



NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.com
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: 1657-N	
Luminaire: 92.70.125.00	
Report No: NATA0100	Voltage(V): 38.5000
Test No: GC2018070506	Current(A): 0.2000
LampCAT: NICHIA NTCWT012B-V3	Power (W): 7.7000
Lamp flux(lm): 747.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 47	Width(mm): 47
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 662.44
Efficiency(%): 88.68%
Lumens(lm)/Power(W): 86.48
Central intensity(cd): 3694.697
Maximum intensity(cd): 3694.697
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=18.9
 [C90/270]Total=18.9
Field angle(10%Imax): [C0/180]Total=36.0
 [C90/270]Total=36.0
Maximum s/h(1/2): C0_180=0.32 C90_270=0.32
Maximum s/h(1/4): C0_180=0.33 C90_270=0.33
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.14%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.990%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3694.697	3.536	3.536	.473%	.534%
2.0	3600.000	27.554	31.09	3.689%	4.693%
4.0	3313.088	50.685	81.775	6.785%	12.345%
6.0	2846.622	65.257	147.033	8.736%	22.196%
8.0	2285.047	69.745	216.778	9.337%	32.724%
10.0	1680.844	64.012	280.79	8.569%	42.388%
12.0	1204.207	54.909	335.699	7.351%	50.677%
14.0	805.922	42.760	378.459	5.724%	57.131%
16.0	530.062	32.043	410.502	4.290%	61.969%
18.0	368.492	24.973	435.475	3.343%	65.739%
20.0	299.349	22.454	457.929	3.006%	69.128%
22.0	271.524	22.307	480.237	2.986%	72.496%
24.0	257.753	22.992	503.229	3.078%	75.966%
26.0	248.311	23.873	527.102	3.196%	79.570%
28.0	240.830	24.796	551.898	3.319%	83.313%
30.0	234.003	25.660	577.558	3.435%	87.187%
32.0	216.606	25.174	602.732	3.370%	90.987%
34.0	169.794	20.823	623.555	2.788%	94.131%
36.0	97.663	12.590	636.145	1.685%	96.031%
38.0	37.411	5.051	641.196	.676%	96.794%
40.0	13.351	1.882	643.078	.252%	97.078%
42.0	9.160	1.344	644.422	.180%	97.281%
44.0	7.171	1.093	645.515	.146%	97.446%
46.0	6.153	0.971	646.485	.130%	97.592%
48.0	5.802	0.946	647.431	.127%	97.735%
50.0	5.444	0.915	648.345	.122%	97.873%
52.0	5.141	0.888	649.234	.119%	98.007%
54.0	4.824	0.856	650.09	.115%	98.136%
56.0	4.549	0.827	650.917	.111%	98.261%
58.0	4.281	0.796	651.713	.107%	98.381%
60.0	4.067	0.773	652.486	.103%	98.498%
62.0	3.868	0.749	653.235	.100%	98.611%
64.0	3.730	0.735	653.97	.098%	98.722%
66.0	3.592	0.720	654.69	.096%	98.831%
68.0	3.482	0.708	655.398	.095%	98.938%
70.0	3.379	0.696	656.094	.093%	99.043%
72.0	3.303	0.689	656.783	.092%	99.147%
74.0	3.241	0.683	657.466	.091%	99.250%

