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Nata

Client:

LumCAT: 2-2162-M

Luminaire: BJB 47.360.5080

Report No: nt0100

Test No: GC2020031905

LampCAT: LUMILEDS LUXEON 1205

Lamp flux(lm): 2448.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 35.0200

Current(A): 0.5040

Power (W): 17.6500

PF: 0.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 1919.04, Efficiency(%): 78.39% , Luminous Efficacy(lm/W): 108.73

Central intensity(cd): 12993.750, Maximum intensity(cd): 12993.750

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=17.4

[C90/270]Total=17.4

Field angle(10%Imax): [C0/180]Total=41.0

[C90/270]Total=41.0

Maximum s/h(1/2): C0_180=0.30 C90_270=0.30

Maximum s/h(1/4): C0_180=0.34 C90_270=0.34

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 78.39%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.930%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	12993.750	0.000	0	.000%	.000%
1.0	12872.813	12.377	12.377	.506%	.645%
2.0	12406.570	36.283	48.66	1.482%	2.536%
3.0	11746.969	57.767	106.427	2.360%	5.546%
4.0	10918.336	75.868	182.295	3.099%	9.499%
5.0	10074.023	90.308	272.603	3.689%	14.205%
6.0	8990.719	100.190	372.794	4.093%	19.426%
7.0	8023.641	105.608	478.402	4.314%	24.929%
8.0	7124.836	108.415	586.816	4.429%	30.579%
9.0	6274.898	108.598	695.414	4.436%	36.238%
10.0	5463.070	106.224	801.638	4.339%	41.773%
11.0	4826.883	102.818	904.456	4.200%	47.131%
12.0	4284.844	99.604	1004.06	4.069%	52.321%
13.0	3714.891	94.937	1098.997	3.878%	57.268%
14.0	3278.602	89.516	1188.513	3.657%	61.933%
15.0	2938.711	85.354	1273.867	3.487%	66.381%
16.0	2580.820	80.877	1354.744	3.304%	70.595%
17.0	2233.758	74.976	1429.719	3.063%	74.502%
18.0	1941.961	68.849	1498.568	2.812%	78.090%
19.0	1663.805	62.733	1561.301	2.563%	81.359%
20.0	1401.377	56.101	1617.402	2.292%	84.282%
21.0	1208.784	50.120	1667.523	2.047%	86.894%
22.0	991.526	44.216	1711.739	1.806%	89.198%
23.0	808.587	37.771	1749.51	1.543%	91.166%
24.0	612.780	31.076	1780.586	1.269%	92.785%
25.0	441.935	23.982	1804.568	.980%	94.035%
26.0	309.902	17.747	1822.315	.725%	94.960%
27.0	202.915	12.546	1834.862	.513%	95.614%
28.0	107.501	7.859	1842.721	.321%	96.023%
29.0	48.734	4.088	1846.808	.167%	96.236%
30.0	26.986	2.044	1848.853	.084%	96.343%
31.0	20.363	1.318	1850.17	.054%	96.411%
32.0	18.591	1.116	1851.286	.046%	96.470%
33.0	17.339	1.059	1852.345	.043%	96.525%
34.0	16.291	1.018	1853.362	.042%	96.578%
35.0	15.420	0.985	1854.347	.040%	96.629%
36.0	14.808	0.962	1855.31	.039%	96.679%
37.0	14.288	0.949	1856.259	.039%	96.729%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	13.873	0.940	1857.199	.038%	96.778%
39.0	13.500	0.934	1858.133	.038%	96.826%
40.0	13.226	0.932	1859.065	.038%	96.875%
41.0	13.015	0.934	1859.999	.038%	96.924%
42.0	12.818	0.939	1860.938	.038%	96.972%
43.0	12.663	0.944	1861.882	.039%	97.022%
44.0	12.544	0.951	1862.833	.039%	97.071%
45.0	12.438	0.960	1863.793	.039%	97.121%
46.0	12.326	0.968	1864.762	.040%	97.172%
47.0	12.263	0.978	1865.74	.040%	97.223%
48.0	12.192	0.989	1866.728	.040%	97.274%
49.0	12.115	0.998	1867.726	.041%	97.326%
50.0	12.038	1.007	1868.733	.041%	97.379%
51.0	11.981	1.016	1869.75	.042%	97.432%
52.0	11.932	1.026	1870.776	.042%	97.485%
53.0	11.890	1.036	1871.812	.042%	97.539%
54.0	11.848	1.046	1872.858	.043%	97.594%
55.0	11.791	1.055	1873.914	.043%	97.649%
56.0	11.742	1.063	1874.977	.043%	97.704%
57.0	11.707	1.072	1876.049	.044%	97.760%
58.0	11.672	1.081	1877.13	.044%	97.816%
59.0	11.644	1.090	1878.22	.045%	97.873%
60.0	11.609	1.099	1879.319	.045%	97.930%
61.0	11.580	1.107	1880.425	.045%	97.988%
62.0	11.616	1.118	1881.543	.046%	98.046%
63.0	11.735	1.136	1882.679	.046%	98.105%
64.0	12.009	1.165	1883.844	.048%	98.166%
65.0	12.284	1.202	1885.046	.049%	98.229%
66.0	12.572	1.240	1886.286	.051%	98.293%
67.0	12.973	1.284	1887.571	.052%	98.360%
68.0	13.388	1.335	1888.906	.055%	98.430%
69.0	14.126	1.404	1890.31	.057%	98.503%
70.0	15.138	1.503	1891.813	.061%	98.581%
71.0	16.320	1.626	1893.439	.066%	98.666%
72.0	17.508	1.759	1895.197	.072%	98.758%
73.0	18.380	1.877	1897.074	.077%	98.855%
74.0	18.703	1.950	1899.024	.080%	98.957%
75.0	18.513	1.966	1900.99	.080%	99.060%

