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

Nata

LumCAT: 4-2275-M
Luminaire: 92.70.131.00
Report No: GC2017061709
Test No: NT-0010
LampCAT: CITIZEN CLU038
Lamp flux(lm): 2365.0
Number of Lamps: 1
Length(mm): 100
Phm Type: C

Voltage(V): 34.2000
Current(A): 0.5000
Power (W): 17.1000
PF: 0.0000
Ballast type: DC
Width(mm): 100
Height(mm): 0

Photometric Results

Lumens(lm): 2119.98
Efficiency(%): 89.64%
Lumens(lm)/Power(W): 123.98
Central intensity(cd): 11545.330
Maximum intensity(cd): 11545.330
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=18.4
[C90/270]Total=18.4
Field angle(10%Imax): [C0/180]Total=38.7
[C90/270]Total=38.7
Maximum s/h(1/2): C0_180=0.32 C90_270=0.32
Maximum s/h(1/4): C0_180=0.32 C90_270=0.32
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.64%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.796%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	11545.327	0.000	0	.000%	.000%
1.0	11452.172	11.004	11.004	.465%	.519%
2.0	11207.556	32.523	43.527	1.375%	2.053%
3.0	10773.051	52.570	96.098	2.223%	4.533%
4.0	10186.700	70.159	166.257	2.967%	7.842%
5.0	9495.467	84.672	250.928	3.580%	11.836%
6.0	8701.829	95.632	346.56	4.044%	16.347%
7.0	7768.898	102.234	448.793	4.323%	21.170%
8.0	6914.423	105.086	553.879	4.443%	26.127%
9.0	5956.992	104.316	658.195	4.411%	31.047%
10.0	5069.318	99.784	757.979	4.219%	35.754%
11.0	4338.995	94.008	851.987	3.975%	40.189%
12.0	3625.079	87.059	939.046	3.681%	44.295%
13.0	3045.885	79.168	1018.214	3.347%	48.029%
14.0	2574.713	71.943	1090.157	3.042%	51.423%
15.0	2178.582	65.255	1155.412	2.759%	54.501%
16.0	1908.695	59.890	1215.302	2.532%	57.326%
17.0	1592.011	54.515	1269.818	2.305%	59.898%
18.0	1382.962	49.051	1318.869	2.074%	62.211%
19.0	1197.752	44.899	1363.768	1.898%	64.329%
20.0	1080.537	41.699	1405.467	1.763%	66.296%
21.0	989.419	39.747	1445.214	1.681%	68.171%
22.0	926.874	38.509	1483.723	1.628%	69.988%
23.0	883.270	37.982	1521.704	1.606%	71.779%
24.0	856.457	38.037	1559.741	1.608%	73.573%
25.0	835.536	38.472	1598.213	1.627%	75.388%
26.0	817.477	39.020	1637.233	1.650%	77.229%
27.0	801.346	39.605	1676.838	1.675%	79.097%
28.0	785.545	40.177	1717.015	1.699%	80.992%
29.0	769.799	40.692	1757.707	1.721%	82.912%
30.0	755.099	41.172	1798.879	1.741%	84.854%
31.0	734.783	41.461	1840.34	1.753%	86.809%
32.0	698.170	41.052	1881.392	1.736%	88.746%
33.0	652.528	39.792	1921.184	1.683%	90.623%
34.0	580.405	37.312	1958.497	1.578%	92.383%
35.0	486.864	33.145	1991.642	1.401%	93.946%
36.0	387.762	27.848	2019.49	1.178%	95.260%
37.0	293.946	22.234	2041.724	.940%	96.309%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	186.641	16.041	2057.765	.678%	97.065%
39.0	116.995	10.364	2068.129	.438%	97.554%
40.0	60.892	6.204	2074.333	.262%	97.847%
41.0	34.575	3.400	2077.733	.144%	98.007%
42.0	18.774	1.938	2079.671	.082%	98.099%
43.0	14.149	1.220	2080.891	.052%	98.156%
44.0	11.947	0.985	2081.875	.042%	98.203%
45.0	10.681	0.870	2082.745	.037%	98.244%
46.0	9.910	0.805	2083.55	.034%	98.282%
47.0	9.580	0.775	2084.326	.033%	98.318%
48.0	9.415	0.768	2085.093	.032%	98.355%
49.0	9.249	0.766	2085.86	.032%	98.391%
50.0	9.139	0.767	2086.627	.032%	98.427%
51.0	9.029	0.769	2087.395	.033%	98.463%
52.0	8.919	0.770	2088.165	.033%	98.499%
53.0	8.864	0.774	2088.939	.033%	98.536%
54.0	8.754	0.777	2089.716	.033%	98.573%
55.0	8.699	0.779	2090.495	.033%	98.609%
56.0	8.644	0.784	2091.278	.033%	98.646%
57.0	8.589	0.788	2092.066	.033%	98.683%
58.0	8.534	0.792	2092.858	.033%	98.721%
59.0	8.479	0.795	2093.653	.034%	98.758%
60.0	8.424	0.799	2094.452	.034%	98.796%
61.0	8.369	0.801	2095.253	.034%	98.834%
62.0	8.369	0.806	2096.06	.034%	98.872%
63.0	8.314	0.811	2096.871	.034%	98.910%
64.0	8.314	0.816	2097.687	.034%	98.949%
65.0	8.258	0.820	2098.507	.035%	98.987%
66.0	8.258	0.824	2099.331	.035%	99.026%
67.0	8.203	0.828	2100.159	.035%	99.065%
68.0	8.203	0.831	2100.99	.035%	99.104%
69.0	8.148	0.834	2101.824	.035%	99.144%
70.0	8.148	0.837	2102.661	.035%	99.183%
71.0	8.148	0.842	2103.503	.036%	99.223%
72.0	8.148	0.847	2104.351	.036%	99.263%
73.0	8.093	0.849	2105.2	.036%	99.303%
74.0	8.093	0.851	2106.051	.036%	99.343%
75.0	8.093	0.855	2106.906	.036%	99.383%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.148	0.862	2107.769	.036%	99.424%
77.0	8.148	0.869	2108.637	.037%	99.465%
78.0	8.093	0.869	2109.507	.037%	99.506%
79.0	8.093	0.870	2110.377	.037%	99.547%
80.0	8.038	0.870	2111.246	.037%	99.588%
81.0	8.038	0.869	2112.116	.037%	99.629%
82.0	8.038	0.872	2112.987	.037%	99.670%
83.0	8.038	0.874	2113.861	.037%	99.712%
84.0	8.038	0.876	2114.737	.037%	99.753%
85.0	7.983	0.874	2115.612	.037%	99.794%
86.0	7.983	0.873	2116.484	.037%	99.835%
87.0	7.983	0.874	2117.358	.037%	99.876%
88.0	7.928	0.872	2118.23	.037%	99.918%
89.0	7.983	0.872	2119.102	.037%	99.959%
90.0	7.983	0.875	2119.977	.037%	100.000%

