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## Nata

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LumCAT: 3-1703-N  
Luminaire: 92.70.045.00+92.70.061.00  
Report No: NATA0100  
Test No: GC2018070218  
LampCAT: NICHIA NFCWD096B-V3  
Lamp flux(lm): 2246.0  
Number of Lamps: 1  
Length(mm): 86  
Phm Type: C

Voltage(V): 33.9000  
Current(A): 0.5000  
Power (W): 16.9500  
PF: 0.0000  
Ballast type: DC  
Width(mm): 86  
Height(mm): 0

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## Photometric Results

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Lumens(lm): 1786.97  
Efficiency(%): 79.56%  
Lumens(lm)/Power(W): 106.76  
Central intensity(cd): 4059.859  
Maximum intensity(cd): 4059.859  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=34.3  
                                  [C90/270]Total=34.3  
Field angle(10%Imax): [C0/180]Total=63.9  
                                  [C90/270]Total=63.9  
Maximum s/h(1/2): C0\_180=0.56 C90\_270=0.56  
Maximum s/h(1/4): C0\_180=0.58 C90\_270=0.58  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 80.57%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 96.540%

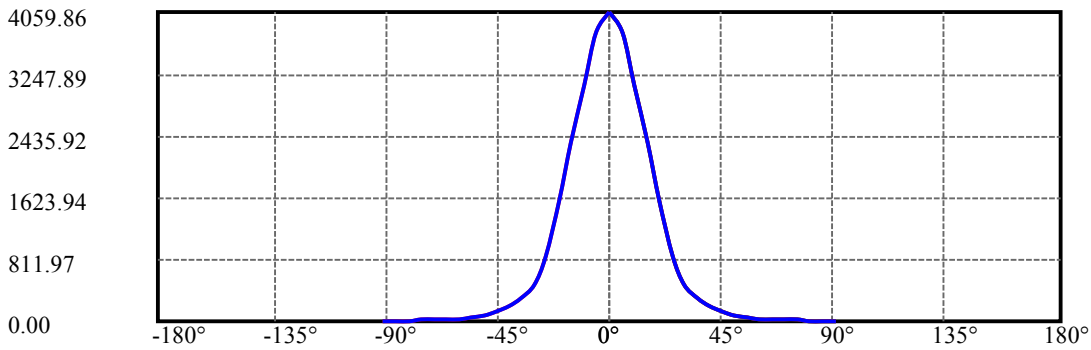
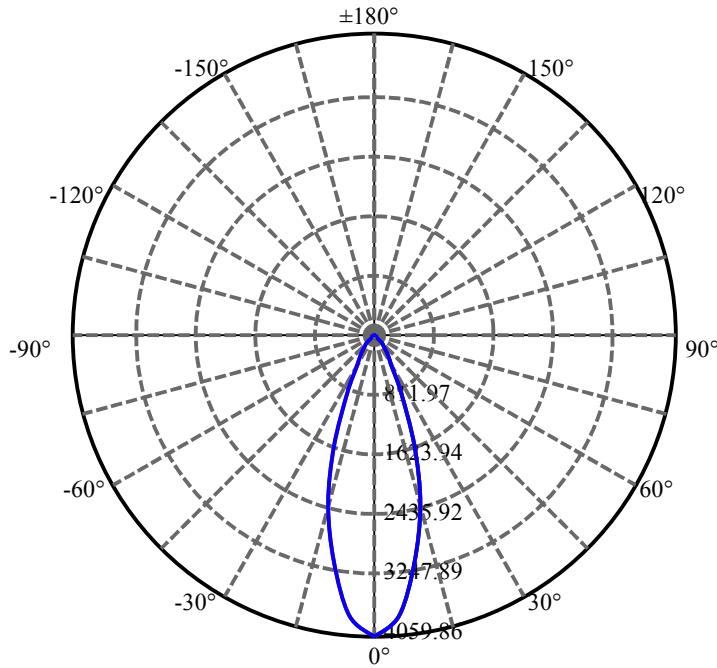
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4059.859	24.279	24.279	1.081%	1.359%
5.0	3786.710	180.904	205.182	8.054%	11.482%
10.0	3103.736	295.423	500.606	13.153%	28.014%
15.0	2353.868	333.939	834.545	14.868%	46.702%
20.0	1598.150	299.612	1134.157	13.340%	63.468%
25.0	868.315	201.148	1335.304	8.956%	74.724%
30.0	475.199	130.237	1465.541	5.799%	82.013%
35.0	299.940	94.301	1559.842	4.199%	87.290%
40.0	202.518	71.354	1631.197	3.177%	91.283%
45.0	128.254	49.710	1680.907	2.213%	94.065%
50.0	77.382	32.492	1713.399	1.447%	95.883%
55.0	45.153	20.274	1733.673	.903%	97.017%
60.0	27.955	13.270	1746.943	.591%	97.760%
65.0	20.460	10.164	1757.108	.453%	98.329%
70.0	17.205	8.862	1765.97	.395%	98.825%
75.0	14.260	7.550	1773.52	.336%	99.247%
80.0	11.727	6.330	1779.85	.282%	99.602%
85.0	9.236	5.043	1784.893	.225%	99.884%
90.0	7.577	2.077	1786.97	.092%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1465.54	65.25%	82.01%
0-40	1631.20	72.63%	91.28%
0-60	1746.94	77.78%	97.76%
0-90	1784.89	79.47%	99.88%
0-120	1784.89	79.47%	99.88%
0-180	1786.97	79.56%	100.00%
60-90	51.22	2.28%	2.87%
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%
0-28.62	1429.58	63.65%	80.00%

