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

Nata

LumCAT: 4-2273-M
Luminaire: 92.76.129.00
Report No: GC2017061706
Test No: NT-0010
LampCAT: CREE CXA1820
Lamp flux(lm): 2283.0
Number of Lamps: 1
Length(mm): 100
Phm Type: C

Voltage(V): 36.0000
Current(A): 0.5000
Power (W): 18.0000
PF: 0.0000
Ballast type: DC
Width(mm): 100
Height(mm): 0

Photometric Results

Lumens(lm): 2006.48
Efficiency(%): 87.89%
Lumens(lm)/Power(W): 111.47
Central intensity(cd): 33501.820
Maximum intensity(cd): 33501.820
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=9.0
[C90/270]Total=9.0
Field angle(10%Imax): [C0/180]Total=18.9
[C90/270]Total=18.9
Maximum s/h(1/2): C0_180=0.16 C90_270=0.16
Maximum s/h(1/4): C0_180=0.17 C90_270=0.17
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 87.89%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.794%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	33501.820	0.000	0	.000%	.000%
1.0	32190.102	31.432	31.432	1.377%	1.567%
2.0	29133.094	88.017	119.449	3.855%	5.953%
3.0	24751.980	128.875	248.325	5.645%	12.376%
4.0	19791.398	149.101	397.426	6.531%	19.807%
5.0	13511.116	143.266	540.691	6.275%	26.947%
6.0	10666.352	127.059	667.75	5.565%	33.280%
7.0	7683.121	113.895	781.645	4.989%	38.956%
8.0	5483.755	94.233	875.878	4.128%	43.653%
9.0	3823.392	75.429	951.307	3.304%	47.412%
10.0	2719.236	59.208	1010.516	2.593%	50.363%
11.0	2141.556	48.569	1059.085	2.127%	52.783%
12.0	1572.548	40.600	1099.685	1.778%	54.807%
13.0	1272.532	33.764	1133.449	1.479%	56.490%
14.0	1126.096	30.702	1164.152	1.345%	58.020%
15.0	1040.208	29.740	1193.892	1.303%	59.502%
16.0	979.440	29.593	1223.485	1.296%	60.977%
17.0	937.679	29.855	1253.34	1.308%	62.465%
18.0	912.876	30.512	1283.851	1.336%	63.985%
19.0	893.194	31.422	1315.273	1.376%	65.551%
20.0	872.603	32.319	1347.592	1.416%	67.162%
21.0	853.333	33.141	1380.734	1.452%	68.814%
22.0	836.678	33.961	1414.695	1.488%	70.506%
23.0	819.762	34.757	1449.452	1.522%	72.239%
24.0	802.130	35.460	1484.912	1.553%	74.006%
25.0	787.940	36.155	1521.067	1.584%	75.808%
26.0	774.355	36.878	1557.945	1.615%	77.646%
27.0	760.756	37.557	1595.502	1.645%	79.518%
28.0	748.767	38.218	1633.72	1.674%	81.422%
29.0	735.058	38.821	1672.541	1.700%	83.357%
30.0	719.119	39.262	1711.803	1.720%	85.314%
31.0	705.465	39.644	1751.448	1.736%	87.290%
32.0	691.495	40.021	1791.469	1.753%	89.284%
33.0	665.508	39.978	1831.447	1.751%	91.277%
34.0	594.568	38.134	1869.58	1.670%	93.177%
35.0	465.915	32.935	1902.515	1.443%	94.819%
36.0	334.523	25.486	1928.001	1.116%	96.089%
37.0	235.311	18.585	1946.586	.814%	97.015%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	117.174	11.765	1958.351	.515%	97.602%
39.0	35.553	5.213	1963.564	.228%	97.861%
40.0	22.559	2.027	1965.591	.089%	97.962%
41.0	19.270	1.490	1967.08	.065%	98.037%
42.0	15.677	1.270	1968.35	.056%	98.100%
43.0	12.746	1.053	1969.403	.046%	98.152%
44.0	10.227	0.867	1970.27	.038%	98.196%
45.0	9.786	0.769	1971.039	.034%	98.234%
46.0	9.511	0.755	1971.794	.033%	98.271%
47.0	9.346	0.750	1972.544	.033%	98.309%
48.0	9.167	0.748	1973.292	.033%	98.346%
49.0	8.974	0.745	1974.037	.033%	98.383%
50.0	8.837	0.743	1974.78	.033%	98.420%
51.0	8.726	0.743	1975.523	.033%	98.457%
52.0	8.603	0.744	1976.266	.033%	98.494%
53.0	8.492	0.744	1977.01	.033%	98.531%
54.0	8.410	0.745	1977.755	.033%	98.569%
55.0	8.327	0.747	1978.502	.033%	98.606%
56.0	8.286	0.751	1979.253	.033%	98.643%
57.0	8.203	0.754	1980.007	.033%	98.681%
58.0	8.148	0.756	1980.763	.033%	98.718%
59.0	8.080	0.759	1981.522	.033%	98.756%
60.0	8.038	0.761	1982.283	.033%	98.794%
61.0	7.997	0.765	1983.048	.034%	98.832%
62.0	7.956	0.769	1983.817	.034%	98.871%
63.0	7.914	0.772	1984.589	.034%	98.909%
64.0	7.873	0.775	1985.364	.034%	98.948%
65.0	7.846	0.778	1986.141	.034%	98.987%
66.0	7.832	0.782	1986.924	.034%	99.026%
67.0	7.818	0.787	1987.711	.034%	99.065%
68.0	7.790	0.791	1988.501	.035%	99.104%
69.0	7.749	0.793	1989.294	.035%	99.144%
70.0	7.749	0.796	1990.09	.035%	99.183%
71.0	7.708	0.799	1990.889	.035%	99.223%
72.0	7.722	0.802	1991.691	.035%	99.263%
73.0	7.680	0.805	1992.497	.035%	99.303%
74.0	7.667	0.807	1993.303	.035%	99.343%
75.0	7.667	0.810	1994.114	.035%	99.384%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	7.667	0.814	1994.927	.036%	99.424%
77.0	7.639	0.816	1995.744	.036%	99.465%
78.0	7.639	0.818	1996.561	.036%	99.506%
79.0	7.612	0.819	1997.381	.036%	99.547%
80.0	7.612	0.821	1998.202	.036%	99.588%
81.0	7.612	0.823	1999.025	.036%	99.629%
82.0	7.639	0.827	1999.852	.036%	99.670%
83.0	7.570	0.827	2000.679	.036%	99.711%
84.0	7.570	0.825	2001.503	.036%	99.752%
85.0	7.598	0.828	2002.331	.036%	99.793%
86.0	7.556	0.828	2003.16	.036%	99.835%
87.0	7.556	0.827	2003.987	.036%	99.876%
88.0	7.584	0.829	2004.816	.036%	99.917%
89.0	7.570	0.831	2005.647	.036%	99.959%
90.0	7.556	0.829	2006.476	.036%	100.000%

