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## NATA

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LumCAT: 3-2328-M	
Luminaire: 92.70.131.00	
Report No: NATA0100	Voltage(V): 34.7100
Test No: GC2019123020	Current(A): 0.8000
LampCAT: LUMINUS CXM-14-AC40	Power (W): 20.8600
Lamp flux(lm): 2608.0	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): 2279.24  
Efficiency(%): 87.39%  
Lumens(lm)/Power(W): 109.26  
Central intensity(cd): 2731.781  
Maximum intensity(cd): 2731.781  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=57.4  
                                  [C90/270]Total=57.4  
Field angle(10%Imax): [C0/180]Total=77.9  
                                  [C90/270]Total=77.9  
Maximum s/h(1/2): C0\_180=0.92 C90\_270=0.92  
Maximum s/h(1/4): C0\_180=0.86 C90\_270=0.86  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 87.39%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.547%

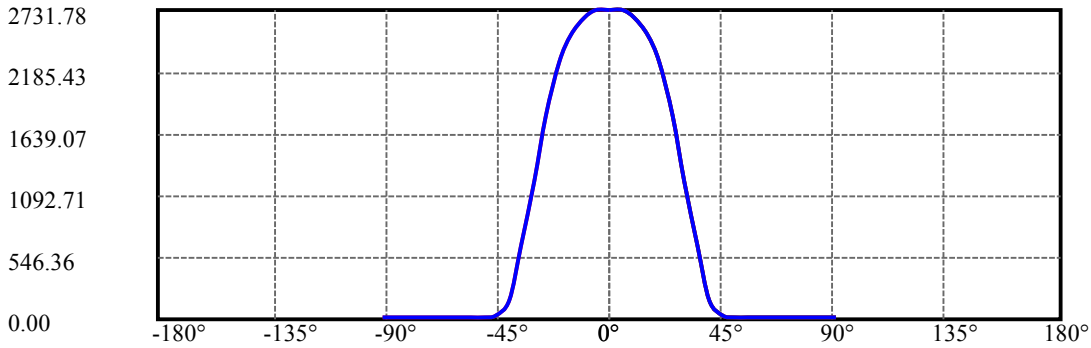
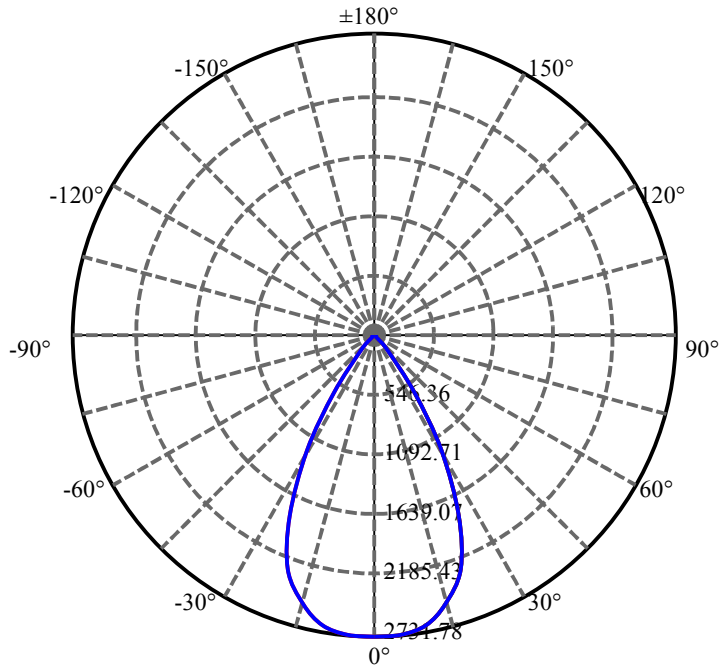
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2731.781	0.000	0	.000%	.000%
5.0	2726.859	65.256	65.256	2.502%	2.863%
10.0	2668.219	192.999	258.255	7.400%	11.331%
15.0	2518.875	307.695	565.95	11.798%	24.831%
20.0	2267.438	394.459	960.41	15.125%	42.137%
25.0	1803.305	426.946	1387.355	16.371%	60.869%
30.0	1215.429	382.023	1769.379	14.648%	77.630%
35.0	639.246	273.114	2042.493	10.472%	89.613%
40.0	178.080	136.365	2178.857	5.229%	95.596%
45.0	40.556	40.482	2219.34	1.552%	97.372%
50.0	22.036	12.648	2231.987	.485%	97.927%
55.0	14.787	8.006	2239.994	.307%	98.278%
60.0	11.735	6.130	2246.124	.235%	98.547%
65.0	10.561	5.420	2251.545	.208%	98.785%
70.0	10.441	5.318	2256.862	.204%	99.018%
75.0	10.441	5.458	2262.321	.209%	99.258%
80.0	10.406	5.578	2267.899	.214%	99.503%
85.0	10.399	5.653	2273.553	.217%	99.751%
90.0	10.364	5.685	2279.238	.218%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1769.38	67.84%	77.63%
0-40	2178.86	83.55%	95.60%
0-60	2246.12	86.12%	98.55%
0-90	2273.55	87.18%	99.75%
0-120	2273.55	87.18%	99.75%
0-180	2279.24	87.39%	100.00%
60-90	33.56	1.29%	1.47%
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%
0-30.99	1823.39	69.92%	80.00%

