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## Nata

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LumCAT: 1-0811-S	
Luminaire: 92.70.208.00	
Report No: NATA0100	Voltage(V): 25.4100
Test No: GC2019102409	Current(A): 0.1980
LampCAT: LUMILEDS LUXEON 5050	Power (W): 5.0300
Lamp flux(lm): 446.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

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## Photometric Results

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Lumens(lm): 333.11  
Efficiency(%): 74.69%  
Lumens(lm)/Power(W): 66.22  
Central intensity(cd): 359.100  
Maximum intensity(cd): 360.000  
Angle of maximum intensity: C=180.0  $\gamma$ =5.0  
Beam Angle(50%Imax): [C0/180]Total=59.1  
                                  [C90/270]Total=60.0  
Field angle(10%Imax): [C0/180]Total=81.8  
                                  [C90/270]Total=82.2  
Maximum s/h(1/2): C0\_180=0.89 C90\_270=0.95  
Maximum s/h(1/4): C0\_180=0.86 C90\_270=0.92  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 74.69%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.073%

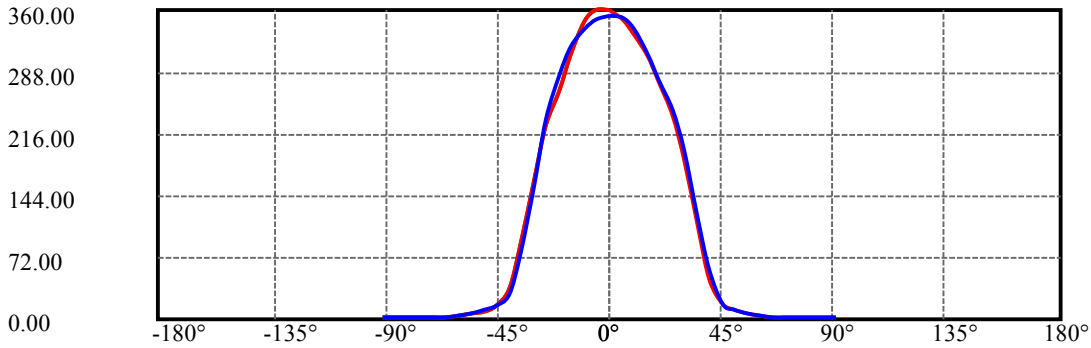
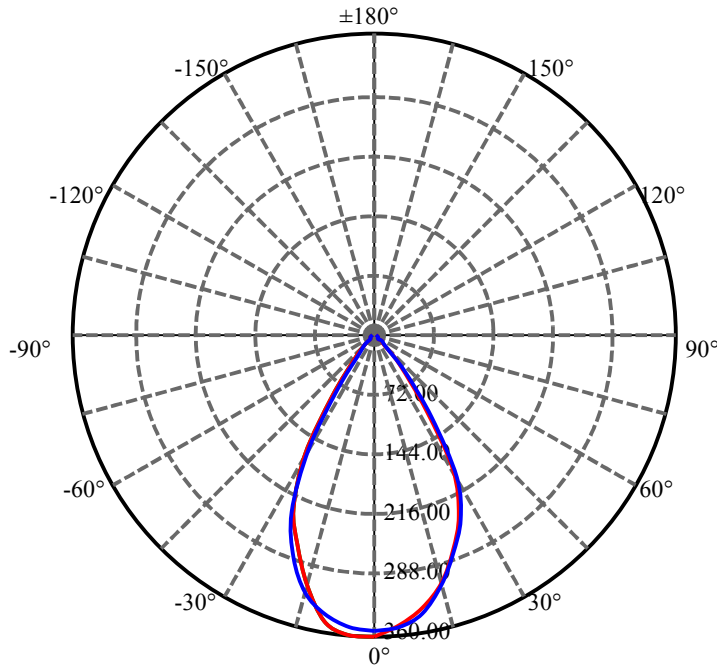
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	354.966	0.000	0	.000%	.000%
5.0	351.359	8.444	8.444	1.893%	2.535%
10.0	338.295	24.671	33.115	5.532%	9.941%
15.0	313.910	38.688	71.803	8.675%	21.556%
20.0	279.323	48.891	120.694	10.962%	36.233%
25.0	237.874	54.244	174.939	12.162%	52.517%
30.0	187.348	53.812	228.751	12.066%	68.672%
35.0	114.391	44.433	273.184	9.963%	82.011%
40.0	49.240	27.301	300.485	6.121%	90.207%
45.0	18.788	12.596	313.08	2.824%	93.988%
50.0	12.192	6.260	319.34	1.404%	95.867%
55.0	7.861	4.360	323.701	.978%	97.176%
60.0	5.063	2.987	326.688	.670%	98.073%
65.0	3.066	1.976	328.664	.443%	98.666%
70.0	1.948	1.269	329.933	.285%	99.047%
75.0	1.519	0.906	330.839	.203%	99.319%
80.0	1.385	0.777	331.616	.174%	99.553%
85.0	1.364	0.747	332.363	.167%	99.777%
90.0	1.350	0.743	333.106	.167%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	228.75	51.29%	68.67%
0-40	300.48	67.37%	90.21%
0-60	326.69	73.25%	98.07%
0-90	332.36	74.52%	99.78%
0-120	332.36	74.52%	99.78%
0-180	333.11	74.69%	100.00%
60-90	8.66	1.94%	2.60%
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%
0-34.25	266.49	59.75%	80.00%