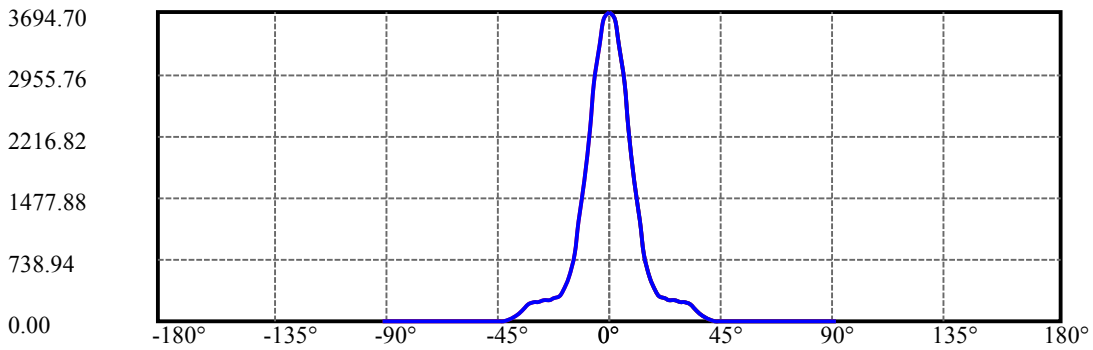
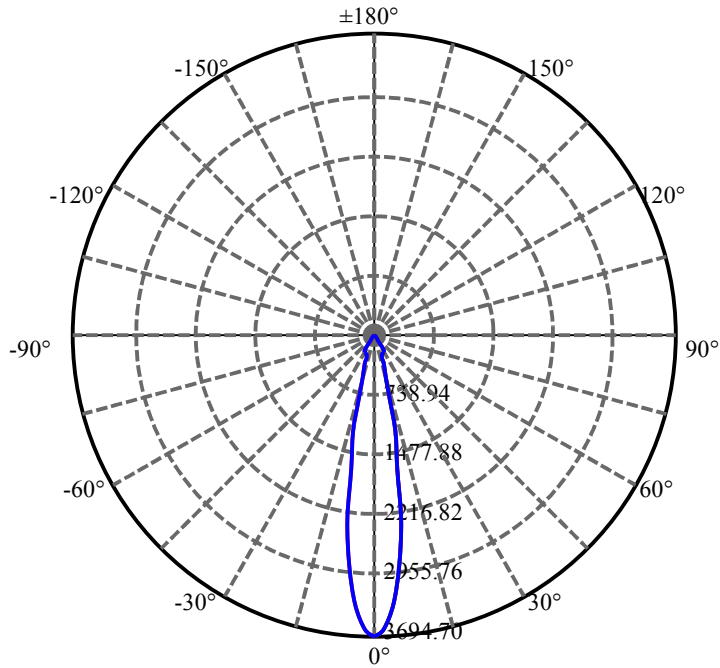
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.193	0.680	658.146	.091%	99.352%
78.0	3.166	0.679	658.825	.091%	99.455%
80.0	3.131	0.676	659.501	.091%	99.557%
82.0	3.069	0.667	660.168	.089%	99.658%
84.0	3.035	0.662	660.83	.089%	99.758%
86.0	2.980	0.652	661.482	.087%	99.856%
88.0	2.918	0.640	662.121	.086%	99.953%
90.0	2.863	0.314	662.435	.042%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	577.56	77.32%	87.19%
0-40	643.08	86.09%	97.08%
0-60	652.49	87.35%	98.50%
0-90	662.12	88.64%	99.95%
0-120	662.12	88.64%	99.95%
0-180	662.44	88.68%	100.00%
60-90	10.41	1.39%	1.57%
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%
0-26.23	529.95	70.94%	80.00%

ZONAL LUMEN SUMMARY

0-10	280.79
10-20	177.14
20-30	119.63
30-40	65.52
40-50	5.27
50-60	4.14
60-70	3.61
70-80	3.41
80-90	2.62
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



