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

Nata

LumCAT: 2-1163-M
Luminaire:
Report No: NT2015012101
Test No: GC2015012101
LampCAT: XICATO XTM LES9
Lamp flux(lm): 1150.0
Number of Lamps: 1
Length(mm): 65
Phm Type: C

Voltage(V): 220.0000
Current(A): 0.1100
Power (W): 22.1000
PF: 0.9080
Ballast type: DC
Width(mm): 65
Height(mm): 0

Photometric Results

Lumens(lm): 956.66
Efficiency(%): 83.19%
Lumens(lm)/Power(W): 44.18
Central intensity(cd): 3456.196
Maximum intensity(cd): 3456.196
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=23.8
[C90/270]Total=23.8
Field angle(10%Imax): [C0/180]Total=60.7
[C90/270]Total=60.7
Maximum s/h(1/2): C0_180=0.41 C90_270=0.41
Maximum s/h(1/4): C0_180=0.39 C90_270=0.39
Up flux rate of lamp(%): 3.33%
Down flux rate of lamp(%): 81.58%
Up flux rate of LUM(%): 5.79%
Down flux rate of LUM(%): 96.08%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 92.341%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3456.196	20.669	20.669	1.797%	2.161%
5.0	3143.818	150.191	170.859	13.060%	17.860%
10.0	2178.744	207.379	378.239	18.033%	39.538%
15.0	1000.022	141.872	520.11	12.337%	54.367%
20.0	495.658	92.923	613.033	8.080%	64.081%
25.0	382.928	88.706	701.74	7.714%	73.353%
30.0	351.631	96.371	798.111	8.380%	83.427%
35.0	265.401	83.442	881.552	7.256%	92.149%
40.0	27.423	9.662	891.214	.840%	93.159%
45.0	6.354	2.463	893.677	.214%	93.417%
50.0	6.088	2.556	896.233	.222%	93.684%
55.0	5.941	2.668	898.901	.232%	93.963%
60.0	5.850	2.777	901.678	.241%	94.253%
65.0	5.794	2.879	904.557	.250%	94.554%
70.0	5.773	2.974	907.531	.259%	94.865%
75.0	5.745	3.042	910.573	.265%	95.183%
80.0	5.738	3.098	913.67	.269%	95.506%
85.0	5.724	3.126	916.796	.272%	95.833%
90.0	5.710	3.130	919.926	.272%	96.160%
95.0	5.731	3.130	923.056	.272%	96.488%
100.0	5.710	3.083	926.138	.268%	96.810%
105.0	5.710	3.023	929.162	.263%	97.126%
110.0	5.714	2.943	932.105	.256%	97.433%
115.0	5.707	2.835	934.94	.247%	97.730%
120.0	5.703	2.707	937.647	.235%	98.013%
125.0	5.714	2.566	940.213	.223%	98.281%
130.0	5.749	2.414	942.627	.210%	98.533%
135.0	5.784	2.242	944.869	.195%	98.768%
140.0	5.798	2.043	946.912	.178%	98.981%
145.0	5.990	1.883	948.795	.164%	99.178%
150.0	6.651	1.823	950.618	.159%	99.369%
155.0	7.704	1.785	952.402	.155%	99.555%
160.0	8.564	1.606	954.008	.140%	99.723%
165.0	9.099	1.291	955.299	.112%	99.858%
170.0	9.204	0.876	956.175	.076%	99.950%
175.0	9.001	0.430	956.605	.037%	99.994%
180.0	8.847	0.053	956.658	.005%	100.000%

