NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.com
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: LN01D03515DA-N
Luminaire: 97.70.267.00
Report No: 200612-B005
Test No: 200612-C005
LampCAT: LUMINUS CXM-4-AC40
Lamp flux(lm): 606.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 34.6200
Current(A): 0.1500
Power (W): 5.1900
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 524.41
Efficiency(%): 86.54%
Lumens(lm)/Power(W): 101.04
Central intensity(cd): 5023.125
Maximum intensity(cd): 5023.125
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=15.8
[C90/270]Total=15.8
Field angle(10%Imax): [C0/180]Total=29.4
[C90/270]Total=29.4
Maximum s/h(1/2): C0_180=0.27 C90_270=0.27
Maximum s/h(1/4): C0_180=0.27 C90_270=0.27
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 86.54%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.356%

Nata LM01D03515DA

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5023.125	0.000	0	.000%	.000%
1.0	4966.313	4.780	4.78	.789%	.911%
2.0	4809.234	14.031	18.811	2.315%	3.587%
3.0	4532.625	22.343	41.153	3.687%	7.847%
4.0	4189.078	29.194	70.348	4.818%	13.415%
5.0	3789.000	34.321	104.669	5.664%	19.959%
6.0	3295.547	37.231	141.9	6.144%	27.059%
7.0	2856.938	38.188	180.088	6.302%	34.341%
8.0	2462.625	38.071	218.159	6.282%	41.601%
9.0	2046.094	36.541	254.7	6.030%	48.569%
10.0	1666.125	33.594	288.294	5.544%	54.975%
11.0	1300.781	29.645	317.94	4.892%	60.628%
12.0	1068.314	25.898	343.837	4.274%	65.566%
13.0	801.478	22.190	366.027	3.662%	69.797%
14.0	609.398	18.059	384.086	2.980%	73.241%
15.0	456.398	14.632	398.718	2.414%	76.031%
16.0	344.222	11.731	410.449	1.936%	78.268%
17.0	265.247	9.491	419.94	1.566%	80.078%
18.0	219.178	7.987	427.928	1.318%	81.601%
19.0	169.102	6.755	434.683	1.115%	82.889%
20.0	140.878	5.673	440.356	.936%	83.971%
21.0	118.673	4.984	445.34	.822%	84.921%
22.0	100.941	4.413	449.753	.728%	85.763%
23.0	88.045	3.965	453.719	.654%	86.519%
24.0	76.134	3.590	457.308	.592%	87.204%
25.0	67.303	3.261	460.57	.538%	87.826%
26.0	60.848	3.025	463.595	.499%	88.402%
27.0	55.209	2.839	466.434	.469%	88.944%
28.0	49.613	2.654	469.088	.438%	89.450%
29.0	45.534	2.489	471.578	.411%	89.925%
30.0	41.484	2.349	473.927	.388%	90.373%
31.0	37.645	2.202	476.129	.363%	90.793%
32.0	34.256	2.060	478.189	.340%	91.185%
33.0	31.542	1.938	480.127	.320%	91.555%
34.0	29.039	1.833	481.961	.303%	91.905%
35.0	26.775	1.733	483.694	.286%	92.235%
36.0	25.031	1.650	485.344	.272%	92.550%
37.0	23.484	1.582	486.926	.261%	92.851%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	22.134	1.523	488.449	.251%	93.142%
39.0	20.770	1.464	489.913	.242%	93.421%
40.0	19.617	1.409	491.322	.232%	93.690%
41.0	18.478	1.357	492.678	.224%	93.948%
42.0	17.325	1.301	493.979	.215%	94.196%
43.0	16.242	1.243	495.222	.205%	94.433%
44.0	15.230	1.188	496.41	.196%	94.660%
45.0	14.330	1.136	497.546	.187%	94.877%
46.0	13.359	1.083	498.629	.179%	95.083%
47.0	12.656	1.035	499.664	.171%	95.280%
48.0	12.038	0.998	500.662	.165%	95.471%
49.0	11.419	0.963	501.625	.159%	95.654%
50.0	10.927	0.932	502.557	.154%	95.832%
51.0	10.491	0.906	503.463	.150%	96.005%
52.0	10.013	0.880	504.343	.145%	96.173%
53.0	9.619	0.854	505.197	.141%	96.335%
54.0	9.239	0.831	506.028	.137%	96.494%
55.0	8.859	0.808	506.836	.133%	96.648%
56.0	8.522	0.785	507.621	.130%	96.798%
57.0	8.170	0.763	508.385	.126%	96.943%
58.0	7.861	0.741	509.126	.122%	97.085%
59.0	7.552	0.721	509.846	.119%	97.222%
60.0	7.270	0.700	510.547	.116%	97.356%
61.0	7.003	0.681	511.228	.112%	97.486%
62.0	6.736	0.662	511.89	.109%	97.612%
63.0	6.511	0.644	512.534	.106%	97.735%
64.0	6.258	0.627	513.161	.103%	97.854%
65.0	6.047	0.609	513.77	.100%	97.970%
66.0	5.850	0.594	514.363	.098%	98.083%
67.0	5.667	0.579	514.942	.096%	98.194%
68.0	5.456	0.563	515.506	.093%	98.301%
69.0	5.302	0.549	516.055	.091%	98.406%
70.0	5.119	0.535	516.59	.088%	98.508%
71.0	4.950	0.520	517.11	.086%	98.607%
72.0	4.781	0.506	517.616	.083%	98.704%
73.0	4.641	0.493	518.109	.081%	98.798%
74.0	4.486	0.480	518.589	.079%	98.889%
75.0	4.373	0.468	519.057	.077%	98.978%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.247	0.458	519.514	.076%	99.066%
77.0	4.120	0.446	519.961	.074%	99.151%
78.0	4.022	0.436	520.396	.072%	99.234%
79.0	3.867	0.424	520.82	.070%	99.315%
80.0	3.741	0.410	521.23	.068%	99.393%
81.0	3.586	0.396	521.627	.065%	99.468%
82.0	3.431	0.381	522.007	.063%	99.541%
83.0	3.277	0.365	522.372	.060%	99.611%
84.0	3.094	0.347	522.719	.057%	99.677%
85.0	2.967	0.331	523.05	.055%	99.740%
86.0	2.770	0.314	523.363	.052%	99.800%
87.0	2.559	0.292	523.655	.048%	99.855%
88.0	2.348	0.269	523.924	.044%	99.907%
89.0	2.222	0.251	524.174	.041%	99.954%
90.0	2.152	0.240	524.414	.040%	100.000%

