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Nata

LumCAT: 12068-S2	
Luminaire: 11124-S+99.02.73.185	
Report No: NATA0100	Voltage(V):
Test No: GC2020030207	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): 622.64
Efficiency(%): 67.46%
Lumens(lm)/Power(W): 69.18
Central intensity(cd): 614.587
Maximum intensity(cd): 614.587
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=66.8
[C90/270]Total=54.9
Field angle(10%Imax): [C0/180]Total=93.2
[C90/270]Total=82.5
Maximum s/h(1/2): C0_180=1.00 C90_270=0.89
Maximum s/h(1/4): C0_180=0.94 C90_270=0.80
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 67.46%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.102%

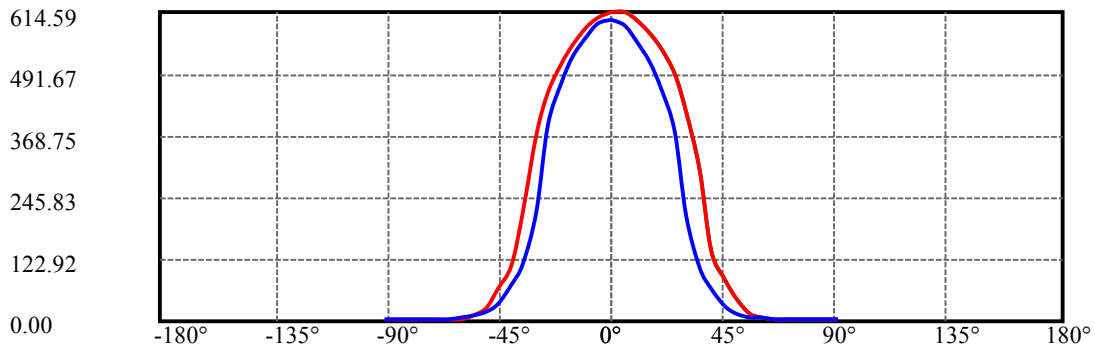
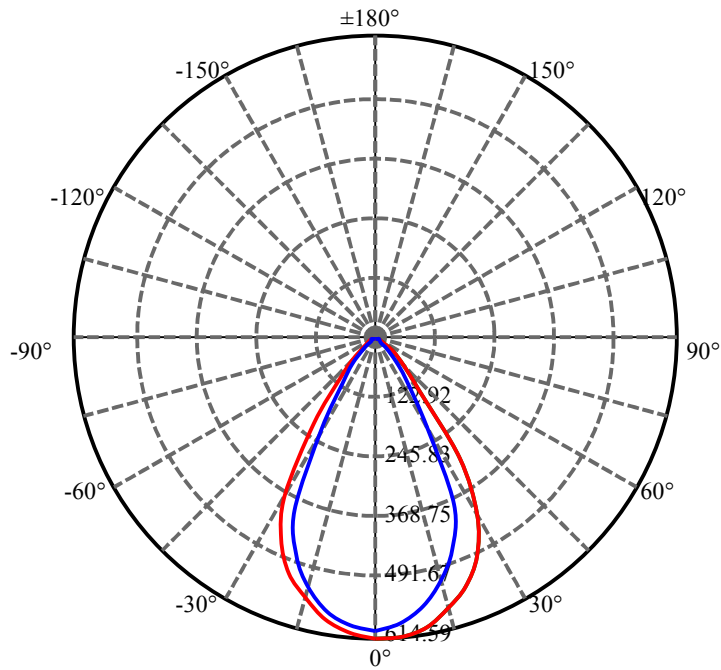
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	608.358	0.000	0	.000%	.000%
5.0	600.366	14.450	14.45	1.566%	2.321%
10.0	578.367	42.167	56.617	4.568%	9.093%
15.0	543.047	66.522	123.138	7.207%	19.777%
20.0	497.798	85.780	208.919	9.294%	33.554%
25.0	434.452	97.776	306.695	10.593%	49.257%
30.0	339.253	97.913	404.608	10.608%	64.983%
35.0	223.083	82.808	487.415	8.972%	78.282%
40.0	121.624	57.512	544.927	6.231%	87.519%
45.0	60.319	33.688	578.615	3.650%	92.930%
50.0	29.925	18.235	596.85	1.976%	95.858%
55.0	12.851	9.301	606.151	1.008%	97.352%
60.0	7.362	4.672	610.823	.506%	98.102%
65.0	4.955	2.994	613.818	.324%	98.583%
70.0	3.865	2.233	616.051	.242%	98.942%
75.0	3.307	1.875	617.925	.203%	99.243%
80.0	3.092	1.712	619.637	.185%	99.518%
85.0	2.848	1.614	621.251	.175%	99.777%
90.0	2.220	1.387	622.639	.150%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	404.61	43.84%	64.98%
0-40	544.93	59.04%	87.52%
0-60	610.82	66.18%	98.10%
0-90	621.25	67.31%	99.78%
0-120	621.25	67.31%	99.78%
0-180	622.64	67.46%	100.00%
60-90	15.10	1.64%	2.43%
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%
0-35.93	498.11	53.97%	80.00%

