
NATA

Client:

LumCAT: 2-1121-A4

Luminaire: 92.76.365.00

Report No: NT2017122302

Test No: GC2017122302

LampCAT: PrevaLED Core G7 L15-H1

Lamp flux(lm): 3636.0

Number of Lamps: 1

Length(mm): 70

Phm Type: C

Voltage(V): 220.3000

Current(A): 0.1490

Power (W): 31.8700

PF: 0.9670

Ballast type: DC

Width(mm): 70

Height(mm): 0

Photometric Results

Lumens(lm): 3249.26, Efficiency(%): 89.36% , Luminous Efficacy(lm/W): 101.95

Central intensity(cd): 8998.233, Maximum intensity(cd): 8998.233

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=29.6

[C90/270]Total=29.6

Field angle(10%Imax): [C0/180]Total=69.6

[C90/270]Total=69.6

Maximum s/h(1/2): C0_180=0.50 C90_270=0.50

Maximum s/h(1/4): C0_180=0.46 C90_270=0.46

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 89.42%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 99.599%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8998.235	2.153	2.153	.059%	.066%
1.0	8984.488	17.195	19.348	.473%	.595%
2.0	8953.920	34.268	53.615	.942%	1.650%
3.0	8891.043	51.028	104.643	1.403%	3.221%
4.0	8800.731	67.322	171.965	1.852%	5.292%
5.0	8694.351	83.097	255.061	2.285%	7.850%
6.0	8534.259	97.826	352.887	2.690%	10.861%
7.0	8352.938	111.631	464.518	3.070%	14.296%
8.0	8077.709	123.281	587.799	3.391%	18.090%
9.0	7774.057	133.362	721.161	3.668%	22.195%
10.0	7385.023	140.629	861.789	3.868%	26.523%
11.0	6888.565	144.138	1005.928	3.964%	30.959%
12.0	6341.701	144.589	1150.517	3.977%	35.409%
13.0	5716.416	141.014	1291.532	3.878%	39.748%
14.0	5018.162	133.129	1424.66	3.661%	43.846%
15.0	4328.144	122.843	1547.503	3.379%	47.626%
16.0	3679.194	111.210	1658.713	3.059%	51.049%
17.0	3104.372	99.532	1758.244	2.737%	54.112%
18.0	2628.390	89.068	1847.313	2.450%	56.853%
19.0	2246.026	80.188	1927.501	2.205%	59.321%
20.0	1992.722	74.739	2002.24	2.056%	61.621%
21.0	1794.812	70.534	2072.774	1.940%	63.792%
22.0	1679.267	68.984	2141.758	1.897%	65.915%
23.0	1587.041	68.001	2209.759	1.870%	68.008%
24.0	1530.429	68.262	2278.021	1.877%	70.109%
25.0	1484.083	68.779	2346.801	1.892%	72.226%
26.0	1446.671	69.545	2416.345	1.913%	74.366%
27.0	1410.534	70.223	2486.569	1.931%	76.527%
28.0	1374.629	70.770	2557.338	1.946%	78.705%
29.0	1334.027	70.923	2628.261	1.951%	80.888%
30.0	1294.990	71.005	2699.266	1.953%	83.073%
31.0	1248.354	70.506	2769.773	1.939%	85.243%
32.0	1178.749	68.499	2838.271	1.884%	87.351%
33.0	1052.318	62.850	2901.122	1.729%	89.285%
34.0	968.078	59.364	2960.486	1.633%	91.112%
35.0	882.354	55.499	3015.985	1.526%	92.821%
36.0	761.839	49.106	3065.091	1.351%	94.332%
37.0	635.349	41.930	3107.021	1.153%	95.622%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	519.671	35.085	3142.106	.965%	96.702%
39.0	399.869	27.596	3169.702	.759%	97.551%
40.0	293.780	20.708	3190.41	.570%	98.189%
41.0	213.113	15.332	3205.742	.422%	98.661%
42.0	151.745	11.135	3216.877	.306%	99.003%
43.0	72.024	5.387	3222.263	.148%	99.169%
44.0	29.130	2.219	3224.482	.061%	99.237%
45.0	20.853	1.617	3226.099	.044%	99.287%
46.0	17.424	1.375	3227.474	.038%	99.329%
47.0	14.942	1.198	3228.672	.033%	99.366%
48.0	12.819	1.045	3229.717	.029%	99.398%
49.0	11.438	0.947	3230.663	.026%	99.428%
50.0	10.394	0.873	3231.537	.024%	99.454%
51.0	9.634	0.821	3232.358	.023%	99.480%
52.0	9.043	0.781	3233.139	.021%	99.504%
53.0	8.451	0.740	3233.879	.020%	99.526%
54.0	8.034	0.713	3234.592	.020%	99.548%
55.0	7.593	0.682	3235.274	.019%	99.569%
56.0	7.146	0.650	3235.924	.018%	99.589%
57.0	6.734	0.619	3236.543	.017%	99.608%
58.0	6.404	0.596	3237.139	.016%	99.627%
59.0	6.003	0.564	3237.703	.016%	99.644%
60.0	5.679	0.539	3238.242	.015%	99.661%
61.0	5.377	0.516	3238.758	.014%	99.677%
62.0	5.070	0.491	3239.249	.013%	99.692%
63.0	4.797	0.469	3239.717	.013%	99.706%
64.0	4.542	0.448	3240.165	.012%	99.720%
65.0	4.304	0.428	3240.593	.012%	99.733%
66.0	4.083	0.409	3241.002	.011%	99.746%
67.0	3.886	0.392	3241.394	.011%	99.758%
68.0	3.689	0.375	3241.769	.010%	99.769%
69.0	3.515	0.360	3242.129	.010%	99.780%
70.0	3.370	0.347	3242.476	.010%	99.791%
71.0	3.237	0.336	3242.812	.009%	99.801%
72.0	3.097	0.323	3243.135	.009%	99.811%
73.0	2.993	0.314	3243.449	.009%	99.821%
74.0	2.877	0.303	3243.752	.008%	99.830%
75.0	2.813	0.298	3244.05	.008%	99.840%

