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: 1-0940-N
Luminaire: 92.70.259.00
Report No: 200923-B031
Test No: 200923-C031
LampCAT: SEOUL SAWx06
Lamp flux(lm): 1012.7
Number of Lamps: 1
Length(feet)(ft.):0.000
Phm Type: C

Voltage(V): 230.6000
Current(A): 0.0950
Power (W): 11.8900
PF: 0.5420
Ballast type: AC
Width(feet)(ft.):0.000
Height(feet)(ft.):0.000

Photometric Results

Lumens(lm): 812.58
Efficiency(%): 80.24%
Lumens(lm)/Power(W): 68.34
Central intensity(cd): 5826.577
Maximum intensity(cd): 5826.577
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=15.1
[C90/270]Total=15.1
Field angle(10%Imax): [C0/180]Total=41.0
[C90/270]Total=41.0
Maximum s/h(1/2): C0_180=0.26 C90_270=0.26
Maximum s/h(1/4): C0_180=0.29 C90_270=0.29
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 80.38%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 99.282%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5826.578	1.394	1.394	.138%	.172%
1.0	5769.096	11.041	12.435	1.090%	1.530%
2.0	5545.838	21.225	33.66	2.096%	4.142%
3.0	5232.963	30.033	63.693	2.966%	7.838%
4.0	4780.589	36.569	100.262	3.611%	12.339%
5.0	4278.156	40.889	141.151	4.038%	17.371%
6.0	3698.753	42.398	183.549	4.187%	22.588%
7.0	3166.854	42.323	225.871	4.179%	27.797%
8.0	2712.217	41.393	267.265	4.088%	32.891%
9.0	2258.741	38.748	306.013	3.826%	37.659%
10.0	1956.887	37.264	343.277	3.680%	42.245%
11.0	1656.715	34.666	377.942	3.423%	46.511%
12.0	1442.796	32.895	410.838	3.248%	50.560%
13.0	1251.133	30.863	441.701	3.048%	54.358%
14.0	1087.683	28.856	470.557	2.849%	57.909%
15.0	994.174	28.217	498.774	2.786%	61.381%
16.0	913.589	27.615	526.388	2.727%	64.780%
17.0	820.394	26.303	552.692	2.597%	68.017%
18.0	744.582	25.232	577.923	2.492%	71.122%
19.0	676.300	24.145	602.069	2.384%	74.093%
20.0	614.212	23.037	625.105	2.275%	76.928%
21.0	552.467	21.711	646.817	2.144%	79.600%
22.0	495.727	20.364	667.181	2.011%	82.106%
23.0	441.771	18.929	686.11	1.869%	84.436%
24.0	392.172	17.492	703.602	1.727%	86.589%
25.0	348.414	16.147	719.749	1.595%	88.576%
26.0	301.454	14.492	734.241	1.431%	90.359%
27.0	259.627	12.926	747.166	1.276%	91.950%
28.0	222.324	11.446	758.612	1.130%	93.358%
29.0	193.409	10.283	768.895	1.015%	94.624%
30.0	150.689	8.262	777.157	.816%	95.641%
31.0	102.163	5.770	782.927	.570%	96.351%
32.0	74.849	4.350	787.277	.430%	96.886%
33.0	51.647	3.085	790.361	.305%	97.266%
34.0	38.190	2.342	792.703	.231%	97.554%
35.0	27.854	1.752	794.455	.173%	97.769%
36.0	23.097	1.489	795.944	.147%	97.953%
37.0	19.739	1.303	797.247	.129%	98.113%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	17.221	1.163	798.409	.115%	98.256%
39.0	15.377	1.061	799.47	.105%	98.387%
40.0	13.335	0.940	800.41	.093%	98.502%
41.0	11.699	0.842	801.252	.083%	98.606%
42.0	10.168	0.746	801.998	.074%	98.698%
43.0	8.822	0.660	802.658	.065%	98.779%
44.0	7.767	0.592	803.25	.058%	98.852%
45.0	6.589	0.511	803.761	.050%	98.915%
46.0	5.847	0.461	804.222	.046%	98.971%
47.0	5.139	0.412	804.634	.041%	99.022%
48.0	4.548	0.371	805.005	.037%	99.068%
49.0	4.124	0.341	805.346	.034%	99.110%
50.0	3.770	0.317	805.663	.031%	99.149%
51.0	3.492	0.298	805.96	.029%	99.185%
52.0	3.237	0.280	806.24	.028%	99.220%
53.0	3.034	0.266	806.506	.026%	99.252%
54.0	2.865	0.254	806.76	.025%	99.284%
55.0	2.720	0.244	807.004	.024%	99.314%
56.0	2.575	0.234	807.238	.023%	99.343%
57.0	2.442	0.225	807.463	.022%	99.370%
58.0	2.338	0.217	807.68	.021%	99.397%
59.0	2.256	0.212	807.892	.021%	99.423%
60.0	2.164	0.205	808.098	.020%	99.448%
61.0	2.094	0.201	808.299	.020%	99.473%
62.0	2.048	0.198	808.497	.020%	99.497%
63.0	2.019	0.197	808.694	.019%	99.522%
64.0	1.978	0.195	808.889	.019%	99.546%
65.0	1.926	0.191	809.081	.019%	99.569%
66.0	1.868	0.187	809.268	.018%	99.592%
67.0	1.839	0.186	809.453	.018%	99.615%
68.0	1.787	0.182	809.635	.018%	99.637%
69.0	1.723	0.176	809.811	.017%	99.659%
70.0	1.676	0.173	809.984	.017%	99.680%
71.0	1.618	0.168	810.152	.017%	99.701%
72.0	1.549	0.162	810.313	.016%	99.721%
73.0	1.456	0.153	810.466	.015%	99.740%
74.0	1.363	0.144	810.61	.014%	99.757%
75.0	1.293	0.137	810.747	.014%	99.774%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	1.241	0.132	810.879	.013%	99.791%
77.0	1.177	0.126	811.005	.012%	99.806%
78.0	1.137	0.122	811.127	.012%	99.821%
79.0	1.096	0.118	811.245	.012%	99.836%
80.0	1.061	0.115	811.359	.011%	99.850%
81.0	1.027	0.111	811.47	.011%	99.863%
82.0	0.992	0.108	811.578	.011%	99.877%
83.0	0.974	0.106	811.684	.010%	99.890%
84.0	1.131	0.123	811.808	.012%	99.905%
85.0	1.456	0.159	811.967	.016%	99.924%
86.0	1.682	0.184	812.151	.018%	99.947%
87.0	1.543	0.169	812.32	.017%	99.968%
88.0	1.137	0.125	812.444	.012%	99.983%
89.0	0.876	0.096	812.54	.009%	99.995%
90.0	0.737	0.040	812.581	.004%	100.000%

