0.4510
Power (W): 16.5470
PF: 0.0000
Ballast type: DC
Width(mm): 45
Height(mm): 20

Photometric Results

Lumens(lm): 1907.77
Efficiency(%): 87.40%
Lumens(lm)/Power(W): 115.29
Central intensity(cd): 9584.579
Maximum intensity(cd): 9584.579
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=21.2
[C90/270]Total=21.2
Field angle(10%Imax): [C0/180]Total=42.0
[C90/270]Total=42.0
Maximum s/h(1/2): C0_180=0.36 C90_270=0.36
Maximum s/h(1/4): C0_180=0.37 C90_270=0.37
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 87.40%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.163%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	9584.578	0.000	0	.000%	.000%
1.0	9525.867	9.144	9.144	.419%	.479%
2.0	9349.242	27.091	36.235	1.241%	1.899%
3.0	9051.891	44.009	80.245	2.016%	4.206%
4.0	8662.922	59.297	139.542	2.717%	7.314%
5.0	8220.023	72.630	212.171	3.327%	11.121%
6.0	7616.180	83.223	295.395	3.813%	15.484%
7.0	7030.477	90.912	386.307	4.165%	20.249%
8.0	6459.820	96.547	482.854	4.423%	25.310%
9.0	5802.820	99.382	582.236	4.553%	30.519%
10.0	5142.164	99.048	681.284	4.538%	35.711%
11.0	4572.844	97.073	778.357	4.447%	40.799%
12.0	3996.422	93.674	872.031	4.292%	45.709%
13.0	3399.047	87.766	959.797	4.021%	50.310%
14.0	2945.109	81.205	1041.002	3.720%	54.566%
15.0	2520.281	75.031	1116.033	3.437%	58.499%
16.0	2146.641	68.383	1184.416	3.133%	62.084%
17.0	1814.414	61.684	1246.101	2.826%	65.317%
18.0	1545.820	55.403	1301.504	2.538%	68.221%
19.0	1270.983	49.007	1350.51	2.245%	70.790%
20.0	1127.264	43.895	1394.405	2.011%	73.091%
21.0	958.226	40.046	1434.45	1.835%	75.190%
22.0	817.249	35.679	1470.129	1.635%	77.060%
23.0	710.438	32.055	1502.184	1.469%	78.740%
24.0	600.750	28.667	1530.852	1.313%	80.243%
25.0	517.915	25.436	1556.288	1.165%	81.576%
26.0	452.250	22.901	1579.188	1.049%	82.776%
27.0	392.611	20.670	1599.858	.947%	83.860%
28.0	337.486	18.485	1618.343	.847%	84.829%
29.0	297.977	16.626	1634.968	.762%	85.700%
30.0	261.675	15.111	1650.079	.692%	86.492%
31.0	237.298	13.886	1663.964	.636%	87.220%
32.0	205.362	12.682	1676.646	.581%	87.885%
33.0	185.660	11.520	1688.166	.528%	88.489%
34.0	166.739	10.665	1698.83	.489%	89.048%
35.0	150.040	9.838	1708.668	.451%	89.563%
36.0	137.770	9.164	1717.832	.420%	90.044%
37.0	125.388	8.583	1726.415	.393%	90.494%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	115.397	8.037	1734.452	.368%	90.915%
39.0	106.130	7.561	1742.013	.346%	91.311%
40.0	97.650	7.107	1749.121	.326%	91.684%
41.0	90.499	6.700	1755.82	.307%	92.035%
42.0	83.904	6.336	1762.157	.290%	92.367%
43.0	77.070	5.963	1768.12	.273%	92.680%
44.0	71.648	5.613	1773.733	.257%	92.974%
45.0	66.867	5.323	1779.056	.244%	93.253%
46.0	61.242	5.010	1784.066	.230%	93.516%
47.0	57.108	4.707	1788.773	.216%	93.762%
48.0	53.670	4.478	1793.251	.205%	93.997%
49.0	50.112	4.262	1797.513	.195%	94.220%
50.0	46.821	4.041	1801.555	.185%	94.432%
51.0	44.494	3.863	1805.418	.177%	94.635%
52.0	42.096	3.716	1809.134	.170%	94.830%
53.0	39.973	3.570	1812.704	.164%	95.017%
54.0	38.180	3.445	1816.148	.158%	95.197%
55.0	36.380	3.328	1819.477	.152%	95.372%
56.0	34.812	3.217	1822.694	.147%	95.540%
57.0	33.286	3.114	1825.807	.143%	95.704%
58.0	31.845	3.012	1828.819	.138%	95.861%
59.0	30.642	2.921	1831.74	.134%	96.015%
60.0	29.524	2.842	1834.583	.130%	96.164%
61.0	28.287	2.759	1837.342	.126%	96.308%
62.0	27.366	2.682	1840.023	.123%	96.449%
63.0	26.761	2.632	1842.656	.121%	96.587%
64.0	26.515	2.614	1845.27	.120%	96.724%
65.0	26.740	2.636	1847.905	.121%	96.862%
66.0	27.021	2.682	1850.588	.123%	97.002%
67.0	27.197	2.726	1853.314	.125%	97.145%
68.0	27.626	2.777	1856.091	.127%	97.291%
69.0	28.027	2.839	1858.93	.130%	97.440%
70.0	28.427	2.899	1861.83	.133%	97.592%
71.0	29.116	2.974	1864.804	.136%	97.748%
72.0	29.777	3.062	1867.866	.140%	97.908%
73.0	30.291	3.141	1871.007	.144%	98.073%
74.0	30.762	3.210	1874.217	.147%	98.241%
75.0	31.036	3.265	1877.482	.150%	98.412%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	31.008	3.294	1880.776	.151%	98.585%
77.0	30.488	3.279	1884.054	.150%	98.757%
78.0	29.201	3.195	1887.249	.146%	98.924%
79.0	26.789	3.008	1890.258	.138%	99.082%
80.0	24.237	2.751	1893.009	.126%	99.226%
81.0	21.684	2.483	1895.492	.114%	99.356%
82.0	18.626	2.186	1897.678	.100%	99.471%
83.0	15.771	1.870	1899.548	.086%	99.569%
84.0	13.324	1.585	1901.133	.073%	99.652%
85.0	11.538	1.357	1902.49	.062%	99.723%
86.0	10.589	1.210	1903.699	.055%	99.786%
87.0	9.654	1.108	1904.807	.051%	99.844%
88.0	9.141	1.030	1905.837	.047%	99.898%
89.0	8.789	0.983	1906.819	.045%	99.950%
90.0	8.627	0.955	1907.774	.044%	100.000%