Zonal flux distribution table

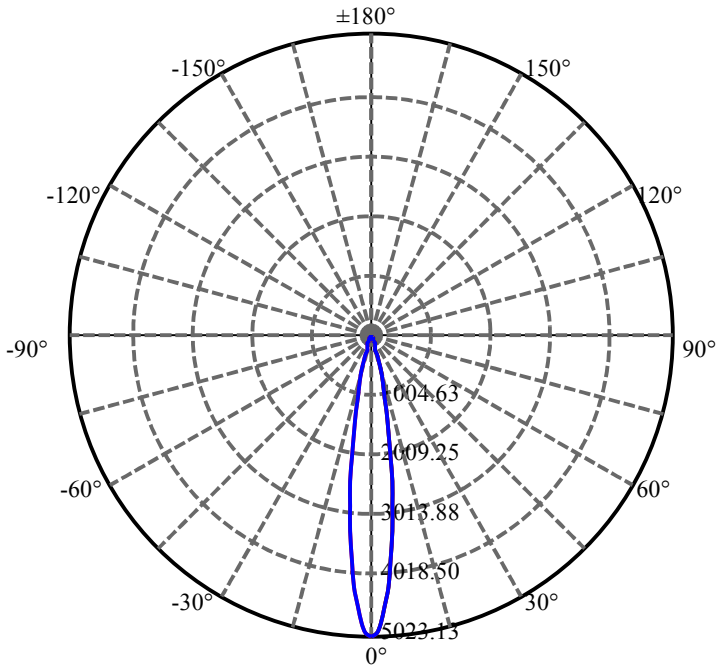
ZONAL LUMEN SUMMARY

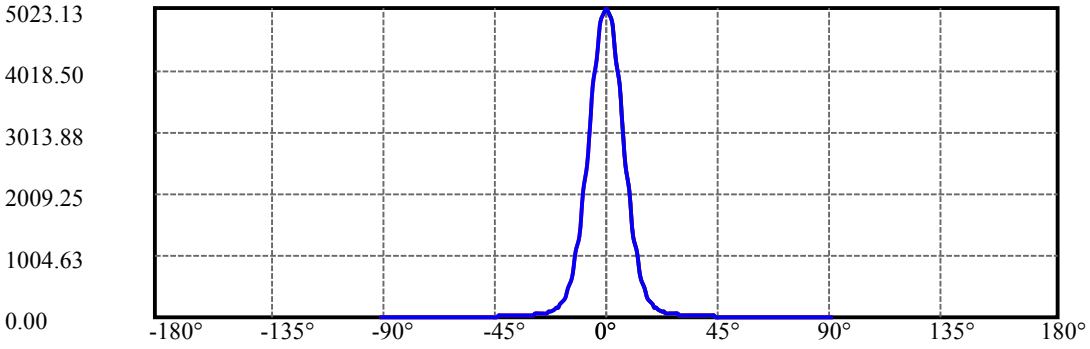
Zone	Lumens	%Lamp	%Fixt
0-30	473.93	78.21%	90.37%
0-40	491.32	81.08%	93.69%
0-60	510.55	84.25%	97.36%
0-90	524.17	86.50%	99.95%
0-120	524.17	86.50%	99.95%
0-180	524.41	86.54%	100.00%
60-90	14.33	2.36%	2.73%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-16.96	419.53	69.23%	80.00%

ZONAL LUMEN SUMMARY

0-10	288.29
10-20	152.06
20-30	33.57
30-40	17.39
40-50	11.24
50-60	7.99
60-70	6.04
70-80	4.64
80-90	2.94
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):

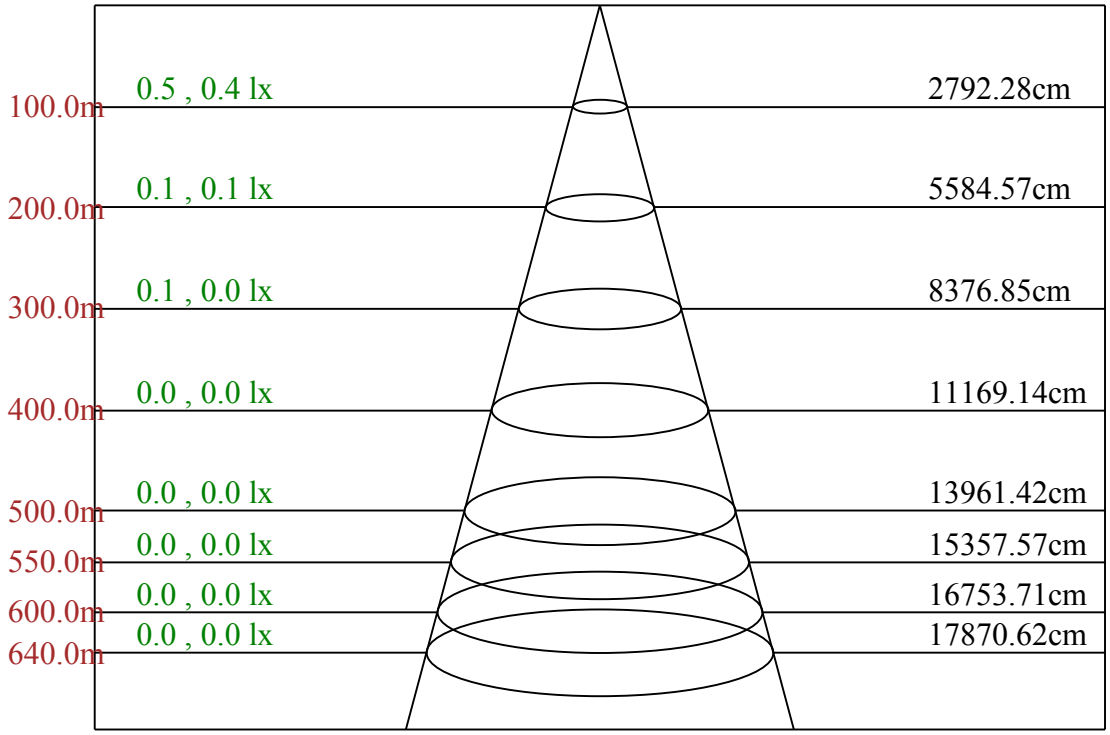
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:14.7 Right:14.7
:C90/270Left:14.7 Right:14.7

