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

LumCAT: 1-1005-M
Luminaire: 92.70.277.00
Report No: 221130-B010
Test No: 221130-C010
LampCAT: CREE CXA1512 LES8.5
Lamp flux(lm): 812.3
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 17.5100
Current(A): 0.3050
Power (W): 5.3400
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 588.49
Efficiency(%): 72.45%
Lumens(lm)/Power(W): 110.20
Central intensity(cd): 4226.622
Maximum intensity(cd): 4226.622
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=17.8
[C90/270]Total=17.8
Field angle(10%Imax): [C0/180]Total=39.4
[C90/270]Total=39.4
Maximum s/h(1/2): C0_180=0.30 C90_270=0.30
Maximum s/h(1/4): C0_180=0.33 C90_270=0.33
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 72.45%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.248%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4226.621	0.000	0	.000%	.000%
1.0	4184.047	4.024	4.024	.495%	.684%
2.0	4064.093	11.839	15.863	1.457%	2.696%
3.0	3868.776	18.973	34.836	2.336%	5.919%
4.0	3604.370	25.015	59.851	3.080%	10.170%
5.0	3323.606	29.804	89.654	3.669%	15.235%
6.0	2971.661	33.083	122.738	4.073%	20.856%
7.0	2656.913	34.936	157.674	4.301%	26.793%
8.0	2374.506	36.009	193.683	4.433%	32.912%
9.0	2088.364	36.169	229.852	4.453%	39.058%
10.0	1813.202	35.308	265.16	4.347%	45.057%
11.0	1596.299	34.068	299.228	4.194%	50.846%
12.0	1365.070	32.372	331.6	3.985%	56.347%
13.0	1181.546	30.222	361.822	3.721%	61.483%
14.0	1031.253	28.324	390.145	3.487%	66.296%
15.0	895.300	26.449	416.594	3.256%	70.790%
16.0	770.065	24.402	440.996	3.004%	74.937%
17.0	653.458	22.168	463.164	2.729%	78.703%
18.0	559.377	19.997	483.161	2.462%	82.101%
19.0	472.929	17.960	501.121	2.211%	85.153%
20.0	399.471	15.967	517.089	1.966%	87.867%
21.0	317.631	13.770	530.859	1.695%	90.206%
22.0	242.193	11.250	542.109	1.385%	92.118%
23.0	181.761	8.896	551.004	1.095%	93.630%
24.0	121.381	6.628	557.632	.816%	94.756%
25.0	74.758	4.460	562.092	.549%	95.514%
26.0	44.501	2.815	564.907	.347%	95.992%
27.0	25.507	1.713	566.62	.211%	96.283%
28.0	13.041	0.976	567.596	.120%	96.449%
29.0	8.179	0.555	568.151	.068%	96.543%
30.0	6.662	0.401	568.551	.049%	96.611%
31.0	6.028	0.353	568.905	.043%	96.671%
32.0	5.662	0.335	569.239	.041%	96.728%
33.0	5.378	0.325	569.565	.040%	96.784%
34.0	5.131	0.318	569.883	.039%	96.838%
35.0	4.907	0.312	570.195	.038%	96.891%
36.0	4.750	0.307	570.502	.038%	96.943%
37.0	4.616	0.305	570.807	.038%	96.995%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	4.504	0.304	571.112	.037%	97.047%
39.0	4.392	0.304	571.416	.037%	97.098%
40.0	4.295	0.303	571.718	.037%	97.150%
41.0	4.228	0.303	572.022	.037%	97.201%
42.0	4.160	0.305	572.327	.038%	97.253%
43.0	4.108	0.306	572.633	.038%	97.305%
44.0	4.056	0.308	572.941	.038%	97.357%
45.0	3.996	0.309	573.251	.038%	97.410%
46.0	3.966	0.311	573.562	.038%	97.463%
47.0	3.929	0.314	573.876	.039%	97.516%
48.0	3.899	0.316	574.192	.039%	97.570%
49.0	3.854	0.318	574.511	.039%	97.624%
50.0	3.824	0.320	574.831	.039%	97.678%
51.0	3.802	0.323	575.154	.040%	97.733%
52.0	3.794	0.326	575.479	.040%	97.789%
53.0	3.764	0.329	575.808	.040%	97.845%
54.0	3.757	0.332	576.14	.041%	97.901%
55.0	3.735	0.334	576.474	.041%	97.958%
56.0	3.720	0.337	576.811	.041%	98.015%
57.0	3.697	0.339	577.15	.042%	98.073%
58.0	3.682	0.341	577.491	.042%	98.131%
59.0	3.667	0.344	577.835	.042%	98.189%
60.0	3.667	0.347	578.181	.043%	98.248%
61.0	3.660	0.350	578.531	.043%	98.307%
62.0	3.637	0.352	578.883	.043%	98.367%
63.0	3.637	0.354	579.237	.044%	98.427%
64.0	3.623	0.356	579.593	.044%	98.488%
65.0	3.615	0.358	579.951	.044%	98.549%
66.0	3.593	0.360	580.311	.044%	98.610%
67.0	3.570	0.360	580.671	.044%	98.671%
68.0	3.555	0.361	581.032	.044%	98.732%
69.0	3.533	0.362	581.393	.045%	98.794%
70.0	3.503	0.361	581.755	.044%	98.855%
71.0	3.488	0.361	582.116	.044%	98.916%
72.0	3.466	0.362	582.478	.045%	98.978%
73.0	3.466	0.362	582.84	.045%	99.039%
74.0	3.481	0.365	583.205	.045%	99.101%
75.0	3.496	0.369	583.574	.045%	99.164%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.488	0.371	583.945	.046%	99.227%
77.0	3.525	0.374	584.319	.046%	99.291%
78.0	3.473	0.375	584.693	.046%	99.354%
79.0	3.227	0.360	585.053	.044%	99.415%
80.0	3.115	0.342	585.395	.042%	99.474%
81.0	3.025	0.332	585.727	.041%	99.530%
82.0	2.988	0.326	586.053	.040%	99.585%
83.0	2.980	0.324	586.378	.040%	99.641%
84.0	3.003	0.326	586.703	.040%	99.696%
85.0	2.823	0.318	587.021	.039%	99.750%
86.0	2.831	0.309	587.33	.038%	99.802%
87.0	2.652	0.300	587.631	.037%	99.853%
88.0	2.629	0.289	587.92	.036%	99.903%
89.0	2.607	0.287	588.207	.035%	99.951%
90.0	2.614	0.286	588.493	.035%	100.000%

