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## Nata

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LumCAT: 1-0928-M	
Luminaire: 92.70.127.00	
Report No: NATA0100	Voltage(V): 37.8300
Test No: GC2019091903	Current(A): 0.2470
LampCAT: CREE CXA1507	Power (W): 9.3500
Lamp flux(lm): 656.5	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): 550.44  
Efficiency(%): 83.85%  
Lumens(lm)/Power(W): 58.87  
Central intensity(cd): 1738.125  
Maximum intensity(cd): 1738.125  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=34.0  
                                  [C90/270]Total=34.0  
Field angle(10%Imax): [C0/180]Total=49.7  
                                  [C90/270]Total=49.7  
Maximum s/h(1/2): C0\_180=0.57 C90\_270=0.57  
Maximum s/h(1/4): C0\_180=0.53 C90\_270=0.53  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 83.85%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.593%

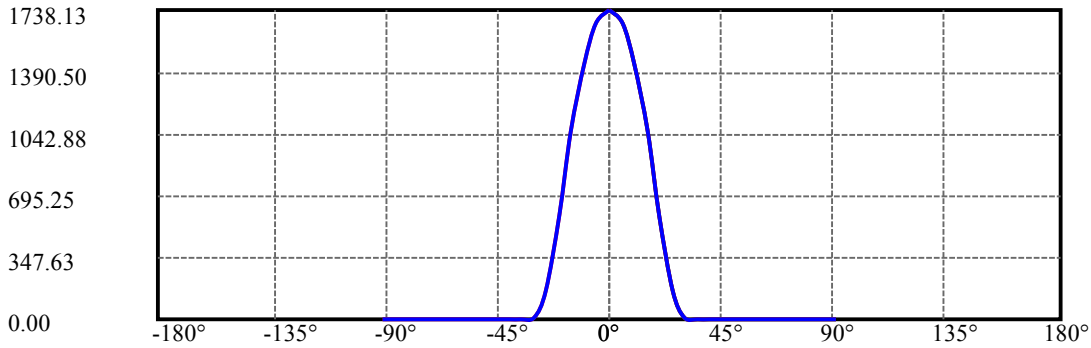
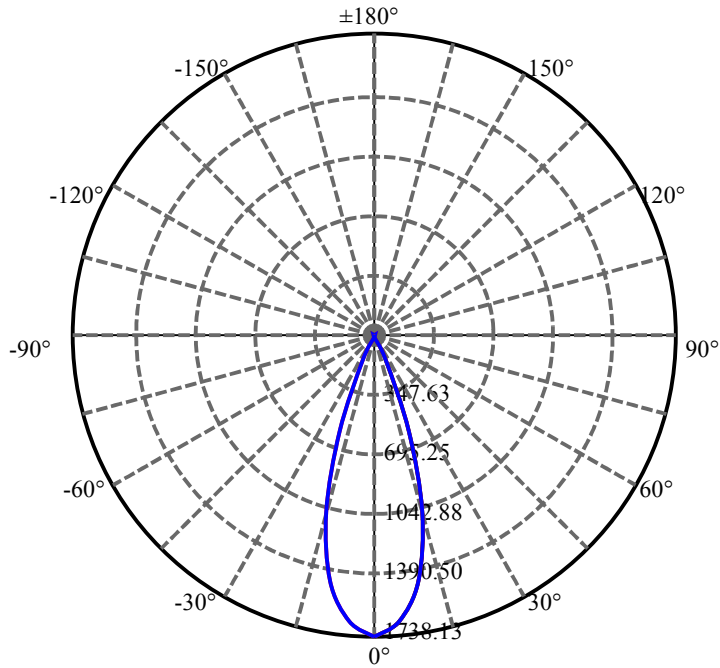
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1738.125	0.000	0	.000%	.000%
5.0	1658.109	40.601	40.601	6.185%	7.376%
10.0	1436.344	110.698	151.299	16.863%	27.487%
15.0	1054.877	147.778	299.077	22.512%	54.334%
20.0	587.398	135.347	434.423	20.618%	78.922%
25.0	162.682	78.670	513.093	11.984%	93.214%
30.0	9.612	21.804	534.897	3.321%	97.176%
35.0	4.155	2.027	536.924	.309%	97.544%
40.0	3.227	1.232	538.156	.188%	97.768%
45.0	2.841	1.124	539.279	.171%	97.972%
50.0	2.658	1.111	540.391	.169%	98.174%
55.0	2.566	1.136	541.526	.173%	98.380%
60.0	2.510	1.173	542.7	.179%	98.593%
65.0	2.489	1.215	543.915	.185%	98.814%
70.0	2.468	1.255	545.17	.191%	99.042%
75.0	2.454	1.286	546.457	.196%	99.276%
80.0	2.454	1.313	547.77	.200%	99.514%
85.0	2.454	1.334	549.104	.203%	99.757%
90.0	2.440	1.340	550.444	.204%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	534.90	81.48%	97.18%
0-40	538.16	81.98%	97.77%
0-60	542.70	82.67%	98.59%
0-90	549.10	83.65%	99.76%
0-120	549.10	83.65%	99.76%
0-180	550.44	83.85%	100.00%
60-90	7.58	1.15%	1.38%
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%
0-20.38	440.35	67.08%	80.00%