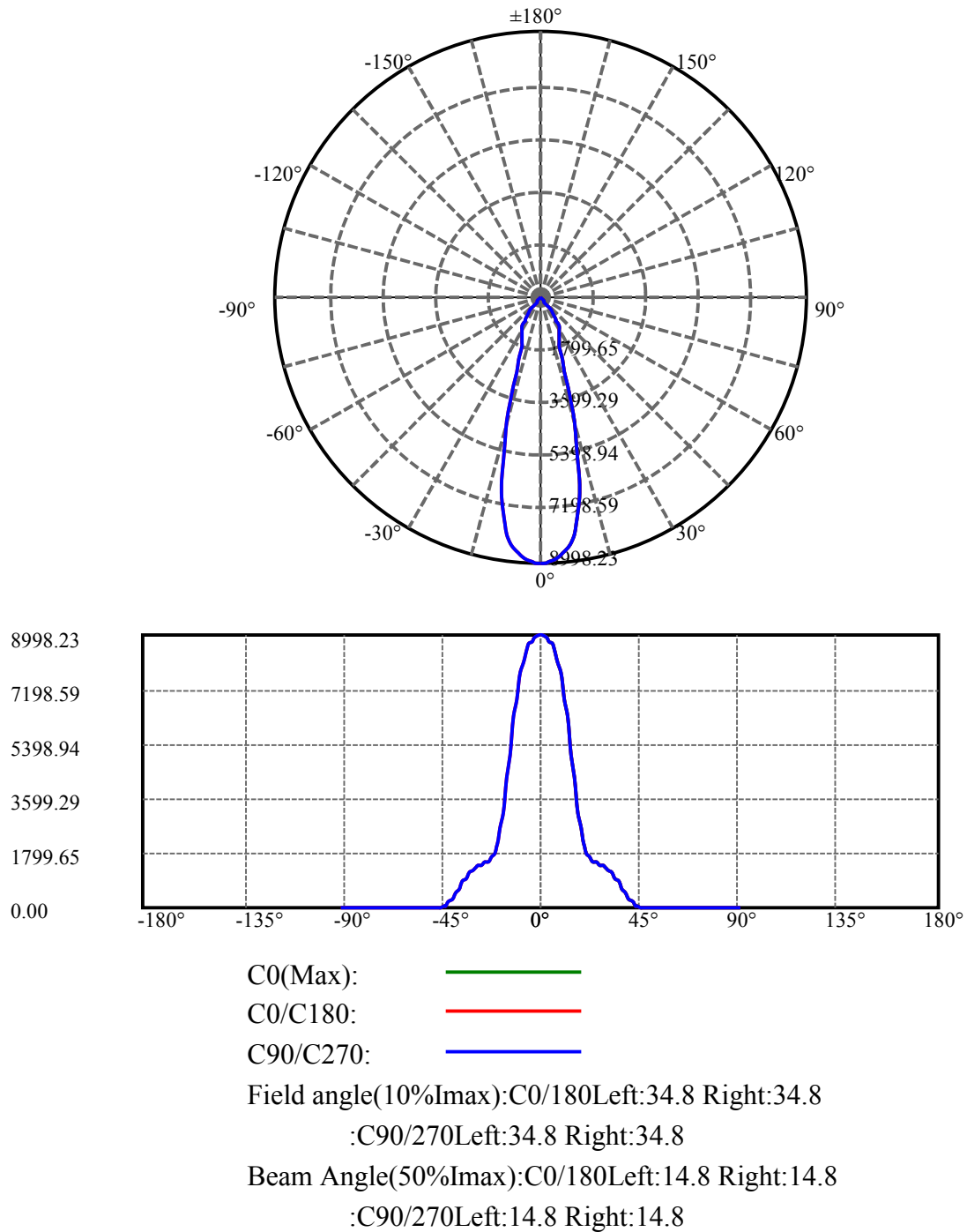
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	2.802	0.298	3244.348	.008%	99.849%
77.0	3.068	0.328	3244.676	.009%	99.859%
78.0	3.474	0.373	3245.049	.010%	99.870%
79.0	3.892	0.419	3245.468	.012%	99.883%
80.0	4.681	0.506	3245.973	.014%	99.899%
81.0	5.186	0.562	3246.535	.015%	99.916%
82.0	5.632	0.612	3247.147	.017%	99.935%
83.0	4.780	0.520	3247.667	.014%	99.951%
84.0	2.854	0.311	3247.978	.009%	99.960%
85.0	2.425	0.265	3248.243	.007%	99.969%
86.0	2.291	0.251	3248.494	.007%	99.976%
87.0	2.181	0.239	3248.732	.007%	99.984%
88.0	2.024	0.222	3248.954	.006%	99.990%
89.0	1.908	0.209	3249.163	.006%	99.997%
90.0	1.845	0.101	3249.265	.003%	100.000%