ZONAL LUMEN SUMMARY

0-10	500.61
10-20	633.55
20-30	331.38
30-40	165.66
40-50	82.20
50-60	33.54
60-70	19.03
70-80	13.88
80-90	5.04
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



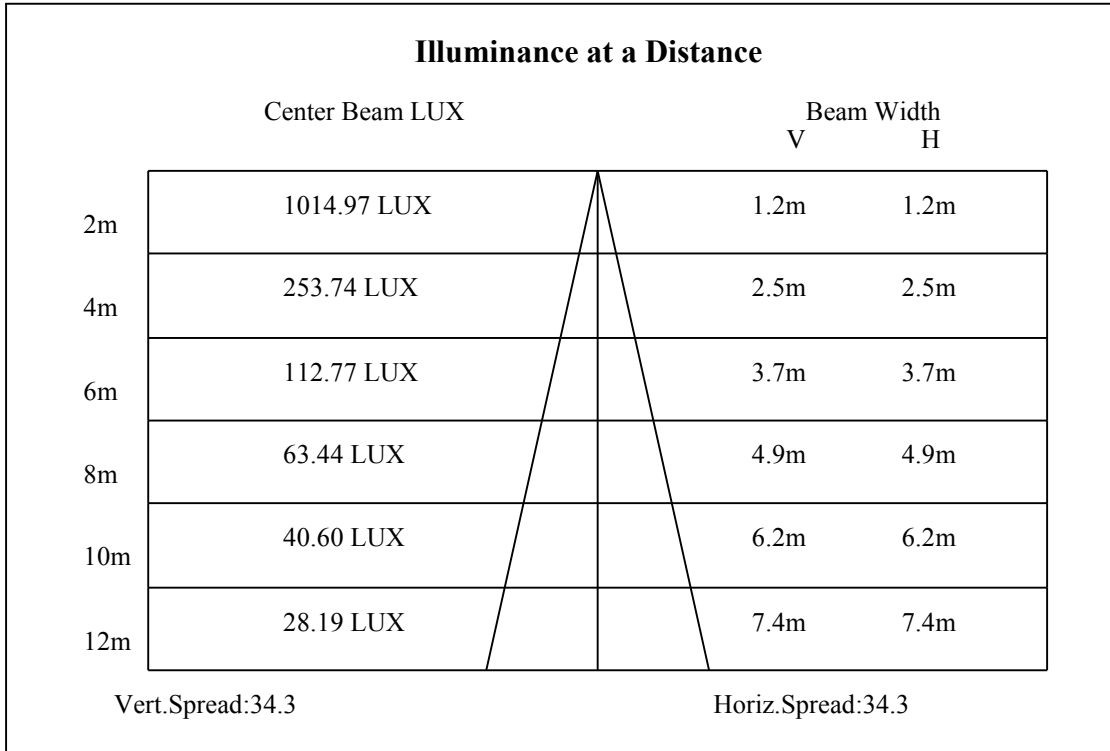