ZONAL LUMEN SUMMARY

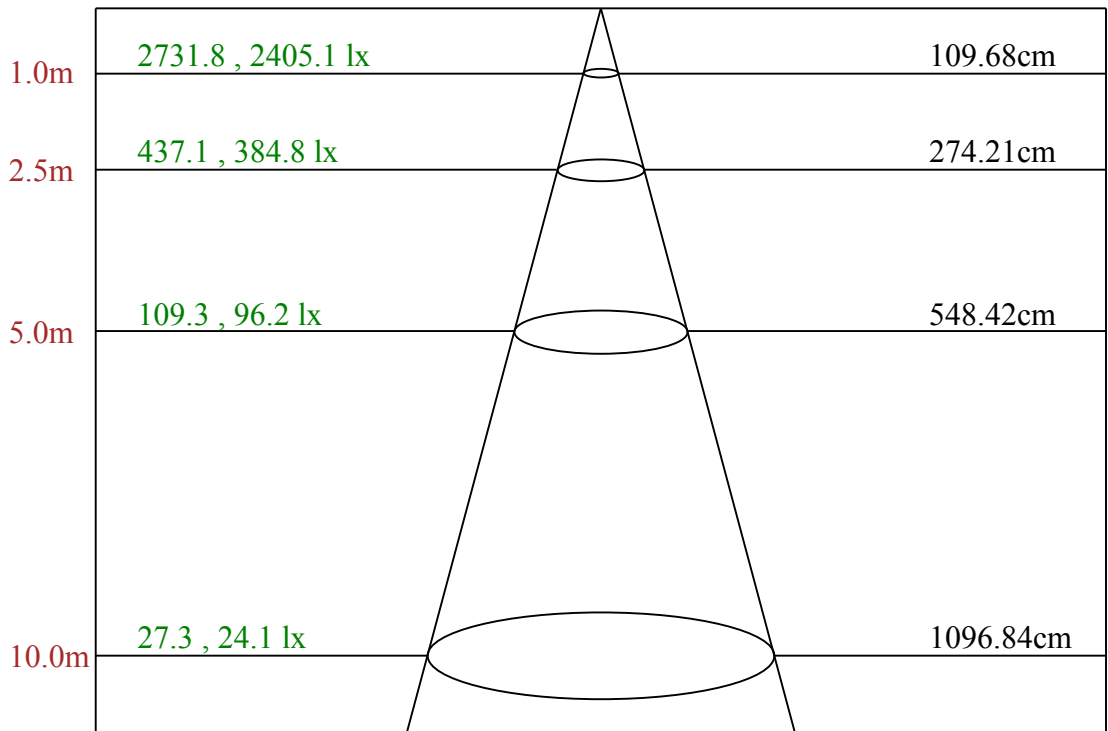
0-10	258.26
10-20	702.15
20-30	808.97
30-40	409.48
40-50	53.13
50-60	14.14
60-70	10.74
70-80	11.04
80-90	5.65
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



