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Nata

LumCAT: 3-1942-M
Luminaire: BJB 47.319.2021
Report No: GC2017050312
Test No: NT-0010
LampCAT: BRIDGELUX V13B
Lamp flux(lm): 2274.0
Number of Lamps: 1
Length(mm): 86
Phm Type: C

Voltage(V): 35.3000
Current(A): 0.5000
Power (W): 17.6500
PF: 0.0000
Ballast type: DC
Width(mm): 86
Height(mm): 0

Photometric Results

Lumens(lm): 2089.68
Efficiency(%): 91.89%
Lumens(lm)/Power(W): 118.40
Central intensity(cd): 9918.961
Maximum intensity(cd): 9918.961
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=13.7
[C90/270]Total=13.7
Field angle(10%Imax): [C0/180]Total=57.3
[C90/270]Total=57.3
Maximum s/h(1/2): C0_180=0.24 C90_270=0.24
Maximum s/h(1/4): C0_180=0.33 C90_270=0.33
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 91.89%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.778%

Equipment: gms1980
Temperature(°C): 25.0
Date: 2017/5/3
Humidity(%): 60.0%
Operator: NT07
Distance(m): 7.42

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	9918.961	0.000	0	.000%	.000%
1.0	9812.289	9.441	9.441	.415%	.452%
2.0	9381.473	27.549	36.99	1.211%	1.770%
3.0	8608.068	43.025	80.015	1.892%	3.829%
4.0	7734.048	54.702	134.717	2.406%	6.447%
5.0	6676.001	61.991	196.708	2.726%	9.413%
6.0	5732.748	65.211	261.92	2.868%	12.534%
7.0	4844.688	65.654	327.574	2.887%	15.676%
8.0	4158.135	64.431	392.005	2.833%	18.759%
9.0	3631.520	63.131	455.136	2.776%	21.780%
10.0	3281.086	62.557	517.693	2.751%	24.774%
11.0	3018.192	62.943	580.635	2.768%	27.786%
12.0	2836.230	63.997	644.633	2.814%	30.848%
13.0	2675.053	65.405	710.038	2.876%	33.978%
14.0	2533.971	66.675	776.713	2.932%	37.169%
15.0	2418.215	67.986	844.698	2.990%	40.422%
16.0	2293.787	69.044	913.742	3.036%	43.726%
17.0	2175.691	69.602	983.344	3.061%	47.057%
18.0	2056.907	69.786	1053.131	3.069%	50.397%
19.0	1946.794	69.656	1122.787	3.063%	53.730%
20.0	1823.743	69.011	1191.798	3.035%	57.033%
21.0	1704.133	67.742	1259.541	2.979%	60.274%
22.0	1599.664	66.391	1325.932	2.920%	63.451%
23.0	1488.037	64.788	1390.72	2.849%	66.552%
24.0	1379.851	62.702	1453.422	2.757%	69.552%
25.0	1271.473	60.285	1513.708	2.651%	72.437%
26.0	1181.497	57.903	1571.61	2.546%	75.208%
27.0	1105.629	55.955	1627.565	2.461%	77.886%
28.0	1036.175	54.226	1681.791	2.385%	80.481%
29.0	969.089	52.463	1734.255	2.307%	82.991%
30.0	903.035	50.547	1784.802	2.223%	85.410%
31.0	832.329	48.293	1833.094	2.124%	87.721%
32.0	742.105	45.106	1878.2	1.984%	89.880%
33.0	638.778	40.681	1918.881	1.789%	91.827%
34.0	531.969	35.430	1954.311	1.558%	93.522%
35.0	413.033	29.348	1983.66	1.291%	94.927%
36.0	290.216	22.392	2006.051	.985%	95.998%
37.0	211.568	16.365	2022.417	.720%	96.781%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	129.754	11.393	2033.81	.501%	97.326%
39.0	63.700	6.603	2040.413	.290%	97.642%
40.0	35.897	3.474	2043.886	.153%	97.809%
41.0	25.078	2.171	2046.058	.095%	97.913%
42.0	21.059	1.676	2047.734	.074%	97.993%
43.0	18.155	1.453	2049.186	.064%	98.062%
44.0	15.856	1.284	2050.47	.056%	98.124%
45.0	13.819	1.140	2051.611	.050%	98.178%
46.0	12.484	1.029	2052.639	.045%	98.227%
47.0	11.300	0.946	2053.585	.042%	98.273%
48.0	10.585	0.885	2054.47	.039%	98.315%
49.0	10.089	0.849	2055.319	.037%	98.356%
50.0	9.690	0.825	2056.144	.036%	98.395%
51.0	9.401	0.808	2056.951	.036%	98.434%
52.0	9.236	0.800	2057.751	.035%	98.472%
53.0	9.084	0.797	2058.548	.035%	98.510%
54.0	8.947	0.795	2059.343	.035%	98.548%
55.0	8.837	0.794	2060.136	.035%	98.586%
56.0	8.754	0.795	2060.931	.035%	98.624%
57.0	8.658	0.796	2061.727	.035%	98.662%
58.0	8.616	0.799	2062.526	.035%	98.701%
59.0	8.534	0.802	2063.328	.035%	98.739%
60.0	8.479	0.804	2064.132	.035%	98.777%
61.0	8.424	0.807	2064.938	.035%	98.816%
62.0	8.410	0.811	2065.749	.036%	98.855%
63.0	8.355	0.815	2066.565	.036%	98.894%
64.0	8.314	0.818	2067.383	.036%	98.933%
65.0	8.286	0.821	2068.204	.036%	98.972%
66.0	8.258	0.825	2069.03	.036%	99.012%
67.0	8.217	0.828	2069.858	.036%	99.051%
68.0	8.217	0.833	2070.691	.037%	99.091%
69.0	8.176	0.836	2071.527	.037%	99.131%
70.0	8.176	0.840	2072.367	.037%	99.172%
71.0	8.148	0.844	2073.21	.037%	99.212%
72.0	8.121	0.846	2074.056	.037%	99.252%
73.0	8.093	0.848	2074.904	.037%	99.293%
74.0	8.107	0.852	2075.756	.037%	99.334%
75.0	8.093	0.856	2076.612	.038%	99.375%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.080	0.859	2077.47	.038%	99.416%
77.0	8.080	0.862	2078.332	.038%	99.457%
78.0	8.038	0.863	2079.195	.038%	99.498%
79.0	8.038	0.864	2080.059	.038%	99.540%
80.0	8.066	0.868	2080.927	.038%	99.581%
81.0	8.052	0.872	2081.798	.038%	99.623%
82.0	8.024	0.872	2082.67	.038%	99.665%
83.0	8.038	0.873	2083.543	.038%	99.706%
84.0	8.024	0.875	2084.418	.038%	99.748%
85.0	8.024	0.876	2085.294	.039%	99.790%
86.0	8.024	0.877	2086.172	.039%	99.832%
87.0	8.024	0.878	2087.05	.039%	99.874%
88.0	7.983	0.877	2087.927	.039%	99.916%
89.0	7.983	0.875	2088.802	.038%	99.958%
90.0	8.011	0.877	2089.679	.039%	100.000%