Zonal flux distribution table

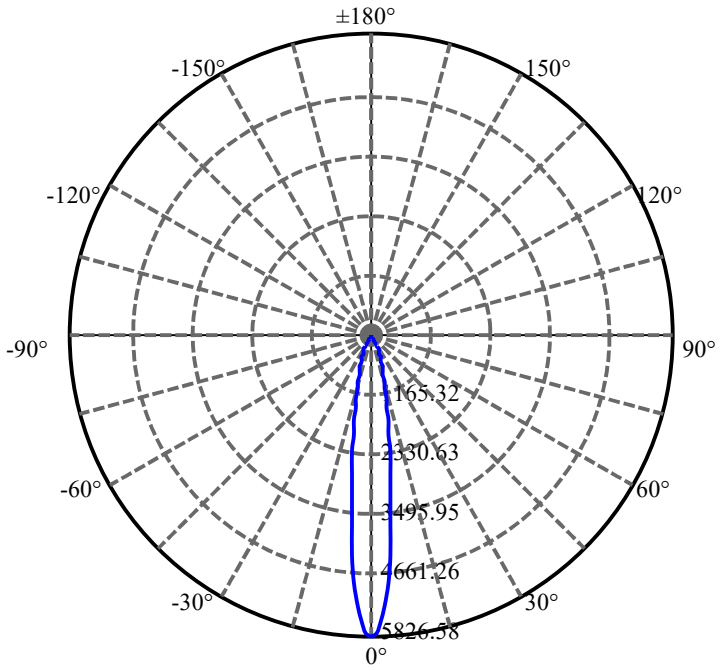
ZONAL LUMEN SUMMARY

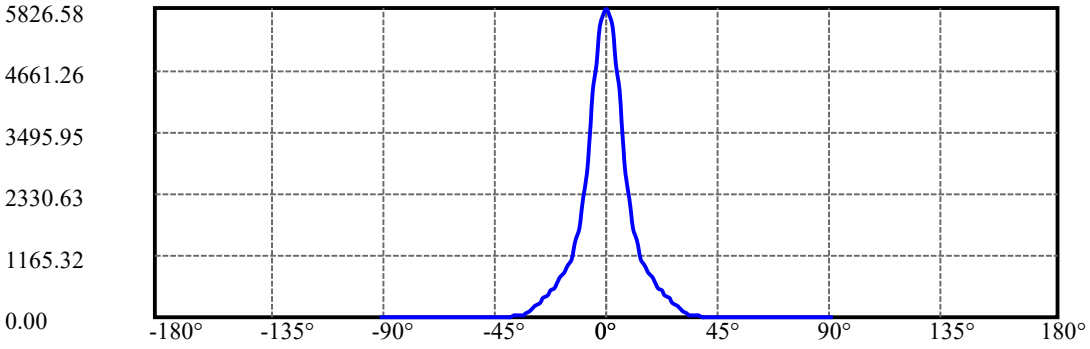
Zone	Lumens	%Lamp	%Fixt
0-30	777.16	76.74%	95.64%
0-40	800.41	79.04%	98.50%
0-60	808.10	79.80%	99.45%
0-90	812.54	80.24%	100.00%
0-120	812.54	80.24%	100.00%
0-180	812.58	80.24%	100.00%
60-90	4.65	0.46%	0.57%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-21.16	650.06	64.19%	80.00%

ZONAL LUMEN SUMMARY

0-10	343.28
10-20	281.83
20-30	152.05
30-40	23.25
40-50	5.25
50-60	2.44
60-70	1.89
70-80	1.38
80-90	1.18
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]



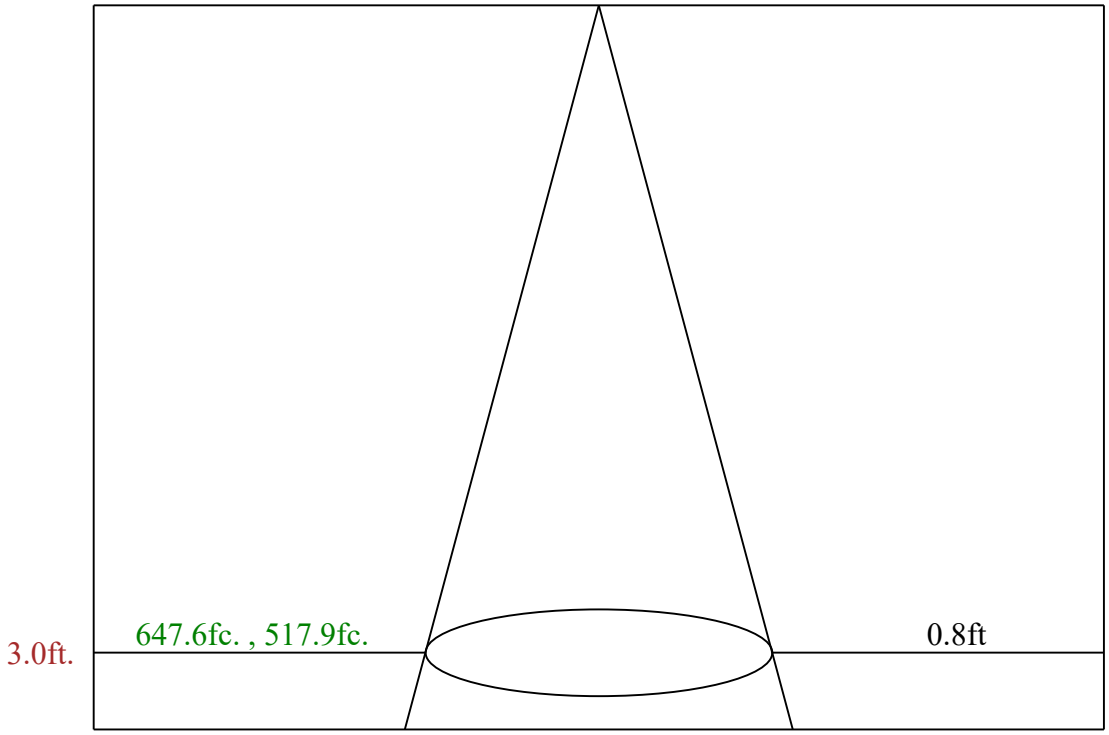


C90/C270:

Field angle(10%Imax):C90/270Left:20.5 Right:20.5

Beam Angle(50%Imax):C90/270Left:7.6 Right:7.6

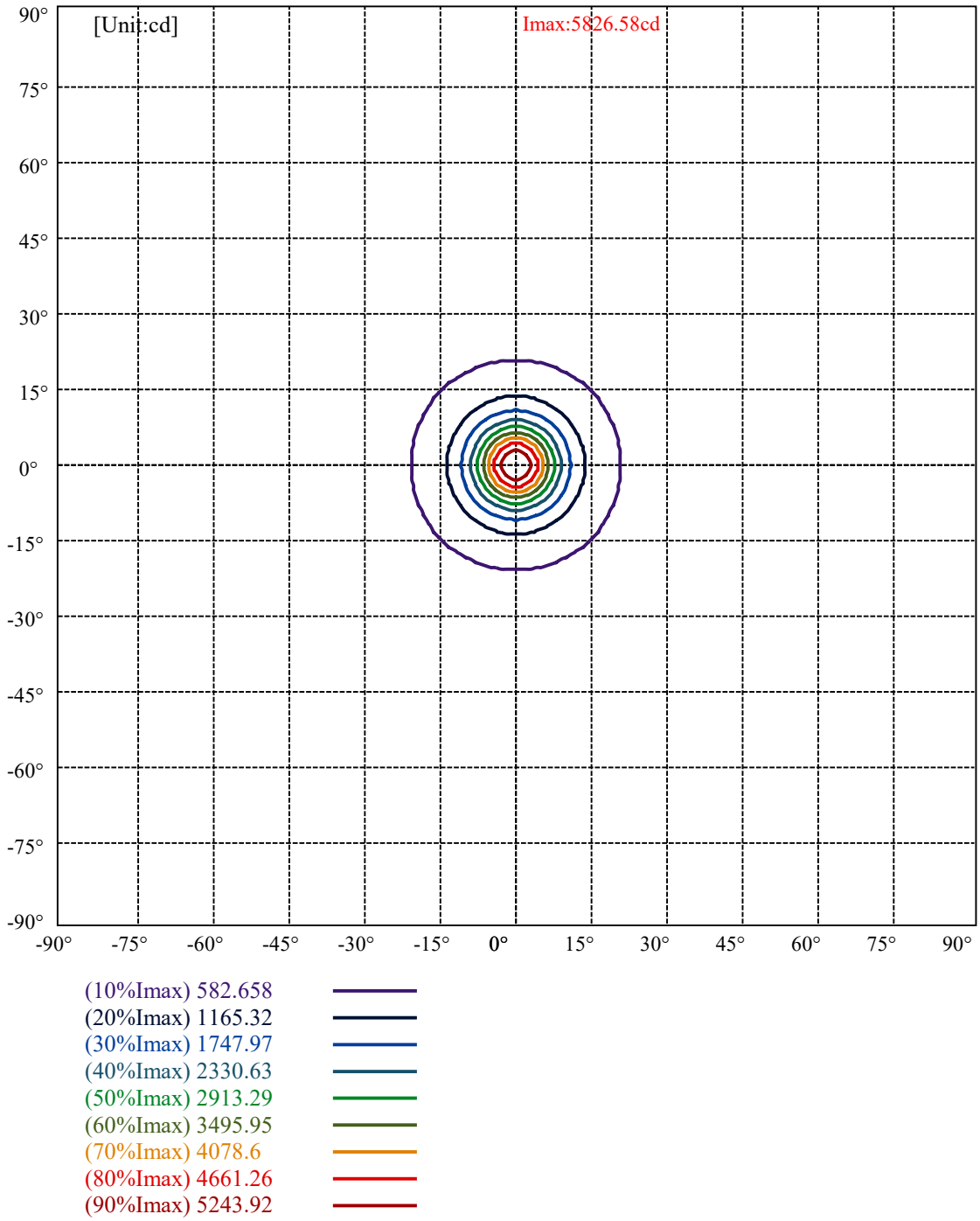
Lux distance Curve



Max , Ave

Beam angle of C0 plane 15.24

ISO-Intensity(V-H)

