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Nata

LumCAT: 2-1745-N
Luminaire: 92.70.124.00

Report No: 200407-B021	Voltage(V): 220.3000
Test No: 200407-C021	Current(A): 0.0410
LampCAT: LUMINUS CXM-9-AC40	Power (W): 8.0800
Lamp flux(lm): 738.0	PF: 0.8950
Number of Lamps: 1	Ballast type: AC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 623.38
Efficiency(%): 84.47%
Lumens(lm)/Power(W): 77.15
Central intensity(cd): 3866.952
Maximum intensity(cd): 3866.952
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=14.2
[C90/270]Total=14.2
Field angle(10%Imax): [C0/180]Total=42.6
[C90/270]Total=42.6
Maximum s/h(1/2): C0_180=0.24 C90_270=0.24
Maximum s/h(1/4): C0_180=0.28 C90_270=0.28
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 84.47%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.325%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3866.953	0.000	0	.000%	.000%
1.0	3806.629	3.672	3.672	.498%	.589%
2.0	3633.080	10.678	14.35	1.447%	2.302%
3.0	3379.892	16.773	31.123	2.273%	4.993%
4.0	3032.969	21.466	52.588	2.909%	8.436%
5.0	2694.863	24.641	77.229	3.339%	12.389%
6.0	2318.880	26.349	103.578	3.570%	16.616%
7.0	1964.184	26.585	130.163	3.602%	20.880%
8.0	1687.446	26.134	156.297	3.541%	25.072%
9.0	1412.367	25.122	181.419	3.404%	29.102%
10.0	1202.264	23.661	205.081	3.206%	32.898%
11.0	1041.210	22.417	227.497	3.038%	36.494%
12.0	919.273	21.431	248.928	2.904%	39.932%
13.0	837.087	20.844	269.772	2.824%	43.276%
14.0	752.221	20.343	290.115	2.757%	46.539%
15.0	674.223	19.583	309.698	2.654%	49.680%
16.0	612.466	18.854	328.551	2.555%	52.705%
17.0	555.593	18.190	346.741	2.465%	55.623%
18.0	506.841	17.517	364.258	2.374%	58.433%
19.0	464.764	16.904	381.162	2.291%	61.144%
20.0	428.001	16.340	397.502	2.214%	63.766%
21.0	394.759	15.799	413.301	2.141%	66.300%
22.0	365.687	15.281	428.583	2.071%	68.751%
23.0	340.595	14.820	443.402	2.008%	71.129%
24.0	319.765	14.438	457.84	1.956%	73.445%
25.0	299.934	14.091	471.931	1.909%	75.705%
26.0	283.437	13.771	485.701	1.866%	77.914%
27.0	267.898	13.489	499.19	1.828%	80.078%
28.0	253.356	13.197	512.387	1.788%	82.195%
29.0	238.415	12.866	525.253	1.743%	84.259%
30.0	223.832	12.481	537.734	1.691%	86.261%
31.0	197.539	11.726	549.46	1.589%	88.142%
32.0	174.146	10.648	560.108	1.443%	89.850%
33.0	141.043	9.286	569.394	1.258%	91.340%
34.0	115.249	7.756	577.15	1.051%	92.584%
35.0	85.371	6.230	583.38	.844%	93.583%
36.0	61.786	4.685	588.066	.635%	94.335%
37.0	43.747	3.442	591.508	.466%	94.887%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	32.065	2.530	594.038	.343%	95.293%
39.0	24.826	1.942	595.98	.263%	95.605%
40.0	19.884	1.559	597.539	.211%	95.855%
41.0	17.059	1.316	598.855	.178%	96.066%
42.0	14.884	1.161	600.015	.157%	96.252%
43.0	13.300	1.044	601.059	.141%	96.419%
44.0	12.036	0.956	602.016	.130%	96.573%
45.0	11.050	0.887	602.903	.120%	96.715%
46.0	10.290	0.835	603.737	.113%	96.849%
47.0	9.681	0.794	604.532	.108%	96.976%
48.0	9.159	0.762	605.293	.103%	97.099%
49.0	8.718	0.734	606.027	.099%	97.216%
50.0	8.295	0.709	606.737	.096%	97.330%
51.0	7.883	0.684	607.421	.093%	97.440%
52.0	7.552	0.662	608.084	.090%	97.546%
53.0	7.274	0.645	608.728	.087%	97.650%
54.0	7.048	0.631	609.36	.086%	97.751%
55.0	6.873	0.621	609.981	.084%	97.850%
56.0	6.769	0.616	610.598	.084%	97.949%
57.0	6.537	0.608	611.206	.082%	98.047%
58.0	6.264	0.592	611.798	.080%	98.142%
59.0	6.085	0.577	612.375	.078%	98.235%
60.0	5.905	0.566	612.942	.077%	98.325%
61.0	5.719	0.555	613.496	.075%	98.414%
62.0	5.545	0.543	614.039	.074%	98.501%
63.0	5.354	0.530	614.569	.072%	98.587%
64.0	5.174	0.517	615.086	.070%	98.669%
65.0	5.006	0.504	615.59	.068%	98.750%
66.0	4.849	0.492	616.081	.067%	98.829%
67.0	4.675	0.479	616.56	.065%	98.906%
68.0	4.513	0.465	617.026	.063%	98.981%
69.0	4.316	0.450	617.476	.061%	99.053%
70.0	4.095	0.432	617.908	.059%	99.122%
71.0	3.886	0.413	618.321	.056%	99.188%
72.0	3.706	0.395	618.715	.053%	99.252%
73.0	3.521	0.378	619.093	.051%	99.312%
74.0	3.387	0.363	619.456	.049%	99.370%
75.0	3.225	0.349	619.806	.047%	99.427%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.057	0.333	620.139	.045%	99.480%
77.0	2.929	0.319	620.458	.043%	99.531%
78.0	2.790	0.306	620.765	.041%	99.580%
79.0	2.633	0.291	621.056	.039%	99.627%
80.0	2.488	0.276	621.332	.037%	99.671%
81.0	2.343	0.261	621.593	.035%	99.713%
82.0	2.227	0.248	621.841	.034%	99.753%
83.0	2.094	0.235	622.076	.032%	99.791%
84.0	1.984	0.222	622.298	.030%	99.826%
85.0	1.856	0.210	622.508	.028%	99.860%
86.0	1.752	0.197	622.705	.027%	99.892%
87.0	1.636	0.185	622.89	.025%	99.921%
88.0	1.526	0.173	623.064	.023%	99.949%
89.0	1.444	0.163	623.226	.022%	99.975%
90.0	1.369	0.154	623.381	.021%	100.000%

