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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: GC2018062106  
LampCAT: NICHIA NFCW108B-V3  
Lamp flux(lm): 2292.0  
Number of Lamps: 1  
Length(mm): 86  
Phm Type: C

Voltage(V): 33.6000  
Current(A): 0.5000  
Power (W): 16.8000  
PF: 0.0000  
Ballast type: DC  
Width(mm): 86  
Height(mm): 0

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## Photometric Results

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Lumens(lm): 1766.41  
Efficiency(%): 77.07%  
Lumens(lm)/Power(W): 105.14  
Central intensity(cd): 3976.173  
Maximum intensity(cd): 3976.173  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=34.8  
                                  [C90/270]Total=34.8  
Field angle(10%Imax): [C0/180]Total=64.4  
                                  [C90/270]Total=64.4  
Beam angle of C0 plane : 34.77  
Aveage BeamAngle(IEC 61341):34.77  
Maximum s/h(1/2): C0\_180=0.57 C90\_270=0.57  
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(%): 78.03%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 96.559%

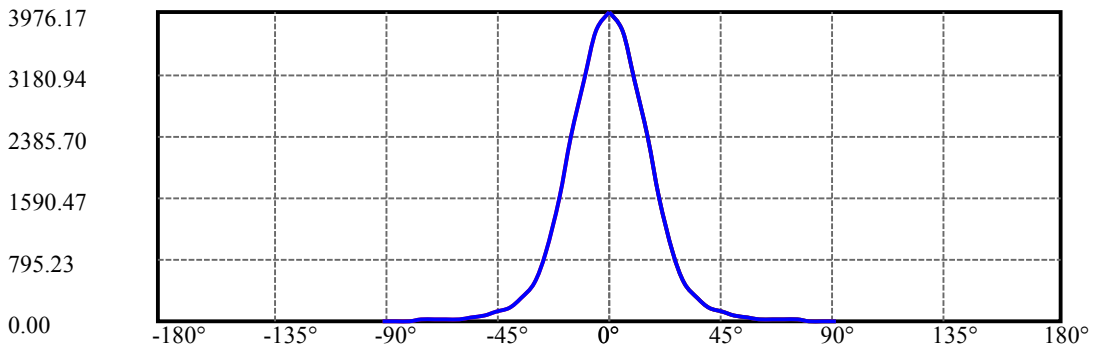
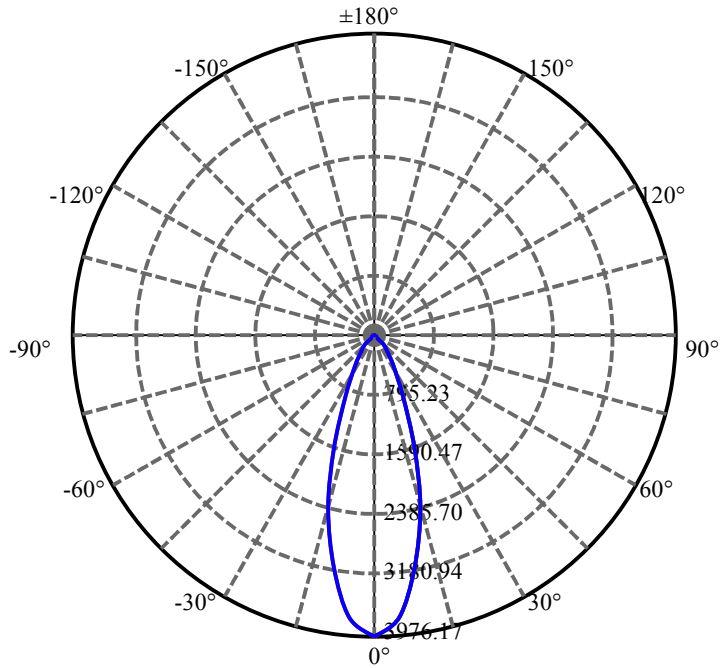
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3976.173	23.778	23.778	1.037%	1.346%
5.0	3728.695	178.132	201.91	7.772%	11.431%
10.0	3100.914	295.154	497.065	12.877%	28.140%
15.0	2359.786	334.779	831.844	14.606%	47.092%
20.0	1581.144	296.423	1128.267	12.933%	63.874%
25.0	889.422	206.037	1334.305	8.989%	75.538%
30.0	481.888	132.070	1466.375	5.762%	83.015%
35.0	290.567	91.354	1557.729	3.986%	88.186%
40.0	180.365	63.549	1621.278	2.773%	91.784%
45.0	113.574	44.021	1665.299	1.921%	94.276%
50.0	70.796	29.727	1695.025	1.297%	95.959%
55.0	42.490	19.078	1714.104	.832%	97.039%
60.0	27.081	12.855	1726.959	.561%	97.767%
65.0	19.896	9.884	1736.843	.431%	98.326%
70.0	16.902	8.706	1745.549	.380%	98.819%
75.0	14.081	7.455	1753.004	.325%	99.241%
80.0	11.631	6.278	1759.283	.274%	99.597%
85.0	9.194	5.021	1764.303	.219%	99.881%
90.0	7.673	2.103	1766.406	.092%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1466.38	63.98%	83.01%
0-40	1621.28	70.74%	91.78%
0-60	1726.96	75.35%	97.77%
0-90	1764.30	76.98%	99.88%
0-120	1764.30	76.98%	99.88%
0-180	1766.41	77.07%	100.00%
60-90	50.20	2.19%	2.84%
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%
0-27.98	1413.13	61.65%	80.00%

