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Nata

LumCAT: 12068-S	
Luminaire: 11124-S+99.02.73.185	
Report No: NATA0100	Voltage(V):
Test No: GC2020030206	Current(A):
LampCAT: CREE XPE2	Power (W): 9.0000
Lamp flux(lm): 923.0	PF:
Number of Lamps: 1	Ballast type:
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 653.78
Efficiency(%): 70.83%
Lumens(lm)/Power(W): 72.64
Central intensity(cd): 938.588
Maximum intensity(cd): 938.588
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=60.5
 [C90/270]Total=42.0
Field angle(10%Imax): [C0/180]Total=84.2
 [C90/270]Total=68.1
Maximum s/h(1/2): C0_180=0.94 C90_270=0.58
Maximum s/h(1/4): C0_180=0.86 C90_270=0.69
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 70.83%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.487%

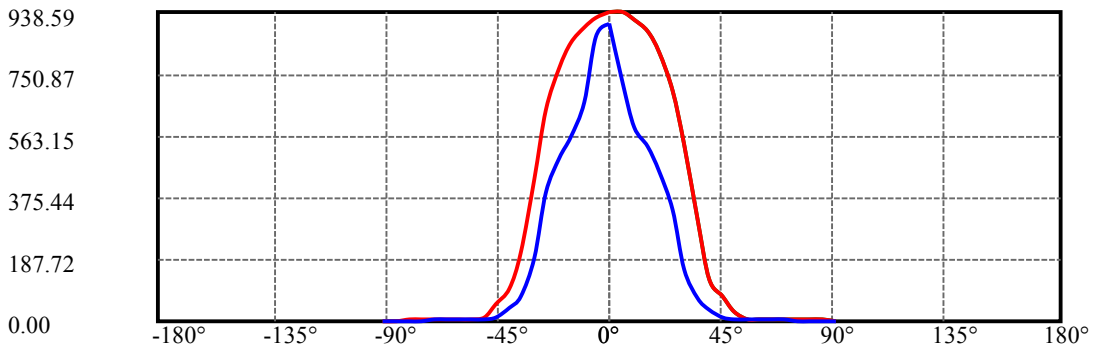
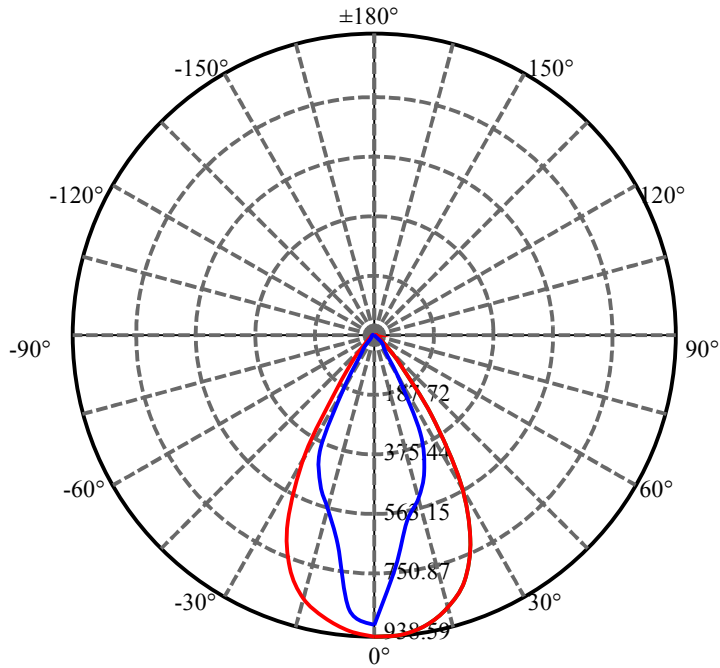
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	926.850	0.000	0	.000%	.000%
5.0	856.538	21.320	21.32	2.310%	3.261%
10.0	738.766	57.069	78.389	6.183%	11.990%
15.0	648.555	82.295	160.684	8.916%	24.578%
20.0	571.155	100.521	261.205	10.891%	39.953%
25.0	472.856	109.498	370.703	11.863%	56.702%
30.0	341.156	103.014	473.717	11.161%	72.458%
35.0	200.623	79.781	553.498	8.644%	84.661%
40.0	94.240	49.196	602.693	5.330%	92.186%
45.0	38.724	24.619	627.312	2.667%	95.952%
50.0	14.299	10.714	638.026	1.161%	97.591%
55.0	4.334	4.051	642.078	.439%	98.210%
60.0	3.485	1.807	643.885	.196%	98.487%
65.0	3.330	1.657	645.542	.180%	98.740%
70.0	3.227	1.660	647.202	.180%	98.994%
75.0	3.178	1.674	648.877	.181%	99.250%
80.0	3.237	1.716	650.593	.186%	99.513%
85.0	3.028	1.702	652.295	.184%	99.773%
90.0	2.391	1.484	653.779	.161%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	473.72	51.32%	72.46%
0-40	602.69	65.30%	92.19%
0-60	643.89	69.76%	98.49%
0-90	652.30	70.67%	99.77%
0-120	652.30	70.67%	99.77%
0-180	653.78	70.83%	100.00%
60-90	10.22	1.11%	1.56%
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%
0-33.09	523.02	56.67%	80.00%