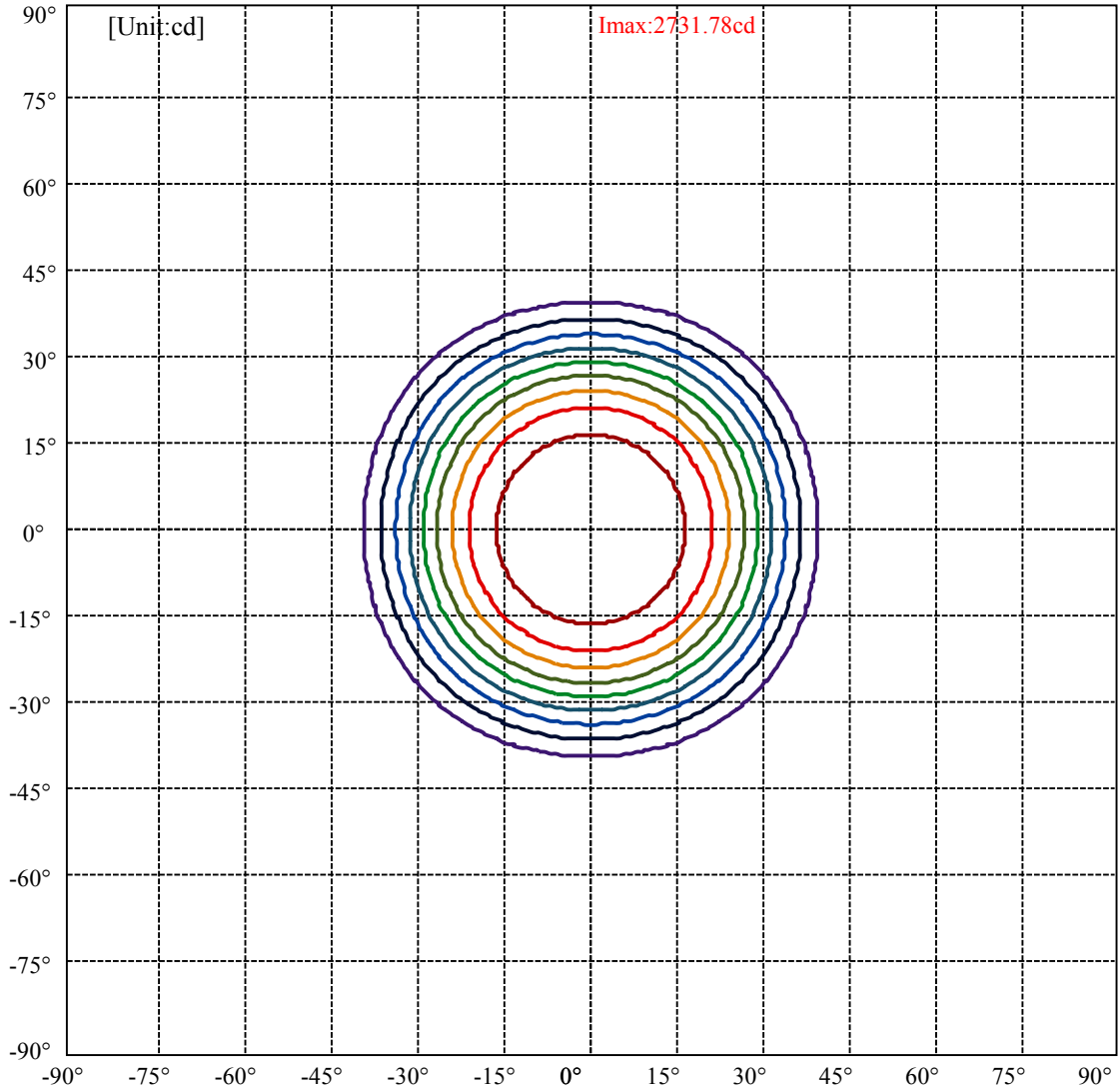
C0(Max): —————  
C0/C180: —————  
C90/C270: —————

Field angle(10%Imax):C0/180Left:39.0 Right:39.0  
:C90/270Left:39.0 Right:39.0

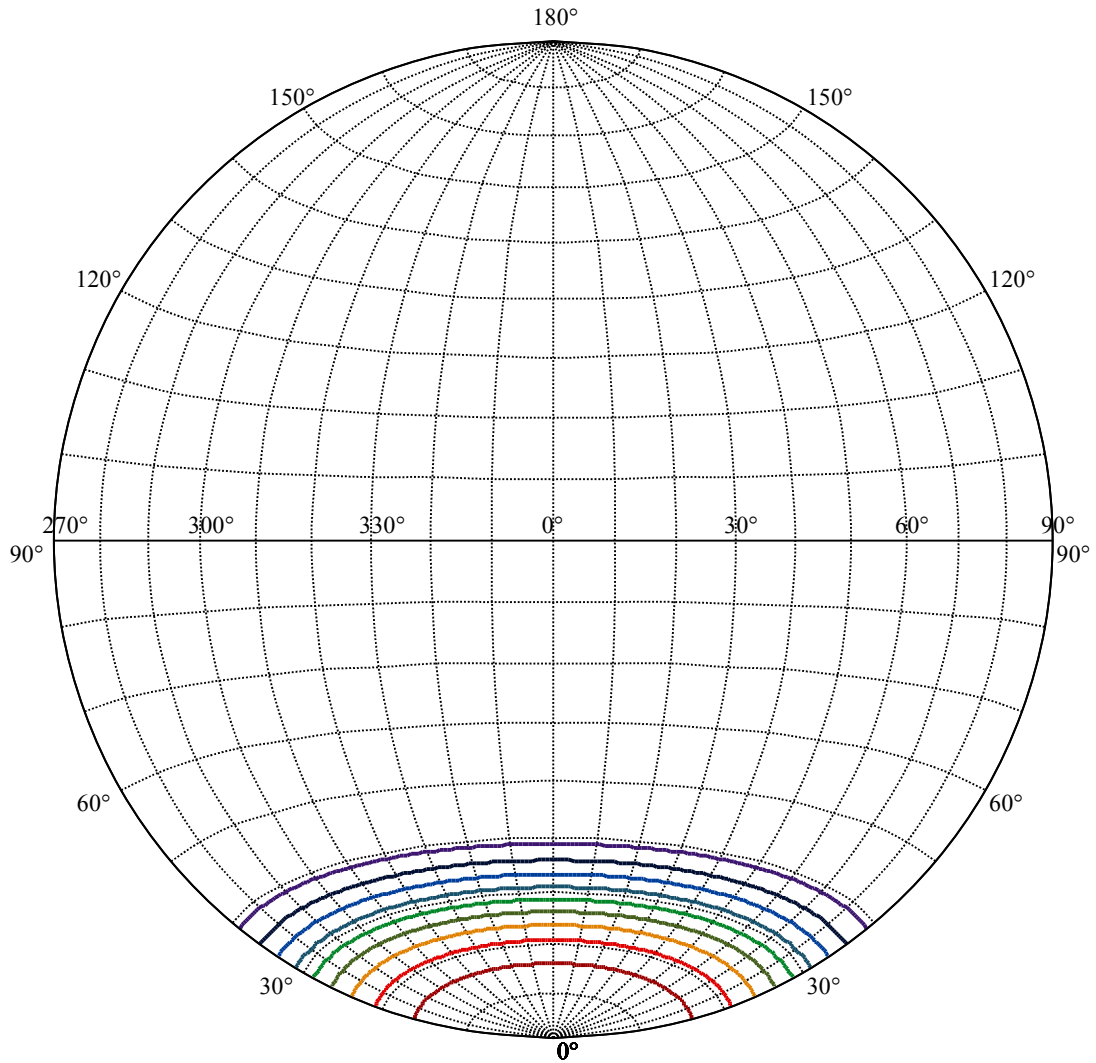
Beam Angle(50%Imax):C0/180Left:28.7 Right:28.7  
:C90/270Left:28.7 Right:28.7



