
Nata

Client:

LumCAT: 3-1701-N

Luminaire: 92.70.065.00+92.70.061.00

Report No: nata-0100

Test No:

LampCAT: CREE CMT1922

Lamp flux(lm): 2762.0

Number of Lamps: 1

Length(mm): 86

Phm Type: C

Voltage(V): 35.4000

Current(A): 0.6000

Power (W): 21.2400

PF: 0.0000

Ballast type: DC

Width(mm): 86

Height(mm): 0

Photometric Results

Lumens(lm): 2196.54, Efficiency(%): 79.53% , Luminous Efficacy(lm/W): 103.42

Central intensity(cd): 13889.350, Maximum intensity(cd): 13889.350

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=18.0

[C90/270]Total=18.0

Field angle(10%Imax): [C0/180]Total=34.2

[C90/270]Total=34.2

Maximum s/h(1/2): C0_180=0.31 C90_270=0.31

Maximum s/h(1/4): C0_180=0.30 C90_270=0.30

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 80.00%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.311%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	13889.353	13.292	13.292	.481%	.605%
2.0	13583.102	103.964	117.256	3.764%	5.338%
4.0	12431.735	190.187	307.443	6.886%	13.997%
6.0	10570.898	242.332	549.775	8.774%	25.029%
8.0	8227.766	251.132	800.908	9.093%	36.462%
10.0	5631.513	214.467	1015.375	7.765%	46.226%
12.0	3470.205	158.234	1173.608	5.729%	53.430%
14.0	2173.214	115.304	1288.912	4.175%	58.679%
16.0	1556.720	94.105	1383.017	3.407%	62.963%
18.0	1255.437	85.083	1468.1	3.081%	66.837%
20.0	1057.895	79.352	1547.452	2.873%	70.450%
22.0	892.155	73.296	1620.748	2.654%	73.786%
24.0	750.666	66.962	1687.71	2.424%	76.835%
26.0	625.668	60.152	1747.862	2.178%	79.573%
28.0	523.387	53.889	1801.751	1.951%	82.027%
30.0	445.090	48.807	1850.558	1.767%	84.249%
32.0	370.013	43.002	1893.56	1.557%	86.207%
34.0	311.550	38.208	1931.768	1.383%	87.946%
36.0	268.593	34.624	1966.392	1.254%	89.522%
38.0	224.541	30.318	1996.71	1.098%	90.903%
40.0	191.555	27.004	2023.714	.978%	92.132%
42.0	161.219	23.659	2047.373	.857%	93.209%
44.0	131.764	20.074	2067.447	.727%	94.123%
46.0	108.365	17.096	2084.543	.619%	94.901%
48.0	89.948	14.660	2099.203	.531%	95.569%
50.0	74.884	12.581	2111.783	.456%	96.141%
52.0	61.725	10.667	2122.451	.386%	96.627%
54.0	49.654	8.810	2131.261	.319%	97.028%
56.0	40.150	7.300	2138.561	.264%	97.361%
58.0	33.316	6.196	2144.757	.224%	97.643%
60.0	28.079	5.333	2150.09	.193%	97.885%
62.0	23.743	4.598	2154.688	.166%	98.095%
64.0	21.727	4.283	2158.971	.155%	98.290%
66.0	20.275	4.062	2163.033	.147%	98.475%
68.0	18.919	3.847	2166.88	.139%	98.650%
70.0	17.749	3.658	2170.538	.132%	98.816%
72.0	16.696	3.482	2174.02	.126%	98.975%
74.0	15.884	3.349	2177.369	.121%	99.127%

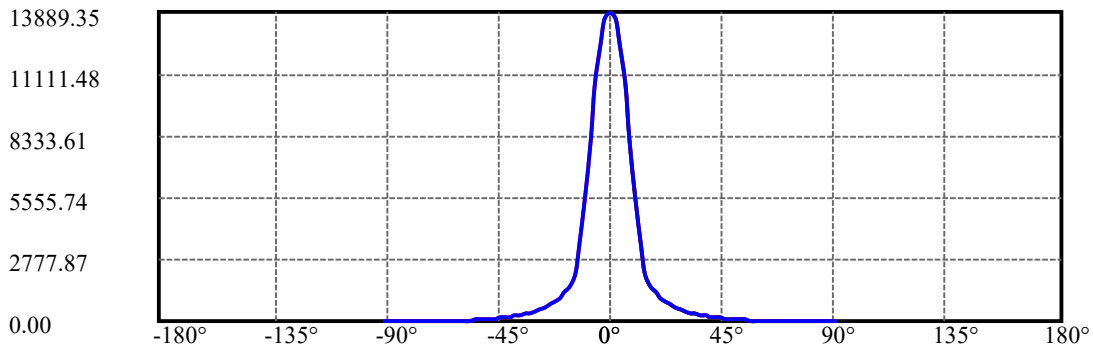
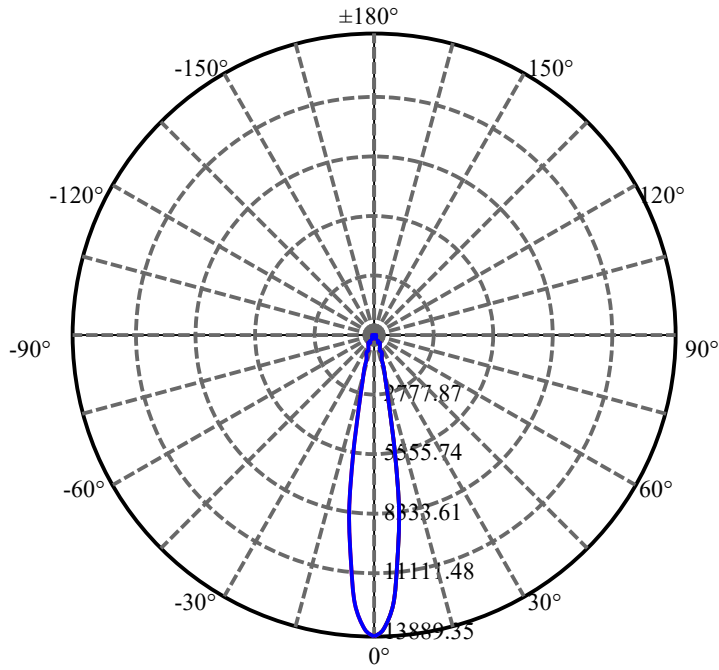
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	15.141	3.222	2180.59	.117%	99.274%
78.0	14.280	3.063	2183.654	.111%	99.413%
80.0	13.124	2.835	2186.488	.103%	99.542%
82.0	12.009	2.608	2189.097	.094%	99.661%
84.0	10.922	2.382	2191.479	.086%	99.770%
86.0	9.862	2.158	2193.636	.078%	99.868%
88.0	8.967	1.965	2195.602	.071%	99.957%
90.0	8.541	0.937	2196.538	.034%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1850.56	67.00%	84.25%
0-40	2023.71	73.27%	92.13%
0-60	2150.09	77.85%	97.89%
0-90	2195.60	79.49%	99.96%
0-120	2195.60	79.49%	99.96%
0-180	2196.54	79.53%	100.00%
60-90	50.84	1.84%	2.31%
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%
0-26.35	1757.23	63.62%	80.00%

