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Nata

Client:

LumCAT: 3-2093-M

Luminaire: 92.70.136.00

Report No: nata-0100

Test No:

LampCAT: CREE CMT2850

Lamp flux(lm): 3332.0

Number of Lamps: 1

Length(mm): 79

Phm Type: C

Voltage(V): 34.1000

Current(A): 0.6500

Power (W): 22.1650

PF: 0.0000

Ballast type: DC

Width(mm): 79

Height(mm): 0

Photometric Results

Lumens(lm): 2942.14, Efficiency(%): 88.30% , Luminous Efficacy(lm/W): 132.74

Central intensity(cd): 10623.130, Maximum intensity(cd): 10623.130

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=23.8

[C90/270]Total=23.8

Field angle(10%Imax): [C0/180]Total=59.8

[C90/270]Total=59.8

Maximum s/h(1/2): C0_180=0.41 C90_270=0.41

Maximum s/h(1/4): C0_180=0.41 C90_270=0.41

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 88.96%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.964%

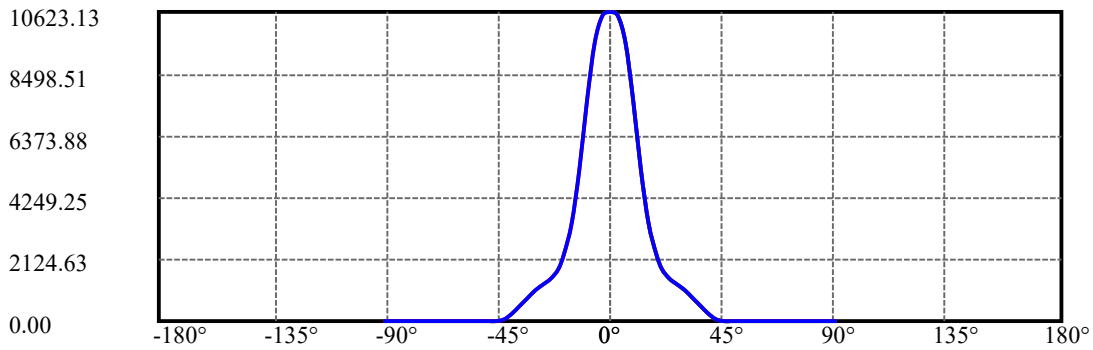
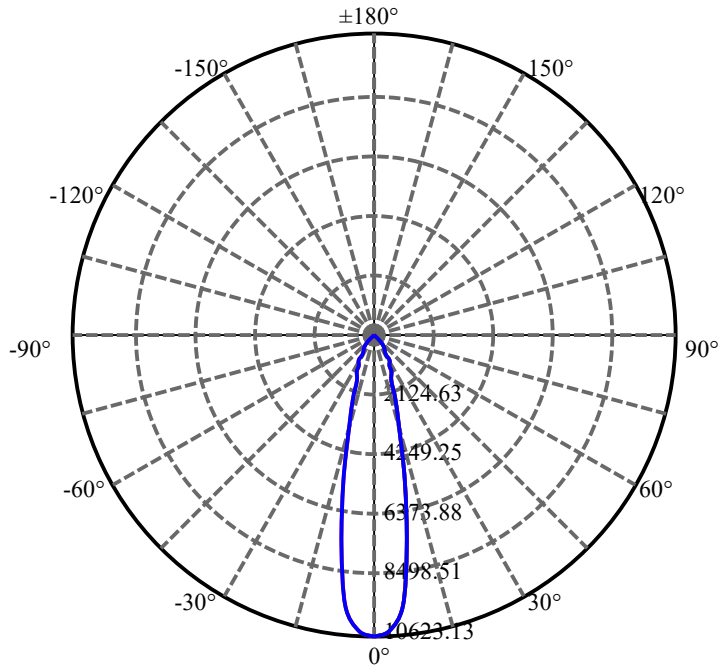
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	10623.132	22.873	22.873	.686%	.777%
3.0	10463.262	180.134	203.007	5.406%	6.900%
6.0	9583.048	329.509	532.516	9.889%	18.100%
9.0	7560.345	389.048	921.563	11.676%	31.323%
12.0	5237.791	358.225	1279.788	10.751%	43.499%
15.0	3384.248	288.129	1567.918	8.647%	53.292%
18.0	2323.587	236.195	1804.112	7.089%	61.320%
21.0	1750.036	206.303	2010.415	6.192%	68.332%
24.0	1432.912	191.717	2202.133	5.754%	74.848%
27.0	1240.077	185.193	2387.325	5.558%	81.142%
30.0	1054.309	173.407	2560.733	5.204%	87.036%
33.0	794.120	142.273	2703.006	4.270%	91.872%
36.0	523.401	101.200	2804.206	3.037%	95.312%
39.0	275.213	56.973	2861.179	1.710%	97.248%
42.0	76.432	16.823	2878.003	.505%	97.820%
45.0	24.177	5.624	2883.626	.169%	98.011%
48.0	17.405	4.255	2887.881	.128%	98.156%
51.0	15.939	4.075	2891.956	.122%	98.294%
54.0	14.851	3.952	2895.908	.119%	98.429%
57.0	14.074	3.883	2899.791	.117%	98.561%
60.0	13.599	3.874	2903.665	.116%	98.692%
63.0	13.275	3.891	2907.556	.117%	98.825%
66.0	13.165	3.956	2911.512	.119%	98.959%
69.0	13.310	4.087	2915.599	.123%	99.098%
72.0	13.227	4.138	2919.738	.124%	99.239%
75.0	12.869	4.089	2923.827	.123%	99.378%
78.0	12.691	4.083	2927.91	.123%	99.516%
81.0	12.587	4.090	2932	.123%	99.655%
84.0	12.498	4.089	2936.088	.123%	99.794%
87.0	12.319	4.047	2940.135	.121%	99.932%
90.0	12.188	2.005	2942.14	.060%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2560.73	76.85%	87.04%
0-40	2861.18	85.87%	97.25%
0-60	2903.66	87.15%	98.69%
0-90	2940.14	88.24%	99.93%
0-120	2940.14	88.24%	99.93%
0-180	2942.14	88.30%	100.00%
60-90	40.34	1.21%	1.37%
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%
0-26.46	2353.71	70.64%	80.00%

