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Nata

LumCAT: 3-2546-M
Luminaire: 92.70.131.00
Report No: 200917-B029
Test No: 200917-C029
LampCAT: TRIDONIC SLE G7 15MM
Lamp flux(lm): 2008.5
Number of Lamps: 1
Length(feet)(ft.):0.000
Phm Type: C

Voltage(V): 230.7000
Current(A): 0.0870
Power (W): 19.2600
PF: 0.9520
Ballast type: AC
Width(feet)(ft.):0.000
Height(feet)(ft.):0.000

Photometric Results

Lumens(lm): 1914.84
Efficiency(%): 95.34%
Lumens(lm)/Power(W): 99.42
Central intensity(cd): 9066.980
Maximum intensity(cd): 9066.980
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=42.3
[C90/270]Total=42.3
Maximum s/h(1/2): C0_180=0.39 C90_270=0.39
Maximum s/h(1/4): C0_180=0.37 C90_270=0.37
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 95.44%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 99.788%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	9066.981	2.169	2.169	.108%	.113%
1.0	9052.654	17.325	19.495	.863%	1.018%
2.0	9014.256	34.499	53.993	1.718%	2.820%
3.0	8937.400	51.294	105.287	2.554%	5.498%
4.0	8774.176	67.119	172.405	3.342%	9.004%
5.0	8472.903	80.980	253.386	4.032%	13.233%
6.0	8034.913	92.102	345.487	4.586%	18.043%
7.0	7528.189	100.609	446.096	5.009%	23.297%
8.0	6906.442	105.405	551.501	5.248%	28.801%
9.0	6224.603	106.781	658.283	5.316%	34.378%
10.0	5595.837	106.558	764.841	5.305%	39.943%
11.0	4892.073	102.363	867.204	5.096%	45.289%
12.0	4180.883	95.323	962.527	4.746%	50.267%
13.0	3564.357	87.927	1050.454	4.378%	54.858%
14.0	2850.441	75.620	1126.075	3.765%	58.808%
15.0	2338.555	66.374	1192.448	3.305%	62.274%
16.0	1837.340	55.537	1247.985	2.765%	65.174%
17.0	1522.610	48.818	1296.802	2.430%	67.724%
18.0	1282.820	43.471	1340.273	2.164%	69.994%
19.0	1090.160	38.921	1379.194	1.938%	72.026%
20.0	985.166	36.950	1416.144	1.840%	73.956%
21.0	916.344	36.011	1452.156	1.793%	75.837%
22.0	847.435	34.812	1486.968	1.733%	77.655%
23.0	787.697	33.751	1520.719	1.680%	79.417%
24.0	746.241	33.285	1554.004	1.657%	81.156%
25.0	711.369	32.968	1586.972	1.641%	82.877%
26.0	681.787	32.775	1619.747	1.632%	84.589%
27.0	661.045	32.910	1652.657	1.639%	86.308%
28.0	642.269	33.066	1685.723	1.646%	88.034%
29.0	626.155	33.289	1719.012	1.657%	89.773%
30.0	598.713	32.828	1751.84	1.634%	91.487%
31.0	550.332	31.082	1782.922	1.548%	93.111%
32.0	487.757	28.344	1811.266	1.411%	94.591%
33.0	418.141	24.974	1836.24	1.243%	95.895%
34.0	348.536	21.373	1857.613	1.064%	97.011%
35.0	268.548	16.891	1874.504	.841%	97.893%
36.0	207.336	13.364	1887.869	.665%	98.591%
37.0	172.586	11.390	1899.258	.567%	99.186%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	84.083	5.677	1904.935	.283%	99.483%
39.0	36.630	2.528	1907.463	.126%	99.615%
40.0	14.217	1.002	1908.465	.050%	99.667%
41.0	8.486	0.611	1909.076	.030%	99.699%
42.0	6.351	0.466	1909.542	.023%	99.723%
43.0	4.733	0.354	1909.896	.018%	99.742%
44.0	3.788	0.289	1910.184	.014%	99.757%
45.0	3.231	0.251	1910.435	.012%	99.770%
46.0	2.889	0.228	1910.663	.011%	99.782%
47.0	2.552	0.205	1910.867	.010%	99.792%
48.0	2.309	0.188	1911.055	.009%	99.802%
49.0	2.129	0.176	1911.232	.009%	99.811%
50.0	2.013	0.169	1911.401	.008%	99.820%
51.0	1.949	0.166	1911.567	.008%	99.829%
52.0	1.868	0.161	1911.728	.008%	99.837%
53.0	1.821	0.160	1911.888	.008%	99.846%
54.0	1.781	0.158	1912.046	.008%	99.854%
55.0	1.723	0.155	1912.2	.008%	99.862%
56.0	1.607	0.146	1912.347	.007%	99.870%
57.0	1.491	0.137	1912.484	.007%	99.877%
58.0	1.450	0.135	1912.619	.007%	99.884%
59.0	1.415	0.133	1912.752	.007%	99.891%
60.0	1.369	0.130	1912.882	.006%	99.898%
61.0	1.317	0.126	1913.008	.006%	99.904%
62.0	1.311	0.127	1913.135	.006%	99.911%
63.0	1.288	0.126	1913.261	.006%	99.917%
64.0	1.224	0.121	1913.381	.006%	99.924%
65.0	1.160	0.115	1913.496	.006%	99.930%
66.0	1.067	0.107	1913.603	.005%	99.935%
67.0	0.974	0.098	1913.702	.005%	99.940%
68.0	0.870	0.088	1913.79	.004%	99.945%
69.0	0.760	0.078	1913.868	.004%	99.949%
70.0	0.708	0.073	1913.941	.004%	99.953%
71.0	0.661	0.069	1914.01	.003%	99.956%
72.0	0.586	0.061	1914.071	.003%	99.960%
73.0	0.534	0.056	1914.127	.003%	99.963%
74.0	0.534	0.056	1914.183	.003%	99.965%
75.0	0.505	0.053	1914.236	.003%	99.968%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	0.458	0.049	1914.285	.002%	99.971%
77.0	0.447	0.048	1914.333	.002%	99.973%
78.0	0.435	0.047	1914.379	.002%	99.976%
79.0	0.429	0.046	1914.426	.002%	99.978%
80.0	0.394	0.043	1914.468	.002%	99.980%
81.0	0.365	0.040	1914.508	.002%	99.982%
82.0	0.394	0.043	1914.551	.002%	99.985%
83.0	0.348	0.038	1914.589	.002%	99.987%
84.0	0.389	0.042	1914.631	.002%	99.989%
85.0	0.360	0.039	1914.67	.002%	99.991%
86.0	0.348	0.038	1914.708	.002%	99.993%
87.0	0.365	0.040	1914.748	.002%	99.995%
88.0	0.354	0.039	1914.787	.002%	99.997%
89.0	0.354	0.039	1914.826	.002%	99.999%
90.0	0.325	0.018	1914.844	.001%	100.000%