Zonal flux distribution table

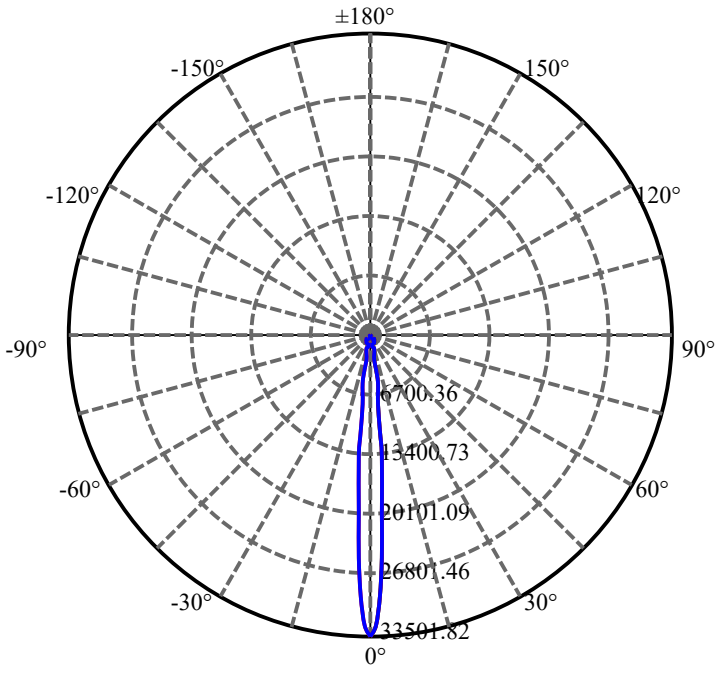
ZONAL LUMEN SUMMARY

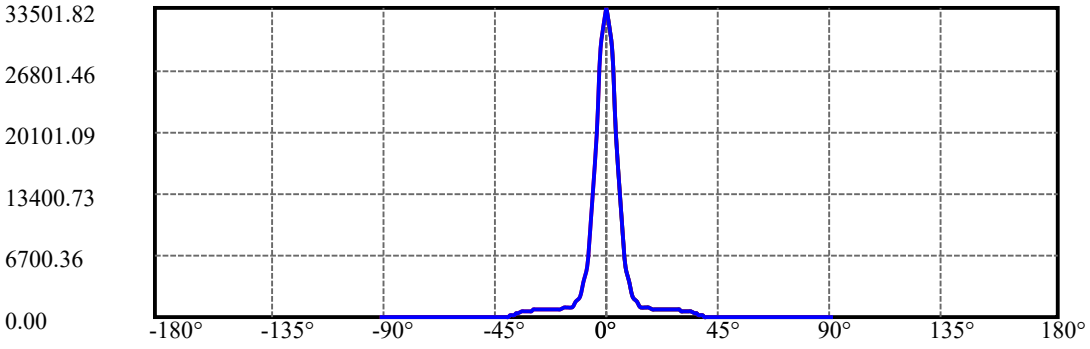
Zone	Lumens	%Lamp	%Fixt
0-30	1711.80	74.98%	85.31%
0-40	1965.59	86.10%	97.96%
0-60	1982.28	86.83%	98.79%
0-90	2005.65	87.85%	99.96%
0-120	2005.65	87.85%	99.96%
0-180	2006.48	87.89%	100.00%
60-90	24.13	1.06%	1.20%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.25	1605.18	70.31%	80.00%

ZONAL LUMEN SUMMARY

0-10	1010.52
10-20	337.08
20-30	364.21
30-40	253.79
40-50	9.19
50-60	7.50
60-70	7.81
70-80	8.11
80-90	7.45
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):