Zonal flux distribution table

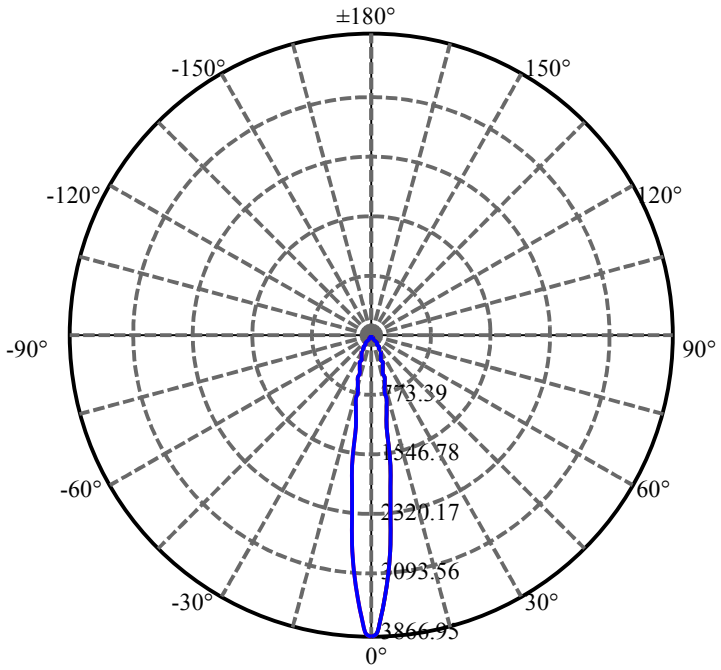
ZONAL LUMEN SUMMARY

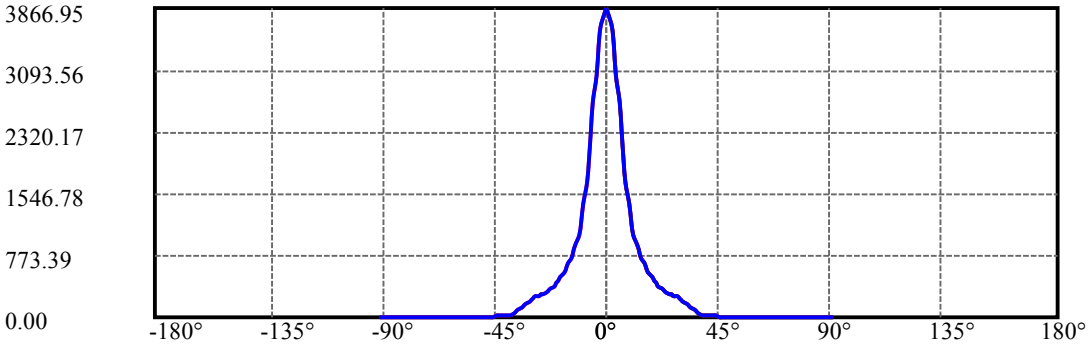
Zone	Lumens	%Lamp	%Fixt
0-30	537.73	72.86%	86.26%
0-40	597.54	80.97%	95.85%
0-60	612.94	83.05%	98.33%
0-90	623.23	84.45%	99.98%
0-120	623.23	84.45%	99.98%
0-180	623.38	84.47%	100.00%
60-90	10.85	1.47%	1.74%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-26.96	498.70	67.58%	80.00%

ZONAL LUMEN SUMMARY

0-10	205.08
10-20	192.42
20-30	140.23
30-40	59.81
40-50	9.20
50-60	6.20
60-70	4.97
70-80	3.42
80-90	1.89
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:21.3 Right:21.3
:C90/270Left:21.3 Right:21.3

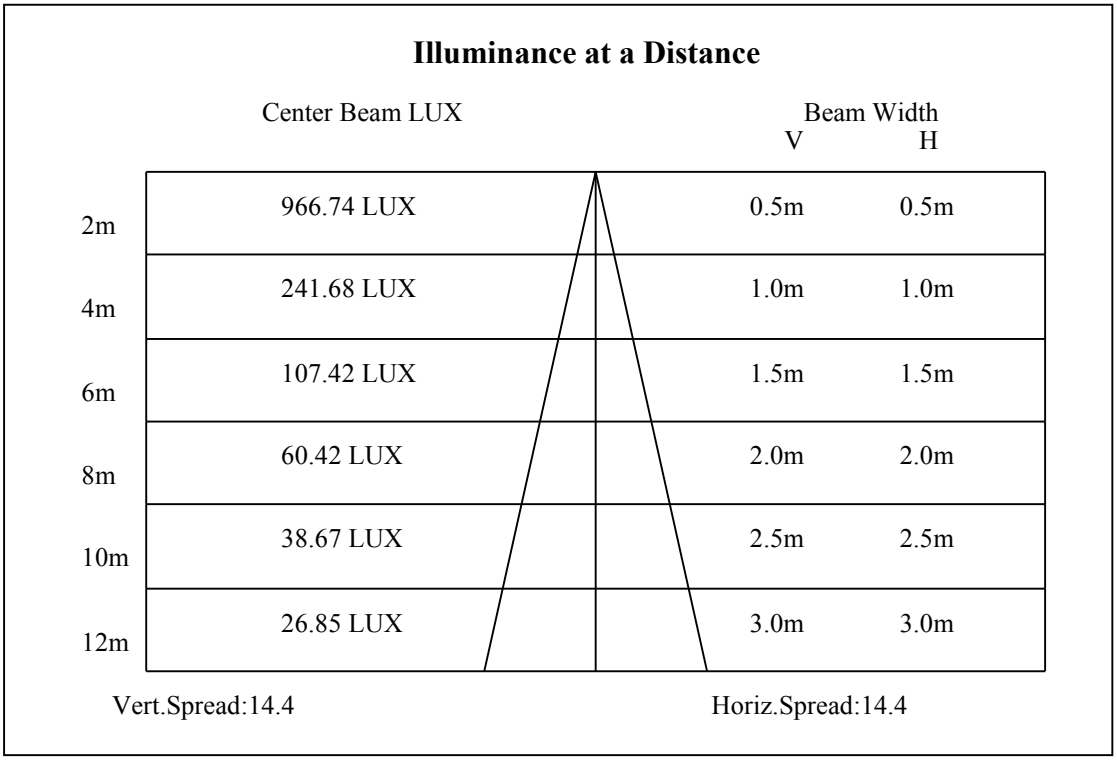
Beam Angle(50%Imax):C0/180Left:7.1 Right:7.1
:C90/270Left:7.1 Right:7.1

