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## Nata

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### Client:

LumCAT: 1-0788-M

Luminaire: 92.70.124.00

Report No: nata-0100

Test No: GC2018072310

LampCAT: CITIZEN CLU026

Lamp flux(lm): 1410.0

Number of Lamps: 1

Length(mm): 46

Phm Type: C

Voltage(V):

Current(A):

Power (W): 10.6500

PF:

Ballast type:

Width(mm): 46

Height(mm): 0

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## Photometric Results

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Lumens(lm): 1305.28, Efficiency(%): 92.57% , Luminous Efficacy(lm/W): 122.56

Central intensity(cd): 2202.394, Maximum intensity(cd): 2202.394

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=36.4

[C90/270]Total=36.4

Field angle(10%Imax): [C0/180]Total=85.6

[C90/270]Total=85.6

Maximum s/h(1/2): C0\_180=0.57 C90\_270=0.57

Maximum s/h(1/4): C0\_180=0.65 C90\_270=0.65

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 93.42%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 97.903%

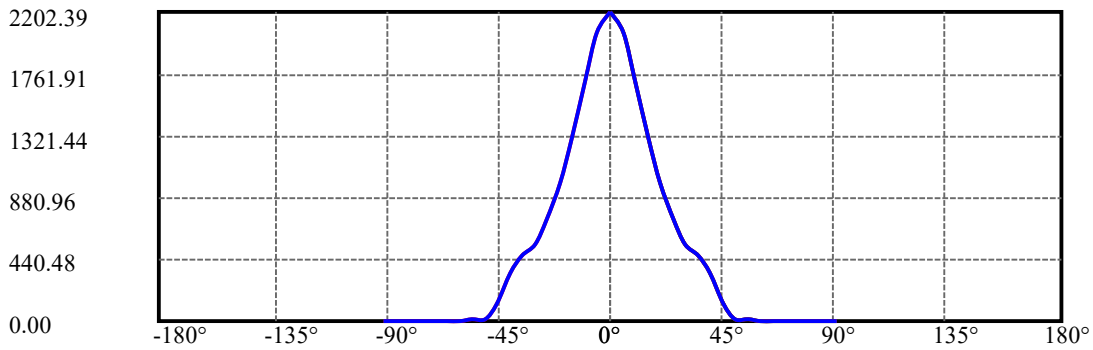
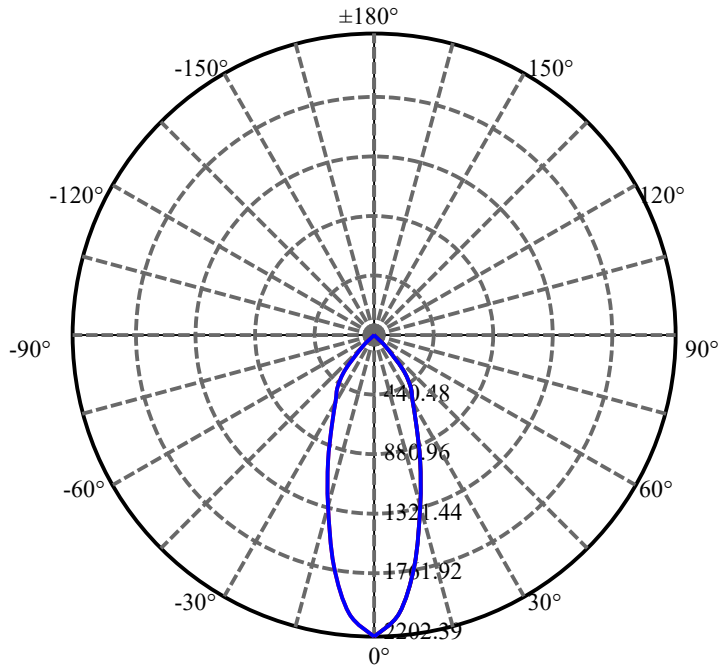
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2202.394	13.171	13.171	.934%	1.009%
5.0	2046.859	97.785	110.956	6.935%	8.501%
10.0	1703.651	162.159	273.115	11.501%	20.924%
15.0	1297.906	184.132	457.247	13.059%	35.031%
20.0	988.723	185.360	642.607	13.146%	49.231%
25.0	722.787	167.436	810.042	11.875%	62.059%
30.0	553.076	151.581	961.623	10.750%	73.672%
35.0	465.364	146.310	1107.933	10.377%	84.881%
40.0	337.324	118.851	1226.784	8.429%	93.987%
45.0	125.783	48.753	1275.537	3.458%	97.722%
50.0	18.671	7.840	1283.377	.556%	98.322%
55.0	7.164	3.217	1286.594	.228%	98.569%
60.0	6.290	2.986	1289.58	.212%	98.797%
65.0	5.815	2.889	1292.468	.205%	99.019%
70.0	5.540	2.854	1295.322	.202%	99.237%
75.0	5.354	2.835	1298.157	.201%	99.455%
80.0	5.285	2.853	1301.01	.202%	99.673%
85.0	5.244	2.863	1303.873	.203%	99.892%
90.0	5.120	1.403	1305.277	.100%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	961.62	68.20%	73.67%
0-40	1226.78	87.01%	93.99%
0-60	1289.58	91.46%	98.80%
0-90	1303.87	92.47%	99.89%
0-120	1303.87	92.47%	99.89%
0-180	1305.28	92.57%	100.00%
60-90	17.28	1.23%	1.32%
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%
0-32.82	1044.22	74.06%	80.00%

