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Nata

LumCAT: LM16L16085150BA

Luminaire:

Report No: NATA0100

Voltage(V): 43.8000

Test No:

Current(A): 0.2600

LampCAT: LUMILEDS LUXEON5050

Power (W): 11.3880

Lamp flux(lm): 2237.8

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 90

Width(mm): 160

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2019.74

Efficiency(%): 90.25%

Lumens(lm)/Power(W): 177.45

Central intensity(cd): 493.526

Maximum intensity(cd): 844.730

Angle of maximum intensity: C=180.0 γ =65.0

Beam Angle(50%Imax): [C0/180]Total=153.3

[C90/270]Total=84.7

Field angle(10%Imax): [C0/180]Total=162.0

[C90/270]Total=131.4

Maximum s/h(1/2): C0_180=2.05 C90_270=0.96

Maximum s/h(1/4): C0_180=2.26 C90_270=1.09

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 90.30%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 79.052%

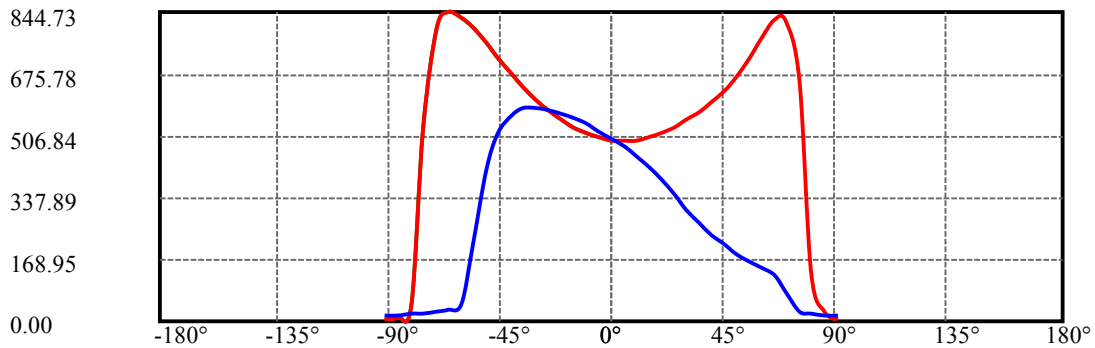
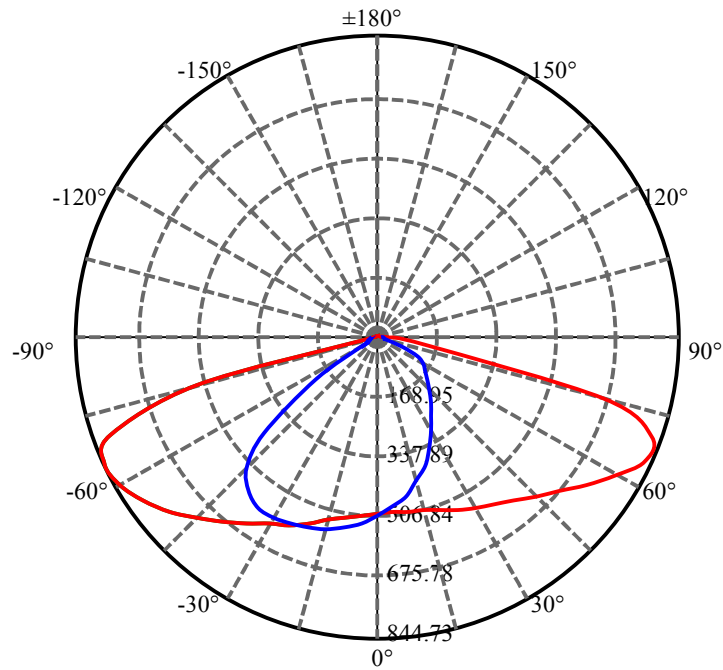
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	496.760	2.971	2.971	.133%	.147%
5.0	497.280	23.757	26.727	1.062%	1.323%
10.0	499.062	47.502	74.23	2.123%	3.675%
15.0	502.063	71.227	145.457	3.183%	7.202%
20.0	505.253	94.722	240.178	4.233%	11.892%
25.0	508.515	117.799	357.977	5.264%	17.724%
30.0	510.445	139.897	497.874	6.251%	24.650%
35.0	510.517	160.506	658.38	7.172%	32.597%
40.0	507.916	178.957	837.337	7.997%	41.458%
45.0	497.906	192.984	1030.321	8.624%	51.013%
50.0	474.548	199.262	1229.583	8.904%	60.878%
55.0	427.516	191.958	1421.541	8.578%	70.382%
60.0	370.616	175.932	1597.473	7.862%	79.093%
65.0	321.344	159.637	1757.11	7.134%	86.997%
70.0	265.241	136.621	1893.731	6.105%	93.761%
75.0	168.232	89.072	1982.803	3.980%	98.171%
80.0	46.884	25.308	2008.111	1.131%	99.424%
85.0	16.799	9.173	2017.284	.410%	99.878%
90.0	8.960	2.456	2019.74	.110%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	497.87	22.25%	24.65%
0-40	837.34	37.42%	41.46%
0-60	1597.47	71.38%	79.09%
0-90	2017.28	90.14%	99.88%
0-120	2017.28	90.14%	99.88%
0-180	2019.74	90.25%	100.00%
60-90	595.74	26.62%	29.50%
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%
0-60.57	1615.79	72.20%	80.00%

