



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

Client:

LumCAT: 2-2162-M

Luminaire: BJB 47.360.5080

Report No: nt0100

Voltage(V): 220.5000

Test No: GC2020031333

Current(A): 0.1080

LampCAT: NICHIA NFCWJ120B-V3

Power (W): 22.9100

Lamp flux(lm): 2445.0

PF: 0.9570

Number of Lamps: 1

Ballast type: AC

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1883.41, Efficiency(%): 77.03% , Luminous Efficacy(lm/W): 82.21

Central intensity(cd): 11973.830, Maximum intensity(cd): 11973.830

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=18.6

[C90/270]Total=18.6

Field angle(10%Imax): [C0/180]Total=42.0

[C90/270]Total=42.0

Maximum s/h(1/2): C0_180=0.32 C90_270=0.32

Maximum s/h(1/4): C0_180=0.35 C90_270=0.35

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 77.03%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.693%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	11973.826	0.000	0	.000%	.000%
1.0	11858.978	11.404	11.404	.466%	.605%
2.0	11361.812	33.329	44.732	1.363%	2.375%
3.0	10825.610	53.065	97.797	2.170%	5.193%
4.0	10155.128	70.229	168.026	2.872%	8.921%
5.0	9417.721	84.201	252.228	3.444%	13.392%
6.0	8525.257	94.295	346.523	3.857%	18.399%
7.0	7844.230	101.605	448.128	4.156%	23.793%
8.0	6890.293	105.452	553.58	4.313%	29.392%
9.0	6211.528	106.183	659.763	4.343%	35.030%
10.0	5480.386	105.808	765.571	4.328%	40.648%
11.0	4827.955	103.001	868.572	4.213%	46.117%
12.0	4272.159	99.477	968.05	4.069%	51.399%
13.0	3761.548	95.340	1063.389	3.899%	56.461%
14.0	3292.758	90.294	1153.684	3.693%	61.255%
15.0	2915.151	85.225	1238.909	3.486%	65.780%
16.0	2576.290	80.465	1319.374	3.291%	70.052%
17.0	2309.935	76.092	1395.466	3.112%	74.093%
18.0	2010.854	71.240	1466.706	2.914%	77.875%
19.0	1787.236	66.079	1532.785	2.703%	81.384%
20.0	1449.142	59.235	1592.02	2.423%	84.529%
21.0	1204.497	50.955	1642.975	2.084%	87.234%
22.0	989.174	44.083	1687.058	1.803%	89.575%
23.0	815.197	37.861	1724.918	1.548%	91.585%
24.0	670.627	32.485	1757.404	1.329%	93.310%
25.0	503.668	26.701	1784.105	1.092%	94.727%
26.0	357.921	20.338	1804.442	.832%	95.807%
27.0	247.179	14.804	1819.246	.605%	96.593%
28.0	146.472	9.966	1829.213	.408%	97.122%
29.0	98.056	6.398	1835.61	.262%	97.462%
30.0	44.344	3.845	1839.455	.157%	97.666%
31.0	13.967	1.623	1841.078	.066%	97.752%
32.0	10.302	0.695	1841.773	.028%	97.789%
33.0	9.785	0.592	1842.365	.024%	97.821%
34.0	9.466	0.583	1842.947	.024%	97.852%
35.0	9.182	0.579	1843.527	.024%	97.882%
36.0	8.956	0.578	1844.104	.024%	97.913%
37.0	8.759	0.578	1844.682	.024%	97.944%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	8.567	0.578	1845.26	.024%	97.975%
39.0	8.399	0.579	1845.839	.024%	98.005%
40.0	8.289	0.582	1846.421	.024%	98.036%
41.0	8.138	0.585	1847.006	.024%	98.067%
42.0	8.005	0.586	1847.593	.024%	98.098%
43.0	7.900	0.589	1848.182	.024%	98.130%
44.0	7.819	0.593	1848.775	.024%	98.161%
45.0	7.744	0.598	1849.373	.024%	98.193%
46.0	7.657	0.602	1849.975	.025%	98.225%
47.0	7.564	0.605	1850.581	.025%	98.257%
48.0	7.512	0.609	1851.19	.025%	98.289%
49.0	7.465	0.615	1851.805	.025%	98.322%
50.0	7.390	0.619	1852.425	.025%	98.355%
51.0	7.320	0.622	1853.047	.025%	98.388%
52.0	7.256	0.625	1853.672	.026%	98.421%
53.0	7.204	0.629	1854.301	.026%	98.455%
54.0	7.111	0.631	1854.932	.026%	98.488%
55.0	7.048	0.632	1855.564	.026%	98.522%
56.0	7.019	0.636	1856.2	.026%	98.555%
57.0	6.990	0.640	1856.841	.026%	98.589%
58.0	6.984	0.646	1857.487	.026%	98.624%
59.0	6.961	0.652	1858.139	.027%	98.658%
60.0	6.972	0.658	1858.797	.027%	98.693%
61.0	7.007	0.667	1859.464	.027%	98.729%
62.0	7.059	0.678	1860.142	.028%	98.765%
63.0	7.117	0.689	1860.831	.028%	98.801%
64.0	7.297	0.707	1861.539	.029%	98.839%
65.0	7.546	0.735	1862.273	.030%	98.878%
66.0	7.871	0.769	1863.042	.031%	98.919%
67.0	8.329	0.815	1863.857	.033%	98.962%
68.0	8.979	0.877	1864.734	.036%	99.008%
69.0	9.692	0.953	1865.686	.039%	99.059%
70.0	10.487	1.036	1866.723	.042%	99.114%
71.0	11.386	1.131	1867.853	.046%	99.174%
72.0	12.204	1.227	1869.08	.050%	99.239%
73.0	12.929	1.314	1870.394	.054%	99.309%
74.0	13.585	1.394	1871.788	.057%	99.383%
75.0	13.909	1.453	1873.241	.059%	99.460%