ZONAL LUMEN SUMMARY

0-10	56.62
10-20	152.30
20-30	195.69
30-40	140.32
40-50	51.92
50-60	13.97
60-70	5.23
70-80	3.59
80-90	1.61
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:

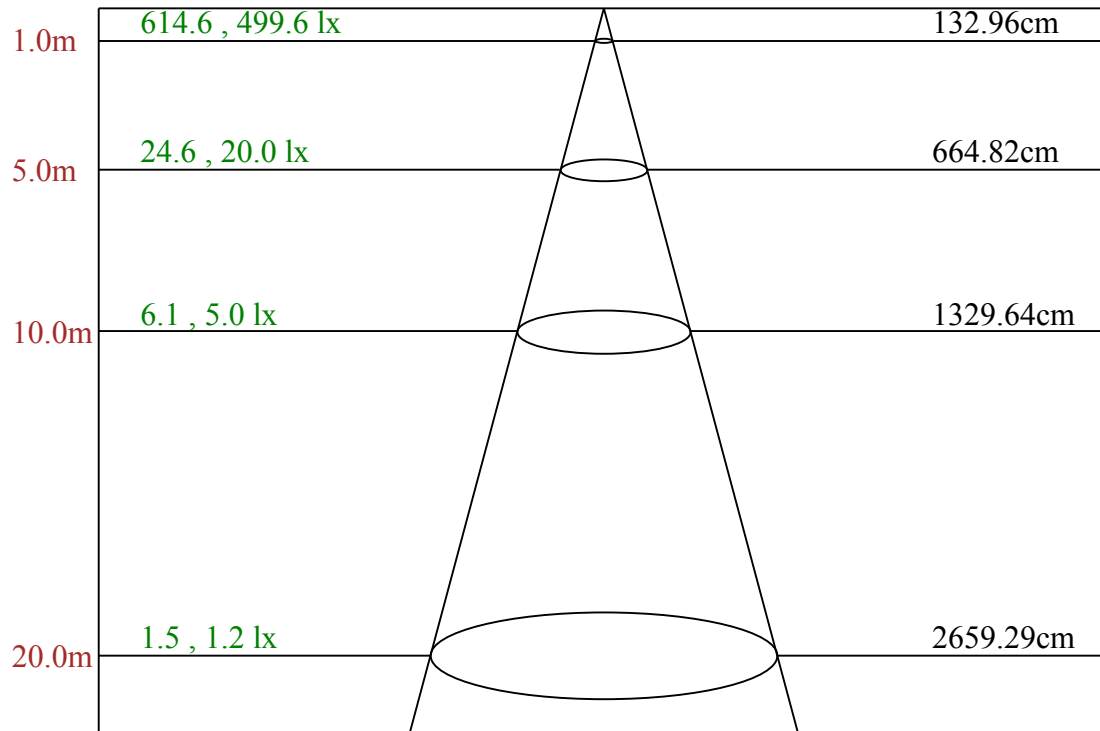
C90/C270:

Field angle(10%I_{max}):C0/180Left:45.4 Right:47.8

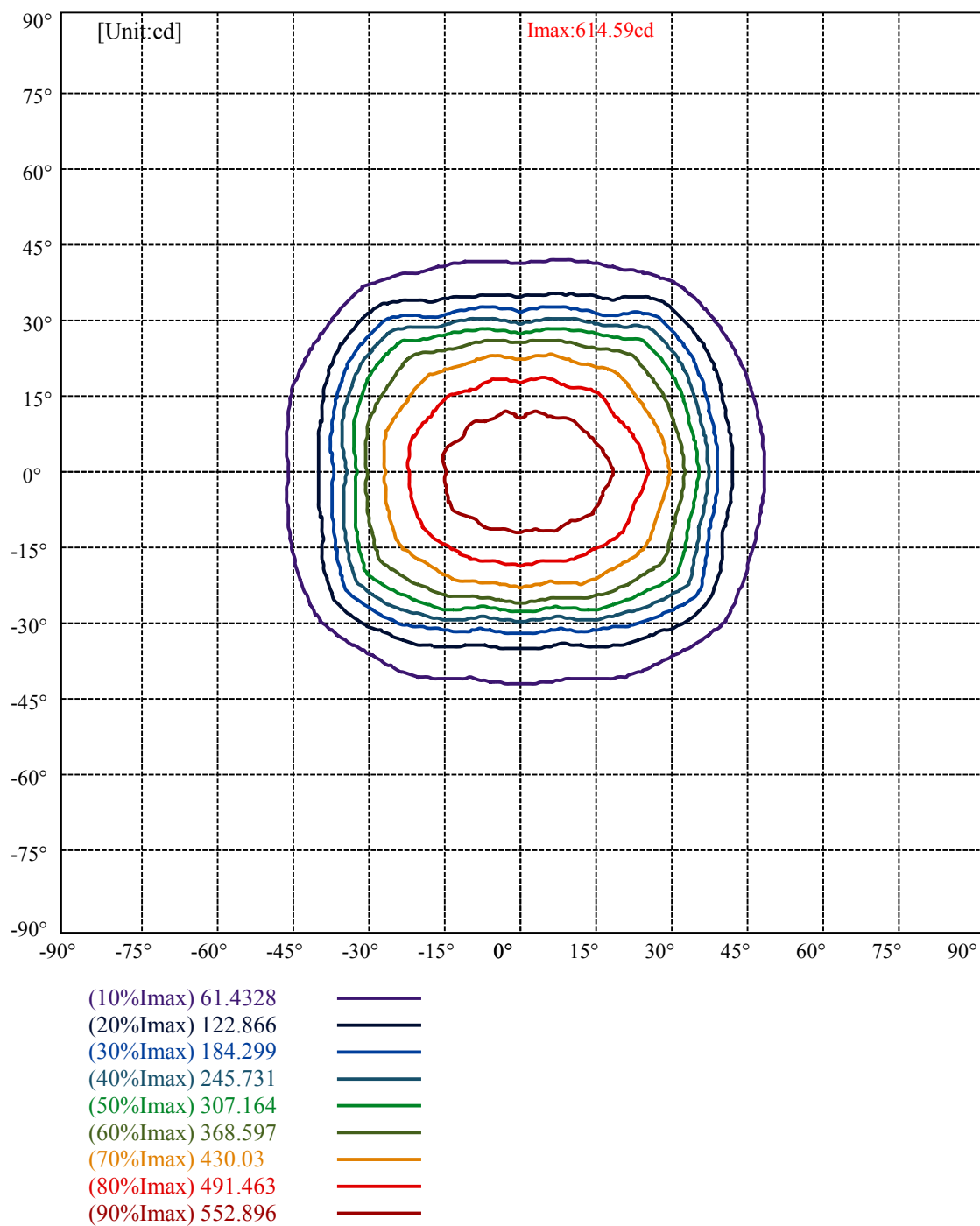
:C90/270Left:41.7 Right:40.9

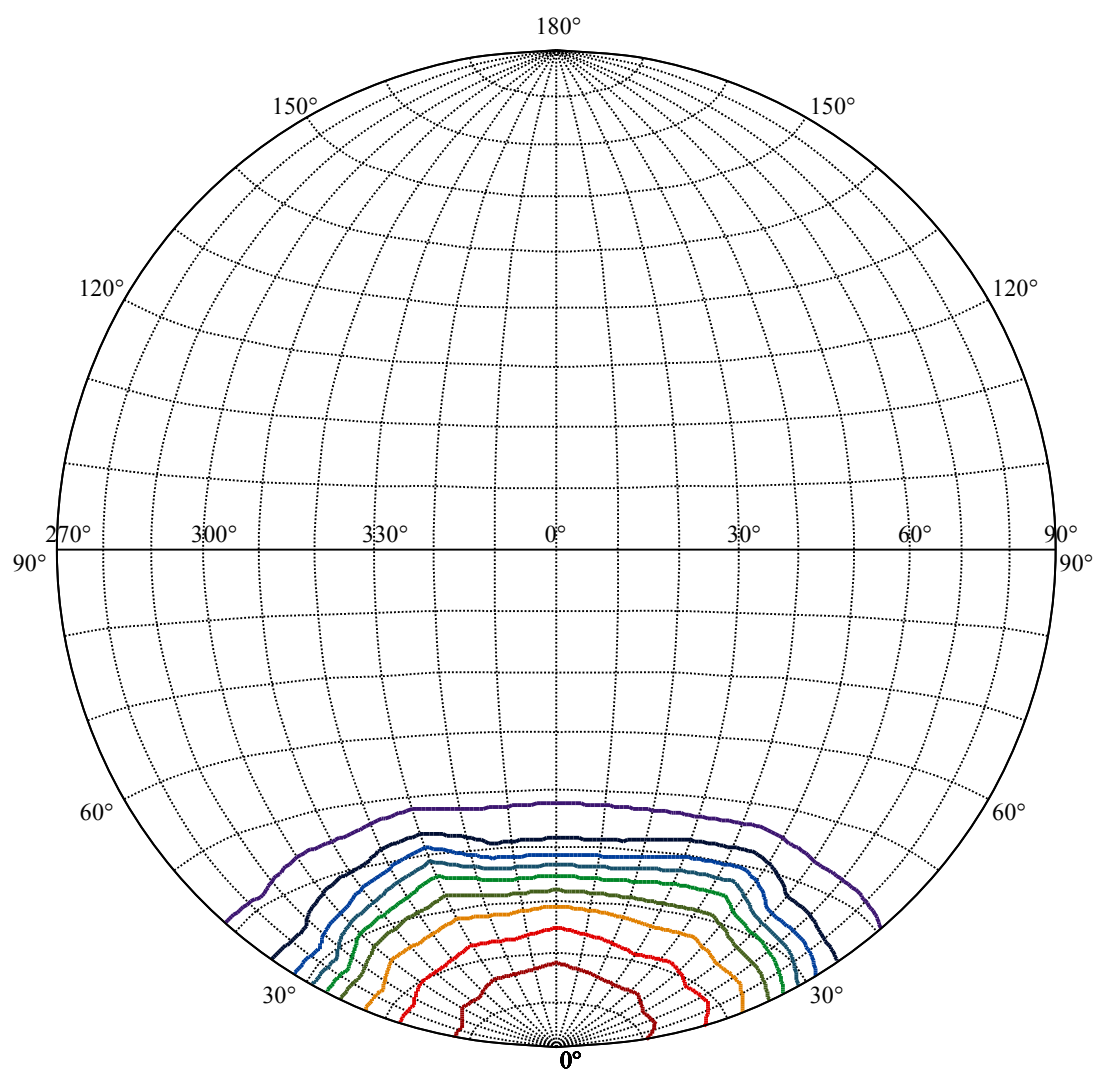
Beam Angle(50%I_{max}):C0/180Left:32.0 Right:34.8

