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NATA

Client:

LumCAT: LN01D06324BF

Luminaire: 92.70.131.00

Report No:

Voltage(V): 220.5000

Test No: GC2019082942

Current(A): 0.0710

LampCAT: TRIDONIC SLE G7 13MM

Power (W): 14.4700

Lamp flux(lm): 1504.9

PF: 0.9200

Number of Lamps: 1

Ballast type: AC

Length(mm): 63

Width(mm): 63

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1426.75, Efficiency(%): 94.81% , Luminous Efficacy(lm/W): 98.60

Central intensity(cd): 6248.836, Maximum intensity(cd): 6248.836

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=24.6

[C90/270]Total=24.6

Field angle(10%Imax): [C0/180]Total=42.2

[C90/270]Total=42.2

Maximum s/h(1/2): C0_180=0.42 C90_270=0.42

Maximum s/h(1/4): C0_180=0.39 C90_270=0.39

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 94.81%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.965%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6248.837	0.000	0	.000%	.000%
1.0	6233.060	5.972	5.972	.397%	.419%
2.0	6166.007	17.796	23.769	1.183%	1.666%
3.0	6054.059	29.226	52.995	1.942%	3.714%
4.0	5902.784	40.023	93.018	2.660%	6.520%
5.0	5736.428	50.071	143.09	3.327%	10.029%
6.0	5503.309	59.068	202.157	3.925%	14.169%
7.0	5221.989	66.572	268.729	4.424%	18.835%
8.0	4946.063	72.771	341.5	4.836%	23.936%
9.0	4566.890	77.097	418.597	5.123%	29.339%
10.0	4173.621	79.098	497.696	5.256%	34.883%
11.0	3746.362	79.137	576.833	5.259%	40.430%
12.0	3252.109	76.503	653.336	5.084%	45.792%
13.0	2773.864	71.513	724.849	4.752%	50.804%
14.0	2346.548	65.541	790.39	4.355%	55.398%
15.0	1941.446	58.867	849.257	3.912%	59.524%
16.0	1554.663	51.228	900.485	3.404%	63.115%
17.0	1295.837	44.390	944.875	2.950%	66.226%
18.0	1037.846	38.477	983.352	2.557%	68.923%
19.0	903.978	33.784	1017.136	2.245%	71.291%
20.0	758.231	30.423	1047.559	2.022%	73.423%
21.0	630.389	26.664	1074.223	1.772%	75.292%
22.0	532.333	23.365	1097.589	1.553%	76.929%
23.0	451.093	20.635	1118.224	1.371%	78.376%
24.0	389.678	18.382	1136.606	1.222%	79.664%
25.0	340.322	16.599	1153.205	1.103%	80.828%
26.0	301.425	15.148	1168.353	1.007%	81.889%
27.0	266.634	13.898	1182.251	.924%	82.863%
28.0	239.859	12.823	1195.074	.852%	83.762%
29.0	226.002	12.188	1207.262	.810%	84.616%
30.0	200.399	11.513	1218.775	.765%	85.423%
31.0	174.830	10.442	1229.217	.694%	86.155%
32.0	156.977	9.506	1238.723	.632%	86.822%
33.0	143.340	8.847	1247.57	.588%	87.442%
34.0	134.123	8.397	1255.967	.558%	88.030%
35.0	125.486	8.063	1264.03	.536%	88.595%
36.0	117.946	7.751	1271.781	.515%	89.139%
37.0	110.852	7.462	1279.243	.496%	89.662%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	104.019	7.172	1286.415	.477%	90.164%
39.0	97.319	6.872	1293.287	.457%	90.646%
40.0	91.020	6.569	1299.856	.436%	91.106%
41.0	85.475	6.285	1306.141	.418%	91.547%
42.0	79.779	6.004	1312.145	.399%	91.968%
43.0	74.854	5.728	1317.873	.381%	92.369%
44.0	70.446	5.484	1323.357	.364%	92.753%
45.0	65.748	5.234	1328.591	.348%	93.120%
46.0	61.496	4.976	1333.567	.331%	93.469%
47.0	57.012	4.713	1338.28	.313%	93.799%
48.0	53.103	4.451	1342.732	.296%	94.111%
49.0	49.744	4.223	1346.955	.281%	94.407%
50.0	46.995	4.033	1350.989	.268%	94.690%
51.0	44.211	3.859	1354.848	.256%	94.961%
52.0	41.746	3.688	1358.536	.245%	95.219%
53.0	39.924	3.553	1362.089	.236%	95.468%
54.0	37.859	3.428	1365.517	.228%	95.708%
55.0	36.096	3.301	1368.818	.219%	95.940%
56.0	34.298	3.181	1371.999	.211%	96.163%
57.0	32.610	3.059	1375.058	.203%	96.377%
58.0	30.800	2.932	1377.991	.195%	96.583%
59.0	29.043	2.798	1380.788	.186%	96.779%
60.0	27.320	2.663	1383.451	.177%	96.965%
61.0	25.644	2.528	1385.979	.168%	97.143%
62.0	24.008	2.393	1388.371	.159%	97.310%
63.0	22.511	2.262	1390.634	.150%	97.469%
64.0	21.189	2.144	1392.778	.142%	97.619%
65.0	20.035	2.040	1394.818	.136%	97.762%
66.0	18.979	1.947	1396.765	.129%	97.899%
67.0	18.173	1.868	1398.633	.124%	98.030%
68.0	17.448	1.804	1400.437	.120%	98.156%
69.0	16.746	1.744	1402.181	.116%	98.278%
70.0	16.172	1.691	1403.872	.112%	98.397%
71.0	15.644	1.644	1405.516	.109%	98.512%
72.0	15.046	1.596	1407.112	.106%	98.624%
73.0	14.501	1.545	1408.657	.103%	98.732%
74.0	13.985	1.498	1410.155	.100%	98.837%
75.0	13.393	1.447	1411.601	.096%	98.938%