ZONAL LUMEN SUMMARY

0-10	273.11
10-20	369.49
20-30	319.02
30-40	265.16
40-50	56.59
50-60	6.20
60-70	5.74
70-80	5.69
80-90	2.86
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



C0(Max): —————

C0/C180: —————

C90/C270: —————

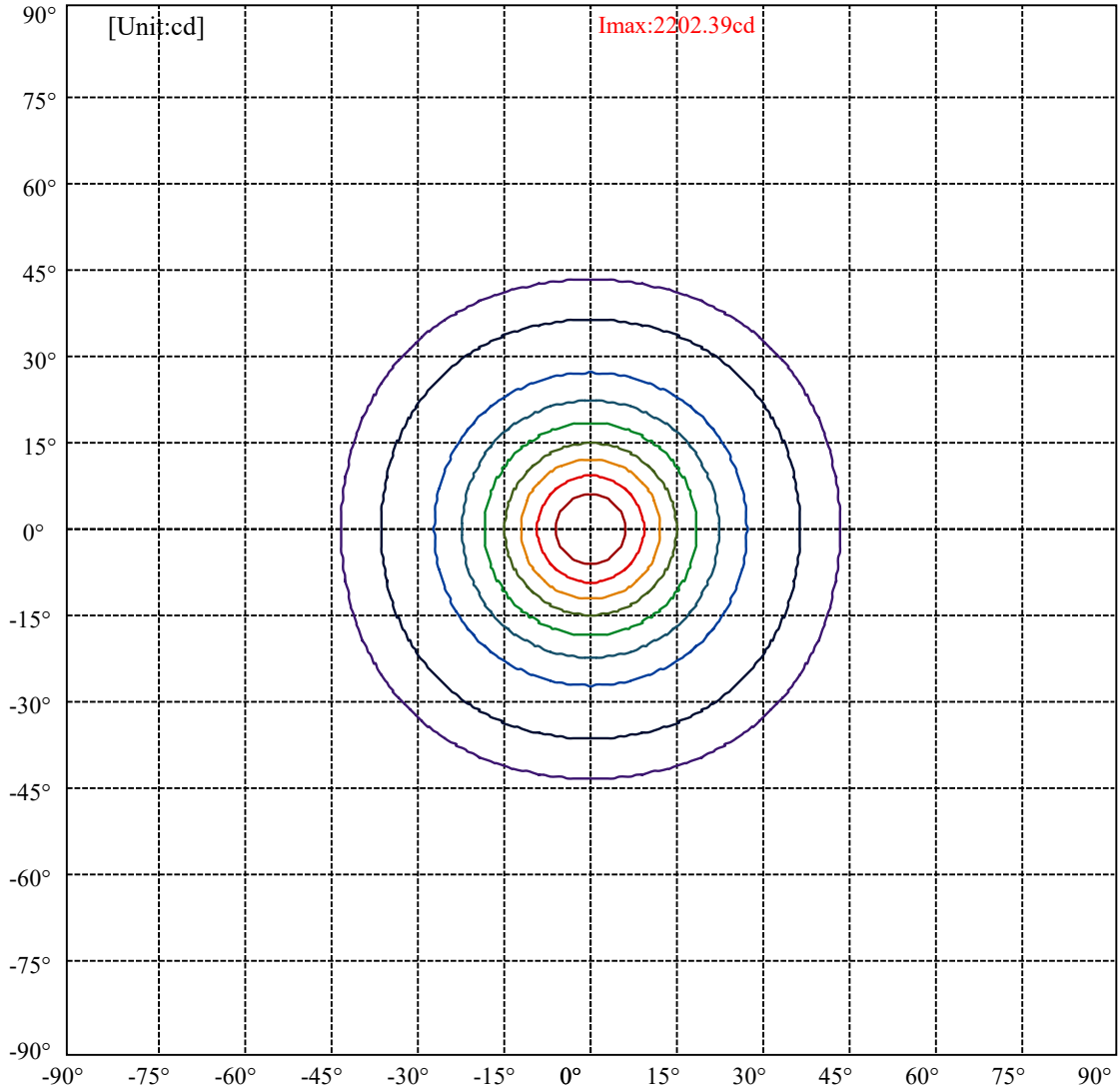
Field angle(10%Imax):C0/180Left:42.8 Right:42.8

