



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

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## Nata

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Client:

LumCAT: 2-2185-M

Luminaire: BJB 47.360.5080

Report No: nt0100

Test No: GC2020031904

LampCAT: LUMILEDS LUXEON 1205

Lamp flux(lm): 2448.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 35.0300

Current(A): 0.5040

Power (W): 17.6600

PF: 0.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

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## Photometric Results

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Lumens(lm): 1861.70, Efficiency(%): 76.05% , Luminous Efficacy(lm/W): 105.42

Central intensity(cd): 6775.313, Maximum intensity(cd): 6775.313

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=31.4

[C90/270]Total=31.4

Field angle(10%Imax): [C0/180]Total=47.8

[C90/270]Total=47.8

Maximum s/h(1/2): C0\_180=0.52 C90\_270=0.52

Maximum s/h(1/4): C0\_180=0.50 C90\_270=0.50

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 76.05%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 97.879%

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Equipment: GMS1980  
Temperature(°C): 25.0

Date: 2020/3/19  
Humidity(%): 65.0%

Operator: NT07  
Distance(m): 7.50

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6775.313	0.000	0	.000%	.000%
1.0	6763.711	6.478	6.478	.265%	.348%
2.0	6712.594	19.342	25.821	.790%	1.387%
3.0	6631.031	31.914	57.734	1.304%	3.101%
4.0	6524.016	44.034	101.768	1.799%	5.466%
5.0	6351.469	55.390	157.158	2.263%	8.442%
6.0	6166.406	65.785	222.943	2.687%	11.975%
7.0	5963.906	75.293	298.235	3.076%	16.020%
8.0	5707.195	83.528	381.763	3.412%	20.506%
9.0	5453.719	90.453	472.216	3.695%	25.365%
10.0	5184.914	96.276	568.492	3.933%	30.536%
11.0	4873.078	100.500	668.992	4.105%	35.935%
12.0	4599.703	103.551	772.543	4.230%	41.497%
13.0	4295.742	105.567	878.11	4.312%	47.167%
14.0	3943.406	105.460	983.57	4.308%	52.832%
15.0	3623.133	103.877	1087.447	4.243%	58.412%
16.0	3286.477	101.245	1188.692	4.136%	63.850%
17.0	2884.570	96.100	1284.792	3.926%	69.012%
18.0	2524.852	89.190	1373.981	3.643%	73.803%
19.0	2199.656	82.197	1456.178	3.358%	78.218%
20.0	1821.586	73.600	1529.778	3.007%	82.171%
21.0	1453.760	62.893	1592.671	2.569%	85.549%
22.0	1174.859	52.823	1645.495	2.158%	88.387%
23.0	912.248	43.793	1689.288	1.789%	90.739%
24.0	654.117	34.246	1723.534	1.399%	92.579%
25.0	448.566	25.073	1748.607	1.024%	93.925%
26.0	299.630	17.661	1766.268	.721%	94.874%
27.0	183.122	11.811	1778.079	.482%	95.508%
28.0	86.498	6.826	1784.905	.279%	95.875%
29.0	41.449	3.347	1788.252	.137%	96.055%
30.0	28.505	1.889	1790.141	.077%	96.156%
31.0	23.548	1.449	1791.59	.059%	96.234%
32.0	20.953	1.275	1792.864	.052%	96.303%
33.0	19.188	1.183	1794.047	.048%	96.366%
34.0	17.923	1.123	1795.17	.046%	96.427%
35.0	16.882	1.081	1796.251	.044%	96.485%
36.0	16.017	1.048	1797.299	.043%	96.541%
37.0	15.391	1.024	1798.323	.042%	96.596%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	14.829	1.009	1799.332	.041%	96.650%
39.0	14.344	0.996	1800.327	.041%	96.704%
40.0	13.992	0.988	1801.316	.040%	96.757%
41.0	13.690	0.986	1802.301	.040%	96.810%
42.0	13.423	0.985	1803.286	.040%	96.863%
43.0	13.205	0.986	1804.273	.040%	96.915%
44.0	13.064	0.991	1805.264	.041%	96.969%
45.0	12.916	0.998	1806.263	.041%	97.022%
46.0	12.797	1.006	1807.268	.041%	97.076%
47.0	12.691	1.014	1808.282	.041%	97.131%
48.0	12.565	1.021	1809.303	.042%	97.186%
49.0	12.480	1.028	1810.331	.042%	97.241%
50.0	12.389	1.037	1811.368	.042%	97.297%
51.0	12.354	1.047	1812.415	.043%	97.353%
52.0	12.277	1.057	1813.472	.043%	97.410%
53.0	12.220	1.066	1814.538	.044%	97.467%
54.0	12.143	1.074	1815.612	.044%	97.525%
55.0	12.073	1.081	1816.693	.044%	97.583%
56.0	12.016	1.089	1817.781	.044%	97.641%
57.0	11.946	1.096	1818.877	.045%	97.700%
58.0	11.897	1.103	1819.979	.045%	97.759%
59.0	11.841	1.110	1821.089	.045%	97.819%
60.0	11.763	1.115	1822.204	.046%	97.879%
61.0	11.721	1.121	1823.325	.046%	97.939%
62.0	11.679	1.128	1824.452	.046%	97.999%
63.0	11.644	1.134	1825.587	.046%	98.060%
64.0	11.658	1.143	1826.73	.047%	98.122%
65.0	11.770	1.159	1827.89	.047%	98.184%
66.0	11.946	1.183	1829.073	.048%	98.248%
67.0	12.298	1.219	1830.292	.050%	98.313%
68.0	12.769	1.270	1831.562	.052%	98.381%
69.0	13.472	1.339	1832.9	.055%	98.453%
70.0	14.421	1.433	1834.333	.059%	98.530%
71.0	15.694	1.556	1835.889	.064%	98.614%
72.0	17.198	1.710	1837.6	.070%	98.706%
73.0	18.091	1.845	1839.445	.075%	98.805%
74.0	18.513	1.924	1841.369	.079%	98.908%
75.0	18.492	1.955	1843.325	.080%	99.013%