Zonal flux distribution table

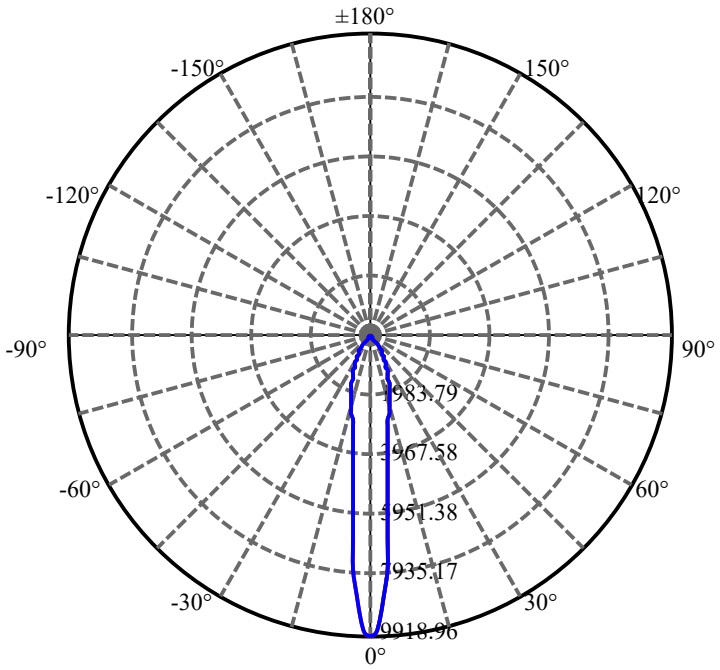
ZONAL LUMEN SUMMARY

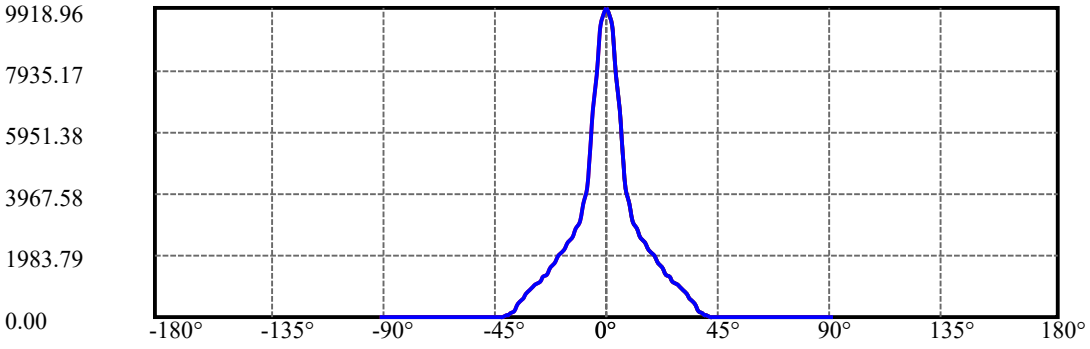
Zone	Lumens	%Lamp	%Fixt
0-30	1784.80	78.49%	85.41%
0-40	2043.89	89.88%	97.81%
0-60	2064.13	90.77%	98.78%
0-90	2088.80	91.86%	99.96%
0-120	2088.80	91.86%	99.96%
0-180	2089.68	91.89%	100.00%
60-90	25.47	1.12%	1.22%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.81	1671.74	73.52%	80.00%

ZONAL LUMEN SUMMARY

0-10	517.69
10-20	674.11
20-30	593.00
30-40	259.08
40-50	12.26
50-60	7.99
60-70	8.24
70-80	8.56
80-90	7.88
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):