ZONAL LUMEN SUMMARY

0-10	921.56
10-20	882.55
20-30	756.62
30-40	300.45
40-50	26.70
50-60	15.78
60-70	11.93
70-80	12.31
80-90	12.22
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: —————

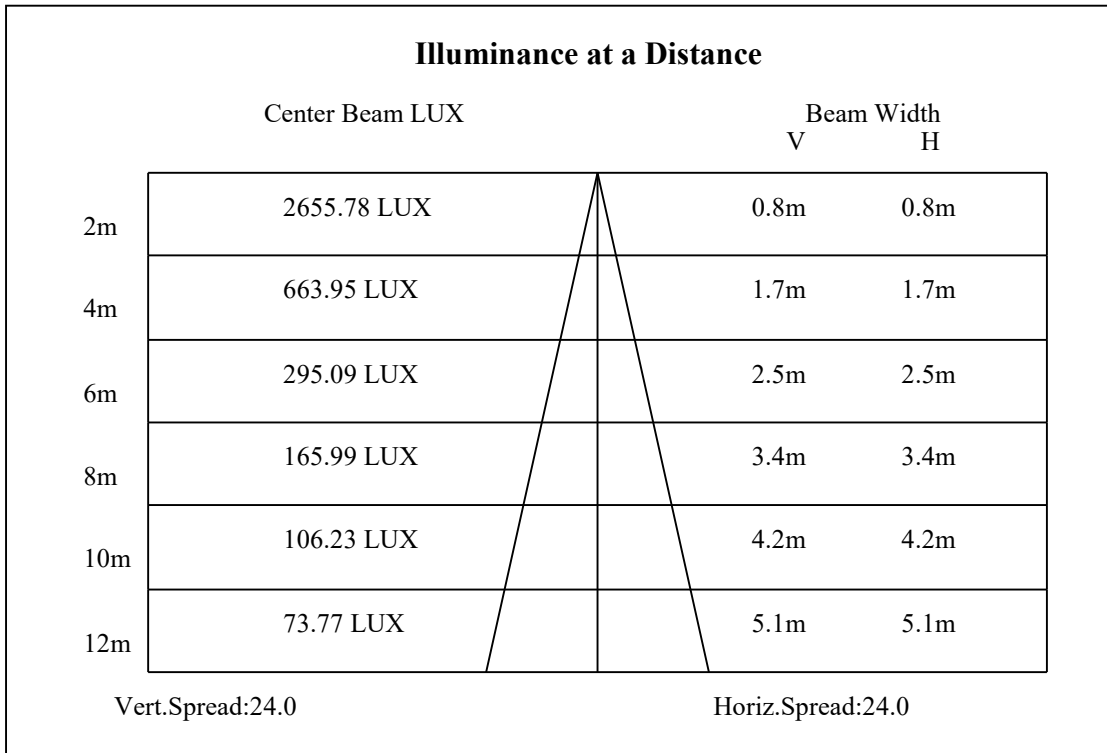
