
NATA

Client:

LumCAT: 3-1546-A3

Luminaire: 92.76.365.00

Report No: GC2019031803

Test No:

LampCAT: PrevaLED Core G7 L15-H1

Lamp flux(lm): 3636.0

Number of Lamps: 1

Length(mm): 84

Phm Type: C

Voltage(V):

Current(A):

Power (W): 31.8100

PF:

Ballast type:

Width(mm): 84

Height(mm): 0

Photometric Results

Lumens(lm): 3231.58, Efficiency(%): 88.88% , Luminous Efficacy(lm/W): 101.59

Central intensity(cd): 10172.210, Maximum intensity(cd): 10172.210

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=27.4

[C90/270]Total=27.4

Field angle(10%Imax): [C0/180]Total=65.2

[C90/270]Total=65.2

Maximum s/h(1/2): C0_180=0.46 C90_270=0.46

Maximum s/h(1/4): C0_180=0.45 C90_270=0.45

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 88.88%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 99.779%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	10172.215	0.000	0	.000%	.000%
1.0	10168.155	9.732	9.732	.268%	.301%
2.0	10134.513	29.140	38.873	.801%	1.203%
3.0	10074.188	48.333	87.205	1.329%	2.699%
4.0	9970.361	67.096	154.301	1.845%	4.775%
5.0	9645.863	84.388	238.689	2.321%	7.386%
6.0	9316.549	99.652	338.341	2.741%	10.470%
7.0	9043.930	113.963	452.305	3.134%	13.996%
8.0	8591.149	126.211	578.515	3.471%	17.902%
9.0	8059.425	134.944	713.459	3.711%	22.078%
10.0	7460.010	140.445	853.904	3.863%	26.424%
11.0	6855.374	143.040	996.945	3.934%	30.850%
12.0	6209.440	142.817	1139.762	3.928%	35.269%
13.0	5555.849	139.624	1279.386	3.840%	39.590%
14.0	4910.146	133.964	1413.35	3.684%	43.736%
15.0	4343.271	127.035	1540.385	3.494%	47.667%
16.0	3740.260	118.446	1658.831	3.258%	51.332%
17.0	3291.250	109.499	1768.331	3.012%	54.720%
18.0	2844.908	101.172	1869.503	2.783%	57.851%
19.0	2512.718	93.212	1962.714	2.564%	60.735%
20.0	2288.242	87.871	2050.585	2.417%	63.455%
21.0	2097.280	84.211	2134.796	2.316%	66.060%
22.0	1893.778	80.202	2214.998	2.206%	68.542%
23.0	1698.757	75.381	2290.379	2.073%	70.875%
24.0	1586.113	71.819	2362.198	1.975%	73.097%
25.0	1508.967	70.375	2432.574	1.936%	75.275%
26.0	1449.803	69.842	2502.416	1.921%	77.436%
27.0	1403.109	69.797	2572.213	1.920%	79.596%
28.0	1358.794	69.926	2642.138	1.923%	81.760%
29.0	1313.783	69.922	2712.061	1.923%	83.924%
30.0	1267.902	69.705	2781.765	1.917%	86.081%
31.0	1189.874	68.396	2850.162	1.881%	88.197%
32.0	1086.030	65.202	2915.364	1.793%	90.215%
33.0	961.570	60.323	2975.687	1.659%	92.081%
34.0	871.147	55.463	3031.15	1.525%	93.798%
35.0	726.769	49.625	3080.776	1.365%	95.333%
36.0	581.469	41.655	3122.43	1.146%	96.622%
37.0	435.733	33.175	3155.606	.912%	97.649%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	300.833	24.586	3180.191	.676%	98.410%
39.0	208.989	17.402	3197.593	.479%	98.948%
40.0	111.594	11.181	3208.774	.308%	99.294%
41.0	52.749	5.852	3214.626	.161%	99.475%
42.0	15.017	2.462	3217.088	.068%	99.552%
43.0	10.400	0.942	3218.029	.026%	99.581%
44.0	7.790	0.687	3218.716	.019%	99.602%
45.0	6.230	0.539	3219.255	.015%	99.619%
46.0	5.354	0.453	3219.708	.012%	99.633%
47.0	4.884	0.407	3220.115	.011%	99.645%
48.0	4.635	0.385	3220.5	.011%	99.657%
49.0	4.414	0.372	3220.871	.010%	99.669%
50.0	4.240	0.361	3221.232	.010%	99.680%
51.0	4.089	0.352	3221.584	.010%	99.691%
52.0	3.950	0.345	3221.929	.009%	99.701%
53.0	3.822	0.338	3222.268	.009%	99.712%
54.0	3.689	0.331	3222.599	.009%	99.722%
55.0	3.561	0.324	3222.922	.009%	99.732%
56.0	3.440	0.316	3223.239	.009%	99.742%
57.0	3.341	0.310	3223.549	.009%	99.751%
58.0	3.225	0.304	3223.852	.008%	99.761%
59.0	3.144	0.298	3224.15	.008%	99.770%
60.0	3.051	0.293	3224.443	.008%	99.779%
61.0	2.964	0.287	3224.73	.008%	99.788%
62.0	2.894	0.282	3225.012	.008%	99.797%
63.0	2.807	0.277	3225.289	.008%	99.805%
64.0	2.750	0.273	3225.562	.007%	99.814%
65.0	2.686	0.269	3225.831	.007%	99.822%
66.0	2.628	0.265	3226.096	.007%	99.830%
67.0	2.570	0.261	3226.357	.007%	99.838%
68.0	2.518	0.258	3226.615	.007%	99.846%
69.0	2.454	0.254	3226.869	.007%	99.854%
70.0	2.431	0.251	3227.12	.007%	99.862%
71.0	2.390	0.249	3227.369	.007%	99.870%
72.0	2.355	0.247	3227.615	.007%	99.877%
73.0	2.309	0.244	3227.859	.007%	99.885%
74.0	2.297	0.242	3228.101	.007%	99.892%
75.0	2.251	0.240	3228.342	.007%	99.900%