ZONAL LUMEN SUMMARY

0-10	1015.37
10-20	532.08
20-30	303.11
30-40	173.16
40-50	88.07
50-60	38.31
60-70	20.45
70-80	15.95
80-90	9.11
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



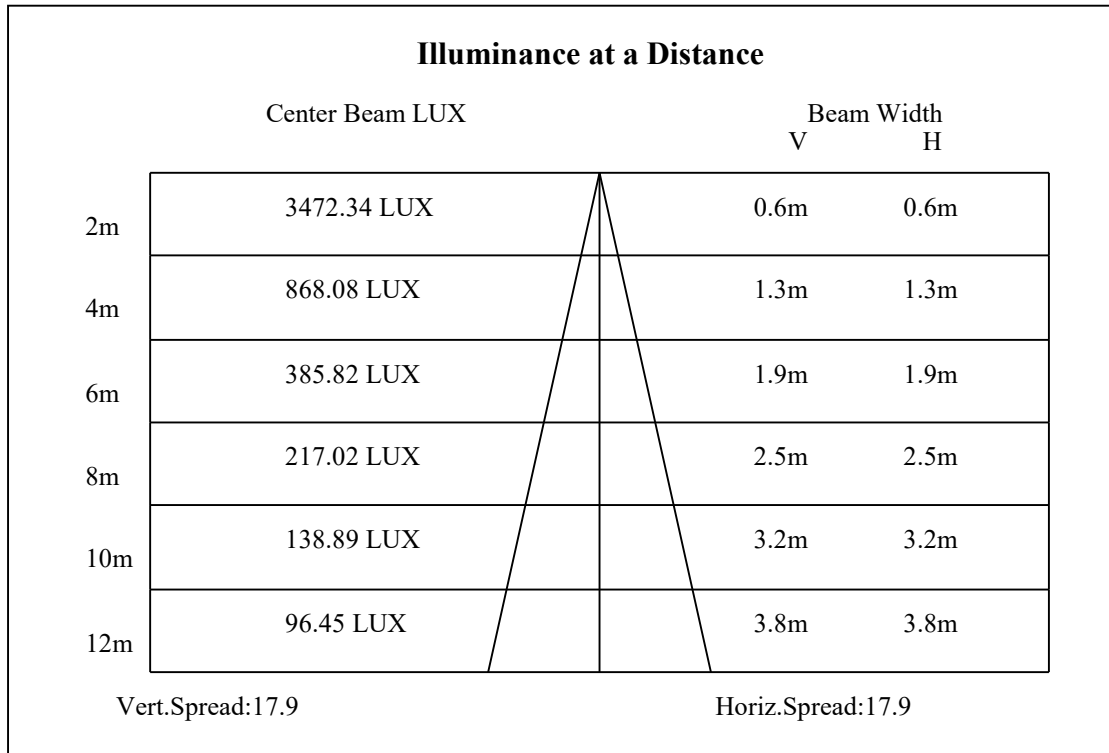
