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

Nata

LumCAT: 3-1549-A3
Luminaire: 92.76.365.00
Report No: NATA0100
Test No: GC2019111506
LampCAT: LUMENS EDC-47-10W
Lamp flux(lm): 691.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 218.0000
Current(A): 0.0440
Power (W): 9.5000
PF: 0.9940
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 618.93
Efficiency(%): 89.57%
Lumens(lm)/Power(W): 65.15
Central intensity(cd): 2512.406
Maximum intensity(cd): 2512.406
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=22.3
[C90/270]Total=22.3
Field angle(10%Imax): [C0/180]Total=58.1
[C90/270]Total=58.1
Maximum s/h(1/2): C0_180=0.38 C90_270=0.38
Maximum s/h(1/4): C0_180=0.38 C90_270=0.38
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.57%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.368%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2512.406	0.000	0	.000%	.000%
1.0	2501.227	2.399	2.399	.347%	.388%
2.0	2468.180	7.133	9.531	1.032%	1.540%
3.0	2412.914	11.674	21.205	1.689%	3.426%
4.0	2341.758	15.915	37.121	2.303%	5.998%
5.0	2248.102	19.745	56.866	2.858%	9.188%
6.0	2119.500	22.953	79.819	3.322%	12.896%
7.0	1971.211	25.391	105.21	3.675%	16.999%
8.0	1824.188	27.163	132.373	3.931%	21.387%
9.0	1645.594	28.121	160.494	4.070%	25.931%
10.0	1464.188	28.142	188.636	4.073%	30.478%
11.0	1276.896	27.389	216.025	3.964%	34.903%
12.0	1132.151	26.334	242.359	3.811%	39.158%
13.0	972.253	24.974	267.333	3.614%	43.193%
14.0	839.363	23.189	290.522	3.356%	46.940%
15.0	720.316	21.412	311.934	3.099%	50.399%
16.0	618.870	19.623	331.557	2.840%	53.570%
17.0	544.605	18.118	349.675	2.622%	56.497%
18.0	479.841	16.891	366.566	2.444%	59.226%
19.0	429.307	15.817	382.383	2.289%	61.782%
20.0	389.559	14.988	397.371	2.169%	64.203%
21.0	353.236	14.263	411.634	2.064%	66.508%
22.0	327.410	13.678	425.312	1.979%	68.718%
23.0	308.679	13.347	438.659	1.932%	70.874%
24.0	292.852	13.152	451.81	1.903%	72.999%
25.0	282.333	13.078	464.889	1.893%	75.112%
26.0	273.825	13.128	478.017	1.900%	77.233%
27.0	264.938	13.181	491.198	1.908%	79.363%
28.0	257.864	13.236	504.434	1.916%	81.501%
29.0	251.522	13.327	517.761	1.929%	83.654%
30.0	244.273	13.386	531.148	1.937%	85.817%
31.0	233.072	13.284	544.431	1.922%	87.964%
32.0	210.178	12.699	557.13	1.838%	90.015%
33.0	181.547	11.540	568.67	1.670%	91.880%
34.0	145.322	9.892	578.562	1.432%	93.478%
35.0	107.135	7.840	586.403	1.135%	94.745%
36.0	72.105	5.707	592.11	.826%	95.667%
37.0	42.982	3.754	595.863	.543%	96.273%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	22.711	2.193	598.056	.317%	96.628%
39.0	16.270	1.331	599.387	.193%	96.843%
40.0	12.888	1.017	600.404	.147%	97.007%
41.0	10.498	0.833	601.236	.121%	97.142%
42.0	8.944	0.706	601.943	.102%	97.256%
43.0	7.671	0.615	602.558	.089%	97.355%
44.0	6.757	0.545	603.103	.079%	97.443%
45.0	5.913	0.487	603.59	.070%	97.522%
46.0	4.725	0.416	604.006	.060%	97.589%
47.0	4.493	0.367	604.372	.053%	97.648%
48.0	4.395	0.359	604.732	.052%	97.706%
49.0	4.254	0.355	605.087	.051%	97.764%
50.0	4.148	0.350	605.437	.051%	97.820%
51.0	4.057	0.347	605.784	.050%	97.876%
52.0	3.973	0.345	606.129	.050%	97.932%
53.0	3.923	0.343	606.472	.050%	97.987%
54.0	3.832	0.342	606.814	.049%	98.043%
55.0	3.762	0.339	607.153	.049%	98.097%
56.0	3.684	0.336	607.489	.049%	98.152%
57.0	3.656	0.336	607.825	.049%	98.206%
58.0	3.600	0.336	608.161	.049%	98.260%
59.0	3.558	0.335	608.495	.048%	98.314%
60.0	3.502	0.334	608.829	.048%	98.368%
61.0	3.473	0.333	609.162	.048%	98.422%
62.0	3.445	0.333	609.495	.048%	98.476%
63.0	3.403	0.333	609.828	.048%	98.530%
64.0	3.375	0.333	610.161	.048%	98.583%
65.0	3.361	0.333	610.494	.048%	98.637%
66.0	3.333	0.334	610.828	.048%	98.691%
67.0	3.326	0.335	611.163	.048%	98.745%
68.0	3.298	0.336	611.498	.049%	98.800%
69.0	3.298	0.336	611.835	.049%	98.854%
70.0	3.291	0.338	612.173	.049%	98.909%
71.0	3.263	0.339	612.512	.049%	98.963%
72.0	3.248	0.339	612.85	.049%	99.018%
73.0	3.241	0.339	613.19	.049%	99.073%
74.0	3.234	0.340	613.53	.049%	99.128%
75.0	3.227	0.341	613.872	.049%	99.183%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.248	0.344	614.215	.050%	99.239%
77.0	3.234	0.346	614.561	.050%	99.294%
78.0	3.241	0.347	614.908	.050%	99.350%
79.0	3.227	0.348	615.255	.050%	99.407%
80.0	3.220	0.348	615.603	.050%	99.463%
81.0	3.227	0.349	615.952	.050%	99.519%
82.0	3.213	0.349	616.301	.051%	99.576%
83.0	3.199	0.349	616.649	.050%	99.632%
84.0	3.150	0.346	616.995	.050%	99.688%
85.0	3.101	0.341	617.336	.049%	99.743%
86.0	3.030	0.335	617.672	.049%	99.797%
87.0	2.918	0.326	617.997	.047%	99.850%
88.0	2.855	0.316	618.313	.046%	99.901%
89.0	2.791	0.309	618.623	.045%	99.951%
90.0	2.777	0.305	618.928	.044%	100.000%

