
NATA

Client:

LumCAT: 3-1550-E3

Luminaire: 92.76.365.00

Report No: NT2017122308

Test No: GC2017122308

LampCAT: PrevaLED Core G7 L15-H1

Lamp flux(lm): 3636.0

Number of Lamps: 1

Length(mm): 78

Phm Type: C

Voltage(V): 220.3000

Current(A): 0.1490

Power (W): 31.7900

PF: 0.9670

Ballast type: DC

Width(mm): 78

Height(mm): 0

Photometric Results

Lumens(lm): 3209.76, Efficiency(%): 88.28% , Luminous Efficacy(lm/W): 100.97

Central intensity(cd): 5377.265, Maximum intensity(cd): 5377.265

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=45.2

[C90/270]Total=45.2

Field angle(10%Imax): [C0/180]Total=73.6

[C90/270]Total=73.6

Maximum s/h(1/2): C0_180=0.71 C90_270=0.71

Maximum s/h(1/4): C0_180=0.75 C90_270=0.75

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 88.31%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 99.635%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5377.266	1.286	1.286	.035%	.040%
1.0	5369.435	10.276	11.563	.283%	.360%
2.0	5352.034	20.483	32.046	.563%	.998%
3.0	5321.060	30.539	62.584	.840%	1.950%
4.0	5275.817	40.358	102.942	1.110%	3.207%
5.0	5216.536	49.857	152.799	1.371%	4.760%
6.0	5149.367	59.026	211.825	1.623%	6.599%
7.0	5062.129	67.652	279.477	1.861%	8.707%
8.0	4963.464	75.752	355.228	2.083%	11.067%
9.0	4840.901	83.044	438.273	2.284%	13.654%
10.0	4706.448	89.622	527.895	2.465%	16.447%
11.0	4577.388	95.779	623.673	2.634%	19.431%
12.0	4432.784	101.066	724.74	2.780%	22.579%
13.0	4280.813	105.601	830.34	2.904%	25.869%
14.0	4133.714	109.665	940.005	3.016%	29.286%
15.0	3981.279	112.998	1053.003	3.108%	32.806%
16.0	3825.364	115.628	1168.631	3.180%	36.409%
17.0	3660.806	117.372	1286.003	3.228%	40.065%
18.0	3483.661	118.051	1404.054	3.247%	43.743%
19.0	3329.312	118.863	1522.917	3.269%	47.446%
20.0	3118.931	116.979	1639.897	3.217%	51.091%
21.0	2949.037	115.894	1755.791	3.187%	54.702%
22.0	2781.985	114.283	1870.074	3.143%	58.262%
23.0	2626.534	112.542	1982.615	3.095%	61.768%
24.0	2488.310	110.986	2093.602	3.052%	65.226%
25.0	2352.696	109.035	2202.637	2.999%	68.623%
26.0	2218.648	106.655	2309.292	2.933%	71.946%
27.0	2081.642	103.635	2412.926	2.850%	75.175%
28.0	1952.699	100.530	2513.457	2.765%	78.307%
29.0	1820.218	96.771	2610.228	2.661%	81.322%
30.0	1693.420	92.851	2703.079	2.554%	84.214%
31.0	1550.672	87.581	2790.66	2.409%	86.943%
32.0	1359.699	79.014	2869.674	2.173%	89.405%
33.0	1156.969	69.101	2938.775	1.900%	91.558%
34.0	986.640	60.502	2999.277	1.664%	93.442%
35.0	847.186	53.287	3052.564	1.466%	95.103%
36.0	688.939	44.407	3096.971	1.221%	96.486%
37.0	506.173	33.405	3130.376	.919%	97.527%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	354.522	23.935	3154.311	.658%	98.273%
39.0	236.964	16.353	3170.665	.450%	98.782%
40.0	171.762	12.107	3182.772	.333%	99.159%
41.0	75.980	5.466	3188.238	.150%	99.330%
42.0	33.927	2.489	3190.728	.068%	99.407%
43.0	16.392	1.226	3191.954	.034%	99.445%
44.0	11.763	0.896	3192.85	.025%	99.473%
45.0	8.846	0.686	3193.536	.019%	99.495%
46.0	6.827	0.539	3194.074	.015%	99.511%
47.0	5.829	0.468	3194.542	.013%	99.526%
48.0	5.296	0.432	3194.973	.012%	99.539%
49.0	4.988	0.413	3195.386	.011%	99.552%
50.0	4.704	0.395	3195.781	.011%	99.565%
51.0	4.466	0.381	3196.162	.010%	99.576%
52.0	4.292	0.371	3196.533	.010%	99.588%
53.0	4.141	0.363	3196.896	.010%	99.599%
54.0	3.985	0.354	3197.249	.010%	99.610%
55.0	3.857	0.346	3197.596	.010%	99.621%
56.0	3.695	0.336	3197.932	.009%	99.632%
57.0	3.567	0.328	3198.26	.009%	99.642%
58.0	3.463	0.322	3198.582	.009%	99.652%
59.0	3.329	0.313	3198.895	.009%	99.662%
60.0	3.248	0.308	3199.203	.008%	99.671%
61.0	3.150	0.302	3199.505	.008%	99.681%
62.0	3.051	0.295	3199.801	.008%	99.690%
63.0	2.970	0.290	3200.091	.008%	99.699%
64.0	2.894	0.285	3200.376	.008%	99.708%
65.0	2.842	0.282	3200.659	.008%	99.717%
66.0	2.796	0.280	3200.939	.008%	99.725%
67.0	2.761	0.279	3201.217	.008%	99.734%
68.0	2.755	0.280	3201.497	.008%	99.743%
69.0	2.720	0.279	3201.776	.008%	99.751%
70.0	2.697	0.278	3202.054	.008%	99.760%
71.0	2.662	0.276	3202.33	.008%	99.769%
72.0	2.645	0.276	3202.606	.008%	99.777%
73.0	2.610	0.274	3202.88	.008%	99.786%
74.0	2.691	0.284	3203.163	.008%	99.795%
75.0	3.022	0.320	3203.483	.009%	99.805%