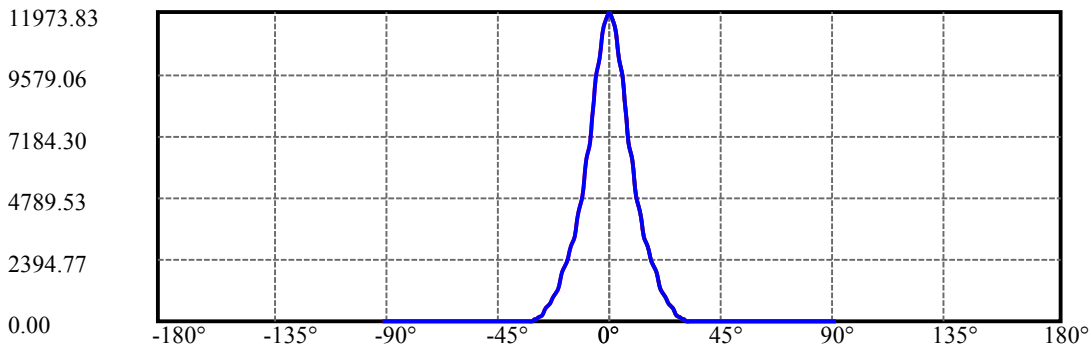
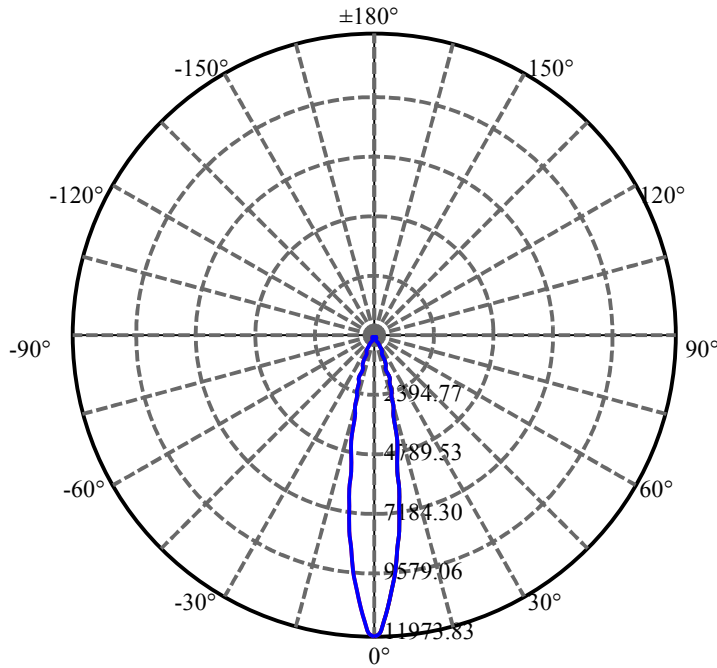
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	13.857	1.474	1874.715	.060%	99.538%
77.0	13.242	1.445	1876.159	.059%	99.615%
78.0	11.833	1.342	1877.502	.055%	99.686%
79.0	9.669	1.155	1878.657	.047%	99.748%
80.0	7.877	0.946	1879.603	.039%	99.798%
81.0	5.731	0.736	1880.339	.030%	99.837%
82.0	4.078	0.532	1880.871	.022%	99.865%
83.0	3.266	0.399	1881.27	.016%	99.886%
84.0	2.744	0.327	1881.597	.013%	99.904%
85.0	2.575	0.290	1881.888	.012%	99.919%
86.0	2.575	0.282	1882.169	.012%	99.934%
87.0	2.628	0.285	1882.454	.012%	99.949%
88.0	2.749	0.295	1882.748	.012%	99.965%
89.0	3.045	0.318	1883.066	.013%	99.982%
90.0	3.190	0.342	1883.408	.014%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1839.46	75.23%	97.67%
0-40	1846.42	75.52%	98.04%
0-60	1858.80	76.02%	98.69%
0-90	1883.07	77.02%	99.98%
0-120	1883.07	77.02%	99.98%
0-180	1883.41	77.03%	100.00%
60-90	24.93	1.02%	1.32%
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%
0-18.61	1506.73	61.62%	80.00%

ZONAL LUMEN SUMMARY

0-10	765.57
10-20	826.45
20-30	247.44
30-40	6.97
40-50	6.00
50-60	6.37
60-70	7.93
70-80	12.88
80-90	3.46
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