Zonal flux distribution table

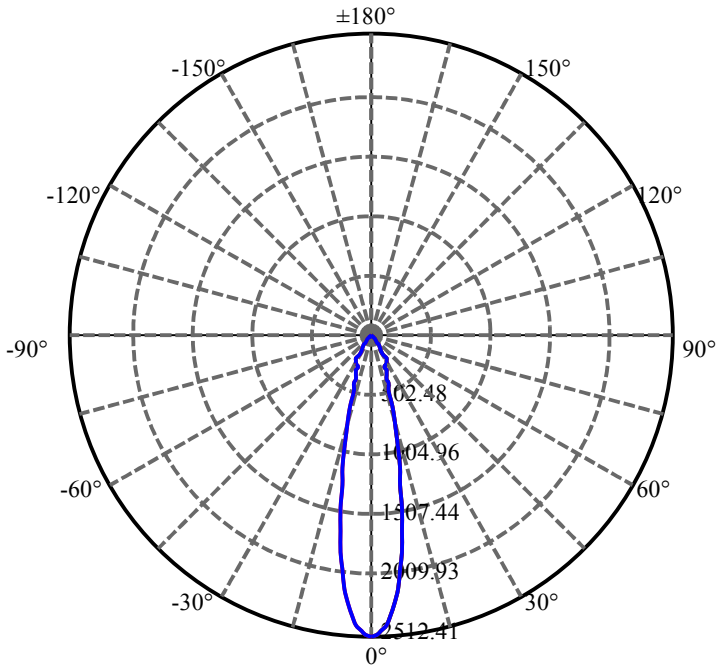
ZONAL LUMEN SUMMARY

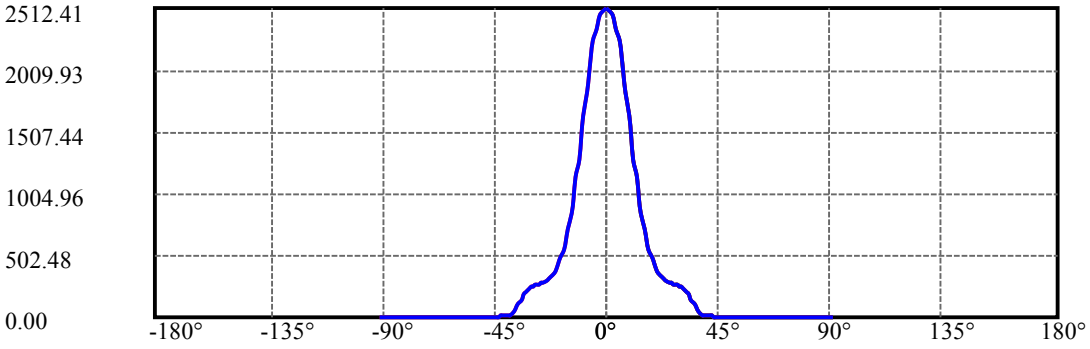
Zone	Lumens	%Lamp	%Fixt
0-30	531.15	76.87%	85.82%
0-40	600.40	86.89%	97.01%
0-60	608.83	88.11%	98.37%
0-90	618.62	89.53%	99.95%
0-120	618.62	89.53%	99.95%
0-180	618.93	89.57%	100.00%
60-90	10.13	1.47%	1.64%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.30	495.14	71.66%	80.00%

ZONAL LUMEN SUMMARY

0-10	188.64
10-20	208.73
20-30	133.78
30-40	69.26
40-50	5.03
50-60	3.39
60-70	3.34
70-80	3.43
80-90	3.02
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):

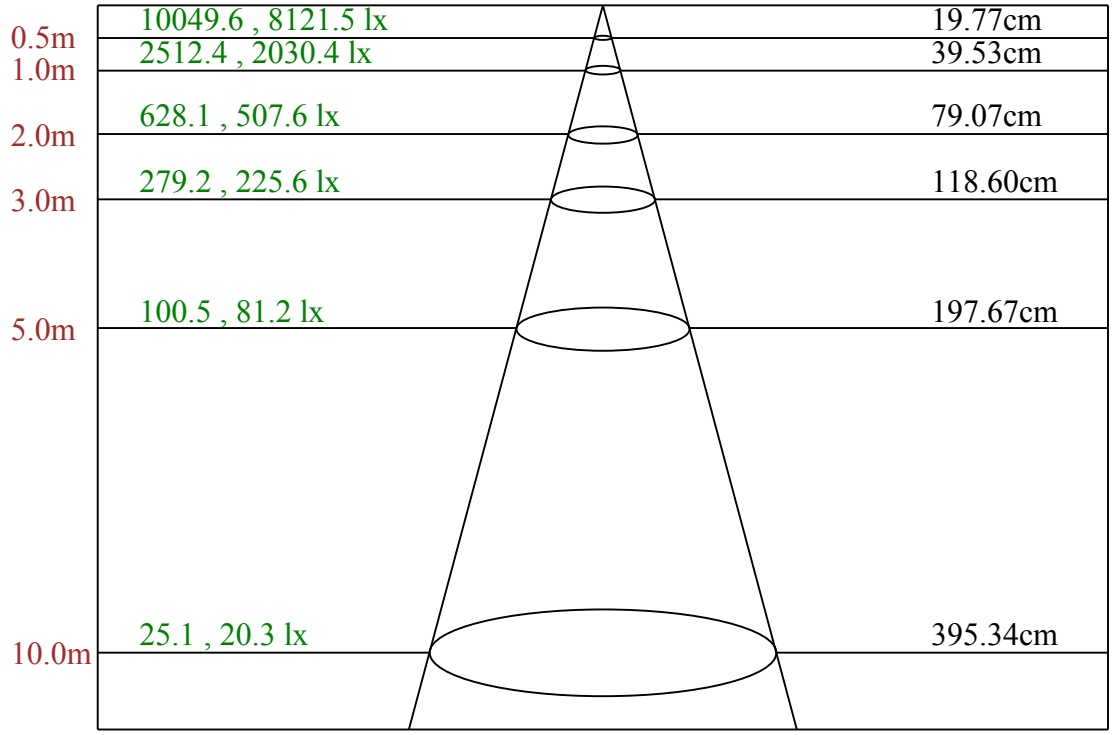
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:29.0 Right:29.0
:C90/270Left:29.0 Right:29.0