C0(Max): —————

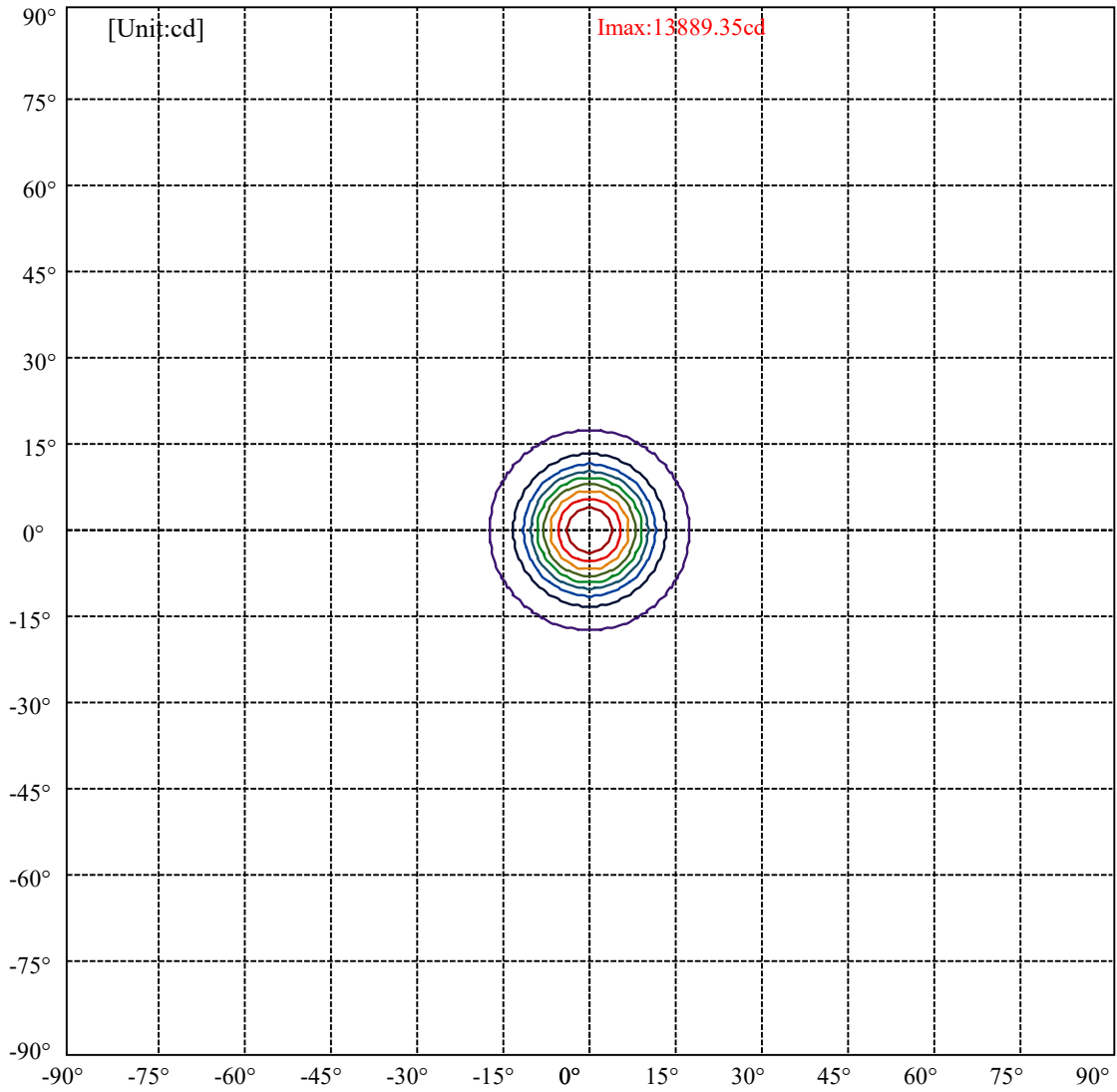
C0/C180: —————

C90/C270: —————

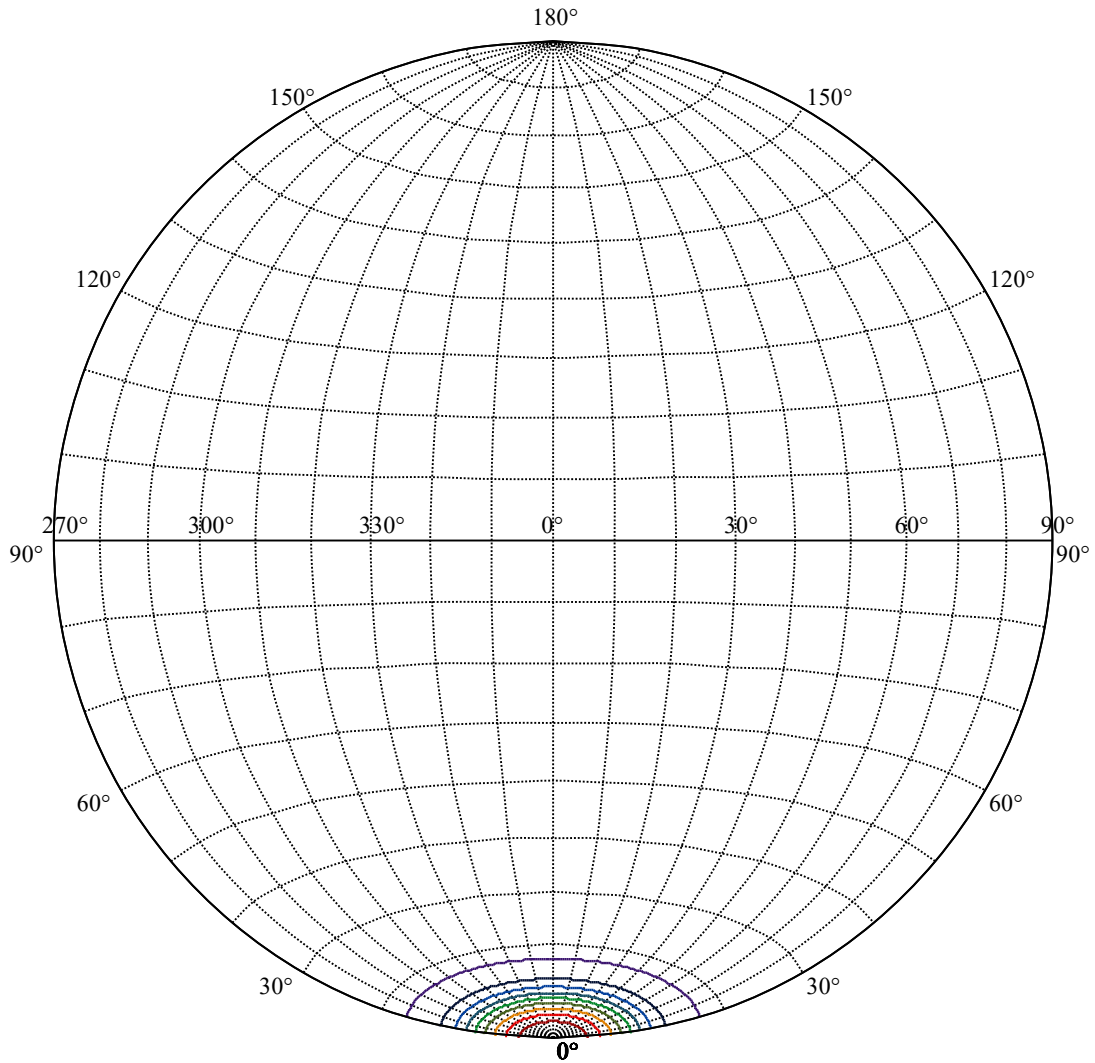
Field angle(10%Imax):C0/180Left:17.1 Right:17.1
:C90/270Left:17.1 Right:17.1