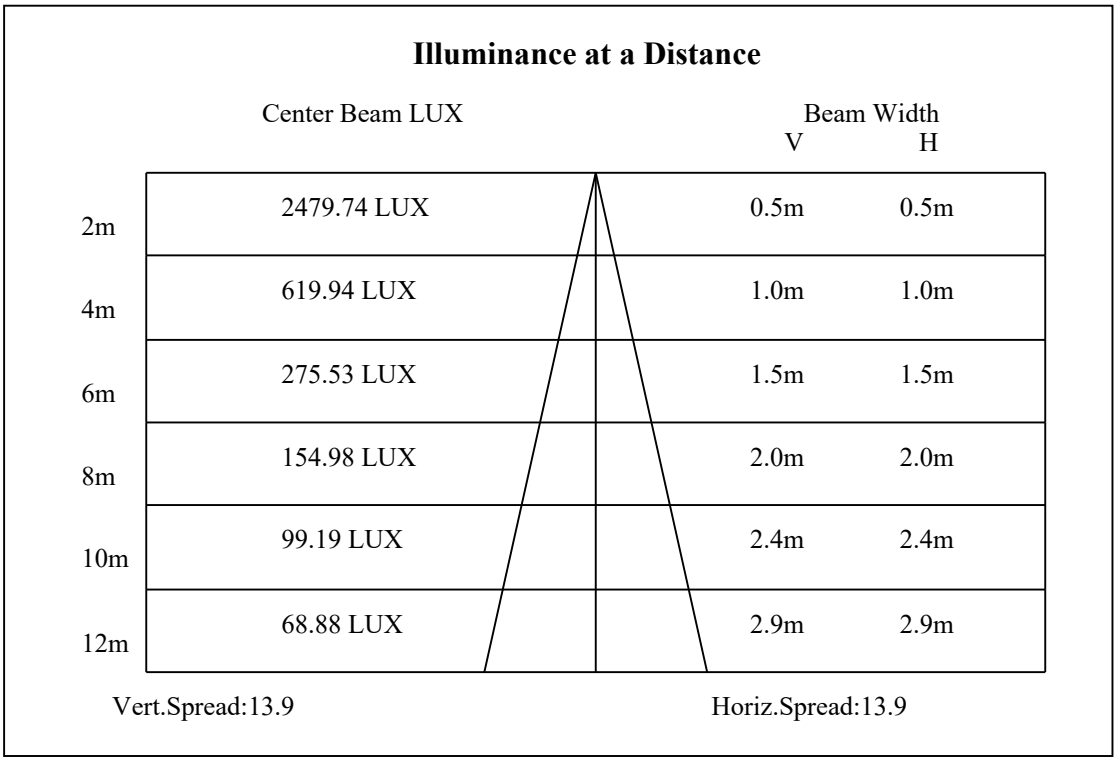
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:28.7 Right:28.7
:C90/270Left:28.7 Right:28.7

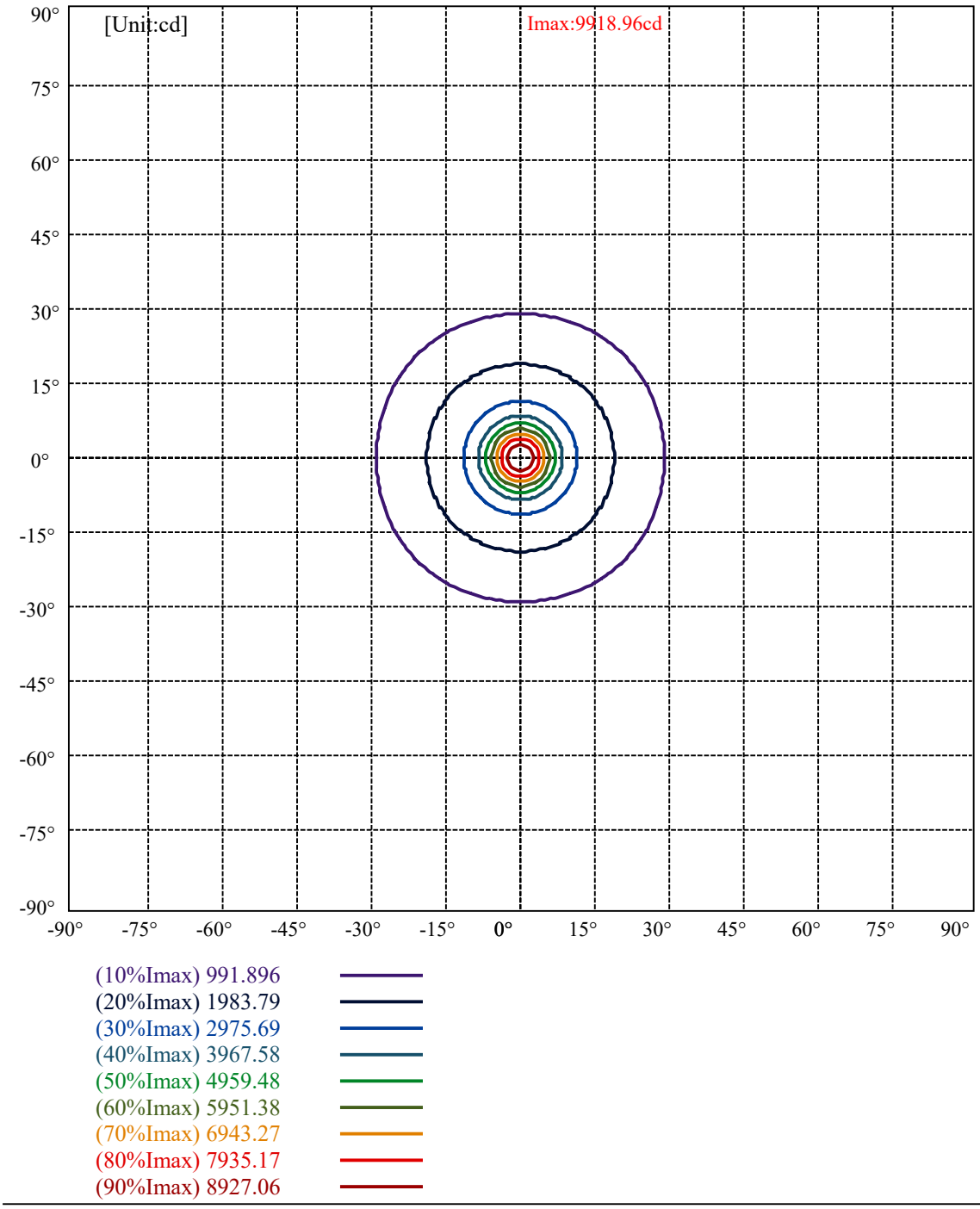
Beam Angle(50%Imax):C0/180Left:6.9 Right:6.9
:C90/270Left:6.9 Right:6.9

Lux distance Curve



Equipment: gms1980 Date: 2017/5/3 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.42

ISO-Intensity(V-H)

