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Nata

LumCAT: 1-0927-M
Luminaire: 99.02.73.179+92.76.853.00

Report No: 220609-B010	Voltage(V): 36.9700
Test No: 220609-C010	Current(A): 0.3610
LampCAT: Bridgelux C10-(30C2000C)	Power (W): 13.3460
Lamp flux(lm): 1182.2	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 43	Width(mm): 43
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 855.29
Efficiency(%): 72.35%
Lumens(lm)/Power(W): 64.09
Central intensity(cd): 5093.188
Maximum intensity(cd): 5093.188
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=22.7
[C90/270]Total=22.7
Field angle(10%Imax): [C0/180]Total=39.7
[C90/270]Total=39.7
Maximum s/h(1/2): C0_180=0.38 C90_270=0.38
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(%): 72.35%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.486%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5093.188	0.000	0	.000%	.000%
1.0	5068.241	4.862	4.862	.411%	.568%
2.0	4992.803	14.441	19.303	1.222%	2.257%
3.0	4850.516	23.542	42.845	1.991%	5.009%
4.0	4676.710	31.891	74.735	2.698%	8.738%
5.0	4457.492	39.295	114.03	3.324%	13.332%
6.0	4197.716	45.485	159.516	3.848%	18.651%
7.0	3895.889	50.237	209.752	4.249%	24.524%
8.0	3612.884	53.739	263.491	4.546%	30.807%
9.0	3294.775	55.983	319.474	4.736%	37.353%
10.0	2953.661	56.546	376.02	4.783%	43.964%
11.0	2650.788	56.000	432.02	4.737%	50.512%
12.0	2343.957	54.600	486.62	4.619%	56.896%
13.0	2020.843	51.799	538.419	4.382%	62.952%
14.0	1719.046	47.870	586.289	4.049%	68.549%
15.0	1475.299	43.853	630.143	3.710%	73.676%
16.0	1228.781	39.622	669.765	3.352%	78.309%
17.0	1023.597	35.076	704.841	2.967%	82.410%
18.0	830.147	30.564	735.405	2.585%	85.984%
19.0	649.768	25.747	761.152	2.178%	88.994%
20.0	487.121	20.808	781.961	1.760%	91.427%
21.0	343.482	15.949	797.91	1.349%	93.292%
22.0	247.362	11.873	809.783	1.004%	94.680%
23.0	142.503	8.180	817.963	.692%	95.636%
24.0	71.196	4.672	822.636	.395%	96.183%
25.0	35.807	2.433	825.069	.206%	96.467%
26.0	21.997	1.364	826.433	.115%	96.627%
27.0	16.649	0.945	827.379	.080%	96.737%
28.0	13.616	0.766	828.145	.065%	96.827%
29.0	12.018	0.671	828.816	.057%	96.905%
30.0	10.965	0.621	829.436	.052%	96.978%
31.0	10.068	0.585	830.021	.050%	97.046%
32.0	9.269	0.554	830.575	.047%	97.111%
33.0	8.702	0.529	831.105	.045%	97.173%
34.0	8.119	0.509	831.614	.043%	97.232%
35.0	7.633	0.489	832.103	.041%	97.289%
36.0	7.208	0.473	832.576	.040%	97.345%
37.0	6.864	0.459	833.034	.039%	97.398%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	6.528	0.447	833.482	.038%	97.451%
39.0	6.267	0.437	833.918	.037%	97.502%
40.0	6.013	0.428	834.346	.036%	97.552%
41.0	5.804	0.421	834.767	.036%	97.601%
42.0	5.624	0.415	835.182	.035%	97.650%
43.0	5.438	0.410	835.592	.035%	97.697%
44.0	5.318	0.406	835.998	.034%	97.745%
45.0	5.176	0.403	836.401	.034%	97.792%
46.0	5.064	0.400	836.802	.034%	97.839%
47.0	4.945	0.398	837.2	.034%	97.885%
48.0	4.862	0.396	837.596	.034%	97.932%
49.0	4.780	0.396	837.992	.033%	97.978%
50.0	4.683	0.395	838.387	.033%	98.024%
51.0	4.601	0.393	838.78	.033%	98.070%
52.0	4.564	0.393	839.173	.033%	98.116%
53.0	4.496	0.394	839.567	.033%	98.162%
54.0	4.459	0.395	839.962	.033%	98.208%
55.0	4.392	0.395	840.357	.033%	98.255%
56.0	4.332	0.394	840.751	.033%	98.301%
57.0	4.302	0.395	841.146	.033%	98.347%
58.0	4.257	0.396	841.542	.033%	98.393%
59.0	4.235	0.397	841.939	.034%	98.439%
60.0	4.213	0.399	842.338	.034%	98.486%
61.0	4.168	0.400	842.738	.034%	98.533%
62.0	4.153	0.401	843.139	.034%	98.580%
63.0	4.145	0.404	843.542	.034%	98.627%
64.0	4.101	0.405	843.947	.034%	98.674%
65.0	4.086	0.405	844.352	.034%	98.722%
66.0	4.078	0.407	844.759	.034%	98.769%
67.0	4.048	0.409	845.168	.035%	98.817%
68.0	4.033	0.409	845.577	.035%	98.865%
69.0	4.041	0.412	845.989	.035%	98.913%
70.0	4.018	0.414	846.403	.035%	98.961%
71.0	4.026	0.416	846.819	.035%	99.010%
72.0	4.056	0.420	847.239	.036%	99.059%
73.0	4.145	0.429	847.668	.036%	99.109%
74.0	4.250	0.441	848.109	.037%	99.161%
75.0	4.377	0.456	848.565	.039%	99.214%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.526	0.473	849.038	.040%	99.269%
77.0	4.601	0.487	849.524	.041%	99.326%
78.0	4.541	0.489	850.014	.041%	99.384%
79.0	4.414	0.481	850.495	.041%	99.440%
80.0	4.265	0.468	850.963	.040%	99.495%
81.0	4.235	0.460	851.423	.039%	99.548%
82.0	4.250	0.460	851.883	.039%	99.602%
83.0	4.242	0.462	852.344	.039%	99.656%
84.0	4.265	0.463	852.808	.039%	99.710%
85.0	4.003	0.451	853.259	.038%	99.763%
86.0	3.869	0.430	853.689	.036%	99.813%
87.0	3.675	0.413	854.102	.035%	99.862%
88.0	3.585	0.398	854.5	.034%	99.908%
89.0	3.578	0.393	854.893	.033%	99.954%
90.0	3.593	0.393	855.286	.033%	100.000%