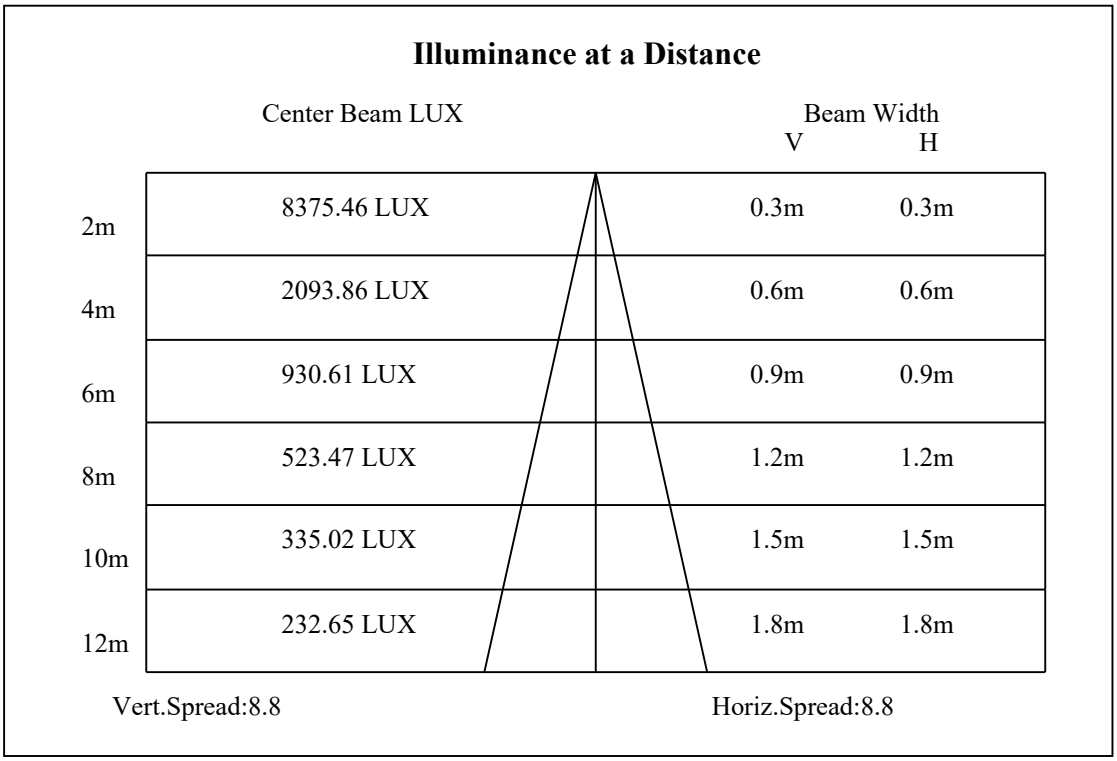
C0/C180:

C90/C270:

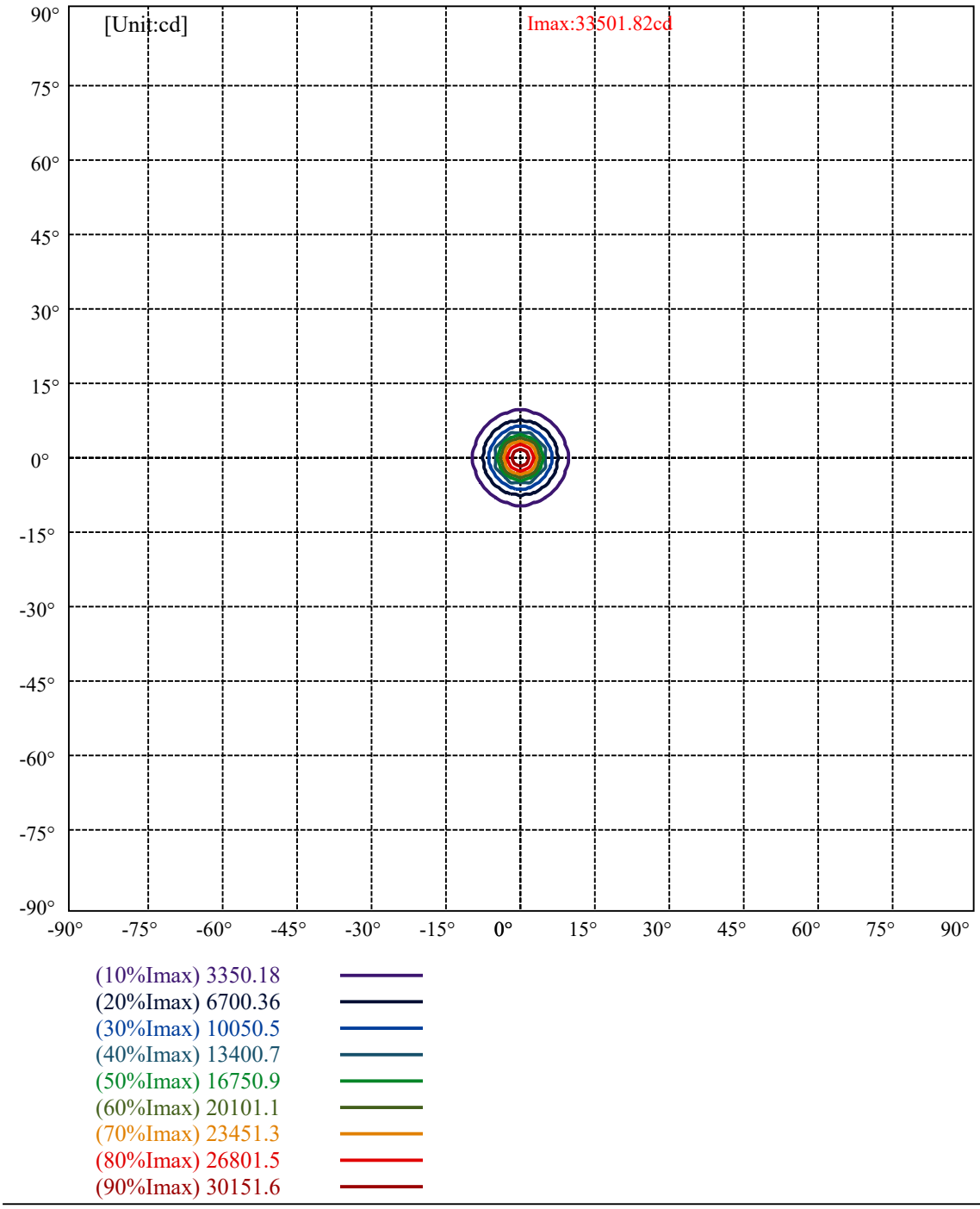
Field angle(10%Imax):C0/180Left:9.4 Right:9.4
:C90/270Left:9.4 Right:9.4

Beam Angle(50%Imax):C0/180Left:4.5 Right:4.5
:C90/270Left:4.5 Right:4.5

Lux distance Curve



ISO-Intensity(V-H)



