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

Nata

LumCAT: 1-0919-M
Luminaire: 92.70.127.00

Report No: NATA0100	Voltage(V): 37.8600
Test No: GC2019091810	Current(A): 0.2510
LampCAT: CREE CXA1507	Power (W): 9.5000
Lamp flux(lm): 670.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 39	Width(mm): 39
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 535.15
Efficiency(%): 79.87%
Lumens(lm)/Power(W): 56.33
Central intensity(cd): 3018.516
Maximum intensity(cd): 3018.516
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=23.0
[C90/270]Total=23.0
Field angle(10%Imax): [C0/180]Total=41.5
[C90/270]Total=41.5
Maximum s/h(1/2): C0_180=0.39 C90_270=0.39
Maximum s/h(1/4): C0_180=0.39 C90_270=0.39
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 79.87%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.530%

Equipment: GMS1980	Date: 2019/9/18	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3018.516	0.000	0	.000%	.000%
1.0	3004.875	2.882	2.882	.430%	.539%
2.0	2962.125	8.564	11.446	1.278%	2.139%
3.0	2891.039	13.999	25.445	2.089%	4.755%
4.0	2799.633	19.048	44.494	2.843%	8.314%
5.0	2687.063	23.603	68.097	3.523%	12.725%
6.0	2544.750	27.495	95.592	4.104%	17.863%
7.0	2375.648	30.541	126.133	4.558%	23.569%
8.0	2209.359	32.814	158.947	4.898%	29.701%
9.0	2013.117	34.221	193.168	5.108%	36.096%
10.0	1804.219	34.545	227.713	5.156%	42.551%
11.0	1613.602	34.151	261.864	5.097%	48.933%
12.0	1413.809	33.094	294.958	4.939%	55.117%
13.0	1189.969	30.900	325.858	4.612%	60.891%
14.0	1031.963	28.441	354.299	4.245%	66.205%
15.0	901.034	26.537	380.836	3.961%	71.164%
16.0	750.600	24.201	405.037	3.612%	75.686%
17.0	638.079	21.625	426.662	3.228%	79.727%
18.0	533.468	19.316	445.979	2.883%	83.337%
19.0	437.063	16.885	462.864	2.520%	86.492%
20.0	359.051	14.571	477.435	2.175%	89.215%
21.0	284.119	12.350	489.785	1.843%	91.522%
22.0	205.516	9.839	499.625	1.469%	93.361%
23.0	147.298	7.403	507.028	1.105%	94.744%
24.0	96.581	5.332	512.36	.796%	95.741%
25.0	53.459	3.412	515.771	.509%	96.378%
26.0	29.088	1.949	517.72	.291%	96.742%
27.0	14.773	1.073	518.793	.160%	96.943%
28.0	8.705	0.594	519.387	.089%	97.054%
29.0	6.595	0.400	519.788	.060%	97.129%
30.0	5.646	0.331	520.118	.049%	97.190%
31.0	5.070	0.298	520.416	.045%	97.246%
32.0	4.676	0.279	520.695	.042%	97.298%
33.0	4.388	0.267	520.962	.040%	97.348%
34.0	4.113	0.257	521.22	.038%	97.396%
35.0	3.902	0.249	521.469	.037%	97.443%
36.0	3.705	0.242	521.711	.036%	97.488%
37.0	3.558	0.237	521.948	.035%	97.532%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	3.424	0.233	522.181	.035%	97.576%
39.0	3.312	0.230	522.411	.034%	97.619%
40.0	3.213	0.228	522.638	.034%	97.661%
41.0	3.136	0.226	522.864	.034%	97.704%
42.0	3.066	0.225	523.09	.034%	97.746%
43.0	2.988	0.224	523.314	.033%	97.788%
44.0	2.953	0.224	523.538	.033%	97.830%
45.0	2.911	0.225	523.764	.034%	97.872%
46.0	2.855	0.225	523.989	.034%	97.914%
47.0	2.834	0.226	524.215	.034%	97.956%
48.0	2.791	0.227	524.443	.034%	97.999%
49.0	2.770	0.228	524.671	.034%	98.041%
50.0	2.763	0.231	524.902	.034%	98.084%
51.0	2.714	0.232	525.134	.035%	98.128%
52.0	2.707	0.233	525.366	.035%	98.171%
53.0	2.693	0.235	525.601	.035%	98.215%
54.0	2.672	0.236	525.838	.035%	98.259%
55.0	2.658	0.238	526.075	.036%	98.304%
56.0	2.658	0.240	526.316	.036%	98.349%
57.0	2.616	0.241	526.557	.036%	98.394%
58.0	2.609	0.242	526.798	.036%	98.439%
59.0	2.602	0.244	527.042	.036%	98.484%
60.0	2.595	0.245	527.287	.037%	98.530%
61.0	2.573	0.247	527.534	.037%	98.576%
62.0	2.559	0.247	527.781	.037%	98.622%
63.0	2.552	0.249	528.03	.037%	98.669%
64.0	2.552	0.250	528.28	.037%	98.716%
65.0	2.552	0.253	528.533	.038%	98.763%
66.0	2.545	0.254	528.787	.038%	98.810%
67.0	2.538	0.256	529.043	.038%	98.858%
68.0	2.517	0.256	529.299	.038%	98.906%
69.0	2.517	0.257	529.556	.038%	98.954%
70.0	2.517	0.259	529.814	.039%	99.002%
71.0	2.496	0.259	530.074	.039%	99.051%
72.0	2.496	0.260	530.333	.039%	99.099%
73.0	2.496	0.261	530.594	.039%	99.148%
74.0	2.496	0.262	530.857	.039%	99.197%
75.0	2.496	0.264	531.12	.039%	99.246%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	2.482	0.264	531.385	.039%	99.296%
77.0	2.482	0.265	531.649	.040%	99.345%
78.0	2.489	0.266	531.915	.040%	99.395%
79.0	2.489	0.267	532.183	.040%	99.445%
80.0	2.489	0.268	532.451	.040%	99.495%
81.0	2.489	0.269	532.721	.040%	99.545%
82.0	2.489	0.270	532.99	.040%	99.596%
83.0	2.496	0.271	533.261	.040%	99.646%
84.0	2.482	0.271	533.533	.040%	99.697%
85.0	2.468	0.270	533.803	.040%	99.748%
86.0	2.468	0.270	534.073	.040%	99.798%
87.0	2.468	0.270	534.343	.040%	99.848%
88.0	2.475	0.271	534.614	.040%	99.899%
89.0	2.454	0.270	534.884	.040%	99.950%
90.0	2.468	0.270	535.154	.040%	100.000%