ZONAL LUMEN SUMMARY

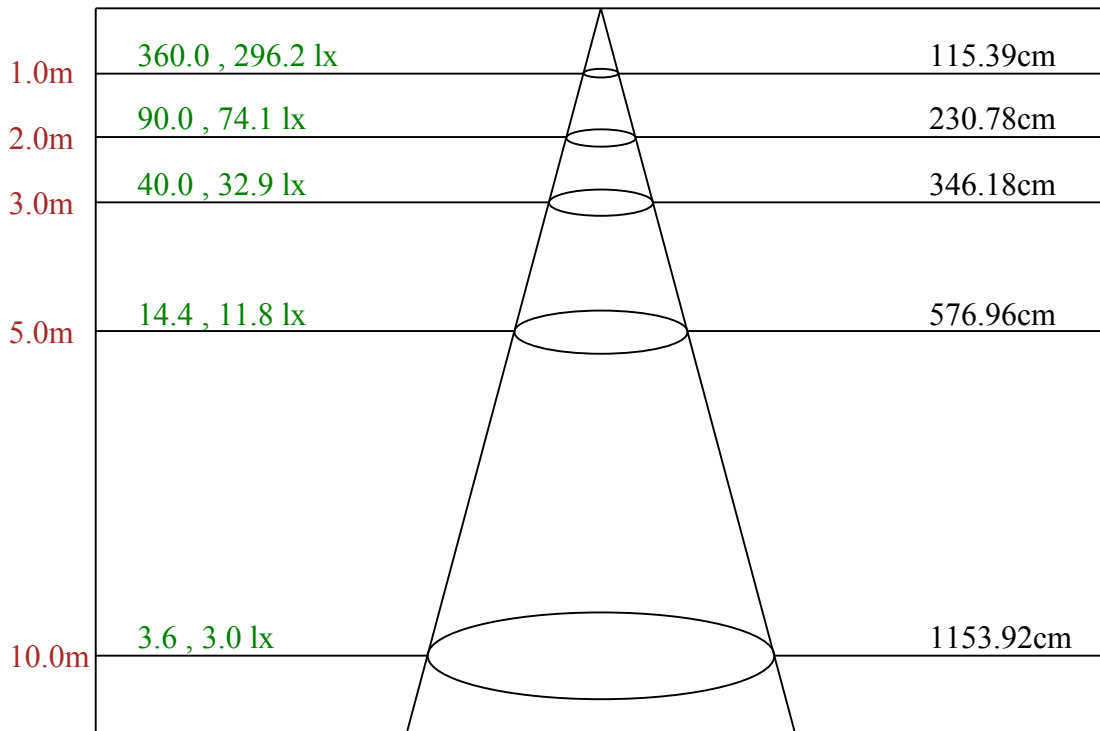
0-10	33.11
10-20	87.58
20-30	108.06
30-40	71.73
40-50	18.86
50-60	7.35
60-70	3.25
70-80	1.68
80-90	0.75
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