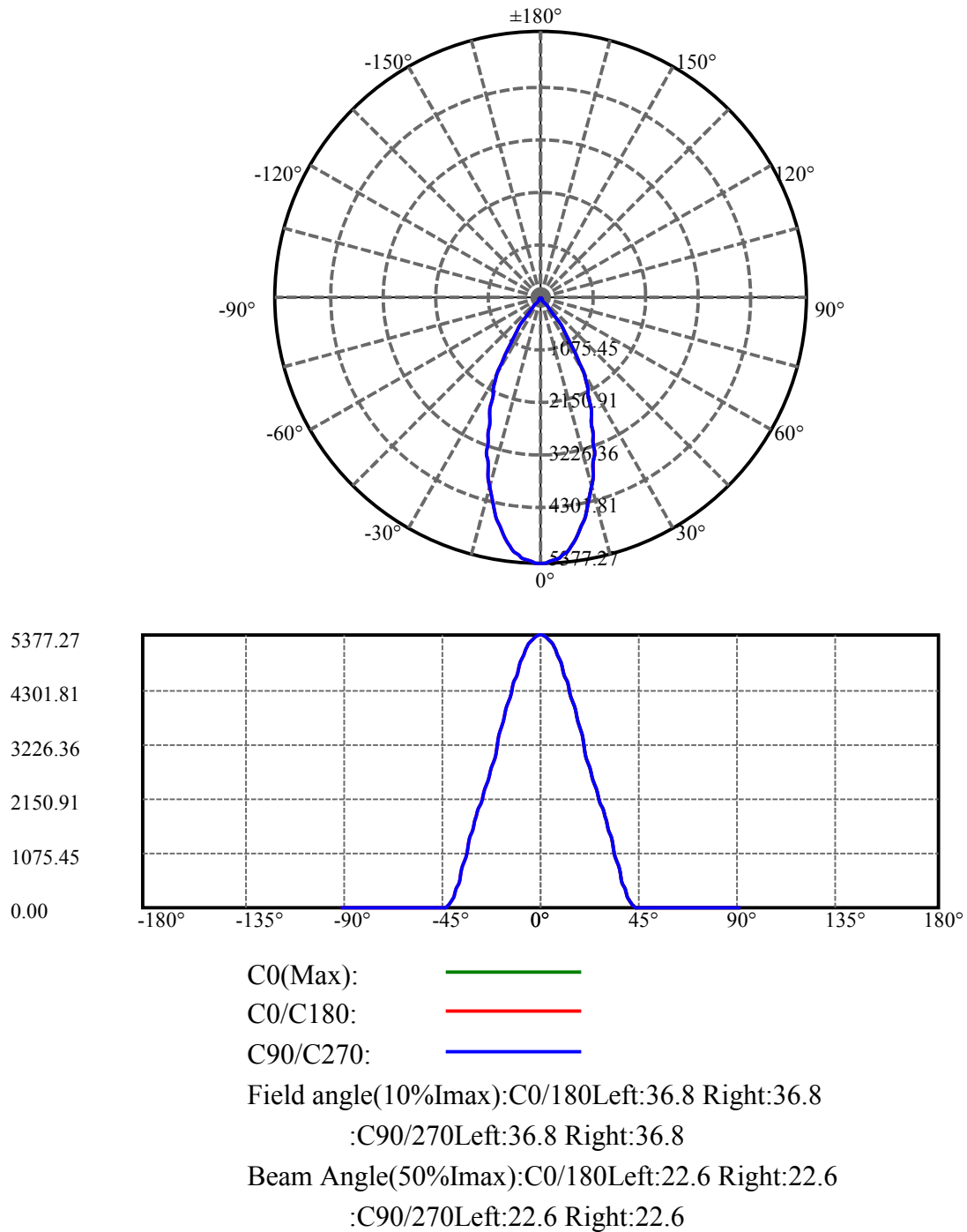
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.440	0.366	3203.849	.010%	99.816%
77.0	3.869	0.413	3204.263	.011%	99.829%
78.0	4.553	0.488	3204.751	.013%	99.844%
79.0	5.302	0.571	3205.322	.016%	99.862%
80.0	6.288	0.679	3206.001	.019%	99.883%
81.0	6.827	0.739	3206.74	.020%	99.906%
82.0	6.763	0.734	3207.475	.020%	99.929%
83.0	5.377	0.585	3208.06	.016%	99.947%
84.0	3.150	0.343	3208.404	.009%	99.958%
85.0	2.529	0.276	3208.68	.008%	99.966%
86.0	2.413	0.264	3208.944	.007%	99.975%
87.0	2.303	0.252	3209.196	.007%	99.982%
88.0	2.152	0.236	3209.432	.006%	99.990%
89.0	2.019	0.221	3209.653	.006%	99.997%
90.0	1.914	0.105	3209.758	.003%	100.000%