Zonal flux distribution table

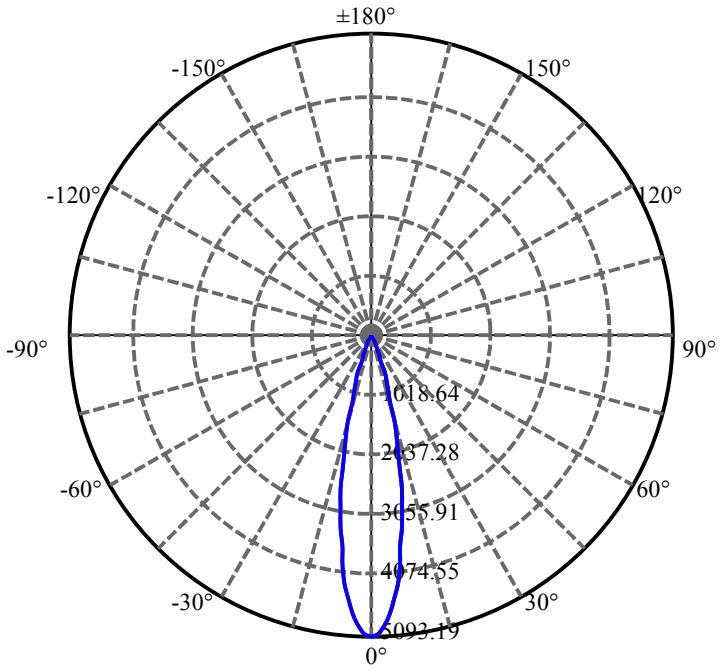
ZONAL LUMEN SUMMARY

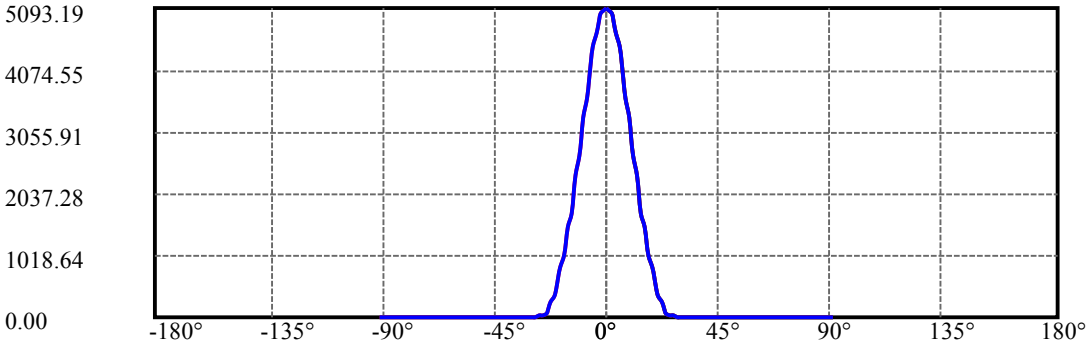
Zone	Lumens	%Lamp	%Fixt
0-30	829.44	70.16%	96.98%
0-40	834.35	70.58%	97.55%
0-60	842.34	71.25%	98.49%
0-90	854.89	72.31%	99.95%
0-120	854.89	72.31%	99.95%
0-180	855.29	72.35%	100.00%
60-90	12.95	1.10%	1.51%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-16.41	684.23	57.88%	80.00%

ZONAL LUMEN SUMMARY

0-10	376.02
10-20	405.94
20-30	47.48
30-40	4.91
40-50	4.04
50-60	3.95
60-70	4.07
70-80	4.56
80-90	3.93
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):

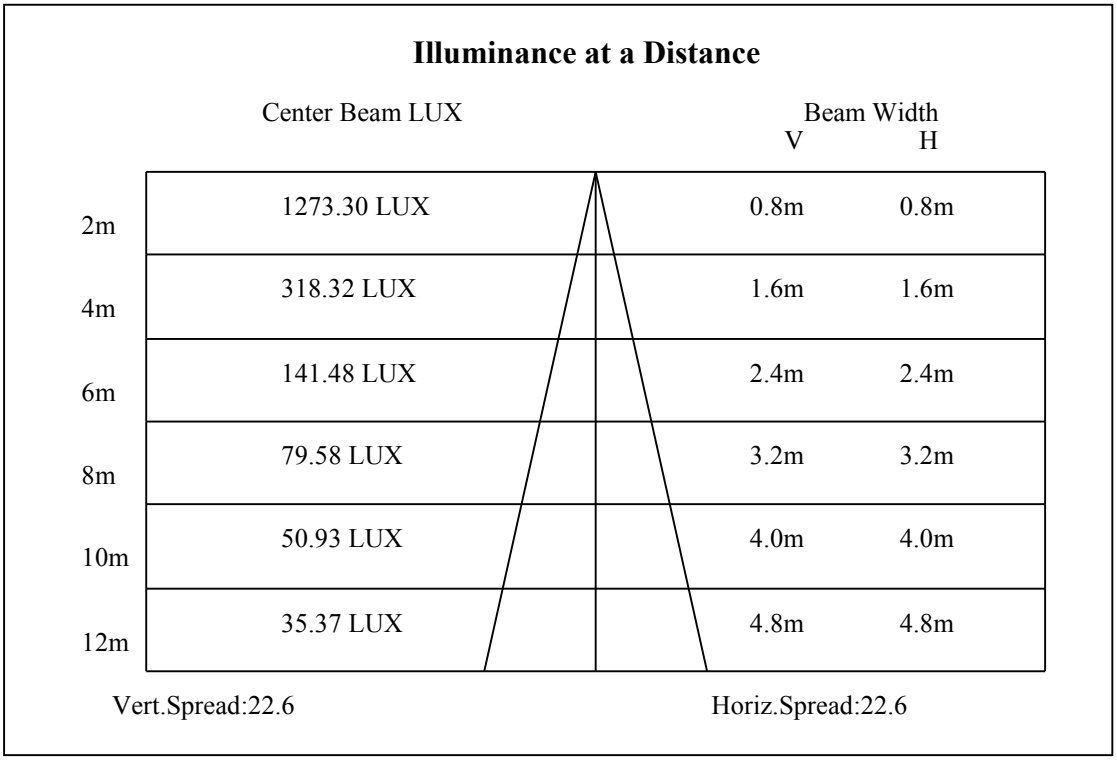
C0/C180:

C90/C270:

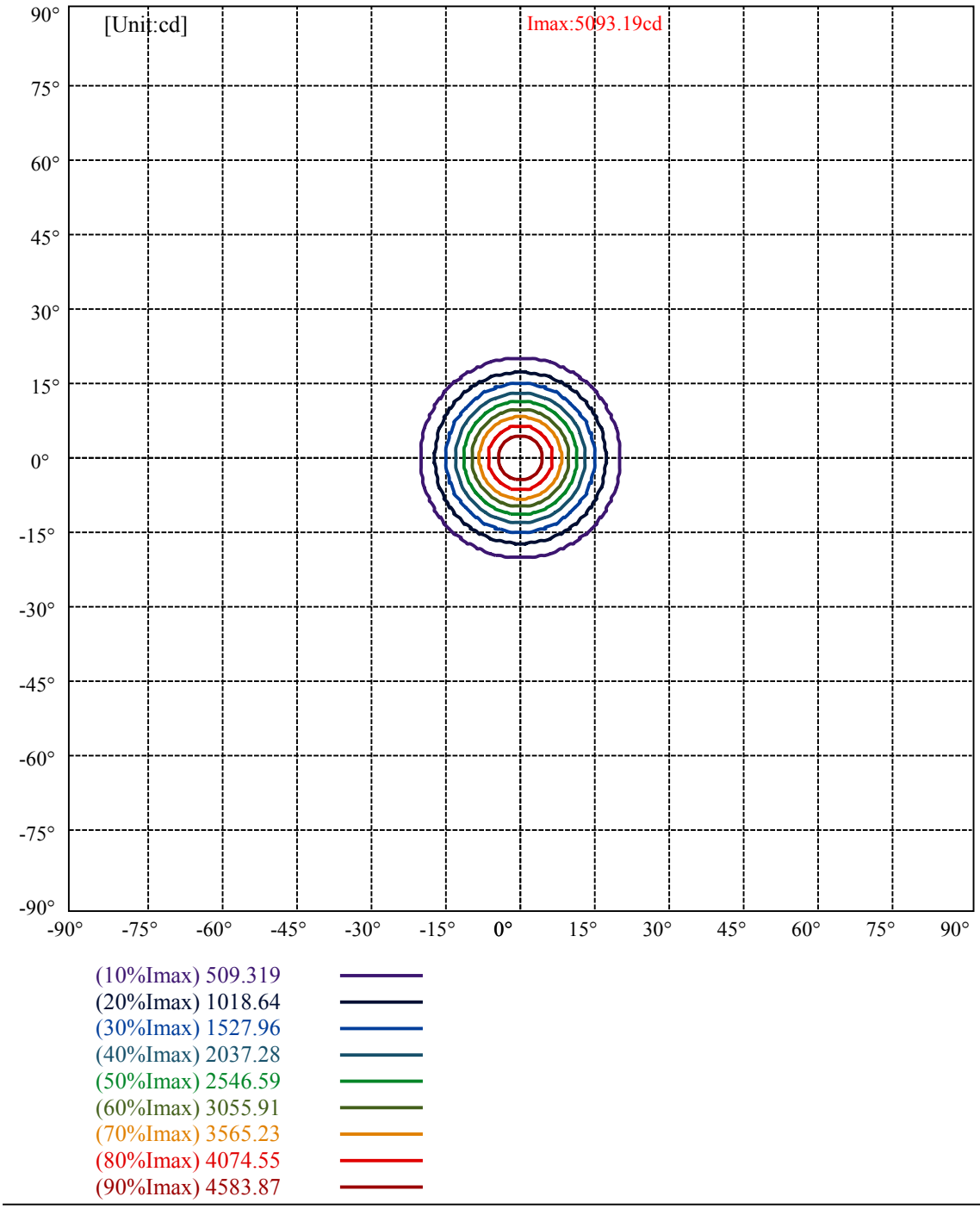
Field angle(10%Imax):C0/180Left:19.9 Right:19.9
:C90/270Left:19.9 Right:19.9

Beam Angle(50%Imax):C0/180Left:11.3 Right:11.3
:C90/270Left:11.3 Right:11.3

Lux distance Curve



ISO-Intensity(V-H)