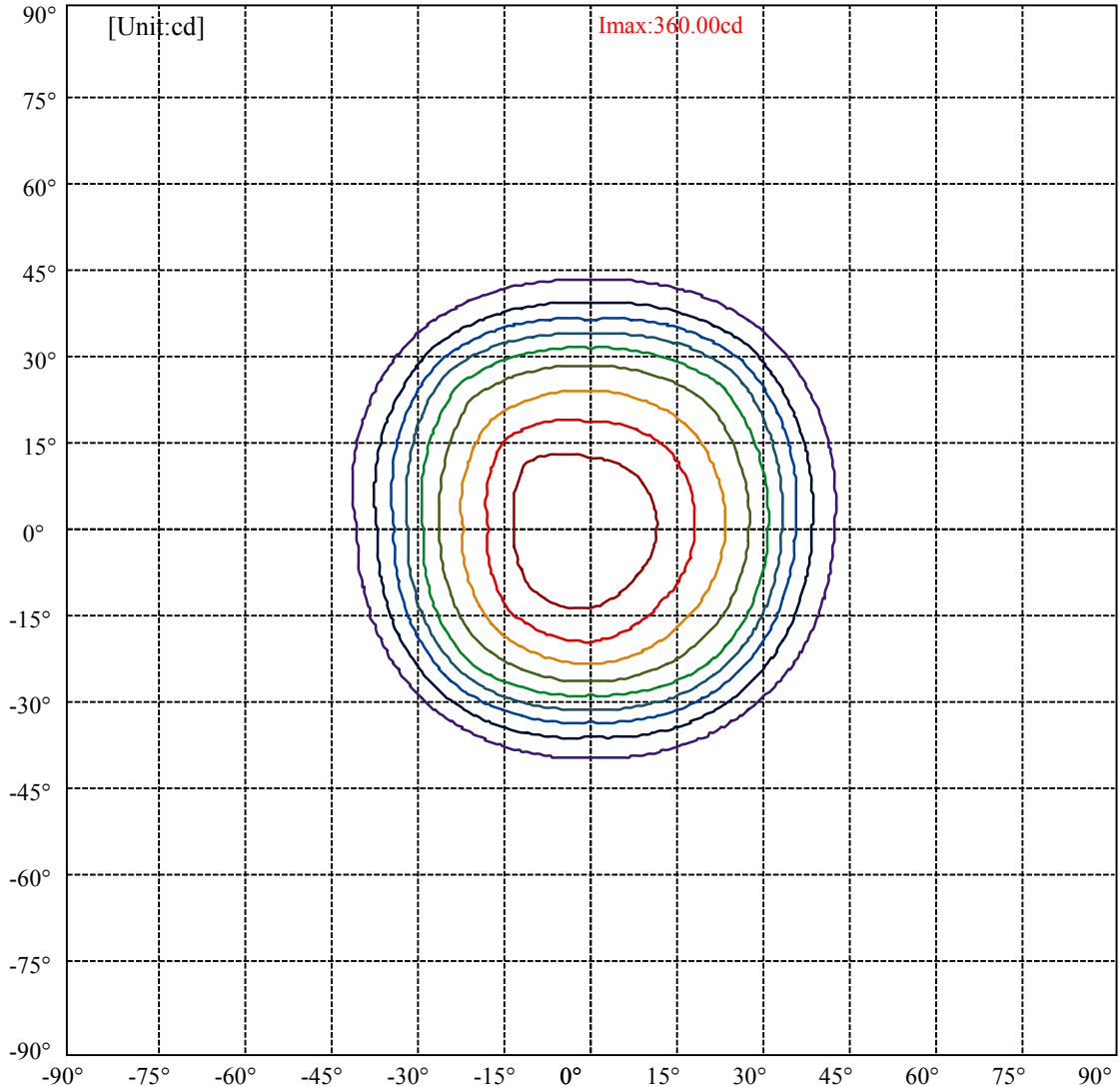
C180(Max): ———  
C0/C180: ———  
C90/C270: ———

Field angle(10%Imax):C0/180Left:35.0 Right:46.8  
:C90/270Left:39.3 Right:42.8

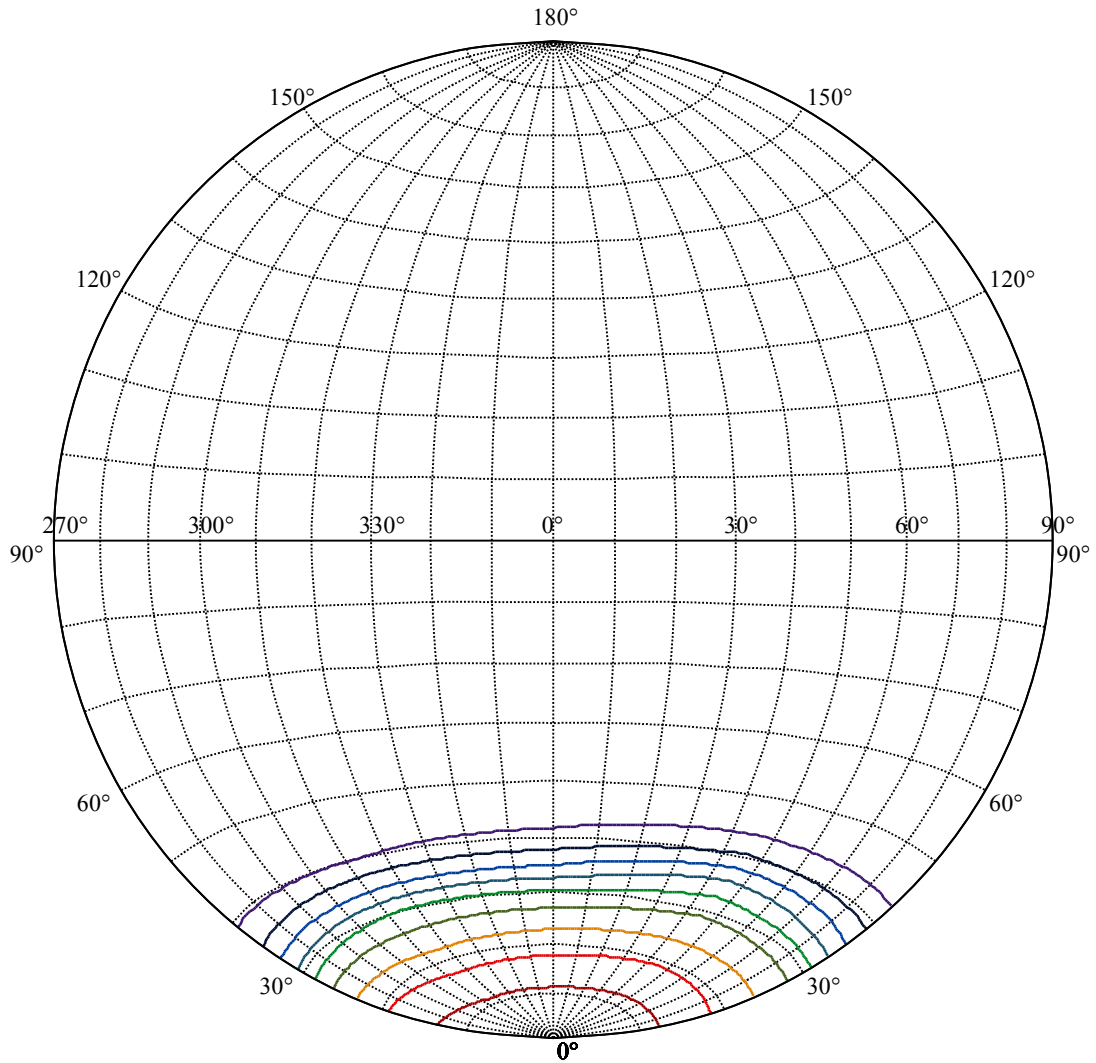
Beam Angle(50%Imax):C0/180Left:23.7 Right:35.4  
:C90/270Left:28.7 Right:31.3



