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Nata

Client:

LumCAT: 2-2184-M

Luminaire: BJB 47.360.5080

Report No: nt0100

Test No: GC2020031325

LampCAT: LUMILEDS LUXEON 1208

Lamp flux(lm): 1783.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 220.4000

Current(A): 0.1110

Power (W): 23.4500

PF: 0.9590

Ballast type: AC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 1326.36, Efficiency(%): 74.39% , Luminous Efficacy(lm/W): 56.56

Central intensity(cd): 6933.981, Maximum intensity(cd): 6933.981

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=24.0

[C90/270]Total=24.0

Field angle(10%Imax): [C0/180]Total=42.6

[C90/270]Total=42.6

Maximum s/h(1/2): C0_180=0.41 C90_270=0.41

Maximum s/h(1/4): C0_180=0.41 C90_270=0.41

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 74.39%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.645%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6933.982	0.000	0	.000%	.000%
1.0	6907.010	6.623	6.623	.371%	.499%
2.0	6806.141	19.682	26.305	1.104%	1.983%
3.0	6650.458	32.184	58.489	1.805%	4.410%
4.0	6460.262	43.886	102.375	2.461%	7.718%
5.0	6174.127	54.352	156.727	3.048%	11.816%
6.0	5869.489	63.292	220.019	3.550%	16.588%
7.0	5537.937	70.806	290.825	3.971%	21.927%
8.0	5092.987	76.083	366.909	4.267%	27.663%
9.0	4710.392	79.451	446.36	4.456%	33.653%
10.0	4308.481	81.617	527.977	4.578%	39.806%
11.0	3870.433	81.724	609.701	4.584%	45.968%
12.0	3461.620	80.150	689.851	4.495%	52.011%
13.0	3077.806	77.606	767.458	4.353%	57.862%
14.0	2731.347	74.357	841.814	4.170%	63.468%
15.0	2332.975	69.525	911.34	3.899%	68.710%
16.0	2053.684	64.277	975.616	3.605%	73.556%
17.0	1700.346	58.460	1034.077	3.279%	77.963%
18.0	1447.332	51.898	1085.975	2.911%	81.876%
19.0	1169.573	45.529	1131.504	2.553%	85.309%
20.0	922.626	38.293	1169.797	2.148%	88.196%
21.0	742.796	31.979	1201.776	1.794%	90.607%
22.0	596.503	26.914	1228.69	1.509%	92.636%
23.0	432.218	21.585	1250.276	1.211%	94.264%
24.0	316.181	16.363	1266.638	.918%	95.497%
25.0	225.091	12.307	1278.946	.690%	96.425%
26.0	110.092	7.912	1286.858	.444%	97.022%
27.0	60.336	4.170	1291.027	.234%	97.336%
28.0	46.548	2.706	1293.733	.152%	97.540%
29.0	13.875	1.581	1295.314	.089%	97.659%
30.0	8.480	0.604	1295.918	.034%	97.705%
31.0	7.599	0.447	1296.365	.025%	97.738%
32.0	7.158	0.423	1296.788	.024%	97.770%
33.0	6.827	0.412	1297.2	.023%	97.801%
34.0	6.578	0.406	1297.605	.023%	97.832%
35.0	6.369	0.402	1298.008	.023%	97.862%
36.0	6.183	0.400	1298.407	.022%	97.892%
37.0	6.015	0.398	1298.805	.022%	97.922%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	5.882	0.397	1299.202	.022%	97.952%
39.0	5.777	0.398	1299.6	.022%	97.982%
40.0	5.667	0.399	1299.999	.022%	98.012%
41.0	5.568	0.400	1300.399	.022%	98.043%
42.0	5.487	0.402	1300.801	.023%	98.073%
43.0	5.423	0.404	1301.205	.023%	98.103%
44.0	5.354	0.407	1301.612	.023%	98.134%
45.0	5.273	0.408	1302.02	.023%	98.165%
46.0	5.226	0.411	1302.431	.023%	98.196%
47.0	5.151	0.413	1302.844	.023%	98.227%
48.0	5.122	0.415	1303.259	.023%	98.258%
49.0	5.052	0.418	1303.677	.023%	98.290%
50.0	5.006	0.419	1304.096	.024%	98.321%
51.0	4.954	0.421	1304.517	.024%	98.353%
52.0	4.913	0.423	1304.941	.024%	98.385%
53.0	4.867	0.425	1305.366	.024%	98.417%
54.0	4.814	0.427	1305.793	.024%	98.449%
55.0	4.785	0.429	1306.221	.024%	98.482%
56.0	4.739	0.430	1306.652	.024%	98.514%
57.0	4.693	0.431	1307.083	.024%	98.547%
58.0	4.664	0.433	1307.516	.024%	98.579%
59.0	4.664	0.436	1307.952	.024%	98.612%
60.0	4.675	0.441	1308.393	.025%	98.645%
61.0	4.698	0.447	1308.84	.025%	98.679%
62.0	4.797	0.458	1309.298	.026%	98.714%
63.0	4.948	0.474	1309.772	.027%	98.749%
64.0	5.168	0.496	1310.268	.028%	98.787%
65.0	5.447	0.525	1310.793	.029%	98.826%
66.0	5.876	0.565	1311.358	.032%	98.869%
67.0	6.369	0.616	1311.974	.035%	98.915%
68.0	6.995	0.677	1312.651	.038%	98.966%
69.0	7.599	0.745	1313.395	.042%	99.022%
70.0	8.318	0.817	1314.213	.046%	99.084%
71.0	9.095	0.900	1315.113	.050%	99.152%
72.0	9.710	0.978	1316.091	.055%	99.226%
73.0	10.116	1.037	1317.127	.058%	99.304%
74.0	10.400	1.079	1318.206	.060%	99.385%
75.0	10.360	1.097	1319.303	.062%	99.468%