C90/C270: —————

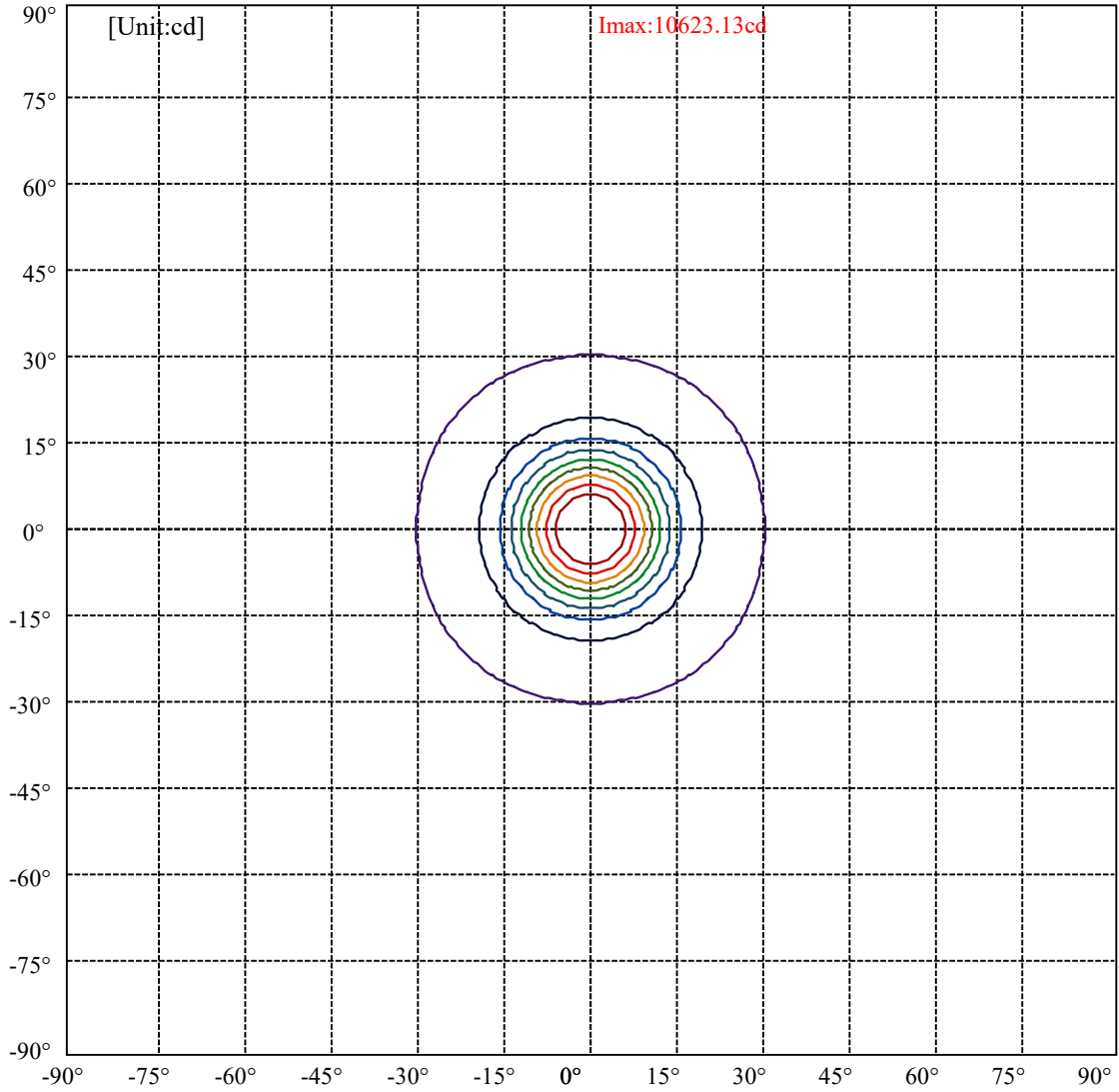
Field angle(10%Imax):C0/180Left:29.9 Right:29.9

:C90/270Left:29.9 Right:29.9

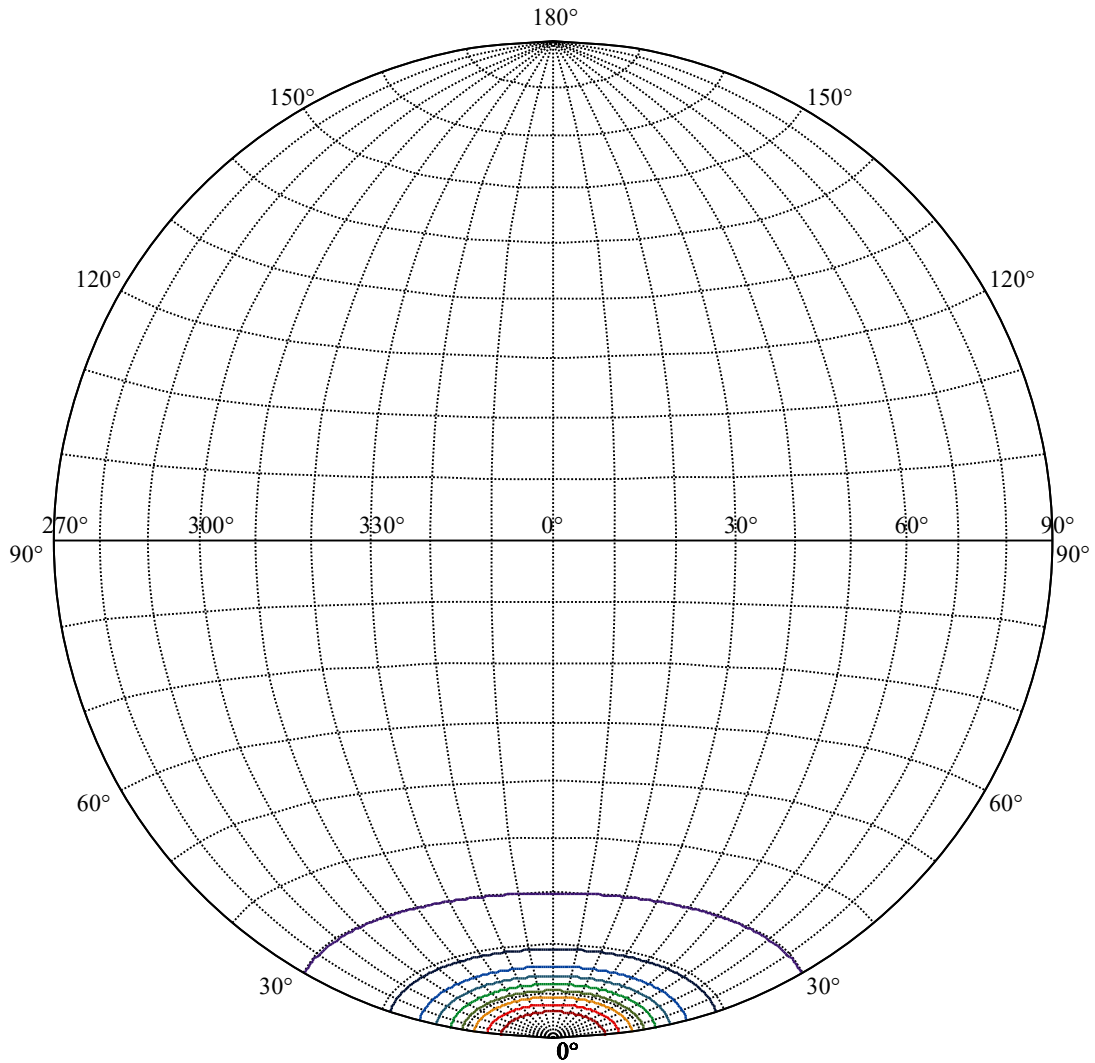
Beam Angle(50%Imax):C0/180Left:11.9 Right:11.9