Max , Ave      Beam angle of C180 plane 59.95



- (10%Imax) 36
- (20%Imax) 72
- (30%Imax) 108
- (40%Imax) 144
- (50%Imax) 180
- (60%Imax) 216
- (70%Imax) 252
- (80%Imax) 288
- (90%Imax) 324



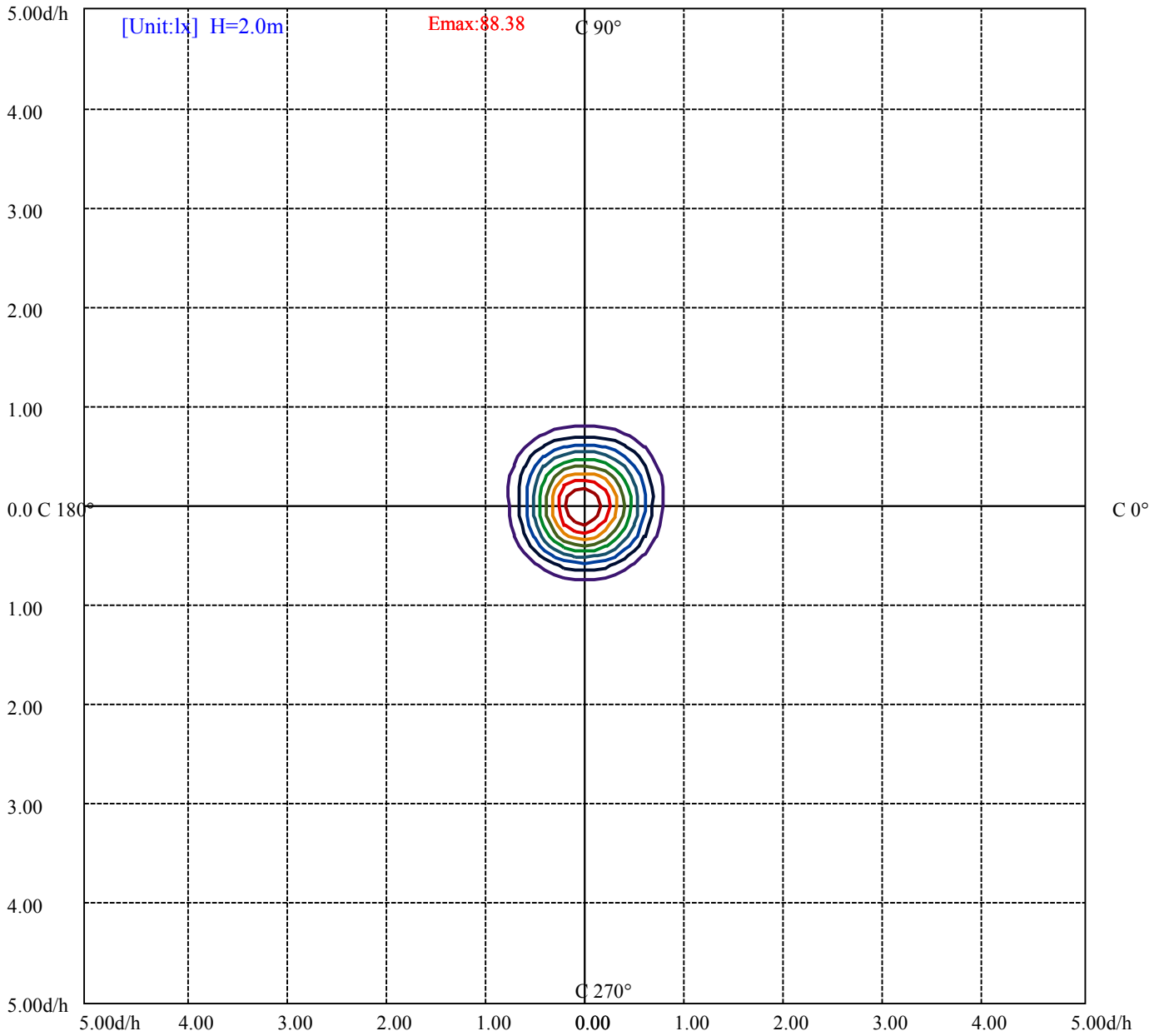
House

[Unit:cd]

Road

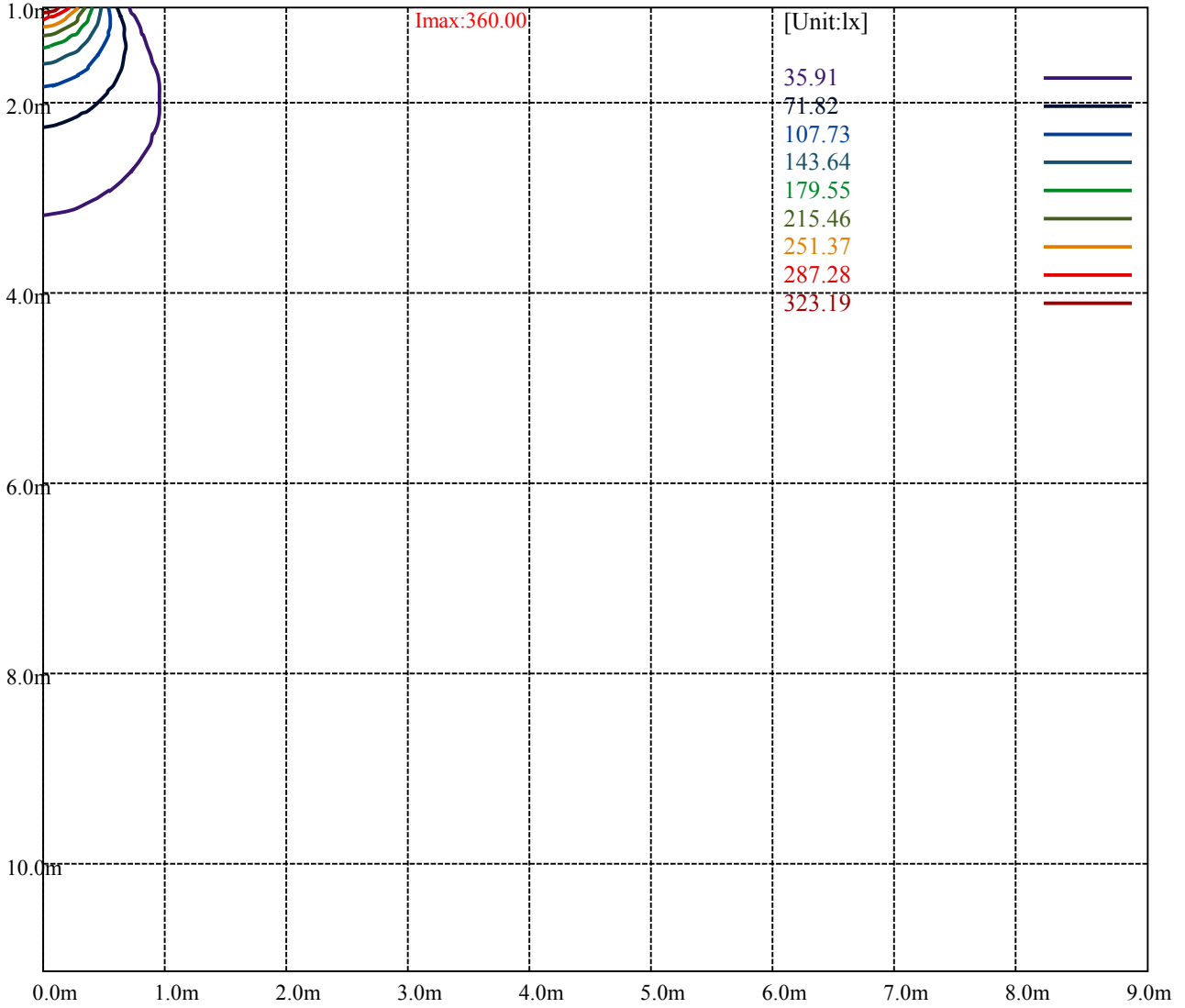
I<sub>max</sub>:360.00

(10%I <sub>max</sub> ) 36	—
(20%I <sub>max</sub> ) 72	—
(30%I <sub>max</sub> ) 108	—
(40%I <sub>max</sub> ) 144	—
(50%I <sub>max</sub> ) 180	—
(60%I <sub>max</sub> ) 216	—
(70%I <sub>max</sub> ) 252	—
(80%I <sub>max</sub> ) 288	—
(90%I <sub>max</sub> ) 324	—