Zonal flux distribution table

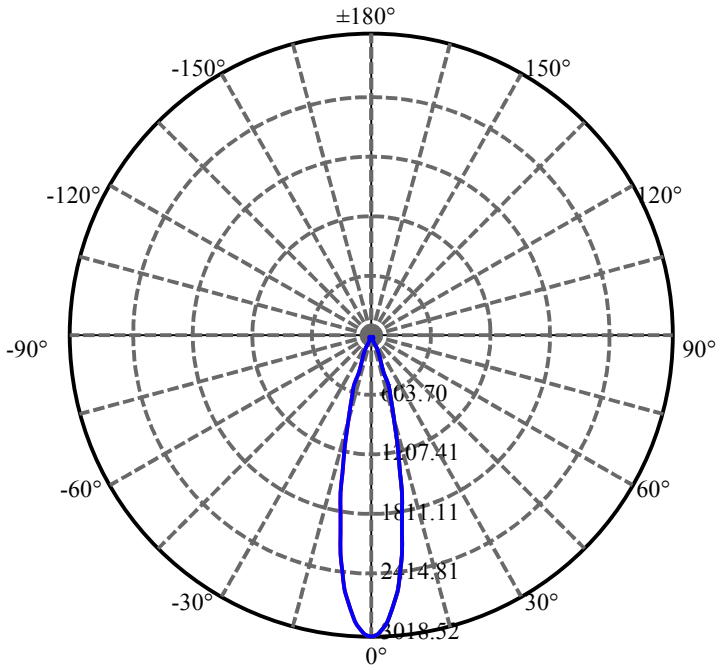
ZONAL LUMEN SUMMARY

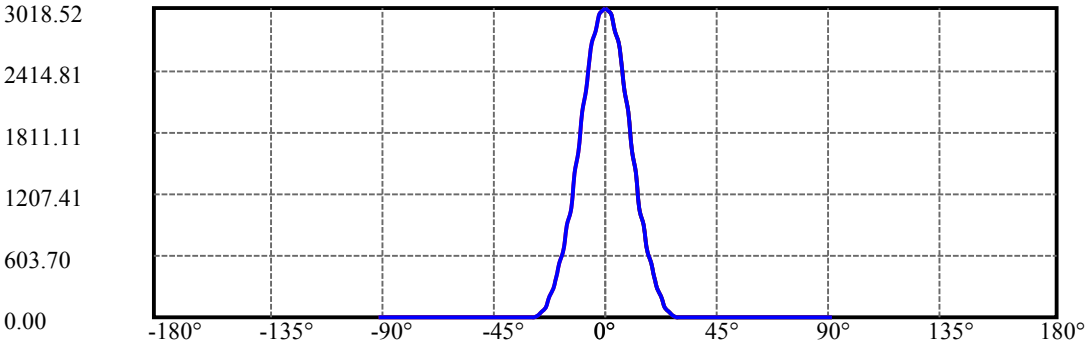
Zone	Lumens	%Lamp	%Fixt
0-30	520.12	77.63%	97.19%
0-40	522.64	78.01%	97.66%
0-60	527.29	78.70%	98.53%
0-90	534.88	79.83%	99.95%
0-120	534.88	79.83%	99.95%
0-180	535.15	79.87%	100.00%
60-90	7.84	1.17%	1.47%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-17.08	428.12	63.90%	80.00%

ZONAL LUMEN SUMMARY

0-10	227.71
10-20	249.72
20-30	42.68
30-40	2.52
40-50	2.26
50-60	2.39
60-70	2.53
70-80	2.64
80-90	2.43
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):

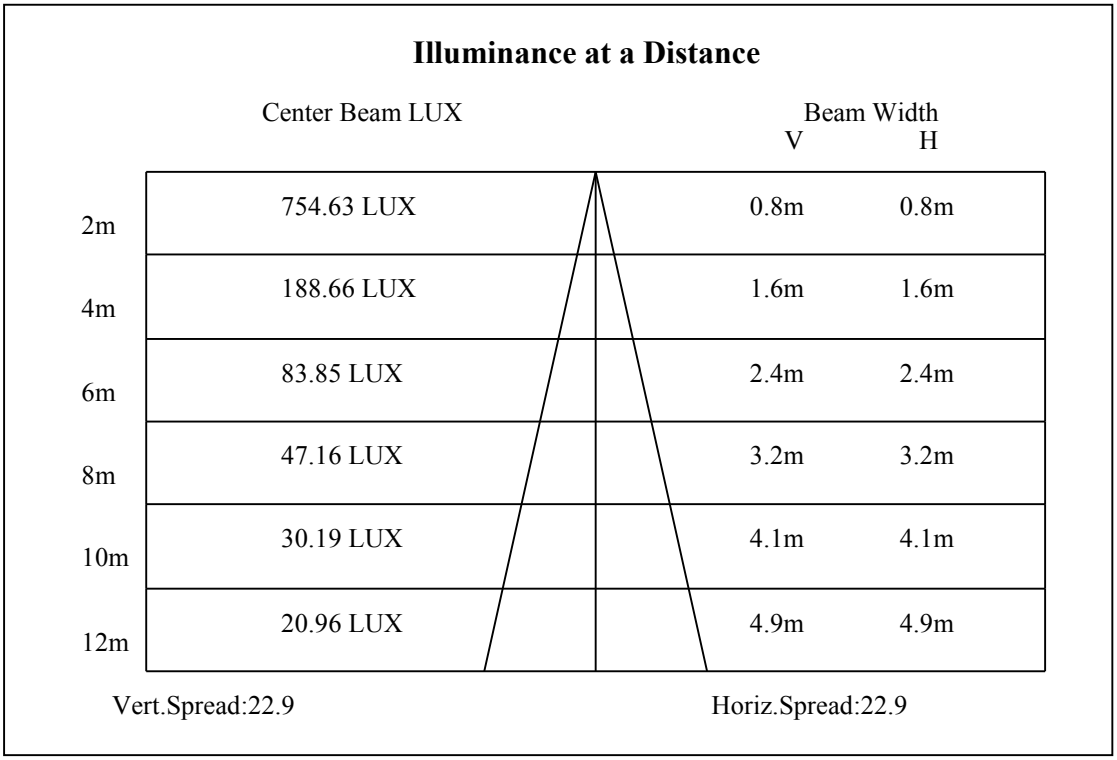
C0/C180:

C90/C270:

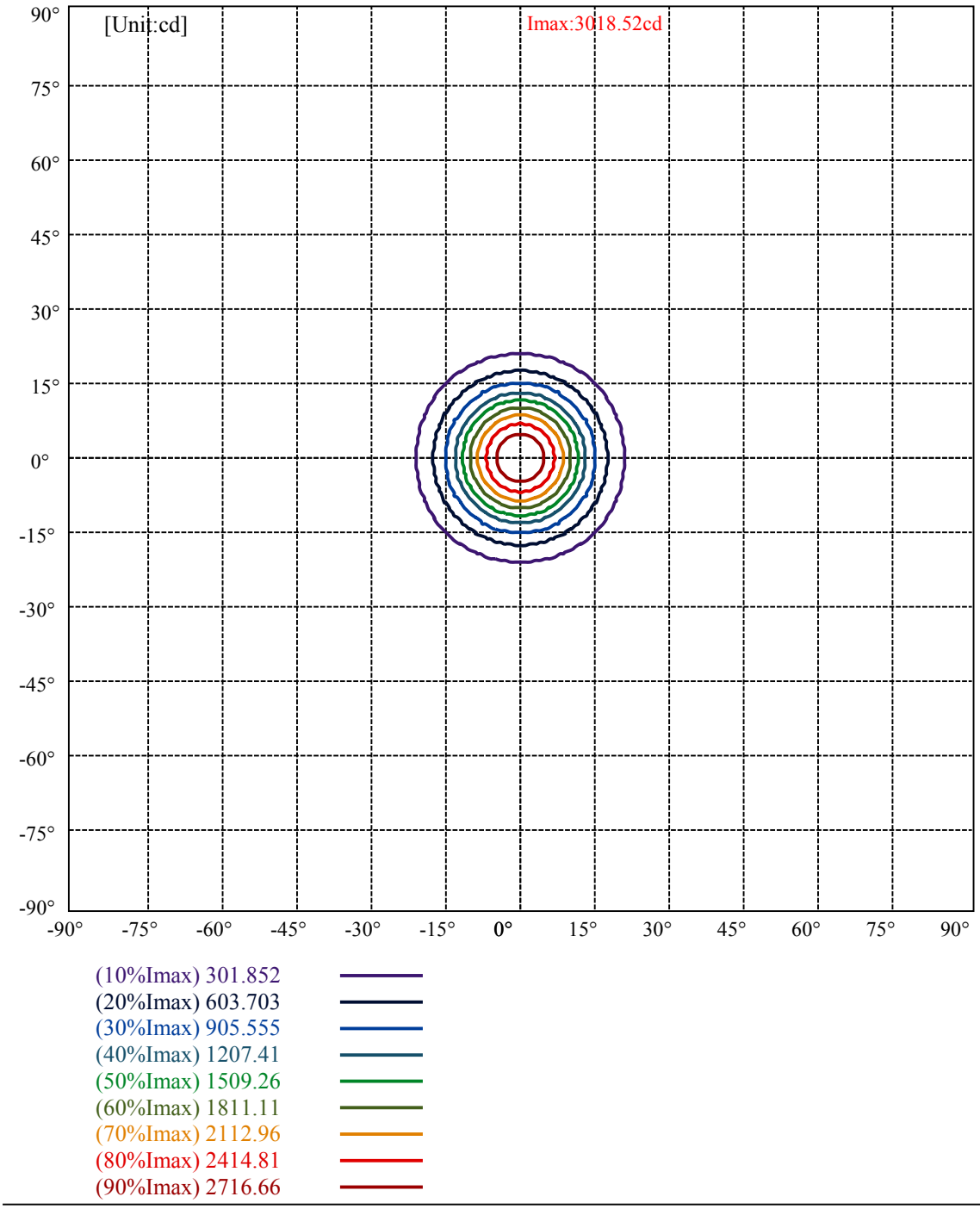
Field angle(10%Imax):C0/180Left:20.8 Right:20.8
:C90/270Left:20.8 Right:20.8

Beam Angle(50%Imax):C0/180Left:11.5 Right:11.5
:C90/270Left:11.5 Right:11.5

Lux distance Curve



ISO-Intensity(V-H)