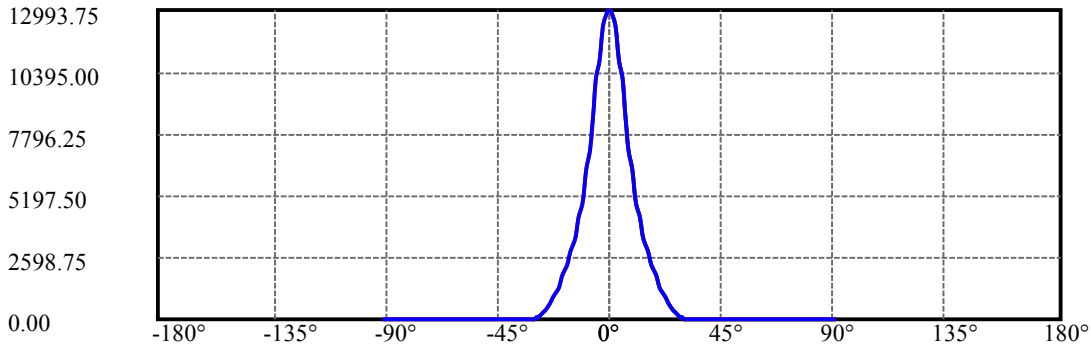
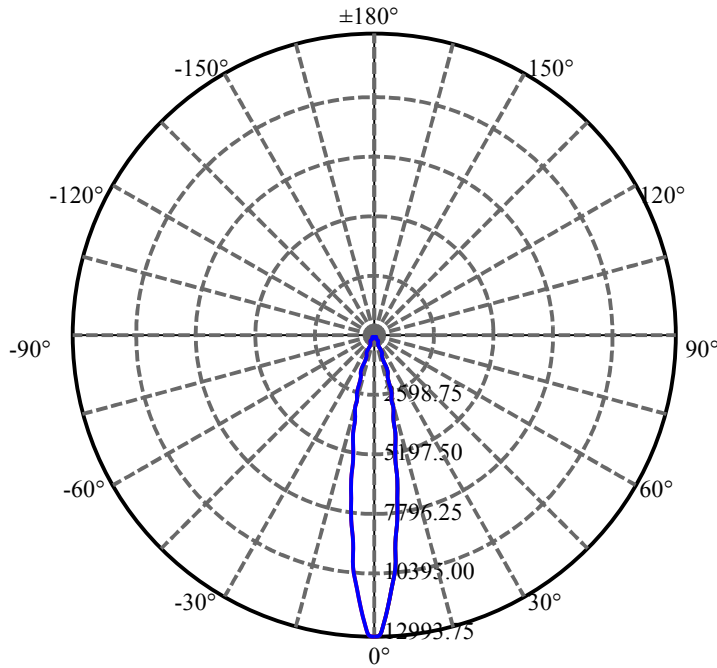
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	17.810	1.928	1902.918	.079%	99.160%
77.0	16.741	1.842	1904.76	.075%	99.256%
78.0	15.384	1.720	1906.48	.070%	99.346%
79.0	13.198	1.536	1908.016	.063%	99.426%
80.0	11.763	1.346	1909.361	.055%	99.496%
81.0	10.589	1.209	1910.57	.049%	99.559%
82.0	9.359	1.082	1911.652	.044%	99.615%
83.0	8.845	0.990	1912.642	.040%	99.667%
84.0	8.620	0.951	1913.593	.039%	99.716%
85.0	8.473	0.933	1914.526	.038%	99.765%
86.0	8.452	0.925	1915.451	.038%	99.813%
87.0	8.423	0.924	1916.375	.038%	99.861%
88.0	8.149	0.908	1917.282	.037%	99.909%
89.0	8.009	0.886	1918.168	.036%	99.955%
90.0	7.854	0.870	1919.038	.036%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1848.85	75.53%	96.34%
0-40	1859.06	75.94%	96.87%
0-60	1879.32	76.77%	97.93%
0-90	1918.17	78.36%	99.95%
0-120	1918.17	78.36%	99.95%
0-180	1919.04	78.39%	100.00%
60-90	39.95	1.63%	2.08%
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%
0-18.58	1535.23	62.71%	80.00%

ZONAL LUMEN SUMMARY

0-10	801.64
10-20	815.76
20-30	231.45
30-40	10.21
40-50	9.67
50-60	10.59
60-70	12.49
70-80	17.55
80-90	8.81
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



