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Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: LN01D03517EE-N
Luminaire: 92.70.307.00
Report No: 210519-B006
Test No: 210519-C006
LampCAT: LUMINUS CXM-4 LES4.5
Lamp flux(lm): 764.7
Number of Lamps: 1
Length(mm): 74
Phm Type: C

Voltage(V): 221.4000
Current(A): 0.0750
Power (W): 8.3000
PF: 0.4990
Ballast type: DC
Width(mm): 74
Height(mm): 56

Photometric Results

Lumens(lm): 508.42
Efficiency(%): 66.48%
Lumens(lm)/Power(W): 61.26
Central intensity(cd): 2610.281
Maximum intensity(cd): 2610.281
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=18.7
[C90/270]Total=18.7
Field angle(10%Imax): [C0/180]Total=41.0
[C90/270]Total=41.0
Maximum s/h(1/2): C0_180=0.32 C90_270=0.32
Maximum s/h(1/4): C0_180=0.34 C90_270=0.34
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 66.48%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 94.080%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2610.281	0.000	0	.000%	.000%
1.0	2587.078	2.487	2.487	.325%	.489%
2.0	2523.445	7.335	9.822	.959%	1.932%
3.0	2418.891	11.820	21.642	1.546%	4.257%
4.0	2287.195	15.753	37.395	2.060%	7.355%
5.0	2122.102	18.969	56.364	2.480%	11.086%
6.0	1944.633	21.372	77.736	2.795%	15.289%
7.0	1757.602	22.980	100.715	3.005%	19.809%
8.0	1572.188	23.831	124.546	3.116%	24.496%
9.0	1361.391	23.775	148.321	3.109%	29.173%
10.0	1190.644	23.095	171.416	3.020%	33.715%
11.0	1050.792	22.397	193.812	2.929%	38.120%
12.0	911.834	21.454	215.267	2.805%	42.340%
13.0	783.260	20.116	235.383	2.631%	46.297%
14.0	665.002	18.538	253.921	2.424%	49.943%
15.0	573.834	17.007	270.928	2.224%	53.288%
16.0	494.135	15.649	286.577	2.046%	56.366%
17.0	421.931	14.266	300.843	1.865%	59.172%
18.0	362.503	12.934	313.776	1.691%	61.715%
19.0	316.716	11.817	325.593	1.545%	64.040%
20.0	278.902	10.901	336.495	1.426%	66.184%
21.0	243.028	10.022	346.517	1.311%	68.155%
22.0	211.043	9.125	355.641	1.193%	69.950%
23.0	185.365	8.318	363.959	1.088%	71.586%
24.0	162.759	7.611	371.57	.995%	73.083%
25.0	145.427	7.007	378.578	.916%	74.461%
26.0	129.895	6.499	385.077	.850%	75.739%
27.0	116.220	6.021	391.098	.787%	76.924%
28.0	105.314	5.609	396.707	.733%	78.027%
29.0	94.704	5.233	401.94	.684%	79.056%
30.0	86.189	4.884	406.824	.639%	80.017%
31.0	78.638	4.587	411.411	.600%	80.919%
32.0	71.508	4.301	415.712	.562%	81.765%
33.0	65.482	4.036	419.748	.528%	82.559%
34.0	60.300	3.807	423.555	.498%	83.307%
35.0	55.357	3.592	427.147	.470%	84.014%
36.0	51.012	3.387	430.533	.443%	84.680%
37.0	47.580	3.216	433.749	.420%	85.312%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	44.128	3.061	436.81	.400%	85.914%
39.0	40.732	2.897	439.707	.379%	86.484%
40.0	37.948	2.744	442.451	.359%	87.024%
41.0	35.487	2.615	445.066	.342%	87.538%
42.0	33.026	2.489	447.555	.325%	88.028%
43.0	31.050	2.374	449.928	.310%	88.495%
44.0	29.173	2.273	452.201	.297%	88.942%
45.0	27.218	2.167	454.368	.283%	89.368%
46.0	25.741	2.071	456.44	.271%	89.775%
47.0	24.195	1.986	458.426	.260%	90.166%
48.0	22.845	1.902	460.327	.249%	90.540%
49.0	21.713	1.830	462.157	.239%	90.900%
50.0	20.566	1.763	463.92	.231%	91.247%
51.0	19.434	1.692	465.612	.221%	91.579%
52.0	18.527	1.629	467.241	.213%	91.900%
53.0	17.536	1.569	468.81	.205%	92.208%
54.0	16.643	1.506	470.316	.197%	92.505%
55.0	15.912	1.453	471.769	.190%	92.790%
56.0	15.152	1.404	473.173	.184%	93.067%
57.0	14.477	1.355	474.528	.177%	93.333%
58.0	13.823	1.309	475.837	.171%	93.590%
59.0	13.254	1.266	477.103	.166%	93.839%
60.0	12.642	1.223	478.326	.160%	94.080%
61.0	12.136	1.182	479.508	.155%	94.313%
62.0	11.672	1.147	480.656	.150%	94.538%
63.0	11.222	1.113	481.769	.146%	94.757%
64.0	10.800	1.081	482.85	.141%	94.970%
65.0	10.399	1.049	483.899	.137%	95.176%
66.0	10.013	1.018	484.917	.133%	95.376%
67.0	9.823	0.997	485.915	.130%	95.573%
68.0	10.174	1.013	486.928	.132%	95.772%
69.0	10.863	1.073	488.001	.140%	95.983%
70.0	11.545	1.151	489.152	.150%	96.209%
71.0	12.375	1.236	490.388	.162%	96.452%
72.0	13.092	1.324	491.712	.173%	96.713%
73.0	13.739	1.403	493.115	.183%	96.989%
74.0	14.309	1.475	494.59	.193%	97.279%
75.0	14.548	1.525	496.114	.199%	97.579%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	14.337	1.533	497.648	.200%	97.880%
77.0	13.500	1.484	499.132	.194%	98.172%
78.0	12.488	1.391	500.523	.182%	98.446%
79.0	11.609	1.295	501.818	.169%	98.701%
80.0	10.702	1.203	503.02	.157%	98.937%
81.0	9.710	1.104	504.124	.144%	99.154%
82.0	8.149	0.968	505.093	.127%	99.345%
83.0	5.723	0.754	505.847	.099%	99.493%
84.0	4.148	0.538	506.385	.070%	99.599%
85.0	3.748	0.431	506.816	.056%	99.684%
86.0	3.291	0.385	507.2	.050%	99.759%
87.0	2.932	0.341	507.541	.045%	99.826%
88.0	2.756	0.312	507.853	.041%	99.887%
89.0	2.595	0.293	508.146	.038%	99.945%
90.0	2.489	0.279	508.425	.036%	100.000%