Zonal flux distribution table

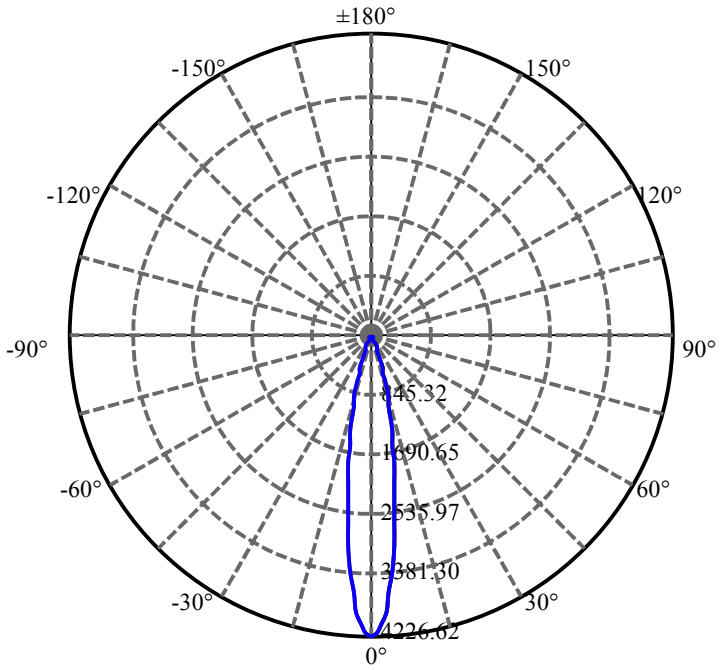
ZONAL LUMEN SUMMARY

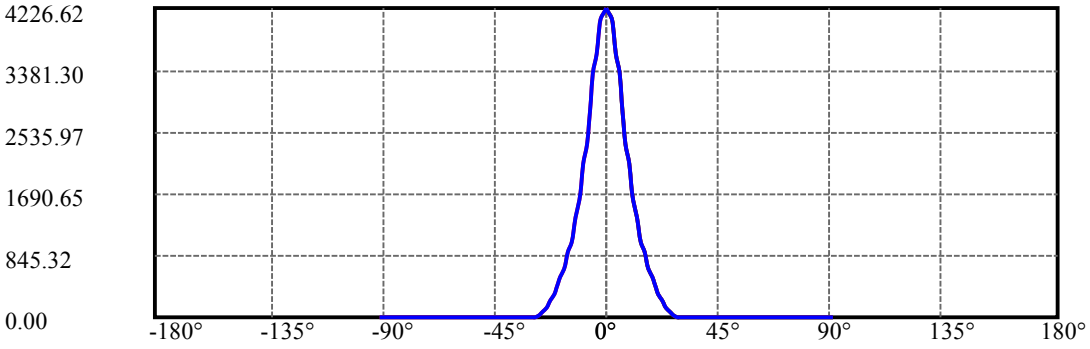
Zone	Lumens	%Lamp	%Fixt
0-30	568.55	70.00%	96.61%
0-40	571.72	70.39%	97.15%
0-60	578.18	71.18%	98.25%
0-90	588.21	72.42%	99.95%
0-120	588.21	72.42%	99.95%
0-180	588.49	72.45%	100.00%
60-90	10.37	1.28%	1.76%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-17.38	470.79	57.96%	80.00%

ZONAL LUMEN SUMMARY

0-10	265.16
10-20	251.93
20-30	51.46
30-40	3.17
40-50	3.11
50-60	3.35
60-70	3.57
70-80	3.64
80-90	2.81
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:19.7 Right:19.7
:C90/270Left:19.7 Right:19.7

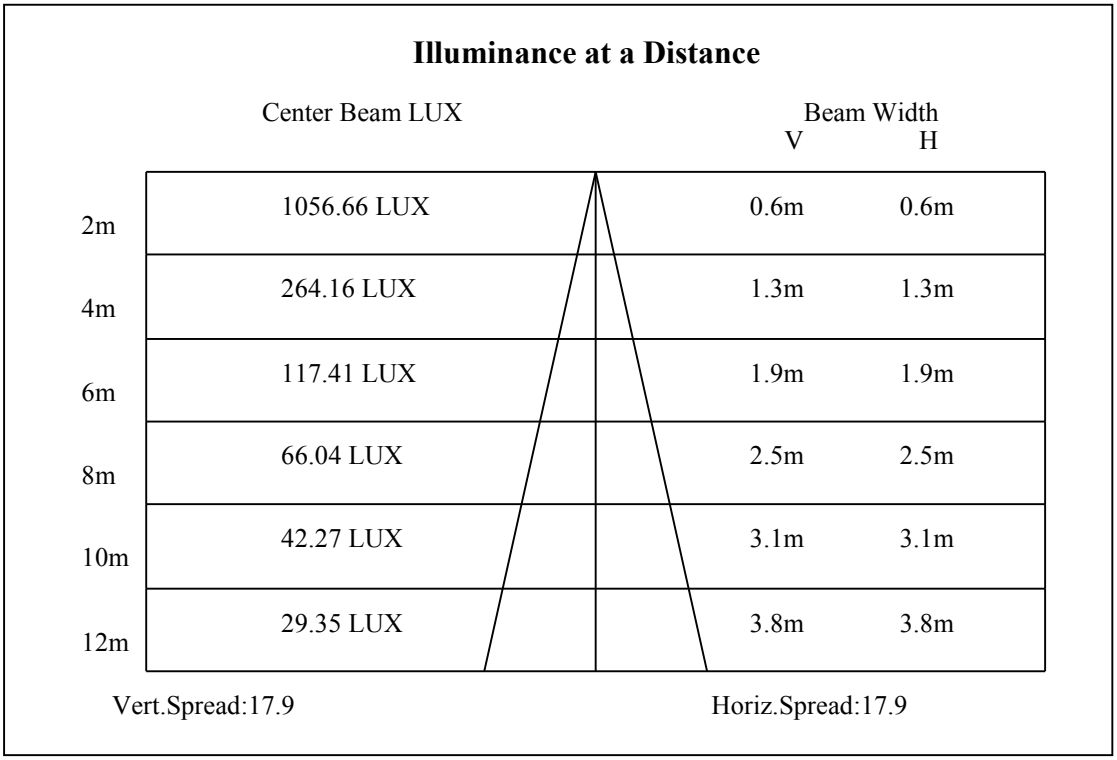
Beam Angle(50%Imax):C0/180Left:8.9 Right:8.9
:C90/270Left:8.9 Right:8.9