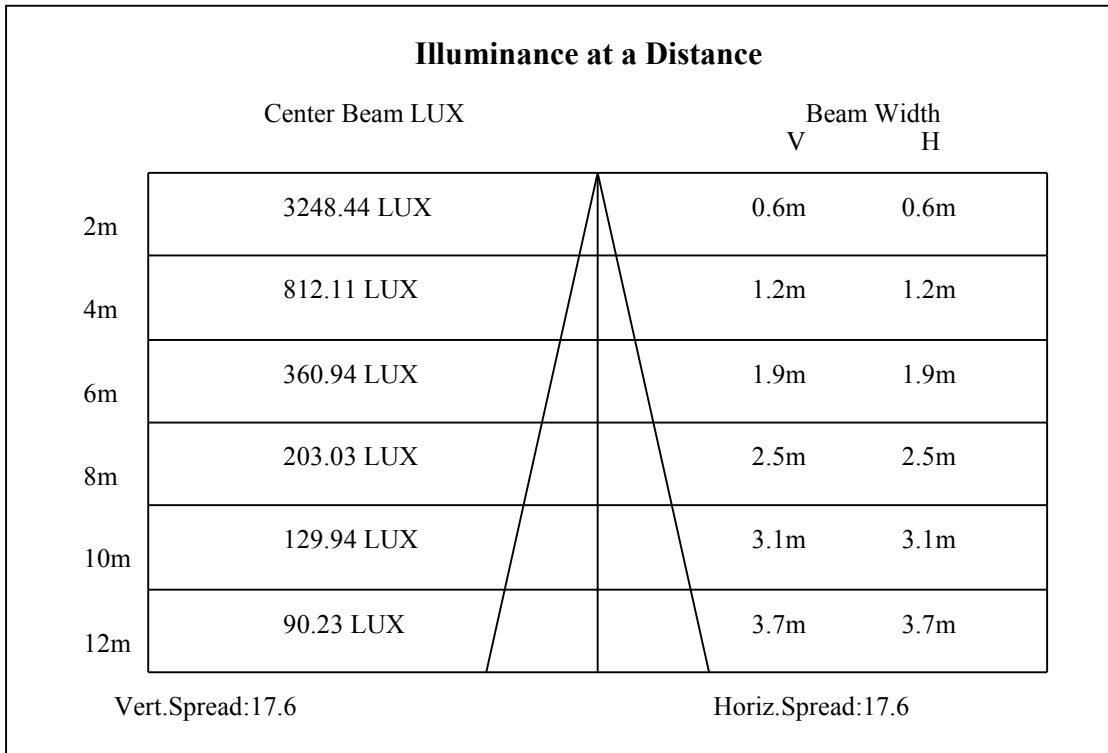
C0(Max): —————

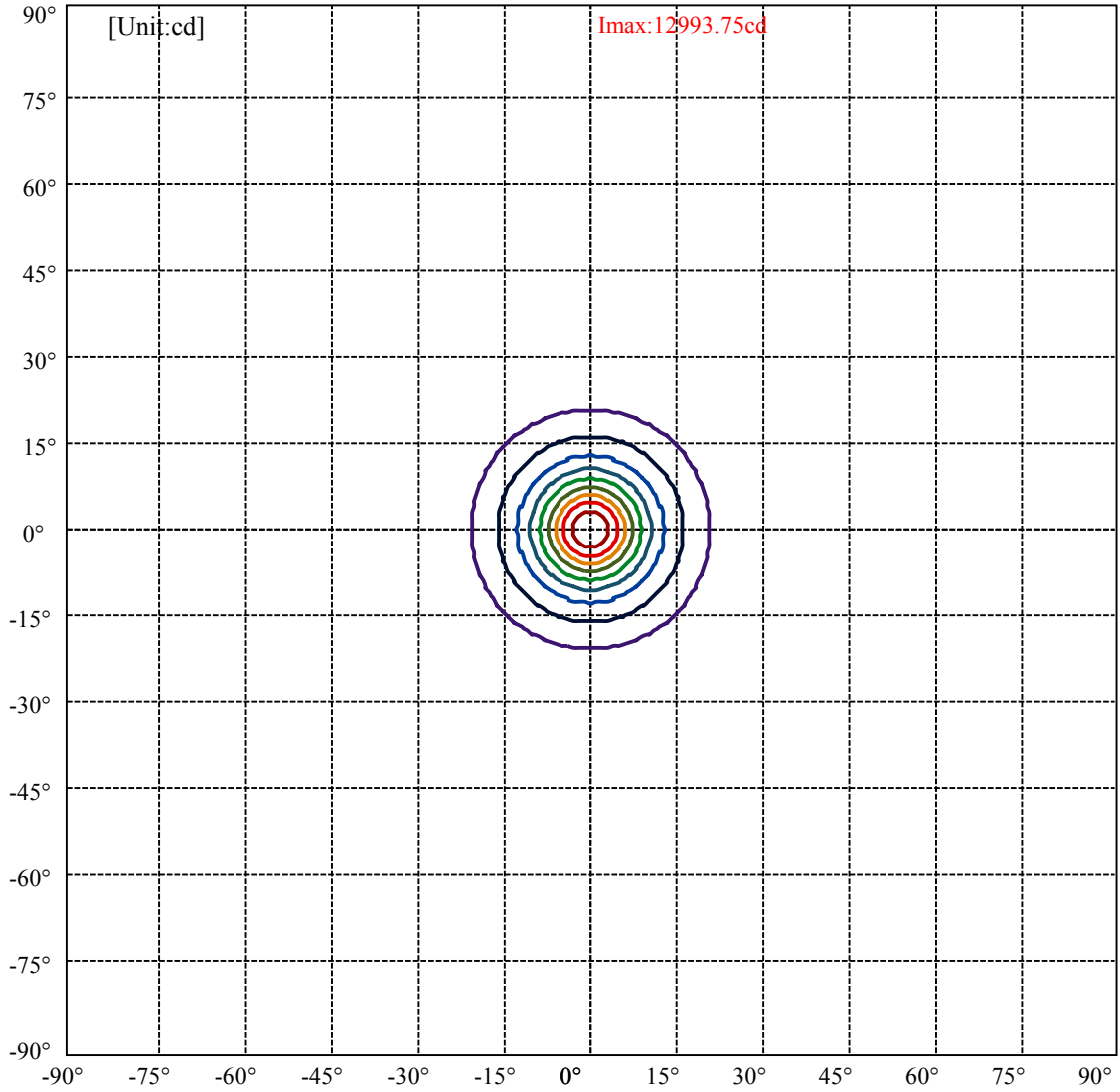
C0/C180: —————

C90/C270: —————

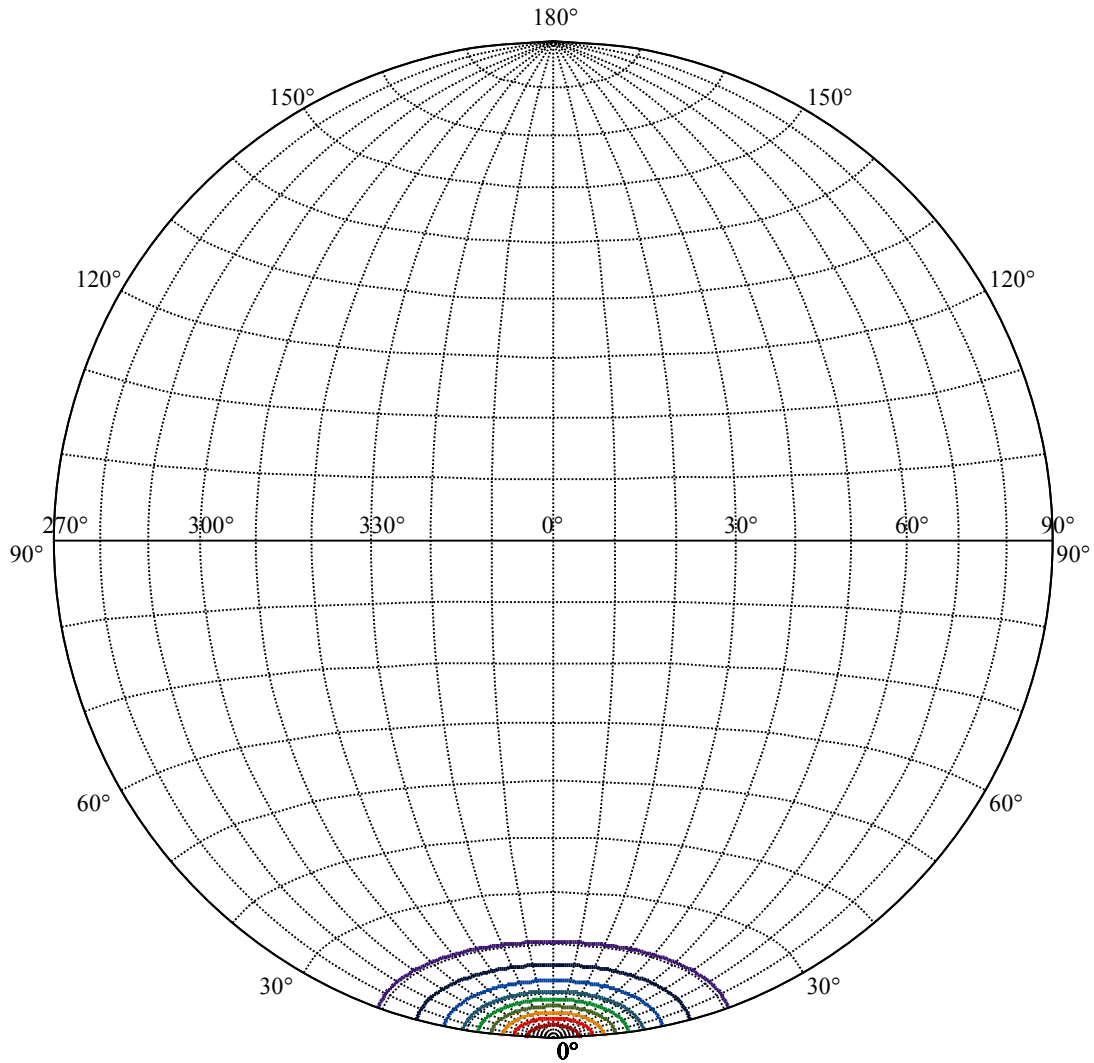
Field angle(10%Imax):C0/180Left:20.5 Right:20.5
:C90/270Left:20.5 Right:20.5