ZONAL LUMEN SUMMARY

0-10	74.23
10-20	165.95
20-30	257.70
30-40	339.46
40-50	392.25
50-60	367.89
60-70	296.26
70-80	114.38
80-90	9.17
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



C180(Max): —————

C0/C180: —————

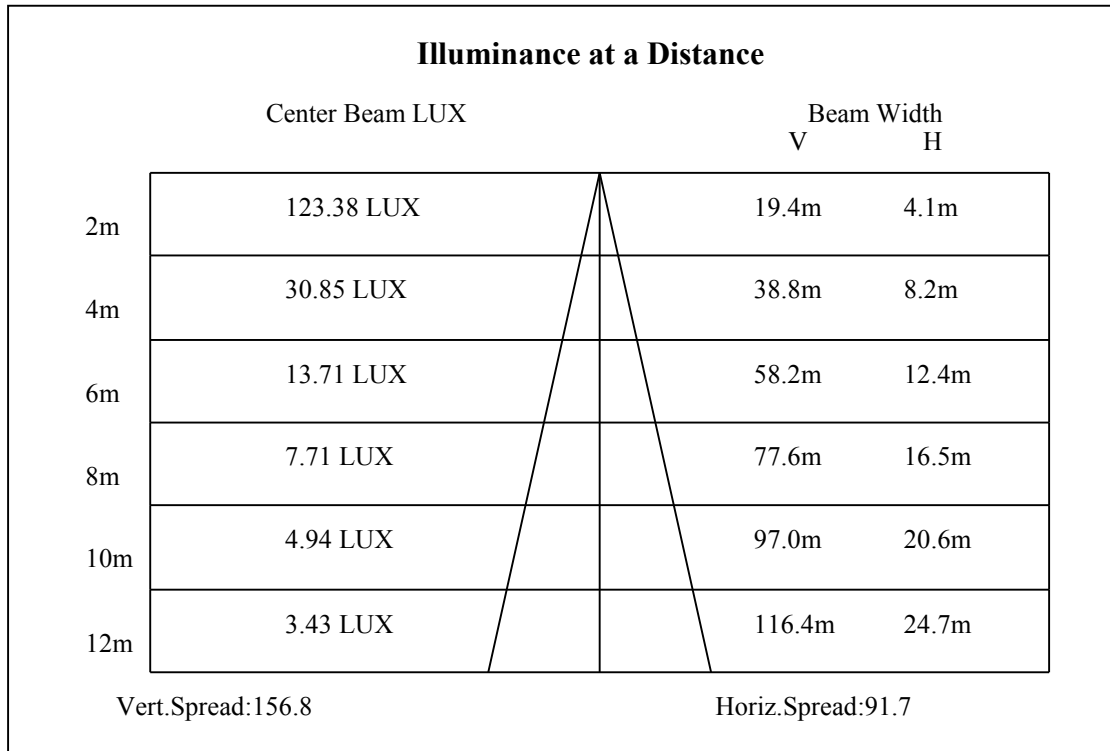
C90/C270: —————

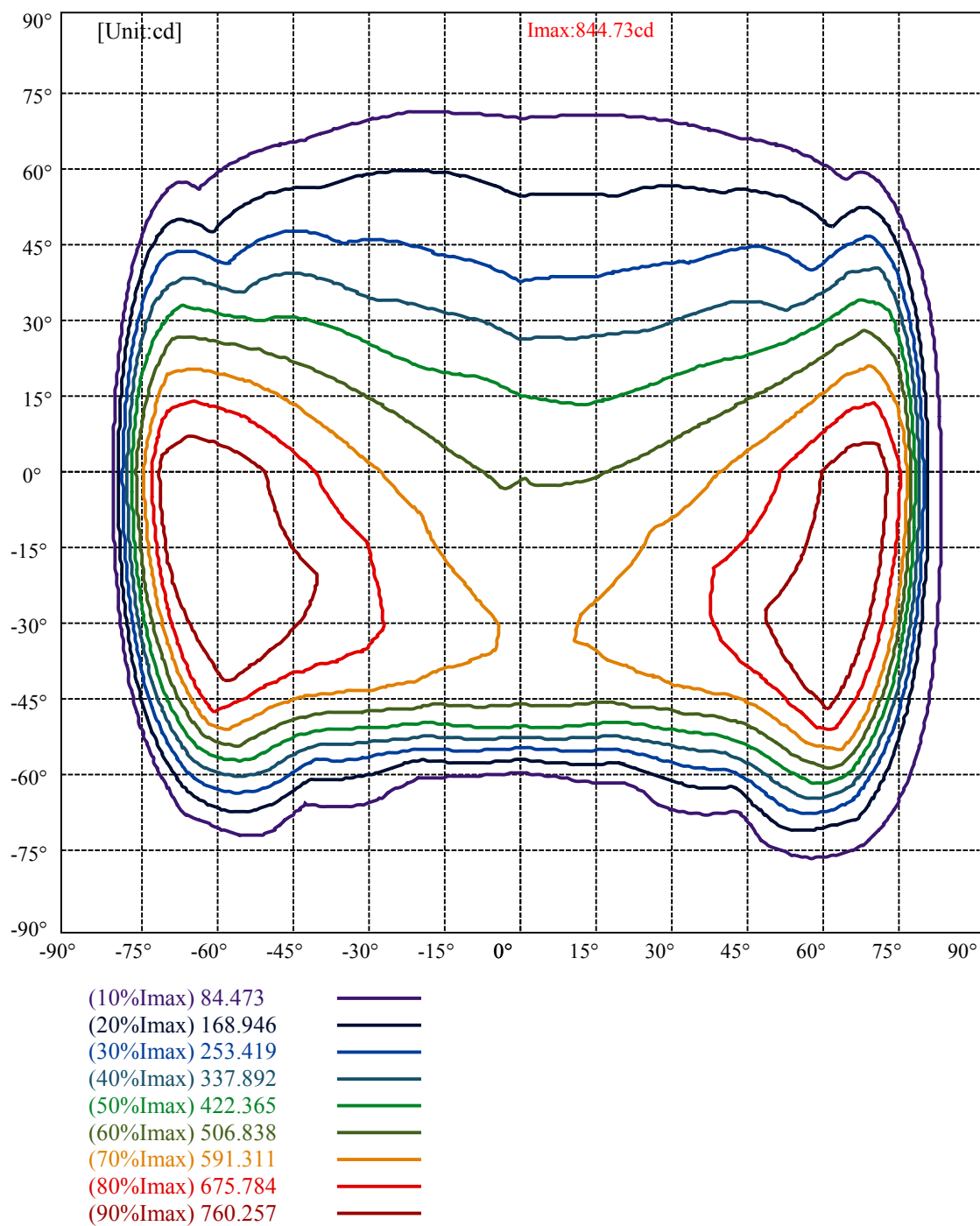
Field angle(10%Imax):C0/180Left:14.6 Right:147.3