Zonal flux distribution table

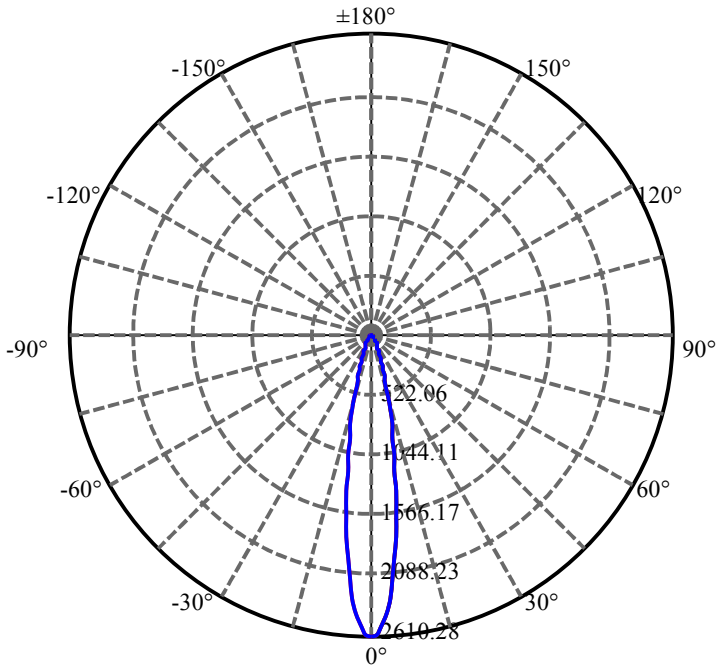
ZONAL LUMEN SUMMARY

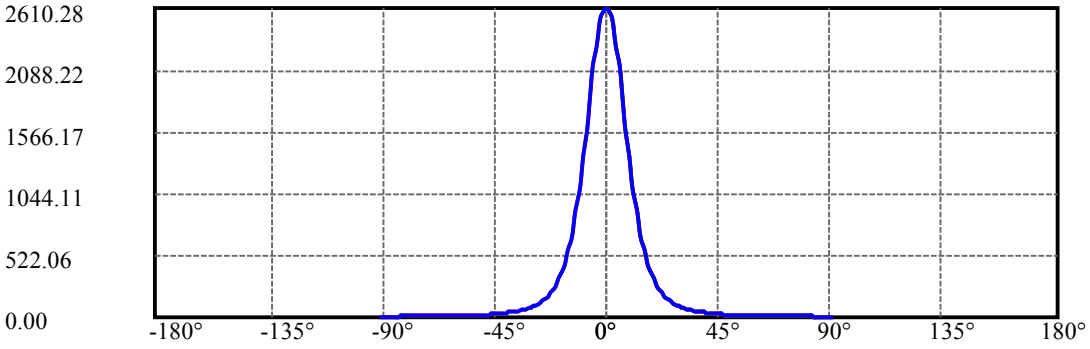
Zone	Lumens	%Lamp	%Fixt
0-30	406.82	53.20%	80.02%
0-40	442.45	57.86%	87.02%
0-60	478.33	62.55%	94.08%
0-90	508.15	66.45%	99.95%
0-120	508.15	66.45%	99.95%
0-180	508.42	66.48%	100.00%
60-90	31.04	4.06%	6.11%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-29.98	406.74	53.19%	80.00%

ZONAL LUMEN SUMMARY

0-10	171.42
10-20	165.08
20-30	70.33
30-40	35.63
40-50	21.47
50-60	14.41
60-70	10.83
70-80	13.87
80-90	5.13
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):

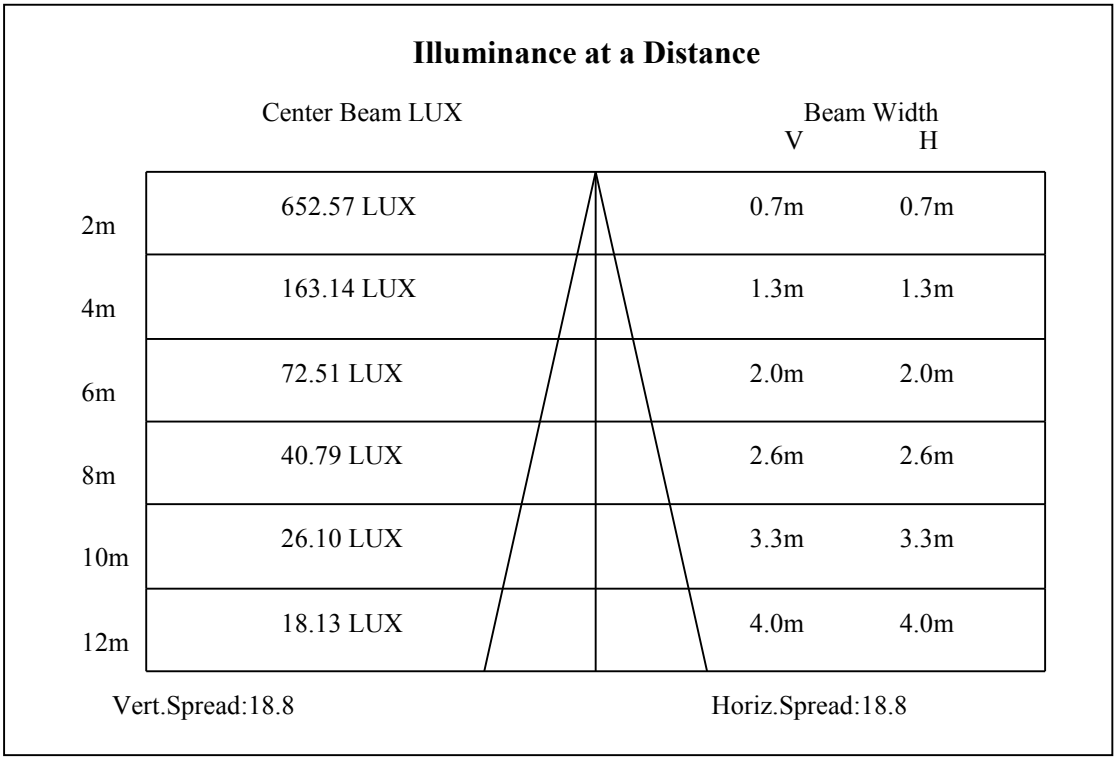
C0/C180:

C90/C270:

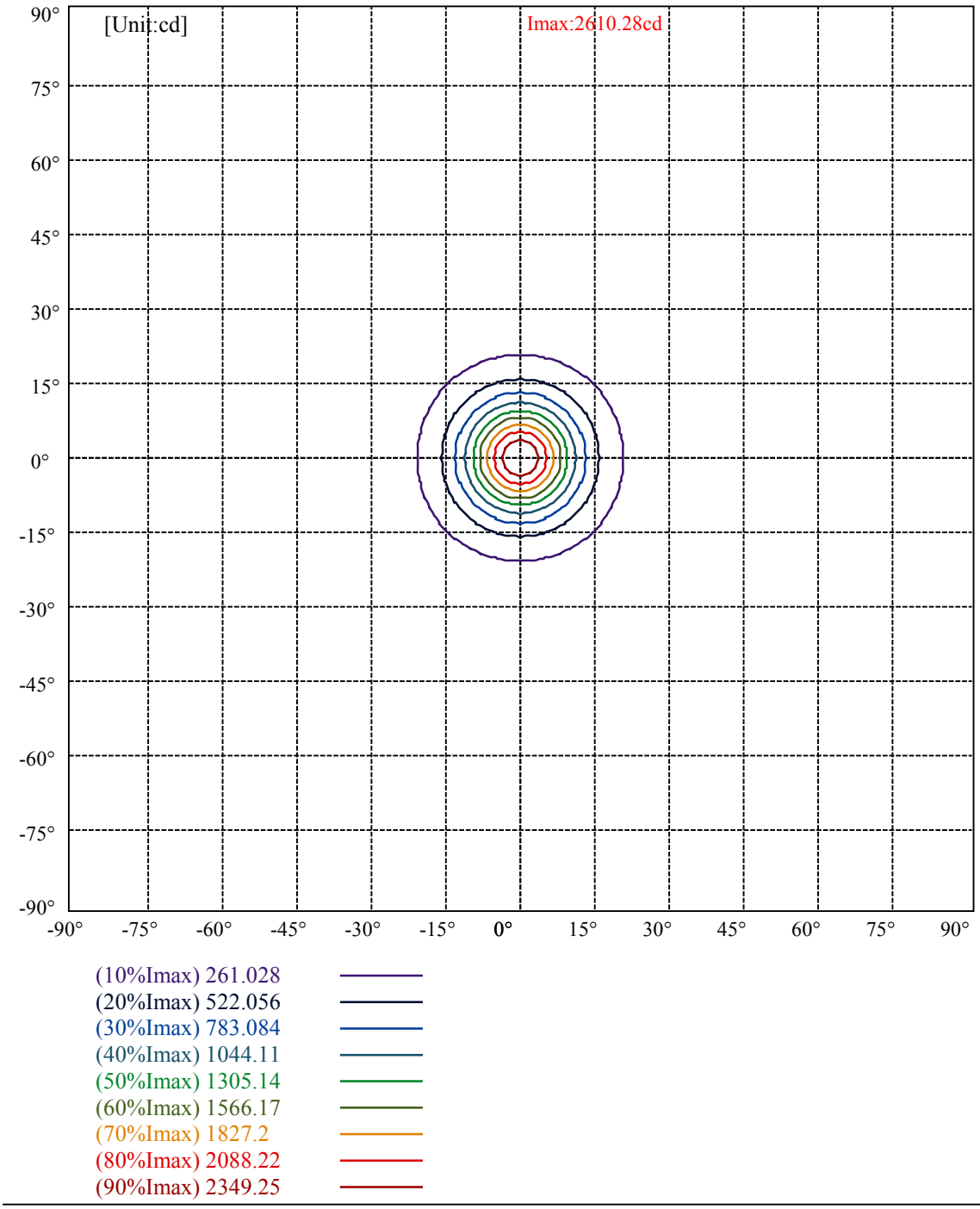
Field angle(10%Imax):C0/180Left:20.5 Right:20.5
:C90/270Left:20.5 Right:20.5

Beam Angle(50%Imax):C0/180Left:9.3 Right:9.3
:C90/270Left:9.3 Right:9.3

Lux distance Curve



ISO-Intensity(V-H)