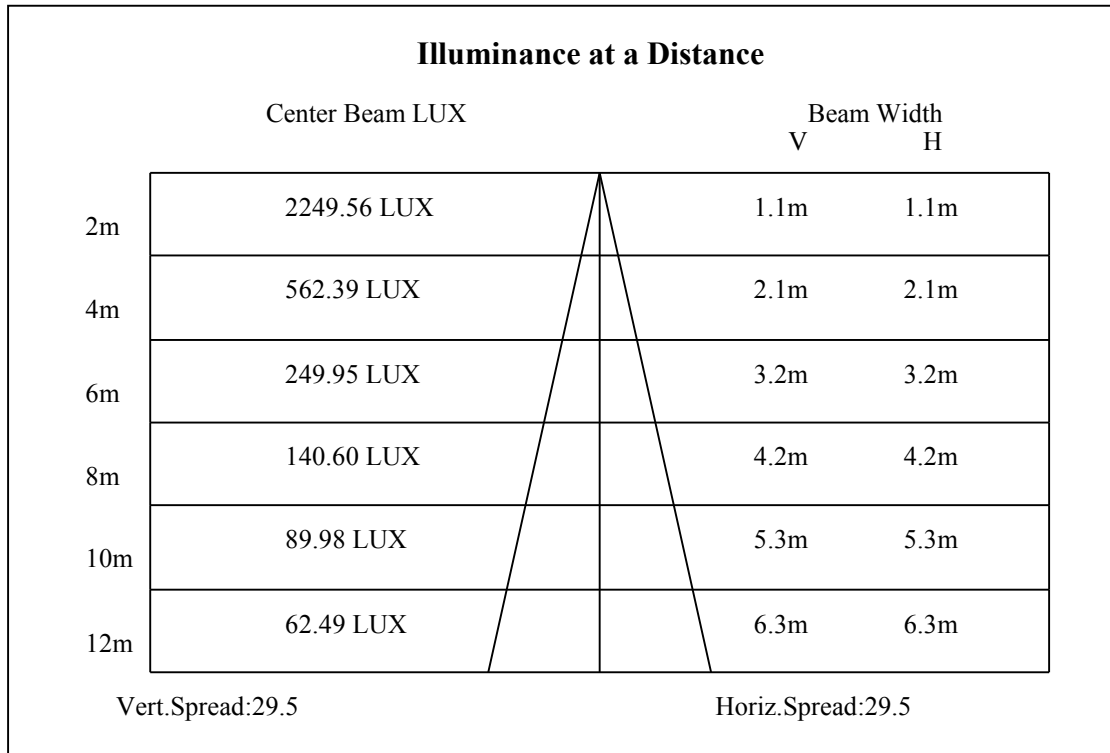
ZONAL LUMEN SUMMARY

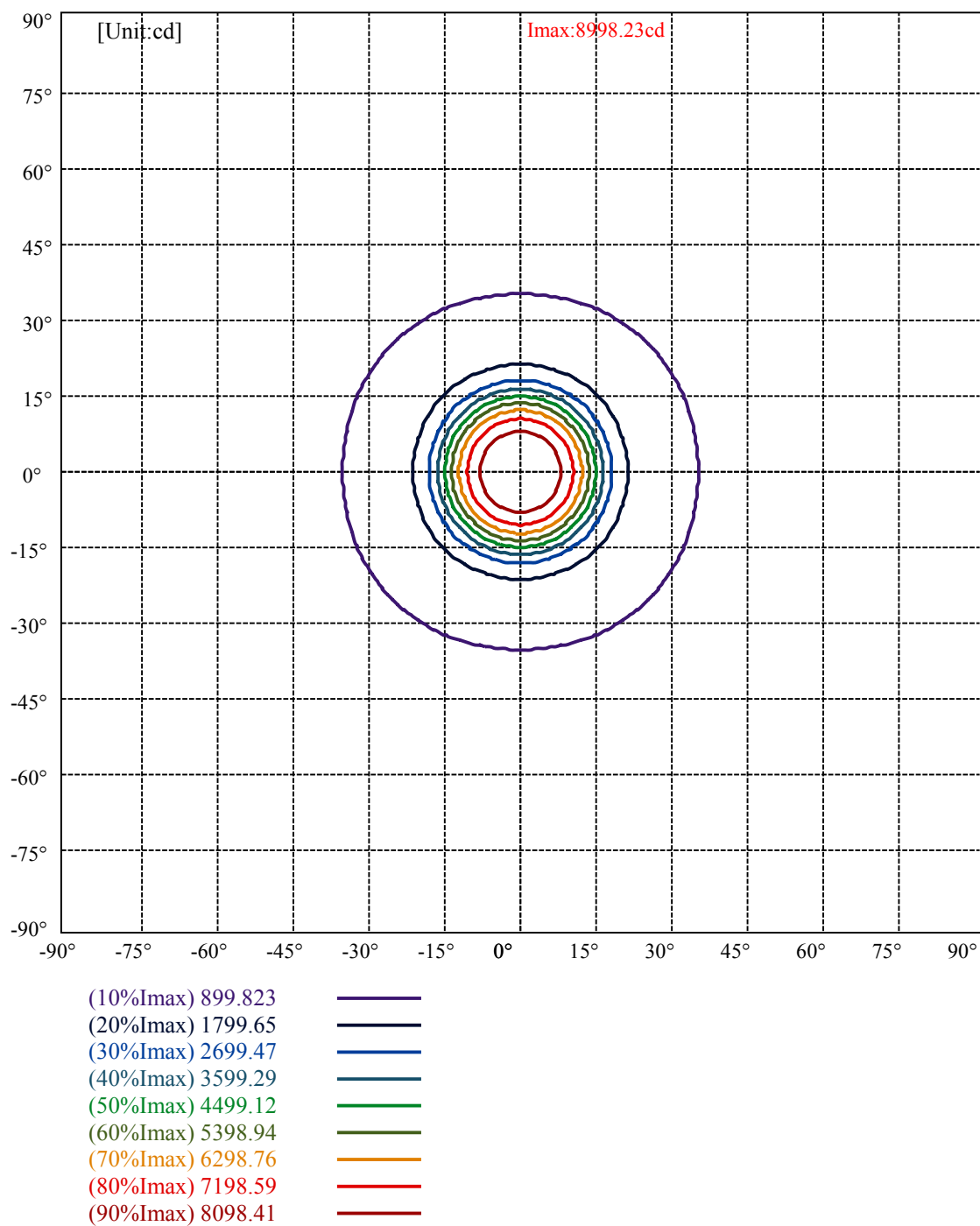
Zone	Lumens	%Lamp	%Fixt
0-30	2699.27	74.24%	83.07%
0-40	3190.41	87.75%	98.19%
0-60	3238.24	89.06%	99.66%
0-90	3249.16	89.36%	100.00%
0-120	3249.16	89.36%	100.00%
0-180	3249.26	89.36%	100.00%
60-90	11.46	0.32%	0.35%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.59	2599.41	71.49%	80.00%

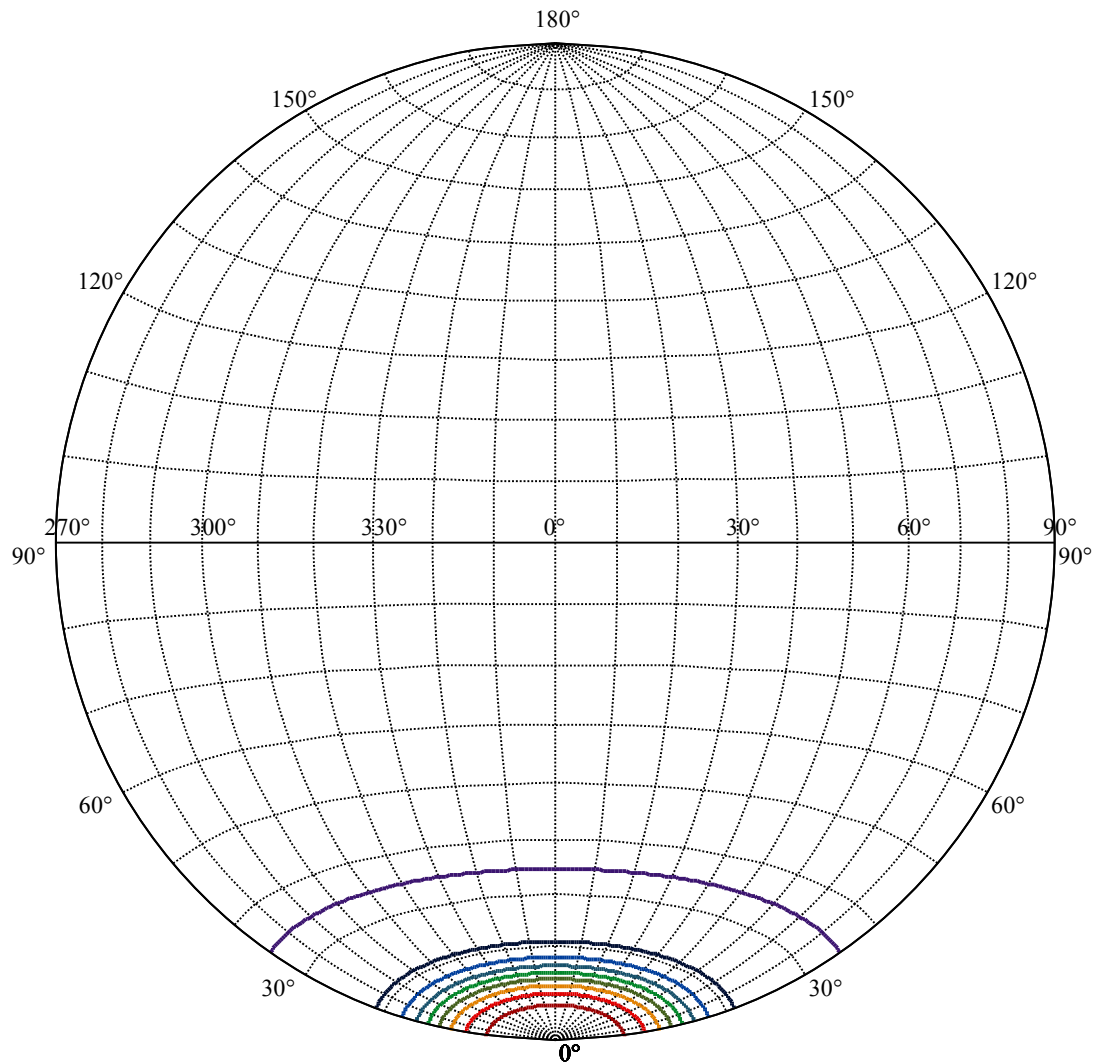
ZONAL LUMEN SUMMARY

0-10	861.79
10-20	1140.45
20-30	697.03
30-40	491.14
40-50	41.13
50-60	6.71
60-70	4.23
70-80	3.50
80-90	3.19
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