Beam Angle(50%Imax):C0/180Left:11.1 Right:11.1
:C90/270Left:11.1 Right:11.1

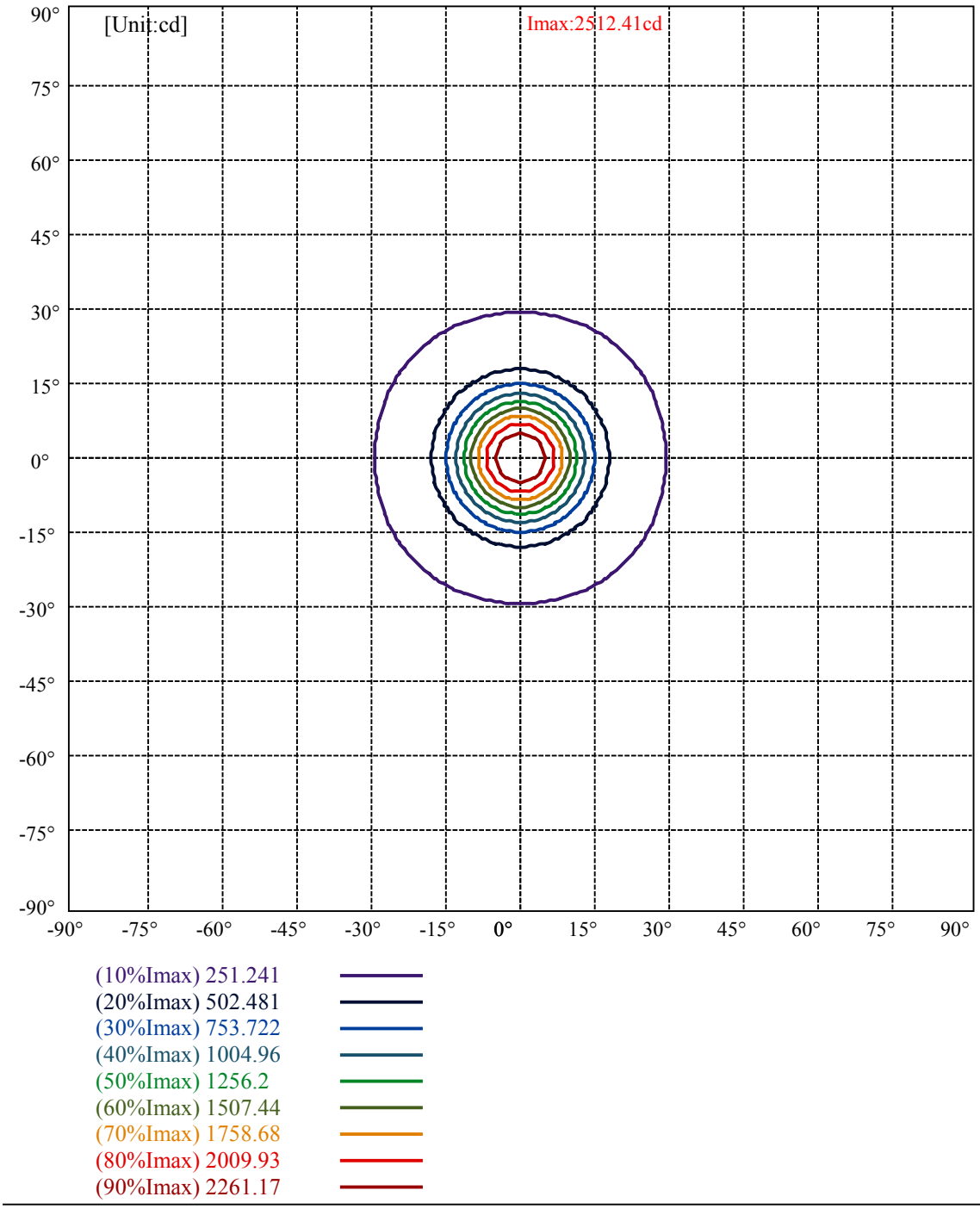
Lux distance Curve



Max , Ave

Beam angle of C0 plane 22.36

ISO-Intensity(V-H)