Zonal flux distribution table

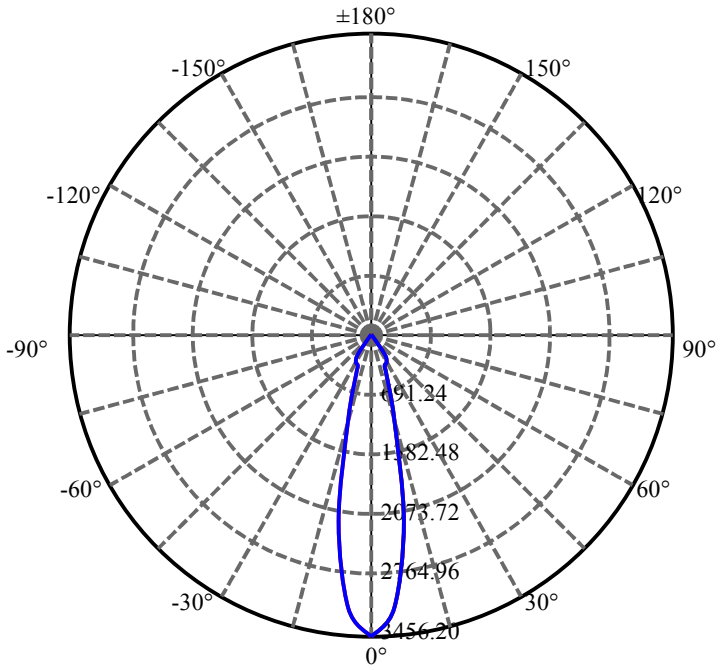
ZONAL LUMEN SUMMARY

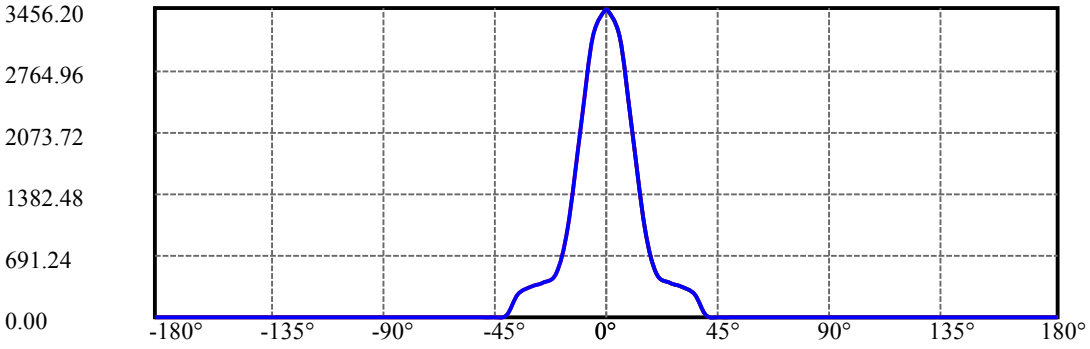
Zone	Lumens	%Lamp	%Fixt
0-30	798.11	69.40%	83.43%
0-40	891.21	77.50%	93.16%
0-60	901.68	78.41%	94.25%
0-90	919.93	79.99%	96.16%
0-120	937.65	81.53%	98.01%
0-180	956.66	83.19%	100.00%
60-90	21.02	1.83%	2.20%
90-120	20.85	1.81%	2.18%
90-130	25.83	2.25%	2.70%
90-150	33.82	2.94%	3.54%
90-180	39.81	3.46%	4.16%
0-28.30	765.33	66.55%	80.00%

ZONAL LUMEN SUMMARY

0-10	378.24
10-20	234.79
20-30	185.08
30-40	93.10
40-50	5.02
50-60	5.44
60-70	5.85
70-80	6.14
80-90	6.26
90-100	6.21
100-110	5.97
110-120	5.54
120-130	4.98
130-140	4.28
140-150	3.71
150-160	3.39
160-170	2.17
170-180	0.43

Light Distribution Curve [Unit:cd]





C0(Max):

C0/C180:

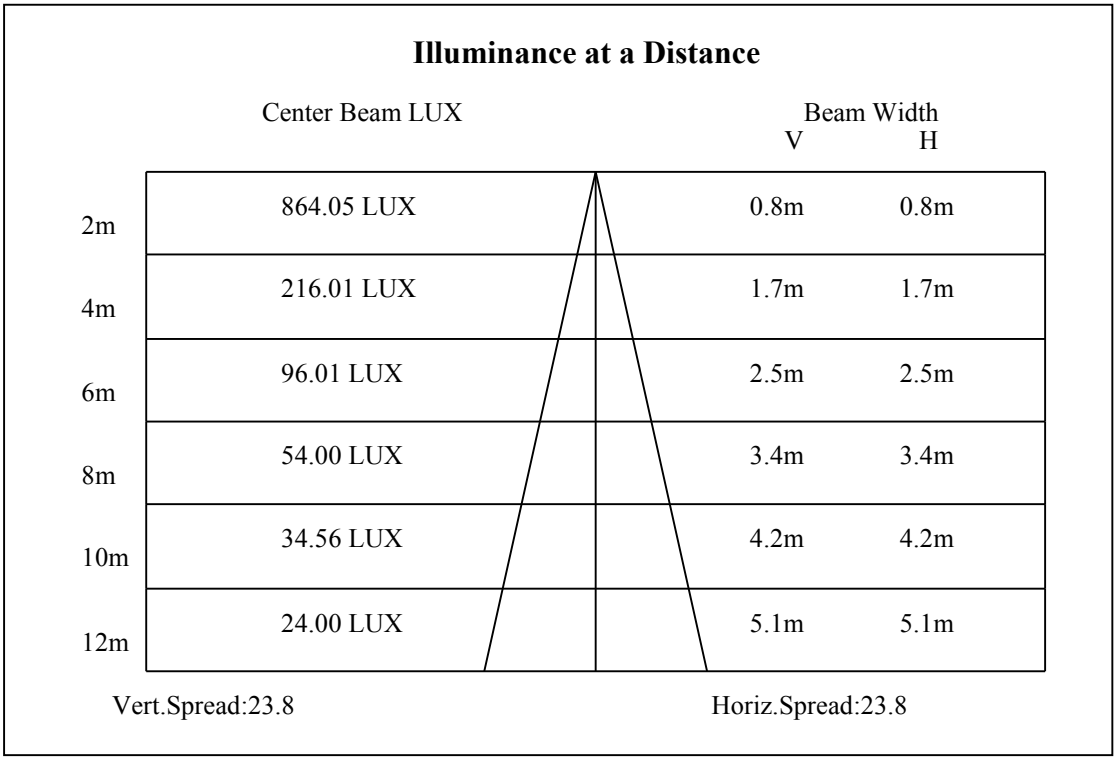
C90/C270:

Field angle(10%Imax):C0/180Left:30.3 Right:30.3
:C90/270Left:30.3 Right:30.3

Beam Angle(50%Imax):C0/180Left:11.9 Right:11.9
:C90/270Left:11.9 Right:11.9

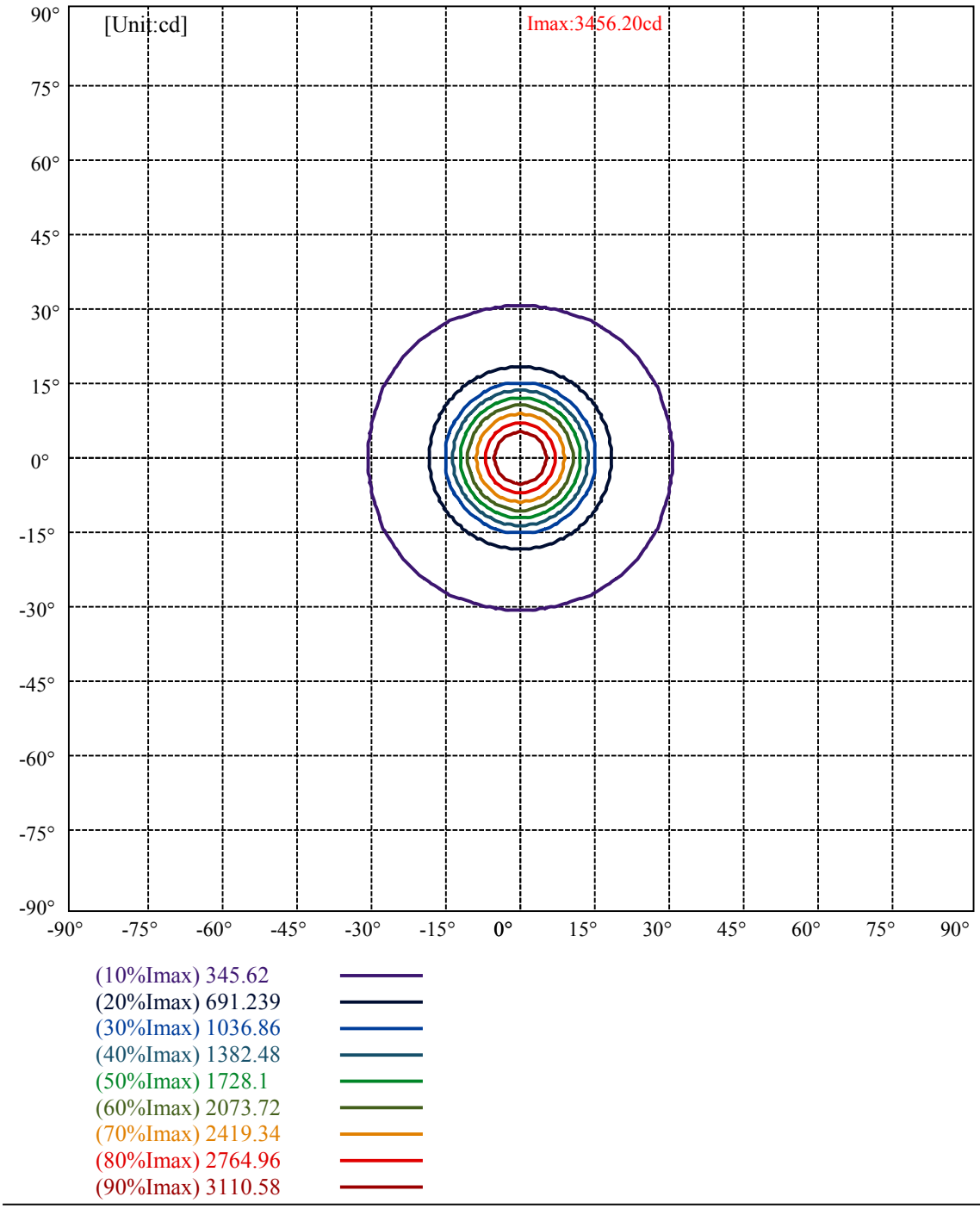
Equipment: GMS1980 Date: 2015/1/21 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.48

Lux distance Curve



Equipment: GMS1980 Date: 2015/1/21 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.48

ISO-Intensity(V-H)