Zonal flux distribution table

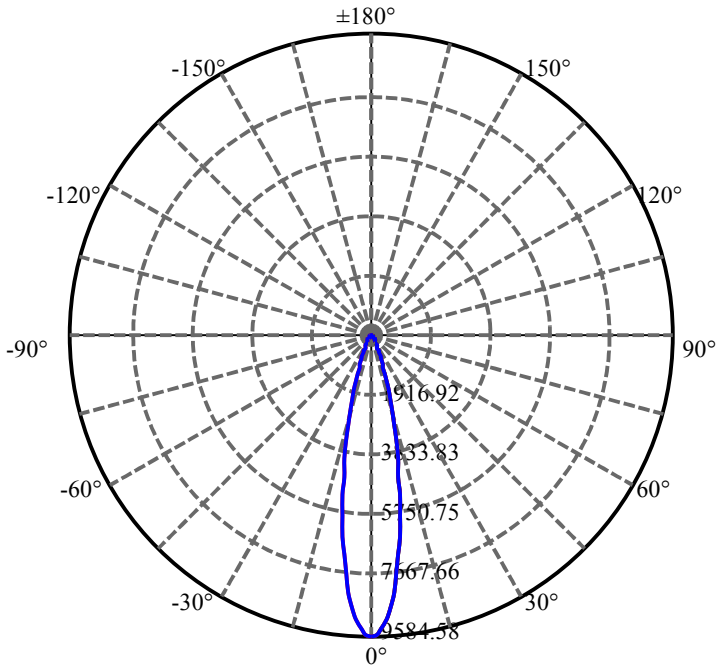
ZONAL LUMEN SUMMARY

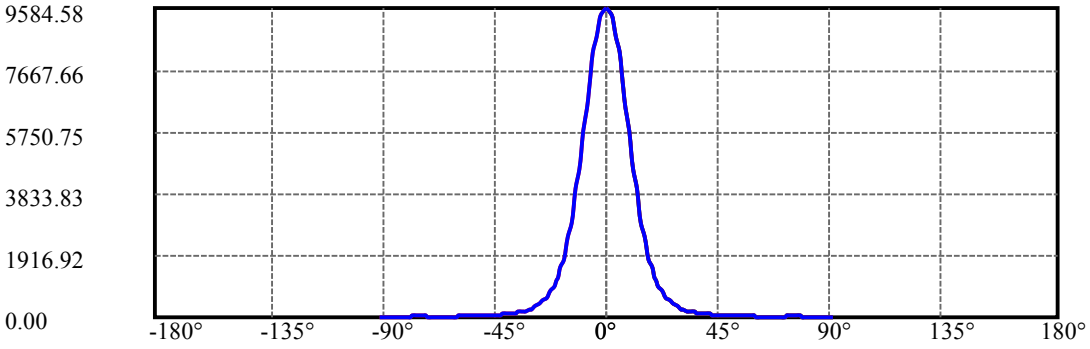
Zone	Lumens	%Lamp	%Fixt
0-30	1650.08	75.60%	86.49%
0-40	1749.12	80.13%	91.68%
0-60	1834.58	84.05%	96.16%
0-90	1906.82	87.36%	99.95%
0-120	1906.82	87.36%	99.95%
0-180	1907.77	87.40%	100.00%
60-90	75.08	3.44%	3.94%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-23.84	1526.22	69.92%	80.00%

ZONAL LUMEN SUMMARY

0-10	681.28
10-20	713.12
20-30	255.67
30-40	99.04
40-50	52.43
50-60	33.03
60-70	27.25
70-80	31.18
80-90	13.81
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):

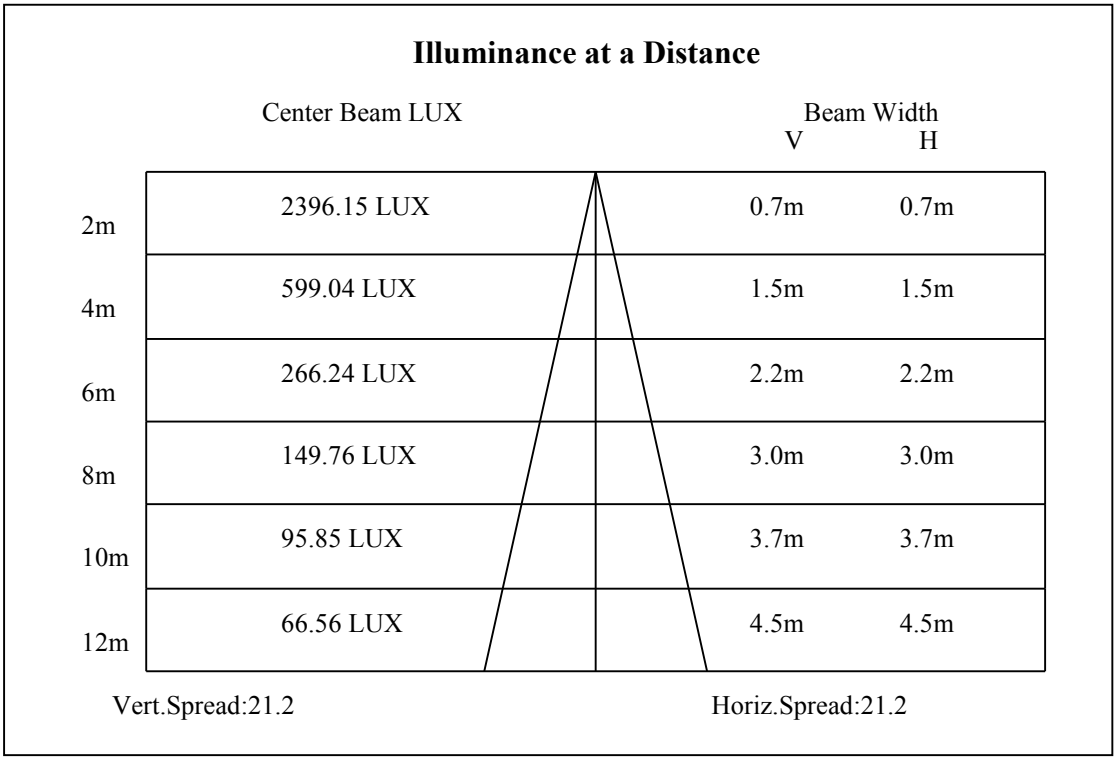
C0/C180:

C90/C270:

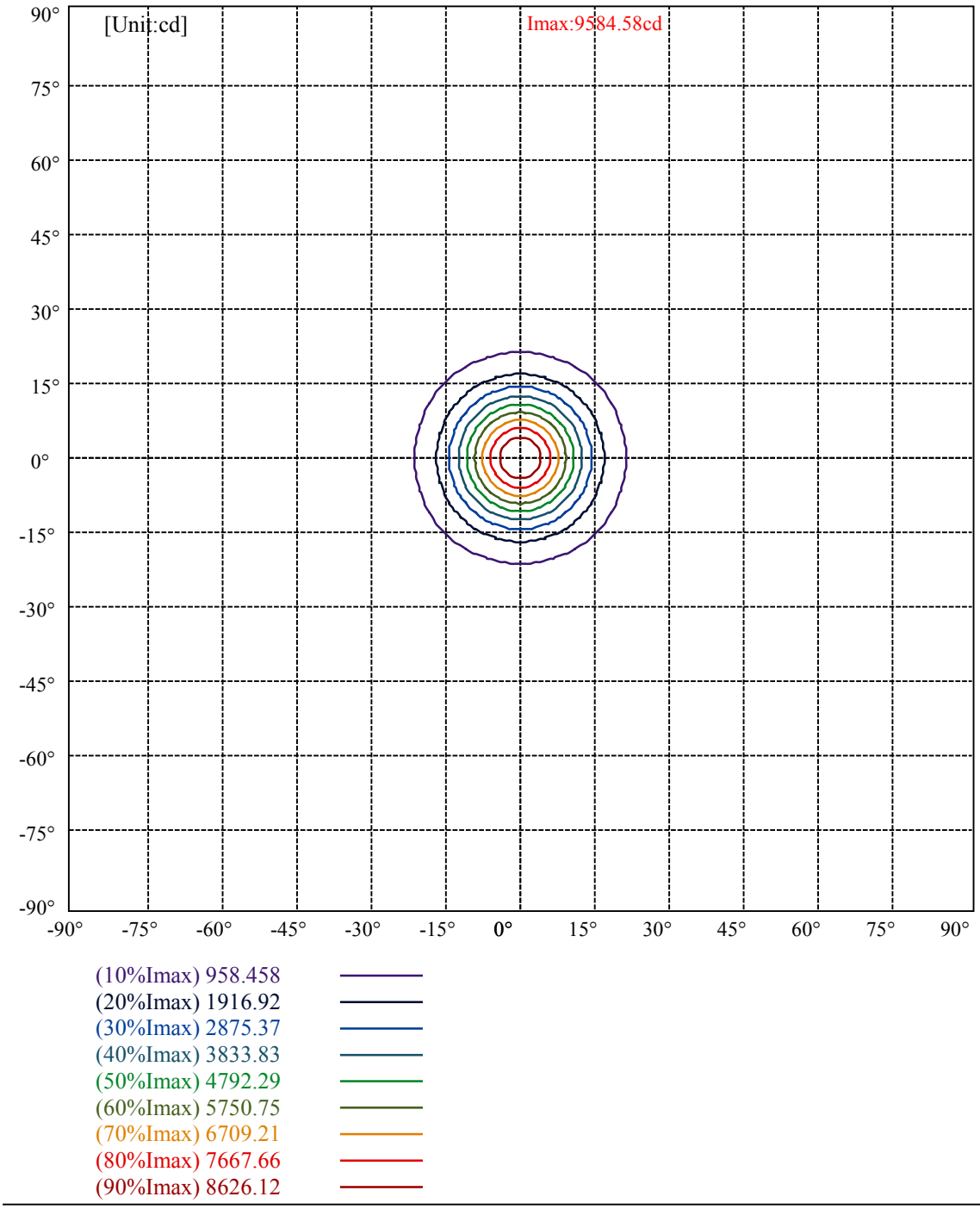
Field angle(10%Imax):C0/180Left:21.0 Right:21.0
:C90/270Left:21.0 Right:21.0

Beam Angle(50%Imax):C0/180Left:10.6 Right:10.6
:C90/270Left:10.6 Right:10.6

Lux distance Curve



ISO-Intensity(V-H)