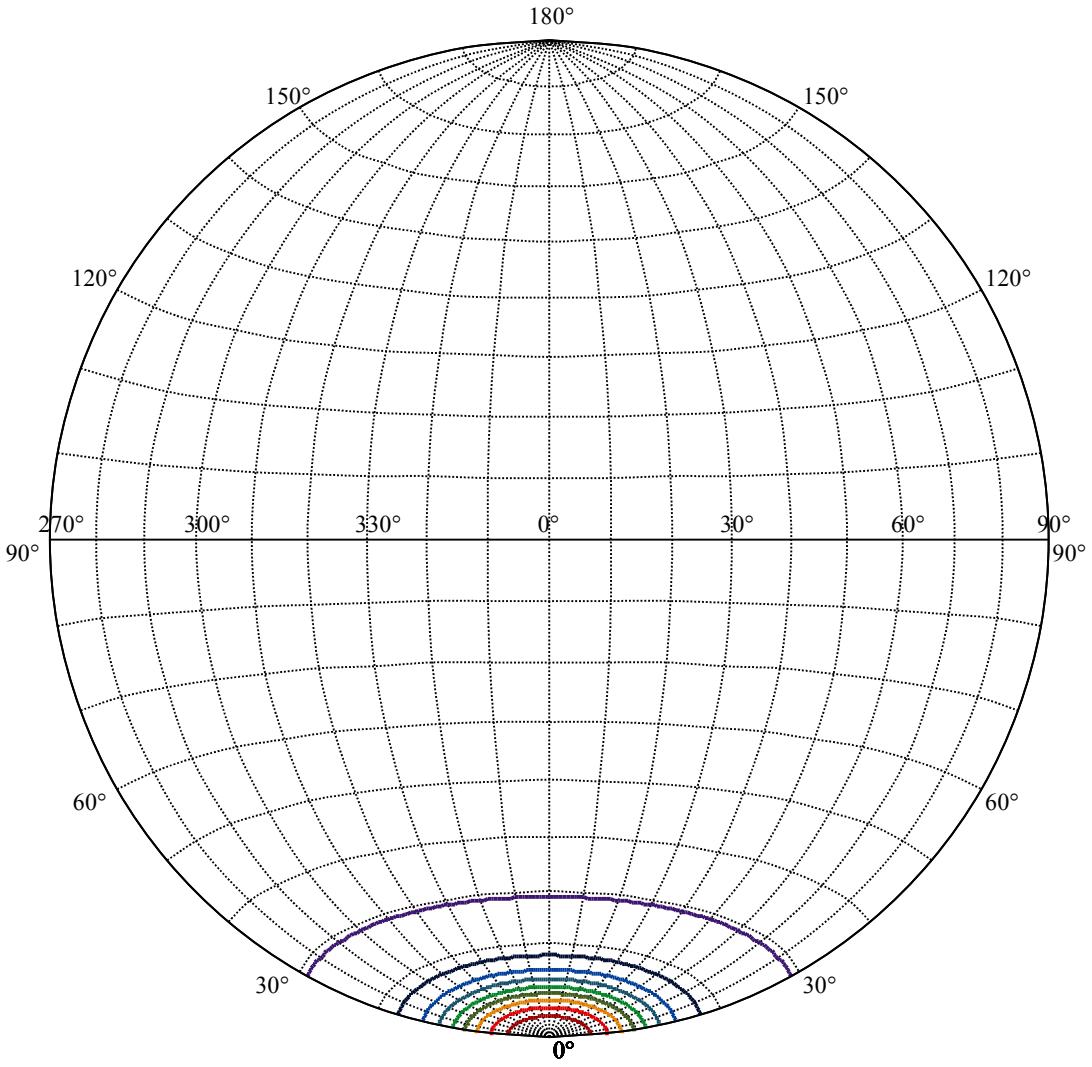


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/11/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:2512.41

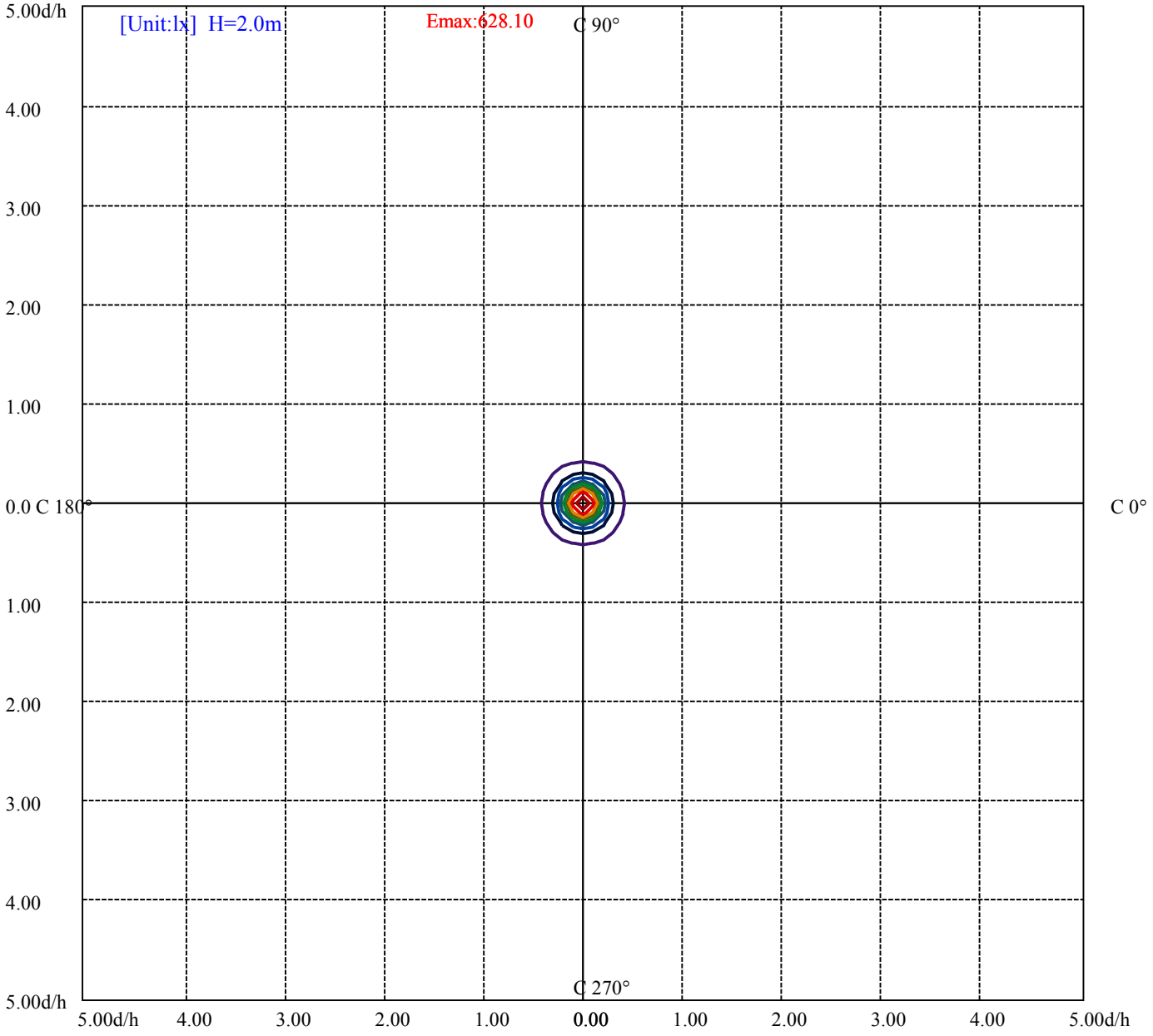
(10%Imax) 251.241
(20%Imax) 502.481
(30%Imax) 753.722
(40%Imax) 1004.96
(50%Imax) 1256.2
(60%Imax) 1507.44
(70%Imax) 1758.68
(80%Imax) 2009.93
(90%Imax) 2261.17

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/11/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

