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

Nata

LumCAT: 2-2158-A
Luminaire: 92.70.153.00

Report No: NATA0100	Voltage(V): 33.8700
Test No: GC2019111411	Current(A): 0.4270
LampCAT: PHILIPS SLM92757 TWL152024 Gen	Power (W): 14.4600
Lamp flux(lm): 1410.0	PF: 1.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1161.15
Efficiency(%): 82.35%
Lumens(lm)/Power(W): 80.30
Central intensity(cd): 3674.531
Maximum intensity(cd): 3674.531
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=24.2
[C90/270]Total=24.2
Field angle(10%Imax): [C0/180]Total=64.8
[C90/270]Total=64.8
Maximum s/h(1/2): C0_180=0.41 C90_270=0.41
Maximum s/h(1/4): C0_180=0.43 C90_270=0.43
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 82.35%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.099%

Equipment: GMS1980	Date: 2019/11/14	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3674.531	0.000	0	.000%	.000%
1.0	3657.516	3.508	3.508	.249%	.302%
2.0	3597.680	10.413	13.922	.739%	1.199%
3.0	3509.086	16.997	30.919	1.205%	2.663%
4.0	3392.859	23.103	54.022	1.639%	4.652%
5.0	3237.047	28.522	82.543	2.023%	7.109%
6.0	3069.914	33.145	115.688	2.351%	9.963%
7.0	2882.250	36.945	152.633	2.620%	13.145%
8.0	2676.375	39.782	192.415	2.821%	16.571%
9.0	2466.844	41.683	234.098	2.956%	20.161%
10.0	2251.266	42.697	276.795	3.028%	23.838%
11.0	2042.297	42.902	319.697	3.043%	27.533%
12.0	1852.594	42.577	362.273	3.020%	31.199%
13.0	1658.602	41.669	403.942	2.955%	34.788%
14.0	1477.758	40.145	444.087	2.847%	38.245%
15.0	1327.472	38.511	482.599	2.731%	41.562%
16.0	1192.620	36.926	519.525	2.619%	44.742%
17.0	1060.291	35.084	554.609	2.488%	47.764%
18.0	969.117	33.461	588.07	2.373%	50.645%
19.0	886.739	32.288	620.358	2.290%	53.426%
20.0	805.978	30.981	651.339	2.197%	56.094%
21.0	737.972	29.647	680.986	2.103%	58.647%
22.0	685.772	28.611	709.597	2.029%	61.111%
23.0	637.453	27.765	737.362	1.969%	63.503%
24.0	593.037	26.903	764.265	1.908%	65.820%
25.0	558.366	26.180	790.445	1.857%	68.074%
26.0	527.477	25.631	816.077	1.818%	70.282%
27.0	500.091	25.140	841.216	1.783%	72.447%
28.0	477.478	24.750	865.966	1.755%	74.578%
29.0	454.444	24.382	890.348	1.729%	76.678%
30.0	432.155	23.938	914.286	1.698%	78.740%
31.0	407.609	23.369	937.655	1.657%	80.752%
32.0	378.766	22.529	960.184	1.598%	82.692%
33.0	349.545	21.456	981.64	1.522%	84.540%
34.0	319.908	20.260	1001.9	1.437%	86.285%
35.0	288.260	18.887	1020.787	1.340%	87.912%
36.0	252.738	17.225	1038.013	1.222%	89.395%
37.0	225.570	15.600	1053.613	1.106%	90.739%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	190.603	13.891	1067.504	.985%	91.935%
39.0	160.320	11.978	1079.482	.850%	92.966%
40.0	135.766	10.326	1089.808	.732%	93.856%
41.0	111.790	8.815	1098.624	.625%	94.615%
42.0	90.577	7.352	1105.976	.521%	95.248%
43.0	73.083	6.062	1112.038	.430%	95.770%
44.0	58.662	4.972	1117.011	.353%	96.199%
45.0	46.491	4.041	1121.052	.287%	96.547%
46.0	37.097	3.269	1124.321	.232%	96.828%
47.0	28.645	2.615	1126.936	.185%	97.053%
48.0	22.106	2.052	1128.987	.146%	97.230%
49.0	16.741	1.595	1130.582	.113%	97.367%
50.0	12.340	1.212	1131.795	.086%	97.472%
51.0	9.816	0.937	1132.732	.066%	97.552%
52.0	8.515	0.787	1133.519	.056%	97.620%
53.0	7.952	0.716	1134.235	.051%	97.682%
54.0	7.748	0.692	1134.927	.049%	97.742%
55.0	7.664	0.688	1135.615	.049%	97.801%
56.0	7.580	0.689	1136.304	.049%	97.860%
57.0	7.509	0.690	1136.994	.049%	97.920%
58.0	7.453	0.692	1137.686	.049%	97.979%
59.0	7.404	0.695	1138.38	.049%	98.039%
60.0	7.348	0.697	1139.077	.049%	98.099%
61.0	7.320	0.700	1139.777	.050%	98.159%
62.0	7.284	0.704	1140.481	.050%	98.220%
63.0	7.256	0.707	1141.188	.050%	98.281%
64.0	7.228	0.711	1141.899	.050%	98.342%
65.0	7.221	0.715	1142.614	.051%	98.404%
66.0	7.207	0.720	1143.334	.051%	98.466%
67.0	7.172	0.723	1144.057	.051%	98.528%
68.0	7.165	0.726	1144.783	.052%	98.590%
69.0	7.151	0.730	1145.514	.052%	98.653%
70.0	7.116	0.733	1146.246	.052%	98.716%
71.0	7.095	0.734	1146.981	.052%	98.780%
72.0	7.088	0.737	1147.718	.052%	98.843%
73.0	7.080	0.741	1148.459	.053%	98.907%
74.0	7.052	0.743	1149.202	.053%	98.971%
75.0	7.031	0.744	1149.946	.053%	99.035%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	7.024	0.746	1150.692	.053%	99.099%
77.0	7.003	0.748	1151.44	.053%	99.164%
78.0	7.003	0.750	1152.19	.053%	99.228%
79.0	7.010	0.753	1152.943	.053%	99.293%
80.0	7.024	0.757	1153.699	.054%	99.358%
81.0	7.045	0.761	1154.46	.054%	99.424%
82.0	7.109	0.768	1155.228	.054%	99.490%
83.0	7.270	0.782	1156.009	.055%	99.557%
84.0	7.770	0.819	1156.829	.058%	99.628%
85.0	8.585	0.893	1157.721	.063%	99.705%
86.0	8.522	0.935	1158.657	.066%	99.785%
87.0	5.709	0.779	1159.435	.055%	99.852%
88.0	5.189	0.597	1160.032	.042%	99.904%
89.0	5.084	0.563	1160.595	.040%	99.952%
90.0	5.063	0.556	1161.152	.039%	100.000%