Max , Ave      Beam angle of C0 plane 57.48



(10%Imax) 273.178	—
(20%Imax) 546.356	—
(30%Imax) 819.534	—
(40%Imax) 1092.71	—
(50%Imax) 1365.89	—
(60%Imax) 1639.07	—
(70%Imax) 1912.25	—
(80%Imax) 2185.43	—
(90%Imax) 2458.6	—



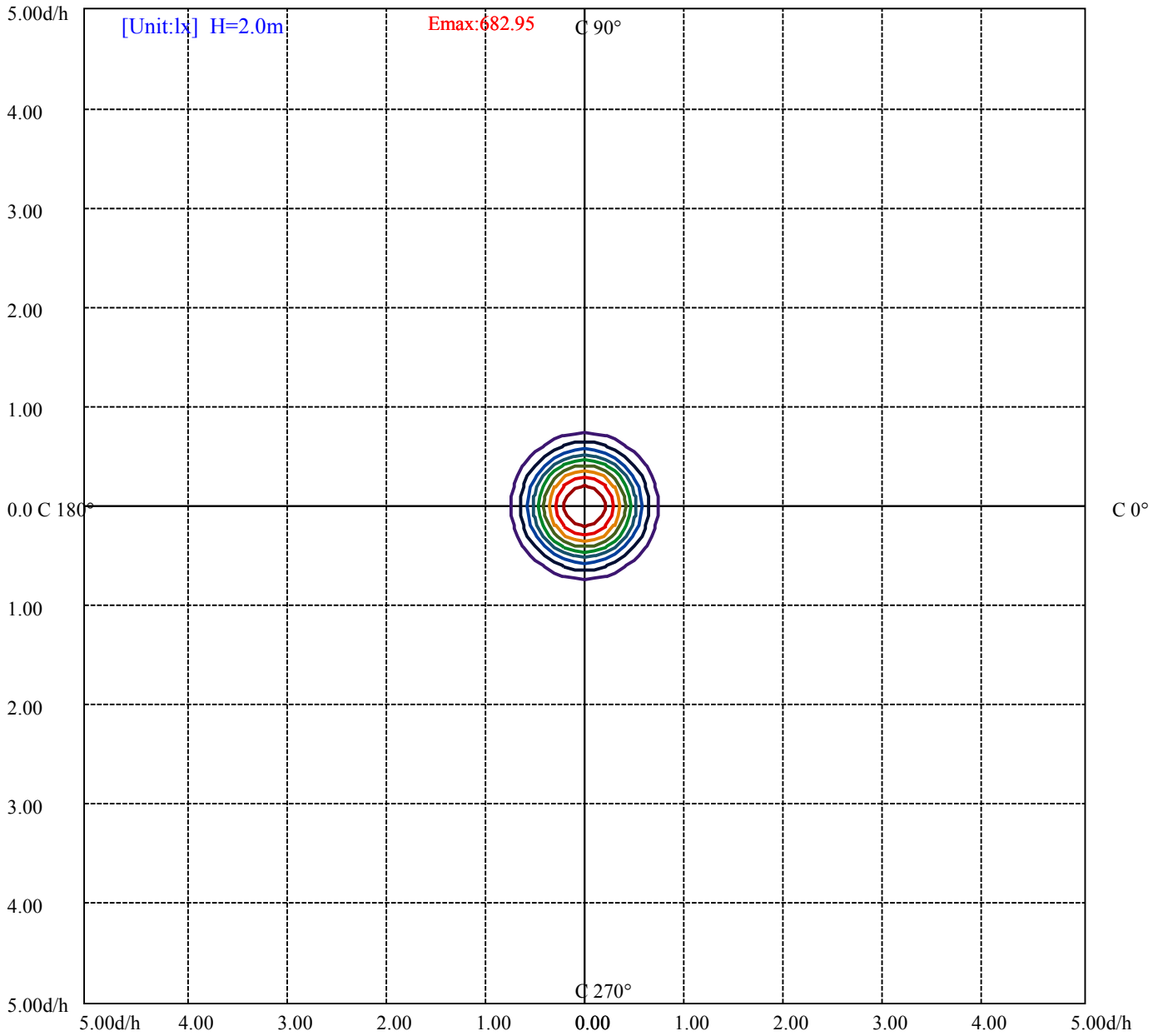