Zonal flux distribution table

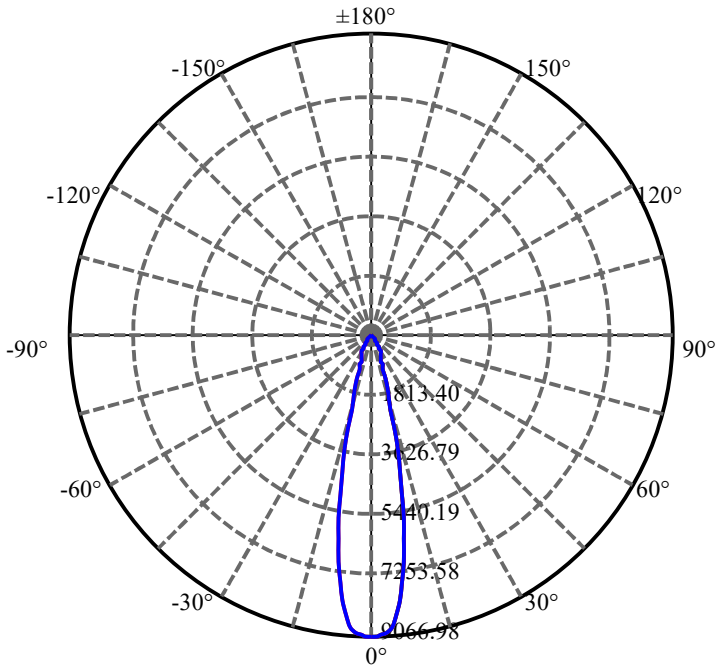
ZONAL LUMEN SUMMARY

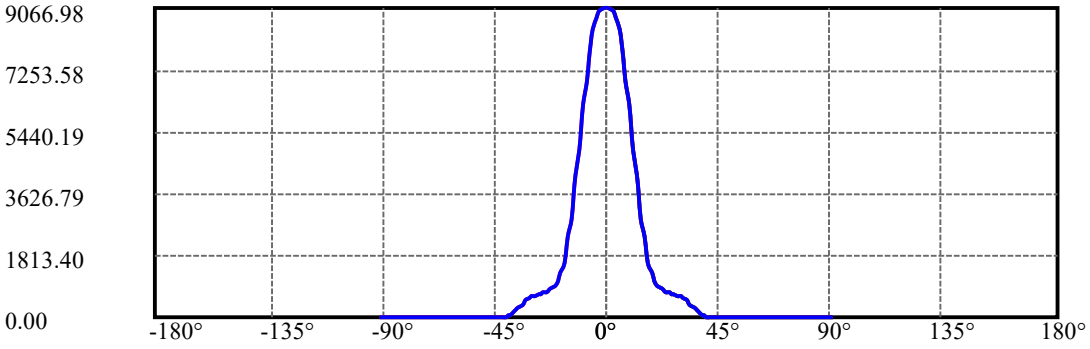
Zone	Lumens	%Lamp	%Fixt
0-30	1751.84	87.22%	91.49%
0-40	1908.47	95.02%	99.67%
0-60	1912.88	95.24%	99.90%
0-90	1914.83	95.33%	100.00%
0-120	1914.83	95.33%	100.00%
0-180	1914.84	95.34%	100.00%
60-90	2.07	0.10%	0.11%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-23.34	1531.88	76.27%	80.00%

ZONAL LUMEN SUMMARY

0-10	764.84
10-20	651.30
20-30	335.70
30-40	156.63
40-50	2.94
50-60	1.48
60-70	1.06
70-80	0.53
80-90	0.36
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:21.1 Right:21.1
:C90/270Left:21.1 Right:21.1

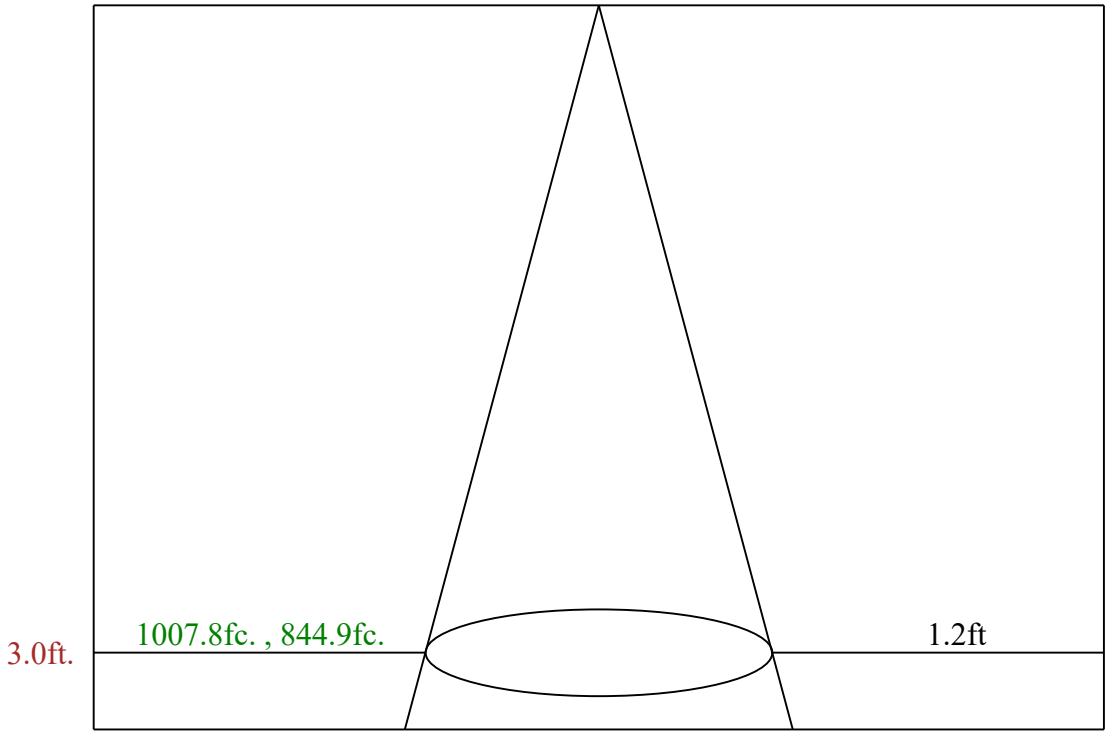
Beam Angle(50%Imax):C0/180Left:11.5 Right:11.5
:C90/270Left:11.5 Right:11.5

Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/9/17
Humidity(%): 60.0%

Operator: NT0100
Distance(feet): 22.35

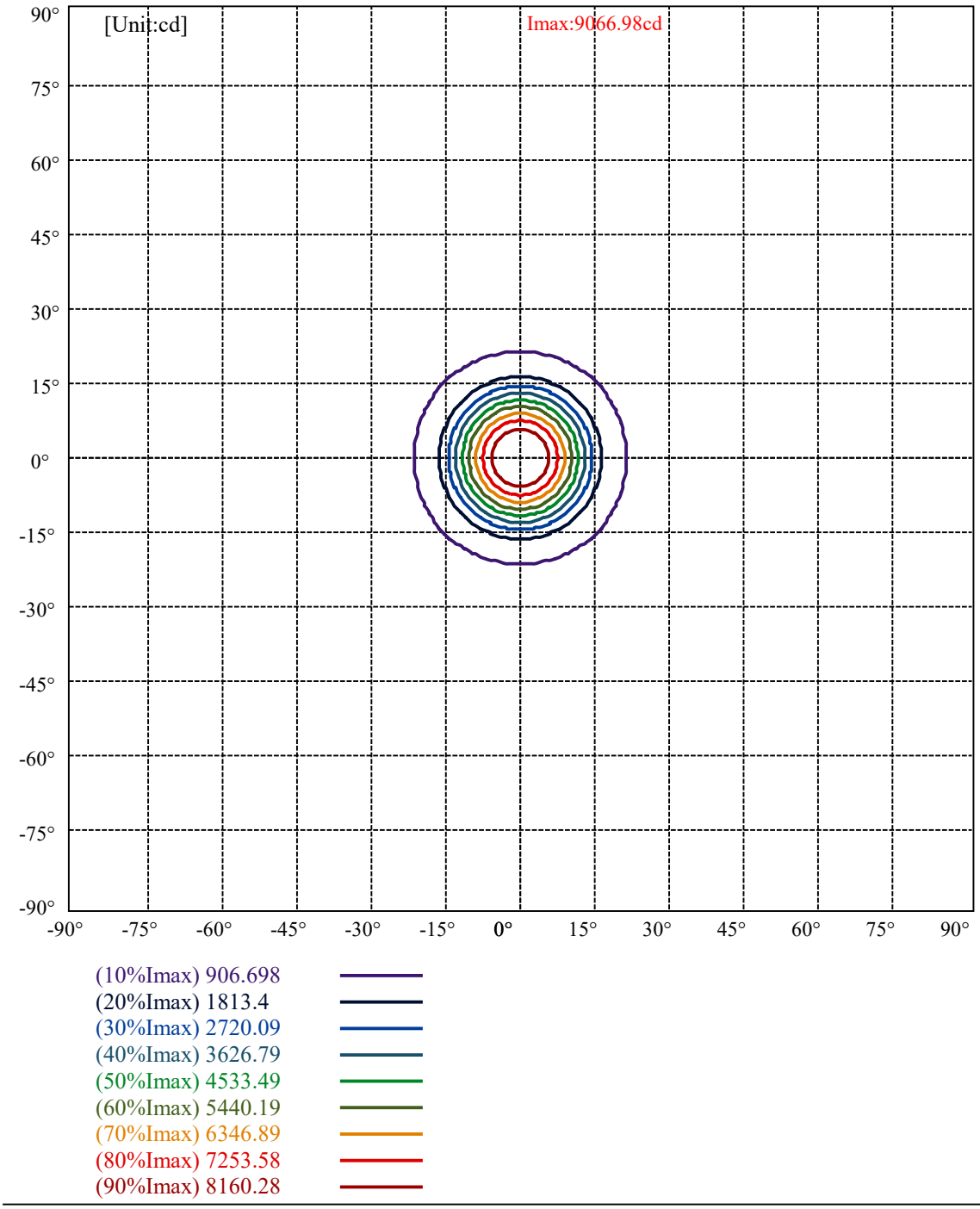
Lux distance Curve



Max , Ave

Beam angle of C0 plane 23.03

ISO-Intensity(V-H)