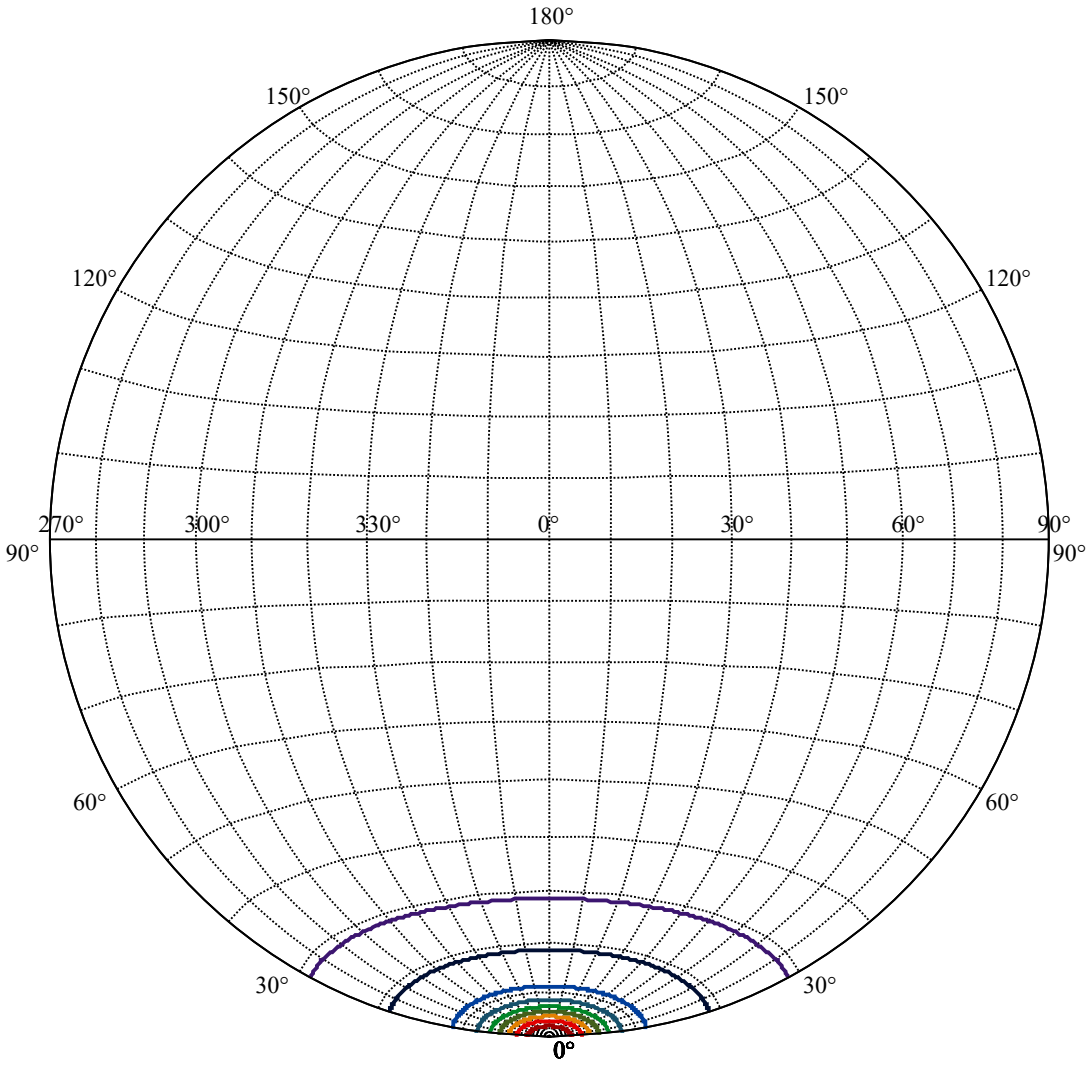


Equipment: gms1980
Temperature(°C): 25.0

Date: 2017/5/3
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

ISO candela diagram on circular web



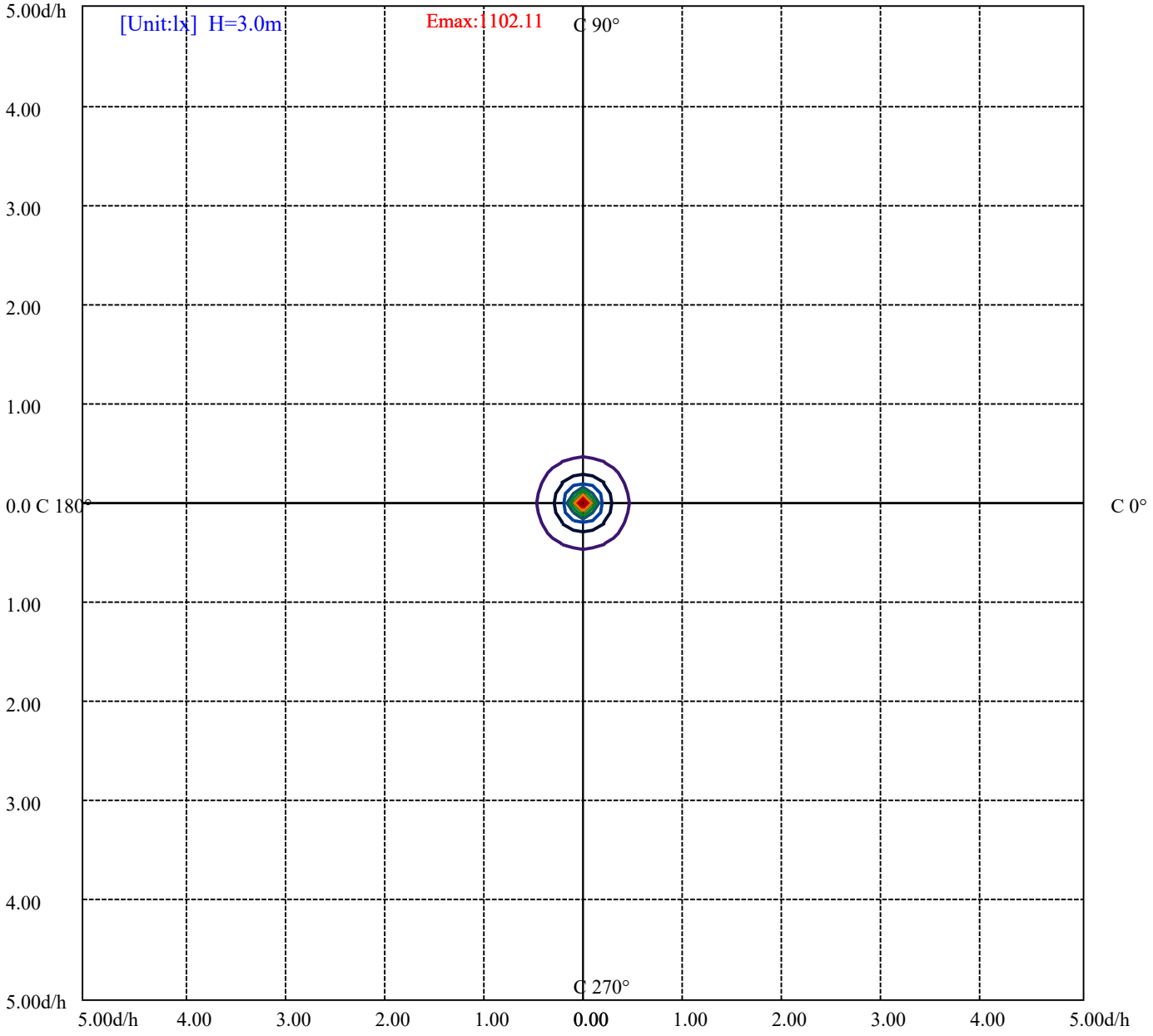
House [Unit:cd] Road

Imax:9918.96

(10%Imax) 991.896
