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NATA

Client:

LumCAT: LN01D06315BF

Luminaire: 92.70.131.00

Report No:

Voltage(V): 220.5000

Test No: GC2019082944

Current(A): 0.0690

LampCAT: TRIDONIC SLE G7 15MM

Power (W): 14.0600

Lamp flux(lm): 1584.0

PF: 0.9160

Number of Lamps: 1

Ballast type: AC

Length(mm): 63

Width(mm): 63

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1481.78, Efficiency(%): 93.55% , Luminous Efficacy(lm/W): 105.39

Central intensity(cd): 7247.204, Maximum intensity(cd): 7247.204

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=20.8

[C90/270]Total=20.8

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

[C90/270]Total=42.6

Maximum s/h(1/2): C0_180=0.36 C90_270=0.36

Maximum s/h(1/4): C0_180=0.36 C90_270=0.36

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 93.55%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.144%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7247.205	0.000	0	.000%	.000%
1.0	7206.428	6.916	6.916	.437%	.467%
2.0	7109.561	20.548	27.463	1.297%	1.853%
3.0	6963.042	33.657	61.12	2.125%	4.125%
4.0	6773.659	45.981	107.102	2.903%	7.228%
5.0	6467.686	56.964	164.065	3.596%	11.072%
6.0	6145.589	66.286	230.351	4.185%	15.546%
7.0	5700.291	73.527	303.878	4.642%	20.508%
8.0	5112.129	77.382	381.261	4.885%	25.730%
9.0	4512.482	78.002	459.263	4.924%	30.994%
10.0	3881.048	75.958	535.221	4.795%	36.120%
11.0	3298.744	71.741	606.962	4.529%	40.962%
12.0	2804.955	66.722	673.685	4.212%	45.465%
13.0	2401.419	61.787	735.471	3.901%	49.634%
14.0	2072.652	57.268	792.739	3.615%	53.499%
15.0	1812.735	53.340	846.079	3.367%	57.099%
16.0	1578.514	49.691	895.77	3.137%	60.452%
17.0	1337.739	45.414	941.184	2.867%	63.517%
18.0	1136.012	40.787	981.971	2.575%	66.270%
19.0	1020.839	37.525	1019.496	2.369%	68.802%
20.0	887.226	34.923	1054.419	2.205%	71.159%
21.0	755.812	31.550	1085.968	1.992%	73.288%
22.0	640.239	28.054	1114.023	1.771%	75.181%
23.0	531.173	24.579	1138.602	1.552%	76.840%
24.0	453.993	21.539	1160.141	1.360%	78.294%
25.0	384.034	19.055	1179.196	1.203%	79.580%
26.0	327.254	16.790	1195.986	1.060%	80.713%
27.0	282.144	14.909	1210.895	.941%	81.719%
28.0	246.234	13.377	1224.273	.845%	82.622%
29.0	222.104	12.253	1236.526	.774%	83.449%
30.0	209.610	11.656	1248.182	.736%	84.235%
31.0	180.753	10.863	1259.045	.686%	84.968%
32.0	162.017	9.820	1268.865	.620%	85.631%
33.0	150.619	9.210	1278.075	.581%	86.253%
34.0	139.894	8.792	1286.867	.555%	86.846%
35.0	129.326	8.361	1295.228	.528%	87.410%
36.0	121.728	7.994	1303.222	.505%	87.950%
37.0	112.847	7.651	1310.872	.483%	88.466%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	105.005	7.272	1318.144	.459%	88.957%
39.0	97.673	6.918	1325.062	.437%	89.424%
40.0	89.779	6.538	1331.6	.413%	89.865%
41.0	83.091	6.156	1337.755	.389%	90.280%
42.0	78.039	5.854	1343.609	.370%	90.675%
43.0	73.230	5.603	1349.213	.354%	91.054%
44.0	69.129	5.373	1354.586	.339%	91.416%
45.0	65.875	5.188	1359.774	.328%	91.766%
46.0	63.120	5.045	1364.819	.318%	92.107%
47.0	60.904	4.933	1369.752	.311%	92.440%
48.0	59.222	4.856	1374.608	.307%	92.767%
49.0	57.714	4.802	1379.41	.303%	93.091%
50.0	56.270	4.752	1384.162	.300%	93.412%
51.0	54.698	4.695	1388.857	.296%	93.729%
52.0	52.360	4.594	1393.451	.290%	94.039%
53.0	49.826	4.445	1397.896	.281%	94.339%
54.0	47.047	4.270	1402.166	.270%	94.627%
55.0	44.460	4.085	1406.251	.258%	94.903%
56.0	42.395	3.925	1410.176	.248%	95.168%
57.0	40.638	3.796	1413.972	.240%	95.424%
58.0	38.706	3.669	1417.641	.232%	95.672%
59.0	37.250	3.551	1421.192	.224%	95.911%
60.0	35.736	3.448	1424.64	.218%	96.144%
61.0	34.228	3.339	1427.979	.211%	96.369%
62.0	32.761	3.228	1431.207	.204%	96.587%
63.0	31.427	3.122	1434.329	.197%	96.798%
64.0	30.046	3.016	1437.345	.190%	97.001%
65.0	28.648	2.905	1440.25	.183%	97.197%
66.0	27.390	2.796	1443.046	.177%	97.386%
67.0	26.084	2.689	1445.735	.170%	97.567%
68.0	24.803	2.578	1448.313	.163%	97.741%
69.0	23.584	2.468	1450.781	.156%	97.908%
70.0	22.453	2.364	1453.146	.149%	98.068%
71.0	21.328	2.263	1455.408	.143%	98.220%
72.0	20.214	2.160	1457.568	.136%	98.366%
73.0	19.217	2.062	1459.63	.130%	98.505%
74.0	18.202	1.967	1461.598	.124%	98.638%
75.0	17.326	1.877	1463.475	.119%	98.765%