ZONAL LUMEN SUMMARY

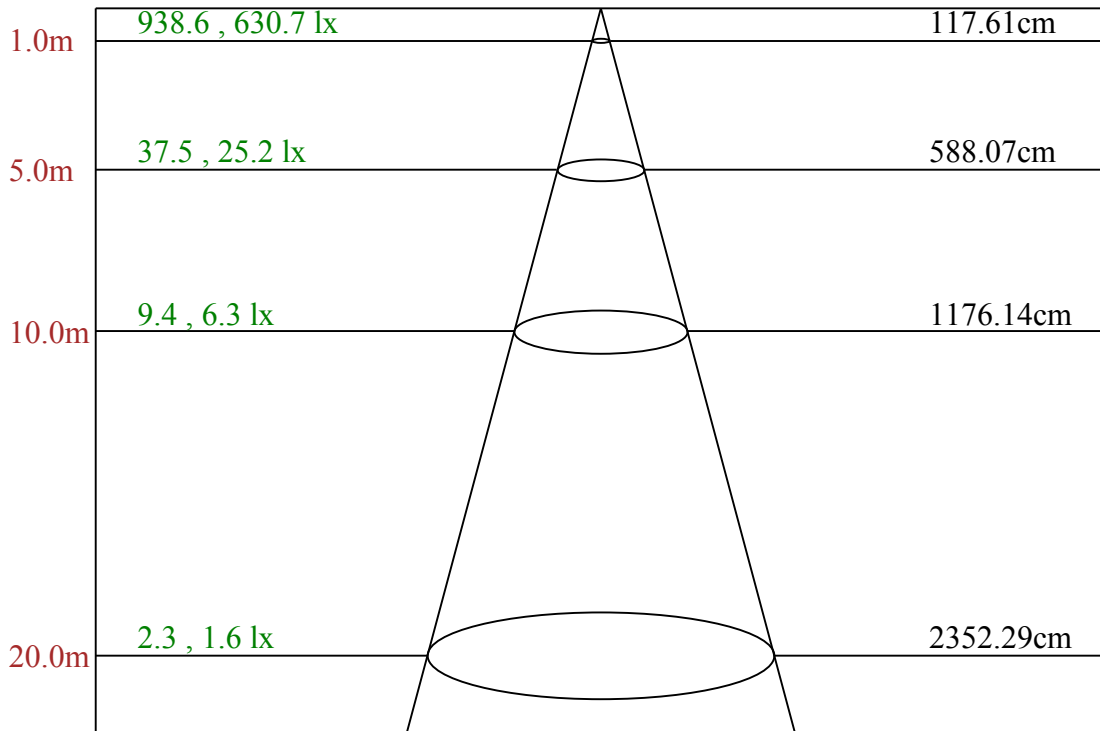
0-10	78.39
10-20	182.82
20-30	212.51
30-40	128.98
40-50	35.33
50-60	5.86
60-70	3.32
70-80	3.39
80-90	1.70
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



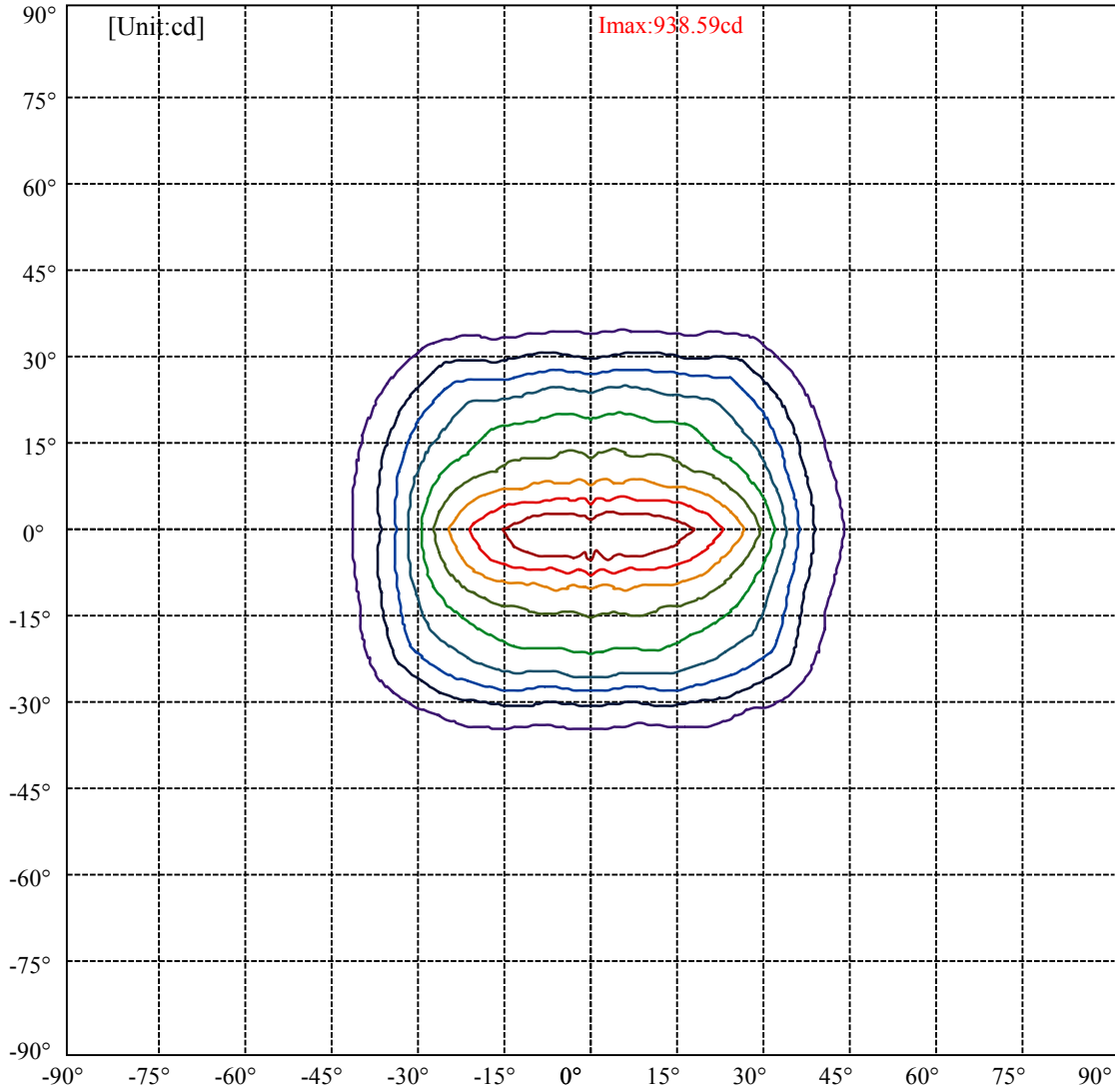
C0(Max): —————
 C0/C180: —————
 C90/C270: —————

