
Nata

Client:

LumCAT: 2-1793-N

Luminaire: 92.70.131.00

Report No: nata-0100

Test No:

LampCAT: CREE CMT1922

Lamp flux(lm): 2839.6

Number of Lamps: 1

Length(mm): 69

Phm Type: C

Voltage(V): 35.6000

Current(A): 0.6000

Power (W): 21.3600

PF: 0.0000

Ballast type: DC

Width(mm): 69

Height(mm): 0

Photometric Results

Lumens(lm): 2419.13, Efficiency(%): 85.19% , Luminous Efficacy(lm/W): 113.26

Central intensity(cd): 13925.140, Maximum intensity(cd): 13925.140

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=43.6

[C90/270]Total=43.6

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

Maximum s/h(1/4): C0_180=0.33 C90_270=0.33

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 85.65%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.739%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	13925.140	13.326	13.326	.469%	.551%
2.0	13356.683	102.231	115.557	3.600%	4.777%
4.0	11787.369	180.329	295.886	6.351%	12.231%
6.0	9946.833	228.026	523.912	8.030%	21.657%
8.0	7935.485	242.211	766.123	8.530%	31.669%
10.0	5946.366	226.458	992.581	7.975%	41.030%
12.0	4367.555	199.151	1191.732	7.013%	49.263%
14.0	3219.492	170.816	1362.548	6.016%	56.324%
16.0	2545.808	153.897	1516.444	5.420%	62.686%
18.0	2004.259	135.832	1652.276	4.784%	68.300%
20.0	1642.126	123.175	1775.451	4.338%	73.392%
22.0	1358.317	111.594	1887.046	3.930%	78.005%
24.0	1141.663	101.840	1988.885	3.586%	82.215%
26.0	1006.713	96.786	2085.671	3.408%	86.216%
28.0	829.638	85.421	2171.092	3.008%	89.747%
30.0	616.074	67.557	2238.649	2.379%	92.539%
32.0	401.726	46.688	2285.337	1.644%	94.469%
34.0	226.364	27.761	2313.098	.978%	95.617%
36.0	92.027	11.863	2324.961	.418%	96.107%
38.0	57.871	7.814	2332.775	.275%	96.430%
40.0	45.380	6.397	2339.172	.225%	96.695%
42.0	37.211	5.461	2344.633	.192%	96.920%
44.0	30.783	4.690	2349.322	.165%	97.114%
46.0	25.980	4.099	2353.421	.144%	97.284%
48.0	22.828	3.721	2357.142	.131%	97.438%
50.0	20.626	3.465	2360.607	.122%	97.581%
52.0	19.297	3.335	2363.942	.117%	97.719%
54.0	18.458	3.275	2367.217	.115%	97.854%
56.0	18.045	3.281	2370.497	.116%	97.990%
58.0	17.701	3.292	2373.79	.116%	98.126%
60.0	17.460	3.316	2377.106	.117%	98.263%
62.0	17.363	3.362	2380.468	.118%	98.402%
64.0	17.157	3.382	2383.85	.119%	98.542%
66.0	16.517	3.309	2387.159	.117%	98.678%
68.0	15.725	3.198	2390.357	.113%	98.811%
70.0	15.085	3.109	2393.466	.109%	98.939%
72.0	14.418	3.007	2396.473	.106%	99.063%
74.0	13.847	2.919	2399.392	.103%	99.184%

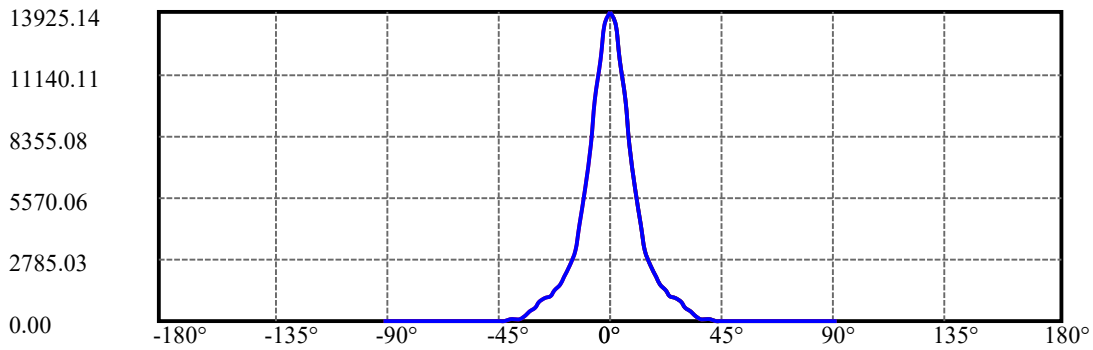
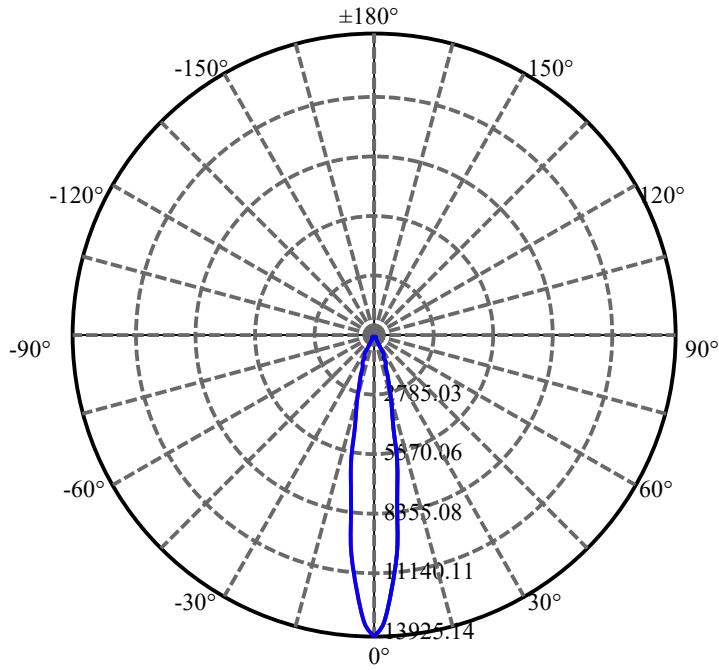
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	13.344	2.840	2402.232	.100%	99.301%
78.0	12.986	2.786	2405.018	.098%	99.417%
80.0	12.622	2.726	2407.744	.096%	99.529%
82.0	12.284	2.668	2410.412	.094%	99.640%
84.0	11.933	2.603	2413.015	.092%	99.747%
86.0	11.555	2.528	2415.542	.089%	99.852%
88.0	11.039	2.419	2417.962	.085%	99.952%
90.0	10.653	1.168	2419.13	.041%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2238.65	78.84%	92.54%
0-40	2339.17	82.38%	96.69%
0-60	2377.11	83.71%	98.26%
0-90	2417.96	85.15%	99.95%
0-120	2417.96	85.15%	99.95%
0-180	2419.13	85.19%	100.00%
60-90	44.17	1.56%	1.83%
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%
0-22.95	1935.30	68.15%	80.00%

