NATA LIGHTING CO.,LTD.
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Address:380JinOU Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: 3-2547-M
Luminaire: 92.70.131.00
Report No: 200917-B030
Test No: 200917-C030
LampCAT: TRIDONIC SLE G7 15MM
Lamp flux(lm): 2008.5
Number of Lamps: 1
Length(feet)(ft.):0.000
Phm Type: C

Voltage(V): 230.6000
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): 1907.19
Efficiency(%): 94.95%
Lumens(lm)/Power(W): 99.02
Central intensity(cd): 4813.187
Maximum intensity(cd): 4813.187
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=34.3
[C90/270]Total=34.3
Field angle(10%Imax): [C0/180]Total=65.9
[C90/270]Total=65.9
Maximum s/h(1/2): C0_180=0.57 C90_270=0.57
Maximum s/h(1/4): C0_180=0.55 C90_270=0.55
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 95.01%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 99.674%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4813.187	1.152	1.152	.057%	.060%
1.0	4807.560	9.201	10.352	.458%	.543%
2.0	4793.349	18.345	28.697	.913%	1.505%
3.0	4763.477	27.339	56.036	1.361%	2.938%
4.0	4725.195	36.146	92.181	1.800%	4.833%
5.0	4670.149	44.635	136.817	2.222%	7.174%
6.0	4600.776	52.737	189.554	2.626%	9.939%
7.0	4507.447	60.239	249.793	2.999%	13.097%
8.0	4394.513	67.068	316.861	3.339%	16.614%
9.0	4252.054	72.943	389.804	3.632%	20.439%
10.0	4076.476	77.626	467.43	3.865%	24.509%
11.0	3894.343	81.486	548.916	4.057%	28.781%
12.0	3661.572	83.483	632.399	4.156%	33.159%
13.0	3424.683	84.481	716.881	4.206%	37.588%
14.0	3191.390	84.666	801.546	4.215%	42.028%
15.0	2925.209	83.024	884.57	4.134%	46.381%
16.0	2672.949	80.794	965.365	4.023%	50.617%
17.0	2437.394	78.147	1043.512	3.891%	54.715%
18.0	2221.386	75.276	1118.788	3.748%	58.662%
19.0	1958.279	69.915	1188.703	3.481%	62.328%
20.0	1720.810	64.541	1253.244	3.213%	65.712%
21.0	1528.178	60.056	1313.299	2.990%	68.861%
22.0	1314.102	53.983	1367.282	2.688%	71.691%
23.0	1172.688	50.247	1417.53	2.502%	74.326%
24.0	1024.336	45.689	1463.218	2.275%	76.721%
25.0	953.438	44.187	1507.405	2.200%	79.038%
26.0	886.414	42.612	1550.017	2.122%	81.272%
27.0	833.735	41.507	1591.524	2.067%	83.449%
28.0	782.558	40.288	1631.812	2.006%	85.561%
29.0	739.344	39.307	1671.119	1.957%	87.622%
30.0	687.959	37.721	1708.84	1.878%	89.600%
31.0	627.884	35.463	1744.303	1.766%	91.459%
32.0	553.551	32.168	1776.471	1.602%	93.146%
33.0	477.432	28.515	1804.986	1.420%	94.641%
34.0	390.072	23.920	1828.905	1.191%	95.895%
35.0	313.223	19.701	1848.607	.981%	96.928%
36.0	231.605	14.929	1863.535	.743%	97.711%
37.0	180.579	11.917	1875.453	.593%	98.336%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	139.964	9.450	1884.902	.470%	98.832%
39.0	52.378	3.615	1888.517	.180%	99.021%
40.0	30.765	2.169	1890.686	.108%	99.135%
41.0	20.226	1.455	1892.141	.072%	99.211%
42.0	16.201	1.189	1893.33	.059%	99.273%
43.0	13.184	0.986	1894.316	.049%	99.325%
44.0	10.777	0.821	1895.137	.041%	99.368%
45.0	9.165	0.711	1895.847	.035%	99.405%
46.0	7.935	0.626	1896.473	.031%	99.438%
47.0	7.036	0.564	1897.037	.028%	99.468%
48.0	6.293	0.513	1897.55	.026%	99.495%
49.0	5.626	0.466	1898.016	.023%	99.519%
50.0	5.128	0.431	1898.447	.021%	99.542%
51.0	4.733	0.403	1898.85	.020%	99.563%
52.0	4.432	0.383	1899.233	.019%	99.583%
53.0	4.217	0.369	1899.602	.018%	99.602%
54.0	4.060	0.360	1899.963	.018%	99.621%
55.0	3.898	0.350	1900.313	.017%	99.640%
56.0	3.828	0.348	1900.661	.017%	99.658%
57.0	3.770	0.347	1901.007	.017%	99.676%
58.0	3.689	0.343	1901.351	.017%	99.694%
59.0	3.643	0.342	1901.693	.017%	99.712%
60.0	3.614	0.343	1902.036	.017%	99.730%
61.0	3.590	0.344	1902.38	.017%	99.748%
62.0	3.556	0.344	1902.725	.017%	99.766%
63.0	3.498	0.342	1903.066	.017%	99.784%
64.0	3.440	0.339	1903.406	.017%	99.802%
65.0	3.376	0.336	1903.741	.017%	99.819%
66.0	3.254	0.326	1904.067	.016%	99.836%
67.0	3.115	0.314	1904.381	.016%	99.853%
68.0	2.981	0.303	1904.685	.015%	99.869%
69.0	2.749	0.281	1904.966	.014%	99.884%
70.0	2.494	0.257	1905.223	.013%	99.897%
71.0	2.274	0.236	1905.459	.012%	99.909%
72.0	1.961	0.204	1905.663	.010%	99.920%
73.0	1.711	0.179	1905.843	.009%	99.930%
74.0	1.456	0.153	1905.996	.008%	99.938%
75.0	1.206	0.128	1906.124	.006%	99.944%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	0.998	0.106	1906.23	.005%	99.950%
77.0	0.858	0.092	1906.322	.005%	99.955%
78.0	0.812	0.087	1906.409	.004%	99.959%
79.0	0.777	0.084	1906.493	.004%	99.964%
80.0	0.731	0.079	1906.572	.004%	99.968%
81.0	0.684	0.074	1906.646	.004%	99.972%
82.0	0.673	0.073	1906.719	.004%	99.975%
83.0	0.644	0.070	1906.789	.003%	99.979%
84.0	0.597	0.065	1906.854	.003%	99.983%
85.0	0.603	0.066	1906.92	.003%	99.986%
86.0	0.586	0.064	1906.984	.003%	99.989%
87.0	0.574	0.063	1907.047	.003%	99.993%
88.0	0.528	0.058	1907.105	.003%	99.996%
89.0	0.505	0.055	1907.16	.003%	99.999%
90.0	0.481	0.026	1907.186	.001%	100.000%