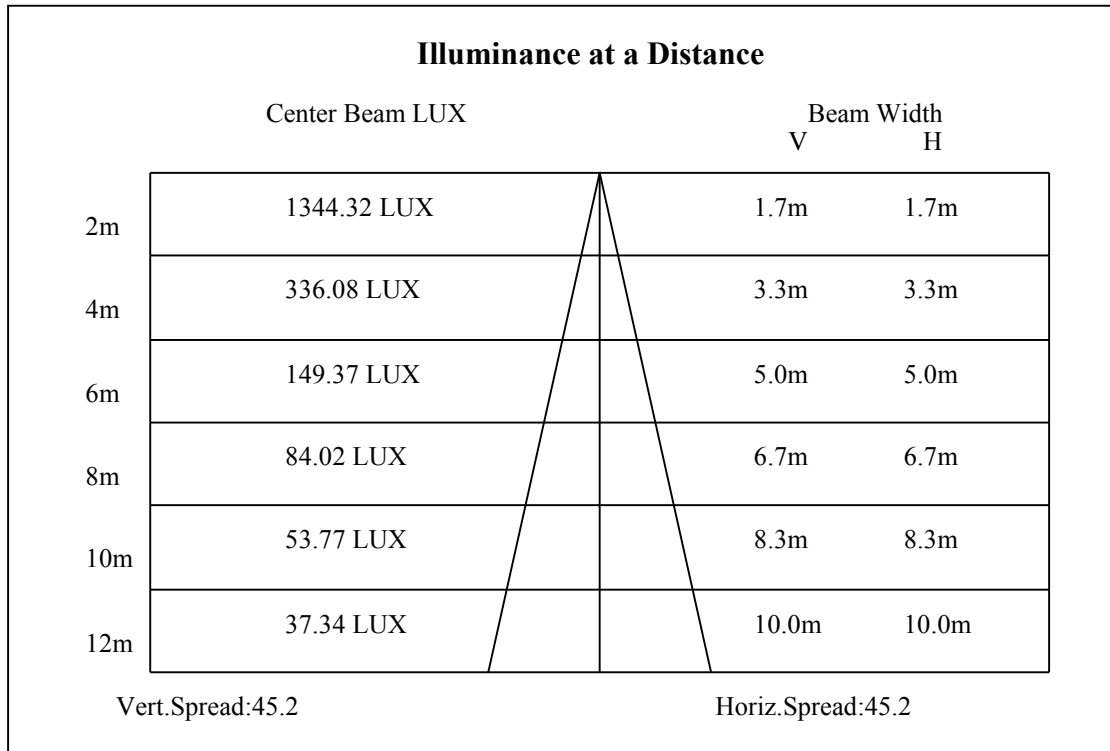
ZONAL LUMEN SUMMARY

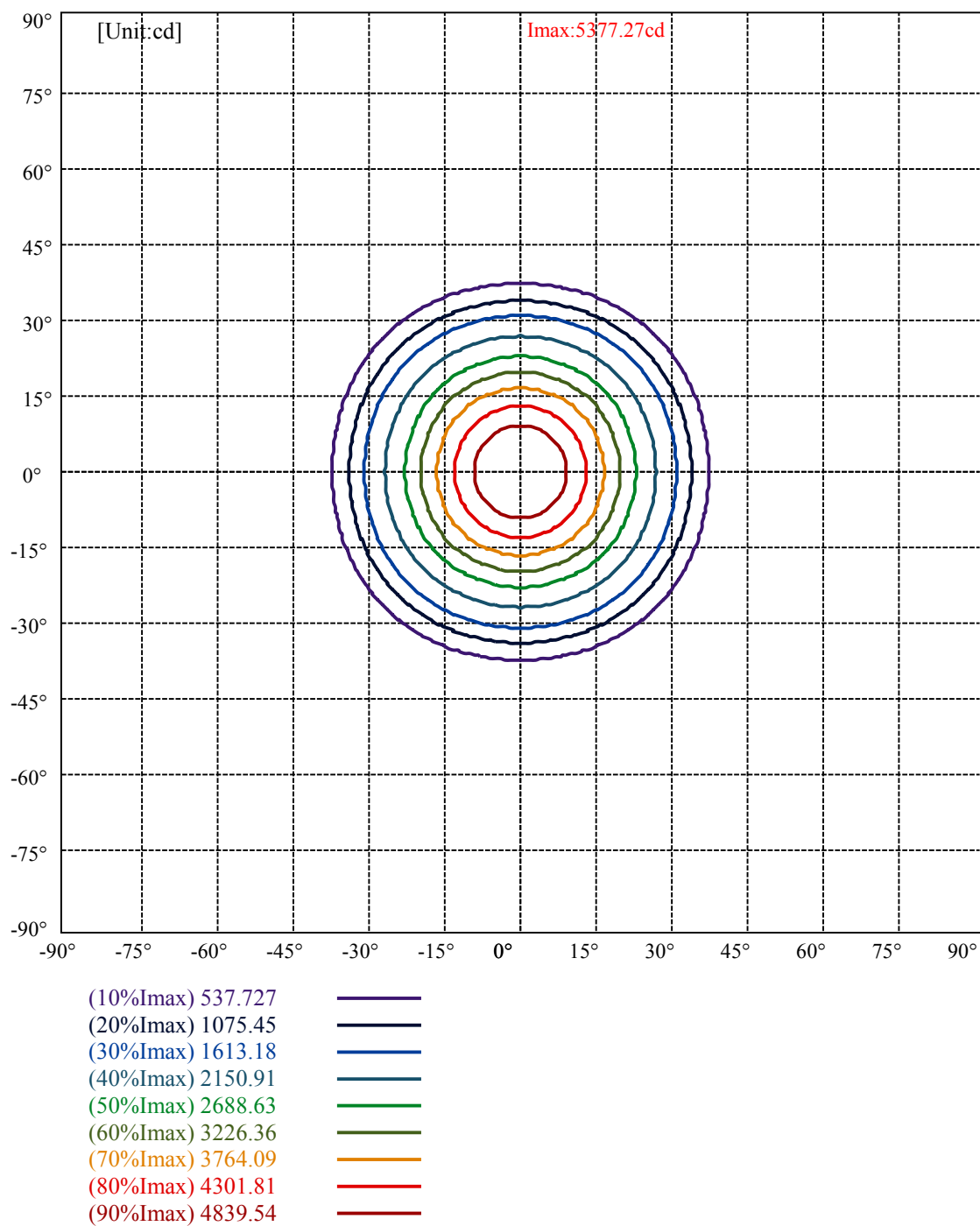
Zone	Lumens	%Lamp	%Fixt
0-30	2703.08	74.34%	84.21%
0-40	3182.77	87.53%	99.16%
0-60	3199.20	87.99%	99.67%
0-90	3209.65	88.27%	100.00%
0-120	3209.65	88.27%	100.00%
0-180	3209.76	88.28%	100.00%
60-90	10.76	0.30%	0.34%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.56	2567.81	70.62%	80.00%

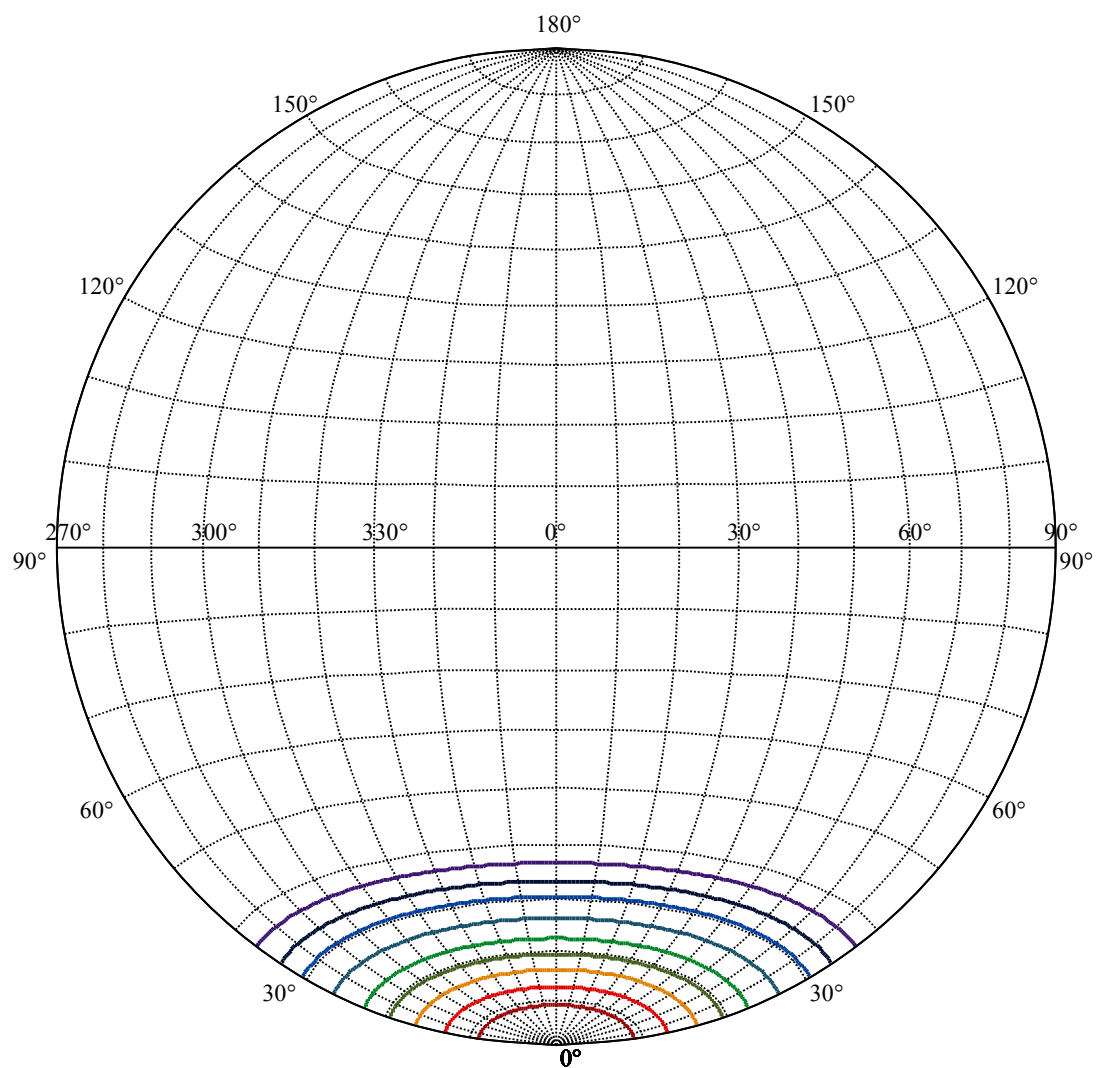
ZONAL LUMEN SUMMARY

0-10	527.89
10-20	1112.00
20-30	1063.18
30-40	479.69
40-50	13.01
50-60	3.42
60-70	2.85
70-80	3.95
80-90	3.65
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:5377.27