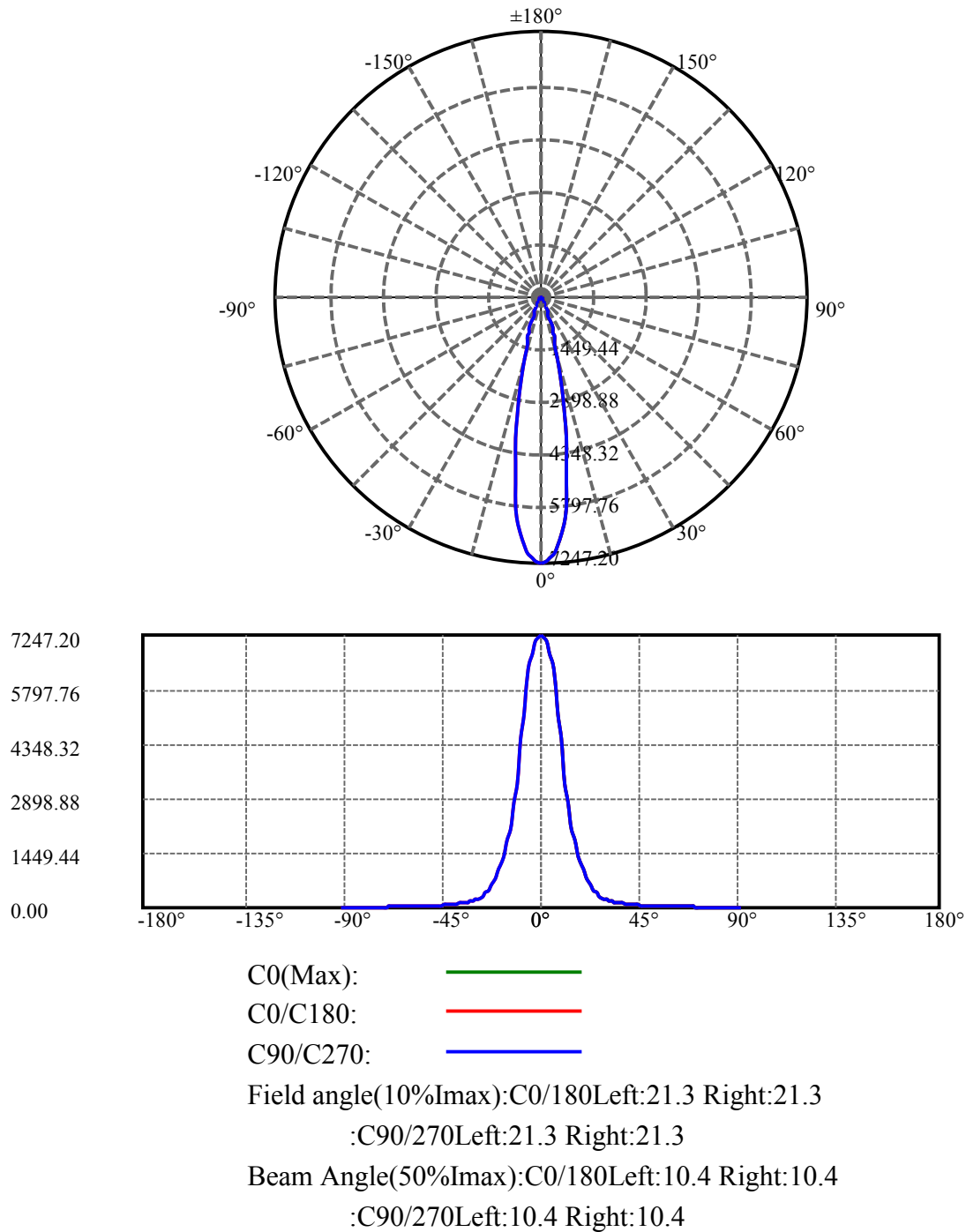
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	16.392	1.790	1465.265	.113%	98.885%
77.0	15.458	1.698	1466.963	.107%	99.000%
78.0	14.739	1.616	1468.579	.102%	99.109%
79.0	13.851	1.536	1470.115	.097%	99.213%
80.0	13.063	1.451	1471.566	.092%	99.311%
81.0	12.297	1.371	1472.938	.087%	99.403%
82.0	11.473	1.289	1474.227	.081%	99.490%
83.0	10.673	1.204	1475.431	.076%	99.572%
84.0	9.901	1.121	1476.551	.071%	99.647%
85.0	9.037	1.034	1477.585	.065%	99.717%
86.0	8.376	0.952	1478.537	.060%	99.781%
87.0	7.755	0.883	1479.42	.056%	99.841%
88.0	7.320	0.826	1480.246	.052%	99.897%
89.0	6.926	0.781	1481.026	.049%	99.949%
90.0	6.804	0.753	1481.779	.048%	100.000%