Equipment: GMS1980
Temperature(°C): 25.0

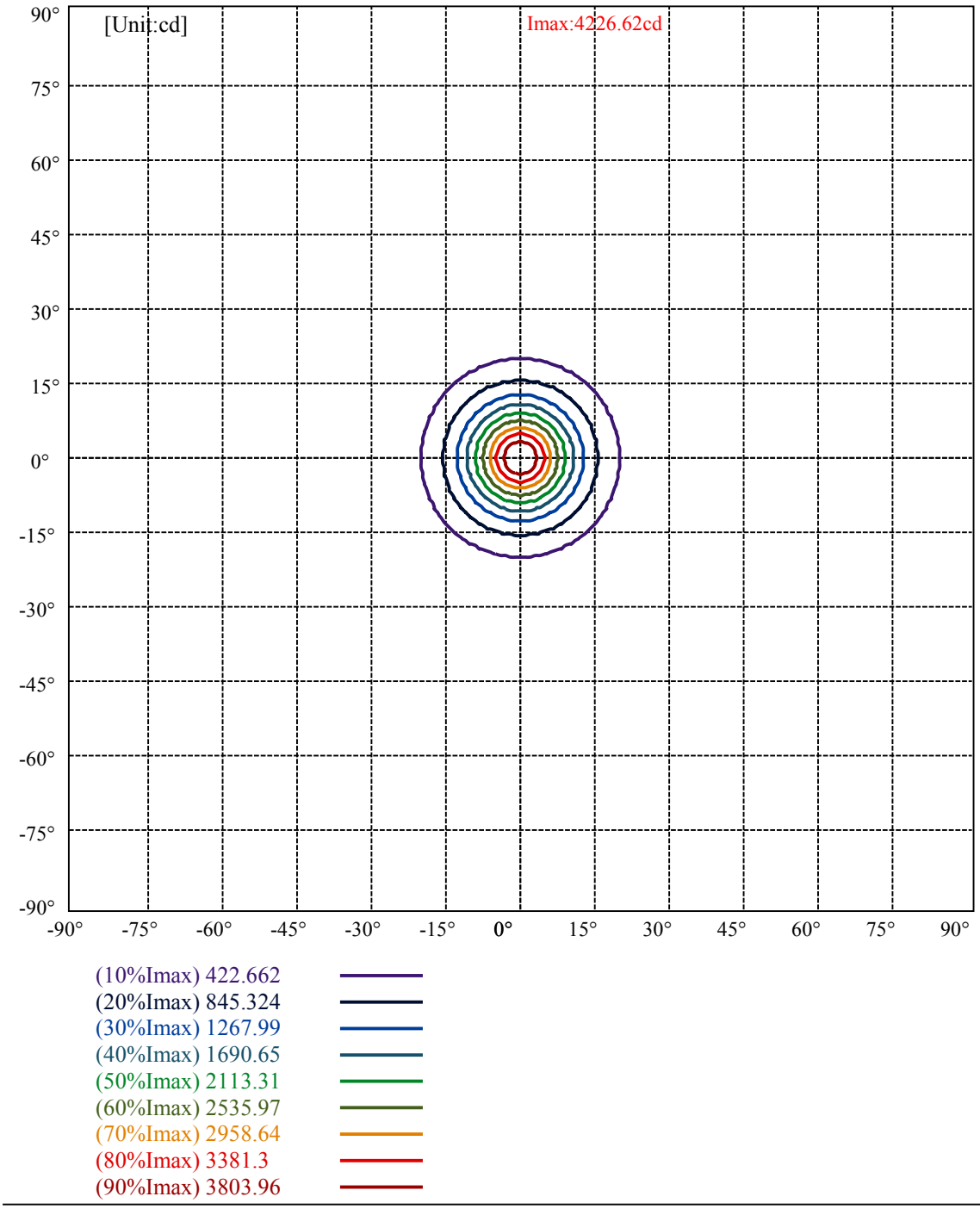
Date: 2022/11/30
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Lux distance Curve



ISO-Intensity(V-H)