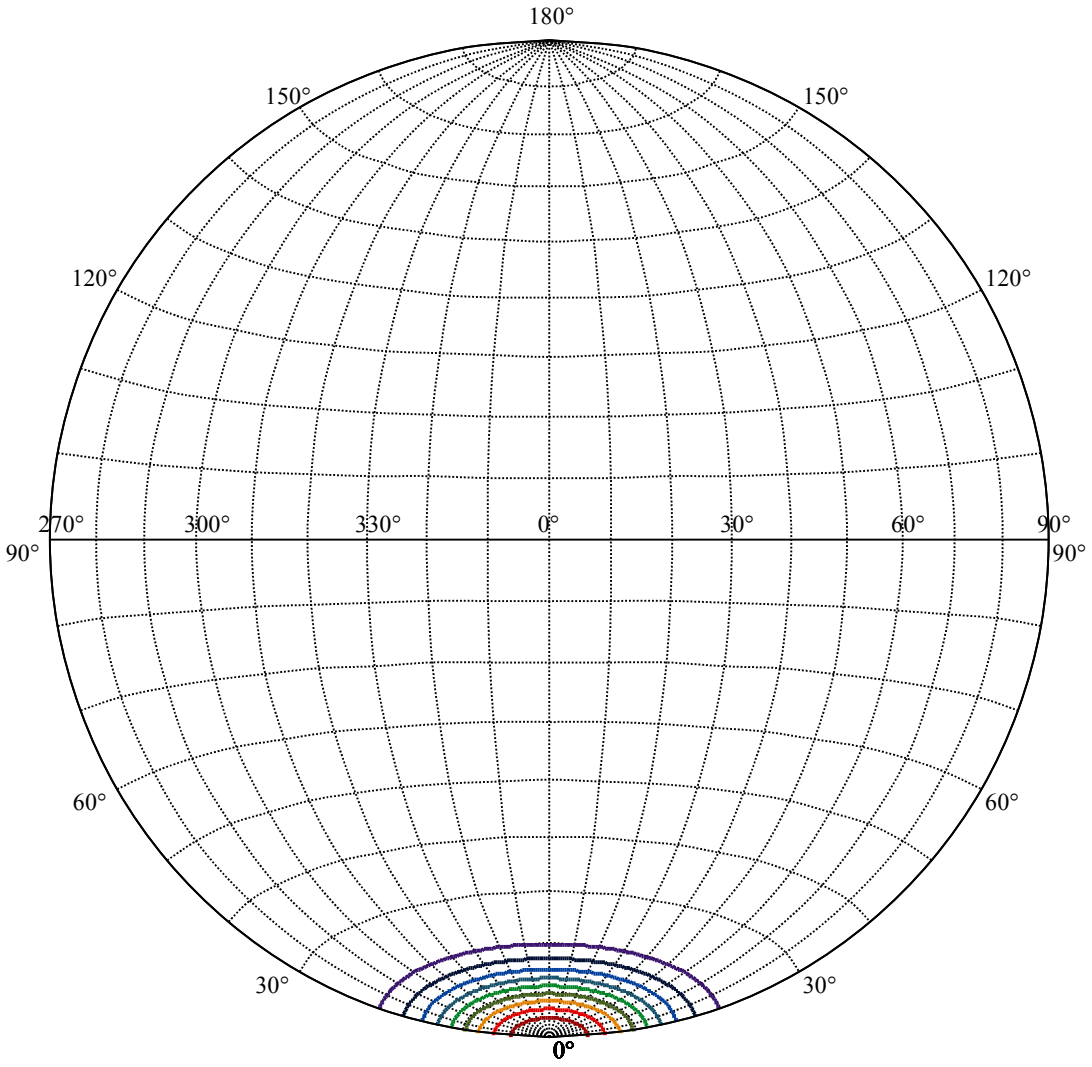


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/6/09
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

ISO candela diagram on circular web



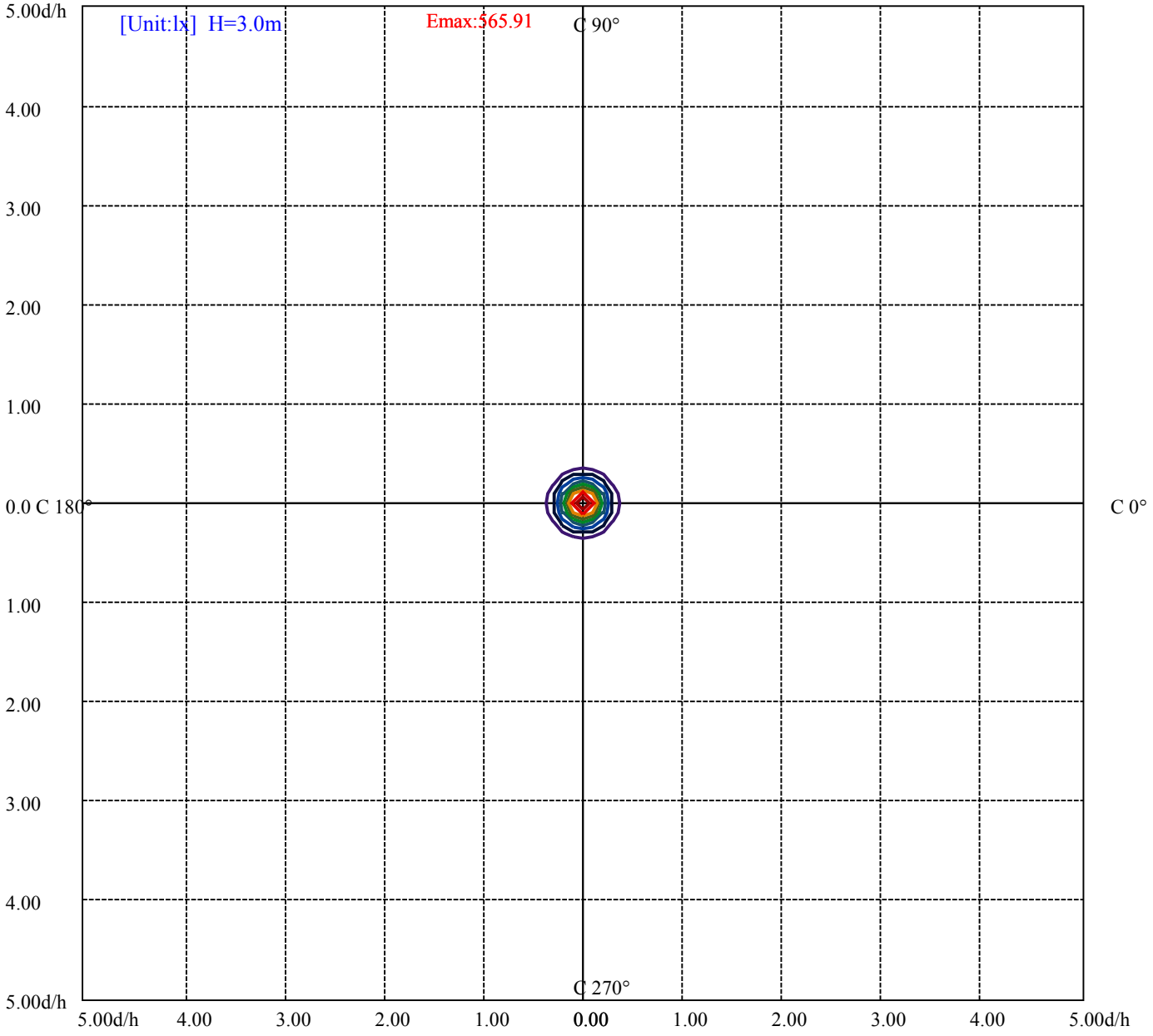
House [Unit:cd] Road

Imax:5093.19

(10%Imax) 509.319
(20%Imax) 1018.64
(30%Imax) 1527.96
(40%Imax) 2037.28
(50%Imax) 2546.59
(60%Imax) 3055.91
(70%Imax) 3565.23
(80%Imax) 4074.55
(90%Imax) 4583.87

Equipment: GMS1980 Date: 2022/6/09 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.73