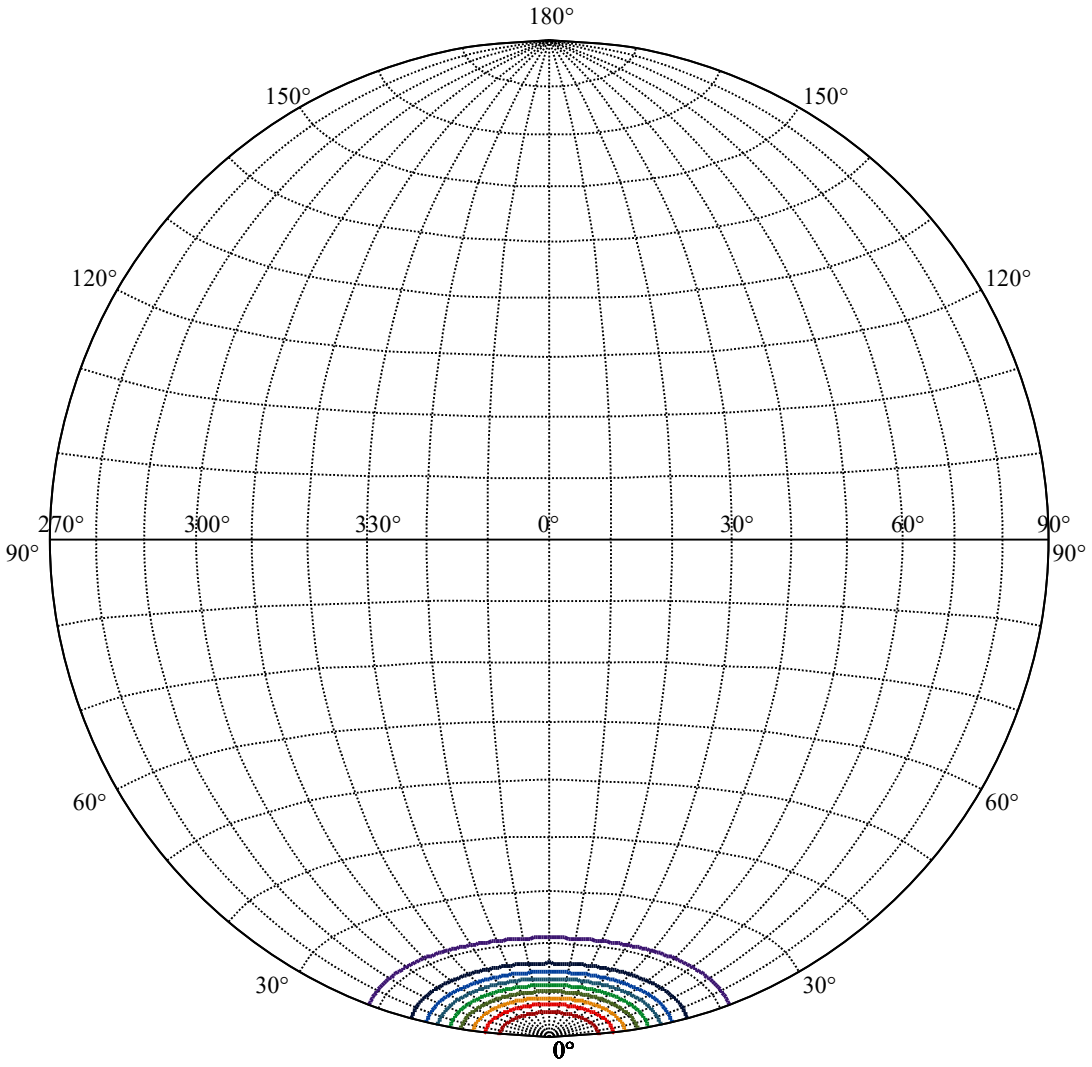


Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/9/17
Humidity(%): 60.0%

Operator: NT0100
Distance(feet): 22.35

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:9066.98

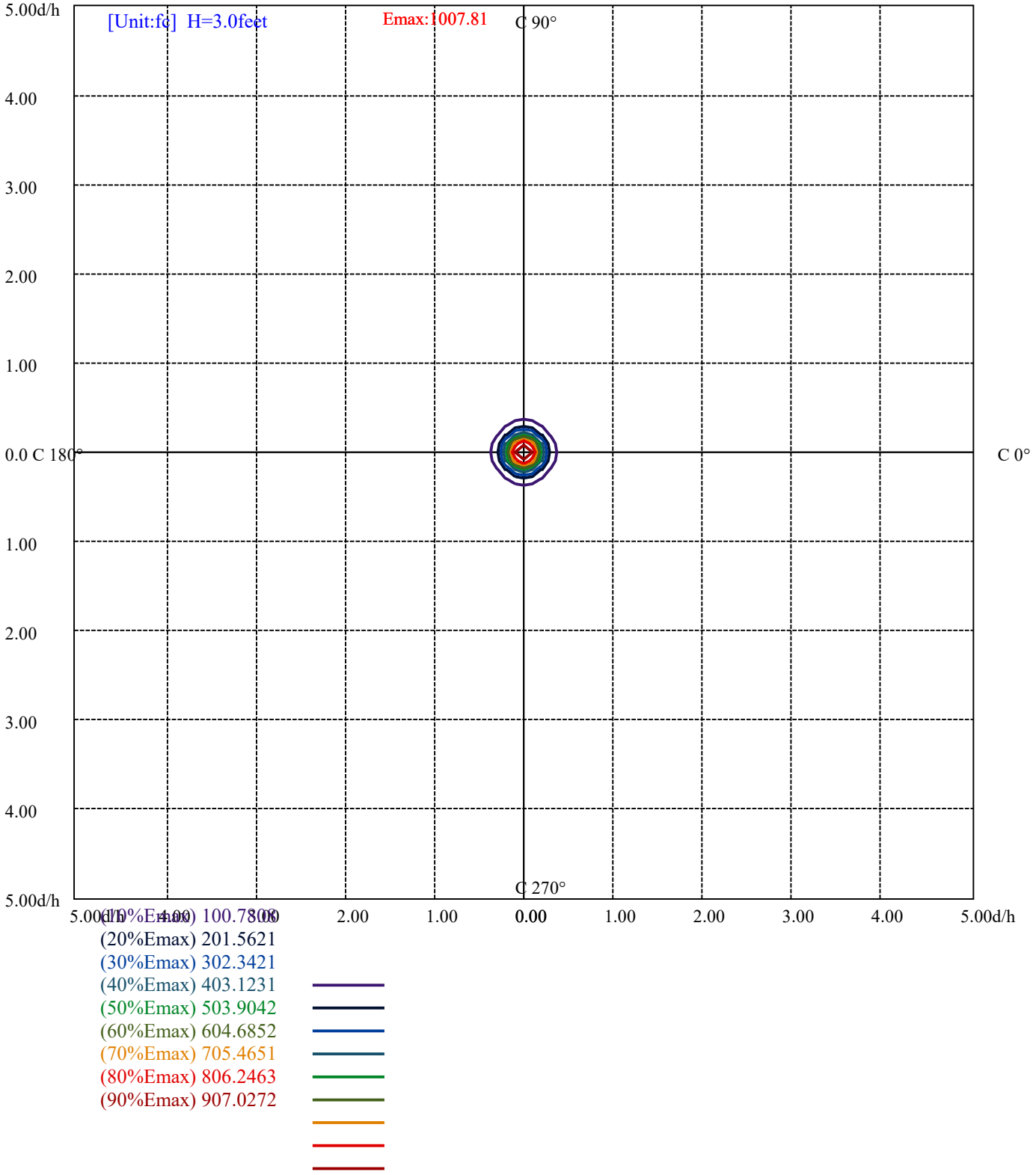
(10%Imax) 906.698
(20%Imax) 1813.4
(30%Imax) 2720.09
(40%Imax) 3626.79
(50%Imax) 4533.49
(60%Imax) 5440.19
(70%Imax) 6346.89
(80%Imax) 7253.58
(90%Imax) 8160.28

Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/9/17
Humidity(%): 60.0%

Operator: NT0100
Distance(feet): 22.35

ISO illuminance diagram

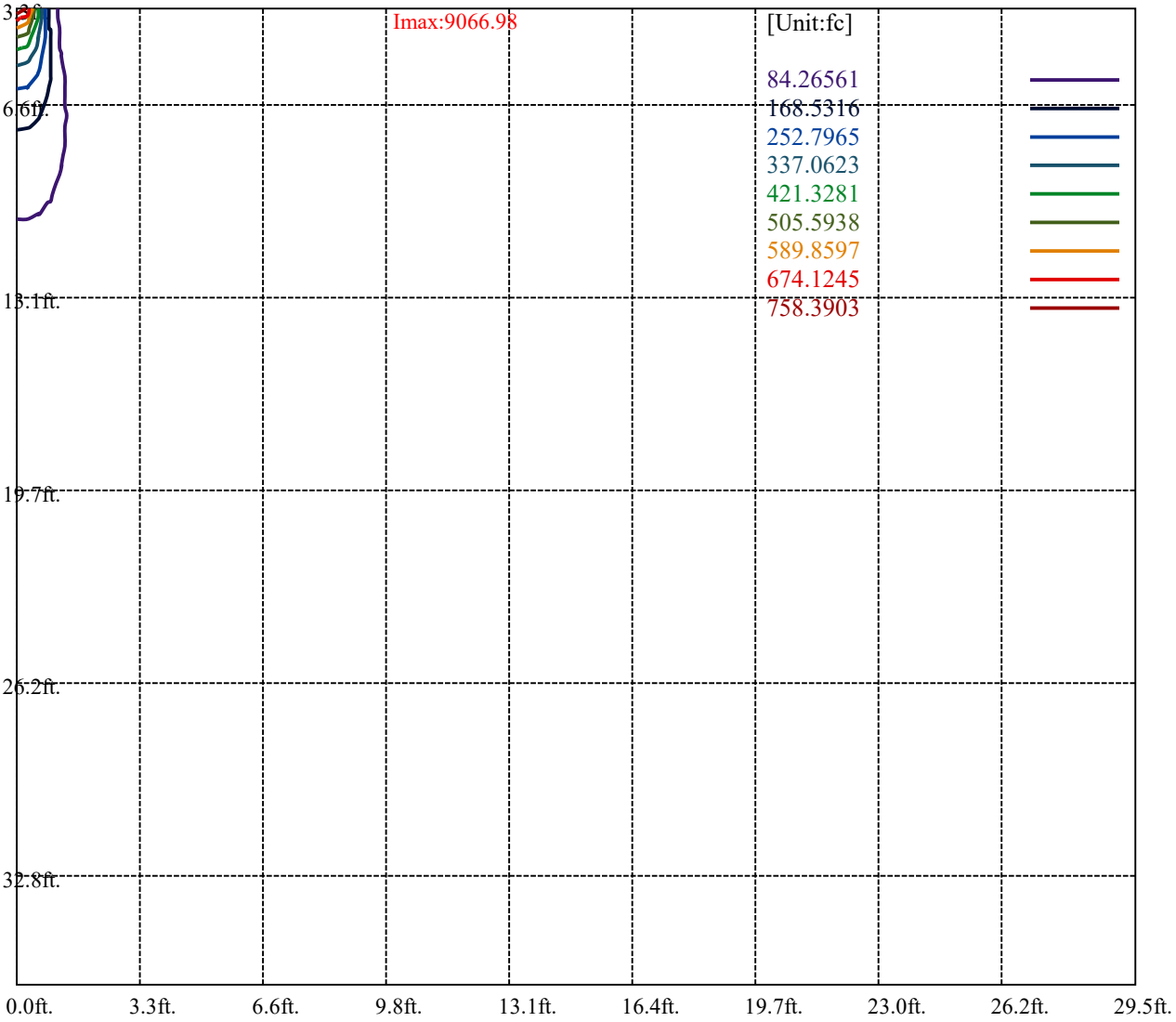


Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/9/17
Humidity(%): 60.0%

Operator: NT0100
Distance(feet): 22.35

Space ISO Lux diagram



Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/9/17
Humidity(%): 60.0%

Operator: NT0100
Distance(feet): 22.35

Nata 3-2546-M

Luminance Limitting Curve(no luminous side)

Luminance Table

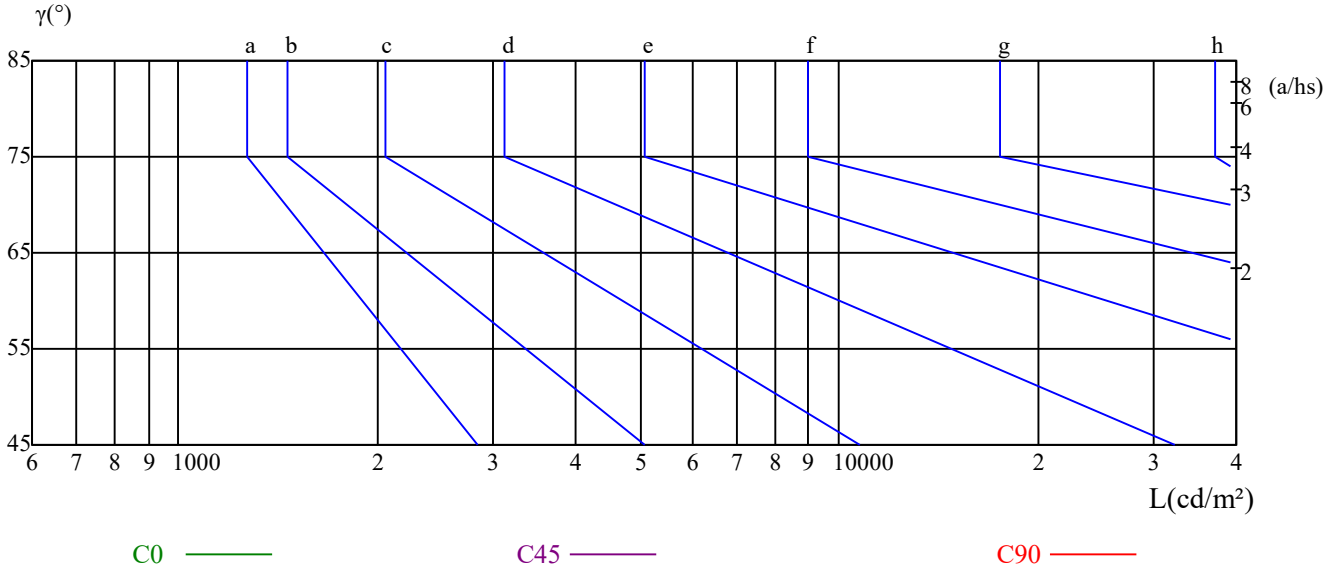
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

