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## Nata

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LumCAT: 1407-N	
Luminaire: 92.70.044.00	
Report No: NATA0100	Voltage(V): 38.4000
Test No: GC2018070612	Current(A): 0.2000
LampCAT: NICHIA NTCWT012B-V3	Power (W): 7.6800
Lamp flux(lm): 732.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 39	Width(mm): 39
Phm Type: C	Height(mm): 0

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## Photometric Results

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Lumens(lm): 618.59  
Efficiency(%): 84.51%  
Lumens(lm)/Power(W): 81.07  
Central intensity(cd): 766.743  
Maximum intensity(cd): 766.743  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=43.7  
                                  [C90/270]Total=43.7  
Field angle(10%Imax): [C0/180]Total=93.2  
                                  [C90/270]Total=93.2  
Maximum s/h(1/2): C0\_180=0.67 C90\_270=0.67  
Maximum s/h(1/4): C0\_180=0.76 C90\_270=0.76  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 85.05%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 95.132%

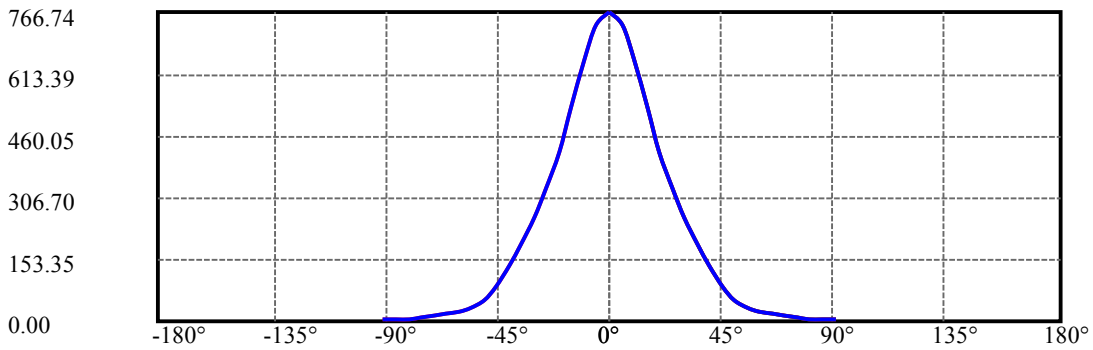
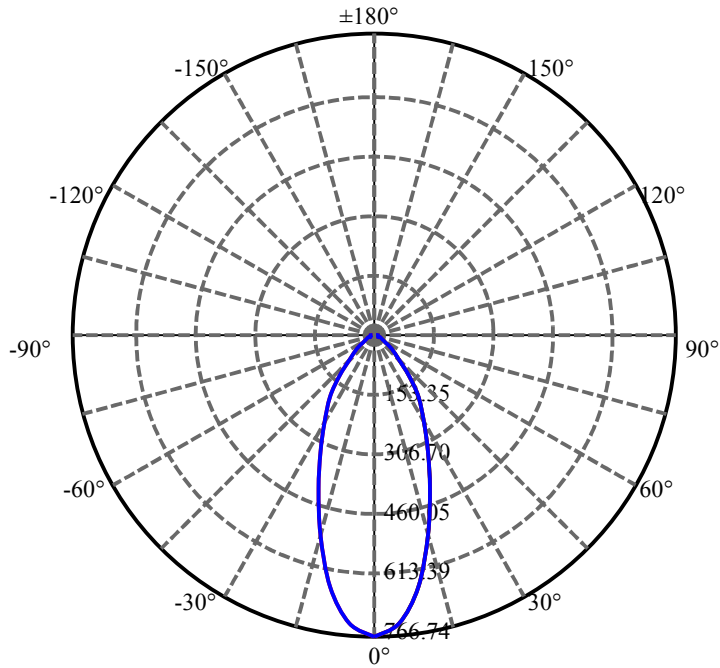
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	766.743	4.585	4.585	.626%	.741%
5.0	733.510	35.042	39.627	4.787%	6.406%
10.0	647.780	61.658	101.285	8.423%	16.373%
15.0	527.771	74.874	176.159	10.229%	28.477%
20.0	417.025	78.181	254.34	10.681%	41.116%
25.0	326.588	75.655	329.995	10.335%	53.346%
30.0	256.886	70.404	400.4	9.618%	64.728%
35.0	192.030	60.374	460.774	8.248%	74.487%
40.0	136.733	48.176	508.95	6.581%	82.275%
45.0	87.017	33.727	542.677	4.608%	87.728%
50.0	54.327	22.812	565.488	3.116%	91.415%
55.0	34.273	15.389	580.877	2.102%	93.903%
60.0	24.018	11.402	592.278	1.558%	95.746%
65.0	17.164	8.527	600.805	1.165%	97.125%
70.0	12.622	6.501	607.306	.888%	98.176%
75.0	9.029	4.781	612.087	.653%	98.948%
80.0	6.435	3.474	615.56	.475%	99.510%
85.0	4.102	2.240	617.8	.306%	99.872%
90.0	2.890	0.792	618.592	.108%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	400.40	54.70%	64.73%
0-40	508.95	69.53%	82.28%
0-60	592.28	80.91%	95.75%
0-90	617.80	84.40%	99.87%
0-120	617.80	84.40%	99.87%
0-180	618.59	84.51%	100.00%
60-90	36.92	5.04%	5.97%
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%
0-38.54	494.87	67.61%	80.00%