House

[Unit:cd]

Road

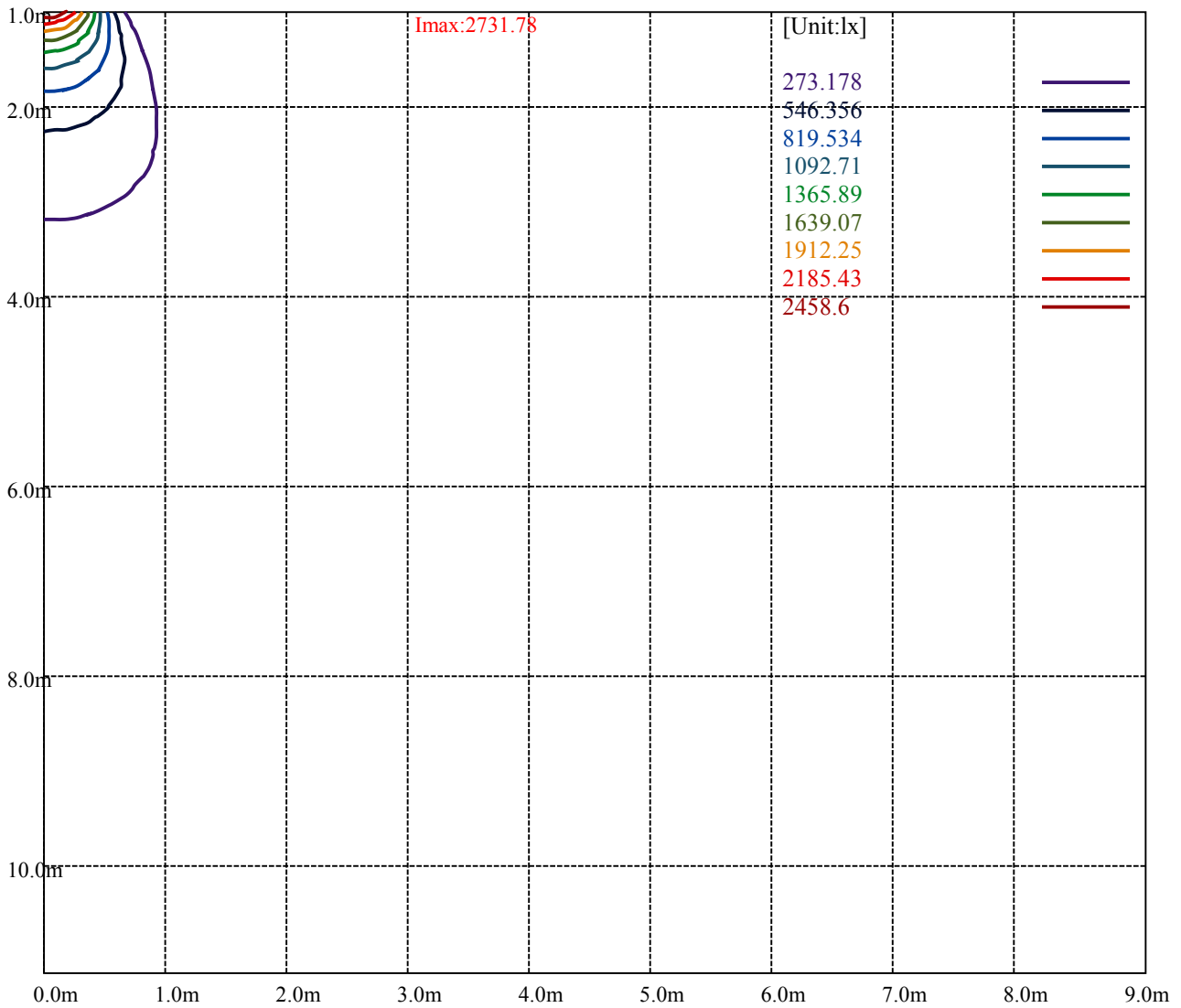
Imax:2731.78

(10%Imax) 273.178	—
(20%Imax) 546.356	—
(30%Imax) 819.534	—
(40%Imax) 1092.71	—
(50%Imax) 1365.89	—
(60%Imax) 1639.07	—
(70%Imax) 1912.25	—
(80%Imax) 2185.43	—
(90%Imax) 2458.6	—



