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Nata

Client:

LumCAT: 1689-M

Luminaire: 92.70.124.00

Report No: nata-0100

Test No:

LampCAT: CREE CMT1420

Lamp flux(lm): 2017.0

Number of Lamps: 1

Length(mm): 46

Phm Type: C

Voltage(V): 35.4000

Current(A): 0.4000

Power (W): 14.1600

PF: 0.0000

Ballast type: DC

Width(mm): 46

Height(mm): 0

Photometric Results

Lumens(lm): 1869.80, Efficiency(%): 92.70% , Luminous Efficacy(lm/W): 132.05

Central intensity(cd): 1653.619, Maximum intensity(cd): 1653.619

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=70.2

[C90/270]Total=70.2

Field angle(10%Imax): [C0/180]Total=95.0

[C90/270]Total=95.0

Maximum s/h(1/2): C0_180=0.97 C90_270=0.97

Maximum s/h(1/4): C0_180=1.03 C90_270=1.03

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 93.10%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.418%

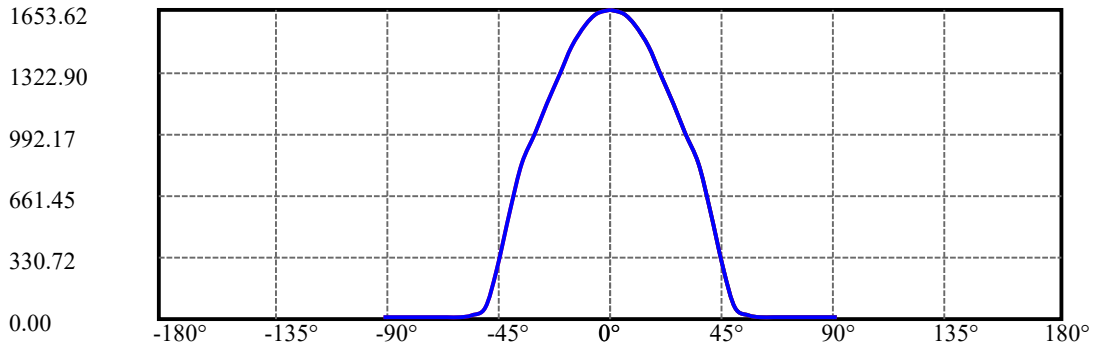
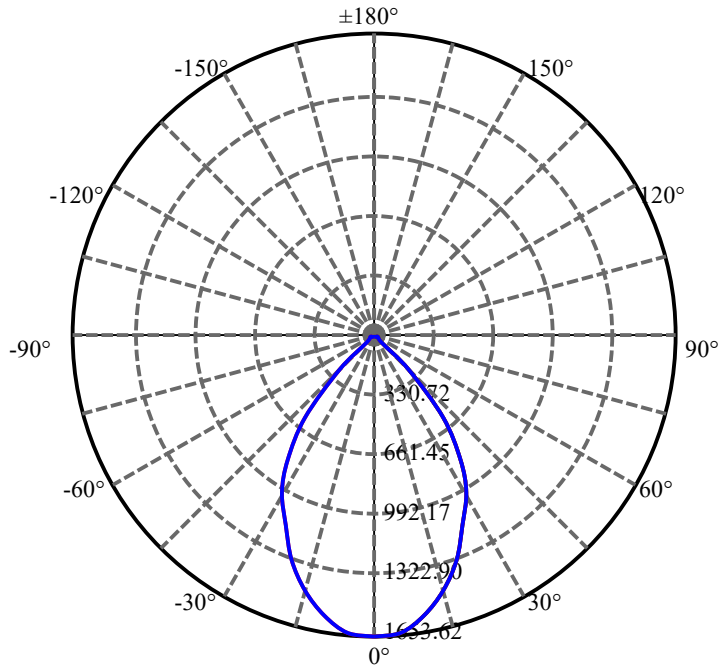
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1653.619	9.889	9.889	.490%	.529%
5.0	1633.867	78.055	87.944	3.870%	4.703%
10.0	1566.630	149.117	237.061	7.393%	12.678%
15.0	1454.177	206.302	443.363	10.228%	23.712%
20.0	1313.026	246.158	689.521	12.204%	36.877%
25.0	1153.872	267.298	956.819	13.252%	51.172%
30.0	1000.705	274.262	1231.081	13.598%	65.840%
35.0	833.726	262.122	1493.203	12.996%	79.859%
40.0	590.404	208.021	1701.224	10.313%	90.984%
45.0	272.109	105.467	1806.691	5.229%	96.625%
50.0	59.482	24.976	1831.667	1.238%	97.961%
55.0	22.910	10.287	1841.954	.510%	98.511%
60.0	13.165	6.250	1848.204	.310%	98.845%
65.0	9.201	4.571	1852.775	.227%	99.089%
70.0	7.735	3.984	1856.759	.198%	99.302%
75.0	7.123	3.771	1860.53	.187%	99.504%
80.0	6.882	3.715	1864.245	.184%	99.703%
85.0	6.786	3.705	1867.951	.184%	99.901%
90.0	6.751	1.850	1869.801	.092%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1231.08	61.04%	65.84%
0-40	1701.22	84.34%	90.98%
0-60	1848.20	91.63%	98.84%
0-90	1867.95	92.61%	99.90%
0-120	1867.95	92.61%	99.90%
0-180	1869.80	92.70%	100.00%
60-90	26.00	1.29%	1.39%
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%
0-35.06	1495.84	74.16%	80.00%