ZONAL LUMEN SUMMARY

0-10	101.29
10-20	153.06
20-30	146.06
30-40	108.55
40-50	56.54
50-60	26.79
60-70	15.03
70-80	8.25
80-90	2.24
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: —————

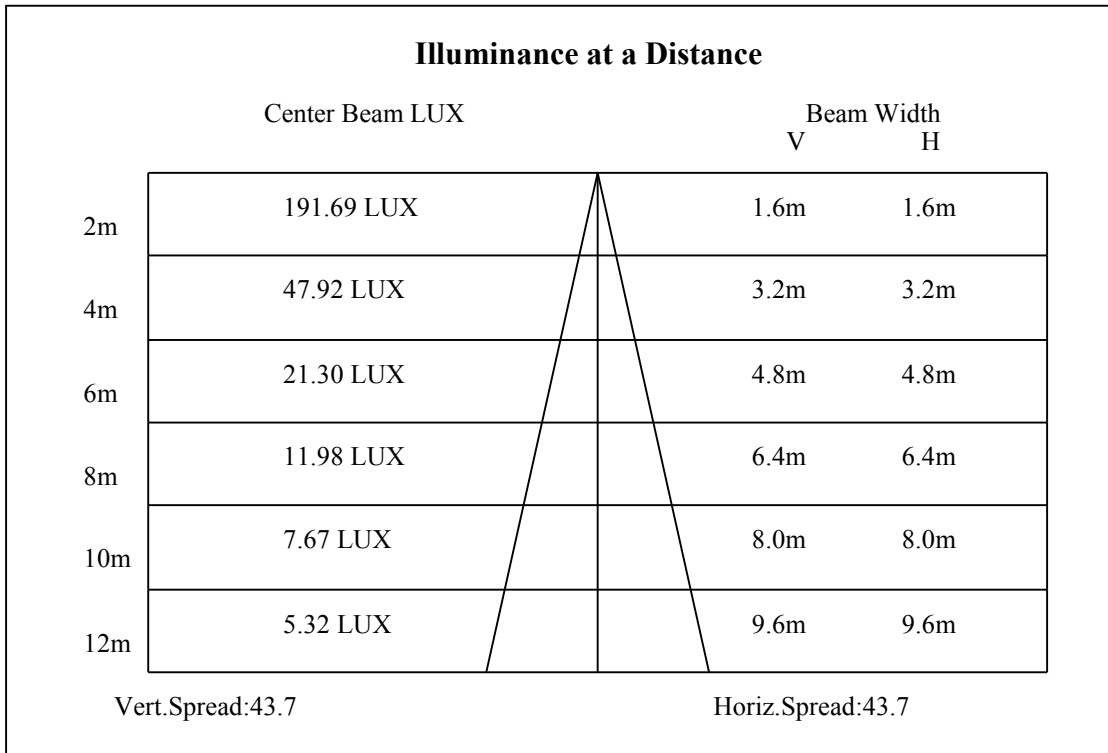
C90/C270: —————

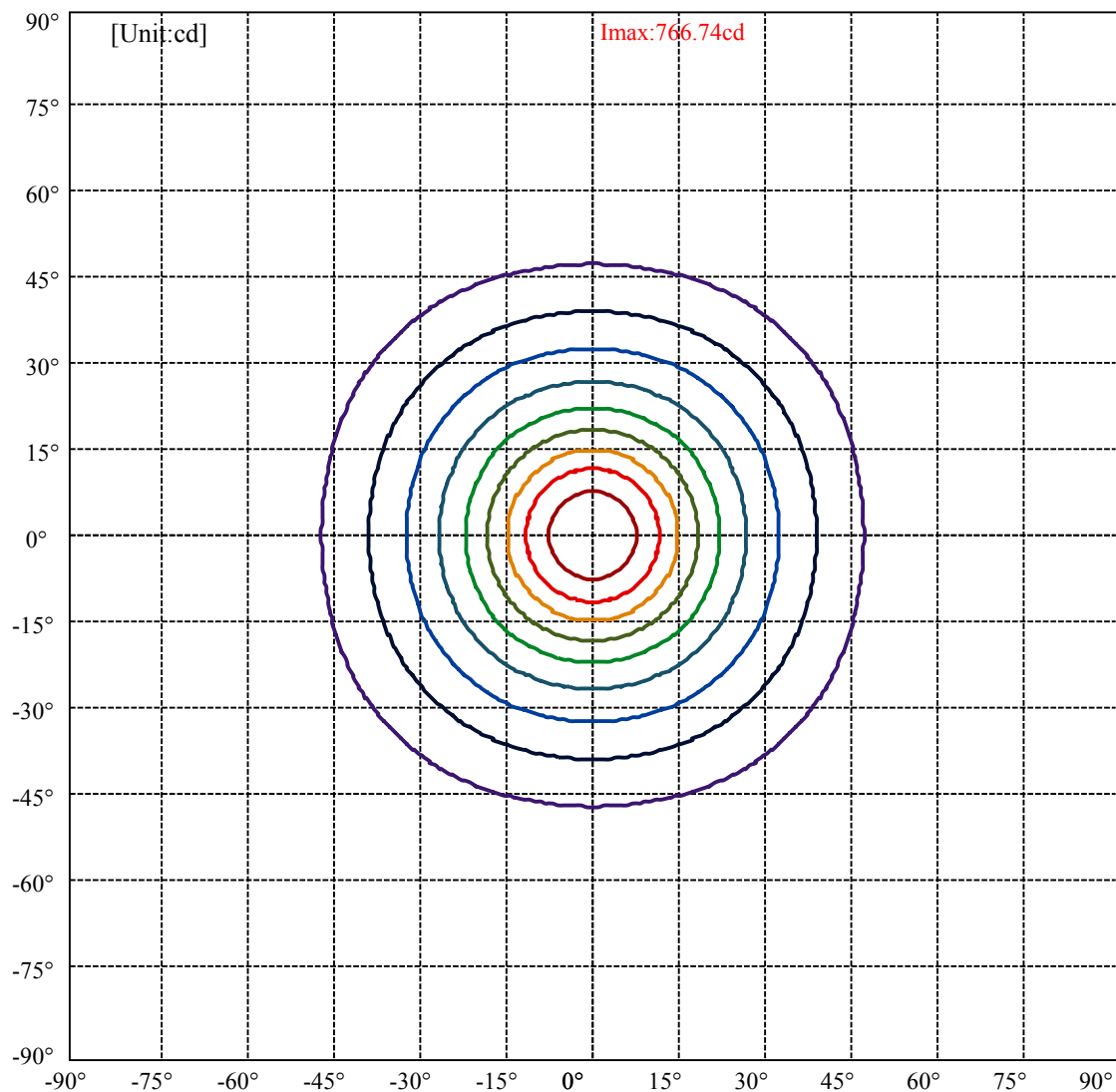
Field angle(10%Imax):C0/180Left:46.6 Right:46.6