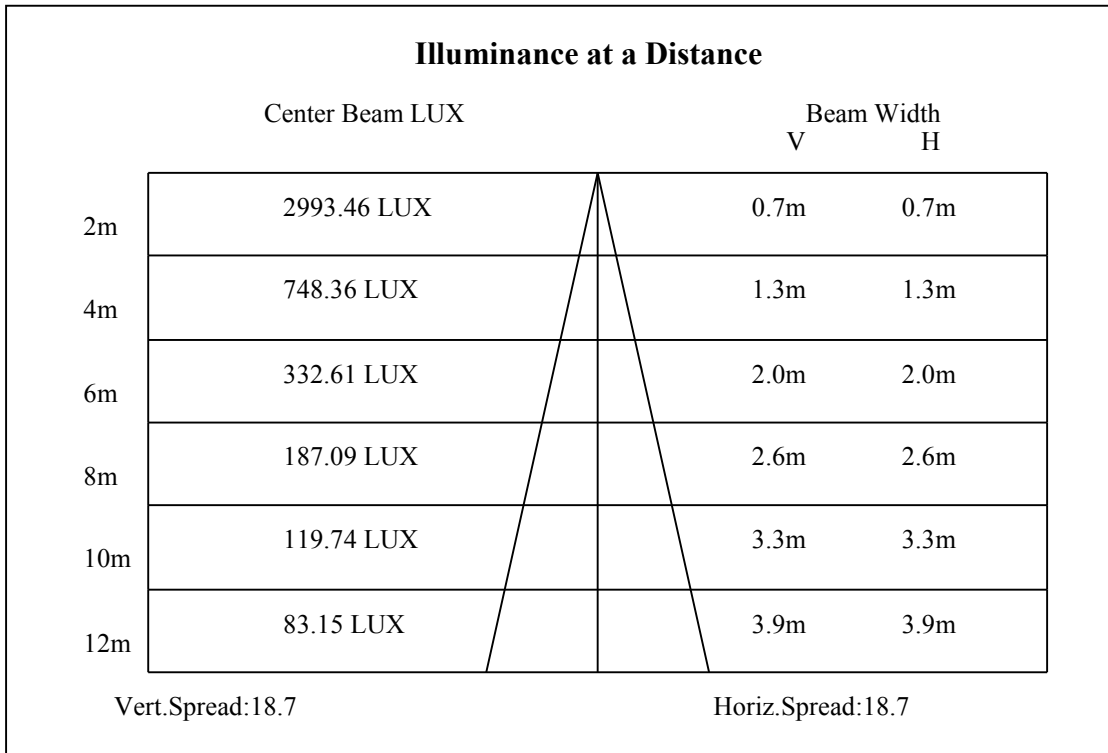
C0(Max): ———

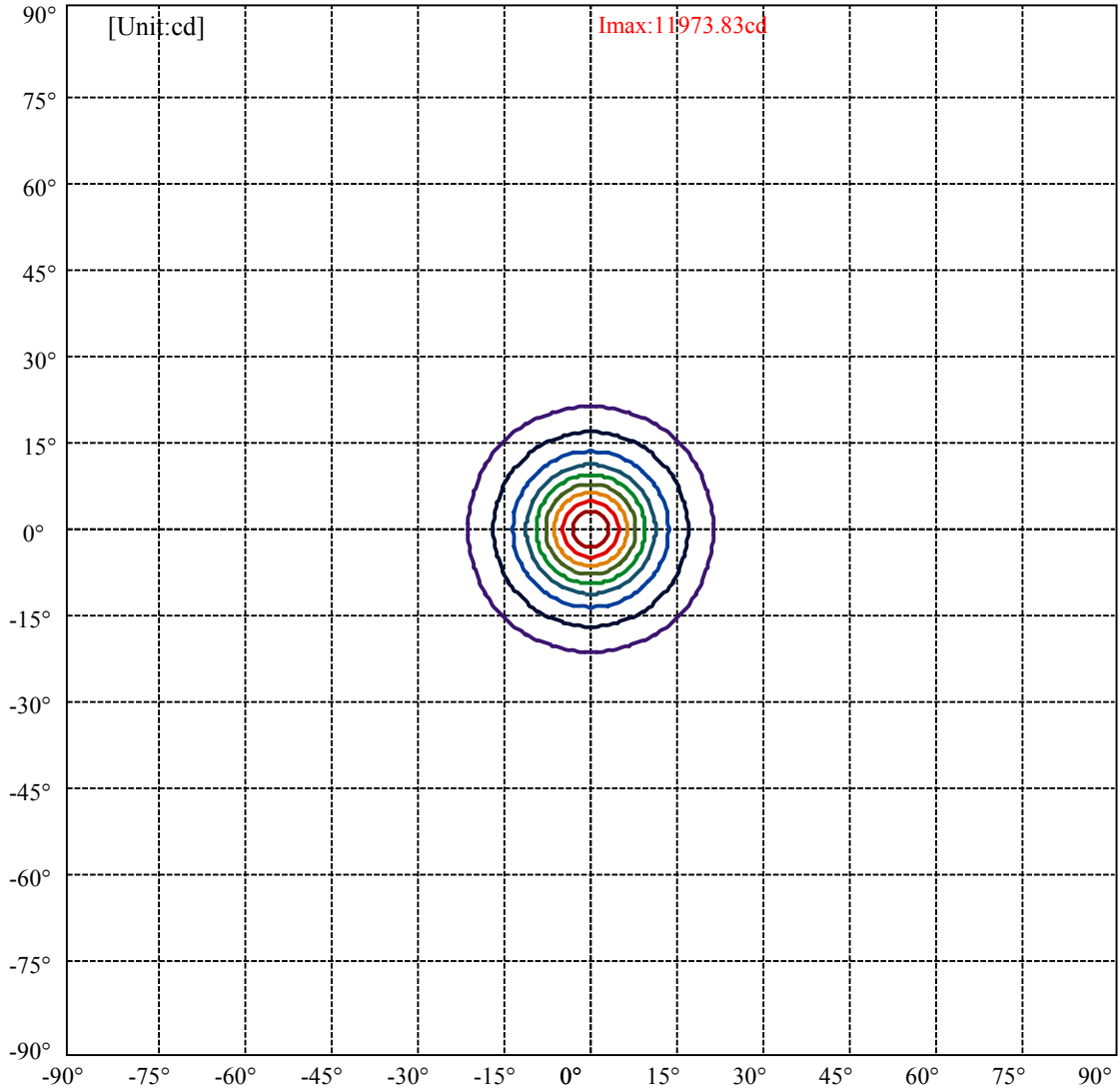
C0/C180: ———

C90/C270: ———

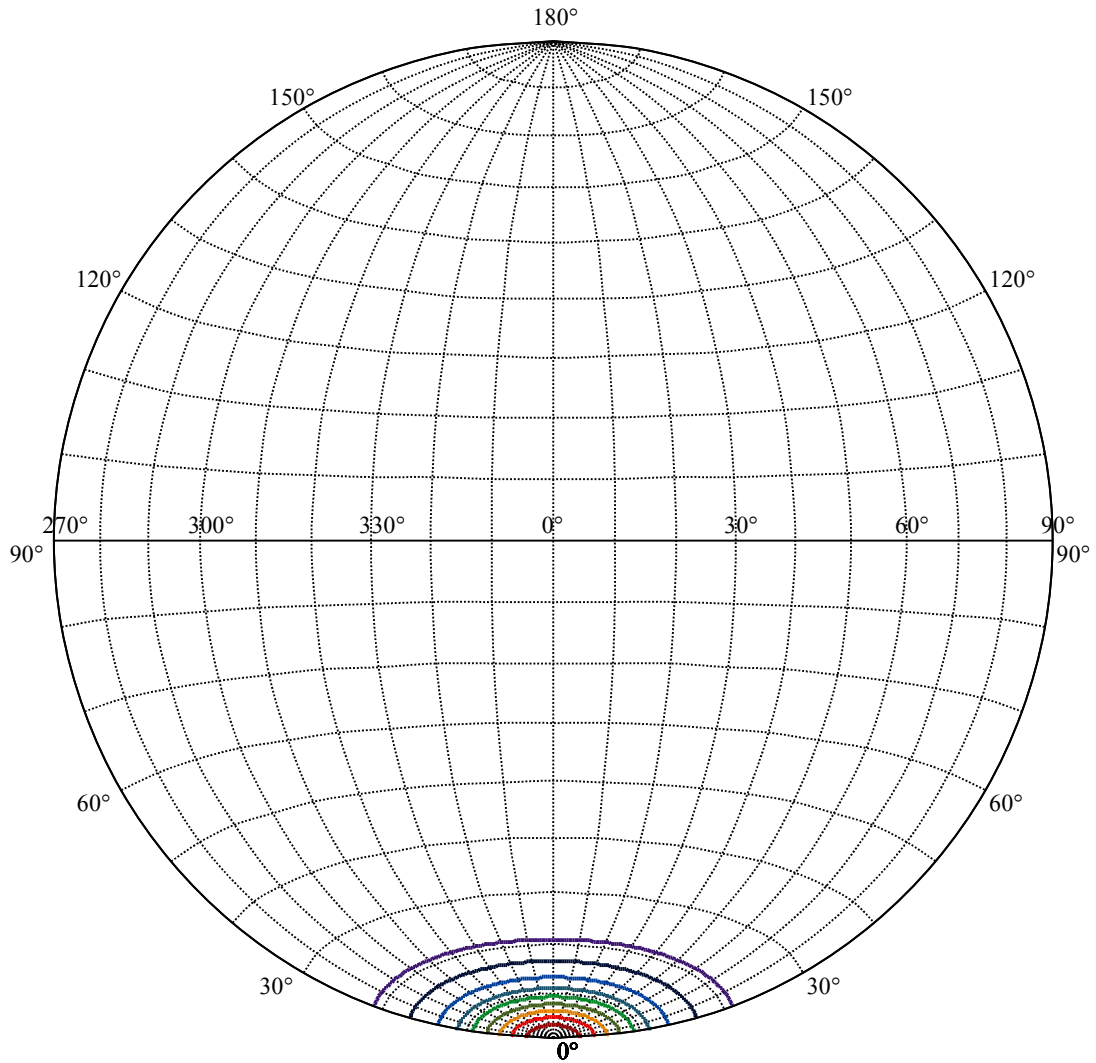
Field angle(10%Imax):C0/180Left:21.0 Right:21.0
:C90/270Left:21.0 Right:21.0