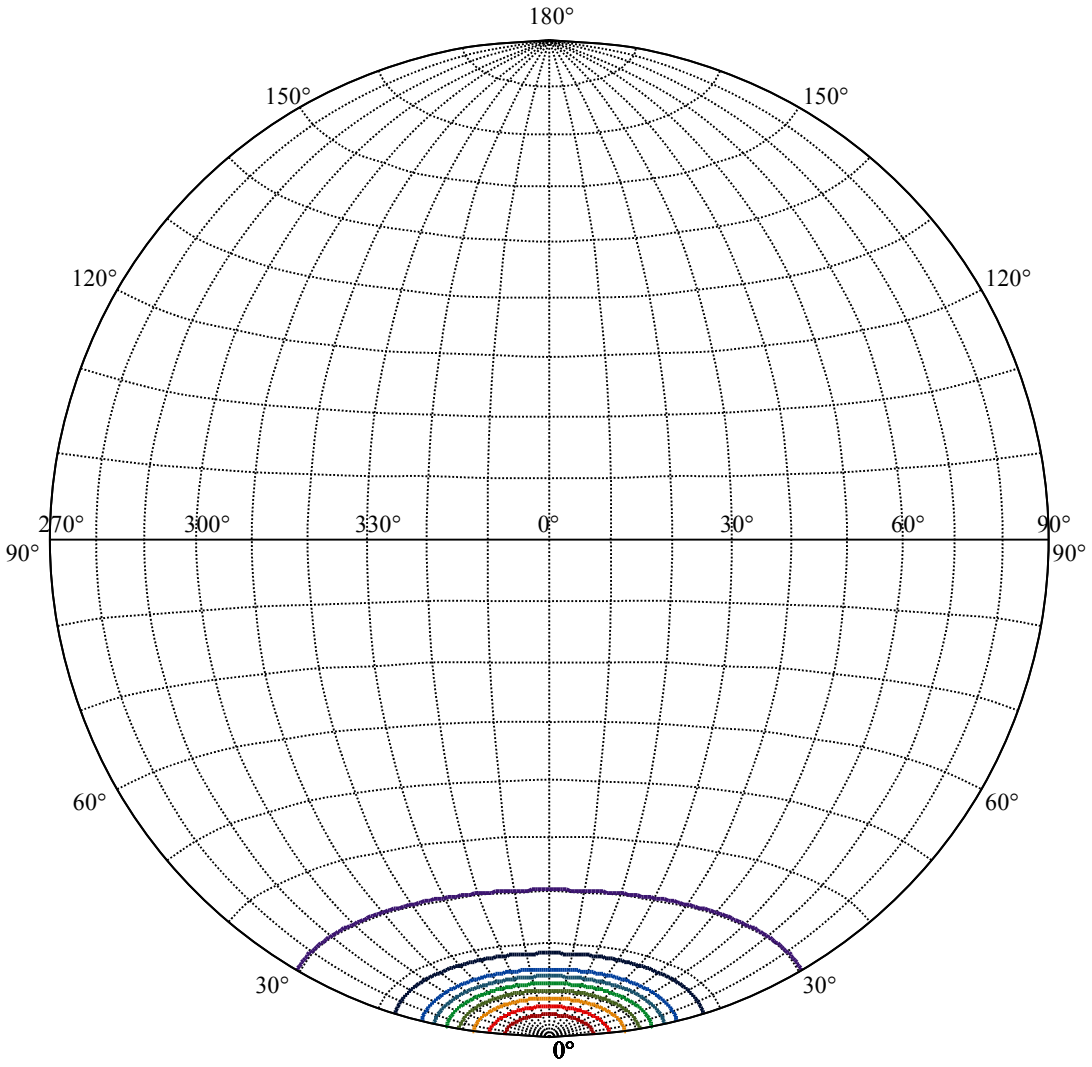


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2015/1/21
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.48

ISO candela diagram on circular web



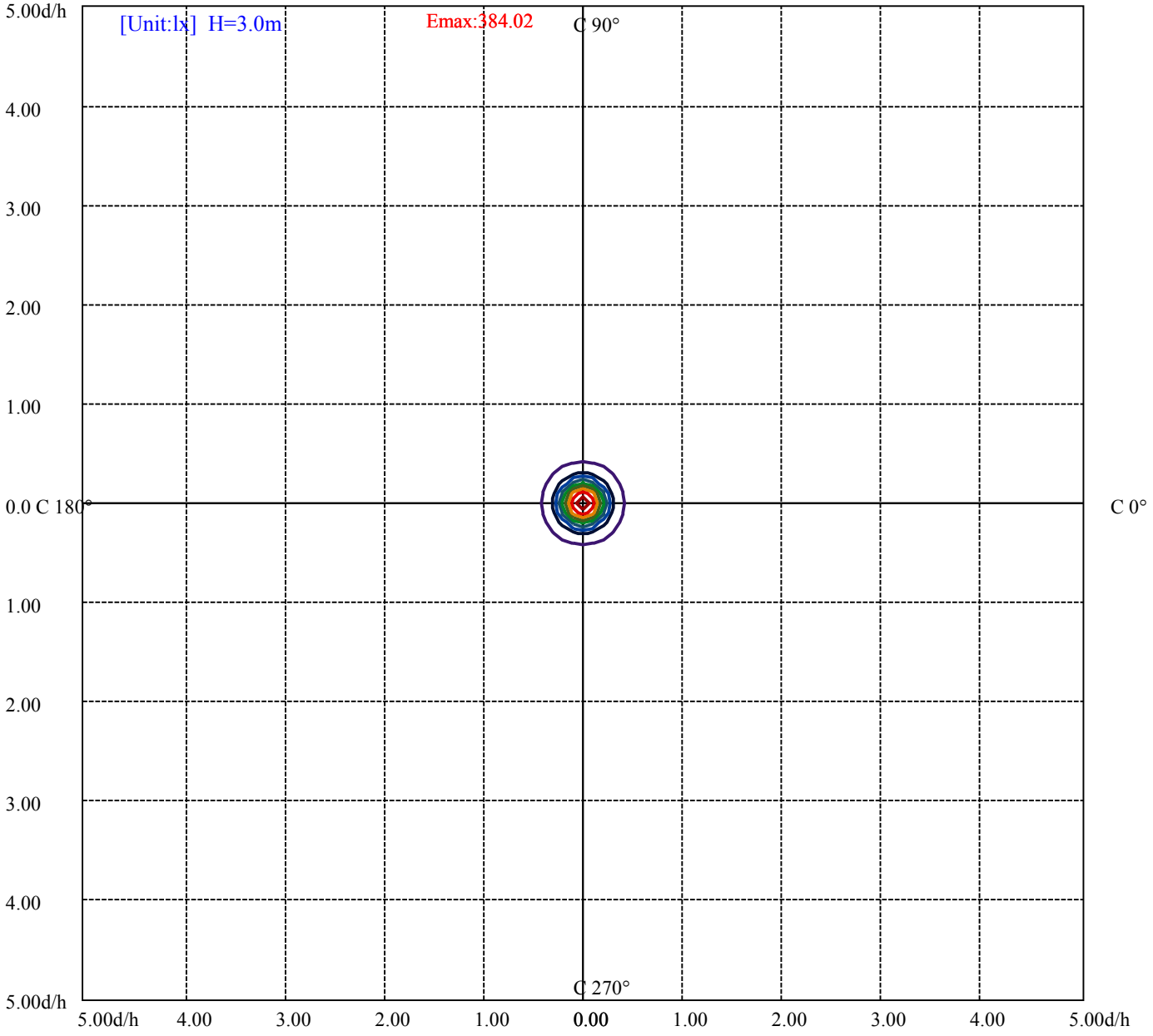
House [Unit:cd] Road

Imax:3456.20

(10%Imax) 345.62
(20%Imax) 691.239
(30%Imax) 1036.86
(40%Imax) 1382.48
(50%Imax) 1728.1
(60%Imax) 2073.72
(70%Imax) 2419.34
(80%Imax) 2764.96
(90%Imax) 3110.58

Equipment: GMS1980 Date: 2015/1/21 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.48