Beam Angle(50%Imax):C0/180Left:8.7 Right:8.7
:C90/270Left:8.7 Right:8.7





(10%Imax) 1299.38	—
(20%Imax) 2598.75	—
(30%Imax) 3898.13	—
(40%Imax) 5197.5	—
(50%Imax) 6496.88	—
(60%Imax) 7796.25	—
(70%Imax) 9095.63	—
(80%Imax) 10395	—
(90%Imax) 11694.4	—



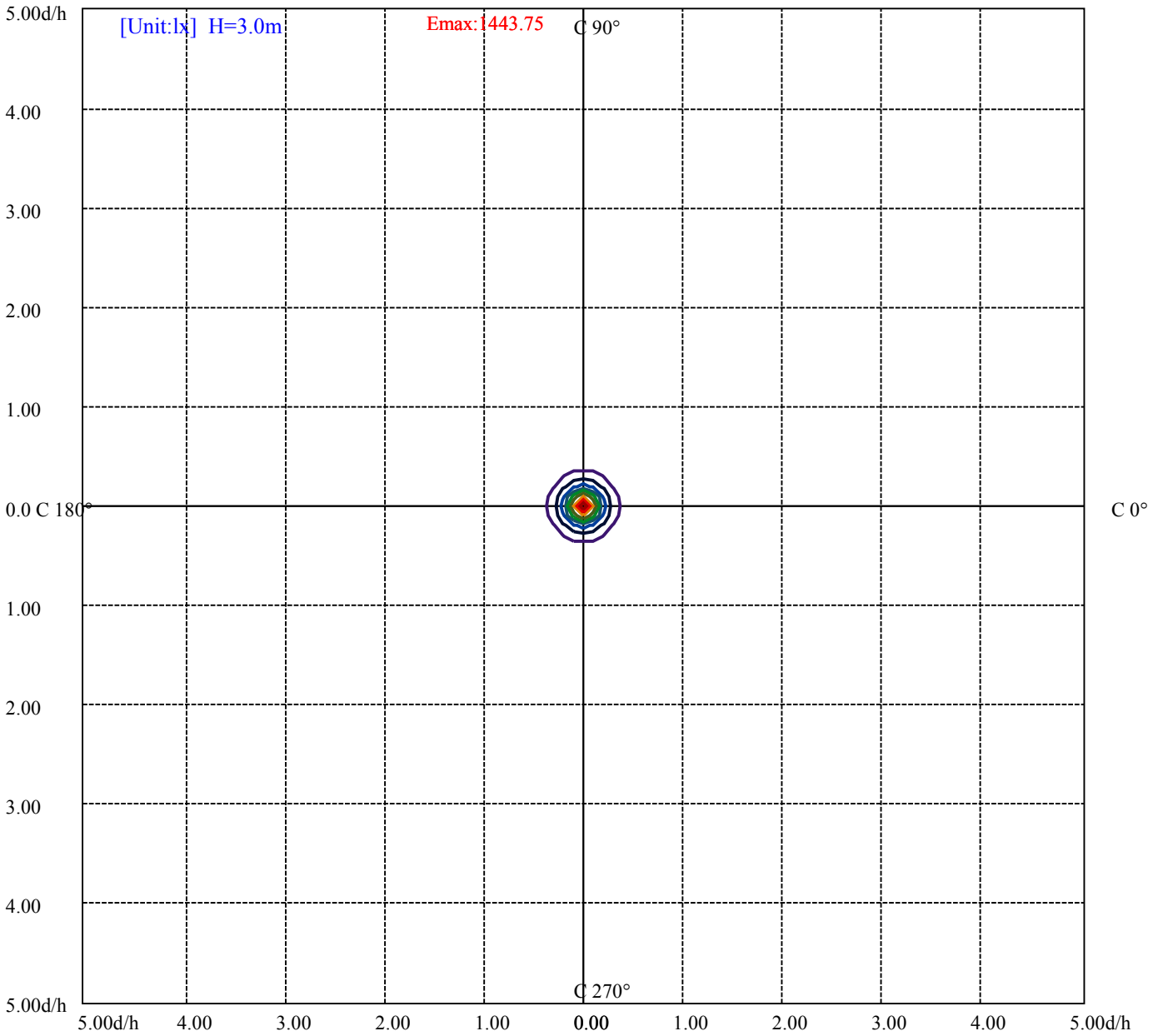
House

[Unit:cd]

