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

Nata

LumCAT: 1-0941-N
Luminaire: 92.70.360.00
Report No: 220513-B004
Test No: 220513-C004
LampCAT: NICHIA NTCWT012B-V3
Lamp flux(lm): 754.4
Number of Lamps: 1
Length(mm): 43
Phm Type: C

Voltage(V): 37.0500
Current(A): 0.1720
Power (W): 6.3720
PF: 0.0000
Ballast type: DC
Width(mm): 43
Height(mm): 0

Photometric Results

Lumens(lm): 602.71
Efficiency(%): 79.90%
Lumens(lm)/Power(W): 94.59
Central intensity(cd): 2887.409
Maximum intensity(cd): 2887.409
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=21.6
[C90/270]Total=21.6
Field angle(10%Imax): [C0/180]Total=48.1
[C90/270]Total=48.1
Maximum s/h(1/2): C0_180=0.37 C90_270=0.37
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(%): 79.90%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.298%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2887.410	0.000	0	.000%	.000%
1.0	2871.426	2.755	2.755	.365%	.457%
2.0	2812.420	8.158	10.913	1.081%	1.811%
3.0	2720.400	13.233	24.146	1.754%	4.006%
4.0	2610.455	17.844	41.99	2.365%	6.967%
5.0	2471.305	21.861	63.852	2.898%	10.594%
6.0	2311.616	25.136	88.987	3.332%	14.764%
7.0	2144.606	27.660	116.647	3.667%	19.354%
8.0	1970.501	29.451	146.098	3.904%	24.240%
9.0	1782.728	30.418	176.516	4.032%	29.287%
10.0	1589.950	30.521	207.037	4.046%	34.351%
11.0	1407.868	29.954	236.992	3.971%	39.321%
12.0	1240.194	28.947	265.939	3.837%	44.124%
13.0	1095.599	27.720	293.659	3.675%	48.723%
14.0	962.141	26.339	319.998	3.492%	53.093%
15.0	847.072	24.838	344.835	3.293%	57.214%
16.0	745.074	23.329	368.165	3.093%	61.084%
17.0	654.220	21.791	389.956	2.889%	64.700%
18.0	578.326	20.322	410.278	2.694%	68.072%
19.0	518.752	19.087	429.364	2.530%	71.238%
20.0	461.681	17.945	447.309	2.379%	74.216%
21.0	409.315	16.725	464.034	2.217%	76.991%
22.0	364.239	15.545	479.579	2.061%	79.570%
23.0	323.174	14.424	494.003	1.912%	81.963%
24.0	290.295	13.413	507.415	1.778%	84.188%
25.0	252.777	12.348	519.764	1.637%	86.237%
26.0	215.349	11.050	530.814	1.465%	88.070%
27.0	182.209	9.726	540.54	1.289%	89.684%
28.0	150.465	8.423	548.963	1.117%	91.082%
29.0	119.132	7.053	556.016	.935%	92.252%
30.0	92.139	5.704	561.72	.756%	93.198%
31.0	67.020	4.429	566.15	.587%	93.933%
32.0	46.660	3.257	569.406	.432%	94.474%
33.0	33.096	2.350	571.756	.311%	94.863%
34.0	25.186	1.764	573.52	.234%	95.156%
35.0	21.504	1.450	574.97	.192%	95.397%
36.0	19.397	1.302	576.272	.173%	95.613%
37.0	17.672	1.209	577.481	.160%	95.813%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	16.118	1.128	578.609	.150%	96.000%
39.0	14.722	1.053	579.662	.140%	96.175%
40.0	13.564	0.986	580.648	.131%	96.339%
41.0	12.511	0.929	581.577	.123%	96.493%
42.0	11.525	0.873	582.45	.116%	96.638%
43.0	10.681	0.823	583.272	.109%	96.774%
44.0	9.919	0.777	584.05	.103%	96.903%
45.0	9.209	0.735	584.785	.097%	97.025%
46.0	8.560	0.695	585.48	.092%	97.140%
47.0	7.970	0.657	586.137	.087%	97.250%
48.0	7.447	0.623	586.761	.083%	97.353%
49.0	6.946	0.591	587.352	.078%	97.451%
50.0	6.476	0.560	587.911	.074%	97.544%
51.0	6.095	0.532	588.443	.071%	97.632%
52.0	5.766	0.509	588.952	.067%	97.717%
53.0	5.445	0.488	589.44	.065%	97.797%
54.0	5.169	0.468	589.907	.062%	97.875%
55.0	4.959	0.452	590.36	.060%	97.950%
56.0	4.735	0.438	590.798	.058%	98.023%
57.0	4.571	0.426	591.223	.056%	98.093%
58.0	4.452	0.417	591.64	.055%	98.163%
59.0	4.340	0.411	592.051	.054%	98.231%
60.0	4.235	0.405	592.456	.054%	98.298%
61.0	4.138	0.400	592.856	.053%	98.364%
62.0	4.048	0.394	593.251	.052%	98.430%
63.0	3.996	0.391	593.642	.052%	98.495%
64.0	3.921	0.388	594.03	.051%	98.559%
65.0	3.839	0.384	594.414	.051%	98.623%
66.0	3.779	0.380	594.794	.050%	98.686%
67.0	3.705	0.376	595.171	.050%	98.748%
68.0	3.623	0.371	595.542	.049%	98.810%
69.0	3.548	0.366	595.908	.048%	98.871%
70.0	3.466	0.360	596.268	.048%	98.930%
71.0	3.413	0.356	596.623	.047%	98.989%
72.0	3.339	0.351	596.975	.047%	99.048%
73.0	3.279	0.346	597.321	.046%	99.105%
74.0	3.227	0.342	597.663	.045%	99.162%
75.0	3.174	0.338	598.001	.045%	99.218%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.122	0.334	598.335	.044%	99.273%
77.0	3.077	0.331	598.666	.044%	99.328%
78.0	3.040	0.327	598.993	.043%	99.383%
79.0	2.980	0.323	599.316	.043%	99.436%
80.0	2.965	0.321	599.637	.042%	99.489%
81.0	2.928	0.319	599.956	.042%	99.542%
82.0	2.950	0.319	600.274	.042%	99.595%
83.0	3.130	0.331	600.605	.044%	99.650%
84.0	3.025	0.335	600.94	.044%	99.706%
85.0	3.062	0.332	601.273	.044%	99.761%
86.0	2.868	0.324	601.597	.043%	99.815%
87.0	2.562	0.297	601.894	.039%	99.864%
88.0	2.510	0.278	602.172	.037%	99.910%
89.0	2.465	0.273	602.444	.036%	99.955%
90.0	2.465	0.270	602.715	.036%	100.000%