Field angle(10%Imax):C0/180Left:40.8 Right:43.4
 :C90/270Left:34.4 Right:33.7

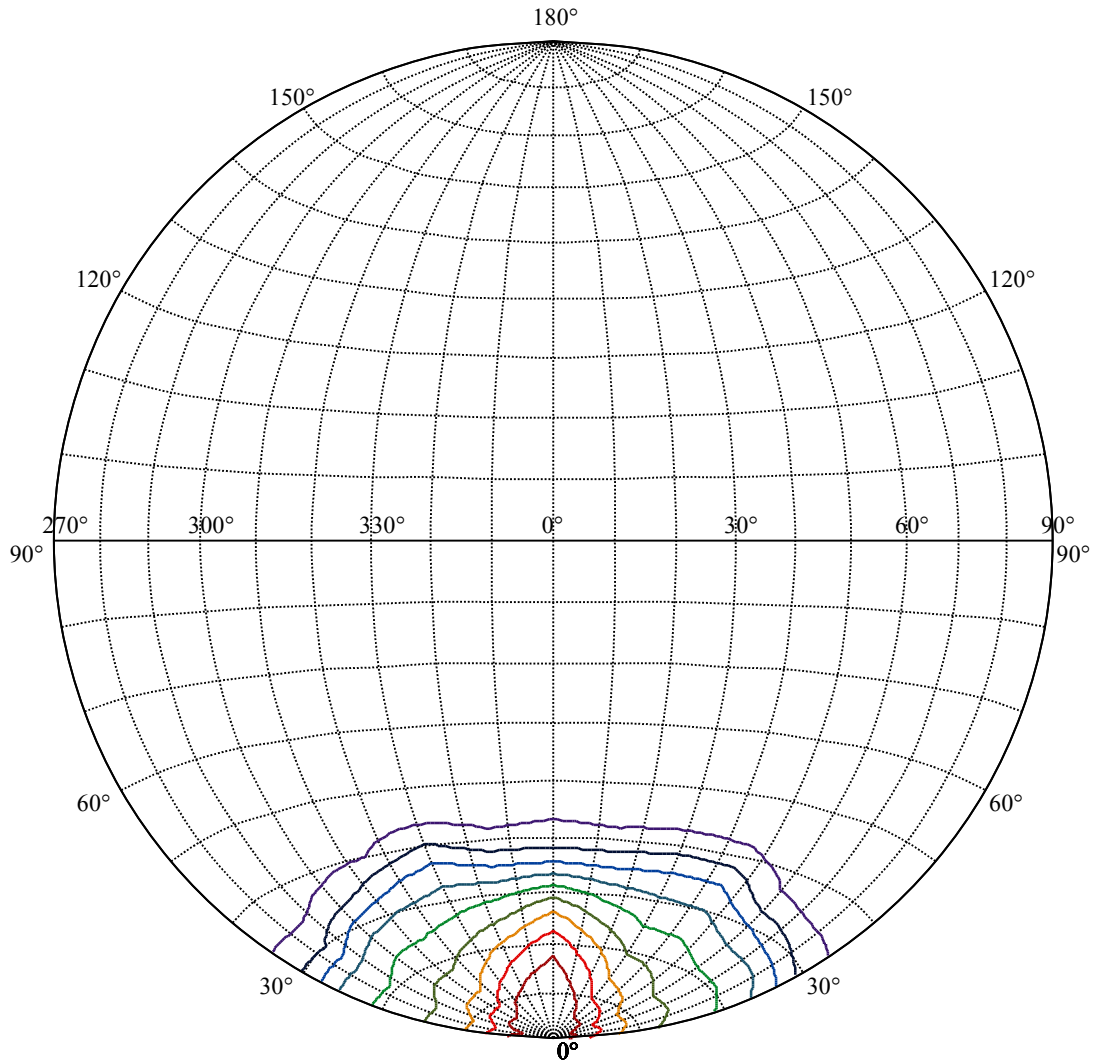
Beam Angle(50%Imax):C0/180Left:29.1 Right:31.4
 :C90/270Left:22.0 Right:20.0