C0(Max): —————

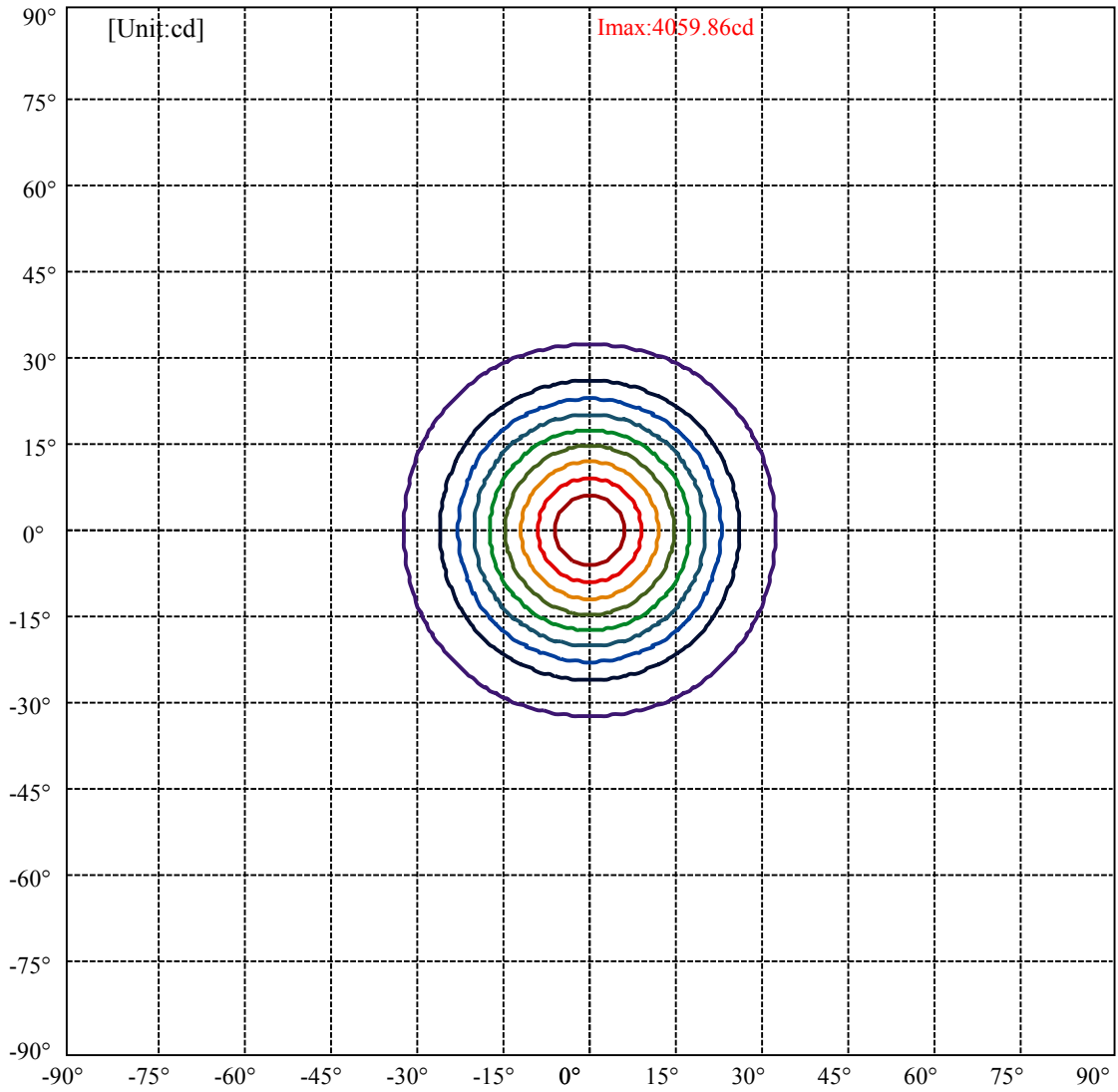
C0/C180: —————

C90/C270: —————

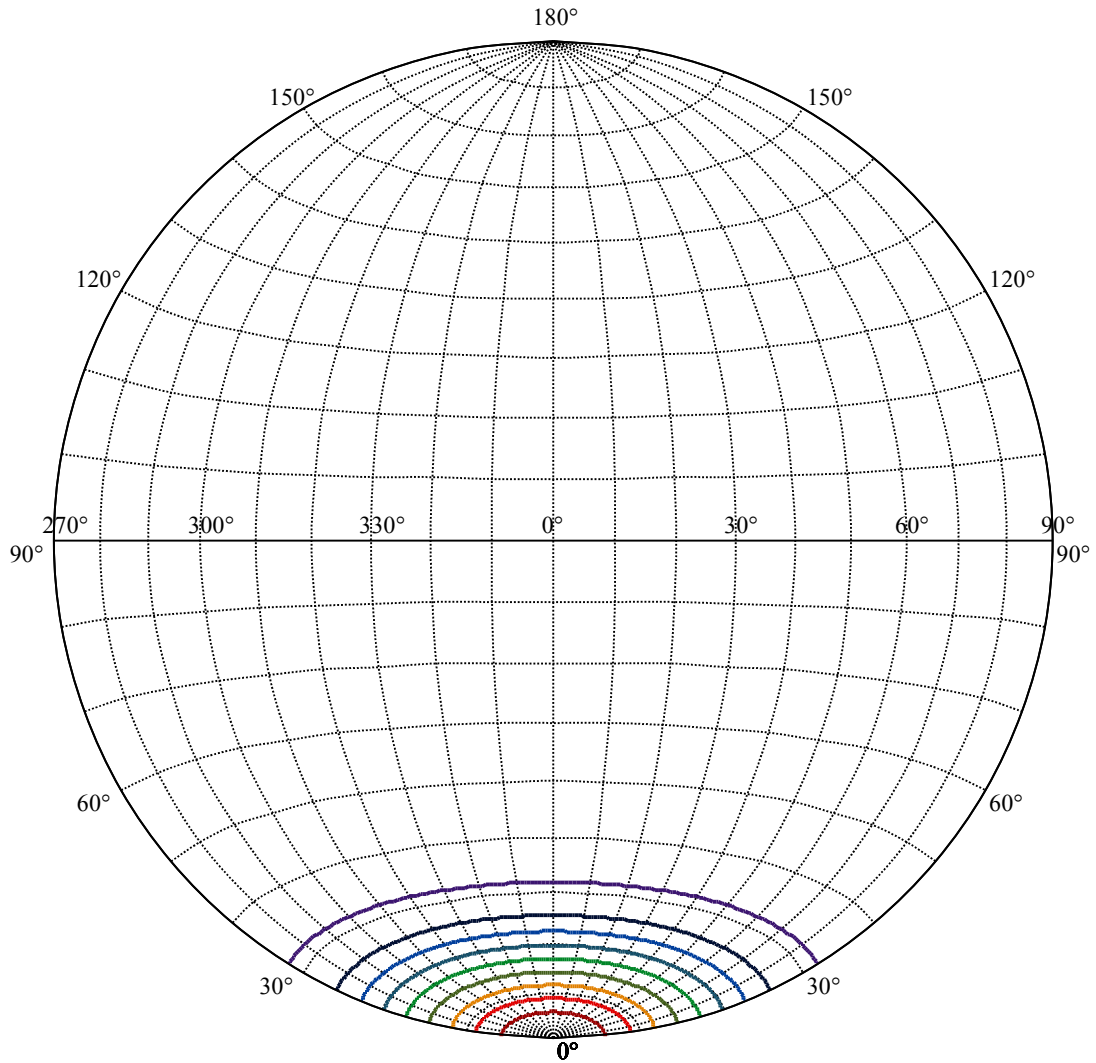
Field angle(10%Imax):C0/180Left:32.0 Right:32.0  
:C90/270Left:32.0 Right:32.0