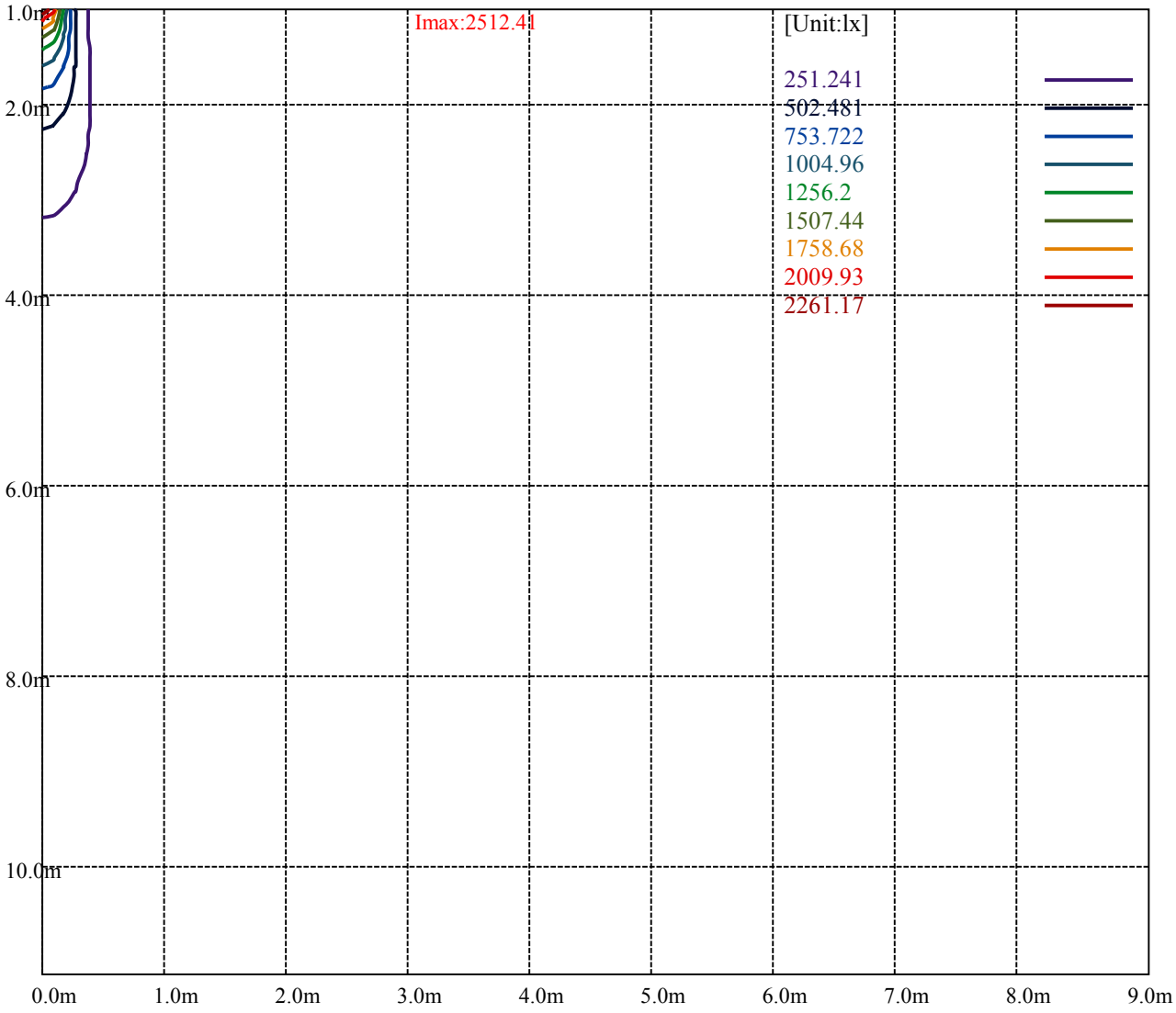
ISO illuminance diagram



(10%Emax) 62.81
(20%Emax) 125.6202
(30%Emax) 188.4303
(40%Emax) 251.24
(50%Emax) 314.05
(60%Emax) 376.86
(70%Emax) 439.67
(80%Emax) 502.48
(90%Emax) 565.29

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2019/11/15
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/11/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

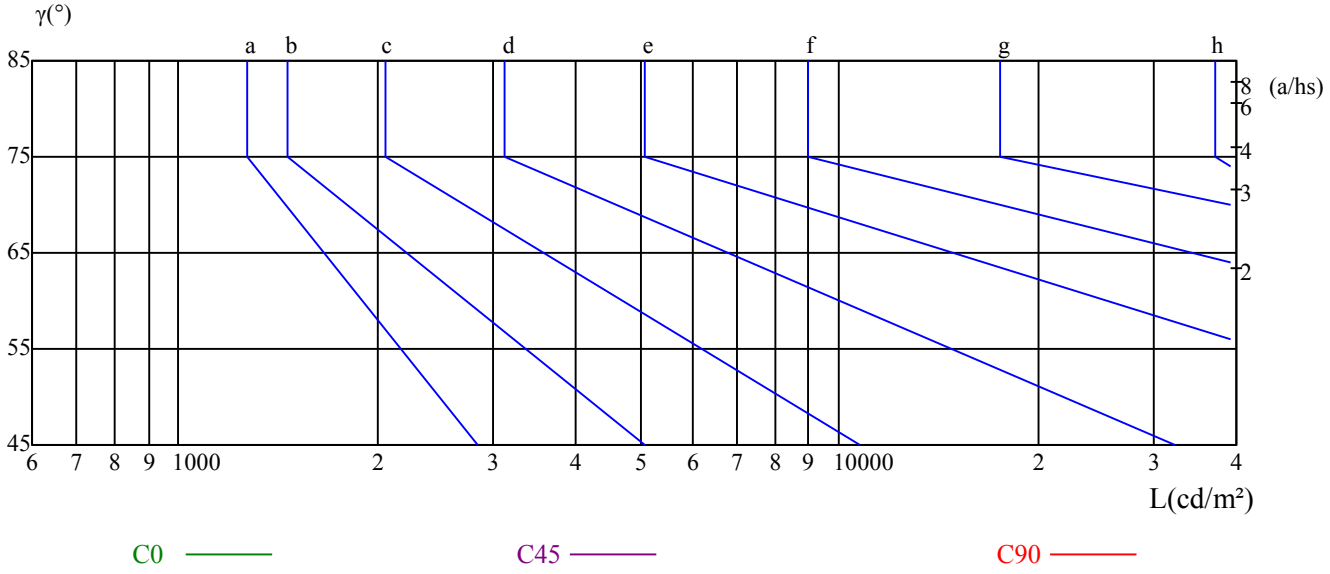
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

