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Nata

LumCAT: 2-1672-M
Luminaire: 92.70.135.00
Report No: NATA0100
Test No: GC2018070404
LampCAT: NICHIA NFCWD096B-V3
Lamp flux(lm): 2202.0
Number of Lamps: 1
Length(mm): 70
Phm Type: C

Voltage(V): 33.9000
Current(A): 0.5000
Power (W): 16.9500
PF: 0.0000
Ballast type: DC
Width(mm): 70
Height(mm): 0

Photometric Results

Lumens(lm): 2001.56
Efficiency(%): 90.90%
Lumens(lm)/Power(W): 120.34
Central intensity(cd): 6716.330
Maximum intensity(cd): 6716.330
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=26.5
 [C90/270]Total=26.5
Field angle(10%Imax): [C0/180]Total=60.4
 [C90/270]Total=60.4
Maximum s/h(1/2): C0_180=0.46 C90_270=0.46
Maximum s/h(1/4): C0_180=0.43 C90_270=0.43
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 92.63%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.906%

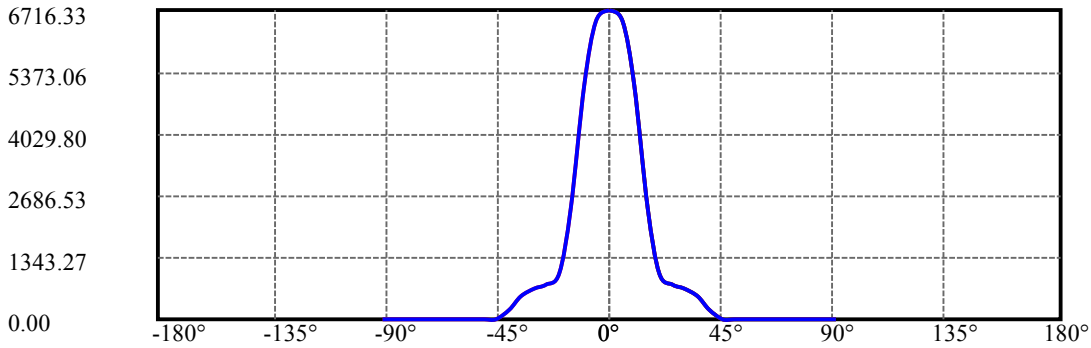
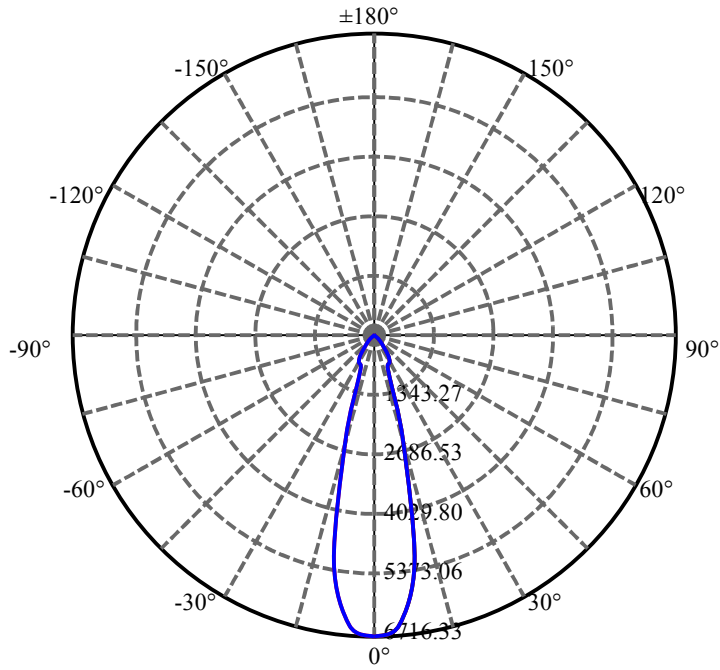
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6716.330	40.165	40.165	1.824%	2.007%
5.0	6482.671	309.699	349.864	14.064%	17.480%
10.0	5104.884	485.899	835.762	22.066%	41.756%
15.0	2424.684	343.986	1179.748	15.622%	58.941%
20.0	1019.259	191.085	1370.833	8.678%	68.488%
25.0	754.218	174.717	1545.55	7.934%	77.217%
30.0	677.689	185.733	1731.283	8.435%	86.497%
35.0	507.345	159.509	1890.791	7.244%	94.466%
40.0	189.174	66.653	1957.444	3.027%	97.796%
45.0	16.242	6.295	1963.739	.286%	98.110%
50.0	10.240	4.300	1968.039	.195%	98.325%
55.0	9.580	4.301	1972.341	.195%	98.540%
60.0	9.194	4.365	1976.705	.198%	98.758%
65.0	8.919	4.431	1981.136	.201%	98.980%
70.0	8.699	4.481	1985.617	.203%	99.203%
75.0	8.534	4.518	1990.135	.205%	99.429%
80.0	8.479	4.577	1994.712	.208%	99.658%
85.0	8.369	4.570	1999.282	.208%	99.886%
90.0	8.314	2.278	2001.56	.103%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1731.28	78.62%	86.50%
0-40	1957.44	88.89%	97.80%
0-60	1976.71	89.77%	98.76%
0-90	1999.28	90.79%	99.89%
0-120	1999.28	90.79%	99.89%
0-180	2001.56	90.90%	100.00%
60-90	26.94	1.22%	1.35%
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%
0-26.50	1601.25	72.72%	80.00%