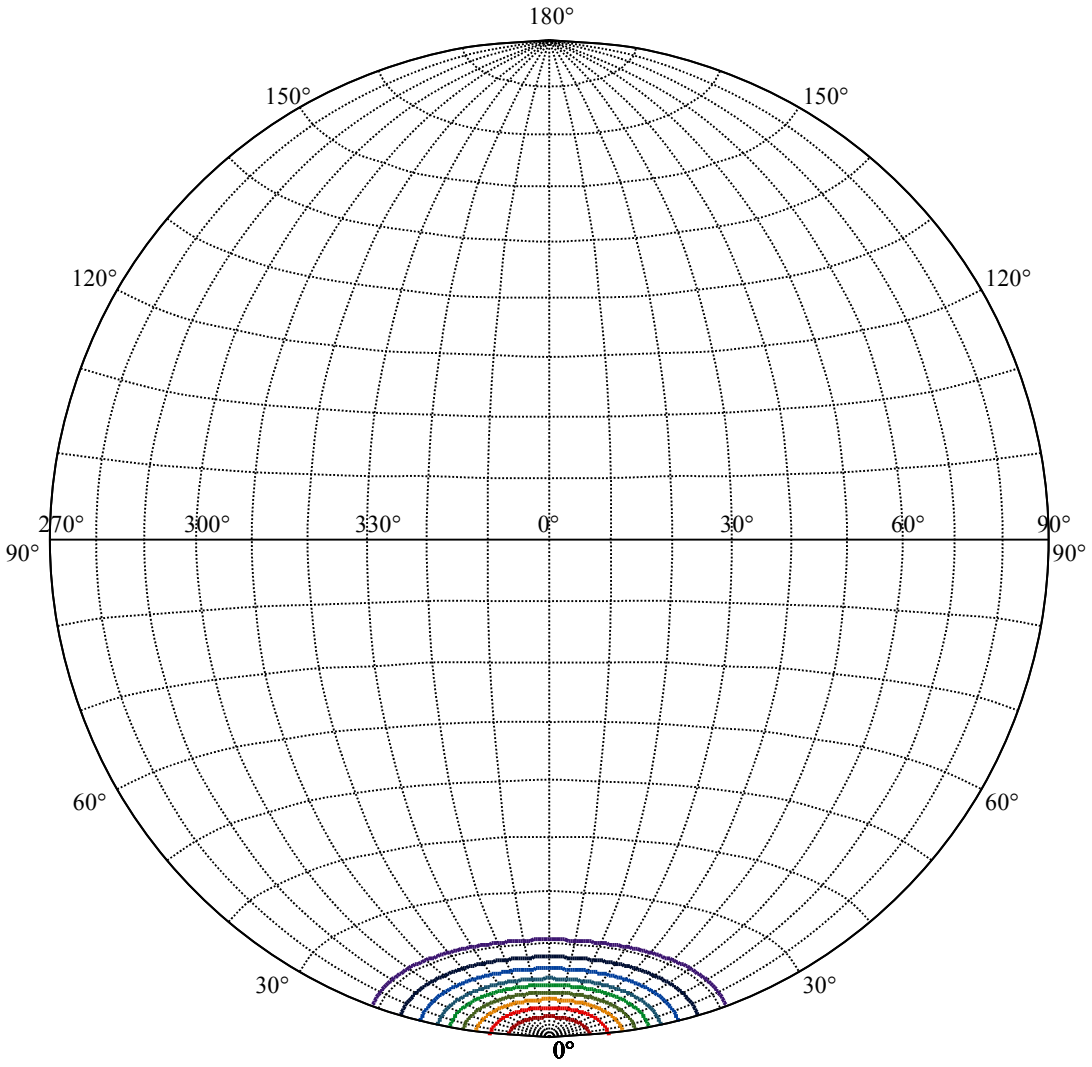


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/9/18
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:3018.52

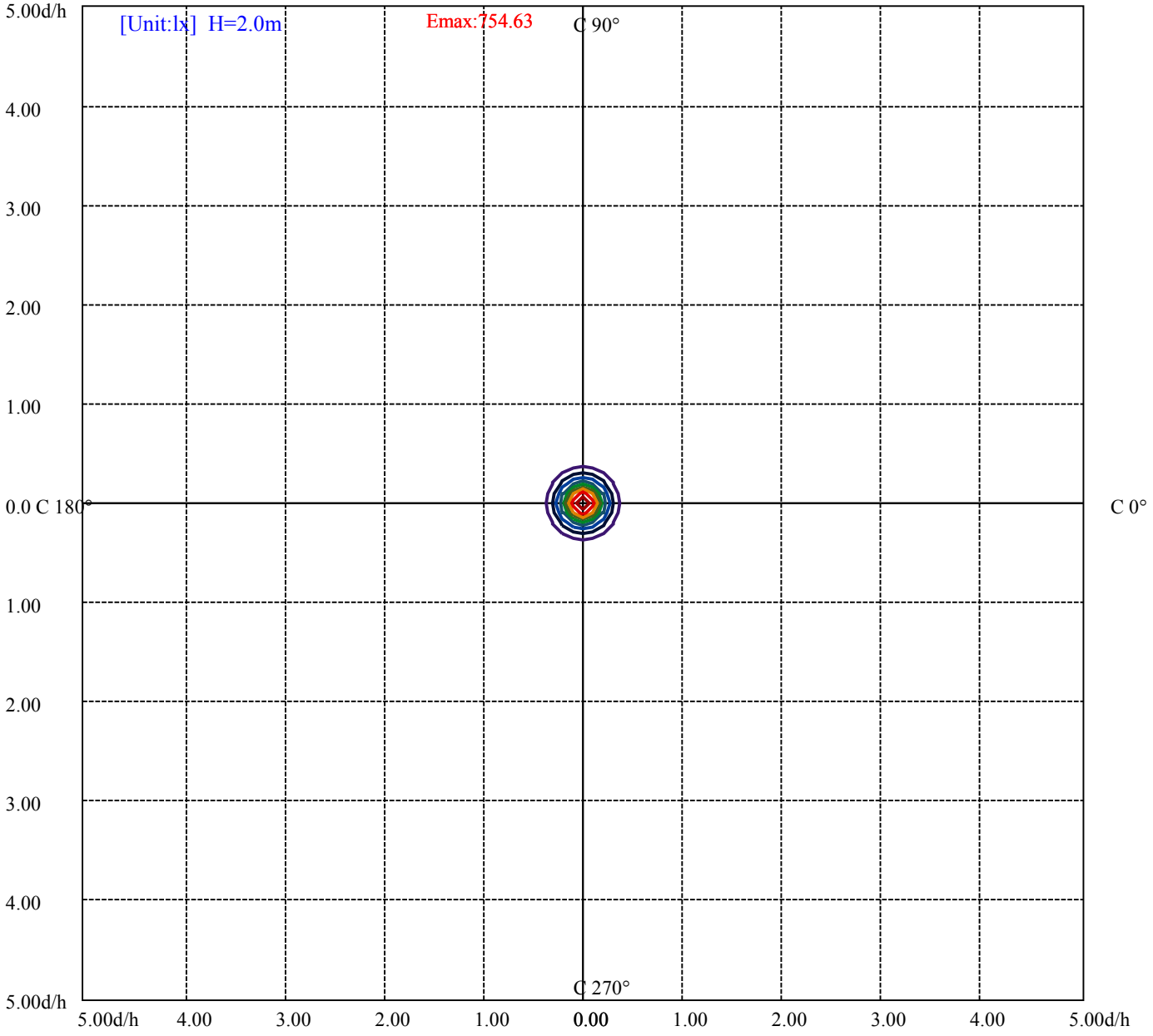
(10%Imax) 301.852
(20%Imax) 603.703
(30%Imax) 905.555
(40%Imax) 1207.41
(50%Imax) 1509.26
(60%Imax) 1811.11
(70%Imax) 2112.96
(80%Imax) 2414.81
(90%Imax) 2716.66

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/9/18
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