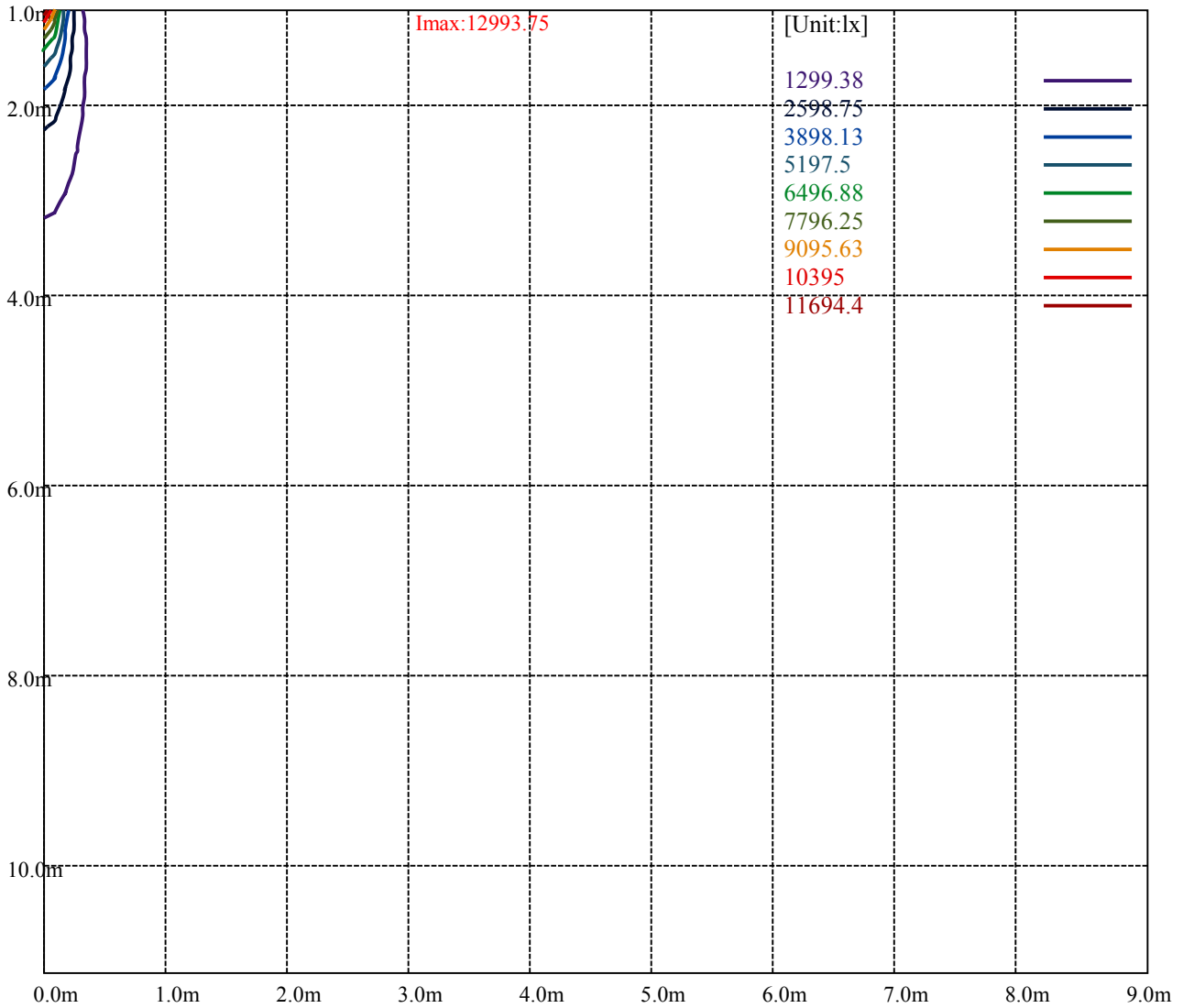
Road

Imax:12993.75

(10%Imax) 1299.38	—
(20%Imax) 2598.75	—
(30%Imax) 3898.13	—
(40%Imax) 5197.5	—
(50%Imax) 6496.88	—
(60%Imax) 7796.25	—
(70%Imax) 9095.63	—
(80%Imax) 10395	—
(90%Imax) 11694.4	—



- (10%Emax) 144.3745
- (20%Emax) 288.75
- (30%Emax) 433.1245
- (40%Emax) 577.4989
- (50%Emax) 721.8745
- (60%Emax) 866.2489
- (70%Emax) 1010.623
- (80%Emax) 1155
- (90%Emax) 1299.378



Luminance Table

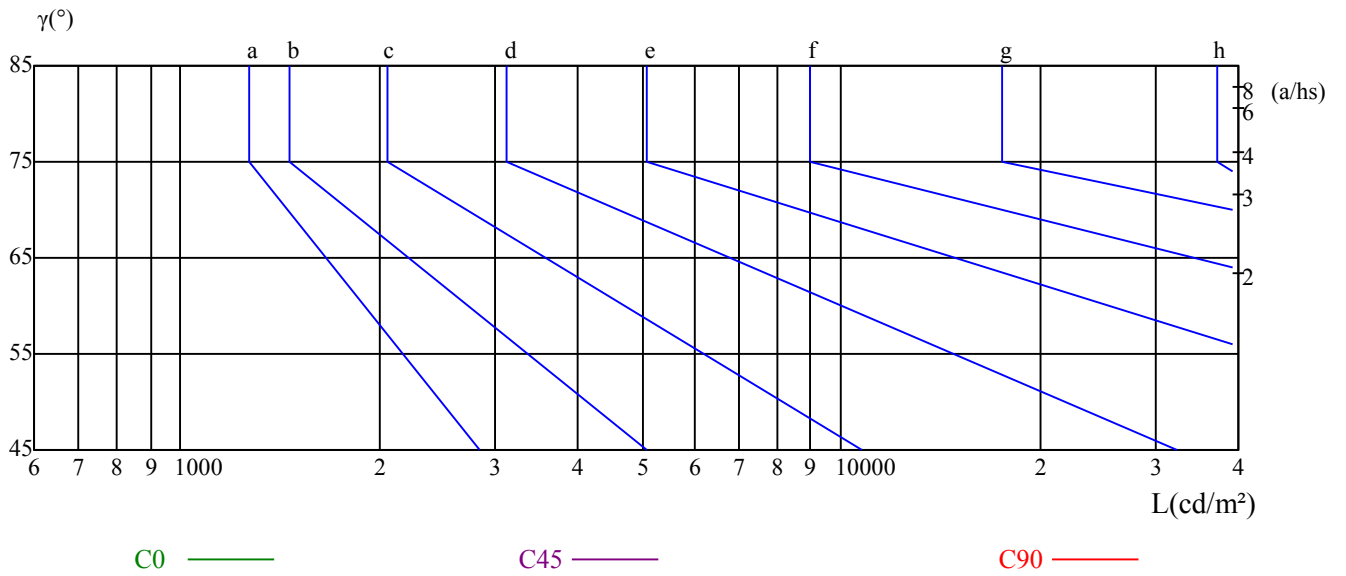
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

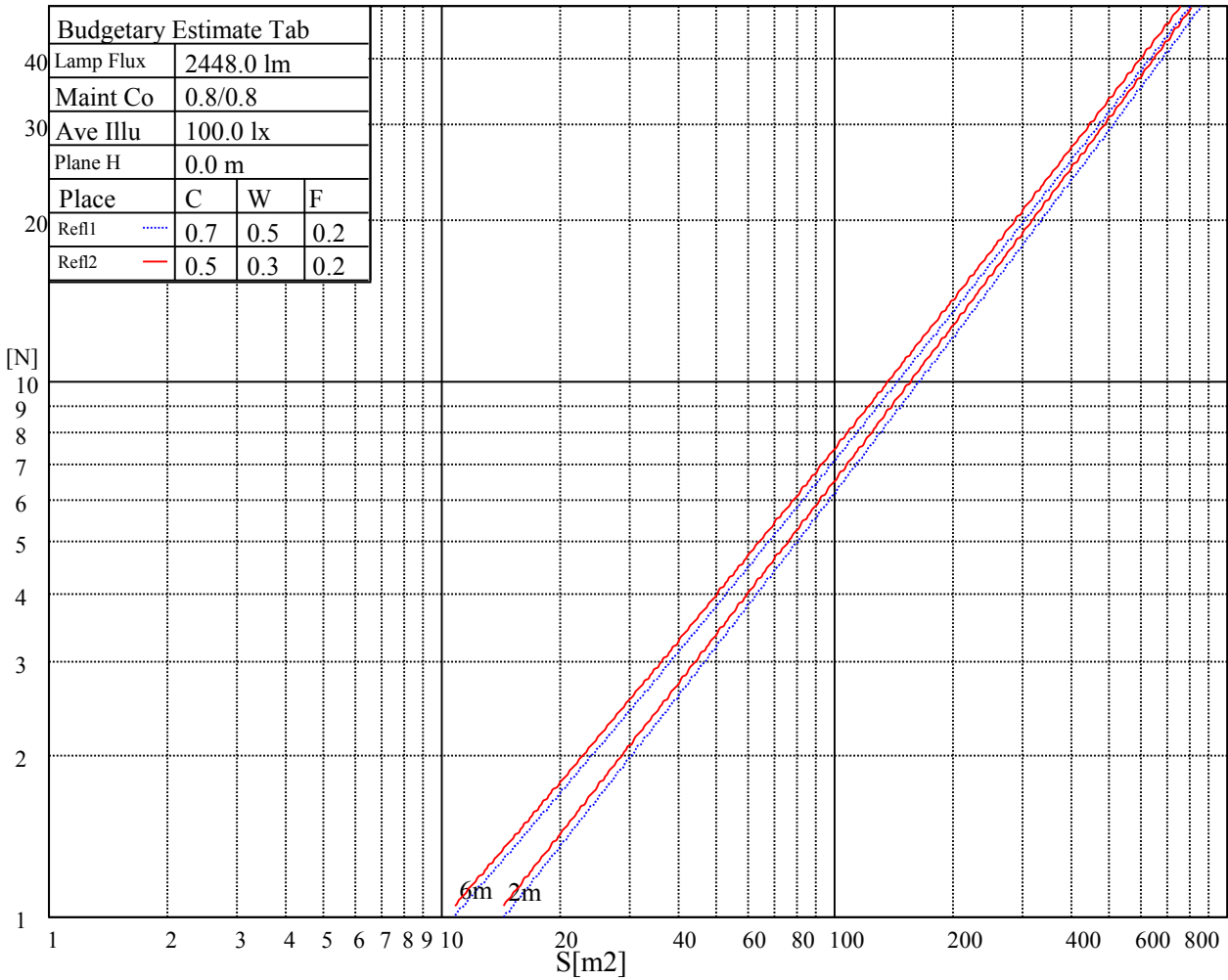
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