(10%Emax) 68.2945	—
(20%Emax) 136.589	—
(30%Emax) 204.8835	—
(40%Emax) 273.1775	—
(50%Emax) 341.4725	—
(60%Emax) 409.7675	—
(70%Emax) 478.0625	—
(80%Emax) 546.355	—
(90%Emax) 614.65	—





Luminance Table

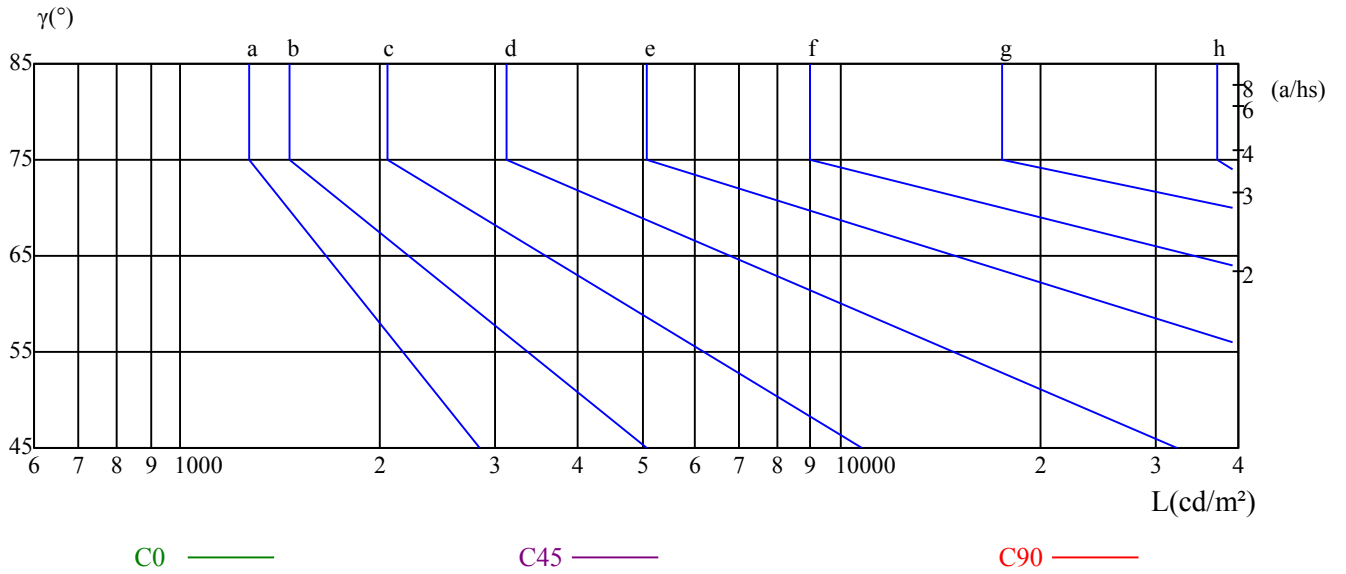
$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