(10%Imax) 537.727

(20%Imax) 1075.45

(30%Imax) 1613.18

(40%Imax) 2150.91

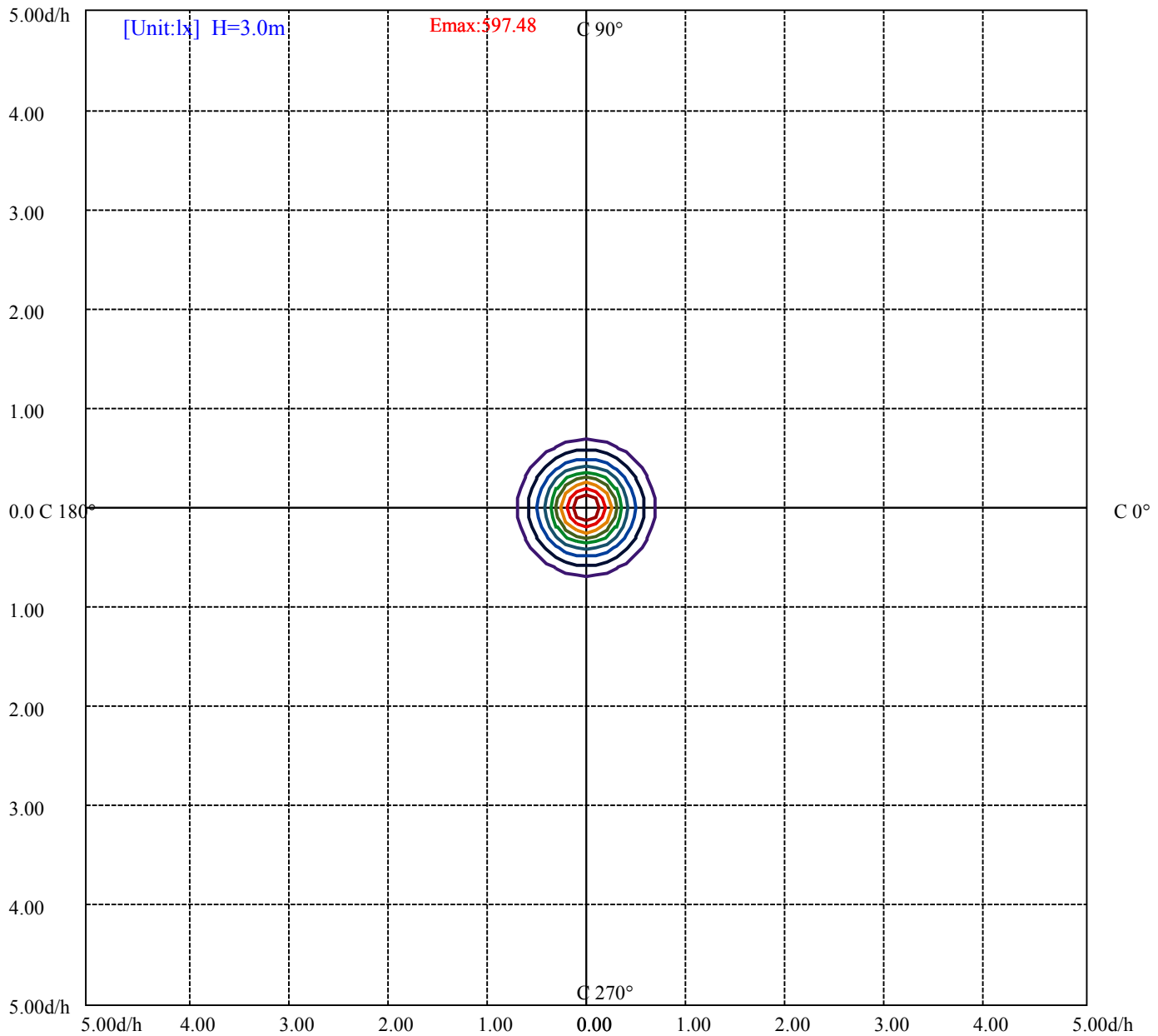
(50%Imax) 2688.63

(60%Imax) 3226.36

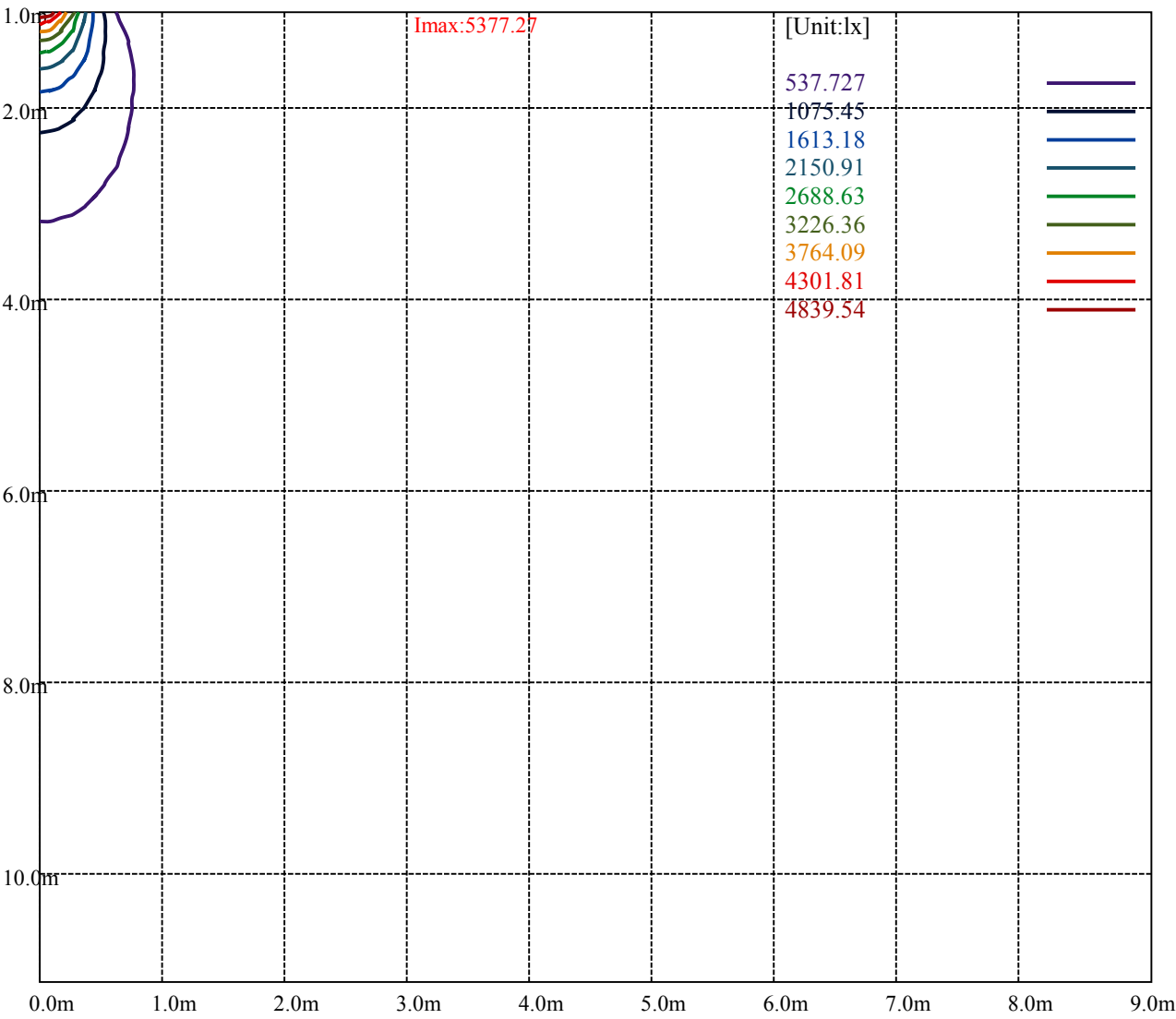
(70%Imax) 3764.09

(80%Imax) 4301.81

(90%Imax) 4839.54



(10%Emax)	59.74733	—
(20%Emax)	119.4944	—
(30%Emax)	179.2422	—
(40%Emax)	238.99	—
(50%Emax)	298.7367	—
(60%Emax)	358.4845	—
(70%Emax)	418.2311	—