Zonal flux distribution table

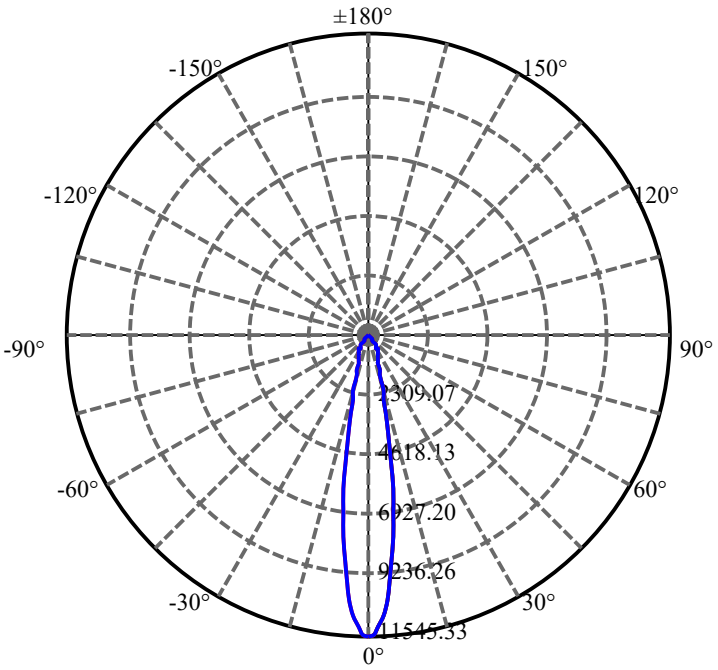
ZONAL LUMEN SUMMARY

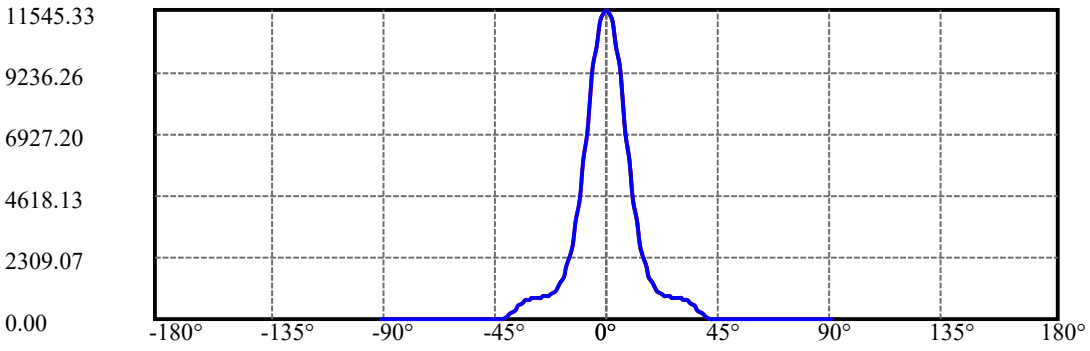
Zone	Lumens	%Lamp	%Fixt
0-30	1798.88	76.06%	84.85%
0-40	2074.33	87.71%	97.85%
0-60	2094.45	88.56%	98.80%
0-90	2119.10	89.60%	99.96%
0-120	2119.10	89.60%	99.96%
0-180	2119.98	89.64%	100.00%
60-90	25.45	1.08%	1.20%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.48	1695.98	71.71%	80.00%

ZONAL LUMEN SUMMARY

0-10	757.98
10-20	647.49
20-30	393.41
30-40	275.45
40-50	12.29
50-60	7.83
60-70	8.21
70-80	8.59
80-90	7.86
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):