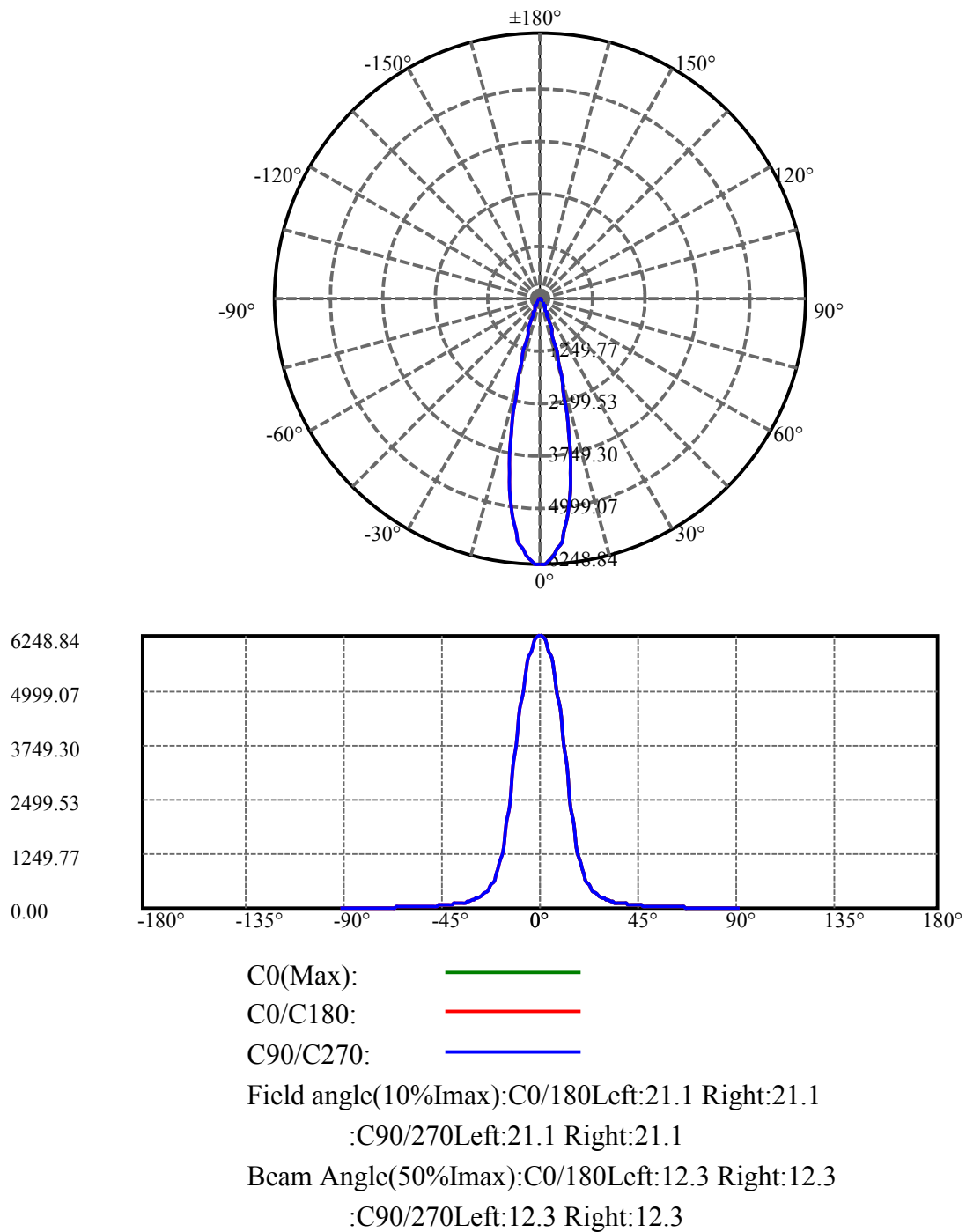
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	12.802	1.391	1412.992	.092%	99.036%
77.0	12.245	1.335	1414.327	.089%	99.130%
78.0	11.717	1.283	1415.61	.085%	99.219%
79.0	11.195	1.231	1416.841	.082%	99.306%
80.0	10.650	1.178	1418.019	.078%	99.388%
81.0	10.093	1.122	1419.14	.075%	99.467%
82.0	9.547	1.065	1420.206	.071%	99.542%
83.0	9.043	1.011	1421.216	.067%	99.612%
84.0	8.538	0.958	1422.174	.064%	99.679%
85.0	7.993	0.902	1423.076	.060%	99.743%
86.0	7.483	0.846	1423.922	.056%	99.802%
87.0	6.815	0.783	1424.705	.052%	99.857%
88.0	6.322	0.720	1425.424	.048%	99.907%
89.0	5.980	0.674	1426.099	.045%	99.955%
90.0	5.841	0.648	1426.747	.043%	100.000%