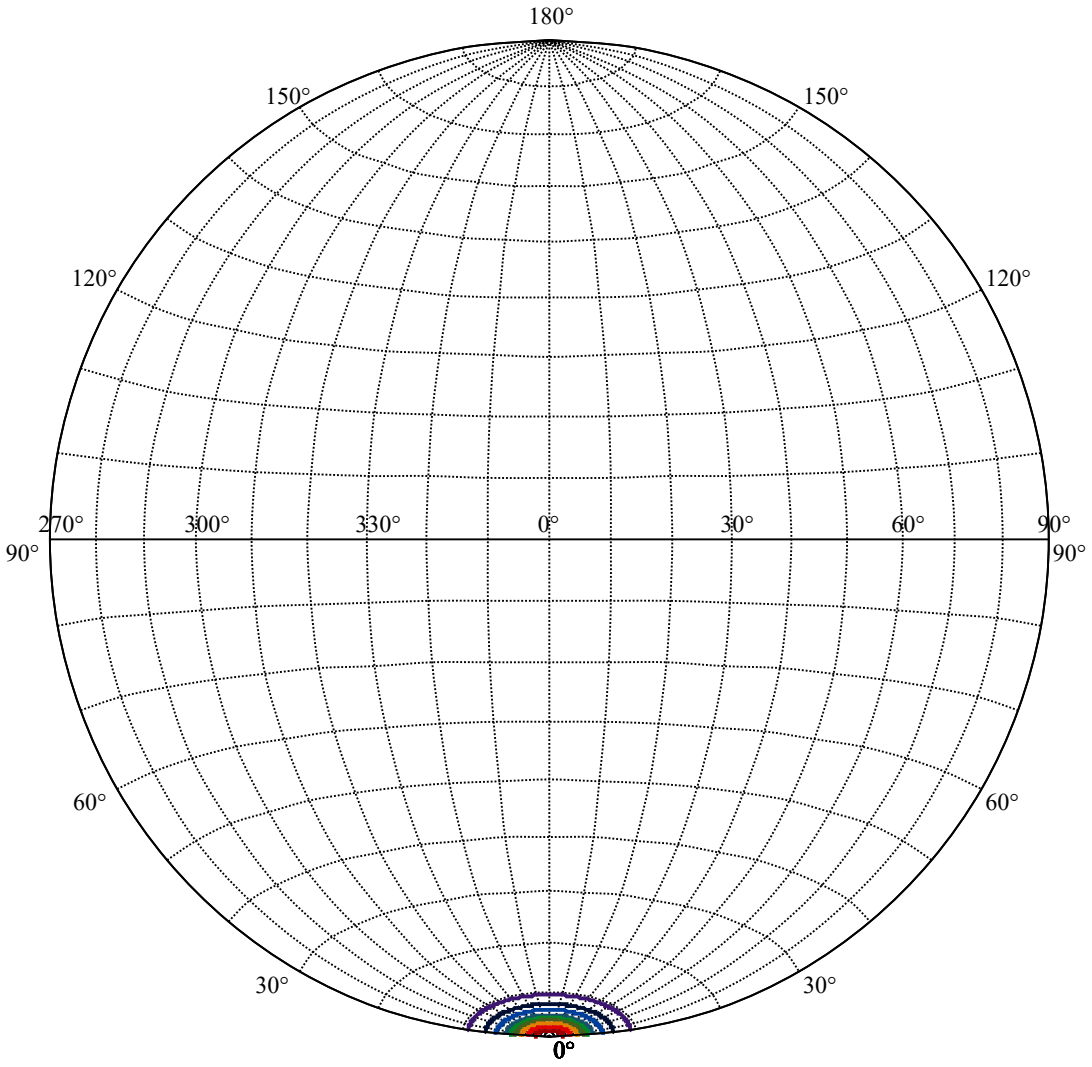
(10%Imax) 3350.18
(20%Imax) 6700.36
(30%Imax) 10050.5
(40%Imax) 13400.7
(50%Imax) 16750.9
(60%Imax) 20101.1
(70%Imax) 23451.3
(80%Imax) 26801.5
(90%Imax) 30151.6