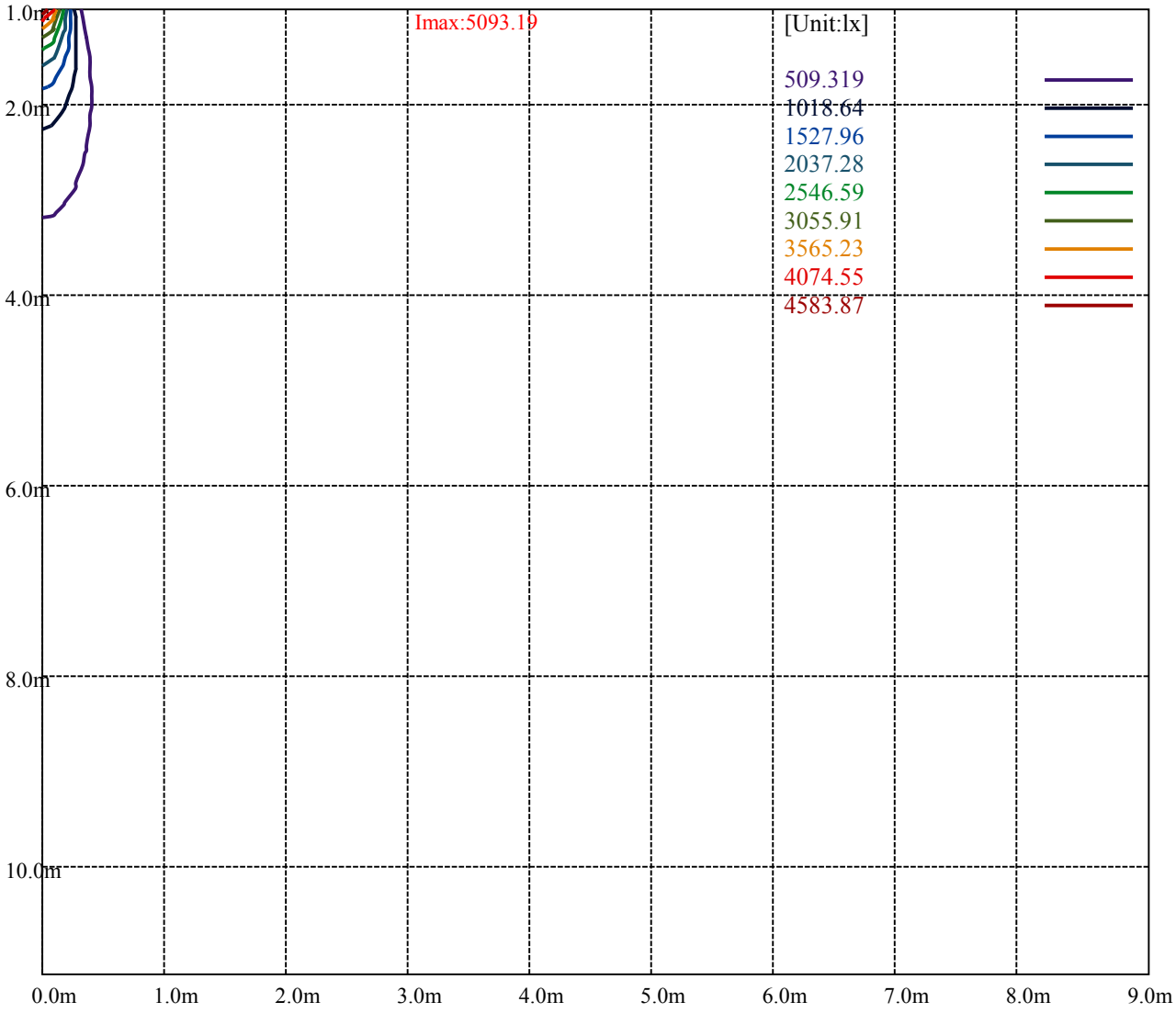
ISO illuminance diagram



(10%Emax) 56.59089
(20%Emax) 113.1822
(30%Emax) 169.7733
(40%Emax) 226.3633
(50%Emax) 282.9545
(60%Emax) 339.5455
(70%Emax) 396.1367
(80%Emax) 452.7278
(90%Emax) 509.3189

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2022/6/09
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.73

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/6/09
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Luminance Limitting Curve(no luminous side)

Luminance Table

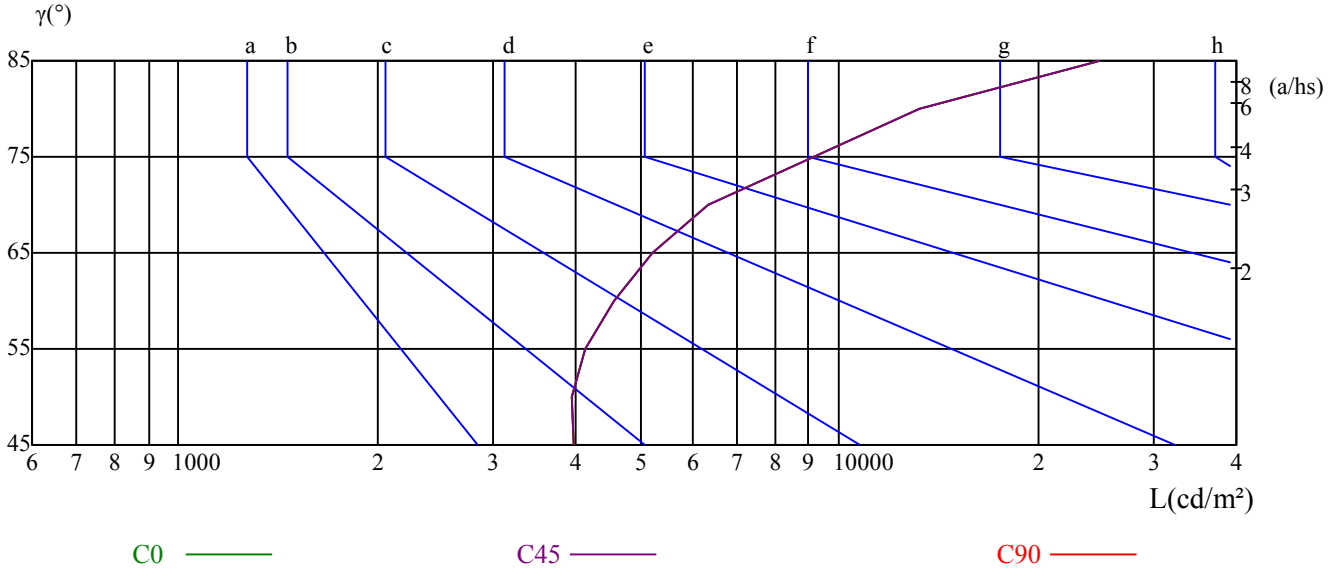
γ	45	50	55	60	65	70	75	80	85
C0	3959	3940	4141	4557	5228	6354	9146	13283	24843
C45	3959	3940	4141	4557	5228	6354	9146	13283	24843
C90	3959	3940	4141	4557	5228	6354	9146	13283	24843