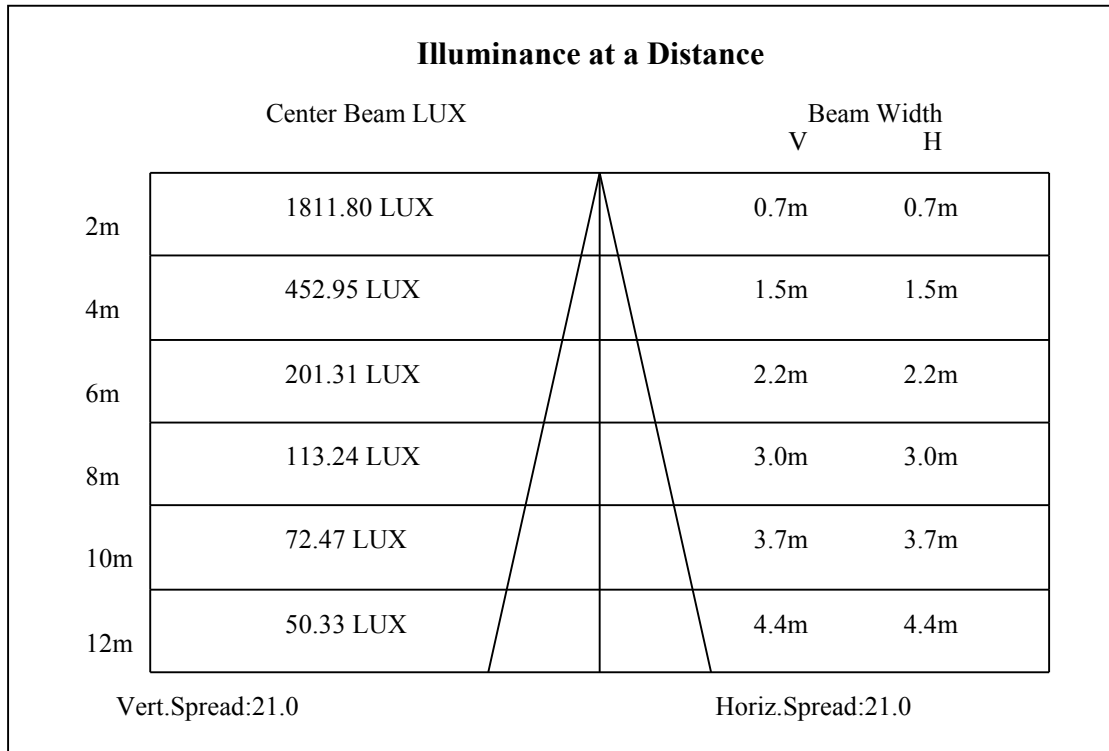
ZONAL LUMEN SUMMARY

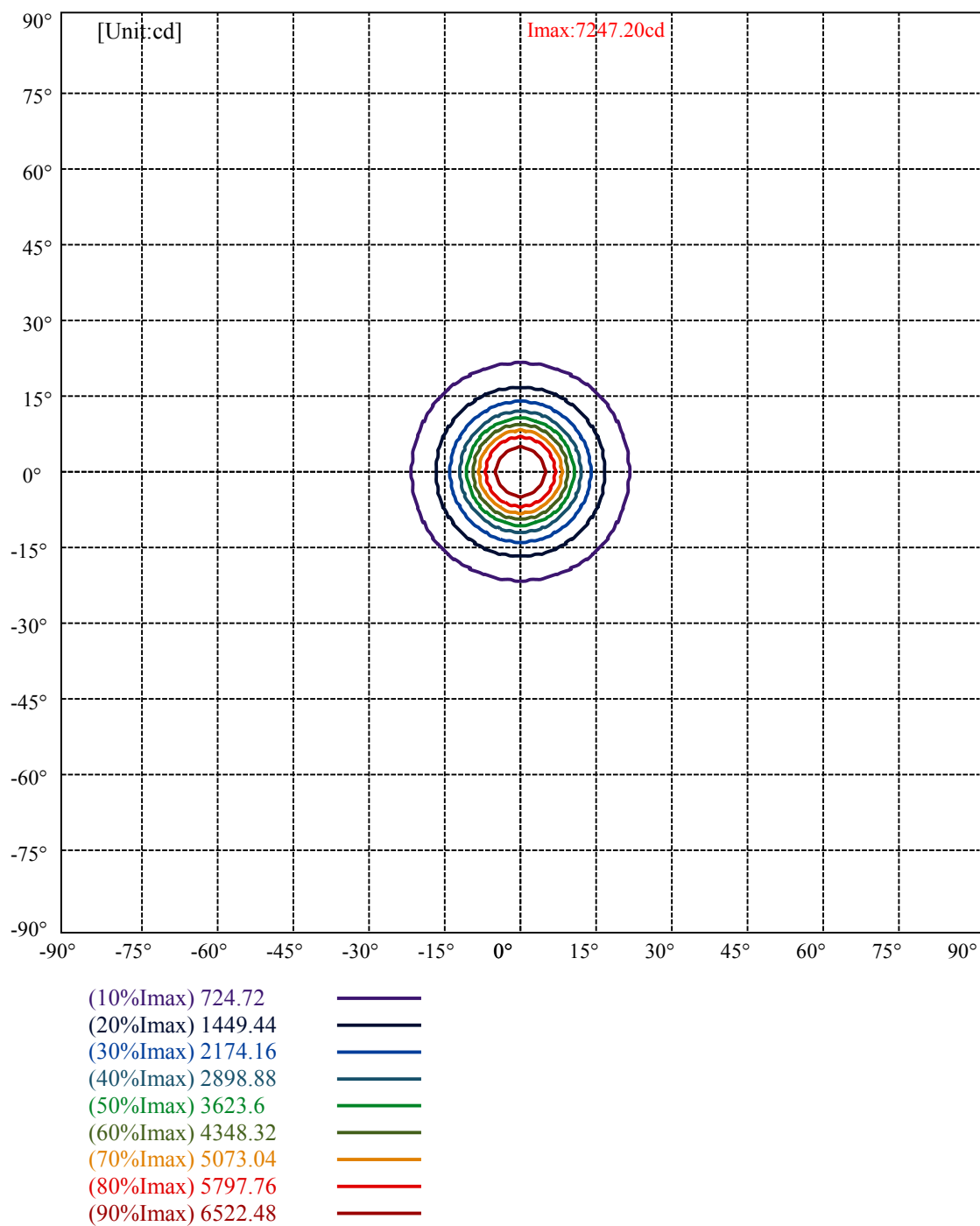
Zone	Lumens	%Lamp	%Fixt
0-30	1248.18	78.80%	84.24%
0-40	1331.60	84.07%	89.86%
0-60	1424.64	89.94%	96.14%
0-90	1481.03	93.50%	99.95%
0-120	1481.03	93.50%	99.95%
0-180	1481.78	93.55%	100.00%
60-90	59.83	3.78%	4.04%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-25.37	1185.42	74.84%	80.00%

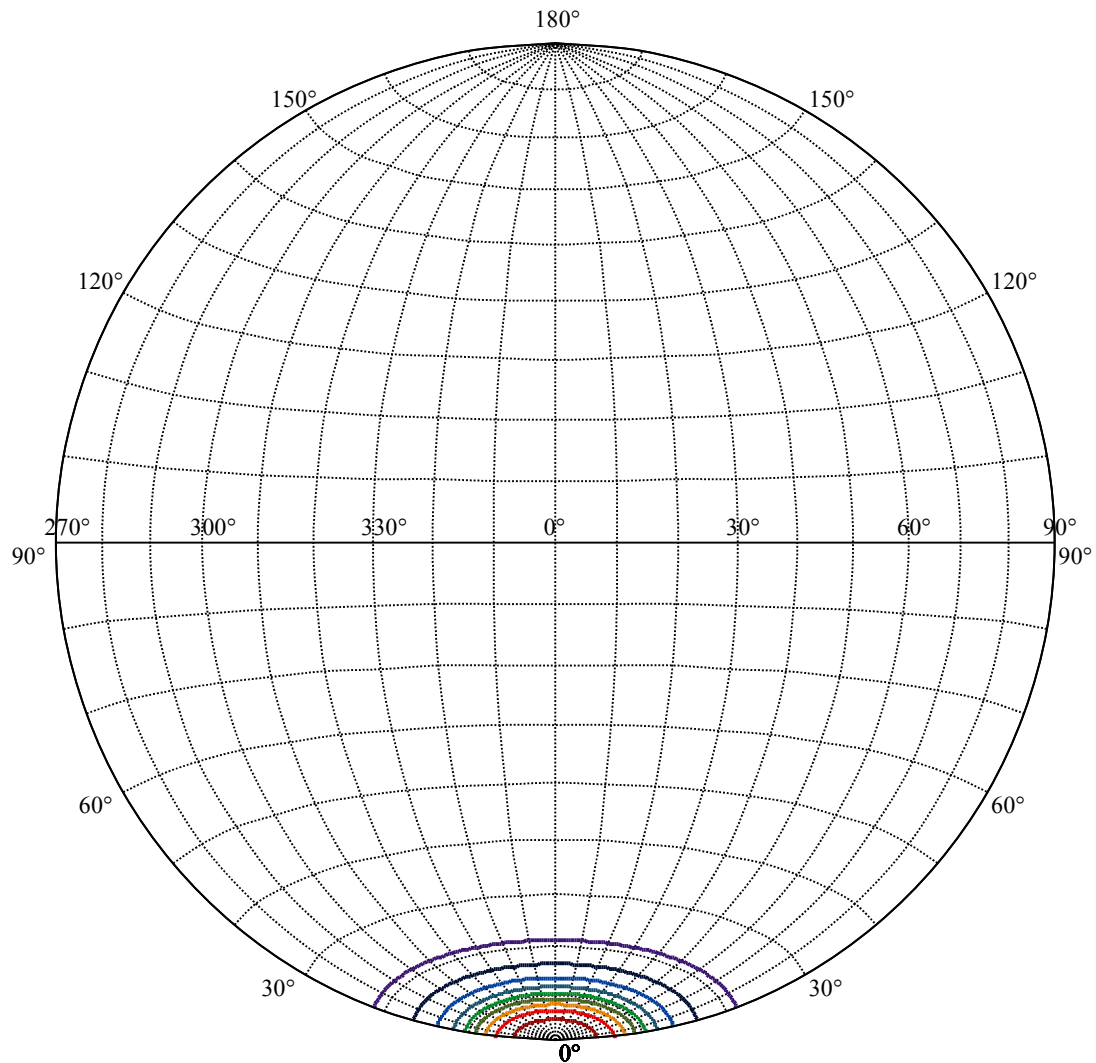
ZONAL LUMEN SUMMARY

0-10	535.22
10-20	519.20
20-30	193.76
30-40	83.42
40-50	52.56
50-60	40.48
60-70	28.51
70-80	18.42
80-90	9.46
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:7247.20

