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Nata

LumCAT: 2-1676-M
Luminaire: 92.70.135.00
Report No: NATA0100
Test No: GC2018062004
LampCAT: NICHIA NFCW108B-V3
Lamp flux(lm): 2255.0
Number of Lamps: 1
Length(mm): 70
Phm Type: C

Voltage(V): 33.9000
Current(A): 0.4900
Power (W): 16.6110
PF: 0.0000
Ballast type: DC
Width(mm): 70
Height(mm): 0

Photometric Results

Lumens(lm): 2013.11
Efficiency(%): 89.27%
Lumens(lm)/Power(W): 122.64
Central intensity(cd): 4353.310
Maximum intensity(cd): 4353.310
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=36.3
 [C90/270]Total=36.3
Field angle(10%Imax): [C0/180]Total=71.3
 [C90/270]Total=71.3
Maximum s/h(1/2): C0_180=0.60 C90_270=0.60
Maximum s/h(1/4): C0_180=0.59 C90_270=0.59
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.34%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.558%

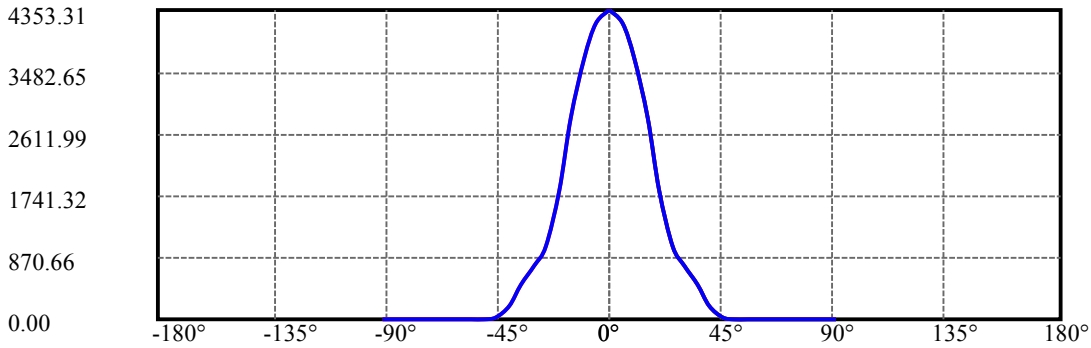
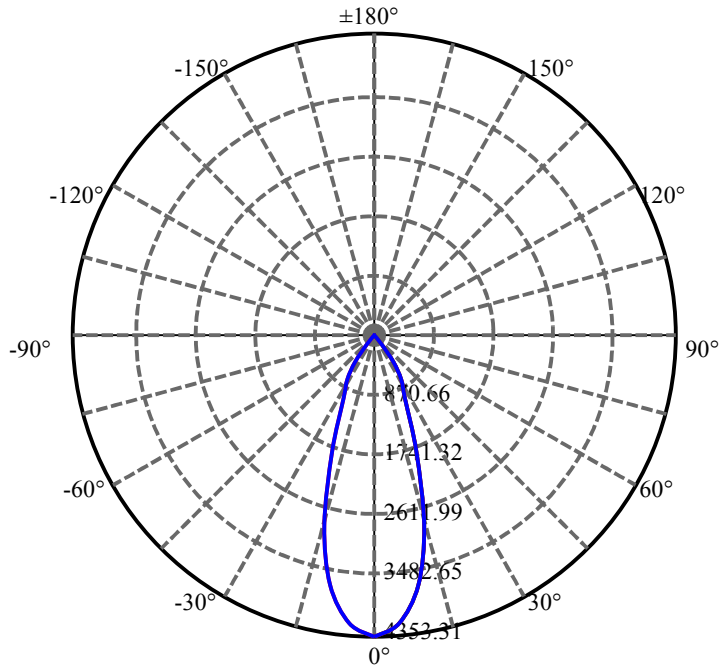
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4353.310	26.034	26.034	1.154%	1.293%
5.0	4171.211	199.273	225.306	8.837%	11.192%
10.0	3669.991	349.321	574.627	15.491%	28.544%
15.0	2829.417	401.405	976.032	17.801%	48.484%
20.0	1800.757	337.595	1313.627	14.971%	65.254%
25.0	1019.872	236.256	1549.883	10.477%	76.989%
30.0	748.664	205.185	1755.069	9.099%	87.182%
35.0	473.857	148.980	1904.049	6.607%	94.582%
40.0	182.450	64.284	1968.332	2.851%	97.776%
45.0	15.457	5.991	1974.323	.266%	98.073%
50.0	10.344	4.343	1978.667	.193%	98.289%
55.0	9.717	4.363	1983.03	.193%	98.506%
60.0	9.366	4.446	1987.476	.197%	98.727%
65.0	9.119	4.530	1992.006	.201%	98.952%
70.0	8.967	4.619	1996.625	.205%	99.181%
75.0	8.823	4.671	2001.296	.207%	99.413%
80.0	8.740	4.718	2006.014	.209%	99.647%
85.0	8.665	4.731	2010.746	.210%	99.883%
90.0	8.630	2.365	2013.111	.105%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1755.07	77.83%	87.18%
0-40	1968.33	87.29%	97.78%
0-60	1987.48	88.14%	98.73%
0-90	2010.75	89.17%	99.88%
0-120	2010.75	89.17%	99.88%
0-180	2013.11	89.27%	100.00%
60-90	27.72	1.23%	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%
0-26.48	1610.49	71.42%	80.00%