:C90/270Left:11.9 Right:11.9





(10%Imax) 1062.31	—
(20%Imax) 2124.63	—
(30%Imax) 3186.94	—
(40%Imax) 4249.25	—
(50%Imax) 5311.57	—
(60%Imax) 6373.88	—
(70%Imax) 7436.19	—
(80%Imax) 8498.51	—
(90%Imax) 9560.82	—



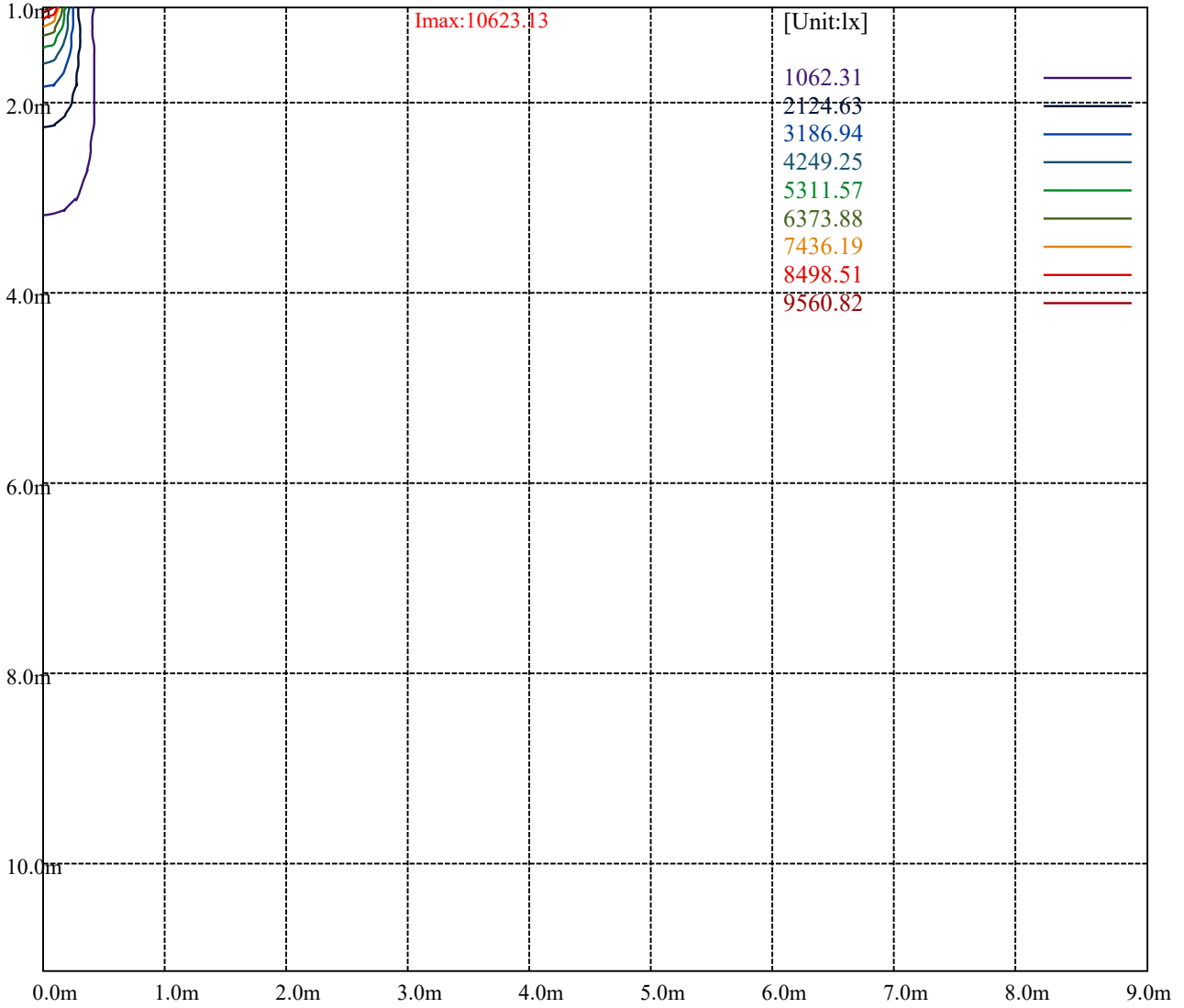
House

[Unit:cd]