:C90/270Left:42.8 Right:42.8

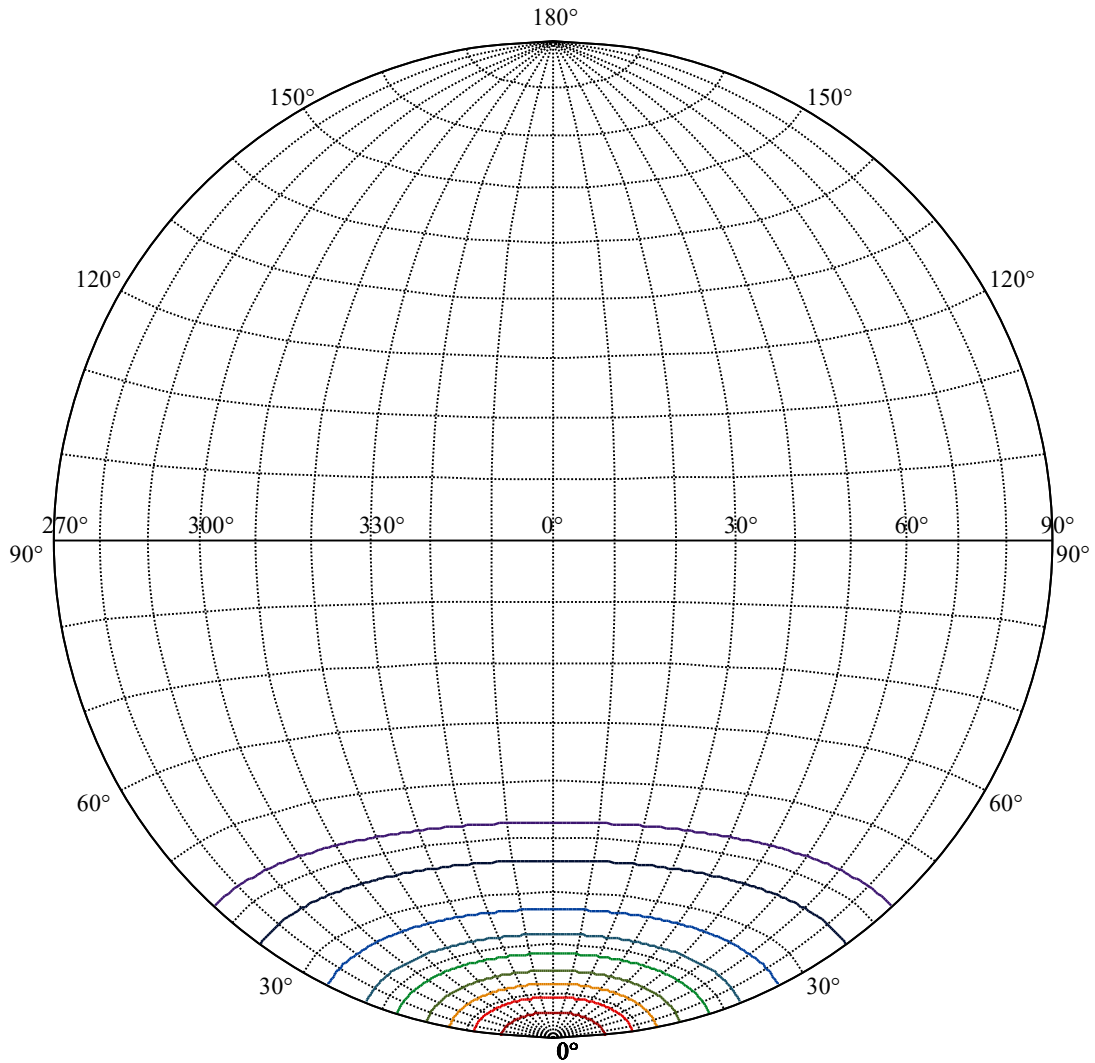
Beam Angle(50%Imax):C0/180Left:18.2 Right:18.2