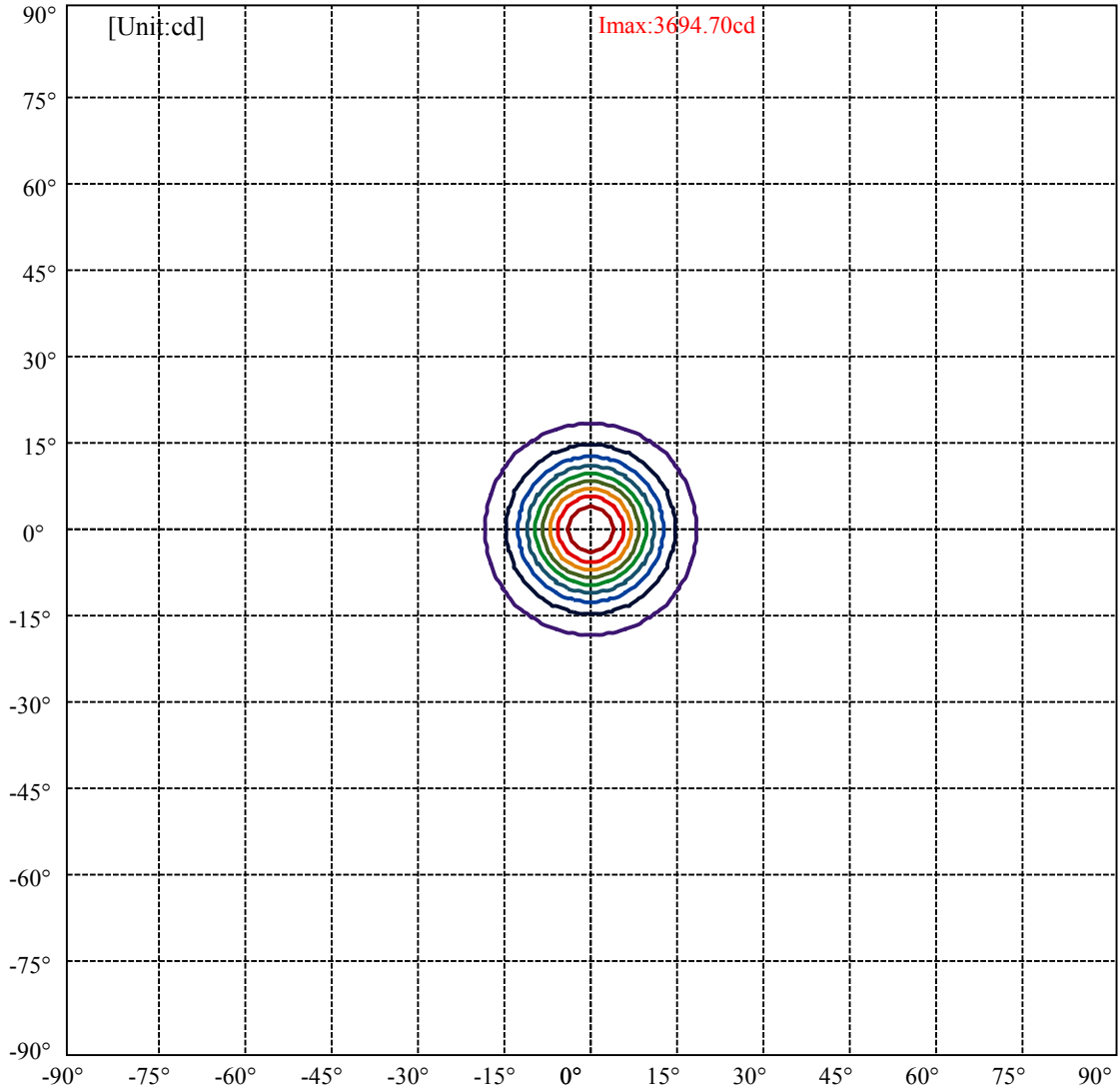
C0(Max): —————

C0/C180: —————

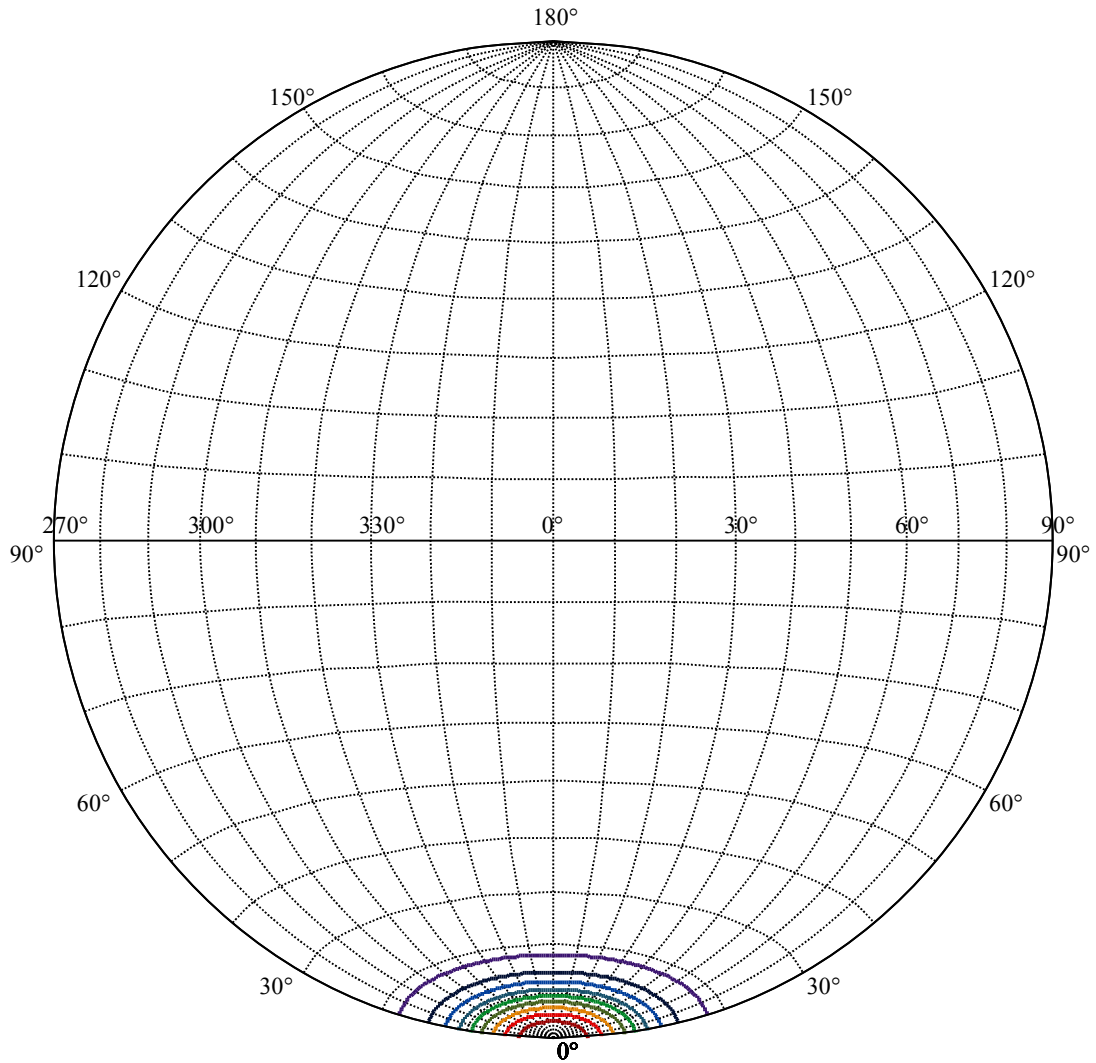
C90/C270: —————

Field angle(10%Imax):C0/180Left:18.0 Right:18.0
:C90/270Left:18.0 Right:18.0

Beam Angle(50%Imax):C0/180Left:9.4 Right:9.4
:C90/270Left:9.4 Right:9.4



(10%Imax) 369.47	—
(20%Imax) 738.939	—
(30%Imax) 1108.41	—
(40%Imax) 1477.88	—
(50%Imax) 1847.35	—
(60%Imax) 2216.82	—
(70%Imax) 2586.29	—
(80%Imax) 2955.76	—
(90%Imax) 3325.23	—