Zonal flux distribution table

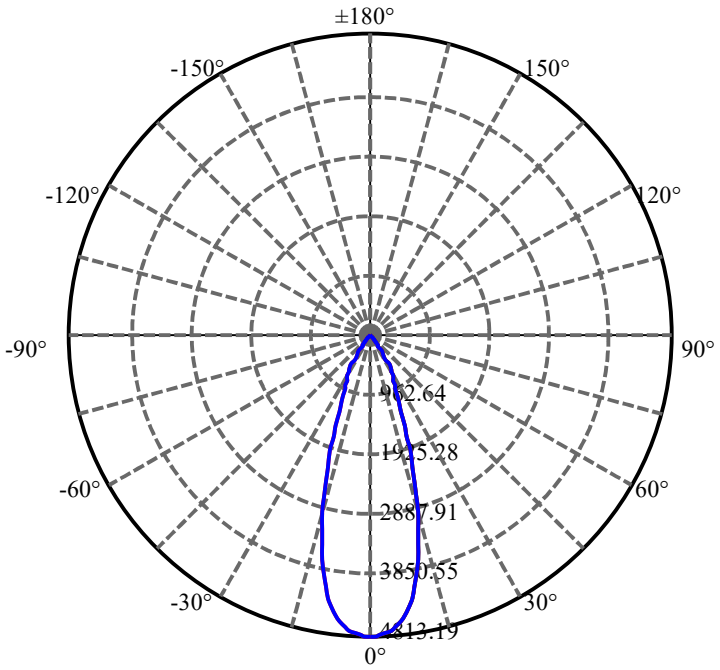
ZONAL LUMEN SUMMARY

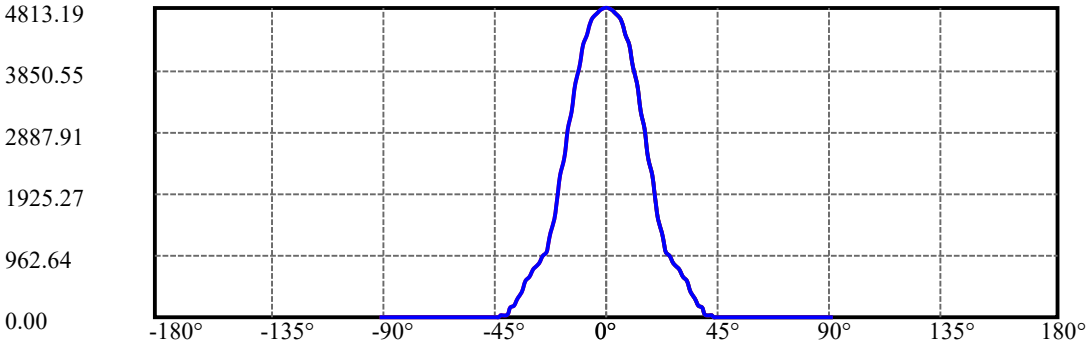
Zone	Lumens	%Lamp	%Fixt
0-30	1708.84	85.08%	89.60%
0-40	1890.69	94.13%	99.13%
0-60	1902.04	94.70%	99.73%
0-90	1907.16	94.95%	100.00%
0-120	1907.16	94.95%	100.00%
0-180	1907.19	94.95%	100.00%
60-90	5.47	0.27%	0.29%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-25.43	1525.75	75.96%	80.00%

ZONAL LUMEN SUMMARY

0-10	467.43
10-20	785.81
20-30	455.60
30-40	181.85
40-50	7.76
50-60	3.59
60-70	3.19
70-80	1.35
80-90	0.59
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):

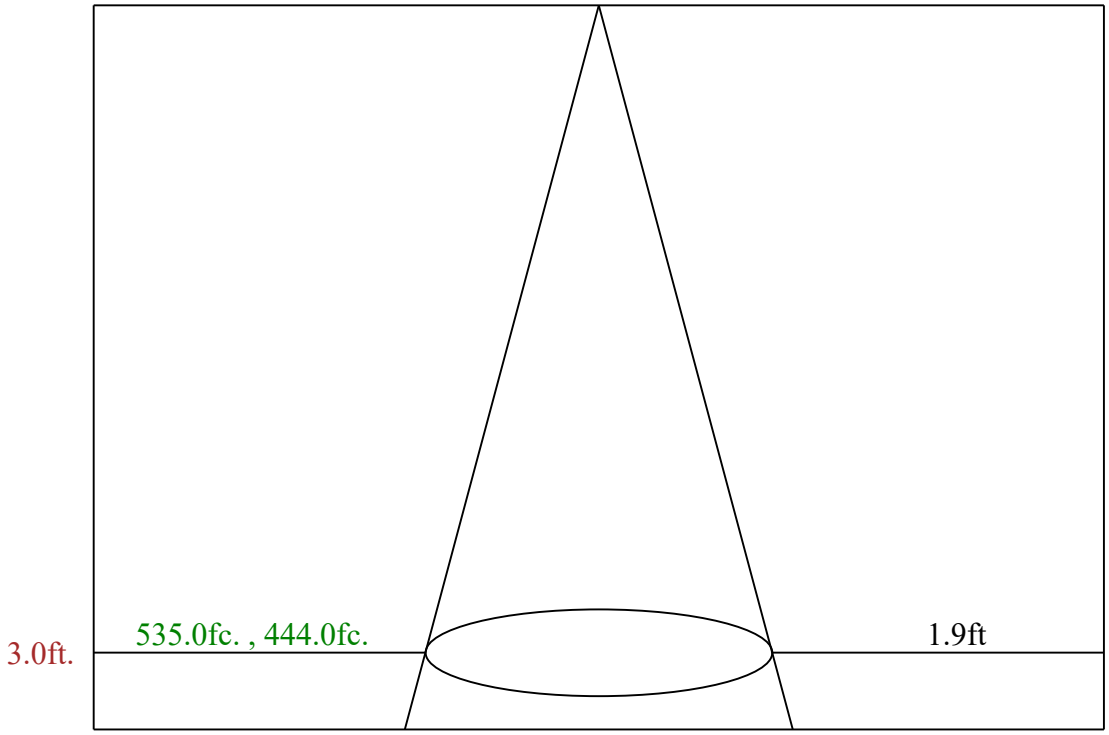
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:32.9 Right:32.9
:C90/270Left:32.9 Right:32.9