Equipment: GMS 1800
Temperature(°C): 25.0

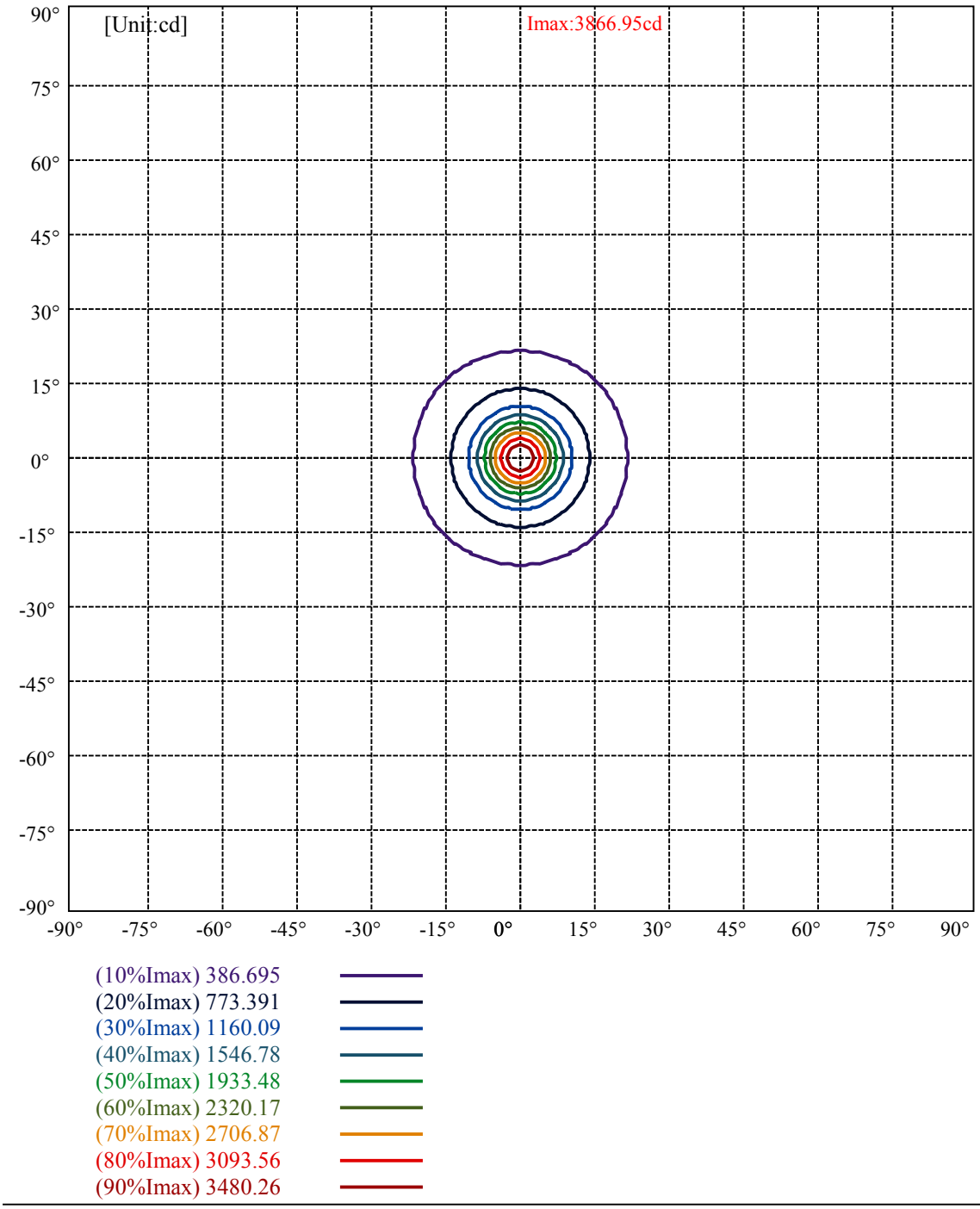
Date: 2020/4/7
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

Lux distance Curve



ISO-Intensity(V-H)