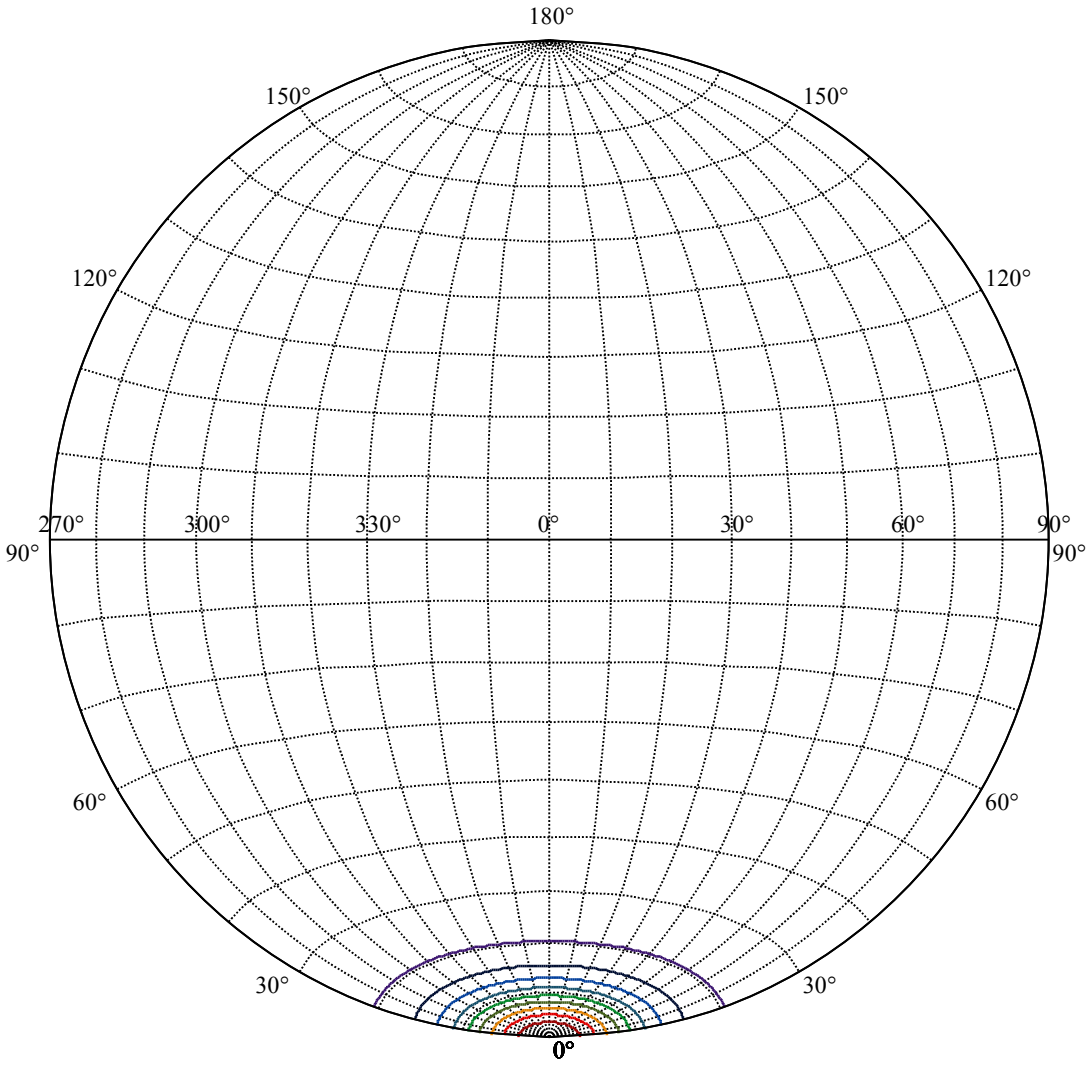
(10%Imax) 261.028
(20%Imax) 522.056
(30%Imax) 783.084
(40%Imax) 1044.11
(50%Imax) 1305.14
(60%Imax) 1566.17
(70%Imax) 1827.2
(80%Imax) 2088.22
(90%Imax) 2349.25

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/19
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:2610.28

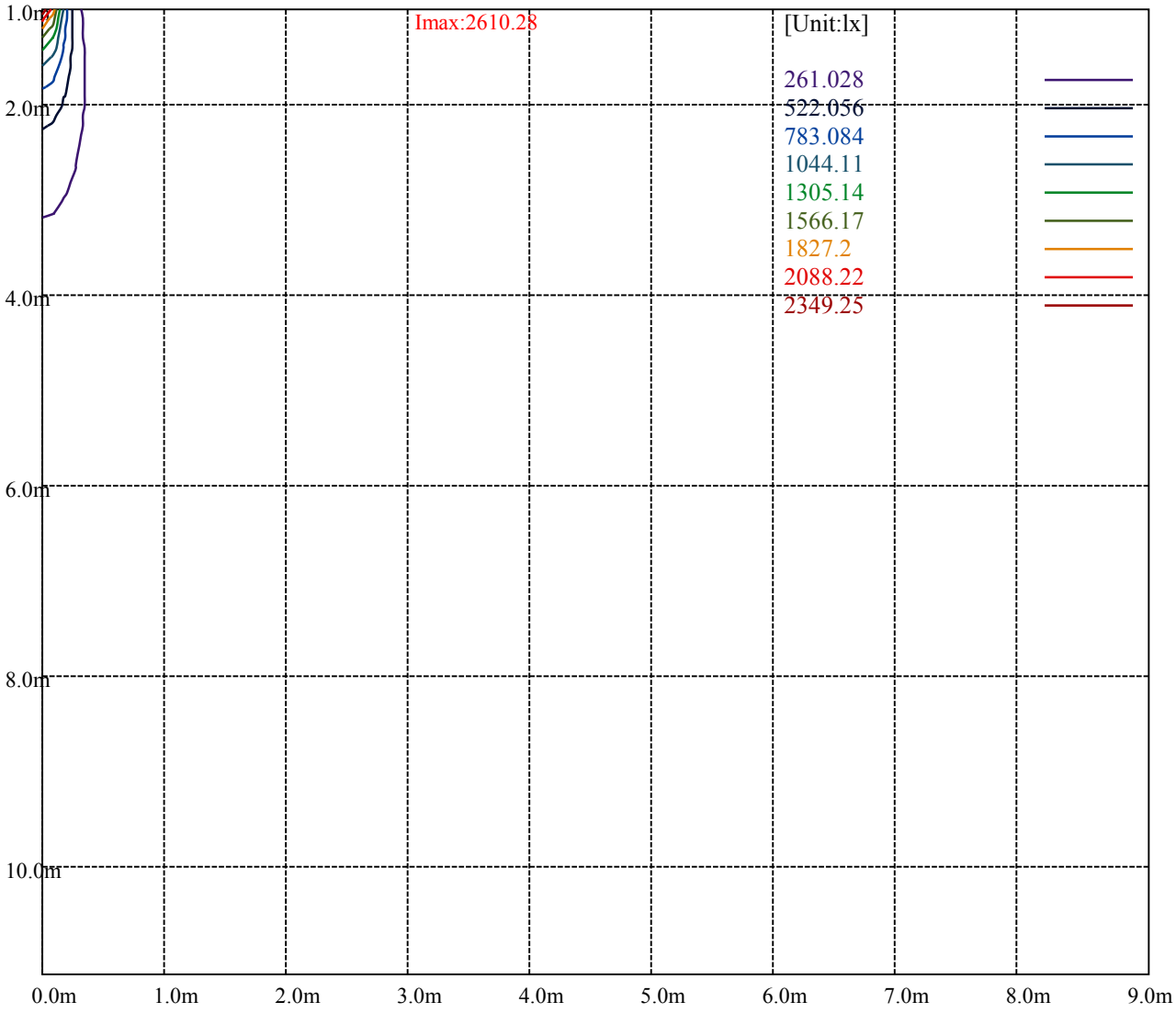
(10%Imax) 261.028
(20%Imax) 522.056
(30%Imax) 783.084
(40%Imax) 1044.11
(50%Imax) 1305.14
(60%Imax) 1566.17
(70%Imax) 1827.2
(80%Imax) 2088.22
(90%Imax) 2349.25