ZONAL LUMEN SUMMARY

0-10	574.63
10-20	739.00
20-30	441.44
30-40	213.26
40-50	10.33
50-60	8.81
60-70	9.15
70-80	9.39
80-90	4.73
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: —————

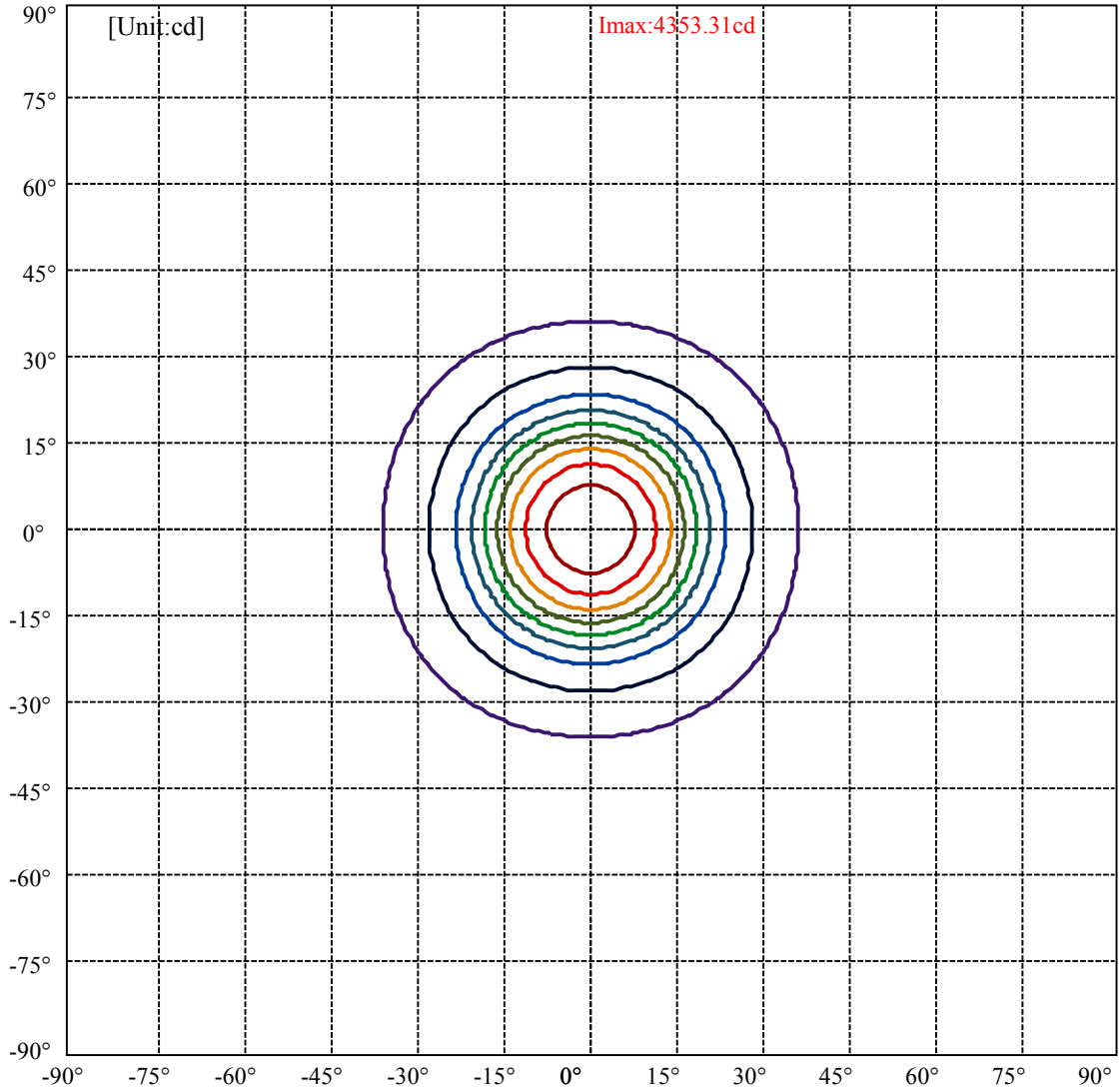
C90/C270: —————

Field angle(10%Imax):C0/180Left:35.7 Right:35.7