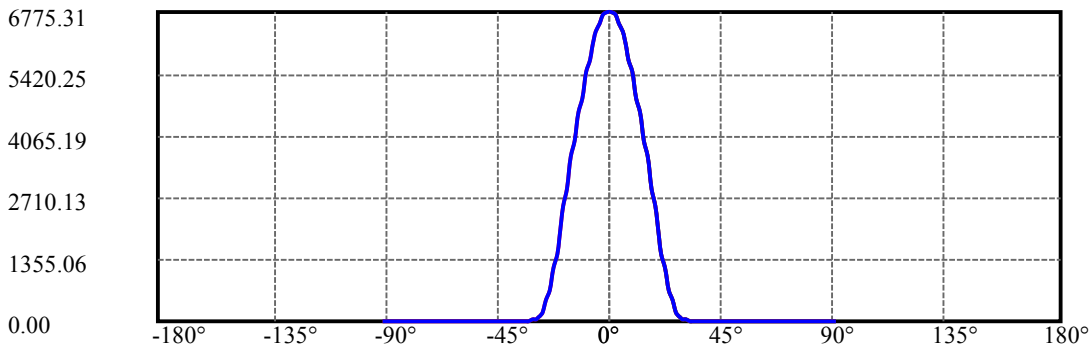
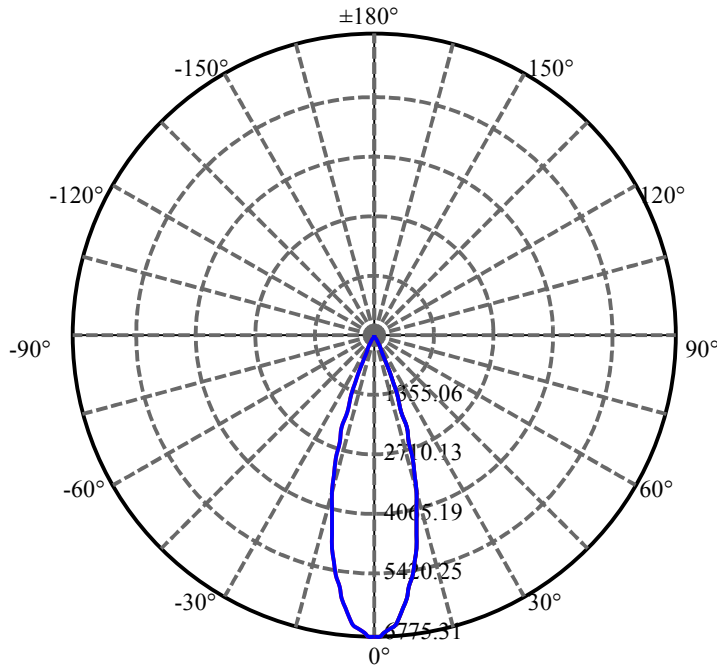
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	18.084	1.942	1845.266	.079%	99.117%
77.0	17.304	1.887	1847.153	.077%	99.219%
78.0	15.834	1.774	1848.927	.072%	99.314%
79.0	14.527	1.631	1850.558	.067%	99.402%
80.0	12.663	1.466	1852.024	.060%	99.480%
81.0	10.329	1.243	1853.267	.051%	99.547%
82.0	9.274	1.063	1854.331	.043%	99.604%
83.0	8.824	0.984	1855.314	.040%	99.657%
84.0	8.620	0.950	1856.265	.039%	99.708%
85.0	8.515	0.935	1857.2	.038%	99.758%
86.0	8.381	0.924	1858.124	.038%	99.808%
87.0	8.297	0.913	1859.036	.037%	99.857%
88.0	8.205	0.904	1859.94	.037%	99.906%
89.0	8.016	0.889	1860.829	.036%	99.953%
90.0	7.812	0.868	1861.697	.035%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1790.14	73.13%	96.16%
0-40	1801.32	73.58%	96.76%
0-60	1822.20	74.44%	97.88%
0-90	1860.83	76.01%	99.95%
0-120	1860.83	76.01%	99.95%
0-180	1861.70	76.05%	100.00%
60-90	39.74	1.62%	2.13%
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%
0-19.45	1489.36	60.84%	80.00%

ZONAL LUMEN SUMMARY

0-10	568.49
10-20	961.29
20-30	260.36
30-40	11.17
40-50	10.05
50-60	10.84
60-70	12.13
70-80	17.69
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: ———