ISO illuminance diagram

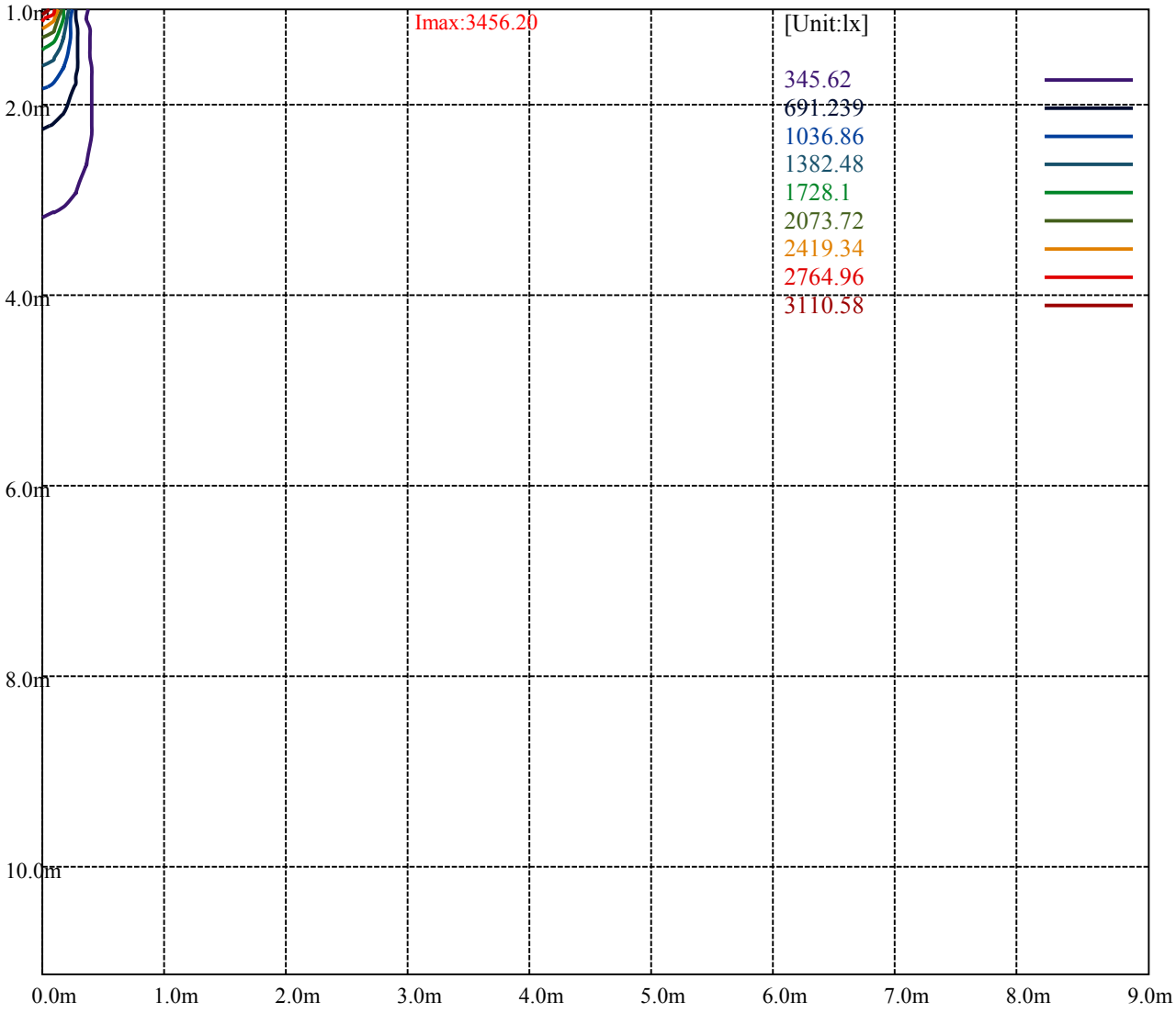


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2015/1/21
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.48

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2015/1/21
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.48

Nata 2-1163-M

Luminance Limitting Curve(no luminous side)

Luminance Table

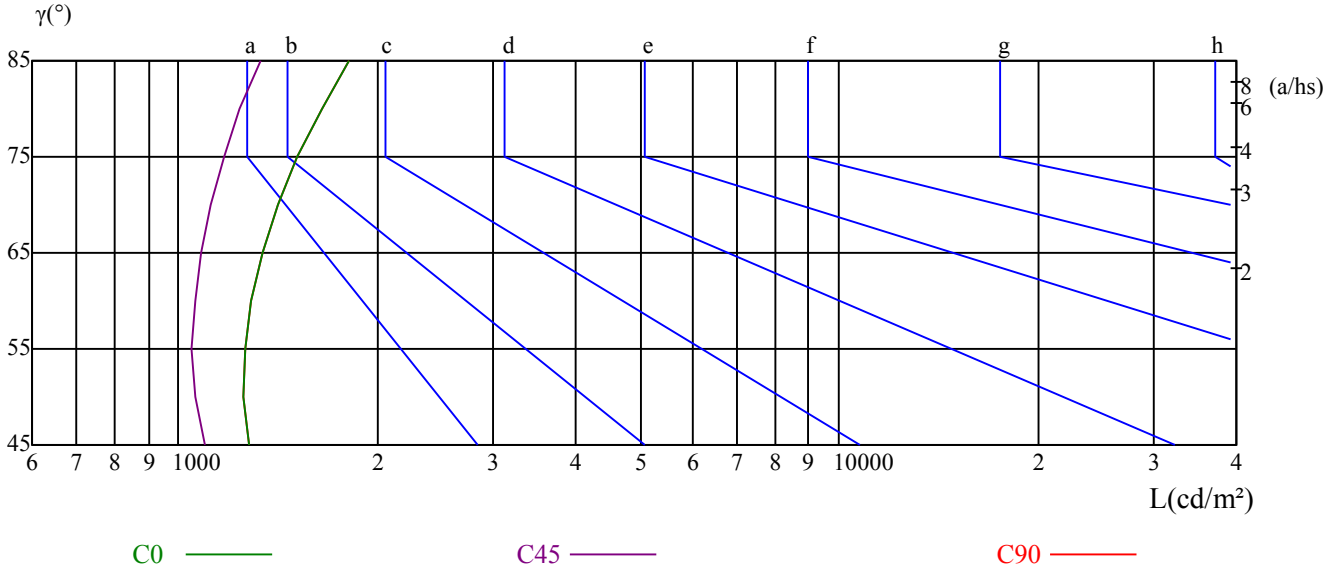
γ	45	50	55	60	65	70	75	80	85
C0	1280	1254	1261	1291	1342	1418	1515	1646	1816
C45	1099	1060	1049	1057	1079	1119	1170	1240	1329
C90	1280	1254	1261	1291	1342	1418	1515	1646	1816