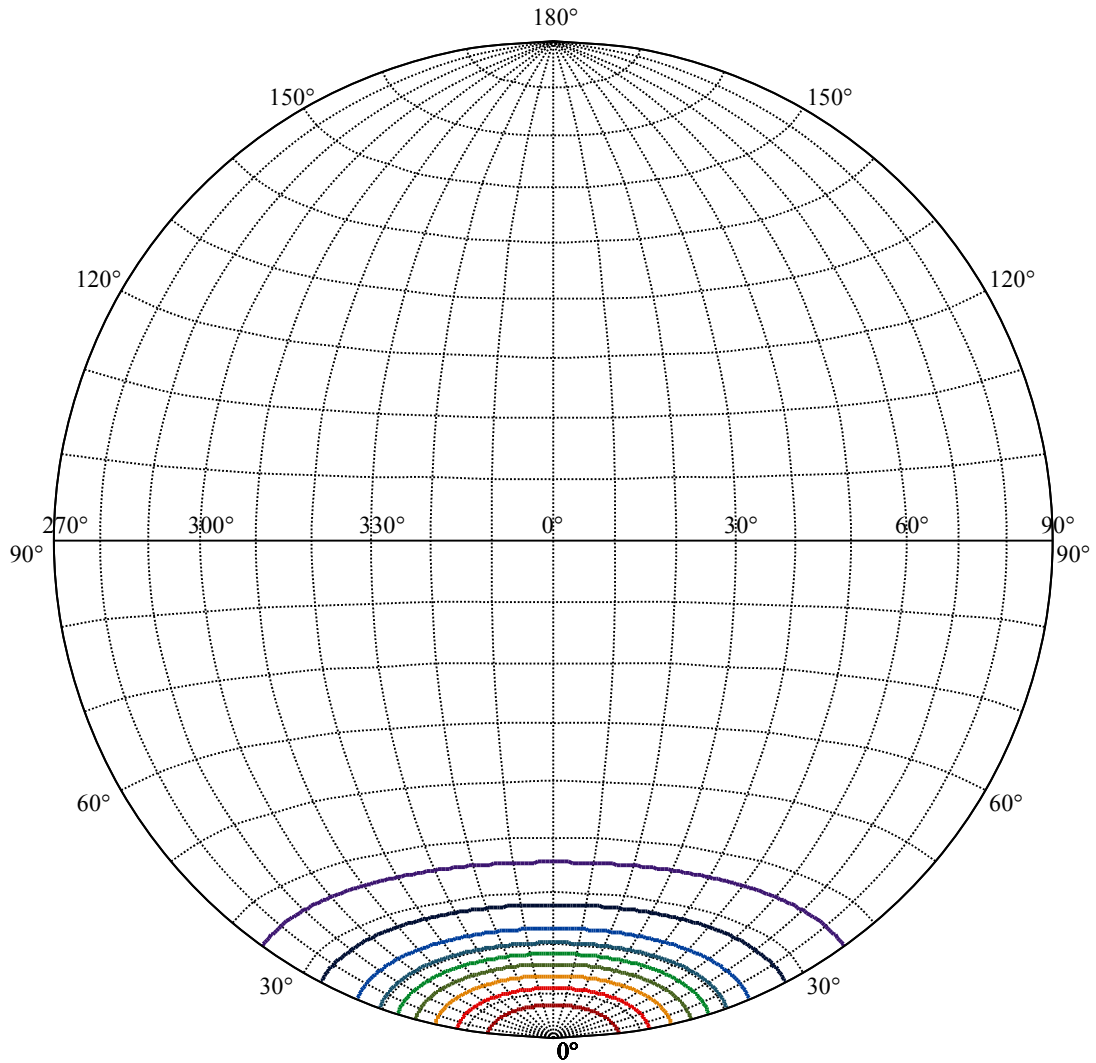
:C90/270Left:35.7 Right:35.7

Beam Angle(50%Imax):C0/180Left:18.2 Right:18.2

:C90/270Left:18.2 Right:18.2



(10%Imax) 435.331	—
(20%Imax) 870.662	—
(30%Imax) 1305.99	—
(40%Imax) 1741.32	—
(50%Imax) 2176.65	—
(60%Imax) 2611.99	—
(70%Imax) 3047.32	—
(80%Imax) 3482.65	—
(90%Imax) 3917.98	—