:C90/270Left:46.6 Right:46.6

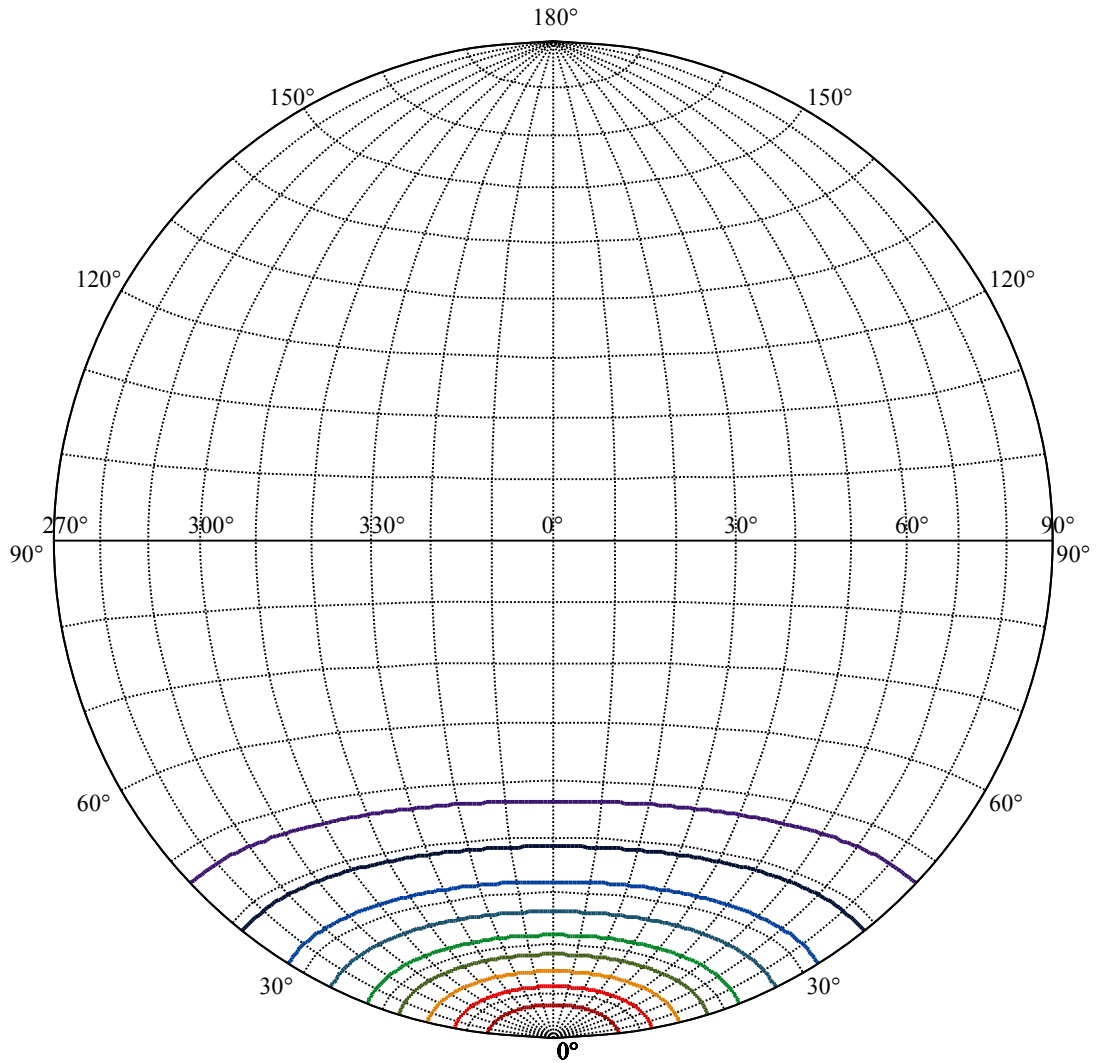
Beam Angle(50%Imax):C0/180Left:21.9 Right:21.9

:C90/270Left:21.9 Right:21.9





(10%Imax) 76.6743	—
(20%Imax) 153.349	—
(30%Imax) 230.023	—
(40%Imax) 306.697	—
(50%Imax) 383.371	—
(60%Imax) 460.046	—
(70%Imax) 536.72	—
(80%Imax) 613.394	—
(90%Imax) 690.069	—



House

[Unit:cd]