(10%Imax) 724.72

(20%Imax) 1449.44

(30%Imax) 2174.16

(40%Imax) 2898.88

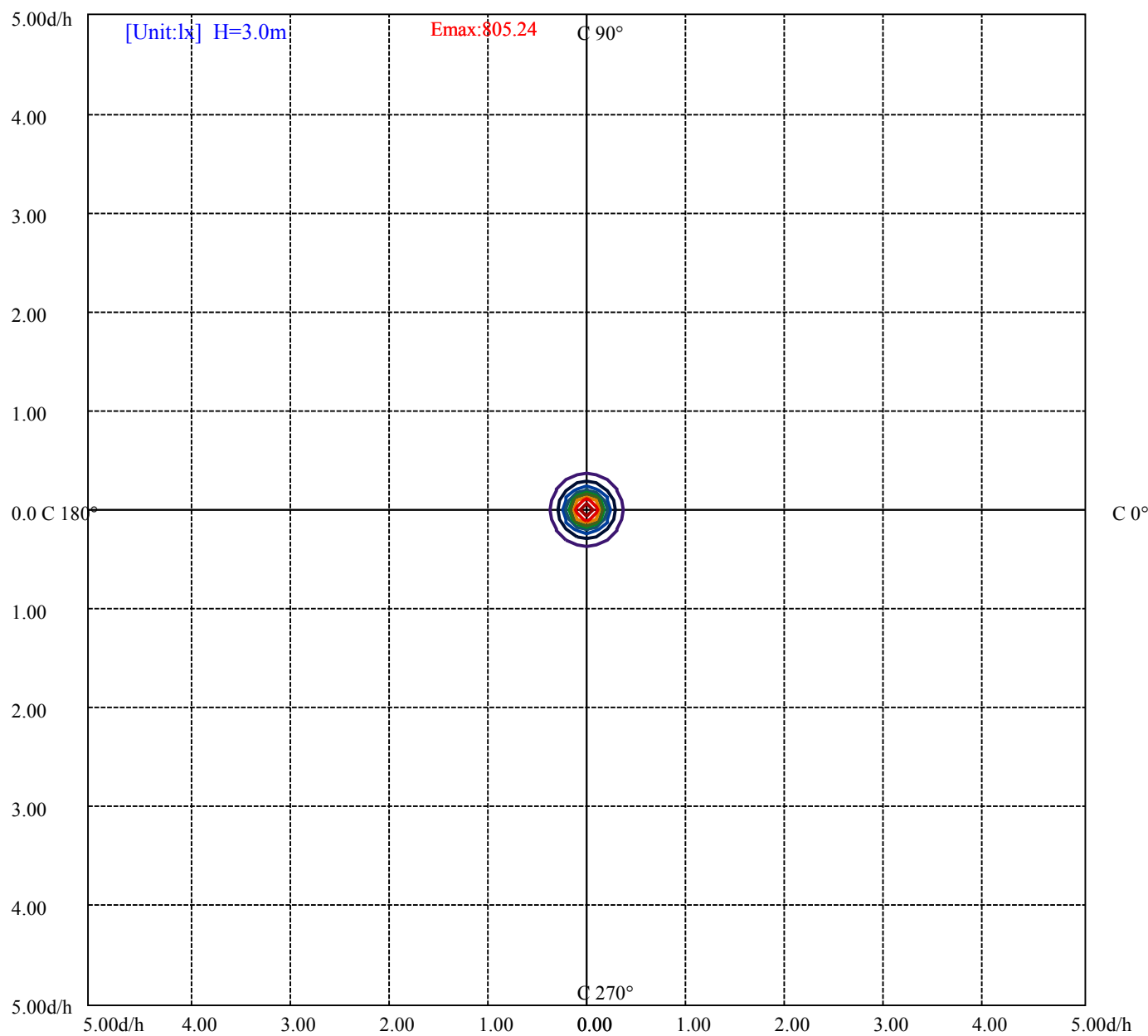
(50%Imax) 3623.6

(60%Imax) 4348.32

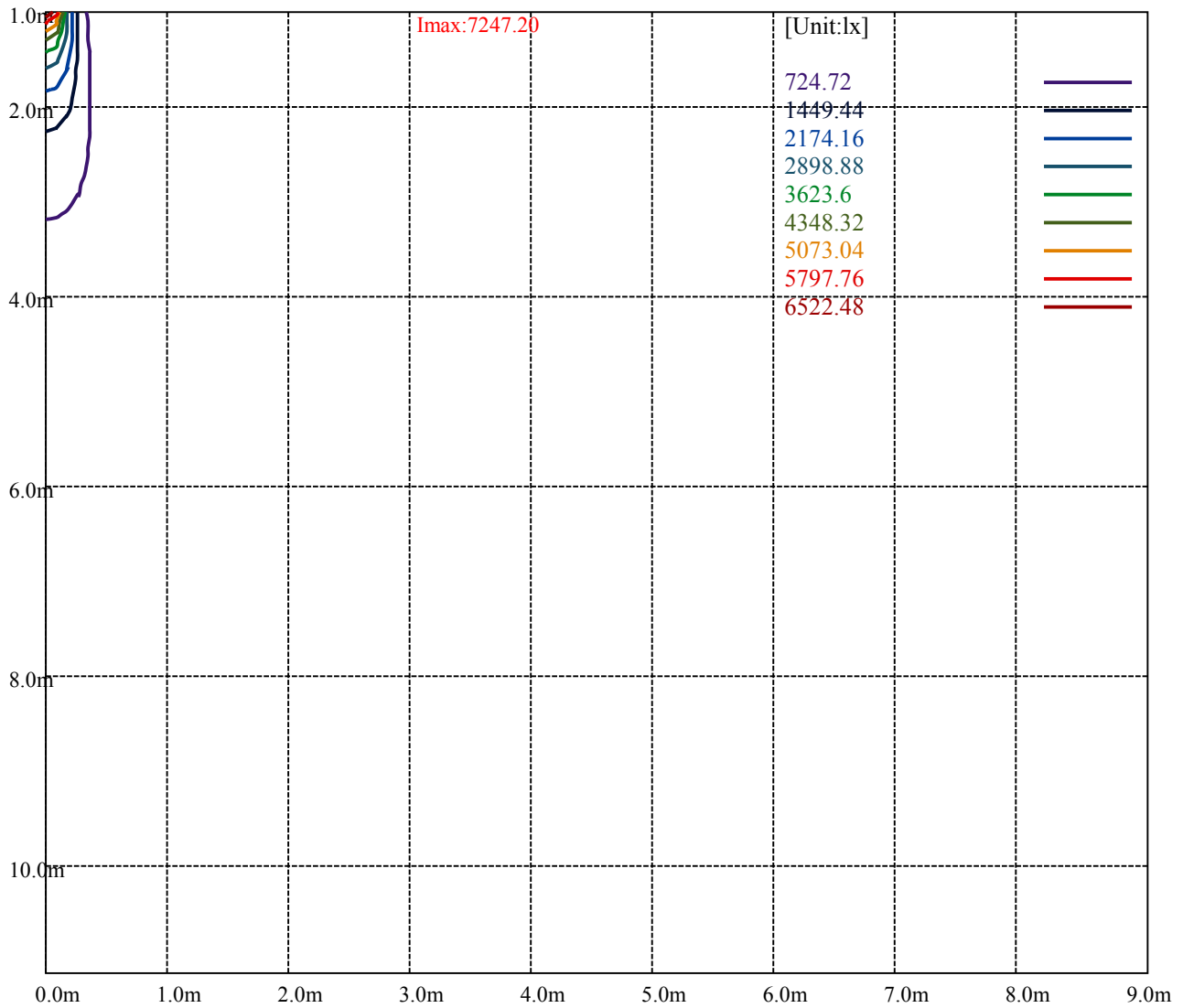
(70%Imax) 5073.04

(80%Imax) 5797.76

(90%Imax) 6522.48



(10%E _{max}) 80.52444	—
(20%E _{max}) 161.0489	—
(30%E _{max}) 241.5733	—
(40%E _{max}) 322.0978	—
(50%E _{max}) 402.6222	—
(60%E _{max}) 483.1466	—
(70%E _{max}) 563.6711	—
(80%E _{max}) 644.1956	—
(90%E _{max}) 724.72	—



Luminance Table

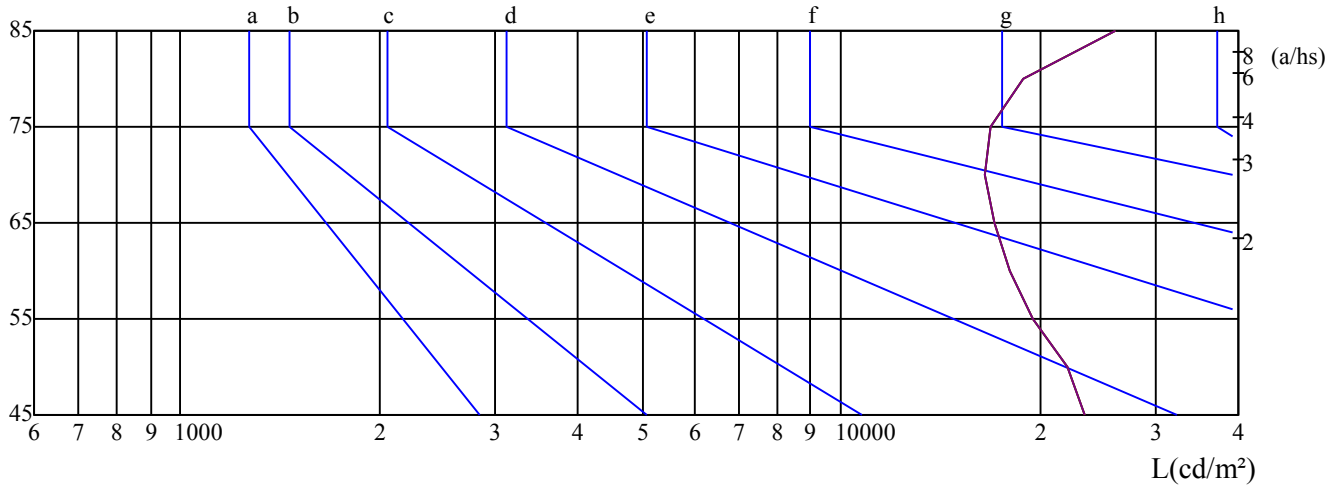
γ	45	50	55	60	65	70	75	80	85
C0	23472	22056	19530	18008	17079	16541	16866	18953	26125
C45	23472	22056	19530	18008	17079	16541	16866	18953	26125
C90	23472	22056	19530	18008	17079	16541	16866	18953	26125

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
17079	17079	17079	16866	16866	16866	26125	26125	26125