ZONAL LUMEN SUMMARY

0-10	237.06
10-20	452.46
20-30	541.56
30-40	470.14
40-50	130.44
50-60	16.54
60-70	8.56
70-80	7.49
80-90	3.71
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: —————

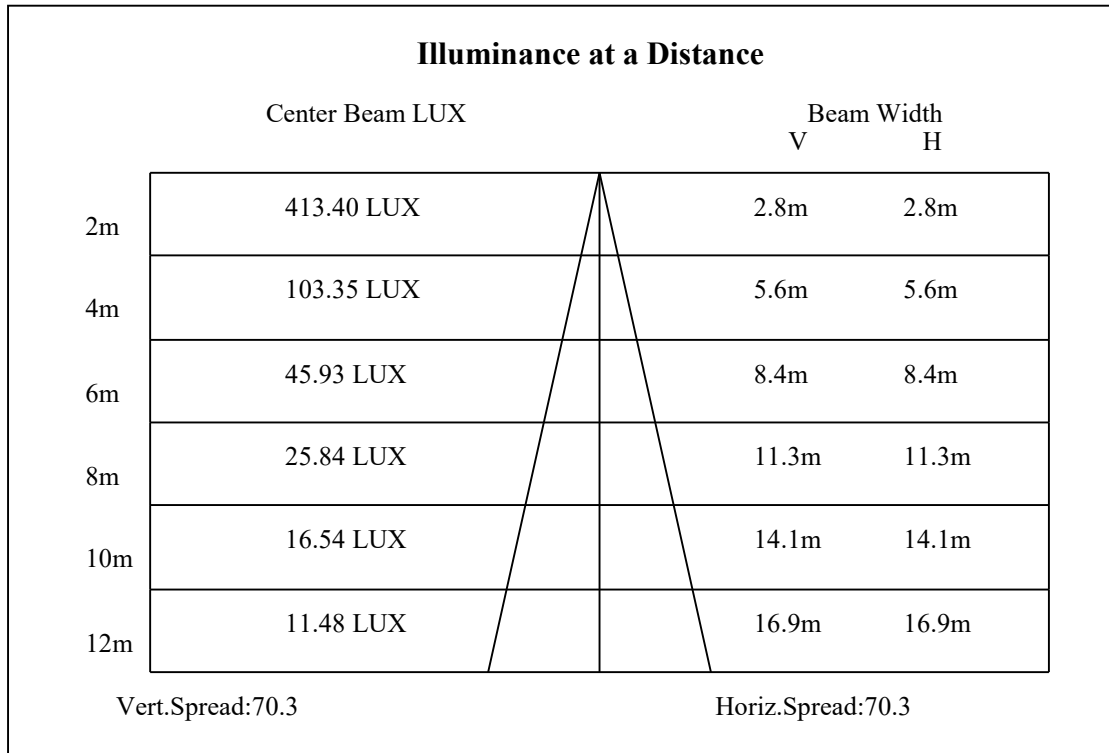