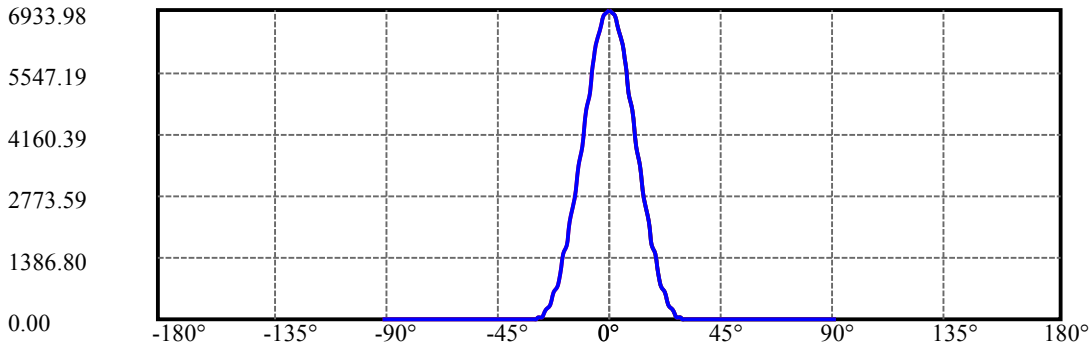
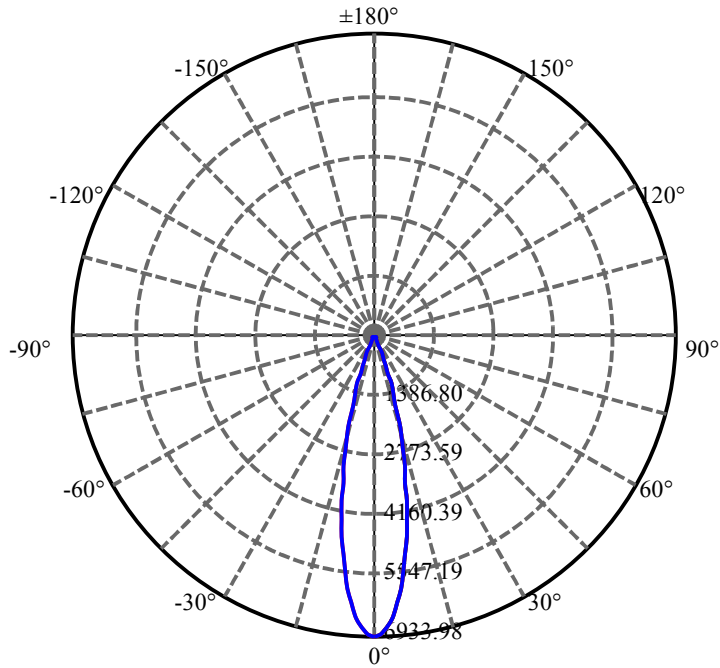
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	9.965	1.079	1320.382	.061%	99.549%
77.0	9.170	1.020	1321.402	.057%	99.626%
78.0	7.976	0.918	1322.32	.051%	99.695%
79.0	6.525	0.779	1323.099	.044%	99.754%
80.0	5.058	0.624	1323.724	.035%	99.801%
81.0	3.654	0.471	1324.195	.026%	99.837%
82.0	2.784	0.349	1324.544	.020%	99.863%
83.0	2.378	0.281	1324.824	.016%	99.884%
84.0	2.129	0.246	1325.07	.014%	99.903%
85.0	1.955	0.223	1325.293	.012%	99.919%
86.0	1.845	0.208	1325.501	.012%	99.935%
87.0	1.816	0.200	1325.701	.011%	99.950%
88.0	1.949	0.206	1325.907	.012%	99.966%
89.0	2.077	0.221	1326.128	.012%	99.982%
90.0	2.181	0.233	1326.361	.013%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1295.92	72.68%	97.70%
0-40	1300.00	72.91%	98.01%
0-60	1308.39	73.38%	98.65%
0-90	1326.13	74.38%	99.98%
0-120	1326.13	74.38%	99.98%
0-180	1326.36	74.39%	100.00%
60-90	18.18	1.02%	1.37%
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%
0-17.52	1061.09	59.51%	80.00%

ZONAL LUMEN SUMMARY

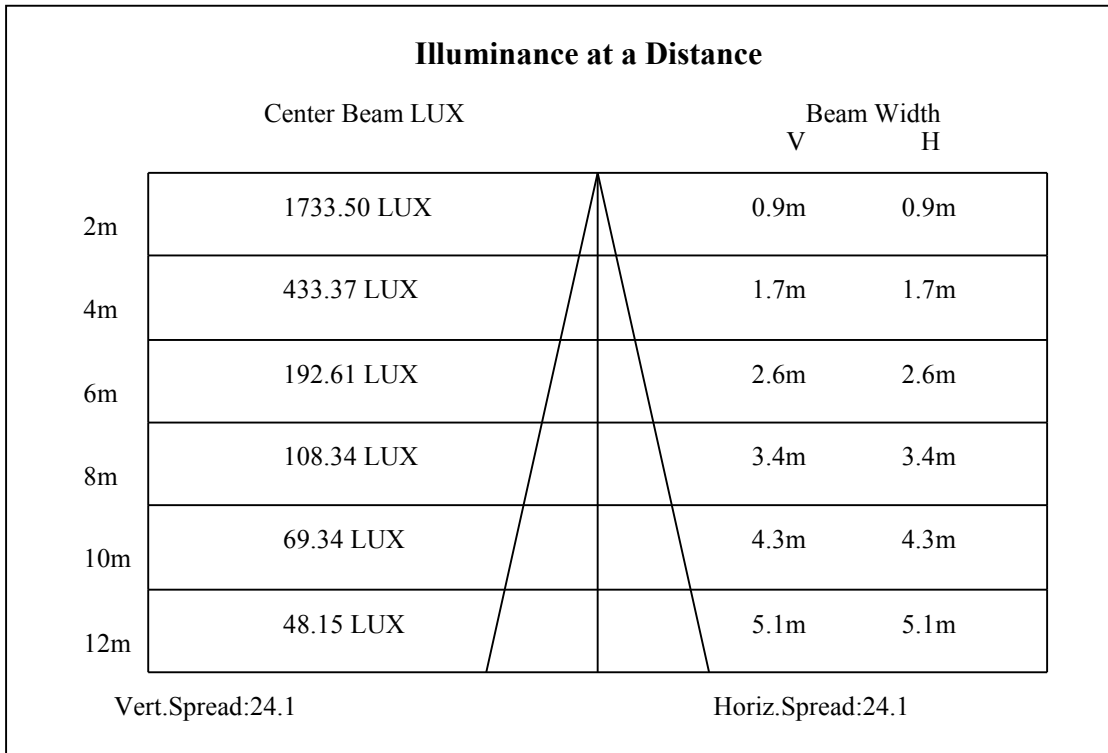
0-10	527.98
10-20	641.82
20-30	126.12
30-40	4.08
40-50	4.10
50-60	4.30
60-70	5.82
70-80	9.51
80-90	2.40
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