ZONAL LUMEN SUMMARY

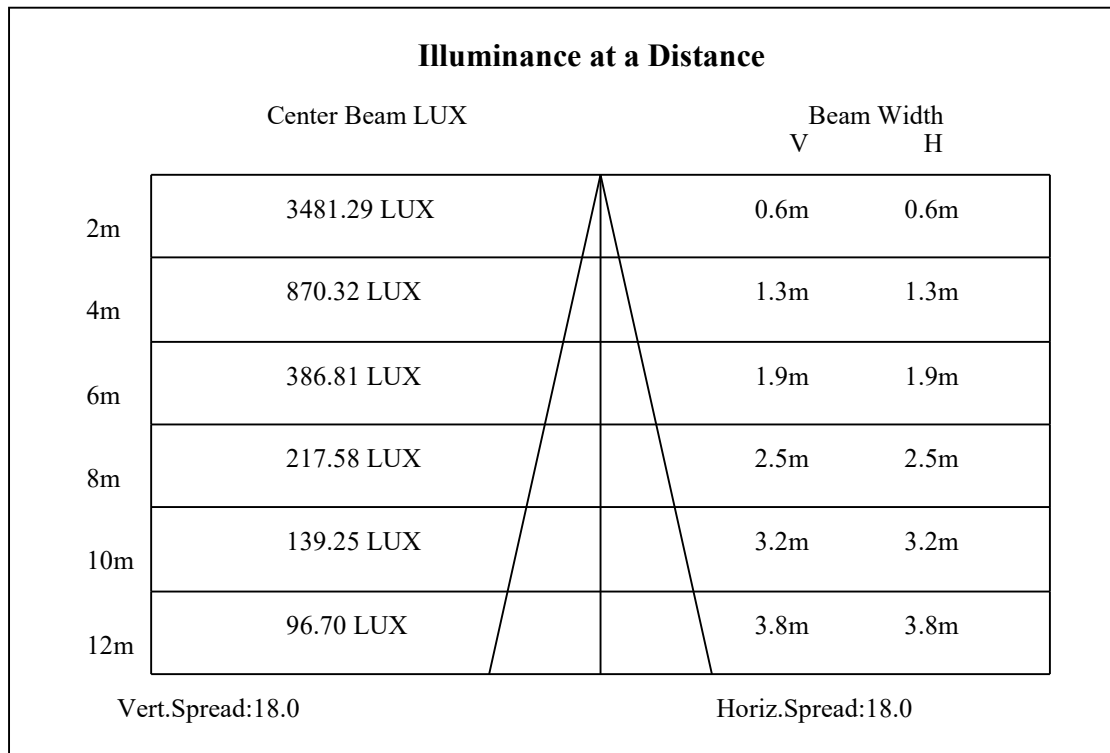
0-10	992.58
10-20	782.87
20-30	463.20
30-40	100.52
40-50	21.43
50-60	16.50
60-70	16.36
70-80	14.28
80-90	10.22
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