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

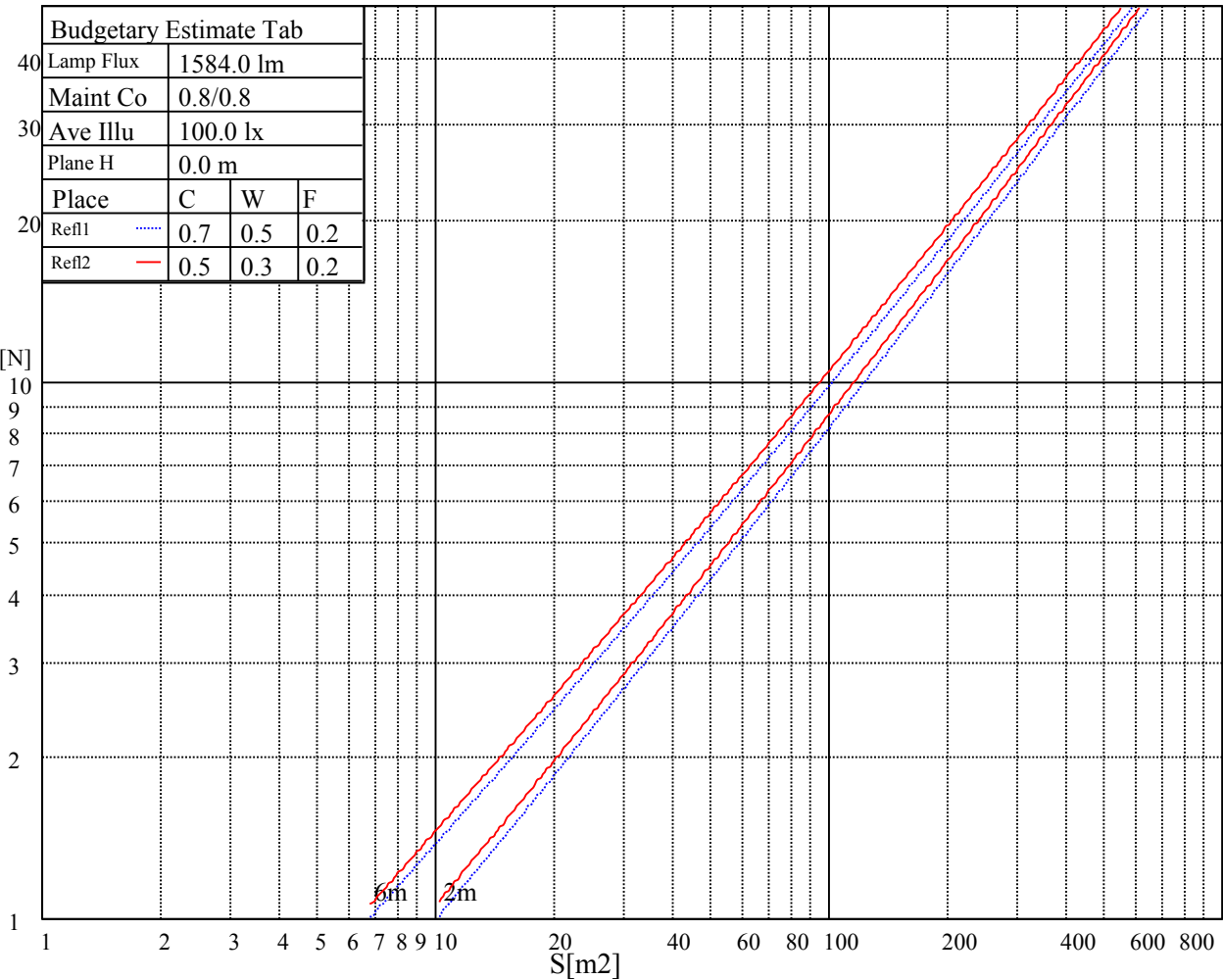
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