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3245	3245	3245	5254	5254	5254	15546	15546	15546

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

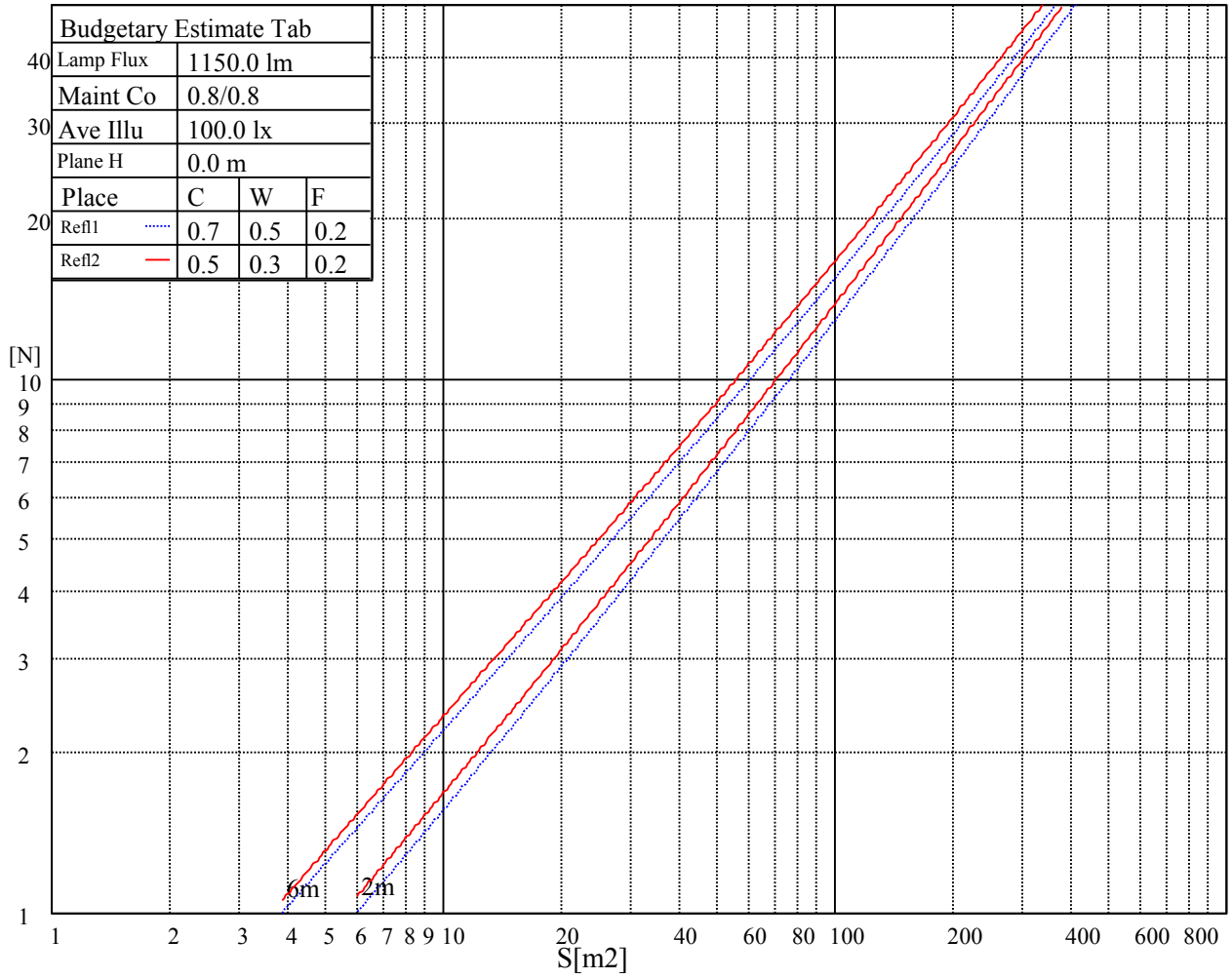


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2015/1/21
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.48