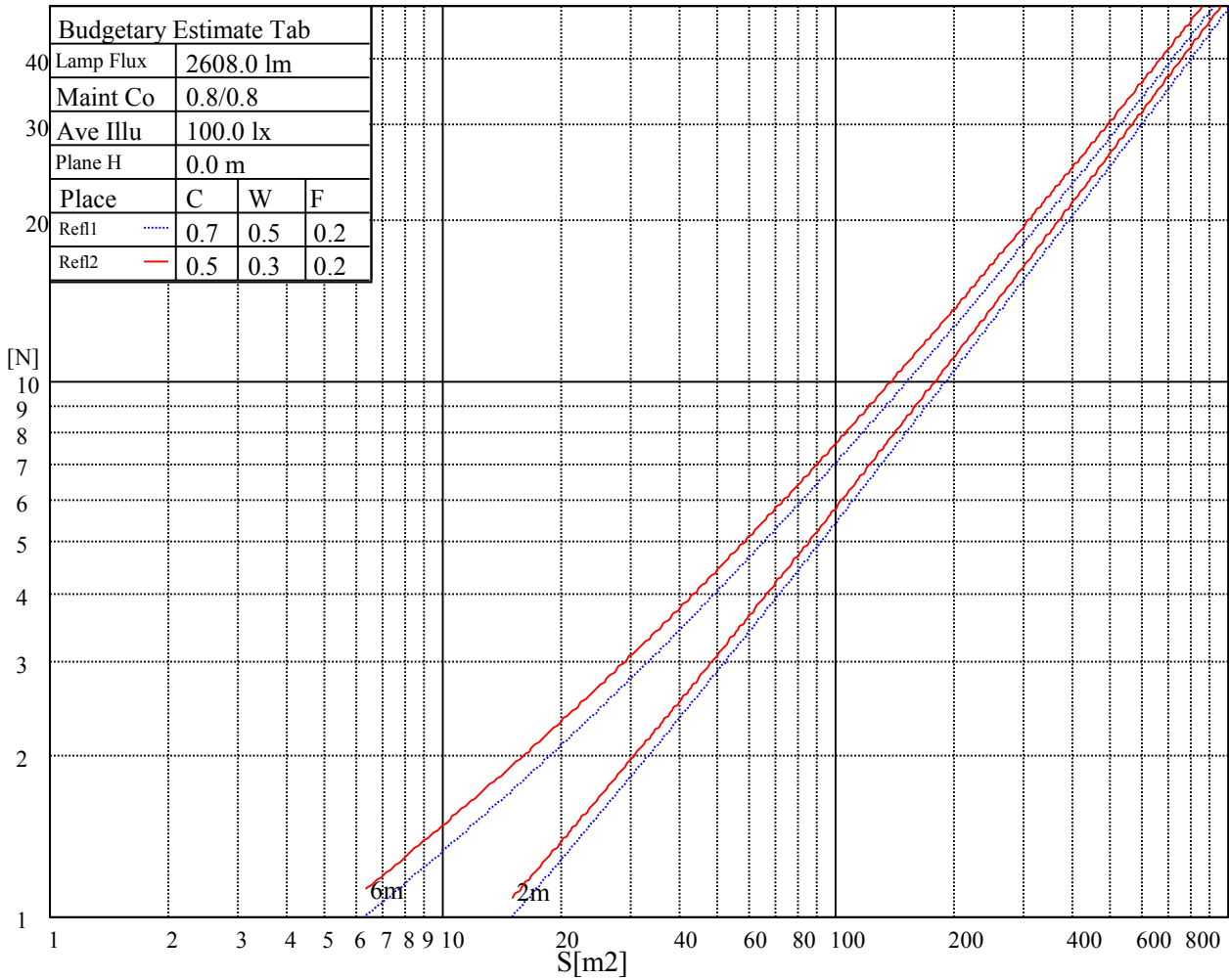
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