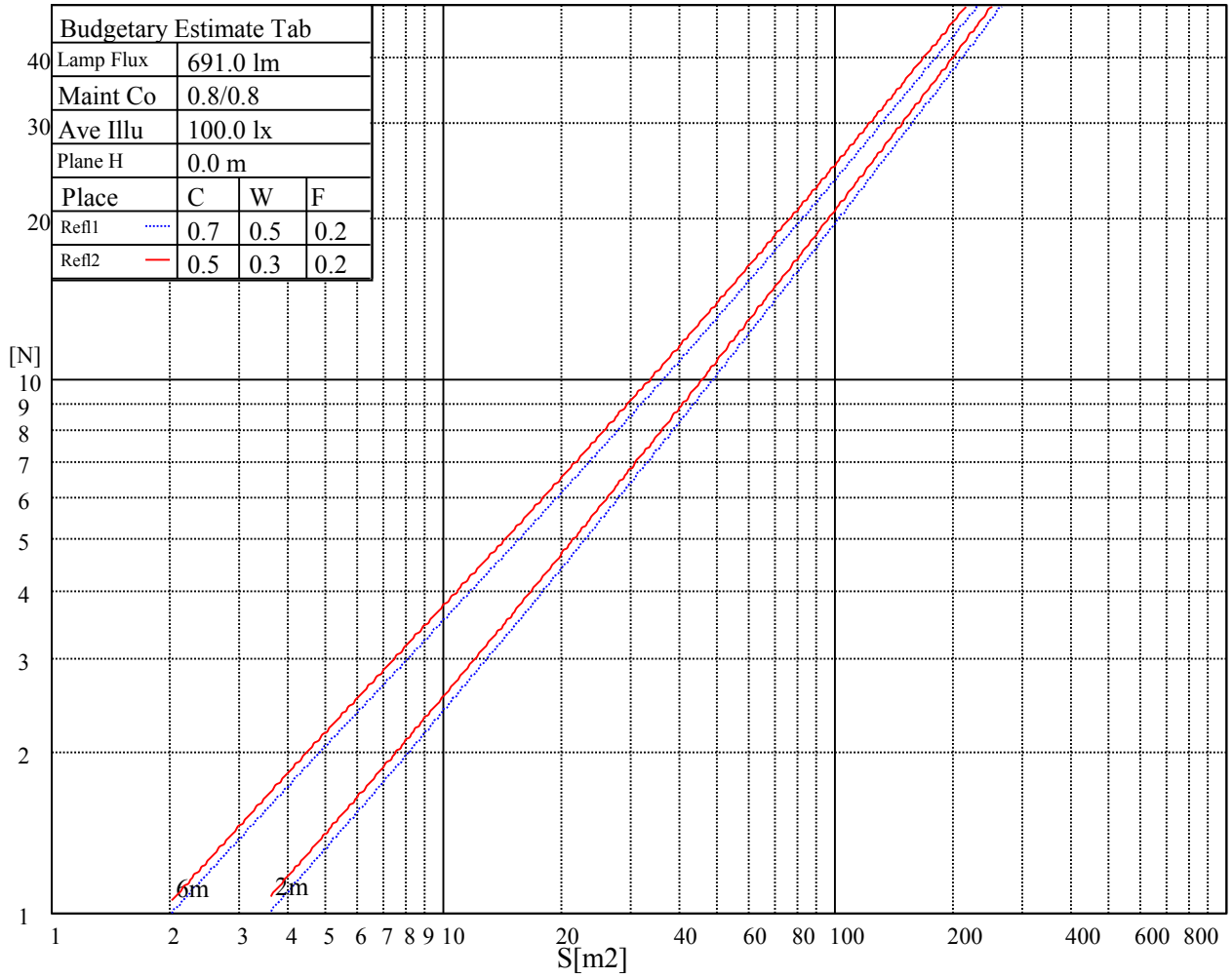
Glare Table

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



Budgetary Estimate Table

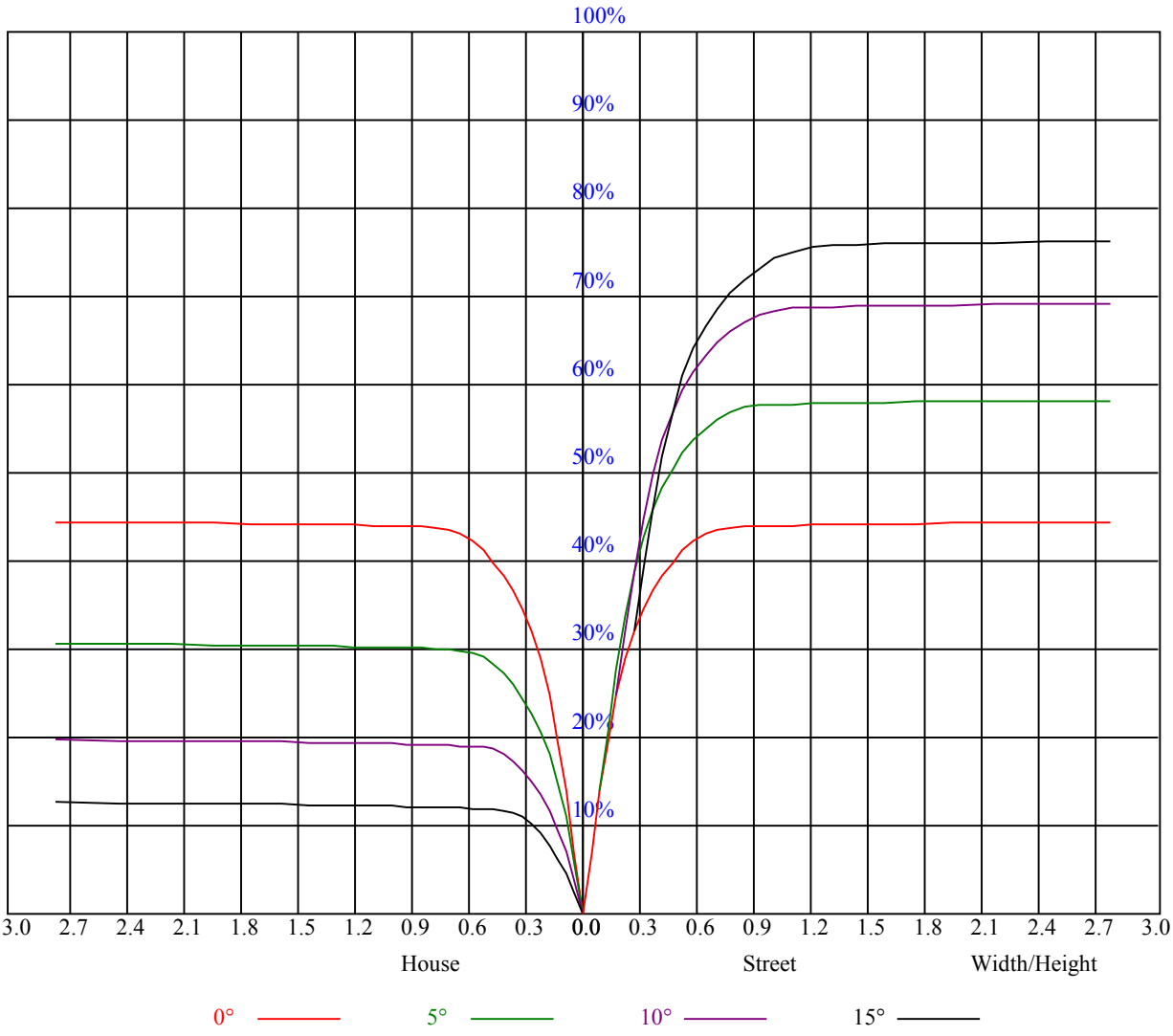


Equipment: GMS1980 Date: 2019/11/15 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	1.07	1.07	1.07	1.04	1.04	1.04	1.00	1.00	1.00	0.95	0.95	0.95	0.91	0.91	0.91	0.90
1	1.00	0.98	0.96	0.98	0.96	0.95	0.95	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.87	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	0.86	0.83	0.89	0.85	0.83	0.86	0.84	0.81	0.84	0.82	0.80	0.82	0.80	0.79	0.78
4	0.86	0.82	0.79	0.85	0.81	0.78	0.83	0.80	0.77	0.81	0.78	0.76	0.80	0.77	0.75	0.74
5	0.82	0.78	0.75	0.81	0.77	0.74	0.80	0.76	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.71
6	0.78	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.70	0.75	0.72	0.70	0.74	0.72	0.70	0.68
7	0.75	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.66
8	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.70	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	0.67	0.64	0.62	0.61
10	0.68	0.64	0.61	0.67	0.63	0.61	0.67	0.63	0.61	0.66	0.63	0.60	0.65	0.62	0.60	0.59

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2019/11/15	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	2507.06	2504.81	2482.88	2436.75	2377.69	2287.13	2166.75	2036.81	1887.75
45.0	2514.94	2502.56	2473.88	2428.31	2365.31	2266.31	2133.00	1999.69	1873.69
90.0	2510.44	2487.94	2452.50	2383.88	2304.56	2202.19	2040.75	1898.44	1742.06
135.0	2517.19	2504.25	2470.50	2421.00	2347.88	2250.56	2139.19	1990.13	1840.50
180.0	2507.06	2486.81	2447.44	2386.13	2306.81	2215.13	2098.69	1922.06	1765.13