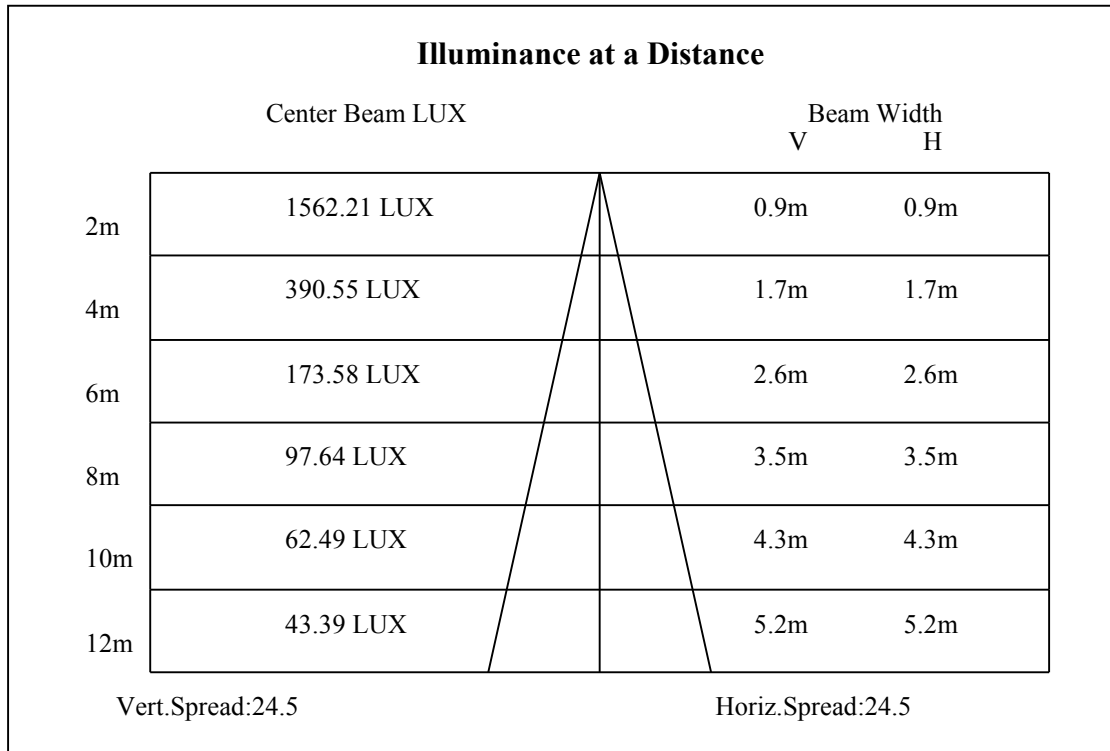
ZONAL LUMEN SUMMARY

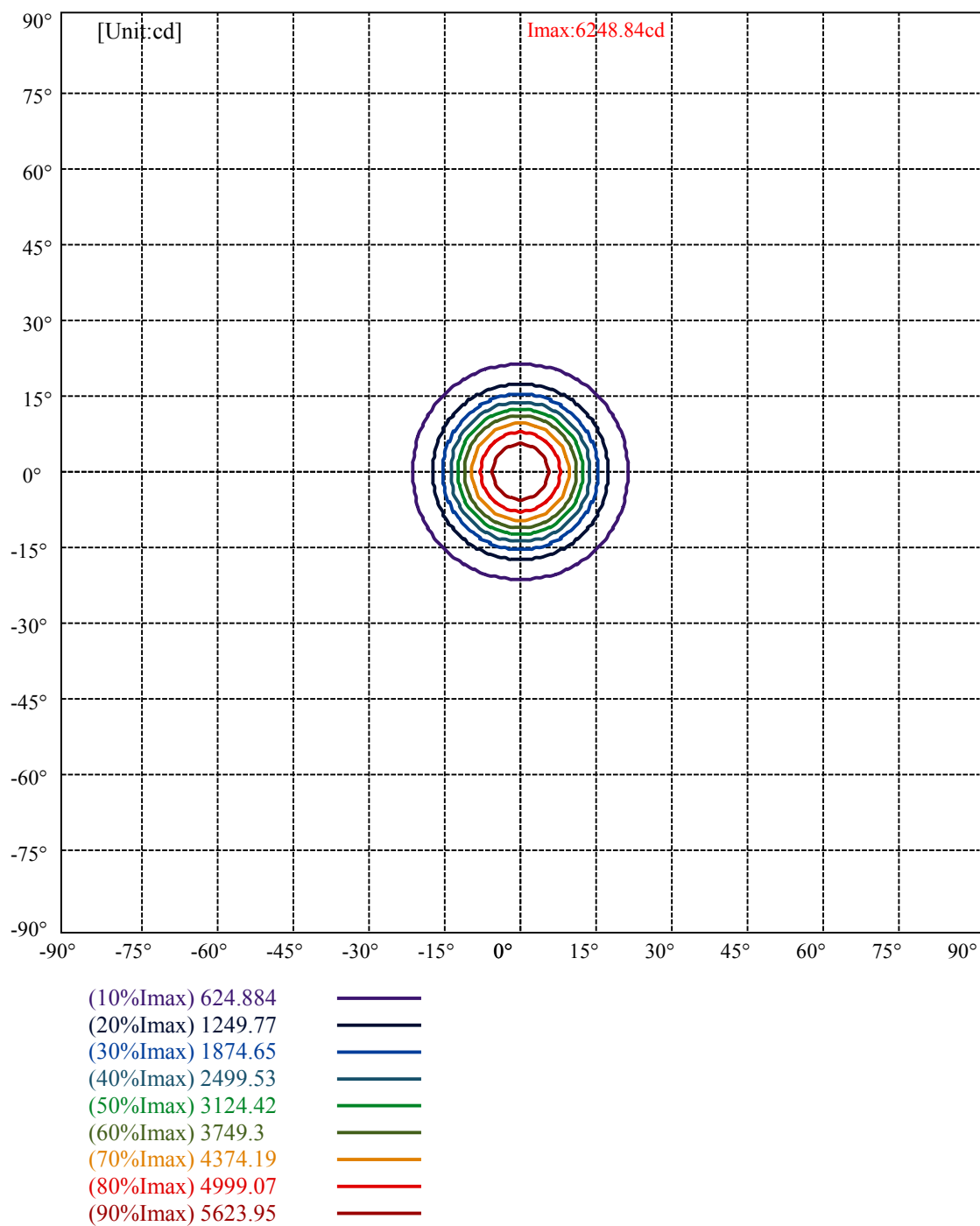
Zone	Lumens	%Lamp	%Fixt
0-30	1218.78	80.99%	85.42%
0-40	1299.86	86.38%	91.11%
0-60	1383.45	91.93%	96.97%
0-90	1426.10	94.76%	99.95%
0-120	1426.10	94.76%	99.95%
0-180	1426.75	94.81%	100.00%
60-90	45.31	3.01%	3.18%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-24.29	1141.40	75.85%	80.00%

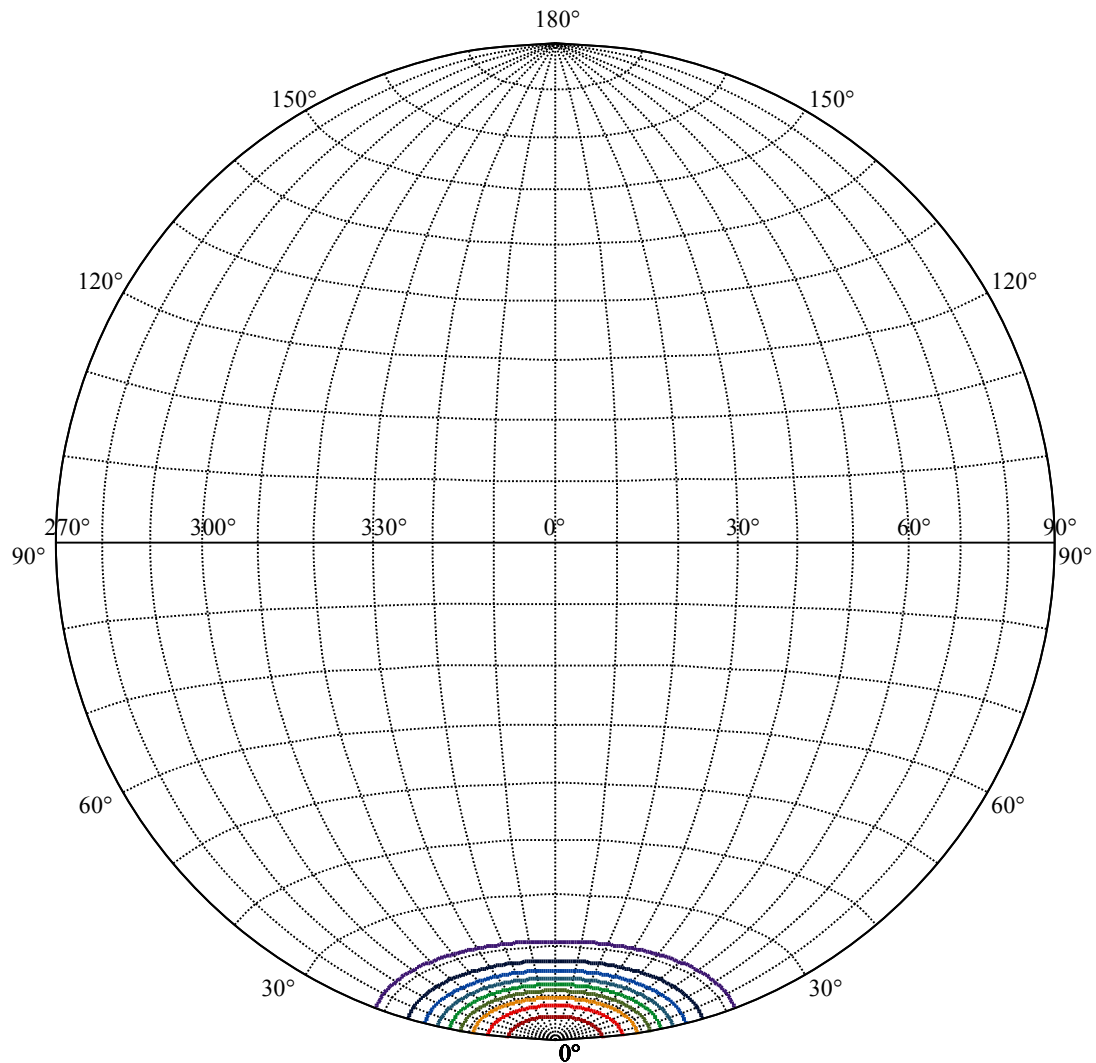
ZONAL LUMEN SUMMARY

0-10	497.70
10-20	549.86
20-30	171.22
30-40	81.08
40-50	51.13
50-60	32.46
60-70	20.42
70-80	14.15
80-90	8.08
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