ZONAL LUMEN SUMMARY

0-10	151.30
10-20	283.12
20-30	100.47
30-40	3.26
40-50	2.23
50-60	2.31
60-70	2.47
70-80	2.60
80-90	1.33
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: —————

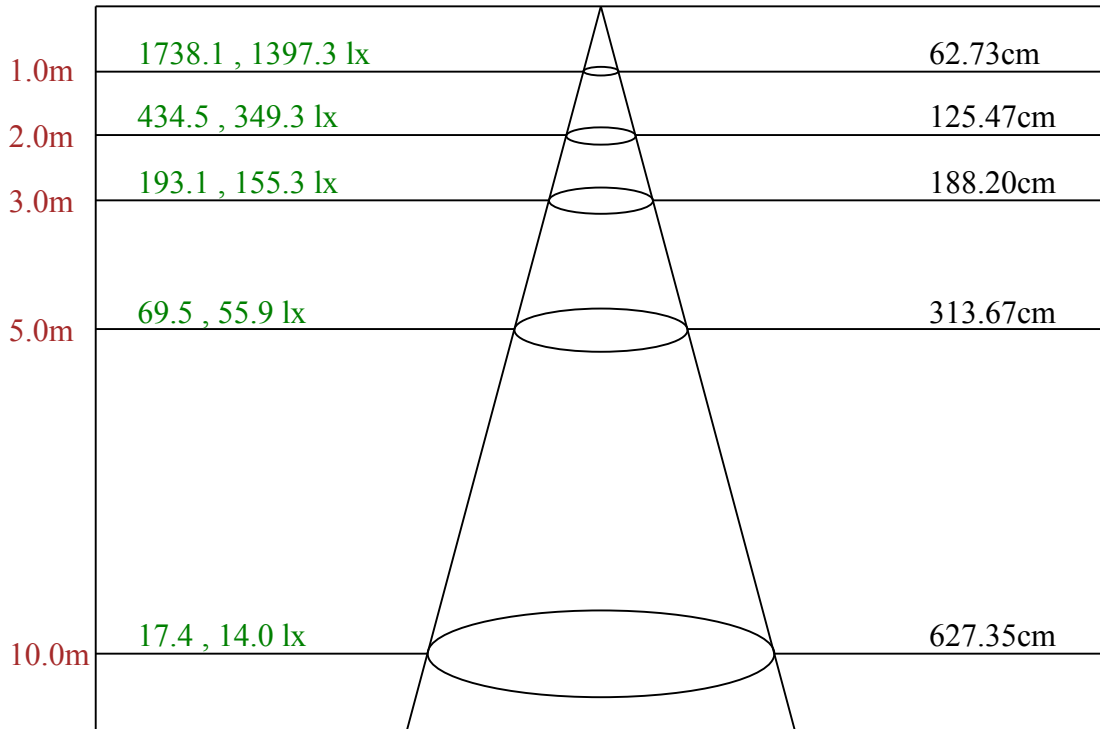
C90/C270: —————

Field angle(10%Imax):C0/180Left:24.9 Right:24.9

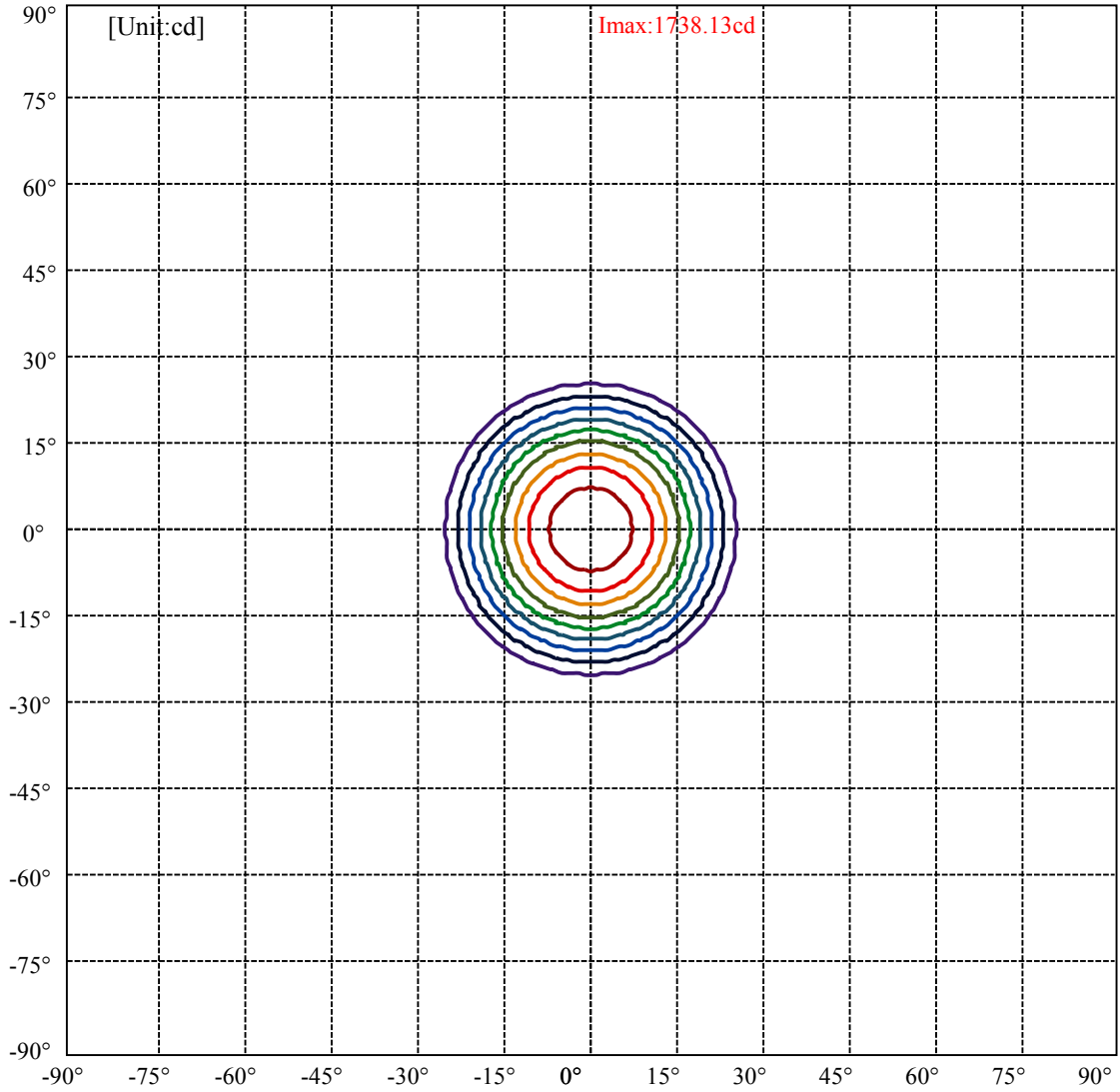
:C90/270Left:24.9 Right:24.9