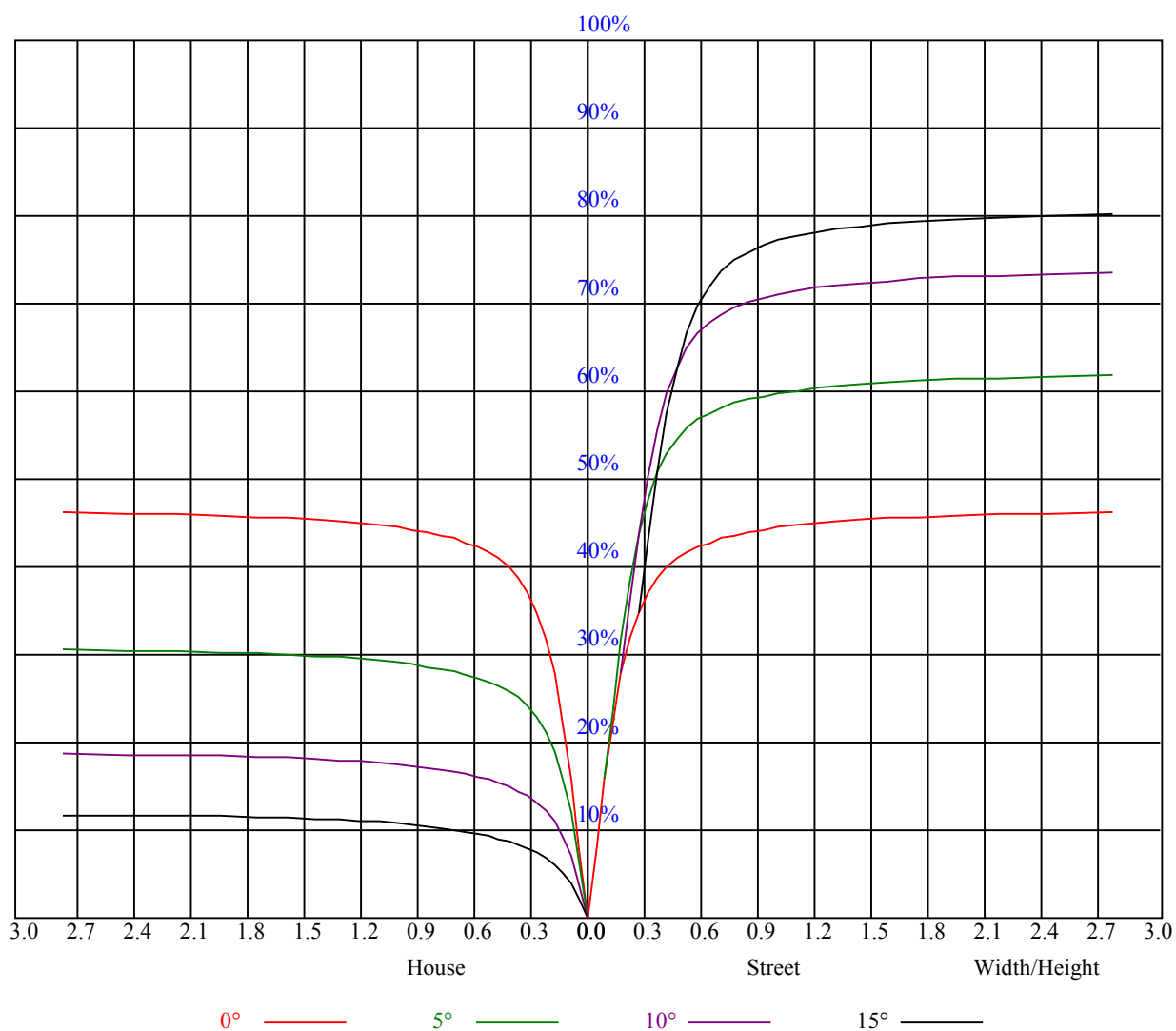
C0 ———

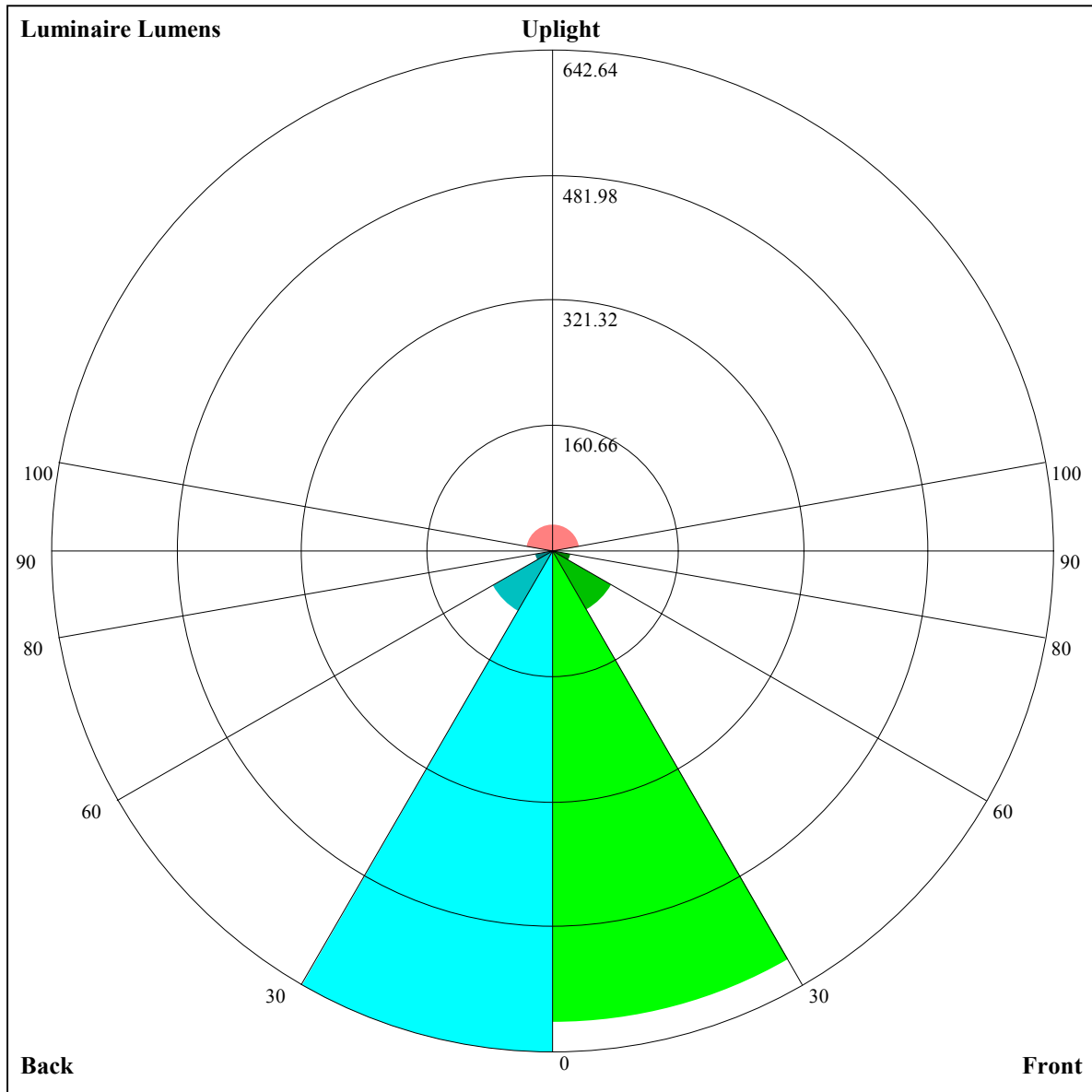
C45 ———

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	1.11	1.11	1.11	1.09	1.09	1.09	1.04	1.04	1.04	1.00	1.00	1.00	0.95	0.95	0.95	0.94
1	1.04	1.02	1.00	1.02	1.00	0.99	0.98	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.88
2	0.98	0.95	0.92	0.97	0.94	0.91	0.94	0.91	0.89	0.91	0.89	0.87	0.88	0.87	0.85	0.84
3	0.93	0.89	0.86	0.92	0.88	0.85	0.90	0.87	0.84	0.87	0.85	0.83	0.85	0.83	0.82	0.80
4	0.89	0.85	0.81	0.88	0.84	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.83	0.80	0.78	0.77
5	0.85	0.81	0.78	0.84	0.80	0.77	0.83	0.79	0.77	0.81	0.78	0.76	0.80	0.77	0.75	0.74
6	0.82	0.77	0.74	0.81	0.77	0.74	0.80	0.76	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.72
7	0.79	0.75	0.71	0.78	0.74	0.71	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.69
8	0.76	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.67
9	0.74	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
10	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.70	0.67	0.64	0.63





Luminaire Lumens:

FL=605.21,FM=87.99,FH=23.15,FVH=4.98

BL=642.64,BM=89,BH=23.73,BVH=5.23

UL=7.42,UH=35.33

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	7224.12	7087.23	6908.58	6779.11	6507.65	5990.72	5704.41	5153.14	4273.33
45.0	7250.10	7265.88	7241.75	7143.84	6970.29	6752.66	6463.57	6068.21	5572.62
90.0	7278.87	7265.88	7160.55	7008.81	6851.96	6583.29	6148.49	5746.64	5136.90
135.0	7235.72	7264.03	7283.05	7207.41	7083.52	6928.99	6696.51	6385.61	5970.30
180.0	7224.12	7274.70	7252.89	7138.74	7003.24	6827.37	6577.72	6247.79	5785.15
225.0	7250.10	7130.85	6962.40	6765.65	6621.80	6148.03	5882.60	5334.11	4690.96
270.0	7278.87	7254.28	7145.70	6969.83	6748.02	6474.24	6127.61	5673.32	5105.34
315.0	7235.72	7108.57	6921.57	6690.94	6402.78	6036.19	5563.81	4993.51	4362.42
360.0	7224.12	7087.23	6908.58	6779.11	6507.65	5990.72	5704.41	5153.14	4273.33
C/ γ (°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3890.97	3316.03	2826.94	2429.26	2103.51	1837.15	1604.21	1396.32	1206.53
45.0	4959.17	4302.56	3656.63	3110.00	2663.13	2301.19	2001.42	1844.12	1522.54
90.0	4454.77	3793.52	3215.80	2734.60	2350.38	2042.72	1780.08	1549.92	1344.82
135.0	5412.53	4750.82	4058.95	3426.47	2899.33	2471.02	2133.67	1850.15	1613.03
180.0	5189.80	4522.52	3839.46	3236.22	2732.74	2325.78	2003.28	1744.35	1522.54