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5228	5228	5228	9146	9146	9146	24843	24843	24843

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

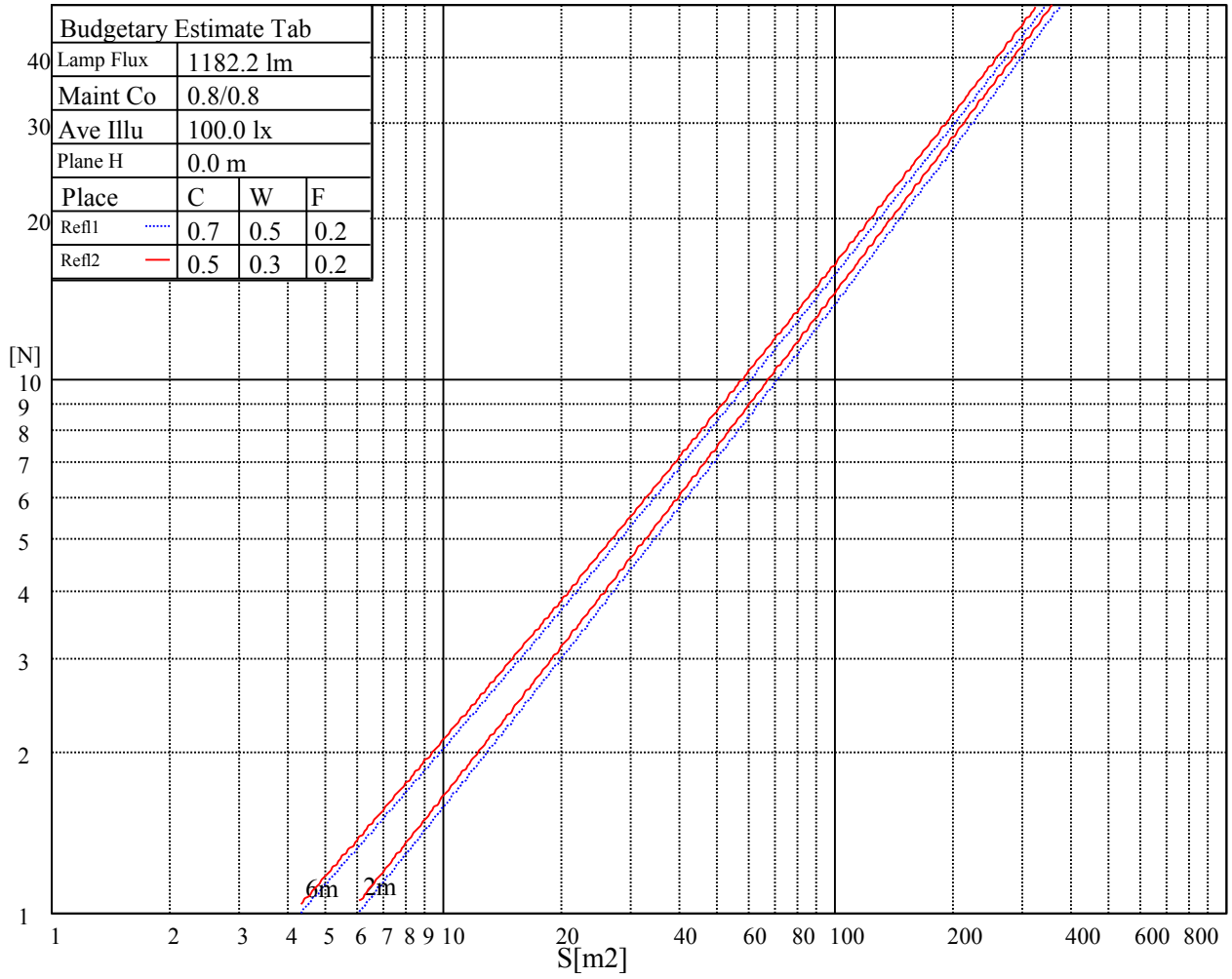


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/6/09
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Budgetary Estimate Table