Road

Imax:10623.13

(10%Imax) 1062.31	—
(20%Imax) 2124.63	—
(30%Imax) 3186.94	—
(40%Imax) 4249.25	—
(50%Imax) 5311.57	—
(60%Imax) 6373.88	—
(70%Imax) 7436.19	—
(80%Imax) 8498.51	—
(90%Imax) 9560.82	—



Luminance Table

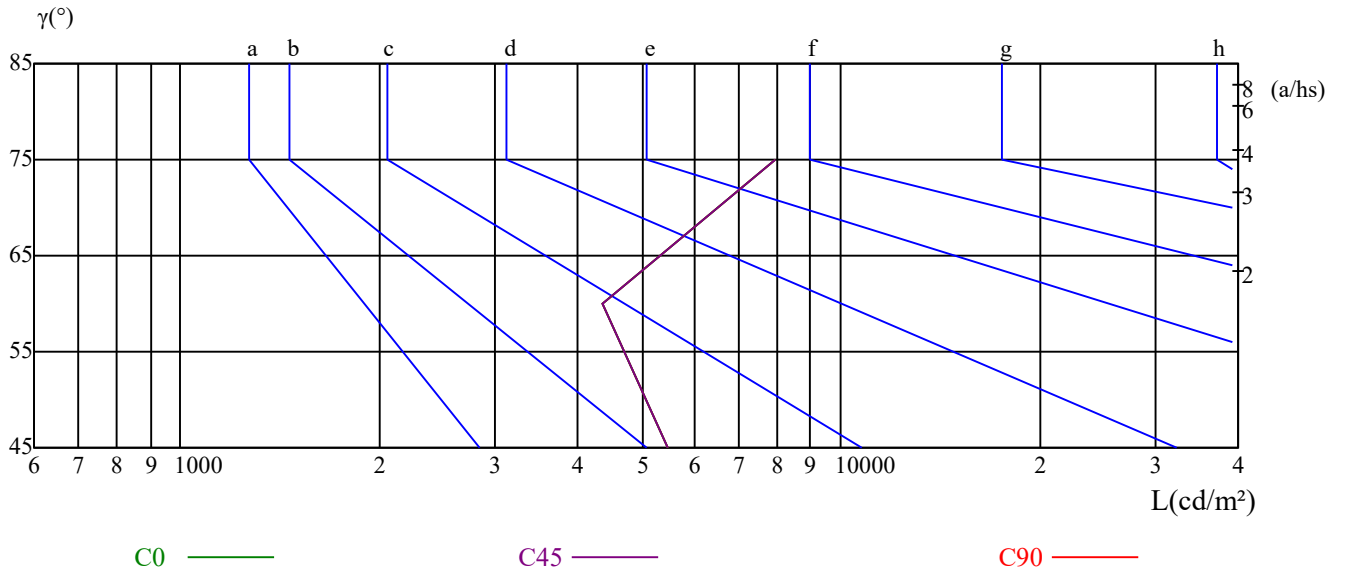
γ	45	50	55	60	65	70	75	80	85
C0	5478	0	0	4358	0	0	7967	0	0
C45	5478	0	0	4358	0	0	7967	0	0
C90	5478	0	0	4358	0	0	7967	0	0