C90/C270: —————

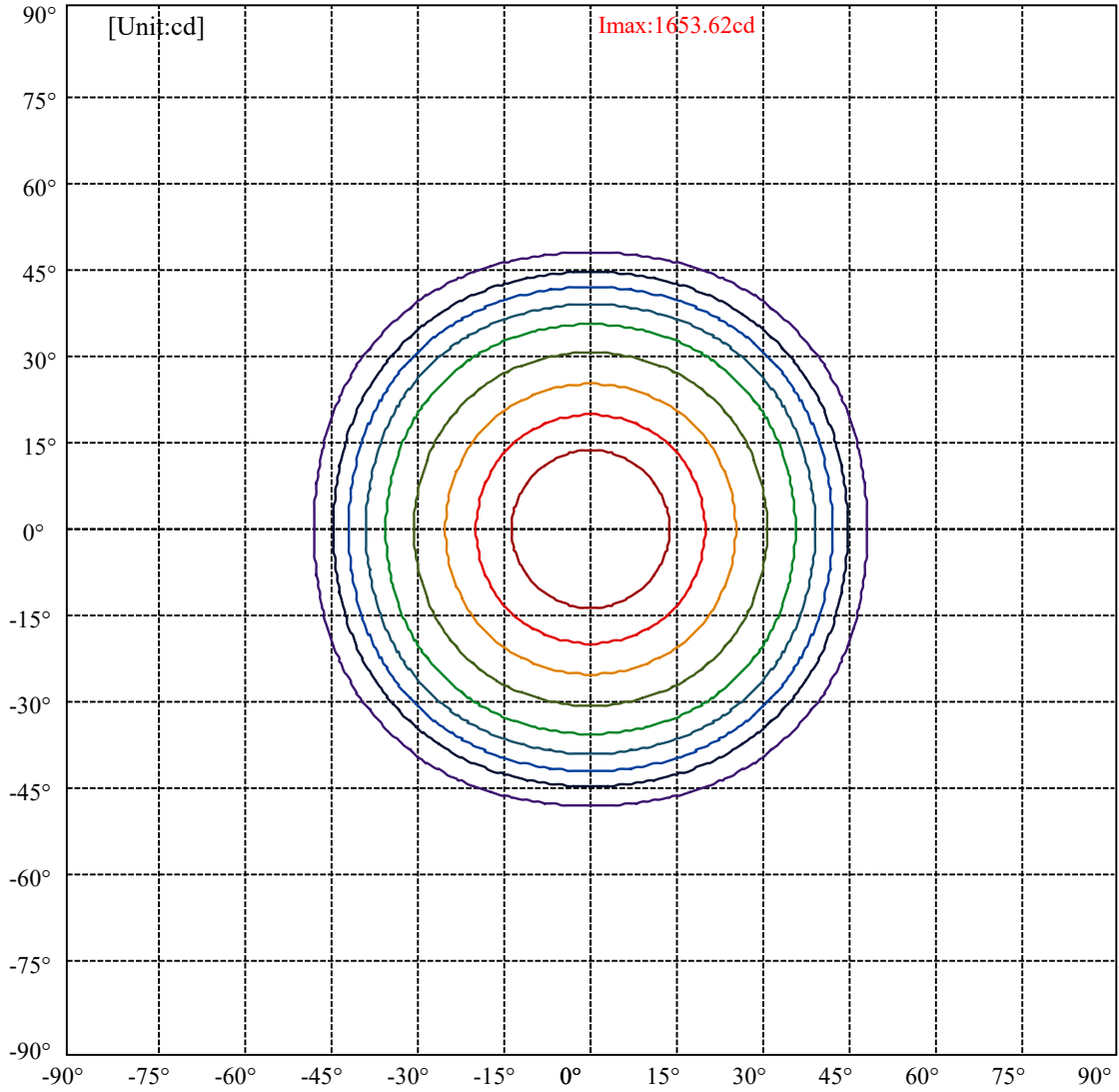
Field angle(10%Imax):C0/180Left:47.5 Right:47.5

:C90/270Left:47.5 Right:47.5

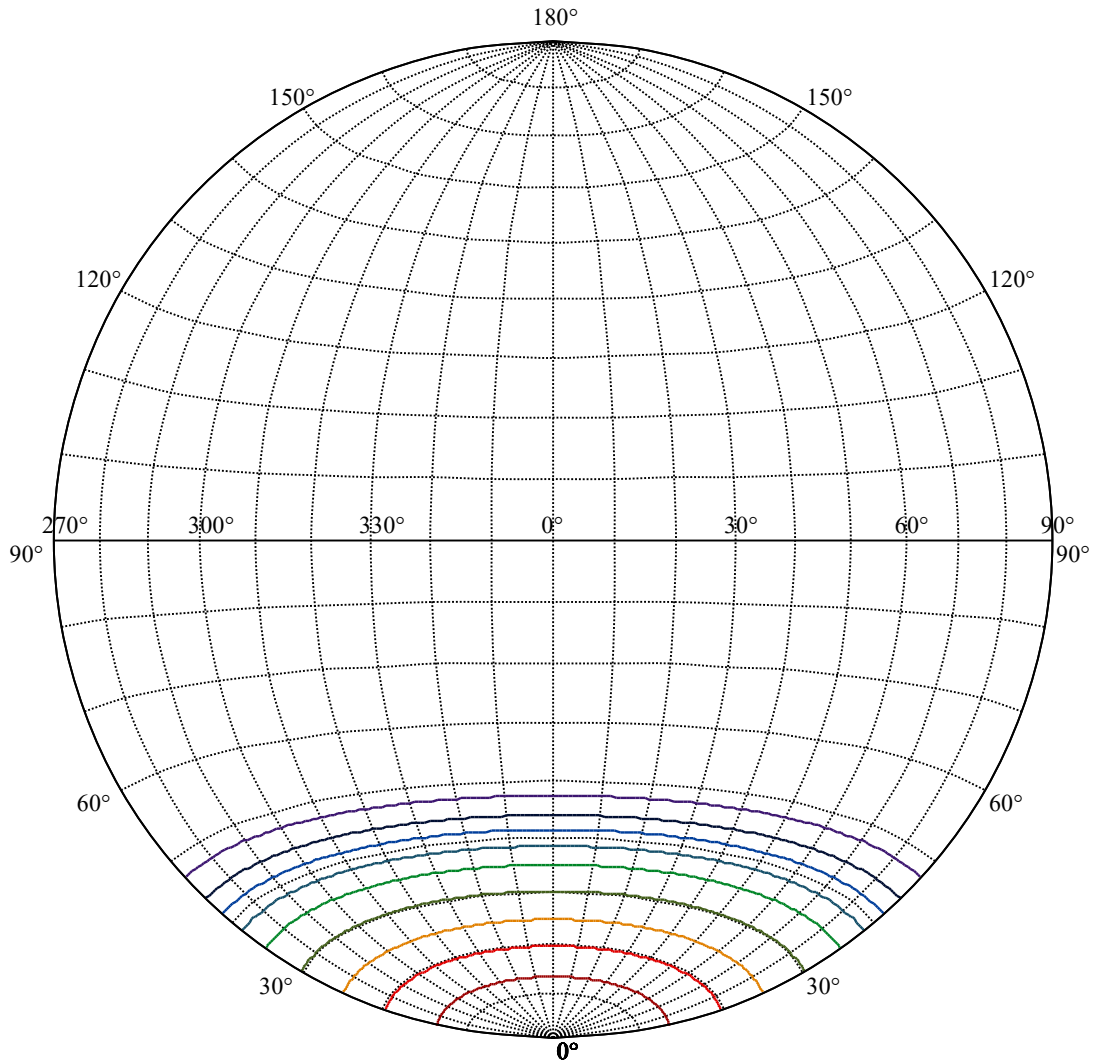
Beam Angle(50%Imax):C0/180Left:35.1 Right:35.1