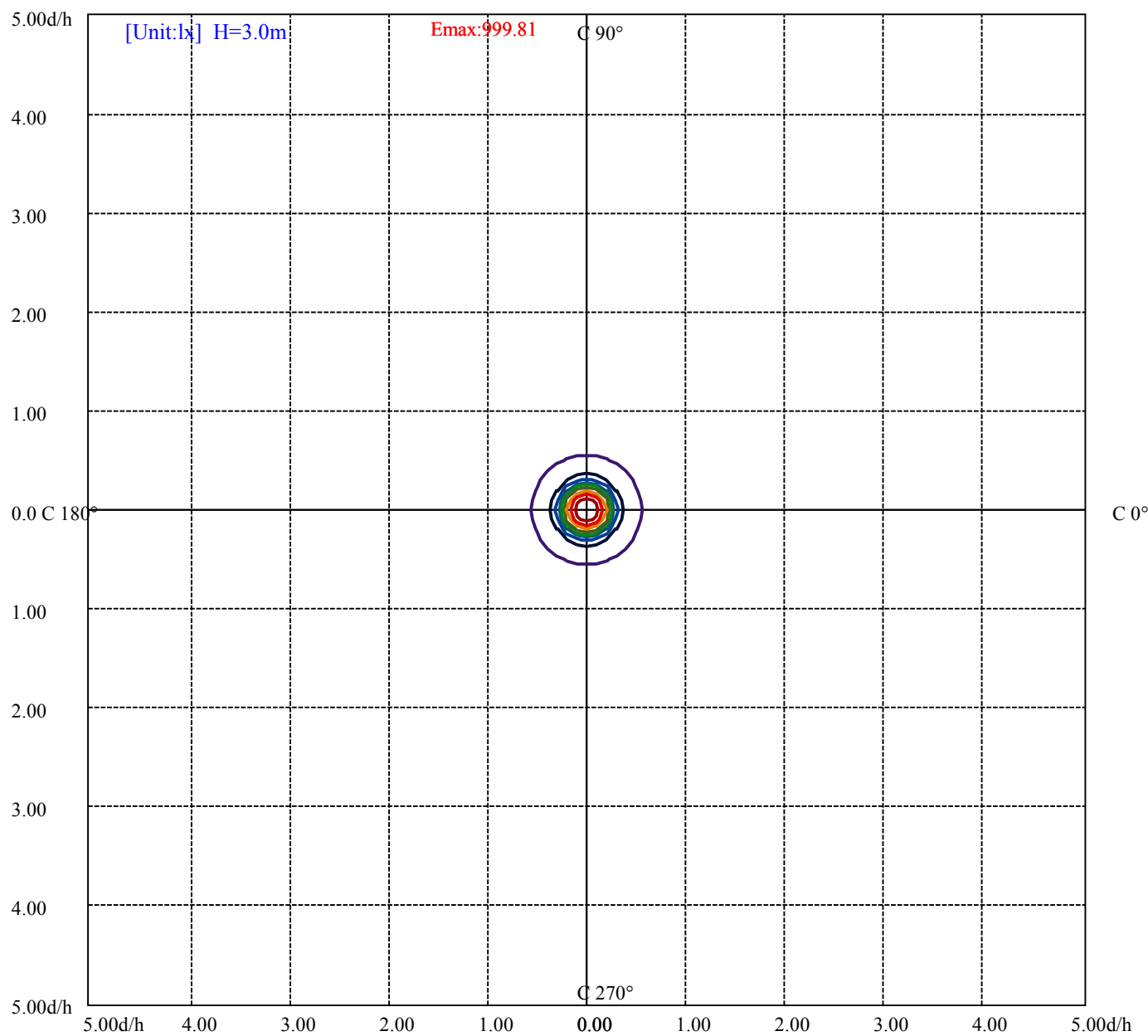
House

[Unit:cd]