Beam Angle(50%Imax):C0/180Left:17.1 Right:17.1
:C90/270Left:17.1 Right:17.1

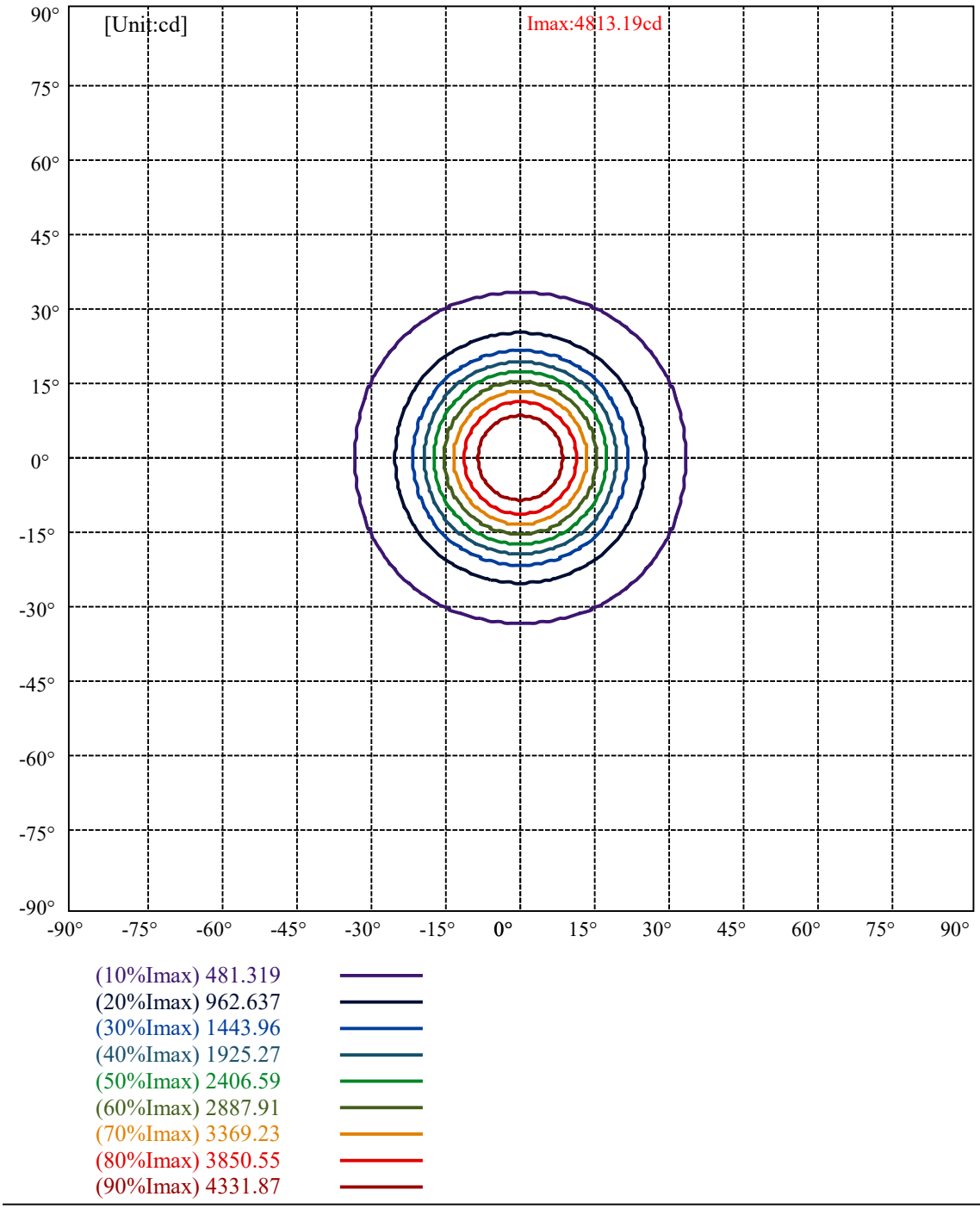
Lux distance Curve



Max , Ave

Beam angle of C0 plane 34.31

ISO-Intensity(V-H)