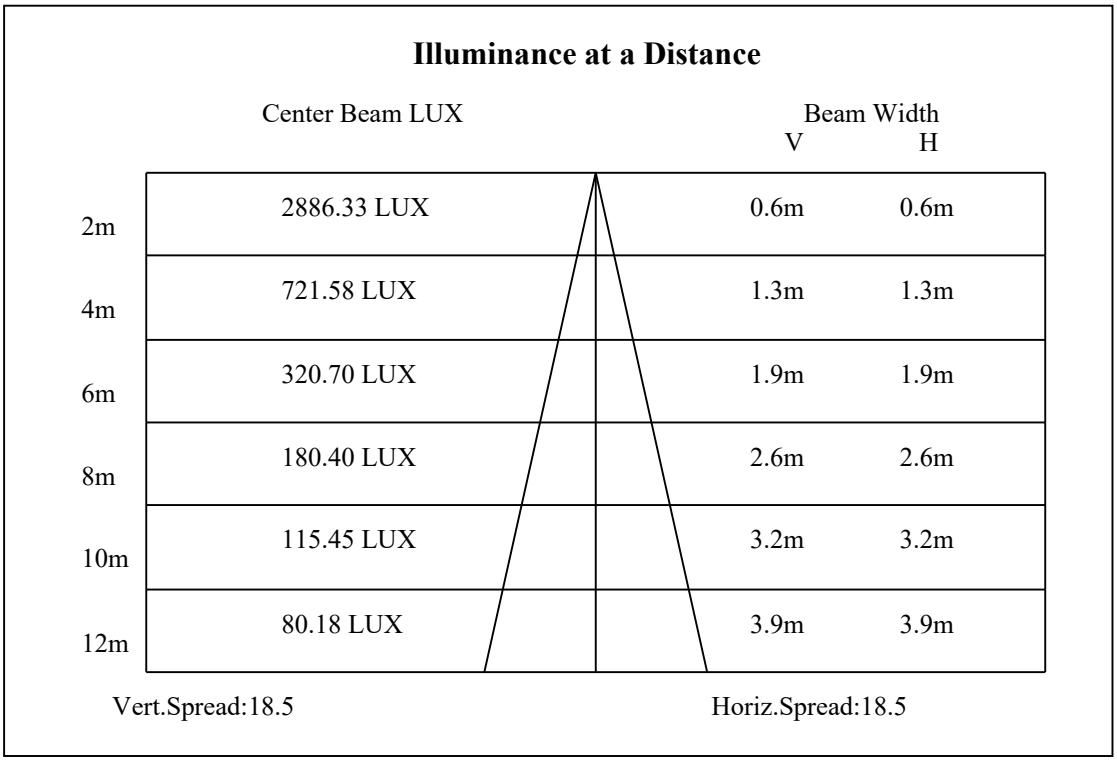
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:19.4 Right:19.4
:C90/270Left:19.4 Right:19.4

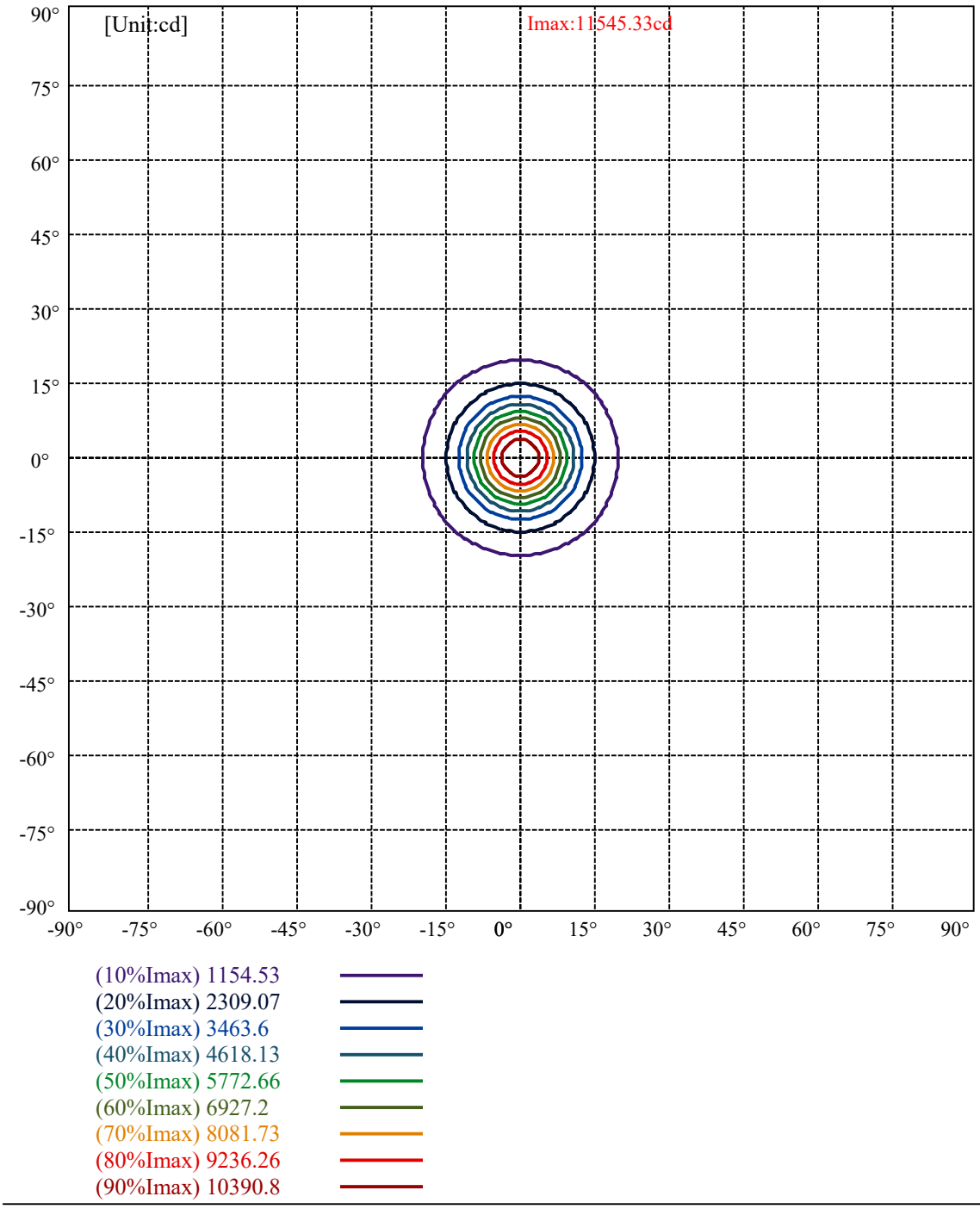
Beam Angle(50%Imax):C0/180Left:9.2 Right:9.2
:C90/270Left:9.2 Right:9.2