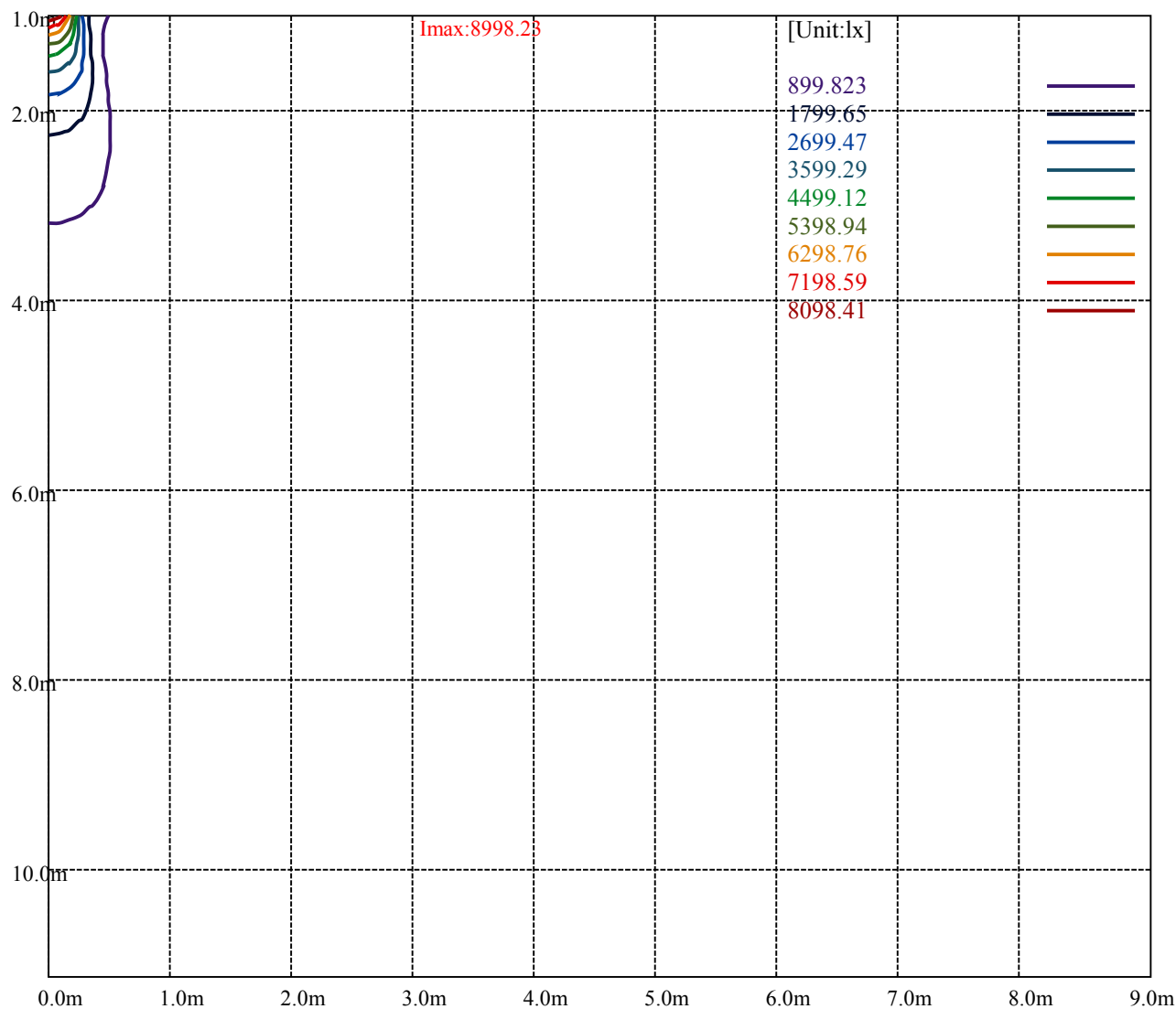
Road

Imax:8998.23

(10%Imax)	899.823	—
(20%Imax)	1799.65	—
(30%Imax)	2699.47	—
(40%Imax)	3599.29	—
(50%Imax)	4499.12	—
(60%Imax)	5398.94	—
(70%Imax)	6298.76	—
(80%Imax)	7198.59	—
(90%Imax)	8098.41	—



(10%Emax)	99.98033	—
(20%Emax)	199.9611	—
(30%Emax)	299.9411	—
(40%Emax)	399.9211	—
(50%Emax)	499.9022	—
(60%Emax)	599.8822	—
(70%Emax)	699.8622	—
(80%Emax)	799.8422	—
(90%Emax)	899.8234	—



Luminance Table

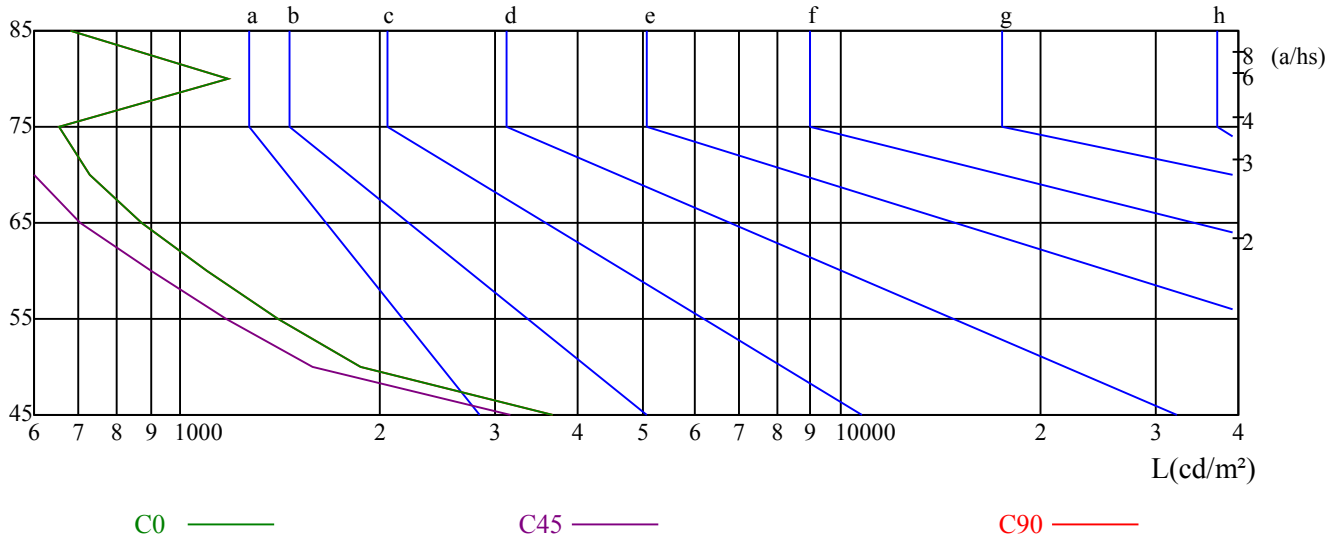
γ	45	50	55	60	65	70	75	80	85
C0	3663	1869	1408	1097	874	727	653	1184	680
C45	3152	1584	1175	900	705	575	505	894	498
C90	3663	1869	1408	1097	874	727	653	1184	680