ZONAL LUMEN SUMMARY

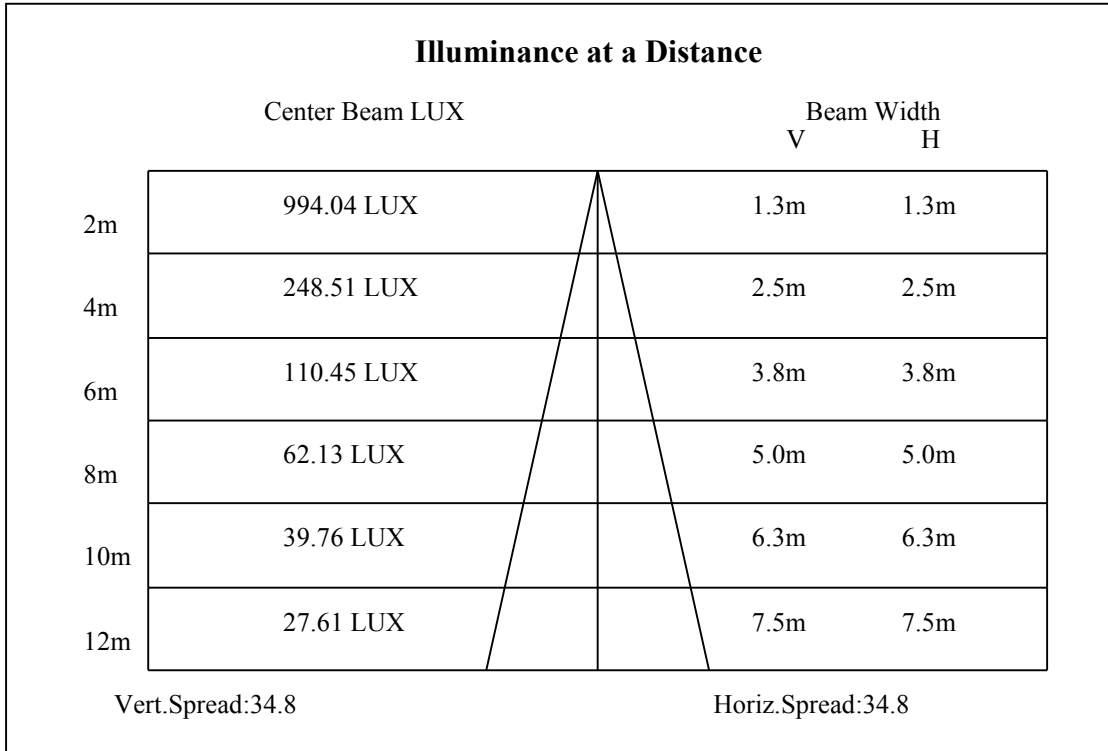
0-10	497.06
10-20	631.20
20-30	338.11
30-40	154.90
40-50	73.75
50-60	31.93
60-70	18.59
70-80	13.73
80-90	5.02
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