Zonal flux distribution table

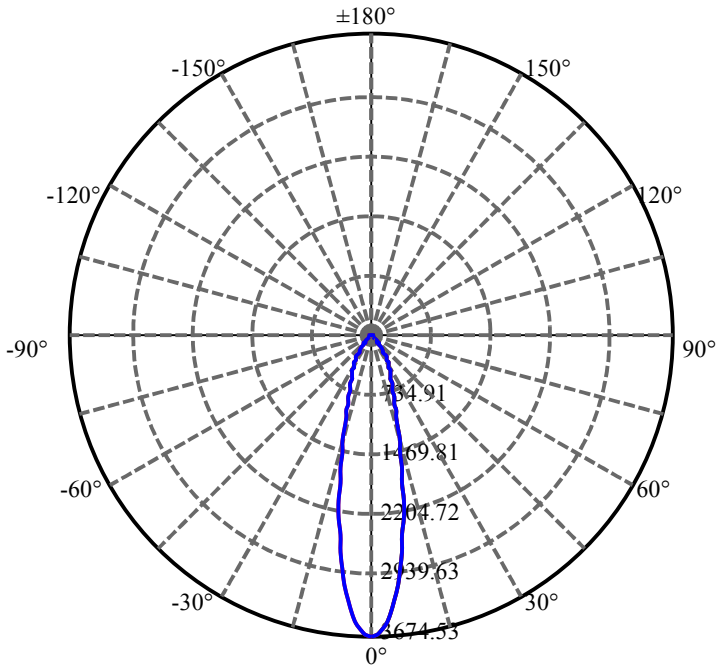
ZONAL LUMEN SUMMARY

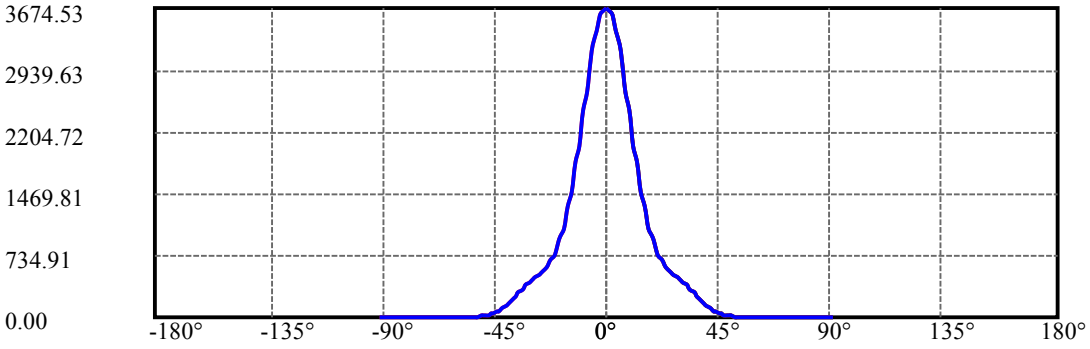
Zone	Lumens	%Lamp	%Fixt
0-30	914.29	64.84%	78.74%
0-40	1089.81	77.29%	93.86%
0-60	1139.08	80.79%	98.10%
0-90	1160.60	82.31%	99.95%
0-120	1160.60	82.31%	99.95%
0-180	1161.15	82.35%	100.00%
60-90	22.21	1.58%	1.91%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-30.63	928.92	65.88%	80.00%

ZONAL LUMEN SUMMARY

0-10	276.80
10-20	374.54
20-30	262.95
30-40	175.52
40-50	41.99
50-60	7.28
60-70	7.17
70-80	7.45
80-90	6.90
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):

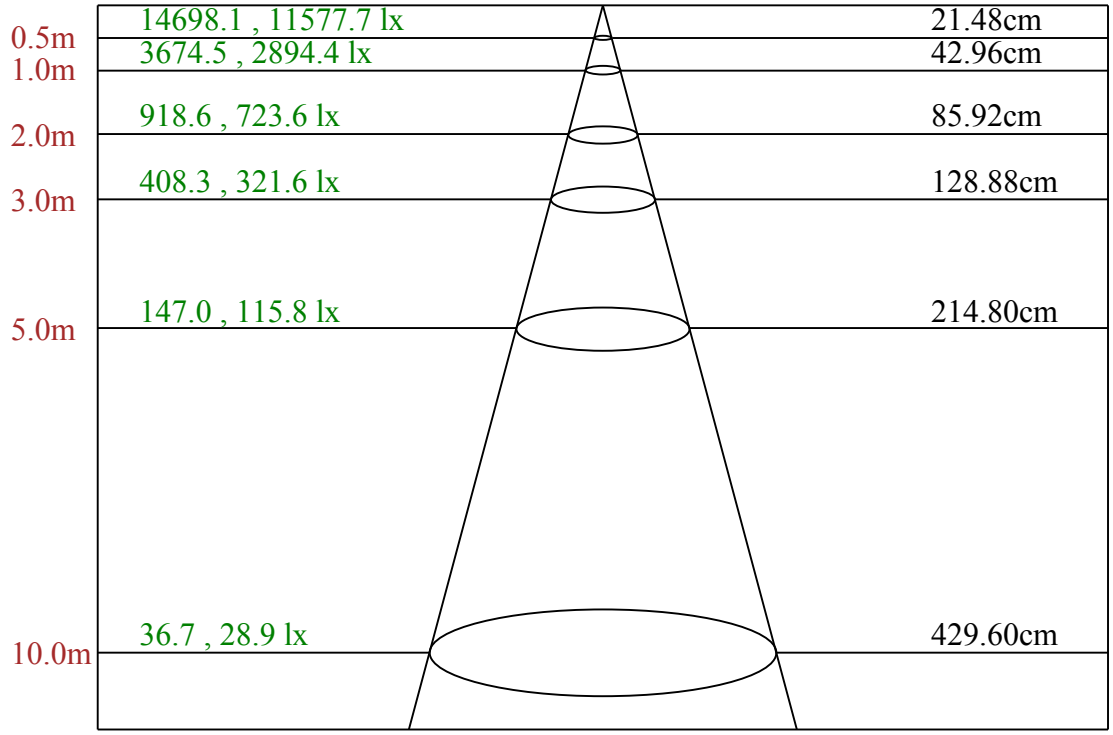
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:32.4 Right:32.4
:C90/270Left:32.4 Right:32.4