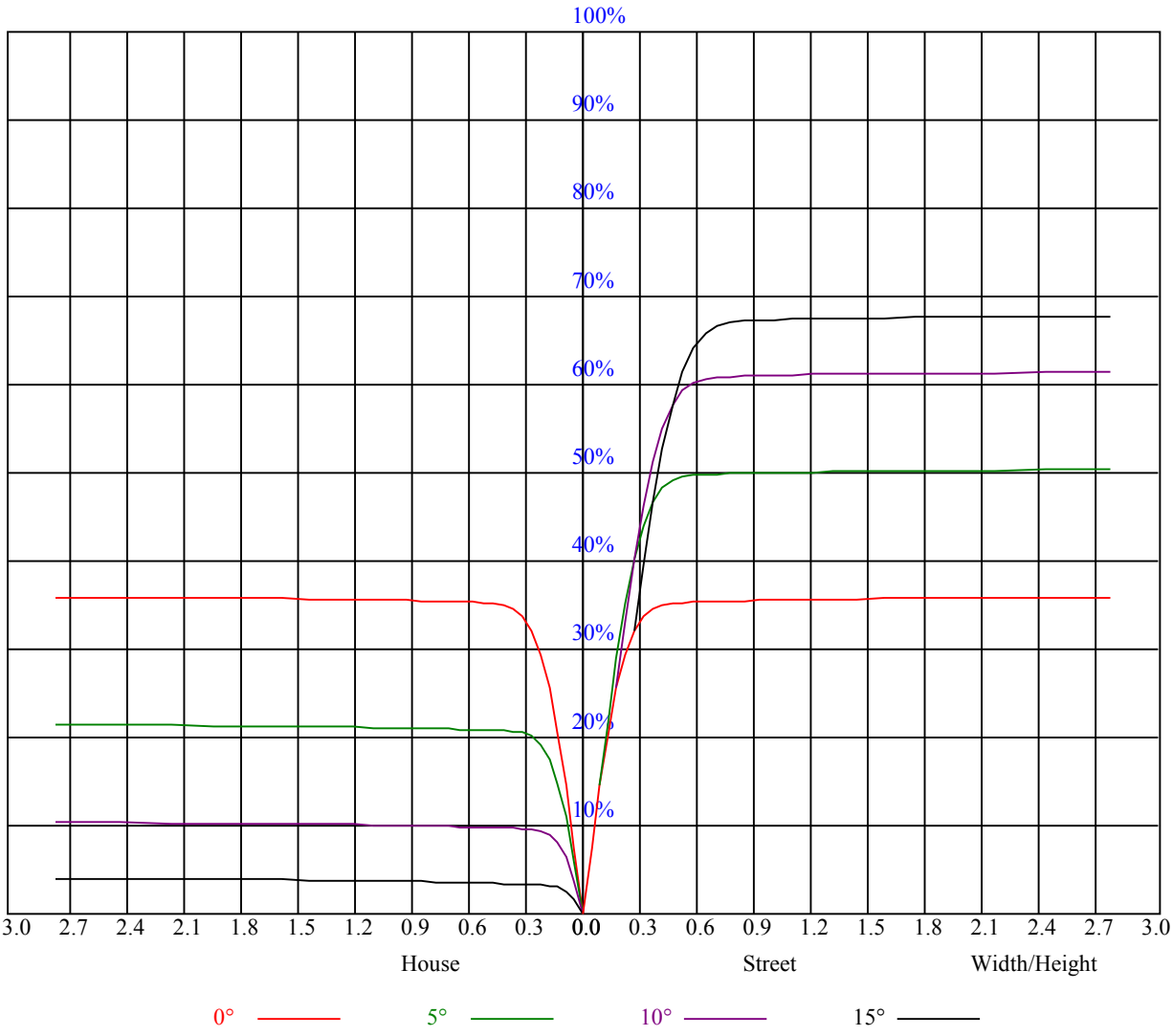


Equipment: GMS1980 Date: 2022/6/09 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.73

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	0.86	0.86	0.86	0.84	0.84	0.84	0.80	0.80	0.80	0.77	0.77	0.77	0.74	0.74	0.74	0.72
1	0.82	0.80	0.79	0.80	0.79	0.78	0.77	0.76	0.76	0.75	0.74	0.73	0.72	0.72	0.71	0.70
2	0.78	0.76	0.74	0.77	0.75	0.74	0.75	0.73	0.72	0.73	0.72	0.70	0.71	0.70	0.69	0.68
3	0.75	0.73	0.71	0.74	0.72	0.70	0.73	0.71	0.69	0.71	0.69	0.68	0.69	0.68	0.67	0.66
4	0.73	0.70	0.68	0.72	0.70	0.68	0.71	0.69	0.67	0.69	0.68	0.66	0.68	0.67	0.65	0.65
5	0.71	0.68	0.66	0.70	0.67	0.66	0.69	0.67	0.65	0.68	0.66	0.64	0.67	0.65	0.64	0.63
6	0.69	0.66	0.64	0.68	0.66	0.64	0.67	0.65	0.63	0.66	0.64	0.63	0.66	0.64	0.63	0.62
7	0.67	0.64	0.62	0.66	0.64	0.62	0.66	0.63	0.62	0.65	0.63	0.61	0.64	0.63	0.61	0.61
8	0.65	0.63	0.61	0.65	0.62	0.61	0.64	0.62	0.60	0.64	0.62	0.60	0.63	0.61	0.60	0.59
9	0.64	0.61	0.59	0.63	0.61	0.59	0.63	0.61	0.59	0.62	0.60	0.59	0.62	0.60	0.59	0.58
10	0.62	0.60	0.58	0.62	0.60	0.58	0.62	0.59	0.58	0.61	0.59	0.58	0.61	0.59	0.58	0.57

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2022/6/09	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.73

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	5021.63	5098.71	5118.43	5089.75	4986.98	4840.58	4625.47	4367.94	4104.43
45.0	5131.58	5146.52	5093.34	4983.39	4819.67	4594.40	4389.45	4056.03	3775.79
90.0	5122.62	5083.78	4997.14	4847.75	4644.00	4426.49	4178.52	3839.12	3548.13
135.0	5096.92	5040.16	4948.74	4788.00	4606.35	4361.96	4081.72	3784.15	3497.34
180.0	5021.63	4905.12	4750.95	4510.75	4286.67	4024.96	3673.61	3377.23	3075.48
225.0	5131.58	5073.62	4969.05	4777.84	4589.02	4367.34	4112.19	3769.81	3485.39
270.0	5122.62	5108.87	5035.97	4897.35	4728.25	4495.21	4257.99	3968.19	3692.73
315.0	5096.92	5089.15	5028.80	4909.30	4752.75	4548.99	4262.77	4004.64	3723.80
360.0	5021.63	5098.71	5118.43	5089.75	4986.98	4840.58	4625.47	4367.94	4104.43

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3793.11	3461.49	3151.37	2844.24	2464.81	2163.65	1875.64	1605.56	1309.78
45.0	3477.02	3089.22	2779.70	2477.95	2103.90	1820.67	1569.11	1288.87	1081.53
90.0	3251.75	2877.70	2578.94	2284.95	1964.08	1671.29	1438.25	1169.36	995.66
135.0	3204.55	2866.94	2537.11	2243.12	1965.27	1643.20	1411.36	1204.02	959.03
180.0	2744.45	2414.61	2138.56	1838.60	1570.31	1186.93	1108.42	922.29	729.05
225.0	3196.78	2825.12	2526.35	2200.70	1921.65	1637.83	1304.41	1165.90	972.24
270.0	3331.82	3037.84	2743.85	2452.86	2094.94	1823.66	1572.70	1287.67	1081.53
315.0	3358.71	3056.36	2750.43	2409.24	2081.79	1805.14	1522.50	1186.57	1059.96
360.0	3793.11	3461.49	3151.37	2844.24	2464.81	2163.65	1875.64	1605.56	1309.78

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1099.45	882.55	689.55	537.18	400.34	308.32	156.73	94.11	38.48
45.0	886.14	693.13	521.05	376.44	308.92	140.00	73.91	34.06	24.02
90.0	794.71	612.95	465.30	323.26	208.42	125.60	62.98	27.01	19.66
135.0	788.74	623.82	459.50	302.35	241.46	108.03	51.27	23.66	17.15
180.0	548.95	403.63	275.10	152.79	84.01	39.56	20.26	15.54	13.44
225.0	777.21	595.26	447.61	302.47	185.71	106.66	51.15	23.30	17.33
270.0	894.50	704.49	530.61	394.37	301.75	154.64	83.77	35.02	22.05
315.0	851.48	682.32	508.26	359.00	248.27	157.21	69.49	33.76	23.84
360.0	1099.45	882.55	689.55	537.18	400.34	308.32	156.73	94.11	38.48