Zonal flux distribution table

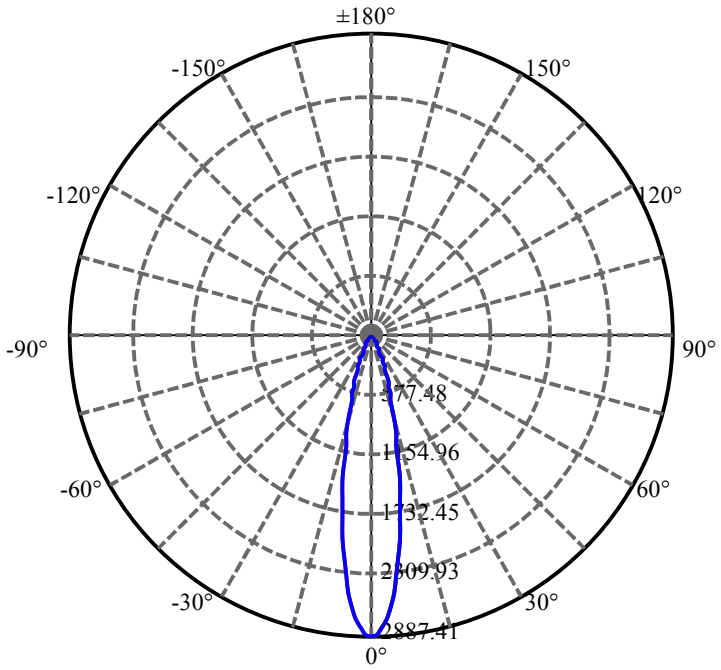
ZONAL LUMEN SUMMARY

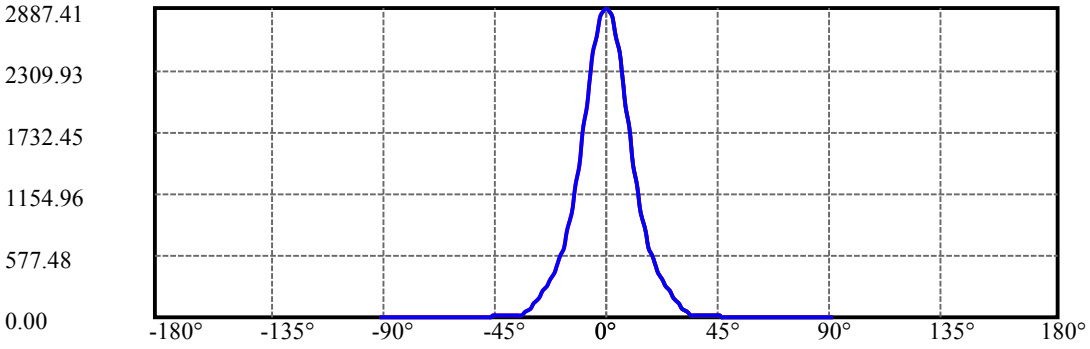
Zone	Lumens	%Lamp	%Fixt
0-30	561.72	74.46%	93.20%
0-40	580.65	76.97%	96.34%
0-60	592.46	78.54%	98.30%
0-90	602.44	79.86%	99.96%
0-120	602.44	79.86%	99.96%
0-180	602.71	79.90%	100.00%
60-90	10.39	1.38%	1.72%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-22.18	482.17	63.92%	80.00%

ZONAL LUMEN SUMMARY

0-10	207.04
10-20	240.27
20-30	114.41
30-40	18.93
40-50	7.26
50-60	4.55
60-70	3.81
70-80	3.37
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):

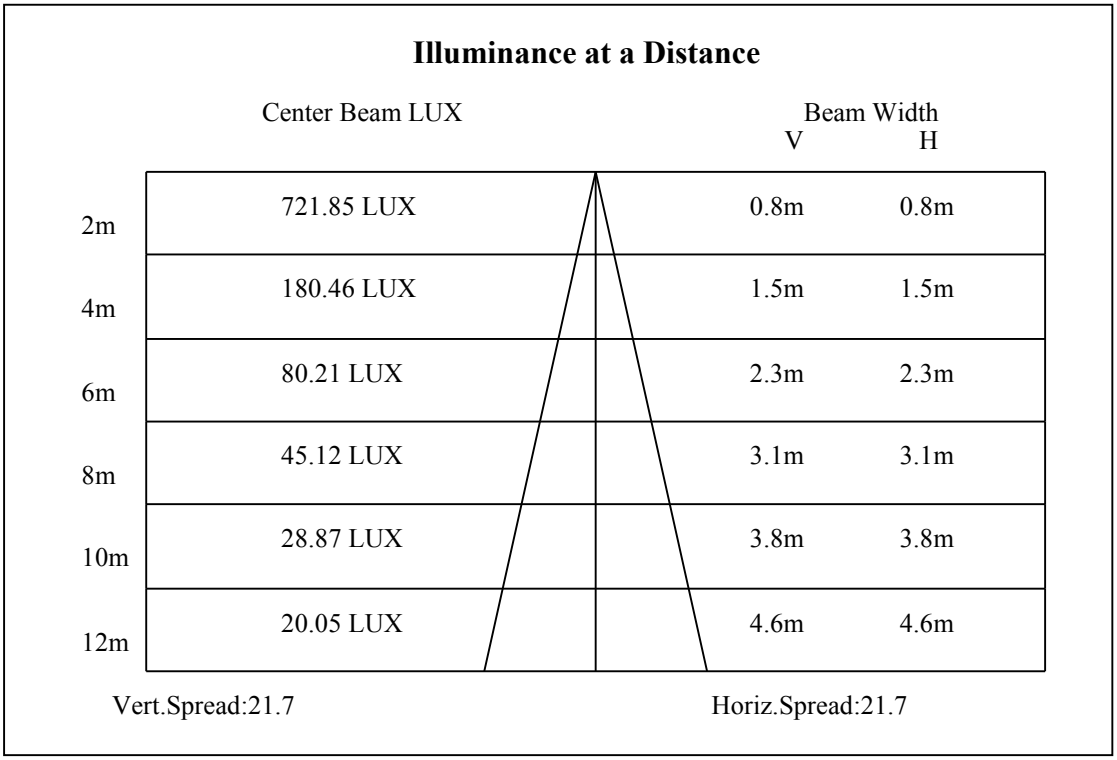
C0/C180:

C90/C270:

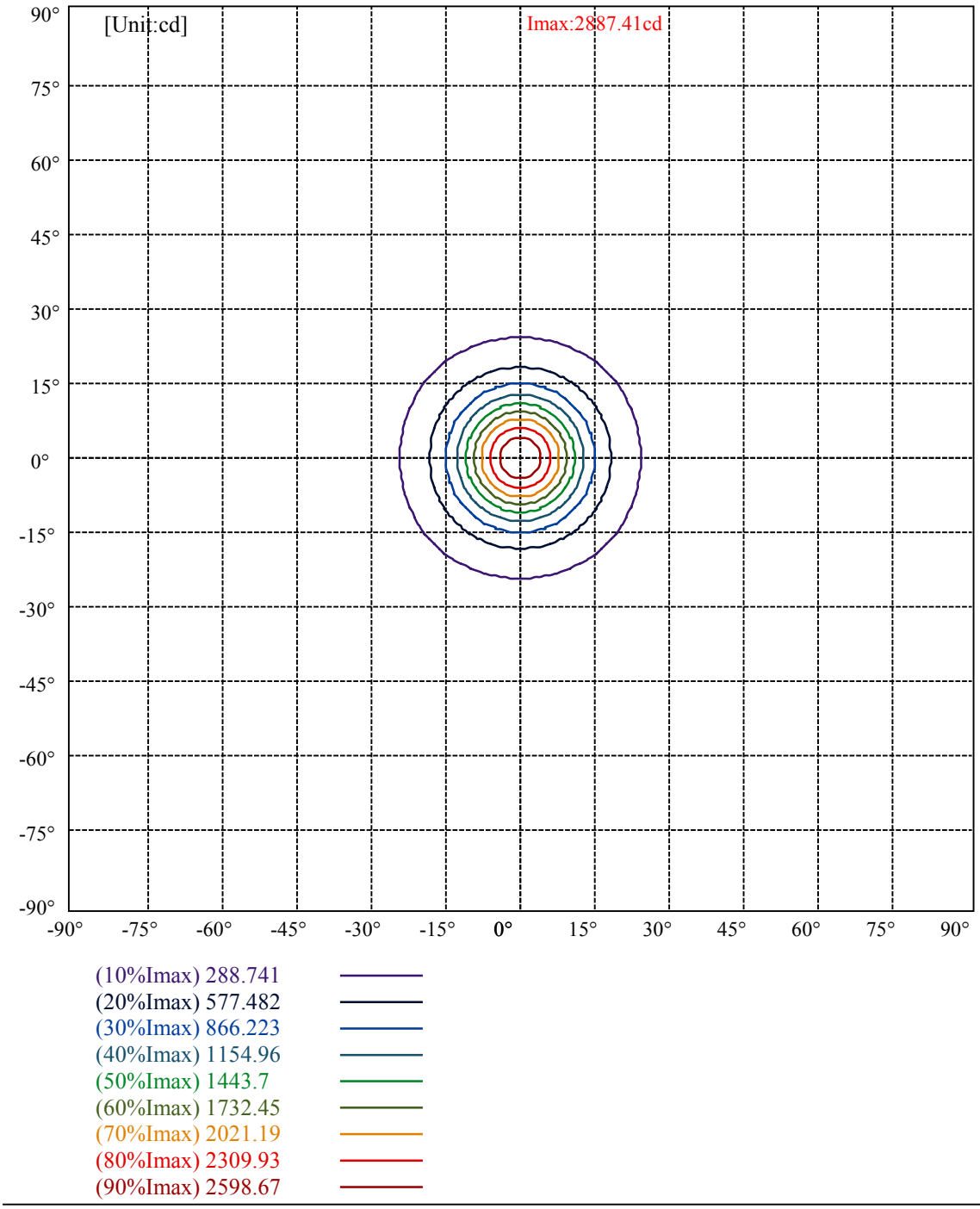
Field angle(10%Imax):C0/180Left:24.0 Right:24.0
:C90/270Left:24.0 Right:24.0

Beam Angle(50%Imax):C0/180Left:10.8 Right:10.8
:C90/270Left:10.8 Right:10.8

Lux distance Curve



ISO-Intensity(V-H)