:C90/270Left:27.6 Right:27.3



Max , Ave Beam angle of C0 plane 67.19



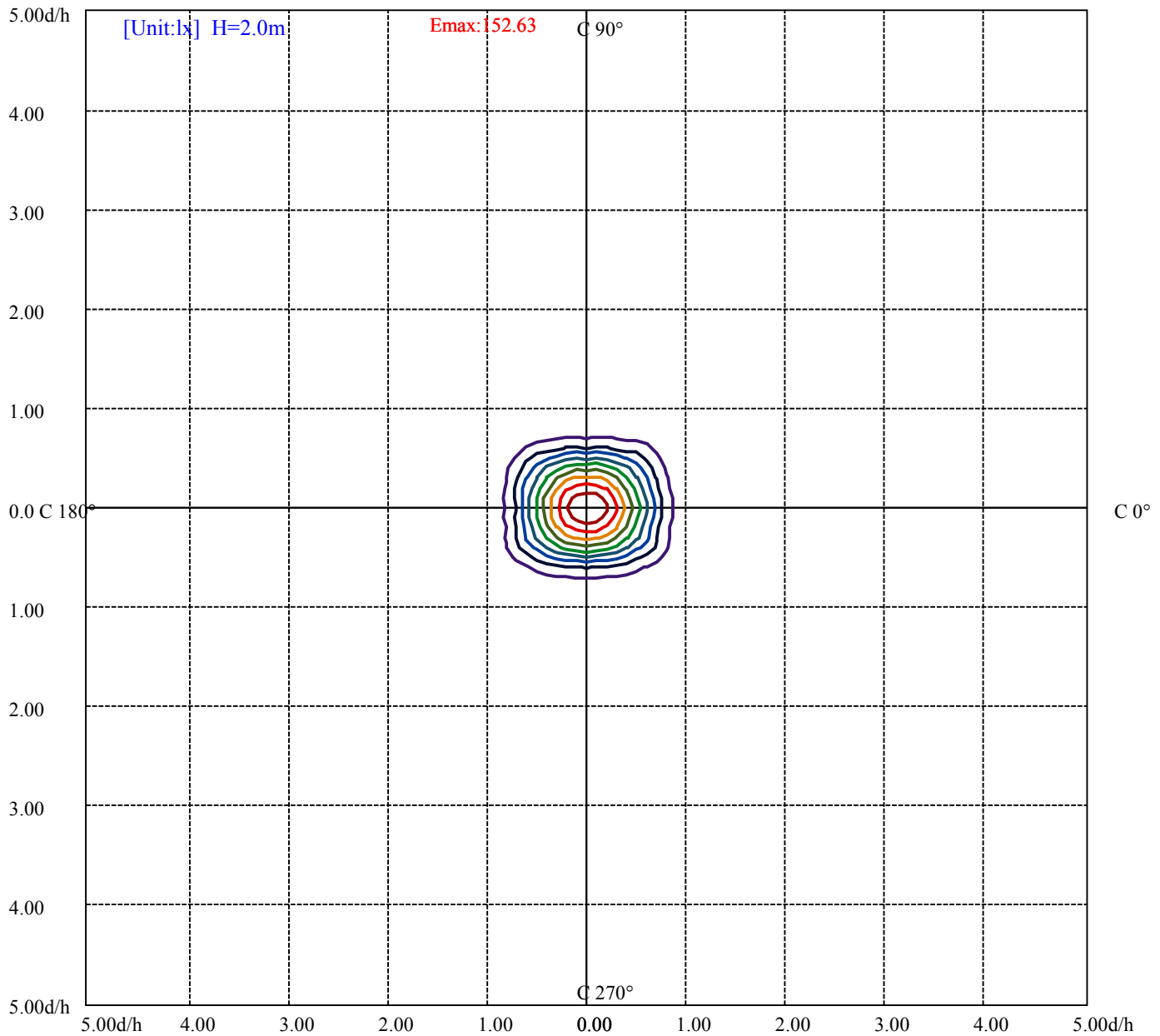


House

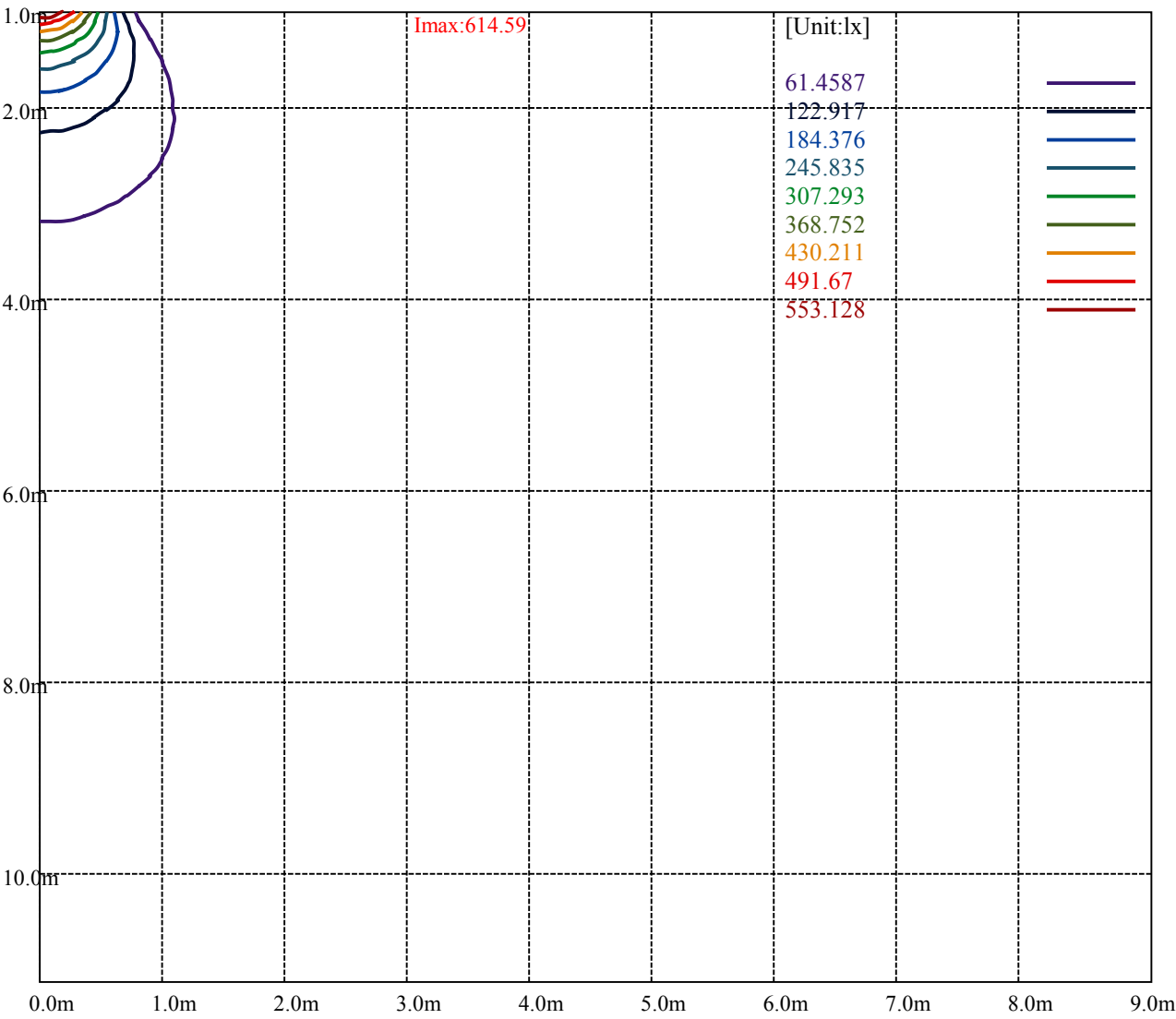
[Unit:cd]

Road

Imax:614.59	
(10%Imax) 61.4587	
(20%Imax) 122.917	
(30%Imax) 184.376	
(40%Imax) 245.835	
(50%Imax) 307.293	
(60%Imax) 368.752	
(70%Imax) 430.211	
(80%Imax) 491.67	
(90%Imax) 553.128	



(10%Emax)	15.2634	—
(20%Emax)	30.52675	—
(30%Emax)	45.79025	—
(40%Emax)	61.0535	—
(50%Emax)	76.317	—
(60%Emax)	91.5805	—
(70%Emax)	106.8438	—
(80%Emax)	122.1072	—
(90%Emax)	137.3707	—