Beam Angle(50%Imax):C0/180Left:12.1 Right:12.1
:C90/270Left:12.1 Right:12.1

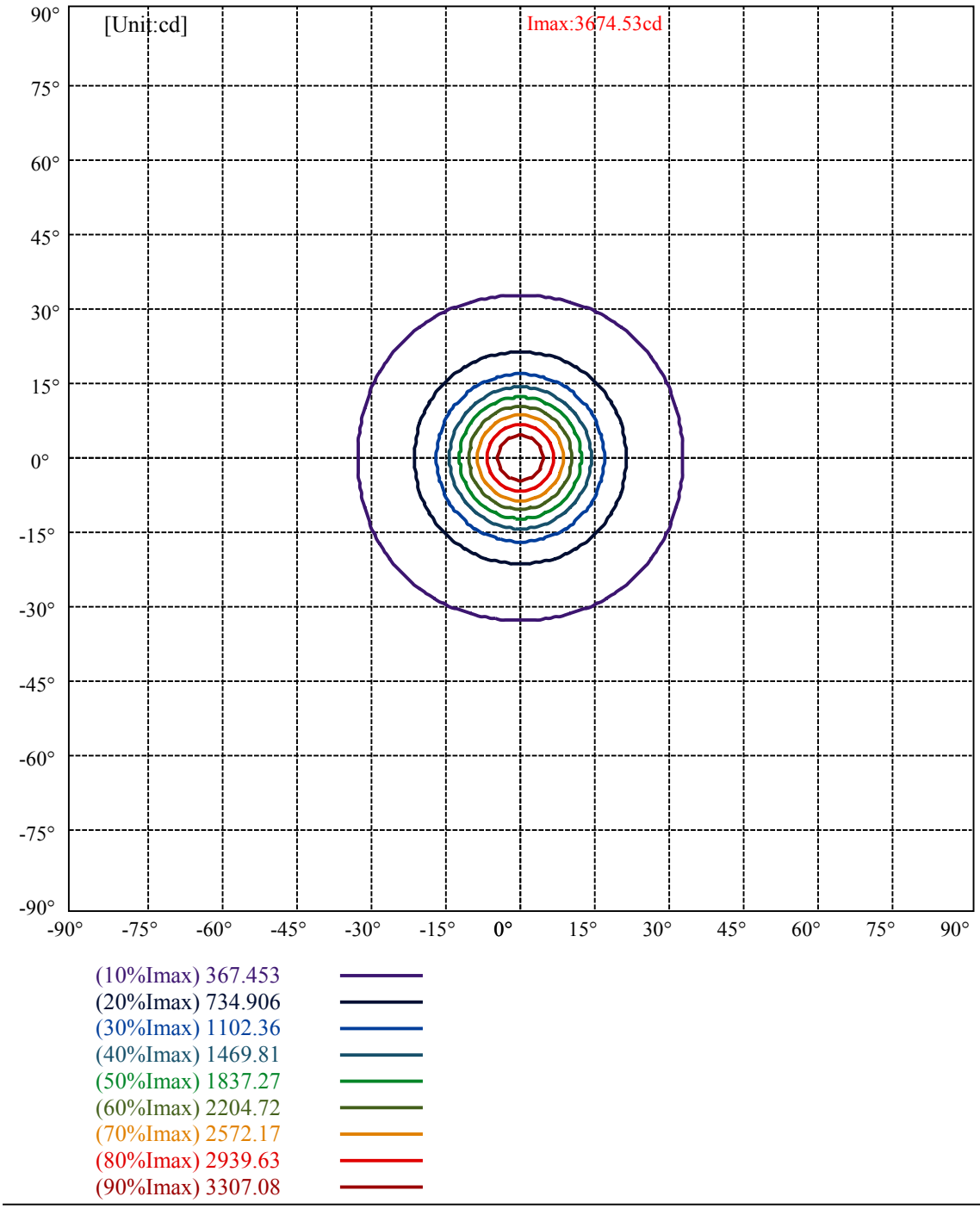
Lux distance Curve



Max , Ave

Beam angle of C0 plane 24.25

ISO-Intensity(V-H)