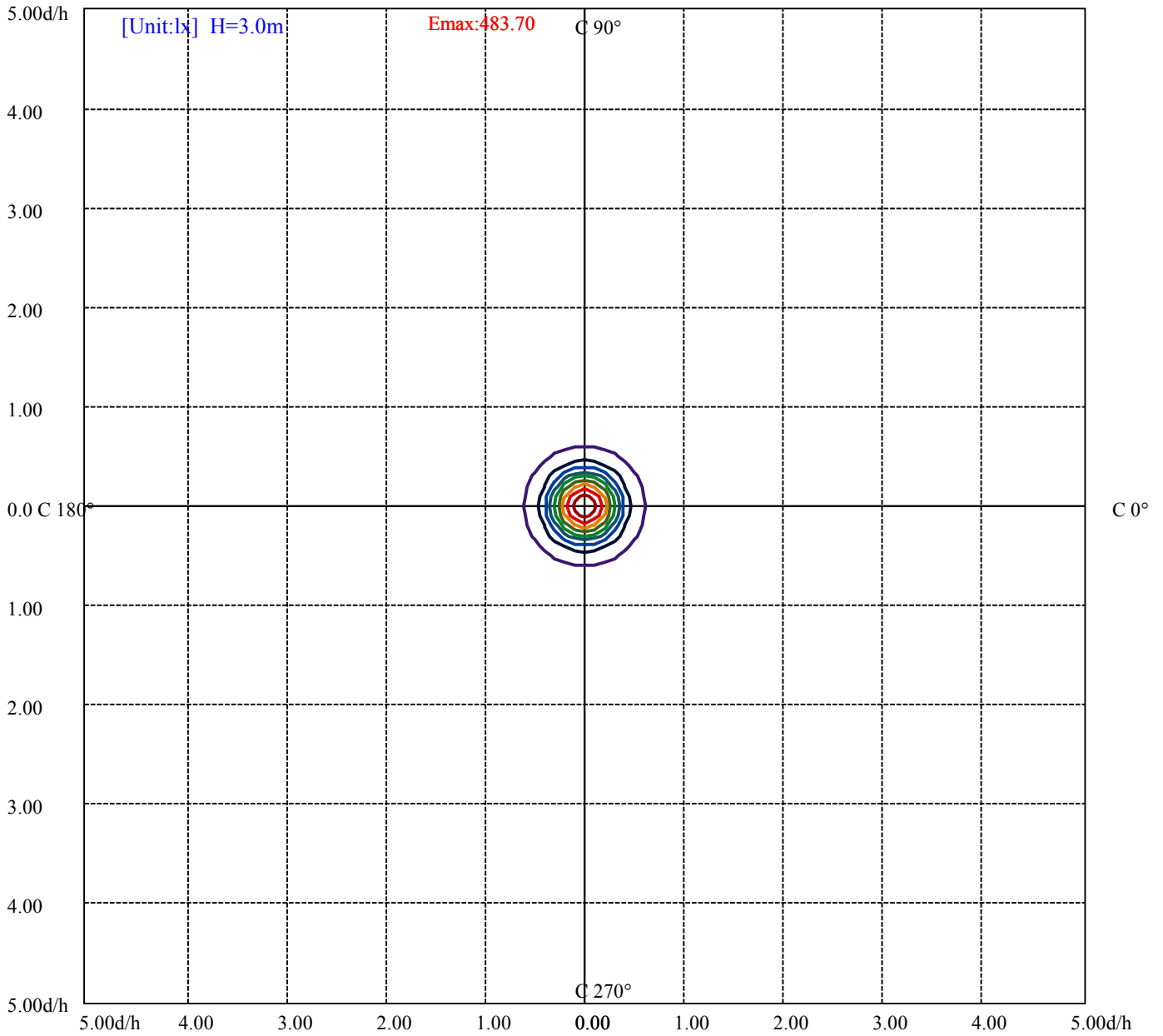
House

[Unit:cd]