:C90/270Left:18.2 Right:18.2





(10%Imax) 220.239	—
(20%Imax) 440.479	—
(30%Imax) 660.718	—
(40%Imax) 880.957	—
(50%Imax) 1101.2	—
(60%Imax) 1321.44	—
(70%Imax) 1541.68	—
(80%Imax) 1761.91	—
(90%Imax) 1982.15	—



House

[Unit:cd]

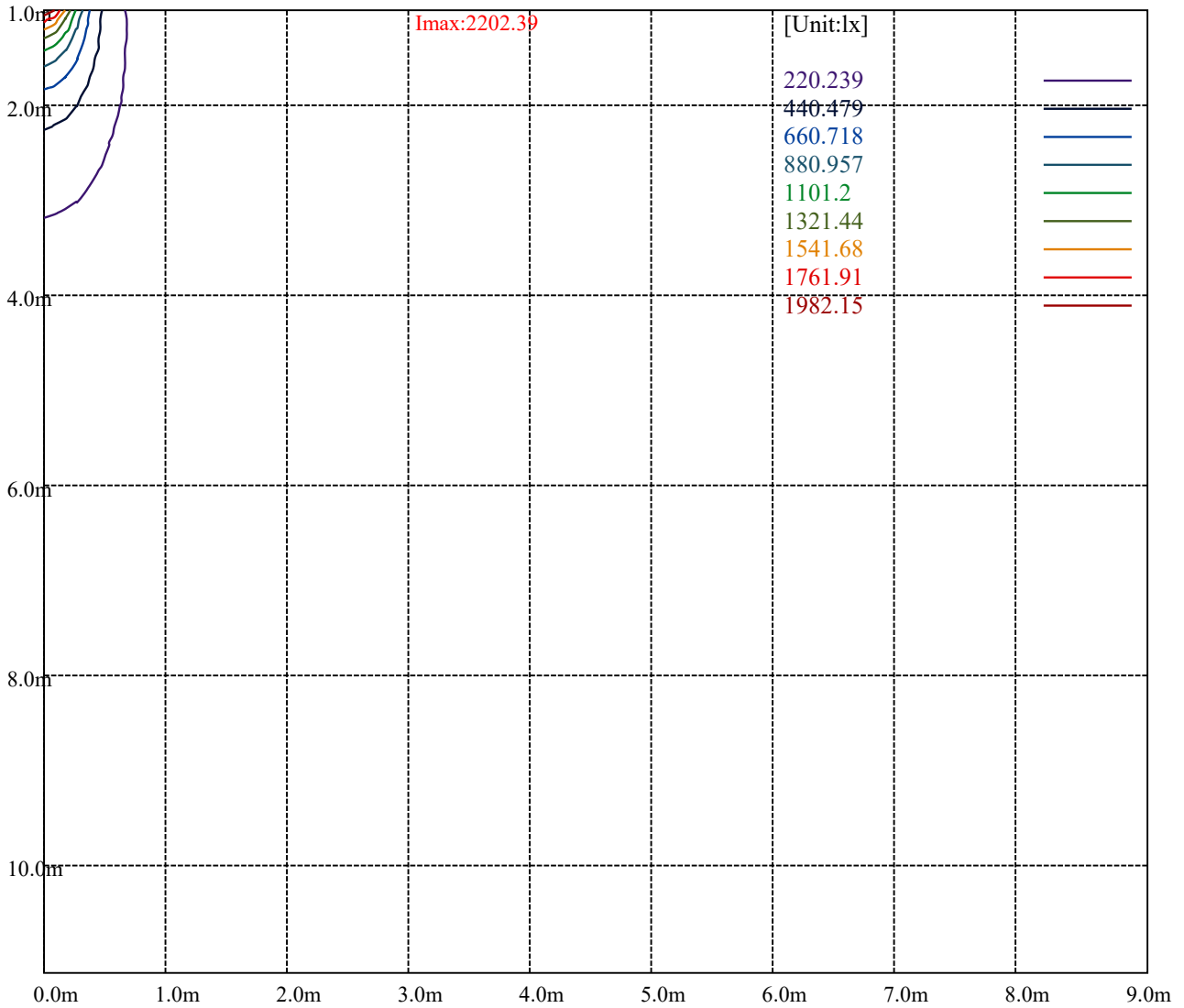
Road

**Imax:2202.39**

(10%Imax) 220.239	—
(20%Imax) 440.479	—
(30%Imax) 660.718	—
(40%Imax) 880.957	—
(50%Imax) 1101.2	—
(60%Imax) 1321.44	—
(70%Imax) 1541.68	—
(80%Imax) 1761.91	—
(90%Imax) 1982.15	—