Max , Ave Beam angle of C0 plane 60.89



(10%I _{max}) 93.8025	—
(20%I _{max}) 187.605	—
(30%I _{max}) 281.408	—
(40%I _{max}) 375.21	—
(50%I _{max}) 469.013	—
(60%I _{max}) 562.815	—
(70%I _{max}) 656.618	—
(80%I _{max}) 750.42	—
(90%I _{max}) 844.223	—



House

[Unit:cd]

Road

Imax:938.59

(10%Imax) 93.8588

(20%Imax) 187.718

(30%Imax) 281.576

(40%Imax) 375.435

(50%Imax) 469.294

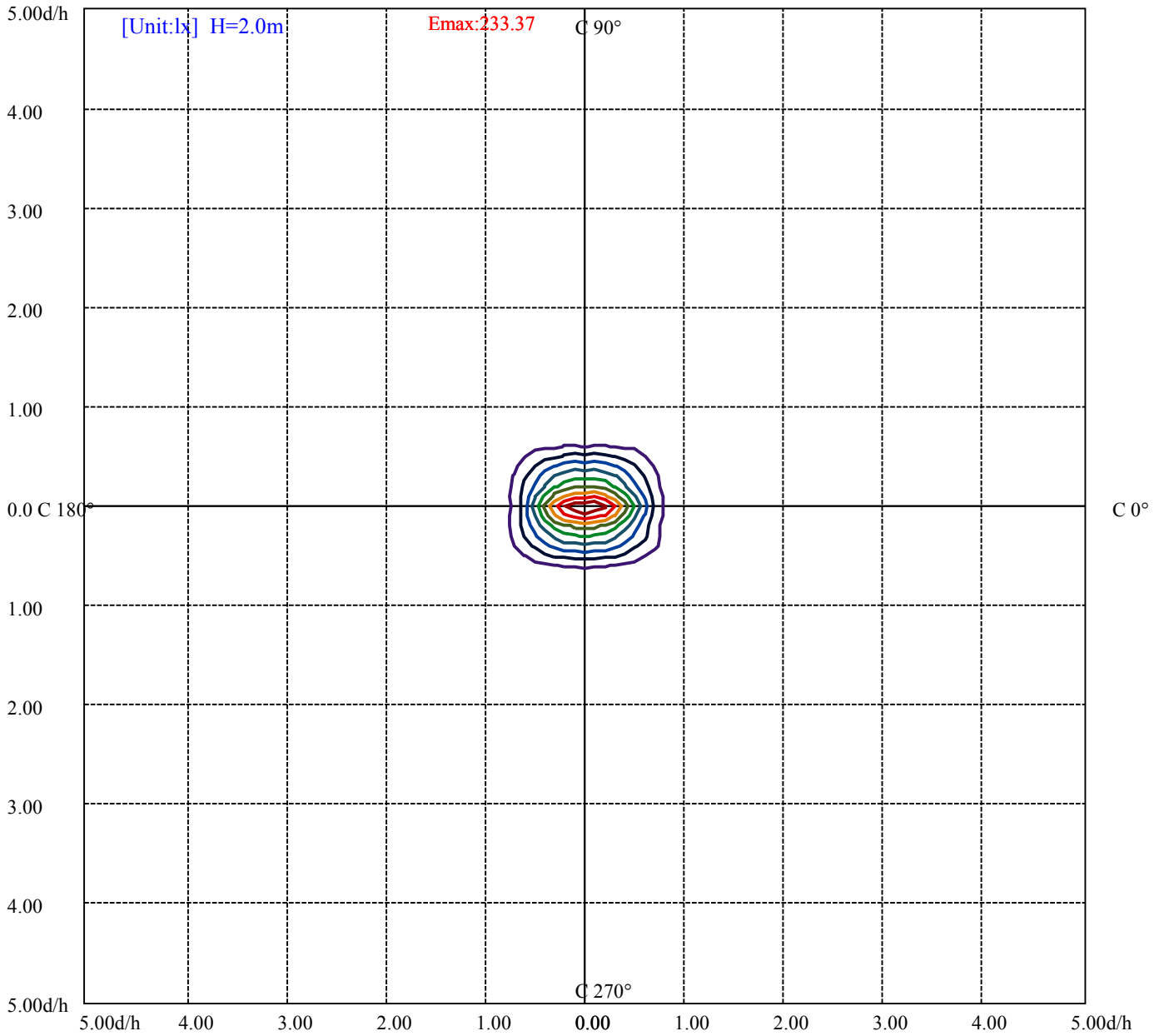