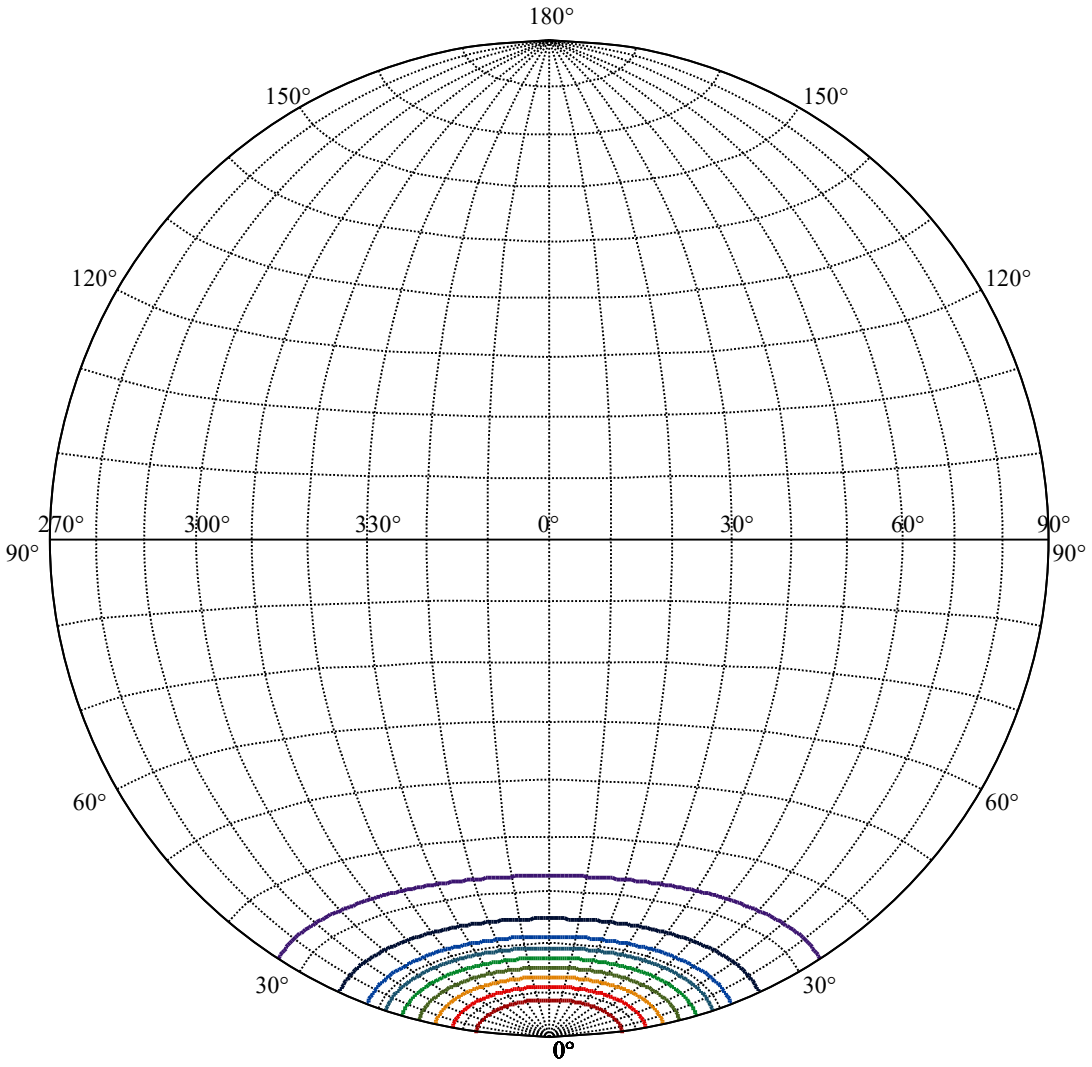


Equipment: GMS 1800
Temperature(°C): 25.0

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

Operator: NT0100
Distance(feet): 22.35

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:4813.19

(10%Imax) 481.319
(20%Imax) 962.637
(30%Imax) 1443.96
(40%Imax) 1925.27
(50%Imax) 2406.59
(60%Imax) 2887.91
(70%Imax) 3369.23
(80%Imax) 3850.55
(90%Imax) 4331.87

Equipment: GMS 1800
Temperature(°C): 25.0

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

Operator: NT0100
Distance(feet): 22.35

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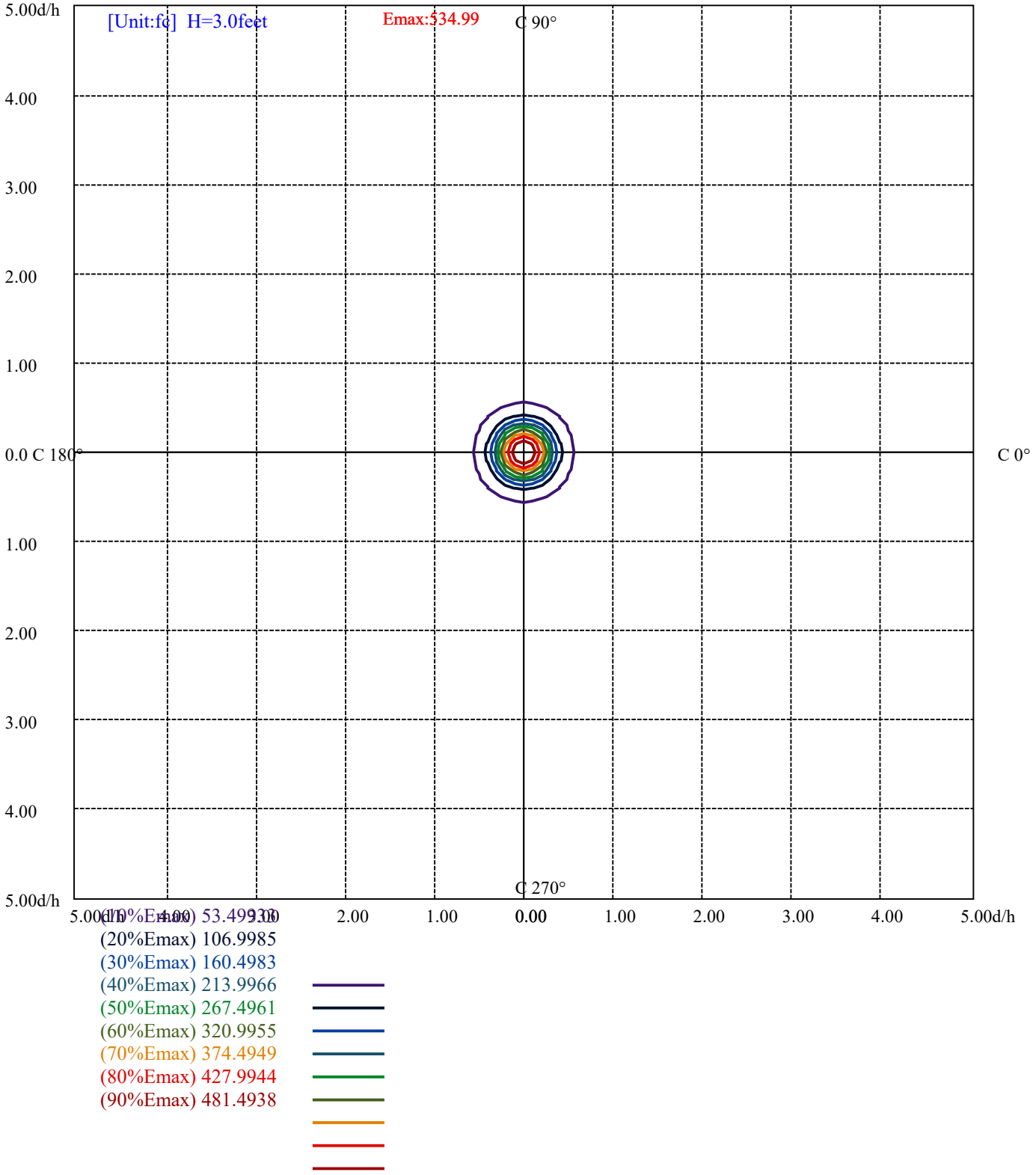
ISO illuminance diagram