Beam Angle(50%Imax):C0/180Left:9.3 Right:9.3
:C90/270Left:9.3 Right:9.3





(10%Imax) 1197.38	—
(20%Imax) 2394.77	—
(30%Imax) 3592.15	—
(40%Imax) 4789.53	—
(50%Imax) 5986.91	—
(60%Imax) 7184.3	—
(70%Imax) 8381.68	—
(80%Imax) 9579.06	—
(90%Imax) 10776.4	—



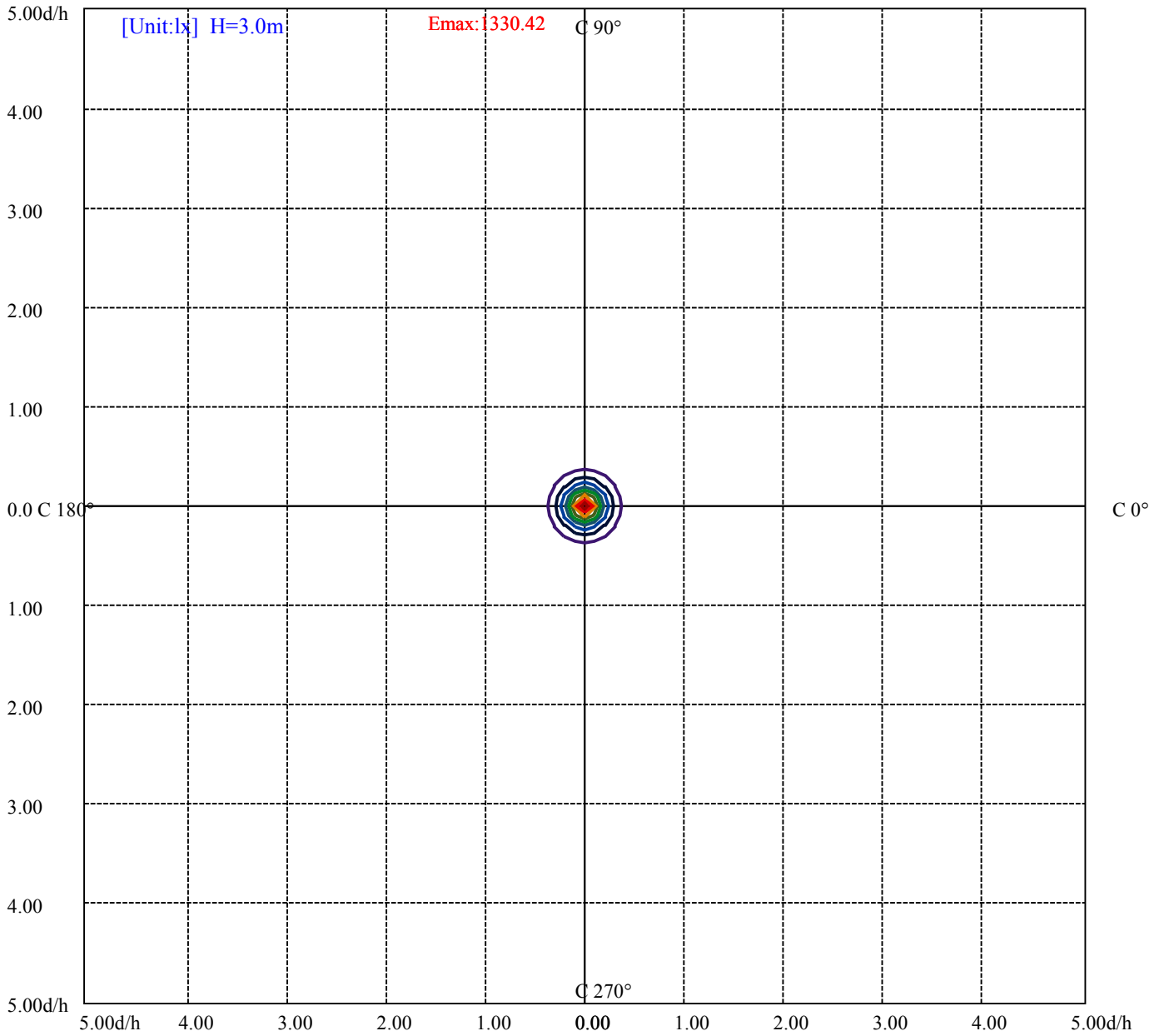
House

[Unit:cd]