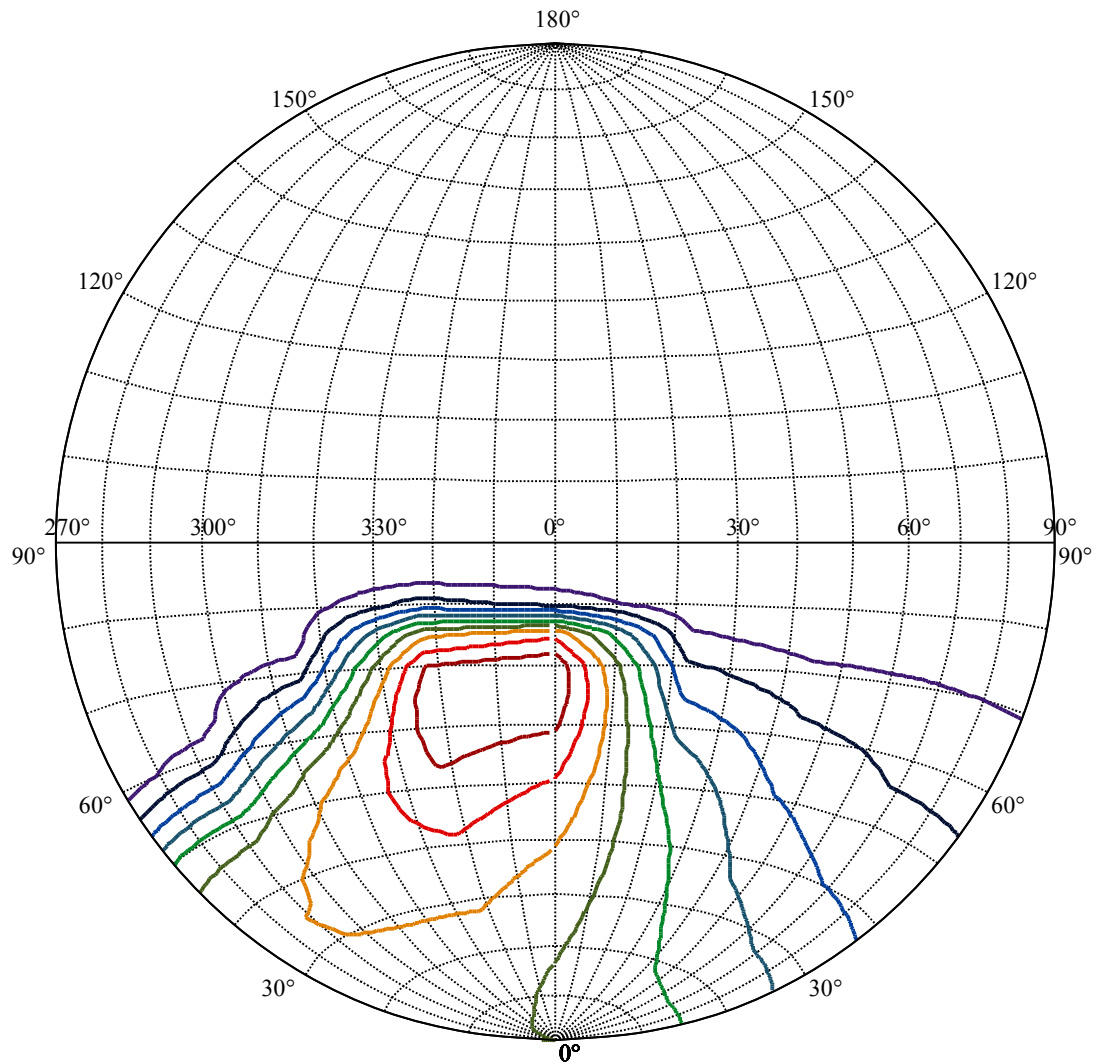
:C90/270Left:29.6 Right:101.8

Beam Angle(50%Imax):C0/180Left:11.1 Right:142.2

:C90/270Left:23.0 Right:61.7







House

[Unit:cd]