Beam Angle(50%Imax):C0/180Left:9.0 Right:9.0
:C90/270Left:9.0 Right:9.0





(10%I _{max}) 1388.94	—
(20%I _{max}) 2777.87	—
(30%I _{max}) 4166.81	—
(40%I _{max}) 5555.74	—
(50%I _{max}) 6944.68	—
(60%I _{max}) 8333.61	—
(70%I _{max}) 9722.55	—
(80%I _{max}) 11111.5	—
(90%I _{max}) 12500.4	—



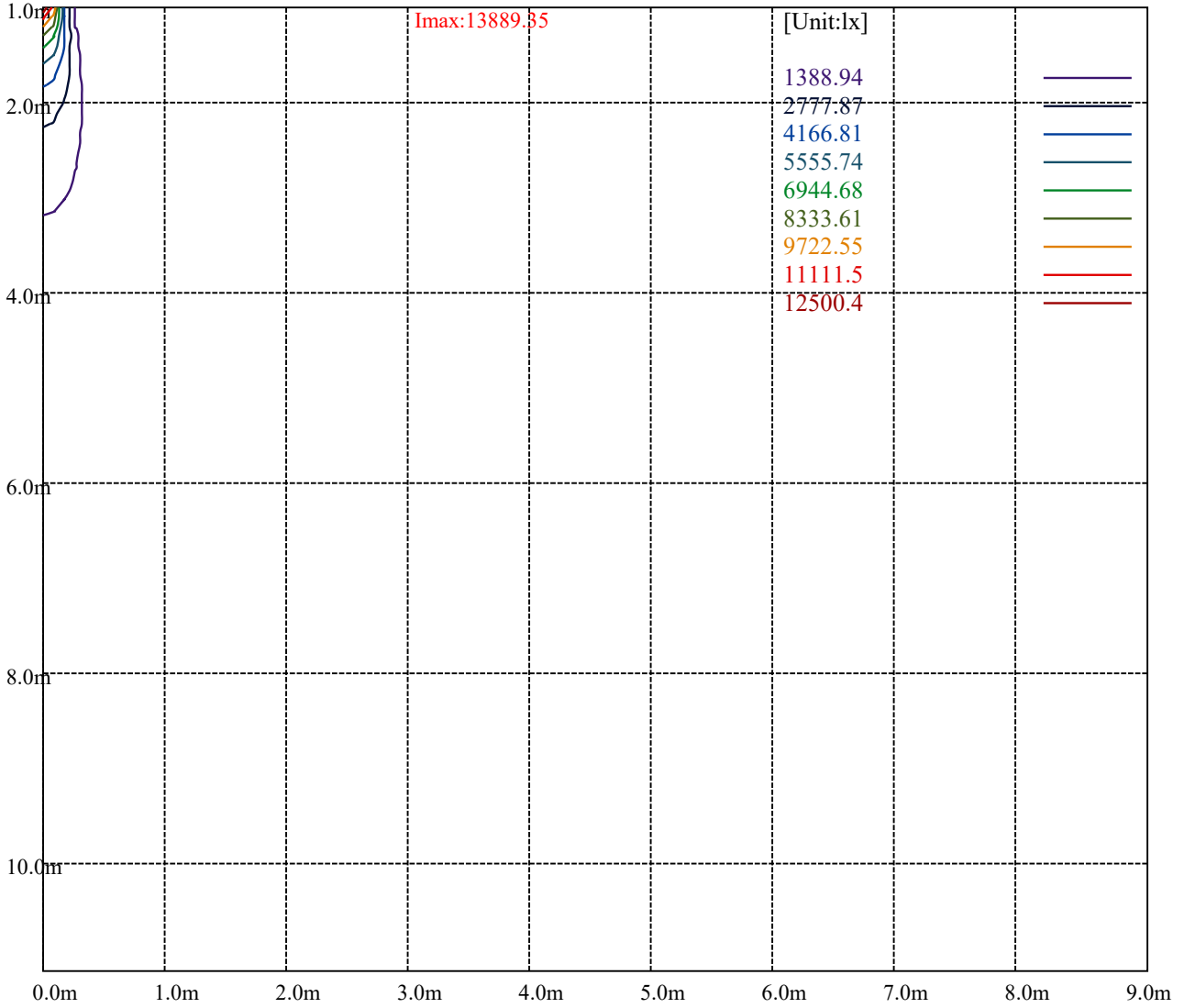
House

[Unit:cd]