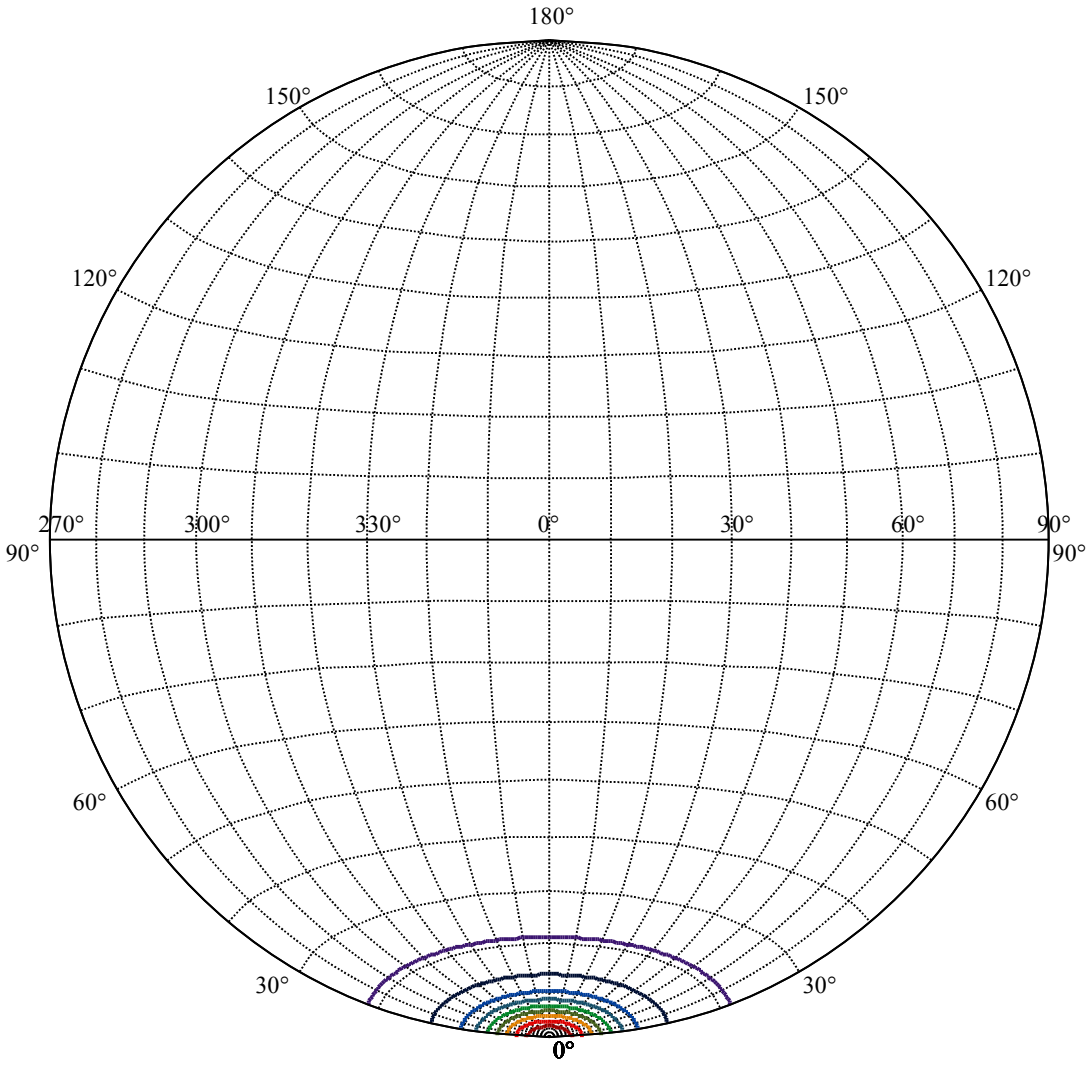
(10%Imax) 386.695
(20%Imax) 773.391
(30%Imax) 1160.09
(40%Imax) 1546.78
(50%Imax) 1933.48
(60%Imax) 2320.17
(70%Imax) 2706.87
(80%Imax) 3093.56
(90%Imax) 3480.26

Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/7
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:3866.95

(10%Imax) 386.695
(20%Imax) 773.391
(30%Imax) 1160.09
(40%Imax) 1546.78
(50%Imax) 1933.48
(60%Imax) 2320.17
(70%Imax) 2706.87
(80%Imax) 3093.56
(90%Imax) 3480.26

Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/7
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

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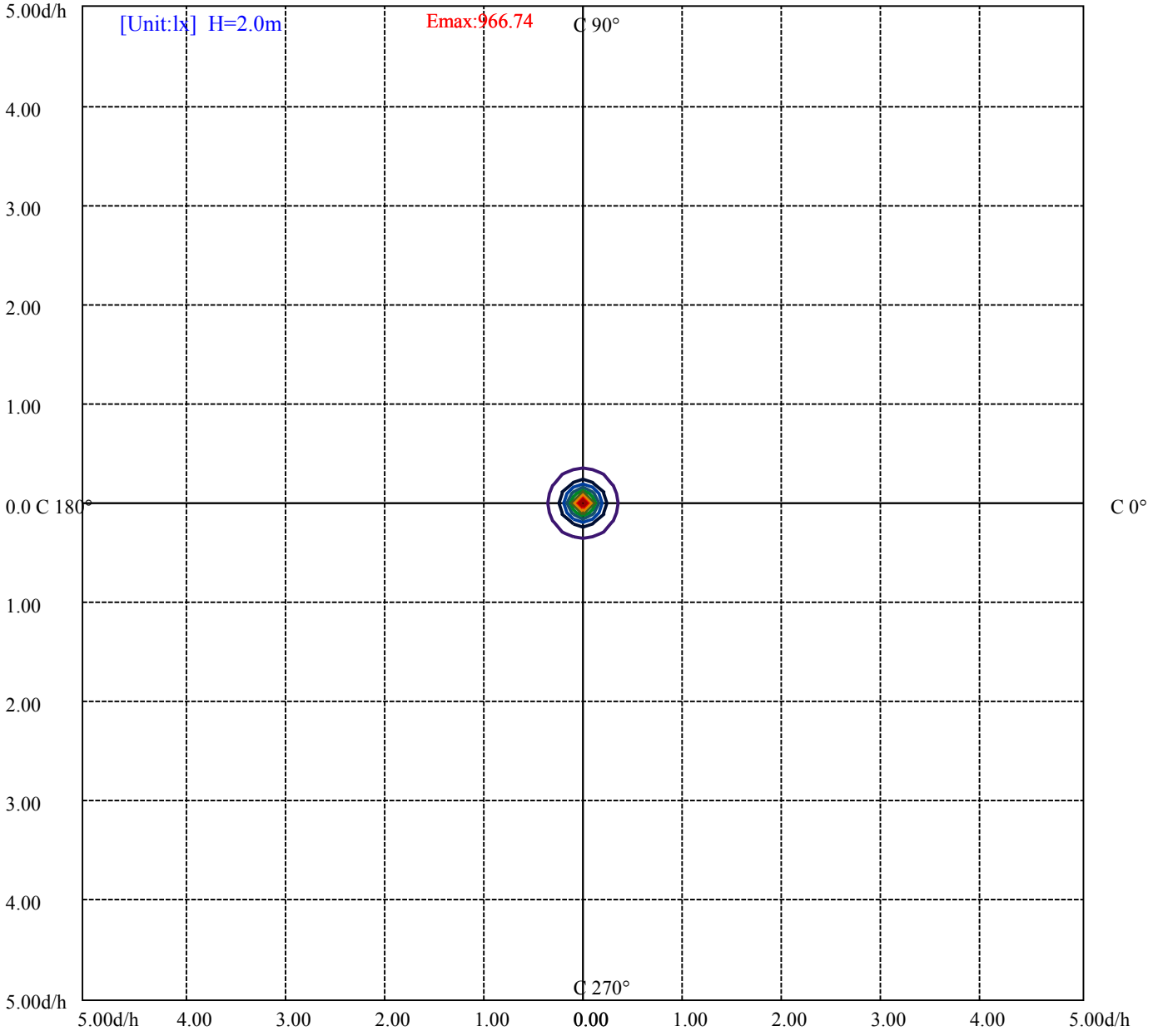
ISO illuminance diagram