Beam Angle(50%Imax):C0/180Left:17.0 Right:17.0

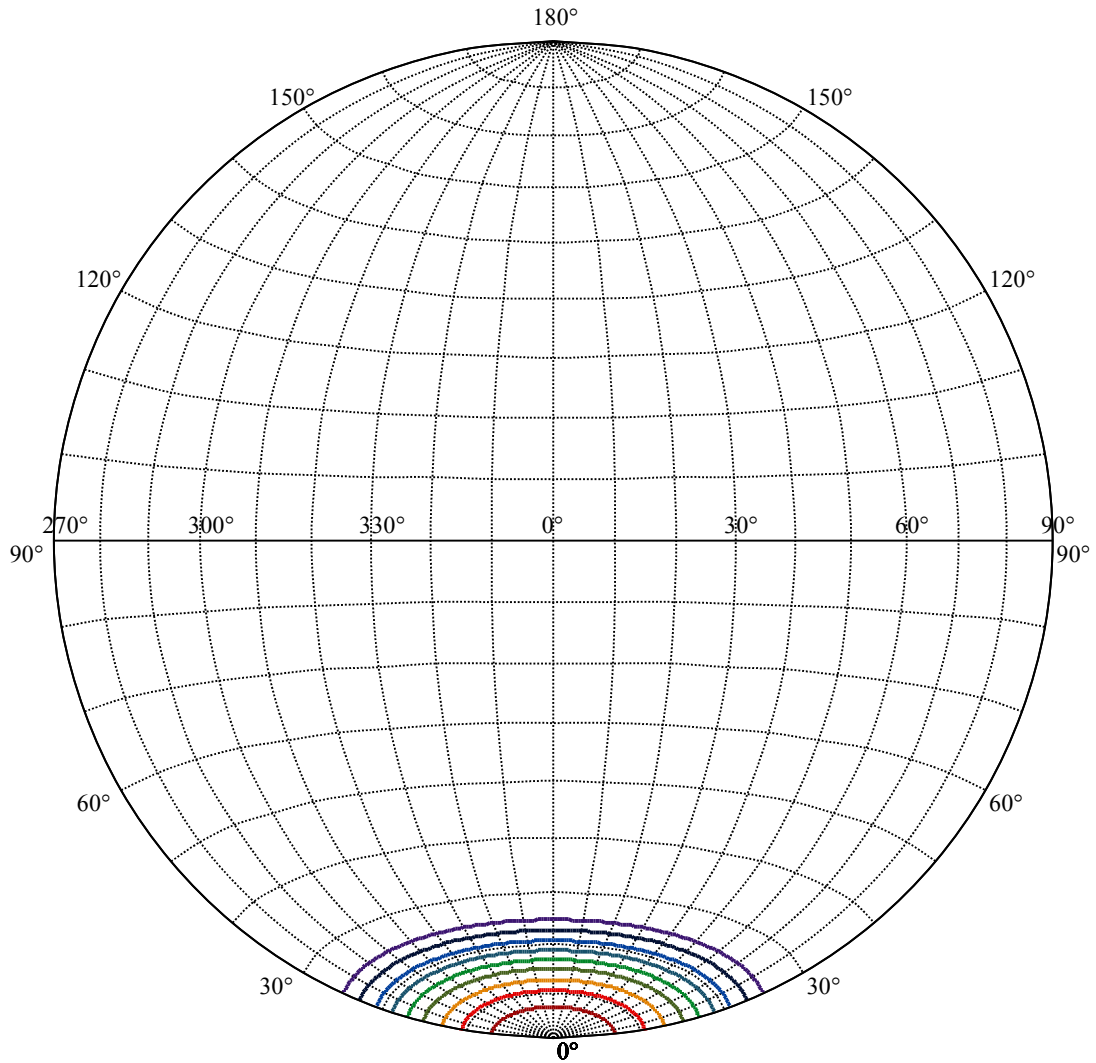
:C90/270Left:17.0 Right:17.0



Max , Ave      Beam angle of C0 plane 34.83



(10%Imax) 173.813	—
(20%Imax) 347.625	—
(30%Imax) 521.438	—
(40%Imax) 695.25	—
(50%Imax) 869.063	—
(60%Imax) 1042.88	—
(70%Imax) 1216.69	—
(80%Imax) 1390.5	—
(90%Imax) 1564.31	—