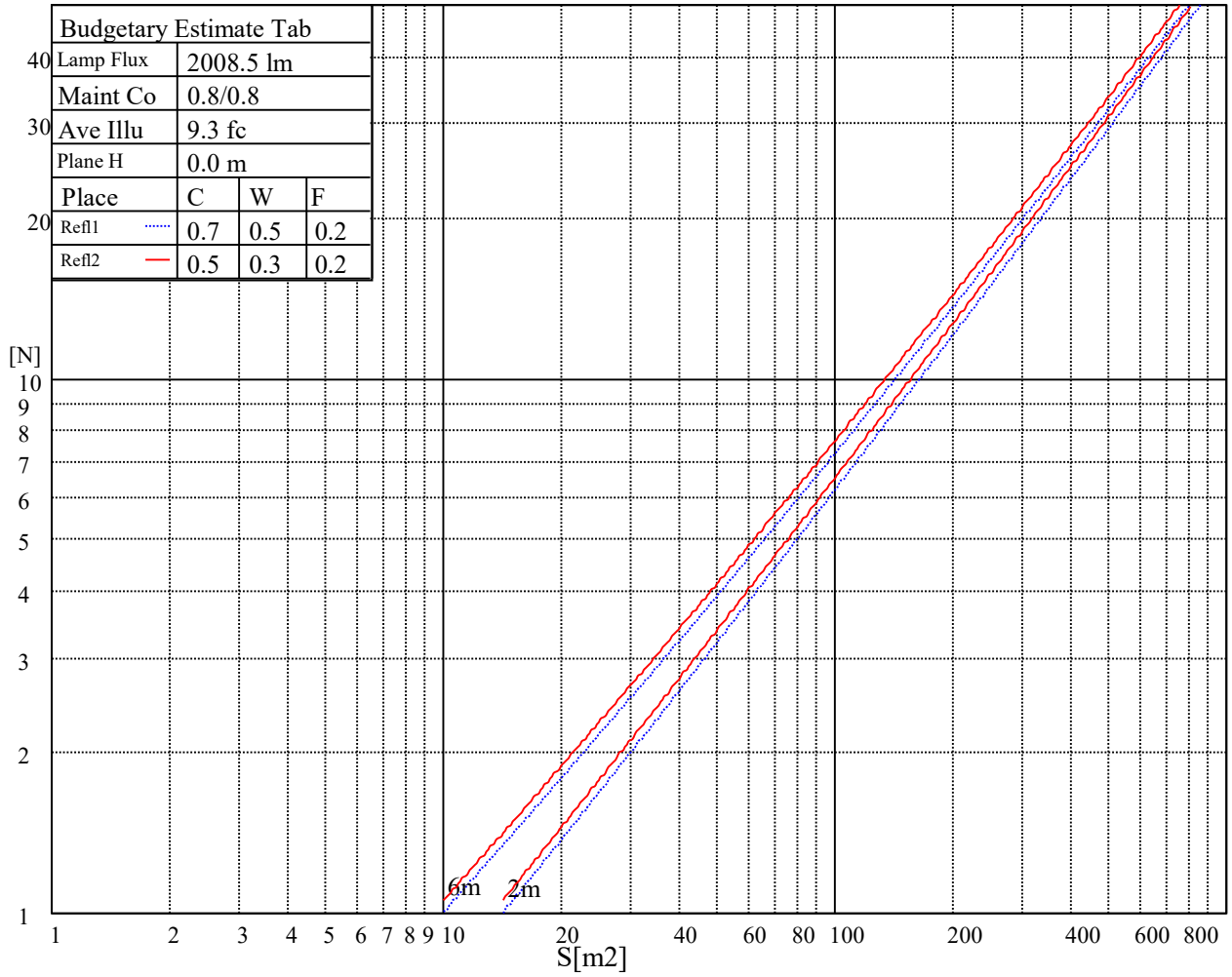


Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/9/17
Humidity(%): 60.0%

Operator: NT0100
Distance(feet): 22.35

Budgetary Estimate Table



Equipment: GMS 1800
Temperature(°C): 25.0

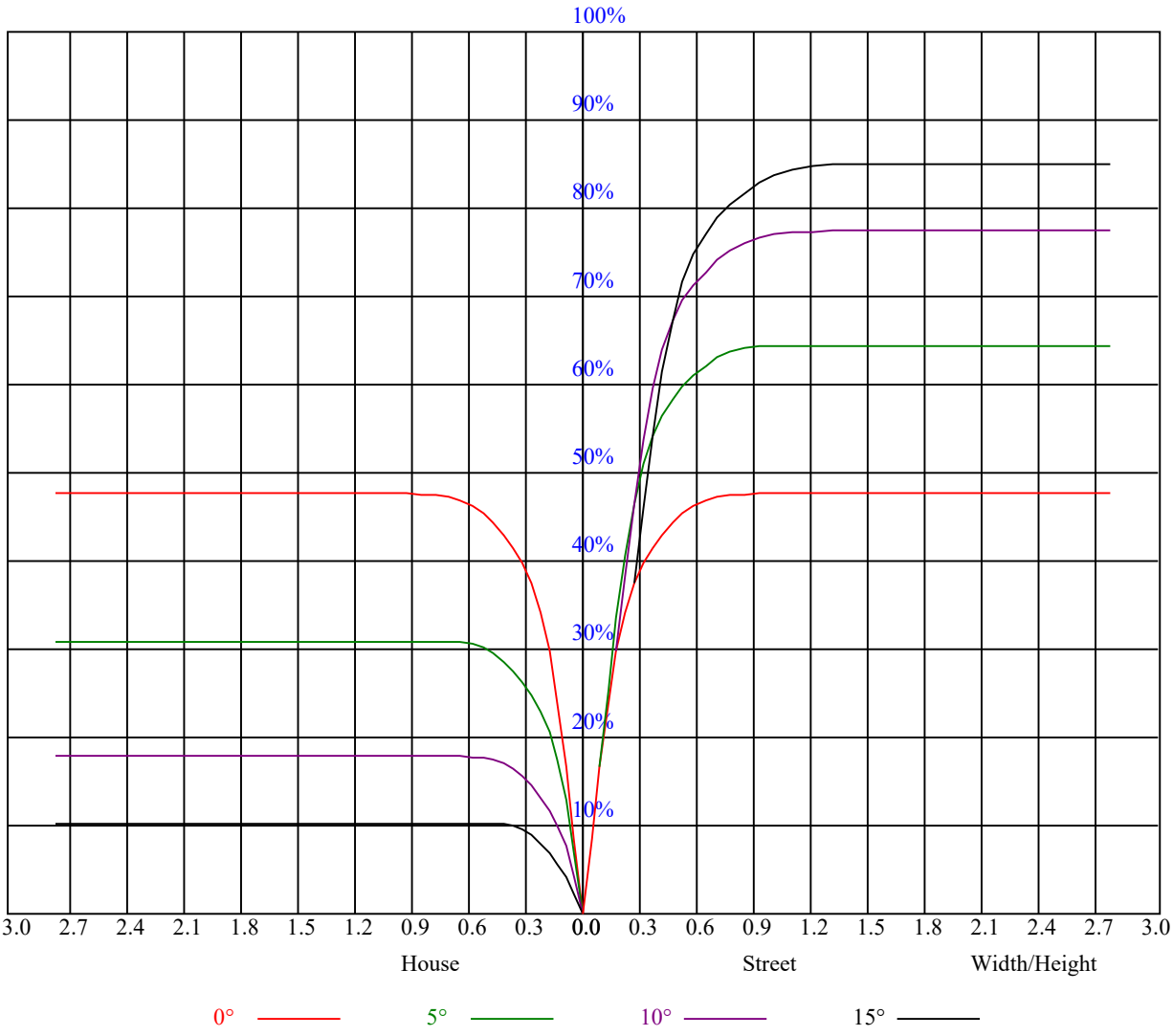
Date: 2020/9/17
Humidity(%): 60.0%

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	1.14	1.14	1.14	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	0.97	0.97	0.97	0.95
1	1.08	1.06	1.04	1.06	1.04	1.02	1.02	1.00	0.99	0.98	0.97	0.96	0.95	0.94	0.94	0.92
2	1.03	1.00	0.97	1.01	0.98	0.96	0.98	0.96	0.94	0.95	0.94	0.92	0.93	0.91	0.90	0.89
3	0.98	0.95	0.92	0.97	0.94	0.91	0.94	0.92	0.90	0.92	0.90	0.88	0.90	0.89	0.87	0.86
4	0.94	0.90	0.87	0.93	0.90	0.87	0.91	0.88	0.86	0.90	0.87	0.85	0.88	0.86	0.84	0.83
5	0.91	0.87	0.84	0.90	0.86	0.83	0.88	0.85	0.83	0.87	0.84	0.82	0.86	0.83	0.81	0.80
6	0.88	0.84	0.81	0.87	0.83	0.80	0.86	0.82	0.80	0.84	0.82	0.79	0.83	0.81	0.79	0.78
7	0.85	0.81	0.78	0.84	0.80	0.78	0.83	0.80	0.77	0.82	0.79	0.77	0.81	0.79	0.77	0.76
8	0.82	0.78	0.75	0.82	0.78	0.75	0.81	0.77	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.73
9	0.80	0.76	0.73	0.79	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.73	0.77	0.74	0.72	0.71
10	0.77	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.70

Coefficient Utilization Curve



Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/9/17
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	9062.34	9046.10	8995.98	8887.40	8618.73	8205.27	7654.00	7275.35	6389.04
45.0	9065.13	9066.52	9055.38	9031.71	8951.44	8728.24	8344.95	7845.18	7243.79
90.0	9066.52	9036.36	8967.21	8808.05	8513.85	8066.53	7515.25	6890.20	6499.48
135.0	9073.94	9063.73	9049.81	8995.06	8905.96	8659.10	8281.37	7764.44	7154.70
180.0	9062.34	9071.62	9054.45	9015.47	8936.59	8754.69	8413.62	7915.71	7273.03