Lux distance Curve



Equipment: gms1980 Date: 2017/6/4 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.42

ISO-Intensity(V-H)



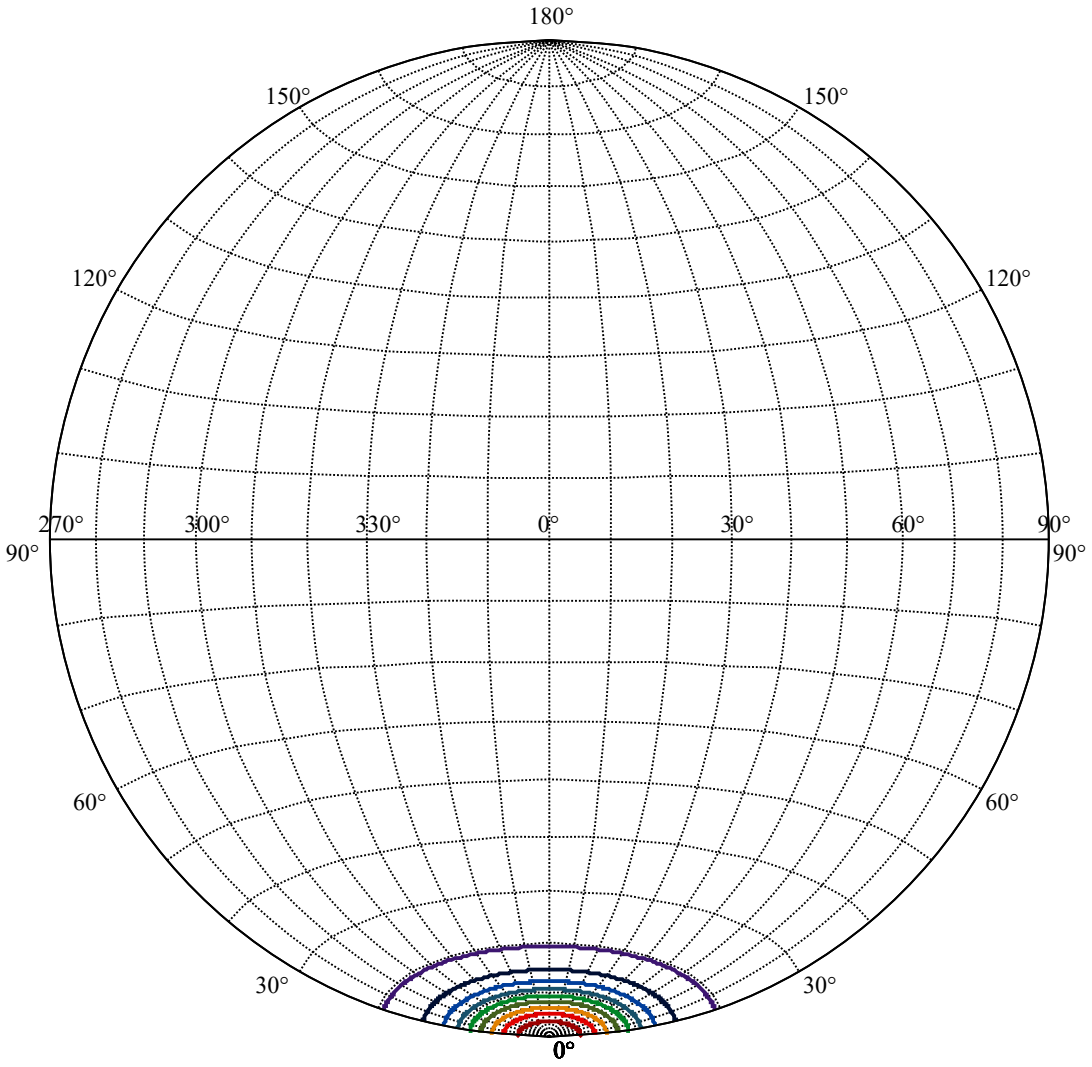
(10%Imax) 1154.53
(20%Imax) 2309.07
(30%Imax) 3463.6
(40%Imax) 4618.13
(50%Imax) 5772.66
(60%Imax) 6927.2
(70%Imax) 8081.73
(80%Imax) 9236.26
(90%Imax) 10390.8