(20%Imax) 1983.79
(30%Imax) 2975.69
(40%Imax) 3967.58
(50%Imax) 4959.48
(60%Imax) 5951.38
(70%Imax) 6943.27
(80%Imax) 7935.17
(90%Imax) 8927.06

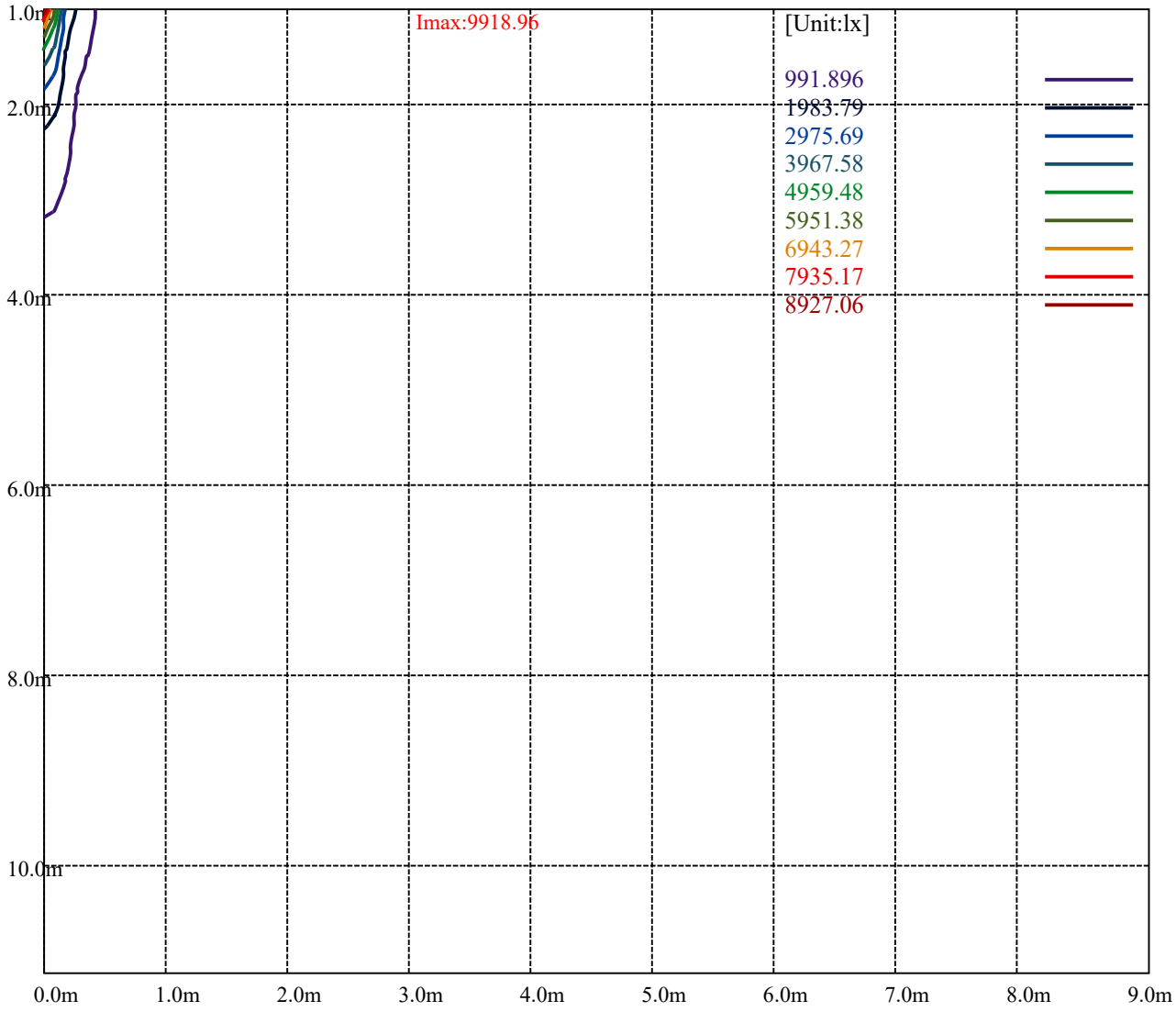
Equipment: gms1980 Date: 2017/5/3 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.42