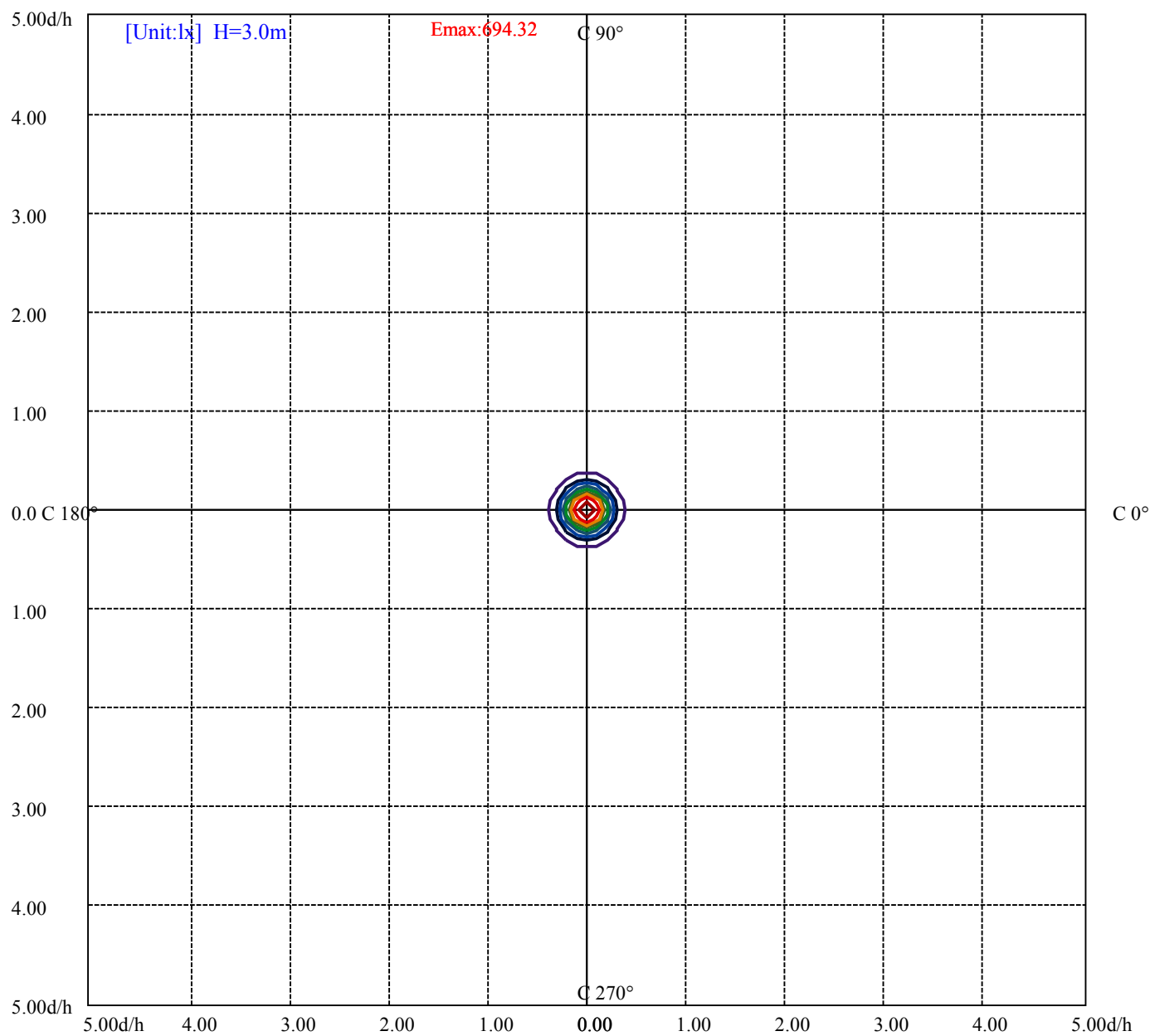
House

[Unit:cd]