Equipment: gms1980
Temperature(°C): 25.0

Date: 2017/6/4
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

ISO candela diagram on circular web



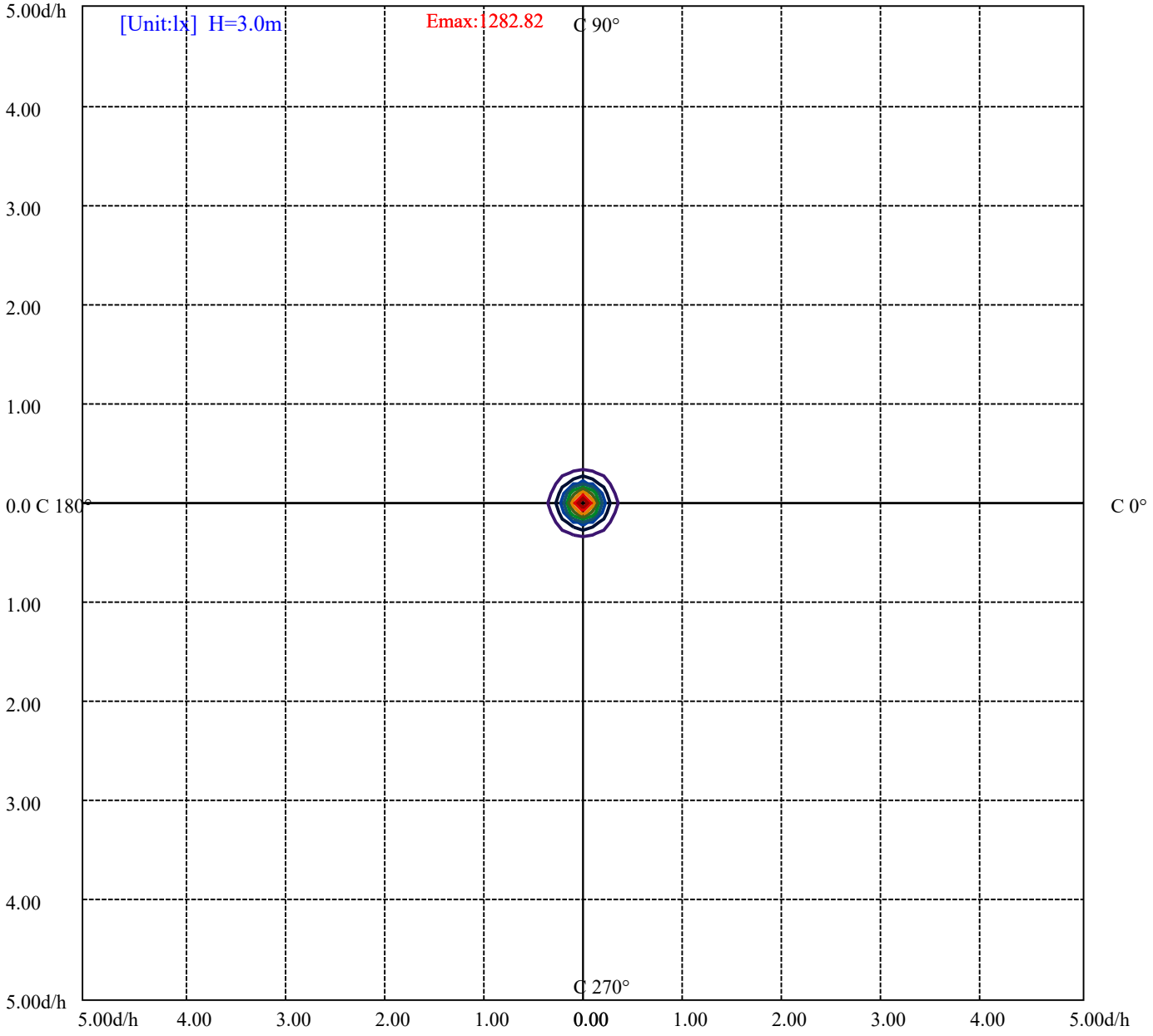
House [Unit:cd] Road

Imax:11545.33

(10%Imax) 1154.53
(20%Imax) 2309.07
(30%Imax) 3463.6
(40%Imax) 4618.13
(50%Imax) 5772.66
(60%Imax) 6927.2
(70%Imax) 8081.73
(80%Imax) 9236.26
(90%Imax) 10390.8

Equipment: gms1980 Date: 2017/6/4 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.42