ISO illuminance diagram



Equipment: gms1980 Date: 2017/5/3 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.42

Space ISO Lux diagram



Equipment: gms1980
Temperature(°C): 25.0

Date: 2017/5/3
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

Nata 3-1942-M

Luminance Limitting Curve(no luminous side)

Luminance Table

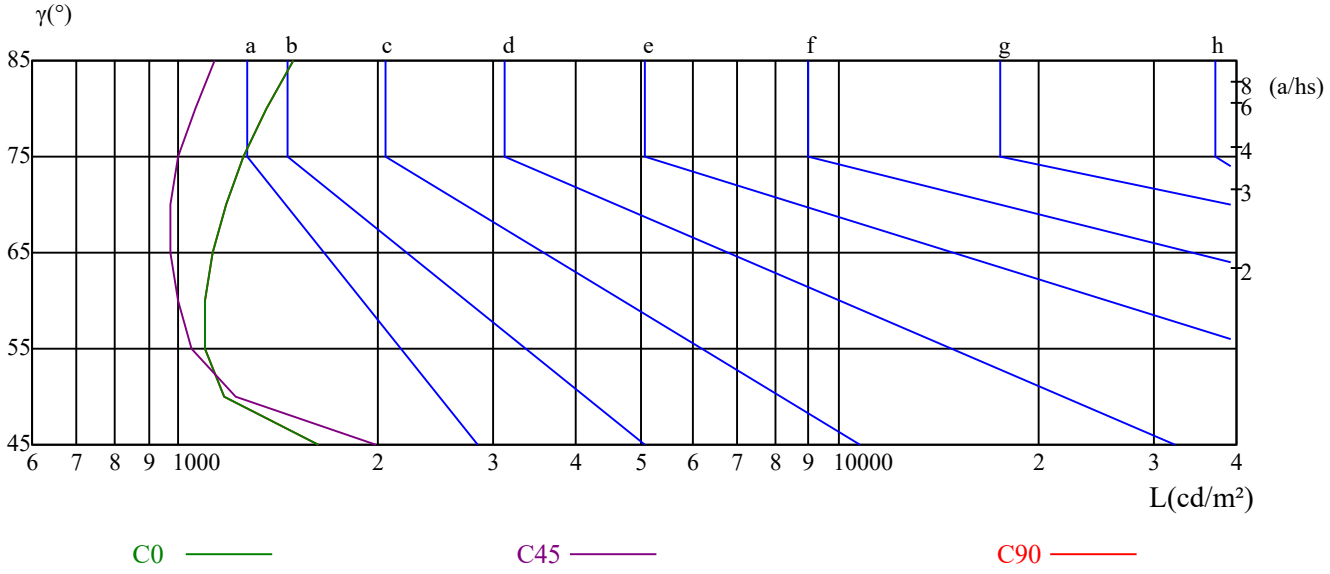
γ	45	50	55	60	65	70	75	80	85
C0	1631	1169	1099	1096	1125	1177	1251	1357	1494
C45	1985	1220	1050	999	973	973	1000	1060	1135
C90	1631	1169	1099	1096	1125	1177	1251	1357	1494

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2714	2714	2917	4328	4328	4479	12743	12743	13224

Glare Table

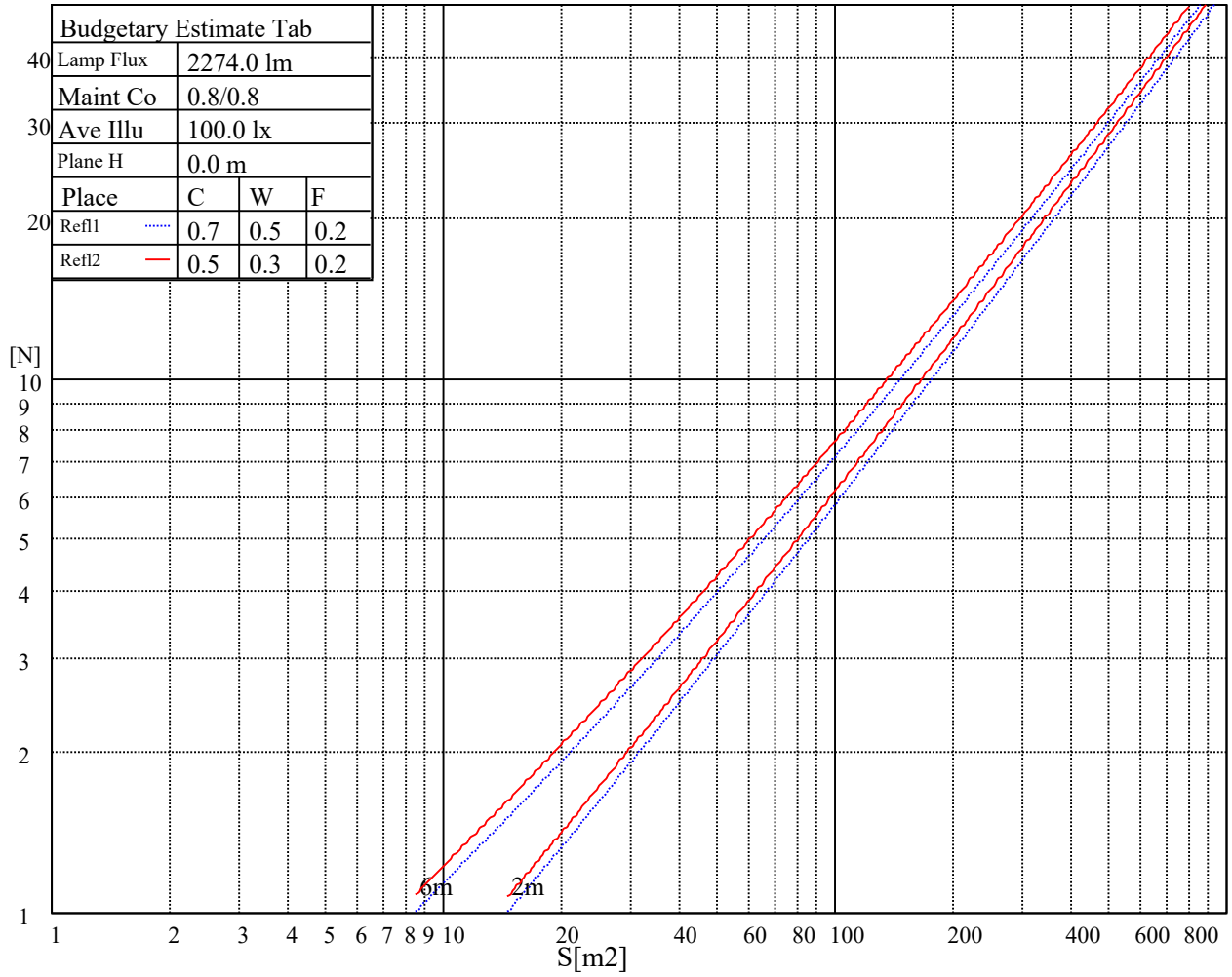
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limitting Curve