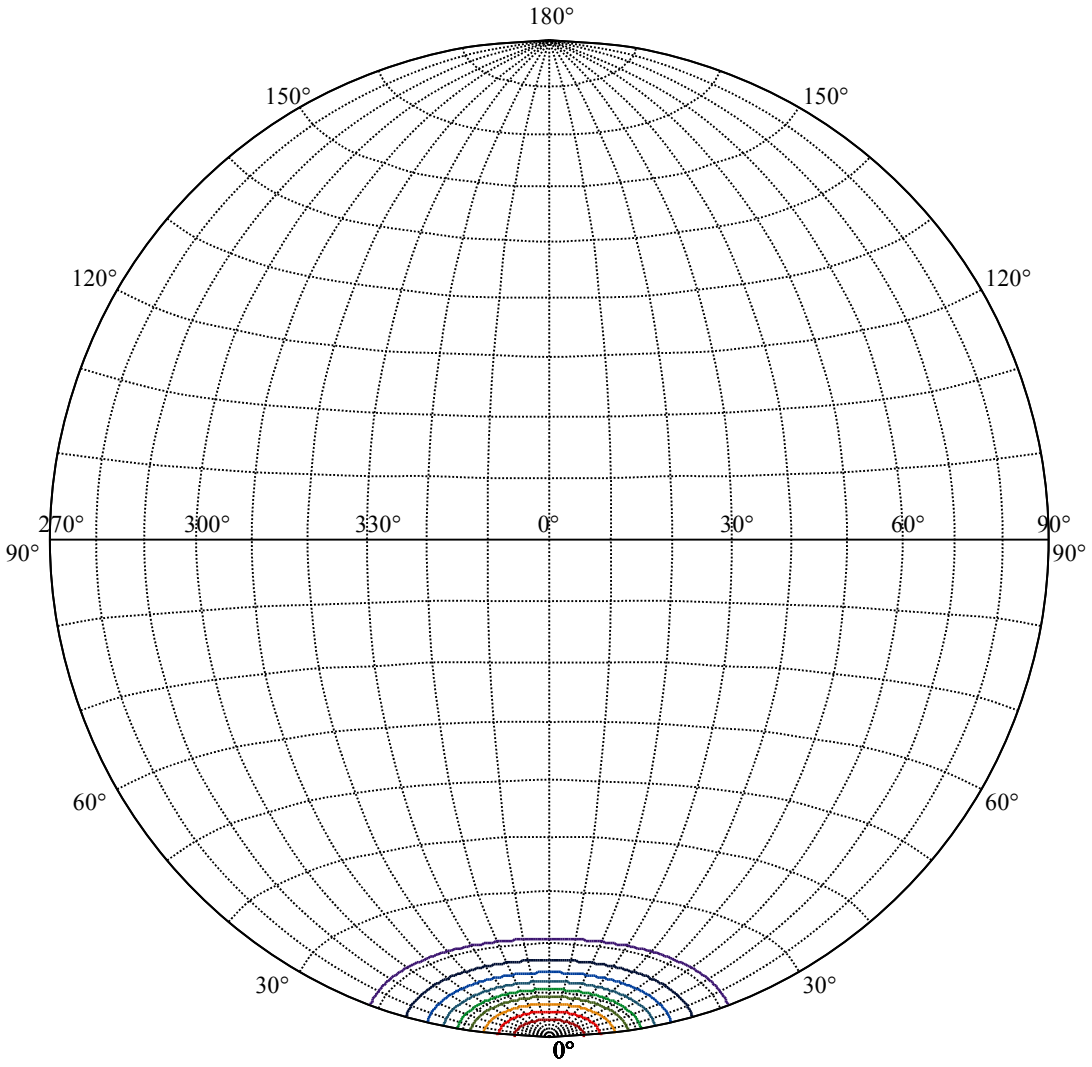


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/07
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:9584.58

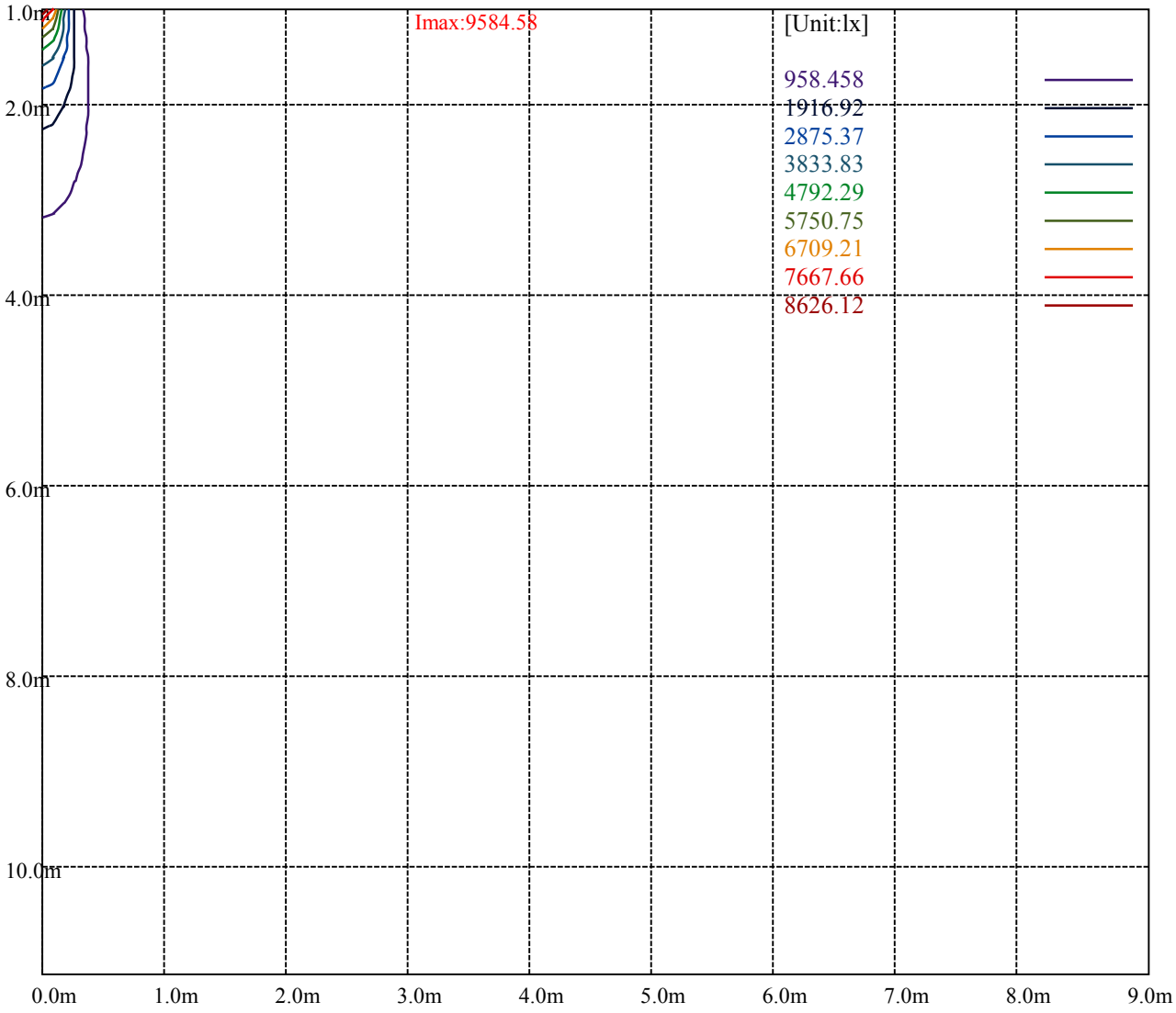
(10%Imax) 958.458
(20%Imax) 1916.92
(30%Imax) 2875.37
(40%Imax) 3833.83
(50%Imax) 4792.29
(60%Imax) 5750.75
(70%Imax) 6709.21
(80%Imax) 7667.66
(90%Imax) 8626.12