ISO illuminance diagram

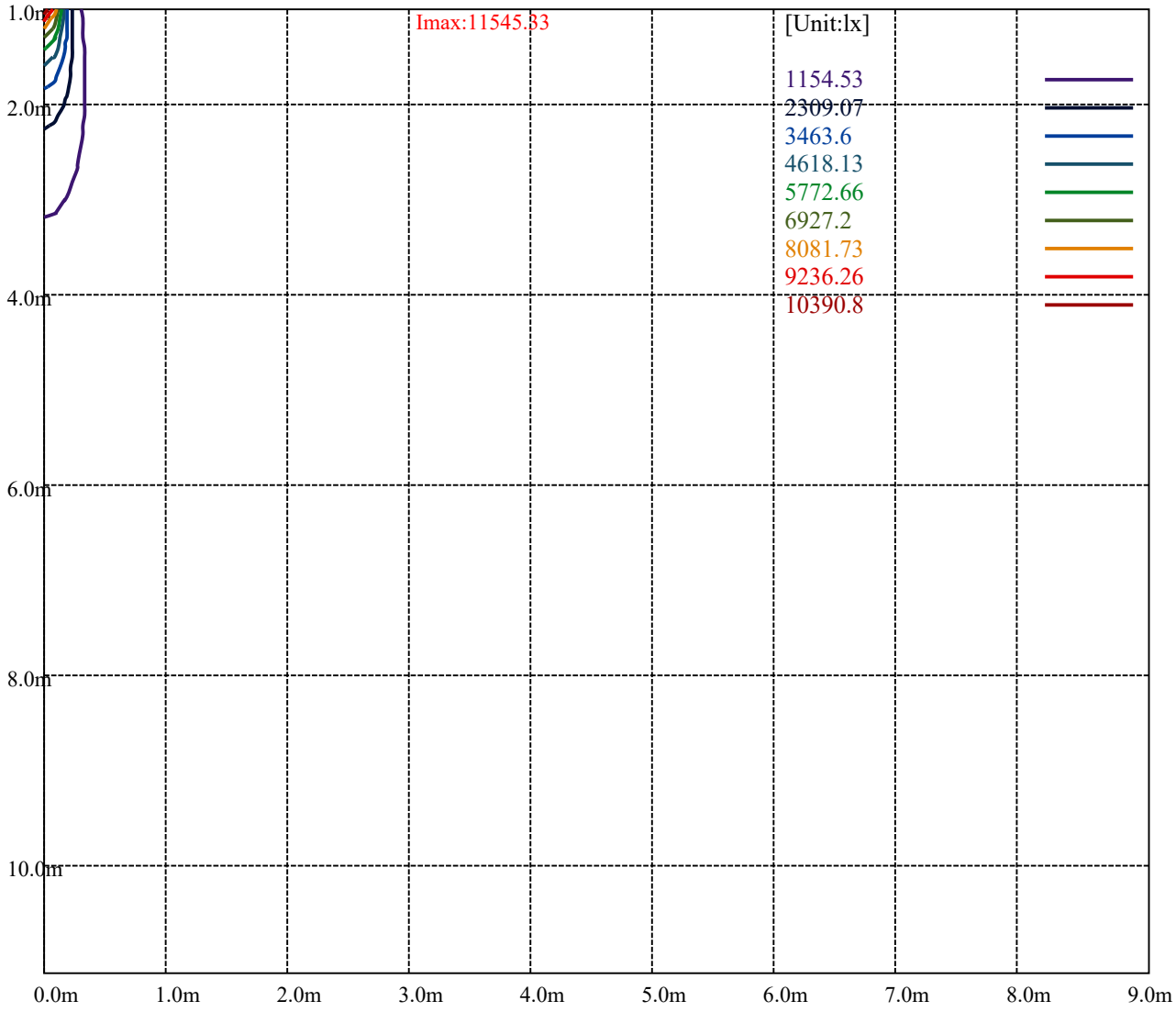


Equipment: gms1980
Temperature(°C): 25.0

Date: 2017/6/4
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

Space ISO Lux diagram



Equipment: gms1980
Temperature(°C): 25.0

Date: 2017/6/4
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

Nata 4-2275-M

Luminance Limitting Curve(no luminous side)

Luminance Table

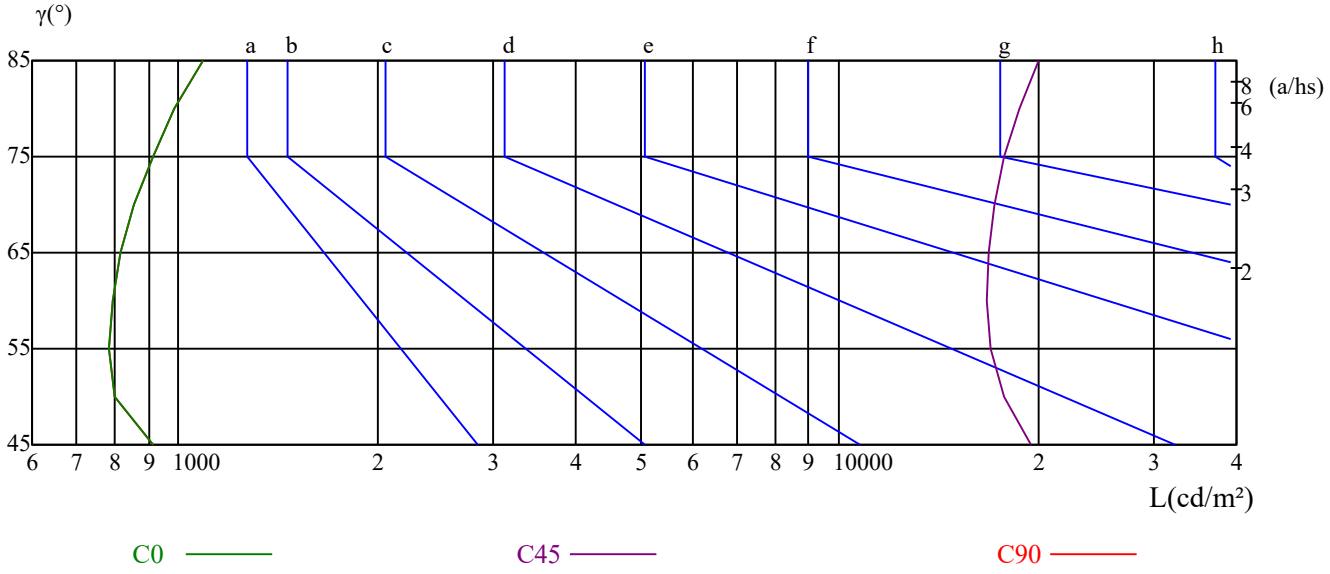
γ	45	50	55	60	65	70	75	80	85
C0	915	801	787	793	816	855	913	988	1087
C45	19582	17794	17007	16763	16822	17177	17842	18787	20069
C90	915	801	787	793	816	855	913	988	1087

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1954	1954	49985	3127	3127	79050	9160	9160	230934