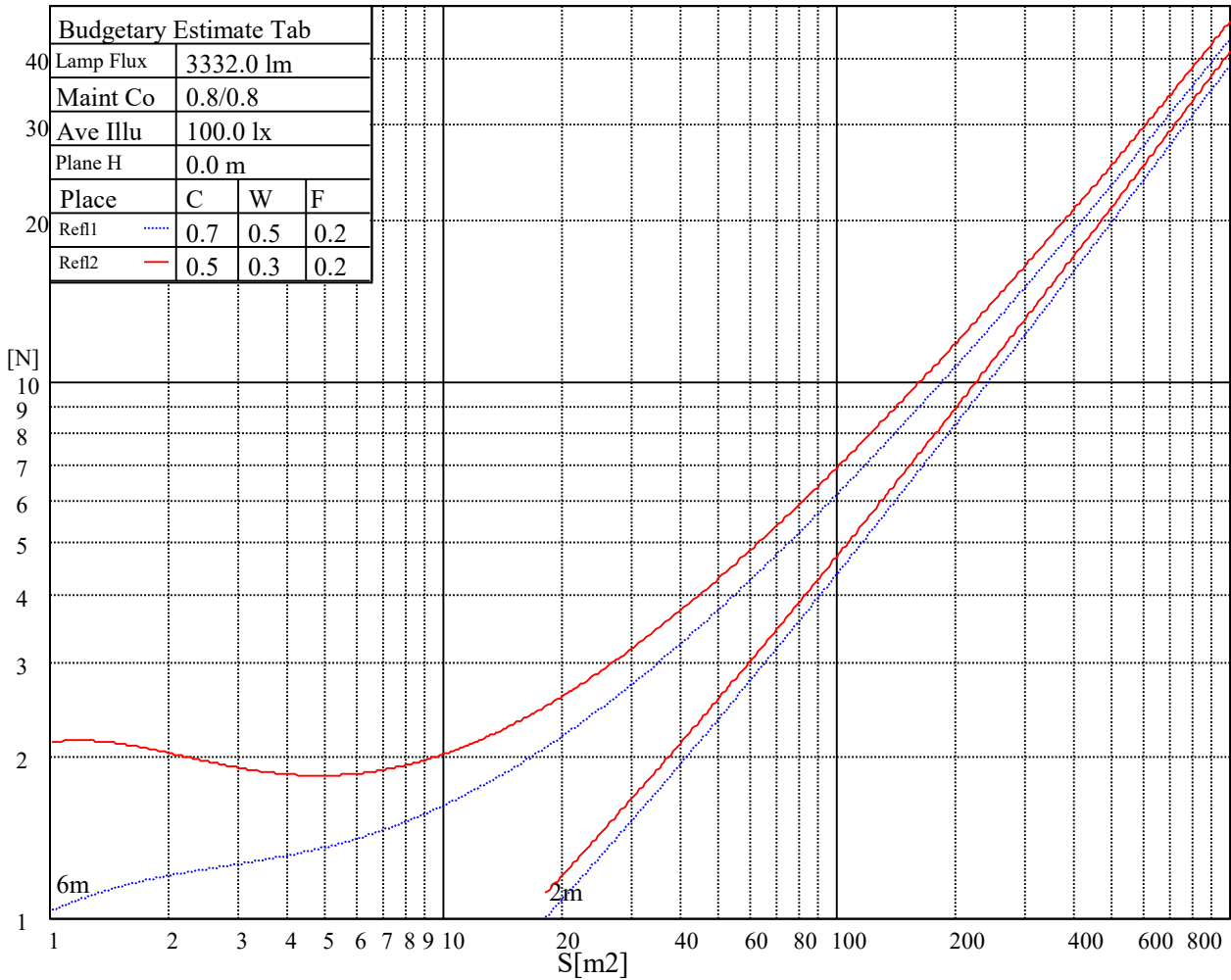
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5106	5106	5106	7967	7967	7967	22951	22951	22951

Glare Table

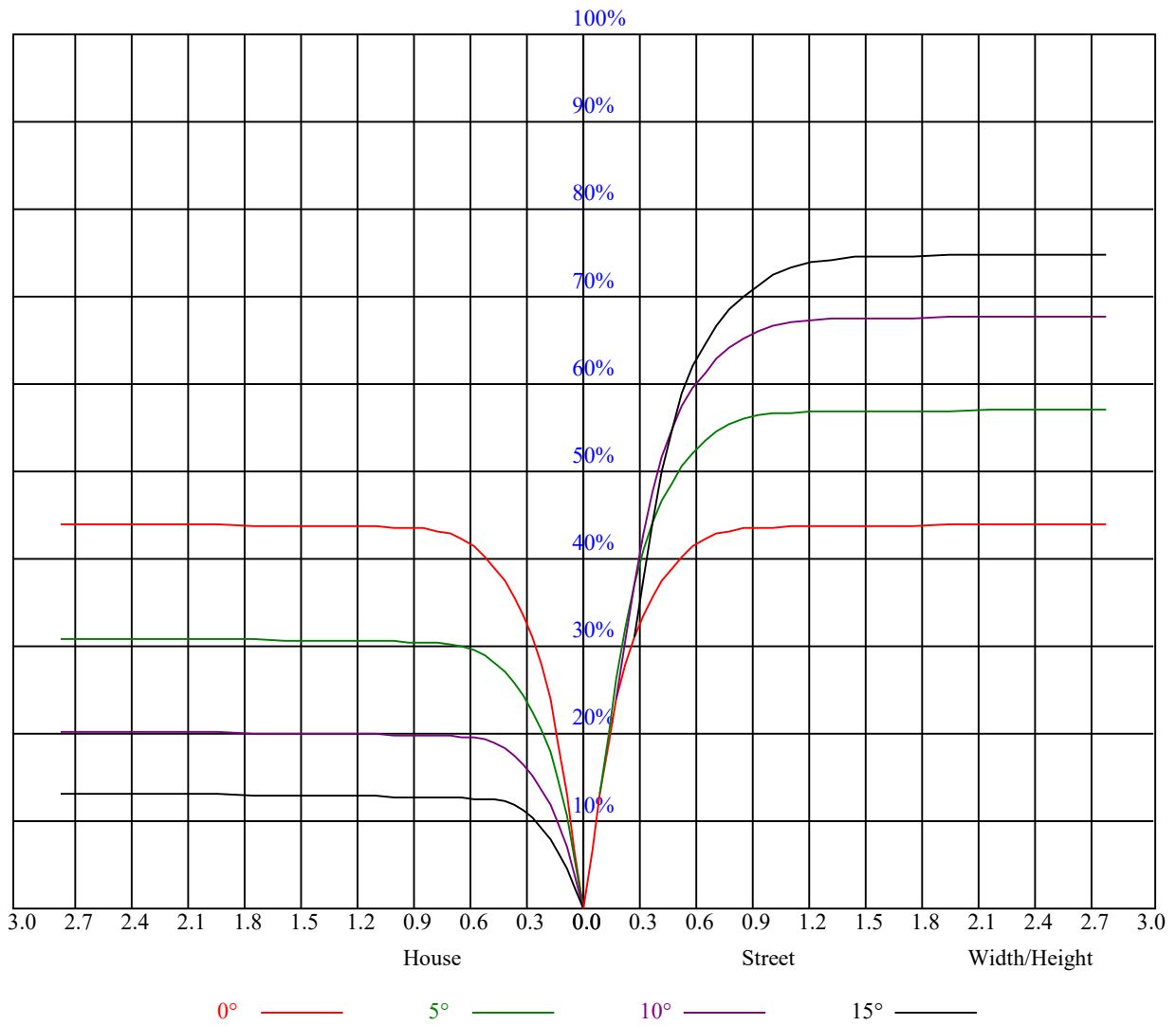
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