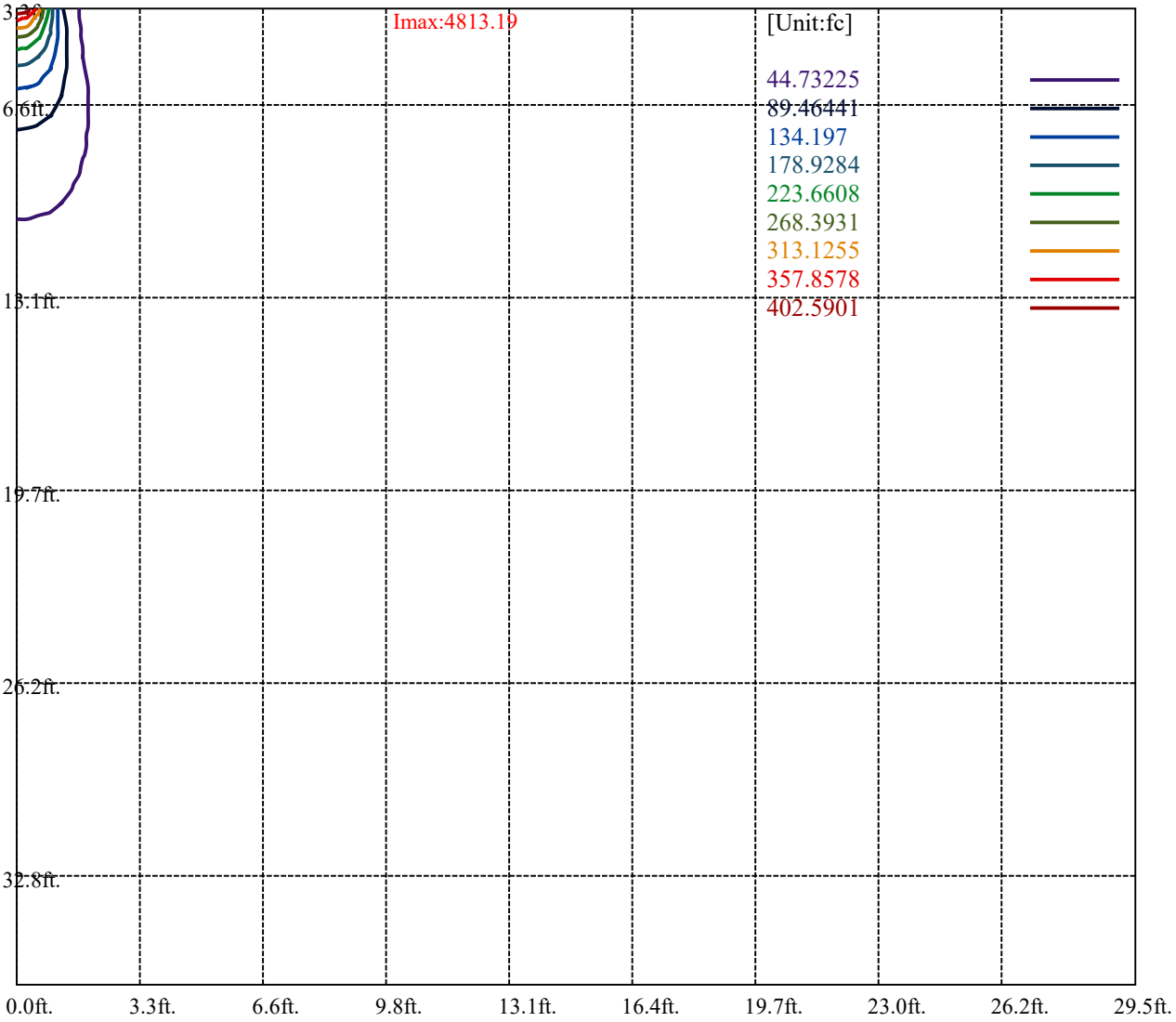


Equipment: GMS 1800
Temperature(°C): 25.0

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

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Luminance Limitting Curve(no luminous side)

Luminance Table

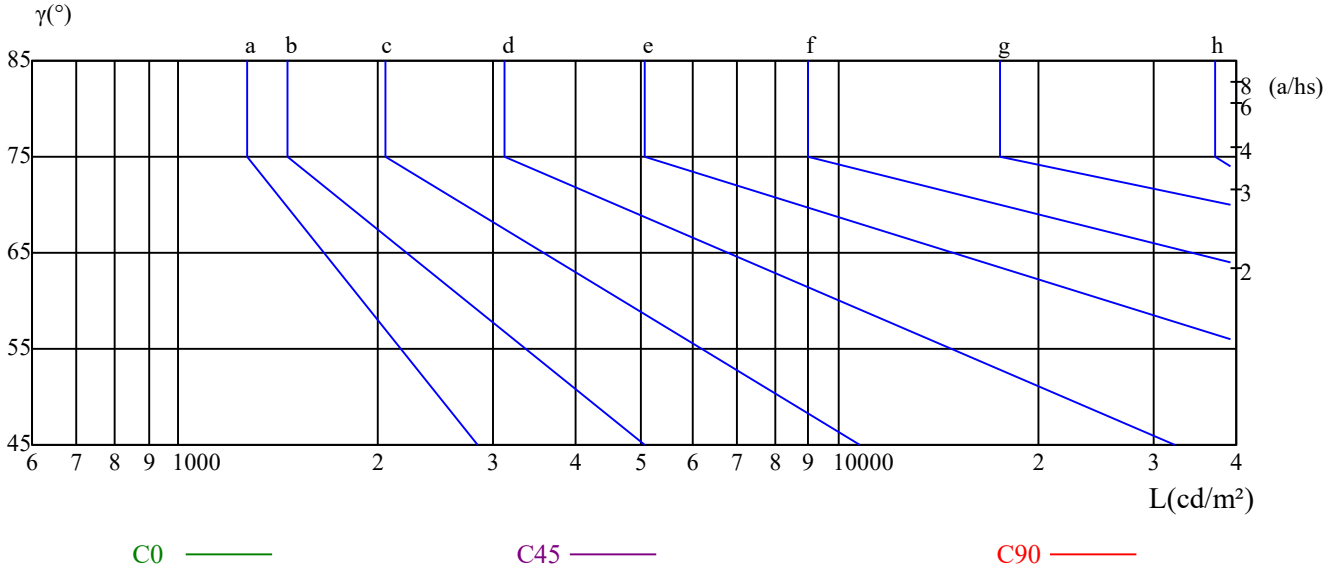
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