Equipment: gms1980
Temperature(°C): 25.0

Date: 2017/6/13
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

ISO candela diagram on circular web



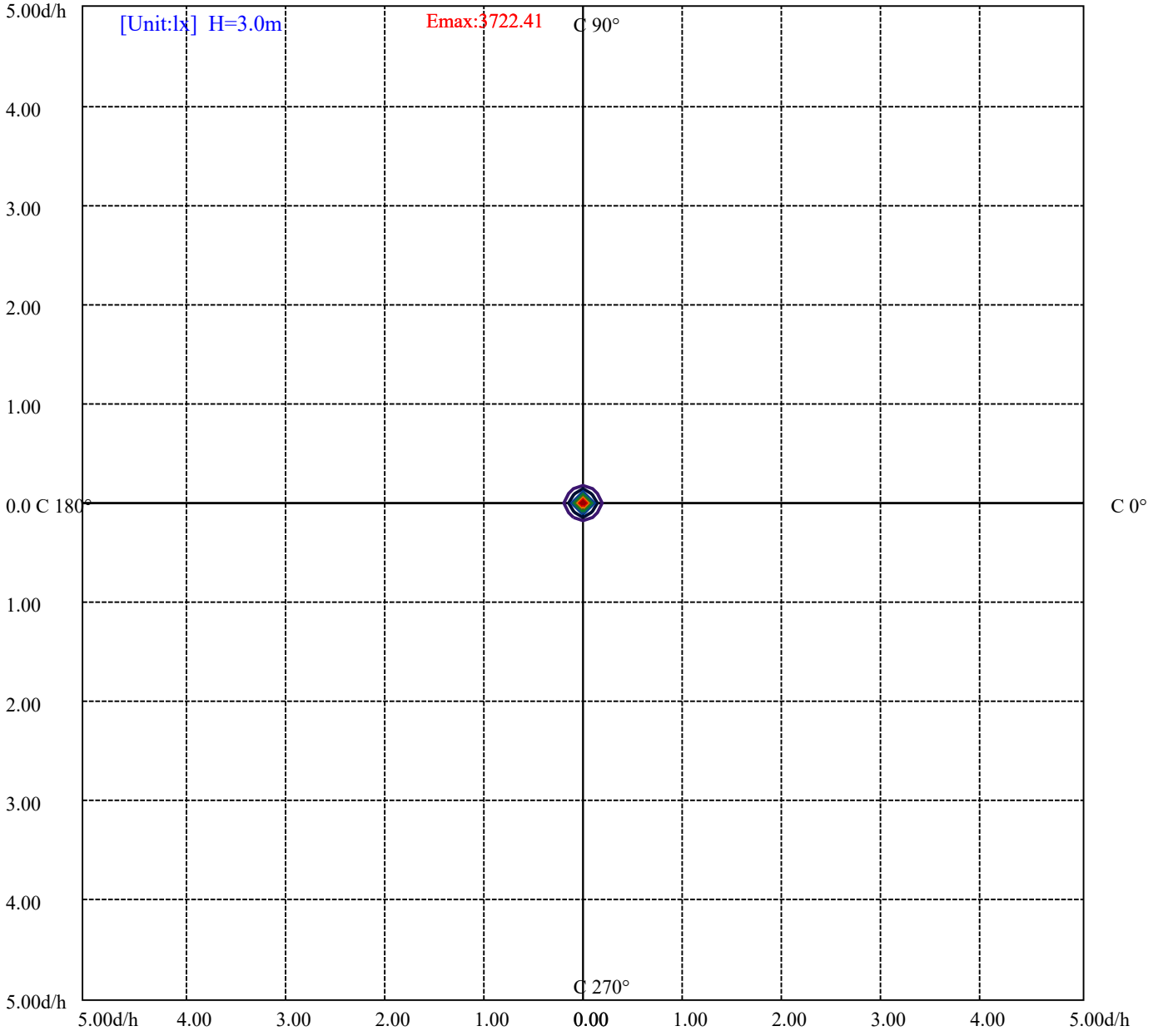
House [Unit:cd] Road

Imax:33501.82

(10%Imax) 3350.18
(20%Imax) 6700.36
(30%Imax) 10050.5
(40%Imax) 13400.7
(50%Imax) 16750.9
(60%Imax) 20101.1
(70%Imax) 23451.3
(80%Imax) 26801.5
(90%Imax) 30151.6

Equipment: gms1980	Date: 2017/6/13	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 60.0%	Distance(m): 7.42

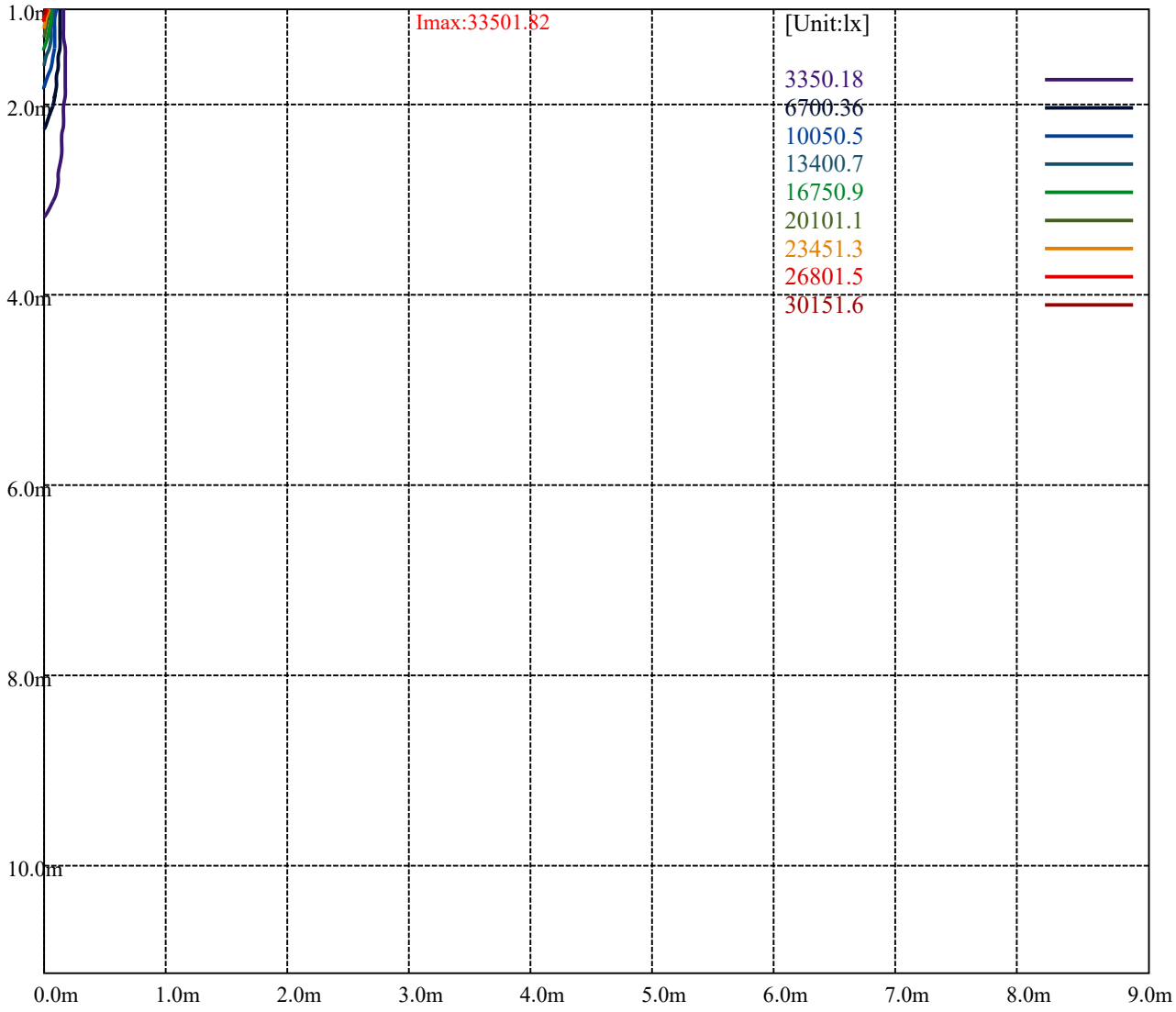
ISO illuminance diagram



(10%Emax) 372.24
(20%Emax) 744.48
(30%Emax) 1116.722
(40%Emax) 1488.956
(50%Emax) 1861.2
(60%Emax) 2233.444
(70%Emax) 2605.678
(80%Emax) 2977.922
(90%Emax) 3350.167