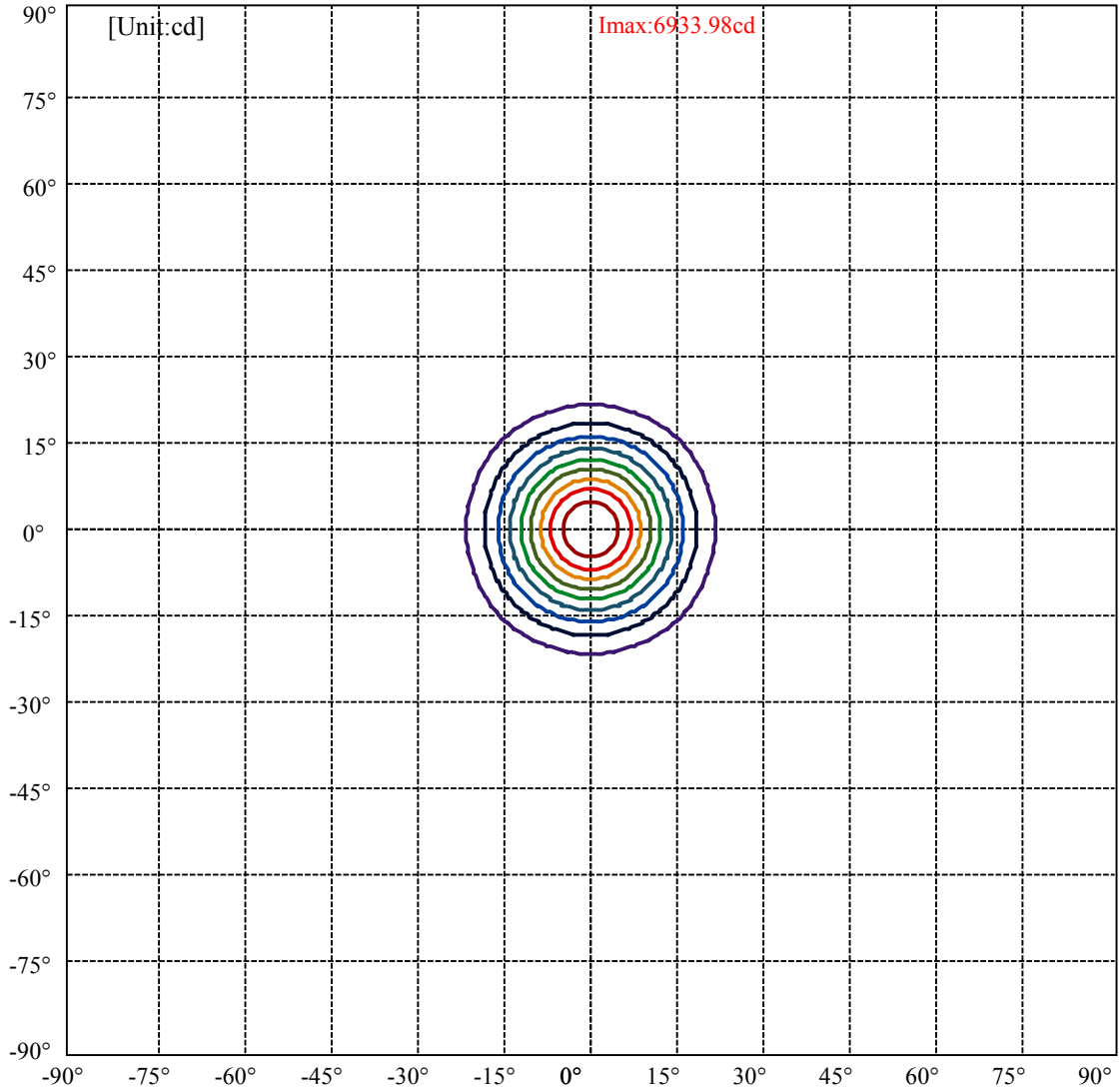


C0(Max): ———
C0/C180: ———
C90/C270: ———

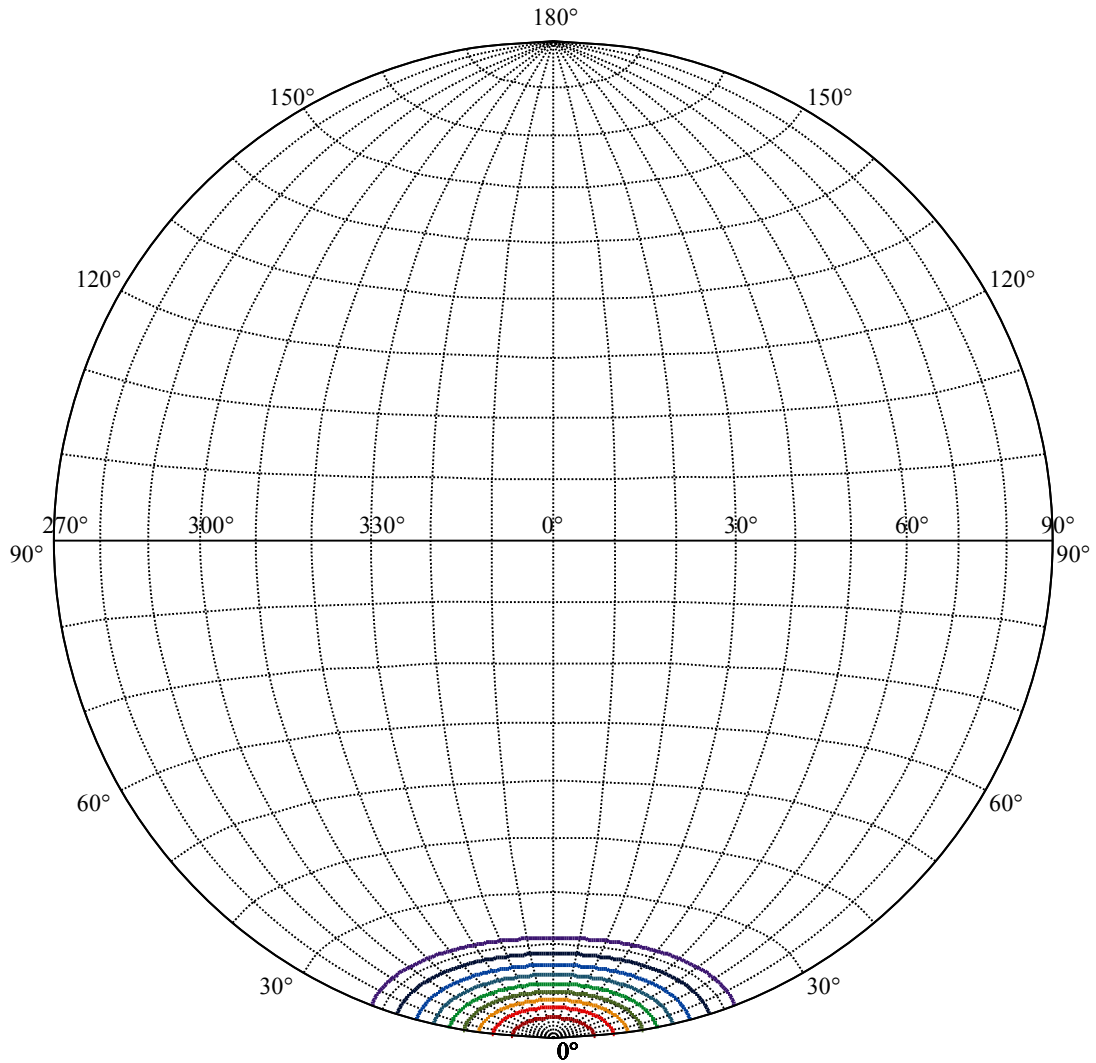
Field angle(10%Imax):C0/180Left:21.3 Right:21.3
:C90/270Left:21.3 Right:21.3