:C90/270Left:35.1 Right:35.1





(10%Imax) 165.362	—
(20%Imax) 330.724	—
(30%Imax) 496.086	—
(40%Imax) 661.448	—
(50%Imax) 826.81	—
(60%Imax) 992.172	—
(70%Imax) 1157.53	—
(80%Imax) 1322.9	—
(90%Imax) 1488.26	—



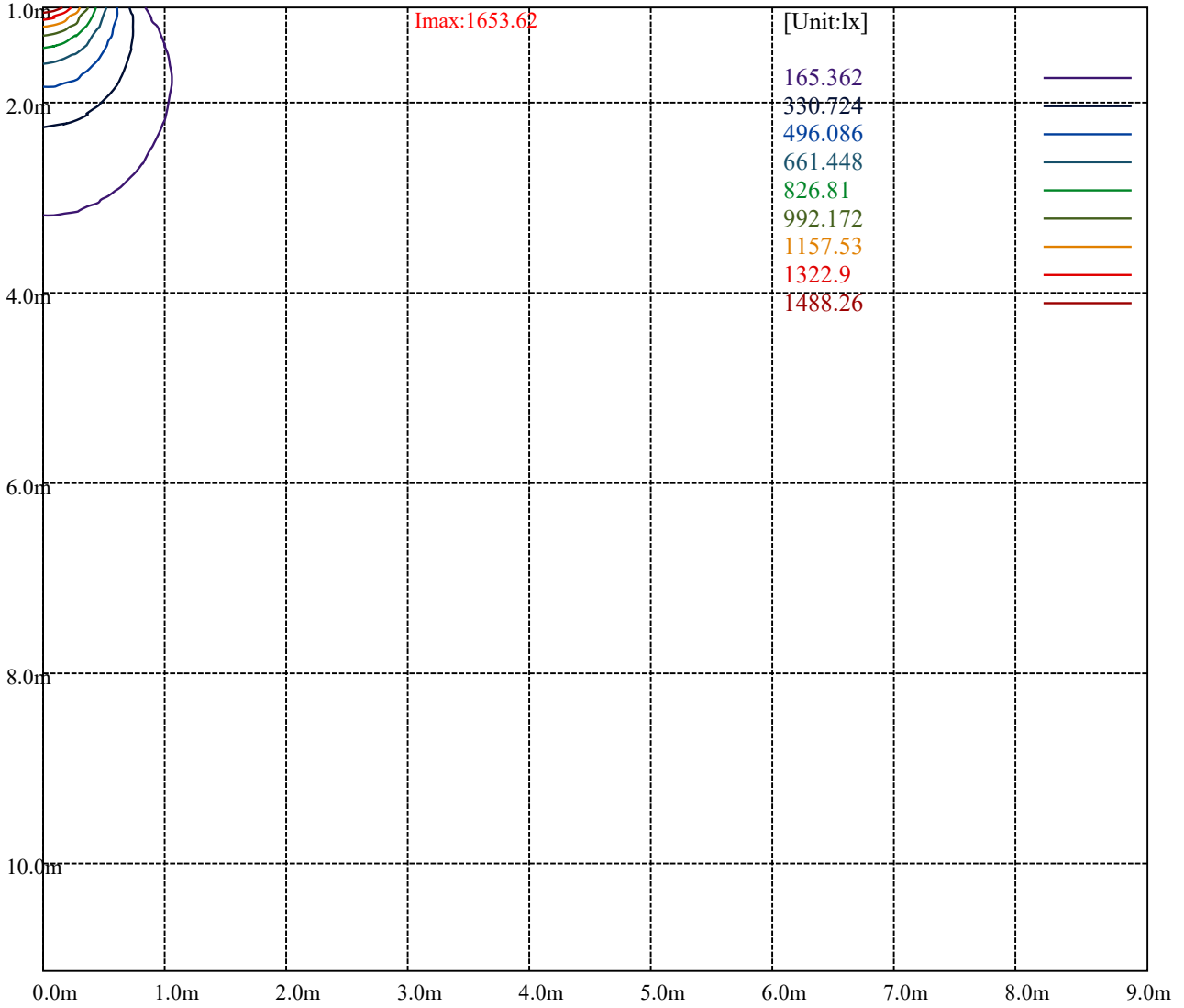
House

[Unit:cd]