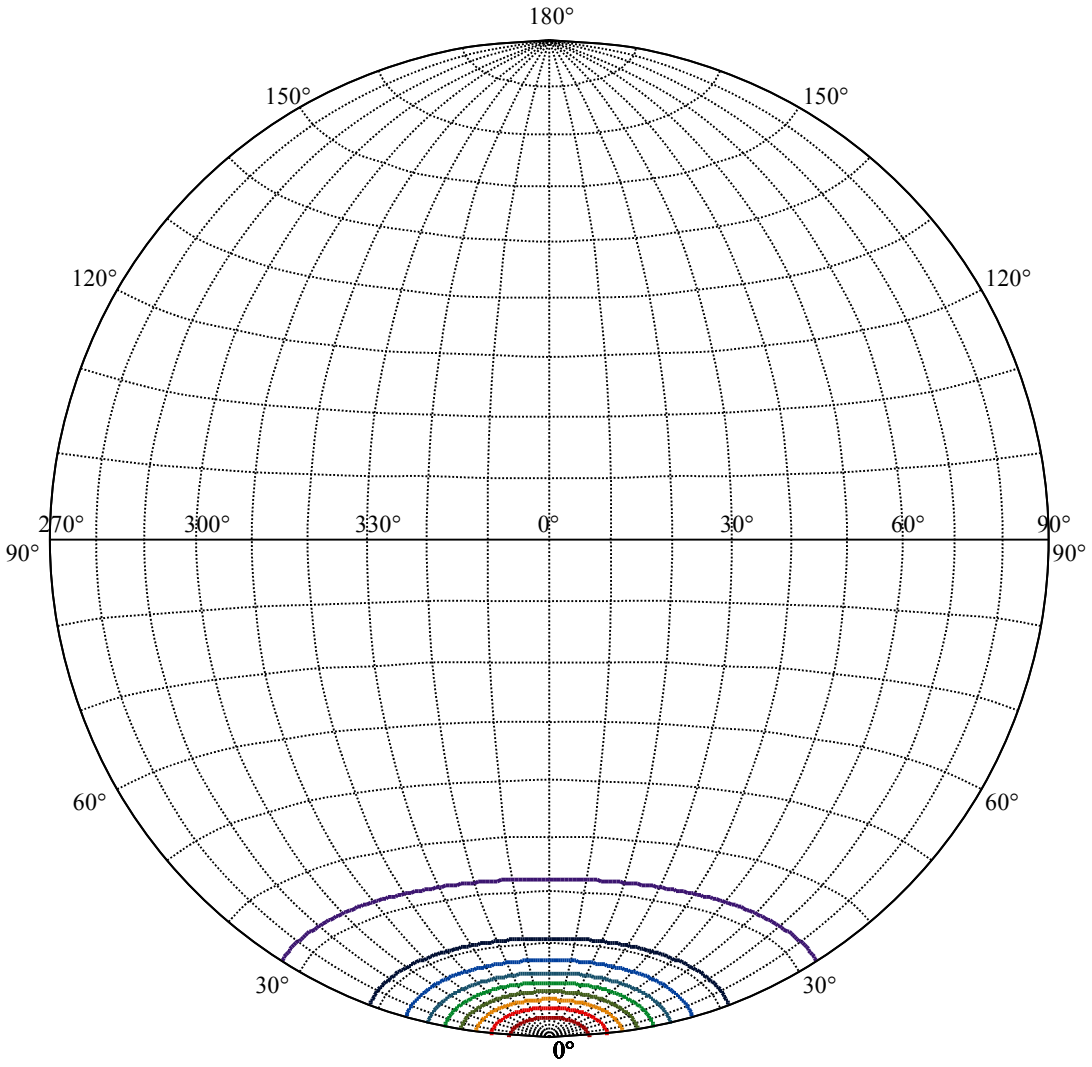


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/11/14
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:3674.53

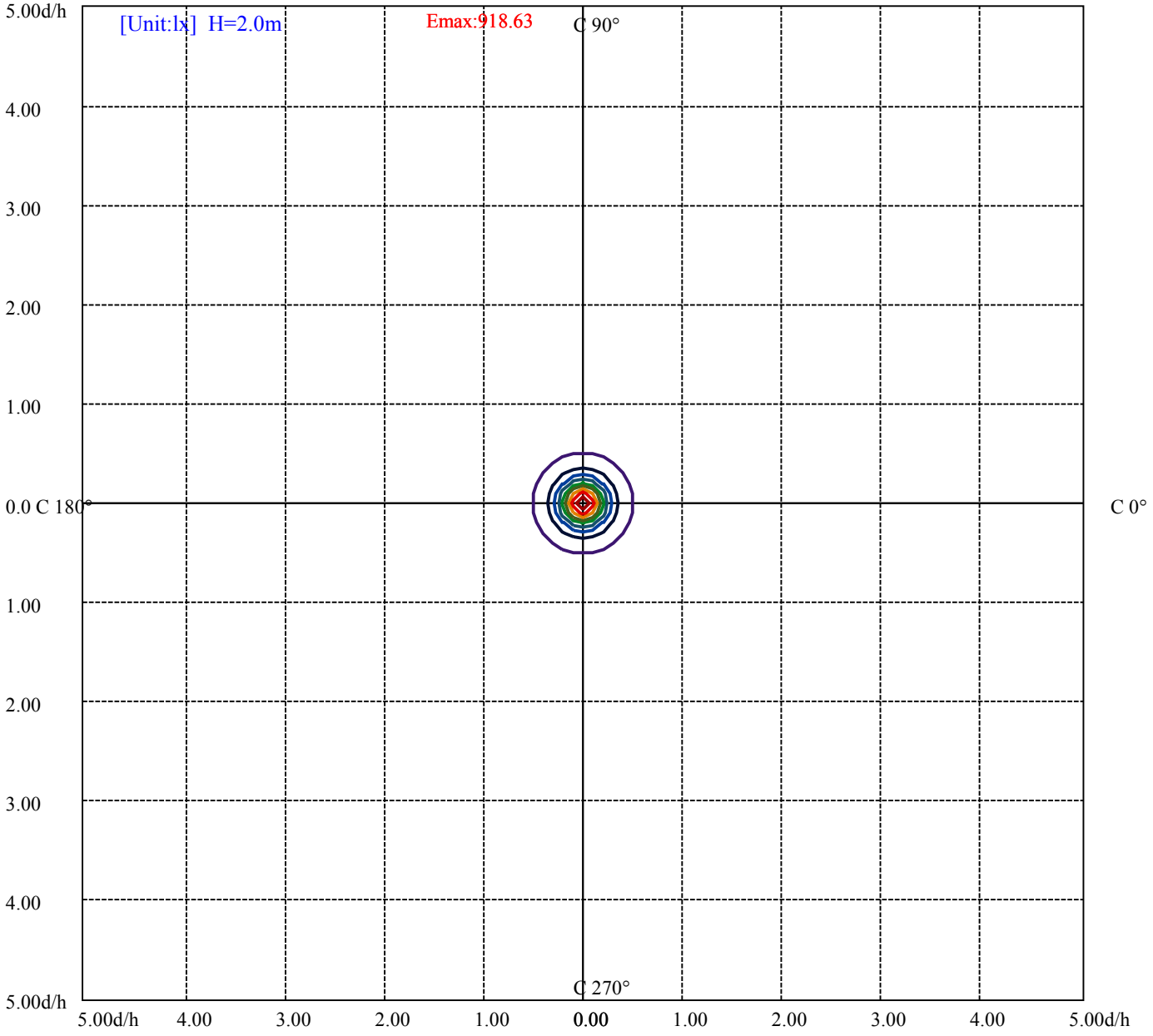
(10%Imax) 367.453
(20%Imax) 734.906
(30%Imax) 1102.36
(40%Imax) 1469.81
(50%Imax) 1837.27
(60%Imax) 2204.72
(70%Imax) 2572.17
(80%Imax) 2939.63
(90%Imax) 3307.08

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/11/14
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