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/19
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/19
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Nata LN01D03517EE-N

Luminance Limitting Curve(no luminous side)

Luminance Table

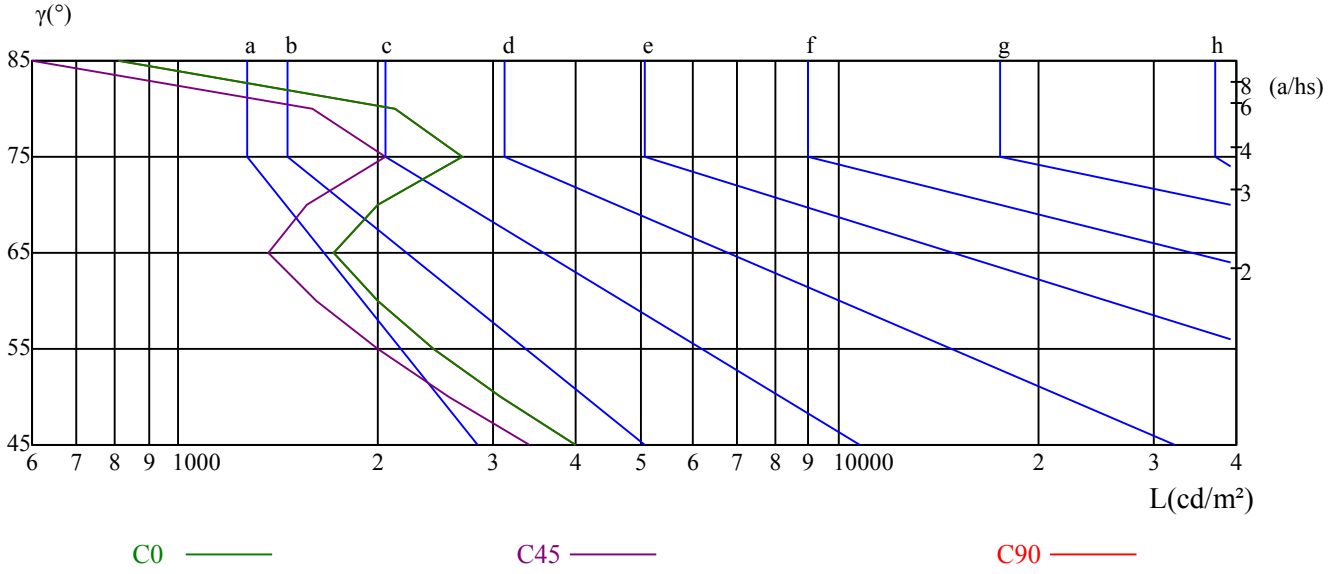
γ	45	50	55	60	65	70	75	80	85
C0	4001	3072	2435	1998	1713	2002	2684	2127	814
C45	3395	2568	2004	1618	1364	1564	2055	1592	593
C90	4001	3072	2435	1998	1713	2002	2684	2127	814

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4494	4494	4494	10264	10264	10264	7852	7852	7852