225.0	9065.13	9034.04	8970.46	8871.16	8643.78	8228.01	7699.01	7190.89	6538.46
270.0	9066.52	9070.23	9043.32	8989.02	8888.33	8724.99	8431.26	7983.46	7408.06
315.0	9073.94	9032.64	8977.42	8901.32	8734.73	8416.41	7939.84	7360.27	6744.96
360.0	9062.34	9046.10	8995.98	8887.40	8618.73	8205.27	7654.00	7275.35	6389.04

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	6008.07	5364.92	4695.32	4013.19	3338.95	2676.31	2060.08	1619.71	1357.53
45.0	6607.14	5953.32	5293.46	4613.65	4196.49	3243.83	2844.29	2208.57	1734.32
90.0	5550.54	5125.02	4396.95	3686.98	3010.42	2405.78	1909.73	1563.10	1331.54
135.0	6492.52	5800.65	5087.89	4345.91	3641.04	2983.50	2370.98	1866.57	1645.23
180.0	6602.96	5926.40	5227.10	4520.85	4095.33	3150.09	2775.15	2155.20	1679.57
225.0	5717.59	5152.40	4427.58	3733.85	3082.34	2459.61	1899.52	1523.65	1295.35
270.0	6757.49	6071.65	5350.07	4598.80	3880.48	3225.73	2752.88	2086.06	1739.89
315.0	6060.51	5372.35	4658.20	3933.84	3269.81	2658.68	2095.81	1675.86	1397.44
360.0	6008.07	5364.92	4695.32	4013.19	3338.95	2676.31	2060.08	1619.71	1357.53

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1182.13	1016.93	896.47	865.47	800.88	750.85	727.23	696.61	664.22
45.0	1435.95	1235.49	1090.25	983.98	899.06	827.14	771.92	729.69	698.14
90.0	1162.17	915.68	886.03	871.92	822.31	762.22	726.07	700.78	676.38
135.0	1303.70	1201.61	1067.97	930.62	885.14	823.89	775.17	734.80	701.85
180.0	1392.80	1205.79	1068.44	962.17	878.18	813.22	763.10	724.12	693.50
225.0	1139.43	891.50	891.50	849.60	811.87	742.96	720.18	689.79	658.42
270.0	1435.49	1232.24	1087.46	973.77	883.75	815.54	762.64	722.73	693.03
315.0	1210.90	1022.03	893.22	893.22	798.28	765.75	723.61	692.43	668.76
360.0	1182.13	1016.93	896.47	865.47	800.88	750.85	727.23	696.61	664.22