Beam Angle(50%Imax):C0/180Left:12.0 Right:12.0
:C90/270Left:12.0 Right:12.0





(10%I _{max}) 693.398	—
(20%I _{max}) 1386.8	—
(30%I _{max}) 2080.19	—
(40%I _{max}) 2773.59	—
(50%I _{max}) 3466.99	—
(60%I _{max}) 4160.39	—
(70%I _{max}) 4853.79	—
(80%I _{max}) 5547.19	—
(90%I _{max}) 6240.58	—



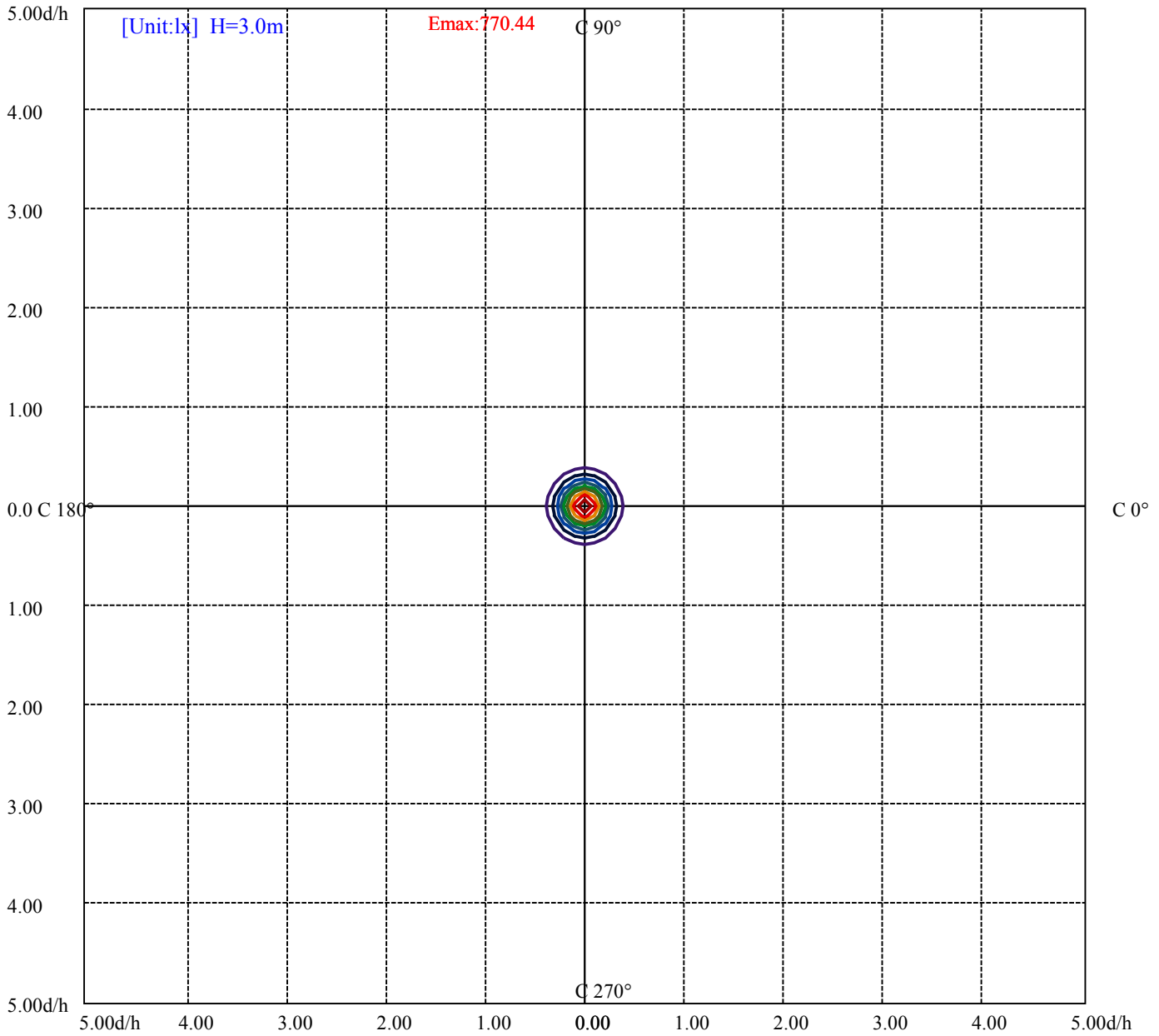
House

[Unit:cd]