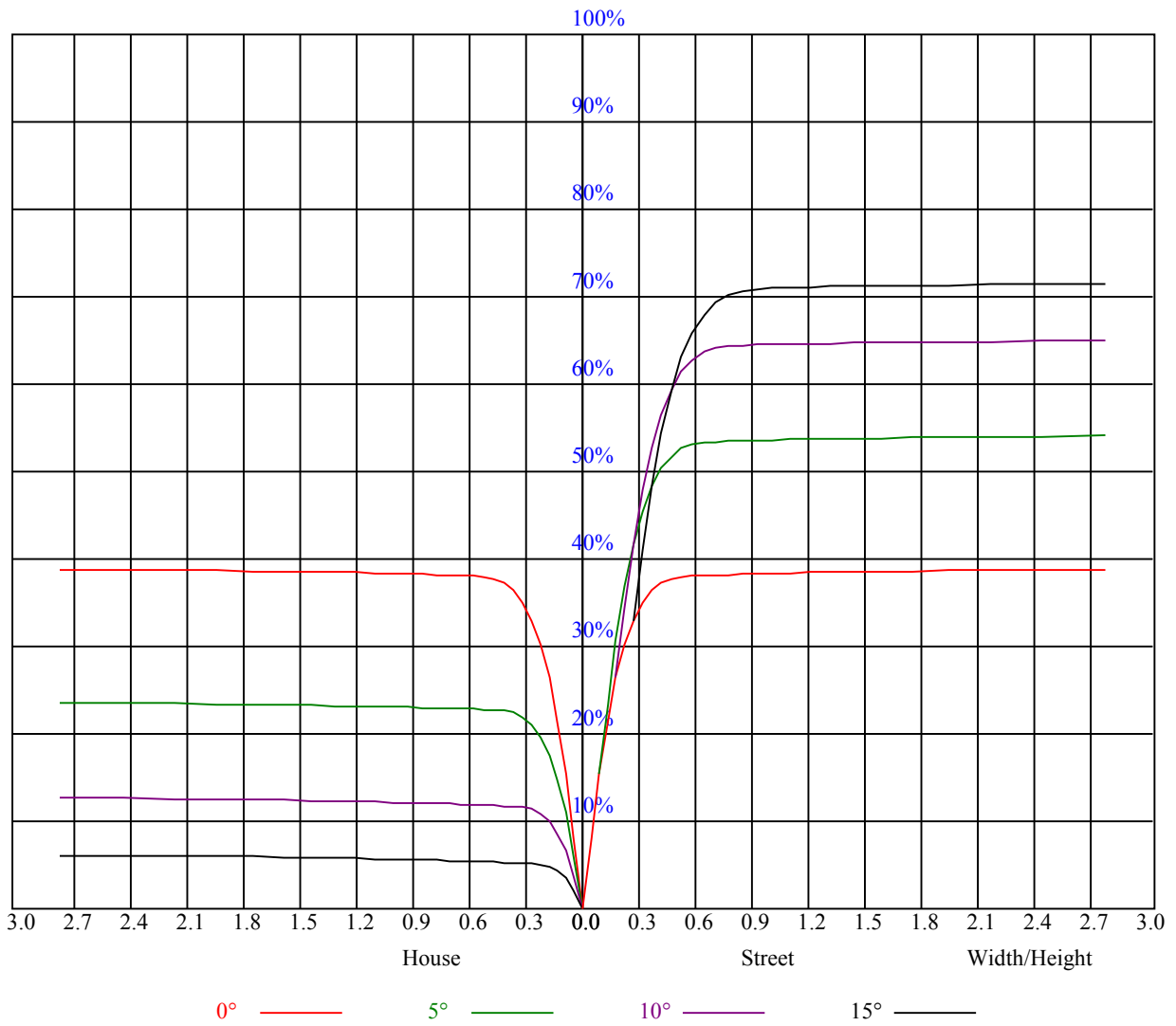
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