Budgetary Estimate Table

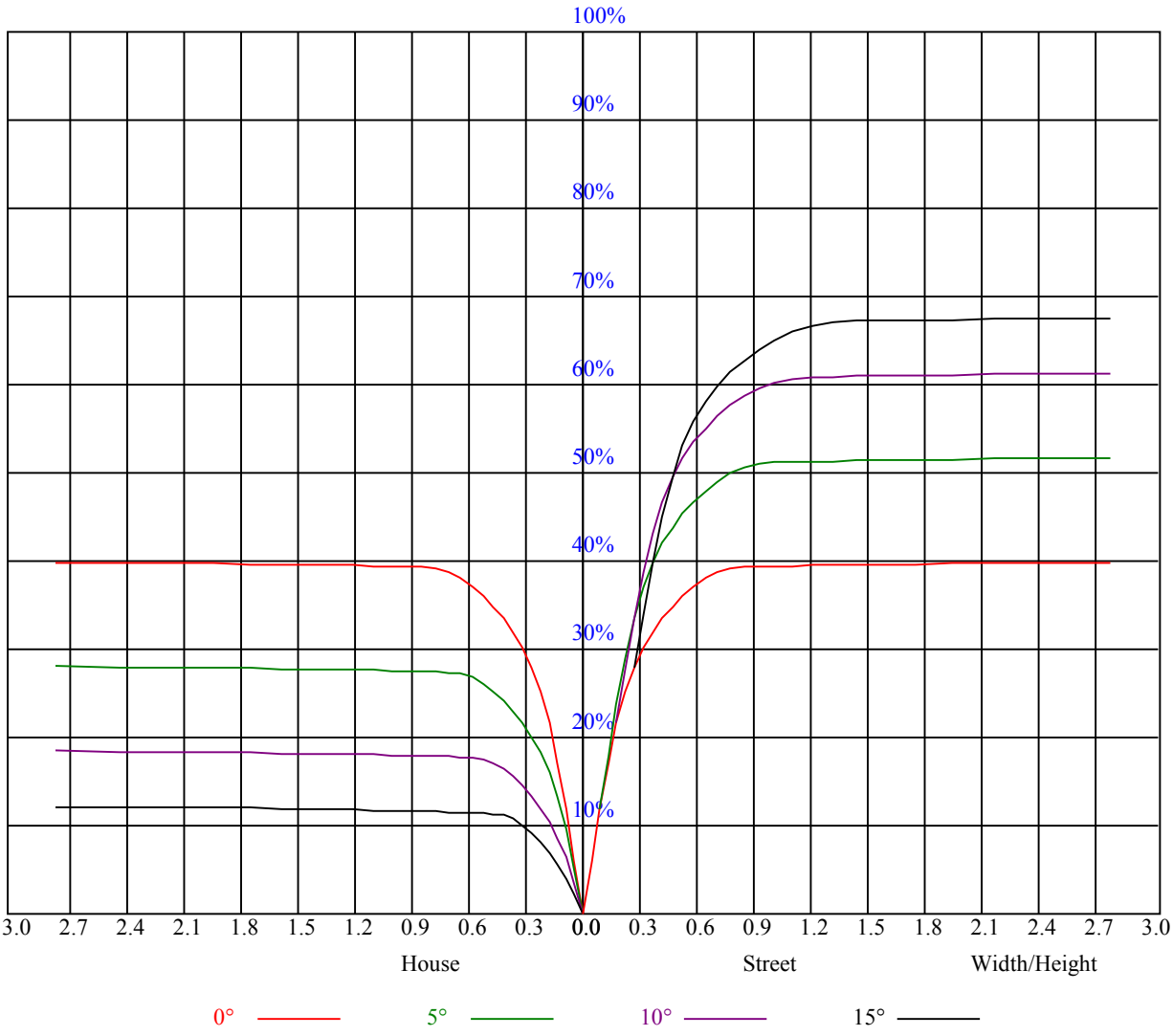


Equipment: GMS1980 Date: 2015/1/21 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.48

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	1.00	1.00	1.00	0.98	0.98	0.98	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84	0.82
1	0.92	0.89	0.87	0.90	0.87	0.85	0.86	0.84	0.82	0.82	0.80	0.79	0.78	0.77	0.76	0.75
2	0.87	0.83	0.80	0.85	0.82	0.79	0.82	0.79	0.77	0.79	0.77	0.75	0.76	0.74	0.73	0.71
3	0.82	0.78	0.75	0.81	0.77	0.75	0.78	0.75	0.73	0.76	0.73	0.71	0.74	0.72	0.70	0.69
4	0.79	0.74	0.71	0.77	0.74	0.71	0.75	0.72	0.69	0.73	0.71	0.68	0.71	0.69	0.67	0.66
5	0.75	0.71	0.68	0.74	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.69	0.67	0.65	0.64
6	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.66	0.64	0.68	0.65	0.63	0.67	0.65	0.63	0.61
7	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.66	0.63	0.61	0.65	0.63	0.61	0.59
8	0.67	0.63	0.60	0.67	0.63	0.60	0.65	0.62	0.60	0.64	0.61	0.59	0.63	0.61	0.59	0.58
9	0.65	0.61	0.58	0.64	0.61	0.58	0.63	0.60	0.58	0.63	0.59	0.57	0.62	0.59	0.57	0.56
10	0.63	0.59	0.56	0.62	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.60	0.57	0.55	0.54

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2015/1/21	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 60.0%	Distance(m): 7.48

Intensity data(cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	3461.65	3118.12	2180.95	939.97	481.17	378.78	352.49	284.79	17.90
22.5	3467.81	3087.90	2125.00	901.36	473.90	379.90	353.61	289.26	17.34
45.0	3441.51	3006.77	1830.14	791.87	448.27	374.70	347.23	193.70	15.89
67.5	3469.48	3107.49	2117.16	957.87	492.92	383.82	355.84	282.55	19.92
90.0	3440.39	3045.38	1909.59	888.72	466.35	379.74	348.35	222.23	17.34
112.5	3464.45	3151.69	2316.35	1047.39	518.10	389.41	358.08	289.26	32.90
135.0	3451.58	3118.12	2070.16	987.75	485.76	381.75	348.12	261.12	22.21
157.5	3452.70	3207.64	2403.07	1174.96	551.11	392.21	356.40	312.20	52.20
180.0	3461.65	3157.28	2173.67	1060.88	500.70	383.09	350.75	274.05	27.02
202.5	3467.81	3189.73	2235.22	1096.07	509.26	384.38	350.42	277.46	28.98
225.0	3441.51	3264.71	2495.39	1202.93	570.13	396.69	356.40	297.66	58.92
247.5	3469.48	3167.91	2234.10	1039.28	492.08	381.92	349.13	256.36	19.36
270.0	3440.39	3250.16	2419.85	1122.92	527.05	388.86	353.61	291.50	42.52
292.5	3464.45	3118.12	2114.37	937.95	468.58	374.81	347.17	229.90	18.13
315.0	3451.58	3229.46	2277.74	1007.11	496.84	383.26	352.49	290.38	31.44
337.5	3452.70	3080.63	1957.14	843.34	448.27	373.52	346.00	193.98	16.67
360.0	3461.65	3118.12	2180.95	939.97	481.17	378.78	352.49	284.79	17.90