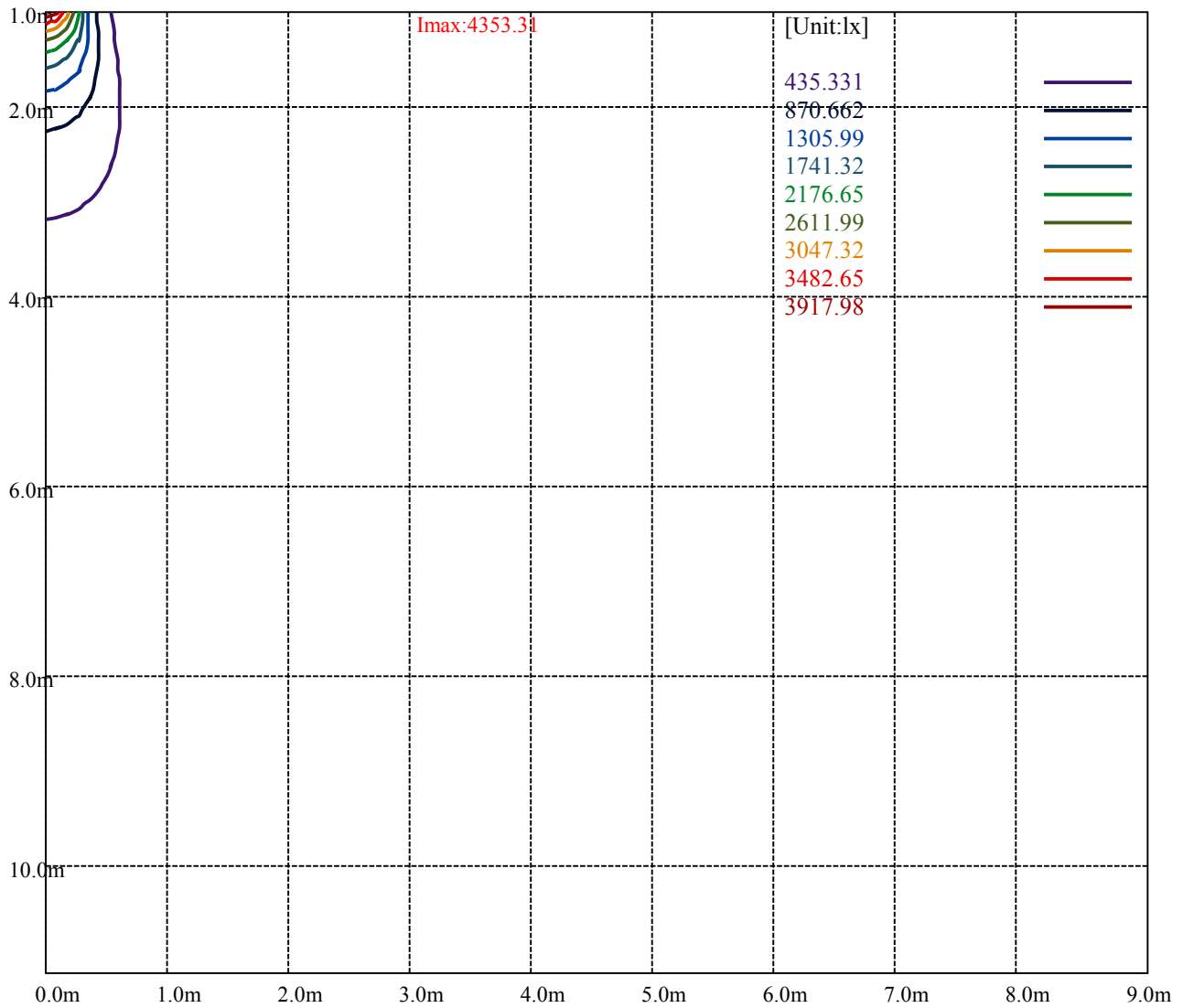
Road

Imax:4353.31

(10%Imax)	435.331	—
(20%Imax)	870.662	—
(30%Imax)	1305.99	—
(40%Imax)	1741.32	—
(50%Imax)	2176.65	—
(60%Imax)	2611.99	—
(70%Imax)	3047.32	—
(80%Imax)	3482.65	—
(90%Imax)	3917.98	—



(10%Emax) 48.37	—
(20%Emax) 96.74011	—
(30%Emax) 145.11	—
(40%Emax) 193.48	—
(50%Emax) 241.85	—
(60%Emax) 290.22	—
(70%Emax) 338.59	—
(80%Emax) 386.96	—
(90%Emax) 435.33	—