ZONAL LUMEN SUMMARY

0-10	835.76
10-20	535.07
20-30	360.45
30-40	226.16
40-50	10.60
50-60	8.67
60-70	8.91
70-80	9.10
80-90	4.57
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: —————

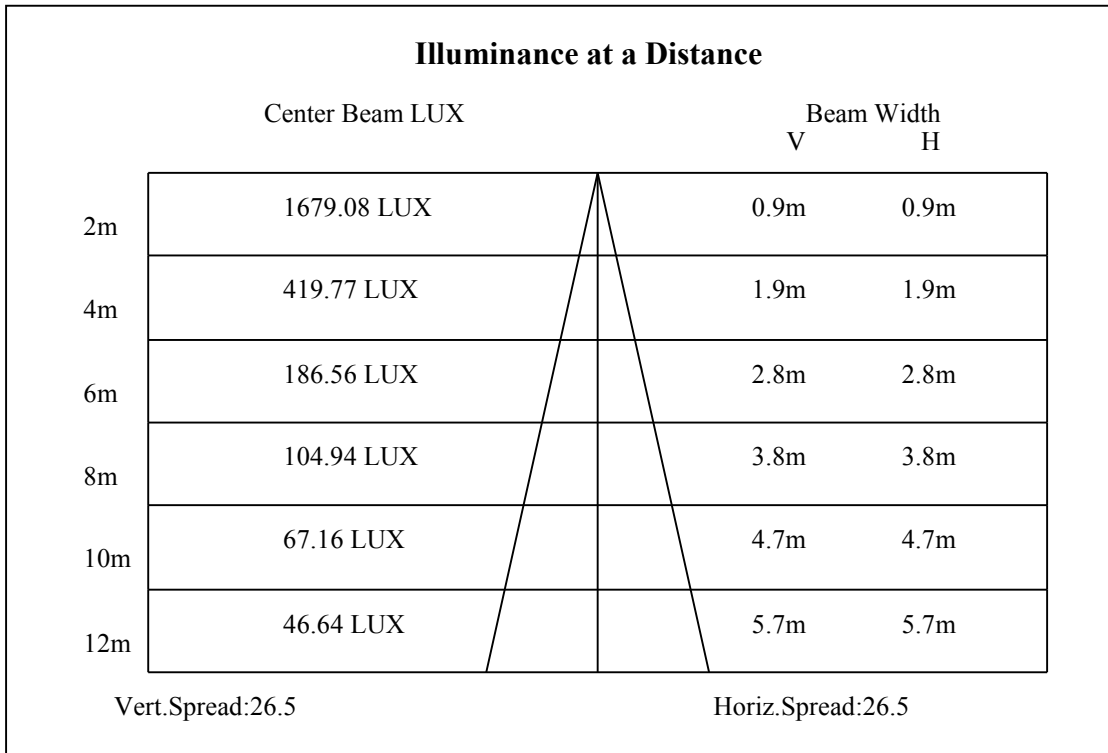