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

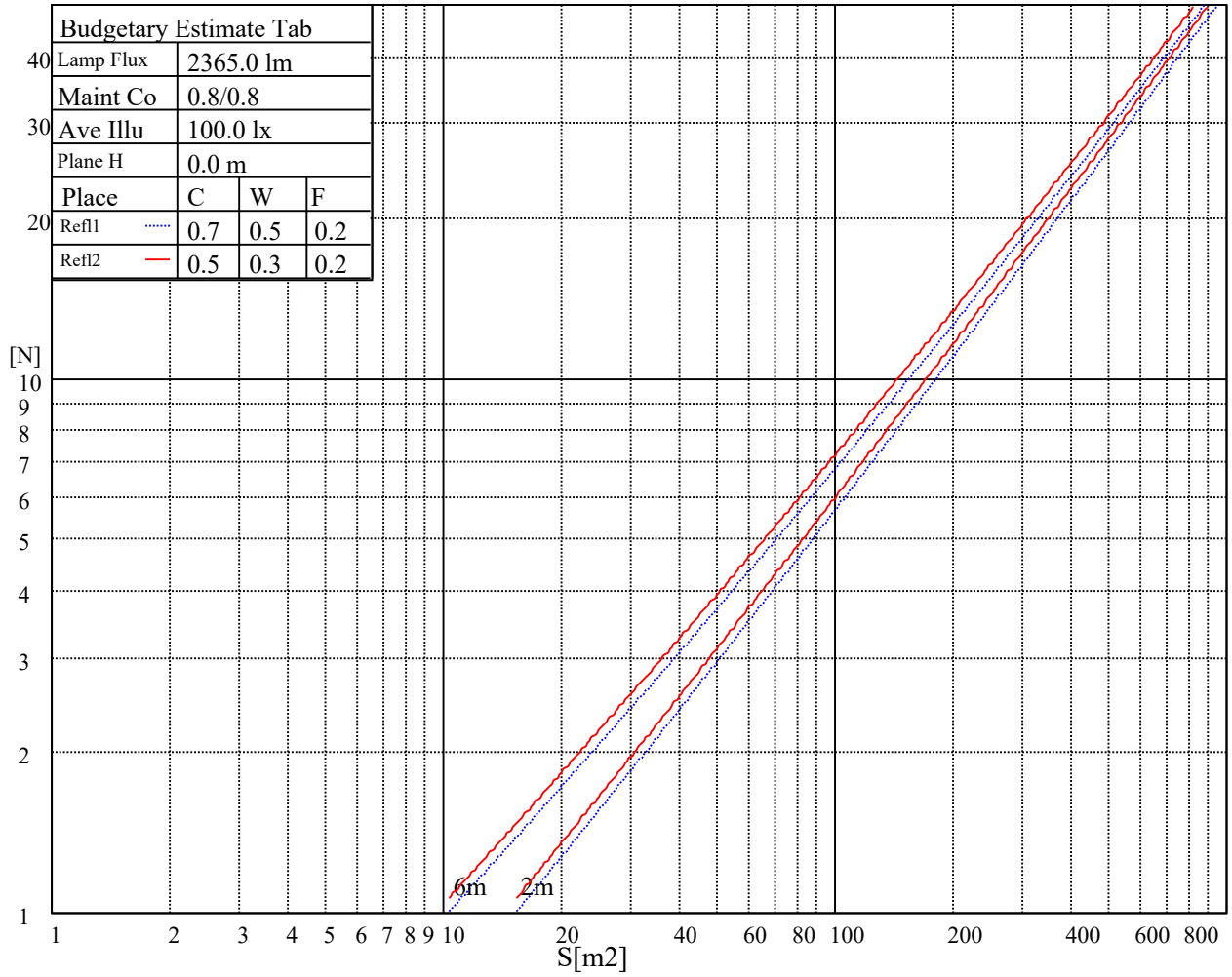


Equipment: gms1980
Temperature(°C): 25.0

Date: 2017/6/4
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

Budgetary Estimate Table

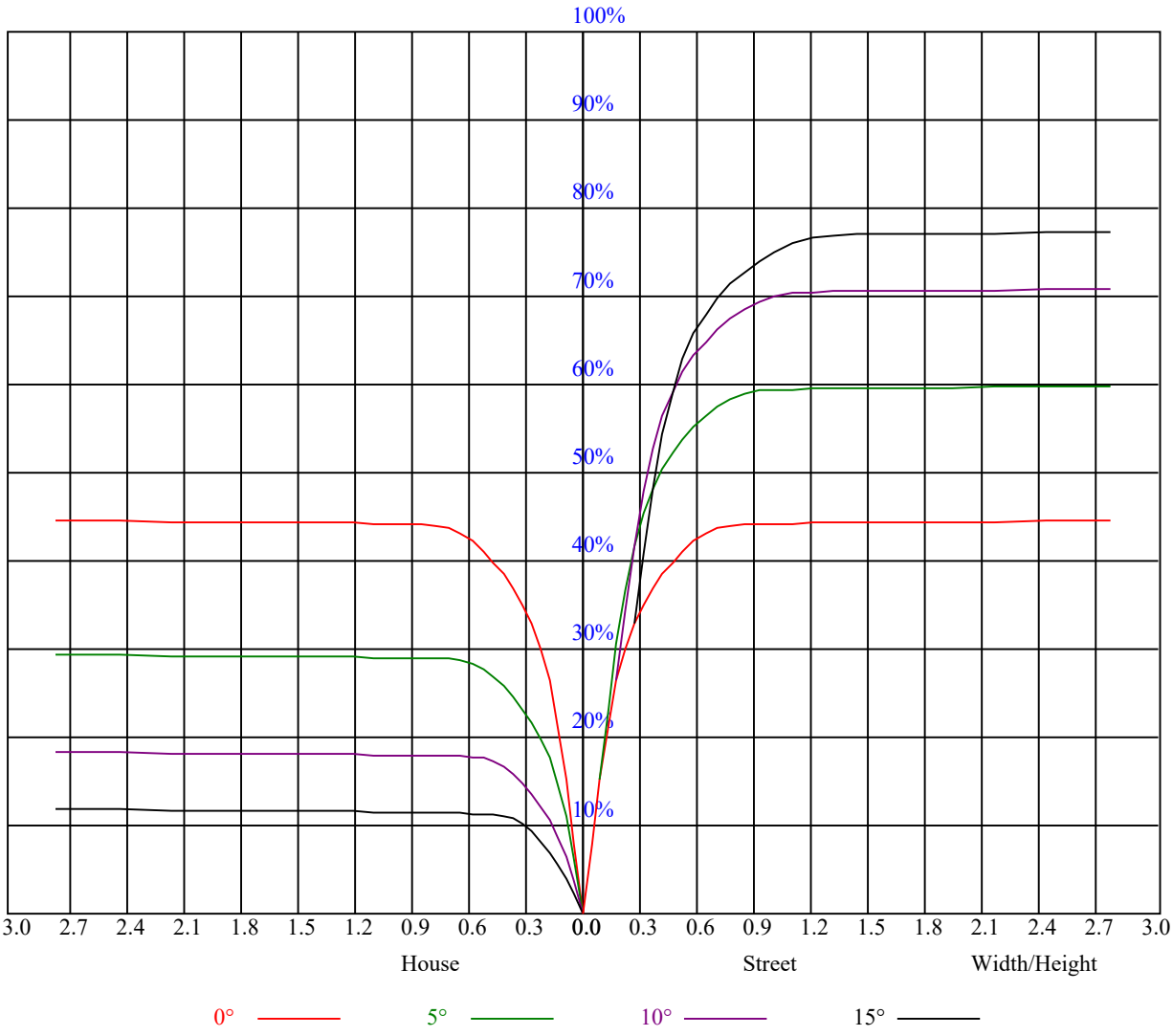


Equipment: gms1980 Date: 2017/6/4 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.42

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

Coefficient Utilization Curve



Equipment: gms1980	Date: 2017/6/4	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	11545.33	11452.17	11207.56	10773.05	10186.70	9495.47	8701.83	7768.90	6914.42
90.0	11545.33	11452.17	11207.56	10773.05	10186.70	9495.47	8701.83	7768.90	6914.42
180.0	11545.33	11452.17	11207.56	10773.05	10186.70	9495.47	8701.83	7768.90	6914.42
270.0	11545.33	11452.17	11207.56	10773.05	10186.70	9495.47	8701.83	7768.90	6914.42
360.0	11545.33	11452.17	11207.56	10773.05	10186.70	9495.47	8701.83	7768.90	6914.42

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	5956.99	5069.32	4338.99	3625.08	3045.89	2574.71	2178.58	1908.70	1592.01
90.0	5956.99	5069.32	4338.99	3625.08	3045.89	2574.71	2178.58	1908.70	1592.01
180.0	5956.99	5069.32	4338.99	3625.08	3045.89	2574.71	2178.58	1908.70	1592.01
270.0	5956.99	5069.32	4338.99	3625.08	3045.89	2574.71	2178.58	1908.70	1592.01
360.0	5956.99	5069.32	4338.99	3625.08	3045.89	2574.71	2178.58	1908.70	1592.01

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1382.96	1197.75	1080.54	989.42	926.87	883.27	856.46	835.54	817.48
90.0	1382.96	1197.75	1080.54	989.42	926.87	883.27	856.46	835.54	817.48
180.0	1382.96	1197.75	1080.54	989.42	926.87	883.27	856.46	835.54	817.48