Road

**I<sub>max</sub>:766.74**

(10%I<sub>max</sub>) 76.6743

(20%I<sub>max</sub>) 153.349

(30%I<sub>max</sub>) 230.023

(40%I<sub>max</sub>) 306.697

(50%I<sub>max</sub>) 383.371

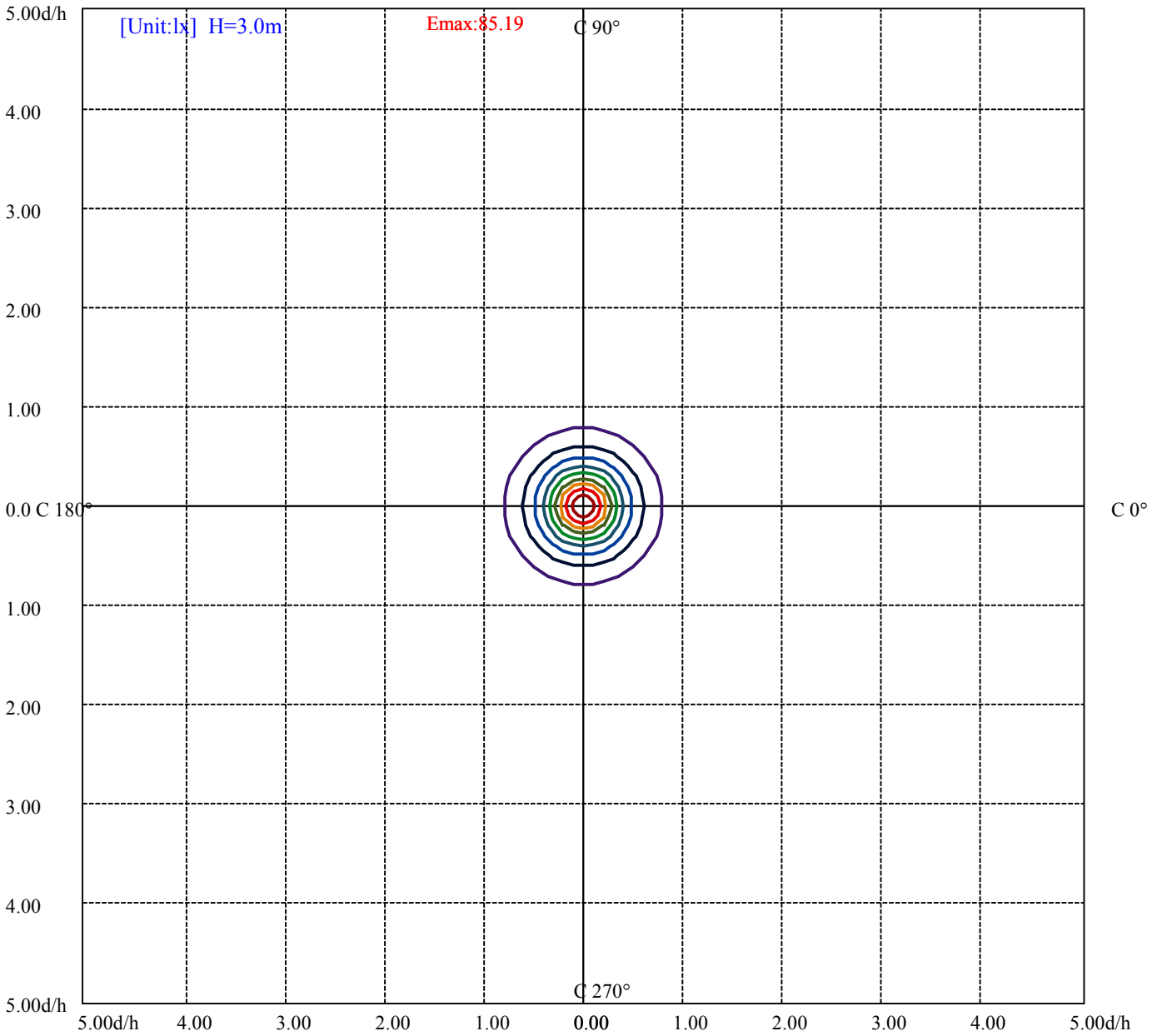
(60%I<sub>max</sub>) 460.046