225.0	2514.94	2500.88	2460.38	2398.50	2320.31	2225.81	2107.13	1936.69	1791.56
270.0	2510.44	2516.06	2485.13	2437.88	2366.44	2283.75	2162.25	2014.88	1872.00
315.0	2517.19	2506.50	2472.75	2410.88	2345.06	2253.94	2108.25	1971.00	1820.81
360.0	2507.06	2504.81	2482.88	2436.75	2377.69	2287.13	2166.75	2036.81	1887.75

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1688.63	1522.13	1353.38	1172.81	1008.56	874.69	744.19	637.31	561.94
45.0	1652.63	1487.25	1346.06	1149.75	983.81	869.63	727.31	622.69	558.00
90.0	1564.31	1382.63	1113.64	1042.09	906.98	785.81	657.51	583.14	506.59
135.0	1662.19	1476.56	1313.44	1155.94	974.25	843.75	731.25	617.63	546.19
180.0	1601.44	1392.19	1111.78	1075.44	904.89	786.66	687.99	586.63	528.69
225.0	1641.38	1446.75	1289.81	1111.22	983.03	821.98	713.98	622.52	539.10
270.0	1710.56	1546.31	1393.31	1238.06	1049.63	909.56	786.38	668.81	577.13
315.0	1643.63	1459.69	1293.75	1111.89	966.88	822.83	713.93	612.23	539.21
360.0	1688.63	1522.13	1353.38	1172.81	1008.56	874.69	744.19	637.31	561.94

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	493.31	444.38	399.38	363.38	337.50	317.25	297.56	287.44	284.06
45.0	483.19	434.81	398.25	355.50	330.19	310.50	293.06	284.63	272.98
90.0	445.44	403.82	369.73	334.97	314.16	298.86	284.46	275.23	267.69
135.0	485.44	429.19	387.00	352.69	325.13	305.44	289.69	284.06	266.68
180.0	465.02	409.67	378.73	344.08	316.74	303.02	289.41	274.61	268.43
225.0	477.79	431.78	387.73	353.08	328.73	307.52	293.46	282.38	273.04
270.0	513.56	456.75	409.50	374.63	343.13	321.19	302.63	289.69	284.63
315.0	474.98	424.07	386.16	347.57	323.72	305.66	292.56	280.63	273.09
360.0	493.31	444.38	399.38	363.38	337.50	317.25	297.56	287.44	284.06