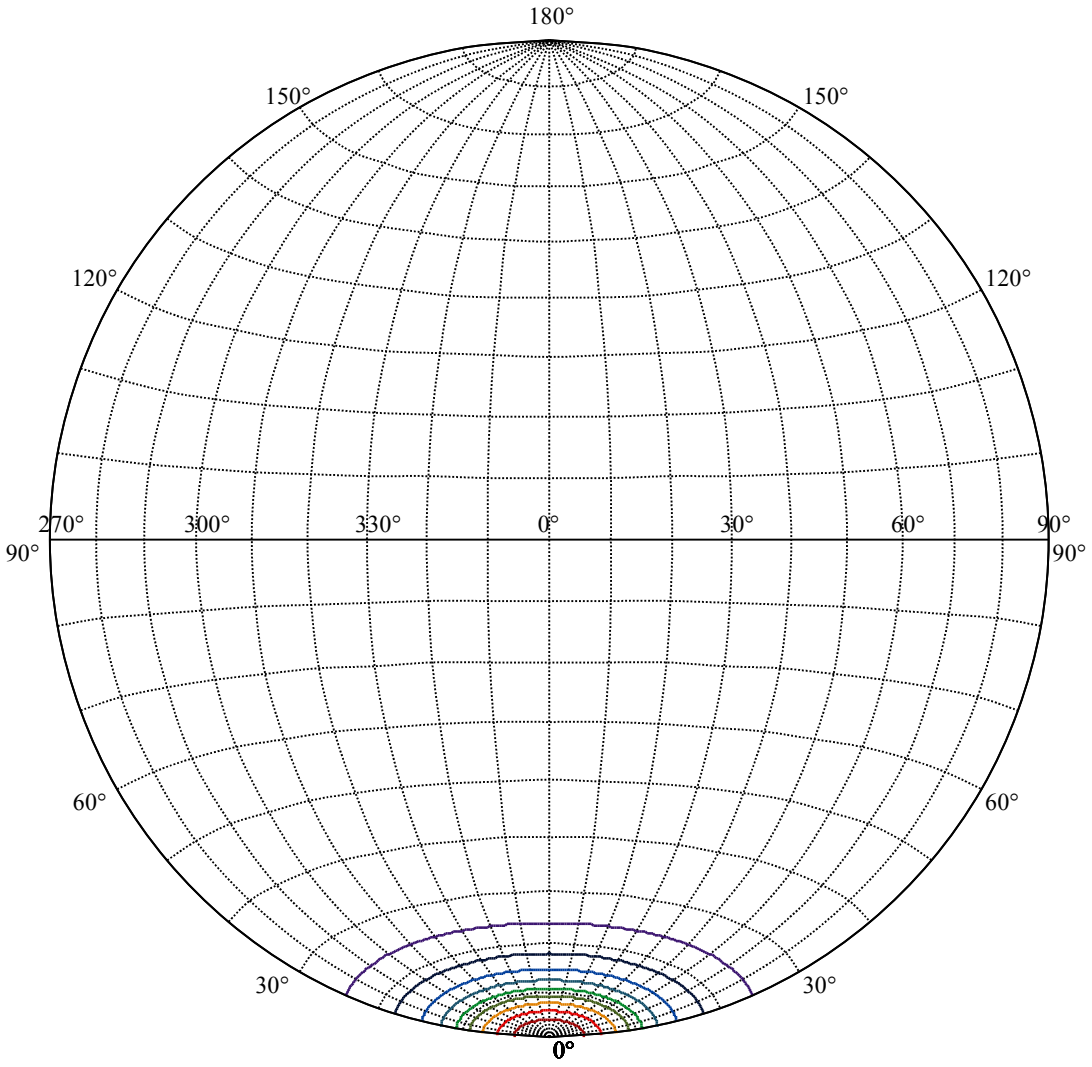
(10%Imax) 288.741
(20%Imax) 577.482
(30%Imax) 866.223
(40%Imax) 1154.96
(50%Imax) 1443.7
(60%Imax) 1732.45
(70%Imax) 2021.19
(80%Imax) 2309.93
(90%Imax) 2598.67

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/5/13
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:2887.41

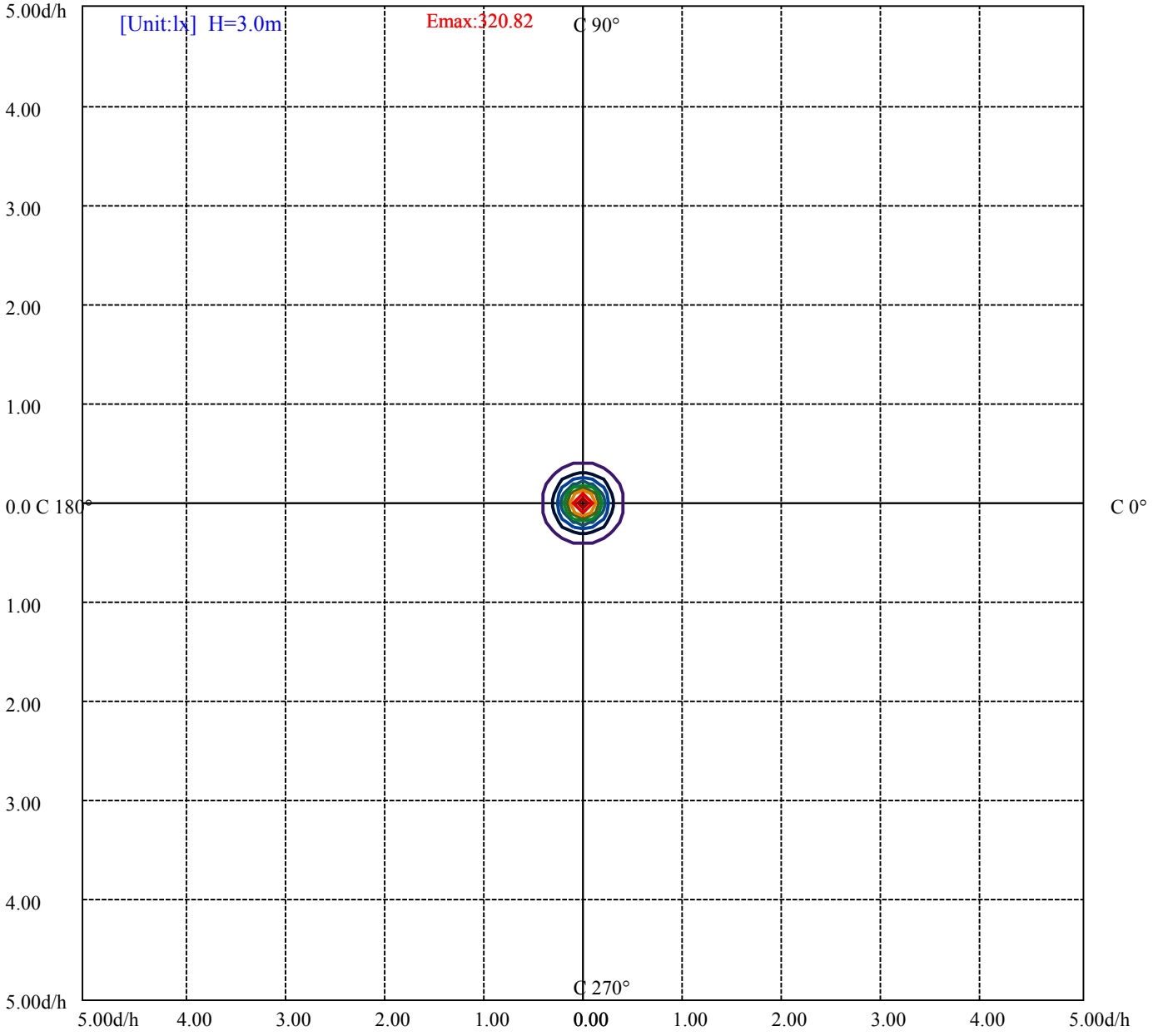
(10%Imax) 288.741
(20%Imax) 577.482
(30%Imax) 866.223
(40%Imax) 1154.96
(50%Imax) 1443.7
(60%Imax) 1732.45
(70%Imax) 2021.19
(80%Imax) 2309.93
(90%Imax) 2598.67

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/5/13
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