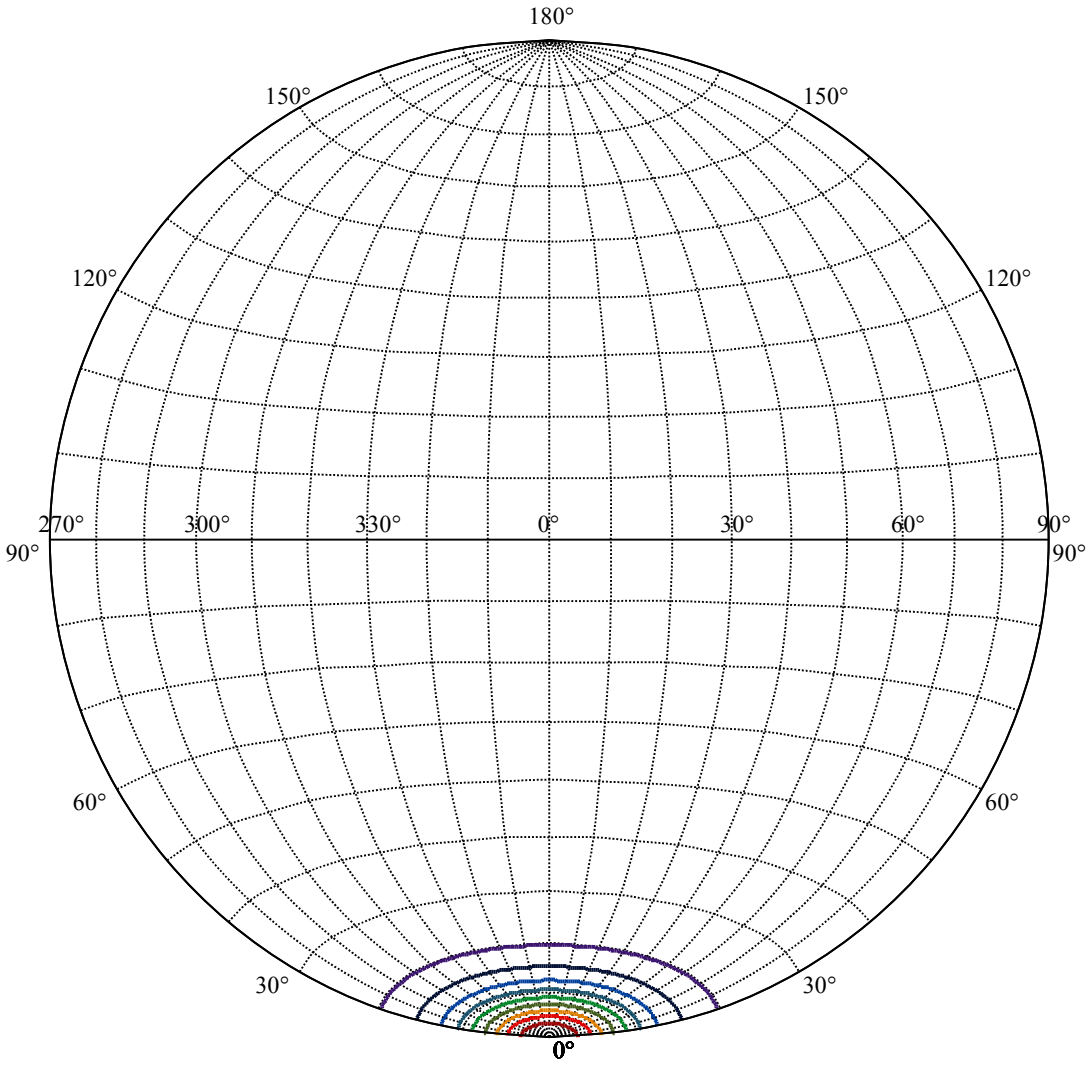


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/11/30
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

ISO candela diagram on circular web



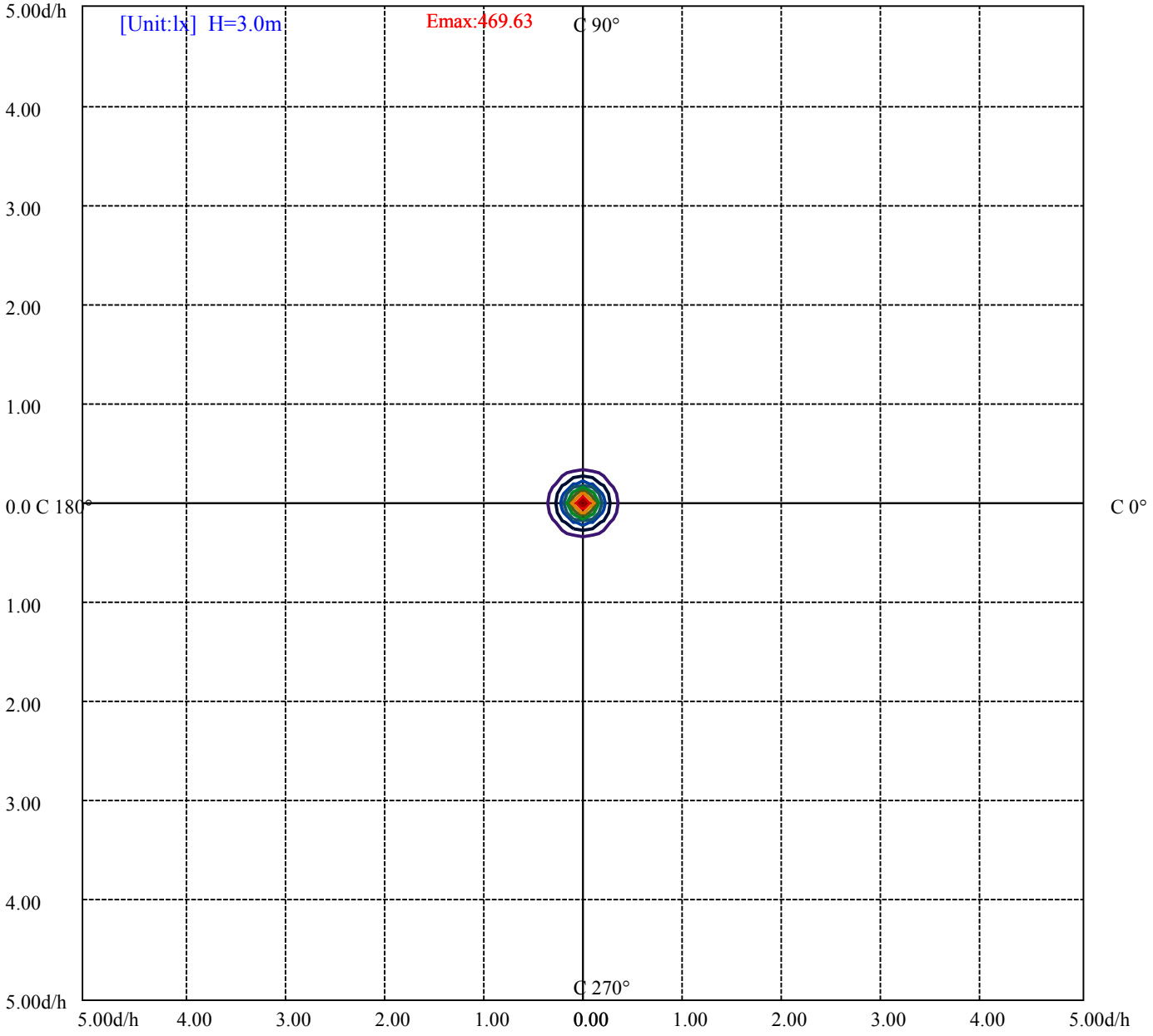
House [Unit:cd] Road

Imax:4226.62

(10%Imax) 422.662
(20%Imax) 845.324
(30%Imax) 1267.99
(40%Imax) 1690.65
(50%Imax) 2113.31
(60%Imax) 2535.97
(70%Imax) 2958.64
(80%Imax) 3381.3
(90%Imax) 3803.96

Equipment: GMS1980 Date: 2022/11/30 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.73