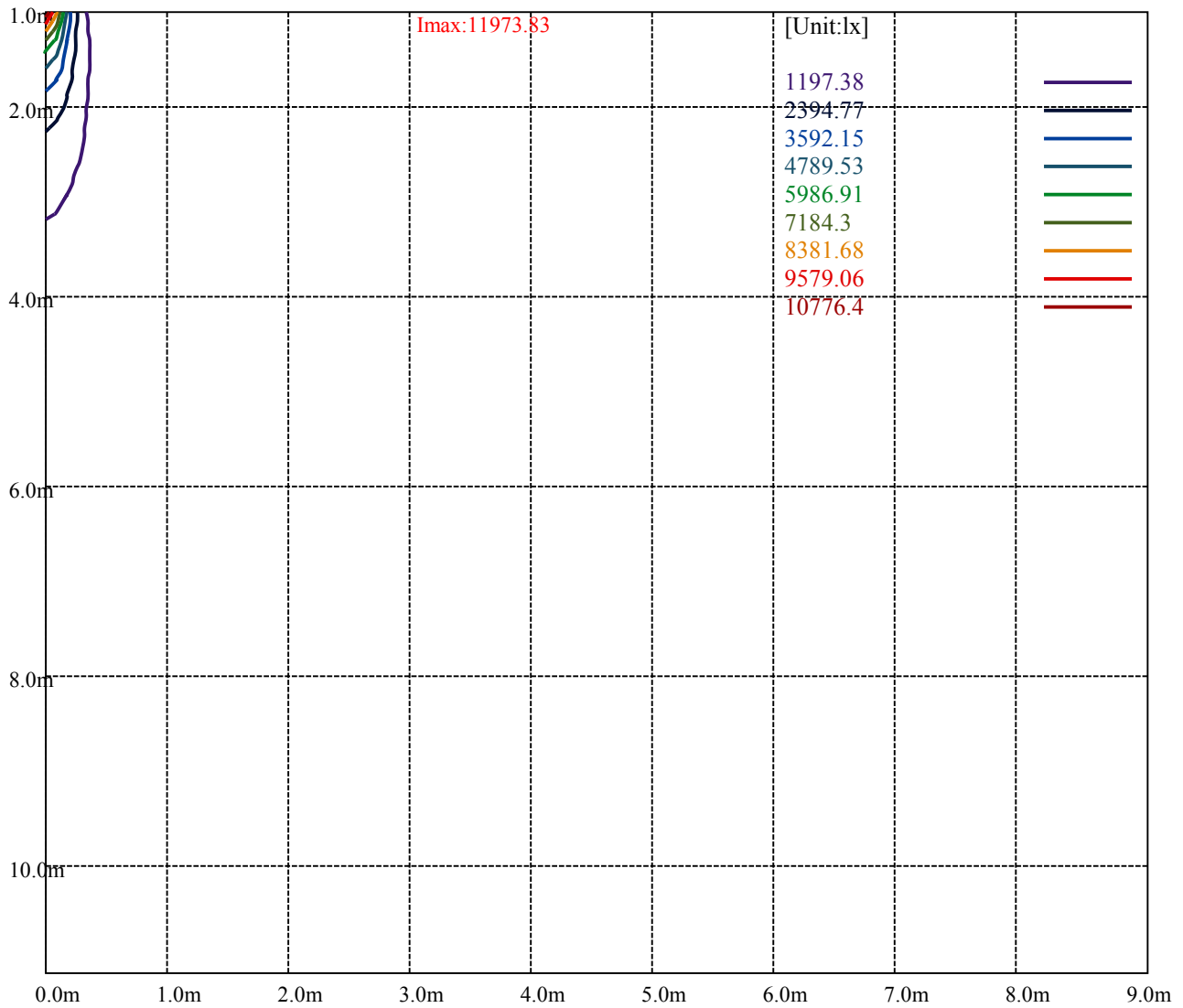
Road

I_{max}:11973.83

(10%I _{max}) 1197.38	—
(20%I _{max}) 2394.77	—
(30%I _{max}) 3592.15	—
(40%I _{max}) 4789.53	—
(50%I _{max}) 5986.91	—
(60%I _{max}) 7184.3	—
(70%I _{max}) 8381.68	—
(80%I _{max}) 9579.06	—
(90%I _{max}) 10776.4	—



(10%Emax) 133.0422	—
(20%Emax) 266.0844	—
(30%Emax) 399.1266	—
(40%Emax) 532.1689	—
(50%Emax) 665.2111	—
(60%Emax) 798.2545	—
(70%Emax) 931.2966	—
(80%Emax) 1064.339	—
(90%Emax) 1197.378	—



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

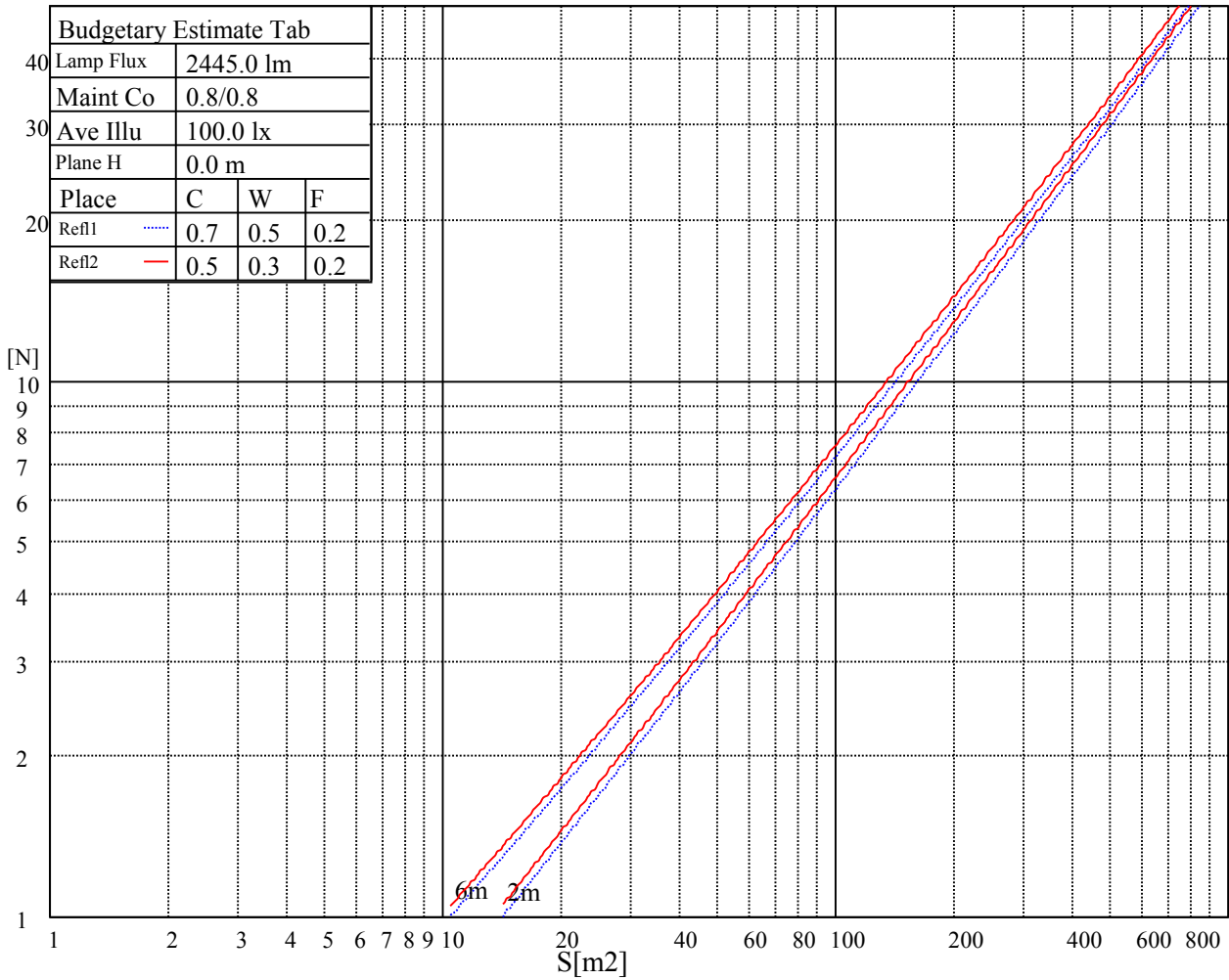
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