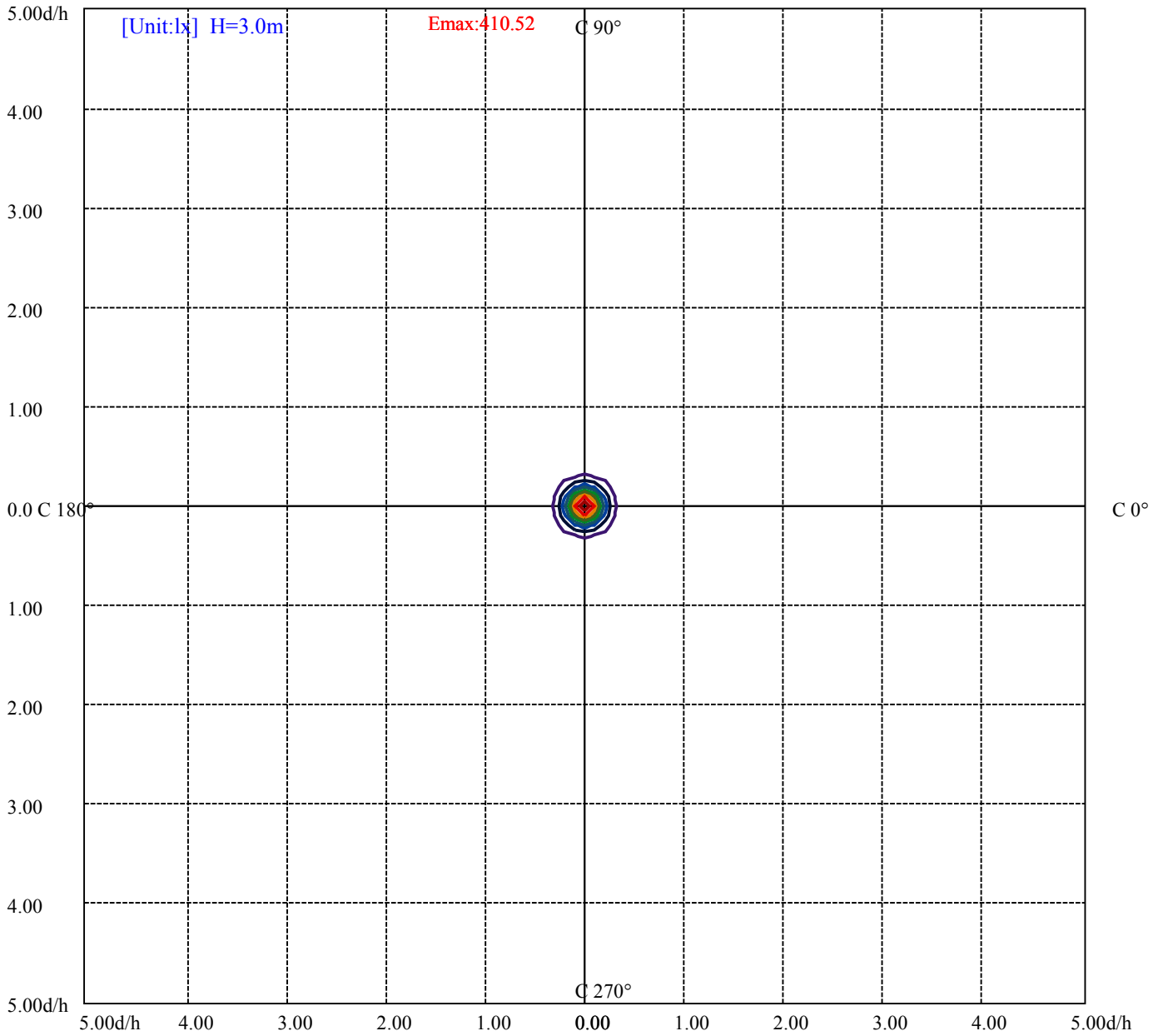
House

[Unit:cd]