Road

I_{max}:1653.62

(10%I _{max}) 165.362	—
(20%I _{max}) 330.724	—
(30%I _{max}) 496.086	—
(40%I _{max}) 661.448	—
(50%I _{max}) 826.81	—
(60%I _{max}) 992.172	—
(70%I _{max}) 1157.53	—
(80%I _{max}) 1322.9	—
(90%I _{max}) 1488.26	—



Luminance Table

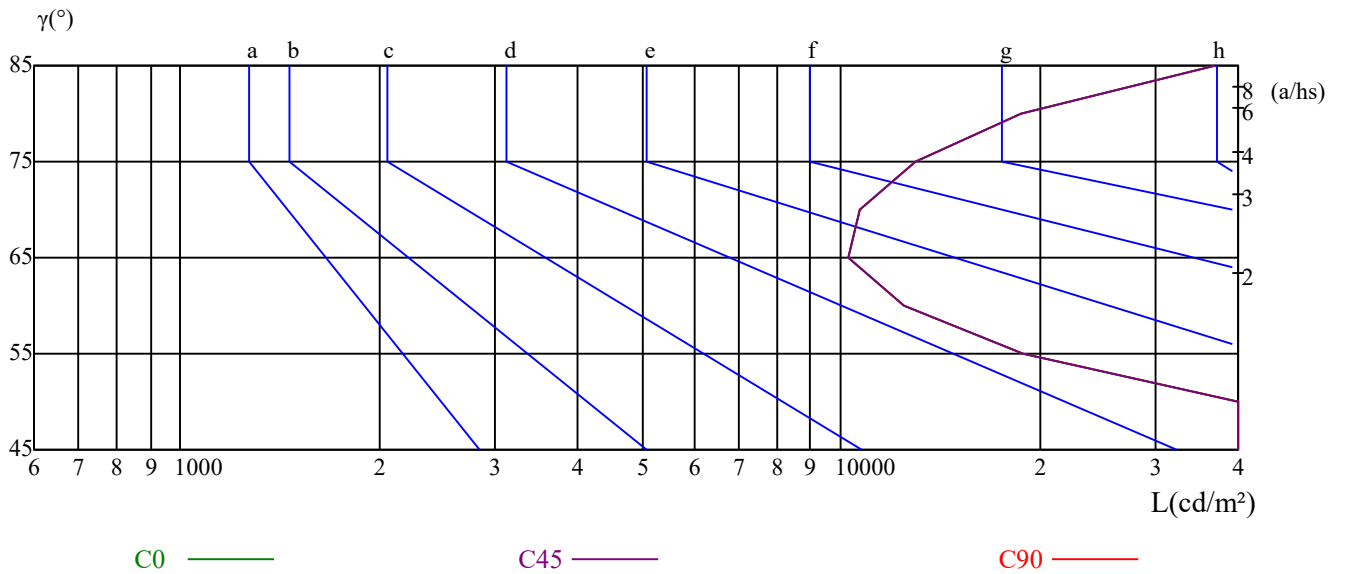
γ	45	50	55	60	65	70	75	80	85
C0	181862	43732	18877	12444	10289	10689	13006	18730	36795
C45	181862	43732	18877	12444	10289	10689	13006	18730	36795
C90	181862	43732	18877	12444	10289	10689	13006	18730	36795