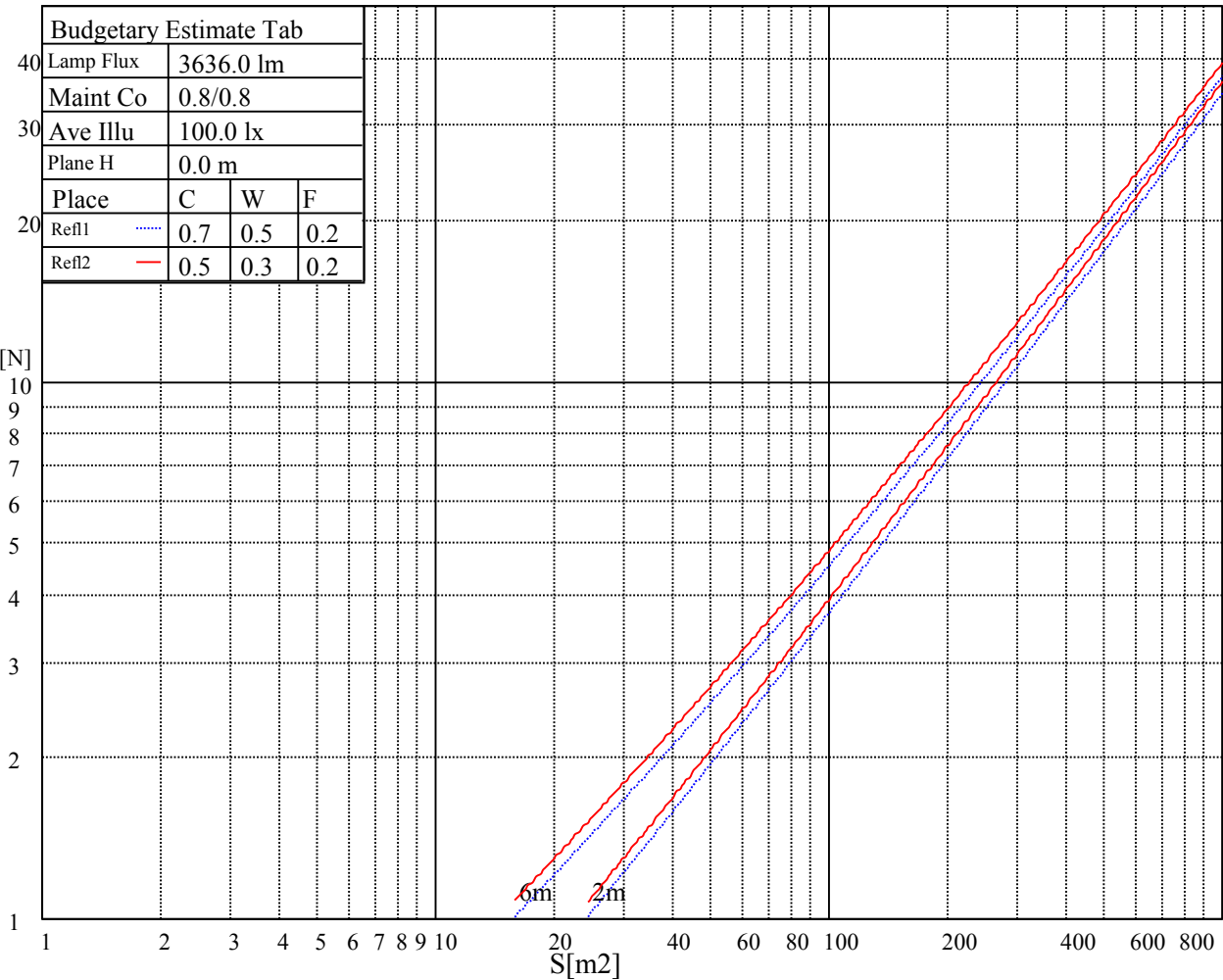
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2078	2078	2078	2218	2218	2218	5677	5677	5677

Glare Table

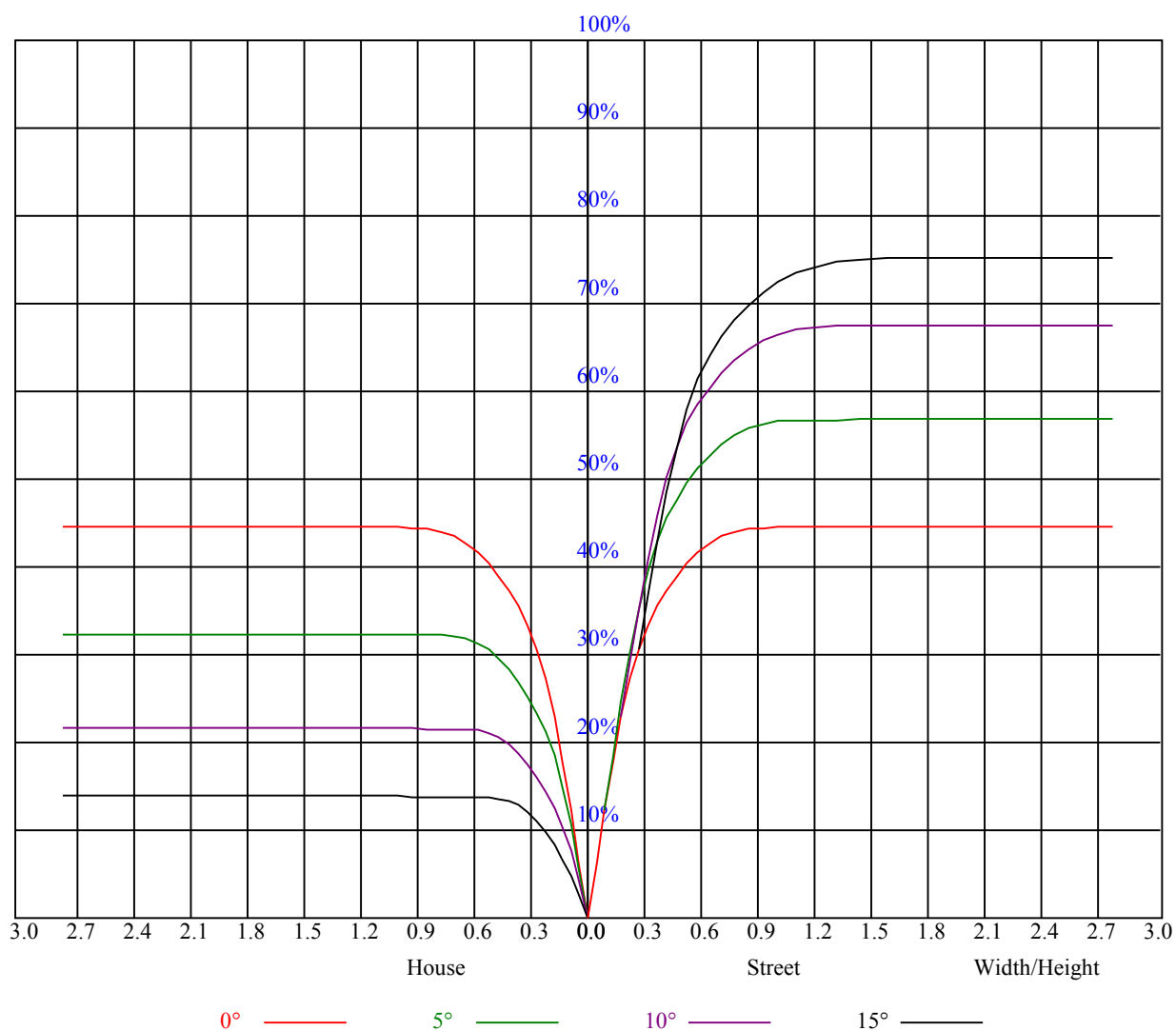
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