Beam Angle(50%Imax):C0/180Left:7.9 Right:7.9
:C90/270Left:7.9 Right:7.9

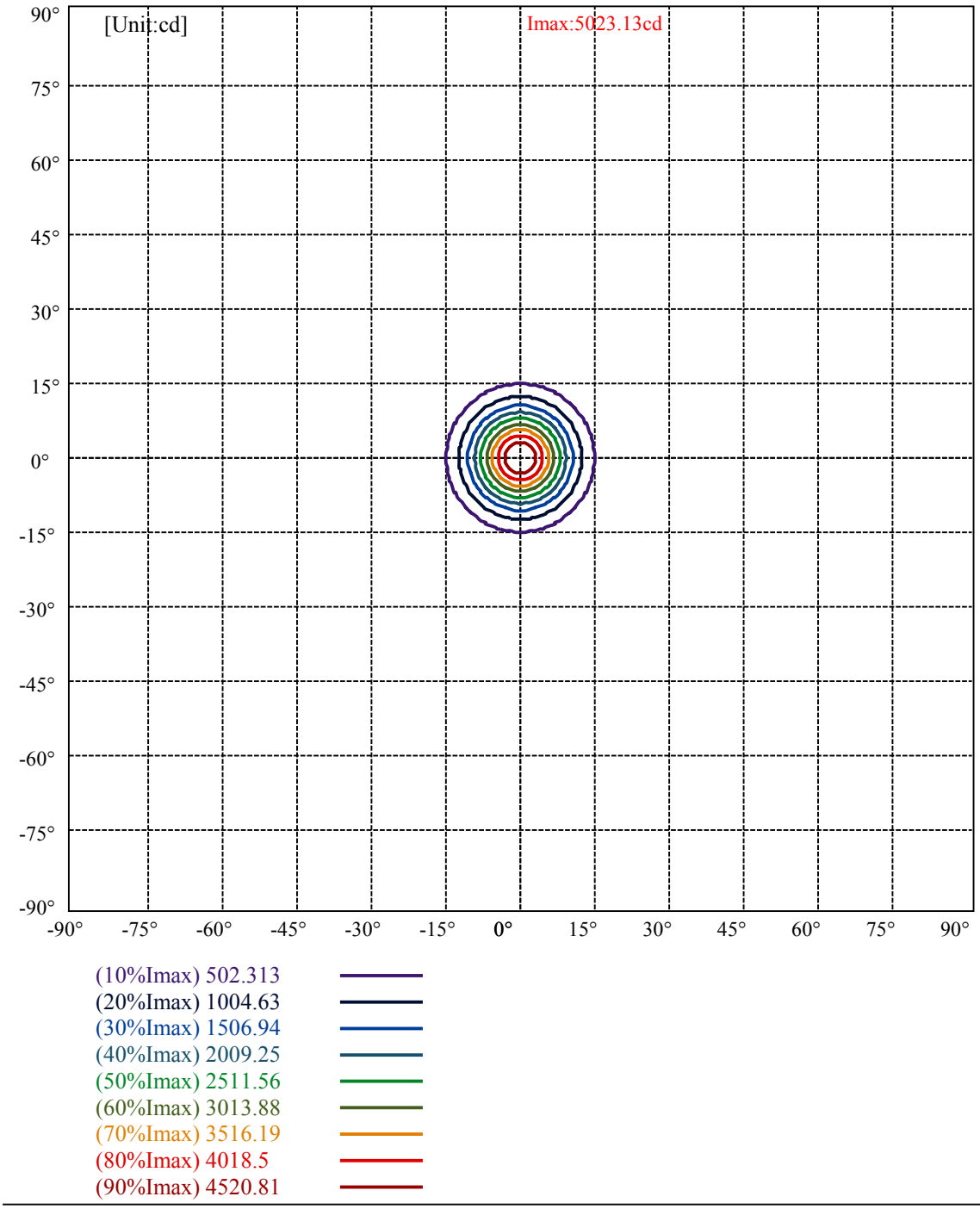
Lux distance Curve



Max , Ave

Beam angle of C0 plane 15.90

ISO-Intensity(V-H)