Luminance Table

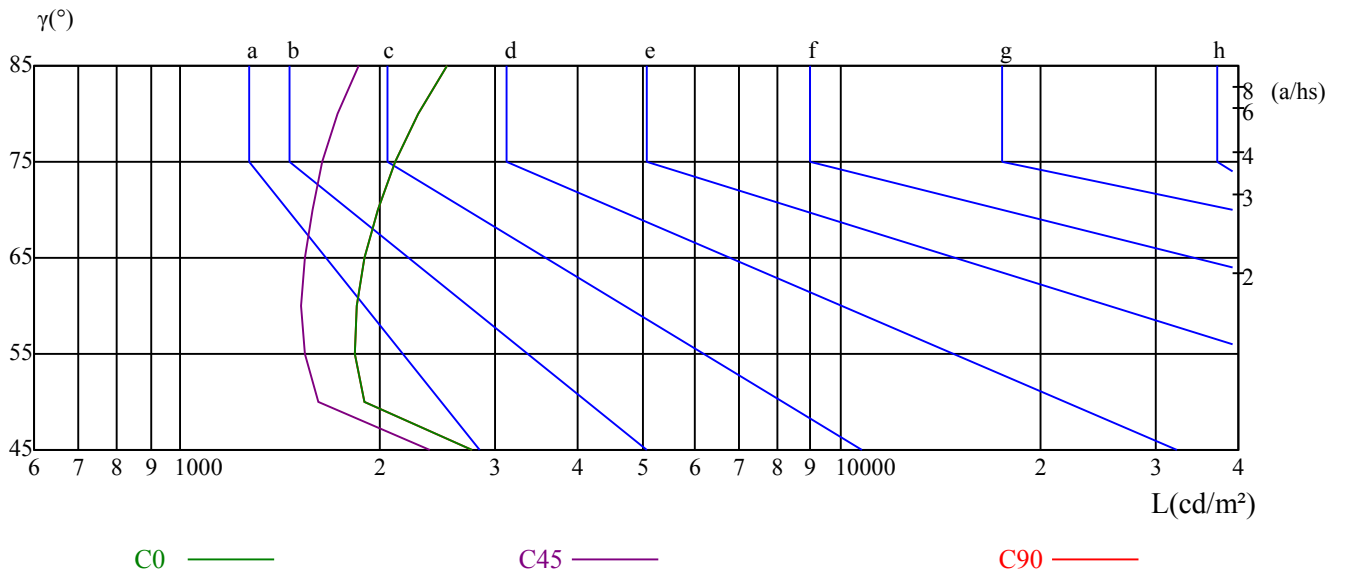
γ	45	50	55	60	65	70	75	80	85
C0	2764	1896	1842	1852	1900	1991	2113	2291	2529
C45	2387	1614	1543	1526	1538	1580	1640	1733	1856
C90	2764	1896	1842	1852	1900	1991	2113	2291	2529

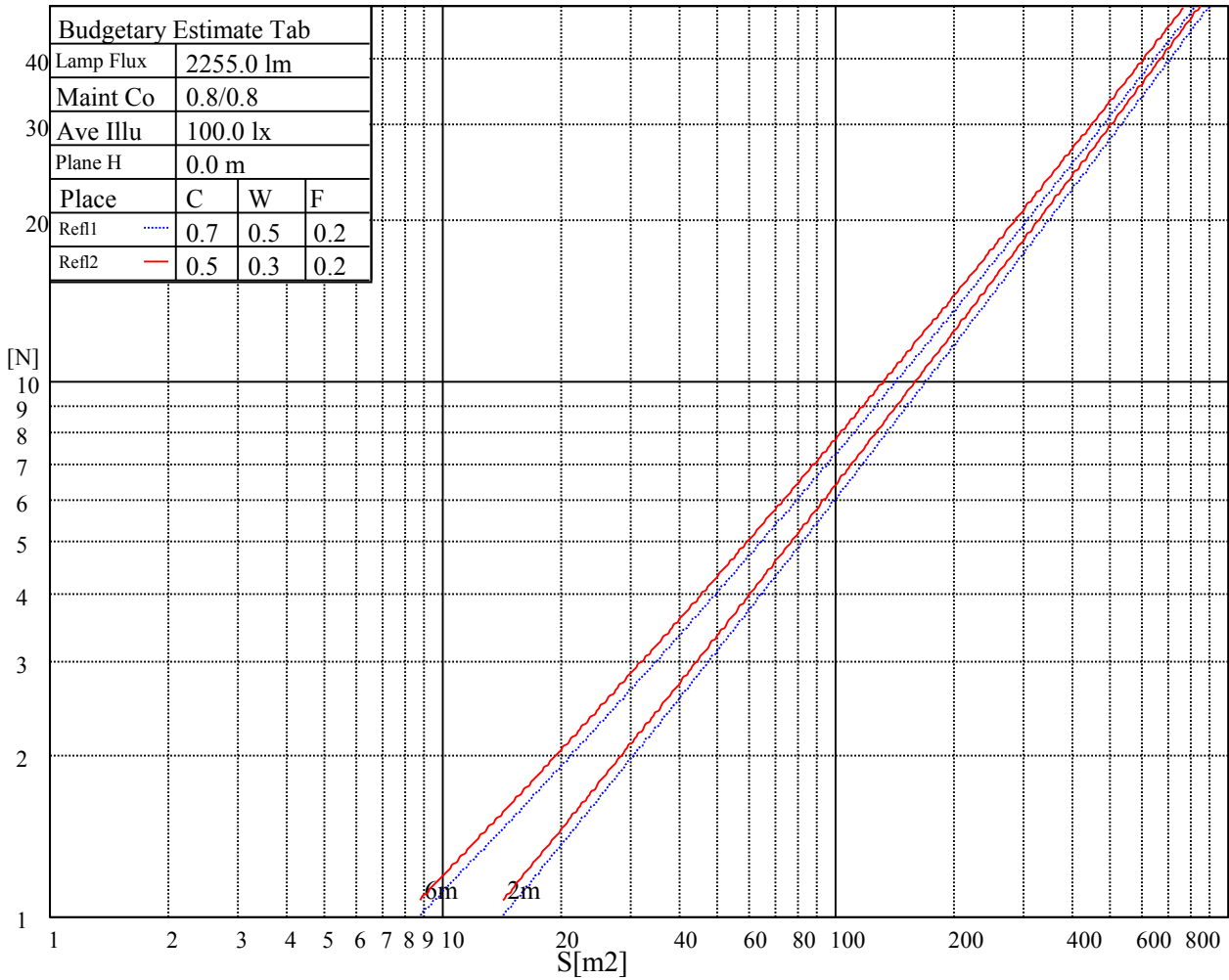
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4403	4403	4403	6957	6957	6957	20289	20289	20289