(70%I<sub>max</sub>) 536.72

(80%I<sub>max</sub>) 613.394

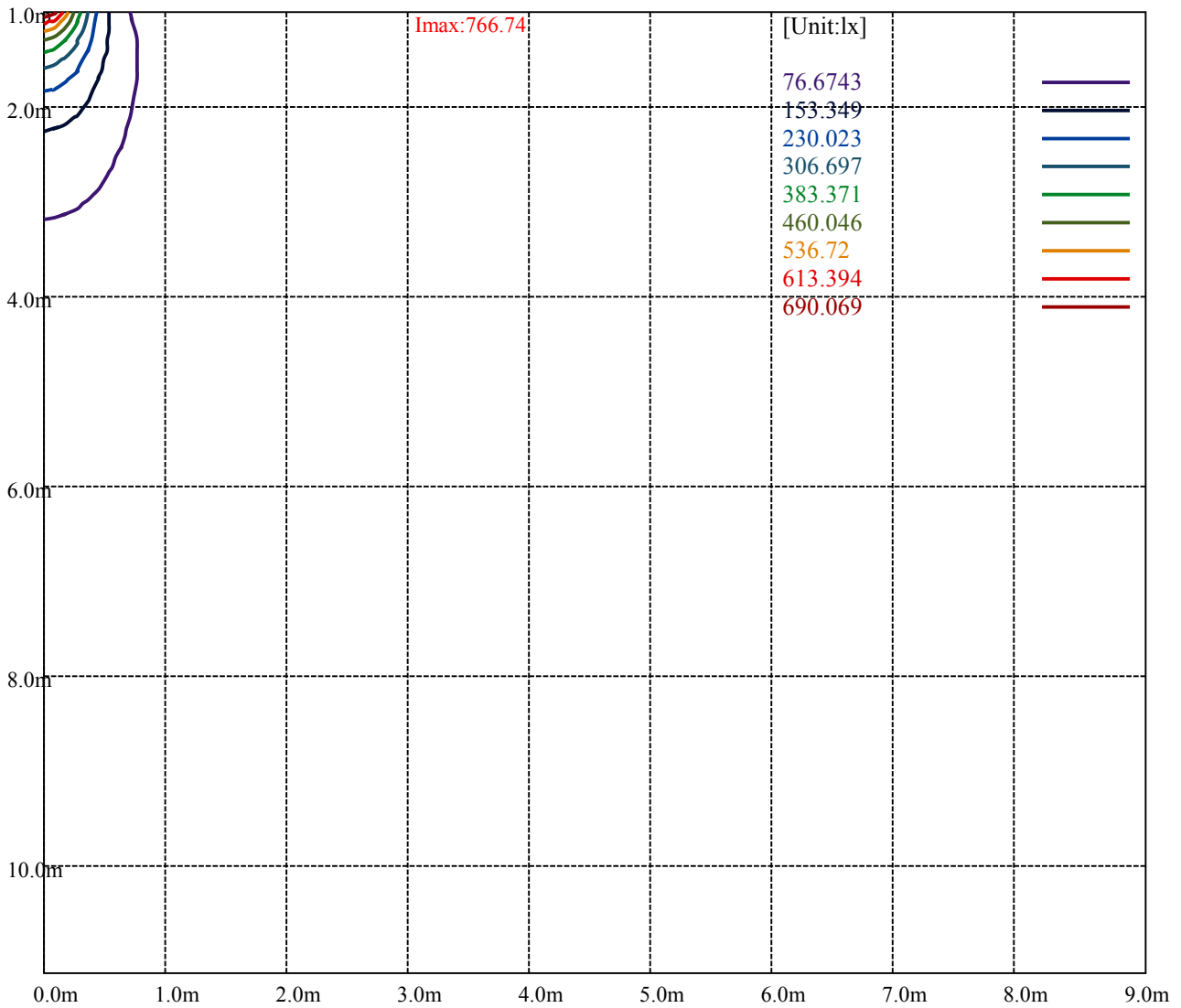
(90%I<sub>max</sub>) 690.069





(10%Emax) 8.519356	—
(20%Emax) 17.03867	—
(30%Emax) 25.55811	—
(40%Emax) 34.07744	—
(50%Emax) 42.59678	—