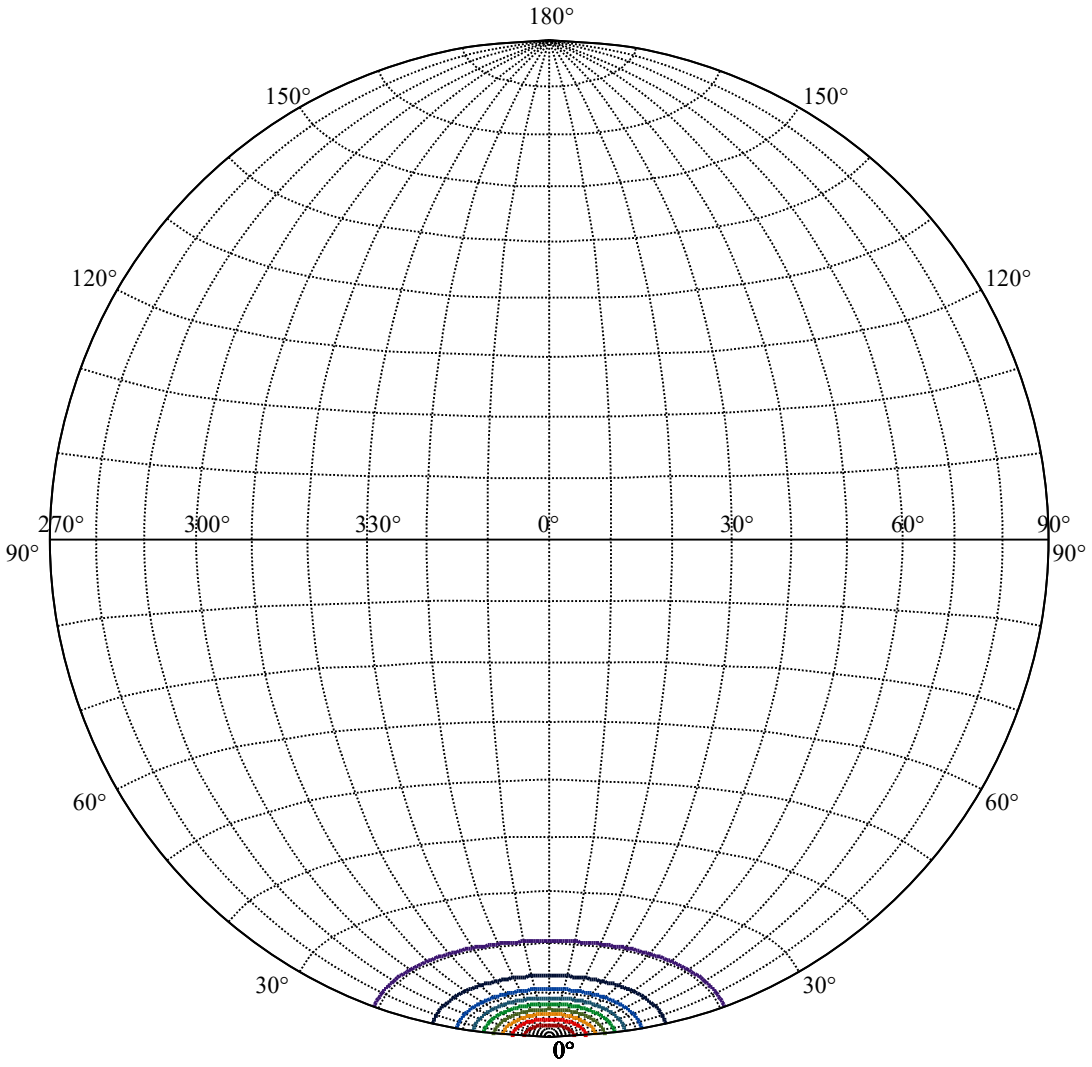


Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/9/23
Humidity(%): 60.0%

Operator: NT0100
Distance(feet): 22.35

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:5826.58

(10%Imax) 582.658
(20%Imax) 1165.32
(30%Imax) 1747.97
(40%Imax) 2330.63
(50%Imax) 2913.29
(60%Imax) 3495.95
(70%Imax) 4078.6
(80%Imax) 4661.26
(90%Imax) 5243.92

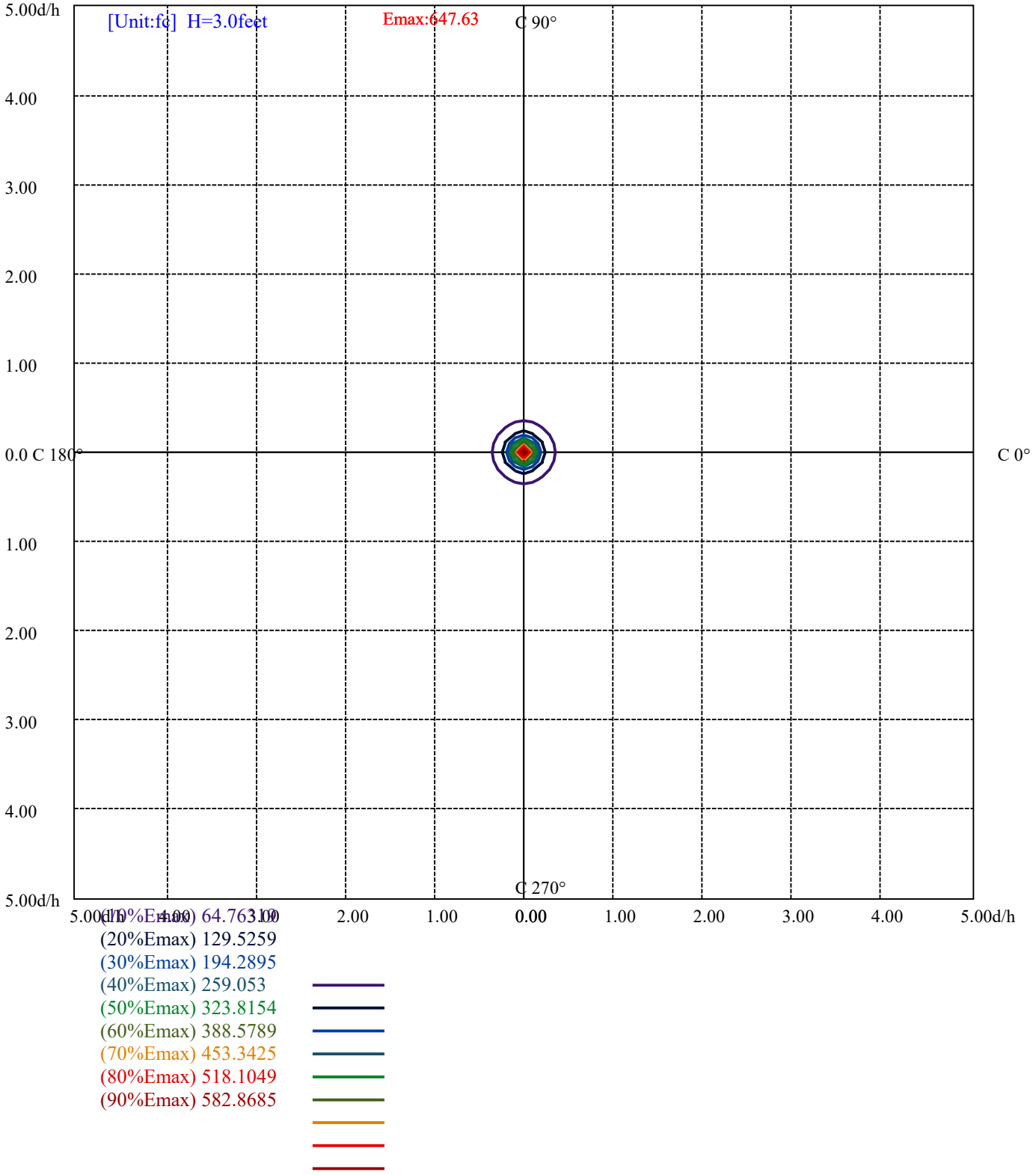
Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/9/23
Humidity(%): 60.0%