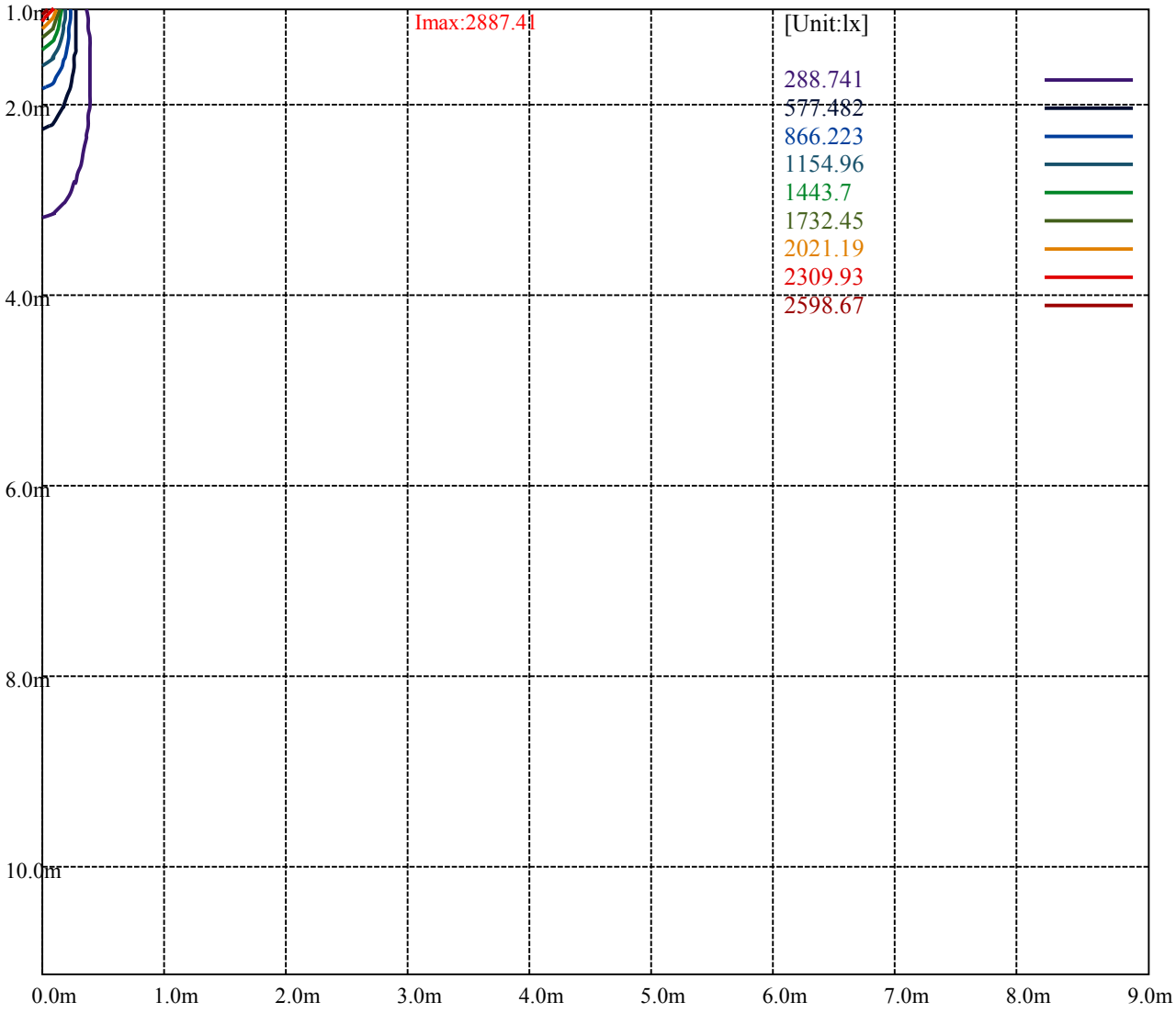
ISO illuminance diagram



(10%Emax) 32.08233
(20%Emax) 64.16456
(30%Emax) 96.24689
(40%Emax) 128.3289
(50%Emax) 160.4111
(60%Emax) 192.4933
(70%Emax) 224.5756
(80%Emax) 256.6589
(90%Emax) 288.7411

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2022/5/13
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.73

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/5/13
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Luminance Limitting Curve(no luminous side)

Luminance Table

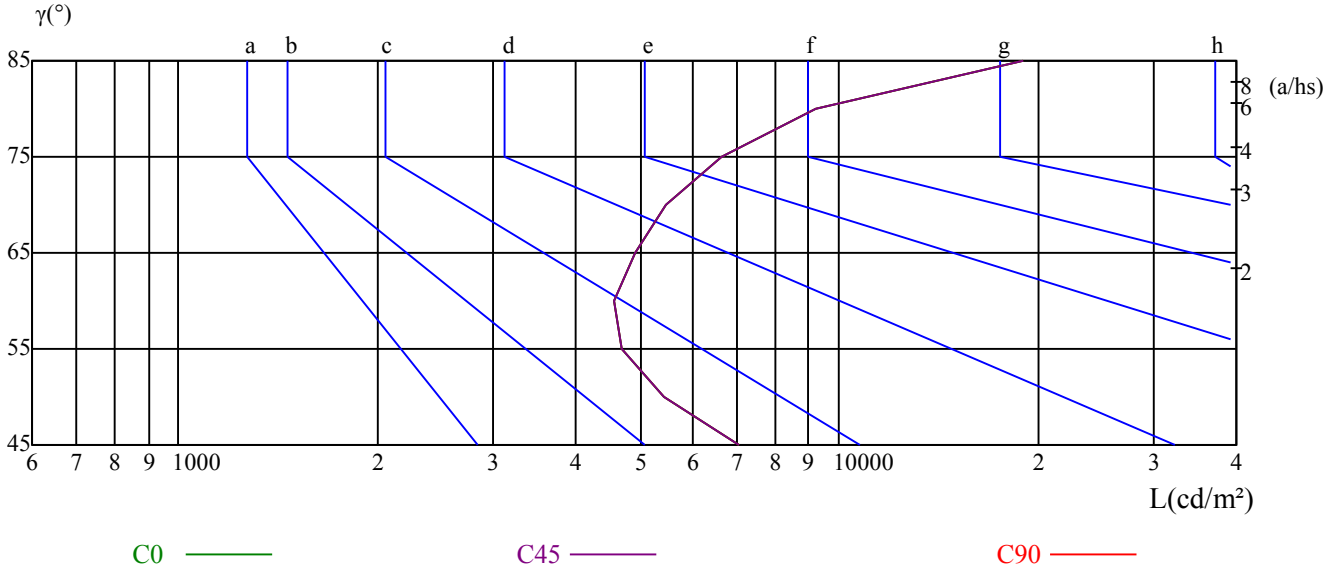
γ	45	50	55	60	65	70	75	80	85
C0	7044	5449	4676	4581	4913	5480	6633	9235	19003
C45	7044	5449	4676	4581	4913	5480	6633	9235	19003
C90	7044	5449	4676	4581	4913	5480	6633	9235	19003