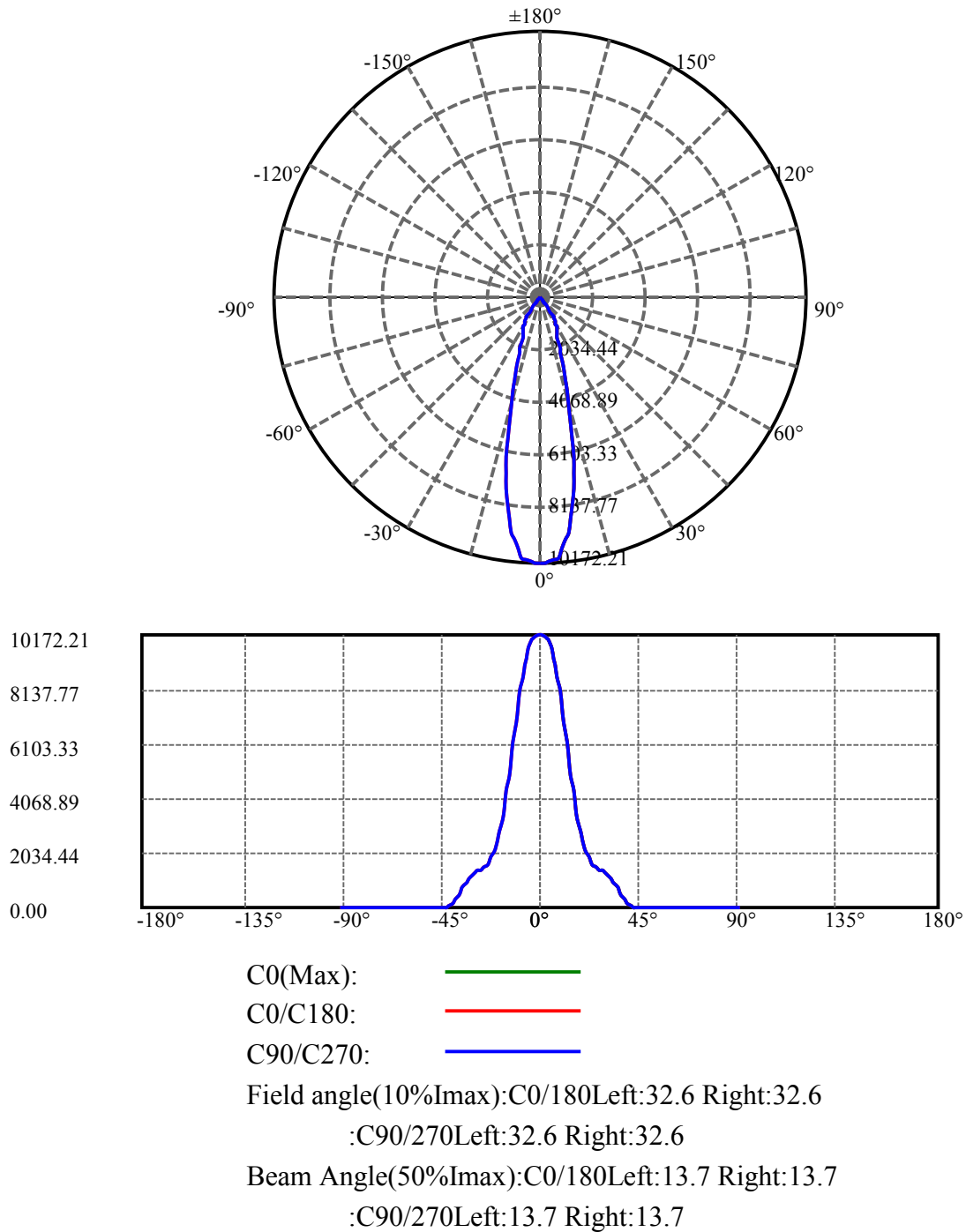
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	2.193	0.236	3228.578	.006%	99.907%
77.0	2.146	0.231	3228.809	.006%	99.914%
78.0	2.117	0.228	3229.037	.006%	99.921%
79.0	2.071	0.225	3229.262	.006%	99.928%
80.0	2.036	0.221	3229.484	.006%	99.935%
81.0	2.094	0.223	3229.707	.006%	99.942%
82.0	2.216	0.234	3229.941	.006%	99.949%
83.0	2.268	0.244	3230.184	.007%	99.957%
84.0	2.094	0.238	3230.422	.007%	99.964%
85.0	1.862	0.216	3230.638	.006%	99.971%
86.0	1.804	0.200	3230.838	.006%	99.977%
87.0	1.763	0.195	3231.034	.005%	99.983%
88.0	1.676	0.188	3231.222	.005%	99.989%
89.0	1.630	0.181	3231.403	.005%	99.994%
90.0	1.613	0.178	3231.581	.005%	100.000%