Beam Angle(50%Imax):C0/180Left:17.1 Right:17.1  
:C90/270Left:17.1 Right:17.1





(10%Imax) 405.986	—
(20%Imax) 811.972	—
(30%Imax) 1217.96	—
(40%Imax) 1623.94	—
(50%Imax) 2029.93	—
(60%Imax) 2435.92	—
(70%Imax) 2841.9	—
(80%Imax) 3247.89	—
(90%Imax) 3653.87	—



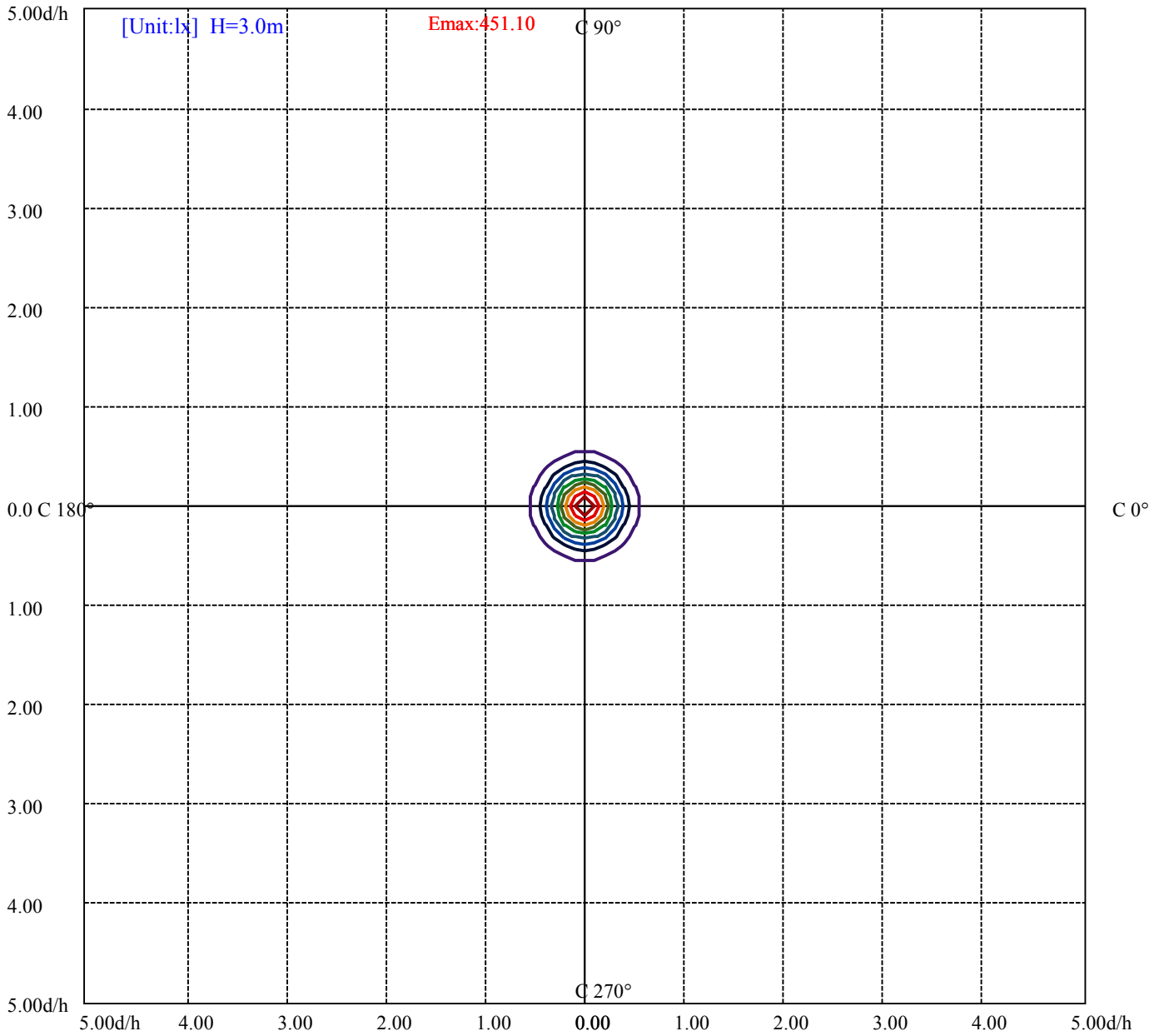
House

[Unit:cd]

Road

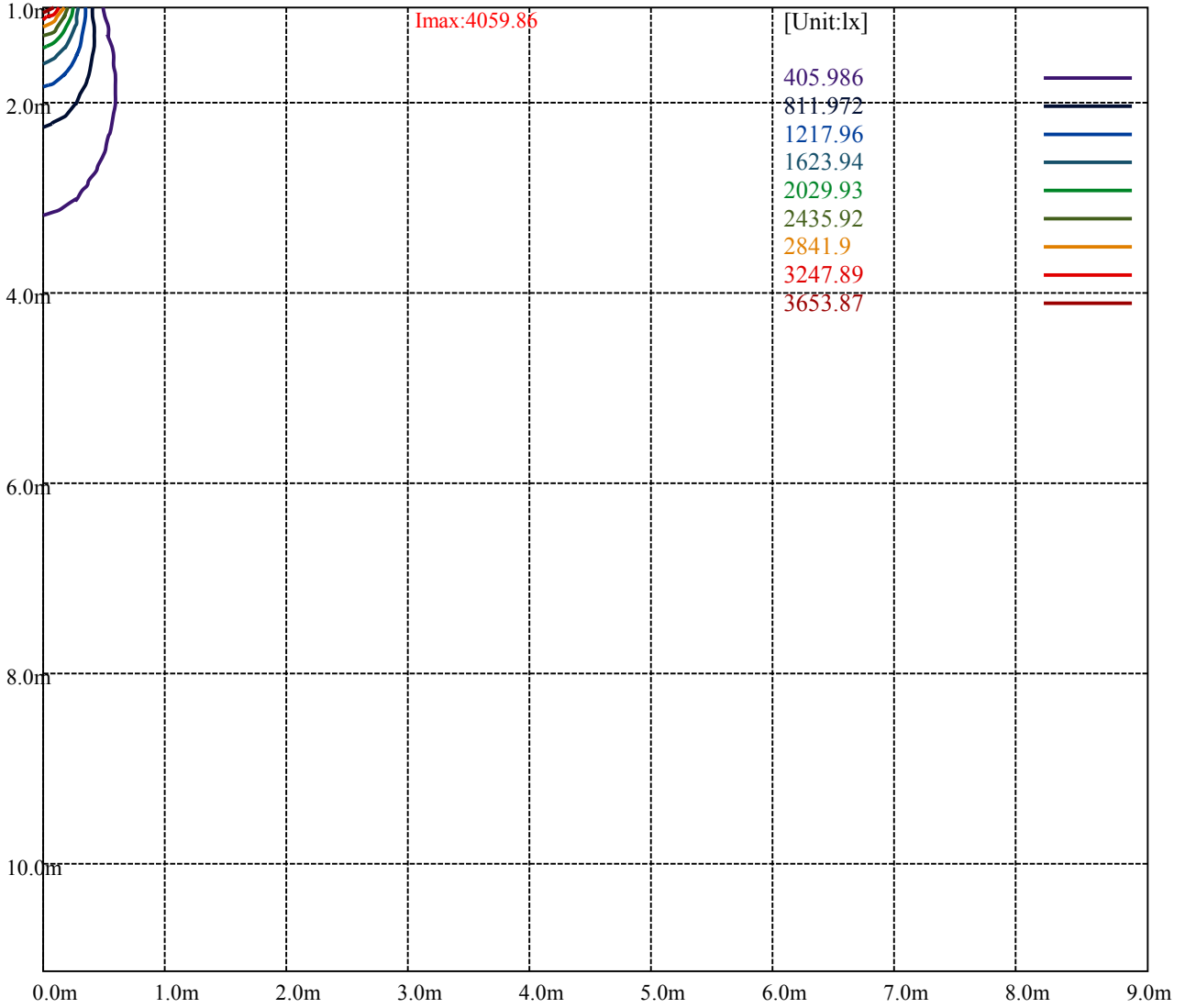
**Imax:4059.86**

(10%Imax) 405.986	—
(20%Imax) 811.972	—
(30%Imax) 1217.96	—
(40%Imax) 1623.94	—
(50%Imax) 2029.93	—
(60%Imax) 2435.92	—
(70%Imax) 2841.9	—
(80%Imax) 3247.89	—
(90%Imax) 3653.87	—