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

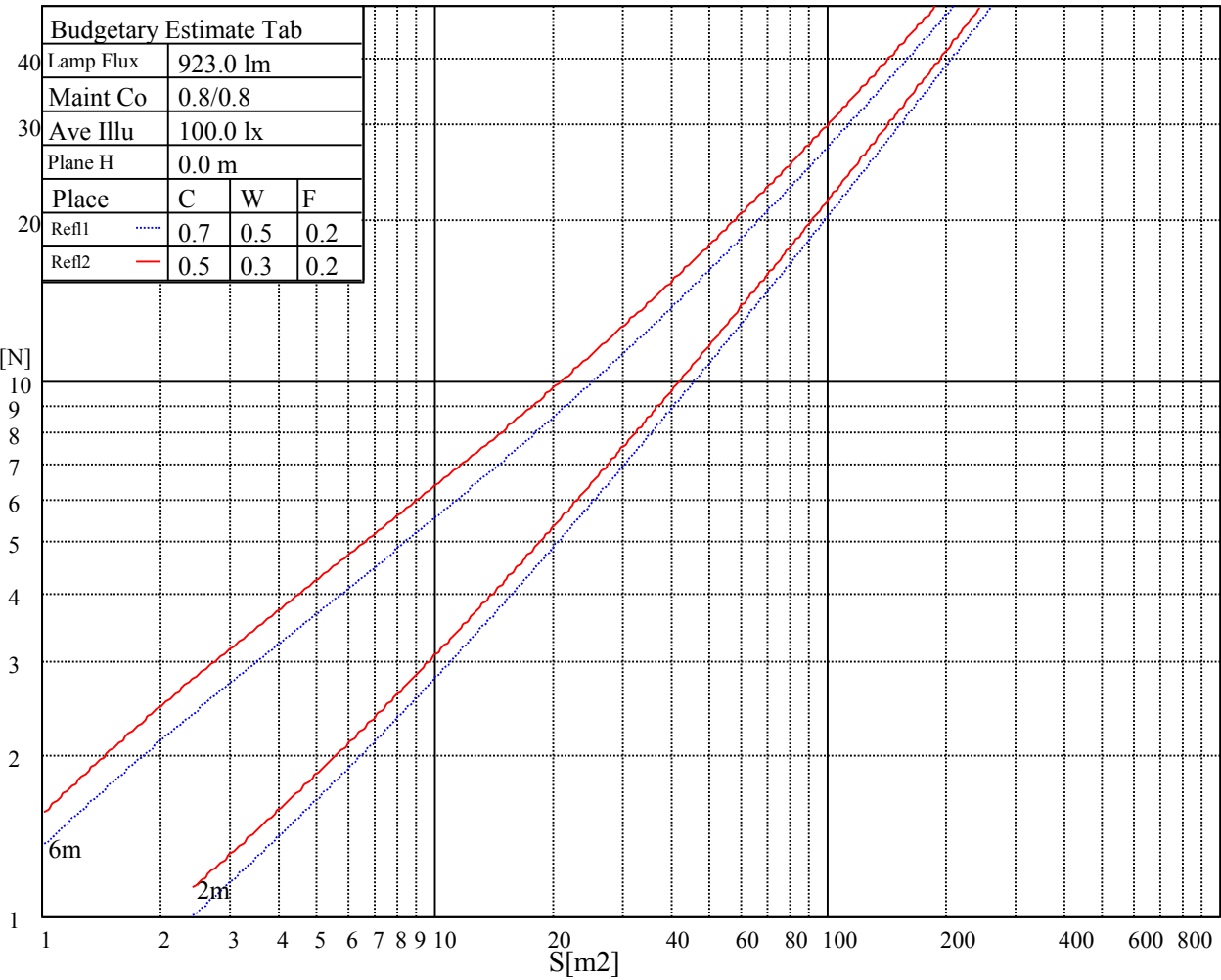
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