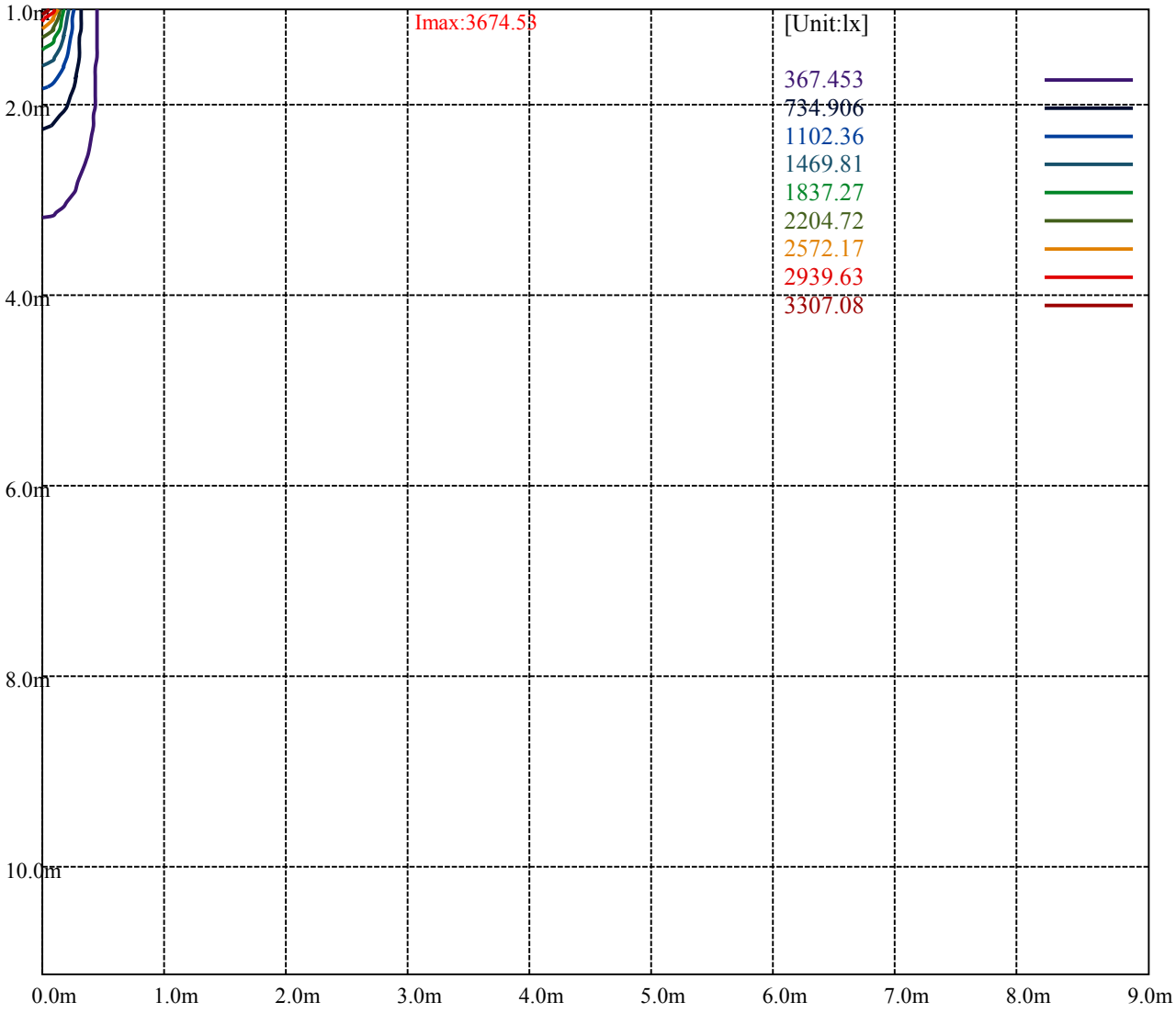
ISO illuminance diagram



(10%Emax) 91.86325
(20%Emax) 183.7265
(30%Emax) 275.59
(40%Emax) 367.4525
(50%Emax) 459.315
(60%Emax) 551.18
(70%Emax) 643.0425
(80%Emax) 734.905
(90%Emax) 826.77

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2019/11/14
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/11/14
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

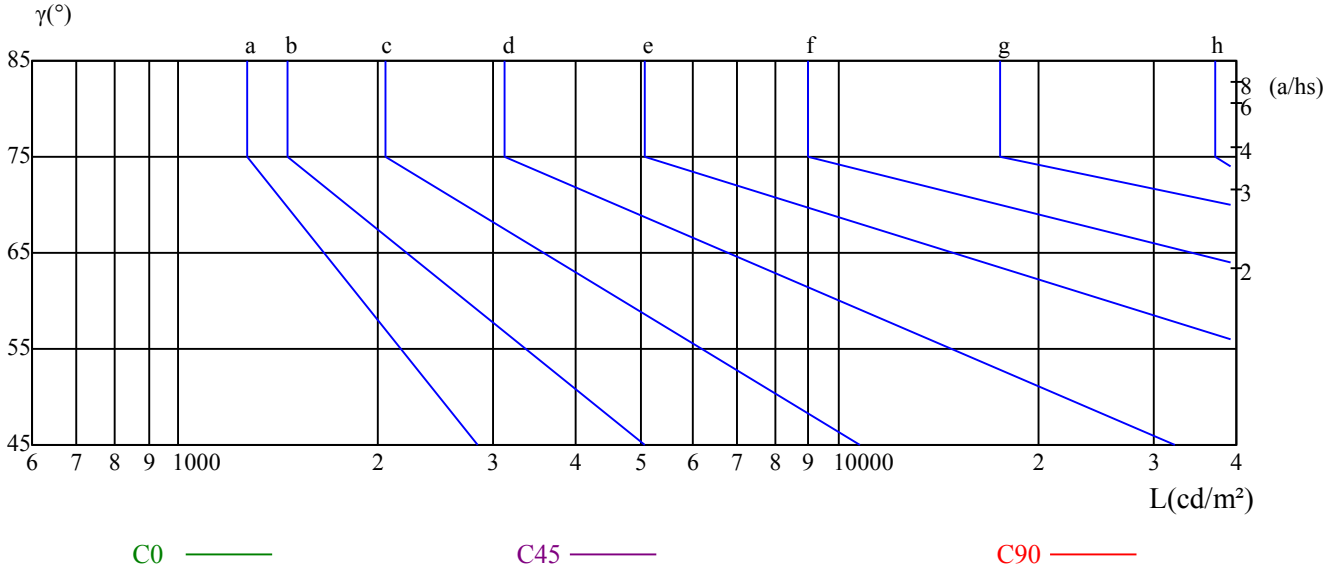
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