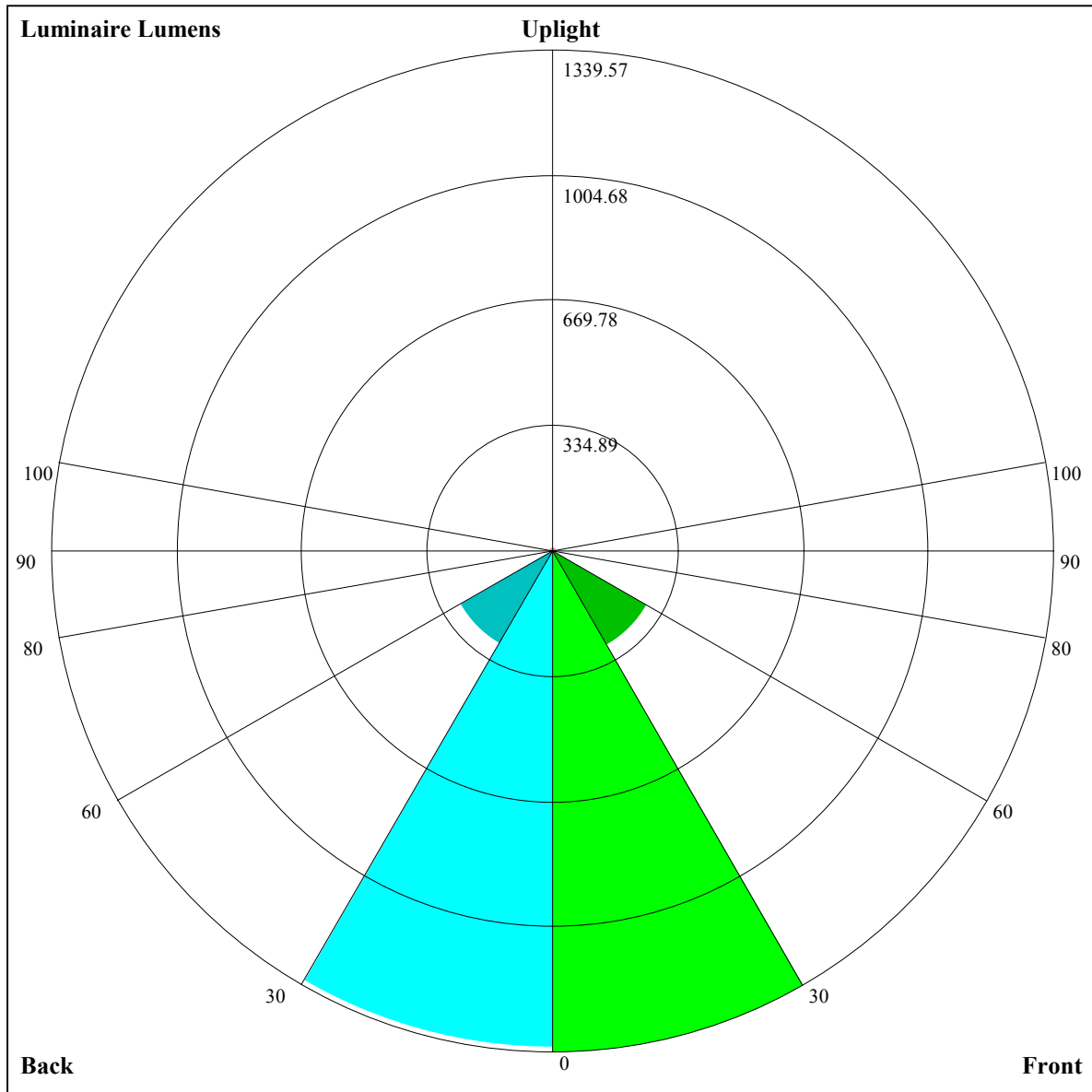
Luminance Limiting Curve

 $\gamma(^{\circ})$ 



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	1.06	1.06	1.06	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	1.00	0.98	0.96	0.98	0.96	0.95	0.95	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.87	0.85
2	0.95	0.91	0.89	0.93	0.90	0.88	0.90	0.88	0.86	0.88	0.86	0.84	0.85	0.84	0.82	0.81
3	0.90	0.86	0.83	0.88	0.85	0.82	0.86	0.83	0.81	0.84	0.82	0.80	0.82	0.80	0.78	0.77
4	0.85	0.81	0.78	0.84	0.80	0.77	0.82	0.79	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.74
5	0.81	0.77	0.74	0.80	0.76	0.73	0.79	0.75	0.73	0.77	0.74	0.72	0.76	0.74	0.71	0.70
6	0.78	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.69	0.74	0.71	0.69	0.73	0.71	0.68	0.67
7	0.74	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.65
8	0.71	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.62
9	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.60
10	0.66	0.62	0.59	0.66	0.61	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.64	0.61	0.58	0.57





Luminaire Lumens:

FL=1339.57,FM=291.66,FH=3.83,FVH=1.65

BL=1329.96,BM=287.46,BH=4.05,BVH=1.82

UL=2.01,UH=9.58

BUG Rating:B3-U1-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	9011.11	9002.30	8980.95	8939.19	8858.91	8768.42	8618.08	8432.00	8178.17
45.0	8987.45	8999.51	8993.48	8950.79	8890.00	8810.65	8684.90	8531.30	8316.45
90.0	8986.52	8939.65	8904.85	8792.09	8654.27	8559.61	8365.64	8118.31	7768.43
135.0	9007.86	8991.62	8940.58	8886.29	8810.65	8710.42	8560.07	8393.48	8146.15
180.0	9011.11	8980.02	8932.69	8864.48	8770.74	8644.53	8465.87	8262.63	8017.15
225.0	8987.45	8959.14	8904.38	8812.51	8696.50	8542.44	8342.44	8201.37	7775.39
270.0	8986.52	9004.62	9012.50	8981.41	8914.13	8826.89	8709.49	8558.22	8360.54
315.0	9007.86	8999.05	8961.92	8901.60	8810.65	8691.86	8527.59	8326.20	8059.38
360.0	9011.11	9002.30	8980.95	8939.19	8858.91	8768.42	8618.08	8432.00	8178.17
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	7917.85	7438.50	7041.75	6459.86	5793.97	5099.31	4385.63	3692.82	3077.98
45.0	8008.80	7625.51	7154.51	6582.82	6064.50	5227.85	4515.56	3942.94	3165.68
90.0	7361.94	6856.14	6250.58	5582.37	4879.36	4163.82	3491.90	2911.86	2452.00
135.0	7832.47	7467.74	7017.16	6454.29	5822.27	5150.35	4454.77	3762.89	3149.44
180.0	7692.79	7472.84	6838.97	6509.04	5886.31	5220.89	4534.12	3845.49	3222.76
225.0	7554.51	7128.53	6616.70	6013.92	5360.56	4672.40	3985.17	3352.69	2809.77
270.0	8109.96	7788.38	7386.53	6913.68	6353.59	5728.54	5064.51	4383.77	3980.99
315.0	7714.14	7302.54	6802.31	6217.63	5570.77	4882.14	4193.52	3541.09	2976.36
360.0	7917.85	7438.50	7041.75	6459.86	5793.97	5099.31	4385.63	3692.82	3077.98
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2584.25	2209.77	1945.27	1768.48	1652.93	1575.44	1519.76	1475.21	1436.69
45.0	2740.63	2323.00	2017.66	1810.70	1678.92	1594.47	1535.53	1491.45	1454.79
90.0	2108.15	1871.49	1716.51	1619.06	1554.09	1507.23	1476.60	1433.45	1406.53
135.0	2645.97	2260.35	1980.54	1786.58	1703.05	1575.90	1539.71	1494.70	1458.50
180.0	2695.62	2295.62	2009.31	1811.17	1677.99	1586.58	1526.25	1483.10	1446.90
225.0	2382.86	2071.03	1855.72	1708.15	1607.46	1540.17	1493.31	1455.72	1419.99
270.0	3353.62	2642.25	2404.67	2097.01	1877.06	1726.25	1625.09	1556.41	1506.30
315.0	2516.04	2294.69	2012.10	1757.34	1682.63	1590.29	1527.18	1482.63	1443.65
360.0	2584.25	2209.77	1945.27	1768.48	1652.93	1575.44	1519.76	1475.21	1436.69
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	1401.89	1362.45	1322.08	1297.02	1237.62	1165.70	1106.77	890.48	890.48
45.0	1419.06	1385.19	1346.21	1305.84	1263.15	1215.81	1129.50	1073.82	918.83
90.0	1368.02	1324.86	1284.95	1244.12	1183.80	1036.23	910.25	861.66	737.91
135.0	1424.17	1389.36	1346.21	1303.98	1261.29	1212.10	1119.30	1012.10	897.02
180.0	1412.10	1374.05	1331.82	1290.52	1248.76	1185.65	1086.81	974.05	909.55
225.0	1386.11	1365.23	1323.93	1284.03	1241.80	1174.52	922.41	922.41	822.13
270.0	1467.32	1431.13	1394.47	1353.17	1311.87	1268.71	1220.92	1133.68	1032.06
315.0	1405.60	1364.77	1322.54	1281.24	1238.55	1171.27	922.59	876.42	850.85
360.0	1401.89	1362.45	1322.08	1297.02	1237.62	1165.70	1106.77	890.48	890.48
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	765.89	641.80	514.75	394.24	285.01	187.01	101.62	41.76	23.16
45.0	797.26	729.04	605.15	482.64	365.24	254.80	254.80	79.02	32.25
90.0	615.49	493.78	376.10	266.59	169.19	117.59	37.91	25.99	21.30
135.0	769.41	640.88	517.44	397.72	291.92	246.45	246.45	53.60	27.05
180.0	782.87	611.18	529.97	410.72	302.13	260.83	148.21	42.27	25.52
225.0	699.34	574.38	452.53	336.01	230.53	139.12	68.17	29.61	23.43
270.0	913.26	788.90	665.01	538.79	442.73	331.37	267.79	267.79	57.68
315.0	751.18	602.83	496.42	372.25	263.48	167.75	89.00	36.15	22.64
360.0	765.89	641.80	514.75	394.24	285.01	187.01	101.62	41.76	23.16