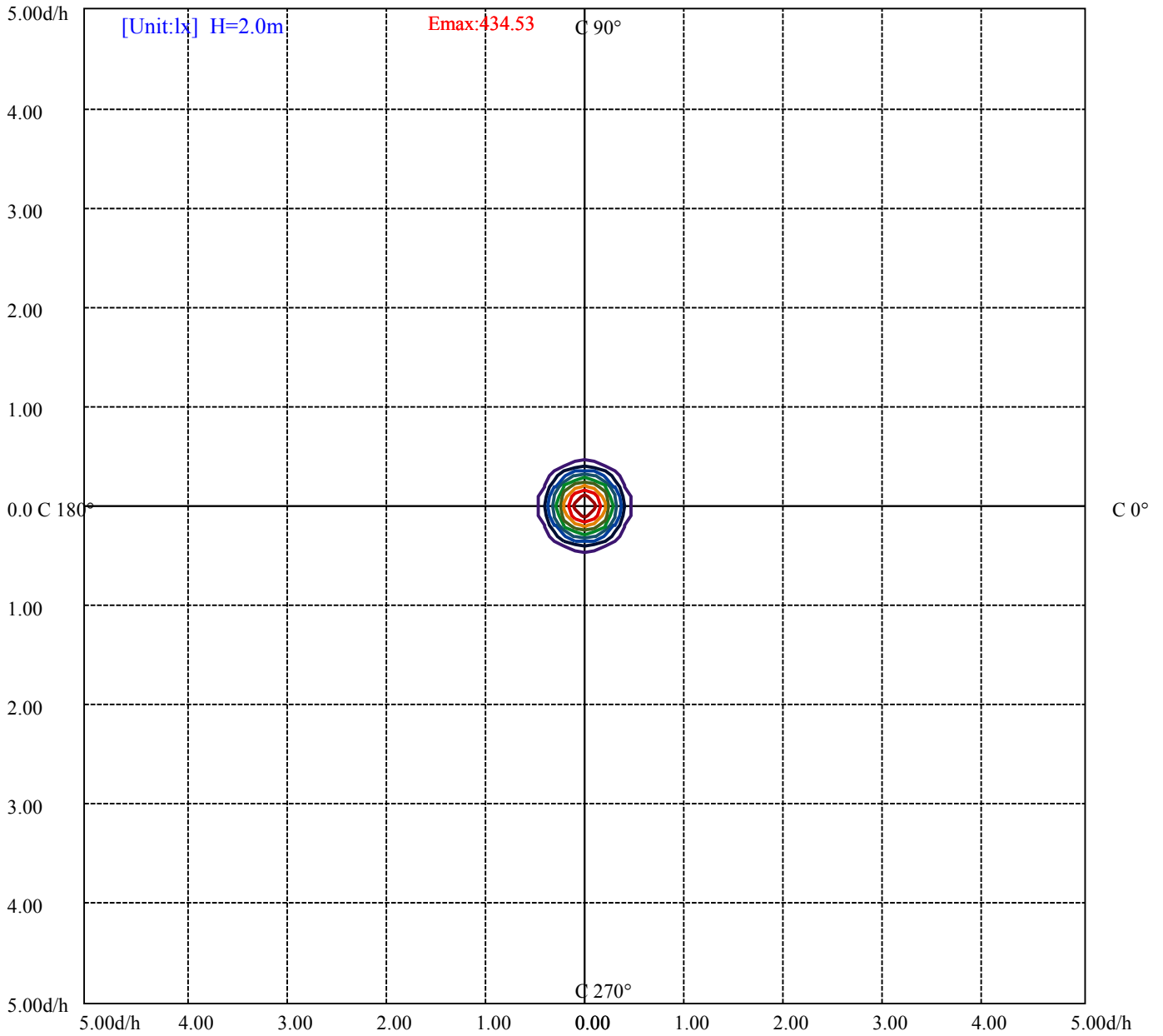
House

[Unit:cd]

Road

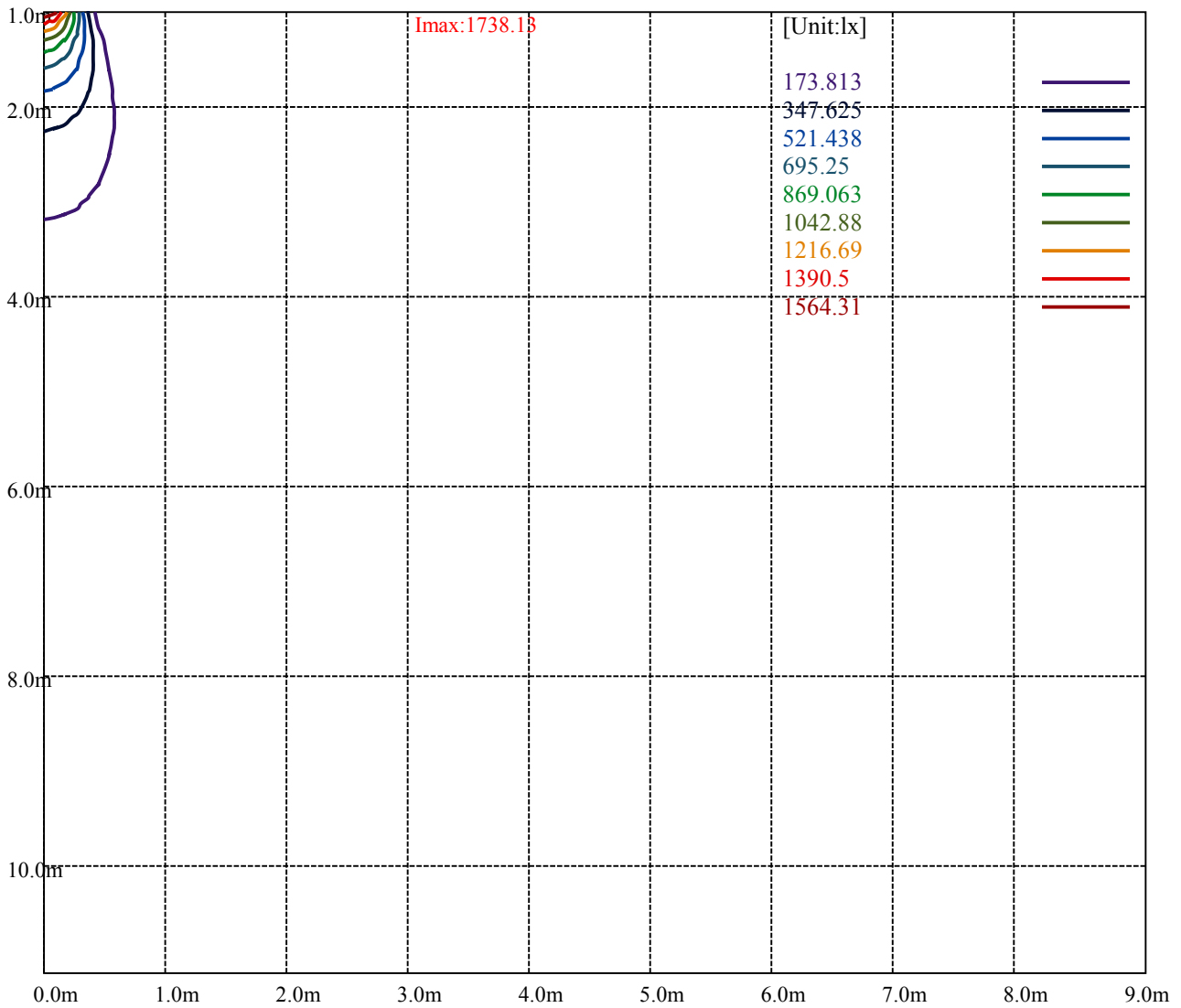
**Imax:1738.13**

(10%Imax) 173.813	—
(20%Imax) 347.625	—
(30%Imax) 521.438	—
(40%Imax) 695.25	—
(50%Imax) 869.063	—
(60%Imax) 1042.88	—
(70%Imax) 1216.69	—
(80%Imax) 1390.5	—
(90%Imax) 1564.31	—