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	26.41	18.82	14.76	12.97	11.71	10.52	9.80	9.08	8.37
45.0	17.39	13.74	12.19	11.17	10.22	9.50	8.96	8.25	7.83
90.0	15.18	12.73	11.59	10.64	9.74	9.08	8.60	8.01	7.65
135.0	14.10	12.43	11.35	10.52	9.86	8.90	8.43	7.89	7.41
180.0	11.95	10.99	10.16	9.32	8.78	8.19	7.65	7.35	6.93
225.0	14.40	12.61	11.41	10.58	9.74	9.02	8.48	7.95	7.53
270.0	16.25	13.62	12.25	11.29	10.22	9.50	8.90	8.19	7.71
315.0	17.51	13.98	12.43	11.23	10.28	9.44	8.78	8.25	7.65
360.0	26.41	18.82	14.76	12.97	11.71	10.52	9.80	9.08	8.37

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	7.83	7.41	6.99	6.63	6.27	5.98	5.80	5.56	5.44
45.0	7.47	7.05	6.63	6.39	6.15	5.92	5.74	5.50	5.38
90.0	7.17	6.81	6.51	6.27	5.98	5.80	5.68	5.44	5.32
135.0	7.05	6.75	6.45	6.21	6.04	5.80	5.62	5.50	5.32
180.0	6.57	6.39	6.15	5.92	5.80	5.68	5.56	5.38	5.32
225.0	7.05	6.69	6.39	6.15	5.92	5.74	5.56	5.38	5.26
270.0	7.35	6.93	6.63	6.33	6.04	5.80	5.56	5.44	5.32
315.0	7.17	6.87	6.45	6.21	5.92	5.74	5.50	5.32	5.20
360.0	7.83	7.41	6.99	6.63	6.27	5.98	5.80	5.56	5.44

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	5.26	5.14	4.96	4.84	4.78	4.66	4.54	4.54	4.42
45.0	5.20	5.08	4.96	4.90	4.78	4.66	4.60	4.54	4.54
90.0	5.14	5.02	4.90	4.84	4.72	4.66	4.54	4.48	4.42
135.0	5.20	5.14	4.96	4.90	4.84	4.72	4.66	4.60	4.54
180.0	5.20	5.14	5.08	5.02	4.96	4.90	4.84	4.84	4.72
225.0	5.20	5.08	4.96	4.84	4.78	4.72	4.60	4.60	4.54
270.0	5.14	5.02	4.90	4.84	4.72	4.60	4.54	4.48	4.42
315.0	5.08	4.90	4.84	4.72	4.66	4.54	4.48	4.42	4.36
360.0	5.26	5.14	4.96	4.84	4.78	4.66	4.54	4.54	4.42

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	4.42	4.36	4.24	4.24	4.18	4.12	4.12	4.06	4.06
45.0	4.48	4.36	4.30	4.30	4.24	4.24	4.18	4.12	4.12
90.0	4.36	4.30	4.24	4.18	4.18	4.12	4.12	4.06	4.06
135.0	4.48	4.42	4.36	4.36	4.30	4.24	4.24	4.18	4.12
180.0	4.78	4.72	4.72	4.72	4.66	4.72	4.66	4.66	4.66
225.0	4.48	4.42	4.36	4.30	4.30	4.24	4.24	4.18	4.18
270.0	4.36	4.30	4.24	4.18	4.12	4.12	4.06	4.06	4.00
315.0	4.30	4.24	4.18	4.12	4.06	4.06	4.06	4.00	4.00
360.0	4.42	4.36	4.24	4.24	4.18	4.12	4.12	4.06	4.06

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	4.06	4.00	3.94	3.94	3.94	3.94	3.94	3.88	3.88
45.0	4.12	4.12	4.06	4.06	4.00	4.00	4.00	4.00	4.00
90.0	4.00	3.94	3.94	3.94	3.88	3.88	3.88	3.88	3.82
135.0	4.12	4.06	4.06	4.06	4.06	4.06	4.06	4.06	4.06
180.0	4.66	4.66	4.66	4.66	4.60	4.54	4.60	4.60	4.72
225.0	4.18	4.12	4.12	4.12	4.12	4.06	4.06	4.06	4.06
270.0	4.00	3.94	3.94	3.94	3.88	3.88	3.88	3.82	3.82
315.0	4.00	3.94	3.94	3.88	3.88	3.88	3.88	3.82	3.82
360.0	4.06	4.00	3.94	3.94	3.94	3.94	3.94	3.88	3.88

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.88	3.88	3.88	3.94	3.94	4.06	4.06	4.18	3.94
45.0	3.94	4.00	3.94	3.94	3.94	4.00	4.00	4.00	4.00
90.0	3.82	3.82	3.76	3.76	3.76	3.76	3.76	3.76	3.76
135.0	4.06	4.12	4.18	4.18	4.24	4.30	4.36	4.36	4.36
180.0	4.96	5.56	6.45	7.47	8.54	8.90	8.37	7.17	6.27
225.0	4.06	4.06	4.06	4.06	4.06	4.12	4.12	4.12	4.12
270.0	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82
315.0	3.88	3.88	3.88	3.82	3.88	3.82	3.82	3.88	3.82
360.0	3.88	3.88	3.88	3.94	3.94	4.06	4.06	4.18	3.94

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	4.00	4.00	4.06	4.00	4.00	3.94	3.70	3.59	3.59
45.0	4.06	4.18	4.30	4.36	4.06	3.64	3.64	3.64	3.64
90.0	3.76	3.76	3.76	3.82	3.59	3.59	3.59	3.59	3.59
135.0	4.36	4.36	4.30	4.42	4.24	3.53	3.53	3.53	3.53
180.0	5.86	5.74	5.56	5.38	3.82	3.59	3.59	3.59	3.53
225.0	4.18	4.30	4.36	4.48	4.60	4.78	3.70	3.64	3.59
270.0	3.82	3.82	3.82	3.88	3.94	4.06	4.06	3.59	3.59
315.0	3.82	3.82	3.76	3.76	3.76	3.82	3.59	3.53	3.59
360.0	4.00	4.00	4.06	4.00	4.00	3.94	3.70	3.59	3.59

Intensity data(cd)

C/γ(°)	90.0
0.0	3.59
45.0	3.64
90.0	3.59
135.0	3.59
180.0	3.59
225.0	3.64
270.0	3.59
315.0	3.53
360.0	3.59