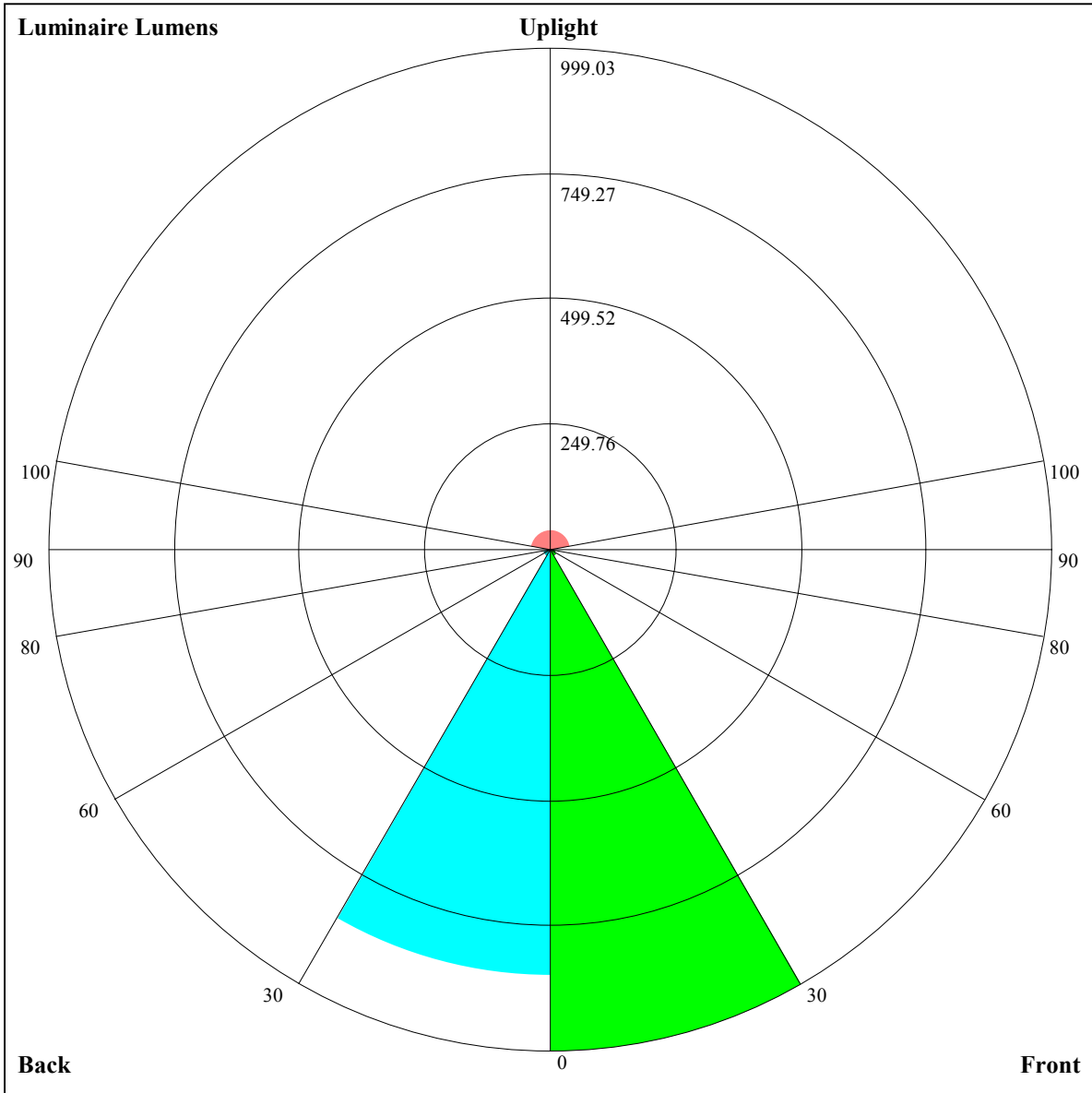
Luminance Limiting Curve





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	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	0.93	0.93	0.93	0.91	0.91	0.91	0.87	0.87	0.87	0.83	0.83	0.83	0.80	0.80	0.80	0.78
1	0.88	0.87	0.85	0.87	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.79	0.78	0.77	0.77	0.75
2	0.84	0.82	0.80	0.83	0.81	0.79	0.80	0.79	0.77	0.78	0.77	0.76	0.76	0.75	0.74	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	0.74	0.73	0.72	0.71
4	0.78	0.75	0.73	0.77	0.74	0.72	0.76	0.73	0.71	0.74	0.72	0.71	0.73	0.71	0.70	0.69
5	0.75	0.72	0.70	0.75	0.72	0.70	0.73	0.71	0.69	0.72	0.70	0.69	0.71	0.69	0.68	0.67
6	0.73	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.67	0.70	0.68	0.66	0.65
7	0.71	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.69	0.67	0.65	0.68	0.66	0.65	0.64
8	0.69	0.66	0.64	0.69	0.66	0.64	0.68	0.65	0.64	0.67	0.65	0.63	0.67	0.65	0.63	0.62
9	0.67	0.64	0.62	0.67	0.64	0.62	0.67	0.64	0.62	0.66	0.64	0.62	0.65	0.63	0.62	0.61
10	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.62	0.61	0.65	0.62	0.61	0.64	0.62	0.60	0.60





Luminaire Lumens:

FL=999.03,FM=15.07,FH=13.35,FVH=4.93

BL=849.34,BM=15.28,BH=14.84,BVH=4.67

UL=8.57,UH=40.78

BUG Rating:B2-U2-G0

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	12875.63	13168.13	13151.25	12858.75	12268.13	11520.00	10524.38	9461.25	8505.00
45.0	13038.75	13100.63	12774.38	12290.63	11700.00	10665.00	9618.75	8769.38	7610.63
90.0	12999.38	12678.75	12166.88	11032.88	10374.19	9445.50	8255.81	7342.31	6515.44
135.0	13061.25	12684.38	12099.38	11227.50	10243.13	9309.38	8240.63	7222.50	6418.13
180.0	12875.63	12375.00	11142.56	10585.69	9647.44	8696.25	7529.63	6663.94	5900.06
225.0	13038.75	12757.50	12144.38	11202.19	10418.63	9470.25	8276.63	7367.63	6534.00
270.0	12999.38	13055.63	12808.13	12324.38	11520.00	10535.63	9590.63	8533.13	7616.25
315.0	13061.25	13162.50	12965.63	12453.75	11175.19	10950.19	9889.31	8829.00	7899.19
360.0	12875.63	13168.13	13151.25	12858.75	12268.13	11520.00	10524.38	9461.25	8505.00

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	7475.63	6525.00	5788.13	5152.50	4438.13	3937.50	3498.75	3065.63	2840.63
45.0	6660.00	5990.63	5158.13	4573.13	4061.25	3504.38	3121.88	2857.50	2401.31
90.0	5785.88	4988.25	4438.13	3954.38	3425.06	3048.19	2708.44	2363.63	2051.44
135.0	5793.75	4916.25	4359.38	3920.63	3386.25	2958.75	2874.38	2288.81	1980.56
180.0	5223.94	4491.56	3985.31	3540.38	3054.94	2710.69	2397.38	2081.81	1792.13
225.0	5700.94	4973.63	4407.19	3853.13	3368.81	2991.94	2624.06	2322.56	2010.94
270.0	6660.00	5810.63	5158.13	4573.13	3931.88	3481.88	3088.13	2868.75	2356.31
315.0	6899.06	6008.63	5320.69	4711.50	4052.81	3595.50	3196.69	2797.88	2436.75
360.0	7475.63	6525.00	5788.13	5152.50	4438.13	3937.50	3498.75	3065.63	2840.63

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2380.50	2074.50	1794.38	1561.50	1327.50	1134.00	916.88	709.31	536.63
45.0	2120.06	1851.75	1569.38	1345.50	1150.31	925.31	727.88	554.06	383.06
90.0	1791.56	1522.69	1239.19	1083.94	867.26	684.84	497.19	332.72	214.88
135.0	1722.38	1450.13	1256.63	1027.13	819.00	632.81	449.44	294.19	223.99
180.0	1550.81	1235.25	1102.84	885.77	684.90	520.48	355.33	219.54	124.76
225.0	1733.63	1506.38	1096.37	1047.32	858.94	679.39	474.64	327.43	208.07
270.0	2079.56	1797.75	1541.25	1326.38	1105.31	916.31	715.50	528.75	374.06
315.0	2157.19	1872.00	1611.00	1392.75	1118.98	975.54	765.39	569.48	413.78
360.0	2380.50	2074.50	1794.38	1561.50	1327.50	1134.00	916.88	709.31	536.63