Operator: NT0100
Distance(feet): 22.35

Nata 1-0940-N

ISO illuminance diagram

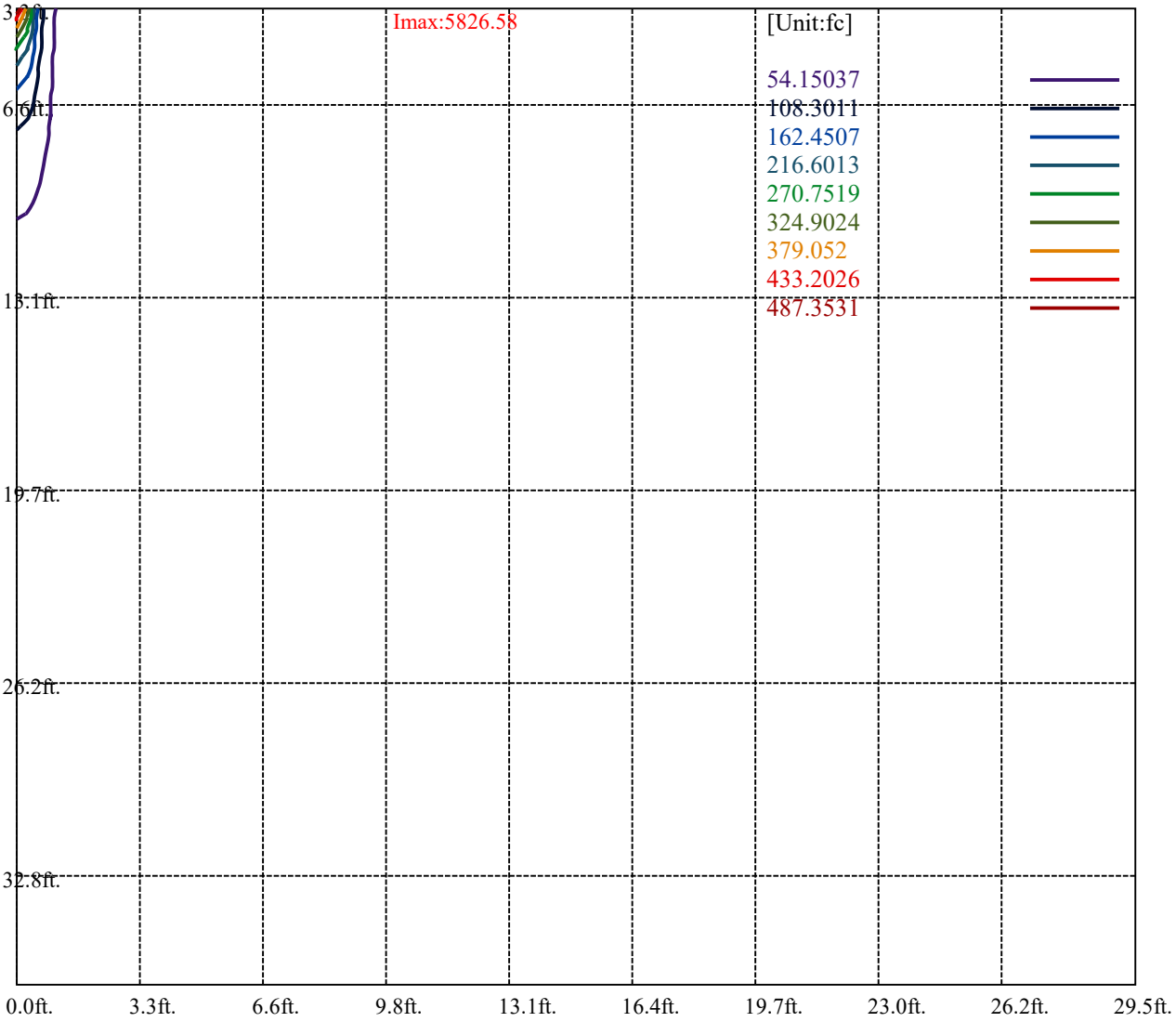


Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/9/23
Humidity(%): 60.0%

Operator: NT0100
Distance(feet): 22.35

Space ISO Lux diagram



Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/9/23
Humidity(%): 60.0%

Operator: NT0100
Distance(feet): 22.35

Luminance Limitting Curve(no luminous side)

Luminance Table

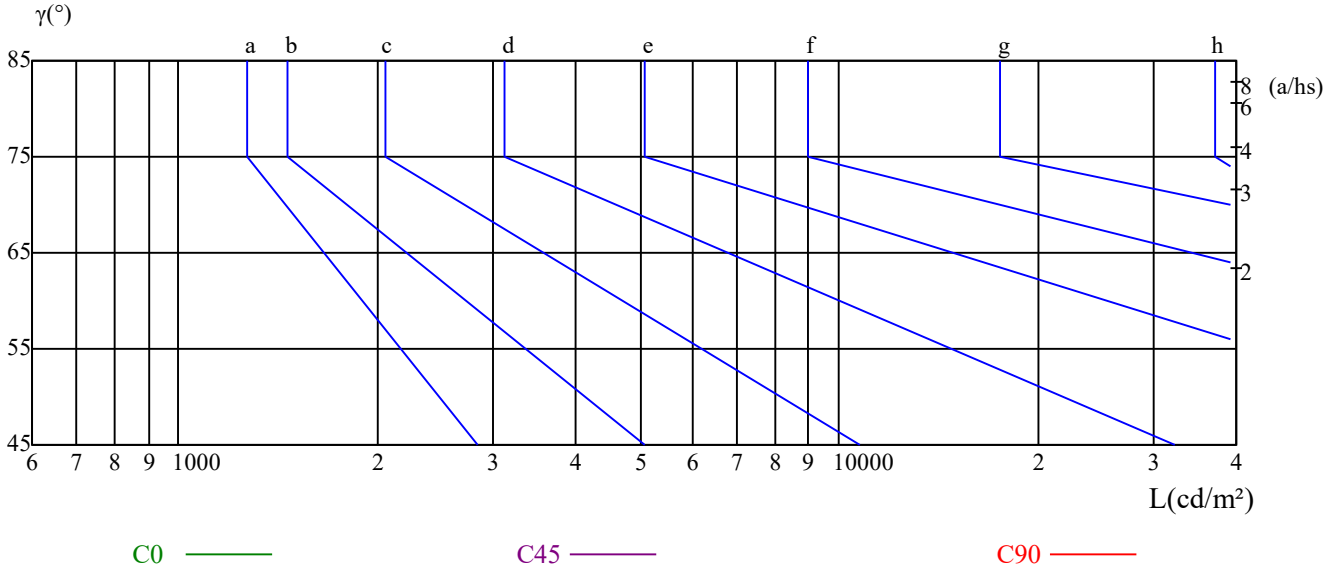
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