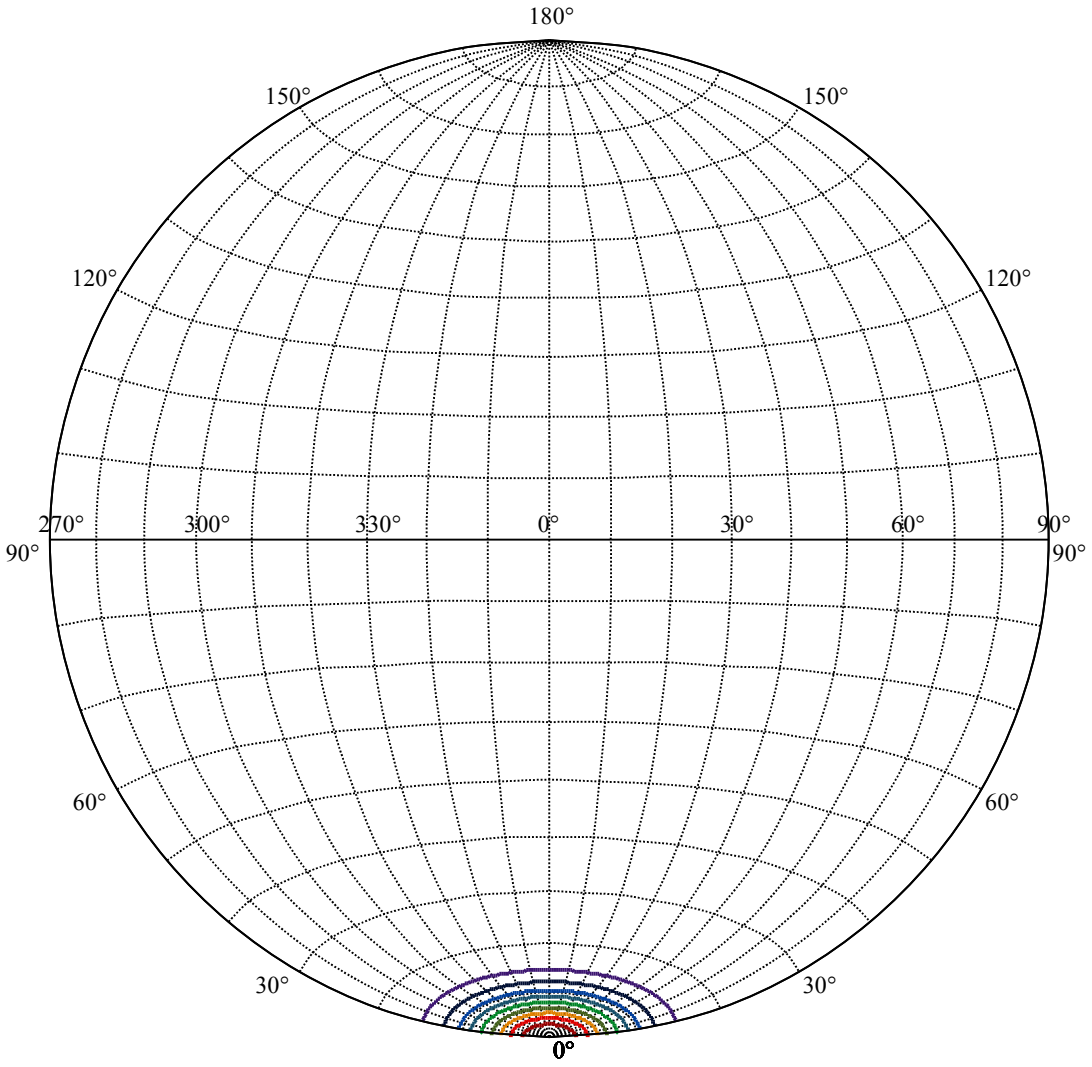


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/6/12
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