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/07
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/07
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

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Luminance Limitting Curve(no luminous side)

Luminance Table

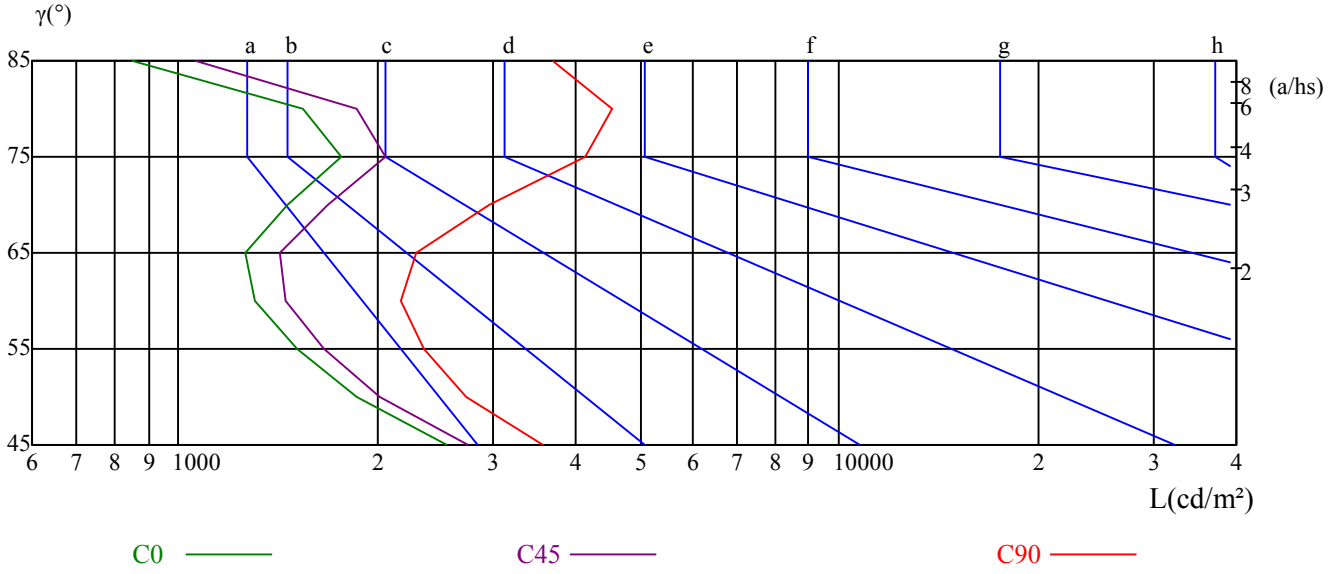
γ	45	50	55	60	65	70	75	80	85
C0	2552	1856	1513	1301	1263	1459	1758	1546	849
C45	2753	2023	1666	1450	1428	1678	2064	1862	1059
C90	3562	2726	2355	2170	2294	2955	4134	4538	3684

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2467	2467	2467	4675	4675	4675	5161	5161	5161