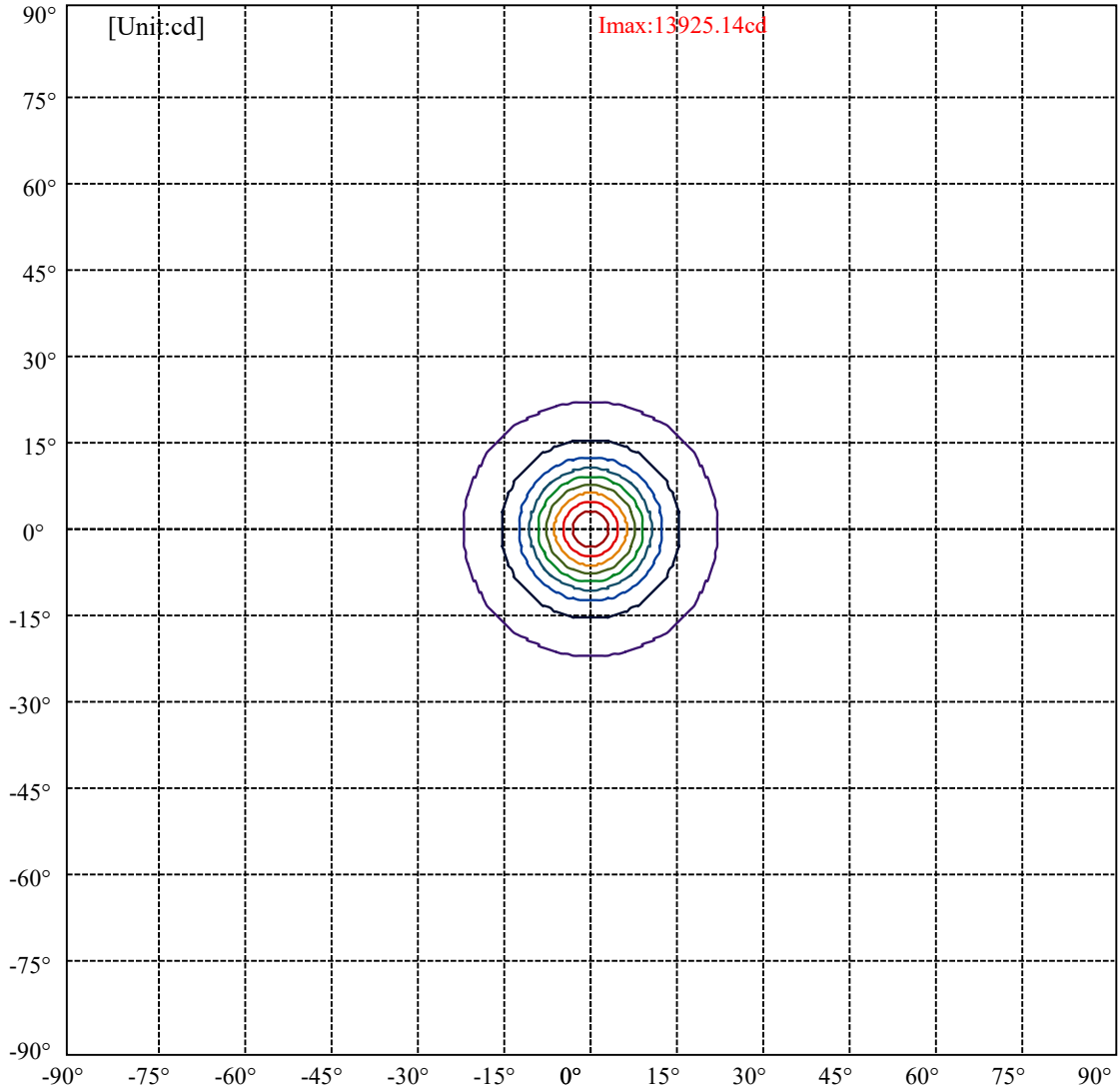


C0(Max): —————
C0/C180: —————
C90/C270: —————

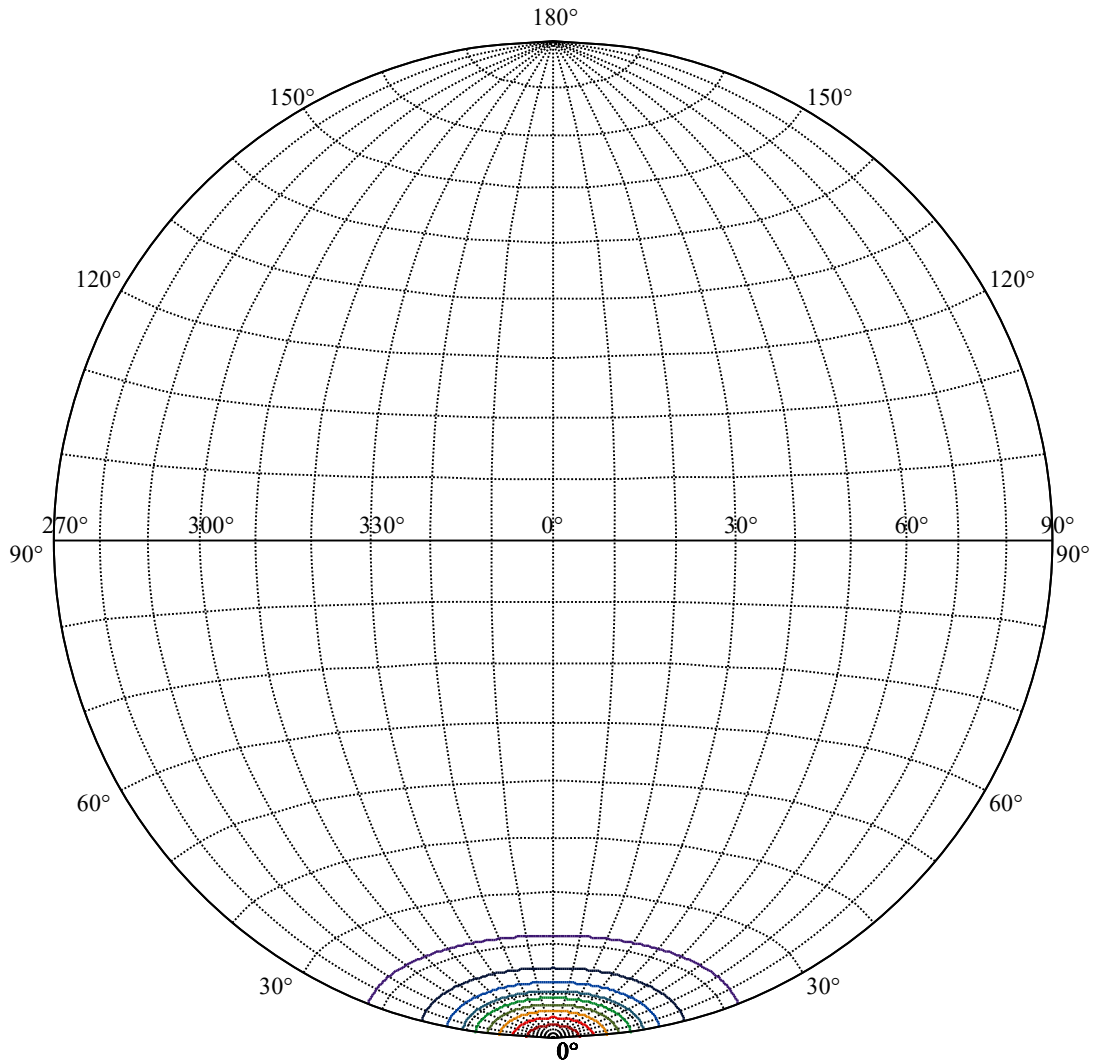
Field angle(10%Imax):C0/180Left:21.8 Right:21.8
:C90/270Left:21.8 Right:21.8