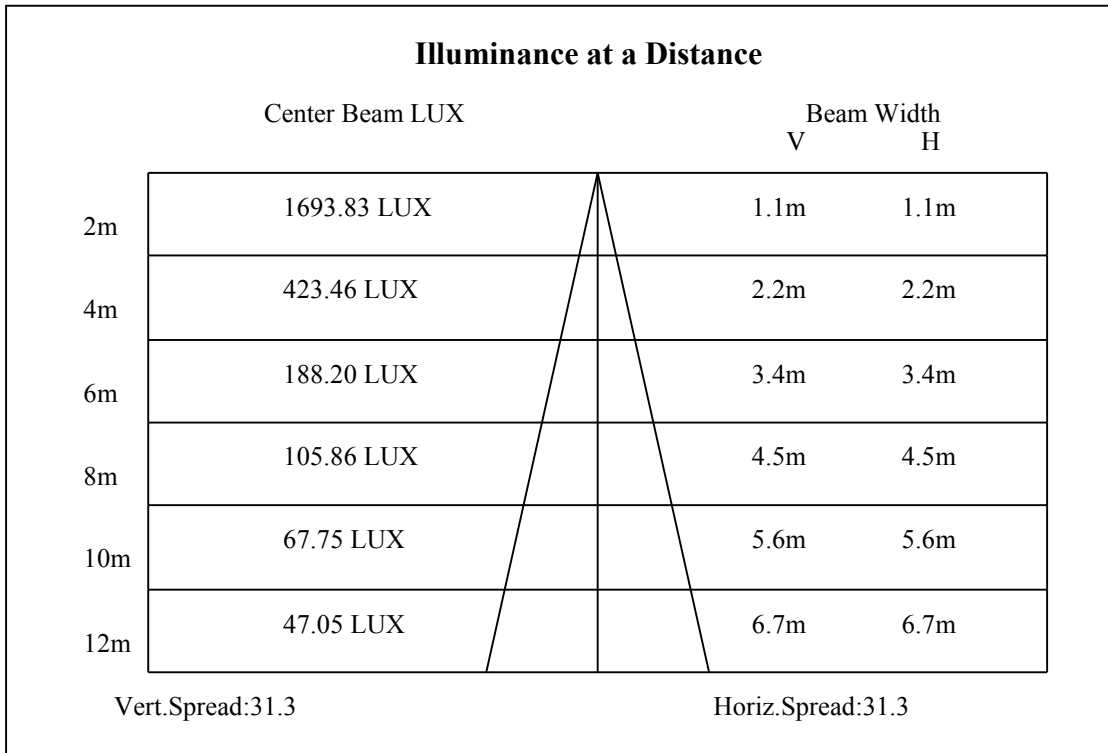
C90/C270: ———

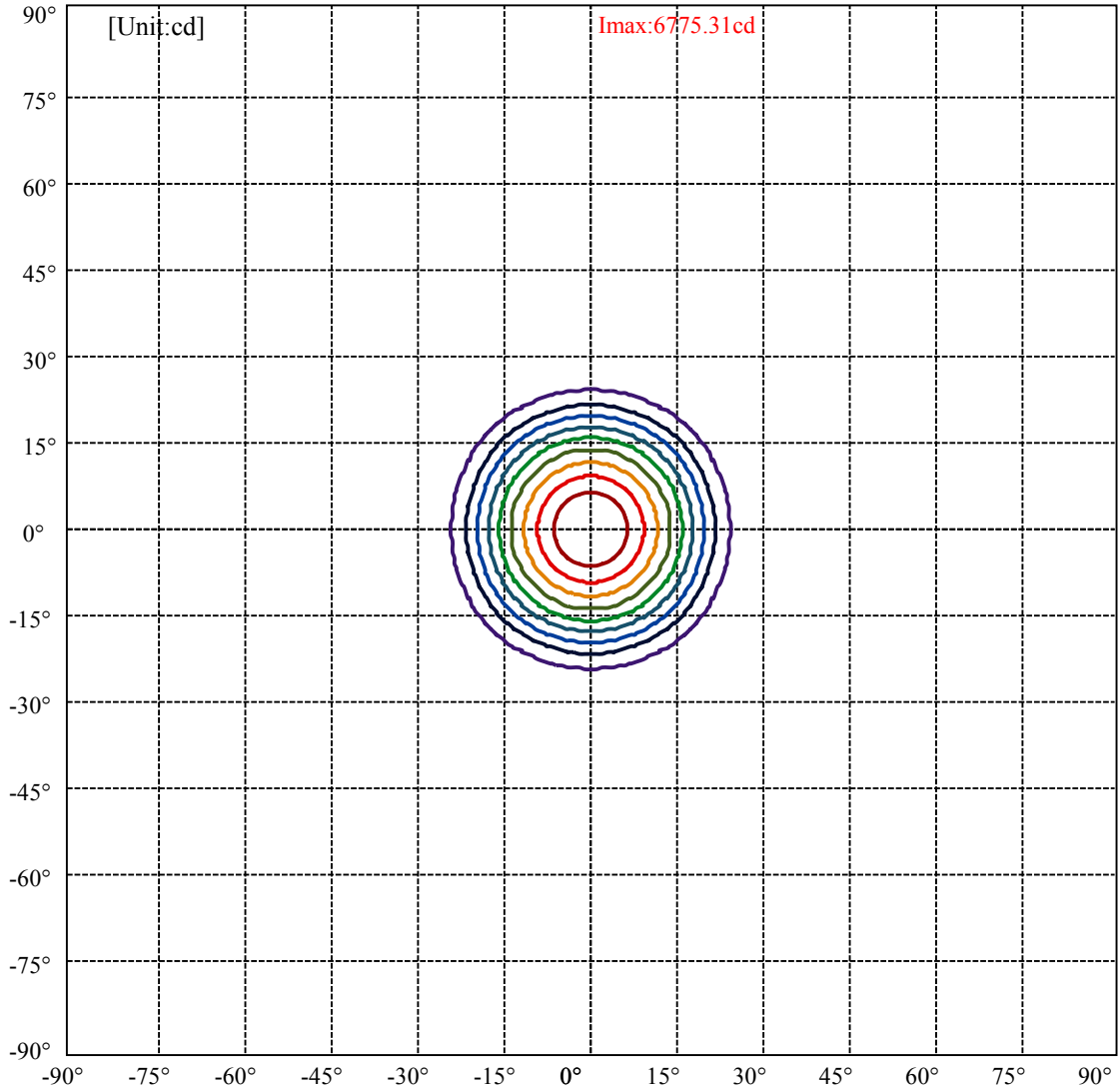
Field angle(10%Imax):C0/180Left:23.9 Right:23.9