(60%Emax) 51.11611	—
(70%Emax) 59.63544	—
(80%Emax) 68.15488	—
(90%Emax) 76.67422	—





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

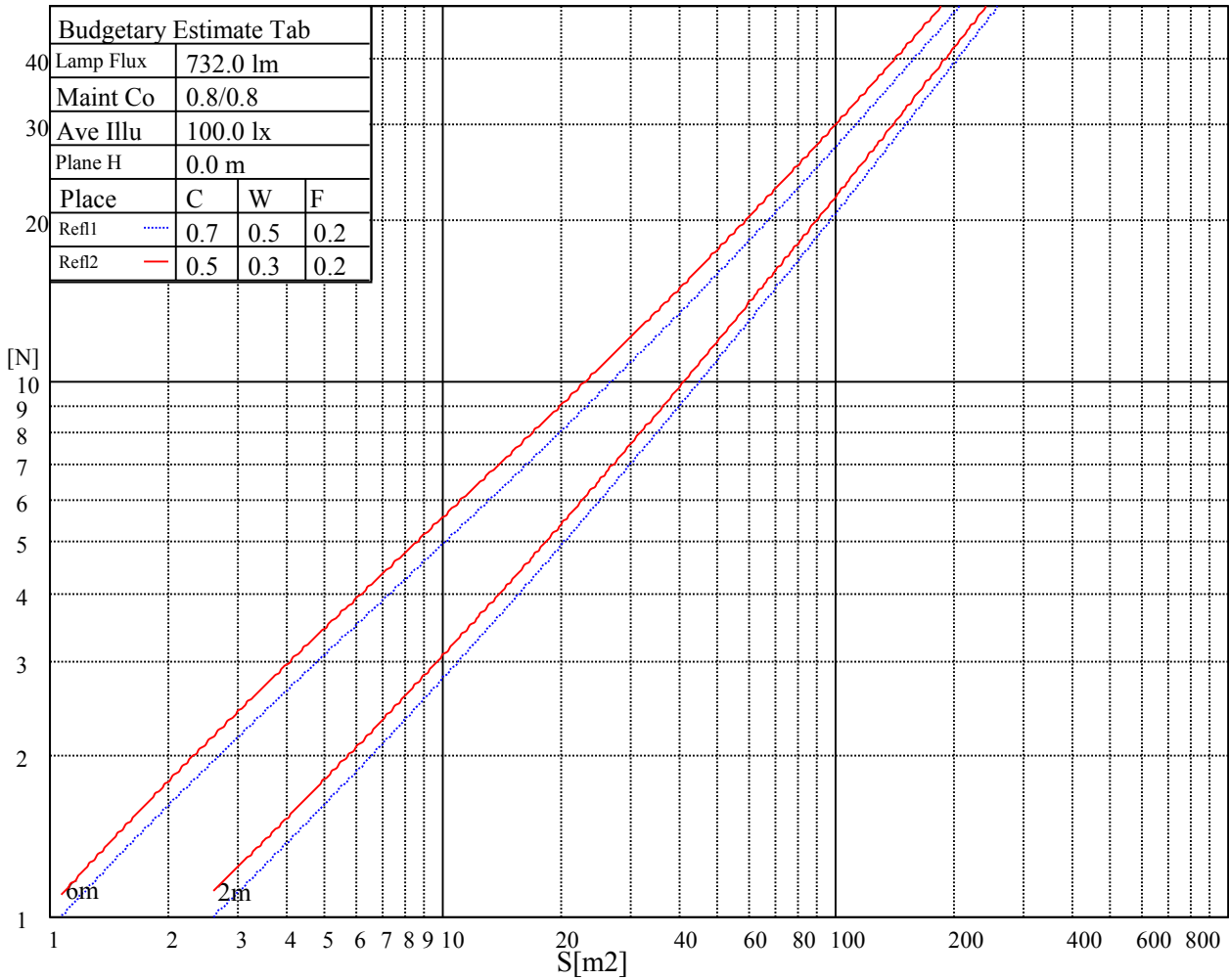
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