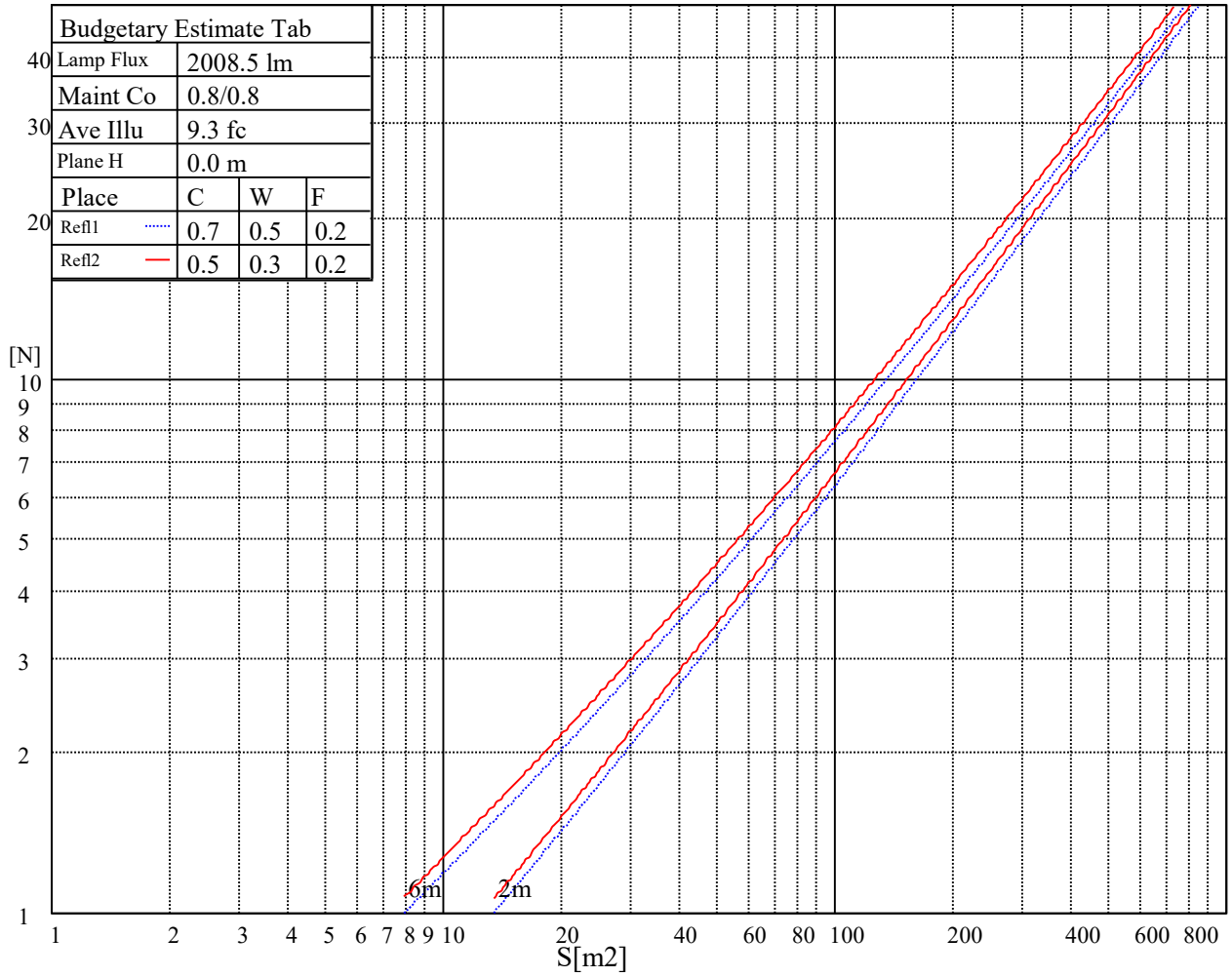


Equipment: GMS 1800
Temperature(°C): 25.0

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

Operator: NT0100
Distance(feet): 22.35

Budgetary Estimate Table



Equipment: GMS 1800
Temperature(°C): 25.0

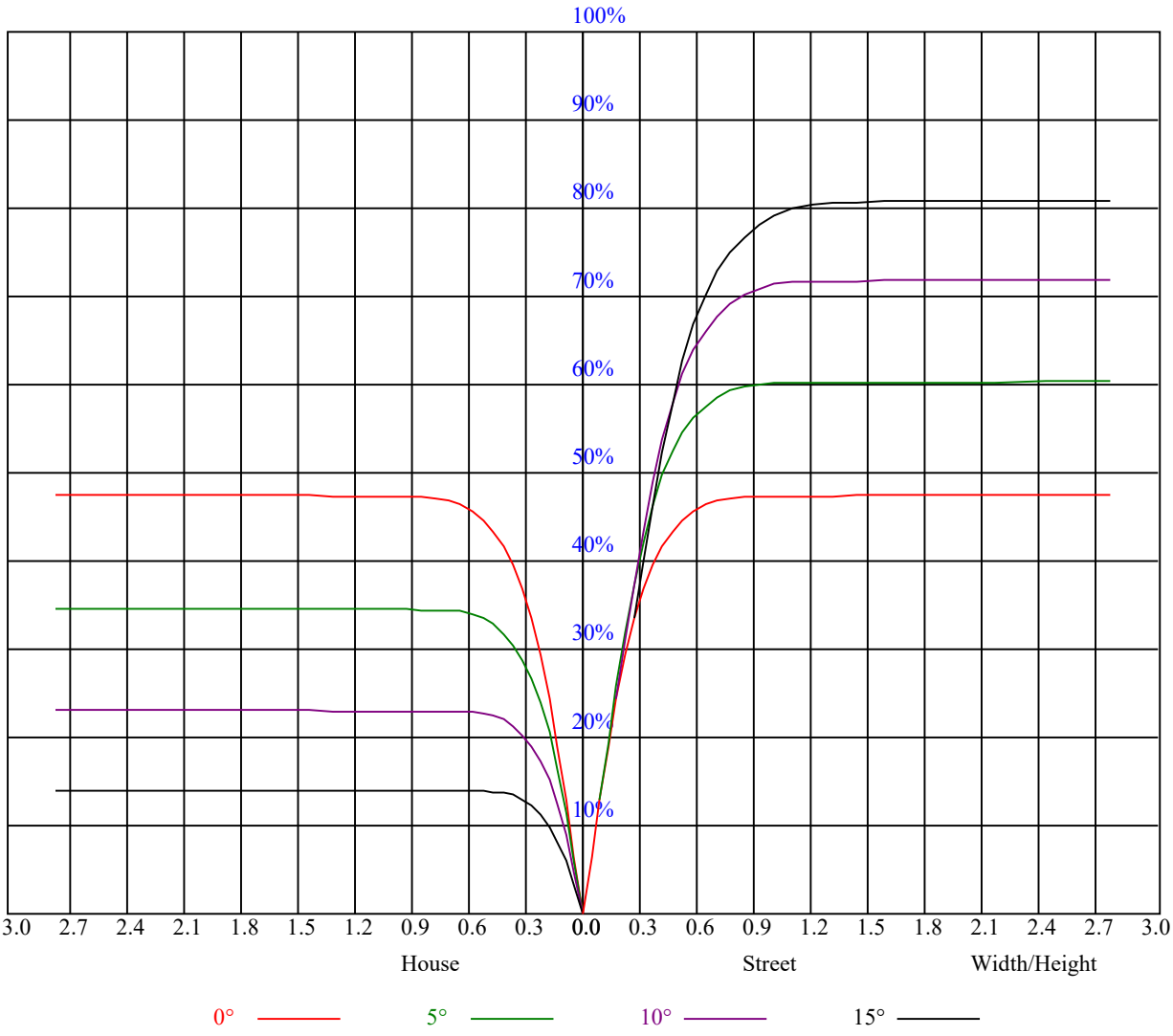
Date: 2020/9/17
Humidity(%): 60.0%

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	1.13	1.13	1.13	1.10	1.10	1.10	1.06	1.06	1.06	1.01	1.01	1.01	0.97	0.97	0.97	0.95
1	1.07	1.05	1.03	1.05	1.03	1.01	1.01	0.99	0.98	0.97	0.96	0.95	0.94	0.93	0.92	0.91
2	1.01	0.98	0.95	0.99	0.96	0.94	0.96	0.94	0.92	0.93	0.92	0.90	0.91	0.89	0.88	0.87
3	0.96	0.92	0.89	0.95	0.91	0.88	0.92	0.89	0.87	0.90	0.87	0.85	0.88	0.86	0.84	0.83
4	0.91	0.87	0.84	0.90	0.86	0.83	0.88	0.85	0.82	0.86	0.84	0.81	0.85	0.82	0.81	0.79
5	0.87	0.83	0.79	0.86	0.82	0.79	0.85	0.81	0.78	0.83	0.80	0.78	0.82	0.79	0.77	0.76
6	0.83	0.79	0.76	0.83	0.79	0.75	0.81	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.74	0.73
7	0.80	0.75	0.72	0.79	0.75	0.72	0.78	0.75	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.70
8	0.77	0.72	0.69	0.76	0.72	0.69	0.75	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.67
9	0.74	0.70	0.67	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.65
10	0.71	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.62

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	4813.65	4802.51	4778.85	4739.41	4685.11	4609.94	4514.81	4392.77	4243.82
45.0	4814.58	4812.72	4801.12	4763.54	4739.41	4682.79	4607.16	4510.64	4390.92
90.0	4806.23	4784.88	4747.76	4694.86	4625.25	4539.87	4437.78	4316.21	4171.43
135.0	4818.29	4807.62	4789.06	4759.36	4716.20	4659.59	4606.69	4510.64	4435.00
180.0	4813.65	4811.33	4805.30	4786.74	4759.82	4729.66	4680.01	4615.04	4528.27