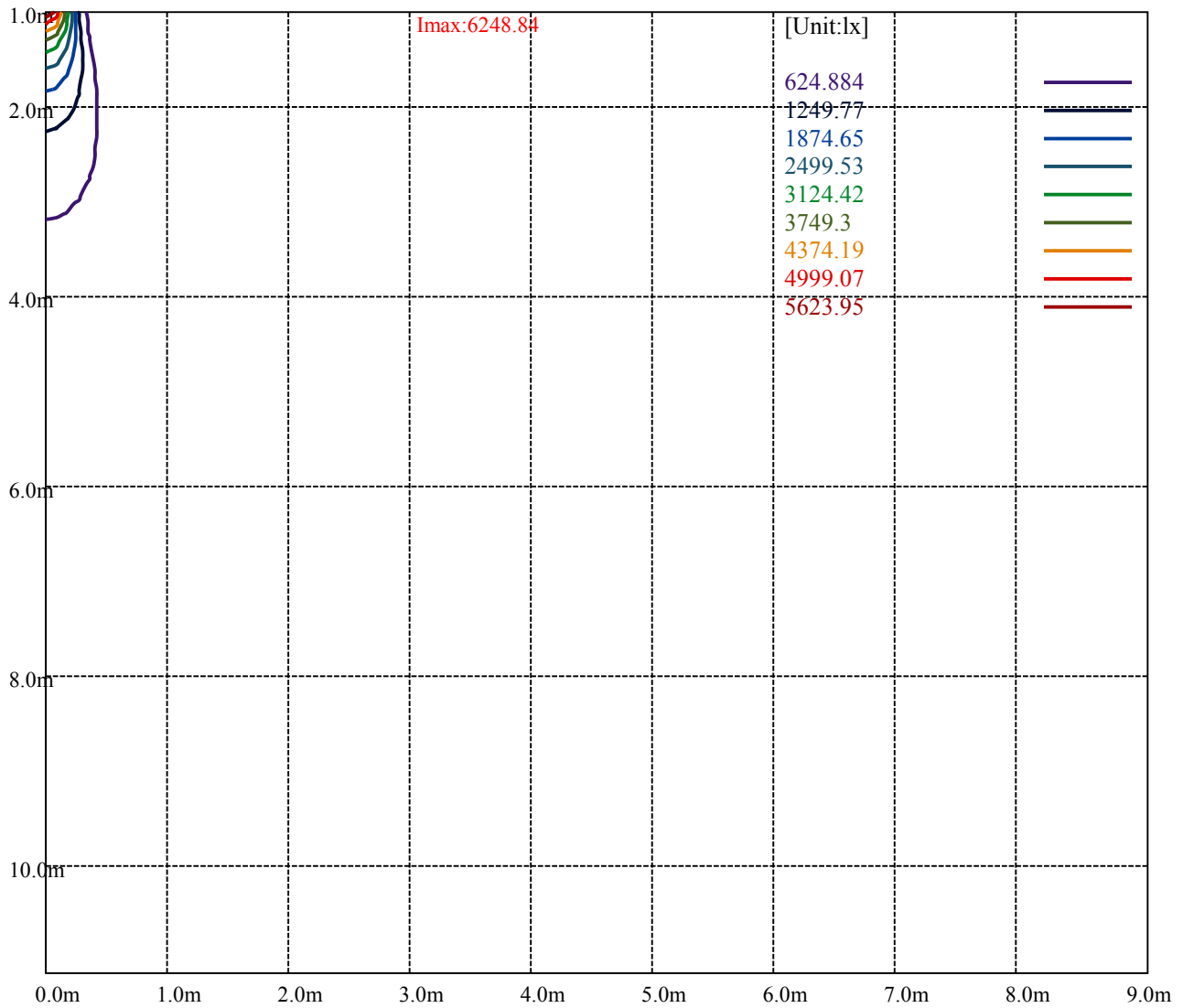
Road

Imax:6248.84

(10%Imax)	624.884	
(20%Imax)	1249.77	
(30%Imax)	1874.65	
(40%Imax)	2499.53	
(50%Imax)	3124.42	
(60%Imax)	3749.3	
(70%Imax)	4374.19	
(80%Imax)	4999.07	
(90%Imax)	5623.95	



(10%E _{max}) 69.43144	—
(20%E _{max}) 138.8633	—
(30%E _{max}) 208.2944	—
(40%E _{max}) 277.7256	—
(50%E _{max}) 347.1578	—
(60%E _{max}) 416.5889	—
(70%E _{max}) 486.02	—
(80%E _{max}) 555.4522	—
(90%E _{max}) 624.8834	—



Luminance Table

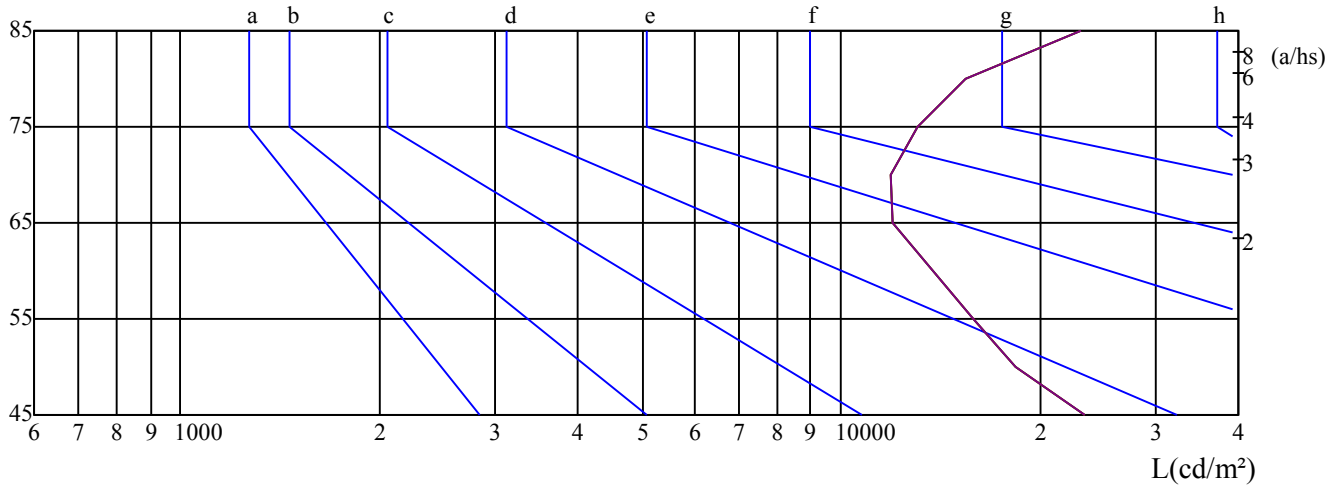
γ	45	50	55	60	65	70	75	80	85
C0	23427	18421	15856	13767	11944	11913	13038	15452	23106
C45	23427	18421	15856	13767	11944	11913	13038	15452	23106
C90	23427	18421	15856	13767	11944	11913	13038	15452	23106

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
11944	11944	11944	13038	13038	13038	23106	23106	23106

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

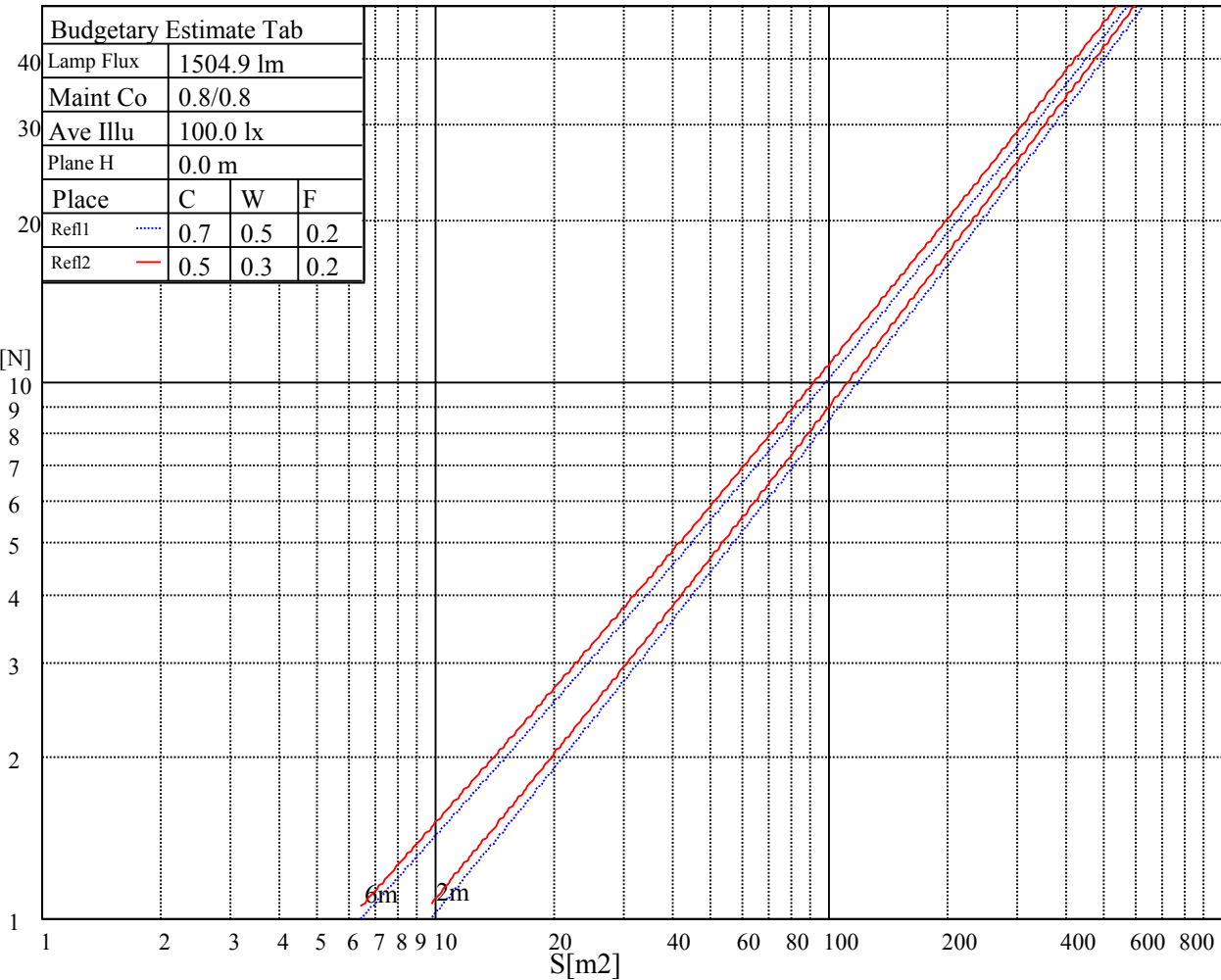
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