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





(10%Imax) 1392.51	—
(20%Imax) 2785.03	—
(30%Imax) 4177.54	—
(40%Imax) 5570.06	—
(50%Imax) 6962.57	—
(60%Imax) 8355.08	—
(70%Imax) 9747.6	—
(80%Imax) 11140.1	—
(90%Imax) 12532.6	—



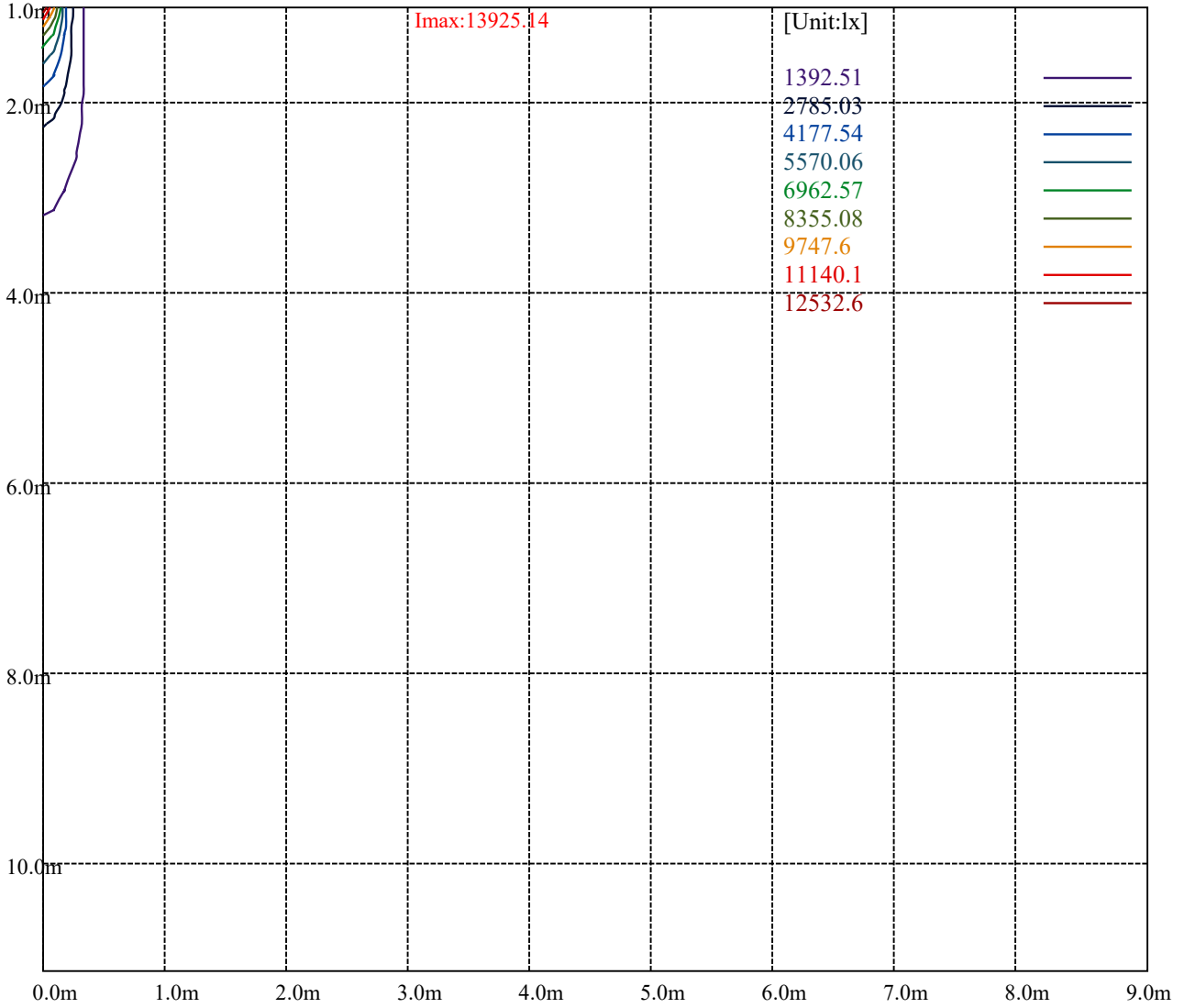
House

[Unit:cd]