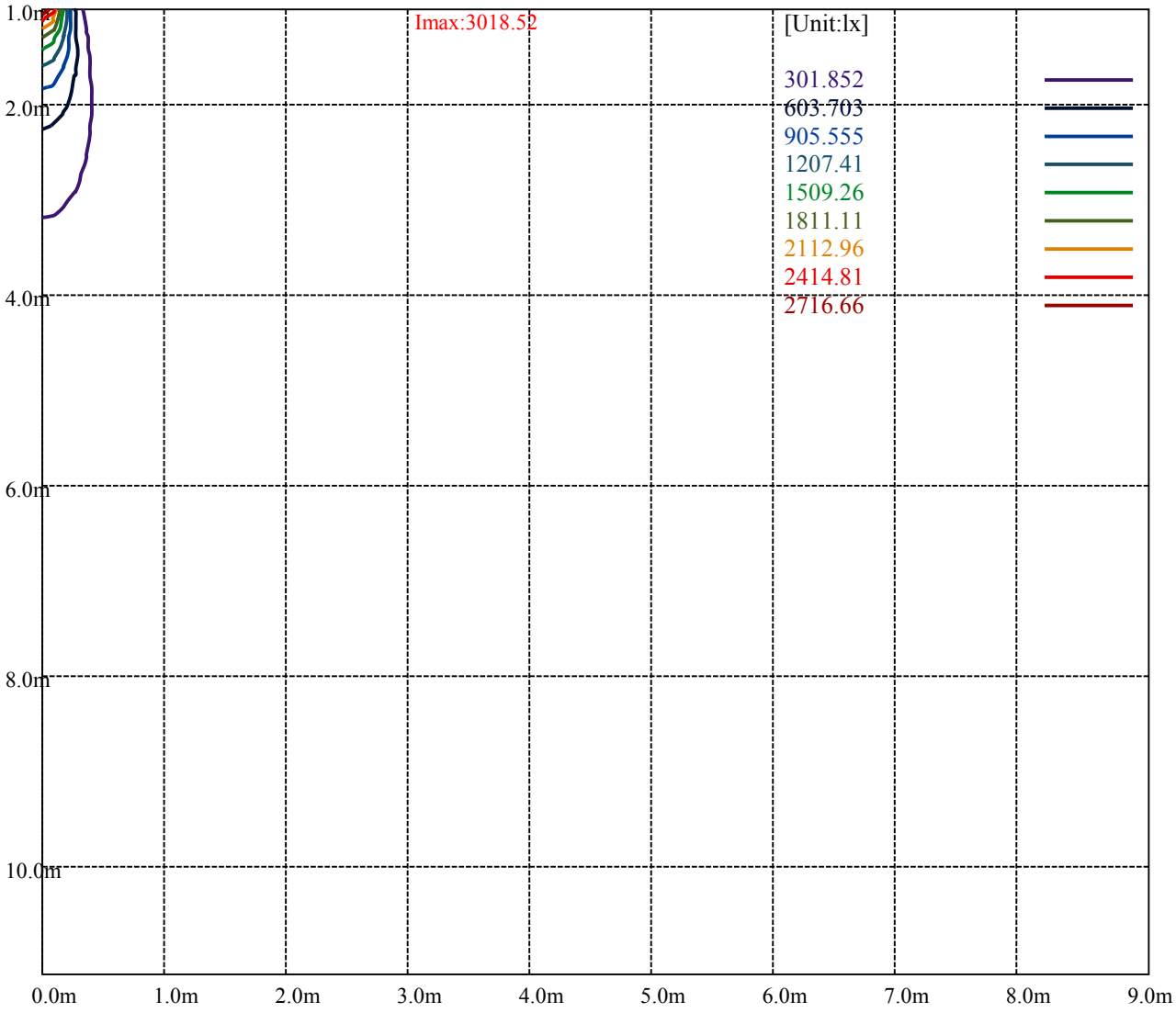
ISO illuminance diagram



(10%Emax) 75.46275
(20%Emax) 150.9258
(30%Emax) 226.3885
(40%Emax) 301.8525
(50%Emax) 377.315
(60%Emax) 452.7775
(70%Emax) 528.24
(80%Emax) 603.7025
(90%Emax) 679.165

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2019/9/18
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/9/18
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

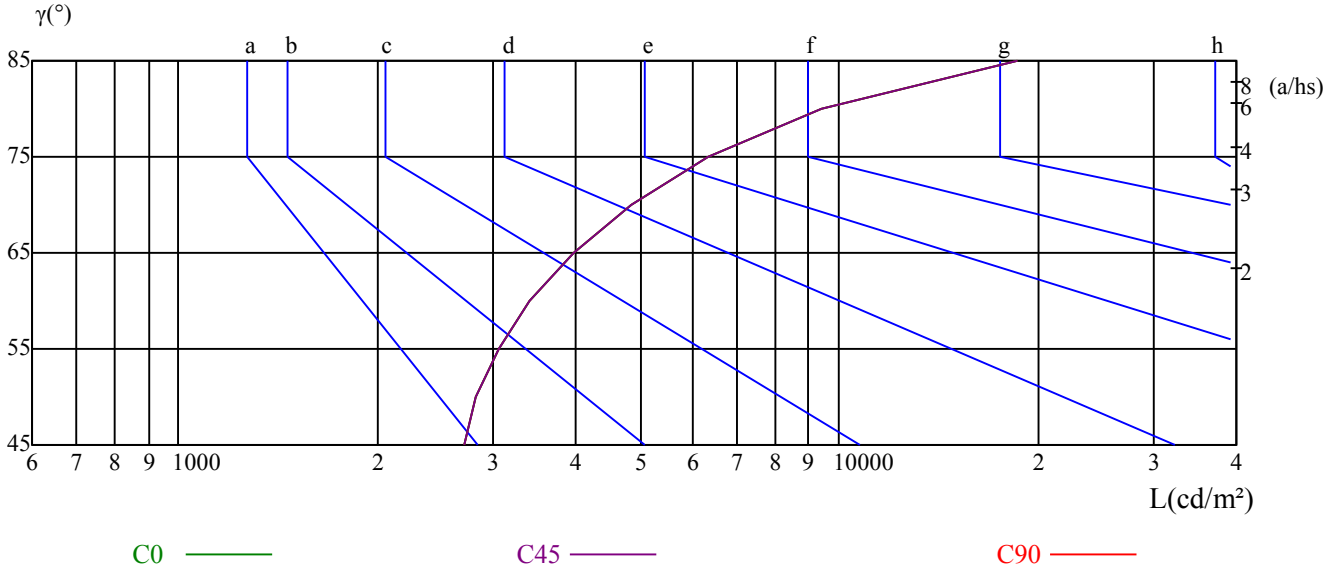
γ	45	50	55	60	65	70	75	80	85
C0	2707	2826	3047	3412	3971	4839	6341	9424	18617
C45	2707	2826	3047	3412	3971	4839	6341	9424	18617
C90	2707	2826	3047	3412	3971	4839	6341	9424	18617