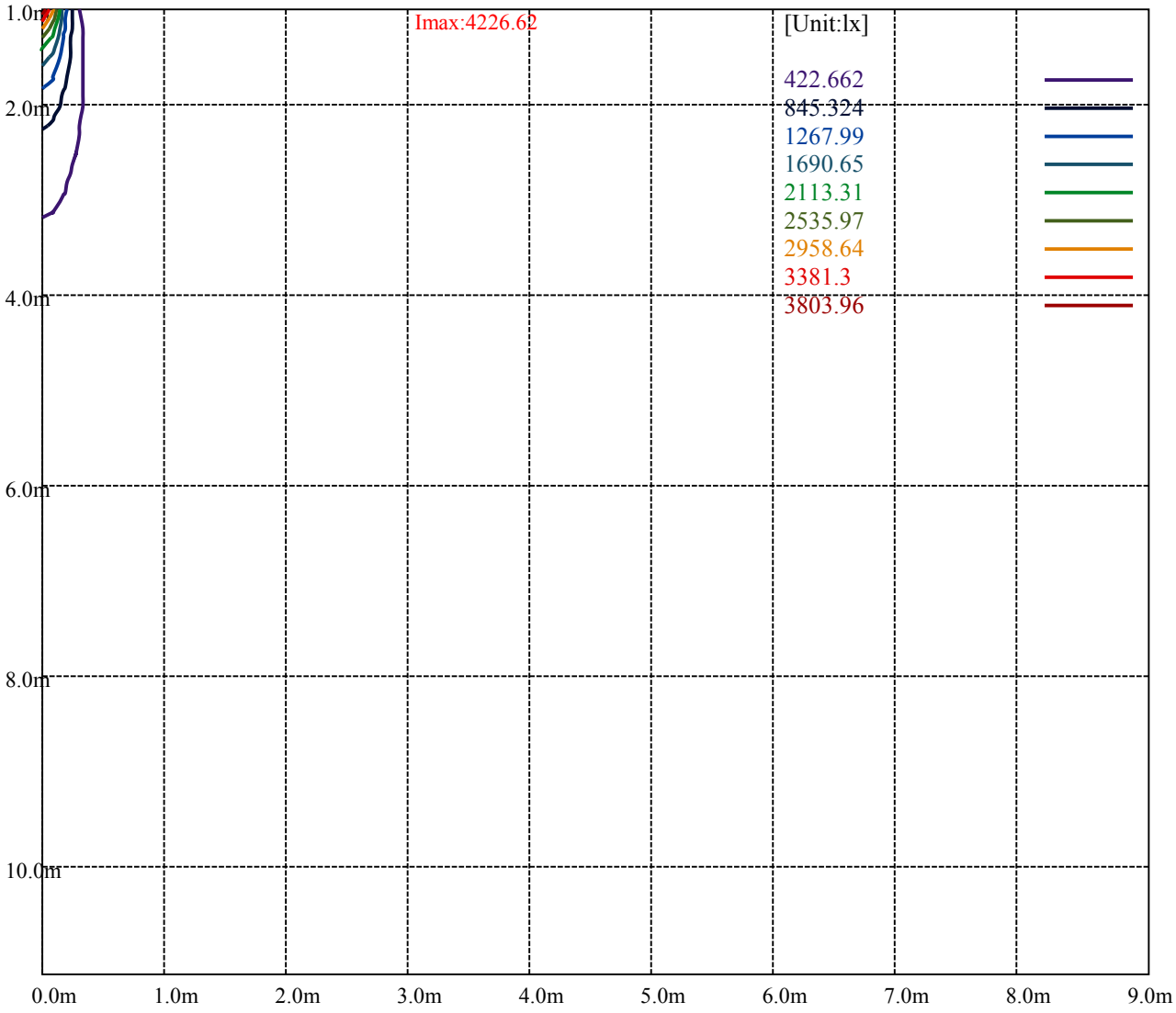
ISO illuminance diagram



(10%Emax) 46.96244
(20%Emax) 93.92477
(30%Emax) 140.8867
(40%Emax) 187.85
(50%Emax) 234.8122
(60%Emax) 281.7744
(70%Emax) 328.7367
(80%Emax) 375.6989
(90%Emax) 422.6611

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2022/11/30
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.73

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/11/30
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

1-1005-M

Luminance Limitting Curve(no luminous side)

Luminance Table

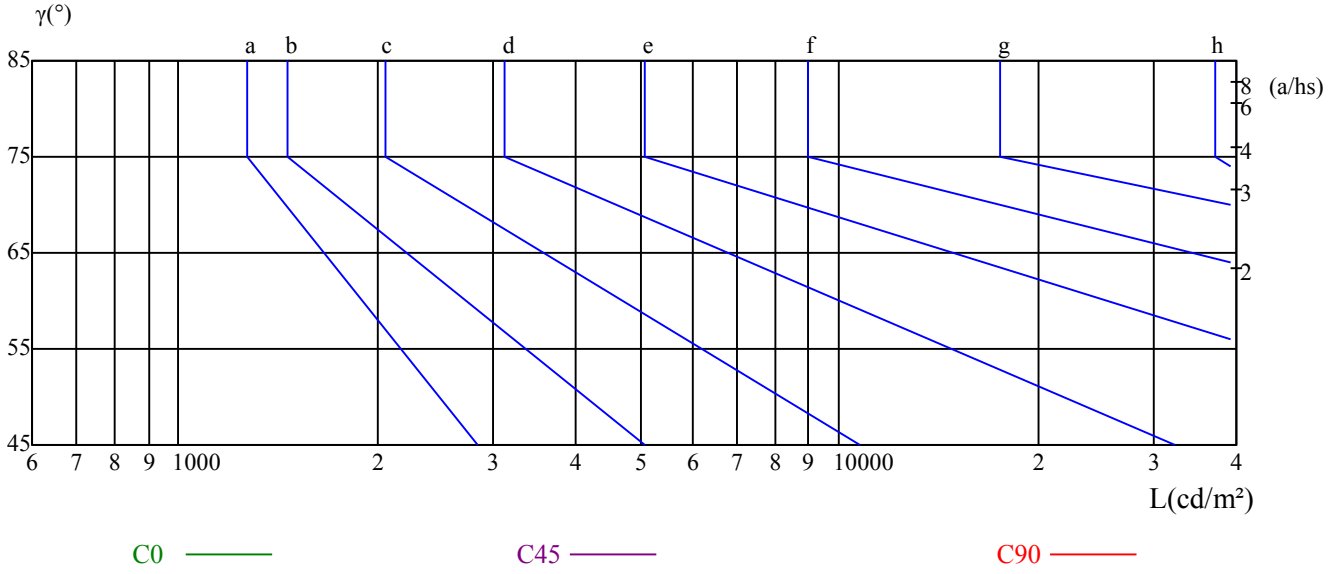
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