- (10%Emax) 45.10944
- (20%Emax) 90.21889
- (30%Emax) 135.3289
- (40%Emax) 180.4378
- (50%Emax) 225.5478
- (60%Emax) 270.6566
- (70%Emax) 315.7667
- (80%Emax) 360.8755
- (90%Emax) 405.9856





Luminance Table

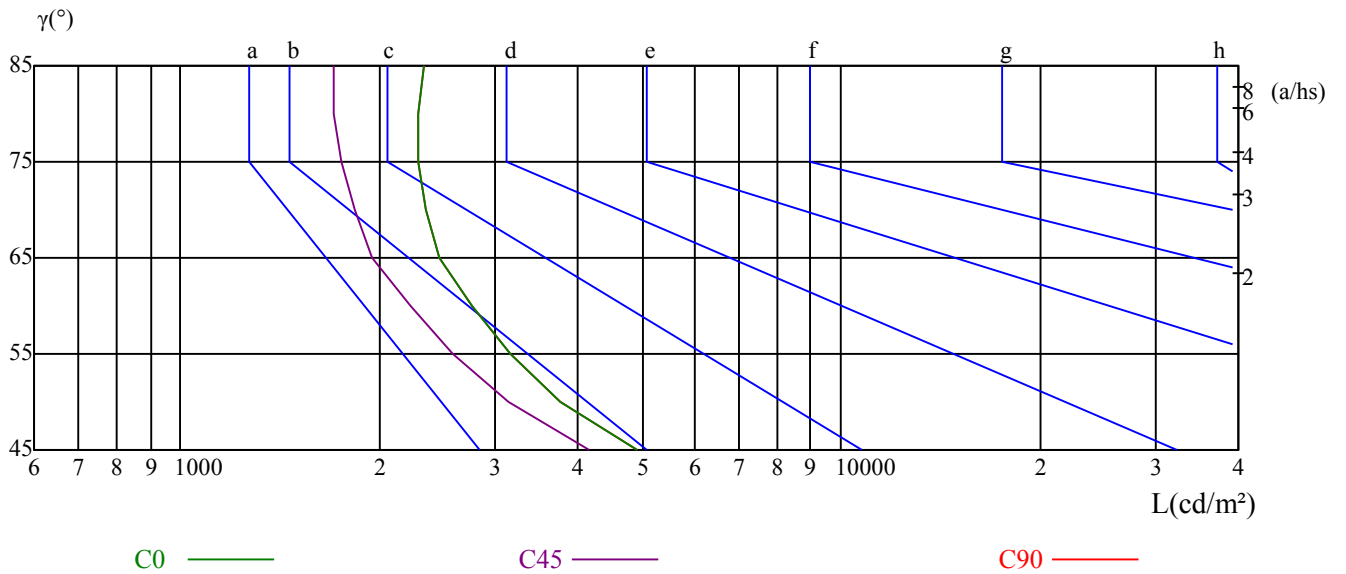
$\gamma$	45	50	55	60	65	70	75	80	85
C0	4917	3770	3151	2759	2462	2351	2291	2290	2335
C45	4161	3142	2586	2228	1955	1832	1750	1711	1701
C90	4917	3770	3151	2759	2462	2351	2291	2290	2335