C90/C270: —————

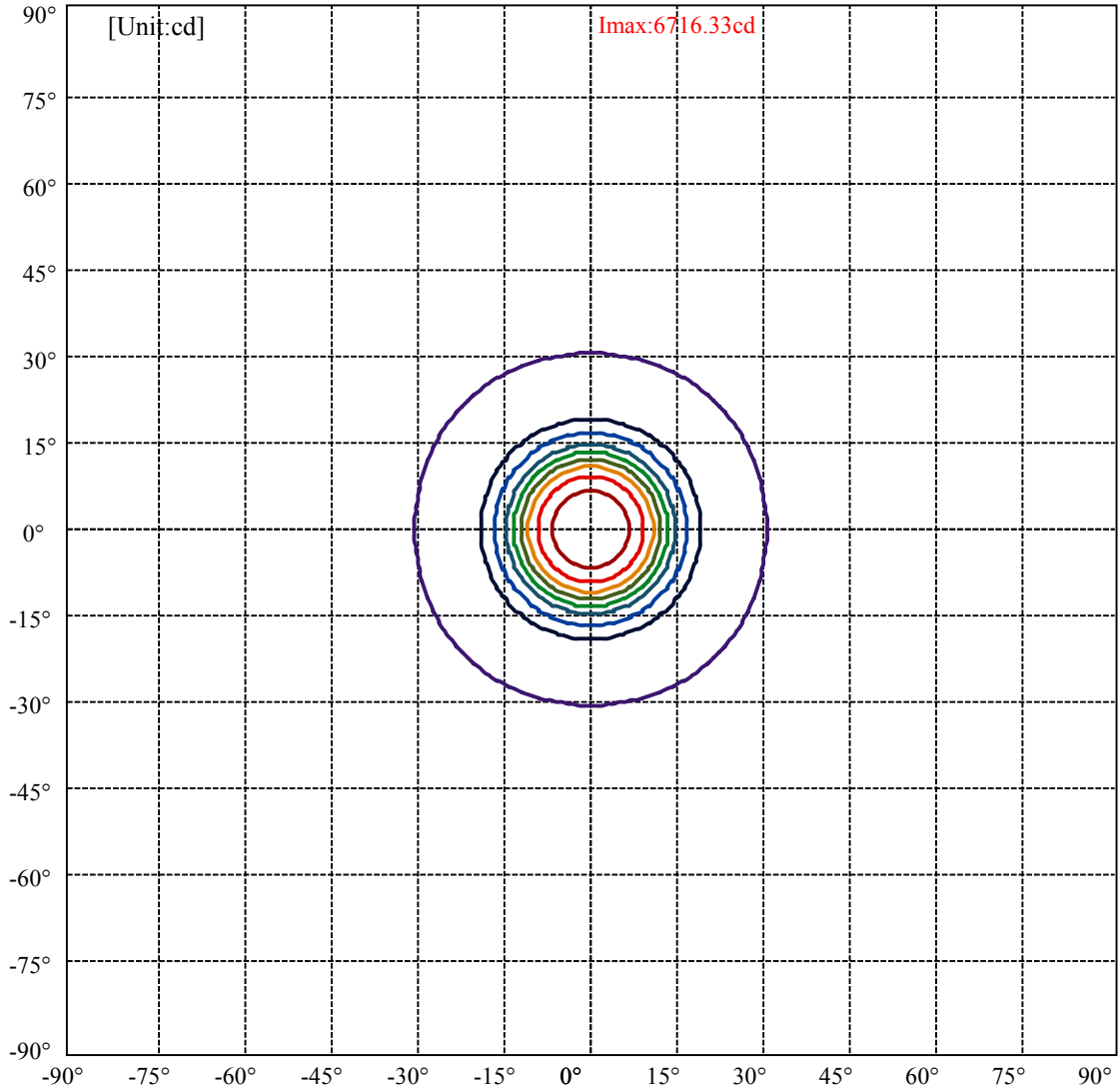
Field angle(10%Imax):C0/180Left:30.2 Right:30.2

:C90/270Left:30.2 Right:30.2

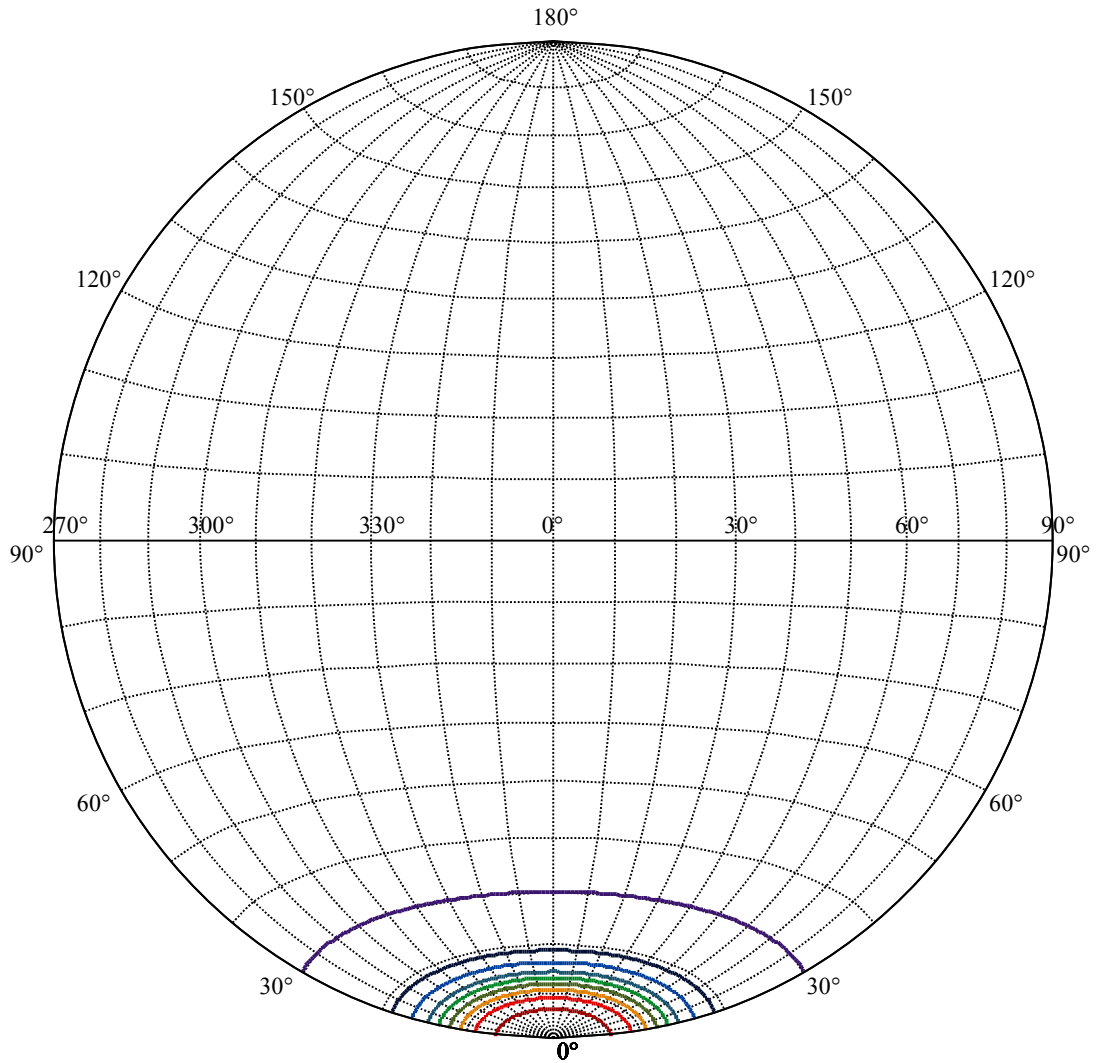
Beam Angle(50%Imax):C0/180Left:13.3 Right:13.3