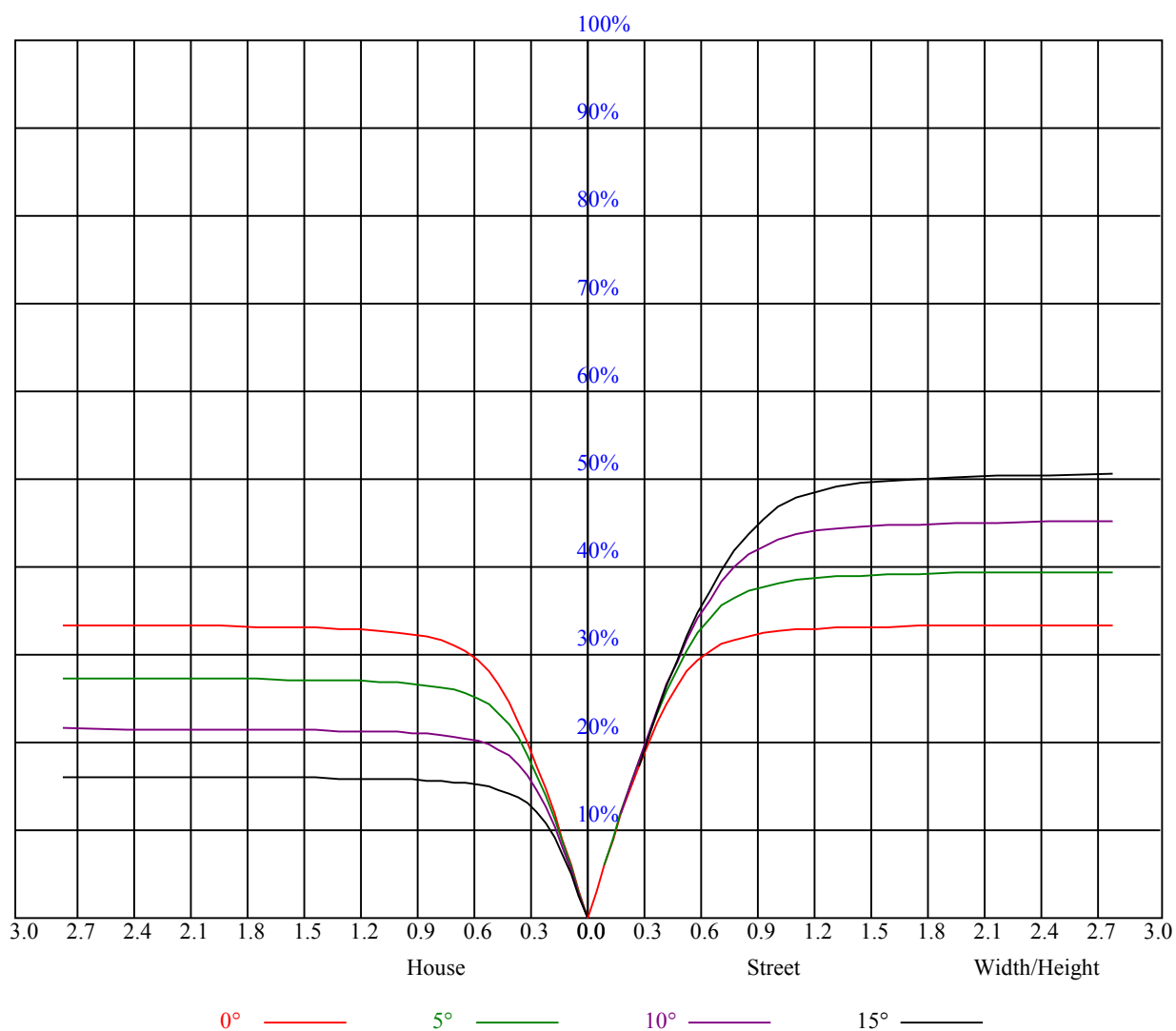
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	0.80	0.80	0.80	0.78	0.78	0.78	0.75	0.75	0.75	0.72	0.72	0.72	0.69	0.69	0.69	0.67
1	0.74	0.72	0.71	0.73	0.71	0.70	0.70	0.69	0.67	0.67	0.66	0.65	0.65	0.64	0.64	0.62
2	0.69	0.66	0.63	0.67	0.65	0.63	0.65	0.63	0.61	0.63	0.61	0.60	0.61	0.60	0.59	0.57
3	0.64	0.60	0.57	0.63	0.59	0.57	0.61	0.58	0.56	0.59	0.57	0.55	0.58	0.56	0.54	0.53
4	0.59	0.55	0.52	0.58	0.55	0.52	0.57	0.54	0.51	0.55	0.53	0.51	0.54	0.52	0.50	0.49
5	0.55	0.51	0.48	0.54	0.50	0.48	0.53	0.50	0.47	0.52	0.49	0.47	0.51	0.48	0.46	0.45
6	0.51	0.47	0.44	0.51	0.47	0.44	0.50	0.46	0.44	0.49	0.46	0.43	0.48	0.45	0.43	0.42
7	0.48	0.44	0.41	0.48	0.44	0.41	0.47	0.43	0.40	0.46	0.43	0.40	0.45	0.42	0.40	0.39
8	0.45	0.41	0.38	0.45	0.41	0.38	0.44	0.40	0.38	0.43	0.40	0.38	0.43	0.40	0.37	0.36
9	0.42	0.38	0.35	0.42	0.38	0.35	0.41	0.38	0.35	0.41	0.37	0.35	0.40	0.37	0.35	0.34
10	0.40	0.36	0.33	0.40	0.36	0.33	0.39	0.35	0.33	0.39	0.35	0.33	0.38	0.35	0.33	0.32