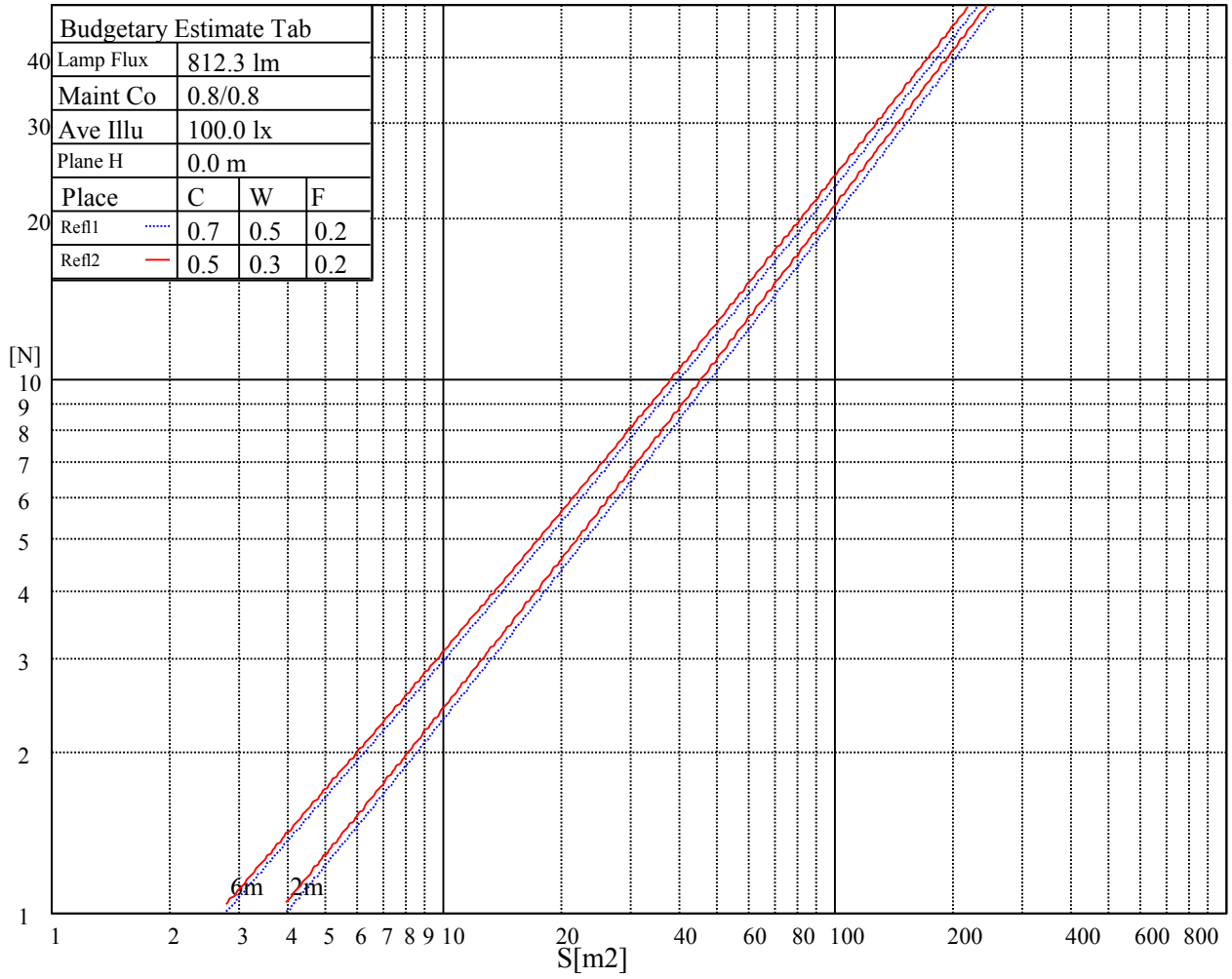
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limitting Curve



Equipment: GMS1980 Date: 2022/11/30 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.73