(60%Imax) 563.153

(70%Imax) 657.012

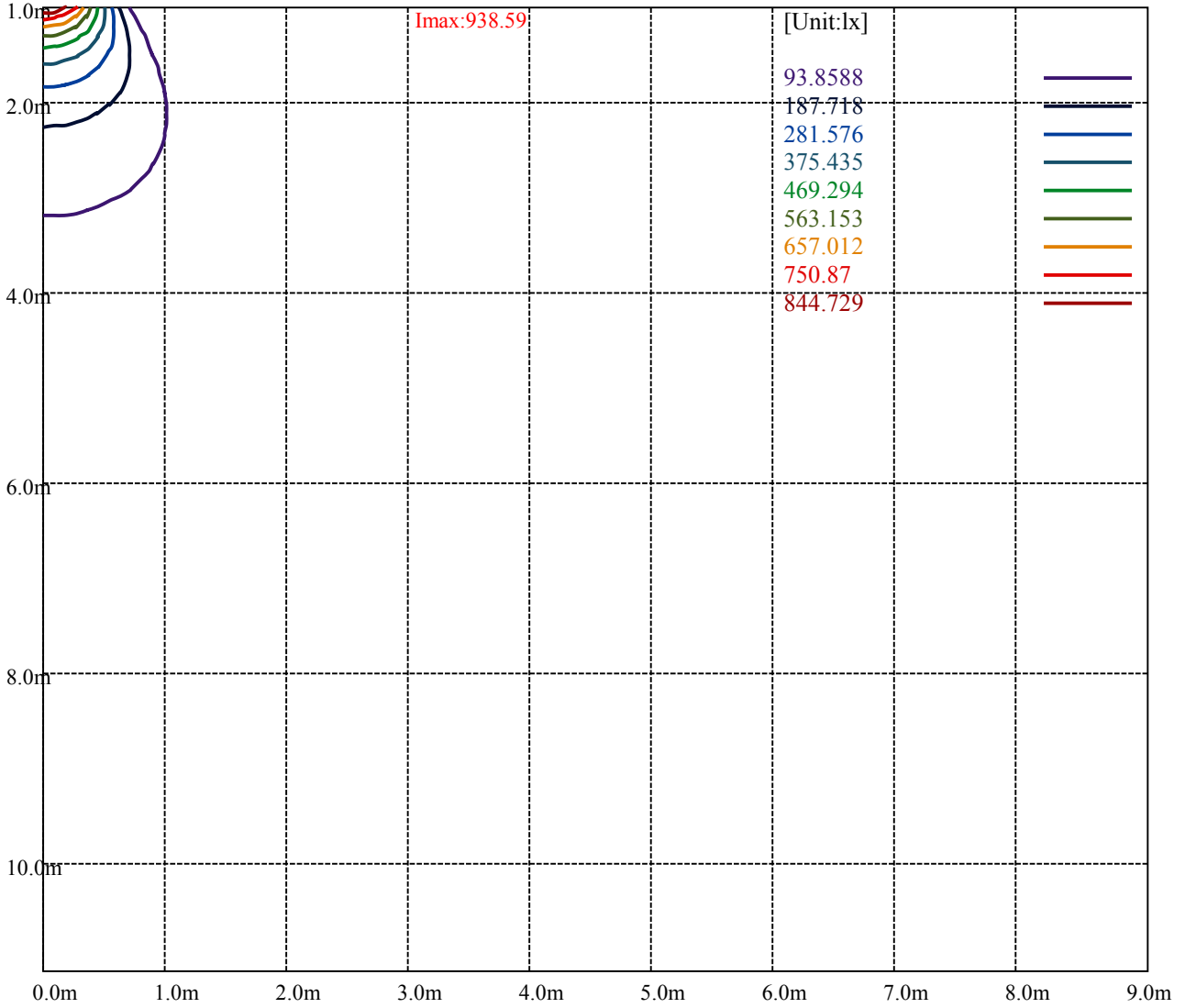
(80%Imax) 750.87

(90%Imax) 844.729





(10%Emax) 23.33655	—
(20%Emax) 46.673	—
(30%Emax) 70.00975	—
(40%Emax) 93.34625	—
(50%Emax) 116.6827	—
(60%Emax) 140.0193	—
(70%Emax) 163.3557	—
(80%Emax) 186.6922	—
(90%Emax) 210.029	—



Luminance Table

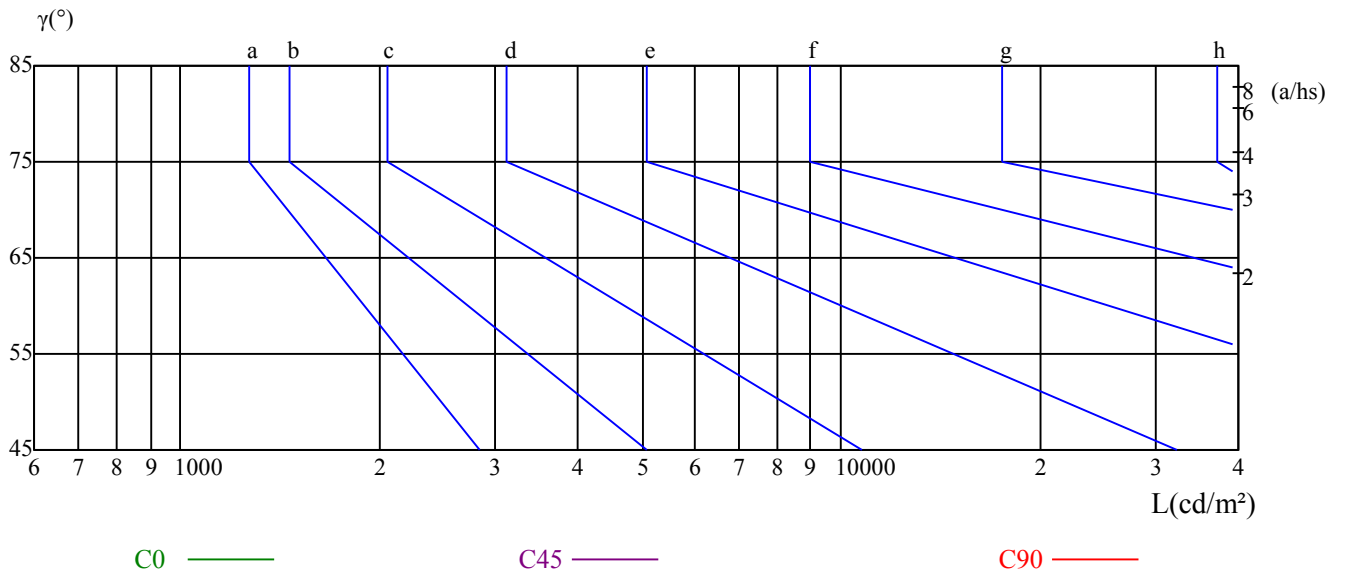
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