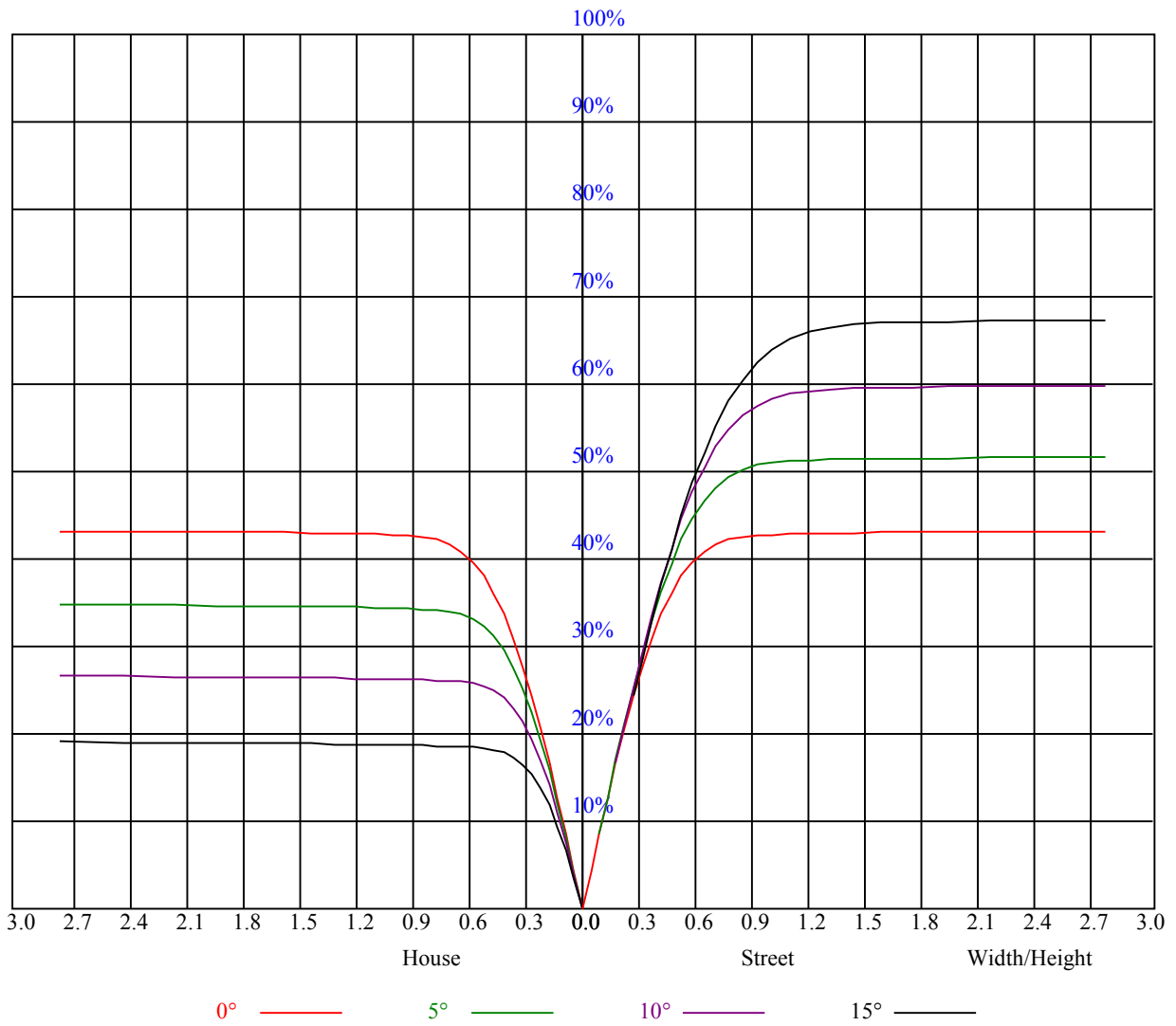
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.04	1.04	1.04	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.97	0.95	0.93	0.95	0.93	0.91	0.91	0.90	0.88	0.88	0.87	0.86	0.85	0.84	0.83	0.82
2	0.90	0.87	0.84	0.89	0.86	0.83	0.86	0.83	0.81	0.83	0.81	0.79	0.81	0.79	0.78	0.76
3	0.85	0.80	0.77	0.83	0.79	0.76	0.81	0.78	0.75	0.79	0.76	0.74	0.77	0.75	0.73	0.71
4	0.79	0.75	0.71	0.78	0.74	0.71	0.76	0.73	0.70	0.75	0.72	0.69	0.73	0.70	0.68	0.67
5	0.75	0.70	0.66	0.74	0.69	0.66	0.72	0.68	0.65	0.71	0.67	0.65	0.69	0.66	0.64	0.63
6	0.70	0.65	0.62	0.70	0.65	0.61	0.68	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.60	0.59
7	0.66	0.61	0.58	0.66	0.61	0.58	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.56
8	0.63	0.58	0.54	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.57	0.54	0.60	0.56	0.53	0.52
9	0.59	0.55	0.51	0.59	0.54	0.51	0.58	0.54	0.51	0.57	0.54	0.51	0.57	0.53	0.51	0.49
10	0.56	0.52	0.48	0.56	0.51	0.48	0.55	0.51	0.48	0.55	0.51	0.48	0.54	0.50	0.48	0.47



NATA 3-2328-M

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	2737.69	2735.44	2712.38	2594.25	2409.19	2062.69	1523.25	942.19	335.81
45.0	2724.75	2720.81	2700.00	2589.19	2399.06	2035.13	1492.88	900.00	290.25
90.0	2727.56	2714.06	2639.81	2499.75	2260.13	1789.88	1098.45	645.92	124.37
135.0	2737.13	2726.44	2651.63	2488.50	2228.63	1737.56	1206.00	580.50	97.14
180.0	2737.69	2726.44	2619.00	2436.75	2094.19	1523.25	1001.81	340.93	63.06
225.0	2724.75	2719.69	2640.38	2463.75	2133.00	1581.75	1019.98	361.58	67.61
270.0	2727.56	2733.75	2691.00	2544.75	2293.88	1830.94	1273.50	631.69	297.00
315.0	2737.13	2738.25	2691.56	2534.06	2321.44	1865.25	1107.56	711.17	149.40
360.0	2737.69	2735.44	2712.38	2594.25	2409.19	2062.69	1523.25	942.19	335.81
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	54.90	25.88	16.65	12.66	10.74	10.46	10.46	10.46	10.46
45.0	54.17	25.99	16.26	12.54	10.69	10.41	10.41	10.35	10.35
90.0	43.09	23.34	15.13	11.87	10.52	10.46	10.41	10.41	10.41
135.0	36.96	21.49	14.40	11.48	10.58	10.46	10.46	10.41	10.41
180.0	27.62	17.72	12.88	10.86	10.52	10.46	10.46	10.41	10.41
225.0	28.46	17.55	12.71	10.91	10.41	10.35	10.41	10.35	10.35
270.0	39.21	21.94	15.24	11.76	10.52	10.46	10.46	10.41	10.41
315.0	40.05	22.39	15.02	11.81	10.52	10.46	10.46	10.46	10.41
360.0	54.90	25.88	16.65	12.66	10.74	10.46	10.46	10.46	10.46
C/ $\gamma$ (°)	90.0								
0.0	10.46								
45.0	10.29								
90.0	10.35								
135.0	10.41								
180.0	10.41								
225.0	10.29								
270.0	10.35								
315.0	10.35								
360.0	10.46								