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3971	3971	3971	6341	6341	6341	18617	18617	18617

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

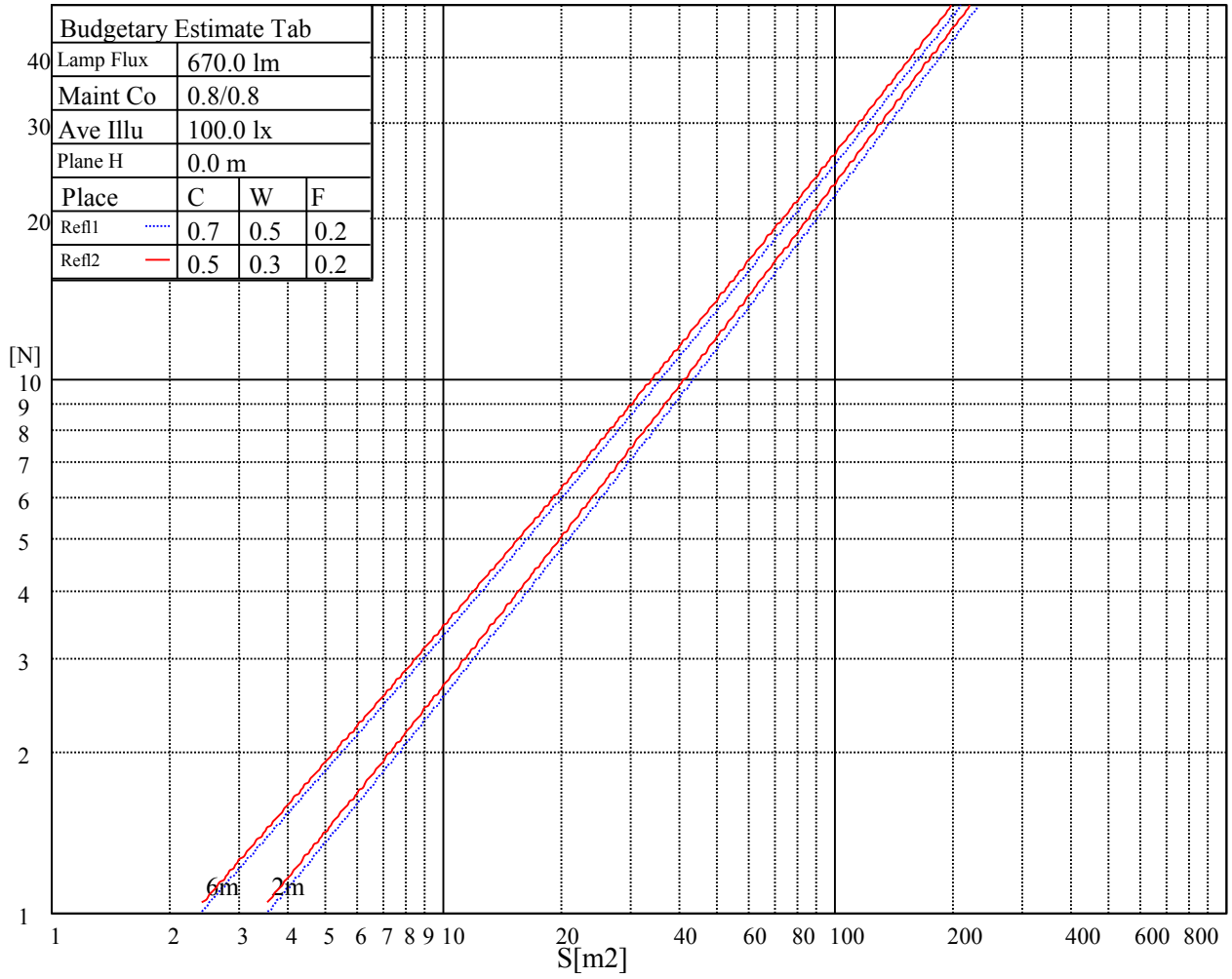


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/9/18
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Budgetary Estimate Table