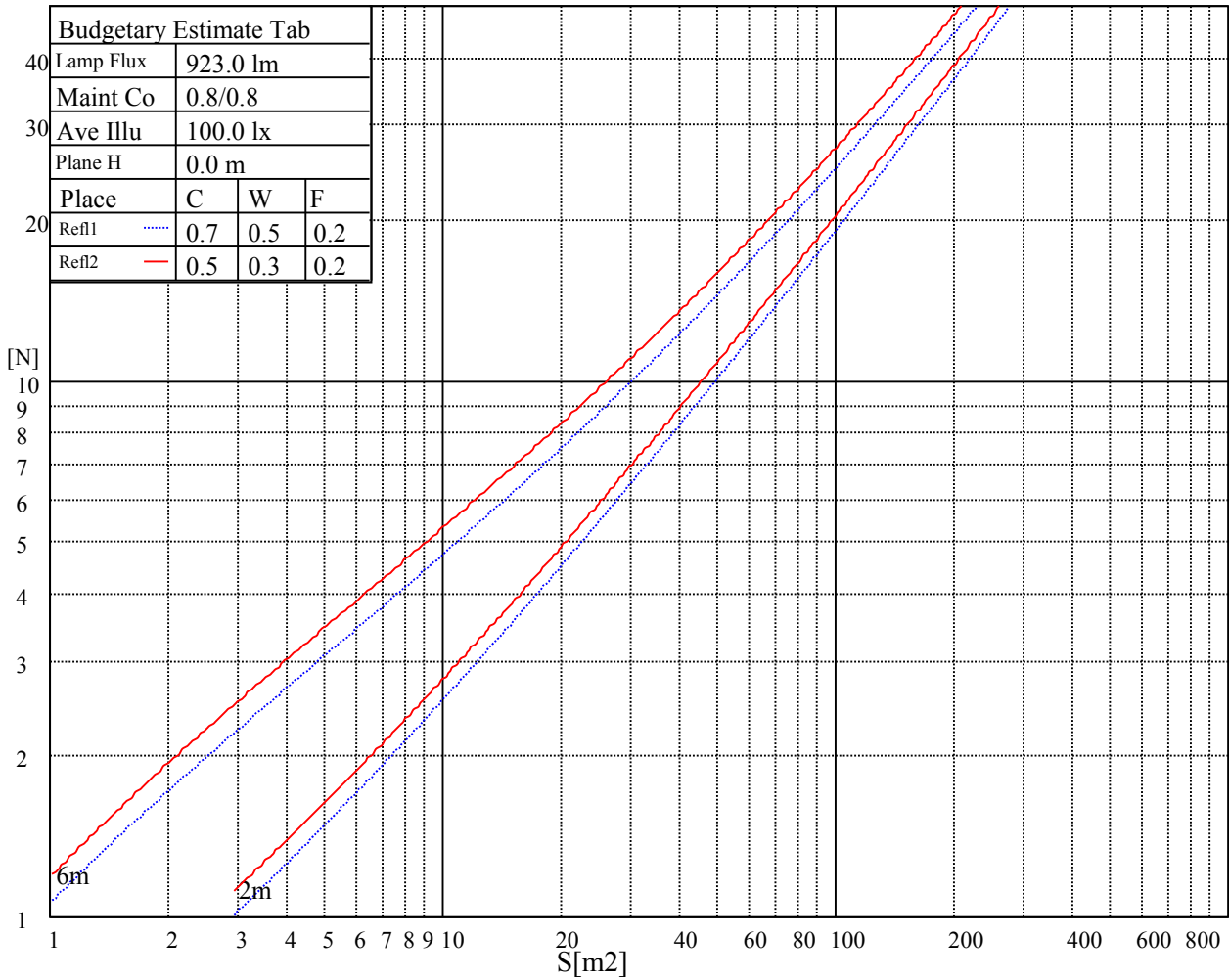
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