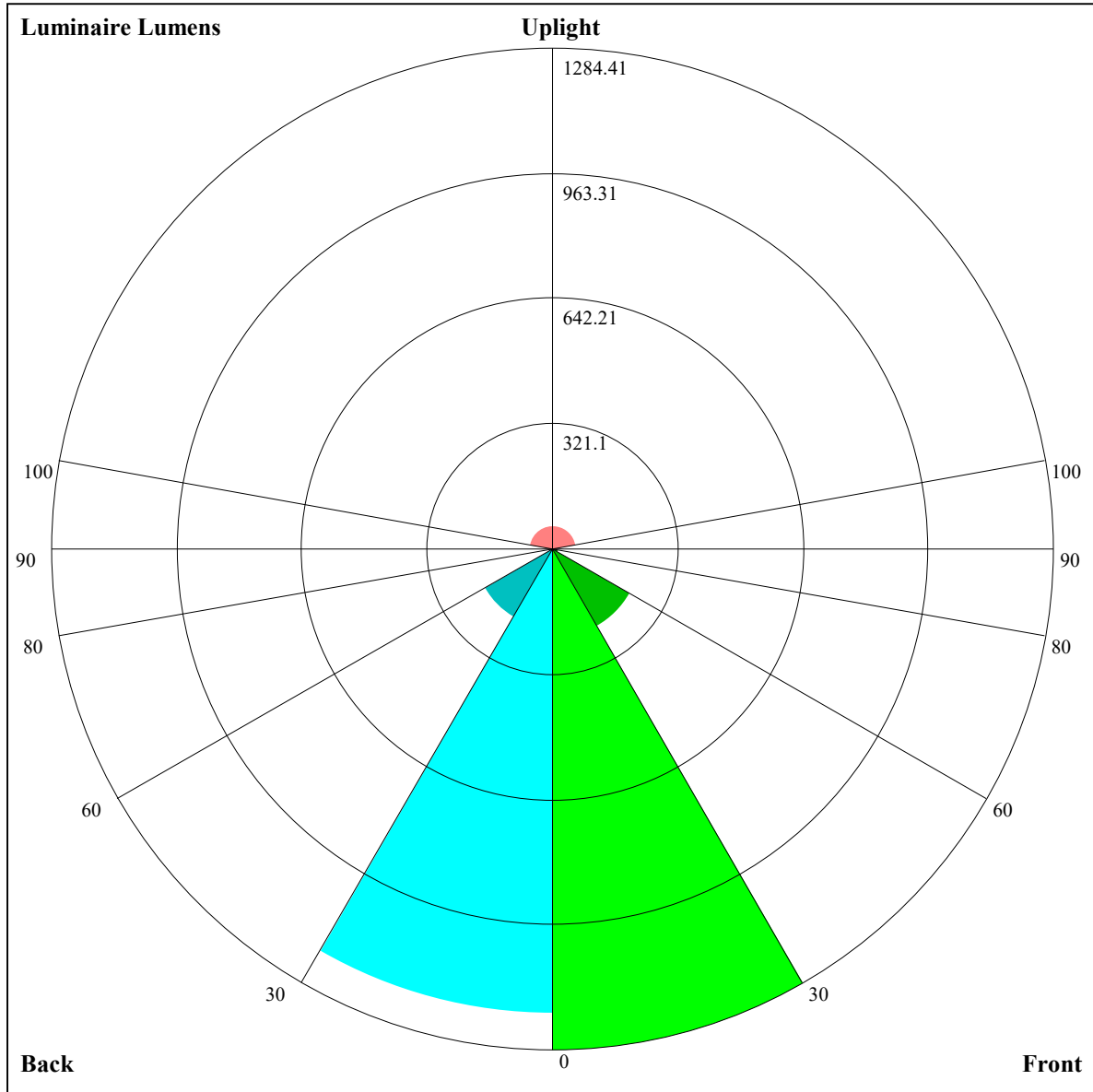
Luminance Limiting Curve





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	1.06	1.06	1.06	1.03	1.03	1.03	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	0.96	0.93	0.91	0.94	0.92	0.89	0.90	0.88	0.86	0.87	0.85	0.84	0.84	0.83	0.81	0.80
2	0.88	0.84	0.80	0.87	0.83	0.79	0.84	0.80	0.77	0.81	0.78	0.76	0.78	0.76	0.74	0.72
3	0.81	0.76	0.71	0.80	0.75	0.71	0.77	0.73	0.70	0.75	0.71	0.69	0.73	0.70	0.67	0.66
4	0.74	0.69	0.64	0.73	0.68	0.64	0.71	0.67	0.63	0.69	0.65	0.62	0.68	0.64	0.61	0.60
5	0.69	0.63	0.58	0.68	0.62	0.58	0.66	0.61	0.57	0.64	0.60	0.57	0.63	0.59	0.56	0.55
6	0.63	0.57	0.53	0.63	0.57	0.52	0.61	0.56	0.52	0.60	0.55	0.52	0.59	0.55	0.51	0.50
7	0.59	0.52	0.48	0.58	0.52	0.48	0.57	0.51	0.48	0.56	0.51	0.47	0.55	0.50	0.47	0.46
8	0.54	0.48	0.44	0.54	0.48	0.44	0.53	0.47	0.44	0.52	0.47	0.43	0.51	0.46	0.43	0.42
9	0.50	0.44	0.40	0.50	0.44	0.40	0.49	0.44	0.40	0.48	0.43	0.40	0.47	0.43	0.40	0.38
10	0.47	0.41	0.37	0.46	0.41	0.37	0.46	0.40	0.37	0.45	0.40	0.37	0.44	0.40	0.36	0.35





Luminaire Lumens:

FL=1284.41,FM=229.87,FH=13.67,FVH=6.81

BL=1191.61,BM=201.66,BH=13.13,BVH=6.73

UL=13.3,UH=63.28

BUG Rating:B3-U2-G0

Intensity data(cd)

C/γ(°)	0.0	3.0	6.0	9.0	12.0	15.0	18.0	21.0	24.0
0.0	10610.47	10581.29	10063.76	8442.35	6170.72	4031.78	2673.54	1949.00	1552.59
45.0	10625.89	10570.83	9957.50	8163.21	5839.83	3785.68	2538.10	1859.81	1492.03
90.0	10626.44	10477.23	9681.67	7640.73	5225.95	3336.42	2286.49	1714.46	1414.95
135.0	10629.74	10468.97	9556.69	7451.33	5135.11	3290.17	2266.67	1713.36	1405.04
180.0	10610.47	10260.31	8935.10	6563.27	4343.40	2858.53	2037.64	1581.77	1334.57
225.0	10625.89	10369.32	9219.19	6975.65	4667.68	3041.87	2148.85	1660.50	1383.02