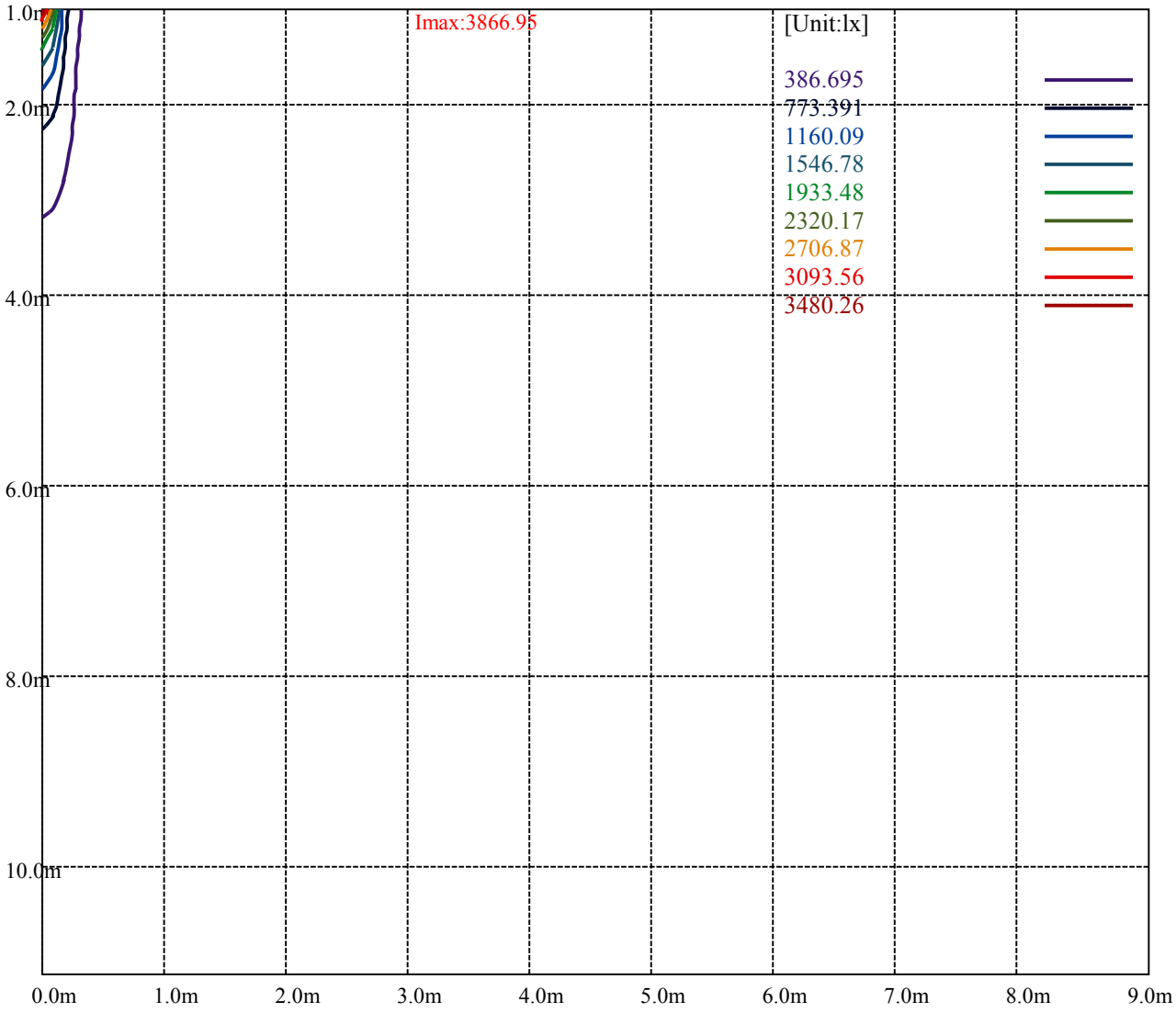


Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/7
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

Space ISO Lux diagram



Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/7
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

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Luminance Limitting Curve(no luminous side)

Luminance Table

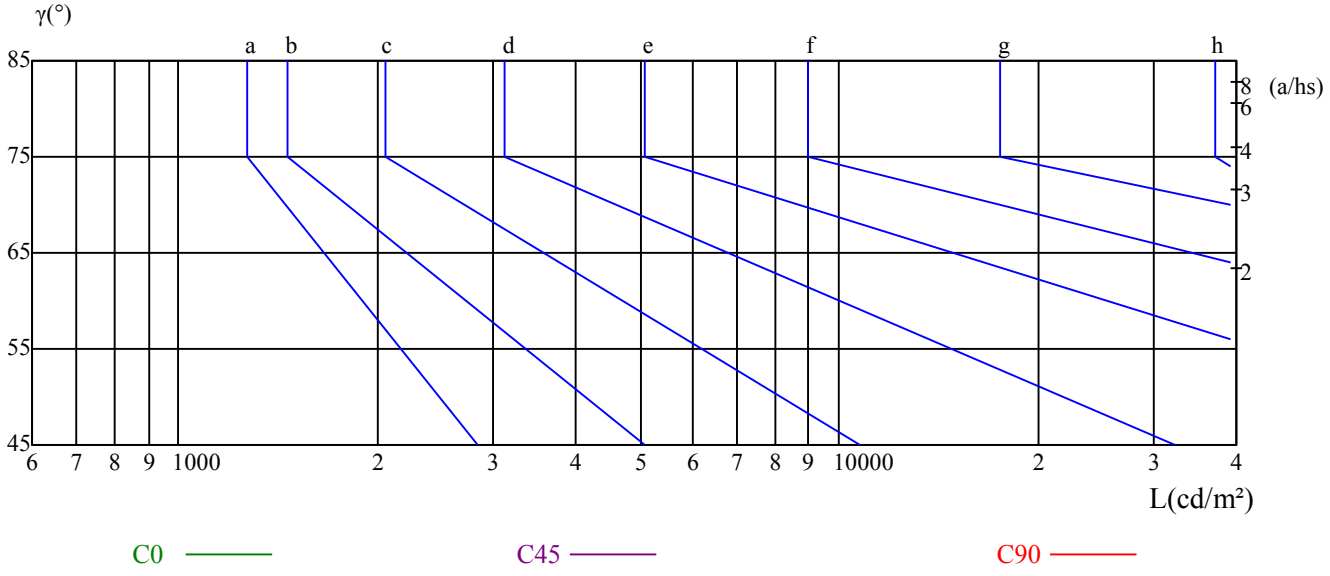
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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