Road

Imax:13889.35

(10%Imax) 1388.94	—
(20%Imax) 2777.87	—
(30%Imax) 4166.81	—
(40%Imax) 5555.74	—
(50%Imax) 6944.68	—
(60%Imax) 8333.61	—
(70%Imax) 9722.55	—
(80%Imax) 11111.5	—
(90%Imax) 12500.4	—



Luminance Table

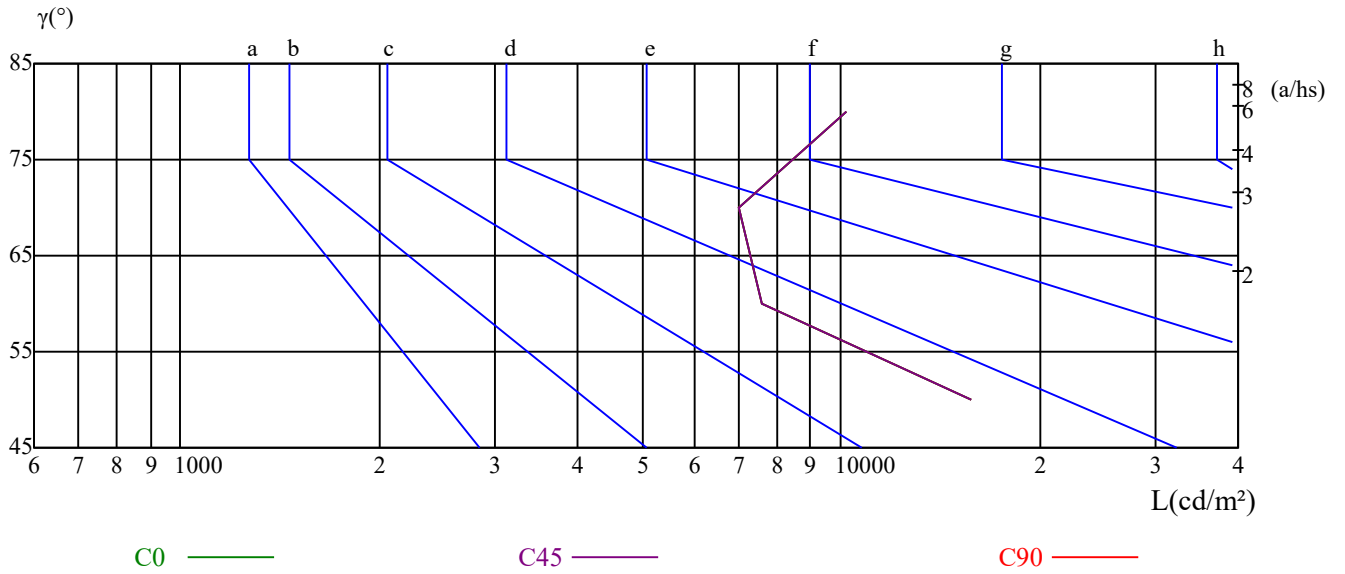
γ	45	50	55	60	65	70	75	80	85
C0	0	15752	0	7593	0	7017	0	10219	0
C45	0	15752	0	7593	0	7017	0	10219	0
C90	0	15752	0	7593	0	7017	0	10219	0