225.0	4814.58	4810.87	4803.44	4779.78	4744.05	4692.07	4622.01	4525.95	4400.20
270.0	4806.23	4814.58	4819.22	4810.40	4798.34	4769.10	4729.66	4674.90	4598.80
315.0	4818.29	4815.97	4802.05	4773.74	4733.37	4678.15	4608.08	4513.42	4387.67
360.0	4813.65	4802.51	4778.85	4739.41	4685.11	4609.94	4514.81	4392.77	4243.82

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4066.09	3865.17	3645.21	3412.27	3174.22	2933.85	2695.80	2459.61	2224.34
45.0	4244.75	4070.73	3871.20	3656.82	3432.22	3203.92	2974.69	2748.70	2530.14
90.0	4007.16	3825.72	3631.76	3423.87	3209.49	2989.54	2766.34	2539.89	2309.26
135.0	4319.46	4145.91	4004.84	3806.70	3586.75	3348.23	3098.12	2834.55	2566.34
180.0	4415.97	4271.66	4098.11	3894.86	3667.49	3423.87	3175.61	2924.57	2675.85
225.0	4241.50	4049.85	3830.36	3591.85	3338.49	3078.63	2819.70	2569.12	2328.29
270.0	4496.25	4359.36	4185.81	3976.53	3735.24	3472.59	3199.28	2921.32	2644.29
315.0	4225.26	4023.40	3887.44	3529.67	3253.57	3080.49	2672.14	2385.83	2220.63
360.0	4066.09	3865.17	3645.21	3412.27	3174.22	2933.85	2695.80	2459.61	2224.34

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2084.21	1762.63	1548.71	1430.38	1257.76	1119.48	908.21	908.21	869.37
45.0	2321.79	2114.83	1907.87	1705.55	1518.09	1384.44	1220.64	1115.77	1046.63
90.0	2122.72	1887.92	1613.68	1442.45	1255.44	1105.10	907.93	907.93	838.32
135.0	2300.45	2036.41	1776.55	1527.83	1304.17	1117.16	970.99	867.51	796.51
180.0	2433.16	2197.89	1969.13	1745.93	1534.79	1347.79	1191.87	1070.76	1012.75
225.0	2188.15	1872.14	1659.62	1542.68	1372.38	1225.28	1112.06	1004.86	909.37
270.0	2371.91	2106.48	1849.41	1604.40	1383.98	1196.05	1045.70	976.56	887.00
315.0	1948.71	1687.92	1441.52	1226.21	886.21	886.21	837.30	775.91	731.36
360.0	2084.21	1762.63	1548.71	1430.38	1257.76	1119.48	908.21	908.21	869.37