Glare Table

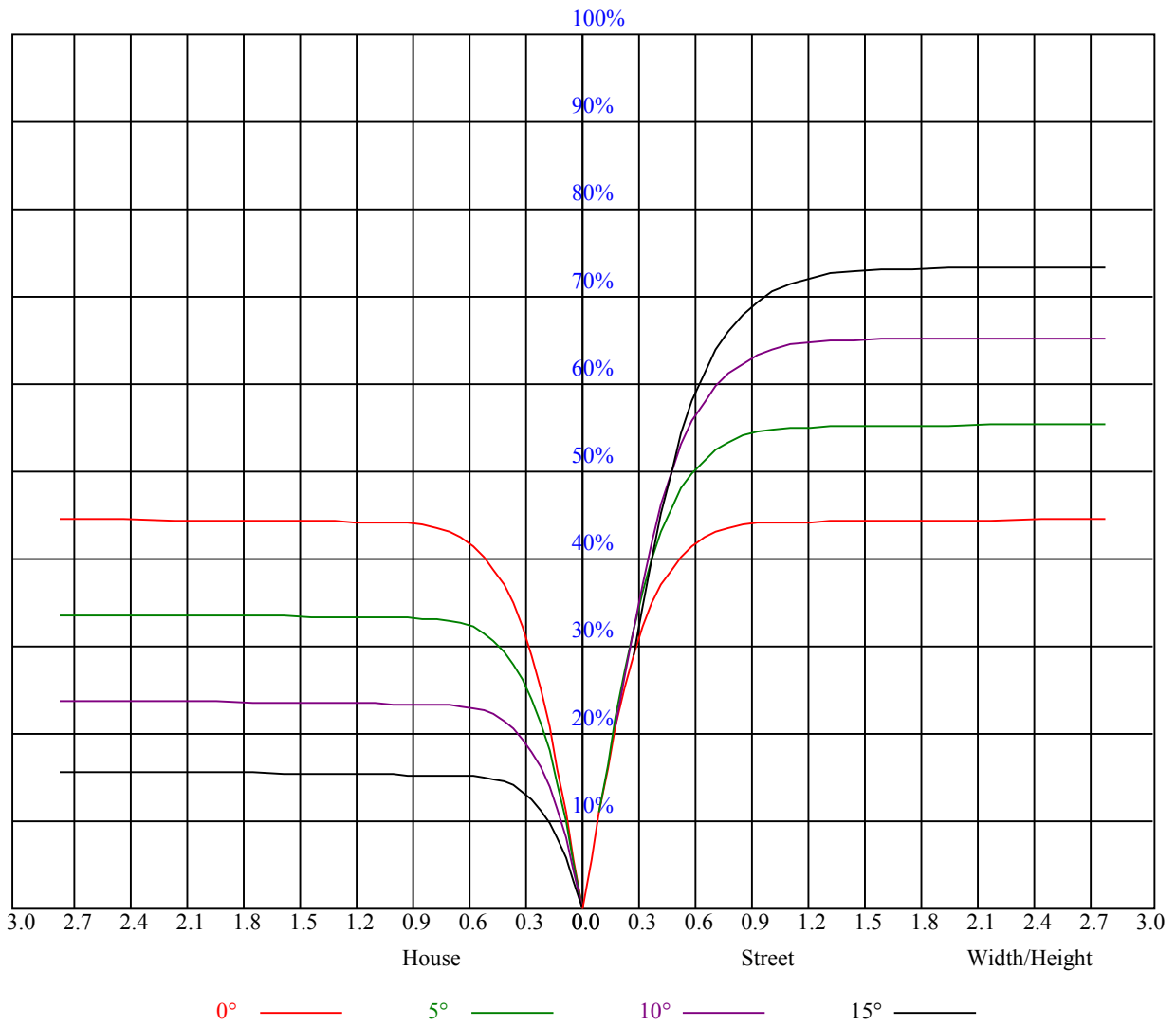
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.08	1.08	1.08	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	1.00	0.97	0.95	0.98	0.96	0.94	0.94	0.92	0.91	0.91	0.89	0.88	0.88	0.86	0.85	0.84
2	0.94	0.91	0.88	0.93	0.89	0.87	0.90	0.87	0.85	0.87	0.85	0.83	0.85	0.83	0.81	0.80
3	0.89	0.85	0.82	0.88	0.84	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.76
4	0.85	0.81	0.77	0.84	0.80	0.77	0.82	0.79	0.76	0.80	0.78	0.75	0.79	0.76	0.74	0.73
5	0.81	0.77	0.73	0.80	0.76	0.73	0.79	0.75	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.70
6	0.78	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.69	0.75	0.71	0.69	0.73	0.71	0.68	0.67
7	0.75	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.65
8	0.72	0.67	0.64	0.71	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.64	0.69	0.66	0.63	0.62
9	0.69	0.65	0.62	0.69	0.64	0.62	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.60
10	0.67	0.62	0.59	0.66	0.62	0.59	0.66	0.62	0.59	0.65	0.62	0.59	0.64	0.61	0.59	0.58