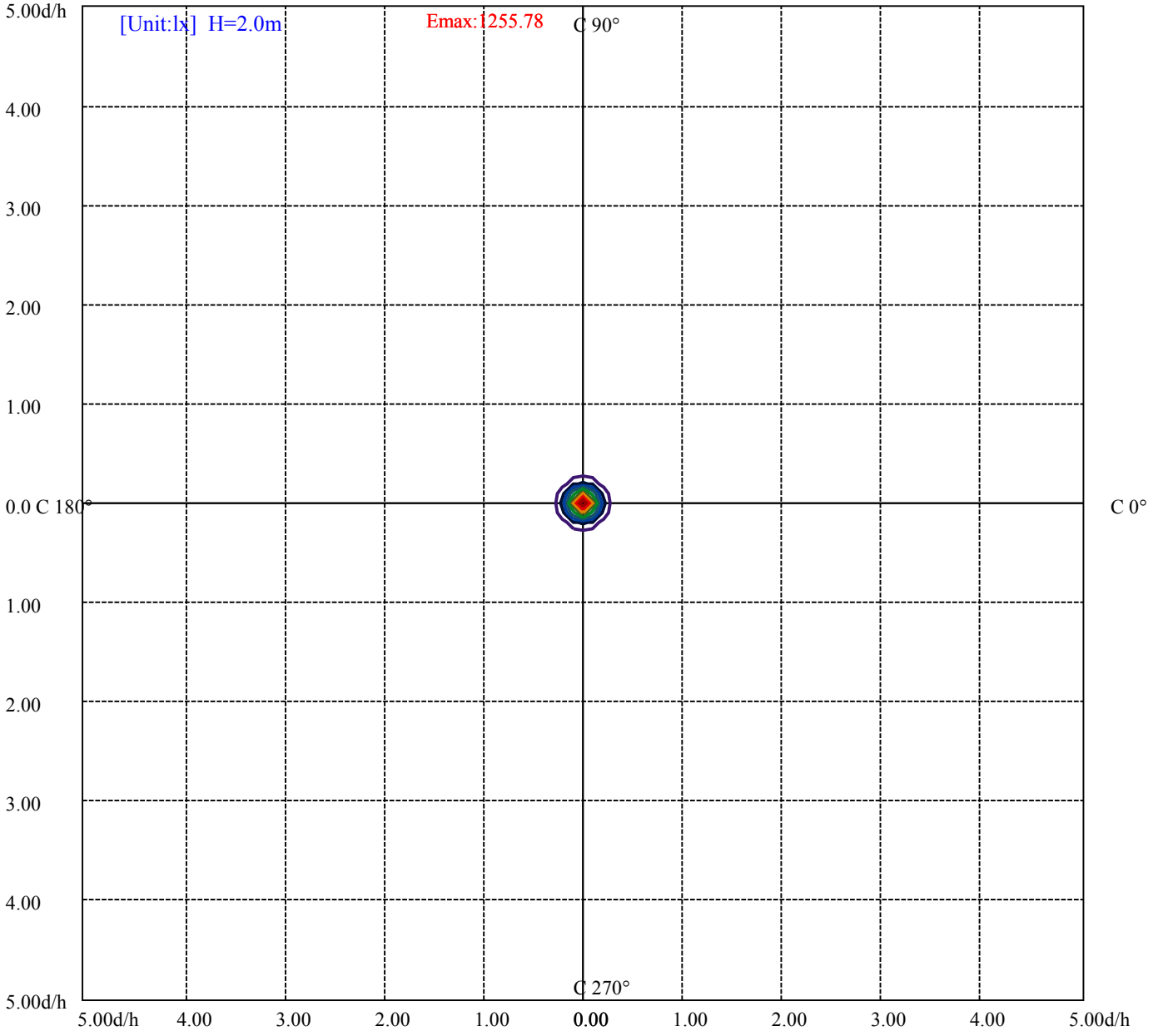
Imax:5023.13

(10%Imax) 502.313
(20%Imax) 1004.63
(30%Imax) 1506.94
(40%Imax) 2009.25
(50%Imax) 2511.56
(60%Imax) 3013.88
(70%Imax) 3516.19
(80%Imax) 4018.5
(90%Imax) 4520.81

Equipment: GMS1980	Date: 2020/6/12	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

Nata LM01D03515DA

ISO illuminance diagram



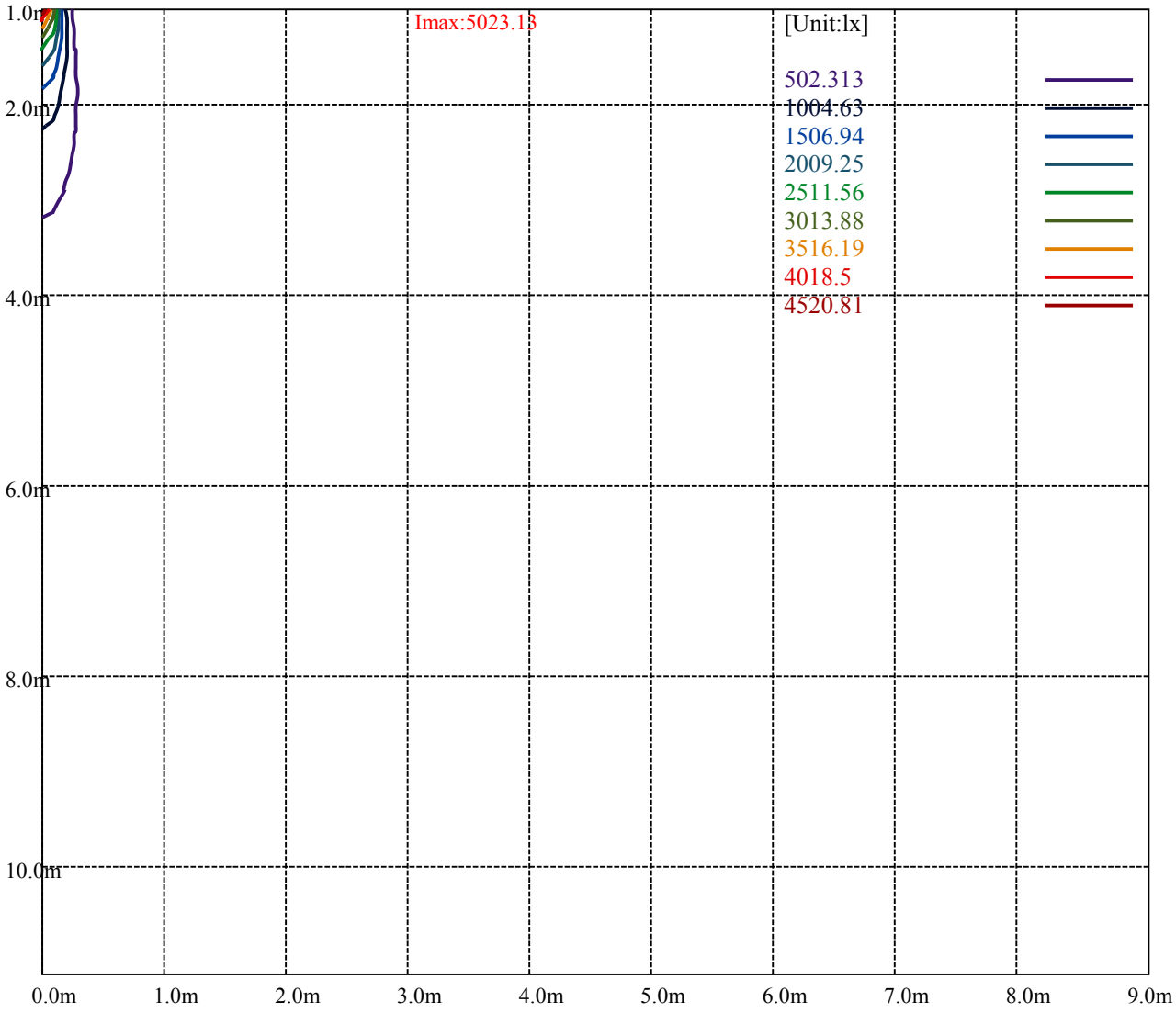
(10%Emax) 125.578
(20%Emax) 251.155
(30%Emax) 376.7325
(40%Emax) 502.3125
(50%Emax) 627.89
(60%Emax) 753.4675
(70%Emax) 879.045
(80%Emax) 1004.622
(90%Emax) 1130.2