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	614.59	613.29	599.40	573.41	541.91	492.47	417.99	302.29	141.19
15.0	611.44	608.51	593.55	564.30	525.71	474.98	404.61	292.73	141.24
30.0	611.16	605.25	585.51	551.70	505.24	453.21	388.35	304.76	176.40
45.0	610.54	604.74	584.55	549.34	509.40	451.01	387.90	300.09	174.43
60.0	603.17	593.61	571.73	529.93	480.99	418.84	322.93	157.28	87.53
75.0	604.69	597.21	571.11	530.49	482.74	410.74	273.77	128.53	79.82
90.0	598.95	586.13	557.10	516.21	463.39	376.59	210.83	107.33	65.98
105.0	604.69	597.04	569.81	531.90	479.98	407.87	273.66	125.04	78.02
120.0	606.77	594.23	565.26	525.32	475.76	411.36	314.94	149.68	84.77
135.0	608.74	601.14	576.28	543.99	495.06	439.93	381.60	291.15	154.52
150.0	611.78	602.38	577.86	539.16	498.83	441.23	376.76	301.22	163.46
165.0	613.80	606.94	588.83	557.04	515.76	463.05	393.92	281.14	126.17
180.0	614.59	604.74	582.69	550.58	512.78	455.23	369.96	215.78	109.35
195.0	611.44	603.28	582.24	553.44	512.66	455.96	388.46	273.32	122.34
210.0	611.16	604.58	583.88	554.85	511.59	456.75	401.34	321.13	198.84
225.0	610.54	600.02	574.54	537.75	493.37	432.51	362.14	258.02	127.86
240.0	603.17	594.68	574.31	537.81	486.96	422.61	324.11	162.96	92.76
255.0	604.69	592.99	567.28	523.91	471.66	379.86	213.30	115.37	71.04
270.0	598.95	590.85	566.83	527.29	473.18	388.35	218.36	115.76	73.13
285.0	604.69	592.03	565.48	523.91	469.80	379.52	214.20	113.06	71.49
300.0	606.77	600.30	578.76	540.56	489.32	429.47	322.99	161.33	95.57
315.0	608.74	598.11	578.48	543.83	499.61	443.08	369.56	251.61	129.04
330.0	611.78	607.39	590.68	561.26	524.81	471.38	407.59	333.79	220.28
345.0	613.80	609.36	594.68	565.14	526.67	470.87	402.81	290.64	133.76
360.0	614.59	613.29	599.40	573.41	541.91	492.47	417.99	302.29	141.19
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	84.32	43.93	15.08	7.76	5.23	4.22	3.77	3.88	2.98
15.0	79.88	40.33	13.56	7.37	5.01	4.11	3.77	3.32	2.53
30.0	74.64	38.03	14.91	7.82	5.18	4.05	3.43	2.98	2.48
45.0	72.45	37.07	16.14	8.94	5.74	4.33	3.38	2.93	2.53
60.0	50.85	22.61	12.32	7.88	5.23	3.94	3.15	2.76	2.53
75.0	40.22	19.63	11.14	7.14	4.89	3.88	3.15	2.70	2.48
90.0	30.49	16.03	9.45	6.30	4.50	3.54	2.87	2.59	2.42
105.0	38.19	18.73	10.52	6.81	4.84	3.77	3.09	2.64	2.48
120.0	44.94	21.21	11.25	6.92	4.78	3.71	3.09	2.81	2.59
135.0	69.19	34.71	13.95	7.76	5.06	3.83	3.26	2.98	2.64
150.0	68.51	35.89	13.05	6.75	4.50	3.66	3.26	3.09	2.64
165.0	75.66	37.52	12.15	6.47	4.44	3.71	3.49	3.38	2.93
180.0	64.63	26.44	9.73	5.68	4.05	3.60	3.43	3.60	2.87
195.0	74.08	35.44	11.81	6.13	4.50	3.77	3.60	3.60	3.43
210.0	79.43	42.98	16.37	7.71	5.06	3.88	3.38	3.38	3.54
225.0	61.09	30.43	12.77	7.31	4.95	3.71	3.21	3.09	3.32
240.0	54.51	24.64	12.77	7.88	5.18	3.71	3.09	2.87	3.04
255.0	32.63	16.82	10.07	6.47	4.39	3.49	2.87	2.64	2.59
270.0	33.86	17.61	10.35	6.92	4.67	3.49	2.93	2.59	2.42
285.0	33.13	17.38	10.46	6.81	4.56	3.66	3.04	2.70	2.59
300.0	54.62	25.20	14.23	8.61	5.63	4.05	3.26	2.93	2.98
315.0	64.80	31.61	13.61	8.55	5.57	4.11	3.38	3.26	3.43
330.0	86.63	44.78	18.84	9.11	5.79	4.39	3.66	3.54	3.66
345.0	78.92	39.21	13.89	7.59	5.18	4.16	3.83	3.94	3.26
360.0	84.32	43.93	15.08	7.76	5.23	4.22	3.77	3.88	2.98

Intensity data(cd)

Appendix Page: 15 Total:15

C/ $\gamma(^{\circ})$	90.0
0.0	2.19
15.0	2.19
30.0	2.14
45.0	2.19
60.0	2.19
75.0	2.25
90.0	2.31
105.0	2.31
120.0	2.25
135.0	2.19
150.0	2.19
165.0	2.19
180.0	2.19
195.0	2.19
210.0	2.19
225.0	2.14
240.0	2.19
255.0	2.25
270.0	2.31
285.0	2.25
300.0	2.31
315.0	2.25
330.0	2.19
345.0	2.19
360.0	2.19