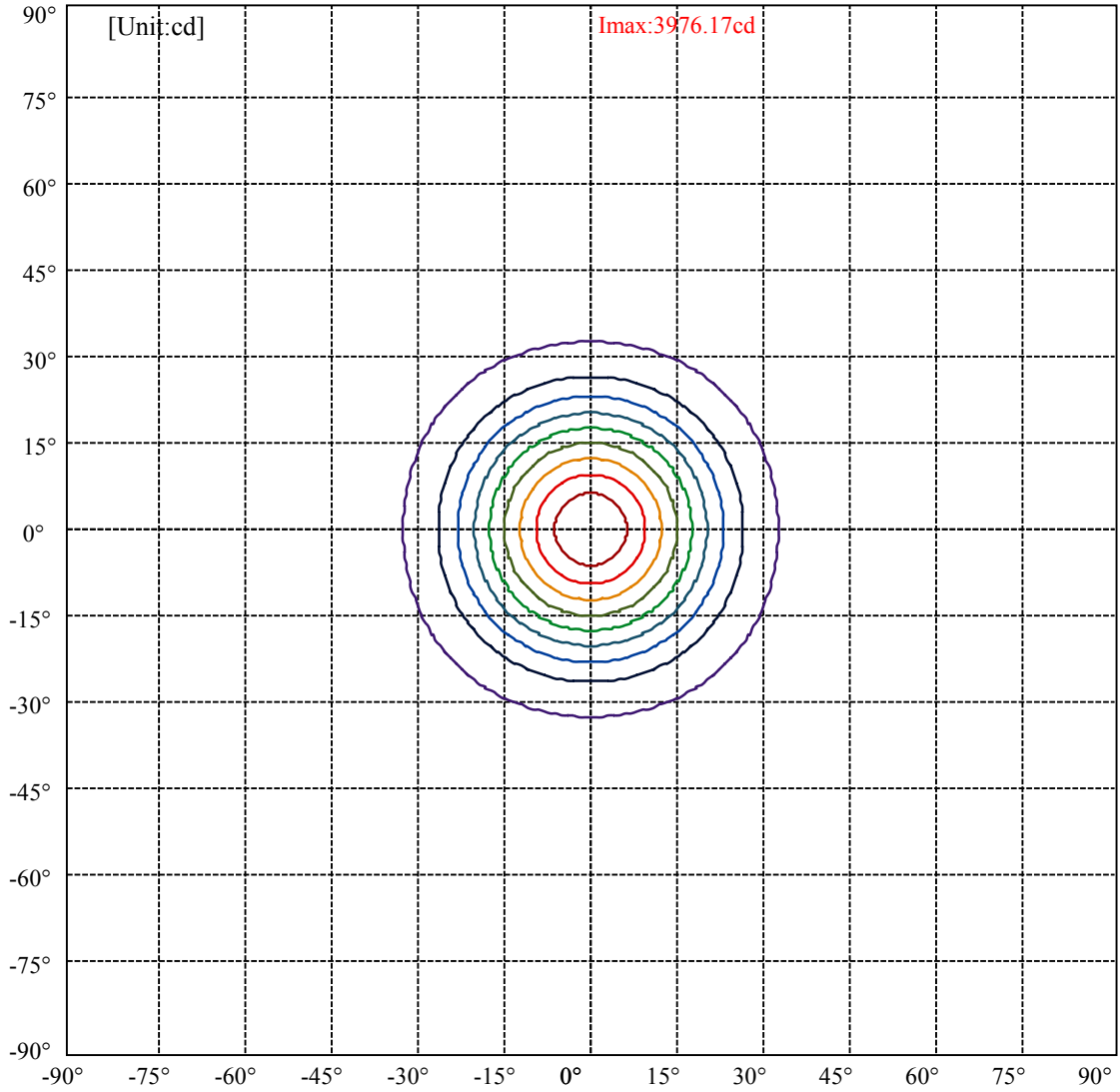


C0(Max): —————  
C0/C180: —————  
C90/C270: —————

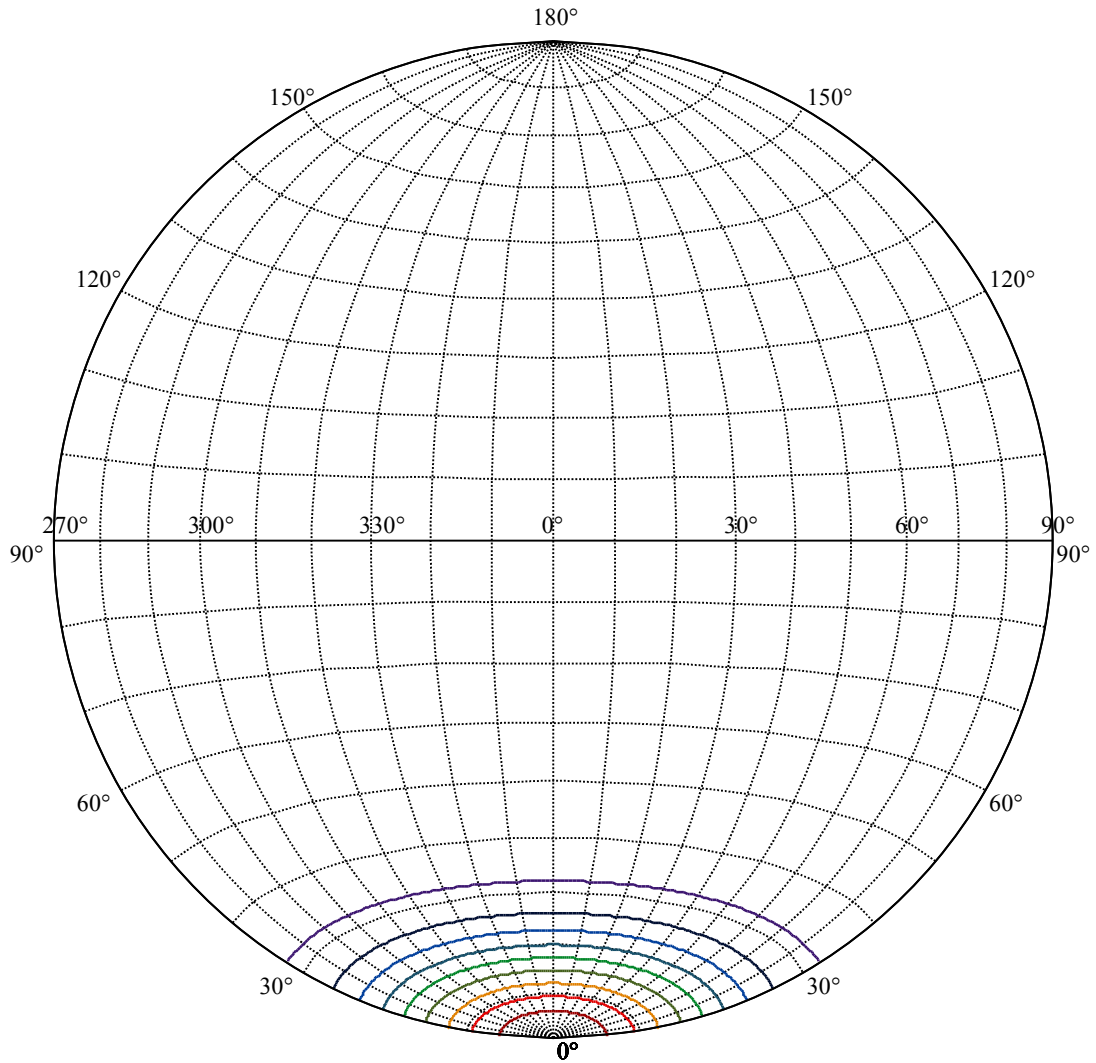
Field angle(10%Imax):C0/180Left:32.2 Right:32.2  
:C90/270Left:32.2 Right:32.2

Beam Angle(50%Imax):C0/180Left:17.4 Right:17.4  
:C90/270Left:17.4 Right:17.4





(10%Imax) 397.617	—
(20%Imax) 795.235	—
(30%Imax) 1192.85	—
(40%Imax) 1590.47	—
(50%Imax) 1988.09	—
(60%Imax) 2385.7	—
(70%Imax) 2783.32	—
(80%Imax) 3180.94	—
(90%Imax) 3578.56	—