Road

Imax:13925.14

(10%Imax) 1392.51	—
(20%Imax) 2785.03	—
(30%Imax) 4177.54	—
(40%Imax) 5570.06	—
(50%Imax) 6962.57	—
(60%Imax) 8355.08	—
(70%Imax) 9747.6	—
(80%Imax) 11140.1	—
(90%Imax) 12532.6	—



Luminance Table

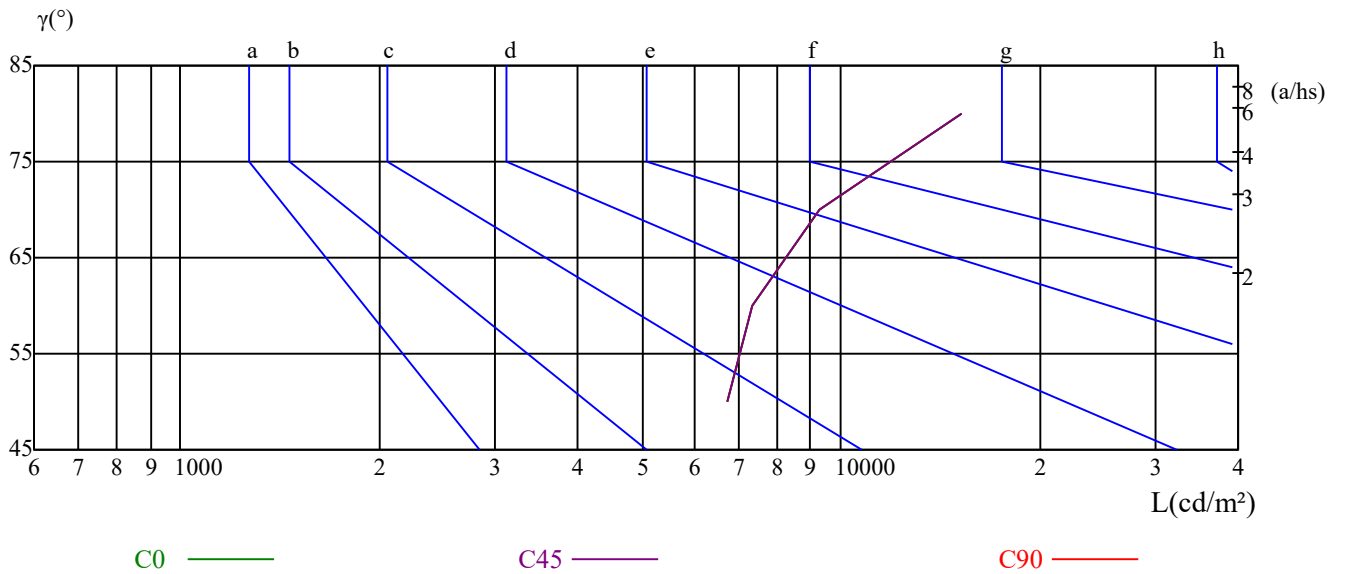
γ	45	50	55	60	65	70	75	80	85
C0	0	6740	0	7334	0	9264	0	15267	0
C45	0	6740	0	7334	0	9264	0	15267	0
C90	0	6740	0	7334	0	9264	0	15267	0