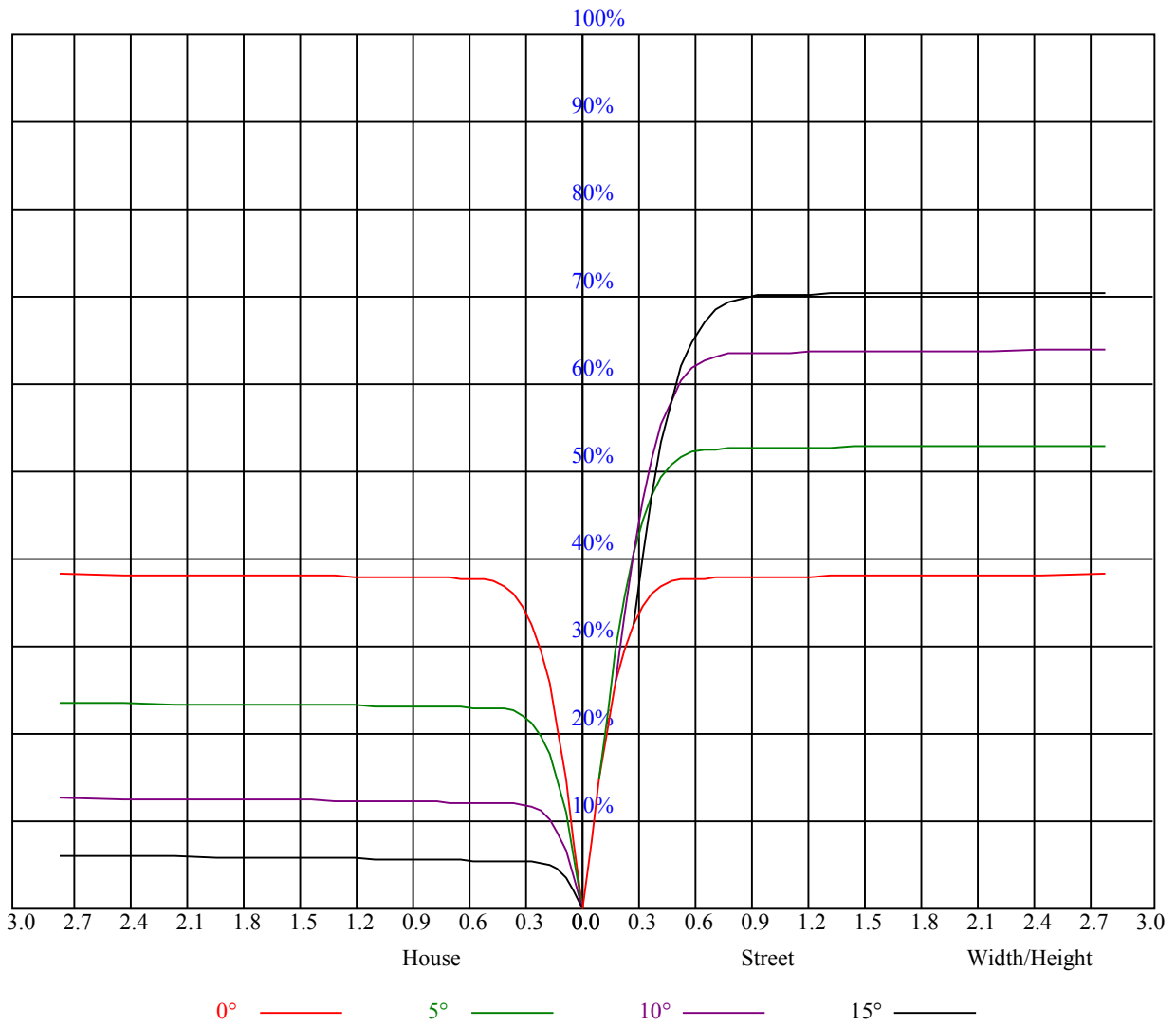
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