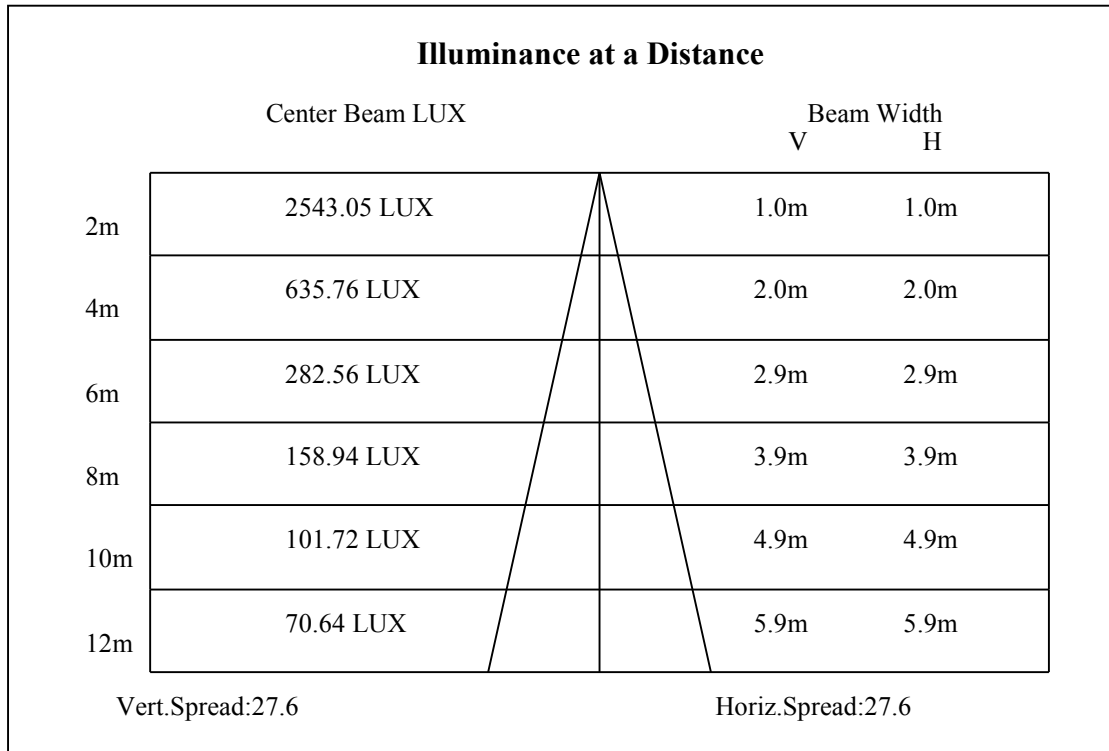
ZONAL LUMEN SUMMARY

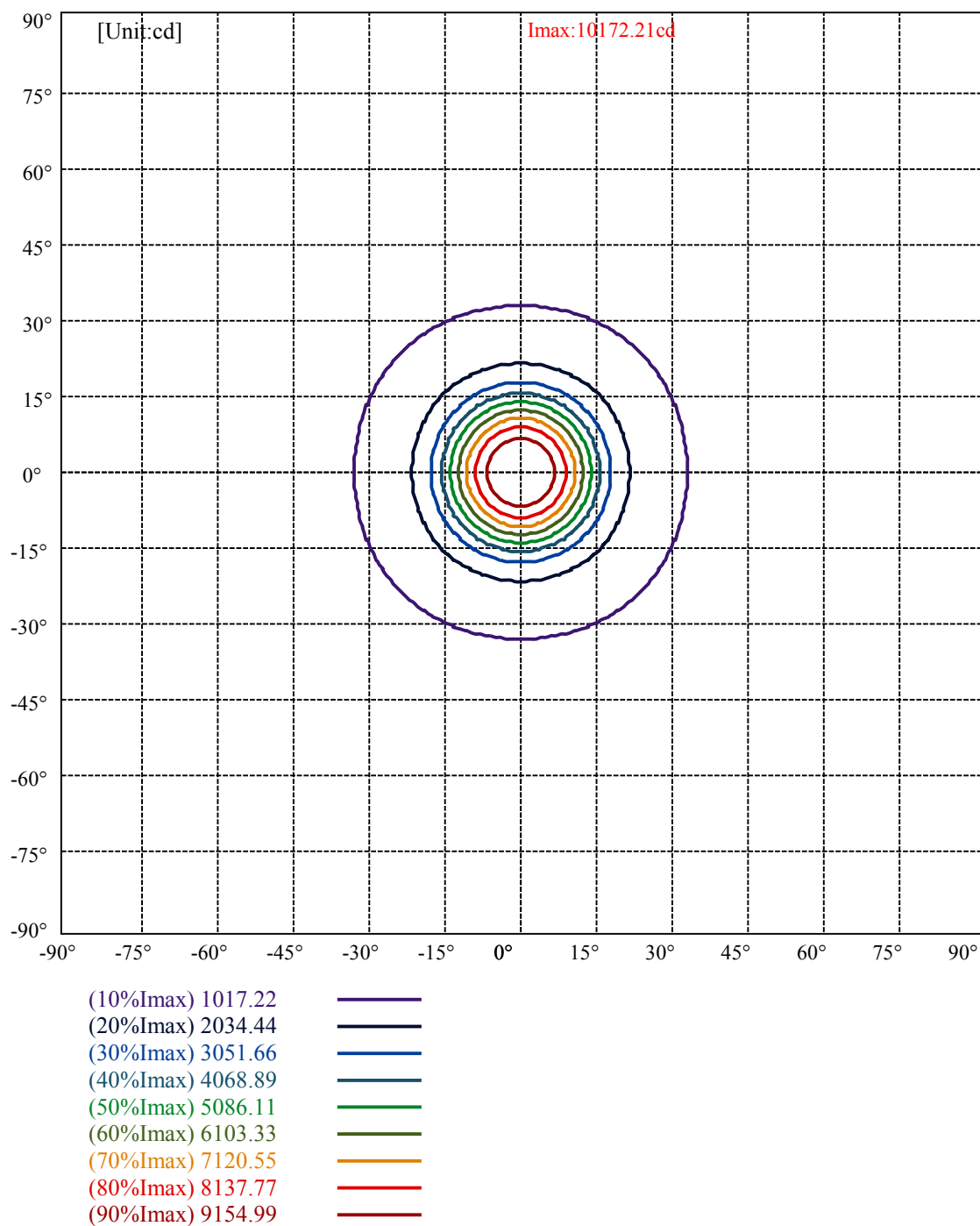
Zone	Lumens	%Lamp	%Fixt
0-30	2781.77	76.51%	86.08%
0-40	3208.77	88.25%	99.29%
0-60	3224.44	88.68%	99.78%
0-90	3231.40	88.87%	99.99%
0-120	3231.40	88.87%	99.99%
0-180	3231.58	88.88%	100.00%
60-90	7.25	0.20%	0.22%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.19	2585.27	71.10%	80.00%

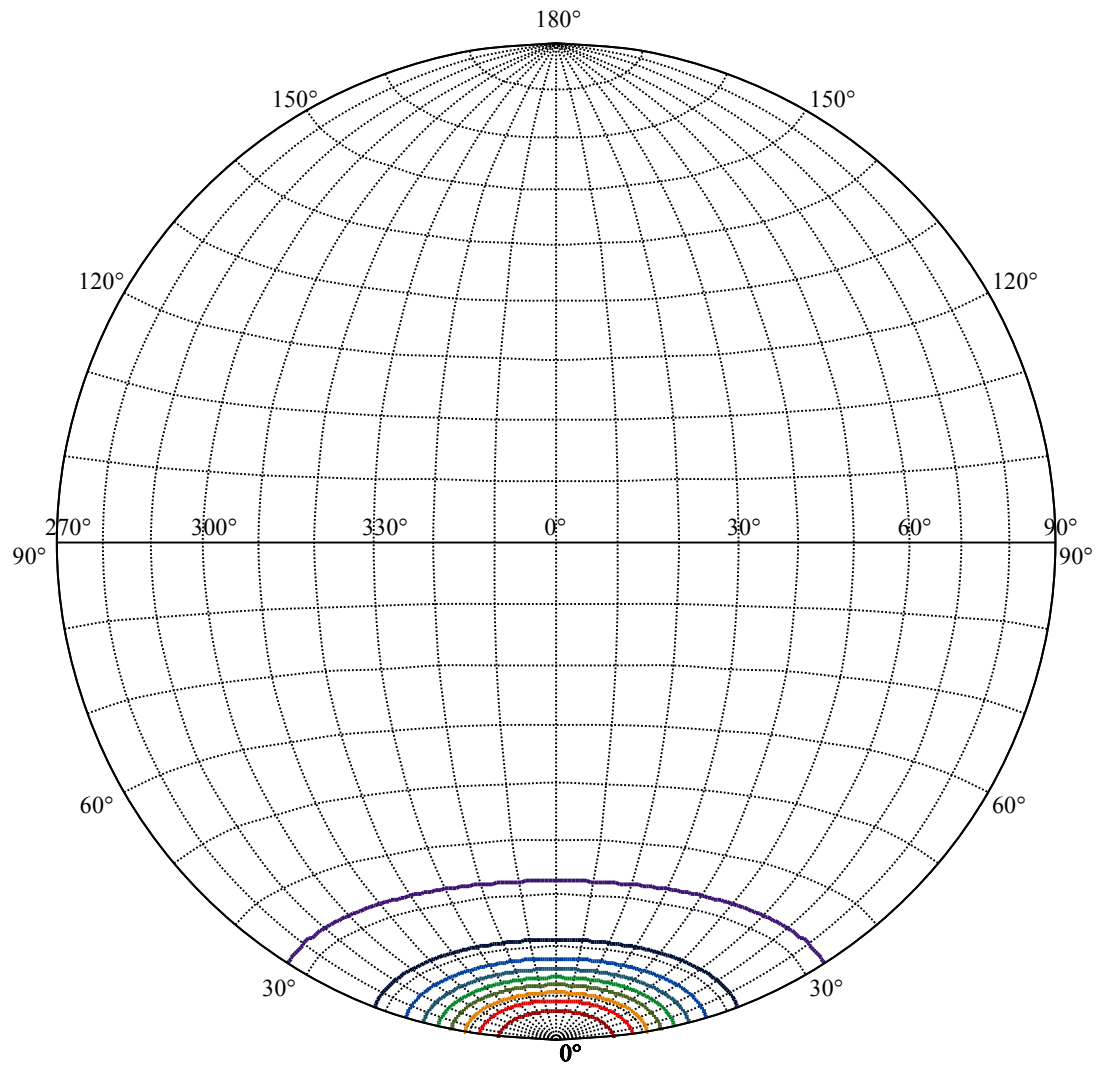
ZONAL LUMEN SUMMARY

0-10	853.90
10-20	1196.68
20-30	731.18
30-40	427.01
40-50	12.46
50-60	3.21
60-70	2.68
70-80	2.36
80-90	1.92
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