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

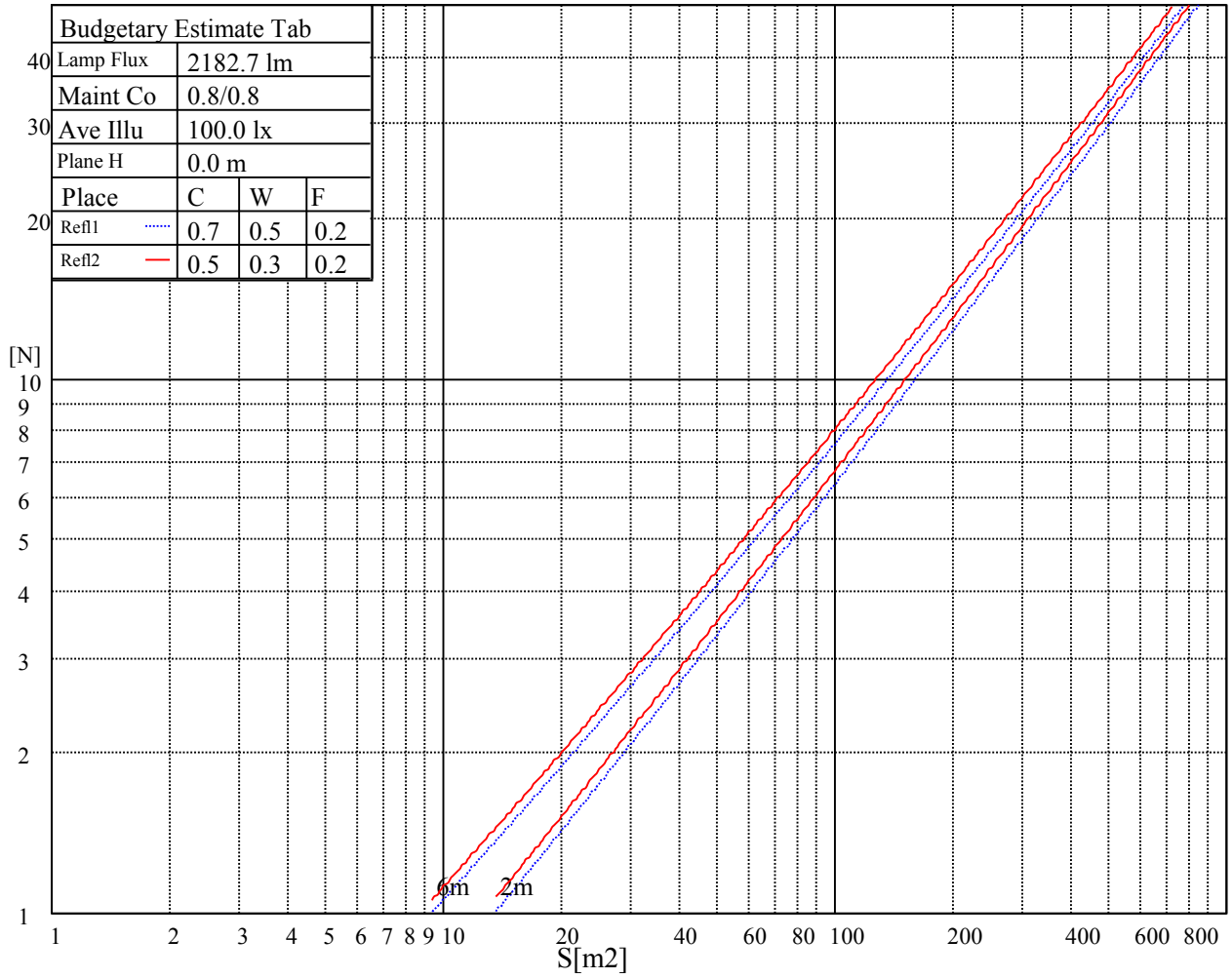


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/07
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Budgetary Estimate Table