225.0	4009.76	3387.03	2862.67	2434.83	2092.84	1815.81	1578.22	1368.95	1088.20
270.0	4450.59	3807.44	3227.86	2748.05	2353.16	2029.26	1866.39	1537.39	1334.61
315.0	3732.27	3168.87	2701.65	2320.21	2016.27	1758.27	1534.60	1336.93	1069.64
360.0	3890.97	3316.03	2826.94	2429.26	2103.51	1837.15	1604.21	1396.32	1206.53
C/ γ (°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	892.43	892.43	783.15	663.10	541.76	475.31	404.78	348.03	301.71
45.0	1398.64	1210.25	1035.31	877.53	736.47	614.89	513.27	430.21	361.53
90.0	1071.50	905.56	846.58	762.82	638.60	494.89	444.92	373.13	315.17
135.0	1406.53	1220.92	1083.56	895.63	785.19	661.29	555.96	467.79	396.79
180.0	1322.54	1175.44	1008.39	827.42	719.30	599.11	497.49	414.89	347.61
225.0	889.09	827.84	690.25	617.35	512.43	395.40	355.54	299.81	255.36
270.0	1221.85	1048.76	894.24	756.88	637.63	536.01	452.48	384.73	329.05
315.0	885.52	885.52	756.33	645.75	550.53	472.48	407.51	353.69	310.81
360.0	892.43	892.43	783.15	663.10	541.76	475.31	404.78	348.03	301.71
C/ γ (°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	264.55	235.87	211.97	193.04	176.94	162.83	151.04	139.77	129.70
45.0	307.24	262.69	234.38	234.38	173.64	157.68	150.07	139.16	126.59
90.0	268.77	232.48	205.20	183.76	168.40	156.56	147.28	138.93	130.58
135.0	339.72	294.24	257.12	239.49	239.49	189.46	175.87	164.36	153.78
180.0	295.64	255.26	234.85	234.85	180.18	165.15	152.39	145.66	131.69
225.0	221.20	193.59	171.83	153.87	139.30	126.68	115.59	106.91	99.49
270.0	284.96	248.77	236.70	230.67	177.77	162.27	151.14	136.29	127.47
315.0	275.08	246.96	224.78	206.82	190.30	175.50	161.58	148.07	135.31
360.0	264.55	235.87	211.97	193.04	176.94	162.83	151.04	139.77	129.70
C/ γ (°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	119.49	109.60	100.09	94.57	83.48	77.73	74.89	69.09	65.89
45.0	121.90	114.80	106.96	98.38	89.88	81.99	75.41	70.58	66.91
90.0	122.64	114.06	105.43	97.22	91.09	82.88	77.40	73.83	69.98
135.0	143.90	137.82	128.49	119.30	110.39	101.81	94.20	87.38	81.21
180.0	126.22	117.35	108.91	101.48	94.20	87.61	81.58	76.10	71.37
225.0	93.41	88.03	83.29	80.56	73.83	69.61	67.38	63.85	60.65
270.0	117.96	108.72	100.56	93.41	86.82	80.65	75.78	71.74	67.93
315.0	128.31	112.39	106.31	96.47	88.54	82.46	77.68	73.27	69.09
360.0	119.49	109.60	100.09	94.57	83.48	77.73	74.89	69.09	65.89