:C90/270Left:23.9 Right:23.9

Beam Angle(50%Imax):C0/180Left:15.7 Right:15.7

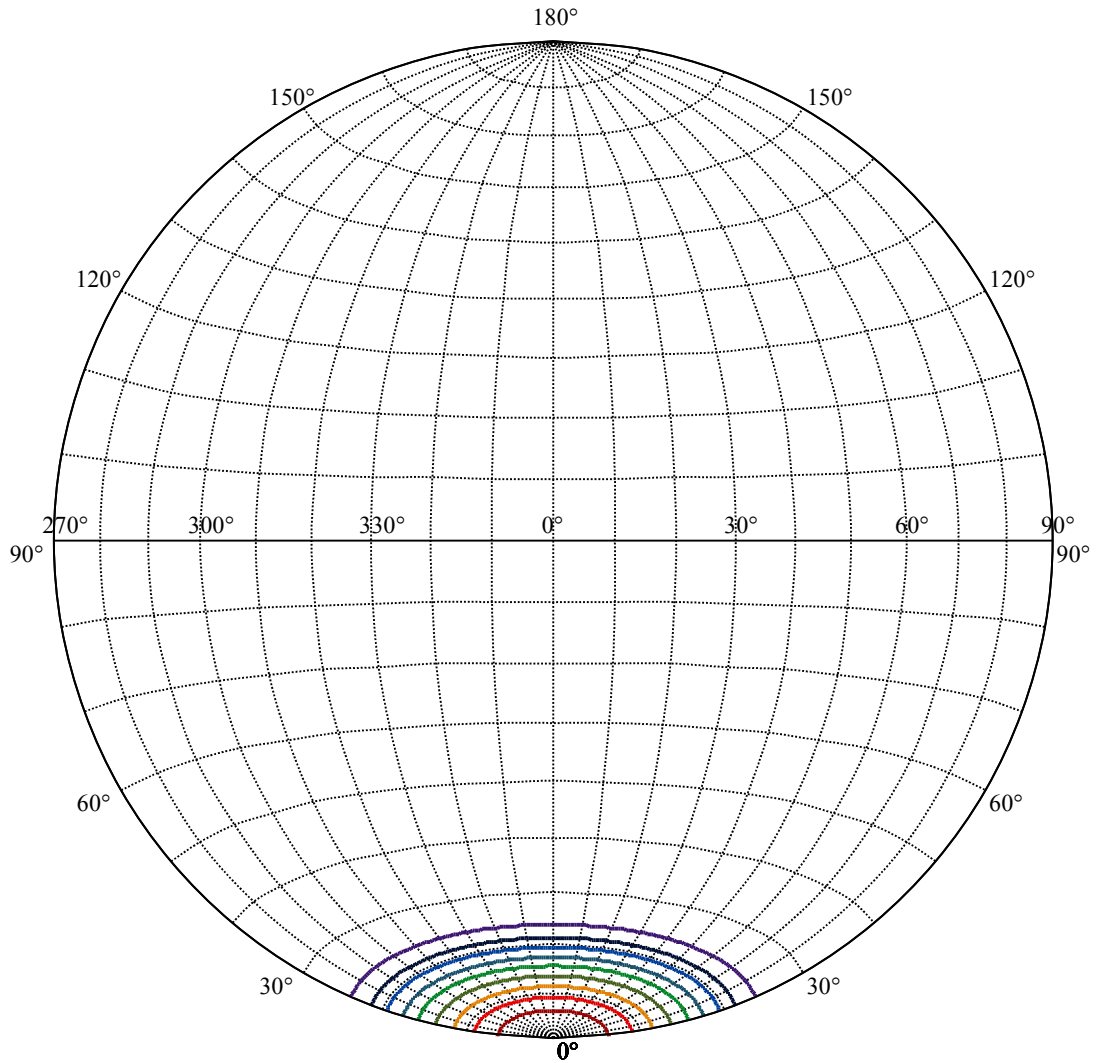
:C90/270Left:15.7 Right:15.7





(10%Imax) 677.531	—
(20%Imax) 1355.06	—
(30%Imax) 2032.59	—
(40%Imax) 2710.13	—
(50%Imax) 3387.66	—
(60%Imax) 4065.19	—
(70%Imax) 4742.72	—
(80%Imax) 5420.25	—
(90%Imax) 6097.78	—





House

[Unit:cd]