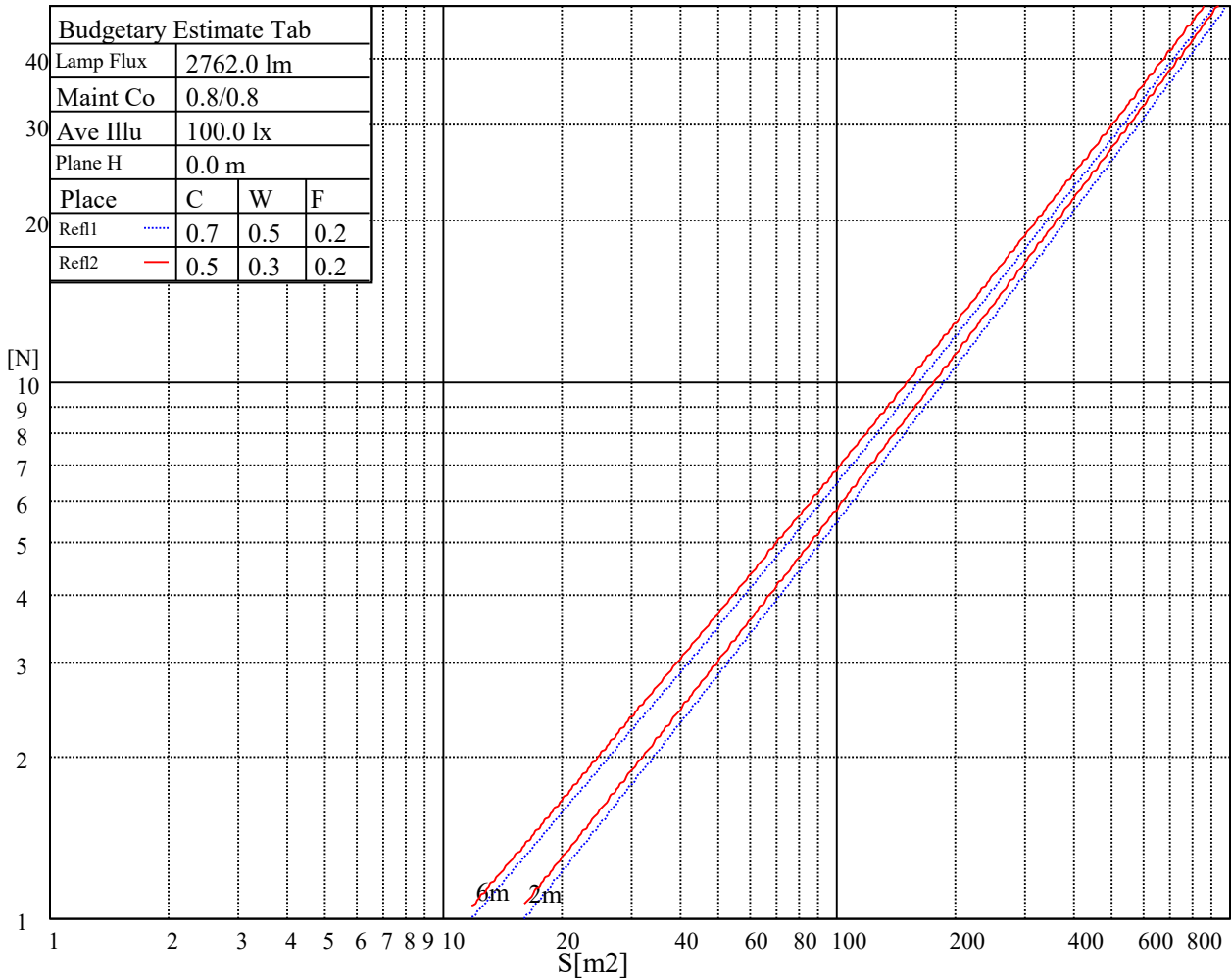
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6308	6308	6308	7190	7190	7190	15064	15064	15064

Glare Table

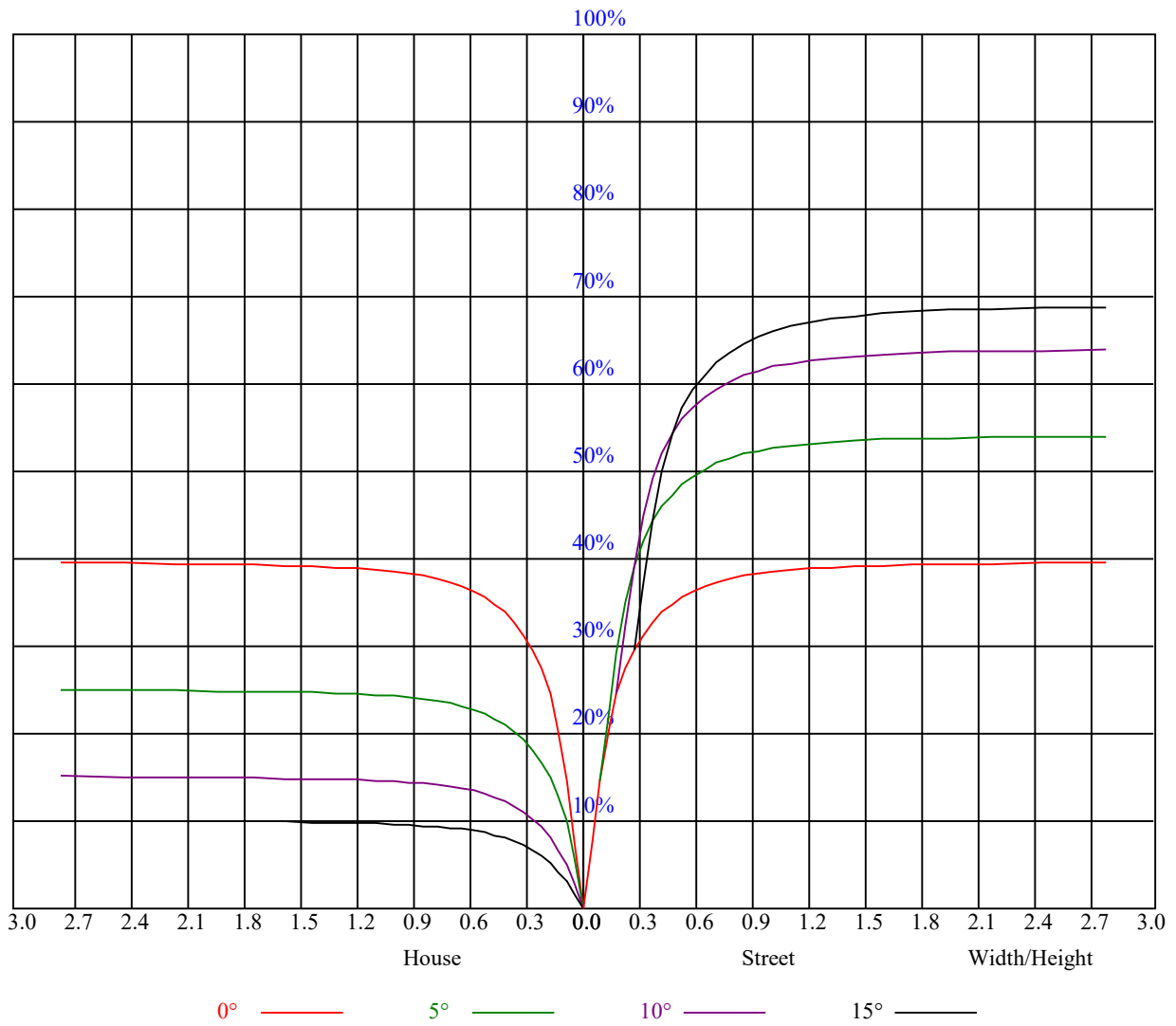
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