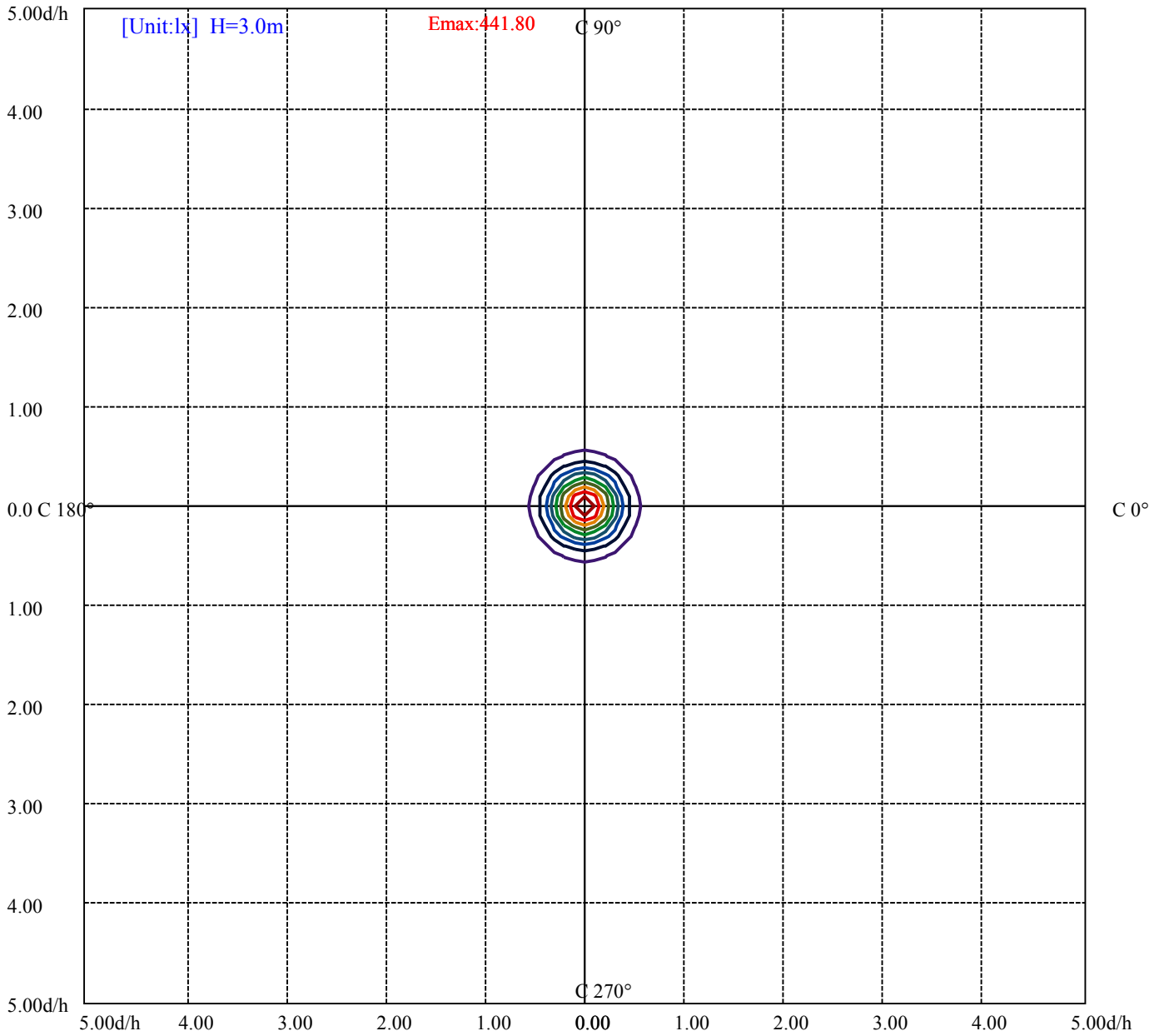
House

[Unit:cd]