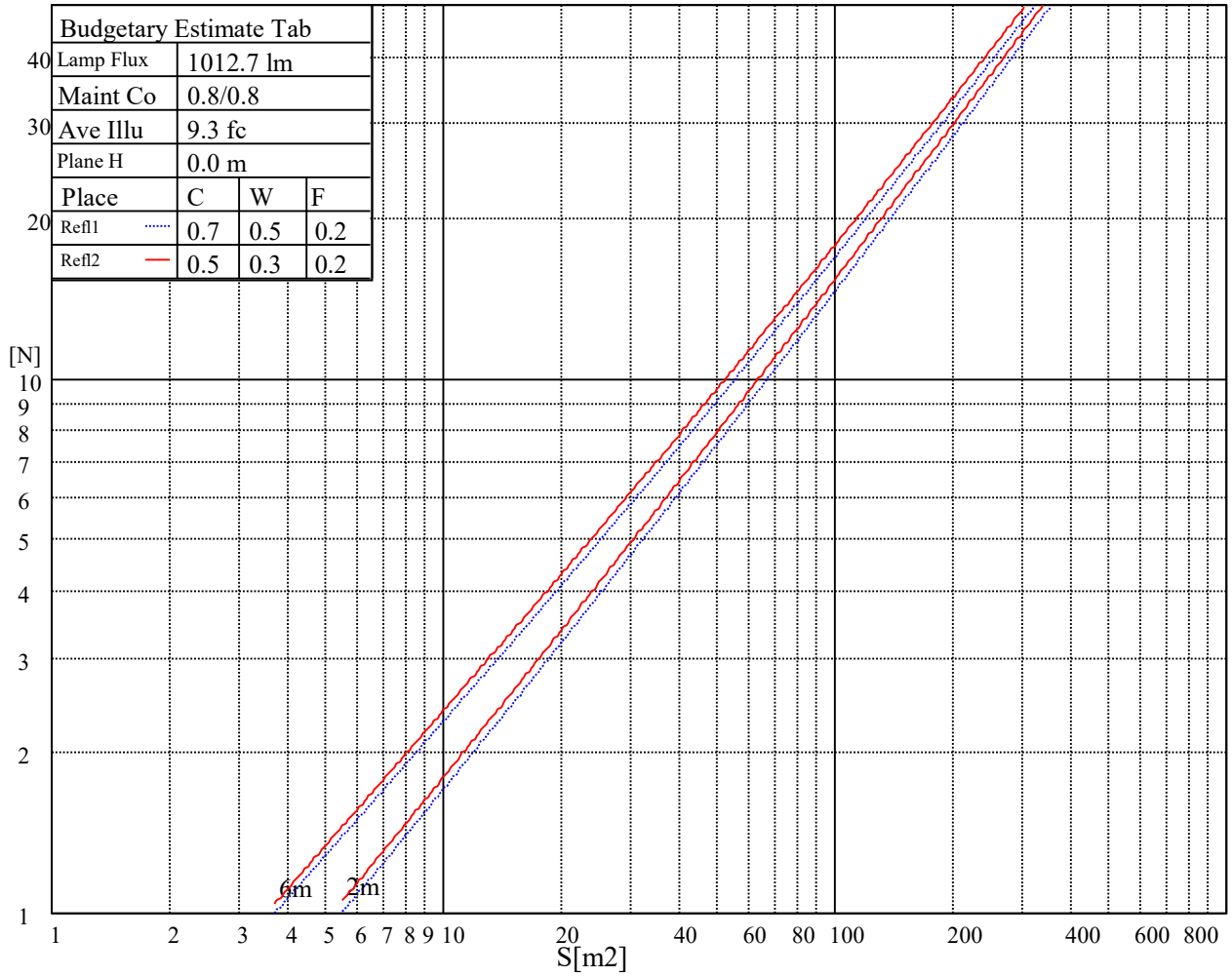
Glare Table

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: GMS 1800
Temperature(°C): 25.0