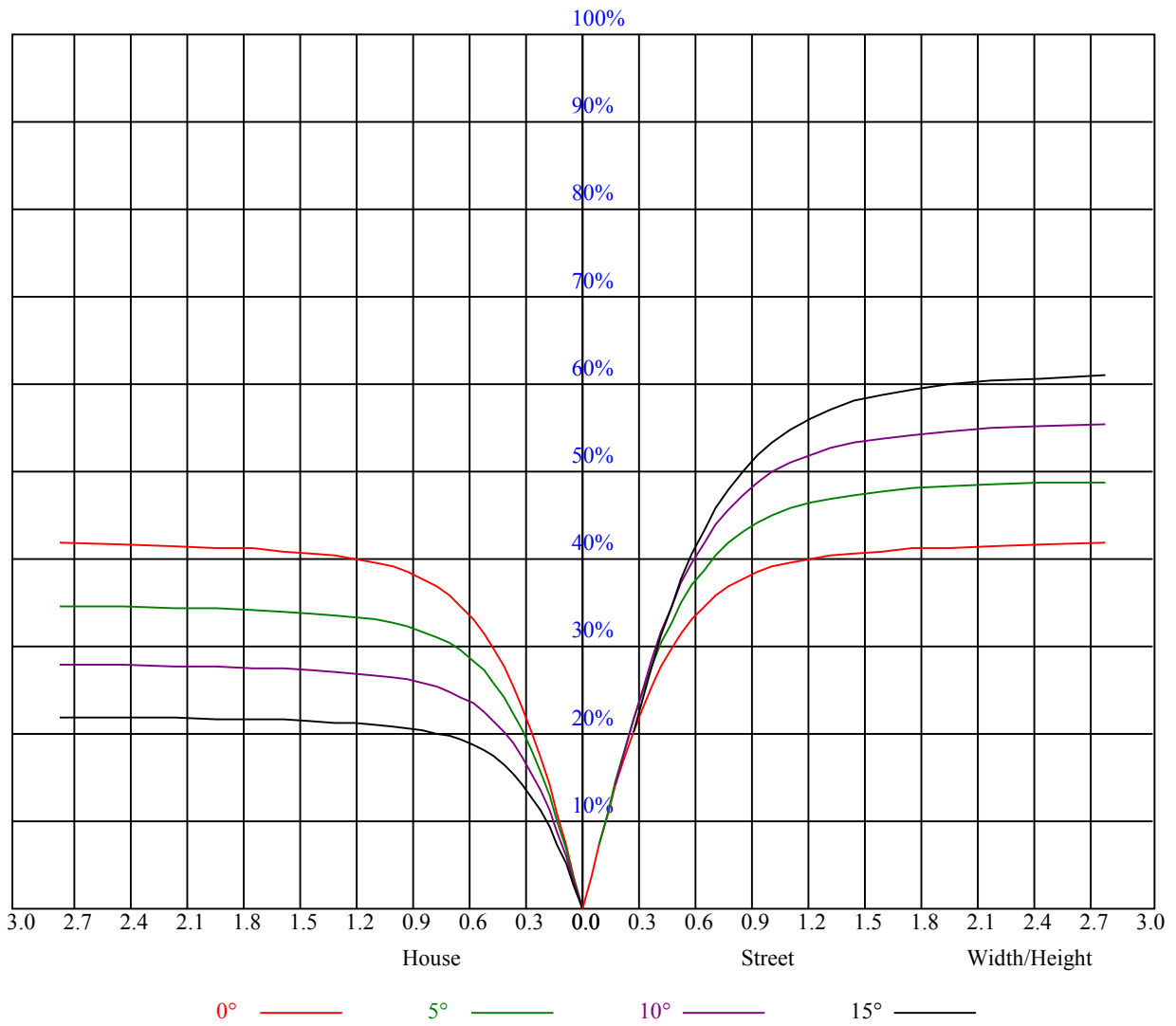
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.01	1.01	1.01	0.99	0.99	0.99	0.95	0.95	0.95	0.90	0.90	0.90	0.87	0.87	0.87	0.85
1	0.93	0.90	0.88	0.91	0.88	0.86	0.87	0.85	0.84	0.84	0.83	0.81	0.81	0.80	0.79	0.77
2	0.85	0.82	0.78	0.84	0.80	0.77	0.81	0.78	0.76	0.79	0.76	0.74	0.76	0.74	0.72	0.71
3	0.79	0.74	0.71	0.78	0.74	0.70	0.76	0.72	0.69	0.74	0.71	0.68	0.72	0.69	0.67	0.65
4	0.74	0.69	0.65	0.73	0.68	0.64	0.71	0.67	0.63	0.69	0.66	0.63	0.67	0.64	0.62	0.61
5	0.69	0.64	0.60	0.68	0.63	0.59	0.66	0.62	0.59	0.65	0.61	0.58	0.64	0.60	0.58	0.56
6	0.65	0.59	0.55	0.64	0.59	0.55	0.63	0.58	0.55	0.61	0.57	0.54	0.60	0.57	0.54	0.53
7	0.61	0.55	0.52	0.60	0.55	0.52	0.59	0.55	0.51	0.58	0.54	0.51	0.57	0.53	0.51	0.49
8	0.57	0.52	0.48	0.57	0.52	0.48	0.56	0.51	0.48	0.55	0.51	0.48	0.54	0.51	0.48	0.47
9	0.54	0.49	0.46	0.54	0.49	0.46	0.53	0.49	0.45	0.52	0.48	0.45	0.52	0.48	0.45	0.44
10	0.52	0.47	0.43	0.51	0.46	0.43	0.51	0.46	0.43	0.50	0.46	0.43	0.49	0.45	0.43	0.42