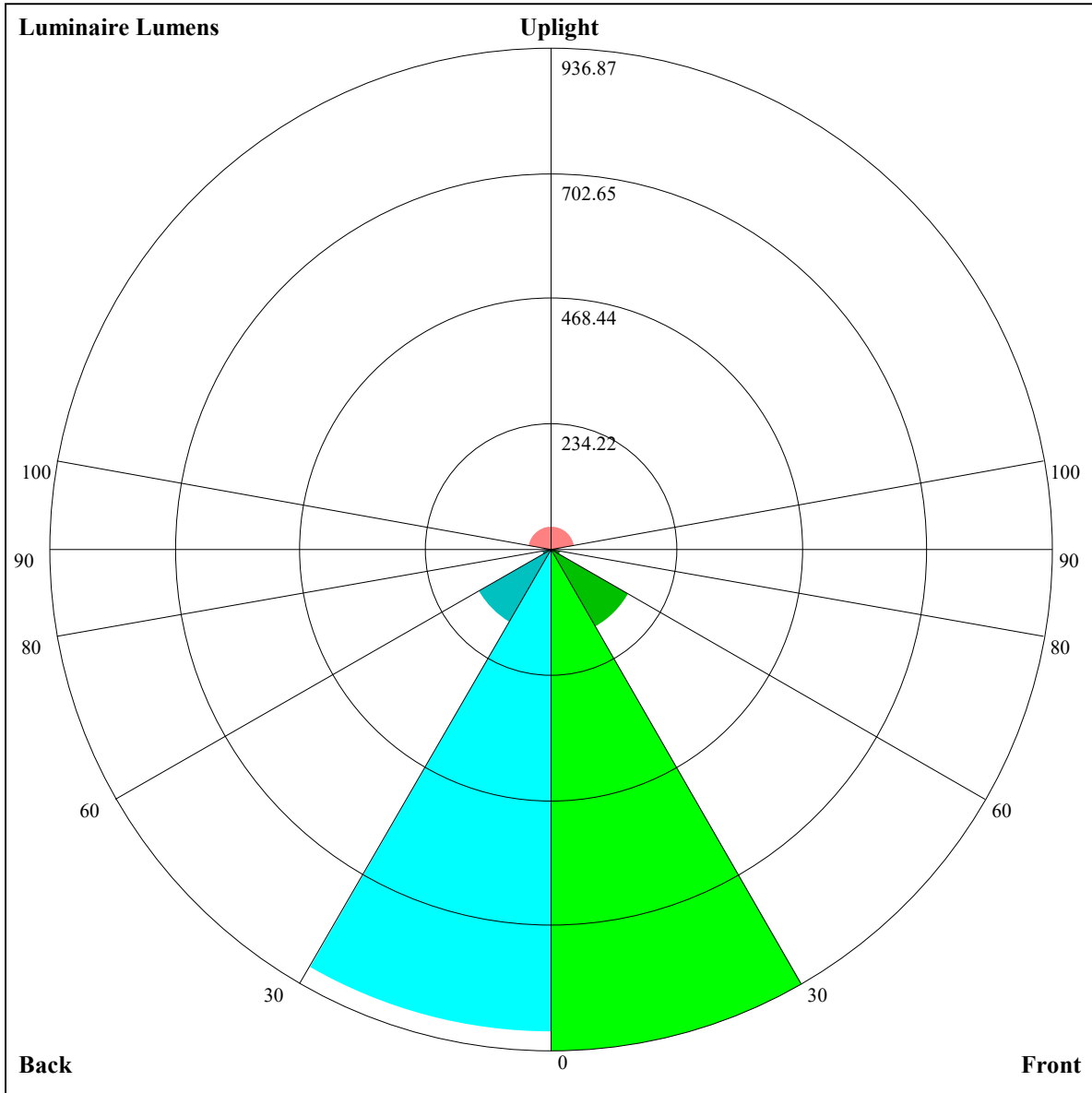
Luminance Limiting Curve





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	0.95	0.95	0.95	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.82	0.82	0.82	0.80
1	0.89	0.87	0.86	0.87	0.86	0.84	0.84	0.83	0.82	0.81	0.80	0.79	0.78	0.78	0.77	0.75
2	0.84	0.82	0.79	0.83	0.81	0.78	0.81	0.78	0.77	0.78	0.77	0.75	0.76	0.75	0.74	0.72
3	0.80	0.77	0.75	0.79	0.76	0.74	0.77	0.75	0.73	0.75	0.73	0.72	0.74	0.72	0.71	0.69
4	0.77	0.73	0.71	0.76	0.73	0.70	0.74	0.72	0.70	0.73	0.71	0.69	0.72	0.70	0.68	0.67
5	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.70	0.67	0.66	0.65
6	0.71	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.65	0.64	0.63
7	0.69	0.65	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.66	0.64	0.62	0.61
8	0.67	0.63	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.65	0.62	0.60	0.64	0.62	0.60	0.59
9	0.65	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.63	0.60	0.59	0.58
10	0.63	0.60	0.58	0.63	0.60	0.58	0.62	0.60	0.58	0.62	0.59	0.57	0.61	0.59	0.57	0.56