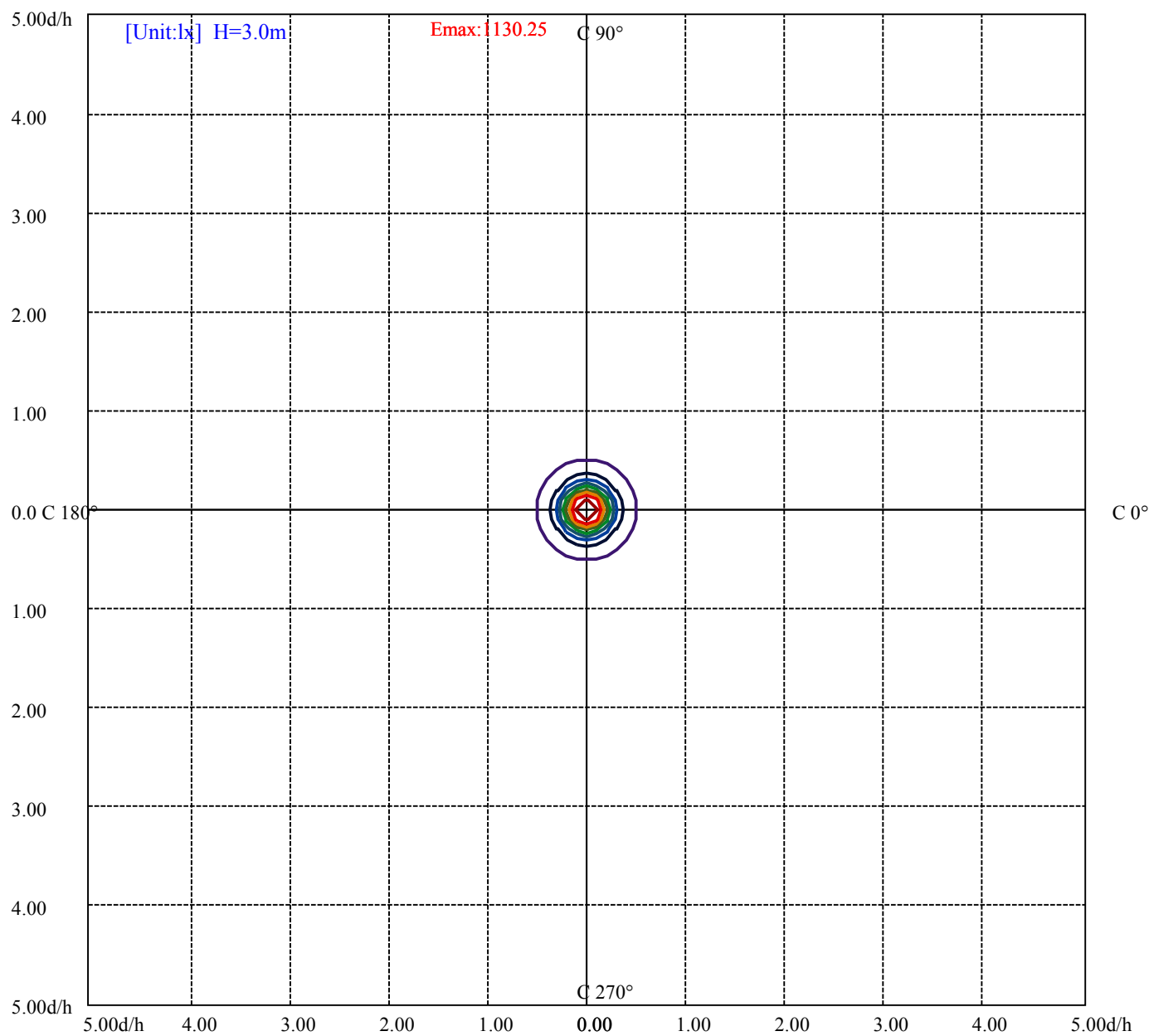


House

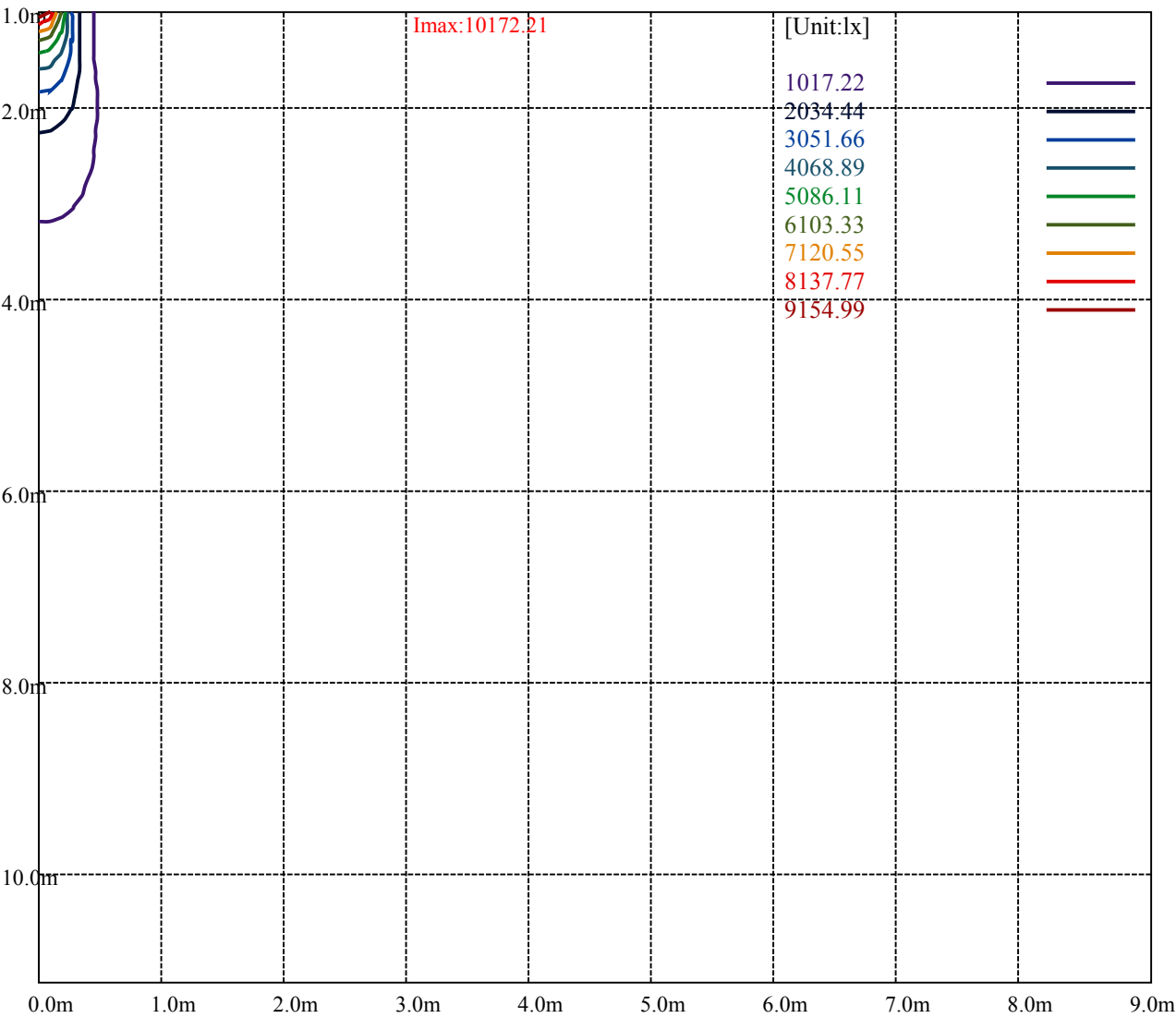
[Unit:cd]