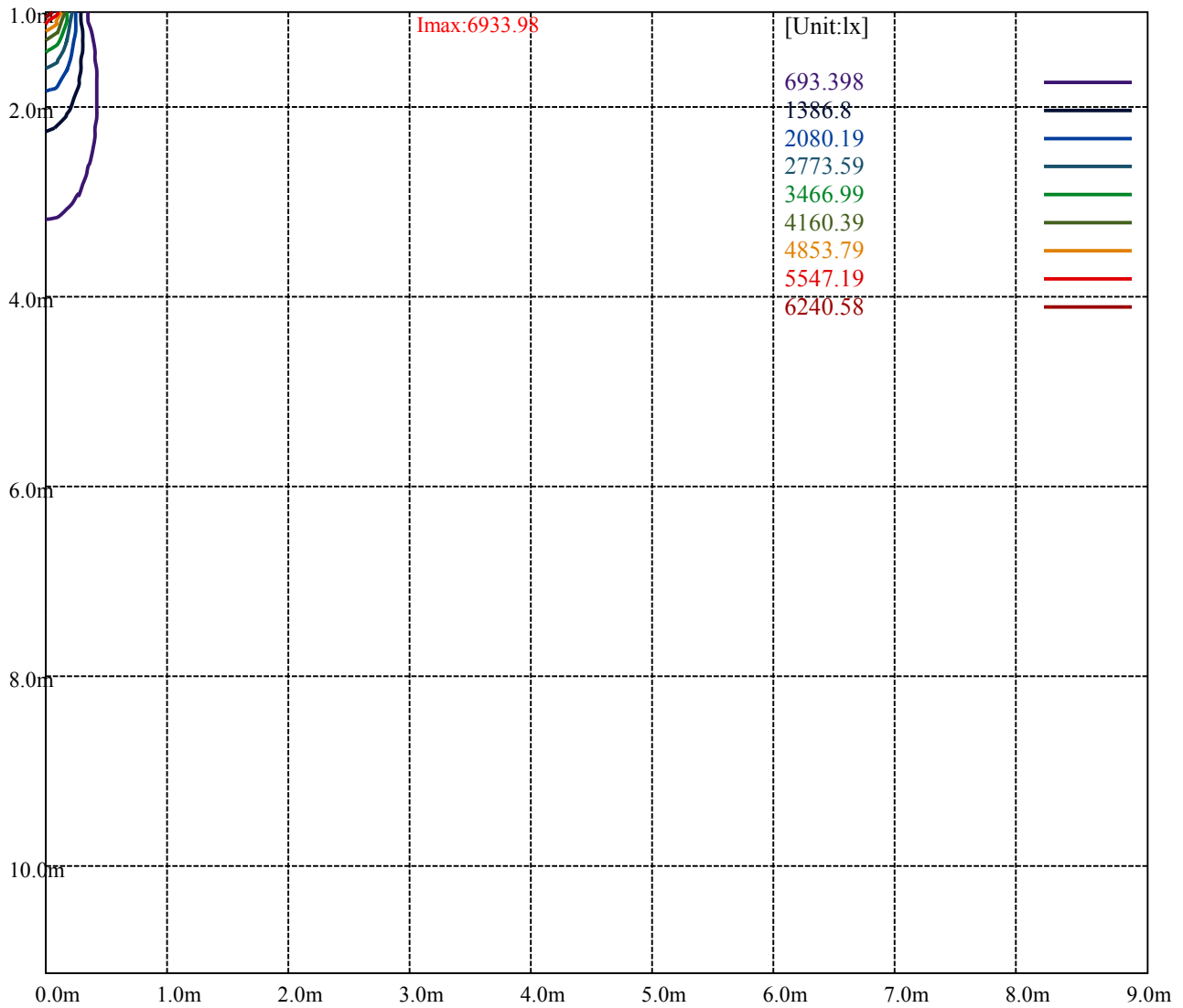
Road

Imax:6933.98

(10%Imax) 693.398	—
(20%Imax) 1386.8	—
(30%Imax) 2080.19	—
(40%Imax) 2773.59	—
(50%Imax) 3466.99	—
(60%Imax) 4160.39	—
(70%Imax) 4853.79	—
(80%Imax) 5547.19	—
(90%Imax) 6240.58	—



(10%Emax) 77.04422	—
(20%Emax) 154.0889	—
(30%Emax) 231.1322	—
(40%Emax) 308.1767	—
(50%Emax) 385.2211	—
(60%Emax) 462.2656	—
(70%Emax) 539.3088	—
(80%Emax) 616.3533	—
(90%Emax) 693.3978	—



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

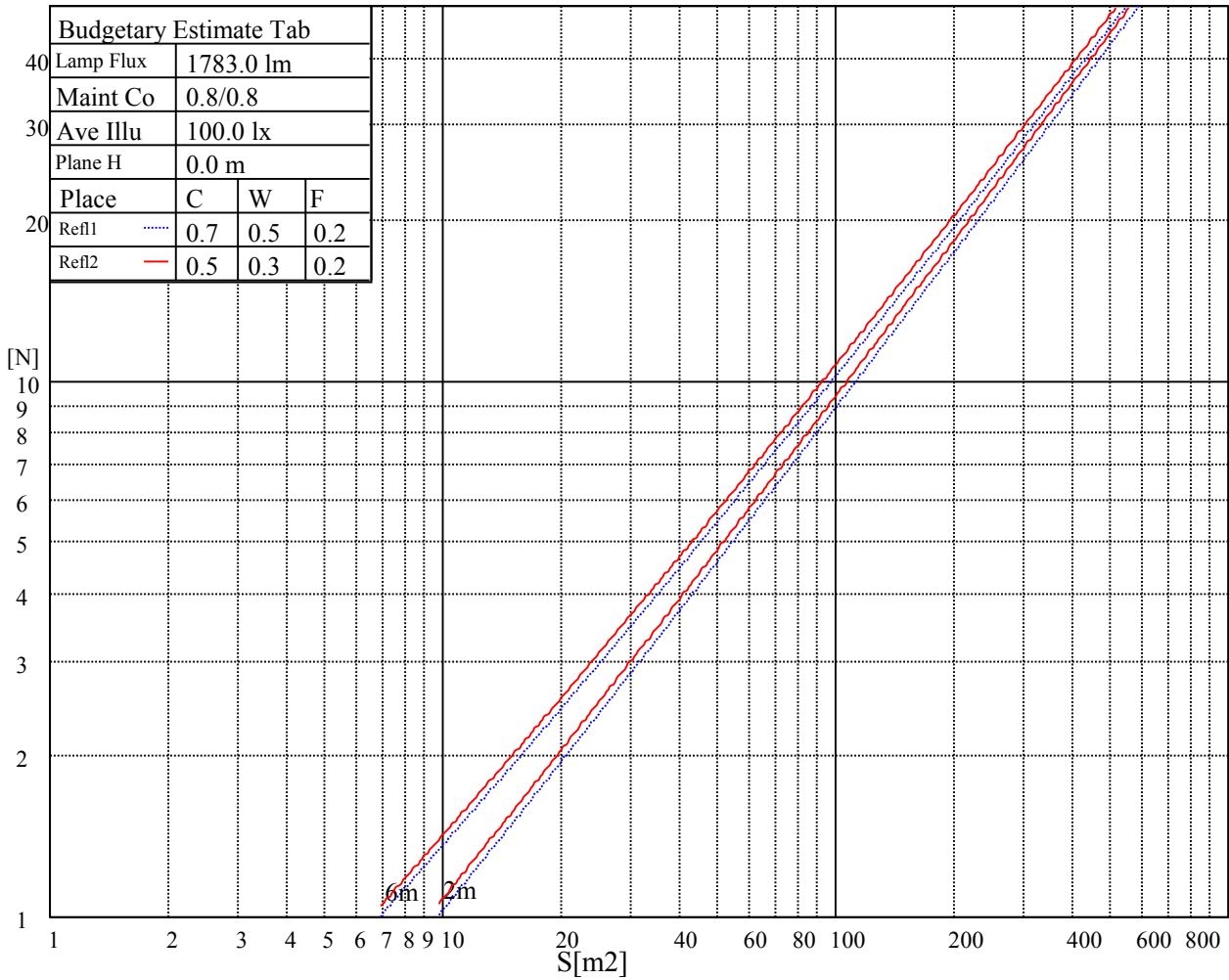
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