(80%Emax)	477.9789	—
(90%Emax)	537.7267	—



Luminance Table

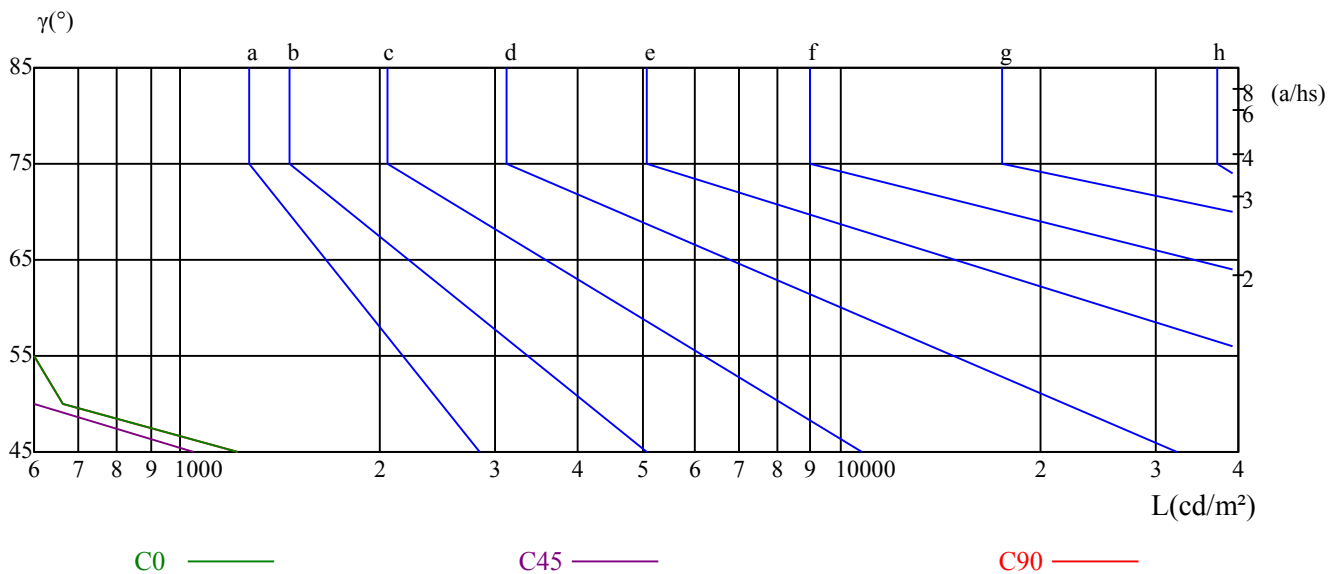
γ	45	50	55	60	65	70	75	80	85
C0	1224	665	561	491	450	452	543	1226	544
C45	1049	561	466	401	361	356	418	923	398
C90	1224	665	561	491	450	452	543	1226	544

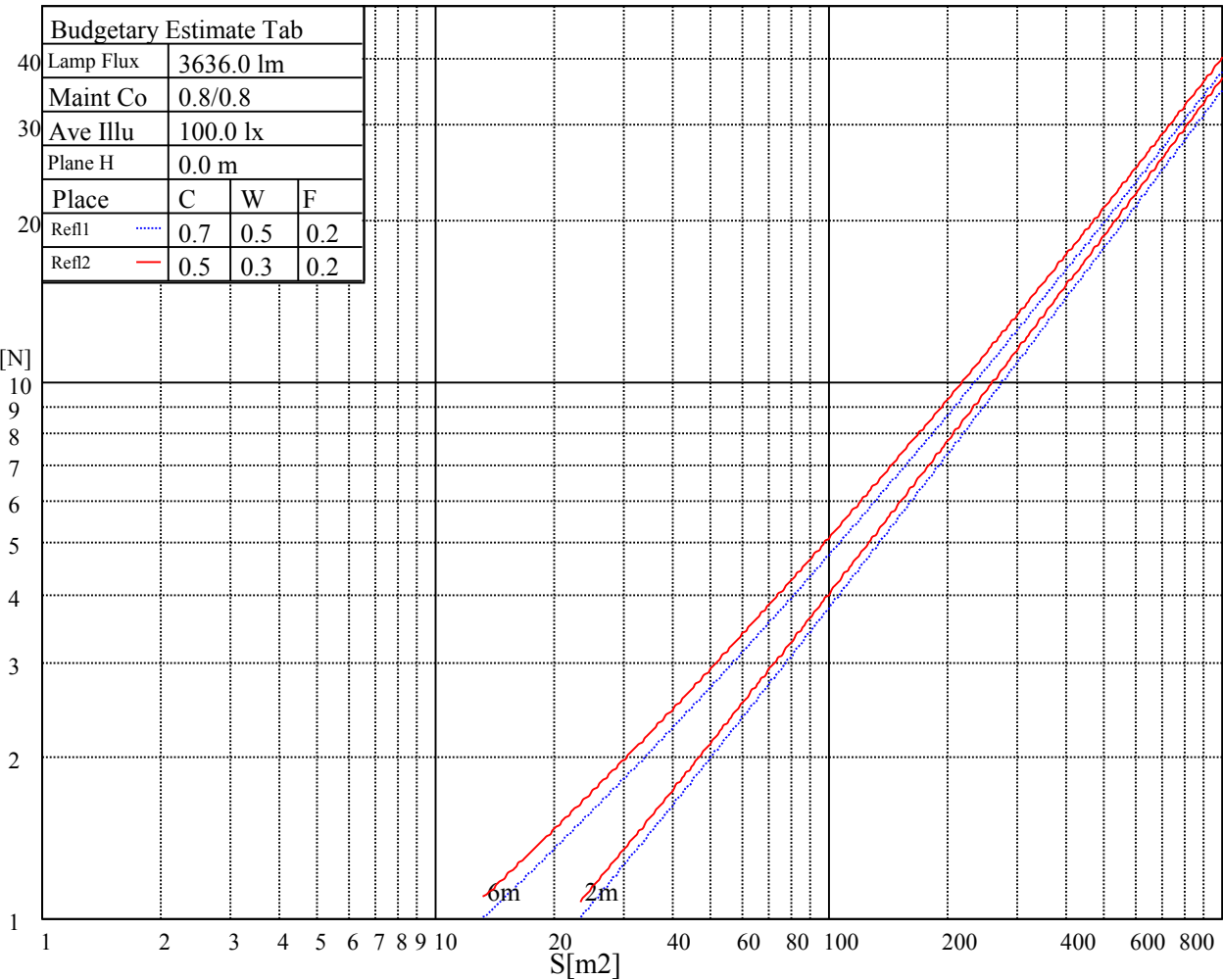
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1105	1105	1105	1919	1919	1919	4769	4769	4769