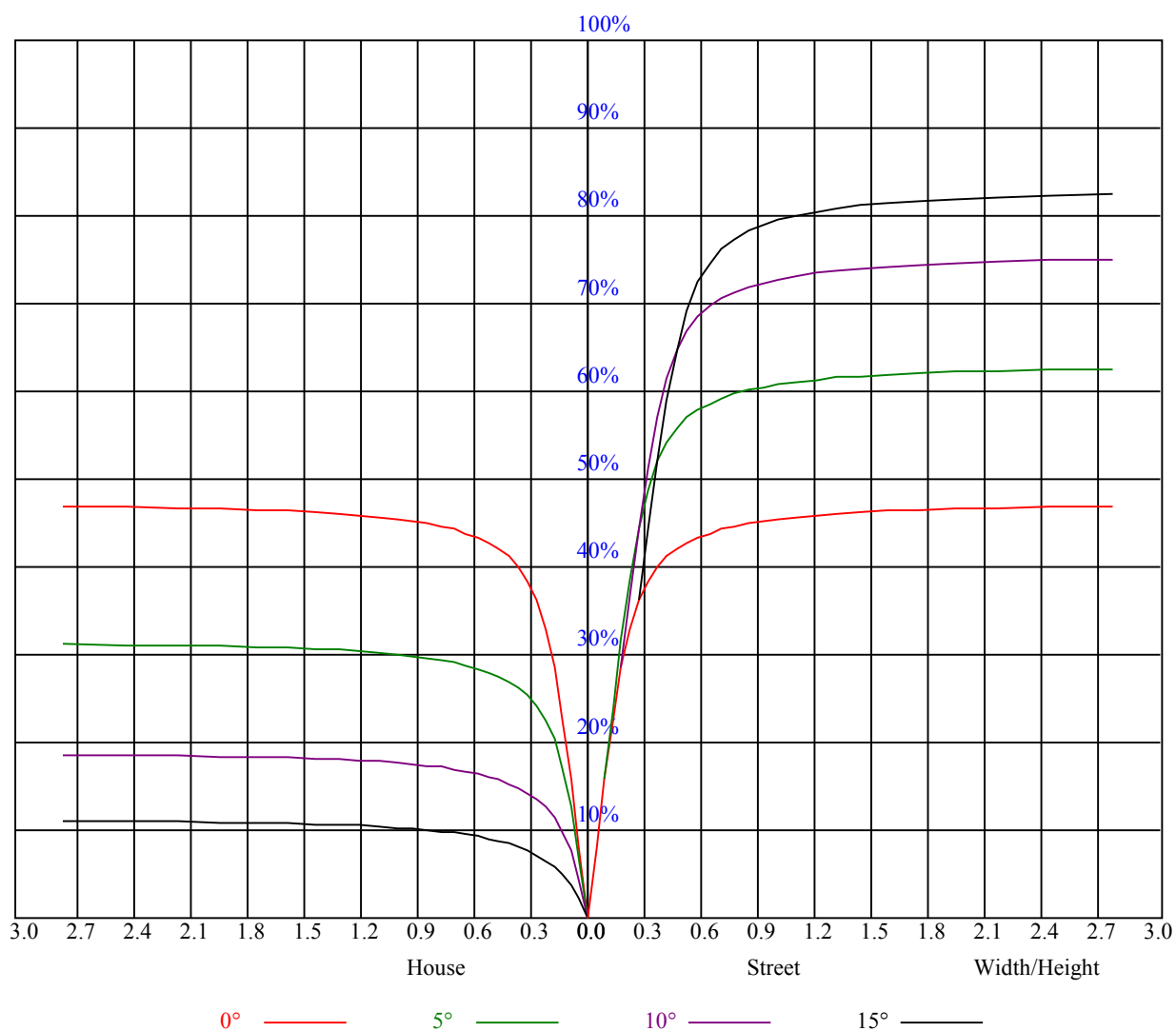
C0 ———

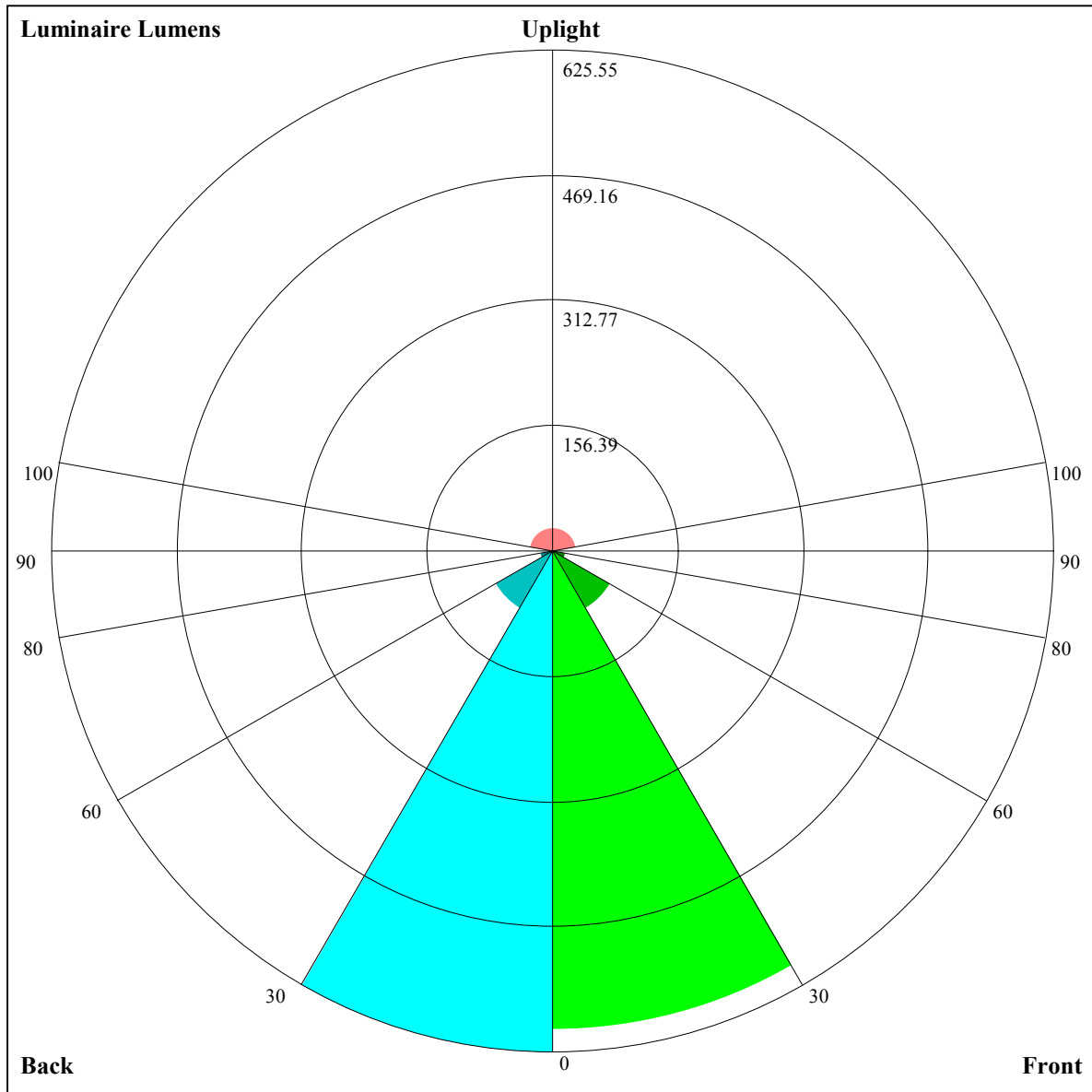
C45 ———

C90 ———



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	1.13	1.13	1.13	1.10	1.10	1.10	1.05	1.05	1.05	1.01	1.01	1.01	0.97	0.97	0.97	0.95
1	1.06	1.04	1.02	1.04	1.02	1.00	1.00	0.99	0.97	0.97	0.95	0.94	0.93	0.92	0.92	0.90
2	1.00	0.97	0.94	0.98	0.95	0.93	0.95	0.93	0.91	0.93	0.91	0.89	0.90	0.89	0.87	0.86
3	0.95	0.91	0.88	0.94	0.90	0.87	0.91	0.88	0.86	0.89	0.87	0.85	0.87	0.85	0.83	0.82
4	0.91	0.86	0.83	0.90	0.86	0.83	0.88	0.84	0.82	0.86	0.83	0.81	0.84	0.82	0.80	0.79
5	0.87	0.83	0.79	0.86	0.82	0.79	0.85	0.81	0.78	0.83	0.80	0.78	0.82	0.79	0.77	0.76
6	0.84	0.79	0.76	0.83	0.79	0.76	0.82	0.78	0.75	0.80	0.77	0.75	0.79	0.77	0.74	0.73
7	0.81	0.76	0.73	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.71
8	0.78	0.74	0.71	0.78	0.73	0.71	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.70	0.69
9	0.76	0.71	0.68	0.75	0.71	0.68	0.74	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.67
10	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.65





Luminaire Lumens:

FL=598.51,FM=82.65,FH=17.15,FVH=4.33

BL=625.55,BM=83.19,BH=17.46,BVH=4.41

UL=6.37,UH=30.33

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	6235.26	6187.47	6106.73	5956.84	5781.90	5562.88	5307.20	5004.65	4655.23
45.0	6275.63	6228.77	6139.67	6005.10	5841.30	5731.32	5496.06	5116.02	4933.19
90.0	6222.73	6132.25	5982.83	5788.86	5574.02	5334.11	5056.15	4739.22	4366.14
135.0	6261.71	6243.15	6178.65	6078.42	5936.89	5742.92	5524.83	5262.19	4953.60
180.0	6235.26	6269.60	6236.19	6170.30	6061.25	5917.86	5721.11	5474.25	5247.80
225.0	6275.63	6280.27	6225.98	6124.36	5994.43	5817.63	5586.54	5315.55	5004.18
270.0	6222.73	6278.88	6275.17	6224.59	6125.75	6055.22	5833.87	5637.59	5494.67
315.0	6261.71	6244.08	6182.83	6083.99	5906.73	5729.47	5500.70	5226.46	4913.70
360.0	6235.26	6187.47	6106.73	5956.84	5781.90	5562.88	5307.20	5004.65	4655.23
C/ γ (°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4264.05	3801.87	3285.87	2768.01	2293.30	2038.55	1682.63	1286.35	879.30
45.0	4602.79	4221.82	3772.17	3264.52	2746.66	2269.63	1861.75	1528.57	1256.65
90.0	3940.15	3452.46	2937.38	2536.45	2009.78	1652.93	1420.45	875.58	875.58
135.0	4606.04	4211.15	3745.72	3339.70	2827.87	2259.43	1939.71	1594.00	1324.86
180.0	4856.62	4476.58	4131.80	3651.53	3138.77	2640.40	2191.68	1813.03	1498.87