Budgetary Estimate Table

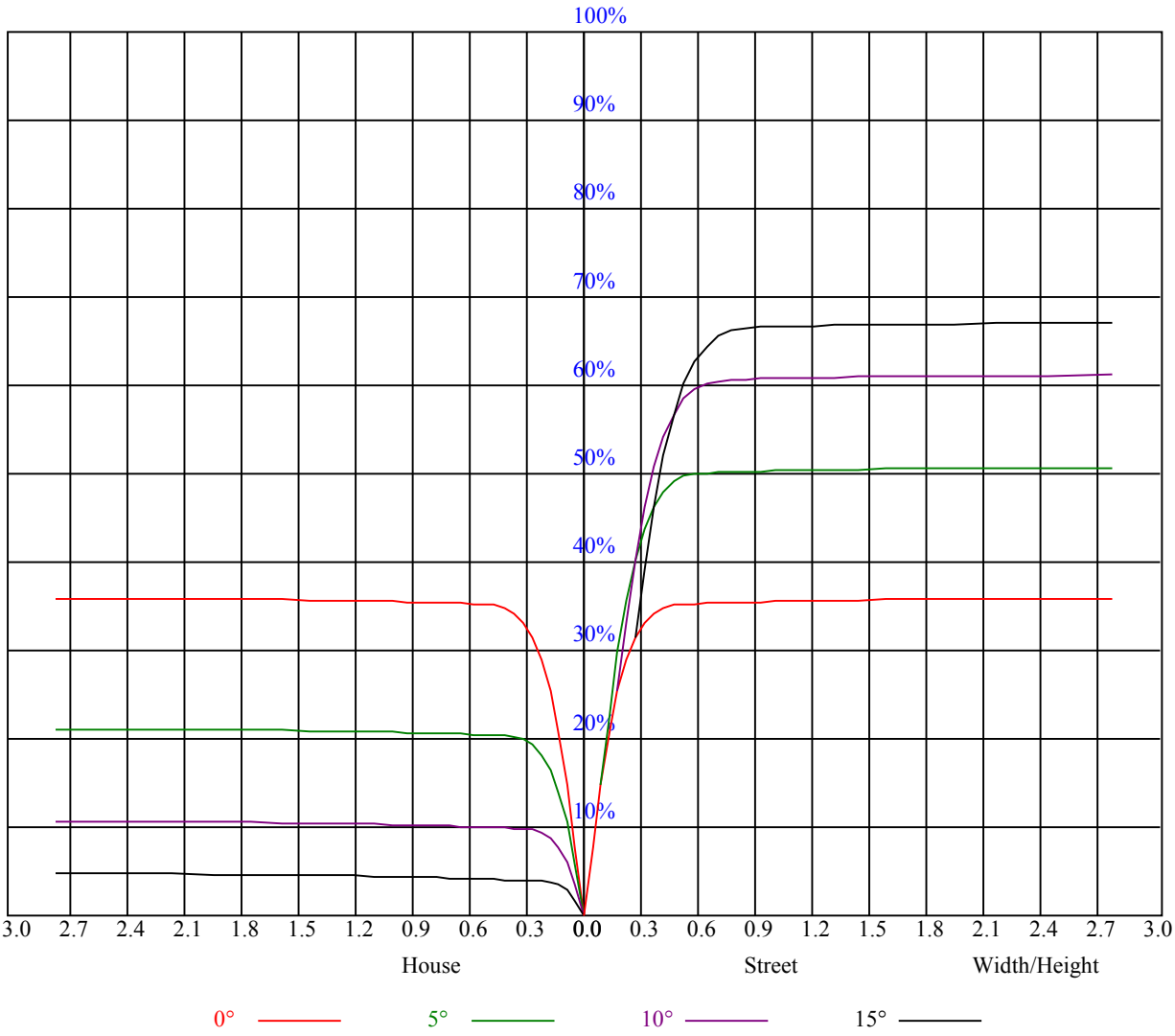


Equipment: GMS1980 Date: 2022/11/30 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.73

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	0.81	0.81	0.81	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	0.73	0.75	0.73	0.72	0.73	0.71	0.70	0.71	0.70	0.69	0.68
3	0.75	0.73	0.71	0.74	0.72	0.70	0.72	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	0.69	0.67	0.70	0.68	0.67	0.69	0.67	0.66	0.68	0.66	0.65	0.64
5	0.70	0.68	0.66	0.70	0.67	0.65	0.69	0.66	0.65	0.68	0.66	0.64	0.67	0.65	0.64	0.63
6	0.68	0.66	0.64	0.68	0.65	0.63	0.67	0.65	0.63	0.66	0.64	0.63	0.65	0.64	0.62	0.62
7	0.67	0.64	0.62	0.66	0.64	0.62	0.65	0.63	0.61	0.65	0.63	0.61	0.64	0.62	0.61	0.60
8	0.65	0.62	0.60	0.65	0.62	0.60	0.64	0.62	0.60	0.63	0.61	0.60	0.63	0.61	0.60	0.59
9	0.63	0.61	0.59	0.63	0.61	0.59	0.63	0.60	0.59	0.62	0.60	0.59	0.62	0.60	0.58	0.58
10	0.62	0.59	0.58	0.62	0.59	0.58	0.61	0.59	0.58	0.61	0.59	0.57	0.60	0.59	0.57	0.57

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2022/11/30	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	4216.16	4220.35	4151.03	3981.34	3755.47	3487.18	3128.06	2832.29	2540.69
45.0	4216.76	4139.08	3978.35	3791.92	3472.84	3192.60	2892.04	2512.61	2231.77
90.0	4233.49	4156.41	4007.63	3801.48	3512.87	3226.66	2881.28	2530.54	2234.76
135.0	4240.07	4225.73	4122.95	3953.85	3723.20	3453.72	3080.26	2772.53	2473.17
180.0	4216.16	4127.73	3968.19	3741.73	3434.60	3141.21	2804.80	2480.34	2210.86
225.0	4216.76	4203.62	4116.38	3912.62	3706.47	3426.83	3024.69	2775.52	2501.85
270.0	4233.49	4219.75	4136.69	3952.06	3709.46	3426.83	3061.74	2773.13	2497.07
315.0	4240.07	4179.72	4031.53	3815.22	3520.04	3233.83	2900.41	2578.34	2305.86
360.0	4216.16	4220.35	4151.03	3981.34	3755.47	3487.18	3128.06	2832.29	2540.69

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2234.76	1955.11	1722.68	1480.68	1263.77	1092.28	921.99	789.34	656.68
45.0	1967.66	1660.53	1432.87	1229.71	1008.03	856.26	724.80	596.33	483.40
90.0	1928.23	1650.38	1427.50	1178.33	1008.33	860.38	730.66	602.91	490.45
135.0	2161.26	1873.85	1640.81	1407.78	1202.83	1043.29	887.93	766.03	642.94
180.0	1934.80	1690.41	1498.01	1187.41	1116.66	1004.21	888.70	769.56	664.03
225.0	2215.04	1953.92	1743.59	1530.87	1344.44	1177.61	1066.95	939.73	826.68
270.0	2209.06	1948.54	1738.21	1526.69	1338.46	1190.28	1042.09	926.17	808.46
315.0	2056.10	1772.87	1566.72	1379.10	1169.84	1025.72	899.28	770.45	655.01
360.0	2234.76	1955.11	1722.68	1480.68	1263.77	1092.28	921.99	789.34	656.68

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	543.75	457.11	377.64	305.34	219.89	161.81	101.16	63.28	36.69
45.0	394.37	306.53	265.30	171.19	114.61	75.23	42.48	24.08	18.82
90.0	402.79	316.15	241.40	182.43	125.12	83.42	47.50	26.35	18.05
135.0	540.76	460.69	383.02	301.75	221.92	161.93	106.18	59.57	32.63
180.0	583.85	496.19	406.02	327.92	255.32	180.69	116.40	70.93	34.66
225.0	735.80	643.00	568.91	481.73	390.66	310.95	225.81	150.94	95.13
270.0	702.10	622.03	547.34	449.34	368.68	301.75	215.77	136.83	84.79
315.0	571.60	481.73	406.14	321.35	241.34	178.30	115.74	66.09	35.25
360.0	543.75	457.11	377.64	305.34	219.89	161.81	101.16	63.28	36.69