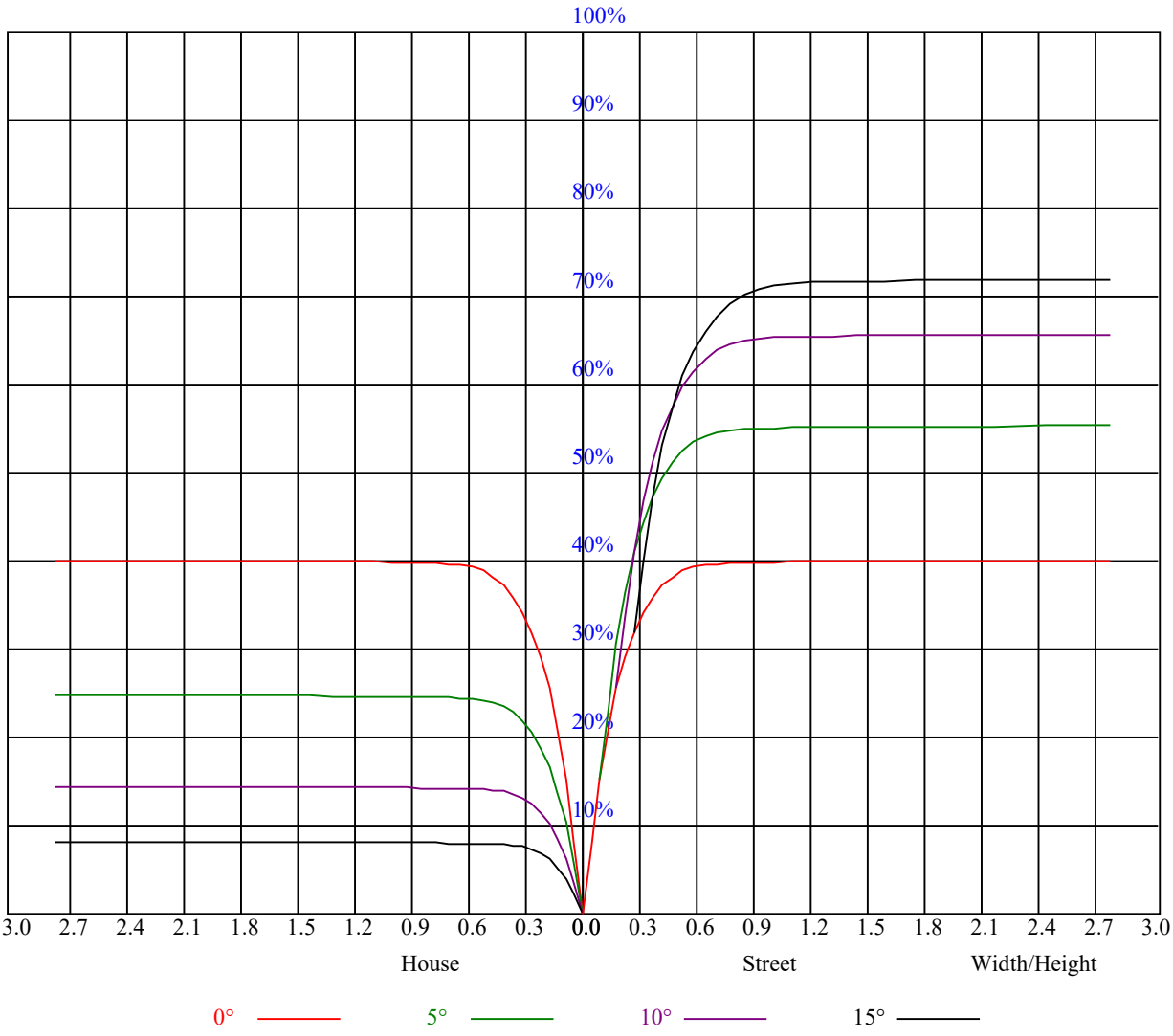
Date: 2020/9/23
Humidity(%): 60.0%

Operator: NT0100
Distance(feet): 22.35

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	0.96	0.96	0.96	0.93	0.93	0.93	0.89	0.89	0.89	0.86	0.86	0.86	0.82	0.82	0.82	0.80
1	0.91	0.89	0.88	0.89	0.87	0.86	0.86	0.85	0.84	0.83	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	0.83	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	0.74	0.79	0.76	0.74	0.77	0.75	0.73	0.76	0.74	0.72	0.74	0.73	0.71	0.70
5	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.74	0.72	0.70	0.73	0.71	0.69	0.68
6	0.74	0.71	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.72	0.70	0.68	0.71	0.69	0.67	0.67
7	0.72	0.69	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.70	0.68	0.66	0.69	0.67	0.66	0.65
8	0.70	0.67	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.68	0.66	0.64	0.68	0.65	0.64	0.63
9	0.68	0.65	0.63	0.68	0.65	0.63	0.67	0.65	0.63	0.67	0.64	0.62	0.66	0.64	0.62	0.62
10	0.66	0.63	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.65	0.62	0.61	0.60

Coefficient Utilization Curve



Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/9/23
Humidity(%): 60.0%

Operator: NT0100
Distance(feet): 22.35

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	5745.89	5463.30	5039.64	4521.77	3963.54	3399.28	2870.28	2409.03	2040.12
45.0	5874.43	5824.32	5655.87	5355.64	4925.02	4413.19	3862.85	3300.44	2788.61
90.0	5858.65	5737.08	5459.59	5054.48	4569.11	4029.90	3463.78	2917.15	2620.16
135.0	5858.65	5912.95	5910.63	5783.94	5499.49	5078.15	4558.43	3977.46	3391.85
180.0	5745.89	5888.35	5905.06	5777.45	5477.22	5226.18	4493.00	3908.79	3544.98
225.0	5874.43	5788.59	5532.44	5116.20	4577.92	3989.99	3402.99	2964.01	2390.47
270.0	5858.65	5873.04	5764.46	5470.72	5016.43	4466.09	3880.48	3296.26	2765.41
315.0	5796.01	5665.15	5099.03	4783.49	4215.98	3622.48	3058.21	2561.70	2156.13
360.0	5745.89	5463.30	5039.64	4521.77	3963.54	3399.28	2870.28	2409.03	2040.12

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1752.42	1522.26	1338.50	1185.37	910.06	872.06	872.06	788.62	715.17
45.0	2341.74	2113.44	1694.88	1469.36	1362.63	1151.03	1074.93	963.57	865.65
90.0	2199.29	1863.33	1607.18	1403.47	1240.13	1103.70	890.29	890.29	803.06
135.0	2845.22	2367.27	1992.79	1703.23	1475.86	1304.17	1157.07	1079.57	927.37
180.0	2778.40	2493.48	2087.92	1774.70	1532.93	1342.68	1187.23	1057.76	946.40
225.0	2007.64	1765.88	1484.21	1336.65	1183.52	906.91	887.60	851.83	770.99
270.0	2312.05	1947.32	1666.11	1448.48	1272.61	1126.44	1026.21	902.31	829.92
315.0	1833.16	1582.12	1382.12	1221.10	1031.31	894.47	858.00	774.75	704.59
360.0	1752.42	1522.26	1338.50	1185.37	910.06	872.06	872.06	788.62	715.17

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	650.44	590.02	529.97	471.69	418.65	373.18	329.74	285.38	240.04
45.0	781.20	707.42	641.06	579.81	519.02	462.87	409.51	360.79	316.70
90.0	725.98	659.35	597.03	536.79	489.65	431.37	373.73	339.07	294.24
135.0	835.96	787.23	713.45	647.09	585.84	525.05	468.44	414.15	369.14
180.0	851.27	767.74	694.89	630.85	570.99	512.06	457.30	404.87	358.00
225.0	696.79	635.26	575.45	515.91	458.33	408.44	366.03	338.88	276.56
270.0	748.25	681.43	620.18	559.86	496.28	436.42	390.95	350.58	306.49
315.0	666.77	581.94	541.67	477.72	427.05	384.78	341.67	293.59	250.44
360.0	650.44	590.02	529.97	471.69	418.65	373.18	329.74	285.38	240.04