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

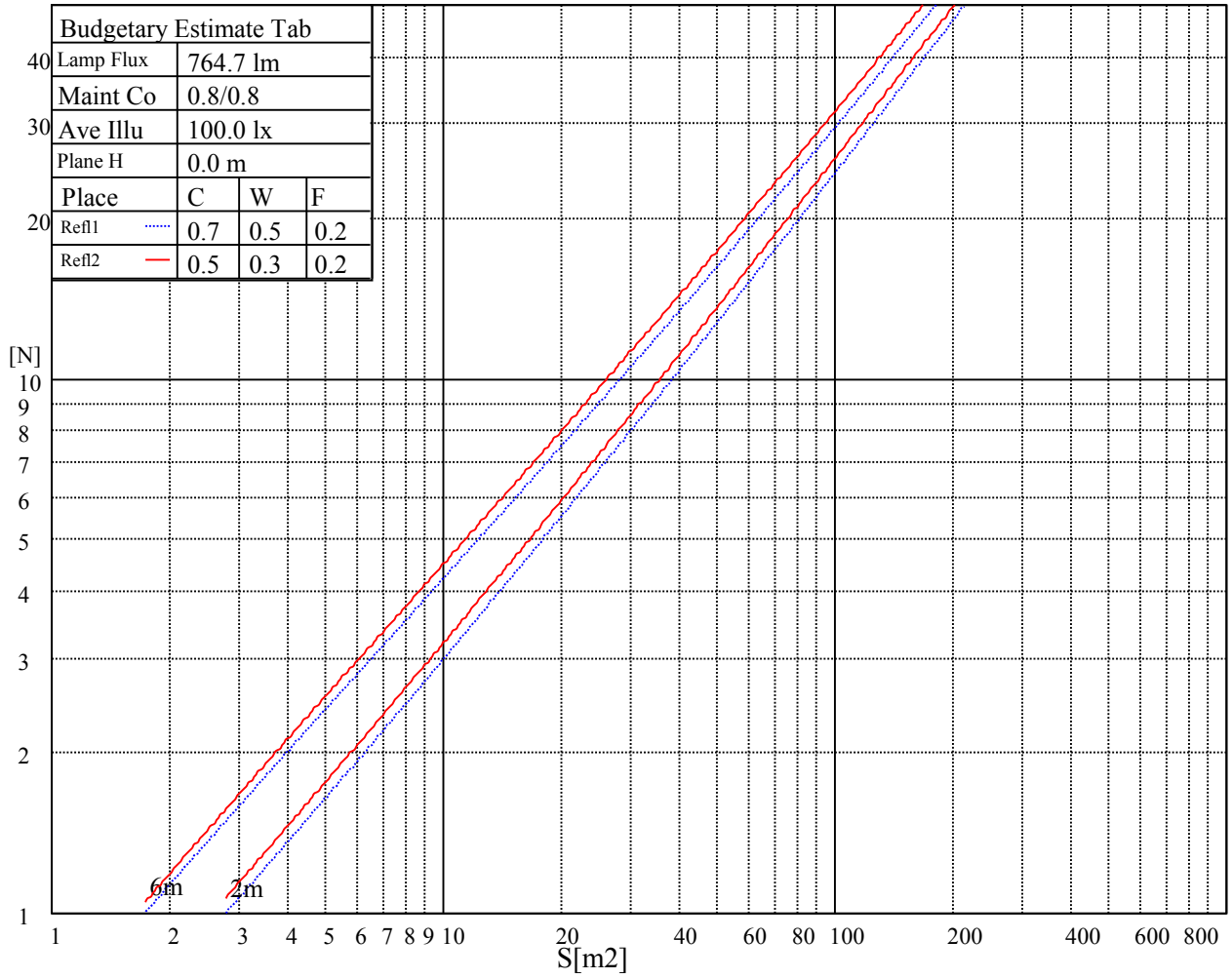


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/19
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Budgetary Estimate Table