Equipment: GMS1980
Temperature(°C): 25.0

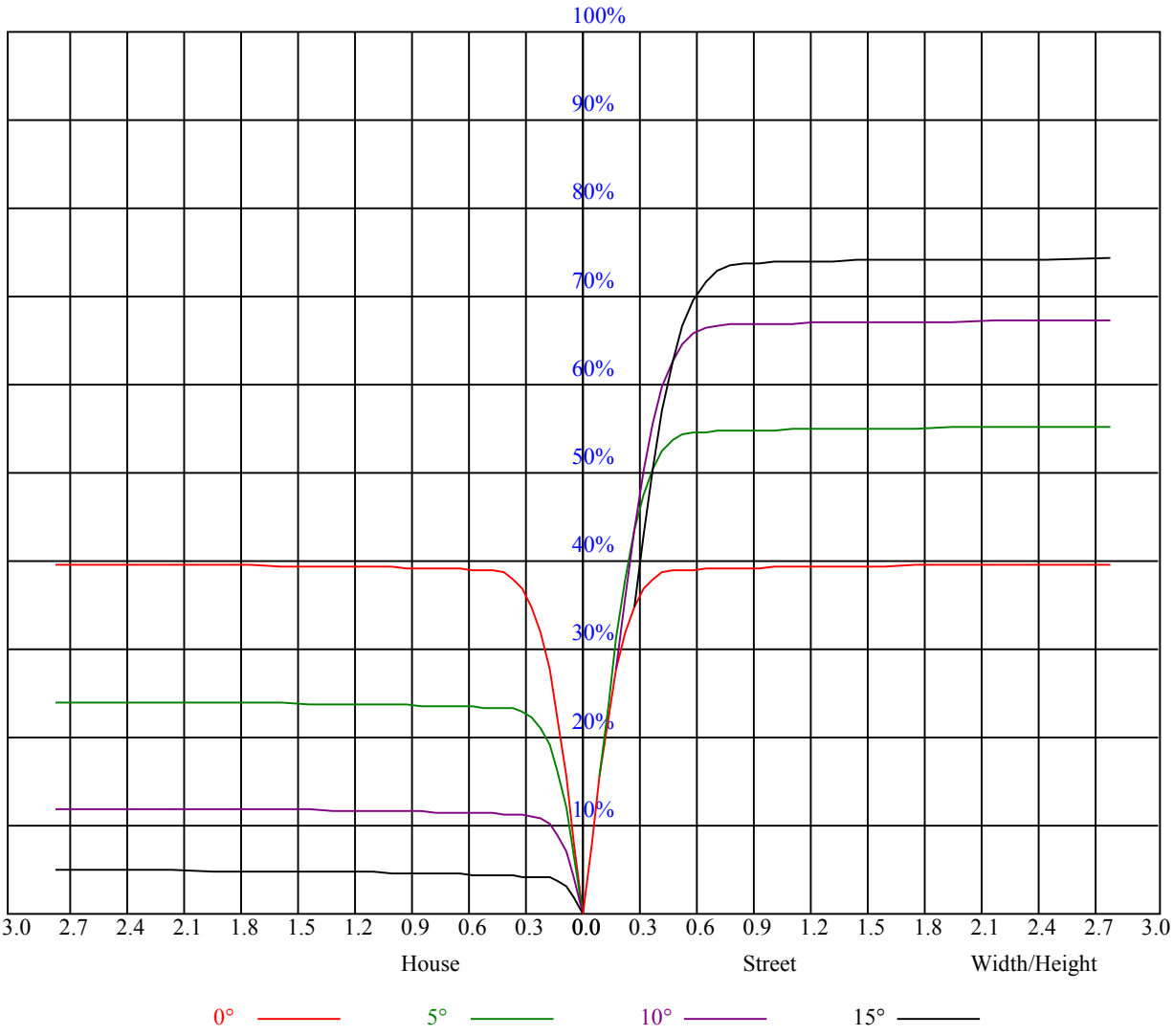
Date: 2019/9/18
Humidity(%): 65.0%

Operator: NT07
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	0.95	0.95	0.95	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.82	0.82	0.82	0.80
1	0.90	0.89	0.87	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.80	0.79	0.79	0.77
2	0.86	0.84	0.82	0.85	0.83	0.81	0.82	0.81	0.79	0.80	0.79	0.78	0.78	0.77	0.76	0.75
3	0.83	0.80	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.78	0.76	0.75	0.76	0.75	0.74	0.73
4	0.80	0.77	0.75	0.79	0.77	0.74	0.78	0.75	0.74	0.76	0.74	0.73	0.75	0.73	0.72	0.71
5	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.74	0.72	0.71	0.73	0.72	0.70	0.69
6	0.75	0.72	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.73	0.71	0.69	0.72	0.70	0.69	0.68
7	0.73	0.70	0.68	0.73	0.70	0.68	0.72	0.70	0.68	0.71	0.69	0.67	0.71	0.69	0.67	0.66
8	0.71	0.68	0.66	0.71	0.68	0.66	0.70	0.68	0.66	0.70	0.67	0.66	0.69	0.67	0.66	0.65
9	0.70	0.67	0.65	0.69	0.67	0.65	0.69	0.66	0.65	0.68	0.66	0.64	0.68	0.66	0.64	0.64
10	0.68	0.65	0.63	0.68	0.65	0.63	0.67	0.65	0.63	0.67	0.65	0.63	0.66	0.64	0.63	0.62

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2019/9/18	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	3018.38	2973.38	2892.94	2786.06	2670.19	2514.38	2337.19	2166.75	1987.31
45.0	3029.06	3011.06	2954.81	2877.19	2775.94	2658.38	2505.38	2322.00	2151.00
90.0	3022.31	3008.25	2965.50	2882.25	2792.81	2683.69	2532.94	2358.56	2189.81
135.0	3006.56	3028.50	3025.13	2990.25	2925.00	2835.00	2727.56	2588.06	2440.13
180.0	3018.38	3033.56	3028.50	2988.56	2922.19	2838.38	2736.56	2581.88	2433.94
225.0	3029.06	3018.38	2985.75	2917.69	2840.63	2748.38	2588.06	2446.31	2279.81
270.0	3022.31	3008.81	2960.44	2900.25	2812.50	2695.50	2561.63	2391.75	2228.06
315.0	3002.06	2957.06	2883.94	2786.06	2657.81	2522.81	2368.69	2149.88	1964.81
360.0	3018.38	2973.38	2892.94	2786.06	2670.19	2514.38	2337.19	2166.75	1987.31

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1760.63	1572.19	1388.25	1191.94	1015.31	874.13	730.69	604.69	514.13
45.0	1947.94	1738.69	1545.75	1362.38	1145.25	986.63	845.44	702.56	582.19
90.0	1983.94	1772.44	1582.31	1375.31	1114.03	1017.00	855.45	730.35	616.22
135.0	2256.75	2055.38	1870.31	1703.25	1439.44	1256.63	1111.50	901.69	776.25
180.0	2268.00	2040.19	1850.63	1661.63	1452.94	1104.53	1085.79	903.94	790.48
225.0	2080.13	1868.06	1680.75	1465.88	1119.43	1100.25	933.02	800.83	667.86
270.0	2026.13	1818.00	1630.13	1442.81	1222.88	1060.31	914.63	753.75	640.69
315.0	1781.44	1568.81	1360.69	1107.28	1010.48	856.24	731.76	606.99	516.83
360.0	1760.63	1572.19	1388.25	1191.94	1015.31	874.13	730.69	604.69	514.13

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	420.19	342.56	288.56	195.69	131.96	84.15	43.54	19.07	10.80
45.0	491.63	397.13	312.75	289.13	183.60	118.69	68.51	40.67	17.04
90.0	498.43	414.84	337.33	251.55	188.72	133.82	87.64	44.16	21.43
135.0	672.75	542.81	448.88	379.69	284.63	209.87	153.96	95.63	56.03
180.0	658.41	536.06	460.74	371.87	280.69	224.10	163.91	93.94	58.73
225.0	557.55	472.56	393.08	299.25	230.85	169.88	110.53	62.27	32.06
270.0	546.19	453.38	364.50	291.94	213.58	154.91	97.93	53.44	25.99
315.0	422.61	337.16	266.57	193.84	130.11	82.97	46.63	18.51	10.63
360.0	420.19	342.56	288.56	195.69	131.96	84.15	43.54	19.07	10.80