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/6/12
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/6/12
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Nata LM01D03515DA

Luminance Limitting Curve(no luminous side)

Luminance Table

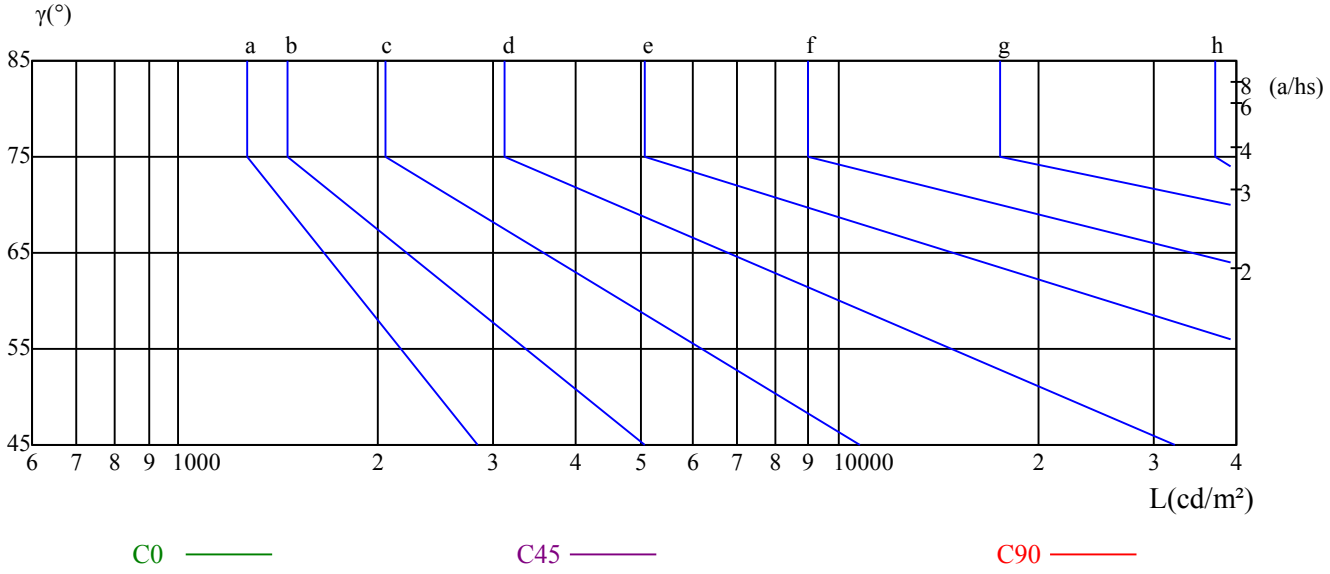
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