Luminance Table

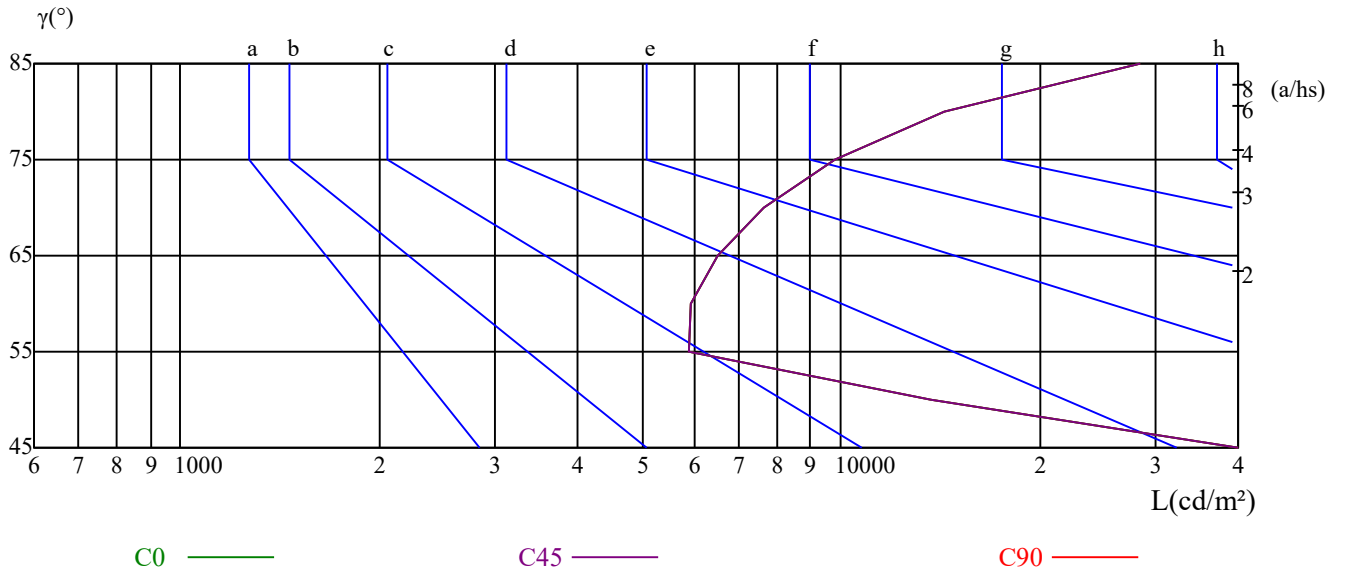
$\gamma$	45	50	55	60	65	70	75	80	85
C0	84066	13727	5903	5945	6503	7655	9776	14384	28434
C45	84066	13727	5903	5945	6503	7655	9776	14384	28434
C90	84066	13727	5903	5945	6503	7655	9776	14384	28434