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	64.13	61.81	60.00	58.51	57.12	55.59	54.11	49.98	47.42
45.0	63.62	60.79	58.24	56.10	54.01	52.11	50.44	48.54	46.87
90.0	67.01	64.83	62.88	61.30	59.58	58.14	57.35	55.17	51.46
135.0	76.24	72.02	69.05	67.05	65.43	64.50	64.13	63.76	61.35
180.0	67.28	63.94	61.35	59.30	57.77	56.57	55.41	54.11	51.93
225.0	58.00	55.82	53.78	52.06	50.35	48.77	47.10	45.38	43.71
270.0	64.41	61.44	59.12	57.31	55.78	54.29	52.76	50.63	47.75
315.0	66.31	64.32	62.83	62.13	61.67	60.19	56.29	51.32	48.12
360.0	64.13	61.81	60.00	58.51	57.12	55.59	54.11	49.98	47.42
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	45.10	43.16	41.35	39.49	37.91	36.33	35.36	33.27	31.83
45.0	45.80	44.13	42.46	40.51	38.75	37.08	35.50	33.92	32.44
90.0	48.03	45.57	43.25	41.25	39.40	37.73	36.06	34.57	33.13
135.0	55.36	50.07	46.64	44.04	41.76	40.28	38.00	36.71	35.13
180.0	48.07	45.75	42.97	41.48	39.72	37.82	36.61	35.08	33.64
225.0	42.04	40.42	38.89	37.31	35.92	34.43	33.13	32.02	30.44
270.0	46.26	43.11	41.90	40.32	37.77	36.84	35.27	33.78	32.53
315.0	45.71	43.48	41.72	40.70	38.42	37.49	35.96	34.48	32.95
360.0	45.10	43.16	41.35	39.49	37.91	36.33	35.36	33.27	31.83
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	31.00	29.00	28.07	26.64	25.15	23.80	22.55	21.39	20.19
45.0	31.04	29.79	28.49	27.15	25.94	24.78	23.67	22.51	21.53
90.0	31.55	30.72	28.63	27.75	26.31	24.96	23.57	22.37	21.30
135.0	33.55	32.06	30.49	29.19	27.84	26.50	25.29	24.13	22.97
180.0	32.25	30.86	29.61	28.35	27.05	25.75	24.55	23.48	22.27
225.0	29.42	28.26	27.10	25.85	24.78	23.76	22.78	21.76	20.70
270.0	31.14	29.70	28.35	27.05	25.71	24.36	23.11	22.00	20.88
315.0	31.46	29.98	28.45	27.15	25.89	24.50	23.16	22.00	20.79
360.0	31.00	29.00	28.07	26.64	25.15	23.80	22.55	21.39	20.19
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	19.07	18.00	16.98	16.06	15.22	14.48	13.64	12.81	12.02
45.0	20.56	19.86	18.75	17.91	16.84	15.68	14.99	14.11	13.22
90.0	20.14	18.98	17.87	16.84	15.87	14.94	14.20	13.50	12.67
135.0	21.76	20.65	19.58	18.61	17.49	16.57	15.73	14.99	14.48
180.0	21.11	20.09	19.07	18.05	17.54	16.33	15.82	15.08	13.83
225.0	19.72	18.89	18.00	17.22	16.38	15.50	14.57	13.55	12.71
270.0	19.77	18.84	17.87	17.26	16.10	15.36	14.85	13.69	13.22
315.0	19.58	18.42	17.49	16.66	15.68	14.80	14.11	13.09	12.34
360.0	19.07	18.00	16.98	16.06	15.22	14.48	13.64	12.81	12.02
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	11.42	10.72	9.88	9.00	8.35	7.84	7.42	7.01	6.77
45.0	12.39	11.55	10.86	10.02	9.23	8.45	7.80	7.33	6.82
90.0	11.97	11.37	10.49	9.88	9.05	8.31	7.66	7.33	6.91
135.0	13.36	12.58	12.02	11.18	10.07	9.47	8.58	8.03	7.47
180.0	13.36	12.34	11.60	10.86	9.74	9.10	8.31	7.70	7.24
225.0	12.02	11.23	10.26	9.37	8.58	7.93	7.38	6.96	6.68
270.0	12.34	11.28	10.53	9.70	8.82	8.07	7.52	7.15	6.68
315.0	11.51	10.72	9.74	9.19	8.45	7.84	7.38	7.05	6.82
360.0	11.42	10.72	9.88	9.00	8.35	7.84	7.42	7.01	6.77

Intensity data(cd)

Appendix Page: 19 Total:19

C/ $\gamma(^{\circ})$	90.0
0.0	6.77
45.0	6.68
90.0	6.73
135.0	7.15
180.0	6.96
225.0	6.64
270.0	6.59
315.0	6.91
360.0	6.77