Equipment: gms1980	Date: 2017/6/13	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 60.0%	Distance(m): 7.42

Space ISO Lux diagram



Equipment: gms1980
Temperature(°C): 25.0

Date: 2017/6/13
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

Luminance Limitting Curve(no luminous side)

Luminance Table

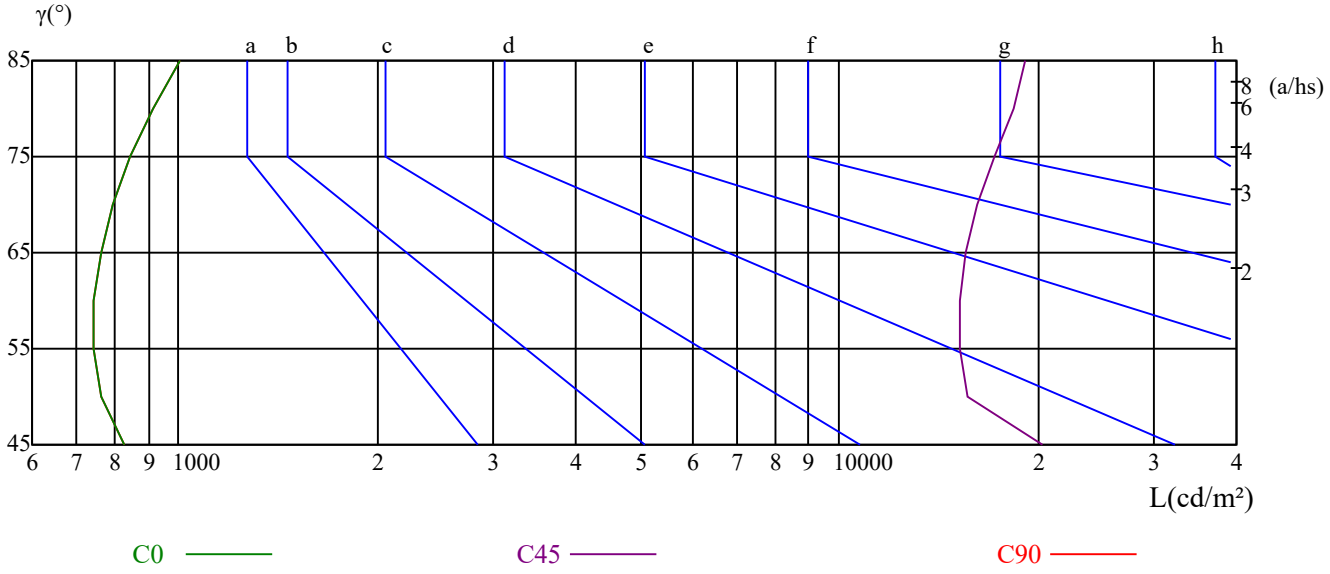
γ	45	50	55	60	65	70	75	80	85
C0	829	764	742	744	762	798	846	913	1007
C45	20305	15669	15257	15213	15519	16238	17180	18393	19119
C90	829	764	742	744	762	798	846	913	1007

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1856	1856	47054	2962	2962	77931	8717	8717	226181

Glare Table

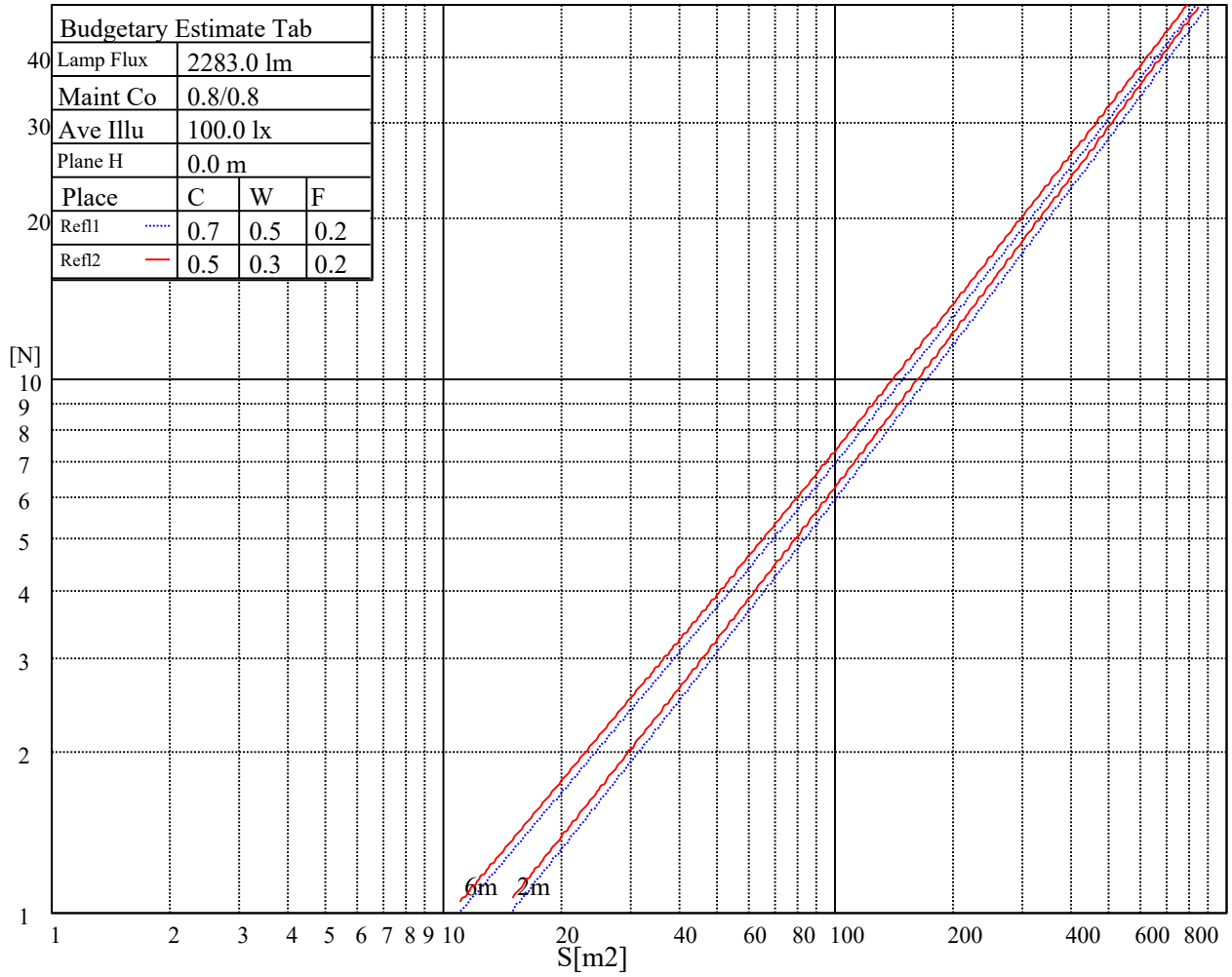
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limitting Curve