Equipment: gms1980 Date: 2017/5/3 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.42

Budgetary Estimate Table

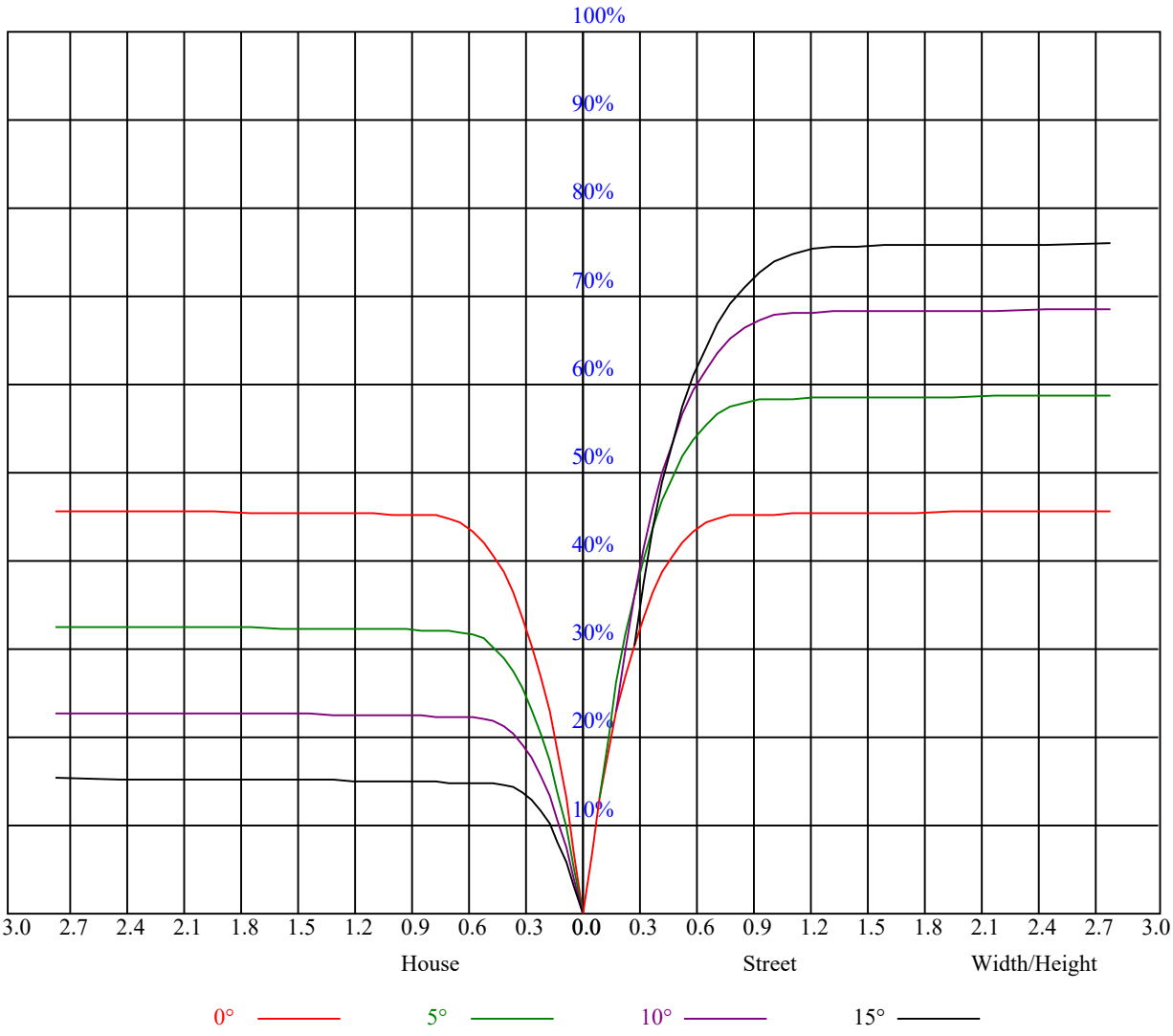


Equipment: gms1980 Date: 2017/5/3 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.42

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	1.09	1.09	1.09	1.07	1.07	1.07	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.03	1.01	0.99	1.01	0.99	0.97	0.97	0.95	0.94	0.94	0.92	0.91	0.90	0.90	0.89	0.87
2	0.97	0.93	0.91	0.95	0.92	0.90	0.92	0.90	0.88	0.90	0.88	0.86	0.87	0.86	0.84	0.83
3	0.92	0.88	0.84	0.90	0.87	0.84	0.88	0.85	0.82	0.86	0.83	0.81	0.84	0.82	0.80	0.79
4	0.87	0.83	0.79	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.79	0.77	0.81	0.78	0.76	0.75
5	0.83	0.78	0.75	0.82	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.71
6	0.79	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.69	0.68
7	0.75	0.71	0.68	0.75	0.71	0.67	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.65
8	0.72	0.68	0.65	0.72	0.67	0.64	0.71	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.64	0.63
9	0.69	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.67	0.64	0.61	0.60
10	0.67	0.62	0.59	0.66	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.58