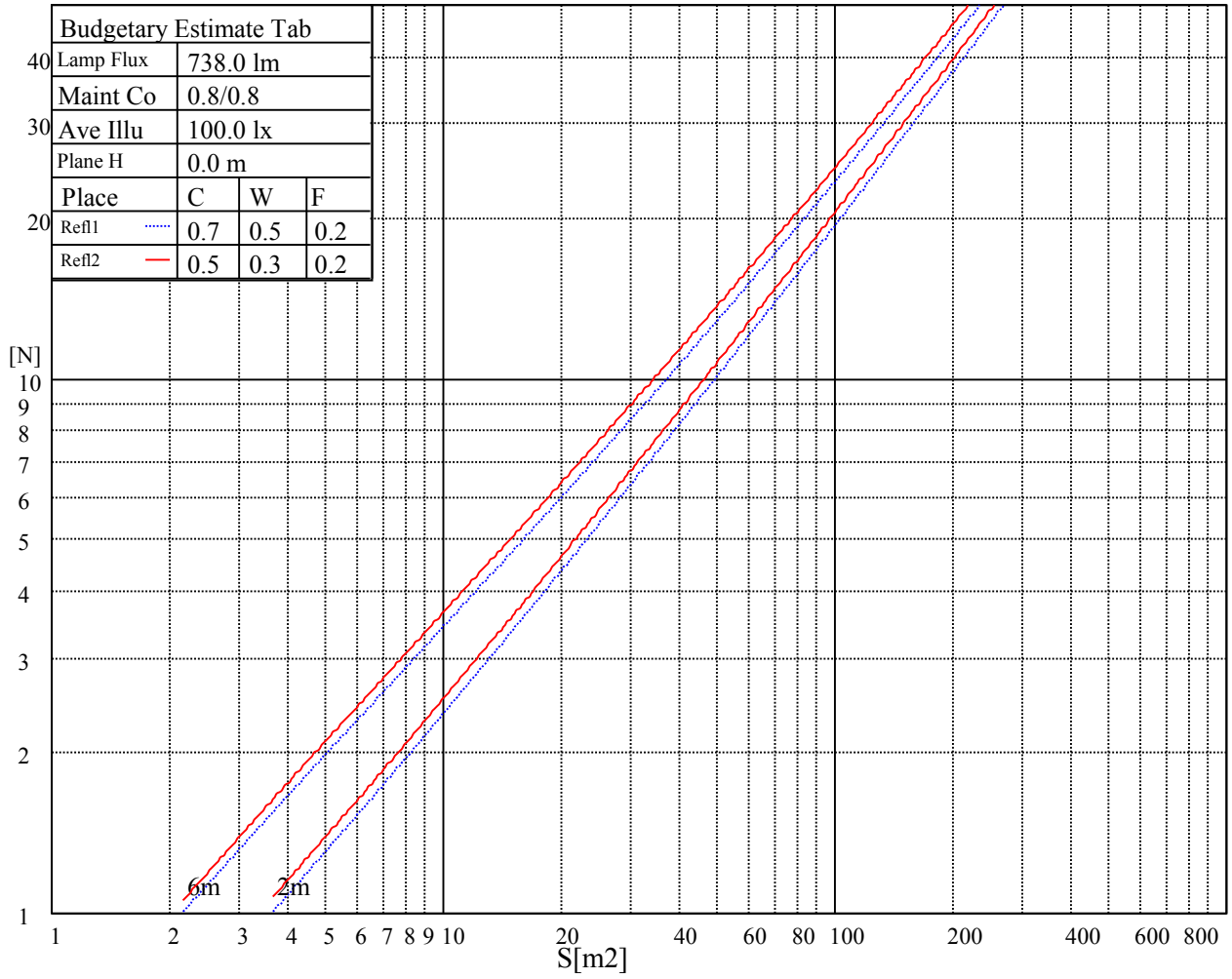


Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/7
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