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	268.03	261.73	255.83	249.02	238.95	224.78	203.68	162.00	120.71
45.0	264.77	258.30	251.89	243.73	233.38	212.40	180.45	144.28	112.67
90.0	261.23	253.74	247.50	239.23	225.51	195.58	161.16	130.44	91.97
135.0	259.59	251.83	245.81	239.34	228.94	208.74	178.82	135.84	99.90
180.0	262.24	254.36	248.29	241.20	227.87	201.77	172.07	131.79	92.08
225.0	266.40	259.76	252.62	245.48	235.80	206.55	175.95	142.26	105.30
270.0	270.62	263.98	257.12	250.65	239.91	219.94	194.40	165.99	122.91
315.0	266.63	259.20	253.13	245.53	234.23	211.67	185.85	149.96	111.54
360.0	268.03	261.73	255.83	249.02	238.95	224.78	203.68	162.00	120.71

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	83.19	49.89	24.92	17.21	13.67	11.08	9.39	8.04	7.14
45.0	75.49	46.01	22.73	15.81	12.60	10.29	8.61	7.59	6.81
90.0	63.90	37.24	19.41	14.68	11.48	9.79	8.61	7.43	6.69
135.0	68.96	41.34	21.09	15.75	12.49	10.18	8.44	7.20	6.30
180.0	52.99	30.21	18.51	14.51	11.53	9.28	7.93	6.58	5.79
225.0	69.13	41.57	21.49	16.43	12.88	10.46	9.00	7.59	6.41
270.0	92.19	60.02	32.85	19.52	16.03	12.43	10.58	9.28	8.10
315.0	70.99	37.58	20.70	16.26	12.43	10.46	9.00	7.65	6.81
360.0	83.19	49.89	24.92	17.21	13.67	11.08	9.39	8.04	7.14

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	6.30	4.95	4.73	4.61	4.39	4.28	4.16	4.05	3.99
45.0	5.85	4.61	4.44	4.28	4.16	4.05	3.99	3.94	3.83
90.0	5.85	4.33	4.22	4.16	4.05	3.88	3.83	3.77	3.71
135.0	5.57	4.44	4.28	4.16	4.05	3.99	3.94	3.83	3.83
180.0	5.06	4.44	4.28	4.22	4.11	4.05	3.94	3.88	3.88
225.0	5.57	4.73	4.50	4.44	4.28	4.16	4.11	3.99	3.94
270.0	7.26	5.34	4.78	4.67	4.50	4.39	4.28	4.16	4.11
315.0	5.85	4.95	4.73	4.61	4.50	4.39	4.22	4.16	4.11
360.0	6.30	4.95	4.73	4.61	4.39	4.28	4.16	4.05	3.99

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	3.88	3.83	3.77	3.71	3.60	3.60	3.54	3.43	3.43
45.0	3.71	3.66	3.66	3.54	3.54	3.54	3.43	3.43	3.38
90.0	3.66	3.60	3.54	3.49	3.43	3.43	3.38	3.38	3.38
135.0	3.71	3.66	3.60	3.60	3.54	3.54	3.49	3.43	3.43
180.0	3.77	3.71	3.66	3.66	3.60	3.49	3.49	3.49	3.43
225.0	3.88	3.83	3.66	3.66	3.66	3.54	3.54	3.49	3.49
270.0	4.05	3.94	3.83	3.83	3.71	3.71	3.60	3.60	3.54
315.0	3.99	3.88	3.77	3.77	3.71	3.60	3.54	3.54	3.49
360.0	3.88	3.83	3.77	3.71	3.60	3.60	3.54	3.43	3.43

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	3.43	3.38	3.32	3.32	3.32	3.26	3.32	3.26	3.21
45.0	3.38	3.32	3.32	3.32	3.32	3.32	3.26	3.26	3.26
90.0	3.32	3.32	3.32	3.26	3.26	3.21	3.26	3.21	3.26
135.0	3.38	3.32	3.32	3.32	3.32	3.32	3.32	3.32	3.26
180.0	3.38	3.38	3.38	3.32	3.32	3.32	3.26	3.32	3.26
225.0	3.43	3.43	3.38	3.32	3.38	3.32	3.32	3.32	3.26
270.0	3.49	3.43	3.43	3.43	3.32	3.32	3.32	3.32	3.26
315.0	3.43	3.43	3.43	3.38	3.38	3.32	3.32	3.32	3.32
360.0	3.43	3.38	3.32	3.32	3.32	3.26	3.32	3.26	3.21

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.21	3.21	3.15	3.21	3.15	3.15	3.21	3.15	3.15
45.0	3.21	3.21	3.26	3.21	3.26	3.26	3.26	3.26	3.26
90.0	3.21	3.21	3.15	3.15	3.21	3.15	3.15	3.15	3.15
135.0	3.26	3.26	3.26	3.26	3.26	3.21	3.21	3.21	3.15
180.0	3.26	3.26	3.21	3.15	3.21	3.15	3.15	3.15	3.15
225.0	3.26	3.21	3.21	3.21	3.21	3.21	3.21	3.15	3.09
270.0	3.26	3.26	3.26	3.26	3.26	3.26	3.26	3.21	3.21
315.0	3.32	3.32	3.38	3.38	3.43	3.49	3.49	3.54	3.60
360.0	3.21	3.21	3.15	3.21	3.15	3.15	3.21	3.15	3.15

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	3.09	3.15	3.09	3.09	3.04	2.98	2.87	2.81	2.81
45.0	3.32	3.26	3.32	3.26	3.21	2.98	2.87	2.81	2.76
90.0	3.15	3.09	3.09	3.09	3.04	2.98	2.81	2.76	2.76
135.0	3.15	3.15	3.09	3.04	3.04	3.04	2.93	2.93	2.81
180.0	3.15	3.09	3.09	3.04	3.04	2.98	2.98	2.93	2.81
225.0	3.15	3.15	3.15	3.09	3.09	3.04	2.98	2.87	2.81
270.0	3.21	3.21	3.21	3.15	3.09	3.09	3.04	2.87	2.81
315.0	3.60	3.60	3.54	3.43	3.26	3.15	2.87	2.87	2.76
360.0	3.09	3.15	3.09	3.09	3.04	2.98	2.87	2.81	2.81

Intensity data(cd)

C/γ(°)	90.0
0.0	2.76
45.0	2.76
90.0	2.76
135.0	2.81
180.0	2.81
225.0	2.76
270.0	2.81
315.0	2.76
360.0	2.76