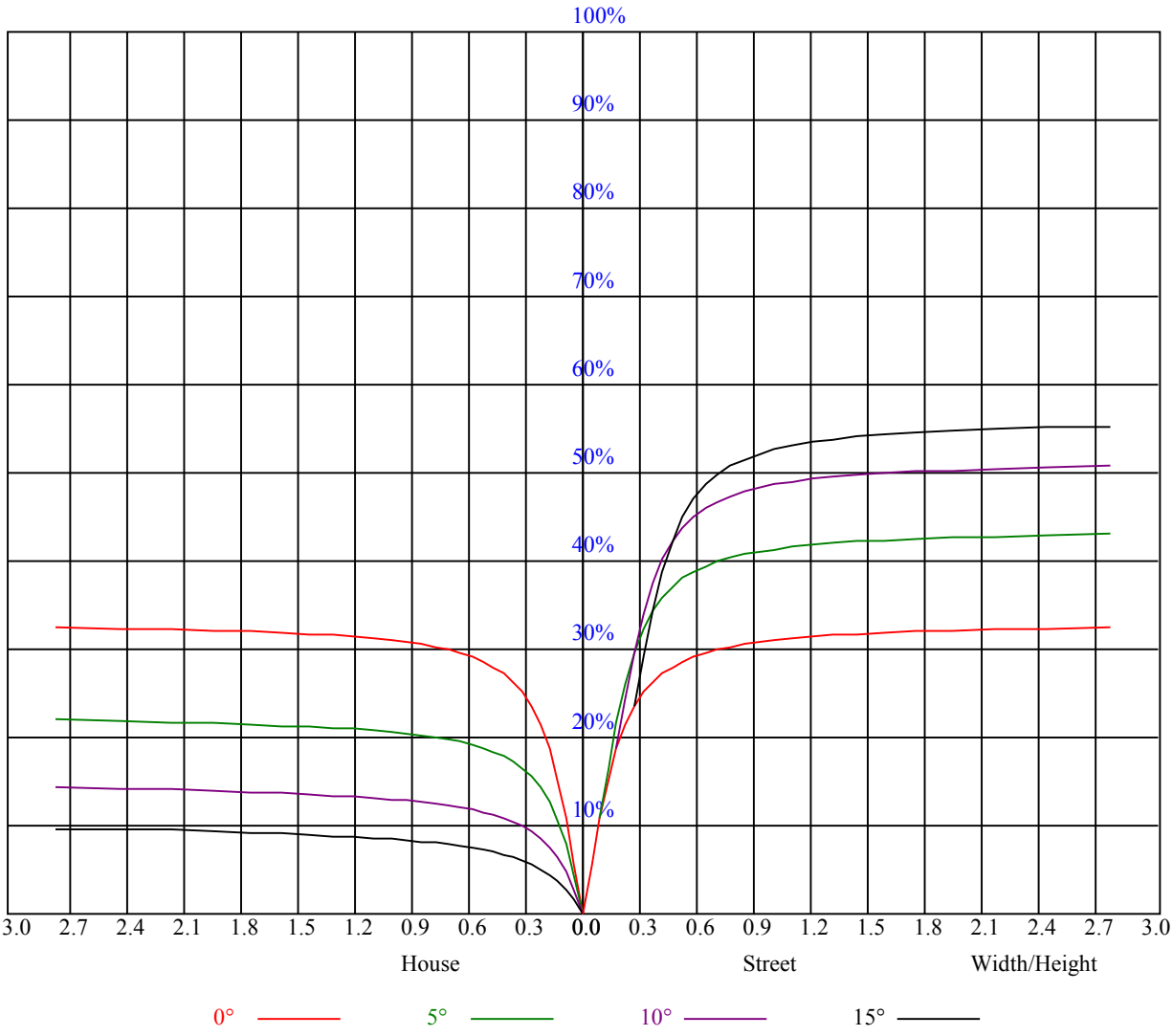


Equipment: GMS1980 Date: 2021/05/19 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.79	0.79	0.79	0.77	0.77	0.77	0.74	0.74	0.74	0.71	0.71	0.71	0.68	0.68	0.68	0.66
1	0.74	0.72	0.70	0.72	0.71	0.69	0.69	0.68	0.67	0.67	0.66	0.65	0.65	0.64	0.63	0.62
2	0.69	0.66	0.64	0.68	0.65	0.63	0.66	0.64	0.62	0.64	0.62	0.61	0.62	0.61	0.59	0.58
3	0.65	0.62	0.60	0.64	0.61	0.59	0.62	0.60	0.58	0.61	0.59	0.57	0.59	0.58	0.56	0.55
4	0.62	0.59	0.56	0.61	0.58	0.56	0.60	0.57	0.55	0.58	0.56	0.54	0.57	0.55	0.54	0.53
5	0.59	0.56	0.53	0.58	0.55	0.53	0.57	0.55	0.52	0.56	0.54	0.52	0.55	0.53	0.52	0.51
6	0.57	0.53	0.51	0.56	0.53	0.51	0.55	0.52	0.50	0.54	0.52	0.50	0.53	0.51	0.50	0.49
7	0.54	0.51	0.49	0.54	0.51	0.49	0.53	0.50	0.48	0.53	0.50	0.48	0.52	0.50	0.48	0.47
8	0.53	0.49	0.47	0.52	0.49	0.47	0.52	0.49	0.47	0.51	0.48	0.47	0.50	0.48	0.46	0.46
9	0.51	0.48	0.45	0.50	0.47	0.45	0.50	0.47	0.45	0.49	0.47	0.45	0.49	0.47	0.45	0.44
10	0.49	0.46	0.44	0.49	0.46	0.44	0.48	0.46	0.44	0.48	0.45	0.44	0.48	0.45	0.44	0.43

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2021/05/19	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	2587.50	2613.38	2601.56	2532.94	2439.00	2310.75	2118.94	1953.56	1776.94
45.0	2625.19	2592.56	2499.19	2393.44	2260.69	2064.94	1893.94	1719.56	1525.50
90.0	2611.13	2556.56	2456.44	2322.00	2174.63	1989.56	1811.81	1612.69	1419.19
135.0	2617.31	2574.56	2486.81	2374.31	2216.81	2037.38	1861.88	1665.00	1489.50
180.0	2587.50	2499.19	2408.06	2265.19	2069.44	1920.94	1720.69	1496.81	1345.50
225.0	2625.19	2619.00	2567.25	2471.06	2350.69	2190.38	2031.19	1836.56	1640.81
270.0	2611.13	2628.56	2598.19	2527.88	2440.69	2257.88	2101.50	1953.56	1734.19
315.0	2617.31	2612.81	2570.06	2464.31	2345.63	2205.00	2017.13	1823.06	1645.88
360.0	2587.50	2613.38	2601.56	2532.94	2439.00	2310.75	2118.94	1953.56	1776.94

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1555.31	1384.31	1221.19	1050.19	896.63	774.56	655.88	564.75	478.13
45.0	1341.56	1182.38	1019.25	889.31	760.50	651.94	569.81	489.38	420.19
90.0	1119.26	1082.93	947.93	811.97	706.11	604.80	517.28	450.11	392.68
135.0	1302.75	1125.00	981.56	852.75	714.38	619.31	538.88	452.25	393.75
180.0	1120.61	1011.77	863.44	747.51	634.05	538.26	466.09	403.26	338.51
225.0	1467.00	1226.25	1081.07	957.88	830.42	677.53	596.31	514.46	435.43
270.0	1536.75	1392.19	1190.25	1042.88	907.88	759.94	656.44	568.69	474.75
315.0	1447.88	1120.33	1101.66	942.19	816.13	693.68	590.01	510.19	442.01
360.0	1555.31	1384.31	1221.19	1050.19	896.63	774.56	655.88	564.75	478.13

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	406.69	354.94	304.31	285.19	229.89	203.06	174.99	155.87	139.50
45.0	367.31	322.88	284.63	243.11	215.66	191.14	164.48	147.71	132.69
90.0	332.33	292.67	260.16	226.91	200.59	179.38	159.02	141.41	127.63
135.0	343.13	295.88	286.88	224.21	201.32	170.89	151.48	138.15	121.33
180.0	294.75	257.68	222.98	193.61	172.35	151.82	134.21	121.11	108.45
225.0	370.86	322.76	278.21	240.58	211.84	184.78	164.31	144.79	128.87
270.0	412.88	361.69	308.25	285.19	239.96	210.04	185.51	166.50	147.88
315.0	372.09	325.24	285.81	245.42	216.73	191.81	168.08	147.88	132.81
360.0	406.69	354.94	304.31	285.19	229.89	203.06	174.99	155.87	139.50

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	123.75	110.08	100.01	90.84	82.46	75.60	68.91	63.62	58.44
45.0	117.23	106.76	96.47	87.24	78.86	72.68	66.26	60.08	55.52
90.0	114.24	103.61	93.21	84.09	77.01	70.37	64.35	59.51	55.13
135.0	108.84	100.13	88.76	81.23	74.42	67.05	61.82	56.98	51.64
180.0	99.23	90.45	81.79	74.70	68.40	61.82	57.21	53.49	49.05
225.0	116.44	105.58	94.39	86.63	79.48	71.33	65.53	60.58	55.46
270.0	131.57	118.91	106.71	97.59	88.37	80.33	73.69	67.39	61.59
315.0	118.46	106.99	96.30	87.19	80.10	72.90	66.09	60.75	56.03
360.0	123.75	110.08	100.01	90.84	82.46	75.60	68.91	63.62	58.44