270.0	1382.96	1197.75	1080.54	989.42	926.87	883.27	856.46	835.54	817.48
360.0	1382.96	1197.75	1080.54	989.42	926.87	883.27	856.46	835.54	817.48

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	801.35	785.54	769.80	755.10	734.78	698.17	652.53	580.40	486.86
90.0	801.35	785.54	769.80	755.10	734.78	698.17	652.53	580.40	486.86
180.0	801.35	785.54	769.80	755.10	734.78	698.17	652.53	580.40	486.86
270.0	801.35	785.54	769.80	755.10	734.78	698.17	652.53	580.40	486.86
360.0	801.35	785.54	769.80	755.10	734.78	698.17	652.53	580.40	486.86

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	387.76	293.95	186.64	116.99	60.89	34.58	18.77	14.15	11.95
90.0	387.76	293.95	186.64	116.99	60.89	34.58	18.77	14.15	11.95
180.0	387.76	293.95	186.64	116.99	60.89	34.58	18.77	14.15	11.95
270.0	387.76	293.95	186.64	116.99	60.89	34.58	18.77	14.15	11.95
360.0	387.76	293.95	186.64	116.99	60.89	34.58	18.77	14.15	11.95

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	10.68	9.91	9.58	9.41	9.25	9.14	9.03	8.92	8.86
90.0	10.68	9.91	9.58	9.41	9.25	9.14	9.03	8.92	8.86
180.0	10.68	9.91	9.58	9.41	9.25	9.14	9.03	8.92	8.86
270.0	10.68	9.91	9.58	9.41	9.25	9.14	9.03	8.92	8.86
360.0	10.68	9.91	9.58	9.41	9.25	9.14	9.03	8.92	8.86

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

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

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	8.09	8.09	8.15	8.15	8.09	8.09	8.04
90.0	8.15	8.09	8.09	8.09	8.15	8.15	8.09	8.09	8.04
180.0	8.15	8.09	8.09	8.09	8.15	8.15	8.09	8.09	8.04
270.0	8.15	8.09	8.09	8.09	8.15	8.15	8.09	8.09	8.04
360.0	8.15	8.09	8.09	8.09	8.15	8.15	8.09	8.09	8.04

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

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