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	763.85	730.76	646.86	530.25	424.15	342.78	267.13	202.72	146.95
45.0	769.03	732.25	653.13	533.33	423.49	333.81	268.84	203.76	144.30
90.0	767.43	721.18	621.09	494.79	384.51	293.84	227.33	166.93	115.29
135.0	766.66	734.56	649.00	522.98	410.17	323.46	251.72	188.29	137.31
180.0	763.85	736.10	649.94	541.26	433.29	338.05	271.81	195.67	133.02
225.0	769.03	734.56	650.44	527.83	419.75	328.30	254.36	189.67	137.37
270.0	767.43	746.18	673.50	551.67	433.90	337.88	262.18	199.14	144.03
315.0	766.66	732.47	638.27	520.06	406.92	314.59	251.72	190.05	135.60
360.0	763.85	730.76	646.86	530.25	424.15	342.78	267.13	202.72	146.95
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	92.71	56.82	36.67	25.27	17.95	13.21	9.58	6.61	4.18
45.0	92.38	56.87	35.62	25.00	17.78	12.94	9.14	6.44	4.02
90.0	72.95	46.52	30.23	21.86	15.69	11.56	8.09	5.67	3.85
135.0	87.65	55.00	34.91	24.45	17.29	12.66	9.14	6.99	4.07
180.0	81.21	53.02	33.03	23.07	16.96	12.77	9.30	6.99	4.57
225.0	86.38	52.91	32.81	23.12	16.46	12.17	8.86	6.17	4.18
270.0	95.41	59.24	36.56	25.66	18.06	13.16	9.30	6.50	3.96
315.0	87.43	54.23	34.36	23.73	17.12	12.50	8.81	6.11	3.96
360.0	92.71	56.82	36.67	25.27	17.95	13.21	9.58	6.61	4.18
C/γ(°)	90.0								
0.0	3.03								
45.0	2.97								
90.0	2.86								
135.0	2.70								
180.0	3.03								
225.0	2.97								
270.0	2.75								
315.0	2.81								
360.0	3.03								