Glare Table

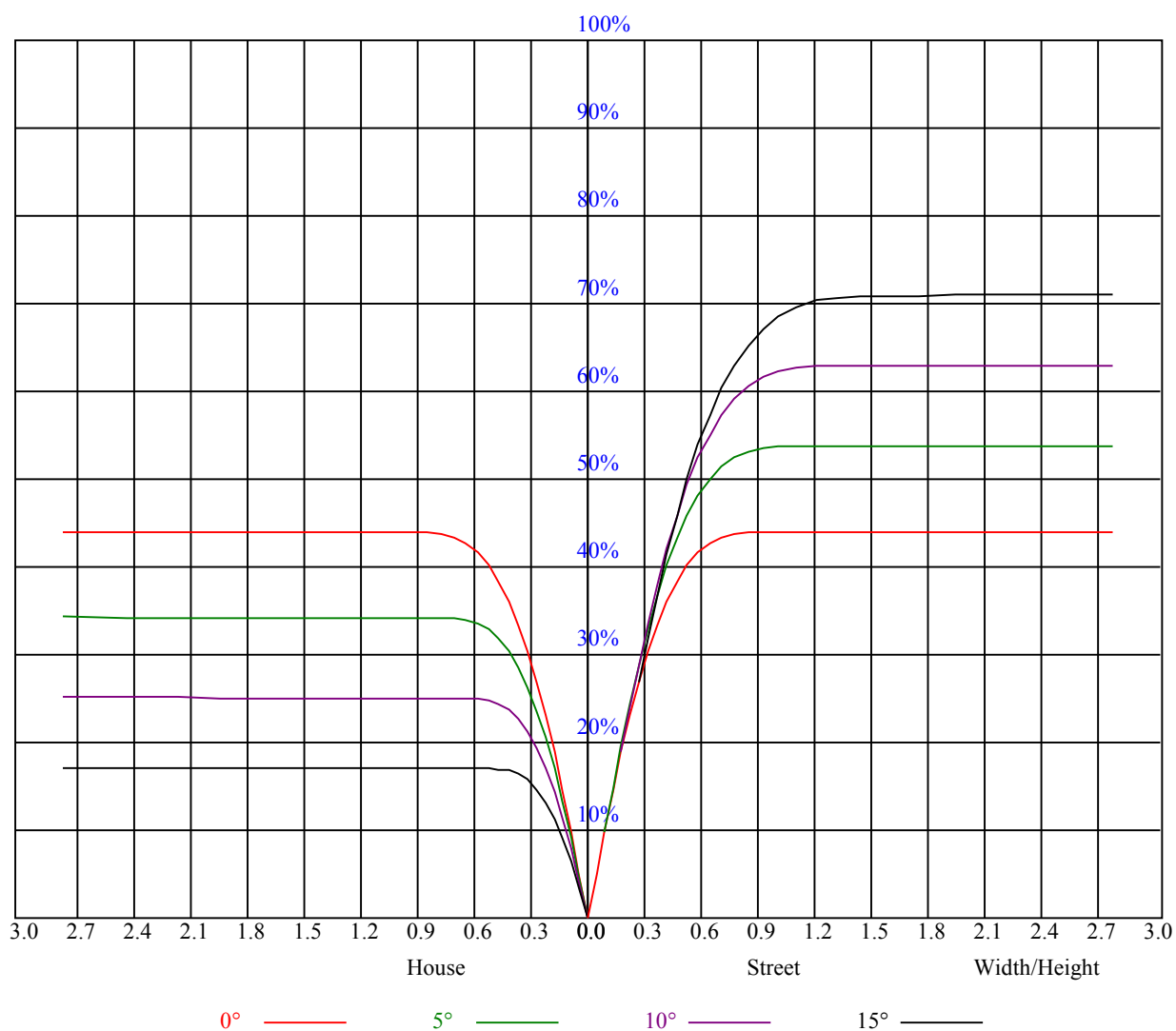
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