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4913	4913	4913	6633	6633	6633	19003	19003	19003

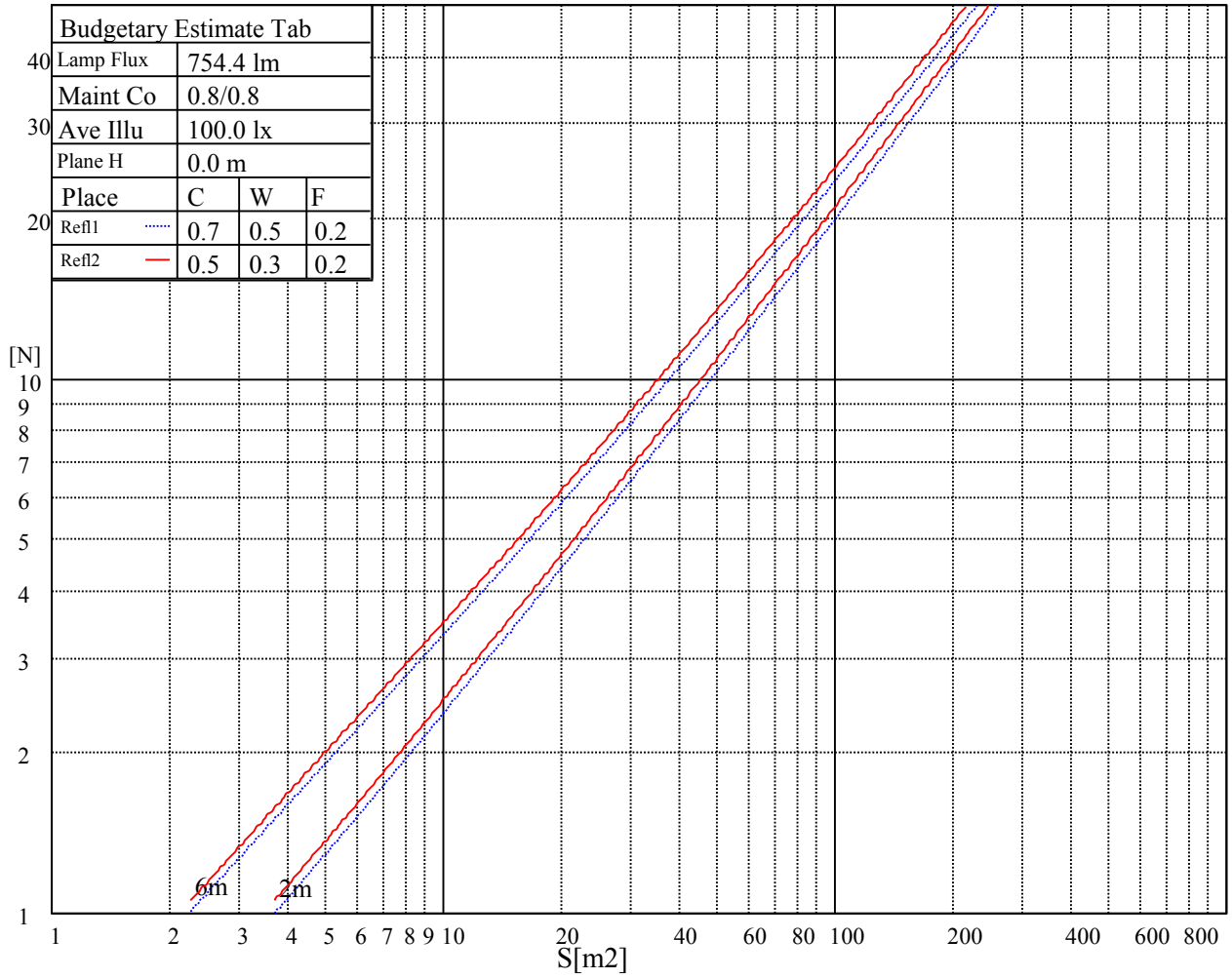
Glare Table

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

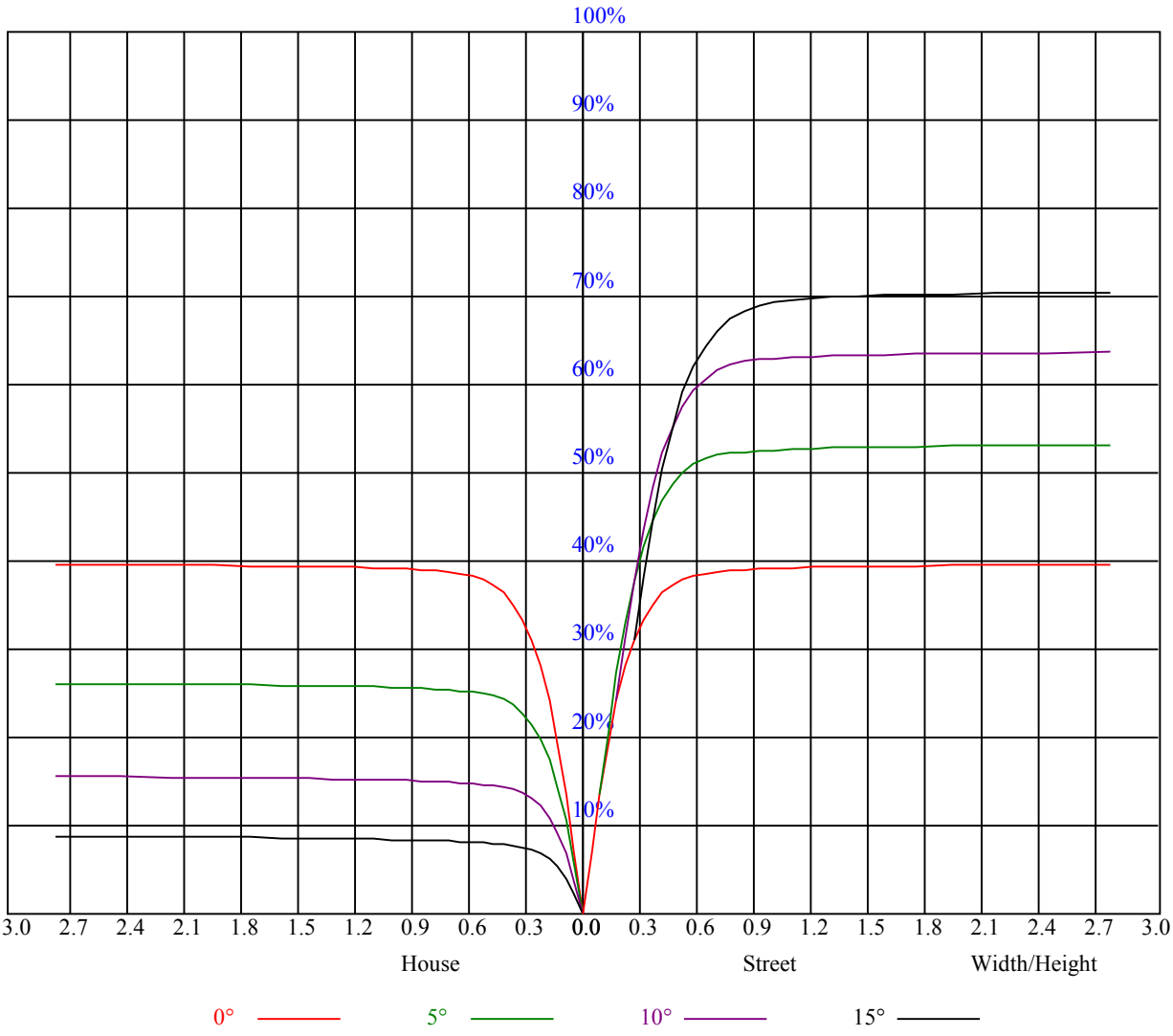


Equipment: GMS1980 Date: 2022/5/13 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.73

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	0.95	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	0.88	0.87	0.88	0.86	0.85	0.85	0.84	0.83	0.82	0.81	0.80	0.79	0.78	0.78	0.76
2	0.85	0.83	0.80	0.84	0.81	0.80	0.81	0.79	0.78	0.79	0.77	0.76	0.77	0.76	0.75	0.73
3	0.81	0.78	0.76	0.80	0.77	0.75	0.78	0.76	0.74	0.76	0.74	0.73	0.75	0.73	0.72	0.71
4	0.78	0.75	0.72	0.77	0.74	0.72	0.75	0.73	0.71	0.74	0.72	0.70	0.73	0.71	0.69	0.68
5	0.75	0.71	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.72	0.69	0.67	0.71	0.68	0.67	0.66
6	0.72	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.69	0.66	0.65	0.64
7	0.70	0.66	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.68	0.65	0.63	0.67	0.64	0.63	0.62
8	0.67	0.64	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.60
9	0.65	0.62	0.60	0.65	0.62	0.60	0.64	0.61	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.58
10	0.64	0.60	0.58	0.63	0.60	0.58	0.63	0.60	0.58	0.62	0.59	0.58	0.62	0.59	0.57	0.57

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2022/5/13	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	2853.20	2880.09	2857.98	2811.37	2707.40	2592.68	2458.23	2271.81	2113.46
45.0	2892.64	2882.48	2822.73	2740.27	2648.85	2479.15	2338.13	2198.91	1988.58
90.0	2910.56	2897.42	2840.65	2746.24	2636.90	2509.02	2325.58	2167.24	1998.73
135.0	2893.24	2890.25	2841.85	2769.55	2657.81	2521.57	2379.36	2207.27	2047.13