:C90/270Left:13.3 Right:13.3





(10%Imax) 671.633	—
(20%Imax) 1343.27	—
(30%Imax) 2014.9	—
(40%Imax) 2686.53	—
(50%Imax) 3358.17	—
(60%Imax) 4029.8	—
(70%Imax) 4701.43	—
(80%Imax) 5373.06	—
(90%Imax) 6044.7	—



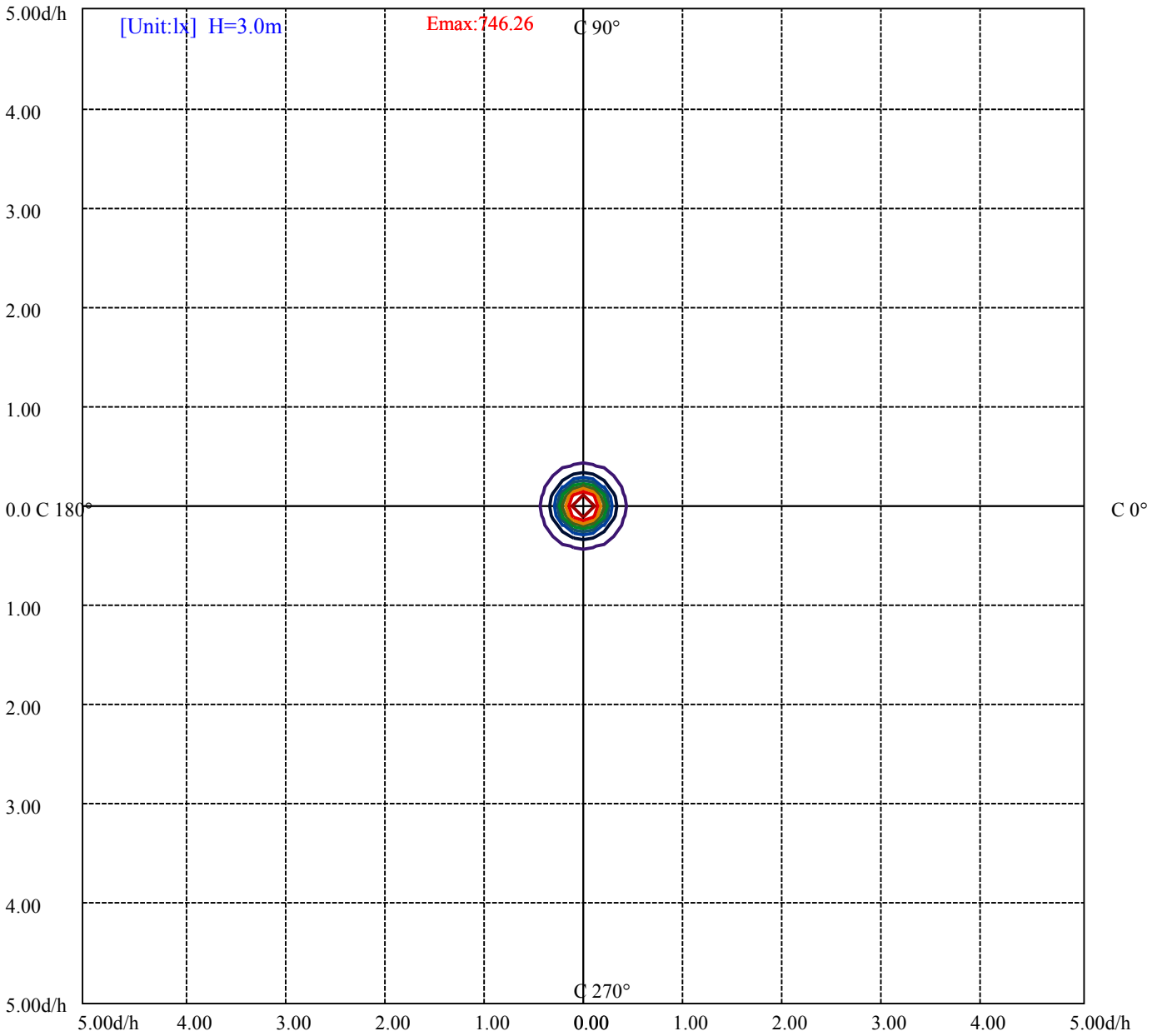