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	7.54	6.24	5.68	5.29	4.78	4.50	4.22	3.94	3.77
45.0	9.79	7.20	5.91	5.40	4.95	4.56	4.28	4.05	3.83
90.0	11.42	7.59	6.02	5.34	4.95	4.56	4.28	4.05	3.88
135.0	25.59	11.98	8.21	6.36	5.40	4.95	4.61	4.28	4.05
180.0	30.15	13.44	8.27	6.30	5.40	4.89	4.61	4.28	4.05
225.0	14.01	9.00	6.69	5.68	5.23	4.84	4.50	4.22	3.99
270.0	11.93	7.99	6.41	5.68	5.12	4.73	4.50	4.16	3.94
315.0	7.76	6.19	5.57	5.12	4.73	4.39	4.11	3.94	3.71
360.0	7.54	6.24	5.68	5.29	4.78	4.50	4.22	3.94	3.77

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	3.66	3.43	3.32	3.21	3.15	3.09	3.04	2.93	2.93
45.0	3.66	3.54	3.43	3.32	3.21	3.15	3.04	2.98	2.93
90.0	3.66	3.54	3.38	3.32	3.21	3.15	3.09	2.98	2.93
135.0	3.88	3.71	3.54	3.43	3.32	3.21	3.15	3.04	3.04
180.0	3.83	3.66	3.54	3.38	3.26	3.15	3.09	3.04	2.98
225.0	3.71	3.54	3.43	3.32	3.21	3.15	3.04	2.98	2.93
270.0	3.71	3.60	3.43	3.32	3.26	3.15	3.09	3.04	2.98
315.0	3.54	3.43	3.32	3.21	3.09	3.04	2.98	2.93	2.93
360.0	3.66	3.43	3.32	3.21	3.15	3.09	3.04	2.93	2.93

Intensity data(cd)

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	2.87	2.81	2.81	2.76	2.76	2.76	2.70	2.70	2.64
45.0	2.93	2.87	2.81	2.81	2.76	2.76	2.70	2.70	2.70
90.0	2.93	2.87	2.81	2.81	2.76	2.76	2.70	2.70	2.70
135.0	2.98	2.87	2.87	2.81	2.81	2.81	2.76	2.76	2.70
180.0	2.93	2.87	2.87	2.81	2.76	2.76	2.70	2.70	2.70
225.0	2.87	2.87	2.81	2.76	2.76	2.76	2.70	2.64	2.70
270.0	2.93	2.87	2.87	2.81	2.81	2.76	2.76	2.76	2.70
315.0	2.87	2.81	2.81	2.76	2.76	2.76	2.70	2.70	2.70
360.0	2.87	2.81	2.81	2.76	2.76	2.76	2.70	2.70	2.64

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	2.64	2.64	2.64	2.59	2.59	2.59	2.59	2.59	2.53
45.0	2.70	2.70	2.64	2.64	2.59	2.59	2.59	2.59	2.59
90.0	2.70	2.64	2.64	2.64	2.64	2.59	2.64	2.59	2.59
135.0	2.70	2.70	2.70	2.64	2.64	2.64	2.59	2.59	2.59
180.0	2.64	2.64	2.64	2.59	2.59	2.59	2.59	2.53	2.53
225.0	2.64	2.64	2.64	2.59	2.59	2.59	2.59	2.53	2.53
270.0	2.70	2.64	2.70	2.64	2.64	2.64	2.59	2.59	2.59
315.0	2.64	2.64	2.64	2.59	2.59	2.59	2.59	2.59	2.53
360.0	2.64	2.64	2.64	2.59	2.59	2.59	2.59	2.59	2.53

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	2.53	2.53	2.53	2.53	2.53	2.48	2.53	2.48	2.48
45.0	2.53	2.59	2.53	2.53	2.53	2.53	2.53	2.53	2.48
90.0	2.59	2.59	2.59	2.59	2.53	2.53	2.53	2.59	2.53
135.0	2.59	2.53	2.59	2.53	2.53	2.53	2.53	2.53	2.53
180.0	2.53	2.53	2.53	2.53	2.53	2.48	2.48	2.48	2.48
225.0	2.53	2.53	2.53	2.53	2.53	2.53	2.48	2.53	2.48
270.0	2.59	2.59	2.59	2.59	2.59	2.53	2.53	2.53	2.53
315.0	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.48	2.48
360.0	2.53	2.53	2.53	2.53	2.53	2.48	2.53	2.48	2.48

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48
45.0	2.48	2.48	2.48	2.48	2.48	2.53	2.48	2.48	2.48
90.0	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53
135.0	2.53	2.53	2.53	2.53	2.48	2.48	2.48	2.48	2.48
180.0	2.48	2.48	2.48	2.48	2.48	2.42	2.48	2.48	2.48
225.0	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48
270.0	2.53	2.53	2.53	2.53	2.48	2.48	2.53	2.53	2.53
315.0	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48
360.0	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.48	2.48	2.48	2.48	2.48	2.42	2.48	2.48	2.48
45.0	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.42
90.0	2.53	2.53	2.59	2.59	2.53	2.53	2.42	2.48	2.48
135.0	2.48	2.48	2.48	2.48	2.48	2.48	2.53	2.48	2.48
180.0	2.48	2.48	2.48	2.42	2.42	2.48	2.42	2.48	2.42
225.0	2.48	2.48	2.48	2.48	2.42	2.48	2.48	2.48	2.42
270.0	2.53	2.53	2.53	2.48	2.48	2.48	2.48	2.48	2.48
315.0	2.48	2.48	2.48	2.48	2.48	2.42	2.48	2.48	2.48
360.0	2.48	2.48	2.48	2.48	2.48	2.42	2.48	2.48	2.48

Intensity data(cd)

C/γ(°)	90.0
0.0	2.42
45.0	2.48
90.0	2.48
135.0	2.48
180.0	2.48
225.0	2.48
270.0	2.48
315.0	2.48
360.0	2.42