- (10%Emax) 43.453
- (20%Emax) 86.90625
- (30%Emax) 130.3593
- (40%Emax) 173.8123
- (50%Emax) 217.2652
- (60%Emax) 260.7175
- (70%Emax) 304.1725
- (80%Emax) 347.625
- (90%Emax) 391.0775





Luminance Table

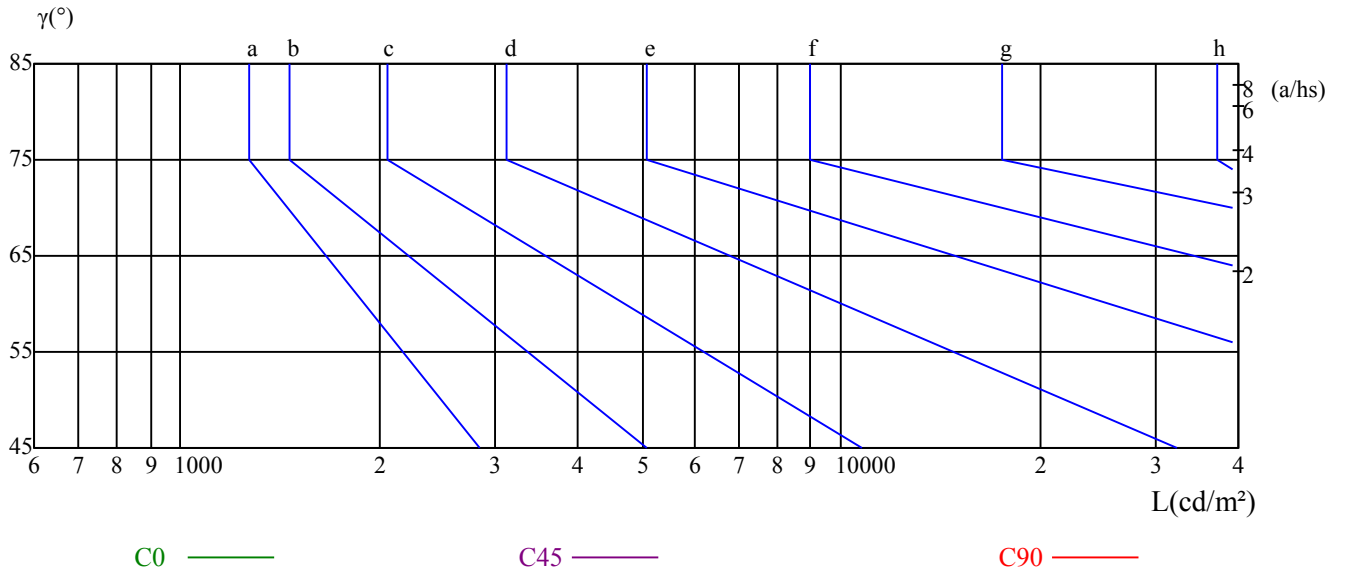
$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