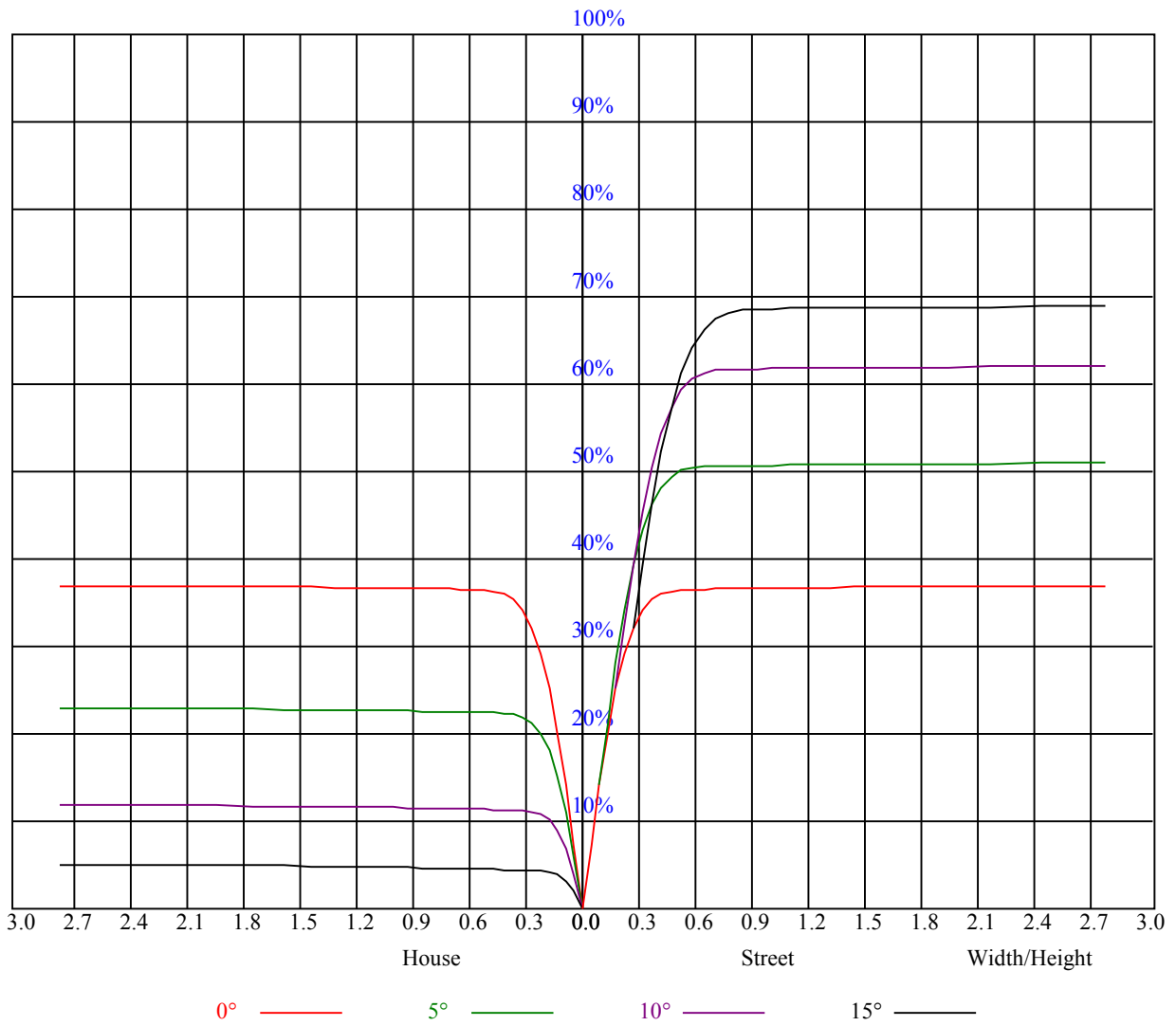
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