225.0	4639.92	4236.21	3772.17	3262.20	2756.87	2469.17	1877.06	1547.60	1382.87
270.0	5090.96	4884.46	4507.67	4073.80	3593.06	3084.48	2600.95	2165.23	1796.32
315.0	4534.58	4104.42	3818.11	3120.67	2824.62	2357.80	1957.34	1626.95	1352.24
360.0	4264.05	3801.87	3285.87	2768.01	2293.30	2038.55	1682.63	1286.35	879.30
C/ γ (°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	879.30	781.57	649.00	545.15	463.85	398.88	347.00	304.59	268.95
45.0	1034.38	849.69	700.27	586.12	499.81	432.99	387.51	332.76	297.03
90.0	810.34	674.70	569.04	483.11	411.55	354.71	309.23	273.36	243.15
135.0	1101.66	912.34	755.96	629.28	529.51	449.23	380.09	322.09	274.29
180.0	1246.90	1036.23	856.19	706.77	588.90	496.10	422.78	365.24	319.77
225.0	875.77	875.77	746.12	616.14	518.79	447.00	395.36	357.58	323.85
270.0	1492.38	1239.48	1022.31	841.80	695.17	579.16	489.60	422.78	390.76
315.0	862.03	862.03	766.95	634.75	551.09	450.67	385.84	344.17	293.59
360.0	879.30	781.57	649.00	545.15	463.85	398.88	347.00	304.59	268.95
C/ γ (°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	238.05	210.76	192.16	169.65	157.96	145.89	134.71	128.35	121.21
45.0	272.43	239.95	239.95	230.67	184.04	169.65	157.08	146.45	136.80
90.0	216.05	193.69	181.85	165.85	147.98	141.99	132.85	124.59	116.89
135.0	236.24	236.24	229.28	165.10	141.95	134.94	126.03	119.40	113.08
180.0	282.18	248.77	242.27	242.27	177.96	160.18	145.29	133.60	124.73
225.0	292.25	261.85	244.22	207.65	186.77	175.27	153.87	146.73	135.45
270.0	331.37	295.64	275.68	244.13	244.13	185.24	165.10	149.74	137.59
315.0	264.50	231.97	202.60	177.86	157.86	142.64	131.79	124.13	118.14
360.0	238.05	210.76	192.16	169.65	157.96	145.89	134.71	128.35	121.21
C/ γ (°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	114.80	107.33	100.23	93.64	87.19	81.35	76.33	71.60	66.73
45.0	127.42	119.12	111.00	103.06	95.73	91.74	83.71	79.07	76.06
90.0	109.33	102.04	95.13	88.91	83.06	77.68	72.85	68.03	63.11
135.0	107.47	101.72	96.01	90.21	84.92	79.86	75.13	70.49	65.89
180.0	117.40	110.49	103.71	96.98	91.04	85.38	79.67	74.29	69.74
225.0	125.99	118.42	111.32	103.85	97.08	90.63	84.87	80.83	77.22
270.0	128.54	121.11	114.34	107.66	100.83	94.66	88.26	82.18	77.17
315.0	112.62	106.59	100.42	94.25	88.31	82.51	77.40	72.34	67.66
360.0	114.80	107.33	100.23	93.64	87.19	81.35	76.33	71.60	66.73