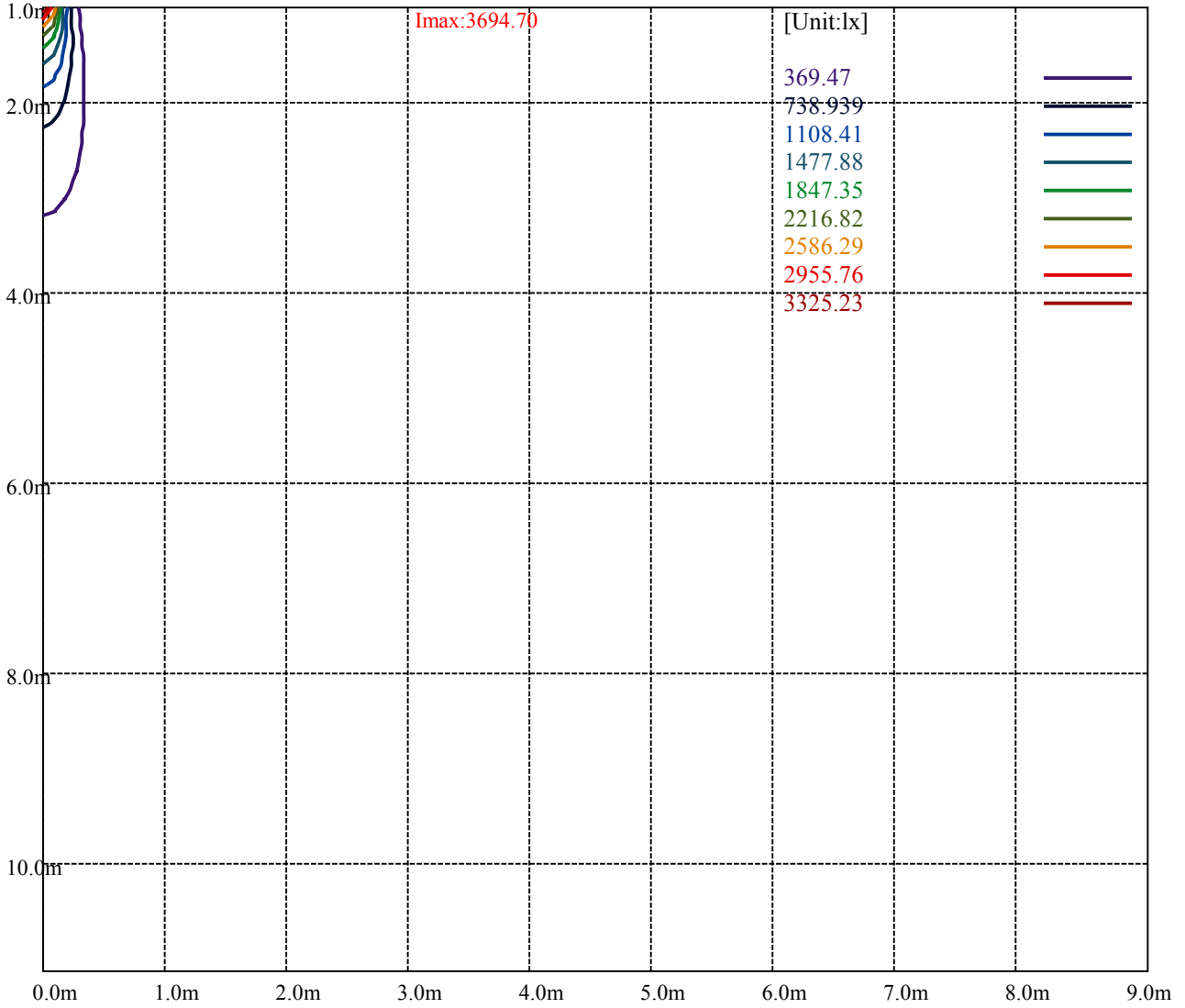
Road

Imax:3694.70

(10%Imax)	369.47	—
(20%Imax)	738.939	—
(30%Imax)	1108.41	—
(40%Imax)	1477.88	—
(50%Imax)	1847.35	—
(60%Imax)	2216.82	—
(70%Imax)	2586.29	—
(80%Imax)	2955.76	—
(90%Imax)	3325.23	—



- (10%Emax) 41.05211
- (20%Emax) 82.10422
- (30%Emax) 123.1567
- (40%Emax) 164.2089
- (50%Emax) 205.2611
- (60%Emax) 246.3122
- (70%Emax) 287.3644
- (80%Emax) 328.4167
- (90%Emax) 369.4689



Luminance Table

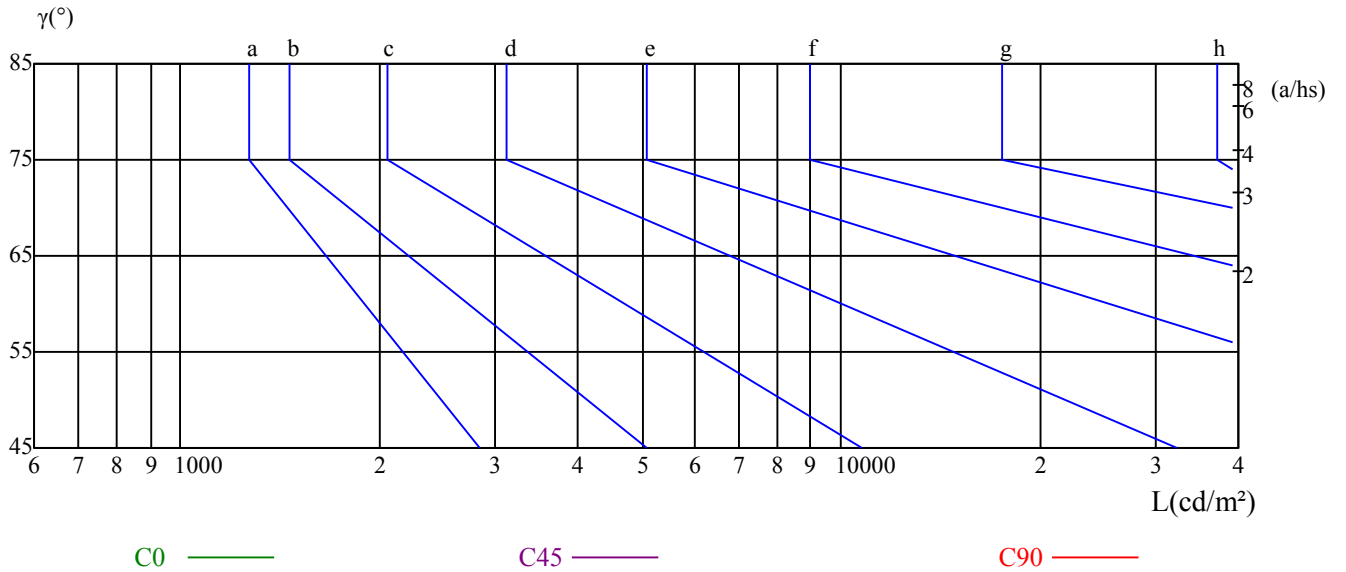
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