Road

Imax:844.73

(10%Imax) 84.473

(20%Imax) 168.946

(30%Imax) 253.419

(40%Imax) 337.892

(50%Imax) 422.365

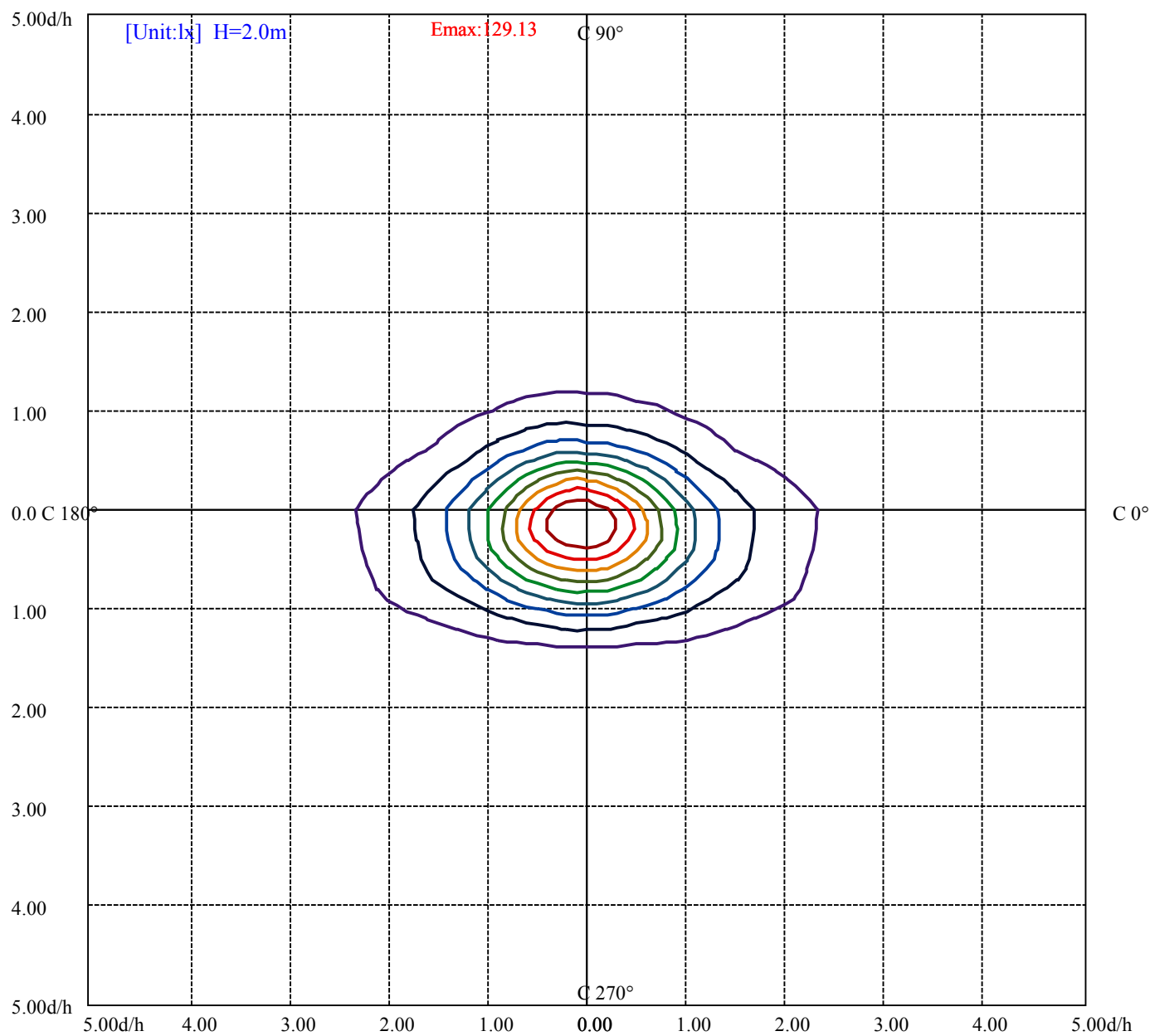
(60%Imax) 506.838

(70%Imax) 591.311

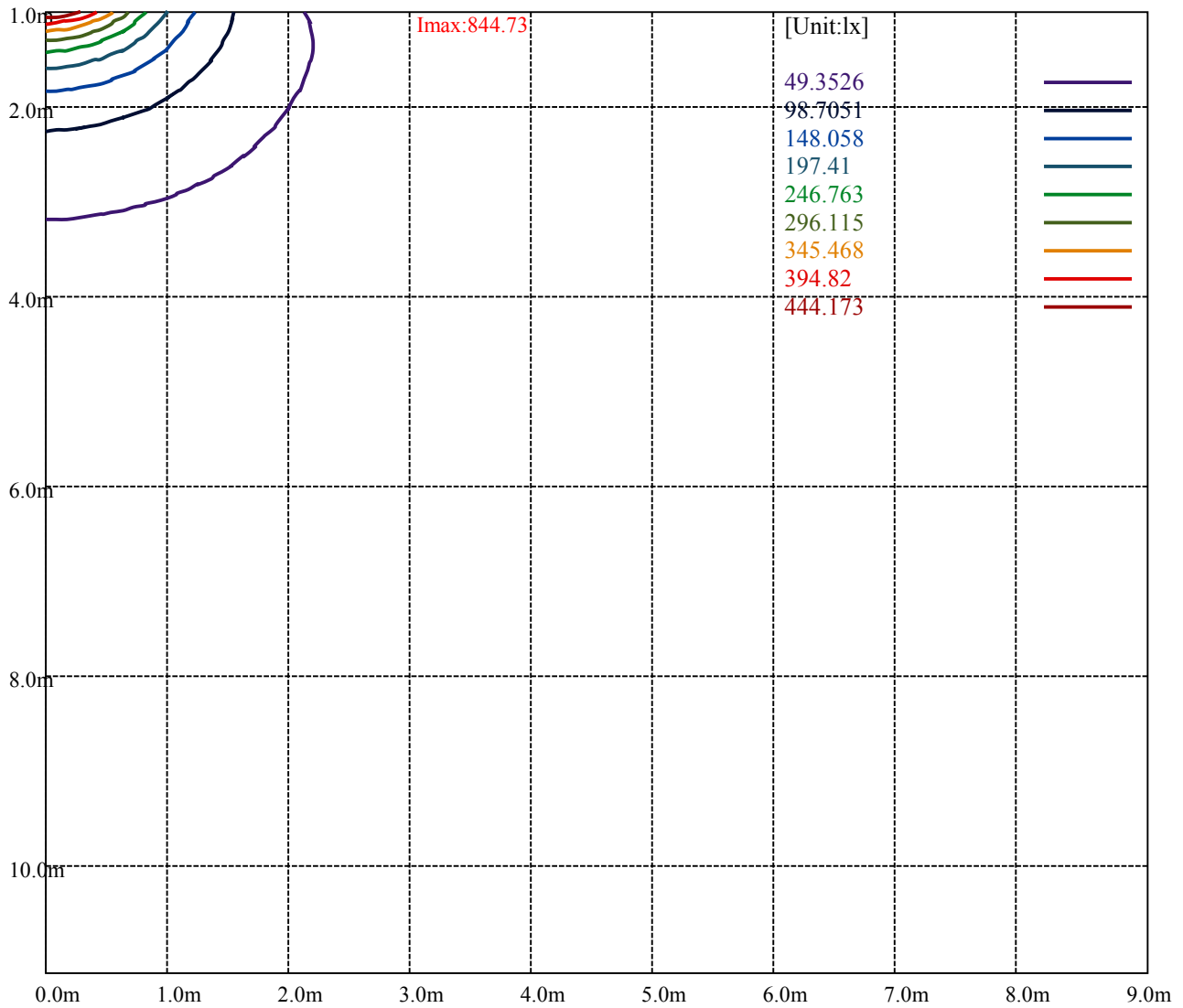
(80%Imax) 675.784

(90%Imax) 760.257





(10%Emax) 12.9125	—
(20%Emax) 25.825	—
(30%Emax) 38.7375	—
(40%Emax) 51.65	—
(50%Emax) 64.5625	—
(60%Emax) 77.475	—
(70%Emax) 90.3875	—
(80%Emax) 103.3	—
(90%Emax) 116.2125	—