(10%Emax) 8.838275	—
(20%Emax) 17.67655	—
(30%Emax) 26.51475	—
(40%Emax) 35.353	—
(50%Emax) 44.19125	—
(60%Emax) 53.02975	—
(70%Emax) 61.868	—
(80%Emax) 70.70625	—
(90%Emax) 79.5445	—





Luminance Table

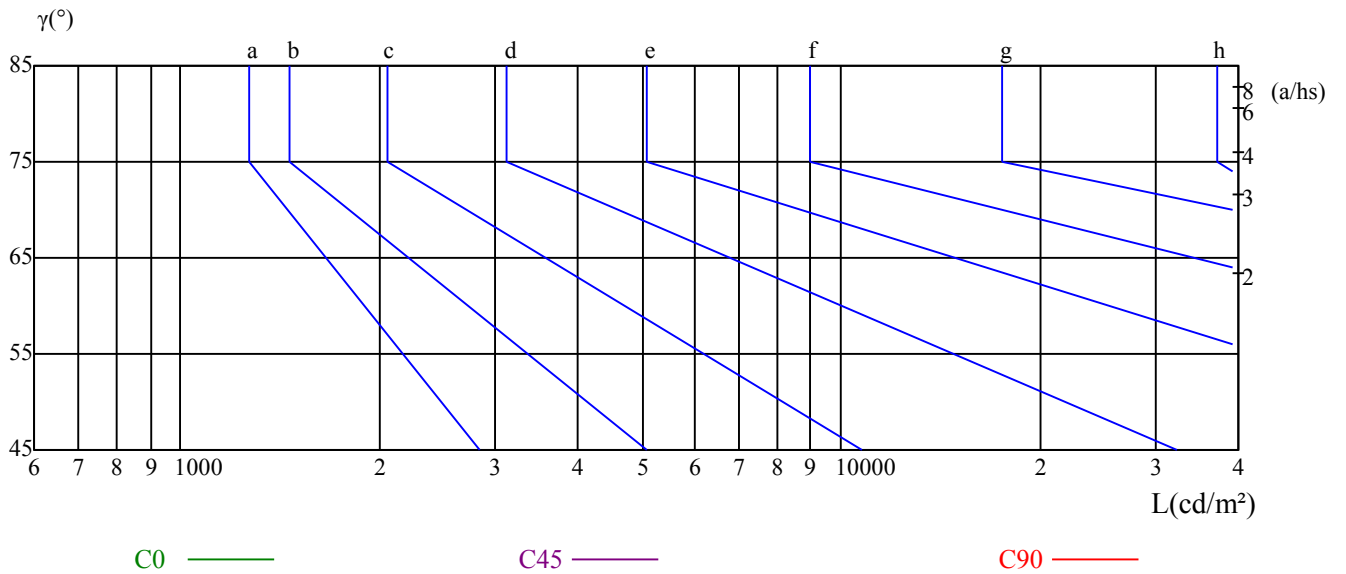
$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