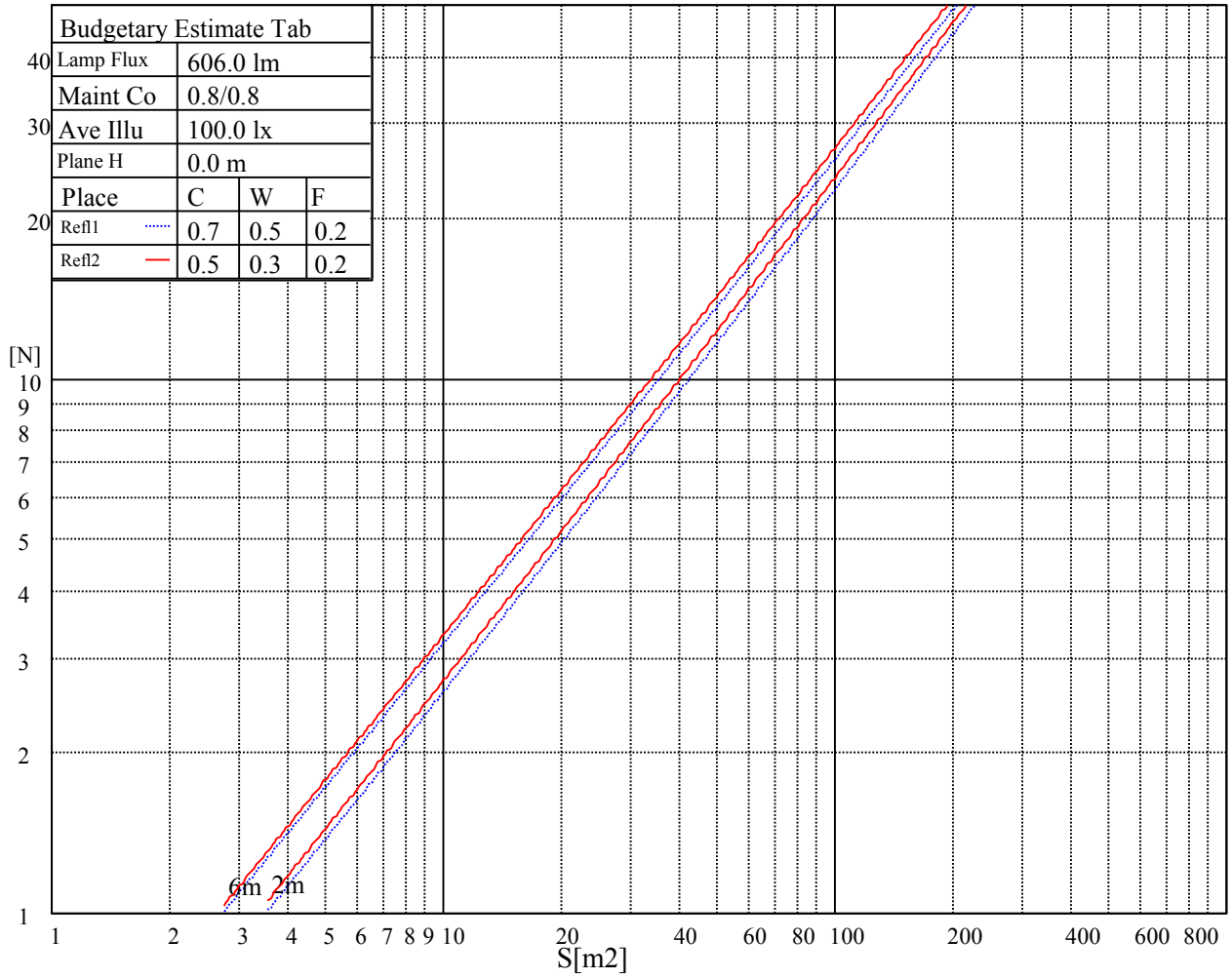
Glare Table

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

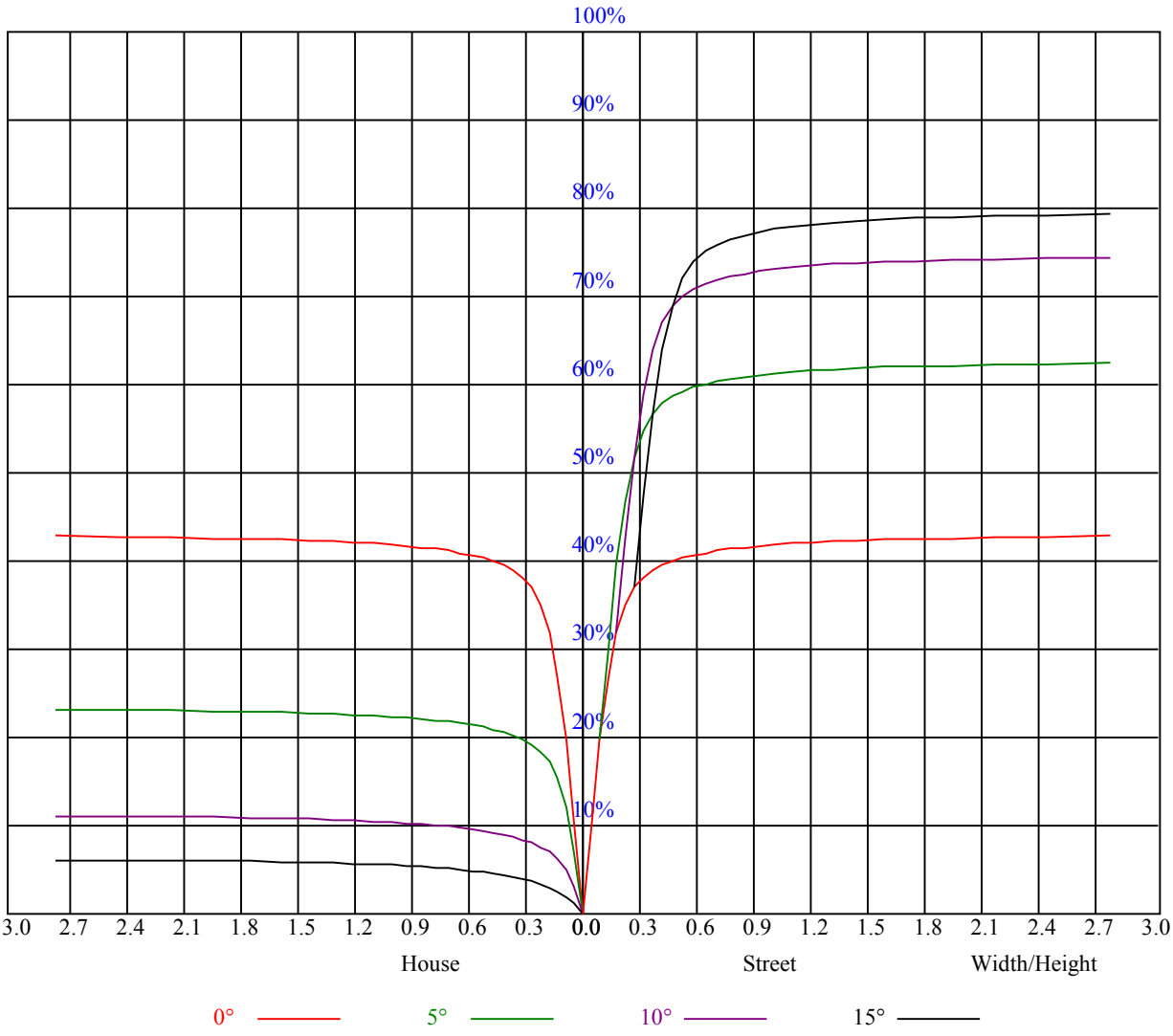


Equipment: GMS1980 Date: 2020/6/12 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	1.03	1.03	1.03	1.01	1.01	1.01	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.87
1	0.98	0.96	0.94	0.96	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.85	0.83
2	0.93	0.90	0.88	0.92	0.89	0.87	0.89	0.87	0.85	0.86	0.85	0.84	0.84	0.83	0.82	0.81
3	0.89	0.86	0.84	0.88	0.85	0.83	0.86	0.84	0.82	0.84	0.82	0.81	0.82	0.81	0.80	0.78
4	0.86	0.83	0.81	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	0.84	0.80	0.78	0.83	0.80	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.79	0.77	0.76	0.75
6	0.81	0.78	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.78	0.76	0.74	0.73
7	0.79	0.76	0.74	0.79	0.76	0.74	0.78	0.75	0.73	0.77	0.75	0.73	0.76	0.74	0.73	0.72
8	0.78	0.74	0.72	0.77	0.74	0.72	0.76	0.74	0.72	0.76	0.73	0.71	0.75	0.73	0.71	0.70
9	0.76	0.73	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.74	0.72	0.70	0.74	0.72	0.70	0.69
10	0.74	0.71	0.69	0.74	0.71	0.69	0.74	0.71	0.69	0.73	0.71	0.69	0.73	0.70	0.69	0.68