Luminance Table

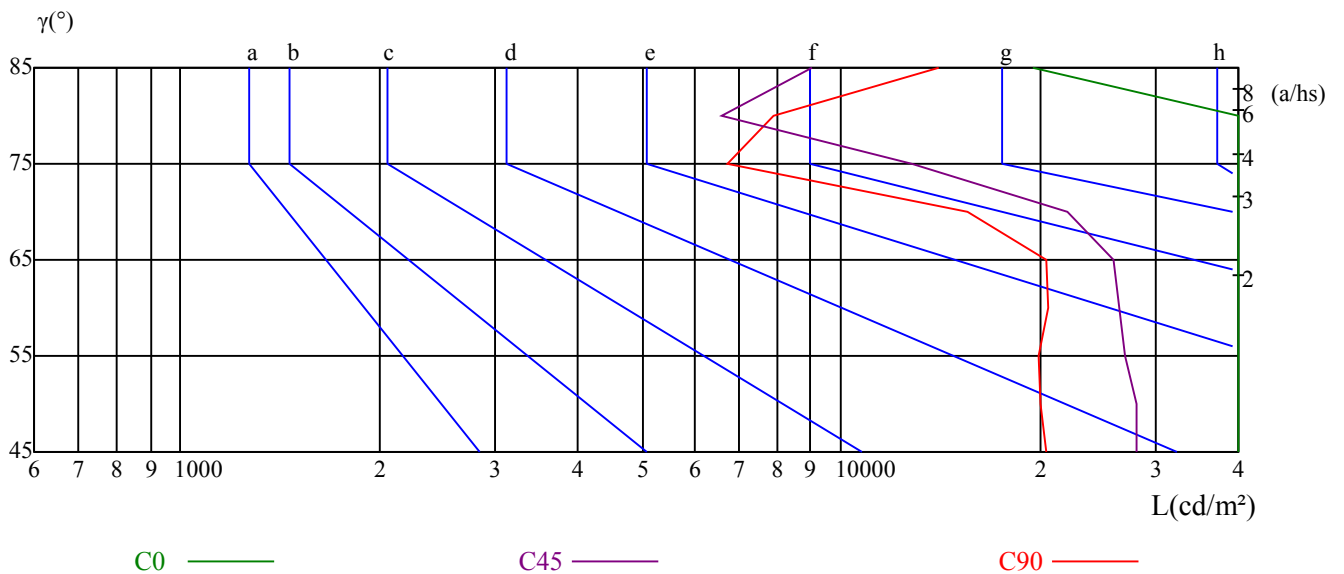
γ	45	50	55	60	65	70	75	80	85
C0	61943	72144	87069	107161	135404	166239	175732	54935	19521
C45	28127	27962	26910	26465	25874	22100	12778	6583	9037
C90	20417	20081	19911	20661	20419	15550	6721	7904	14082

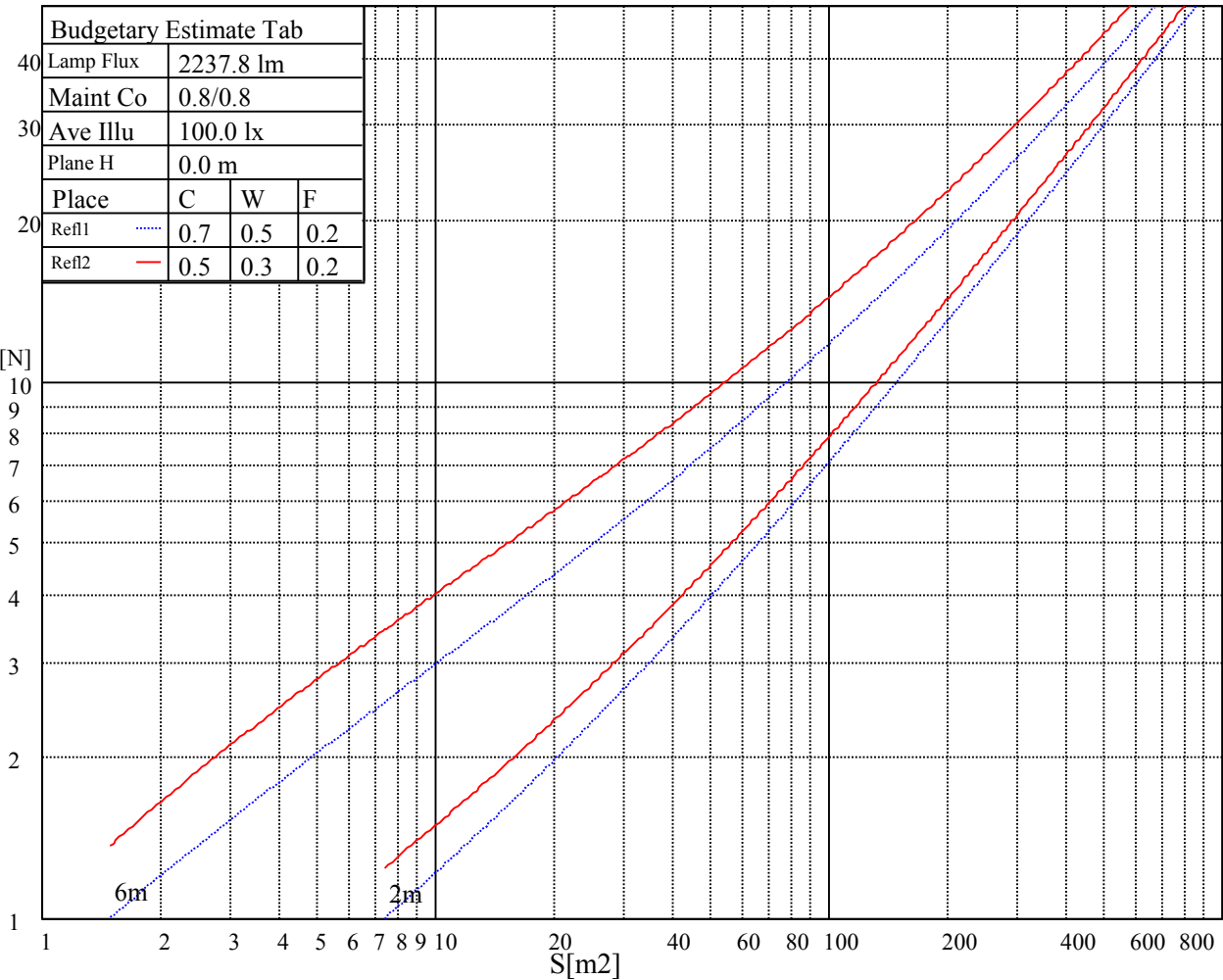
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
137105	12883	35057	158352	6367	10872	14674	13511	12459