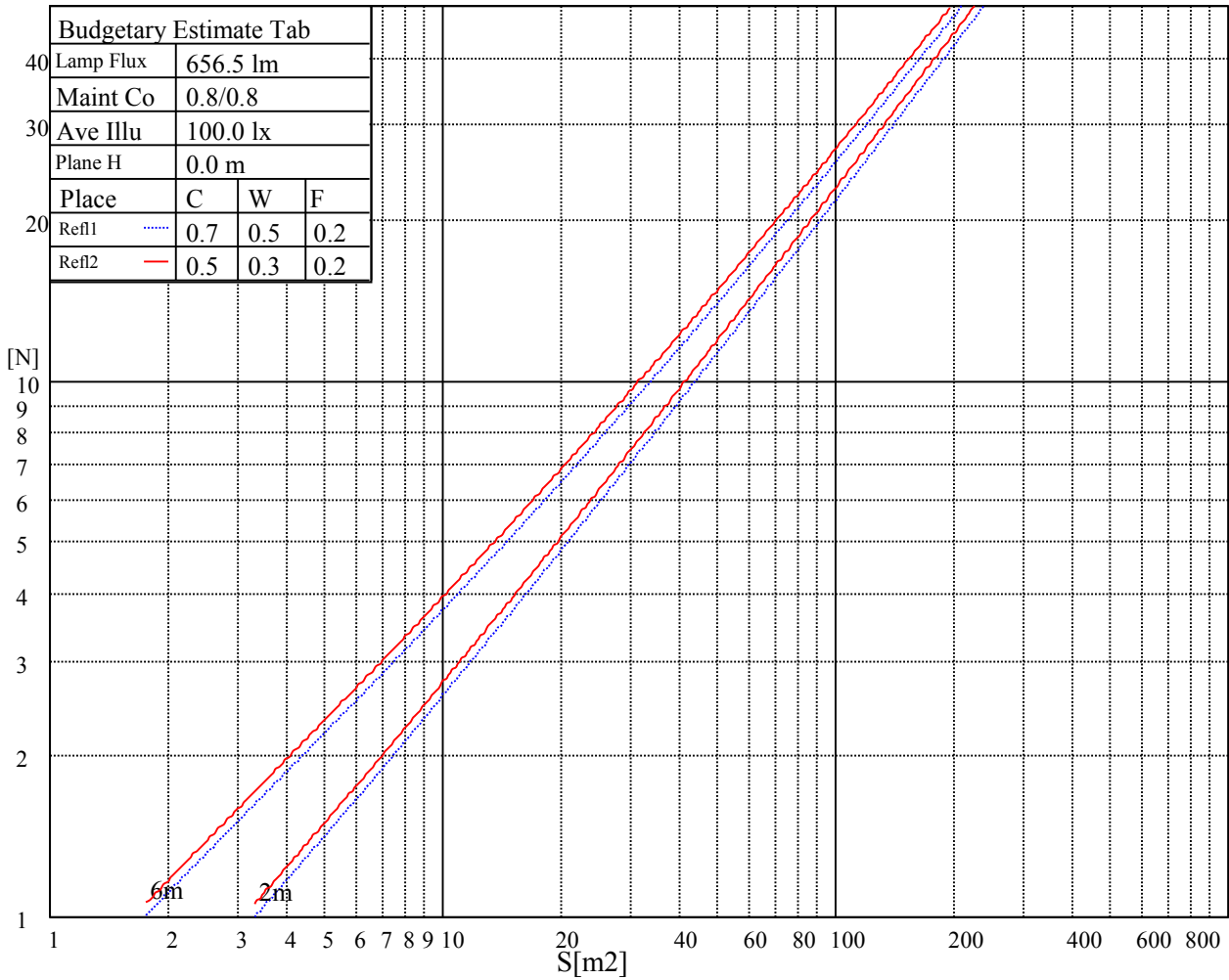
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