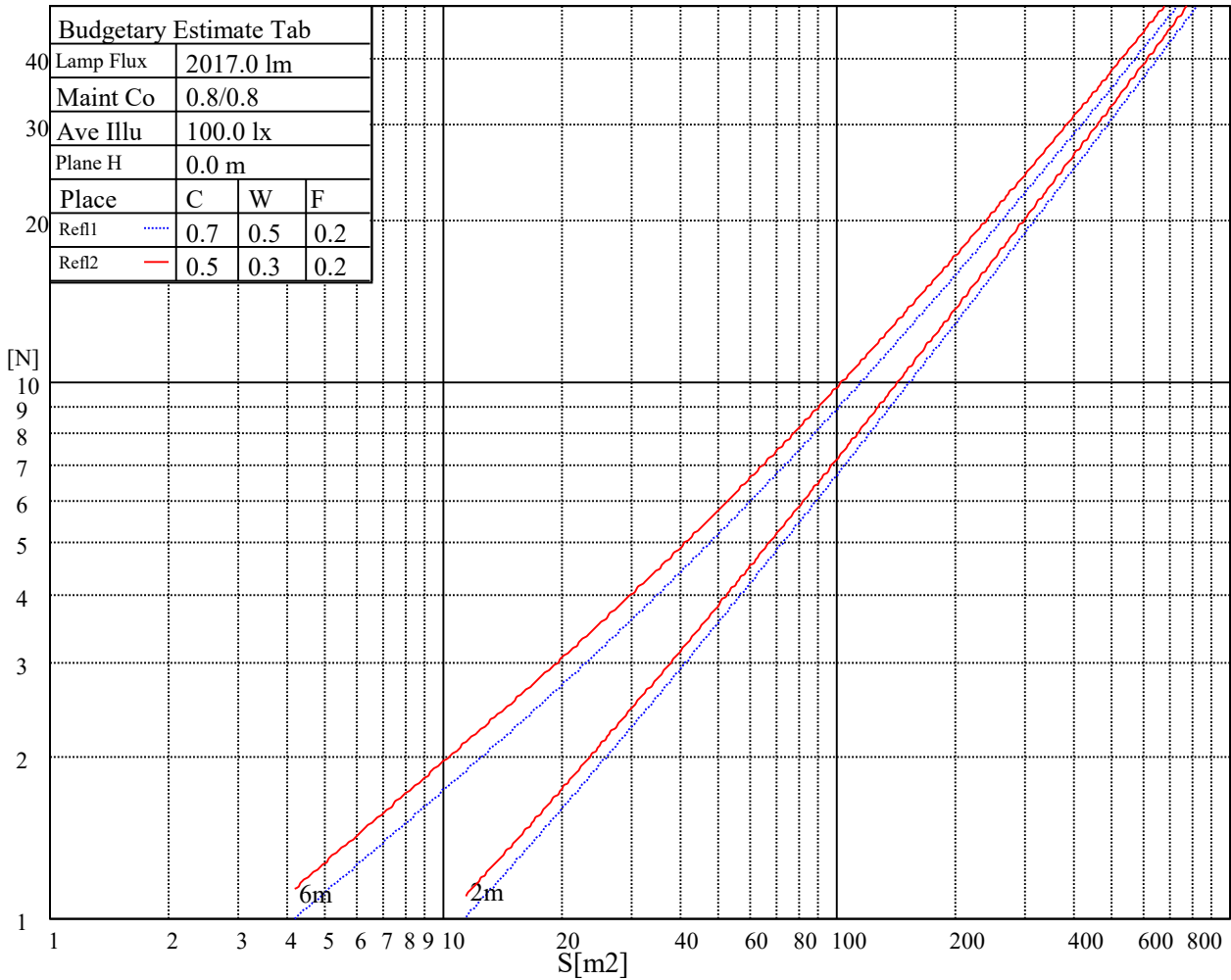
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
10289	10289	10289	13006	13006	13006	36795	36795	36795

Glare Table

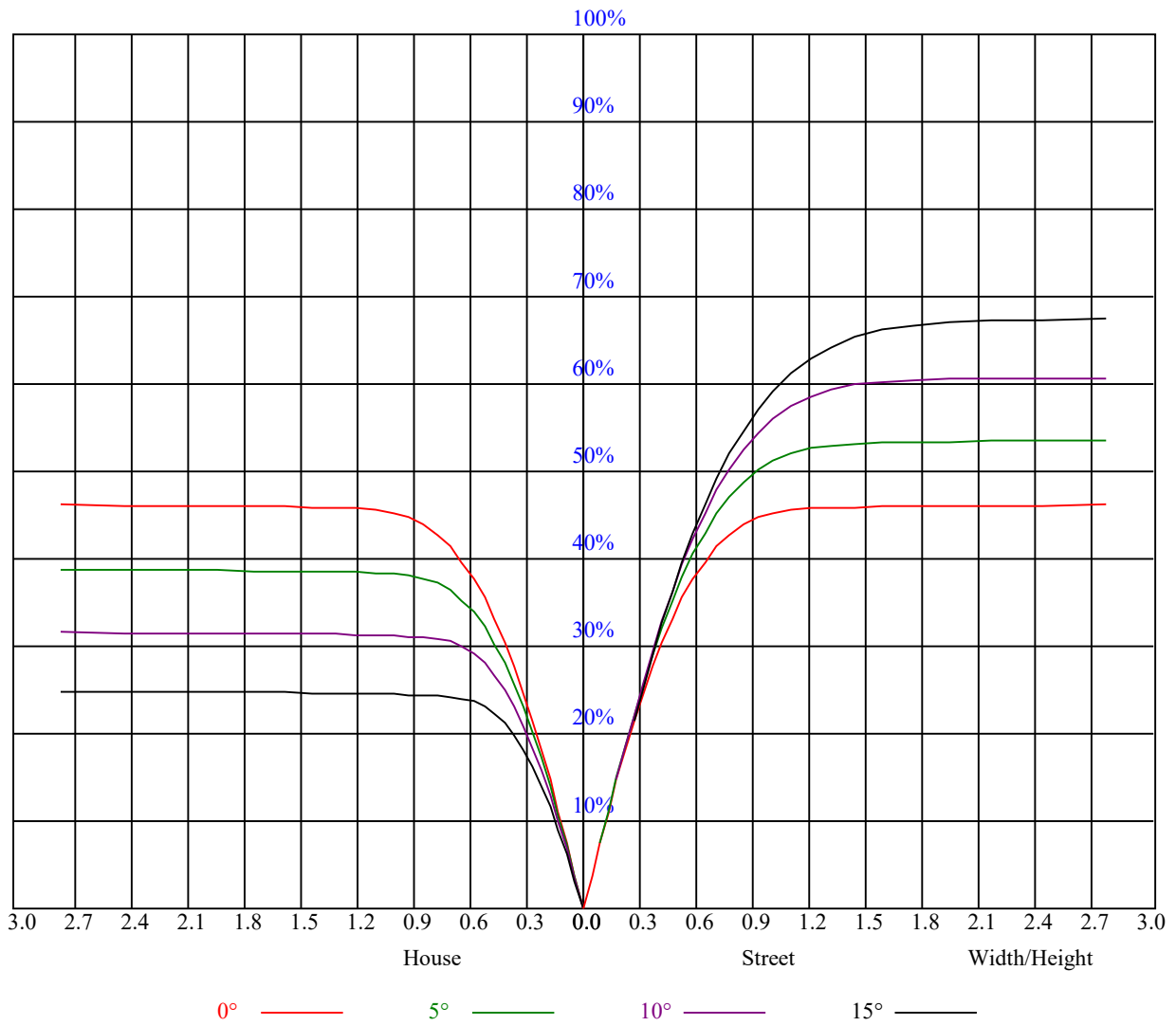
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