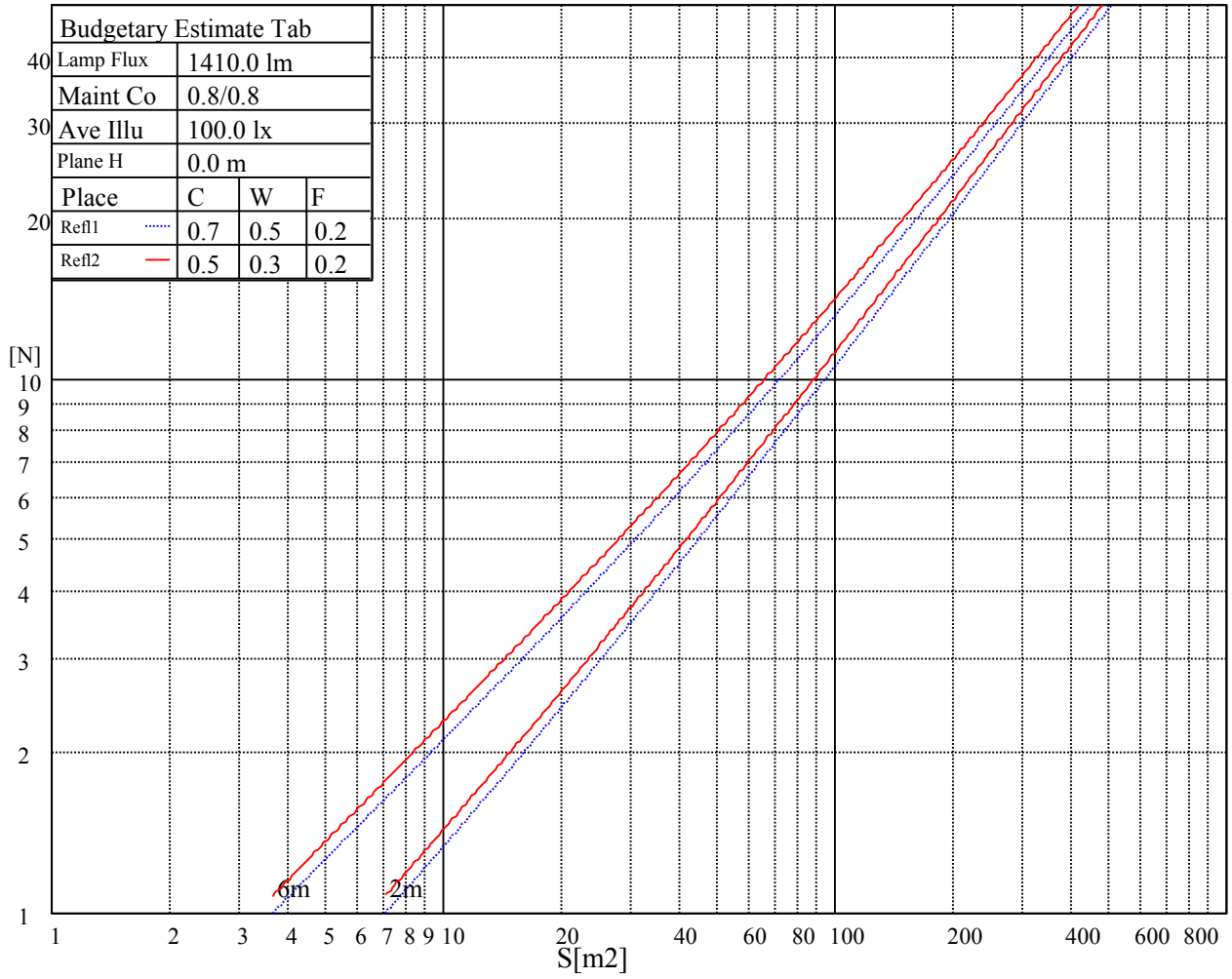
Glare Table

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

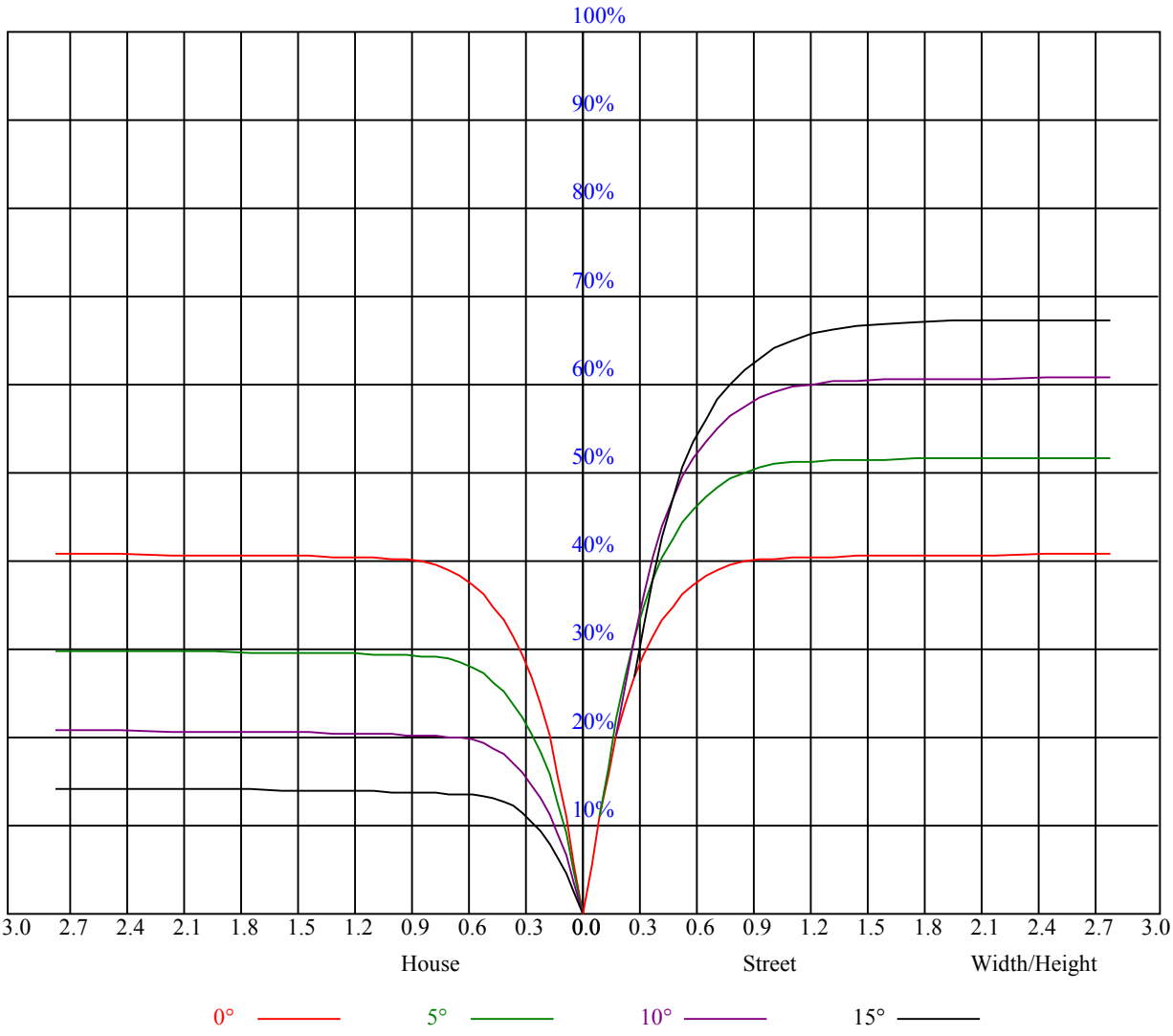


Equipment: GMS1980 Date: 2019/11/14 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.98	0.98	0.98	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84	0.82
1	0.92	0.90	0.88	0.90	0.88	0.86	0.86	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.79	0.78
2	0.86	0.83	0.80	0.85	0.82	0.79	0.82	0.80	0.78	0.80	0.78	0.76	0.77	0.76	0.74	0.73
3	0.81	0.77	0.74	0.80	0.77	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.74	0.72	0.70	0.69
4	0.77	0.73	0.70	0.76	0.72	0.69	0.74	0.71	0.68	0.72	0.70	0.68	0.71	0.69	0.67	0.66
5	0.73	0.69	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.69	0.66	0.64	0.68	0.66	0.63	0.62
6	0.69	0.65	0.62	0.69	0.65	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.65	0.63	0.60	0.59
7	0.66	0.62	0.59	0.66	0.61	0.59	0.65	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.57
8	0.63	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.55	0.60	0.57	0.55	0.54
9	0.61	0.56	0.53	0.60	0.56	0.53	0.59	0.56	0.53	0.59	0.55	0.53	0.58	0.55	0.53	0.52
10	0.58	0.54	0.51	0.58	0.54	0.51	0.57	0.54	0.51	0.57	0.53	0.51	0.56	0.53	0.51	0.50

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2019/11/14	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	3678.19	3635.44	3551.63	3445.88	3295.69	3119.06	2945.25	2738.25	2544.75
45.0	3683.25	3630.38	3520.69	3402.56	3259.69	3077.44	2876.06	2686.50	2465.44
90.0	3661.88	3606.19	3493.69	3374.44	3229.88	3022.31	2864.25	2646.56	2396.81
135.0	3674.81	3670.31	3616.88	3539.25	3417.75	3264.19	3102.75	2925.56	2711.25
180.0	3678.19	3681.00	3652.31	3574.13	3477.38	3353.63	3183.75	2989.13	2801.25