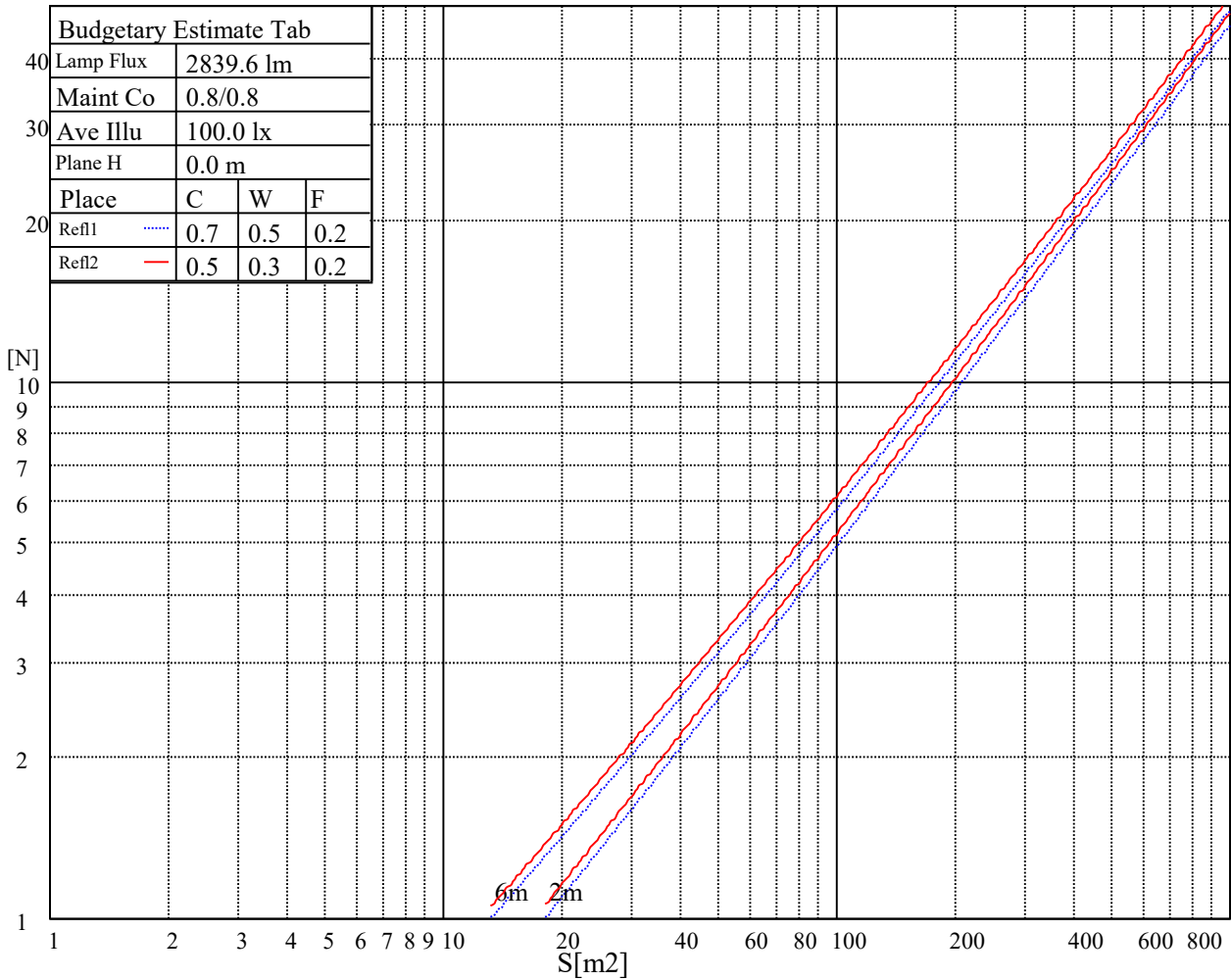
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
9515	9515	9515	11661	11661	11661	23850	23850	23850

Glare Table

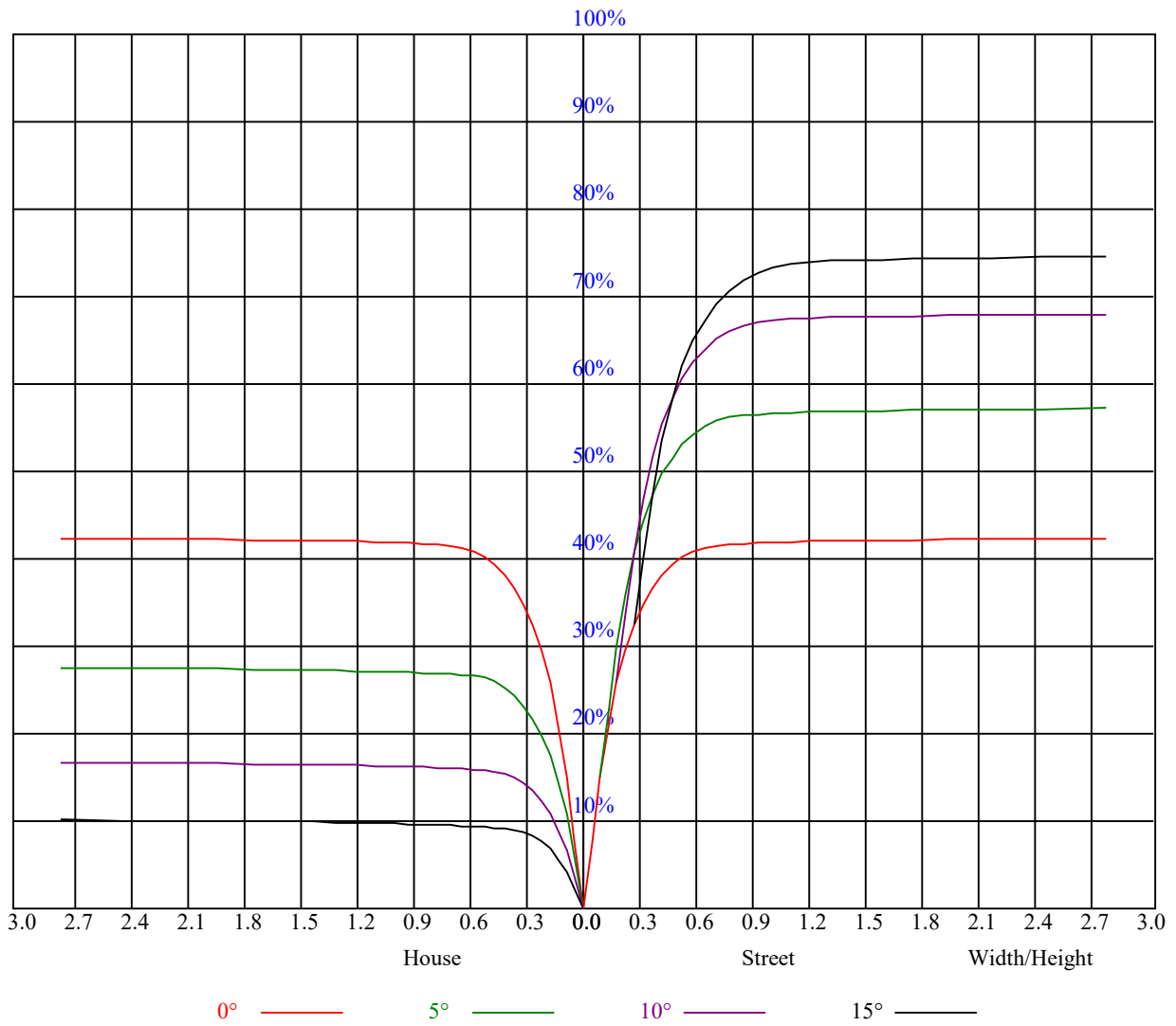
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