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	18.79	15.41	13.55	11.65	10.58	9.70	9.00	8.45	7.93
45.0	22.55	18.51	15.31	13.22	11.55	10.44	9.84	9.14	8.40
90.0	17.59	14.90	13.04	11.46	10.53	9.79	9.19	8.58	8.07
135.0	22.00	18.14	15.36	13.55	11.97	10.95	10.21	9.61	9.00
180.0	21.21	17.77	16.15	13.36	12.34	11.18	9.98	9.61	9.05
225.0	19.54	17.59	14.94	12.71	11.14	10.21	9.56	9.00	8.40
270.0	26.64	21.62	17.77	14.90	12.85	11.18	10.26	9.42	8.86
315.0	18.51	15.45	13.41	11.69	10.53	9.70	9.05	8.54	7.89
360.0	18.79	15.41	13.55	11.65	10.58	9.70	9.00	8.45	7.93
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	7.52	7.10	6.73	6.31	5.99	5.61	5.34	5.06	4.73
45.0	8.03	7.61	7.19	6.82	6.40	6.03	5.71	5.38	5.06
90.0	7.66	7.24	6.82	6.40	6.08	5.75	5.43	5.15	4.87
135.0	8.49	8.03	7.56	7.15	6.77	6.36	6.03	5.80	5.52
180.0	8.54	8.12	7.61	7.24	6.87	6.40	6.08	5.71	5.38
225.0	7.98	7.52	7.10	6.64	6.26	5.89	5.48	5.15	4.87
270.0	8.35	7.89	7.47	7.05	6.77	6.40	6.03	5.66	5.34
315.0	7.70	7.24	6.68	6.26	6.08	5.57	5.34	5.10	4.78
360.0	7.52	7.10	6.73	6.31	5.99	5.61	5.34	5.06	4.73
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	4.55	4.32	4.13	3.94	3.71	3.53	3.39	3.29	3.11
45.0	4.83	4.55	4.32	4.13	3.99	3.85	3.71	3.53	3.43
90.0	4.64	4.45	4.22	3.99	3.81	3.67	3.48	3.34	3.25
135.0	5.20	4.87	4.64	4.36	4.13	3.90	3.71	3.48	3.34
180.0	5.06	4.78	4.50	4.27	4.04	3.81	3.62	3.48	3.39
225.0	4.55	4.36	4.13	3.94	3.81	3.53	3.43	3.29	3.11
270.0	5.01	4.73	4.45	4.18	3.94	3.76	3.53	3.39	3.25
315.0	4.55	4.27	4.04	3.85	3.67	3.48	3.25	3.16	3.02
360.0	4.55	4.32	4.13	3.94	3.71	3.53	3.39	3.29	3.11
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.02	2.97	2.88	2.78	2.64	2.60	2.55	2.92	4.27
45.0	3.29	3.25	3.06	3.06	2.97	2.88	2.88	3.02	4.08
90.0	3.20	3.06	2.97	2.88	3.25	4.50	6.22	7.42	8.49
135.0	3.16	3.02	2.92	2.88	3.02	3.57	4.69	4.83	5.94
180.0	3.16	3.06	2.97	2.88	2.92	3.62	4.27	5.94	7.15
225.0	3.02	2.88	2.74	2.69	2.55	2.46	2.41	2.32	2.74
270.0	3.06	2.92	2.78	2.74	2.60	2.51	2.41	2.37	2.27
315.0	2.88	2.78	2.69	2.60	2.46	2.41	2.37	2.32	2.51
360.0	3.02	2.97	2.88	2.78	2.64	2.60	2.55	2.92	4.27
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.01	5.85	5.06	2.74	2.41	2.27	2.13	2.00	1.90
45.0	5.06	6.26	6.13	4.36	2.88	2.69	2.51	2.23	2.00
90.0	8.91	8.12	3.76	2.69	2.46	2.32	2.09	1.95	1.86
135.0	6.73	6.54	6.96	3.67	2.51	2.41	2.32	2.18	2.04
180.0	7.56	8.96	7.66	2.78	2.69	2.46	2.51	2.23	2.09
225.0	3.29	3.76	3.20	2.27	2.18	2.04	1.95	1.86	1.81
270.0	2.18	2.13	2.09	2.13	2.09	2.04	1.95	1.86	1.81
315.0	2.74	3.43	3.39	2.18	2.18	2.09	2.00	1.90	1.76
360.0	5.01	5.85	5.06	2.74	2.41	2.27	2.13	2.00	1.90

Intensity data(cd)

Appendix Page: 19 Total:19

C/ $\gamma(^{\circ})$	90.0
0.0	1.86
45.0	1.90
90.0	1.86
135.0	2.00
180.0	1.95
225.0	1.76
270.0	1.76
315.0	1.67
360.0	1.86