270.0	10626.44	10481.64	9597.43	7536.67	5243.02	3352.93	2310.17	1758.50	1441.93
315.0	10629.74	10496.50	9653.04	7709.55	5276.61	3376.61	2327.23	1762.91	1439.17
360.0	10610.47	10581.29	10063.76	8442.35	6170.72	4031.78	2673.54	1949.00	1552.59

C/γ(°)	27.0	30.0	33.0	36.0	39.0	42.0	45.0	48.0	51.0
0.0	1316.95	1158.94	918.34	646.91	378.24	143.64	31.55	18.72	16.68
45.0	1280.61	1121.50	856.68	584.15	327.04	105.98	28.57	18.50	16.74
90.0	1228.31	1033.41	767.71	502.00	250.89	65.57	23.18	17.34	16.02
135.0	1227.76	1034.51	763.63	498.81	281.89	58.91	22.79	17.07	15.75
180.0	1170.50	950.60	688.92	423.16	192.53	37.66	18.88	16.35	15.20
225.0	1205.18	1004.01	742.16	462.75	210.43	48.78	20.37	16.63	15.36
270.0	1244.83	1068.09	808.78	532.95	284.09	67.17	23.23	17.34	15.91
315.0	1246.48	1063.41	806.74	536.47	276.60	83.74	24.83	17.29	15.86
360.0	1316.95	1158.94	918.34	646.91	378.24	143.64	31.55	18.72	16.68

C/γ(°)	54.0	57.0	60.0	63.0	66.0	69.0	72.0	75.0	78.0
0.0	15.47	14.42	13.87	13.54	14.04	14.92	14.76	13.54	13.10
45.0	15.53	14.59	13.98	13.60	13.49	14.37	14.42	13.49	13.16
90.0	14.92	14.20	13.76	13.38	13.16	12.99	12.88	12.72	12.61
135.0	14.76	13.93	13.49	13.21	13.05	12.83	12.66	12.55	12.44
180.0	14.15	13.60	13.27	12.99	12.77	12.66	12.55	12.50	12.44
225.0	14.37	13.71	13.32	13.05	12.83	12.66	12.55	12.44	12.39
270.0	14.81	14.04	13.54	13.21	12.94	12.77	12.66	12.55	12.50
315.0	14.81	14.09	13.54	13.21	13.05	13.27	13.32	13.16	12.88
360.0	15.47	14.42	13.87	13.54	14.04	14.92	14.76	13.54	13.10

C/γ(°)	81.0	84.0	87.0	90.0
0.0	12.83	12.61	12.55	12.17
45.0	12.88	12.61	12.50	12.22
90.0	12.55	12.50	12.22	12.17
135.0	12.39	12.39	12.22	12.17
180.0	12.44	12.39	12.17	12.17
225.0	12.39	12.39	12.22	12.22
270.0	12.44	12.44	12.28	12.17
315.0	12.77	12.66	12.39	12.22
360.0	12.83	12.61	12.55	12.17