Luminaire Lumens:

FL=936.87,FM=165.73,FH=18.92,FVH=5.74

BL=902.35,BM=156.92,BH=18.79,BVH=5.74

UL=9.32,UH=44.34

BUG Rating:B2-U2-G0

Intensity data(cd)

C/γ(°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	13846.68	13620.95	12580.39	10741.50	8533.74	6072.72	3848.44	2851.92	1672.06
45.0	13940.28	13681.52	12624.43	10658.92	8451.16	5835.98	3672.26	2197.85	1630.77
90.0	13907.25	13576.91	12382.18	10608.82	8310.76	5609.70	3500.49	2127.93	1583.97
135.0	13863.20	13653.99	12696.01	11049.82	8687.90	6116.77	3688.78	2221.53	1580.67
180.0	13846.68	13472.30	12134.43	10061.56	7566.40	4873.04	2820.54	1802.55	1411.10
225.0	13940.28	13582.41	12365.67	10296.65	7827.37	5138.41	3102.98	1871.92	1449.08
270.0	13907.25	13626.46	12541.85	10840.61	8484.19	5891.03	3754.85	2220.42	1566.35
315.0	13863.20	13450.28	12128.92	10309.31	7960.60	5514.45	3373.31	2091.59	1559.75
360.0	13846.68	13620.95	12580.39	10741.50	8533.74	6072.72	3848.44	2851.92	1672.06
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	1352.74	1123.70	968.44	808.78	678.85	573.14	494.41	414.57	351.81
45.0	1320.25	1108.29	923.85	784.00	646.91	541.75	461.37	388.70	328.14
90.0	1264.65	1056.04	886.79	744.75	625.50	524.25	446.45	368.55	309.91
135.0	1289.42	1072.50	909.53	765.83	639.76	535.70	445.96	370.53	305.56
180.0	1089.68	993.33	833.77	705.55	585.36	491.87	414.57	345.42	290.04
225.0	1198.03	1000.15	833.00	697.62	580.85	475.96	409.01	337.77	288.44
270.0	1269.05	1051.58	893.57	748.77	624.89	518.08	443.75	368.88	308.32
315.0	1259.69	1057.58	888.28	750.03	623.24	526.34	445.19	365.68	310.19
360.0	1352.74	1123.70	968.44	808.78	678.85	573.14	494.41	414.57	351.81
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	297.86	245.72	209.93	176.07	143.48	116.55	95.69	79.12	65.19
45.0	279.14	236.47	201.23	170.01	137.04	110.55	92.16	76.53	63.15
90.0	263.61	225.73	189.28	159.55	129.11	105.16	88.26	73.50	59.19
135.0	278.03	221.05	192.20	160.71	133.07	111.43	91.94	76.69	64.09
180.0	243.46	207.23	175.68	148.16	120.24	99.93	83.58	70.31	57.59
225.0	243.29	212.24	182.02	151.46	124.70	102.63	85.23	71.35	58.97
270.0	279.69	221.77	189.89	159.39	132.36	109.56	90.57	74.82	62.87
315.0	263.67	226.12	192.20	164.40	134.12	111.10	92.16	76.75	62.76
360.0	297.86	245.72	209.93	176.07	143.48	116.55	95.69	79.12	65.19
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	52.52	41.79	35.02	28.90	24.39	21.86	20.48	18.99	17.89
45.0	50.54	40.58	33.91	28.57	24.00	22.13	20.54	19.16	18.06
90.0	47.79	38.76	31.60	27.14	23.07	21.42	19.99	18.66	17.51
135.0	51.64	41.29	34.36	28.57	24.00	21.75	20.37	18.94	17.78
180.0	45.92	37.77	31.44	26.87	23.01	21.31	19.88	18.61	17.34
225.0	47.51	38.81	32.15	27.58	23.62	21.75	20.26	18.99	17.73
270.0	50.60	41.13	34.30	28.46	24.17	21.97	20.48	19.10	18.06
315.0	50.71	41.07	33.75	28.52	23.67	21.64	20.21	18.88	17.62
360.0	52.52	41.79	35.02	28.90	24.39	21.86	20.48	18.99	17.89
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	16.74	15.91	15.20	14.31	13.27	12.11	11.01	9.97	9.03
45.0	16.96	16.08	15.25	14.37	13.21	12.06	11.07	9.97	8.97
90.0	16.57	15.69	14.92	14.09	12.94	11.84	10.79	9.74	8.86
135.0	16.79	15.97	15.31	14.48	13.32	12.17	11.07	9.97	8.97
180.0	16.35	15.69	14.92	14.09	12.88	11.78	10.74	9.69	8.81
225.0	16.74	16.02	15.31	14.48	13.27	12.17	11.07	9.91	9.08
270.0	16.79	15.86	15.14	14.26	13.16	12.17	10.90	9.91	9.08
315.0	16.63	15.86	15.09	14.15	12.94	11.78	10.74	9.74	8.92
360.0	16.74	15.91	15.20	14.31	13.27	12.11	11.01	9.97	9.03

Intensity data(cd)

C/ γ (°)	90.0
0.0	8.48
45.0	8.59
90.0	8.59
135.0	8.48
180.0	8.53
225.0	8.59
270.0	8.53
315.0	8.53
360.0	8.48