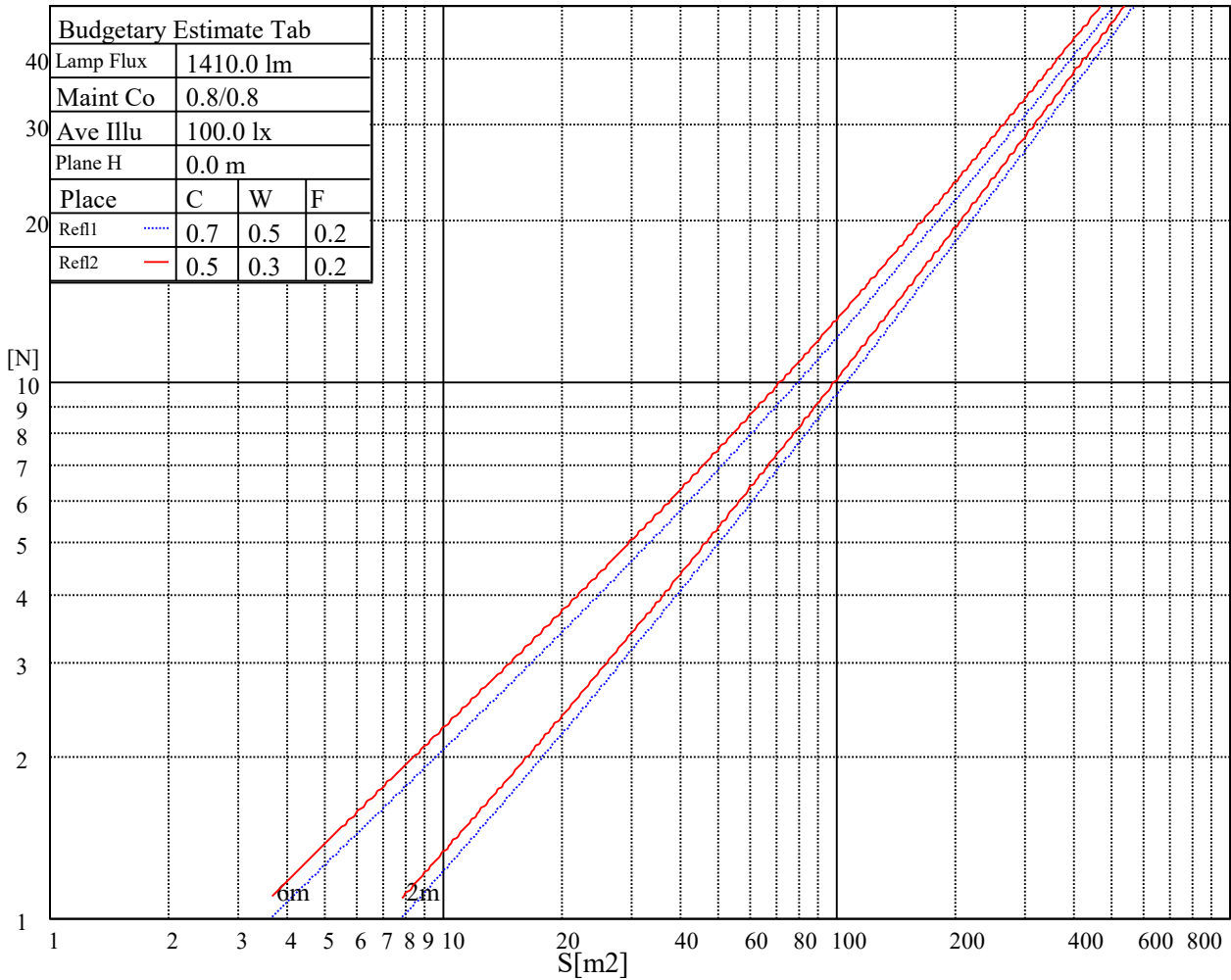
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6503	6503	6503	9776	9776	9776	28434	28434	28434