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	4337.89	4270.72	3844.59	3102.98	2094.35	1165.54	812.08	583.05	298.41
45.0	4358.26	4223.93	3710.25	2928.45	1838.33	1034.51	745.46	494.96	284.09
90.0	4357.71	4169.42	3610.60	2681.25	1629.67	946.25	713.86	418.81	106.70
135.0	4359.37	4182.08	3704.19	2833.20	1835.03	1024.60	748.77	480.64	182.57
180.0	4337.89	4033.98	3482.87	2538.65	1504.69	918.29	694.15	360.89	55.39
225.0	4358.26	4114.36	3619.41	2746.76	1731.52	972.13	742.33	450.03	122.56
270.0	4357.71	4193.10	3729.52	2960.38	1951.20	1081.86	785.65	529.09	289.60
315.0	4359.37	4182.08	3658.50	2843.66	1821.27	1015.79	747.01	473.37	120.30
360.0	4337.89	4270.72	3844.59	3102.98	2094.35	1165.54	812.08	583.05	298.41

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	19.77	10.52	9.74	9.36	9.14	8.92	8.81	8.70	8.64
45.0	15.58	10.24	9.69	9.36	9.14	8.97	8.86	8.75	8.64
90.0	13.49	10.30	9.74	9.41	9.14	9.03	8.86	8.81	8.75
135.0	14.59	10.52	9.86	9.47	9.19	9.03	8.86	8.75	8.64
180.0	12.55	10.13	9.63	9.36	9.08	8.97	8.81	8.70	8.64
225.0	15.20	10.24	9.63	9.30	9.03	8.92	8.75	8.70	8.64
270.0	17.40	10.46	9.74	9.36	9.14	8.97	8.86	8.81	8.75
315.0	15.09	10.35	9.69	9.30	9.08	8.92	8.75	8.70	8.59
360.0	19.77	10.52	9.74	9.36	9.14	8.92	8.81	8.70	8.64

C/γ(°)	90.0
0.0	8.59
45.0	8.64
90.0	8.59
135.0	8.64
180.0	8.70
225.0	8.64
270.0	8.64
315.0	8.59
360.0	8.59