Glare Table

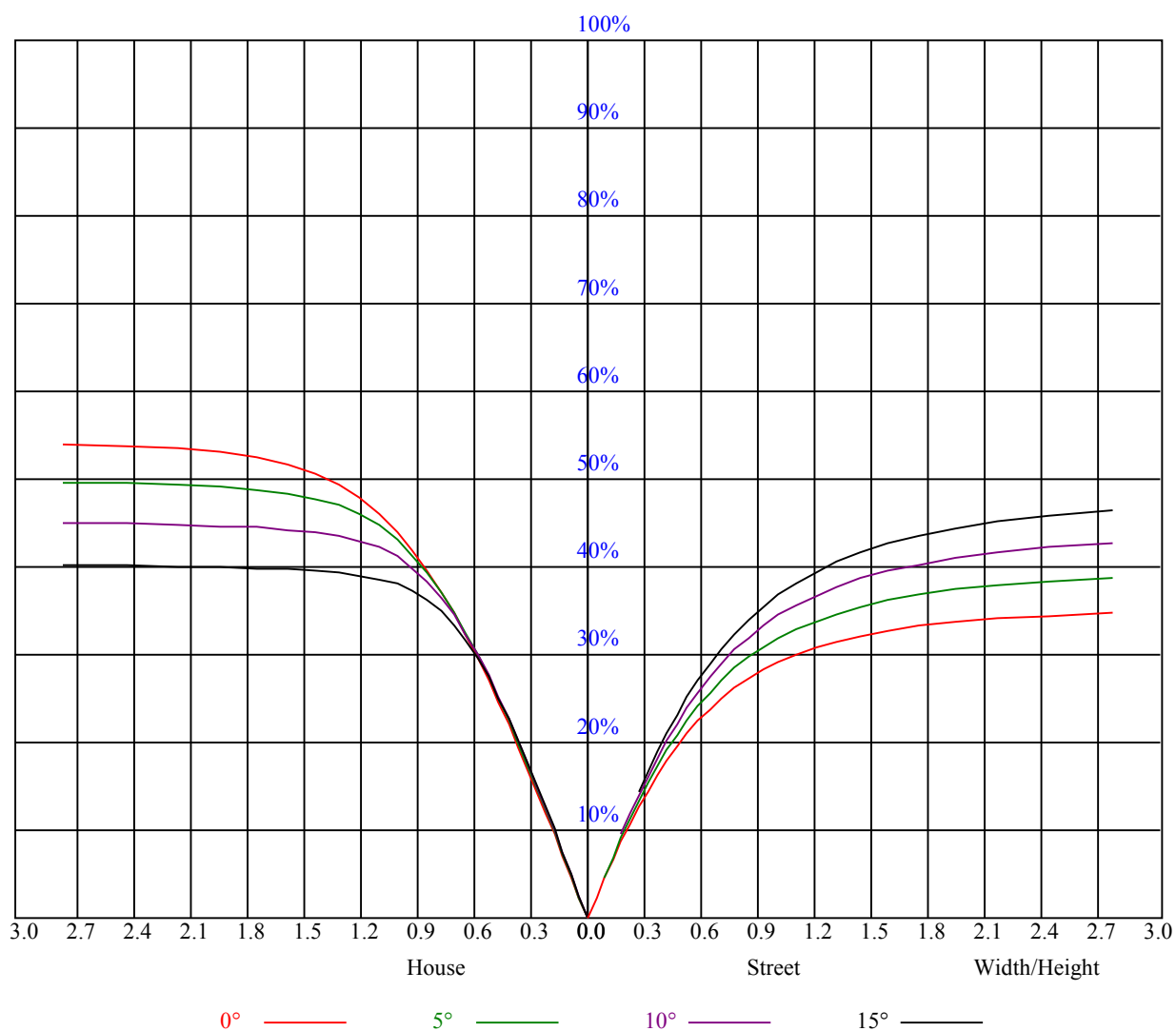
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	1.08	1.08	1.08	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	0.94	0.90	0.87	0.92	0.89	0.86	0.88	0.85	0.83	0.85	0.82	0.80	0.82	0.80	0.78	0.76
2	0.82	0.76	0.70	0.80	0.74	0.70	0.77	0.72	0.68	0.74	0.70	0.66	0.71	0.68	0.65	0.63
3	0.71	0.64	0.58	0.70	0.63	0.58	0.67	0.61	0.56	0.65	0.60	0.55	0.62	0.58	0.55	0.53
4	0.63	0.55	0.49	0.62	0.54	0.48	0.59	0.53	0.48	0.57	0.52	0.47	0.55	0.50	0.46	0.44
5	0.56	0.48	0.42	0.55	0.47	0.41	0.53	0.46	0.41	0.51	0.45	0.40	0.49	0.44	0.40	0.38
6	0.50	0.42	0.36	0.49	0.41	0.36	0.48	0.41	0.35	0.46	0.40	0.35	0.45	0.39	0.35	0.33
7	0.45	0.37	0.32	0.44	0.37	0.31	0.43	0.36	0.31	0.42	0.36	0.31	0.41	0.35	0.31	0.29
8	0.41	0.33	0.28	0.41	0.33	0.28	0.39	0.32	0.28	0.38	0.32	0.27	0.37	0.31	0.27	0.26
9	0.38	0.30	0.25	0.37	0.30	0.25	0.36	0.29	0.25	0.35	0.29	0.25	0.34	0.29	0.25	0.23
10	0.35	0.27	0.23	0.34	0.27	0.23	0.33	0.27	0.22	0.32	0.26	0.22	0.32	0.26	0.22	0.21