House

[Unit:cd]

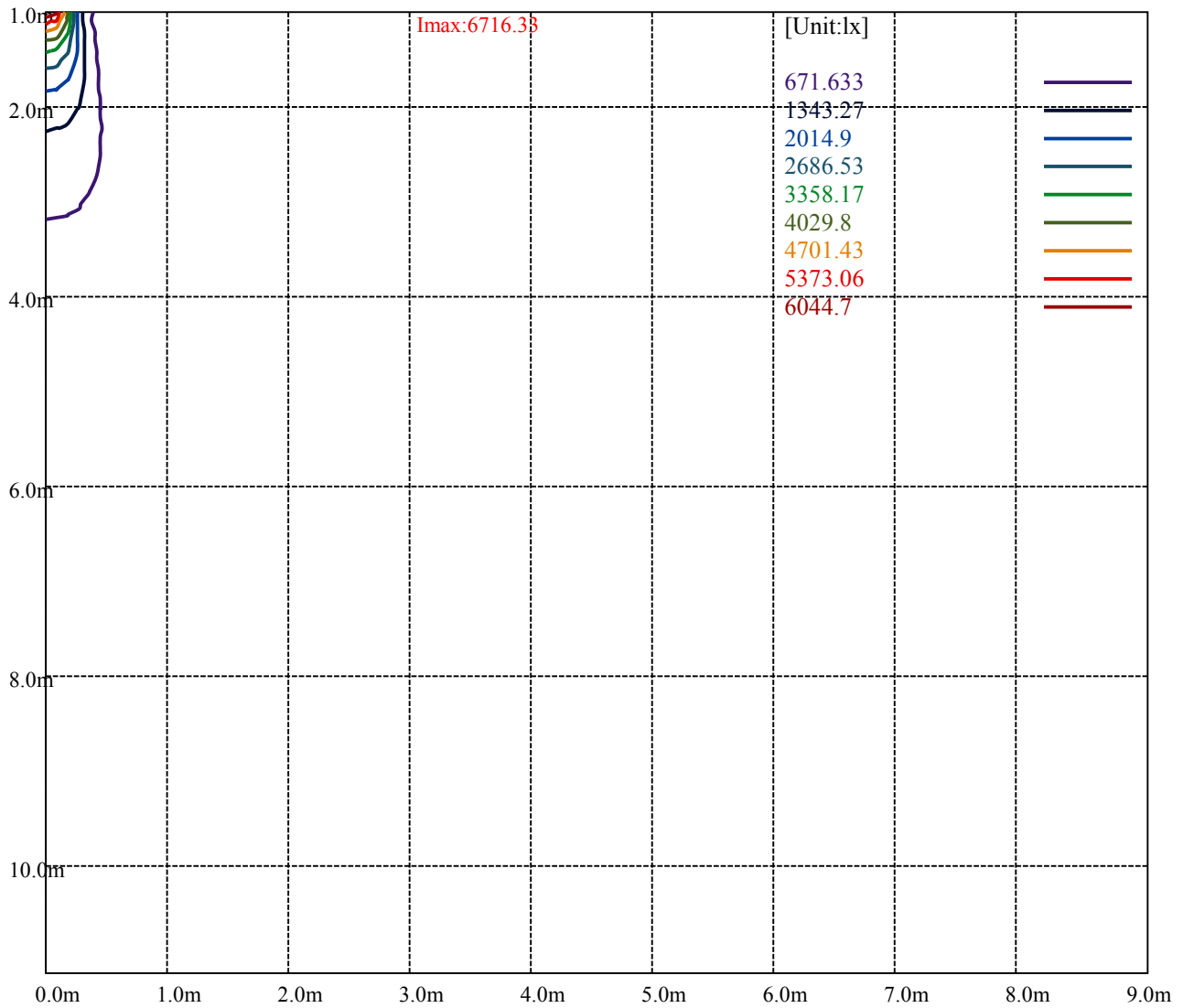
Road

Imax:6716.33

(10%Imax) 671.633	—
(20%Imax) 1343.27	—
(30%Imax) 2014.9	—
(40%Imax) 2686.53	—
(50%Imax) 3358.17	—
(60%Imax) 4029.8	—
(70%Imax) 4701.43	—
(80%Imax) 5373.06	—
(90%Imax) 6044.7	—