Road

**Imax:6775.31**

(10%Imax) 677.531

(20%Imax) 1355.06

(30%Imax) 2032.59

(40%Imax) 2710.13

(50%Imax) 3387.66

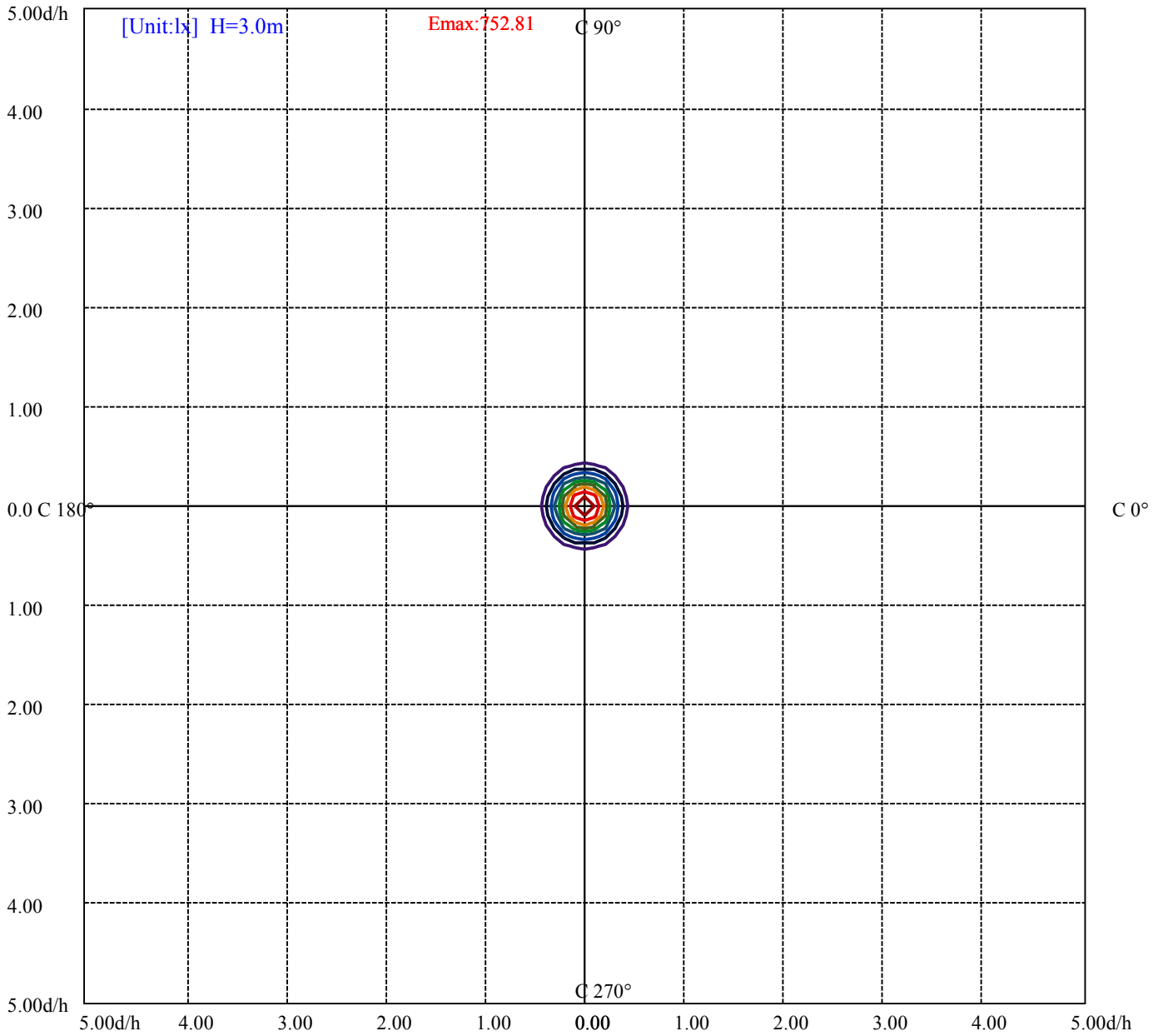
(60%Imax) 4065.19

(70%Imax) 4742.72

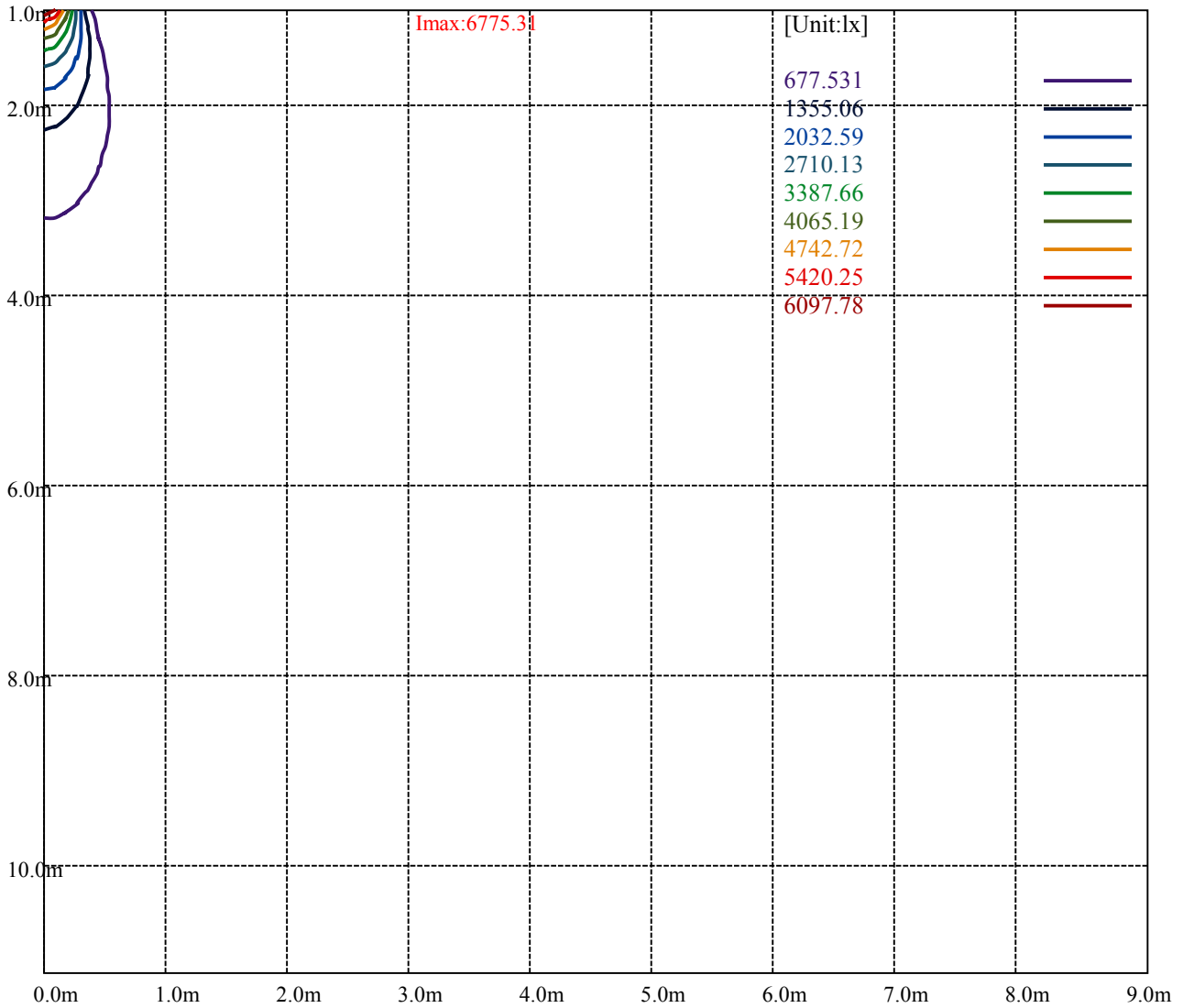
(80%Imax) 5420.25

(90%Imax) 6097.78





- (10%E<sub>max</sub>) 75.28122
- (20%E<sub>max</sub>) 150.5622
- (30%E<sub>max</sub>) 225.8433
- (40%E<sub>max</sub>) 301.1245
- (50%E<sub>max</sub>) 376.4066
- (60%E<sub>max</sub>) 451.6878
- (70%E<sub>max</sub>) 526.9689
- (80%E<sub>max</sub>) 602.25
- (90%E<sub>max</sub>) 677.5311



Luminance Table

$\gamma$	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

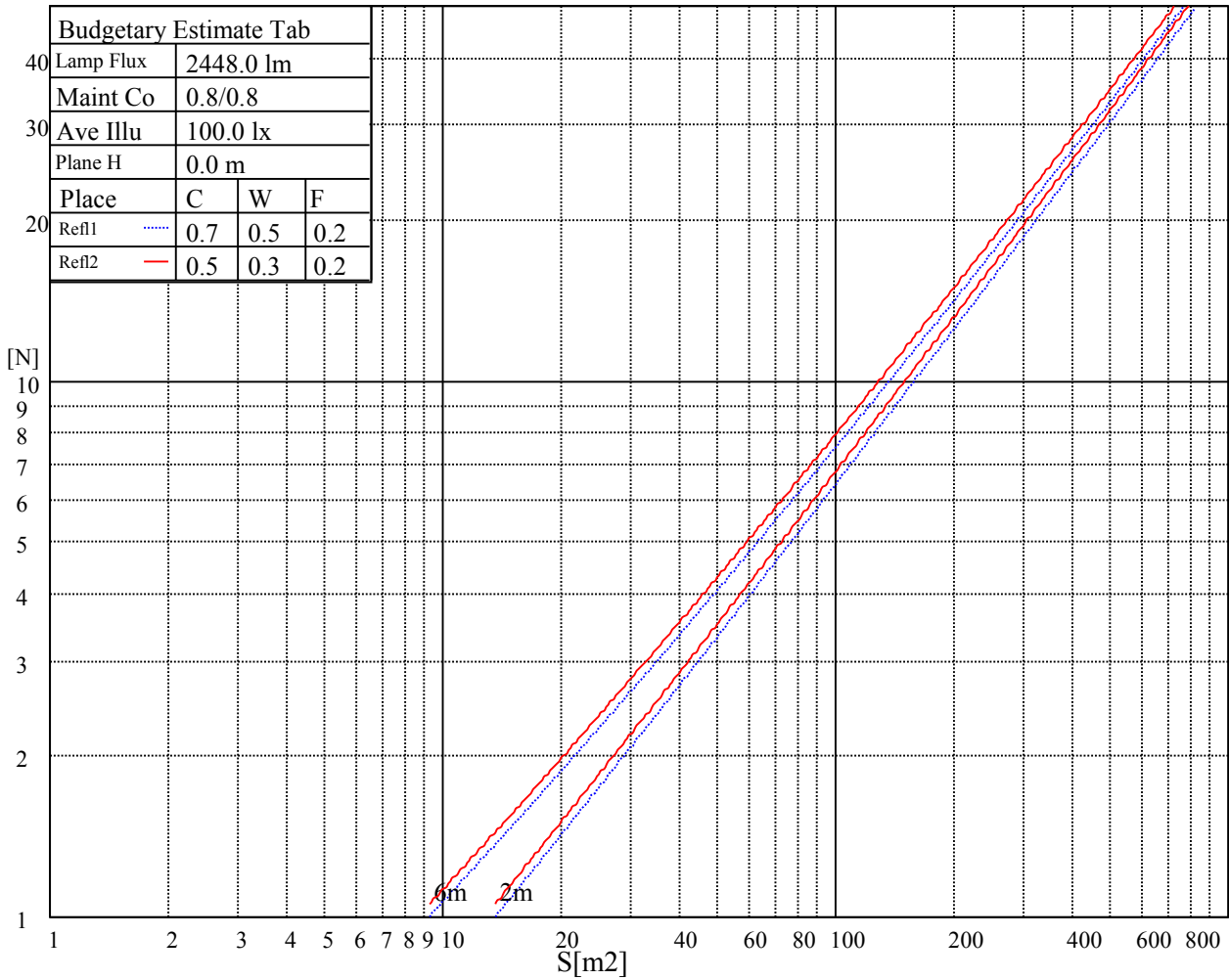
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