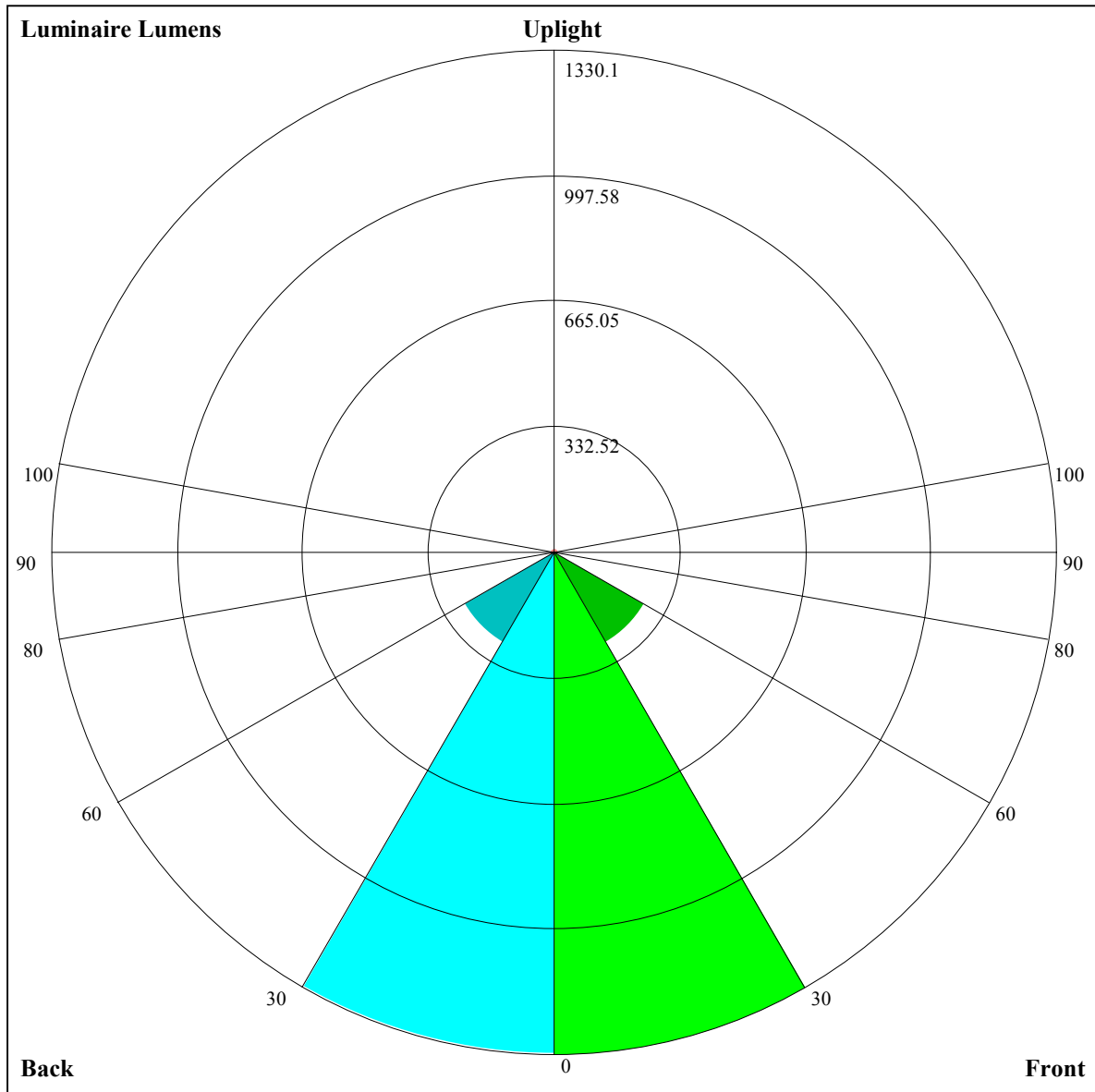
Luminance Limiting Curve





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	1.05	1.05	1.05	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.88
1	0.98	0.96	0.95	0.97	0.95	0.93	0.93	0.92	0.90	0.90	0.89	0.88	0.87	0.86	0.85	0.84
2	0.93	0.89	0.87	0.91	0.88	0.86	0.88	0.86	0.84	0.86	0.84	0.82	0.83	0.82	0.80	0.79
3	0.87	0.83	0.80	0.86	0.82	0.80	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.75
4	0.82	0.78	0.75	0.82	0.78	0.74	0.80	0.76	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.71
5	0.78	0.74	0.70	0.77	0.73	0.70	0.76	0.72	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.67
6	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.63
7	0.70	0.66	0.63	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.60
8	0.67	0.62	0.59	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.57
9	0.64	0.59	0.56	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.55
10	0.61	0.57	0.54	0.61	0.56	0.54	0.60	0.56	0.53	0.59	0.56	0.53	0.59	0.56	0.53	0.52





Luminaire Lumens:

FL=1330.1,FM=273.62,FH=3.26,FVH=1.91

BL=1325.67,BM=275.44,BH=3.56,BVH=2.07

UL=2.09,UH=9.94

BUG Rating:B3-U1-G0

NATA 3-1550-E3

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	5372.63	5368.91	5352.21	5319.26	5271.93	5215.78	5149.89	5060.80	4954.07
45.0	5377.27	5375.87	5357.31	5339.68	5297.45	5224.60	5186.55	5111.84	5015.78
90.0	5374.02	5336.89	5312.77	5260.79	5195.36	5122.98	5035.74	4927.15	4805.11
135.0	5385.15	5377.27	5355.92	5321.12	5272.39	5215.32	5144.79	5062.65	4962.42
180.0	5372.63	5365.67	5344.78	5310.91	5262.65	5205.57	5134.11	5046.41	4982.84
225.0	5377.27	5366.13	5348.96	5314.16	5266.36	5203.25	5122.51	5020.42	4905.81
270.0	5374.02	5381.91	5383.76	5367.52	5354.53	5321.12	5265.90	5200.93	5116.48
315.0	5385.15	5382.83	5360.56	5335.04	5285.85	5223.67	5155.46	5066.83	4965.20
360.0	5372.63	5368.91	5352.21	5319.26	5271.93	5215.78	5149.89	5060.80	4954.07
C/ γ (°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4861.26	4704.88	4590.27	4441.31	4256.63	4131.80	3975.88	3819.51	3652.92
45.0	4902.10	4775.88	4641.31	4496.99	4354.07	4198.16	4044.56	3890.50	3731.80
90.0	4672.86	4531.80	4391.66	4245.49	4094.21	3945.72	3791.66	3618.12	3432.97
135.0	4840.84	4705.35	4561.03	4414.40	4265.44	4114.63	3958.72	3806.51	3644.57
180.0	4813.93	4678.90	4592.12	4448.73	4296.53	4140.15	3985.17	3832.03	3671.94
225.0	4779.13	4644.56	4504.42	4360.10	4214.40	4068.69	3920.66	3767.53	3594.45
270.0	5012.54	4896.06	4764.74	4625.53	4484.47	4342.47	4195.84	4045.03	3900.25
315.0	4844.56	4714.16	4573.56	4429.71	4280.75	4128.09	3977.74	3823.68	3657.56
360.0	4861.26	4704.88	4590.27	4441.31	4256.63	4131.80	3975.88	3819.51	3652.92
C/ γ (°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	3475.66	3290.97	3108.14	2922.99	2749.91	2593.53	2445.04	2306.76	2169.87
45.0	3554.54	3367.07	3177.28	2993.06	2812.09	2653.85	2505.36	2392.60	2254.78
90.0	3240.39	3090.97	2869.17	2735.52	2555.94	2438.54	2303.04	2170.79	2039.01
135.0	3466.84	3350.83	3160.11	2977.75	2799.56	2641.32	2499.79	2361.51	2233.90
180.0	3502.11	3320.67	3134.13	2949.91	2774.50	2615.80	2471.95	2330.89	2199.10
225.0	3413.48	3296.54	3035.75	2925.31	2754.08	2600.03	2453.39	2316.04	2184.25
270.0	3743.40	3640.85	3378.67	3184.71	3077.52	2829.26	2736.45	2590.75	2450.61
315.0	3472.87	3276.59	3088.19	2903.04	2732.28	2639.93	2491.44	2352.23	2217.66
360.0	3475.66	3290.97	3108.14	2922.99	2749.91	2593.53	2445.04	2306.76	2169.87
C/ γ (°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	2032.51	1897.48	1764.30	1637.62	1507.23	1337.39	1226.95	862.08	862.08
45.0	2093.30	1987.50	1851.54	1719.29	1593.54	1432.05	1254.33	1070.11	884.49
90.0	1905.83	1777.29	1652.01	1500.27	1323.93	872.24	872.24	762.64	587.37
135.0	2103.05	1975.90	1845.04	1713.72	1584.26	1416.28	1232.52	1046.91	861.29
180.0	2067.32	1937.39	1803.28	1726.25	1552.24	1453.40	1200.96	1094.24	905.84
225.0	2052.00	1917.90	1783.79	1656.18	1517.44	1342.50	898.37	898.37	749.74
270.0	2317.43	2183.32	2051.54	1912.79	1776.37	1645.04	1481.71	1298.88	1104.45
315.0	2081.70	1944.81	1810.24	1681.24	1550.38	1378.69	1088.67	859.90	822.22
360.0	2032.51	1897.48	1764.30	1637.62	1507.23	1337.39	1226.95	862.08	862.08
C/ γ (°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	684.03	512.94	357.68	223.80	114.71	41.11	19.63	13.55	9.79
45.0	702.13	531.36	376.38	240.88	240.88	131.09	25.43	17.17	12.34
90.0	485.84	276.80	152.48	97.49	35.87	21.16	14.85	10.81	8.03
135.0	677.07	503.99	354.10	269.19	269.19	40.74	24.13	16.98	12.39
180.0	727.19	553.17	396.79	256.66	256.66	46.12	23.57	16.66	12.06
225.0	642.04	475.17	328.86	200.09	97.77	35.68	22.27	15.50	11.14
270.0	914.66	728.58	554.57	397.26	255.73	255.73	121.39	26.50	18.28
315.0	678.56	467.37	315.31	210.35	103.29	36.19	20.14	13.97	10.07
360.0	684.03	512.94	357.68	223.80	114.71	41.11	19.63	13.55	9.79