Equipment: gms1980 Date: 2017/6/13 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.42

Budgetary Estimate Table

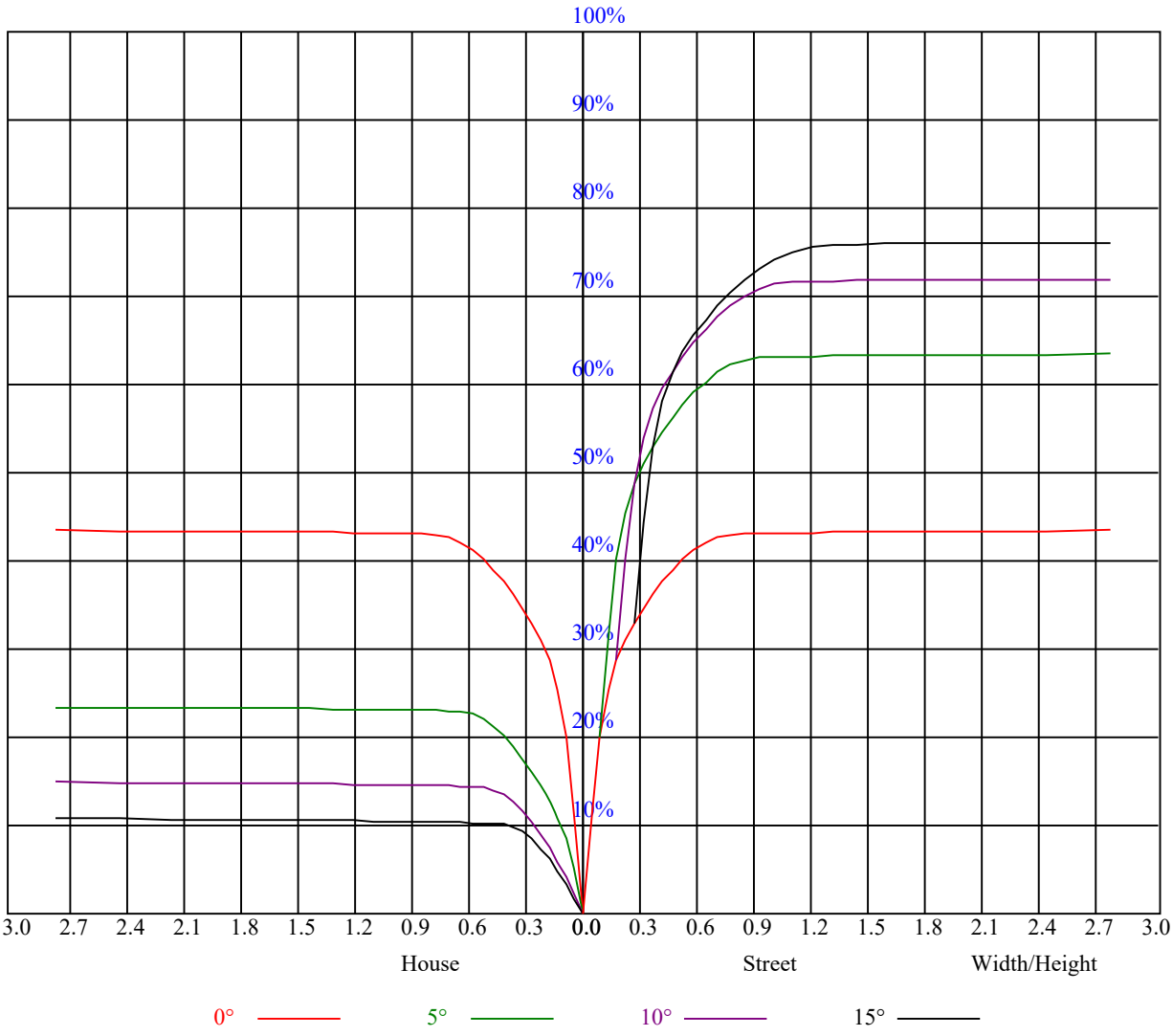


Equipment: gms1980 Date: 2017/6/13 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.42