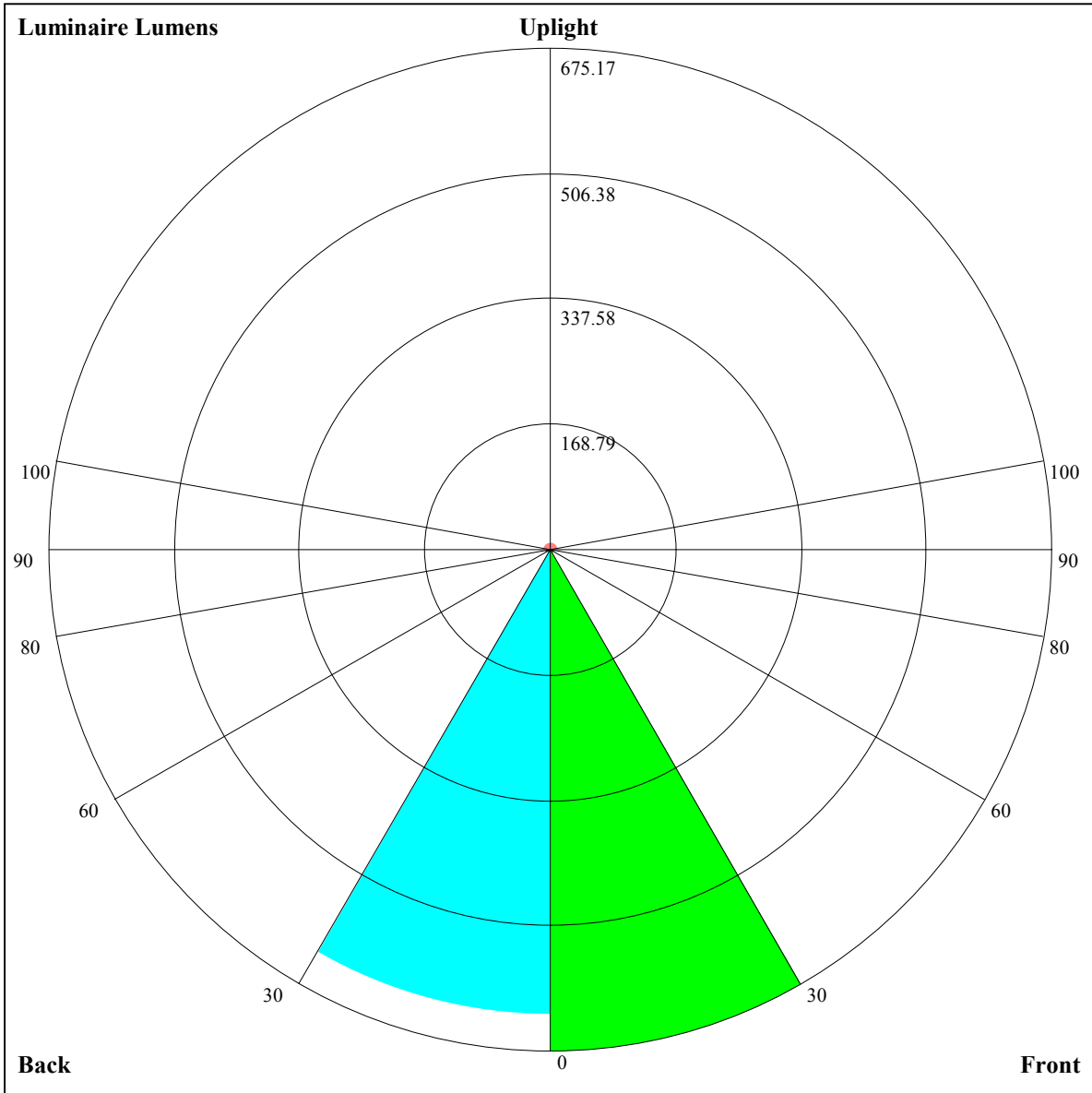
Luminance Limiting Curve





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	0.89	0.89	0.89	0.86	0.86	0.86	0.83	0.83	0.83	0.79	0.79	0.79	0.76	0.76	0.76	0.74
1	0.84	0.83	0.81	0.82	0.81	0.80	0.79	0.78	0.78	0.77	0.76	0.75	0.74	0.74	0.73	0.72
2	0.80	0.78	0.76	0.79	0.77	0.75	0.77	0.75	0.74	0.75	0.73	0.72	0.73	0.72	0.71	0.70
3	0.77	0.75	0.72	0.76	0.74	0.72	0.74	0.72	0.71	0.73	0.71	0.70	0.71	0.70	0.69	0.68
4	0.74	0.72	0.69	0.74	0.71	0.69	0.72	0.70	0.68	0.71	0.69	0.68	0.70	0.68	0.67	0.66
5	0.72	0.69	0.67	0.71	0.69	0.67	0.70	0.68	0.66	0.69	0.67	0.66	0.68	0.66	0.65	0.64
6	0.70	0.67	0.65	0.69	0.67	0.65	0.68	0.66	0.64	0.67	0.65	0.64	0.67	0.65	0.63	0.63
7	0.68	0.65	0.63	0.67	0.65	0.63	0.67	0.64	0.63	0.66	0.64	0.62	0.65	0.63	0.62	0.61
8	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.64	0.62	0.61	0.64	0.62	0.61	0.60
9	0.64	0.62	0.60	0.64	0.62	0.60	0.64	0.61	0.60	0.63	0.61	0.59	0.63	0.61	0.59	0.59
10	0.63	0.60	0.58	0.63	0.60	0.58	0.62	0.60	0.58	0.62	0.60	0.58	0.61	0.59	0.58	0.57





Luminaire Lumens:

FL=675.17,FM=5.91,FH=6.67,FVH=1.34

BL=626.08,BM=6.56,BH=7.85,BVH=1.35

UL=2.38,UH=11.32

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	6970.29	6953.12	6866.81	6717.39	6508.12	6239.90	5916.01	5547.57	5151.28
45.0	6955.44	6934.56	6850.11	6706.26	6500.69	6235.73	5913.69	5545.71	5144.79
90.0	6842.22	6701.62	6418.09	6119.26	5845.01	5463.11	5048.73	4615.32	4175.42
135.0	6967.97	6848.25	6668.21	6432.94	6267.28	5800.46	5409.28	5160.10	4555.93
180.0	6970.29	6924.82	6814.38	6645.93	6424.59	6147.10	5809.75	5507.20	5013.46
225.0	6955.44	6908.11	6798.60	6635.26	6414.84	6126.22	5927.15	5565.66	5016.71
270.0	6842.22	6964.72	7025.05	7015.77	6934.10	6795.82	6607.42	6357.77	6043.62
315.0	6967.97	7020.87	7007.88	6930.85	6787.46	6584.68	6323.89	6004.18	5642.69
360.0	6970.29	6953.12	6866.81	6717.39	6508.12	6239.90	5916.01	5547.57	5151.28
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4739.68	4315.56	3882.15	3457.10	3049.67	2814.87	2307.22	2104.90	1789.82
45.0	4720.66	4288.18	3846.42	3416.26	3008.84	2777.75	2411.63	2070.56	1761.98
90.0	3734.12	3304.89	2899.33	2518.82	2168.94	1850.15	1560.13	1301.66	848.95
135.0	4116.49	3851.52	3416.26	3003.73	2615.80	2258.03	1928.57	1628.80	1360.13
180.0	4670.54	4235.28	3715.10	3376.82	2968.93	2584.71	2227.87	1899.80	1603.75
225.0	4764.28	4332.73	3898.86	3477.05	3065.92	2673.81	2309.54	1970.33	1665.93
270.0	5685.38	5300.70	4891.42	4463.12	4024.14	3591.20	3177.75	2936.91	2406.52
315.0	5251.98	4838.99	4413.93	3980.06	3720.20	3300.25	2741.09	2516.50	2165.69
360.0	4739.68	4315.56	3882.15	3457.10	3049.67	2814.87	2307.22	2104.90	1789.82
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1502.12	1117.90	850.71	809.46	616.56	451.97	312.76	197.17	103.15
45.0	1481.71	1227.88	996.33	786.58	598.19	438.09	298.42	298.42	72.99
90.0	848.95	730.34	483.66	394.29	261.30	150.39	68.21	20.00	9.74
135.0	1116.05	893.77	690.06	512.80	363.85	260.37	260.37	67.15	21.35
180.0	1334.61	1090.99	867.79	669.65	499.81	349.93	271.51	271.51	73.83
225.0	1392.15	881.25	881.25	680.60	568.81	354.06	228.58	166.22	81.53
270.0	2060.35	1866.85	1460.36	1207.00	1065.47	845.05	646.44	475.22	329.97
315.0	1842.72	1547.60	1150.85	881.99	798.04	607.88	443.15	305.06	188.17
360.0	1502.12	1117.90	850.71	809.46	616.56	451.97	312.76	197.17	103.15
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	37.40	11.69	9.19	7.93	7.47	7.15	6.77	6.50	6.26
45.0	21.62	9.33	8.21	7.01	6.54	6.40	6.08	5.80	5.66
90.0	8.31	7.66	7.29	6.96	6.73	6.59	6.45	6.26	6.17
135.0	11.74	9.74	8.96	8.58	8.26	7.98	7.75	7.56	7.47
180.0	24.73	12.25	10.02	9.00	8.54	8.12	7.84	7.56	7.33
225.0	26.77	10.53	8.21	7.24	6.73	6.36	6.13	5.85	5.61
270.0	255.73	255.73	42.64	12.34	8.40	7.19	6.59	6.36	5.99
315.0	96.38	55.45	16.47	8.77	8.12	7.47	7.01	6.73	6.45
360.0	37.40	11.69	9.19	7.93	7.47	7.15	6.77	6.50	6.26
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	6.13	5.89	5.66	5.61	5.43	5.24	5.06	5.01	4.92
45.0	5.48	5.34	5.20	5.15	5.01	4.83	4.78	4.69	4.55
90.0	6.13	6.03	5.89	5.85	5.85	5.80	5.75	5.71	5.66
135.0	7.29	7.10	7.01	6.96	6.91	6.82	6.77	6.77	6.77
180.0	7.10	6.96	6.87	6.73	6.59	6.54	6.45	6.31	6.22
225.0	5.43	5.29	5.20	5.06	4.97	4.97	4.87	4.83	4.83
270.0	5.75	5.57	5.38	5.24	5.15	5.01	4.92	4.83	4.78
315.0	6.17	5.94	5.85	5.61	5.43	5.34	5.29	5.24	5.10
360.0	6.13	5.89	5.66	5.61	5.43	5.24	5.06	5.01	4.92