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	6.43	6.10	5.93	5.82	5.76	5.76	5.76	5.71	5.71
22.5	6.38	6.10	5.99	5.87	5.82	5.82	5.76	5.76	5.76
45.0	6.27	6.04	5.93	5.87	5.82	5.82	5.76	5.76	5.71
67.5	6.32	6.10	5.99	5.87	5.82	5.82	5.82	5.76	5.76
90.0	6.21	6.04	5.93	5.87	5.82	5.76	5.71	5.71	5.71
112.5	6.27	6.10	5.99	5.87	5.82	5.76	5.76	5.76	5.76
135.0	6.27	6.04	5.93	5.82	5.82	5.76	5.76	5.76	5.71
157.5	6.32	6.10	5.93	5.87	5.82	5.76	5.76	5.76	5.71
180.0	6.27	6.04	5.93	5.82	5.76	5.76	5.71	5.71	5.71
202.5	6.38	6.10	5.93	5.82	5.76	5.76	5.71	5.71	5.71
225.0	6.49	6.15	5.93	5.87	5.82	5.76	5.76	5.76	5.76
247.5	6.43	6.10	5.87	5.82	5.76	5.76	5.71	5.71	5.71
270.0	6.49	6.15	5.99	5.87	5.76	5.82	5.76	5.76	5.76
292.5	6.38	6.10	5.93	5.82	5.82	5.76	5.71	5.71	5.71
315.0	6.43	6.10	5.93	5.87	5.76	5.76	5.76	5.76	5.71
337.5	6.32	6.04	5.93	5.82	5.76	5.71	5.71	5.71	5.71
360.0	6.43	6.10	5.93	5.82	5.76	5.76	5.76	5.71	5.71

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.76
22.5	5.71	5.82	5.71	5.71	5.71	5.71	5.71	5.71	5.71
45.0	5.71	5.76	5.76	5.76	5.76	5.71	5.71	5.71	5.76
67.5	5.71	5.76	5.71	5.76	5.71	5.71	5.71	5.71	5.76
90.0	5.71	5.71	5.65	5.71	5.71	5.71	5.71	5.71	5.71
112.5	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.76
135.0	5.71	5.71	5.71	5.71	5.71	5.71	5.65	5.71	5.71
157.5	5.76	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71
180.0	5.71	5.65	5.71	5.71	5.71	5.65	5.71	5.71	5.71
202.5	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.76
225.0	5.71	5.82	5.76	5.71	5.76	5.76	5.71	5.71	5.76
247.5	5.71	5.76	5.71	5.71	5.71	5.71	5.71	5.76	5.76
270.0	5.71	5.76	5.71	5.71	5.71	5.71	5.71	5.76	5.76
292.5	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.76
315.0	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.82
337.5	5.71	5.71	5.71	5.65	5.71	5.71	5.71	5.71	5.76
360.0	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.76

Intensity data(cd)

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	5.82	5.87	6.15	6.94	8.17	9.06	9.57	9.62	9.29
22.5	5.76	5.76	5.99	6.71	7.67	8.45	8.95	9.06	9.01
45.0	5.71	5.76	5.99	6.71	7.72	8.45	8.90	8.95	8.84
67.5	5.76	5.76	5.93	6.49	7.50	8.22	8.78	8.90	8.78
90.0	5.76	5.71	5.93	6.60	7.50	8.22	8.73	8.84	8.73
112.5	5.76	5.71	5.82	6.38	7.33	8.06	8.67	8.78	8.73
135.0	5.71	5.71	5.87	6.49	7.39	8.22	8.73	8.84	8.73
157.5	5.76	5.71	5.82	6.32	7.27	8.11	8.73	8.95	8.84
180.0	5.71	5.71	5.87	6.43	7.44	8.28	8.90	9.01	8.95
202.5	5.87	5.87	6.04	6.77	8.06	8.95	9.51	9.62	9.34
225.0	5.82	5.87	5.99	6.55	7.72	8.73	9.34	9.57	9.29
247.5	5.82	5.82	6.04	6.77	7.78	8.78	9.29	9.40	9.12
270.0	5.82	5.87	6.04	6.60	7.72	8.73	9.29	9.40	9.12
292.5	5.82	5.87	6.10	6.88	7.94	8.84	9.29	9.34	9.06
315.0	5.82	5.87	6.10	6.71	7.89	8.84	9.40	9.46	9.06
337.5	5.82	5.87	6.15	7.05	8.17	9.06	9.51	9.51	9.12
360.0	5.82	5.87	6.15	6.94	8.17	9.06	9.57	9.62	9.29

C/γ(°)	180.0
0.0	8.95
22.5	9.01
45.0	8.90
67.5	8.84
90.0	8.73
112.5	8.73
135.0	8.78
157.5	8.84
180.0	8.95
202.5	9.01
225.0	8.90
247.5	8.84
270.0	8.73
292.5	8.73
315.0	8.78
337.5	8.84
360.0	8.95