Glare Table

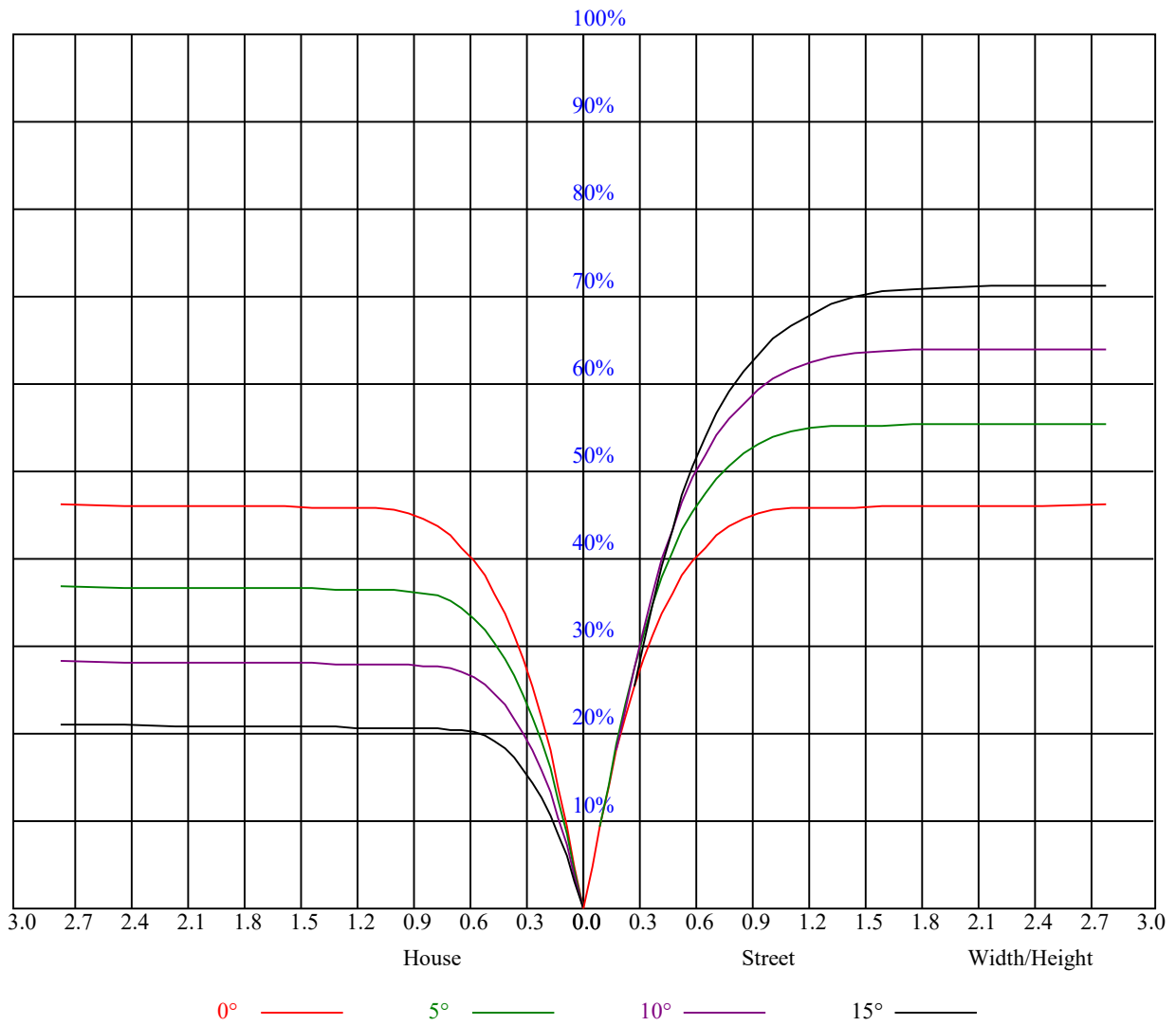
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