Road

I _{max} :10172.21	
(10%I _{max}) 1017.22	—
(20%I _{max}) 2034.44	—
(30%I _{max}) 3051.66	—
(40%I _{max}) 4068.89	—
(50%I _{max}) 5086.11	—
(60%I _{max}) 6103.33	—
(70%I _{max}) 7120.55	—
(80%I _{max}) 8137.77	—
(90%I _{max}) 9154.99	—



(10%E _{max}) 113.0244	—
(20%E _{max}) 226.0489	—
(30%E _{max}) 339.0733	—
(40%E _{max}) 452.0989	—
(50%E _{max}) 565.1233	—
(60%E _{max}) 678.1478	—
(70%E _{max}) 791.1722	—
(80%E _{max}) 904.1967	—
(90%E _{max}) 1017.221	—



Luminance Table

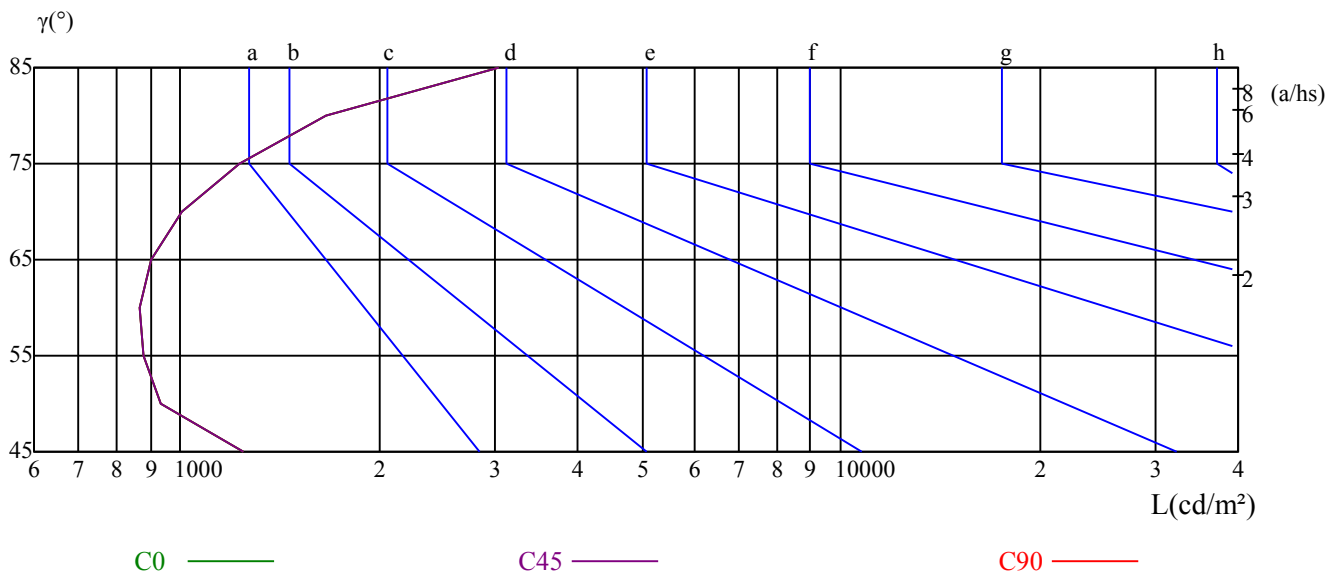
γ	45	50	55	60	65	70	75	80	85
C0	1249	935	880	865	901	1007	1232	1662	3028
C45	1249	935	880	865	901	1007	1232	1662	3028
C90	1249	935	880	865	901	1007	1232	1662	3028