Budgetary Estimate Table

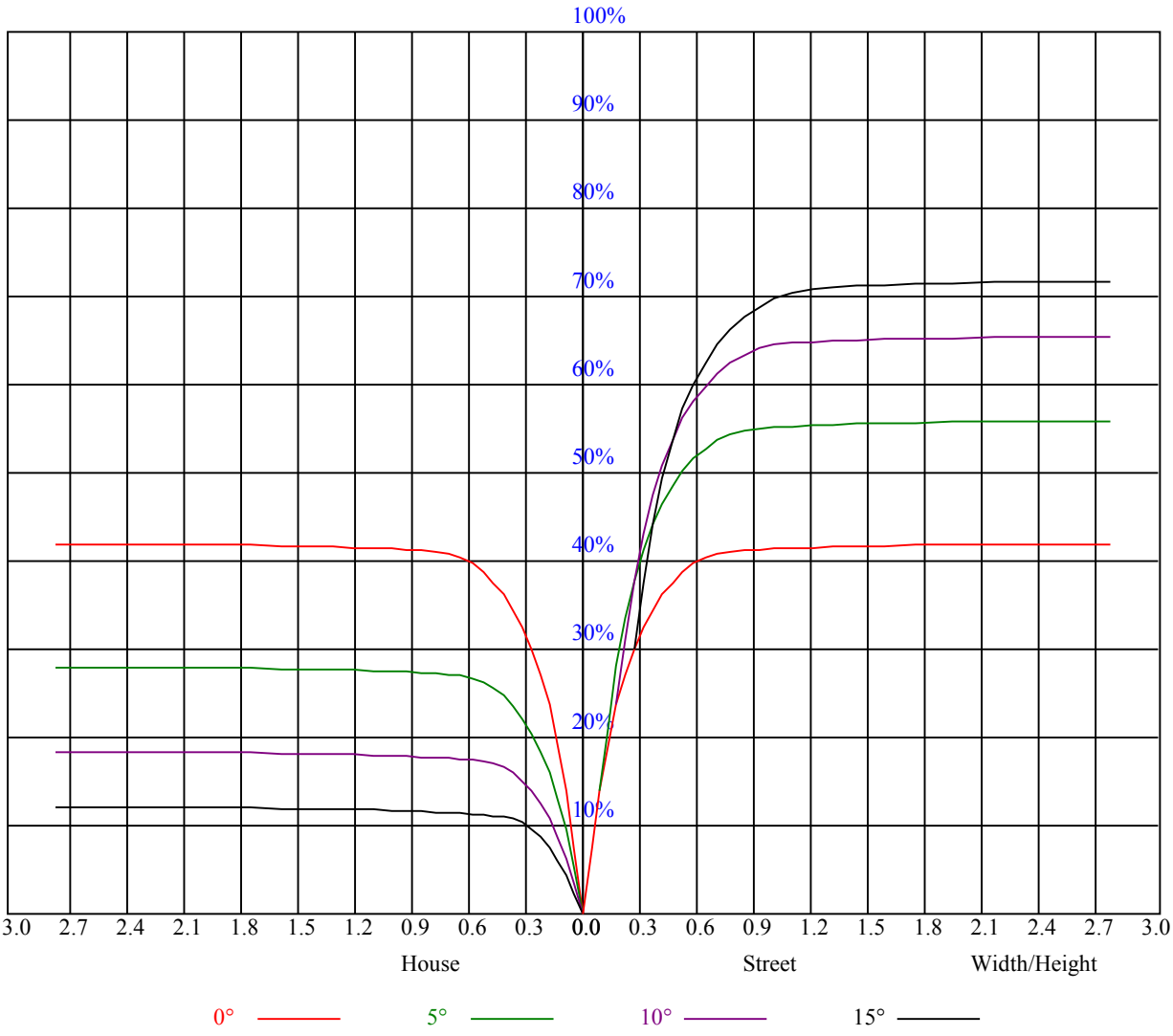


Equipment: GMS 1800 Date: 2020/4/7 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 6.81

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	1.01	1.01	1.01	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.84
1	0.95	0.93	0.91	0.93	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.80
2	0.89	0.86	0.84	0.88	0.85	0.83	0.85	0.83	0.81	0.83	0.81	0.80	0.81	0.79	0.78	0.77
3	0.85	0.81	0.79	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.77	0.76	0.78	0.76	0.74	0.73
4	0.81	0.77	0.74	0.80	0.76	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.75	0.73	0.71	0.70
5	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	0.70	0.68	0.67
6	0.74	0.70	0.67	0.74	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.70	0.68	0.66	0.65
7	0.71	0.67	0.65	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.62
8	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.60
9	0.66	0.62	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.58
10	0.64	0.60	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.63	0.60	0.57	0.62	0.59	0.57	0.56

Coefficient Utilization Curve



Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/7
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

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	3878.90	3795.84	3591.20	3292.83	2935.99	2555.01	2185.18	1841.33	1540.64
45.0	3888.65	3793.52	3589.35	3421.36	2934.13	2701.65	2313.72	1814.42	1626.95
90.0	3725.77	3439.00	3079.84	2682.62	2296.55	1939.71	1624.16	1361.52	1159.20
135.0	3974.49	3813.47	3559.65	3226.01	2847.82	2452.00	2077.06	1747.60	1472.89
180.0	3878.90	3830.18	3664.52	3400.95	3068.70	2699.33	2324.39	1972.65	1776.37
225.0	3888.65	3851.99	3693.29	3434.82	3117.89	2755.48	2387.50	2033.44	1714.19
270.0	3725.77	3928.55	4013.01	3952.22	3764.29	3542.48	3126.70	2808.84	2410.24
315.0	3974.49	4000.48	3873.80	3628.32	3298.40	2913.25	2512.32	2133.67	1799.10
360.0	3878.90	3795.84	3591.20	3292.83	2935.99	2555.01	2185.18	1841.33	1540.64

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1297.02	924.77	880.36	859.67	787.19	710.25	644.73	583.52	529.69
45.0	1358.27	1148.53	991.22	871.97	778.69	698.42	629.28	568.49	514.66
90.0	899.16	899.16	842.87	759.81	687.51	621.53	562.22	510.85	469.00
135.0	1336.00	1084.96	1002.36	889.60	797.72	718.83	648.77	586.58	533.22
180.0	1487.74	1263.15	1091.92	960.13	859.44	774.05	698.42	632.52	574.98
225.0	1435.30	1214.42	898.60	898.60	833.68	742.18	638.56	598.74	540.55
270.0	1968.94	1709.55	1437.16	1224.63	1062.68	935.54	835.31	753.64	681.25
315.0	1516.51	1373.59	1185.19	889.78	889.78	816.98	736.51	665.38	601.39
360.0	1297.02	924.77	880.36	859.67	787.19	710.25	644.73	583.52	529.69

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	483.06	442.78	408.07	377.12	351.18	330.48	313.55	299.07	285.01
45.0	469.18	430.21	394.94	363.85	338.33	316.05	304.45	283.11	275.22
90.0	433.41	401.67	371.46	343.38	319.58	300.09	283.39	268.49	254.57
135.0	487.28	448.30	413.04	381.95	353.64	328.12	307.70	290.07	274.29
180.0	524.40	480.79	445.05	412.57	383.80	355.96	332.29	311.88	295.17
225.0	492.20	451.55	416.93	383.25	352.02	328.54	305.75	284.03	261.44
270.0	620.46	565.70	519.30	476.61	437.63	403.76	374.06	346.68	324.41
315.0	544.73	497.12	455.22	419.35	389.32	361.76	336.93	316.15	297.40
360.0	483.06	442.78	408.07	377.12	351.18	330.48	313.55	299.07	285.01