Road

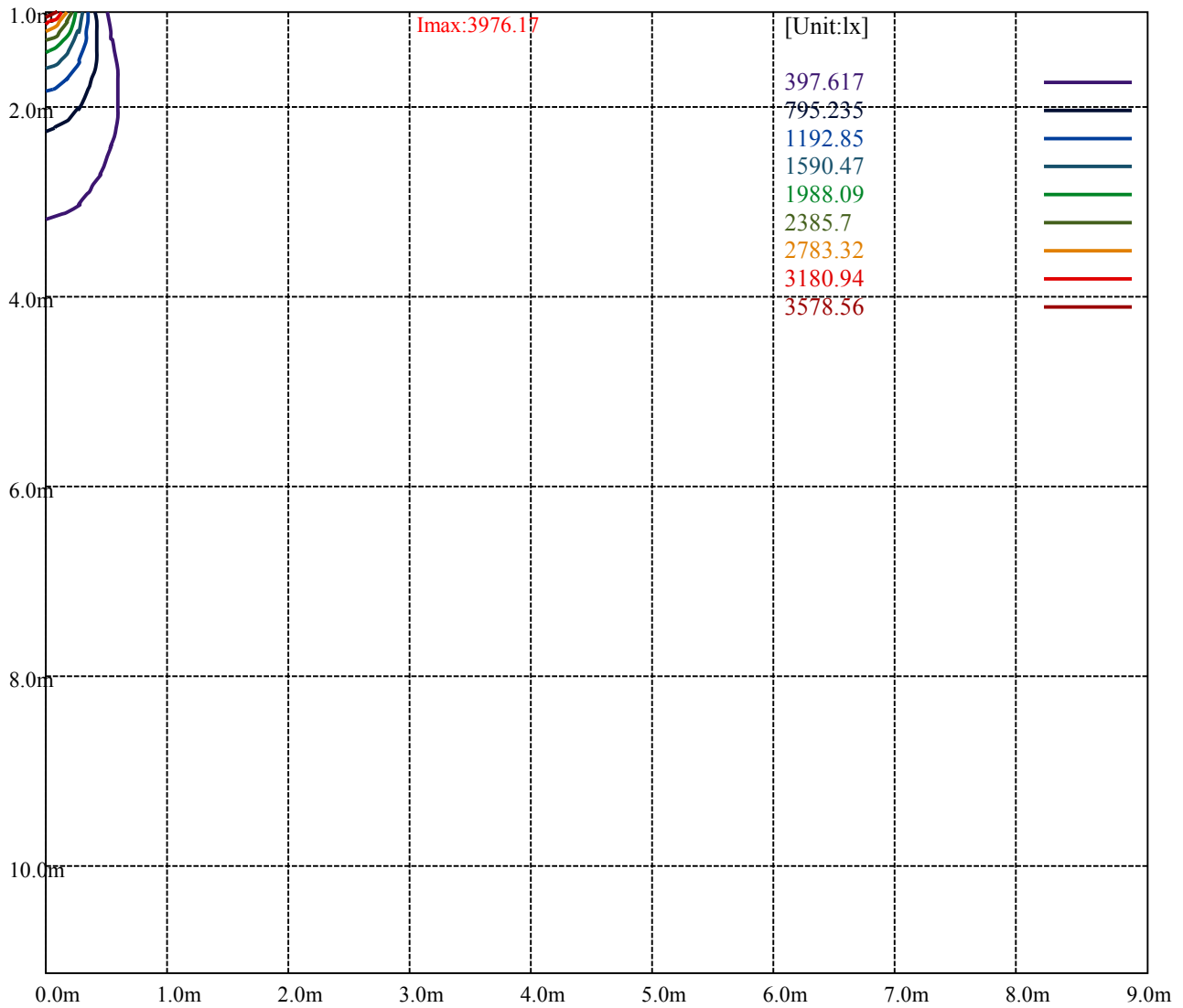
**Imax:3976.17**

(10%Imax) 397.617	—
(20%Imax) 795.235	—
(30%Imax) 1192.85	—
(40%Imax) 1590.47	—
(50%Imax) 1988.09	—
(60%Imax) 2385.7	—
(70%Imax) 2783.32	—
(80%Imax) 3180.94	—
(90%Imax) 3578.56	—



- (10%Emax) 44.17967
- (20%Emax) 88.35922
- (30%Emax) 132.5389
- (40%Emax) 176.7189
- (50%Emax) 220.8978
- (60%Emax) 265.0778
- (70%Emax) 309.2578
- (80%Emax) 353.4366
- (90%Emax) 397.6167





Luminance Table

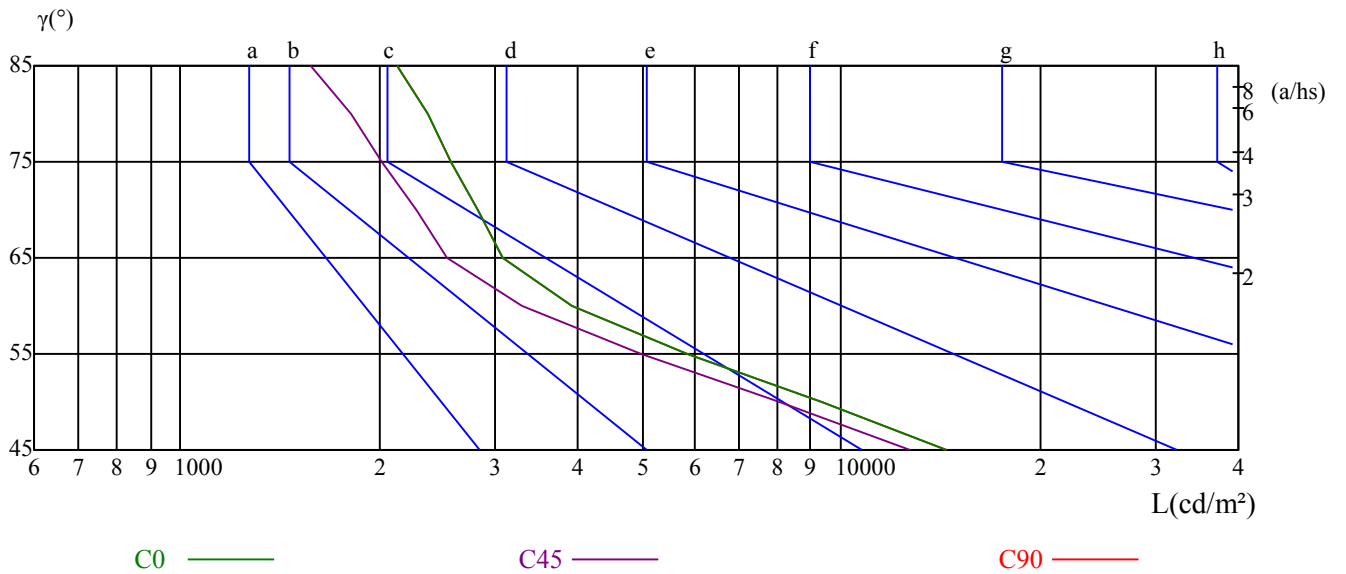
$\gamma$	45	50	55	60	65	70	75	80	85
C0	14478	9331	5843	3924	3072	2815	2567	2361	2124
C45	12721	8081	4983	3292	2530	2271	2021	1808	1570
C90	14478	9331	5843	3924	3072	2815	2567	2361	2124