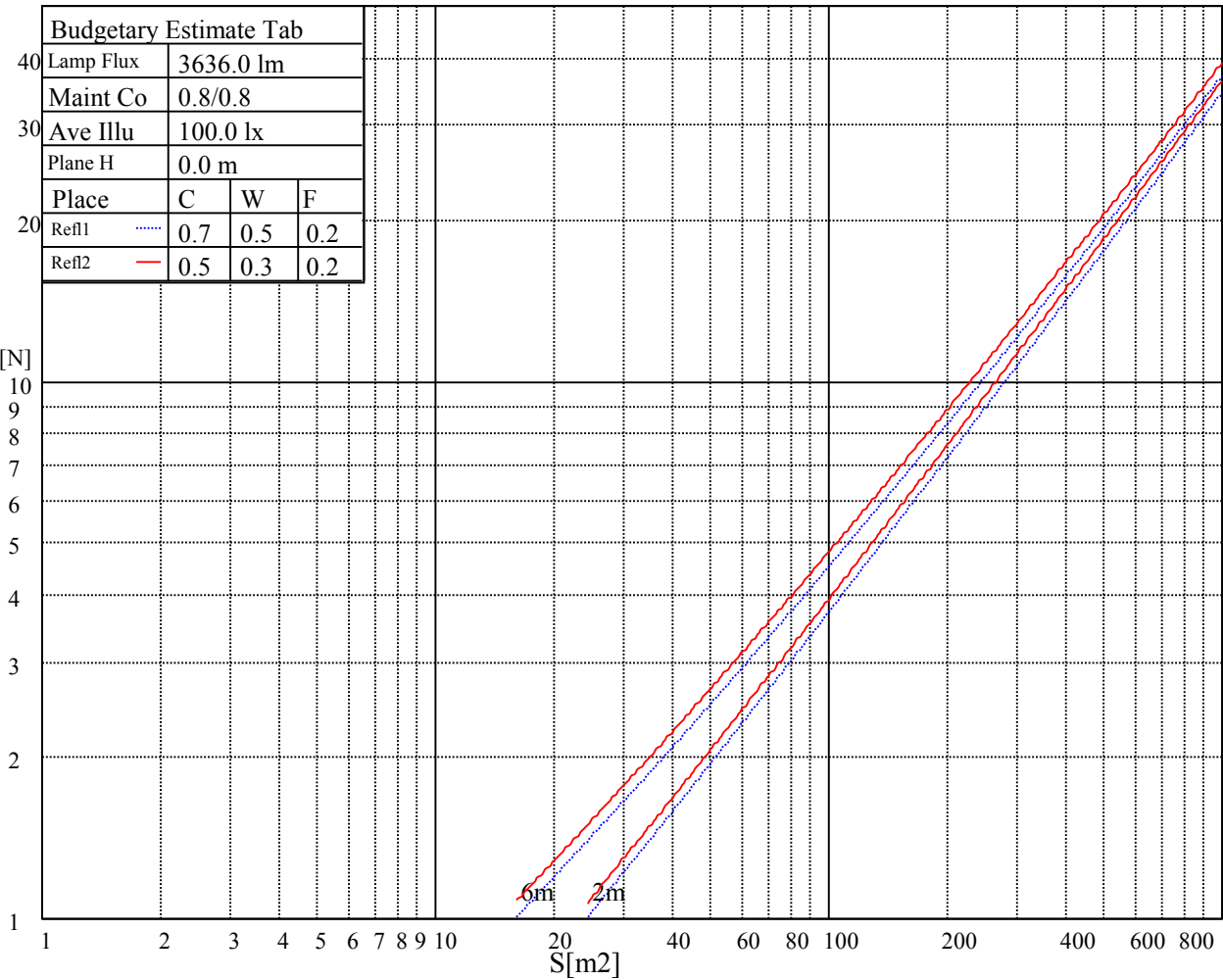
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
901	901	901	1232	1232	1232	3028	3028	3028

Glare Table

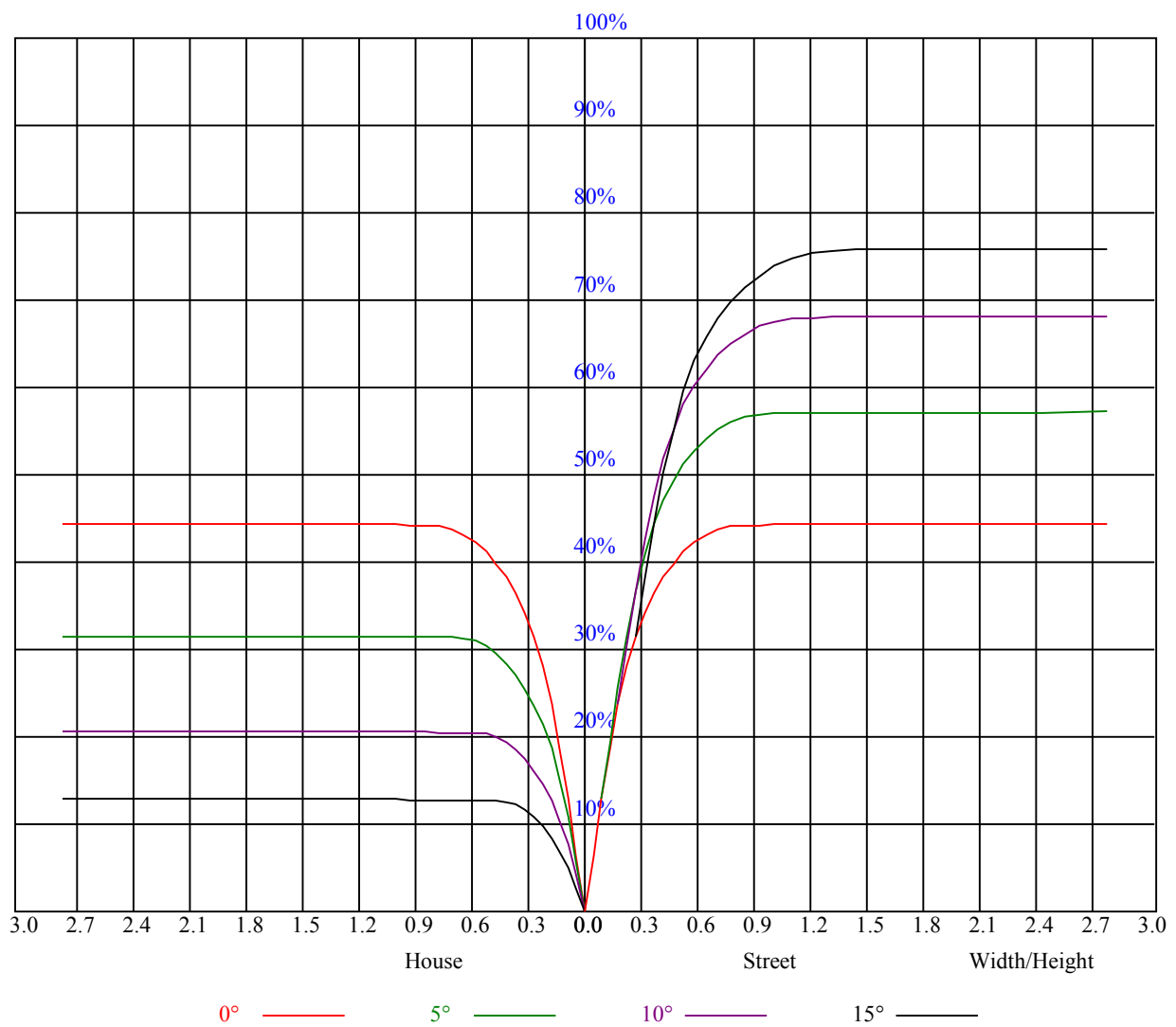
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