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	813.03	765.47	710.81	636.05	556.14	473.55	388.44	304.27	239.16
45.0	971.92	908.35	851.73	796.98	719.02	633.17	544.54	455.45	364.50
90.0	782.73	737.02	691.83	622.92	547.75	468.12	418.56	302.46	254.85
135.0	764.50	707.88	677.72	662.87	628.53	571.92	503.24	429.93	350.11
180.0	932.94	867.51	813.68	768.21	724.12	655.91	575.63	489.79	404.41
225.0	887.09	836.23	791.50	726.21	644.54	558.19	471.23	378.70	292.02
270.0	819.72	767.28	725.98	693.03	656.38	592.80	519.49	441.06	361.25
315.0	697.95	670.71	651.50	597.40	546.58	474.75	398.33	318.93	239.49
360.0	813.03	765.47	710.81	636.05	556.14	473.55	388.44	304.27	239.16

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	147.56	96.47	45.15	23.53	18.93	14.57	11.51	9.33	7.66
45.0	275.87	260.09	260.09	67.66	47.98	36.89	30.67	25.01	21.02
90.0	178.98	85.71	53.87	22.64	15.78	12.99	10.26	8.49	6.96
135.0	269.84	238.75	169.65	65.80	26.91	13.55	10.95	8.17	6.68
180.0	319.95	270.30	270.30	101.11	50.81	29.88	22.60	19.03	15.59
225.0	213.73	144.22	106.82	58.38	39.26	33.09	27.15	22.97	19.49
270.0	280.51	247.56	164.13	63.06	35.68	12.99	11.23	8.45	5.66
315.0	166.40	101.53	49.70	16.84	10.77	7.84	5.24	4.04	3.16
360.0	147.56	96.47	45.15	23.53	18.93	14.57	11.51	9.33	7.66

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	6.59	5.89	5.29	4.73	4.32	4.04	3.85	3.62	3.48
45.0	17.54	15.03	13.04	11.46	9.98	8.77	7.93	7.29	6.73
90.0	6.22	5.66	5.20	4.83	4.45	4.22	4.08	3.99	3.85
135.0	5.57	4.36	3.85	3.39	2.92	2.74	2.46	2.37	2.46
180.0	12.85	11.18	9.79	8.68	7.84	7.05	6.36	5.89	5.57
225.0	16.89	14.71	12.99	11.65	10.35	9.23	8.40	7.75	7.15
270.0	4.92	4.18	3.71	3.43	3.16	2.97	2.83	2.69	2.64
315.0	2.74	2.46	2.41	2.18	2.00	2.00	1.95	1.86	1.86
360.0	6.59	5.89	5.29	4.73	4.32	4.04	3.85	3.62	3.48

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	3.39	3.25	3.11	2.78	2.55	2.46	2.51	2.51	2.51
45.0	6.17	5.85	5.61	5.38	5.20	5.06	4.83	4.78	4.64
90.0	3.85	3.90	3.90	3.85	3.76	3.71	3.71	3.71	3.67
135.0	2.51	2.60	2.78	2.97	3.11	3.11	3.20	3.34	3.48
180.0	5.24	4.97	4.83	4.78	4.64	4.59	4.69	4.59	4.41
225.0	6.82	6.13	5.85	5.71	5.38	5.24	4.97	4.69	4.59
270.0	2.64	2.64	2.64	2.69	2.78	2.88	2.92	2.92	2.92
315.0	1.86	1.86	1.90	2.00	2.09	2.09	2.09	2.18	2.23
360.0	3.39	3.25	3.11	2.78	2.55	2.46	2.51	2.51	2.51

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	2.46	2.46	2.46	2.55	2.55	2.41	2.23	1.95	1.76
45.0	4.45	4.41	4.32	4.13	3.99	3.76	3.43	3.11	2.74
90.0	3.62	3.57	3.53	3.29	3.11	3.02	2.78	2.51	2.18
135.0	3.48	3.48	3.48	3.34	3.16	3.16	2.88	2.60	2.41
180.0	4.36	4.32	4.27	4.08	3.99	3.76	3.48	3.25	2.97
225.0	4.41	4.18	3.85	3.62	3.39	3.20	2.83	2.60	2.41
270.0	2.92	2.92	2.92	2.92	2.69	2.55	2.51	2.32	2.13
315.0	2.27	2.18	2.18	2.09	2.04	2.00	1.86	1.62	1.58
360.0	2.46	2.46	2.46	2.55	2.55	2.41	2.23	1.95	1.76

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	1.44	1.30	1.11	0.97	0.88	0.79	0.84	0.79	0.74
45.0	2.41	2.04	1.72	1.16	1.02	0.93	0.93	0.88	0.88
90.0	1.90	1.62	1.39	1.11	0.97	0.88	0.88	0.84	0.79
135.0	2.18	1.86	1.58	1.44	1.21	0.93	0.84	0.84	0.74
180.0	2.55	2.32	1.95	1.62	1.35	1.07	0.88	0.79	0.74
225.0	2.04	1.76	1.48	1.25	0.93	0.84	0.79	0.79	0.70
270.0	1.81	1.58	1.35	1.21	0.93	0.74	0.65	0.70	0.65
315.0	1.35	1.21	1.07	0.88	0.70	0.70	0.70	0.60	0.60
360.0	1.44	1.30	1.11	0.97	0.88	0.79	0.84	0.79	0.74

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	0.70	0.70	0.70	0.65	0.70	0.65	0.65	0.56	0.56
45.0	0.79	0.79	0.74	0.65	0.65	0.65	0.60	0.56	0.56
90.0	0.74	0.74	0.74	0.65	0.70	0.65	0.65	0.60	0.51
135.0	0.70	0.70	0.65	0.65	0.65	0.60	0.60	0.60	0.56
180.0	0.74	0.70	0.65	0.60	0.56	0.56	0.56	0.56	0.42
225.0	0.60	0.65	0.60	0.56	0.56	0.56	0.51	0.51	0.46
270.0	0.60	0.56	0.51	0.51	0.46	0.46	0.42	0.37	0.46
315.0	0.60	0.56	0.56	0.51	0.56	0.56	0.60	0.46	0.51
360.0	0.70	0.70	0.70	0.65	0.70	0.65	0.65	0.56	0.56

Intensity data(cd)

C/γ(°)	90.0
0.0	0.42
45.0	0.56
90.0	0.56
135.0	0.56
180.0	0.42
225.0	0.51
270.0	0.37
315.0	0.46
360.0	0.42