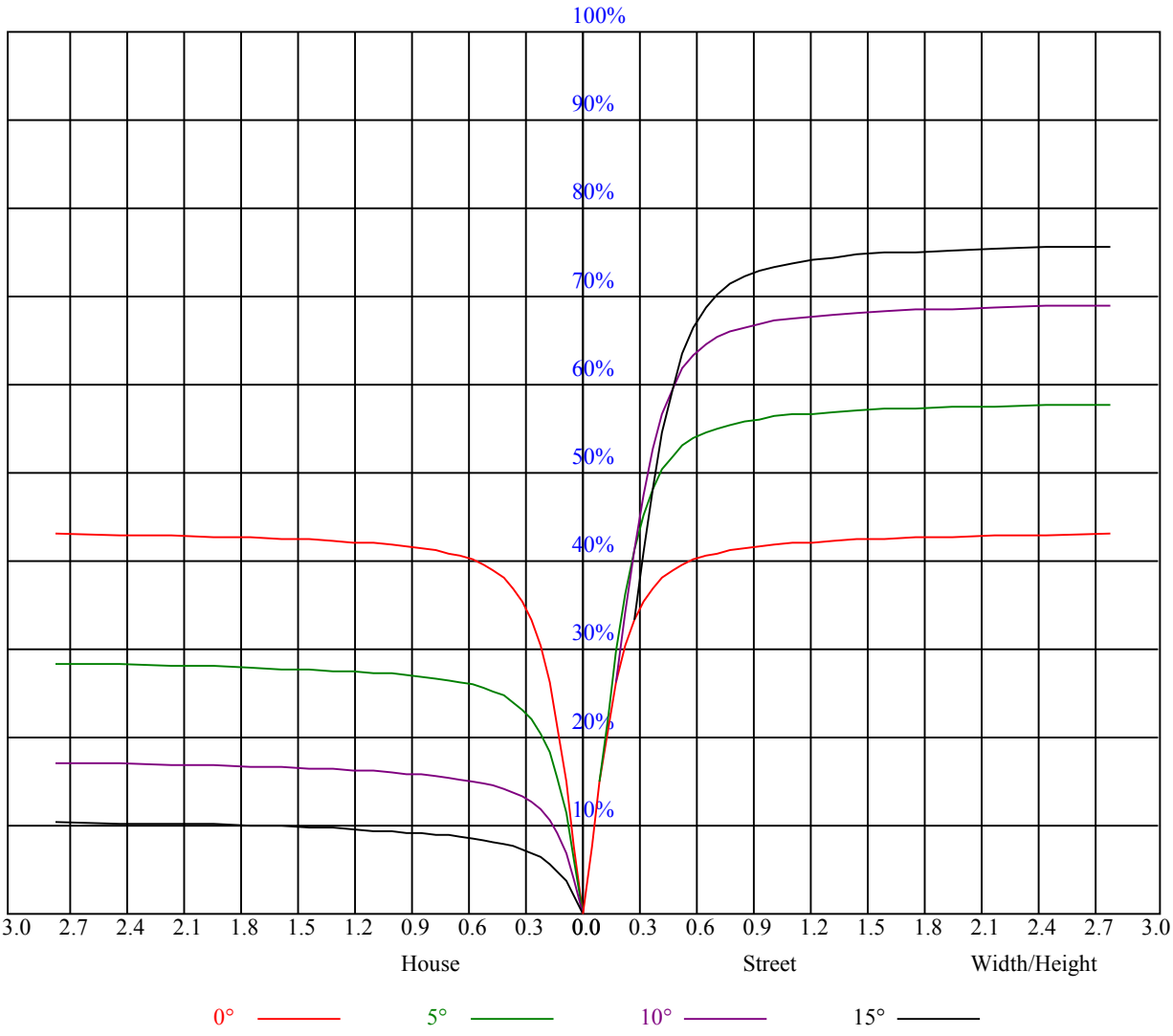


Equipment: GMS1980 Date: 2021/7/07 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	1.04	1.04	1.04	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.97	0.95	0.94	0.96	0.94	0.92	0.92	0.91	0.89	0.89	0.88	0.87	0.86	0.85	0.84	0.83
2	0.92	0.89	0.86	0.91	0.88	0.85	0.88	0.86	0.84	0.85	0.83	0.82	0.83	0.81	0.80	0.79
3	0.88	0.84	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.80	0.78	0.77	0.75
4	0.84	0.80	0.77	0.83	0.79	0.76	0.81	0.78	0.75	0.79	0.77	0.75	0.78	0.76	0.74	0.73
5	0.80	0.76	0.73	0.79	0.76	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.75	0.73	0.71	0.70
6	0.77	0.73	0.70	0.77	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.73	0.71	0.69	0.68
7	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.69	0.67	0.66
8	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.69	0.67	0.65	0.64
9	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.68	0.65	0.63	0.62
10	0.68	0.64	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.60

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2021/7/07	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	9631.13	9575.44	9351.00	9051.75	8678.25	8216.44	7580.81	7021.13	6439.50
45.0	9564.19	9393.19	9104.06	8699.63	8240.63	7751.81	7072.31	6473.25	5890.50
90.0	9542.81	9378.00	9132.75	8754.19	8267.63	7765.31	7138.69	6487.31	5888.81
135.0	9600.19	9580.50	9442.13	9171.56	8829.56	8426.25	7786.69	7218.56	6651.56
180.0	9631.13	9587.25	9444.38	9153.00	8737.31	8281.69	7698.94	7053.75	6468.75
225.0	9564.19	9633.38	9560.25	9344.25	9039.94	8654.06	8147.81	7585.88	7042.50
270.0	9542.81	9582.19	9495.00	9281.81	8995.50	8602.88	8028.00	7529.06	7002.56
315.0	9600.19	9477.00	9264.38	8958.94	8514.56	8061.75	7476.19	6874.88	6294.38
360.0	9631.13	9575.44	9351.00	9051.75	8678.25	8216.44	7580.81	7021.13	6439.50

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	5703.19	5117.06	4541.63	3926.81	3351.38	2887.31	2426.63	2069.44	1723.50
45.0	5157.56	4577.06	4021.88	3432.38	2917.13	2515.50	2133.56	1839.94	1555.88
90.0	5294.25	4576.50	4038.75	3537.00	2970.56	2575.13	2229.75	1895.63	1611.00
135.0	5931.00	5326.88	4740.75	4115.25	3536.44	3069.56	2609.44	2259.00	1919.81
180.0	5876.44	5132.25	4548.94	4000.50	3367.13	2904.19	2497.50	2057.63	1755.56
225.0	6471.56	5731.88	5149.69	4584.94	3900.38	3399.19	2946.94	2498.63	2109.38
270.0	6282.56	5704.31	5133.94	4507.31	3902.63	3405.94	2899.13	2503.69	2114.44
315.0	5706.00	4971.38	4407.19	3867.19	3246.75	2804.06	2419.31	2049.19	1725.75
360.0	5703.19	5117.06	4541.63	3926.81	3351.38	2887.31	2426.63	2069.44	1723.50

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1432.69	1219.50	1018.13	849.94	722.25	615.94	507.38	435.38	374.63
45.0	1328.06	1136.25	966.38	842.06	721.13	628.31	536.63	466.31	410.06
90.0	1393.88	1104.53	1030.84	882.90	757.69	662.18	570.60	492.30	432.90
135.0	1623.94	1413.56	1215.00	1040.63	907.88	793.13	664.88	586.69	516.38
180.0	1495.13	1103.74	1061.89	889.76	745.37	639.51	538.99	464.74	395.55
225.0	1818.00	1536.19	1323.00	1118.36	927.68	817.31	694.29	578.93	511.88
270.0	1785.38	1541.25	1310.06	1113.19	964.13	839.25	704.25	612.00	532.13
315.0	1489.50	1112.85	1092.83	928.97	791.89	687.88	588.99	506.98	444.49
360.0	1432.69	1219.50	1018.13	849.94	722.25	615.94	507.38	435.38	374.63

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	318.38	287.44	238.61	212.57	186.86	169.88	155.42	141.69	130.05
45.0	360.00	311.63	286.88	246.04	216.84	196.31	177.08	160.03	143.66
90.0	380.98	325.01	287.27	255.09	224.38	198.68	179.49	160.65	145.01
135.0	445.50	388.69	345.38	298.69	286.88	236.19	212.23	188.49	168.98
180.0	344.31	291.88	256.44	227.70	204.24	179.72	163.97	150.36	136.29
225.0	446.18	371.25	331.48	293.68	257.06	226.52	202.84	180.56	161.94
270.0	453.94	389.25	340.88	295.88	286.31	229.16	208.35	183.43	164.64
315.0	391.61	334.74	296.89	263.76	235.80	206.44	185.91	168.69	149.74
360.0	318.38	287.44	238.61	212.57	186.86	169.88	155.42	141.69	130.05