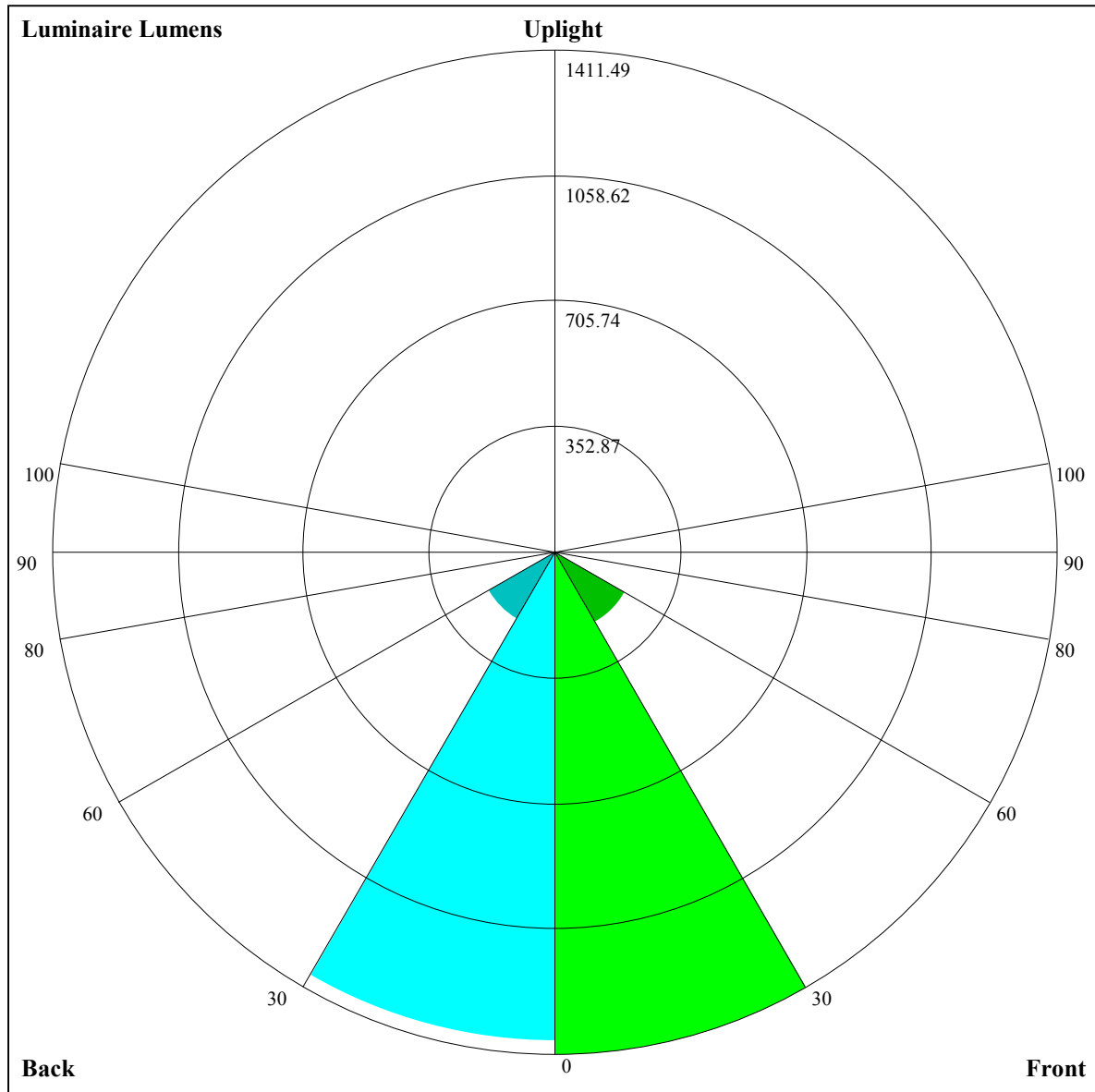
Luminance Limiting Curve





RHOC	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	1.03	1.03	1.03	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	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85
2	0.94	0.91	0.89	0.93	0.90	0.88	0.90	0.88	0.86	0.87	0.86	0.84	0.85	0.84	0.82	0.81
3	0.89	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	0.79	0.77
4	0.85	0.81	0.78	0.84	0.81	0.78	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	0.81	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.76	0.74	0.72	0.71
6	0.78	0.74	0.70	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.68
7	0.75	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.65
8	0.72	0.67	0.64	0.71	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.64	0.69	0.66	0.64	0.63
9	0.69	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.60
10	0.66	0.62	0.60	0.66	0.62	0.59	0.65	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.58





Luminaire Lumens:

FL=1411.49,FM=225.09,FH=2.46,FVH=1

BL=1373.86,BM=217.48,BH=2.58,BVH=1.1

UL=1.76,UH=8.37

BUG Rating:B3-U1-G0

NATA 3-1546-A3

Intensity data(cd)									Appendix Page: 17 Total:19
C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	10153.65	10190.78	10200.06	10204.70	10167.58	10070.13	9893.80	9620.02	9244.15
45.0	10200.06	10218.62	10204.70	10153.65	10042.29	9828.83	9090.46	9090.46	8793.02
90.0	10162.94	10176.86	10162.94	10125.81	10023.73	9842.75	9177.70	9177.70	8694.18
135.0	10172.22	10162.94	10144.37	10102.61	10019.08	9861.31	9601.45	9267.35	8835.80
180.0	10153.65	10107.25	10005.16	9917.00	9819.55	9098.35	8925.27	8421.79	7857.06
225.0	10200.06	10172.22	10121.17	10042.29	9903.08	9675.70	9360.16	8956.45	8492.41
270.0	10162.94	10153.65	10116.53	10014.44	9921.64	9703.54	9397.28	9002.85	8524.90
315.0	10172.22	10162.94	10121.17	10033.01	9865.95	9086.29	9086.29	8814.83	8287.68
360.0	10153.65	10190.78	10200.06	10204.70	10167.58	10070.13	9893.80	9620.02	9244.15
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	8784.76	8246.48	7661.80	7044.63	6381.06	5708.21	5049.29	4408.92	4046.97
45.0	8226.43	7626.44	6989.78	6329.00	5653.83	4985.16	4347.58	3765.68	3260.35
90.0	8126.66	7528.52	6898.37	6230.16	5564.74	4913.23	4413.00	3721.13	3313.25
135.0	8311.44	7731.40	7114.24	6464.59	5819.58	5169.94	4548.13	3954.17	3434.45
180.0	7265.42	6642.22	6003.25	5356.85	4727.16	4135.51	3602.34	3133.66	2733.20
225.0	8051.58	7369.45	6882.22	6241.85	5592.21	4951.84	4343.96	3782.48	3295.24
270.0	7986.62	7415.86	6807.97	6172.25	5531.88	4886.88	4278.99	3731.43	3258.12
315.0	7722.49	7119.71	6485.38	5836.20	5176.34	4530.40	4162.89	3424.61	2988.42
360.0	8784.76	8246.48	7661.80	7044.63	6381.06	5708.21	5049.29	4408.92	4046.97
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	3313.80	2891.53	2668.80	2348.61	2348.61	1851.54	1706.76	1602.35	1524.86
45.0	2832.51	2476.13	2187.50	1958.73	1781.01	1648.29	1553.17	1484.49	1432.52
90.0	2874.27	2514.64	2227.41	1998.17	1813.49	1675.21	1574.98	1503.52	1449.22
135.0	2984.34	2613.11	2316.13	2316.13	2095.62	1773.12	1641.33	1548.06	1480.78
180.0	2406.06	2140.63	2005.60	1753.16	1670.10	1564.30	1490.06	1433.45	1386.11
225.0	2877.61	2529.59	2357.89	2357.89	1824.16	1733.68	1579.15	1504.91	1447.83
270.0	2849.77	2506.38	2385.74	2104.90	1844.58	1696.55	1587.51	1508.16	1445.51
315.0	2620.91	2429.73	2156.87	1940.63	1772.65	1647.37	1555.95	1486.81	1431.59
360.0	3313.80	2891.53	2668.80	2348.61	2348.61	1851.54	1706.76	1602.35	1524.86
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	1465.00	1414.88	1369.87	1323.47	1278.92	1232.52	1142.96	1019.99	935.54
45.0	1388.43	1355.95	1312.80	1270.57	1226.02	1139.25	884.87	884.87	735.86
90.0	1404.68	1361.98	1315.58	1271.03	1225.10	1129.04	866.58	866.58	778.46
135.0	1427.41	1382.87	1339.25	1292.38	1245.98	1185.65	1074.75	966.16	794.94
180.0	1343.42	1297.95	1256.19	1207.00	921.99	863.75	833.64	687.33	537.30
225.0	1418.13	1371.73	1326.25	1280.32	1234.84	1153.17	1032.06	890.99	739.72
270.0	1393.08	1345.28	1298.41	1253.87	1207.93	1109.09	981.94	840.41	689.60
315.0	1384.72	1339.71	1291.92	1244.58	1178.23	875.77	875.77	812.85	602.73
360.0	1465.00	1414.88	1369.87	1323.47	1278.92	1232.52	1142.96	1019.99	935.54
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	725.80	632.06	479.86	338.79	258.05	258.05	26.96	15.27	10.95
45.0	579.53	421.71	279.21	154.71	59.67	19.68	13.88	11.28	8.07
90.0	625.42	469.93	324.68	196.57	91.27	27.15	15.13	10.77	8.03
135.0	673.36	493.78	377.31	244.13	244.13	41.72	17.12	11.88	8.45
180.0	417.58	279.67	156.75	62.60	18.70	12.48	8.72	6.59	5.71
225.0	583.34	432.99	297.49	297.49	57.03	26.91	13.74	9.61	7.19
270.0	536.01	390.76	258.05	258.05	124.32	19.40	12.81	9.14	7.01
315.0	510.72	364.96	233.32	119.58	39.58	16.61	11.79	8.68	6.91
360.0	725.80	632.06	479.86	338.79	258.05	258.05	26.96	15.27	10.95