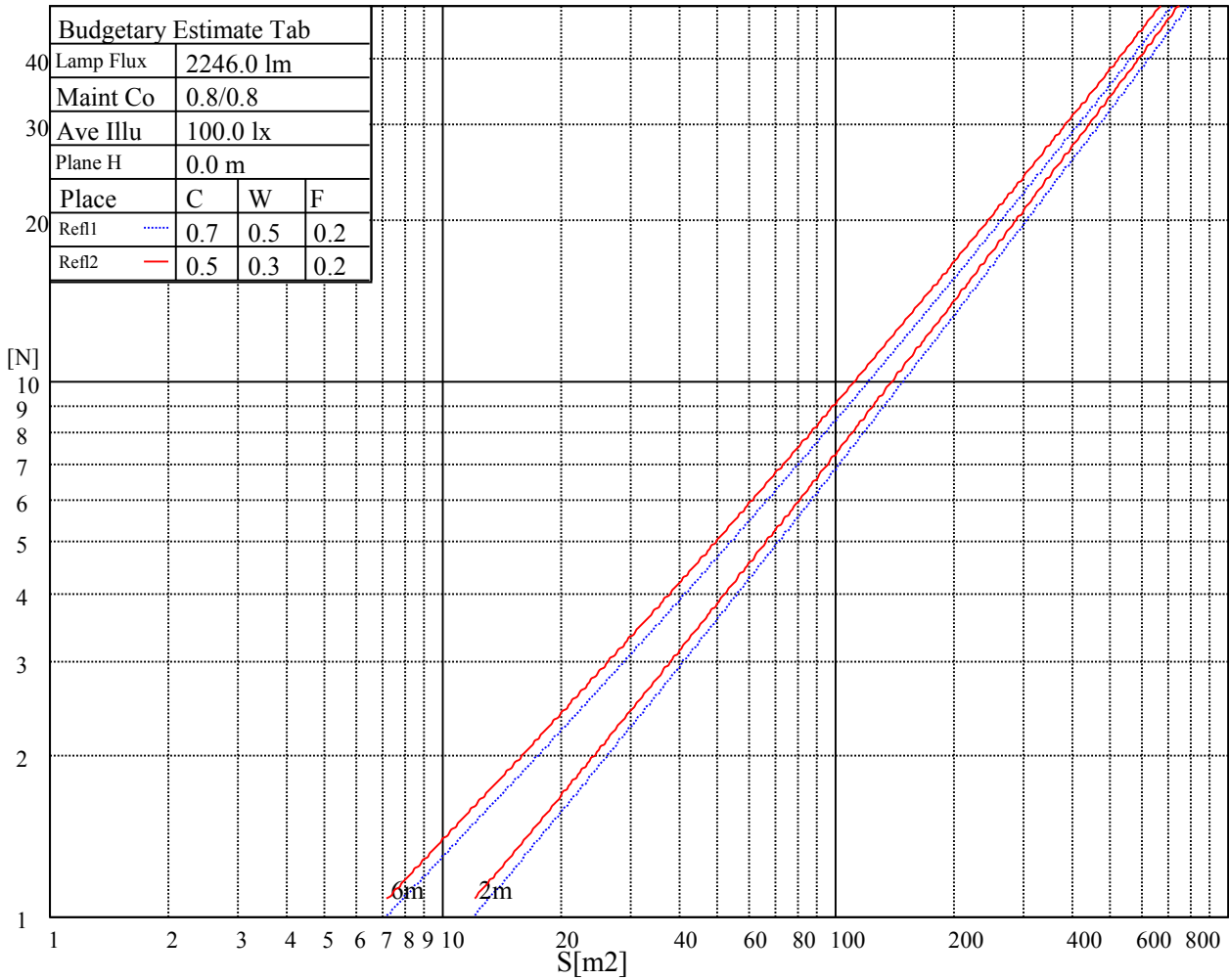
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6594	6594	6594	8981	8981	8981	23219	23219	23219