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	1.05	1.05	1.05	1.02	1.02	1.02	0.98	0.98	0.98	0.93	0.93	0.93	0.90	0.90	0.90	0.88
1	0.99	0.97	0.96	0.97	0.95	0.94	0.94	0.92	0.91	0.90	0.89	0.89	0.87	0.87	0.86	0.84
2	0.94	0.91	0.89	0.93	0.90	0.88	0.90	0.88	0.86	0.87	0.86	0.84	0.85	0.84	0.83	0.81
3	0.90	0.87	0.84	0.89	0.86	0.83	0.87	0.84	0.82	0.85	0.83	0.81	0.83	0.81	0.80	0.79
4	0.86	0.83	0.80	0.85	0.82	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.81	0.79	0.77	0.76
5	0.83	0.80	0.77	0.83	0.79	0.77	0.81	0.78	0.76	0.80	0.77	0.75	0.79	0.76	0.75	0.74
6	0.80	0.77	0.74	0.80	0.76	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.77	0.74	0.72	0.71
7	0.78	0.74	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.70
8	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.69	0.74	0.71	0.69	0.73	0.70	0.69	0.68
9	0.74	0.70	0.68	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.71	0.69	0.67	0.66
10	0.72	0.68	0.66	0.71	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.66	0.70	0.67	0.65	0.65

Coefficient Utilization Curve



Equipment: gms1980	Date: 2017/6/13	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	33556.88	33050.36	30644.39	26272.91	21791.32	17089.51	12073.87	8891.61	6447.10
90.0	33446.76	32703.50	29229.44	25281.90	20640.64	15377.25	11033.30	8010.71	5549.69
180.0	33556.88	31128.89	28155.84	23365.94	17337.26	10609.37	9410.24	6458.67	4607.67
270.0	33446.76	31877.66	28502.70	24087.18	19396.37	10968.34	10148.00	7371.50	5330.56
360.0	33556.88	33050.36	30644.39	26272.91	21791.32	17089.51	12073.87	8891.61	6447.10

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4354.96	3182.26	2835.40	1771.71	1421.01	1228.86	1093.97	1014.69	960.73
90.0	3881.48	2824.39	2021.12	1575.16	1282.81	1121.50	1039.46	981.66	940.91
180.0	3321.00	2231.99	1708.40	1388.52	1080.92	1062.15	999.11	955.56	922.69
270.0	3736.13	2638.30	2001.30	1554.79	1305.39	1091.88	1028.29	965.85	926.38
360.0	4354.96	3182.26	2835.40	1771.71	1421.01	1228.86	1093.97	1014.69	960.73

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	929.90	907.88	886.41	866.04	848.97	833.00	813.73	799.97	787.31
90.0	918.34	899.07	876.50	859.98	843.46	826.40	809.33	796.12	782.35
180.0	902.87	883.93	862.29	841.04	823.42	803.77	787.97	771.78	757.30
270.0	900.39	881.89	865.21	846.27	830.86	815.88	797.49	783.89	770.46
360.0	929.90	907.88	886.41	866.04	848.97	833.00	813.73	799.97	787.31

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	772.99	762.53	752.62	735.55	720.14	707.47	693.16	645.26	535.15
90.0	770.24	757.03	742.16	726.19	711.33	695.91	674.99	599.01	461.37
180.0	745.46	732.75	716.89	703.24	690.46	676.64	635.08	544.18	400.26
270.0	754.33	742.77	728.56	711.49	699.93	685.95	658.80	589.82	466.88
360.0	772.99	762.53	752.62	735.55	720.14	707.47	693.16	645.26	535.15

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	400.81	278.59	206.85	57.81	24.22	21.20	17.18	13.87	11.01
90.0	340.25	279.14	87.37	30.94	20.92	18.22	14.53	12.77	9.97
180.0	278.97	167.76	65.41	25.16	22.30	18.66	15.97	11.89	9.91
270.0	318.06	215.77	109.07	28.30	22.79	18.99	15.03	12.44	10.02
360.0	400.81	278.59	206.85	57.81	24.22	21.20	17.18	13.87	11.01

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	10.13	9.80	9.63	9.41	9.19	9.03	8.92	8.75	8.59
90.0	9.69	9.47	9.30	9.14	8.92	8.81	8.70	8.59	8.53
180.0	9.63	9.41	9.25	9.08	8.92	8.75	8.70	8.59	8.42
270.0	9.69	9.36	9.19	9.03	8.86	8.75	8.59	8.48	8.42
360.0	10.13	9.80	9.63	9.41	9.19	9.03	8.92	8.75	8.59

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	8.59	8.48	8.42	8.37	8.26	8.20	8.15	8.09	8.04
90.0	8.42	8.37	8.31	8.15	8.09	8.09	8.04	8.04	7.98
180.0	8.37	8.26	8.26	8.20	8.15	8.04	8.04	7.98	7.93
270.0	8.26	8.20	8.15	8.09	8.09	7.98	7.93	7.87	7.87
360.0	8.59	8.48	8.42	8.37	8.26	8.20	8.15	8.09	8.04

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	7.98	7.98	7.93	7.93	7.87	7.87	7.82	7.82	7.82
90.0	7.93	7.82	7.82	7.82	7.82	7.82	7.76	7.76	7.65
180.0	7.87	7.87	7.82	7.82	7.82	7.76	7.71	7.71	7.71
270.0	7.87	7.82	7.82	7.76	7.76	7.71	7.71	7.71	7.65
360.0	7.98	7.98	7.93	7.93	7.87	7.87	7.82	7.82	7.82

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	7.82	7.71	7.71	7.71	7.76	7.71	7.71	7.65	7.65
90.0	7.71	7.65	7.65	7.65	7.65	7.60	7.60	7.60	7.60
180.0	7.71	7.71	7.71	7.71	7.65	7.65	7.65	7.65	7.65
270.0	7.65	7.65	7.60	7.60	7.60	7.60	7.60	7.54	7.54
360.0	7.82	7.71	7.71	7.71	7.76	7.71	7.71	7.65	7.65

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	7.65	7.71	7.65	7.60	7.65	7.60	7.60	7.65	7.60
90.0	7.60	7.60	7.54	7.54	7.60	7.54	7.49	7.54	7.54
180.0	7.65	7.65	7.60	7.60	7.60	7.60	7.60	7.60	7.60
270.0	7.54	7.60	7.49	7.54	7.54	7.49	7.54	7.54	7.54
360.0	7.65	7.71	7.65	7.60	7.65	7.60	7.60	7.65	7.60

C/γ(°)	90.0
0.0	7.60
90.0	7.54
180.0	7.60
270.0	7.49
360.0	7.60