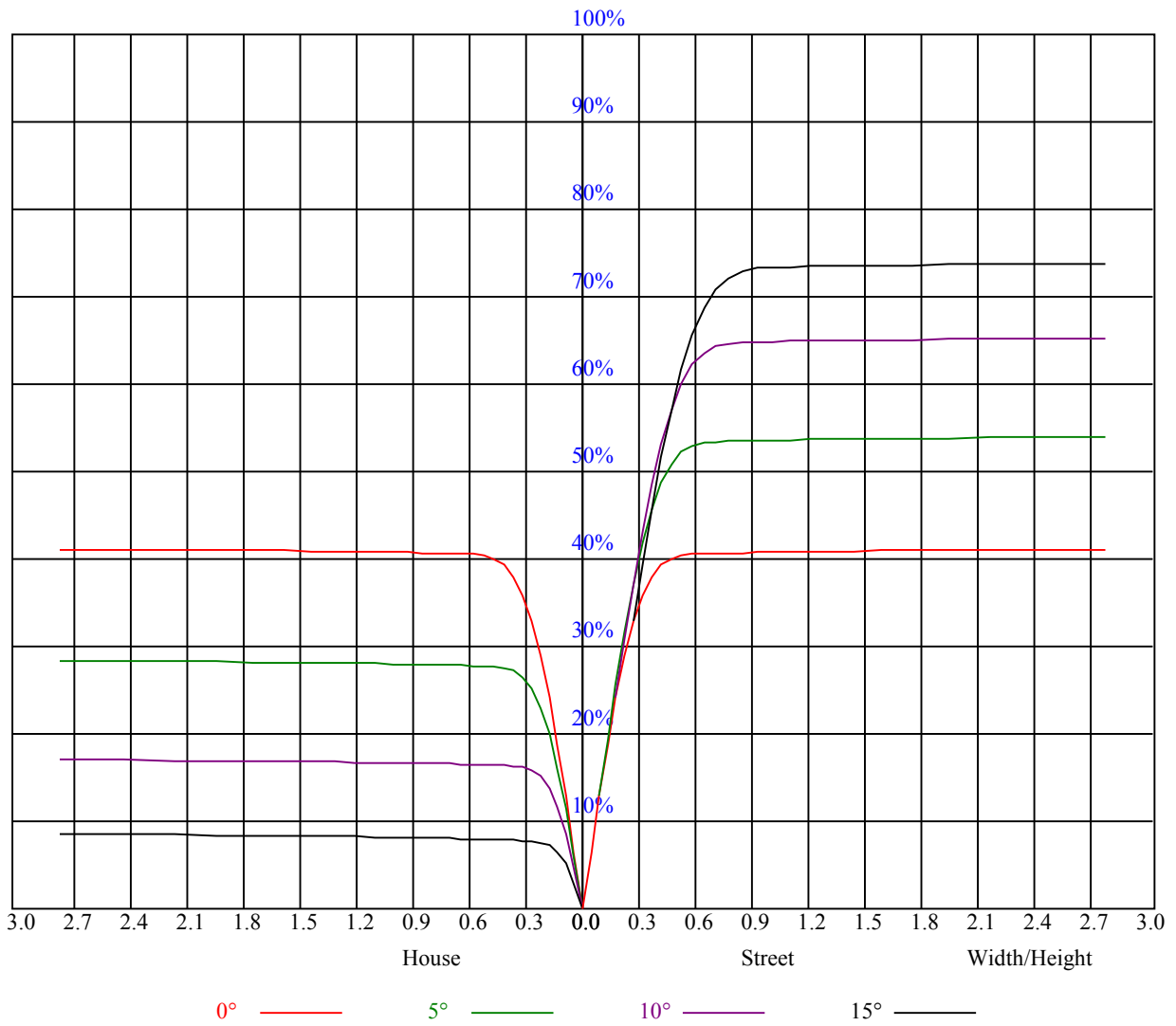
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.00	1.00	1.00	0.98	0.98	0.98	0.93	0.93	0.93	0.89	0.89	0.89	0.86	0.86	0.86	0.84
1	0.94	0.92	0.91	0.92	0.91	0.89	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.80
2	0.89	0.87	0.85	0.88	0.86	0.84	0.85	0.84	0.82	0.83	0.81	0.80	0.81	0.80	0.78	0.77
3	0.85	0.82	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.80	0.78	0.77	0.79	0.77	0.76	0.74
4	0.82	0.78	0.76	0.81	0.78	0.75	0.79	0.77	0.75	0.78	0.76	0.74	0.76	0.74	0.73	0.72
5	0.79	0.75	0.72	0.78	0.75	0.72	0.77	0.74	0.72	0.75	0.73	0.71	0.74	0.72	0.70	0.69
6	0.76	0.72	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.73	0.71	0.69	0.72	0.70	0.68	0.67
7	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.70	0.68	0.66	0.65
8	0.71	0.67	0.65	0.70	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.66	0.64	0.63
9	0.69	0.65	0.63	0.68	0.65	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.66	0.64	0.62	0.61
10	0.67	0.63	0.61	0.66	0.63	0.61	0.66	0.63	0.60	0.65	0.62	0.60	0.65	0.62	0.60	0.59



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	1731.94	1716.75	1548.00	1226.81	807.19	308.25	16.59	5.01	3.49
45.0	1738.13	1701.56	1499.06	1171.69	712.69	294.75	12.88	4.39	3.32
90.0	1738.69	1626.19	1389.94	987.92	485.89	76.78	7.03	3.83	3.09
135.0	1742.06	1639.69	1400.63	990.56	483.75	72.79	7.03	3.83	3.15
180.0	1735.31	1589.06	1311.19	844.82	381.99	36.51	5.63	3.71	3.04
225.0	1738.13	1622.81	1373.63	948.49	479.19	60.98	6.58	3.83	3.15
270.0	1738.69	1684.69	1490.06	1158.19	675.56	298.69	10.46	4.33	3.32
315.0	1742.06	1684.13	1478.25	1110.54	672.92	152.72	10.69	4.33	3.26
360.0	1731.94	1716.75	1548.00	1226.81	807.19	308.25	16.59	5.01	3.49
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	2.98	2.76	2.64	2.59	2.53	2.48	2.48	2.48	2.48
45.0	2.93	2.70	2.59	2.53	2.53	2.48	2.48	2.48	2.48
90.0	2.76	2.59	2.53	2.48	2.48	2.42	2.42	2.48	2.42
135.0	2.81	2.64	2.59	2.48	2.48	2.48	2.48	2.42	2.48
180.0	2.76	2.64	2.59	2.53	2.48	2.48	2.48	2.48	2.48
225.0	2.76	2.64	2.53	2.53	2.48	2.48	2.48	2.48	2.48
270.0	2.87	2.64	2.53	2.48	2.48	2.48	2.42	2.42	2.42
315.0	2.87	2.64	2.53	2.48	2.48	2.48	2.42	2.42	2.42
360.0	2.98	2.76	2.64	2.59	2.53	2.48	2.48	2.48	2.48
C/ $\gamma$ (°)	90.0								
0.0	2.48								
45.0	2.42								
90.0	2.42								
135.0	2.42								
180.0	2.48								
225.0	2.48								
270.0	2.42								
315.0	2.42								
360.0	2.48								