Glare Table

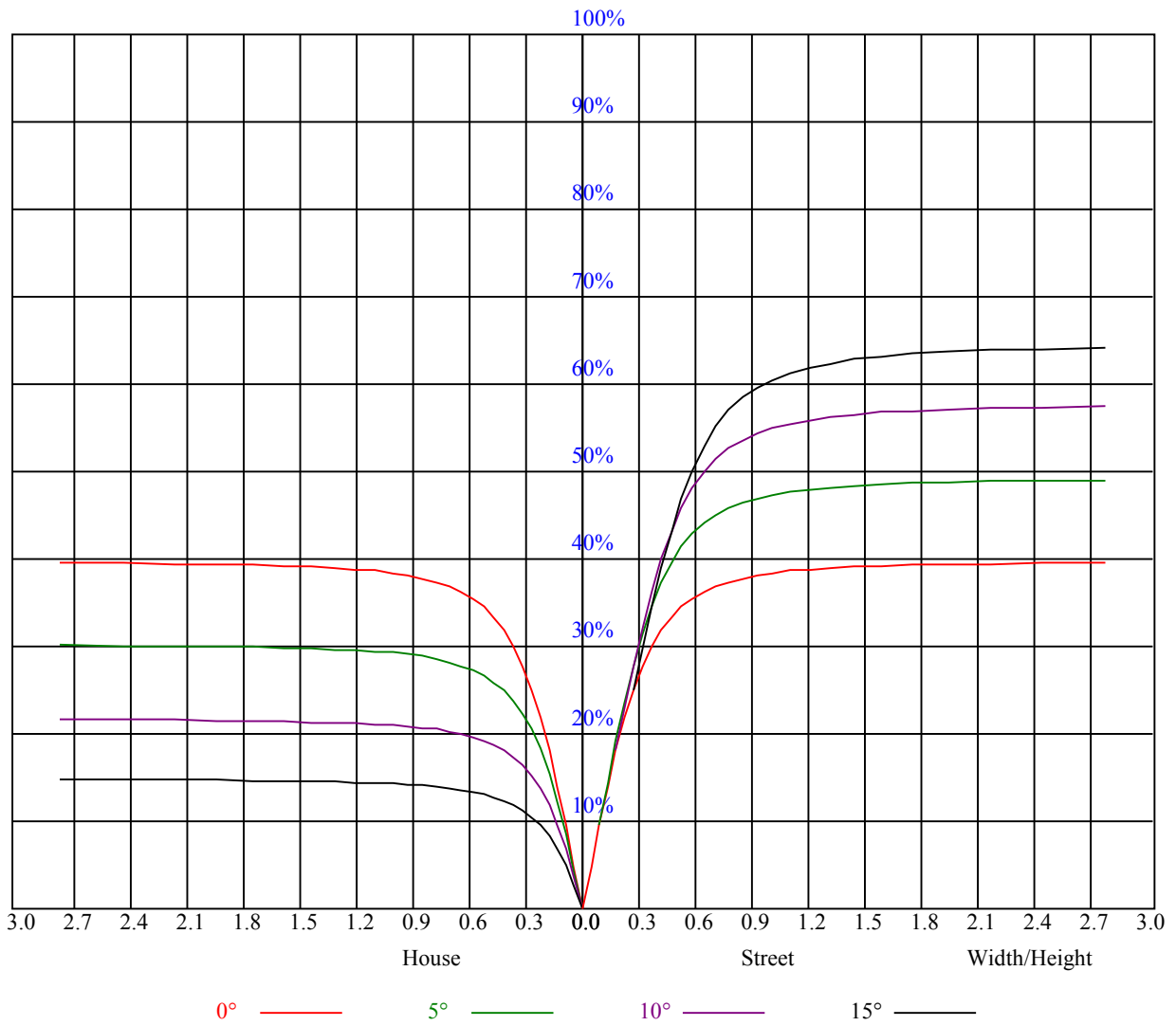
Glare	Quality	Service Values Illuminance(lx)							
		a	b	c	d	e	f	g	h
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.96	0.96	0.96	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.82	0.82	0.82	0.81
1	0.88	0.86	0.84	0.87	0.85	0.83	0.83	0.82	0.80	0.80	0.79	0.78	0.78	0.77	0.76	0.74
2	0.83	0.80	0.77	0.82	0.79	0.76	0.79	0.77	0.75	0.77	0.75	0.73	0.74	0.73	0.71	0.70
3	0.78	0.75	0.72	0.77	0.74	0.71	0.75	0.72	0.70	0.73	0.71	0.69	0.71	0.69	0.68	0.67
4	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.66	0.70	0.67	0.65	0.69	0.66	0.64	0.63
5	0.71	0.67	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.67	0.64	0.62	0.66	0.64	0.62	0.60
6	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.58
7	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.60	0.57	0.62	0.59	0.57	0.61	0.59	0.56	0.55
8	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.54	0.59	0.56	0.54	0.53
9	0.60	0.56	0.53	0.59	0.55	0.53	0.59	0.55	0.53	0.58	0.55	0.52	0.57	0.54	0.52	0.51
10	0.58	0.54	0.51	0.57	0.53	0.51	0.57	0.53	0.51	0.56	0.53	0.51	0.55	0.53	0.50	0.50



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	4063.16	3769.16	3082.61	2356.96	1520.11	806.03	448.16	288.50	190.44
45.0	4063.71	3807.70	3100.78	2331.64	1555.89	850.07	471.28	295.10	196.44
90.0	4054.90	3712.45	2979.65	2258.41	1490.38	747.78	447.94	281.45	191.49
135.0	4057.66	3848.44	3220.25	2473.13	1768.41	994.32	524.14	331.44	222.21
180.0	4063.16	3814.86	3101.33	2396.61	1710.60	952.37	505.42	316.24	216.48
225.0	4063.71	3735.58	3042.42	2306.31	1567.46	865.54	467.59	295.43	204.97
270.0	4054.90	3839.08	3253.83	2492.95	1706.75	970.64	510.92	317.12	211.69
315.0	4057.66	3766.41	3049.02	2214.92	1465.60	759.78	426.14	274.24	186.42
360.0	4063.16	3769.16	3082.61	2356.96	1520.11	806.03	448.16	288.50	190.44
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	118.98	75.76	43.00	26.70	20.21	16.96	13.98	11.67	8.97
45.0	126.85	76.03	44.10	28.19	20.37	17.12	14.20	11.78	9.08
90.0	120.35	71.96	41.40	26.59	20.04	16.96	13.82	11.45	9.03
135.0	141.88	86.93	49.99	30.06	20.92	17.67	14.59	11.89	9.19
180.0	137.53	79.17	47.51	28.74	20.59	17.45	14.37	11.67	9.30
225.0	129.55	76.14	44.87	27.42	20.32	16.90	14.31	11.67	9.41
270.0	136.26	81.76	48.67	29.79	21.20	17.78	14.87	12.28	9.74
315.0	114.63	71.30	41.68	26.15	20.04	16.79	13.93	11.40	9.14
360.0	118.98	75.76	43.00	26.70	20.21	16.96	13.98	11.67	8.97
C/ $\gamma$ (°)	90.0								
0.0	7.54								
45.0	7.60								
90.0	7.60								
135.0	7.60								
180.0	7.54								
225.0	7.60								
270.0	7.60								
315.0	7.54								
360.0	7.54								