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	21.39	15.60	10.99	7.29	6.45	6.04	5.68	5.44	5.20
45.0	14.82	10.22	7.11	6.39	5.98	5.68	5.44	5.26	5.02
90.0	13.86	9.50	7.29	6.57	6.09	5.80	5.56	5.32	5.14
135.0	18.82	10.93	7.95	6.81	6.09	5.68	5.44	5.14	4.90
180.0	16.79	8.37	6.33	5.74	5.32	5.02	4.78	4.60	4.42
225.0	53.90	21.39	9.02	6.63	5.80	5.44	5.08	4.78	4.54
270.0	45.95	17.51	9.02	7.17	6.39	5.92	5.56	5.26	5.02
315.0	18.52	10.82	7.71	6.69	6.09	5.74	5.50	5.26	5.02
360.0	21.39	15.60	10.99	7.29	6.45	6.04	5.68	5.44	5.20

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	5.02	4.90	4.72	4.66	4.54	4.48	4.42	4.36	4.30
45.0	4.90	4.78	4.72	4.60	4.54	4.48	4.36	4.30	4.30
90.0	4.90	4.78	4.72	4.60	4.48	4.42	4.30	4.24	4.18
135.0	4.78	4.66	4.54	4.48	4.36	4.30	4.24	4.18	4.12
180.0	4.30	4.24	4.12	4.00	3.94	3.88	3.82	3.76	3.70
225.0	4.36	4.24	4.12	3.94	3.88	3.82	3.76	3.70	3.64
270.0	4.84	4.60	4.48	4.36	4.24	4.12	4.12	4.06	4.00
315.0	4.90	4.72	4.60	4.48	4.36	4.30	4.24	4.24	4.18
360.0	5.02	4.90	4.72	4.66	4.54	4.48	4.42	4.36	4.30

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	4.24	4.24	4.18	4.18	4.18	4.12	4.12	4.12	4.06
45.0	4.24	4.18	4.18	4.12	4.06	4.00	4.00	4.00	4.00
90.0	4.12	4.12	4.06	4.00	3.94	3.88	3.88	3.88	3.82
135.0	4.06	4.00	4.00	4.00	3.88	3.88	3.88	3.88	3.88
180.0	3.64	3.64	3.59	3.59	3.53	3.53	3.47	3.47	3.47
225.0	3.59	3.59	3.53	3.53	3.47	3.47	3.41	3.41	3.35
270.0	3.94	3.88	3.82	3.76	3.76	3.76	3.70	3.64	3.64
315.0	4.12	4.06	4.06	4.00	4.00	3.94	3.94	3.94	3.88
360.0	4.24	4.24	4.18	4.18	4.18	4.12	4.12	4.12	4.06

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	4.12	4.06	4.06	4.06	4.06	4.06	4.06	4.06	4.06
45.0	3.94	3.94	3.88	3.88	3.82	3.82	3.82	3.82	3.76
90.0	3.82	3.76	3.76	3.70	3.70	3.64	3.70	3.64	3.64
135.0	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82
180.0	3.47	3.41	3.41	3.41	3.41	3.41	3.41	3.41	3.35
225.0	3.35	3.35	3.35	3.29	3.29	3.29	3.23	3.23	3.23
270.0	3.64	3.64	3.59	3.59	3.53	3.53	3.53	3.53	3.47
315.0	3.88	3.88	3.88	3.82	3.82	3.76	3.76	3.76	3.76
360.0	4.12	4.06	4.06	4.06	4.06	4.06	4.06	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	4.06	4.06	4.06	4.06	4.06	4.00	3.94	3.94
45.0	3.76	3.76	3.76	3.70	3.64	3.64	3.64	3.64	3.59
90.0	3.64	3.59	3.59	3.59	3.53	3.53	3.53	3.47	3.47
135.0	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.76	3.76
180.0	3.35	3.35	3.35	3.29	3.29	3.23	3.23	3.23	3.17
225.0	3.23	3.23	3.23	3.17	3.17	3.17	3.11	3.11	3.11
270.0	3.47	3.47	3.47	3.47	3.41	3.41	3.35	3.35	3.35
315.0	3.76	3.70	3.64	3.64	3.64	3.59	3.59	3.53	3.53
360.0	4.06	4.06	4.06	4.06	4.06	4.06	4.00	3.94	3.94

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.88	3.82	3.70	3.64	3.53	3.41	3.35	3.41	3.47
45.0	3.59	3.53	3.53	3.47	3.47	3.41	3.41	3.41	3.35
90.0	3.41	3.47	3.47	3.41	3.47	3.41	3.41	3.23	3.17
135.0	3.76	4.00	4.30	4.78	4.90	5.38	4.90	3.53	2.99
180.0	3.17	3.11	3.11	3.05	2.99	2.99	2.99	2.93	2.87
225.0	3.11	3.05	3.05	3.05	2.99	2.93	2.93	2.93	2.93
270.0	3.35	3.35	3.35	3.29	3.29	3.29	3.23	3.17	3.11
315.0	3.47	3.41	3.35	3.29	3.29	3.41	3.59	3.23	3.05
360.0	3.88	3.82	3.70	3.64	3.53	3.41	3.35	3.41	3.47

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	3.11	3.11	3.17	3.23	3.35	3.47	2.69	2.63	2.63
45.0	3.35	3.35	3.35	3.41	2.75	2.69	2.69	2.63	2.63
90.0	3.11	3.05	3.05	3.11	2.69	2.69	2.63	2.63	2.63
135.0	2.93	2.87	2.87	2.87	2.69	2.63	2.63	2.63	2.57
180.0	2.87	2.87	2.87	2.87	2.63	2.63	2.57	2.57	2.57
225.0	2.87	2.87	2.87	2.87	2.87	2.87	2.63	2.63	2.63
270.0	3.05	2.93	2.81	2.81	2.75	2.81	2.69	2.69	2.63
315.0	2.93	2.87	2.87	2.87	2.87	2.87	2.69	2.63	2.57
360.0	3.11	3.11	3.17	3.23	3.35	3.47	2.69	2.63	2.63

Intensity data(cd)

C/γ(°)	90.0
0.0	2.57
45.0	2.57
90.0	2.63
135.0	2.63
180.0	2.63
225.0	2.63
270.0	2.63
315.0	2.63
360.0	2.57