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	651.50	634.33	619.53	580.55	520.09	449.60	374.99	301.53	226.36
45.0	672.62	650.81	633.17	619.72	588.63	532.01	466.59	424.82	318.09
90.0	652.80	635.03	620.32	581.39	520.51	452.01	378.51	301.39	225.89
135.0	676.33	653.13	635.03	620.18	583.06	528.30	460.55	388.63	311.60
180.0	670.30	649.88	632.71	616.93	575.17	515.77	449.88	379.81	304.17
225.0	646.63	631.13	614.24	569.42	509.32	443.01	371.23	296.01	219.67
270.0	667.51	648.95	633.17	618.32	577.95	520.41	455.45	385.38	309.28
315.0	650.67	634.89	621.06	583.20	527.93	460.92	387.93	310.72	233.32
360.0	651.50	634.33	619.53	580.55	520.09	449.60	374.99	301.53	226.36

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	158.28	96.29	45.29	14.48	9.23	6.82	4.64	3.67	3.06
45.0	272.16	272.16	120.46	63.34	22.23	9.56	7.61	5.34	4.22
90.0	156.61	96.05	44.78	13.50	9.14	7.29	5.48	4.32	3.71
135.0	249.88	249.88	108.12	54.34	17.91	9.84	7.47	5.15	3.99
180.0	245.71	245.71	102.88	49.23	16.29	9.88	7.61	5.52	4.36
225.0	150.53	88.82	37.77	11.79	8.82	6.73	4.55	3.71	2.92
270.0	263.34	234.10	167.01	61.30	20.42	9.33	7.47	5.61	4.13
315.0	162.18	97.68	46.36	25.06	9.70	8.45	5.99	4.55	3.90
360.0	158.28	96.29	45.29	14.48	9.23	6.82	4.64	3.67	3.06

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	2.83	2.69	2.46	2.41	2.18	2.13	2.23	2.13	2.00
45.0	3.34	2.97	2.51	2.32	2.18	2.04	1.95	1.90	2.04
90.0	3.34	3.06	2.78	2.46	2.18	2.13	2.09	2.00	1.86
135.0	3.29	2.88	2.51	2.23	2.04	1.86	1.72	1.62	1.53
180.0	3.57	3.02	2.60	2.27	2.09	1.86	1.76	1.76	1.72
225.0	2.69	2.41	2.23	1.95	1.90	1.81	1.72	1.62	1.62
270.0	3.48	3.16	2.74	2.46	2.27	2.13	2.00	1.86	1.81
315.0	3.29	2.92	2.60	2.37	2.18	2.13	2.13	2.04	2.00
360.0	2.83	2.69	2.46	2.41	2.18	2.13	2.23	2.13	2.00

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	1.90	1.86	1.72	1.58	1.48	1.53	1.53	1.48	1.48
45.0	2.09	2.04	2.00	1.86	1.72	1.67	1.62	1.62	1.62
90.0	1.90	1.86	1.72	1.53	1.48	1.48	1.53	1.44	1.39
135.0	1.44	1.44	1.35	1.25	1.25	1.21	1.11	1.07	1.11
180.0	1.67	1.58	1.48	1.39	1.35	1.30	1.16	1.11	1.07
225.0	1.58	1.48	1.35	1.35	1.35	1.21	1.16	1.11	1.11
270.0	1.72	1.67	1.62	1.39	1.39	1.39	1.35	1.25	1.21
315.0	1.95	1.86	1.62	1.58	1.58	1.53	1.48	1.44	1.48
360.0	1.90	1.86	1.72	1.58	1.48	1.53	1.53	1.48	1.48

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	1.44	1.44	1.25	1.16	0.97	0.88	0.84	0.74	0.65
45.0	1.58	1.48	1.48	1.48	1.35	1.11	0.97	0.88	0.79
90.0	1.39	1.35	1.30	1.07	1.02	0.88	0.74	0.74	0.65
135.0	1.11	1.02	0.97	0.93	0.88	0.79	0.70	0.65	0.65
180.0	0.97	0.88	0.84	0.84	0.84	0.79	0.70	0.70	0.60
225.0	1.07	1.02	1.02	0.88	0.74	0.70	0.65	0.56	0.60
270.0	1.25	1.21	1.16	1.07	0.97	0.93	0.74	0.70	0.65
315.0	1.48	1.39	1.25	1.11	1.02	0.88	0.74	0.70	0.70
360.0	1.44	1.44	1.25	1.16	0.97	0.88	0.84	0.74	0.65

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	0.56	0.56	0.51	0.46	0.42	0.46	0.46	0.42	0.32
45.0	0.70	0.60	0.60	0.51	0.51	0.51	0.42	0.42	0.42
90.0	0.51	0.51	0.51	0.51	0.42	0.37	0.42	0.42	0.37
135.0	0.60	0.51	0.51	0.51	0.46	0.51	0.46	0.42	0.46
180.0	0.51	0.56	0.56	0.51	0.46	0.42	0.42	0.42	0.37
225.0	0.56	0.46	0.46	0.42	0.42	0.37	0.37	0.42	0.37
270.0	0.65	0.56	0.56	0.56	0.51	0.46	0.46	0.46	0.42
315.0	0.60	0.51	0.56	0.56	0.46	0.46	0.46	0.46	0.42
360.0	0.56	0.56	0.51	0.46	0.42	0.46	0.46	0.42	0.32

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	0.37	0.42	0.32	0.42	0.37	0.32	0.37	0.32	0.32
45.0	0.42	0.37	0.42	0.42	0.37	0.37	0.37	0.37	0.37
90.0	0.32	0.37	0.32	0.32	0.37	0.32	0.32	0.32	0.32
135.0	0.42	0.42	0.42	0.37	0.37	0.37	0.37	0.37	0.46
180.0	0.32	0.42	0.32	0.37	0.32	0.32	0.32	0.37	0.28
225.0	0.32	0.37	0.28	0.37	0.32	0.32	0.32	0.28	0.32
270.0	0.37	0.37	0.32	0.42	0.37	0.37	0.42	0.37	0.37
315.0	0.37	0.42	0.37	0.42	0.37	0.37	0.42	0.42	0.37
360.0	0.37	0.42	0.32	0.42	0.37	0.32	0.37	0.32	0.32

Intensity data(cd)

C/γ(°)	90.0
0.0	0.32
45.0	0.32
90.0	0.32
135.0	0.37
180.0	0.28
225.0	0.28
270.0	0.32
315.0	0.37
360.0	0.32