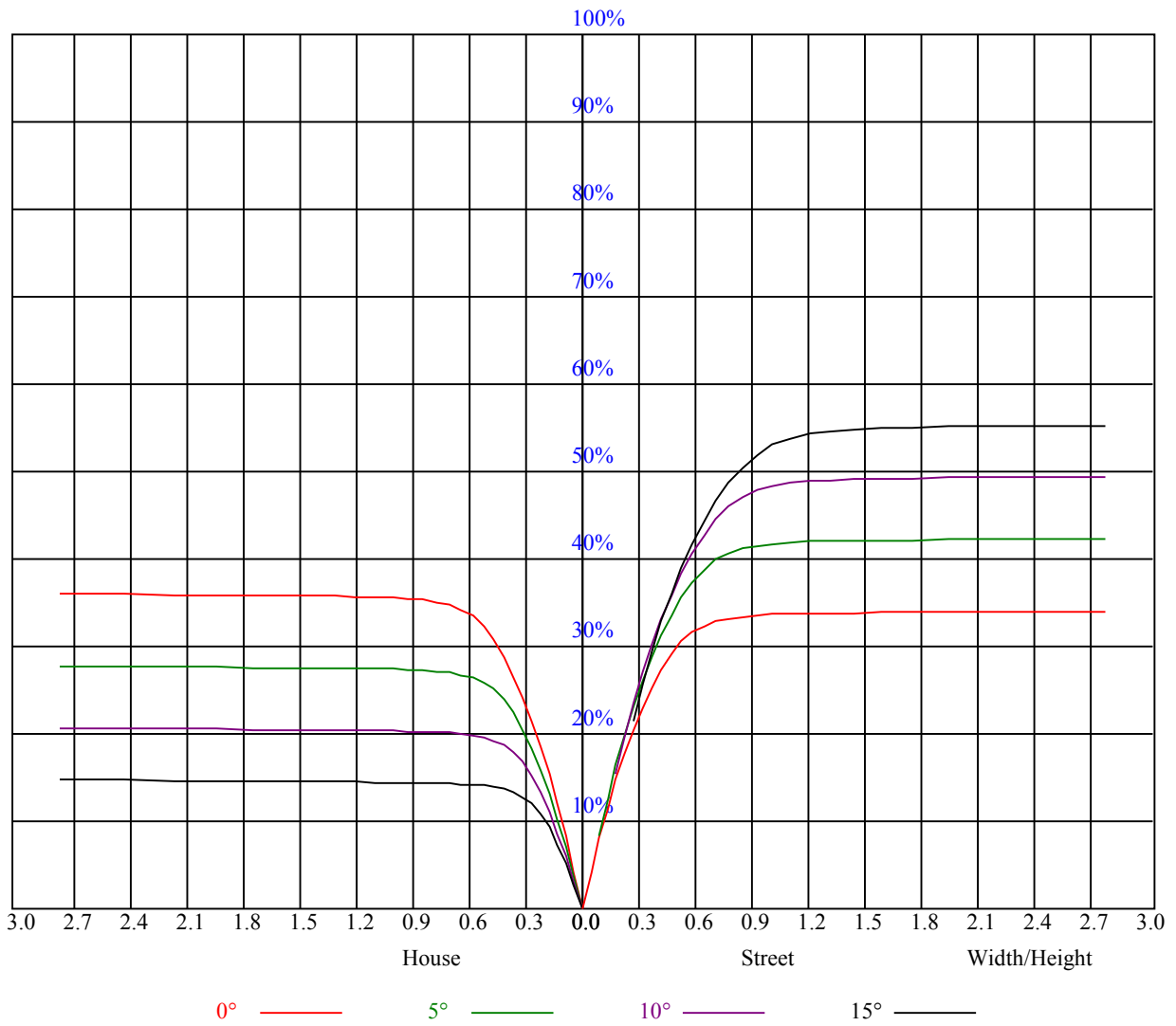
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.84	0.84	0.84	0.82	0.82	0.82	0.79	0.79	0.79	0.75	0.75	0.75	0.72	0.72	0.72	0.71
1	0.78	0.76	0.75	0.77	0.75	0.74	0.74	0.73	0.71	0.71	0.70	0.69	0.69	0.68	0.67	0.66
2	0.73	0.70	0.68	0.72	0.69	0.67	0.69	0.67	0.65	0.67	0.65	0.64	0.65	0.64	0.63	0.61
3	0.68	0.64	0.62	0.67	0.64	0.61	0.65	0.62	0.60	0.63	0.61	0.59	0.62	0.60	0.58	0.57
4	0.64	0.60	0.57	0.63	0.59	0.56	0.61	0.58	0.56	0.60	0.57	0.55	0.59	0.56	0.54	0.53
5	0.60	0.56	0.53	0.59	0.55	0.52	0.58	0.54	0.52	0.57	0.54	0.51	0.55	0.53	0.51	0.50
6	0.56	0.52	0.49	0.56	0.52	0.49	0.54	0.51	0.48	0.53	0.50	0.48	0.53	0.50	0.48	0.47
7	0.53	0.49	0.46	0.52	0.48	0.46	0.51	0.48	0.45	0.51	0.47	0.45	0.50	0.47	0.45	0.44
8	0.50	0.46	0.43	0.49	0.45	0.43	0.49	0.45	0.43	0.48	0.45	0.42	0.47	0.44	0.42	0.41
9	0.47	0.43	0.40	0.47	0.43	0.40	0.46	0.43	0.40	0.46	0.42	0.40	0.45	0.42	0.40	0.39
10	0.45	0.41	0.38	0.44	0.41	0.38	0.44	0.40	0.38	0.43	0.40	0.38	0.43	0.40	0.38	0.37