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	8.03	6.08	5.20	4.69	4.55	4.36	4.18	4.04	3.90
45.0	5.89	5.06	4.59	4.36	4.18	3.99	3.81	3.71	3.57
90.0	6.08	5.20	4.64	4.41	4.22	4.08	3.94	3.76	3.67
135.0	6.82	5.85	5.29	5.06	4.64	4.41	4.27	4.13	3.99
180.0	5.20	4.87	4.59	4.41	4.22	4.08	3.99	3.90	3.71
225.0	6.08	5.34	4.92	4.73	4.50	4.32	4.22	4.04	3.94
270.0	5.89	5.24	4.97	4.73	4.50	4.36	4.18	4.04	3.94
315.0	5.85	5.20	4.87	4.69	4.50	4.32	4.13	3.99	3.85
360.0	8.03	6.08	5.20	4.69	4.55	4.36	4.18	4.04	3.90
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	3.71	3.62	3.48	3.39	3.30	3.16	3.06	2.97	2.92
45.0	3.43	3.34	3.25	3.11	3.02	2.92	2.88	2.78	2.69
90.0	3.53	3.39	3.30	3.20	3.06	3.02	2.92	2.83	2.78
135.0	3.90	3.71	3.62	3.48	3.39	3.30	3.16	3.11	3.02
180.0	3.62	3.53	3.39	3.30	3.20	3.06	3.02	2.92	2.83
225.0	3.81	3.67	3.53	3.43	3.30	3.30	3.16	3.06	3.02
270.0	3.76	3.62	3.53	3.43	3.30	3.25	3.16	3.06	2.97
315.0	3.76	3.62	3.43	3.39	3.25	3.16	3.06	2.97	2.92
360.0	3.71	3.62	3.48	3.39	3.30	3.16	3.06	2.97	2.92
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	2.78	2.74	2.69	2.60	2.55	2.51	2.41	2.37	2.32
45.0	2.65	2.60	2.51	2.41	2.37	2.32	2.23	2.18	2.14
90.0	2.69	2.60	2.60	2.51	2.41	2.37	2.32	2.27	2.18
135.0	2.97	2.83	2.78	2.74	2.65	2.60	2.51	2.51	2.41
180.0	2.78	2.74	2.65	2.60	2.60	2.55	2.51	2.55	2.55
225.0	2.88	2.83	2.78	2.74	2.69	2.65	2.60	2.55	2.60
270.0	2.88	2.88	2.78	2.74	2.69	2.65	2.60	2.60	2.55
315.0	2.83	2.78	2.69	2.69	2.60	2.51	2.46	2.41	2.37
360.0	2.78	2.74	2.69	2.60	2.55	2.51	2.41	2.37	2.32
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	2.27	2.18	2.23	2.14	2.04	2.04	2.00	1.95	1.90
45.0	2.14	2.04	2.04	2.00	1.95	1.86	1.86	1.86	1.81
90.0	2.09	2.09	2.04	2.00	1.95	1.90	1.90	1.86	1.81
135.0	2.37	2.32	2.27	2.23	2.14	2.09	2.04	2.00	2.00
180.0	2.51	2.46	2.46	2.41	2.37	2.32	2.27	2.18	2.14
225.0	2.55	2.55	2.55	2.55	2.46	2.46	2.41	2.37	2.37
270.0	2.60	2.55	2.51	2.51	2.46	2.41	2.37	2.32	2.27
315.0	2.32	2.27	2.27	2.18	2.18	2.09	2.09	2.04	2.00
360.0	2.27	2.18	2.23	2.14	2.04	2.04	2.00	1.95	1.90
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	1.86	1.86	1.81	1.76	1.72	1.72	1.67	1.62	1.58
45.0	1.81	1.76	1.72	1.72	1.67	1.62	1.58	1.58	1.53
90.0	1.81	1.76	1.72	1.72	1.72	1.67	1.67	1.62	1.58
135.0	1.95	1.90	1.90	1.90	1.86	1.81	1.76	1.67	1.62
180.0	2.14	2.46	2.27	1.95	1.86	1.76	1.76	1.62	1.67
225.0	2.60	2.97	3.39	3.30	2.14	2.04	2.00	1.86	1.72
270.0	2.65	3.06	3.48	2.60	2.14	2.04	1.95	1.81	1.67
315.0	1.95	1.95	1.86	1.81	1.81	1.76	1.72	1.62	1.67
360.0	1.86	1.86	1.81	1.76	1.72	1.72	1.67	1.62	1.58

Intensity data(cd)

Appendix Page: 19 Total:19

C/ γ (°)	90.0
0.0	1.58
45.0	1.53
90.0	1.58
135.0	1.62
180.0	1.67
225.0	1.67
270.0	1.58
315.0	1.67
360.0	1.58