- (10%Emax) 74.62578
- (20%Emax) 149.2511
- (30%Emax) 223.8778
- (40%Emax) 298.5033
- (50%Emax) 373.1289
- (60%Emax) 447.7545
- (70%Emax) 522.3811
- (80%Emax) 597.0067
- (90%Emax) 671.6322



Luminance Table

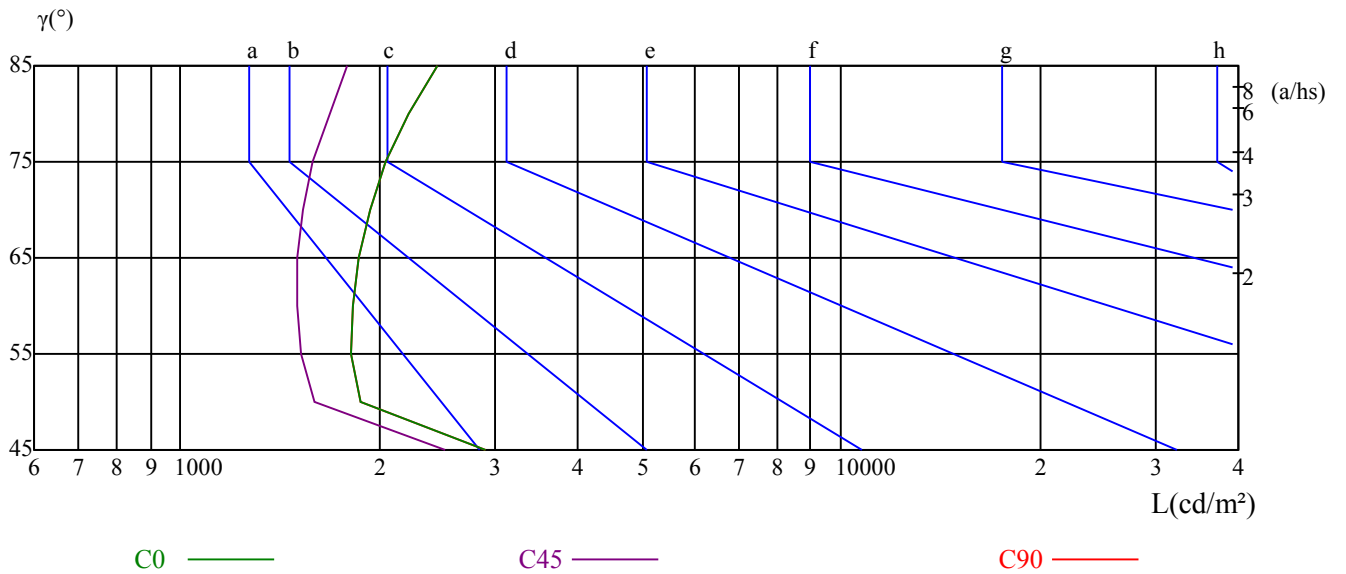
γ	45	50	55	60	65	70	75	80	85
C0	2904	1877	1816	1818	1859	1931	2044	2222	2443
C45	2508	1597	1521	1498	1504	1533	1586	1681	1793
C90	2904	1877	1816	1818	1859	1931	2044	2222	2443