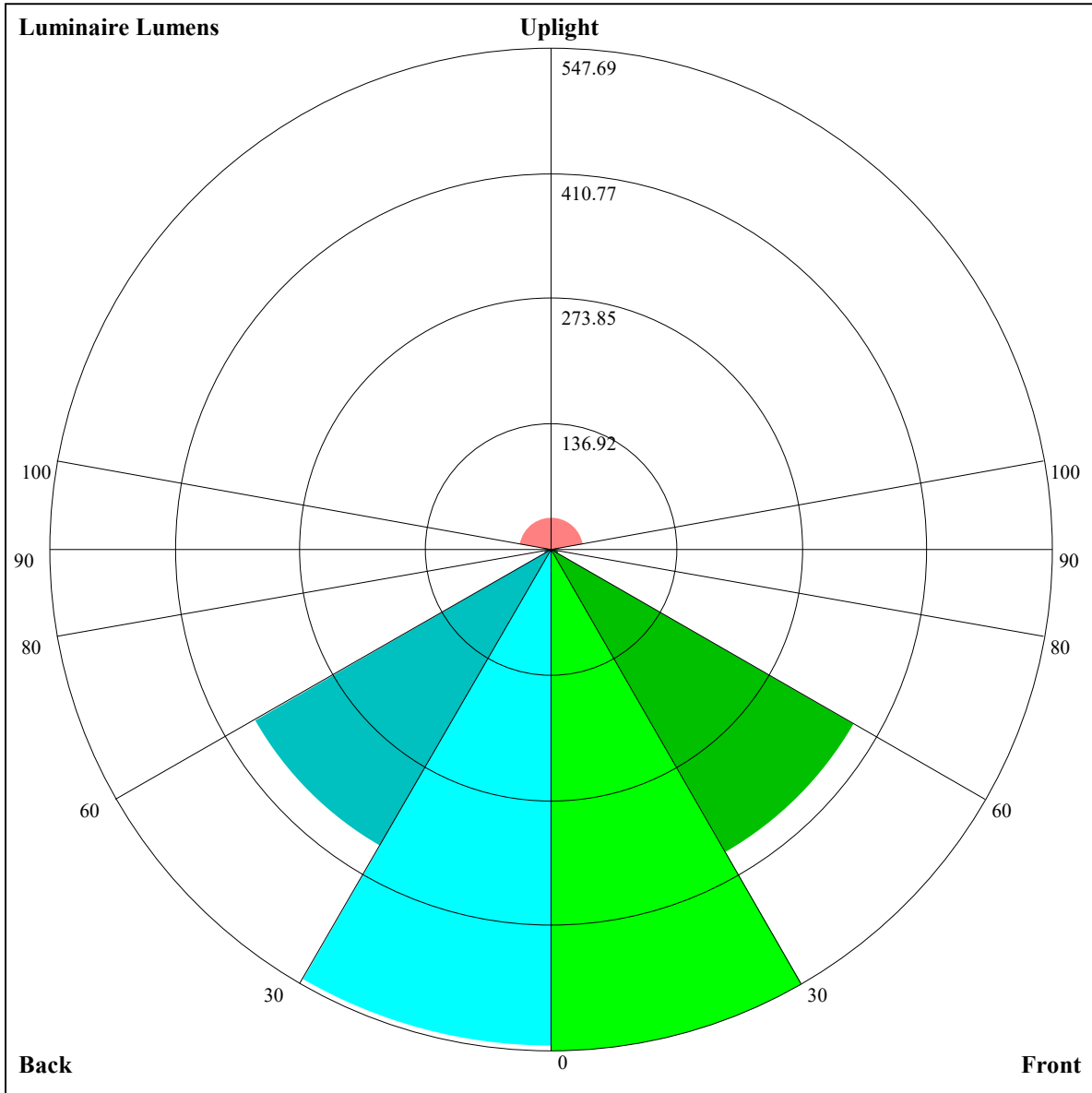
Luminance Limiting Curve





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	1.08	1.08	1.08	1.03	1.03	1.03	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.02	1.00	0.97	1.00	0.98	0.96	0.96	0.95	0.93	0.93	0.91	0.90	0.90	0.89	0.87	0.86
2	0.95	0.91	0.88	0.93	0.90	0.87	0.90	0.87	0.85	0.87	0.85	0.83	0.85	0.83	0.81	0.80
3	0.88	0.83	0.80	0.87	0.83	0.79	0.84	0.81	0.78	0.82	0.79	0.76	0.80	0.77	0.75	0.74
4	0.82	0.77	0.73	0.81	0.76	0.72	0.79	0.75	0.72	0.77	0.74	0.71	0.76	0.72	0.70	0.68
5	0.77	0.71	0.67	0.76	0.71	0.67	0.74	0.70	0.66	0.73	0.69	0.66	0.71	0.68	0.65	0.64
6	0.72	0.66	0.62	0.71	0.66	0.62	0.70	0.65	0.62	0.69	0.64	0.61	0.67	0.64	0.61	0.59
7	0.68	0.62	0.58	0.67	0.62	0.58	0.66	0.61	0.57	0.65	0.60	0.57	0.64	0.60	0.57	0.55
8	0.64	0.58	0.54	0.63	0.58	0.54	0.62	0.57	0.54	0.61	0.57	0.53	0.60	0.56	0.53	0.52
9	0.60	0.54	0.51	0.60	0.54	0.51	0.59	0.54	0.50	0.58	0.53	0.50	0.57	0.53	0.50	0.49
10	0.57	0.51	0.48	0.56	0.51	0.47	0.56	0.51	0.47	0.55	0.50	0.47	0.54	0.50	0.47	0.46





Luminaire Lumens:

FL=547.69,FM=381.64,FH=8.95,FVH=3.72

BL=542.63,BM=375.33,BH=8.34,BVH=3.71

UL=7.37,UH=35.05

BUG Rating:B2-U2-G0

Nata 1689-M

Intensity data(cd)

C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	1644.53	1639.58	1591.13	1481.02	1340.07	1183.71	1016.34	864.94	627.64