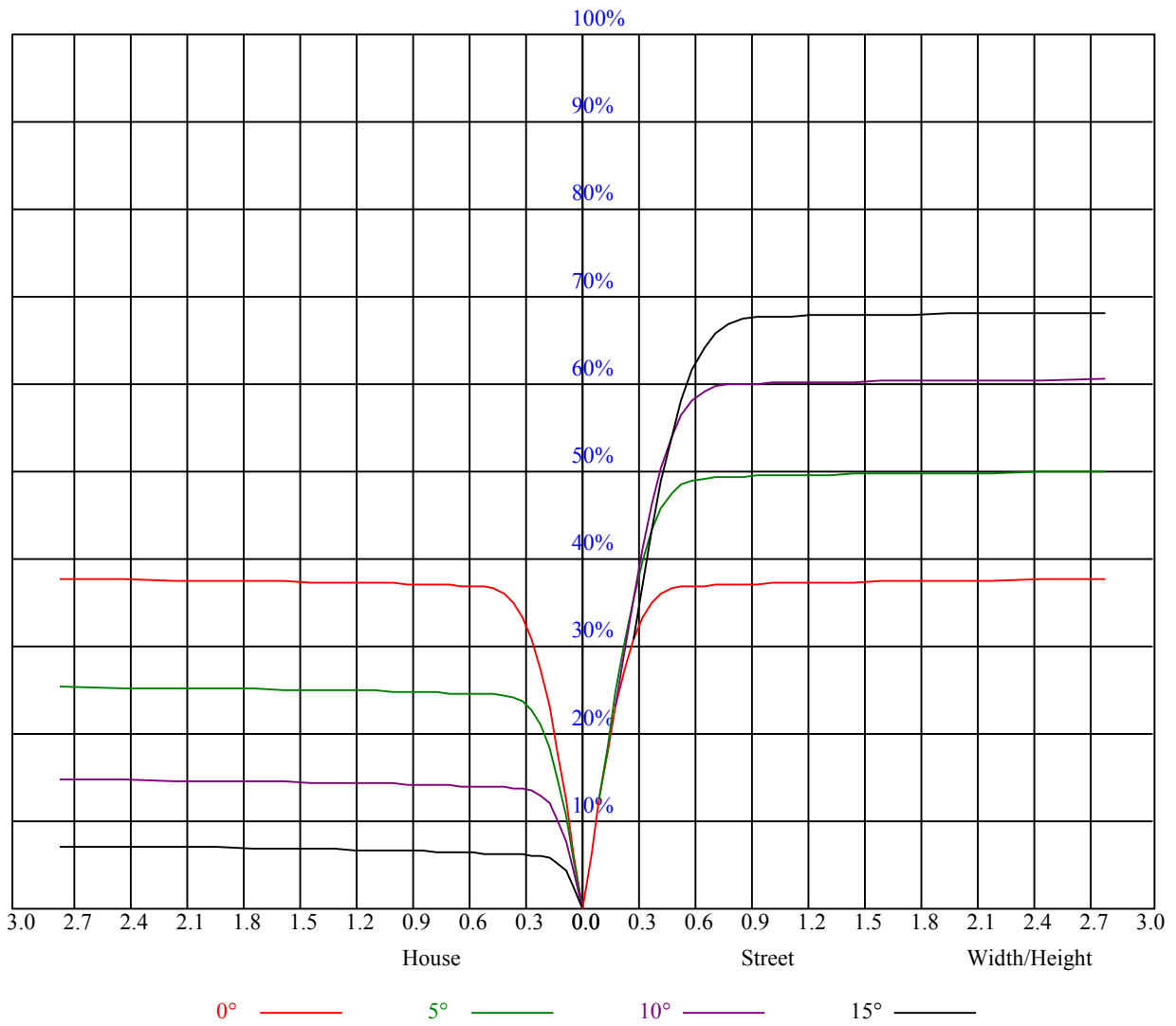
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