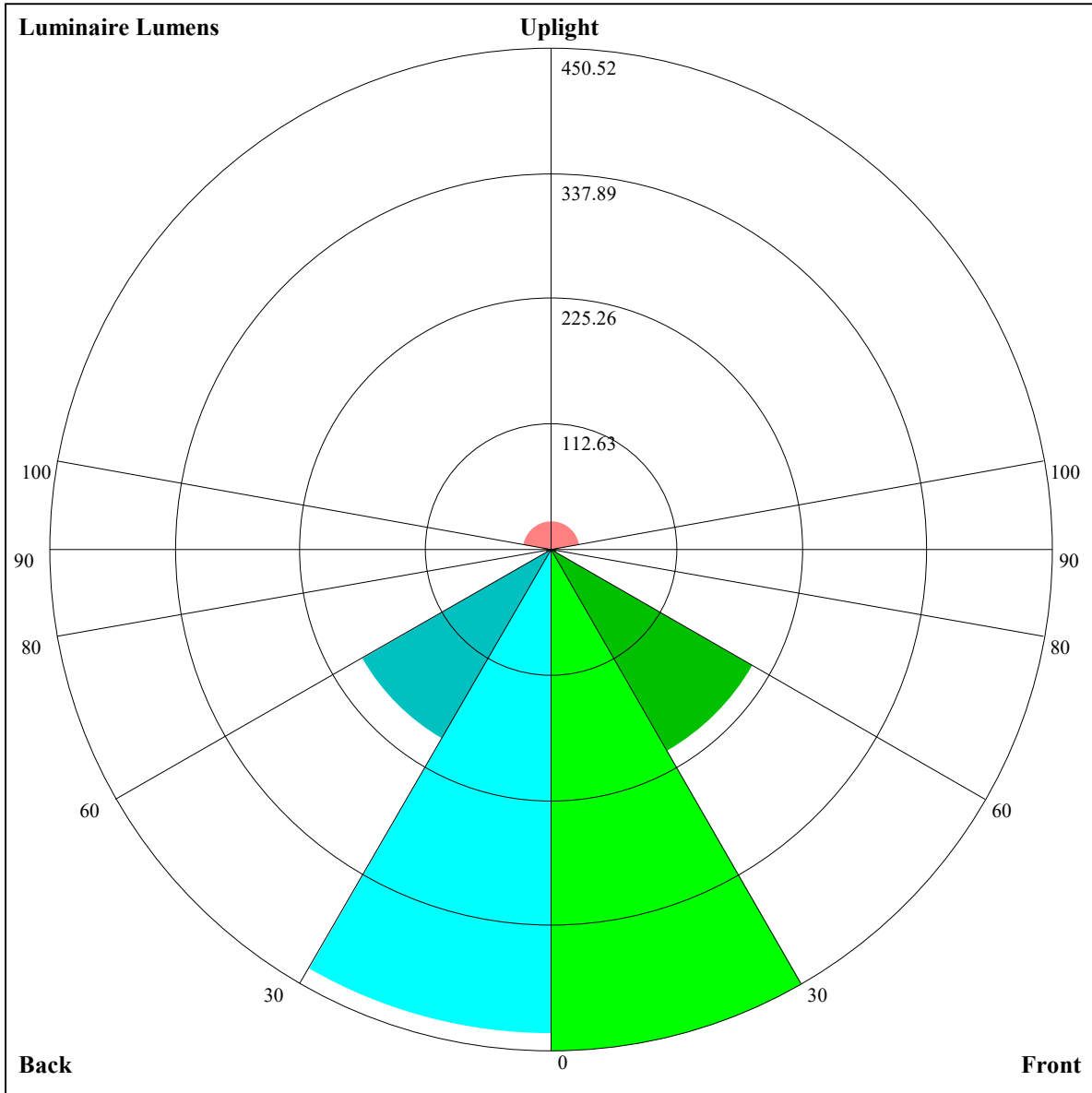
Luminance Limiting Curve





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	1.11	1.11	1.11	1.09	1.09	1.09	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.03	1.00	0.98	1.01	0.98	0.96	0.97	0.95	0.93	0.93	0.92	0.90	0.90	0.89	0.88	0.86
2	0.96	0.92	0.89	0.94	0.91	0.88	0.91	0.88	0.86	0.89	0.86	0.84	0.86	0.84	0.82	0.81
3	0.90	0.85	0.82	0.89	0.85	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.77	0.76
4	0.85	0.80	0.76	0.84	0.79	0.76	0.82	0.78	0.75	0.80	0.76	0.74	0.78	0.75	0.73	0.72
5	0.80	0.75	0.71	0.79	0.74	0.71	0.77	0.73	0.70	0.76	0.72	0.69	0.75	0.71	0.69	0.67
6	0.76	0.70	0.67	0.75	0.70	0.66	0.74	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.64
7	0.72	0.67	0.63	0.71	0.66	0.63	0.70	0.66	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.60
8	0.68	0.63	0.59	0.68	0.63	0.59	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.57
9	0.65	0.60	0.56	0.65	0.60	0.56	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.55
10	0.62	0.57	0.54	0.62	0.57	0.54	0.61	0.57	0.53	0.60	0.56	0.53	0.60	0.56	0.53	0.52





Luminaire Lumens:

FL=450.52,FM=209.36,FH=5.77,FVH=2.86

BL=435.09,BM=196.5,BH=5.72,BVH=2.82

UL=5.59,UH=26.58

BUG Rating:B1-U2-G0

Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	2197.85	2096.55	1786.58	1394.03	1076.35	789.51	585.80	486.70	386.50
45.0	2208.31	2041.49	1706.75	1325.21	984.90	738.58	559.98	467.59	345.75
90.0	2197.30	2061.86	1757.95	1367.05	1029.00	766.39	575.89	481.74	373.83
135.0	2206.11	2038.74	1691.33	1292.72	980.55	711.33	551.12	472.38	330.89
180.0	2197.85	1999.10	1617.01	1091.38	918.84	665.41	523.59	444.09	285.69
225.0	2208.31	2054.15	1701.24	1320.25	980.55	709.13	550.01	458.62	330.89
270.0	2197.30	2013.96	1657.75	1268.50	936.51	676.20	531.79	447.50	300.55
315.0	2206.11	2069.02	1710.60	1324.11	1003.07	725.75	546.44	464.29	344.49
360.0	2197.85	2096.55	1786.58	1394.03	1076.35	789.51	585.80	486.70	386.50
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	176.90	27.69	7.60	6.55	6.06	5.78	5.62	5.56	5.78
45.0	130.59	17.12	7.49	6.28	5.78	5.45	5.29	5.23	5.18
90.0	156.69	20.54	7.27	6.33	5.84	5.56	5.34	5.18	5.18
135.0	108.85	18.00	6.88	6.22	5.78	5.51	5.29	5.23	5.18
180.0	74.22	13.87	6.77	6.17	5.78	5.56	5.40	5.45	5.18
225.0	124.04	16.63	6.99	6.28	5.78	5.51	5.29	5.23	5.18
270.0	101.25	15.47	6.88	6.22	5.73	5.45	5.29	5.18	5.12
315.0	133.73	20.04	7.43	6.28	5.78	5.51	5.34	5.23	5.18
360.0	176.90	27.69	7.60	6.55	6.06	5.78	5.62	5.56	5.78
C/ $\gamma$ (°)	90.0								
0.0	5.12								
45.0	5.12								
90.0	5.12								
135.0	5.12								
180.0	5.12								
225.0	5.12								
270.0	5.12								
315.0	5.12								
360.0	5.12								