225.0	3683.25	3703.50	3686.63	3637.69	3558.94	3435.19	3279.94	3121.31	2924.44
270.0	3661.88	3686.06	3672.00	3625.31	3548.25	3412.69	3277.13	3122.44	2930.63
315.0	3674.81	3647.25	3587.63	3473.44	3355.31	3211.88	3030.19	2828.25	2636.44
360.0	3678.19	3635.44	3551.63	3445.88	3295.69	3119.06	2945.25	2738.25	2544.75

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2324.81	2105.44	1914.75	1733.06	1526.63	1377.00	1242.56	1095.19	995.06
45.0	2243.81	2048.06	1836.56	1659.94	1477.69	1316.25	1190.81	1083.38	964.69
90.0	2222.44	2003.06	1773.56	1625.06	1466.44	1275.19	1110.15	1057.73	962.49
135.0	2485.69	2257.88	2056.50	1863.00	1638.00	1475.44	1330.31	1185.19	1059.19
180.0	2577.94	2350.13	2152.69	1936.13	1752.75	1562.63	1392.19	1256.06	1116.34
225.0	2738.81	2519.44	2294.44	2097.56	1885.50	1668.94	1527.75	1378.13	1112.85
270.0	2726.44	2534.06	2314.69	2120.63	1908.56	1708.88	1544.63	1375.31	1228.50
315.0	2414.81	2192.06	1995.19	1785.38	1613.25	1437.75	1281.38	1109.98	1043.21
360.0	2324.81	2105.44	1914.75	1733.06	1526.63	1377.00	1242.56	1095.19	995.06

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	909.56	827.44	757.69	704.25	651.94	611.44	572.63	540.00	514.13
45.0	880.31	810.00	730.69	680.06	634.50	591.19	555.19	526.50	497.25
90.0	859.95	789.98	729.45	664.88	620.78	582.81	546.30	515.31	491.68
135.0	958.50	885.38	783.56	725.63	681.19	624.94	582.75	554.63	519.19
180.0	998.89	909.28	832.44	751.16	696.26	649.13	603.17	563.68	533.70
225.0	1099.69	1001.98	916.37	823.89	759.83	703.41	642.88	602.44	566.94
270.0	1116.00	1017.00	911.25	838.13	774.56	712.13	658.13	615.94	574.88
315.0	930.04	852.86	786.38	715.78	667.13	624.60	583.26	548.44	522.06
360.0	909.56	827.44	757.69	704.25	651.94	611.44	572.63	540.00	514.13