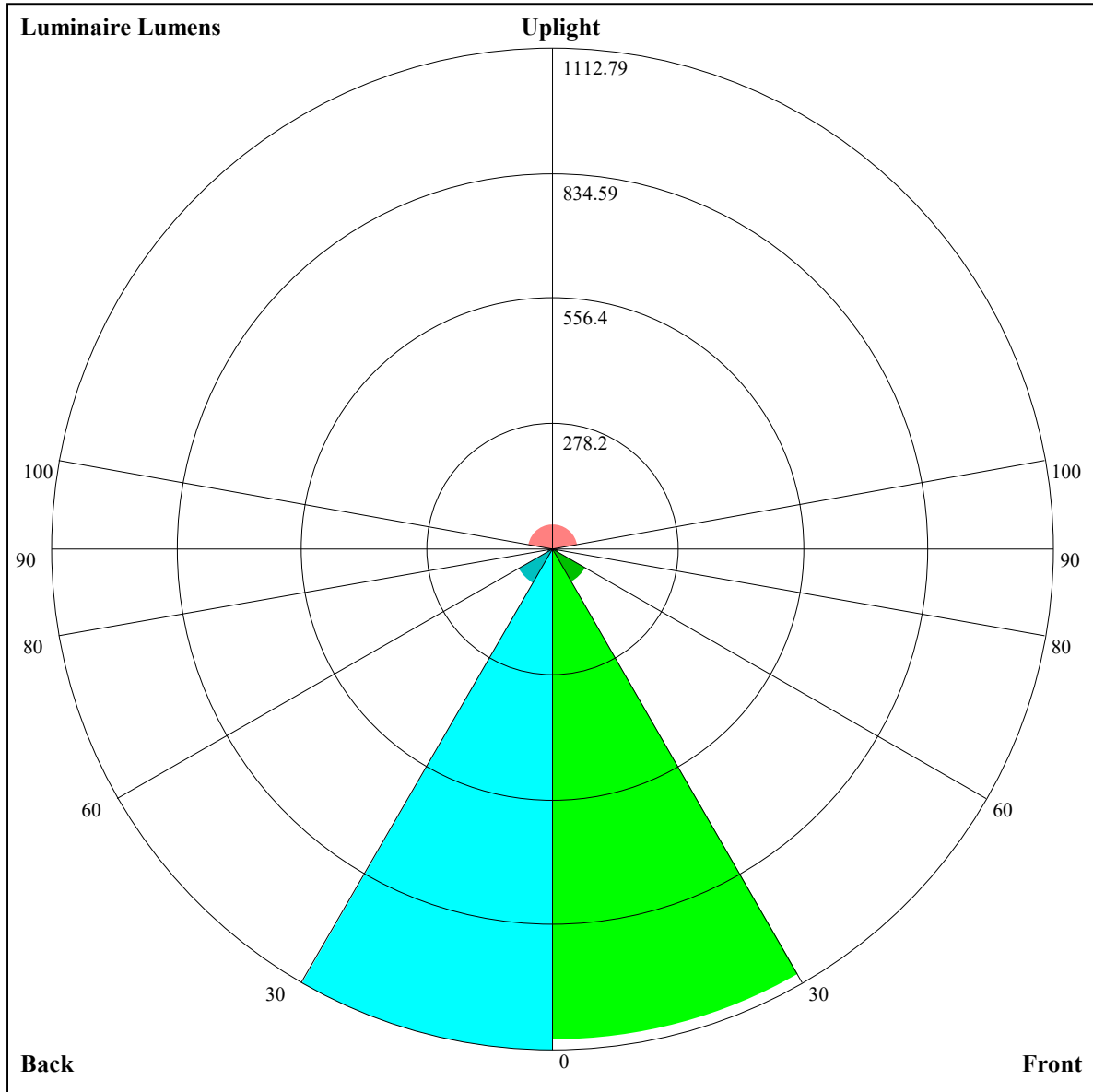
Luminance Limiting Curve





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	1.02	1.02	1.02	1.00	1.00	1.00	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.86
1	0.96	0.94	0.92	0.94	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.81
2	0.91	0.88	0.86	0.89	0.87	0.85	0.87	0.85	0.83	0.84	0.83	0.81	0.82	0.81	0.79	0.78
3	0.87	0.84	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.80	0.78	0.77	0.75
4	0.83	0.80	0.77	0.82	0.79	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.78	0.76	0.74	0.73
5	0.80	0.77	0.74	0.80	0.76	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.76	0.73	0.72	0.71
6	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.70	0.69
7	0.75	0.71	0.69	0.75	0.71	0.69	0.74	0.70	0.68	0.73	0.70	0.68	0.72	0.69	0.68	0.67
8	0.73	0.69	0.67	0.72	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.68	0.66	0.65
9	0.71	0.67	0.65	0.70	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.66	0.64	0.63
10	0.69	0.65	0.63	0.68	0.65	0.63	0.68	0.65	0.63	0.67	0.65	0.63	0.67	0.64	0.62	0.62