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	196.29	156.43	134.38	87.70	59.35	46.45	28.96	25.29	21.44
45.0	272.16	245.71	245.71	153.50	115.22	82.23	57.86	39.91	28.26
90.0	248.44	204.13	161.48	124.36	92.25	63.67	42.55	31.00	24.73
135.0	323.66	276.80	241.53	241.53	139.30	103.94	74.85	59.72	35.41
180.0	314.85	270.30	235.03	235.03	155.59	117.49	82.92	57.45	40.14
225.0	250.02	205.24	149.56	127.47	92.30	63.15	42.55	30.63	24.59
270.0	259.16	250.35	250.35	142.32	100.88	81.95	55.64	37.54	26.54
315.0	212.43	169.65	129.23	93.60	62.41	39.91	27.84	23.99	21.72
360.0	196.29	156.43	134.38	87.70	59.35	46.45	28.96	25.29	21.44

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	18.75	16.47	14.48	12.58	10.90	9.28	7.84	6.73	5.89
45.0	21.95	18.93	17.03	15.27	13.22	11.42	9.98	8.77	7.66
90.0	21.53	19.16	16.71	14.71	12.81	11.51	10.07	8.54	7.80
135.0	29.65	23.57	20.14	18.79	16.52	14.29	12.34	10.63	9.37
180.0	28.96	23.06	19.68	17.49	15.41	13.55	11.74	10.26	9.42
225.0	21.25	18.65	16.19	14.01	12.20	10.39	9.05	7.98	6.87
270.0	23.39	20.88	18.24	16.15	14.06	12.48	11.00	9.56	8.17
315.0	19.30	17.17	15.31	14.01	11.55	10.67	9.33	8.12	6.96
360.0	18.75	16.47	14.48	12.58	10.90	9.28	7.84	6.73	5.89

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	5.15	4.50	3.99	3.62	3.29	3.06	2.78	2.64	2.51
45.0	6.59	5.61	4.92	4.59	4.13	3.67	3.53	3.25	3.02
90.0	6.40	5.94	5.34	4.50	4.27	3.90	3.67	3.43	3.16
135.0	8.21	7.10	6.13	5.38	4.78	4.41	4.04	3.71	3.48
180.0	7.52	6.91	6.08	5.15	4.73	4.27	3.85	3.53	3.34
225.0	5.85	5.24	4.50	4.13	3.76	3.39	3.16	2.92	2.78
270.0	7.10	6.31	5.57	4.87	4.36	4.04	3.71	3.39	3.20
315.0	5.89	5.15	4.59	4.13	3.67	3.43	3.20	3.02	2.78
360.0	5.15	4.50	3.99	3.62	3.29	3.06	2.78	2.64	2.51

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	2.32	2.27	2.18	2.09	2.00	1.95	1.90	1.90	1.86
45.0	2.88	2.78	2.64	2.46	2.37	2.32	2.23	2.09	2.04
90.0	2.97	2.83	2.69	2.51	2.41	2.32	2.18	2.09	2.04
135.0	3.29	3.11	2.88	2.83	2.64	2.51	2.41	2.27	2.18
180.0	3.16	2.92	2.74	2.64	2.55	2.41	2.27	2.23	2.18
225.0	2.64	2.46	2.32	2.18	2.13	2.09	2.00	1.95	2.00
270.0	3.02	2.88	2.74	2.55	2.41	2.32	2.23	2.13	2.09
315.0	2.64	2.51	2.41	2.27	2.18	2.13	2.09	2.09	2.00
360.0	2.32	2.27	2.18	2.09	2.00	1.95	1.90	1.90	1.86

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	1.81	1.81	1.76	1.72	1.67	1.62	1.53	1.53	1.44
45.0	2.09	2.04	2.00	1.90	1.90	1.86	1.86	1.81	1.72
90.0	2.04	1.95	1.95	1.86	1.86	1.81	1.67	1.67	1.58
135.0	2.18	2.13	2.04	1.95	1.95	1.90	1.86	1.76	1.76
180.0	2.09	2.04	2.00	1.95	1.90	1.86	1.76	1.72	1.72
225.0	1.95	1.86	1.81	1.81	1.81	1.72	1.67	1.67	1.62
270.0	2.04	2.04	1.95	1.90	1.86	1.81	1.76	1.67	1.62
315.0	1.95	1.95	1.90	1.86	1.76	1.72	1.67	1.58	1.48
360.0	1.81	1.81	1.76	1.72	1.67	1.62	1.53	1.53	1.44

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	1.39	1.25	1.21	1.16	1.07	1.07	1.02	0.97	0.93
45.0	1.67	1.58	1.48	1.48	1.44	1.35	1.39	1.39	1.35
90.0	1.53	1.44	1.30	1.21	1.21	1.11	1.02	1.02	1.02
135.0	1.72	1.58	1.44	1.39	1.35	1.21	1.16	1.11	1.11
180.0	1.62	1.53	1.48	1.44	1.30	1.21	1.16	1.16	1.11
225.0	1.53	1.48	1.39	1.30	1.30	1.30	1.21	1.16	1.21
270.0	1.58	1.48	1.39	1.25	1.21	1.16	1.11	1.02	0.93
315.0	1.35	1.30	1.21	1.11	1.07	1.02	1.02	0.93	0.84
360.0	1.39	1.25	1.21	1.16	1.07	1.07	1.02	0.97	0.93

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	0.88	0.84	0.79	0.79	0.70	0.65	0.46	0.32	0.28
45.0	1.39	1.44	1.35	1.76	3.11	4.97	4.64	2.97	2.00
90.0	0.88	0.88	0.84	0.84	0.79	0.74	0.70	0.60	0.56
135.0	1.07	0.97	0.97	0.88	0.79	0.79	0.74	0.70	0.60
180.0	1.07	0.97	1.02	0.93	0.88	0.88	0.79	0.74	0.70
225.0	1.21	1.21	1.35	2.41	3.99	4.22	3.85	2.64	1.86
270.0	0.93	0.84	0.79	0.74	0.74	0.65	0.60	0.60	0.56
315.0	0.79	0.79	0.70	0.70	0.65	0.56	0.56	0.51	0.46
360.0	0.88	0.84	0.79	0.79	0.70	0.65	0.46	0.32	0.28

Intensity data(cd)

C/γ(°)	90.0
0.0	0.23
45.0	1.48
90.0	0.51
135.0	0.56
180.0	0.60
225.0	1.67
270.0	0.42
315.0	0.42
360.0	0.23