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	121.22	112.22	104.68	97.14	90.45	84.83	79.09	73.58	69.08
45.0	132.53	120.88	111.38	102.71	94.11	87.41	80.66	74.93	69.69
90.0	132.81	120.60	111.26	101.76	93.99	86.18	79.71	72.34	67.22
135.0	153.11	138.43	126.79	115.48	105.53	97.37	89.04	81.79	75.88
180.0	126.56	117.68	108.79	100.52	94.05	87.30	81.68	75.94	70.48
225.0	147.49	133.43	122.91	112.39	103.16	95.68	89.10	81.62	76.28
270.0	151.93	136.18	123.75	115.48	105.08	97.37	90.56	82.18	75.77
315.0	136.52	123.69	113.63	103.56	94.84	87.86	81.39	74.19	68.79
360.0	121.22	112.22	104.68	97.14	90.45	84.83	79.09	73.58	69.08

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	65.36	59.91	56.36	53.44	49.73	46.63	44.78	42.24	40.11
45.0	65.03	60.30	56.53	53.61	50.34	47.48	45.28	42.98	40.89
90.0	62.55	57.21	53.55	50.34	47.53	44.55	42.41	40.61	38.64
135.0	70.99	63.73	59.29	55.91	51.58	48.21	46.01	43.20	40.95
180.0	66.09	61.43	57.21	53.89	50.85	47.36	45.00	42.75	40.56
225.0	71.16	65.31	61.20	57.26	53.61	50.12	47.42	44.78	42.75
270.0	69.92	63.39	58.73	54.45	50.06	46.35	43.48	40.73	38.42
315.0	63.84	58.67	54.00	50.46	47.19	43.88	41.57	39.49	37.46
360.0	65.36	59.91	56.36	53.44	49.73	46.63	44.78	42.24	40.11

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	38.59	36.62	35.10	33.64	32.01	30.88	29.70	28.29	27.28
45.0	39.15	37.35	35.83	34.20	32.57	31.28	29.93	28.63	27.45
90.0	36.90	35.33	33.75	32.40	31.39	30.38	29.70	28.86	28.80
135.0	39.38	37.29	35.83	34.43	32.74	31.56	30.43	28.97	27.96
180.0	38.53	36.84	35.10	33.53	32.18	30.83	29.64	28.35	27.17
225.0	40.61	38.70	37.07	35.27	33.64	32.29	30.99	29.42	28.24
270.0	36.62	34.76	33.24	31.73	30.38	29.36	28.29	27.39	26.72
315.0	35.66	34.14	32.57	31.11	29.87	28.58	27.51	26.38	25.31
360.0	38.59	36.62	35.10	33.64	32.01	30.88	29.70	28.29	27.28

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	26.38	25.03	24.19	23.40	22.44	21.71	21.04	20.36	19.63
45.0	26.38	25.14	24.19	23.34	22.50	21.60	20.93	20.14	19.29
90.0	30.04	33.24	37.46	40.44	43.20	48.09	51.08	53.72	58.50
135.0	26.94	25.82	24.92	24.19	23.29	22.61	21.94	21.49	21.38
180.0	26.10	24.98	24.02	23.18	22.33	21.38	20.59	19.97	19.24
225.0	27.11	25.76	24.75	23.85	22.84	21.94	21.21	20.53	19.86
270.0	26.61	28.52	31.56	35.61	39.43	42.75	46.80	50.51	54.11
315.0	24.53	23.63	22.84	22.16	21.54	20.93	20.64	20.70	20.93
360.0	26.38	25.03	24.19	23.40	22.44	21.71	21.04	20.36	19.63

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	18.96	18.28	17.66	16.99	16.26	15.64	15.13	14.46	13.95
45.0	18.62	17.78	17.16	16.43	15.86	15.30	14.74	14.12	13.61
90.0	61.26	64.35	66.77	68.29	68.79	67.44	62.04	55.29	47.53
135.0	21.54	21.94	22.22	22.50	22.67	22.56	21.99	20.48	18.68
180.0	18.56	17.89	17.27	16.54	15.92	15.30	14.74	14.18	13.67
225.0	19.13	18.45	17.72	16.99	16.31	15.64	15.08	14.46	13.95
270.0	58.78	61.76	64.91	67.78	69.41	69.81	68.74	62.21	55.63
315.0	21.38	21.88	22.39	22.78	22.84	22.22	21.15	19.13	16.88
360.0	18.96	18.28	17.66	16.99	16.26	15.64	15.13	14.46	13.95

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	13.56	12.99	12.49	11.93	11.36	10.91	10.18	9.28	8.94
45.0	13.11	12.38	11.87	11.31	10.69	10.07	9.39	9.00	8.83
90.0	39.71	31.16	20.87	14.01	11.53	10.07	9.34	8.94	8.44
135.0	16.71	14.46	13.28	12.54	11.36	10.18	9.45	9.00	8.66
180.0	13.22	12.77	12.26	11.76	10.97	10.46	9.62	9.17	8.94
225.0	13.56	13.05	12.49	11.93	11.48	10.91	10.13	9.62	9.23
270.0	48.71	38.81	30.32	21.21	13.89	11.93	10.01	9.39	8.89
315.0	14.91	13.39	12.60	11.93	11.03	10.18	9.11	8.72	8.38
360.0	13.56	12.99	12.49	11.93	11.36	10.91	10.18	9.28	8.94

Intensity data(cd)

C/γ(°)	90.0
0.0	8.89
45.0	8.78
90.0	8.38
135.0	8.38
180.0	8.61
225.0	9.06
270.0	8.61
315.0	8.33
360.0	8.89