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	488.81	466.31	446.63	425.25	396.00	369.56	341.44	304.88	285.75
45.0	476.44	454.50	430.31	406.69	376.31	343.13	313.31	288.00	242.10
90.0	468.73	449.49	423.45	395.83	369.68	336.99	303.13	272.42	242.33
135.0	493.31	474.75	451.69	431.44	410.06	378.00	349.88	320.63	287.44
180.0	504.79	482.06	458.83	436.33	414.62	388.46	359.27	331.76	302.96
225.0	532.24	503.33	481.39	458.49	438.92	413.04	384.64	356.51	324.17
270.0	540.56	514.13	488.81	469.13	443.81	418.50	393.75	363.94	330.75
315.0	495.84	475.26	454.44	434.08	411.47	382.44	350.94	321.13	290.59
360.0	488.81	466.31	446.63	425.25	396.00	369.56	341.44	304.88	285.75

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	241.20	214.93	174.99	148.44	127.41	101.08	81.23	68.06	52.54
45.0	213.30	184.50	151.54	128.81	106.03	85.28	68.79	55.41	44.33
90.0	205.37	177.36	150.92	121.22	100.07	82.01	65.42	52.09	42.36
135.0	251.04	221.34	185.34	158.40	133.20	107.66	86.29	70.14	55.63
180.0	266.12	236.70	207.45	172.74	146.76	122.96	102.04	79.93	65.25
225.0	290.70	261.51	231.69	194.85	167.34	141.58	115.20	92.31	75.26
270.0	301.50	285.19	229.05	199.07	171.00	141.75	115.65	95.23	75.88
315.0	252.68	223.03	193.84	159.02	134.33	111.99	90.00	71.49	58.05
360.0	241.20	214.93	174.99	148.44	127.41	101.08	81.23	68.06	52.54

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	41.40	34.09	25.37	19.52	14.74	10.52	8.78	8.27	7.88
45.0	35.27	27.34	20.76	15.98	12.26	9.28	8.33	7.93	7.76
90.0	33.19	26.49	20.19	14.96	11.59	9.17	8.10	7.76	7.71
135.0	43.93	35.44	27.56	21.66	16.14	12.04	9.68	8.38	7.93
180.0	53.16	41.91	32.68	25.82	19.35	14.23	10.91	8.78	8.10
225.0	59.34	46.58	37.18	28.58	22.22	16.26	11.87	9.39	8.27
270.0	60.02	48.60	37.80	29.76	22.16	15.98	11.93	9.39	8.10
315.0	45.62	36.34	27.62	20.59	15.47	11.25	8.94	8.21	7.88
360.0	41.40	34.09	25.37	19.52	14.74	10.52	8.78	8.27	7.88

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	7.82	7.71	7.59	7.54	7.48	7.43	7.37	7.31	7.26
45.0	7.65	7.59	7.59	7.48	7.43	7.43	7.31	7.31	7.31
90.0	7.59	7.54	7.48	7.48	7.43	7.37	7.37	7.31	7.31
135.0	7.76	7.71	7.65	7.54	7.54	7.48	7.43	7.37	7.37
180.0	7.82	7.76	7.59	7.54	7.48	7.43	7.37	7.31	7.26
225.0	7.82	7.71	7.59	7.48	7.37	7.31	7.26	7.26	7.20
270.0	7.76	7.65	7.54	7.48	7.43	7.37	7.31	7.31	7.26
315.0	7.76	7.65	7.59	7.54	7.48	7.43	7.37	7.37	7.31
360.0	7.82	7.71	7.59	7.54	7.48	7.43	7.37	7.31	7.26

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	7.26	7.20	7.20	7.14	7.09	7.14	7.09	7.09	7.03
45.0	7.26	7.26	7.26	7.26	7.20	7.20	7.20	7.14	7.14
90.0	7.31	7.31	7.31	7.31	7.31	7.26	7.26	7.20	7.20
135.0	7.31	7.31	7.31	7.26	7.20	7.20	7.20	7.14	7.14
180.0	7.20	7.20	7.14	7.09	7.03	7.03	6.98	6.92	6.92
225.0	7.14	7.09	7.09	7.09	7.03	6.98	7.03	6.98	6.98
270.0	7.26	7.20	7.20	7.26	7.26	7.26	7.26	7.26	7.20
315.0	7.31	7.26	7.26	7.26	7.26	7.26	7.20	7.20	7.14
360.0	7.26	7.20	7.20	7.14	7.09	7.14	7.09	7.09	7.03

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	7.03	7.03	6.98	6.98	6.98	6.92	6.98	6.98	6.98
45.0	7.14	7.14	7.09	7.09	7.09	7.03	7.03	7.09	7.14
90.0	7.20	7.20	7.20	7.20	7.20	7.20	7.26	7.37	7.43
135.0	7.09	7.09	7.03	7.03	6.98	6.98	6.92	6.92	6.98
180.0	6.92	6.86	6.81	6.75	6.75	6.75	6.69	6.64	6.64
225.0	6.92	6.92	6.92	6.86	6.86	6.86	6.86	6.81	6.75
270.0	7.26	7.26	7.26	7.26	7.20	7.20	7.20	7.20	7.20
315.0	7.14	7.14	7.14	7.09	7.14	7.09	7.09	7.09	7.09
360.0	7.03	7.03	6.98	6.98	6.98	6.92	6.98	6.98	6.98

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	6.92	6.98	6.92	6.98	6.92	6.92	5.63	5.18	5.06
45.0	7.20	7.37	7.65	8.38	9.23	7.14	5.40	5.12	5.06
90.0	7.48	7.48	7.71	8.55	9.73	6.24	5.34	5.12	5.06
135.0	7.03	7.31	7.99	9.51	11.93	14.18	5.96	5.23	5.12
180.0	6.58	6.53	6.53	6.47	6.41	6.24	5.51	5.12	5.06
225.0	6.75	6.75	6.75	6.92	7.48	9.06	6.02	5.18	5.06
270.0	7.26	7.31	7.43	7.82	8.83	9.73	6.13	5.34	5.18
315.0	7.14	7.14	7.20	7.54	8.16	8.66	5.68	5.23	5.06
360.0	6.92	6.98	6.92	6.98	6.92	6.92	5.63	5.18	5.06

Intensity data(cd)

C/γ(°)	90.0
0.0	5.06
45.0	5.06
90.0	5.06
135.0	5.06
180.0	5.01
225.0	5.06
270.0	5.12
315.0	5.06
360.0	5.06