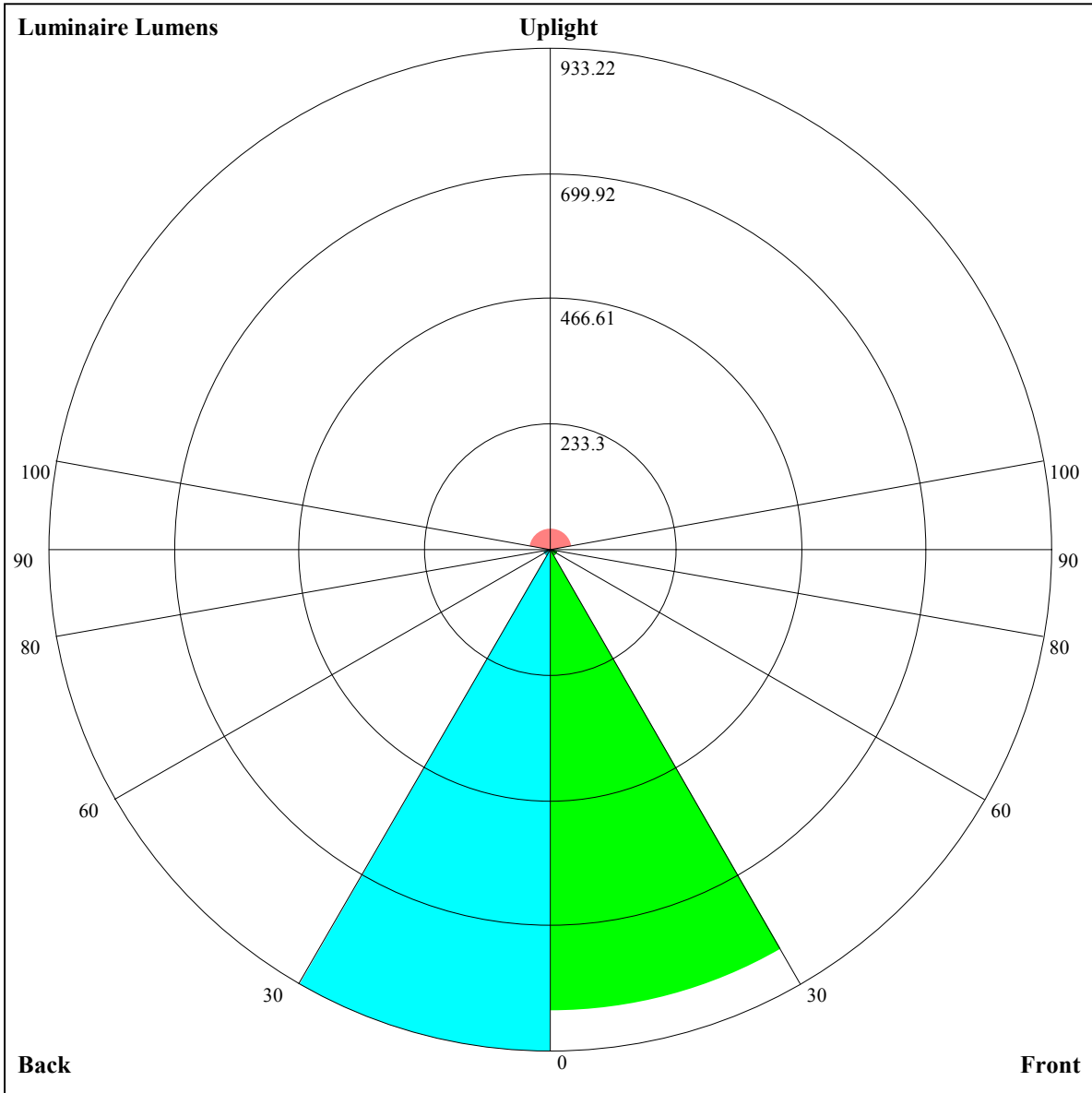
Luminance Limiting Curve





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	0.91	0.91	0.91	0.88	0.88	0.88	0.84	0.84	0.84	0.81	0.81	0.81	0.78	0.78	0.78	0.76
1	0.85	0.84	0.82	0.84	0.82	0.81	0.81	0.80	0.79	0.78	0.77	0.76	0.75	0.75	0.74	0.73
2	0.81	0.79	0.77	0.80	0.78	0.76	0.77	0.76	0.74	0.75	0.74	0.73	0.73	0.72	0.71	0.70
3	0.78	0.75	0.72	0.77	0.74	0.72	0.75	0.72	0.71	0.73	0.71	0.70	0.71	0.70	0.69	0.68
4	0.74	0.71	0.69	0.74	0.71	0.69	0.72	0.70	0.68	0.71	0.69	0.67	0.69	0.68	0.66	0.65
5	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.69	0.66	0.65	0.68	0.66	0.64	0.63
6	0.69	0.66	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.64	0.63	0.66	0.64	0.62	0.61
7	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.65	0.62	0.61	0.64	0.62	0.60	0.60
8	0.65	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.62	0.60	0.59	0.58
9	0.63	0.60	0.58	0.63	0.60	0.58	0.62	0.59	0.57	0.61	0.59	0.57	0.61	0.59	0.57	0.56
10	0.61	0.58	0.56	0.61	0.58	0.56	0.60	0.58	0.56	0.60	0.57	0.56	0.59	0.57	0.56	0.55





Luminaire Lumens:

FL=858.63,FM=15.91,FH=14.08,FVH=4.75

BL=933.22,BM=16.12,BH=13.96,BVH=4.98

UL=8.52,UH=40.56

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	6784.88	6757.88	6678.00	6580.69	6468.19	6244.31	6053.63	5869.69	5581.69
45.0	6780.94	6743.81	6657.75	6554.25	6424.88	6244.88	6030.56	5813.44	5548.50
90.0	6767.44	6735.38	6668.44	6566.06	6445.69	6269.06	6059.25	5846.63	5585.06
135.0	6768.00	6777.56	6748.31	6698.25	6622.31	6474.94	6321.38	6144.75	5915.81
180.0	6784.88	6792.19	6765.19	6702.75	6610.50	6465.94	6301.69	6090.19	5848.31
225.0	6780.94	6796.13	6773.63	6718.50	6629.63	6486.19	6298.88	6114.38	5882.06
270.0	6767.44	6773.06	6747.75	6685.88	6587.44	6435.56	6248.81	6058.69	5821.31
315.0	6768.00	6733.69	6661.69	6541.88	6403.50	6190.88	6017.06	5773.50	5474.81
360.0	6784.88	6757.88	6678.00	6580.69	6468.19	6244.31	6053.63	5869.69	5581.69
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	5302.69	5075.44	4736.25	4457.81	4172.06	3791.81	3467.25	3126.94	2694.94
45.0	5265.56	5002.31	4686.75	4404.94	4083.75	3783.38	3426.75	3096.56	2716.31
90.0	5335.31	5040.56	4735.13	4462.88	4147.88	3814.31	3499.31	3170.81	2740.50
135.0	5664.94	5420.25	5128.31	4857.75	4546.13	4222.69	3925.13	3571.88	3197.25
180.0	5609.81	5329.69	5033.81	4759.31	4475.25	4144.50	3797.44	3470.63	3129.19
225.0	5647.50	5361.19	5061.94	4782.94	4493.81	4124.25	3816.56	3486.38	3052.13
270.0	5554.69	5302.13	5004.00	4726.13	4404.94	4065.75	3746.25	3406.50	2970.00
315.0	5249.25	4947.75	4598.44	4345.88	4042.13	3600.56	3306.38	2962.13	2576.25
360.0	5302.69	5075.44	4736.25	4457.81	4172.06	3791.81	3467.25	3126.94	2694.94
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2363.06	2043.56	1652.63	1355.06	1075.50	761.63	546.19	363.94	286.31
45.0	2332.13	1996.31	1585.69	1306.13	1017.56	771.75	519.75	349.31	293.63
90.0	2396.25	2061.00	1658.25	1103.01	1069.20	785.64	548.72	373.33	236.03
135.0	2849.63	2499.19	2084.06	1757.81	1439.44	1085.63	822.38	589.50	380.25
180.0	2696.06	2372.63	2053.13	1657.13	1110.09	1076.46	788.34	540.73	357.64
225.0	2716.88	2404.69	2055.38	1708.88	1409.63	1094.46	804.60	576.11	361.41
270.0	2630.25	2323.69	1935.56	1631.25	1336.50	1027.13	744.19	523.13	316.13
315.0	2214.56	1896.19	1548.00	1110.83	940.95	695.31	458.78	272.48	165.66
360.0	2363.06	2043.56	1652.63	1355.06	1075.50	761.63	546.19	363.94	286.31
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	115.88	53.16	30.60	25.48	22.61	20.42	19.07	17.83	16.88
45.0	127.46	59.12	32.79	24.24	21.38	19.80	18.17	17.16	16.43
90.0	141.47	68.34	34.43	26.04	22.33	19.80	18.51	17.44	16.43
135.0	284.63	142.14	64.80	36.90	27.17	23.63	21.21	19.58	18.28
180.0	203.01	122.91	51.81	31.73	24.98	21.77	19.63	18.34	17.27
225.0	214.59	115.43	47.76	31.22	24.64	21.04	19.18	17.72	16.48
270.0	295.88	91.80	40.50	27.73	22.84	20.70	18.90	17.66	16.54
315.0	82.07	39.09	28.91	24.69	22.44	20.48	18.84	17.66	16.76
360.0	115.88	53.16	30.60	25.48	22.61	20.42	19.07	17.83	16.88
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	16.20	15.53	14.91	14.51	14.23	13.95	13.73	13.56	13.44
45.0	15.64	15.08	14.63	14.23	13.89	13.67	13.39	13.22	13.05
90.0	15.75	15.19	14.68	14.23	13.95	13.67	13.44	13.22	13.11
135.0	17.38	16.71	15.92	15.41	14.96	14.63	14.29	14.06	13.89
180.0	16.26	15.58	15.02	14.51	14.06	13.73	13.44	13.22	13.11
225.0	15.47	14.79	14.18	13.61	13.28	12.88	12.66	12.43	12.21
270.0	15.58	14.96	14.51	13.84	13.50	13.16	12.83	12.60	12.49
315.0	15.86	15.30	14.79	14.40	14.06	13.84	13.61	13.33	13.22
360.0	16.20	15.53	14.91	14.51	14.23	13.95	13.73	13.56	13.44