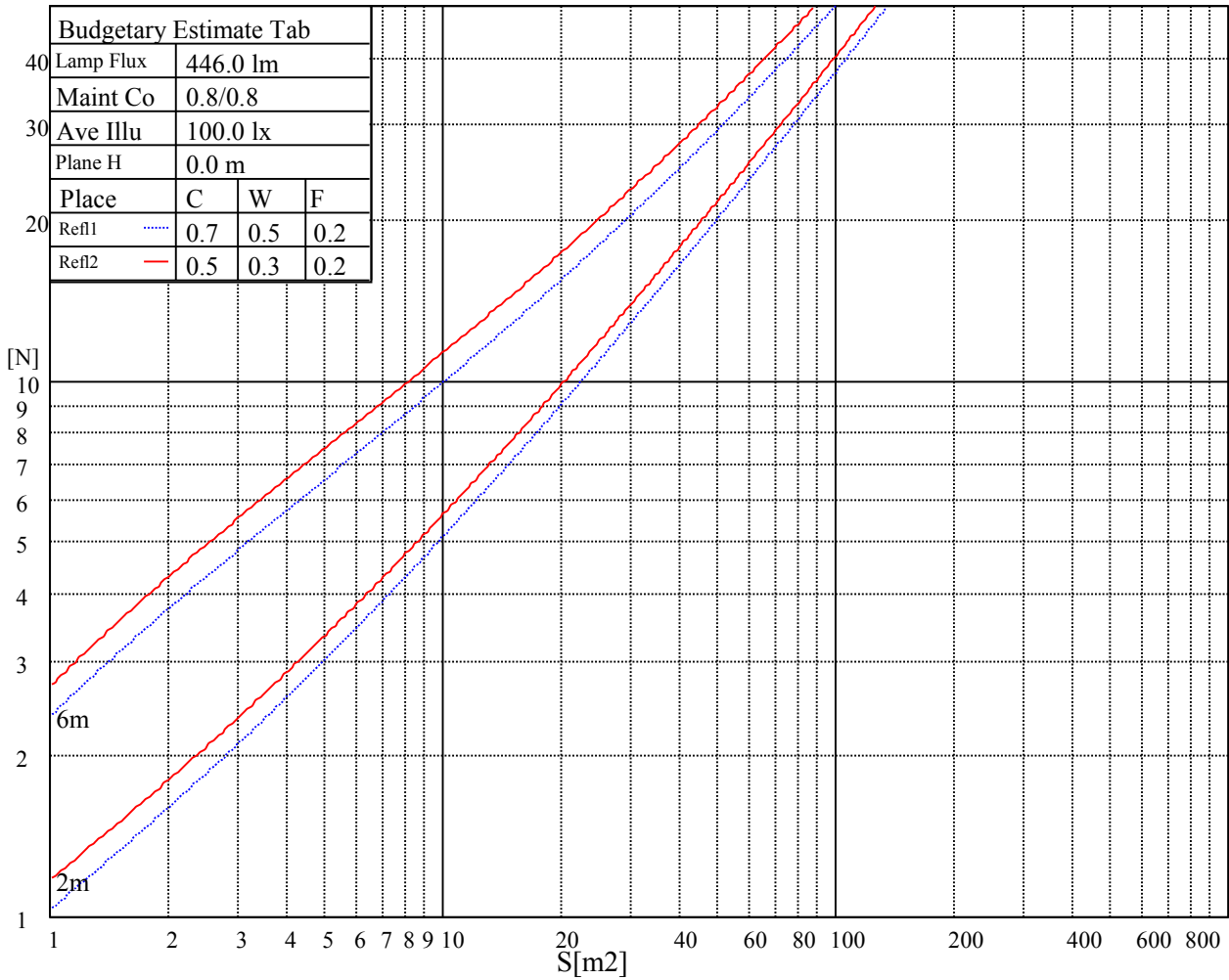
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