180.0	2853.20	2807.19	2716.96	2582.52	2474.37	2338.13	2124.22	1977.82	1806.93
225.0	2892.64	2866.94	2801.22	2702.03	2591.48	2428.36	2301.08	2128.40	1940.77
270.0	2910.56	2884.87	2820.34	2733.10	2605.23	2469.59	2304.67	2127.20	1960.49
315.0	2893.24	2862.16	2797.63	2678.12	2561.61	2431.94	2261.65	2078.21	1907.91
360.0	2853.20	2880.09	2857.98	2811.37	2707.40	2592.68	2458.23	2271.81	2113.46

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1946.15	1733.43	1563.14	1398.22	1206.41	1068.38	942.90	821.00	716.44
45.0	1793.78	1617.51	1425.70	1264.37	1103.64	960.23	849.69	741.53	648.32
90.0	1801.55	1606.16	1438.85	1186.33	1099.99	972.06	844.91	747.69	652.32
135.0	1855.93	1656.35	1484.86	1325.92	1142.48	1010.42	894.50	769.02	679.99
180.0	1612.73	1428.69	1184.42	1133.69	976.36	865.34	767.94	672.10	590.54
225.0	1768.69	1577.48	1394.04	1185.20	1098.98	943.74	837.74	743.39	661.05
270.0	1769.88	1578.07	1414.35	1259.59	1085.71	960.83	850.28	754.08	650.71
315.0	1713.12	1521.91	1357.59	1168.23	1051.23	916.13	788.62	711.78	634.40
360.0	1946.15	1733.43	1563.14	1398.22	1206.41	1068.38	942.90	821.00	716.44

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	638.76	566.46	505.51	455.91	403.93	360.31	318.48	301.75	246.78
45.0	576.62	522.24	455.32	410.50	366.29	320.87	302.95	253.83	219.59
90.0	573.09	514.41	463.03	406.62	364.25	324.70	284.24	254.01	222.76
135.0	602.91	537.18	473.84	427.23	378.83	335.21	304.74	262.79	225.99
180.0	529.17	468.04	419.58	369.57	324.16	290.22	253.23	215.59	183.80
225.0	574.94	516.50	465.12	404.35	359.29	319.56	281.50	243.07	209.55
270.0	583.79	525.23	460.69	412.89	366.88	322.67	302.35	253.59	209.02
315.0	547.34	499.95	450.36	387.44	350.27	311.85	274.86	237.58	205.31
360.0	638.76	566.46	505.51	455.91	403.93	360.31	318.48	301.75	246.78