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	53.94	50.34	47.08	43.26	40.56	38.25	35.33	33.19	31.28
45.0	50.91	47.48	43.71	40.39	37.91	35.55	33.13	31.28	29.76
90.0	50.57	47.64	44.55	40.84	37.29	34.31	32.01	30.21	28.63
135.0	47.87	44.55	40.89	38.25	35.83	33.47	31.33	29.76	27.73
180.0	46.01	43.09	40.22	37.41	34.93	32.63	30.54	28.63	26.83
225.0	50.96	47.42	44.33	40.73	37.63	35.61	33.24	30.94	28.91
270.0	56.98	52.82	48.04	44.44	41.29	38.14	35.49	33.36	31.05
315.0	50.85	47.31	44.21	40.56	38.14	35.94	33.13	31.05	29.19
360.0	53.94	50.34	47.08	43.26	40.56	38.25	35.33	33.19	31.28

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	29.25	27.56	26.10	24.30	22.89	21.66	20.48	19.63	18.73
45.0	27.06	25.48	24.19	22.89	21.71	20.87	19.80	19.07	17.89
90.0	27.06	25.76	24.36	23.01	22.11	21.09	19.35	17.83	16.93
135.0	26.04	24.69	23.12	21.99	20.87	19.69	18.73	17.94	16.88
180.0	25.31	23.79	22.16	20.93	20.03	18.96	18.17	17.44	16.76
225.0	27.00	25.43	23.74	22.56	21.49	20.36	19.46	18.62	17.49
270.0	29.08	27.62	25.93	24.58	23.12	21.60	20.36	19.24	17.94
315.0	26.94	25.59	23.96	22.50	21.49	20.31	19.13	18.45	17.66
360.0	29.25	27.56	26.10	24.30	22.89	21.66	20.48	19.63	18.73

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	17.94	17.33	16.65	15.86	15.02	14.29	13.44	12.88	12.38
45.0	16.93	16.09	15.36	14.63	14.06	13.61	12.83	12.32	11.87
90.0	16.03	15.41	14.79	14.06	13.50	12.99	12.54	12.09	11.76
135.0	16.14	15.41	14.57	14.01	13.39	12.83	12.26	11.81	11.31
180.0	16.03	15.19	14.40	13.78	13.16	12.43	11.93	11.42	10.91
225.0	16.48	15.81	15.13	14.46	13.78	13.28	12.71	12.21	11.76
270.0	17.04	16.26	15.24	14.57	13.95	13.39	12.83	12.38	11.87
315.0	16.54	15.81	15.08	14.46	13.73	13.22	12.60	11.98	11.53
360.0	17.94	17.33	16.65	15.86	15.02	14.29	13.44	12.88	12.38

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	11.76	11.19	10.80	10.41	9.96	9.56	9.17	8.83	8.49
45.0	11.36	10.86	10.52	10.07	9.68	9.34	8.89	8.61	8.21
90.0	11.42	11.14	10.80	10.58	11.36	14.01	18.17	21.66	25.37
135.0	10.86	10.41	9.96	9.56	9.23	8.78	8.44	8.16	7.76
180.0	10.52	10.07	9.56	9.23	8.89	8.44	8.10	7.76	7.43
225.0	11.31	10.97	10.52	10.01	9.68	9.34	8.89	8.49	8.16
270.0	11.53	11.08	10.74	10.41	10.35	12.77	16.54	20.42	25.48
315.0	11.03	10.69	10.29	9.84	9.45	9.17	8.72	8.44	8.10
360.0	11.76	11.19	10.80	10.41	9.96	9.56	9.17	8.83	8.49

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	8.10	7.82	7.59	7.31	7.14	7.03	6.86	6.53	6.13
45.0	7.76	7.37	7.03	6.64	6.30	6.02	5.57	5.29	5.01
90.0	29.48	32.51	35.04	36.06	36.06	34.09	31.73	29.59	27.17
135.0	7.43	7.09	6.75	6.36	6.02	5.68	5.34	5.06	4.73
180.0	7.14	7.09	6.98	6.69	6.19	5.57	5.23	4.89	4.50
225.0	7.71	7.43	7.20	6.81	6.47	6.24	5.85	5.40	5.06
270.0	29.42	33.19	36.73	39.66	39.99	37.18	33.41	30.54	27.68
315.0	7.71	7.43	7.14	6.86	6.53	6.19	5.91	5.57	5.34
360.0	8.10	7.82	7.59	7.31	7.14	7.03	6.86	6.53	6.13

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.68	5.18	4.73	4.33	4.05	3.71	3.32	3.04	2.98
45.0	4.73	4.56	4.39	4.22	4.05	3.66	2.98	2.81	2.70
90.0	24.69	17.33	8.33	4.39	3.54	2.87	2.70	2.48	2.31
135.0	4.44	4.11	3.77	3.49	3.26	2.93	2.70	2.53	2.42
180.0	4.28	3.94	3.66	3.38	2.98	2.81	2.64	2.42	2.36
225.0	4.73	4.50	4.22	4.05	3.94	3.54	2.93	2.81	2.59
270.0	24.13	20.98	12.38	5.34	4.39	3.43	3.09	2.87	2.64
315.0	5.01	4.61	4.33	3.99	3.77	3.38	3.09	3.09	2.76
360.0	5.68	5.18	4.73	4.33	4.05	3.71	3.32	3.04	2.98

Intensity data(cd)

C/γ(°)	90.0
0.0	2.76
45.0	2.64
90.0	2.31
135.0	2.31
180.0	2.31
225.0	2.53
270.0	2.42
315.0	2.64
360.0	2.76