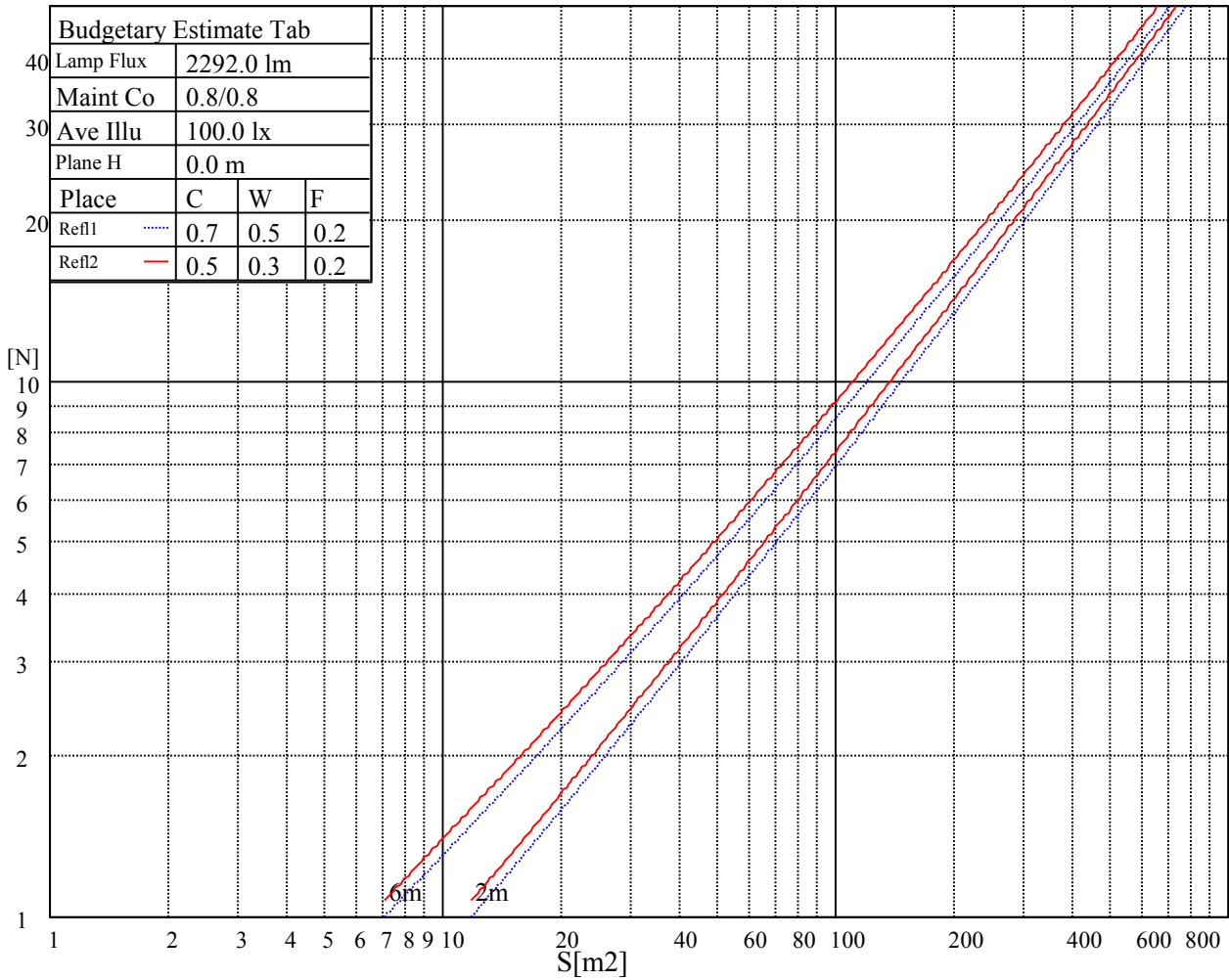
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6365	6365	6365	7356	7356	7356	14264	14264	14264