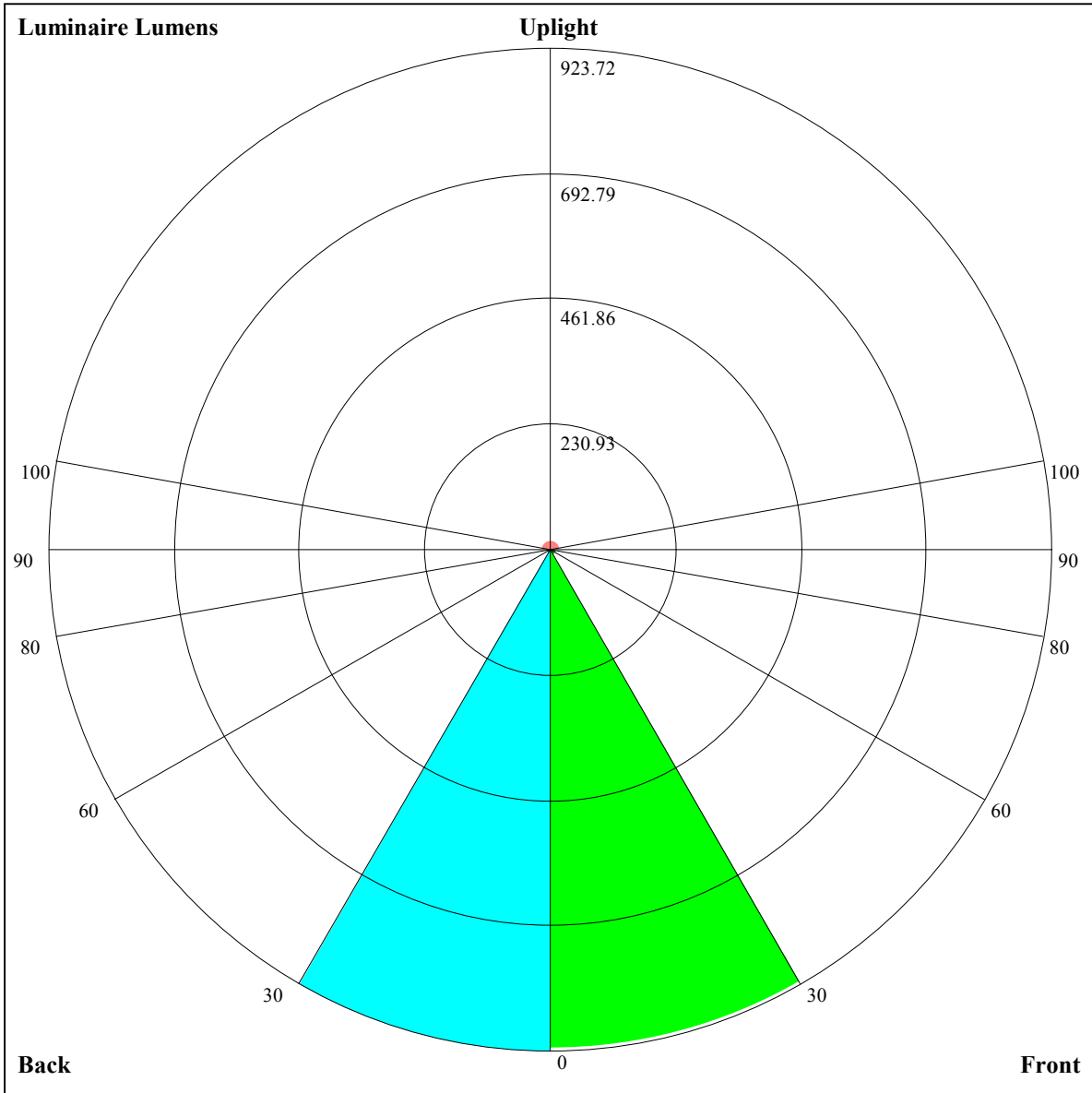
Luminance Limiting Curve





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	0.92	0.92	0.92	0.90	0.90	0.90	0.86	0.86	0.86	0.82	0.82	0.82	0.79	0.79	0.79	0.77
1	0.87	0.85	0.84	0.85	0.84	0.83	0.82	0.81	0.80	0.79	0.79	0.78	0.77	0.76	0.76	0.74
2	0.83	0.81	0.79	0.82	0.80	0.78	0.79	0.78	0.76	0.77	0.76	0.75	0.75	0.74	0.73	0.72
3	0.80	0.77	0.75	0.79	0.76	0.74	0.77	0.75	0.73	0.75	0.73	0.72	0.73	0.72	0.71	0.70
4	0.77	0.74	0.72	0.76	0.73	0.71	0.75	0.72	0.71	0.73	0.71	0.70	0.72	0.70	0.69	0.68
5	0.74	0.71	0.69	0.74	0.71	0.69	0.72	0.70	0.68	0.71	0.69	0.68	0.70	0.69	0.67	0.66
6	0.72	0.69	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.70	0.67	0.66	0.69	0.67	0.65	0.65
7	0.70	0.67	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.68	0.66	0.64	0.67	0.65	0.64	0.63
8	0.68	0.65	0.63	0.68	0.65	0.63	0.67	0.65	0.63	0.66	0.64	0.63	0.66	0.64	0.62	0.62
9	0.66	0.63	0.62	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.64	0.62	0.61	0.60
10	0.65	0.62	0.60	0.65	0.62	0.60	0.64	0.62	0.60	0.64	0.61	0.60	0.63	0.61	0.60	0.59





Luminaire Lumens:
FL=917.47,FM=10.99,FH=11.79,FVH=2.23
BL=923.72,BM=9.33,BH=9.24,BVH=1.74
UL=3.48,UH=16.56

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	12065.47	11833.46	11355.50	10970.35	8983.27	8983.27	8254.27	7347.09	6494.66
45.0	11773.13	12167.56	12311.41	12190.76	11810.25	11202.37	10585.21	9527.21	8613.06
90.0	12227.88	12399.58	12288.21	11916.98	11327.66	10283.58	8907.63	8907.63	7969.36
135.0	11828.82	12088.67	12107.24	11870.58	11397.26	10729.06	9907.72	9383.36	8097.99
180.0	12065.47	12046.91	11791.69	11299.82	10622.33	9814.91	8937.89	8028.38	7128.16
225.0	11773.13	11183.81	9183.27	8996.26	8626.43	7691.40	6803.24	6309.05	5286.78
270.0	12227.88	11819.53	11207.01	10427.43	9541.13	8622.34	7694.28	6807.97	5995.92
315.0	11828.82	11332.30	10650.17	8932.69	8932.69	8014.83	7111.82	6443.15	5536.43
360.0	12065.47	11833.46	11355.50	10970.35	8983.27	8983.27	8254.27	7347.09	6494.66
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	5721.11	5033.88	4424.14	3888.18	3420.90	3013.94	2655.25	2334.13	2044.58
45.0	7875.25	6984.31	6153.69	5411.23	4752.31	4181.54	3671.11	3221.00	2826.57
90.0	7069.60	6235.73	5491.42	4821.82	4234.82	3724.38	3277.05	2878.45	2524.85
135.0	7559.71	6682.68	5884.55	5179.22	4557.41	4009.85	3531.90	3109.63	2733.76
180.0	6292.90	5550.44	4891.52	4311.47	3805.68	3350.92	2961.14	2608.47	2413.58
225.0	4898.85	4316.02	3809.30	3363.36	2969.86	2618.59	2304.44	2024.62	1764.30
270.0	5276.66	4645.58	4102.66	3796.40	3350.92	2803.37	2603.83	2404.30	2404.30
315.0	4998.15	4394.44	3866.37	3405.59	3000.49	2639.47	2316.50	2029.73	1767.55
360.0	5721.11	5033.88	4424.14	3888.18	3420.90	3013.94	2655.25	2334.13	2044.58
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1781.01	1630.66	1311.40	821.62	821.62	782.41	596.33	427.61	280.14
45.0	2483.18	2418.22	2292.93	1745.74	1405.60	1189.83	1062.22	777.30	663.61
90.0	2208.85	1923.47	1663.14	1423.24	915.68	834.75	834.75	642.27	466.54
135.0	2399.66	2399.66	1796.32	1548.53	1323.47	1111.41	905.84	788.90	599.58
180.0	2413.58	1808.38	1560.59	1338.32	1129.04	920.69	723.94	542.04	377.31
225.0	1521.61	1303.98	855.03	855.03	659.53	478.79	319.77	238.70	128.82
270.0	1755.95	1512.33	1295.63	1085.42	879.39	680.78	498.88	338.79	229.74
315.0	1523.00	1301.20	818.09	818.09	779.07	522.92	423.29	273.73	117.63
360.0	1781.01	1630.66	1311.40	821.62	821.62	782.41	596.33	427.61	280.14
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	158.65	72.39	23.06	11.60	10.63	10.26	10.07	9.88	9.74
45.0	487.75	331.37	276.15	142.18	30.07	15.78	14.48	14.06	13.64
90.0	312.02	185.06	91.83	33.78	15.31	13.69	13.09	12.58	12.25
135.0	429.28	281.71	230.21	127.93	22.18	11.00	10.07	9.65	9.33
180.0	237.17	237.17	131.23	13.04	8.77	8.07	7.70	7.38	7.10
225.0	52.06	14.80	9.37	8.82	8.35	7.93	7.70	7.52	7.24
270.0	229.74	28.31	13.46	9.00	8.45	8.07	7.75	7.42	7.15
315.0	70.77	20.97	9.14	8.40	7.98	7.61	7.42	7.24	7.01
360.0	158.65	72.39	23.06	11.60	10.63	10.26	10.07	9.88	9.74
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	9.61	9.56	9.51	9.47	9.47	9.37	9.33	9.28	9.23
45.0	13.32	12.95	12.67	12.48	12.25	12.02	11.93	11.79	11.69
90.0	11.93	11.60	11.32	11.09	10.90	10.77	10.39	10.21	10.12
135.0	8.96	8.68	8.40	8.21	8.12	7.80	7.66	7.56	7.47
180.0	6.96	6.82	6.64	6.59	6.54	6.40	6.26	6.22	6.17
225.0	7.10	6.96	6.87	6.68	6.54	6.45	6.40	6.26	6.17
270.0	6.91	6.73	6.50	6.22	6.13	5.99	5.89	5.85	5.75
315.0	6.87	6.77	6.64	6.45	6.36	6.31	6.17	6.03	5.94
360.0	9.61	9.56	9.51	9.47	9.47	9.37	9.33	9.28	9.23