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	272.29	259.21	244.50	222.18	192.53	173.13	126.45	107.33	77.82
45.0	262.23	249.23	236.70	236.70	189.56	160.14	129.56	99.30	71.79
90.0	239.86	218.47	191.92	161.72	131.00	105.99	76.98	52.81	35.22
135.0	260.83	247.84	235.31	235.31	184.22	152.57	121.86	91.41	63.71
180.0	280.32	265.94	252.02	239.49	235.78	208.44	153.27	119.86	88.21
225.0	241.72	225.33	209.23	191.92	172.25	159.53	125.66	111.32	87.19
270.0	305.38	289.60	281.25	262.23	254.80	240.42	231.14	206.73	155.27
315.0	280.55	271.23	256.38	241.11	220.18	192.95	163.43	133.22	103.76
360.0	272.29	259.21	244.50	222.18	192.53	173.13	126.45	107.33	77.82

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	53.92	36.43	27.56	22.60	18.79	16.29	14.39	12.90	11.74
45.0	49.09	33.46	25.99	21.39	17.87	16.47	14.66	13.18	12.02
90.0	27.56	22.32	18.51	16.10	14.29	12.81	11.60	10.72	9.98
135.0	42.37	30.72	24.87	20.28	17.26	15.17	13.60	12.25	11.23
180.0	60.60	39.54	28.03	22.64	18.42	15.78	13.92	12.39	11.60
225.0	62.51	43.39	31.04	24.87	20.28	17.17	15.08	13.55	12.30
270.0	122.78	91.88	64.32	42.32	29.00	23.39	18.89	16.52	14.15
315.0	75.45	52.25	36.19	28.40	23.16	19.40	16.94	14.90	13.27
360.0	53.92	36.43	27.56	22.60	18.79	16.29	14.39	12.90	11.74

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	10.77	9.98	9.42	8.91	8.45	8.17	7.61	7.33	7.19
45.0	11.18	10.49	9.88	9.42	9.05	8.63	8.17	7.84	7.61
90.0	9.42	8.91	8.45	8.03	7.61	7.19	7.05	6.82	6.68
135.0	10.77	9.84	9.33	9.05	8.45	8.17	7.80	7.47	7.15
180.0	10.26	9.74	9.19	8.54	8.31	7.89	7.47	7.19	6.91
225.0	11.32	10.58	10.07	9.65	9.14	8.68	8.31	7.93	7.66
270.0	12.58	11.55	10.67	9.88	9.23	8.68	8.21	7.80	7.33
315.0	12.11	11.23	10.44	9.79	9.51	8.96	8.45	8.03	7.66
360.0	10.77	9.98	9.42	8.91	8.45	8.17	7.61	7.33	7.19

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	6.91	6.82	6.77	6.54	6.22	5.99	5.80	5.66	5.43
45.0	7.42	7.33	7.24	6.91	6.54	6.31	6.17	5.94	5.80
90.0	6.64	6.17	6.03	5.85	5.66	5.48	5.34	5.15	4.97
135.0	7.01	6.87	6.68	6.31	6.22	6.17	6.03	5.89	5.80
180.0	6.68	6.54	6.50	6.26	5.89	5.66	5.52	5.34	5.15
225.0	7.29	7.15	7.10	6.91	6.50	6.36	6.13	5.85	5.57
270.0	7.05	6.87	6.73	6.54	6.45	6.26	5.94	5.80	5.61
315.0	7.38	7.24	7.10	6.96	6.64	6.45	6.31	6.13	6.03
360.0	6.91	6.82	6.77	6.54	6.22	5.99	5.80	5.66	5.43

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	5.20	5.06	4.87	4.69	4.50	4.32	4.13	3.85	3.62
45.0	5.52	5.29	5.06	4.87	4.64	4.45	4.27	4.04	3.71
90.0	4.73	4.59	4.45	4.27	4.04	3.85	3.67	3.39	3.29
135.0	5.71	5.52	5.34	5.29	5.06	4.87	4.64	4.45	4.22
180.0	4.97	4.87	4.73	4.59	4.45	4.36	4.18	4.04	3.81
225.0	5.34	5.06	4.83	4.59	4.50	4.36	4.13	3.94	3.76
270.0	5.48	5.29	5.20	5.06	4.92	4.78	4.64	4.36	4.22
315.0	5.89	5.71	5.57	5.43	5.29	5.10	4.87	4.69	4.45
360.0	5.20	5.06	4.87	4.69	4.50	4.32	4.13	3.85	3.62

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.53	3.34	3.20	3.02	2.88	2.74	2.55	2.41	2.32
45.0	3.57	3.43	3.25	3.02	2.88	2.78	2.60	2.41	2.27
90.0	3.16	2.97	2.83	2.74	2.60	2.51	2.37	2.18	2.04
135.0	4.13	3.90	3.81	3.71	3.53	3.34	3.25	3.11	2.92
180.0	3.53	3.39	3.29	3.11	2.92	2.83	2.69	2.55	2.37
225.0	3.53	3.34	3.29	3.06	2.88	2.83	2.69	2.51	2.37
270.0	3.99	3.71	3.53	3.39	3.20	3.02	2.88	2.74	2.64
315.0	4.22	4.08	3.90	3.76	3.57	3.39	3.29	3.16	2.97
360.0	3.53	3.34	3.20	3.02	2.88	2.74	2.55	2.41	2.32

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.18	2.00	1.90	1.76	1.62	1.62	1.48	1.39	1.35
45.0	2.13	2.00	1.86	1.72	1.58	1.53	1.39	1.30	1.25
90.0	2.00	1.86	1.76	1.62	1.62	1.48	1.48	1.35	1.25
135.0	2.83	2.74	2.60	2.51	2.37	2.23	2.09	1.86	1.72
180.0	2.23	2.13	2.00	1.90	1.72	1.62	1.53	1.44	1.39
225.0	2.13	2.09	1.95	1.81	1.67	1.58	1.44	1.39	1.25
270.0	2.46	2.32	2.13	2.09	1.90	1.76	1.67	1.62	1.58
315.0	2.78	2.69	2.55	2.46	2.37	2.18	2.00	1.86	1.76
360.0	2.18	2.00	1.90	1.76	1.62	1.62	1.48	1.39	1.35

Intensity data(cd)

C/γ(°)	90.0
0.0	1.25
45.0	1.16
90.0	1.21
135.0	1.62
180.0	1.25
225.0	1.25
270.0	1.44
315.0	1.76
360.0	1.25