Luminaire Lumens:

FL=1091.22,FM=86.4,FH=15.5,FVH=6.35

BL=1112.79,BM=88.63,BH=15.45,BVH=6.37

UL=11.62,UH=55.31

BUG Rating:B3-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	13945.79	13532.86	12139.94	10075.32	8164.86	6094.74	4492.60	3352.93	2791.36
45.0	13940.28	12883.20	11253.53	9144.87	7047.22	5202.83	3782.37	2796.87	2258.41
90.0	13830.17	12712.52	10879.70	8825.54	6735.60	4925.90	3586.37	2670.24	2127.38
135.0	13984.33	13323.65	11749.04	9733.97	7795.99	5736.88	4123.72	3149.23	2441.20
180.0	13945.79	13224.55	10915.48	9760.95	7744.78	5751.19	4318.07	3194.37	2530.94
225.0	13940.28	13758.59	12563.87	10709.57	8728.64	6732.30	4968.84	3552.24	2818.34
270.0	13830.17	13868.71	12850.16	11044.31	9139.36	6992.16	5175.30	3776.87	2835.40
315.0	13984.33	13549.38	11947.24	10280.13	8127.43	6134.93	4493.15	3263.19	2563.43
360.0	13945.79	13532.86	12139.94	10075.32	8164.86	6094.74	4492.60	3352.93	2791.36
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	2068.47	1693.53	1399.53	1176.56	1032.86	848.97	633.15	419.53	280.24
45.0	1826.77	1520.66	1267.40	1087.36	970.09	743.26	528.54	325.93	142.60
90.0	1690.78	1387.97	1096.78	988.10	846.55	657.43	458.01	258.10	130.26
135.0	1969.37	1618.66	1347.78	1138.57	1008.08	810.98	591.31	376.59	182.40
180.0	2005.15	1644.53	1366.50	1094.14	1018.10	841.92	619.16	392.77	218.68
225.0	2231.99	1812.46	1519.56	1252.53	1090.61	945.70	732.58	511.86	305.67
270.0	2201.71	1776.12	1462.30	1207.39	1047.72	896.32	703.07	494.96	303.91
315.0	2039.84	1683.07	1406.69	1188.67	1039.69	892.52	662.77	434.06	247.15
360.0	2068.47	1693.53	1399.53	1176.56	1032.86	848.97	633.15	419.53	280.24
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	87.04	59.41	45.75	37.05	30.67	25.60	22.52	20.32	19.05
45.0	68.49	54.07	44.27	35.84	30.28	25.38	22.74	20.87	19.43
90.0	67.50	52.47	42.61	34.85	28.90	25.00	22.46	20.59	19.43
135.0	76.97	51.42	40.69	33.47	28.02	23.89	21.53	19.32	18.28
180.0	83.08	54.45	42.23	34.91	28.35	24.45	21.69	19.49	18.44
225.0	124.04	61.55	46.41	38.59	31.66	26.26	22.57	20.43	19.10
270.0	135.38	70.14	54.40	44.49	36.83	30.72	26.37	23.51	21.36
315.0	93.71	59.46	46.69	38.48	31.55	26.54	22.74	20.48	19.27
360.0	87.04	59.41	45.75	37.05	30.67	25.60	22.52	20.32	19.05
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	18.22	17.84	17.67	17.56	17.45	17.56	16.90	16.02	15.36
45.0	18.83	18.28	17.84	17.67	17.62	17.07	16.30	15.53	14.92
90.0	18.83	18.44	18.06	17.78	17.62	16.96	16.08	15.36	14.70
135.0	17.78	17.51	17.29	17.23	17.34	17.29	16.68	15.75	14.92
180.0	17.78	17.40	17.01	17.01	17.07	16.79	16.30	15.64	15.09
225.0	18.11	17.89	17.67	17.29	17.18	17.12	16.57	15.80	15.20
270.0	19.82	19.05	18.33	17.73	17.51	17.29	16.85	16.08	15.47
315.0	18.28	17.95	17.73	17.40	17.12	17.18	16.46	15.64	15.03
360.0	18.22	17.84	17.67	17.56	17.45	17.56	16.90	16.02	15.36
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	14.65	14.15	13.60	13.27	12.83	12.50	12.17	11.78	11.34
45.0	14.20	13.65	13.21	12.88	12.50	12.11	11.73	11.29	10.79
90.0	13.98	13.43	13.05	12.66	12.28	11.84	11.40	10.90	10.57
135.0	14.31	13.60	13.16	12.83	12.50	12.17	11.89	11.62	11.01
180.0	14.37	13.87	13.27	12.94	12.61	12.33	12.06	11.78	11.12
225.0	14.59	13.98	13.43	13.05	12.72	12.39	12.06	11.84	11.23
270.0	14.87	14.31	13.82	13.38	12.99	12.66	12.22	11.67	11.07
315.0	14.37	13.76	13.21	12.88	12.55	12.28	11.95	11.56	11.18
360.0	14.65	14.15	13.60	13.27	12.83	12.50	12.17	11.78	11.34

Intensity data(cd)

C/ γ ($^{\circ}$)	90.0
0.0	10.68
45.0	10.57
90.0	10.57
135.0	10.68
180.0	10.52
225.0	10.79
270.0	10.68
315.0	10.74
360.0	10.68