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	9.19	9.14	9.14	9.14	9.14	9.10	9.19	9.19	9.14
45.0	11.65	11.55	11.46	11.46	11.46	11.32	11.28	11.28	11.18
90.0	10.02	9.93	9.79	9.70	9.65	9.56	9.37	9.28	9.23
135.0	7.33	7.19	7.10	7.01	6.87	6.77	6.68	6.59	6.50
180.0	6.08	5.94	5.94	5.89	5.85	5.75	5.71	5.71	5.66
225.0	6.13	5.99	5.89	5.85	5.80	5.75	5.71	5.75	5.89
270.0	5.61	5.61	5.43	5.43	5.34	5.34	5.24	5.15	5.10
315.0	5.94	5.89	5.75	5.61	5.61	5.52	5.38	5.10	4.92
360.0	9.19	9.14	9.14	9.14	9.14	9.10	9.19	9.19	9.14
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	9.10	9.05	9.00	8.96	8.86	8.86	8.96	9.10	9.28
45.0	11.04	11.00	11.00	10.86	10.90	10.72	10.72	10.81	11.00
90.0	9.19	9.14	9.10	9.19	9.19	9.23	9.19	9.23	9.33
135.0	6.31	6.26	6.17	5.99	5.89	5.85	5.71	5.61	5.61
180.0	5.61	5.66	5.66	5.71	5.66	5.71	5.75	5.61	5.57
225.0	5.89	5.85	5.94	5.89	5.89	5.80	5.80	5.89	5.99
270.0	5.06	5.01	4.97	5.01	5.01	4.97	4.97	5.01	4.97
315.0	4.69	4.41	4.32	4.32	4.45	4.55	4.69	4.78	4.73
360.0	9.10	9.05	9.00	8.96	8.86	8.86	8.96	9.10	9.28
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	9.56	9.98	10.44	11.18	11.88	12.81	13.78	14.90	15.82
45.0	11.51	12.16	12.95	13.78	14.76	15.92	17.08	18.24	19.68
90.0	9.28	9.33	9.56	10.21	11.28	12.67	14.43	16.24	18.19
135.0	5.43	5.34	5.34	5.24	5.15	5.06	5.01	4.92	4.78
180.0	5.57	5.52	5.48	5.48	5.57	5.85	6.13	6.64	7.33
225.0	6.17	6.68	7.47	8.21	9.28	10.67	11.65	12.95	14.25
270.0	4.83	4.83	4.73	4.64	4.64	4.87	5.52	6.17	7.15
315.0	4.59	4.55	4.41	4.22	4.08	3.99	3.94	3.85	3.90
360.0	9.56	9.98	10.44	11.18	11.88	12.81	13.78	14.90	15.82
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	16.71	17.45	18.00	18.33	17.96	16.52	14.01	11.04	9.10
45.0	20.97	21.72	23.48	24.22	25.24	26.08	26.08	23.53	21.62
90.0	20.00	21.25	22.13	22.51	22.09	20.23	17.40	14.06	11.14
135.0	4.73	4.69	4.59	4.50	4.41	4.32	4.22	4.04	3.81
180.0	7.80	9.05	9.61	10.35	10.81	11.09	10.72	9.65	8.17
225.0	15.50	16.47	17.17	17.22	16.19	14.01	10.30	6.17	3.25
270.0	8.12	9.00	9.88	10.49	10.63	10.21	8.58	5.75	3.16
315.0	3.81	3.81	3.81	3.67	3.53	3.48	3.34	3.11	2.78
360.0	16.71	17.45	18.00	18.33	17.96	16.52	14.01	11.04	9.10
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	3.48	2.41	2.09	1.90	1.95	2.41	2.46	2.46	2.74
45.0	17.54	11.65	7.93	5.01	4.50	3.99	3.71	3.71	4.50
90.0	7.61	4.73	4.22	4.27	4.13	4.18	4.50	4.78	5.20
135.0	3.57	3.25	2.97	2.69	2.51	2.60	2.64	2.69	3.02
180.0	6.03	3.85	2.60	2.18	1.95	1.90	1.86	1.81	1.86
225.0	2.55	2.23	2.13	2.13	2.04	2.13	2.37	2.74	3.11
270.0	2.46	2.13	2.09	1.86	1.76	1.72	1.81	2.04	2.27
315.0	2.60	2.37	2.09	1.90	1.76	1.67	1.67	1.76	1.67
360.0	3.48	2.41	2.09	1.90	1.95	2.41	2.46	2.46	2.74

Intensity data(cd)

C/γ(°)	90.0
0.0	2.92
45.0	4.73
90.0	5.48
135.0	3.25
180.0	2.13
225.0	3.11
270.0	2.27
315.0	1.62
360.0	2.92