45.0	1655.00	1631.32	1570.76	1452.94	1307.59	1138.02	976.70	803.82	538.45
90.0	1655.55	1622.51	1533.32	1414.95	1269.60	1098.43	939.76	762.31	480.09
135.0	1657.75	1636.28	1548.19	1441.38	1293.27	1149.03	983.31	810.98	568.73
180.0	1647.84	1614.80	1534.42	1413.30	1287.22	1093.03	982.65	817.75	551.39
225.0	1655.00	1629.12	1568.56	1452.94	1323.56	1188.12	1027.02	858.71	646.25
270.0	1655.55	1649.49	1602.14	1502.49	1357.69	1226.66	1064.24	902.37	695.36
315.0	1657.75	1647.84	1584.52	1474.41	1325.21	1153.98	1015.63	848.91	615.31
360.0	1644.53	1639.58	1591.13	1481.02	1340.07	1183.71	1016.34	864.94	627.64
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	289.60	69.04	28.02	16.90	11.23	8.75	7.38	6.88	6.72
45.0	289.60	52.74	23.73	14.20	9.69	7.87	7.10	6.88	6.83
90.0	143.81	41.46	18.55	11.84	8.92	7.54	7.05	6.83	6.83
135.0	289.60	50.65	19.77	11.62	8.48	7.49	7.05	6.83	6.77
180.0	203.54	51.31	20.15	11.51	8.48	7.49	6.99	6.77	6.72
225.0	292.29	62.43	21.58	12.00	8.42	7.38	7.10	6.94	6.83
270.0	388.15	85.78	26.65	13.65	9.03	7.65	7.16	6.99	6.83
315.0	280.29	62.43	24.83	13.60	9.36	7.71	7.16	6.94	6.77
360.0	289.60	69.04	28.02	16.90	11.23	8.75	7.38	6.88	6.72
C/ γ (°)	90.0								
0.0	6.72								
45.0	6.77								
90.0	6.77								
135.0	6.72								
180.0	6.72								
225.0	6.83								
270.0	6.77								
315.0	6.72								
360.0	6.72								