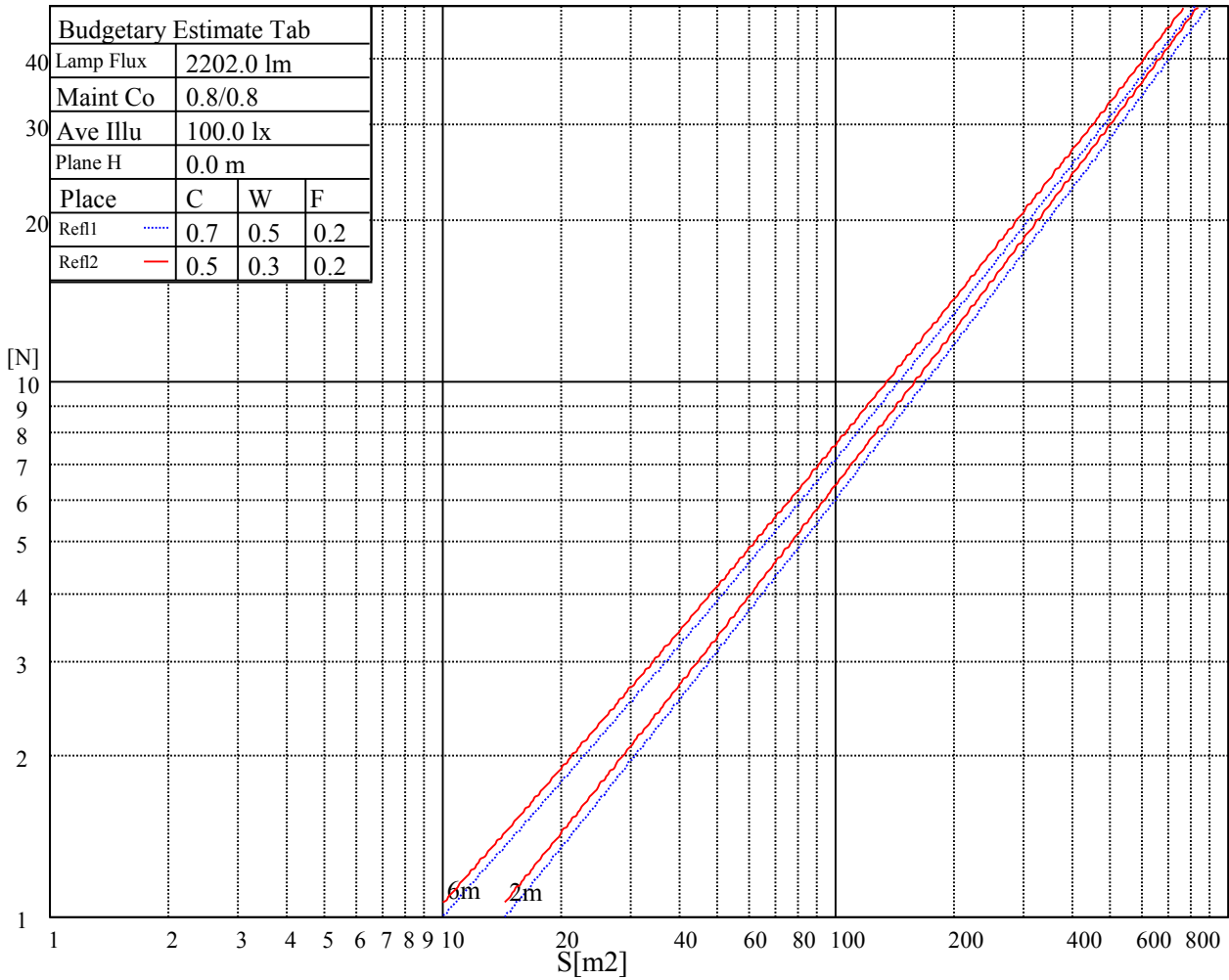
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4307	4307	4307	6729	6729	6729	19596	19596	19596