Glare Table

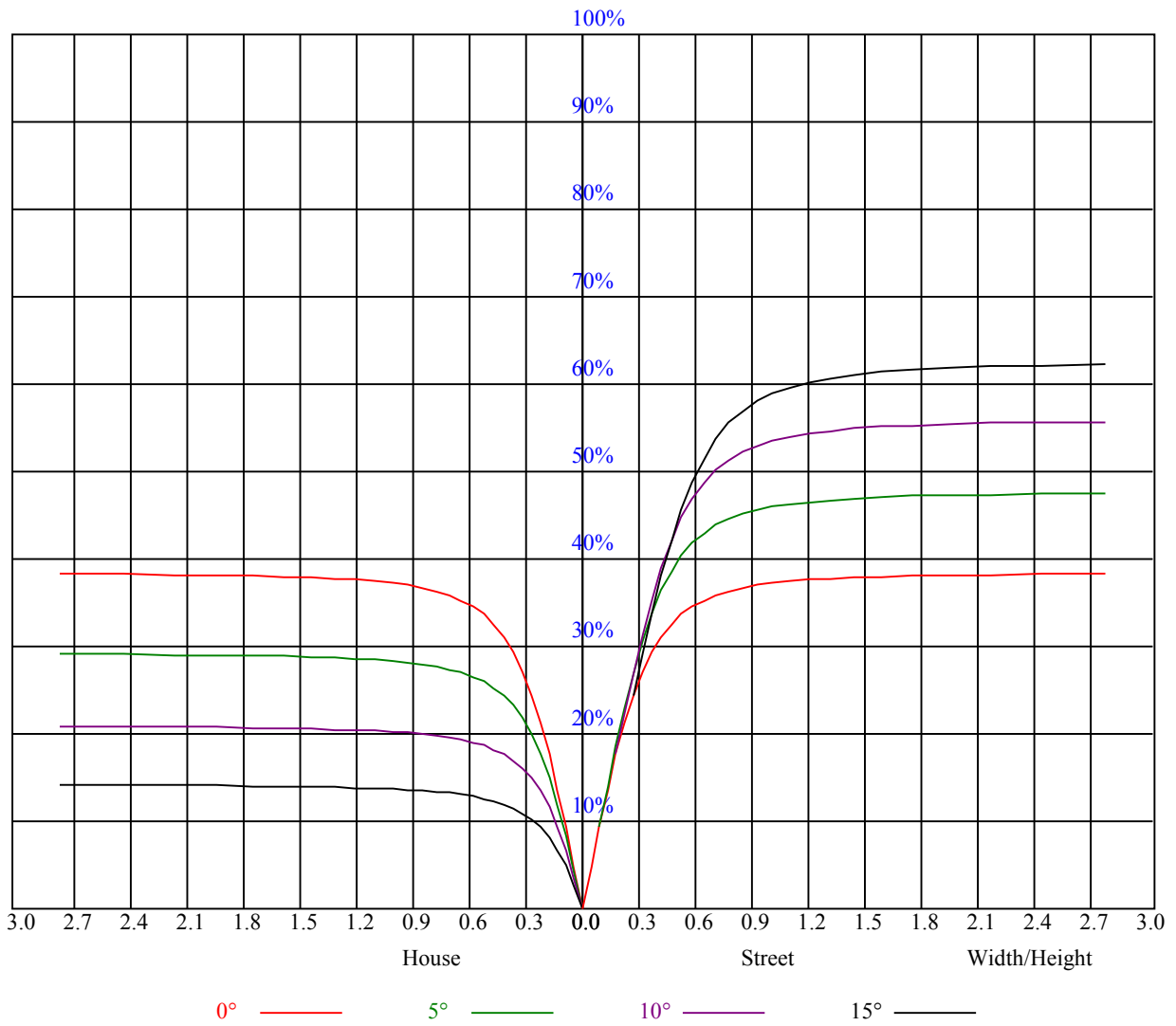
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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



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	3989.39	3786.23	3170.70	2396.61	1666.01	931.55	487.80	290.15	180.47
45.0	3980.58	3527.46	2815.58	2090.49	1352.19	695.91	403.01	280.79	151.79
90.0	3947.54	3472.41	2777.60	2017.82	1079.05	665.47	377.63	231.07	142.32
135.0	3987.18	3708.60	3105.18	2370.73	1653.34	886.96	469.08	278.03	178.99
180.0	3989.39	3726.22	3079.30	2337.69	1607.65	861.08	457.63	282.77	181.30
225.0	3980.58	3920.02	3351.28	2614.63	1831.73	1061.27	587.89	344.65	220.34
270.0	3947.54	3908.45	3389.27	2625.09	1861.46	1146.82	592.96	338.60	213.01
315.0	3987.18	3780.17	3118.39	2425.23	1597.74	866.31	479.10	278.48	174.69
360.0	3989.39	3786.23	3170.70	2396.61	1666.01	931.55	487.80	290.15	180.47
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	113.91	73.94	44.65	28.24	20.21	17.18	14.26	11.84	9.19
45.0	98.00	59.30	35.18	23.51	18.72	15.91	13.05	10.74	8.31
90.0	92.71	56.82	33.58	22.79	18.61	15.80	13.16	10.85	8.37
135.0	111.27	67.88	41.29	25.82	19.60	16.74	13.87	11.45	8.97
180.0	112.48	68.88	41.46	25.99	19.38	16.52	13.65	11.18	9.03
225.0	137.53	84.79	50.98	31.16	21.20	17.95	15.03	12.39	10.08
270.0	133.68	84.35	50.21	32.04	21.42	18.11	15.36	12.77	10.13
315.0	109.01	70.42	42.56	27.09	20.04	17.01	14.26	11.84	9.47
360.0	113.91	73.94	44.65	28.24	20.21	17.18	14.26	11.84	9.19
C/ $\gamma$ (°)	90.0								
0.0	7.54								
45.0	7.60								
90.0	7.60								
135.0	7.54								
180.0	7.49								
225.0	7.98								
270.0	7.93								
315.0	7.71								
360.0	7.54								