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	62.23	58.24	54.20	50.67	47.52	45.89	43.20	40.09	39.03
45.0	71.04	64.87	59.77	55.36	51.41	47.89	45.15	42.92	40.88
90.0	58.51	54.29	50.63	47.61	44.96	42.41	40.19	38.24	36.84
135.0	61.58	57.68	54.15	51.37	47.70	44.92	42.97	40.83	38.89
180.0	65.66	61.48	58.47	53.41	50.53	47.42	44.50	41.86	39.77
225.0	70.67	64.13	58.56	54.43	50.81	48.91	44.92	42.37	41.07
270.0	73.22	70.95	65.38	60.46	55.45	51.88	48.68	45.94	43.34
315.0	63.06	60.32	54.94	51.51	49.56	46.64	44.08	41.72	39.58
360.0	62.23	58.24	54.20	50.67	47.52	45.89	43.20	40.09	39.03
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	36.33	35.17	33.50	31.88	30.02	28.21	26.50	24.92	23.43
45.0	38.98	37.17	35.17	33.46	31.60	29.70	27.70	25.61	23.94
90.0	35.08	33.27	31.46	29.70	27.84	25.94	24.18	22.69	21.35
135.0	37.03	35.22	33.50	31.88	30.12	28.45	26.77	25.29	23.71
180.0	37.96	36.29	34.57	33.04	31.37	29.79	28.03	26.45	24.87
225.0	38.98	37.17	35.45	33.74	31.93	30.21	28.63	26.77	24.73
270.0	41.02	38.93	36.98	35.22	33.41	31.74	30.16	28.49	26.59
315.0	37.49	35.54	33.74	31.97	30.12	28.31	26.59	24.92	23.43
360.0	36.33	35.17	33.50	31.88	30.02	28.21	26.50	24.92	23.43
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	22.00	20.79	19.77	18.79	17.91	17.22	16.66	16.01	15.73
45.0	22.46	21.02	20.00	18.89	17.87	17.22	16.57	15.92	15.41
90.0	20.09	19.03	18.14	17.31	16.61	16.10	15.59	14.94	14.43
135.0	22.27	21.02	19.86	18.79	17.87	17.12	16.75	16.15	15.36
180.0	23.34	22.00	20.70	19.63	18.75	18.19	17.22	16.61	16.29
225.0	23.02	21.62	20.37	19.26	18.38	17.63	16.98	16.38	15.73
270.0	24.87	23.29	21.90	20.60	19.95	18.84	17.73	17.31	16.66
315.0	22.04	20.74	19.54	18.56	18.05	17.26	16.47	16.06	15.55
360.0	22.00	20.79	19.77	18.79	17.91	17.22	16.66	16.01	15.73
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	14.80	14.29	13.87	13.04	12.71	12.06	11.51	11.00	10.44
45.0	14.85	14.25	13.64	13.13	12.53	11.97	11.42	10.95	10.44
90.0	13.87	13.32	12.95	12.44	11.65	11.28	10.81	10.26	9.70
135.0	15.08	14.48	13.87	13.32	12.76	12.20	11.65	11.09	10.63
180.0	15.55	15.17	14.62	14.01	13.41	12.85	12.30	11.74	11.14
225.0	15.17	14.66	14.15	13.55	12.90	12.34	11.88	11.32	10.77
270.0	16.06	15.45	14.94	14.39	13.74	13.13	12.58	12.06	11.46
315.0	14.99	14.39	13.83	13.27	12.71	12.11	11.60	11.14	10.63
360.0	14.80	14.29	13.87	13.04	12.71	12.06	11.51	11.00	10.44
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	9.93	9.28	8.82	8.31	7.75	7.24	6.54	6.08	5.85
45.0	9.88	9.37	8.91	8.31	7.70	7.33	6.45	6.13	5.80
90.0	9.05	8.58	8.21	7.75	7.19	6.54	6.13	5.85	5.75
135.0	10.07	9.51	8.96	8.40	7.89	7.29	6.50	6.08	5.75
180.0	10.63	9.88	9.37	8.96	8.35	7.84	7.15	6.54	6.13
225.0	10.26	9.79	9.33	8.86	8.31	7.89	7.10	6.54	6.13
270.0	10.86	10.30	9.70	9.14	8.63	8.07	7.66	6.96	6.36
315.0	10.07	9.65	9.05	8.58	8.12	7.66	7.01	6.40	6.08
360.0	9.93	9.28	8.82	8.31	7.75	7.24	6.54	6.08	5.85

Intensity data(cd)

Appendix Page: 19 Total:19

C/ $\gamma(^{\circ})$	90.0
0.0	5.89
45.0	5.75
90.0	5.80
135.0	5.71
180.0	5.75
225.0	5.94
270.0	5.89
315.0	5.99
360.0	5.89