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2020/6/12	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	5049.00	5021.44	4883.06	4630.50	4314.94	3926.81	3409.31	2987.44	2586.94
90.0	4997.25	4997.81	4884.19	4657.50	4371.19	4007.25	3499.31	3084.75	2684.25
180.0	5049.00	4961.25	4785.75	4475.81	4064.63	3664.13	3180.38	2707.88	2313.00
270.0	4997.25	4884.75	4683.94	4366.69	4005.56	3557.81	3093.19	2647.69	2266.31
360.0	5049.00	5021.44	4883.06	4630.50	4314.94	3926.81	3409.31	2987.44	2586.94

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2124.00	1780.31	1464.19	1144.69	865.69	657.56	478.13	360.00	286.31
90.0	2208.38	1851.19	1526.06	1195.88	915.75	712.13	533.81	414.00	314.44
180.0	1944.56	1533.38	1111.61	986.12	713.76	538.71	405.79	285.86	222.86
270.0	1907.44	1499.63	1101.26	946.58	710.72	529.20	407.87	317.03	237.38
360.0	2124.00	1780.31	1464.19	1144.69	865.69	657.56	478.13	360.00	286.31

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	215.94	175.28	145.13	124.82	105.75	92.36	80.10	69.98	62.83
90.0	287.44	197.89	162.28	134.10	114.30	98.61	83.19	73.74	66.77
180.0	178.99	141.47	121.84	103.22	87.19	78.58	68.91	60.47	55.58
270.0	194.34	161.78	134.27	112.56	96.53	82.63	72.34	65.03	58.22
360.0	215.94	175.28	145.13	124.82	105.75	92.36	80.10	69.98	62.83

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	56.70	50.57	46.41	42.81	38.64	35.55	32.85	30.21	27.90
90.0	59.79	54.06	49.61	44.21	39.77	36.28	32.85	30.32	27.96
180.0	50.96	45.56	42.47	39.04	35.66	32.46	30.09	27.62	25.59
270.0	53.38	48.26	43.65	39.88	36.51	32.74	30.38	28.01	25.65
360.0	56.70	50.57	46.41	42.81	38.64	35.55	32.85	30.21	27.90

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	26.21	24.58	23.23	21.77	20.53	19.41	18.23	17.10	16.14
90.0	25.82	24.24	22.78	21.26	20.14	18.96	17.55	16.59	15.47
180.0	24.02	22.50	21.38	20.14	18.96	17.89	16.93	15.81	14.91
270.0	24.08	22.61	21.15	19.91	18.84	17.66	16.59	15.47	14.40
360.0	26.21	24.58	23.23	21.77	20.53	19.41	18.23	17.10	16.14

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	15.30	14.12	13.39	12.77	12.04	11.48	11.08	10.52	10.07
90.0	14.40	13.44	12.71	11.98	11.36	10.91	10.35	9.90	9.51
180.0	14.12	13.22	12.60	12.04	11.48	11.03	10.63	10.13	9.79
270.0	13.50	12.66	11.93	11.36	10.80	10.29	9.90	9.51	9.11
360.0	15.30	14.12	13.39	12.77	12.04	11.48	11.08	10.52	10.07

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	9.73	9.23	8.89	8.55	8.16	7.88	7.54	7.20	6.98
90.0	9.11	8.78	8.44	8.04	7.76	7.48	7.20	6.92	6.69
180.0	9.39	9.06	8.72	8.38	8.04	7.71	7.43	7.20	6.86
270.0	8.72	8.38	8.04	7.71	7.48	7.14	6.92	6.69	6.41
360.0	9.73	9.23	8.89	8.55	8.16	7.88	7.54	7.20	6.98

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	6.69	6.41	6.19	5.96	5.74	5.57	5.40	5.18	5.01
90.0	6.47	6.19	6.02	5.85	5.68	5.46	5.29	5.18	5.01
180.0	6.64	6.41	6.19	5.96	5.79	5.57	5.40	5.23	5.06
270.0	6.24	6.02	5.79	5.63	5.46	5.23	5.12	4.89	4.73
360.0	6.69	6.41	6.19	5.96	5.74	5.57	5.40	5.18	5.01

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	4.84	4.67	4.56	4.39	4.28	4.11	4.05	3.94	3.83
90.0	4.84	4.67	4.56	4.44	4.28	4.22	4.16	3.99	3.83
180.0	4.89	4.78	4.56	4.44	4.33	4.16	3.99	3.88	3.77
270.0	4.56	4.44	4.28	4.22	4.11	3.99	3.88	3.66	3.54
360.0	4.84	4.67	4.56	4.39	4.28	4.11	4.05	3.94	3.83

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	3.66	3.54	3.38	3.21	3.04	2.87	2.76	2.53	2.36
90.0	3.66	3.49	3.38	3.15	3.04	2.81	2.64	2.31	2.19
180.0	3.60	3.43	3.26	3.09	2.98	2.76	2.48	2.36	2.25
270.0	3.43	3.26	3.09	2.93	2.81	2.64	2.36	2.19	2.08
360.0	3.66	3.54	3.38	3.21	3.04	2.87	2.76	2.53	2.36

C/γ(°)	90.0
0.0	2.25
90.0	2.08
180.0	2.25
270.0	2.03
360.0	2.25