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	938.59	935.78	915.08	880.71	813.60	701.38	534.04	307.91	128.25
15.0	936.28	908.61	850.22	777.32	681.30	563.12	438.53	279.90	119.59
30.0	929.42	846.00	744.92	643.50	555.30	471.04	390.26	285.81	149.74
45.0	933.47	836.21	696.71	595.58	533.76	461.93	377.61	275.51	131.06
60.0	914.51	760.33	624.71	551.48	490.78	403.26	289.74	117.06	55.13
75.0	927.73	777.99	624.54	551.93	480.77	388.63	217.91	88.48	45.23
90.0	905.57	725.68	589.28	528.36	452.48	338.57	157.50	67.22	34.37
105.0	925.71	776.81	620.27	549.00	477.45	377.49	218.08	81.39	43.54
120.0	919.24	760.95	623.98	546.36	486.73	396.06	255.09	107.89	52.43
135.0	929.14	817.59	688.11	586.46	522.51	451.01	371.53	255.88	110.19
150.0	924.41	849.66	733.67	629.72	547.76	460.74	377.94	269.61	128.36
165.0	938.14	906.47	840.88	756.90	658.80	543.54	417.66	258.75	109.97
180.0	938.59	922.22	894.43	845.21	770.34	640.52	430.76	209.76	101.53
195.0	936.28	931.78	890.66	817.54	714.94	576.28	437.18	263.42	106.76
210.0	929.42	923.06	837.39	710.55	603.51	500.68	417.26	318.77	174.60
225.0	933.47	880.37	733.50	607.50	537.47	465.47	377.16	256.67	103.61
240.0	914.51	873.00	703.80	585.06	519.92	444.09	325.13	134.33	63.17
255.0	927.73	825.36	648.06	552.83	493.26	384.47	191.76	78.30	42.69
270.0	905.57	860.51	663.41	562.44	493.99	392.34	192.04	76.61	43.26
285.0	925.71	813.99	647.55	553.56	485.27	387.28	190.24	75.71	42.75
300.0	919.24	886.89	704.03	590.40	526.16	447.19	323.89	130.89	63.39
315.0	929.14	879.08	730.24	609.58	536.40	464.63	382.89	249.58	93.15
330.0	924.41	923.12	832.50	713.98	609.30	507.99	421.59	336.15	202.33
345.0	938.14	935.44	892.46	819.39	715.95	580.84	451.97	289.35	116.66
360.0	938.59	935.78	915.08	880.71	813.60	701.38	534.04	307.91	128.25

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	77.51	29.70	4.39	3.49	3.21	3.26	3.43	3.77	3.49
15.0	61.20	25.03	4.11	3.43	3.26	3.32	3.66	4.05	3.60
30.0	51.02	21.43	4.61	3.38	3.15	3.15	3.26	3.60	3.66
45.0	44.27	18.90	5.51	3.71	3.54	3.21	3.15	3.26	3.77
60.0	25.65	6.08	3.83	3.60	3.38	3.15	2.93	3.04	3.32
75.0	15.08	4.16	3.43	3.21	3.15	3.09	2.81	2.76	2.81
90.0	9.56	3.83	3.26	3.09	2.93	2.93	2.64	2.64	2.53
105.0	15.30	4.11	3.43	3.21	3.21	3.09	2.87	2.76	2.76
120.0	22.28	5.01	3.83	3.60	3.38	3.21	2.98	3.09	3.32
135.0	40.73	15.69	4.33	3.66	3.66	3.26	3.26	3.43	3.71
150.0	45.28	17.72	4.50	3.43	3.26	3.21	3.38	3.88	3.26
165.0	54.90	19.74	3.99	3.43	3.32	3.43	3.66	4.16	3.04
180.0	51.53	12.88	3.83	3.43	3.43	3.71	3.94	3.94	2.64
195.0	51.98	19.29	3.94	3.38	3.32	3.49	3.60	3.49	2.87
210.0	59.29	25.26	6.47	3.60	3.32	3.21	3.21	3.15	2.81
225.0	37.24	14.51	4.56	3.66	3.60	3.21	3.04	3.09	2.76
240.0	31.05	8.78	4.05	3.77	3.54	3.26	3.04	2.87	2.76
255.0	13.78	4.22	3.60	3.38	3.32	3.15	2.87	2.70	2.59
270.0	13.95	4.39	3.54	3.32	3.15	3.04	2.76	2.64	2.59
285.0	13.67	4.28	3.60	3.43	3.26	3.09	2.81	2.76	2.64
300.0	30.88	8.83	3.94	3.77	3.49	3.32	3.04	2.93	2.76
315.0	40.61	16.03	4.84	3.71	3.60	3.21	3.15	3.09	2.87
330.0	63.11	28.41	8.27	3.60	3.26	3.15	3.21	3.15	2.98
345.0	59.51	24.92	4.16	3.38	3.21	3.32	3.60	3.43	3.15
360.0	77.51	29.70	4.39	3.49	3.21	3.26	3.43	3.77	3.49

Intensity data(cd)

C/ γ (°)	90.0
0.0	2.31
15.0	2.31
30.0	2.31
45.0	2.36
60.0	2.42
75.0	2.48
90.0	2.48
105.0	2.48
120.0	2.48
135.0	2.36
150.0	2.36
165.0	2.31
180.0	2.31
195.0	2.36
210.0	2.42
225.0	2.36
240.0	2.42
255.0	2.42
270.0	2.42
285.0	2.48
300.0	2.42
315.0	2.42
330.0	2.36
345.0	2.36
360.0	2.31