Glare Table

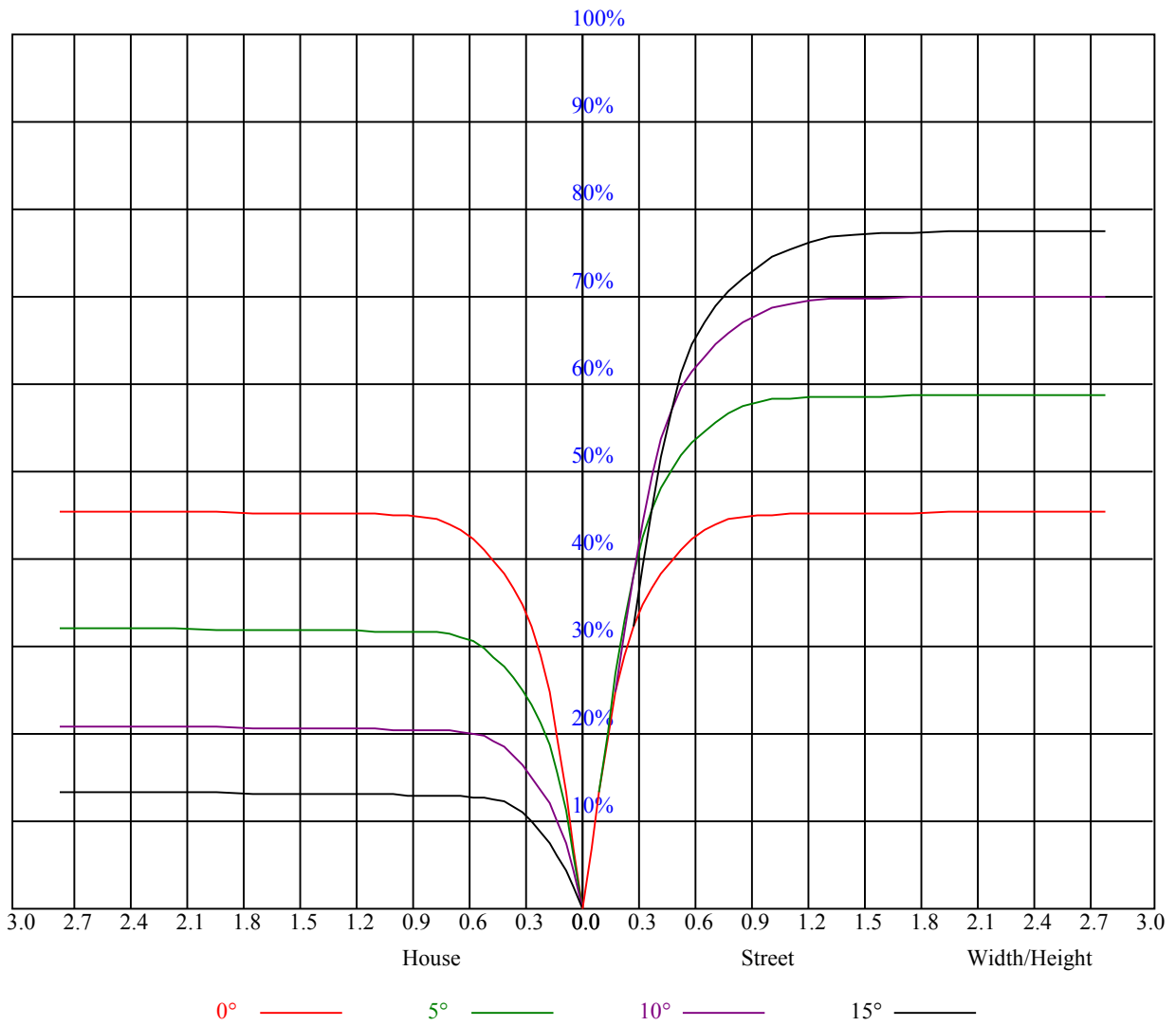
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.10	1.10	1.10	1.08	1.08	1.08	1.03	1.03	1.03	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.02	0.99	0.97	1.00	0.97	0.95	0.96	0.94	0.92	0.92	0.91	0.90	0.89	0.88	0.87	0.85
2	0.96	0.93	0.90	0.95	0.92	0.89	0.92	0.89	0.87	0.89	0.87	0.85	0.87	0.85	0.83	0.82
3	0.92	0.88	0.85	0.91	0.87	0.84	0.88	0.85	0.83	0.86	0.83	0.81	0.84	0.82	0.80	0.79
4	0.88	0.84	0.80	0.87	0.83	0.80	0.85	0.82	0.79	0.83	0.80	0.78	0.81	0.79	0.77	0.76
5	0.84	0.80	0.77	0.83	0.79	0.76	0.82	0.78	0.76	0.80	0.77	0.75	0.79	0.76	0.74	0.73
6	0.81	0.77	0.74	0.80	0.76	0.73	0.79	0.76	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.71
7	0.78	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.70	0.69
8	0.76	0.71	0.68	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.73	0.70	0.67	0.66
9	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.71	0.68	0.66	0.65
10	0.71	0.67	0.64	0.71	0.67	0.64	0.70	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.63



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	6716.33	6482.67	5104.88	2424.68	1019.26	754.22	677.69	507.34	189.17
45.0	6716.33	6482.67	5104.88	2424.68	1019.26	754.22	677.69	507.34	189.17
90.0	6716.33	6482.67	5104.88	2424.68	1019.26	754.22	677.69	507.34	189.17
135.0	6716.33	6482.67	5104.88	2424.68	1019.26	754.22	677.69	507.34	189.17
180.0	6716.33	6482.67	5104.88	2424.68	1019.26	754.22	677.69	507.34	189.17
225.0	6716.33	6482.67	5104.88	2424.68	1019.26	754.22	677.69	507.34	189.17
270.0	6716.33	6482.67	5104.88	2424.68	1019.26	754.22	677.69	507.34	189.17
315.0	6716.33	6482.67	5104.88	2424.68	1019.26	754.22	677.69	507.34	189.17
360.0	6716.33	6482.67	5104.88	2424.68	1019.26	754.22	677.69	507.34	189.17

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	16.24	10.24	9.58	9.19	8.92	8.70	8.53	8.48	8.37
45.0	16.24	10.24	9.58	9.19	8.92	8.70	8.53	8.48	8.37
90.0	16.24	10.24	9.58	9.19	8.92	8.70	8.53	8.48	8.37
135.0	16.24	10.24	9.58	9.19	8.92	8.70	8.53	8.48	8.37
180.0	16.24	10.24	9.58	9.19	8.92	8.70	8.53	8.48	8.37
225.0	16.24	10.24	9.58	9.19	8.92	8.70	8.53	8.48	8.37
270.0	16.24	10.24	9.58	9.19	8.92	8.70	8.53	8.48	8.37
315.0	16.24	10.24	9.58	9.19	8.92	8.70	8.53	8.48	8.37
360.0	16.24	10.24	9.58	9.19	8.92	8.70	8.53	8.48	8.37

C/γ(°)	90.0
0.0	8.31
45.0	8.31
90.0	8.31
135.0	8.31
180.0	8.31
225.0	8.31
270.0	8.31
315.0	8.31
360.0	8.31