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Intensity data(cd)										Appendix Page: 18 Total:19	
C/ γ (°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0		
0.0	7.56	6.03	5.24	4.83	4.59	4.45	4.22	4.04	3.94		
45.0	9.23	7.24	6.13	5.52	5.20	4.83	4.64	4.45	4.32		
90.0	6.50	5.85	5.48	5.15	4.97	4.78	4.55	4.41	4.27		
135.0	9.33	6.87	5.89	5.34	5.06	4.83	4.64	4.45	4.27		
180.0	9.10	6.64	5.71	5.20	5.01	4.69	4.36	4.27	4.13		
225.0	8.31	6.59	5.80	5.34	4.97	4.69	4.45	4.22	4.04		
270.0	12.99	9.51	7.10	6.08	5.43	5.06	4.73	4.55	4.36		
315.0	7.75	5.89	5.29	4.92	4.69	4.32	4.13	3.94	3.81		
360.0	7.56	6.03	5.24	4.83	4.59	4.45	4.22	4.04	3.94		
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0		
0.0	3.81	3.67	3.48	3.43	3.29	3.16	3.11	3.02	2.92		
45.0	4.13	3.99	3.90	3.76	3.62	3.48	3.34	3.29	3.20		
90.0	4.13	3.94	3.81	3.67	3.62	3.48	3.39	3.29	3.20		
135.0	4.13	4.04	3.85	3.71	3.67	3.53	3.43	3.39	3.25		
180.0	3.94	3.85	3.67	3.53	3.43	3.34	3.25	3.16	3.06		
225.0	3.90	3.81	3.57	3.48	3.39	3.20	3.11	3.02	2.92		
270.0	4.13	3.99	3.85	3.67	3.53	3.39	3.34	3.16	3.02		
315.0	3.71	3.57	3.43	3.29	3.16	3.06	3.02	2.88	2.83		
360.0	3.81	3.67	3.48	3.43	3.29	3.16	3.11	3.02	2.92		
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0		
0.0	2.83	2.74	2.74	2.69	2.69	2.69	2.64	2.60	2.60		
45.0	3.11	3.02	2.92	2.88	2.92	2.97	2.97	2.97	2.97		
90.0	3.16	3.11	3.11	3.11	3.06	3.06	3.02	2.97	2.92		
135.0	3.20	3.11	3.06	3.02	2.92	2.97	2.92	2.92	2.88		
180.0	2.97	2.92	2.88	2.83	2.78	2.74	2.74	2.69	2.69		
225.0	2.83	2.74	2.69	2.60	2.60	2.55	2.51	2.51	2.46		
270.0	2.92	2.88	2.74	2.69	2.60	2.55	2.46	2.46	2.41		
315.0	2.74	2.64	2.60	2.55	2.51	2.51	2.51	2.46	2.37		
360.0	2.83	2.74	2.74	2.69	2.69	2.69	2.64	2.60	2.60		
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0		
0.0	2.55	2.51	2.51	2.46	2.46	2.46	3.06	4.45	6.26		
45.0	2.97	2.88	2.88	2.83	2.88	2.92	3.81	4.92	6.40		
90.0	2.97	2.92	3.39	4.59	6.59	8.12	10.21	11.51	12.44		
135.0	2.83	2.83	3.06	4.18	4.78	5.38	6.96	7.15	7.89		
180.0	2.64	2.64	2.69	3.16	4.04	5.29	5.71	7.47	8.96		
225.0	2.41	2.37	2.37	2.37	2.27	2.27	2.27	2.55	3.48		
270.0	2.37	2.32	2.27	2.27	2.27	2.23	2.23	2.13	2.13		
315.0	2.41	2.41	2.37	2.32	2.23	2.27	2.18	2.23	2.74		
360.0	2.55	2.51	2.51	2.46	2.46	2.46	3.06	4.45	6.26		
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0		
0.0	6.77	6.96	5.57	2.78	2.55	2.37	2.27	2.13	2.00		
45.0	8.45	8.35	7.75	5.01	3.02	2.92	2.74	2.51	2.18		
90.0	11.88	9.37	3.67	2.97	2.74	2.55	2.37	2.18	2.09		
135.0	8.54	8.40	8.21	4.41	2.74	2.60	2.51	2.37	2.23		
180.0	9.37	10.39	8.21	2.92	2.78	2.64	2.51	2.27	2.04		
225.0	4.22	4.64	3.81	2.27	2.13	2.04	2.00	1.90	1.90		
270.0	2.09	2.04	2.09	2.60	2.09	2.04	1.95	1.90	1.86		
315.0	3.29	3.94	3.71	2.23	2.18	2.13	2.09	1.95	1.86		
360.0	6.77	6.96	5.57	2.78	2.55	2.37	2.27	2.13	2.00		

Intensity data(cd)

Appendix Page: 19 Total:19

C/ γ (°)	90.0
0.0	1.95
45.0	2.04
90.0	1.90
135.0	2.04
180.0	1.95
225.0	1.86
270.0	1.81
315.0	1.76
360.0	1.95