Coefficient Utilization Curve



Equipment: gms1980	Date: 2017/5/3	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 60.0%	Distance(m): 7.42

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	9993.84	10042.84	9744.98	9251.68	8460.52	7200.83	6211.46	5293.12	4408.92
90.0	9844.08	10190.94	10210.76	9949.79	9371.15	8471.53	7459.04	6298.45	5383.97
180.0	9993.84	9722.41	9128.35	8153.30	7105.58	5999.50	5118.04	4253.11	3651.34
270.0	9844.08	9292.97	8441.80	7077.50	5998.95	5032.15	4142.44	3534.07	3188.32
360.0	9993.84	10042.84	9744.98	9251.68	8460.52	7200.83	6211.46	5293.12	4408.92

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3774.12	3405.79	3126.10	2938.91	2768.79	2623.99	2500.66	2363.57	2227.03
90.0	4527.84	3948.09	3502.14	3227.41	2975.80	2817.24	2680.15	2519.93	2398.26
180.0	3295.68	3024.80	2827.70	2691.16	2573.34	2423.58	2329.99	2224.83	2104.81
270.0	2928.45	2745.66	2616.83	2487.45	2382.29	2271.08	2162.06	2066.82	1972.67
360.0	3774.12	3405.79	3126.10	2938.91	2768.79	2623.99	2500.66	2363.57	2227.03

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2109.76	1988.64	1846.04	1734.83	1631.32	1519.56	1411.10	1321.90	1226.66
90.0	2276.58	2158.76	2011.76	1903.30	1790.98	1664.35	1538.28	1435.87	1332.36
180.0	1985.33	1879.63	1776.12	1645.64	1542.13	1429.81	1332.92	1231.61	1097.05
270.0	1855.95	1760.15	1661.05	1532.77	1434.22	1338.42	1237.12	1096.50	1069.91
360.0	2109.76	1988.64	1846.04	1734.83	1631.32	1519.56	1411.10	1321.90	1226.66

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	1138.02	1067.54	995.42	940.36	884.21	816.49	727.30	613.33	486.15
90.0	1238.22	1161.69	1085.16	1019.09	944.77	887.51	825.85	718.49	586.90
180.0	1060.44	991.90	924.56	866.70	792.92	679.95	559.65	450.80	342.73
270.0	985.84	923.57	871.21	785.99	707.42	584.48	442.32	345.26	236.36
360.0	1138.02	1067.54	995.42	940.36	884.21	816.49	727.30	613.33	486.15

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	371.08	290.70	141.72	70.97	33.47	27.53	22.74	19.55	17.01
90.0	461.92	362.82	278.03	124.76	61.17	31.16	26.21	22.41	18.83
180.0	216.48	132.19	65.79	30.61	25.77	21.86	18.39	15.91	14.31
270.0	111.38	60.56	33.47	28.46	23.18	19.77	16.90	14.76	13.27
360.0	371.08	290.70	141.72	70.97	33.47	27.53	22.74	19.55	17.01

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	14.65	13.10	11.84	10.96	10.35	9.91	9.58	9.36	9.19
90.0	16.46	14.20	12.66	11.73	10.96	10.24	9.74	9.52	9.36
180.0	12.55	11.78	10.46	9.91	9.58	9.30	9.14	9.03	8.86
270.0	11.62	10.85	10.24	9.74	9.47	9.30	9.14	9.03	8.92
360.0	14.65	13.10	11.84	10.96	10.35	9.91	9.58	9.36	9.19

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	9.03	8.92	8.86	8.75	8.75	8.64	8.53	8.48	8.48
90.0	9.19	9.08	8.92	8.81	8.75	8.64	8.59	8.53	8.48
180.0	8.75	8.64	8.59	8.48	8.48	8.37	8.37	8.31	8.31
270.0	8.81	8.70	8.64	8.59	8.48	8.48	8.42	8.37	8.37
360.0	9.03	8.92	8.86	8.75	8.75	8.64	8.53	8.48	8.48

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	8.42	8.42	8.37	8.31	8.26	8.26	8.26	8.26	8.20
90.0	8.42	8.37	8.37	8.31	8.26	8.26	8.20	8.20	8.20
180.0	8.26	8.20	8.15	8.15	8.15	8.15	8.09	8.09	8.04
270.0	8.31	8.26	8.26	8.26	8.20	8.20	8.15	8.15	8.15
360.0	8.42	8.42	8.37	8.31	8.26	8.26	8.26	8.26	8.20

Intensity data(cd)

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	8.15	8.09	8.15	8.15	8.15	8.09	8.04	8.04	8.09
90.0	8.15	8.15	8.15	8.09	8.09	8.09	8.04	8.09	8.09
180.0	8.09	8.04	8.04	8.09	7.98	8.04	7.98	7.98	8.04
270.0	8.09	8.09	8.09	8.04	8.09	8.09	8.09	8.04	8.04
360.0	8.15	8.09	8.15	8.15	8.15	8.09	8.04	8.04	8.09

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	8.09	8.04	8.09	8.04	8.04	8.04	8.04	7.98	7.98
90.0	8.09	8.04	8.04	8.09	8.04	8.04	8.04	8.04	7.98
180.0	8.04	7.98	8.04	7.98	7.98	7.98	7.98	7.93	7.98
270.0	7.98	8.04	7.98	7.98	8.04	8.04	8.04	7.98	7.98
360.0	8.09	8.04	8.09	8.04	8.04	8.04	8.04	7.98	7.98

C/γ(°)	90.0
0.0	7.98
90.0	7.98
180.0	8.04
270.0	8.04
360.0	7.98