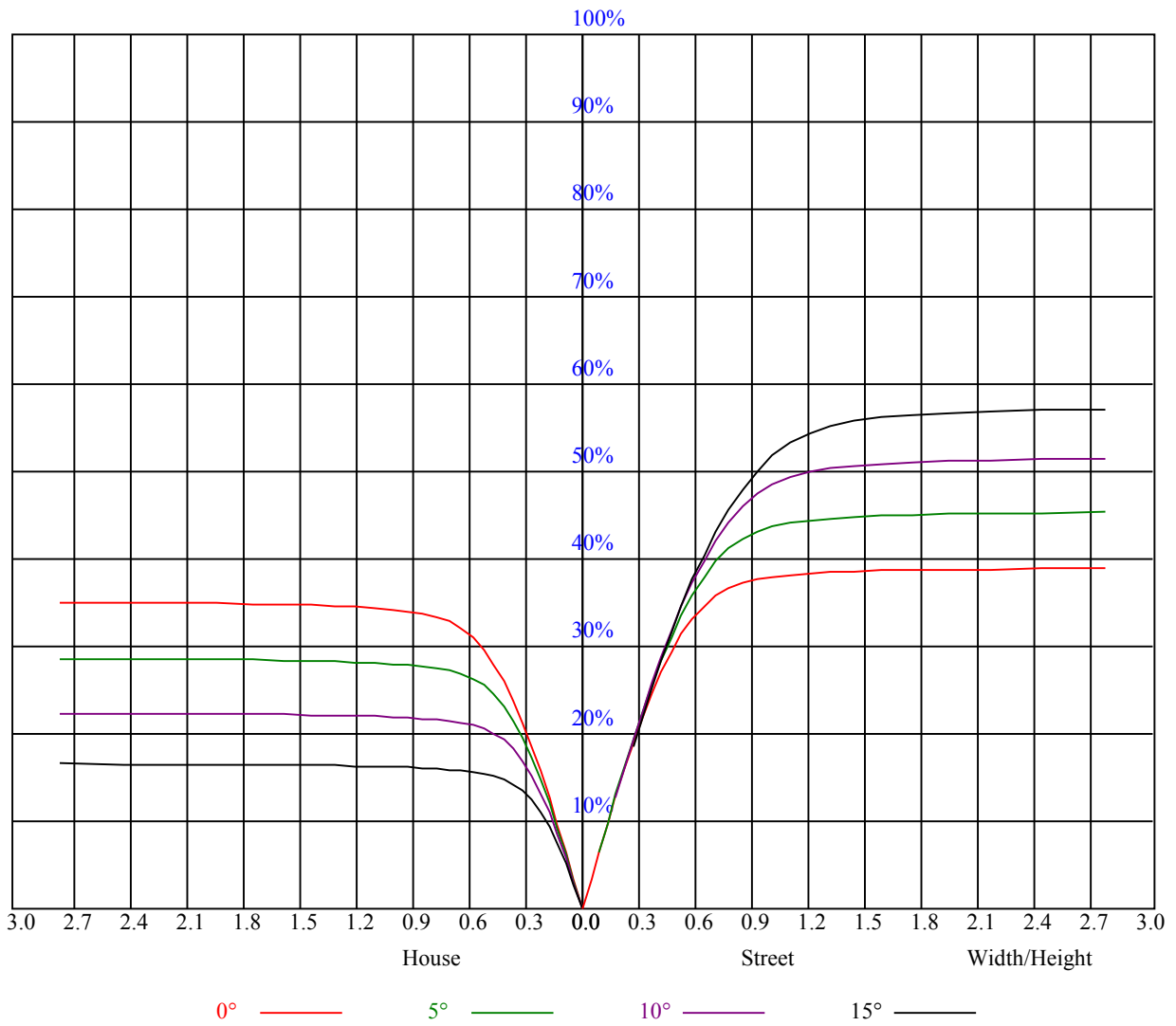
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.89	0.89	0.89	0.87	0.87	0.87	0.83	0.83	0.83	0.79	0.79	0.79	0.76	0.76	0.76	0.75
1	0.82	0.80	0.79	0.81	0.79	0.77	0.78	0.76	0.75	0.75	0.74	0.73	0.72	0.71	0.71	0.69
2	0.76	0.73	0.70	0.75	0.72	0.70	0.73	0.70	0.68	0.70	0.68	0.67	0.68	0.67	0.65	0.64
3	0.71	0.67	0.64	0.70	0.66	0.63	0.68	0.65	0.62	0.66	0.64	0.61	0.64	0.62	0.60	0.59
4	0.66	0.62	0.59	0.65	0.61	0.58	0.64	0.60	0.57	0.62	0.59	0.57	0.61	0.58	0.56	0.55
5	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.53	0.58	0.55	0.53	0.57	0.54	0.52	0.51
6	0.58	0.53	0.50	0.57	0.53	0.50	0.56	0.52	0.49	0.55	0.52	0.49	0.54	0.51	0.49	0.48
7	0.54	0.50	0.46	0.54	0.49	0.46	0.53	0.49	0.46	0.52	0.48	0.46	0.51	0.48	0.46	0.44
8	0.51	0.46	0.43	0.51	0.46	0.43	0.50	0.46	0.43	0.49	0.45	0.43	0.48	0.45	0.43	0.42
9	0.48	0.44	0.41	0.48	0.43	0.40	0.47	0.43	0.40	0.46	0.43	0.40	0.46	0.42	0.40	0.39
10	0.45	0.41	0.38	0.45	0.41	0.38	0.45	0.41	0.38	0.44	0.40	0.38	0.43	0.40	0.38	0.37



Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	359.10	348.53	330.36	306.56	274.33	237.83	186.47	109.24	46.13
45.0	353.53	345.83	331.99	312.92	281.70	244.58	209.48	156.66	78.30
90.0	353.14	350.72	336.54	308.76	278.10	242.78	196.99	119.08	57.38
135.0	354.09	355.78	347.12	329.79	296.78	251.94	215.66	157.78	76.05
180.0	359.10	360.00	346.39	309.66	267.08	226.58	163.74	88.76	36.06
225.0	353.53	355.05	345.54	321.53	285.02	235.91	186.98	105.02	34.99
270.0	353.14	349.31	338.40	317.87	282.94	233.44	156.21	77.63	28.63
315.0	354.09	345.66	330.02	304.20	268.65	229.95	183.26	100.97	36.39
360.0	359.10	348.53	330.36	306.56	274.33	237.83	186.47	109.24	46.13
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	17.83	10.91	6.75	4.22	2.70	1.80	1.46	1.41	1.41
45.0	24.24	16.14	10.18	6.58	3.83	2.31	1.63	1.41	1.35
90.0	18.56	11.03	6.81	4.22	2.59	1.74	1.46	1.35	1.35
135.0	22.73	15.08	9.96	6.53	3.99	2.36	1.69	1.46	1.35
180.0	14.96	9.84	6.02	4.05	2.53	1.74	1.46	1.35	1.41
225.0	18.00	11.93	8.38	5.51	3.21	2.03	1.52	1.35	1.35
270.0	15.19	10.13	6.36	3.99	2.59	1.69	1.41	1.35	1.35
315.0	18.79	12.49	8.44	5.40	3.09	1.91	1.52	1.41	1.35
360.0	17.83	10.91	6.75	4.22	2.70	1.80	1.46	1.41	1.41
C/ $\gamma$ (°)	90.0								
0.0	1.35								
45.0	1.35								
90.0	1.35								
135.0	1.35								
180.0	1.35								
225.0	1.35								
270.0	1.35								
315.0	1.35								
360.0	1.35								