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	4.78	4.64	4.59	4.50	4.41	4.32	4.27	4.27	4.22
45.0	4.45	4.41	4.32	4.22	4.18	4.13	4.04	4.04	3.90
90.0	5.61	5.61	5.57	5.48	5.43	5.48	5.43	5.34	5.29
135.0	6.82	6.68	6.64	6.73	6.73	6.68	6.64	6.50	6.50
180.0	6.08	6.08	5.99	5.89	5.80	5.71	5.71	5.66	5.57
225.0	4.64	4.64	4.55	4.50	4.45	4.36	4.27	4.27	4.22
270.0	4.73	4.69	4.59	4.64	4.55	4.45	4.41	4.32	4.32
315.0	5.06	5.06	4.97	5.01	4.87	4.92	4.87	4.92	4.92
360.0	4.78	4.64	4.59	4.50	4.41	4.32	4.27	4.27	4.22
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	4.18	4.13	4.04	4.04	4.08	4.08	4.04	4.08	4.13
45.0	3.85	3.81	3.81	3.71	3.62	3.62	3.62	3.48	3.43
90.0	5.24	5.24	5.10	5.01	5.01	5.01	4.97	4.92	5.06
135.0	6.45	6.36	6.22	6.17	6.17	6.17	6.40	6.96	7.75
180.0	5.52	5.52	5.52	5.43	5.38	5.43	5.48	5.48	5.52
225.0	4.13	4.08	4.04	4.04	3.99	3.90	3.90	3.85	3.76
270.0	4.27	4.18	4.22	4.22	4.18	4.22	4.18	4.13	4.08
315.0	4.87	4.97	4.97	4.92	4.87	4.87	4.83	4.69	4.64
360.0	4.18	4.13	4.04	4.04	4.08	4.08	4.04	4.08	4.13
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	4.13	4.18	4.27	4.45	4.59	5.15	6.17	6.96	9.37
45.0	3.43	3.43	3.34	3.25	3.29	3.16	3.11	3.06	3.06
90.0	5.20	5.61	5.85	6.26	6.64	6.96	7.29	7.61	7.84
135.0	8.58	9.56	10.77	12.02	13.09	14.52	15.55	16.66	17.59
180.0	5.61	5.71	5.99	6.87	8.12	9.79	10.86	12.99	13.83
225.0	3.71	3.62	3.57	3.57	3.53	3.43	3.39	3.39	3.39
270.0	4.08	3.94	3.90	3.85	3.85	3.90	4.04	4.32	4.64
315.0	4.83	5.29	5.89	6.73	7.84	9.05	10.39	11.55	13.04
360.0	4.13	4.18	4.27	4.45	4.59	5.15	6.17	6.96	9.37
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	11.00	11.88	13.04	13.13	12.81	11.74	9.65	7.10	4.73
45.0	2.97	2.97	2.92	2.92	2.92	2.78	2.74	2.64	2.41
90.0	8.03	8.26	8.35	8.26	7.61	6.50	5.10	3.67	2.97
135.0	18.00	18.10	17.91	17.35	16.06	14.06	11.55	8.91	5.99
180.0	14.90	15.87	15.96	15.45	14.57	13.50	11.69	9.28	6.77
225.0	3.34	3.29	3.29	3.29	3.29	3.16	3.06	2.92	2.74
270.0	4.92	5.29	5.75	6.17	6.36	6.45	6.36	6.17	5.94
315.0	14.52	15.27	15.96	16.29	16.10	15.17	13.64	11.51	8.91
360.0	11.00	11.88	13.04	13.13	12.81	11.74	9.65	7.10	4.73
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.74	2.41	2.32	2.32	2.18	2.13	2.23	2.41	2.64
45.0	2.18	1.95	1.86	1.76	1.67	1.62	1.67	1.86	1.90
90.0	2.41	2.09	1.72	1.67	1.62	1.53	1.58	1.62	1.62
135.0	3.39	2.64	2.32	2.09	2.00	2.00	2.00	2.27	2.46
180.0	4.27	2.92	2.55	2.46	2.41	2.18	2.09	2.37	2.64
225.0	2.46	2.18	1.95	1.76	1.67	1.62	1.62	1.72	1.95
270.0	5.29	4.08	3.34	2.60	2.09	1.76	1.58	1.53	1.48
315.0	6.50	3.99	2.97	2.37	2.00	1.90	1.76	1.81	1.90
360.0	2.74	2.41	2.32	2.32	2.18	2.13	2.23	2.41	2.64

Intensity data(cd)

C/ γ (°)	90.0
0.0	2.74
45.0	1.81
90.0	1.67
135.0	2.64
180.0	3.02
225.0	2.00
270.0	1.53
315.0	2.04
360.0	2.74