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	493.53	491.60	495.01	502.28	515.27	531.40	550.73	572.42	596.81
22.5	490.06	478.39	470.73	465.94	462.91	460.60	457.63	453.72	446.23
45.0	488.30	469.69	451.19	434.01	415.62	394.64	373.34	345.81	317.57
67.5	496.72	473.65	449.59	421.57	391.56	357.98	320.92	282.00	255.19
90.0	500.46	477.56	451.30	420.41	385.84	344.54	305.89	266.80	235.97
112.5	510.32	490.39	469.25	446.62	421.24	388.64	356.33	319.71	283.98
135.0	497.43	485.60	473.98	461.65	448.60	432.52	412.87	386.33	360.56
157.5	497.27	494.96	495.18	499.25	504.43	509.27	512.58	512.35	509.66
180.0	493.53	501.34	513.35	531.79	553.48	579.69	604.96	639.31	675.32
202.5	490.06	505.09	527.94	554.75	584.37	620.54	656.33	694.04	731.70
225.0	488.30	507.56	528.21	554.36	579.52	608.32	636.40	661.72	677.19
247.5	496.72	517.64	538.78	556.29	572.64	589.98	602.32	608.21	594.72
270.0	500.46	521.93	538.34	555.52	567.63	578.20	584.64	582.00	563.39
292.5	510.32	527.61	543.19	559.43	570.99	582.22	590.42	593.34	582.88
315.0	497.43	509.93	524.63	539.77	559.76	580.85	599.12	618.39	631.88
337.5	497.27	503.55	514.34	529.37	550.18	576.83	602.65	632.10	663.59
360.0	493.53	491.60	495.01	502.28	515.27	531.40	550.73	572.42	596.81
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	630.73	667.78	719.15	771.56	824.03	818.74	654.95	137.37	24.50
22.5	431.97	406.98	369.21	318.94	250.18	183.01	98.72	29.68	12.66
45.0	286.40	258.82	222.26	190.55	157.46	108.85	47.62	16.46	11.34
67.5	221.77	196.22	172.71	154.21	130.04	94.20	45.04	14.31	11.73
90.0	207.89	185.87	164.45	148.76	124.26	76.58	25.05	19.77	17.67
112.5	250.95	222.04	195.62	173.65	143.53	102.02	52.41	26.26	22.79
135.0	326.76	289.98	248.85	208.77	159.00	104.50	43.16	17.51	13.27
157.5	500.13	476.24	435.61	364.91	269.17	172.88	85.39	23.34	12.61
180.0	718.05	761.32	801.95	829.42	844.73	795.56	525.40	47.35	12.33
202.5	769.41	797.82	817.92	821.28	786.32	687.49	394.48	96.40	15.14
225.0	673.06	637.83	554.42	410.94	243.46	111.98	31.22	23.45	17.12
247.5	553.76	463.30	299.45	109.78	34.58	27.31	21.36	16.90	11.29
270.0	515.93	416.67	209.54	46.36	32.54	27.80	22.41	19.43	16.24
292.5	543.08	458.95	295.87	136.93	36.67	31.00	28.08	25.99	22.96
315.0	634.97	618.28	559.04	440.84	293.45	138.08	40.08	25.71	20.81
337.5	701.64	734.67	774.20	802.94	812.08	763.85	576.33	210.21	26.32
360.0	630.73	667.78	719.15	771.56	824.03	818.74	654.95	137.37	24.50
C/γ(°)	90.0								
0.0	6.00								
22.5	5.40								
45.0	5.67								
67.5	7.10								
90.0	13.32								
112.5	18.22								
135.0	9.30								
157.5	6.28								
180.0	5.78								
202.5	5.73								
225.0	5.73								
247.5	7.05								
270.0	13.65								
292.5	18.28								
315.0	9.08								
337.5	6.77								
360.0	6.00								