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	378.00	307.69	119.98	53.94	24.36	21.32	19.52	18.06	16.71
45.0	298.69	136.69	53.72	24.13	19.58	17.72	16.48	15.47	14.46
90.0	121.73	41.91	23.79	20.64	18.39	17.10	16.03	15.02	14.40
135.0	96.58	35.33	23.96	21.71	19.91	18.56	17.66	16.71	16.14
180.0	57.21	24.92	21.88	20.19	18.73	17.66	16.82	16.14	15.64
225.0	104.79	39.26	23.68	20.48	18.73	17.33	16.14	15.36	14.63
270.0	287.44	127.91	51.02	24.75	20.81	18.73	17.27	16.20	15.08
315.0	278.89	146.31	71.83	30.04	22.39	20.31	18.79	17.38	16.31
360.0	378.00	307.69	119.98	53.94	24.36	21.32	19.52	18.06	16.71

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	15.81	15.08	14.40	13.89	13.56	13.22	12.94	12.71	12.54
45.0	13.89	13.39	12.99	12.60	12.32	12.15	11.93	11.76	11.64
90.0	13.89	13.39	13.11	12.77	12.54	12.38	12.21	12.09	11.98
135.0	15.64	15.24	14.91	14.57	14.29	14.12	13.89	13.73	13.61
180.0	15.24	14.91	14.63	14.40	14.18	14.06	14.01	13.95	13.95
225.0	14.12	13.67	13.39	13.05	12.88	12.71	12.54	12.43	12.32
270.0	14.34	13.78	13.28	12.83	12.54	12.26	12.09	11.93	11.76
315.0	15.53	14.85	14.29	13.89	13.50	13.22	12.94	12.71	12.54
360.0	15.81	15.08	14.40	13.89	13.56	13.22	12.94	12.71	12.54

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	12.43	12.26	12.21	12.09	12.04	11.98	11.93	11.93	11.93
45.0	11.48	11.36	11.25	11.19	11.14	11.08	10.97	10.91	10.86
90.0	11.87	11.76	11.70	11.64	11.53	11.48	11.42	11.36	11.31
135.0	13.50	13.39	13.33	13.22	13.16	12.99	12.94	12.88	12.83
180.0	13.95	13.95	13.95	13.95	13.89	13.84	13.84	13.73	13.67
225.0	12.21	12.09	11.98	11.93	11.87	11.87	11.81	11.81	11.81
270.0	11.64	11.59	11.53	11.48	11.36	11.25	11.19	11.14	11.08
315.0	12.43	12.21	12.15	12.04	11.93	11.81	11.76	11.70	11.64
360.0	12.43	12.26	12.21	12.09	12.04	11.98	11.93	11.93	11.93
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	11.93	11.98	11.98	11.98	11.93	11.87	11.81	11.76	11.76
45.0	10.86	10.80	10.74	10.69	10.69	10.63	10.58	10.58	10.46
90.0	11.25	11.19	11.14	11.08	11.03	10.97	10.91	10.86	10.80
135.0	12.83	12.77	12.77	12.83	12.83	12.94	13.05	13.05	13.11
180.0	13.56	13.44	13.39	13.28	13.22	13.22	13.16	13.28	13.73
225.0	11.76	11.70	11.64	11.59	11.53	11.42	11.31	11.19	11.08
270.0	11.03	10.97	10.86	10.86	10.80	10.74	10.69	10.58	10.58
315.0	11.59	11.48	11.42	11.36	11.36	11.36	11.36	11.36	11.42
360.0	11.93	11.98	11.98	11.98	11.93	11.87	11.81	11.76	11.76
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	11.76	11.70	11.81	11.76	11.87	12.32	13.61	15.64	18.62
45.0	10.41	10.35	10.29	10.18	10.13	10.07	10.01	9.96	9.96
90.0	10.74	10.69	10.58	10.52	10.41	10.35	10.29	10.24	10.24
135.0	13.11	13.11	13.11	13.11	13.11	14.12	16.31	19.13	22.28
180.0	14.91	17.27	19.58	22.28	25.48	27.68	30.15	33.02	34.59
225.0	11.03	10.91	10.91	10.74	10.80	10.74	10.80	10.80	10.91
270.0	10.46	10.41	10.35	10.29	10.24	10.13	10.07	10.01	9.96
315.0	11.48	11.64	11.64	11.70	11.76	11.70	11.76	12.32	14.01
360.0	11.76	11.70	11.81	11.76	11.87	12.32	13.61	15.64	18.62
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	21.21	23.63	26.27	28.52	29.25	29.19	27.51	24.30	20.36
45.0	9.96	10.01	10.01	9.96	10.07	10.07	10.07	10.01	9.90
90.0	10.29	10.41	10.52	10.52	10.46	10.29	9.90	9.17	8.83
135.0	24.81	25.82	25.31	24.41	23.12	19.69	16.37	12.38	9.96
180.0	35.55	35.04	33.13	29.19	24.13	20.42	16.14	10.46	9.73
225.0	11.03	11.19	11.25	11.25	11.19	11.14	10.91	10.58	10.07
270.0	9.96	9.90	9.96	10.07	10.07	10.13	10.07	9.90	9.56
315.0	17.27	21.04	23.18	24.19	24.19	23.01	22.11	18.79	15.69
360.0	21.21	23.63	26.27	28.52	29.25	29.19	27.51	24.30	20.36
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	16.43	11.53	9.23	8.78	8.55	8.44	8.44	8.38	8.33
45.0	9.62	9.28	8.83	8.49	8.21	8.10	8.04	7.99	7.88
90.0	8.61	8.38	8.38	8.33	8.33	8.49	8.66	7.88	7.76
135.0	9.68	9.45	9.23	9.00	8.89	9.00	9.23	8.27	7.88
180.0	9.28	8.89	8.83	8.78	8.66	8.72	8.33	8.16	7.82
225.0	9.56	9.17	8.72	8.44	8.21	8.16	8.16	8.04	7.93
270.0	9.00	8.66	8.44	8.27	8.21	8.10	8.04	7.88	7.88
315.0	12.54	9.51	9.11	8.89	8.72	8.61	8.49	8.61	8.61
360.0	16.43	11.53	9.23	8.78	8.55	8.44	8.44	8.38	8.33

Intensity data(cd)

C/γ(°)	90.0
0.0	8.21
45.0	7.71
90.0	7.71
135.0	7.82
180.0	7.76
225.0	7.71
270.0	7.82
315.0	8.10
360.0	8.21