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	212.96	173.94	145.74	118.73	87.18	64.83	45.95	31.97	24.86
45.0	186.91	157.99	123.57	95.72	68.36	47.56	33.64	24.56	20.91
90.0	187.15	155.06	126.32	95.60	72.12	48.64	32.33	24.26	20.50
135.0	190.85	161.81	128.53	100.98	71.11	50.37	35.19	24.92	20.38
180.0	155.18	119.98	93.99	71.29	49.00	33.88	26.05	21.75	19.60
225.0	175.97	146.39	113.29	85.86	63.70	44.04	31.07	24.98	22.47
270.0	176.93	146.93	112.04	87.12	64.23	41.47	30.23	24.44	21.39
315.0	171.73	141.61	109.59	81.80	60.47	42.48	30.29	24.62	21.93
360.0	212.96	173.94	145.74	118.73	87.18	64.83	45.95	31.97	24.86

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	22.05	19.72	18.05	16.37	14.82	13.68	12.55	11.53	10.70
45.0	19.18	17.57	15.89	14.82	13.62	12.49	11.47	10.76	9.98
90.0	18.52	17.09	15.77	14.34	13.32	12.37	11.29	10.58	9.86
135.0	18.52	16.97	15.30	14.28	13.27	12.25	11.29	10.52	9.80
180.0	17.93	16.19	14.82	13.56	12.43	11.47	10.70	9.86	9.14
225.0	19.96	18.11	16.55	14.82	13.68	12.61	11.59	10.70	9.98
270.0	19.60	17.93	16.19	14.76	13.68	12.55	11.53	10.76	9.92
315.0	19.42	17.81	16.37	14.82	13.68	12.67	11.77	10.76	9.98
360.0	22.05	19.72	18.05	16.37	14.82	13.68	12.55	11.53	10.70

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	9.98	9.20	8.54	8.01	7.41	6.87	6.45	6.09	5.68
45.0	9.20	8.66	8.01	7.53	7.05	6.57	6.21	5.86	5.50
90.0	9.08	8.48	7.95	7.35	6.93	6.51	6.04	5.74	5.50
135.0	9.08	8.48	7.95	7.47	6.93	6.45	6.09	5.86	5.44
180.0	8.54	7.89	7.41	6.93	6.45	6.09	5.80	5.44	5.20
225.0	9.20	8.60	8.01	7.47	6.99	6.51	6.15	5.86	5.56
270.0	9.32	8.60	7.95	7.41	6.93	6.39	6.04	5.68	5.38
315.0	9.26	8.54	7.95	7.41	6.87	6.39	5.98	5.62	5.32
360.0	9.98	9.20	8.54	8.01	7.41	6.87	6.45	6.09	5.68

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	5.44	5.14	4.90	4.72	4.54	4.42	4.30	4.18	4.12
45.0	5.26	5.02	4.78	4.66	4.48	4.36	4.24	4.18	4.06
90.0	5.14	4.96	4.72	4.54	4.48	4.36	4.24	4.18	4.06
135.0	5.20	5.02	4.72	4.60	4.48	4.36	4.24	4.12	4.00
180.0	4.90	4.72	4.54	4.36	4.30	4.24	4.12	4.00	3.94
225.0	5.20	5.02	4.84	4.60	4.48	4.36	4.24	4.18	4.06
270.0	5.14	4.96	4.72	4.60	4.48	4.36	4.30	4.18	4.12
315.0	5.08	4.84	4.66	4.48	4.36	4.24	4.18	4.06	4.00
360.0	5.44	5.14	4.90	4.72	4.54	4.42	4.30	4.18	4.12

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	4.06	3.94	3.88	3.82	3.76	3.64	3.59	3.53	3.41
45.0	4.00	3.94	3.82	3.82	3.70	3.64	3.59	3.47	3.41
90.0	4.00	3.94	3.88	3.82	3.76	3.70	3.59	3.53	3.53
135.0	3.94	3.88	3.82	3.76	3.64	3.59	3.53	3.41	3.41
180.0	3.88	3.76	3.70	3.64	3.59	3.47	3.41	3.35	3.29
225.0	4.00	3.94	3.82	3.76	3.70	3.59	3.53	3.47	3.41
270.0	4.12	4.06	3.94	3.88	3.82	3.76	3.64	3.59	3.53
315.0	3.94	3.88	3.82	3.70	3.64	3.59	3.53	3.41	3.35
360.0	4.06	3.94	3.88	3.82	3.76	3.64	3.59	3.53	3.41

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.35	3.29	3.23	3.17	3.11	3.05	2.99	2.93	2.87
45.0	3.35	3.29	3.23	3.17	3.11	3.05	3.05	2.99	2.93
90.0	3.41	3.35	3.29	3.23	3.23	3.23	3.17	3.11	3.11
135.0	3.35	3.29	3.23	3.17	3.11	3.05	2.99	2.93	2.93
180.0	3.23	3.11	3.11	3.05	2.99	2.93	2.93	2.81	2.81
225.0	3.29	3.23	3.17	3.17	3.11	3.05	2.99	2.93	2.93
270.0	3.47	3.47	3.41	3.35	3.29	3.29	3.29	3.29	3.29
315.0	3.29	3.23	3.17	3.11	3.05	2.99	2.93	2.87	2.87
360.0	3.35	3.29	3.23	3.17	3.11	3.05	2.99	2.93	2.87

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.87	2.81	2.75	2.75	2.69	2.63	2.57	2.51	2.45
45.0	2.87	2.87	2.81	2.75	2.75	2.63	2.57	2.57	2.51
90.0	3.11	3.41	4.54	2.75	2.69	2.57	2.57	2.51	2.45
135.0	2.87	2.81	2.75	2.75	2.63	2.57	2.57	2.51	2.45
180.0	2.75	2.75	2.69	2.63	2.57	2.57	2.51	2.45	2.45
225.0	2.87	2.87	2.81	2.75	2.75	2.69	2.63	2.57	2.51
270.0	3.29	3.35	4.00	5.14	5.80	4.72	2.57	2.51	2.45
315.0	2.81	2.75	2.69	2.69	2.63	2.57	2.51	2.45	2.45
360.0	2.87	2.81	2.75	2.75	2.69	2.63	2.57	2.51	2.45

Intensity data(cd)

C/γ(°)	90.0
0.0	2.45
45.0	2.51
90.0	2.45
135.0	2.45
180.0	2.45
225.0	2.51
270.0	2.45
315.0	2.45
360.0	2.45