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	13.33	13.28	13.16	13.16	13.05	13.05	13.05	13.05	13.05
45.0	12.94	12.77	12.66	12.49	12.43	12.26	12.21	12.15	12.04
90.0	12.99	12.88	12.77	12.66	12.54	12.49	12.43	12.32	12.26
135.0	13.73	13.56	13.44	13.33	13.22	13.16	13.11	13.05	12.94
180.0	12.99	12.88	12.83	12.71	12.66	12.66	12.66	12.60	12.60
225.0	12.04	11.93	11.81	11.64	11.59	11.42	11.36	11.25	11.19
270.0	12.26	12.09	12.04	11.81	11.76	11.59	11.53	11.42	11.36
315.0	13.05	12.99	12.83	12.71	12.60	12.49	12.49	12.38	12.32
360.0	13.33	13.28	13.16	13.16	13.05	13.05	13.05	13.05	13.05
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	12.99	12.88	12.77	12.71	12.66	12.60	12.60	12.54	12.54
45.0	11.98	11.93	11.87	11.76	11.70	11.64	11.48	11.42	11.31
90.0	12.15	12.04	11.93	11.81	11.76	11.64	11.48	11.36	11.25
135.0	12.88	12.77	12.71	12.60	12.60	12.54	12.54	12.60	12.60
180.0	12.60	12.60	12.60	12.54	12.49	12.43	12.32	12.26	12.26
225.0	11.08	11.03	11.03	10.97	10.91	10.86	10.80	10.74	10.69
270.0	11.19	11.14	11.08	11.03	10.91	10.86	10.74	10.69	10.58
315.0	12.26	12.21	12.15	12.15	12.15	12.15	12.15	12.15	12.21
360.0	12.99	12.88	12.77	12.71	12.66	12.60	12.60	12.54	12.54
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	12.54	12.94	14.18	15.81	18.51	21.38	23.91	26.38	29.25
45.0	11.19	11.14	11.03	10.97	10.91	10.86	10.80	10.80	10.86
90.0	11.19	11.14	11.03	10.91	10.80	10.74	10.74	10.74	10.74
135.0	12.60	12.60	12.60	12.60	12.54	12.54	13.16	14.79	17.49
180.0	12.21	12.15	12.15	12.21	12.71	13.95	16.43	18.68	21.09
225.0	10.63	10.58	10.46	10.41	10.35	10.24	10.18	10.13	10.07
270.0	10.52	10.46	10.41	10.35	10.29	10.24	10.13	10.07	9.96
315.0	12.26	12.26	12.32	12.32	12.26	12.21	12.43	13.78	16.09
360.0	12.54	12.94	14.18	15.81	18.51	21.38	23.91	26.38	29.25
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	30.99	31.61	30.88	29.48	28.18	26.21	23.85	20.42	15.98
45.0	10.86	10.97	10.97	10.97	10.86	10.80	10.63	10.46	10.13
90.0	10.80	10.86	10.91	10.91	10.86	10.63	10.13	9.56	9.17
135.0	21.60	24.41	26.33	27.17	26.38	24.75	19.69	16.88	14.06
180.0	23.96	26.27	28.41	29.48	29.42	28.13	25.71	23.63	19.97
225.0	10.07	10.07	10.13	10.18	10.29	10.35	10.46	10.46	10.35
270.0	9.90	9.84	9.79	9.73	9.73	9.73	9.68	9.56	9.34
315.0	19.41	20.70	20.70	20.03	18.96	17.83	16.54	15.24	12.32
360.0	30.99	31.61	30.88	29.48	28.18	26.21	23.85	20.42	15.98
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	10.74	8.72	8.27	8.16	8.10	7.99	7.99	7.88	7.76
45.0	9.56	9.11	8.72	8.38	8.21	8.16	8.21	7.93	7.88
90.0	9.00	9.06	9.23	9.45	9.56	9.06	8.33	7.99	7.88
135.0	10.74	9.73	9.51	9.34	9.28	9.39	9.68	9.79	9.23
180.0	13.95	10.29	8.66	8.33	8.16	8.10	8.10	8.16	7.82
225.0	10.13	9.73	9.17	8.66	8.38	8.10	7.99	7.93	7.88
270.0	8.94	8.66	8.38	8.21	8.16	8.04	7.99	7.99	7.88
315.0	9.56	8.89	8.66	8.44	8.27	8.21	8.10	7.99	7.82
360.0	10.74	8.72	8.27	8.16	8.10	7.99	7.99	7.88	7.76

Intensity data(cd)

C/ $\gamma$ (°)	90.0
0.0	7.59
45.0	7.76
90.0	7.82
135.0	8.04
180.0	7.82
225.0	7.76
270.0	7.82
315.0	7.88
360.0	7.59