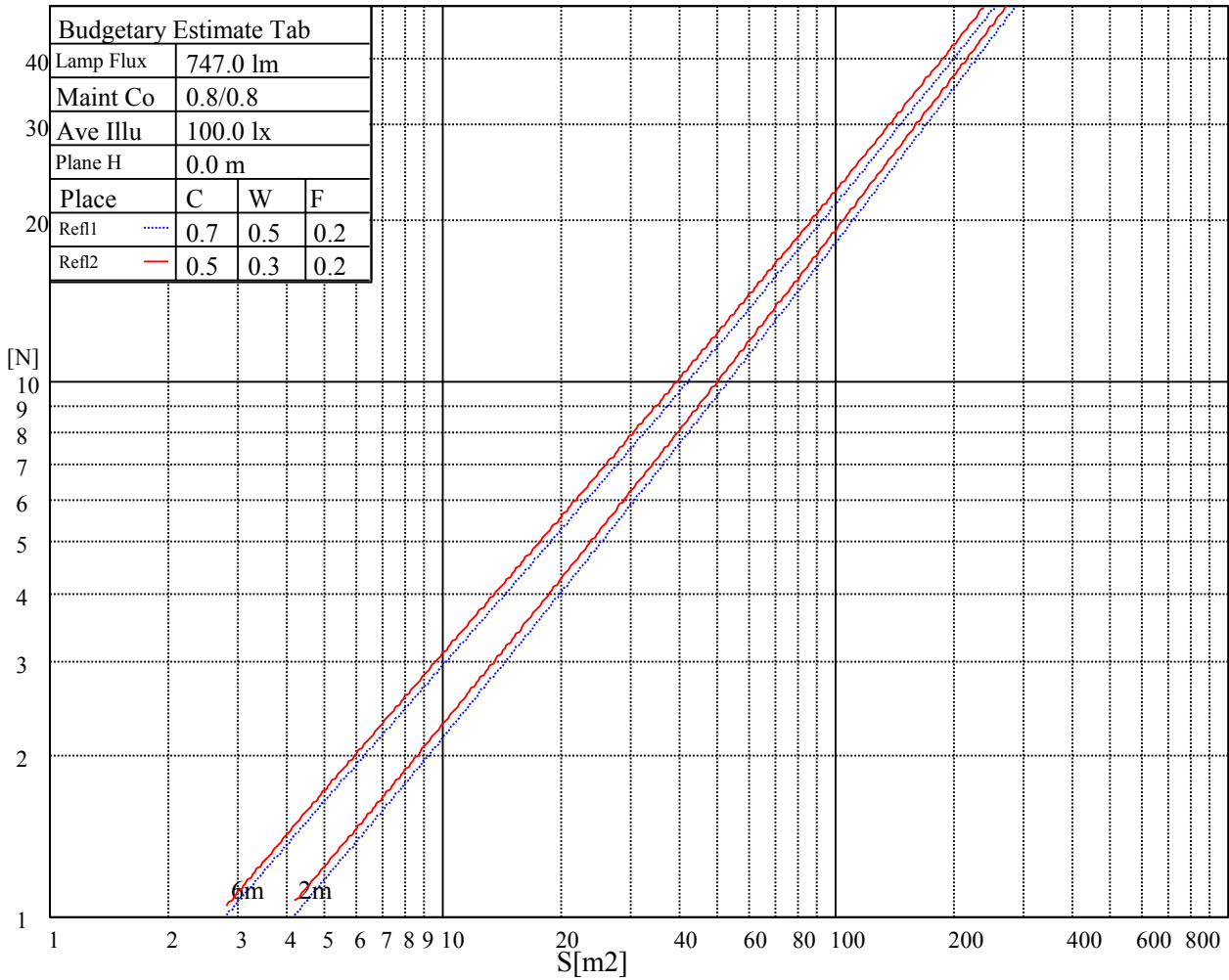
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

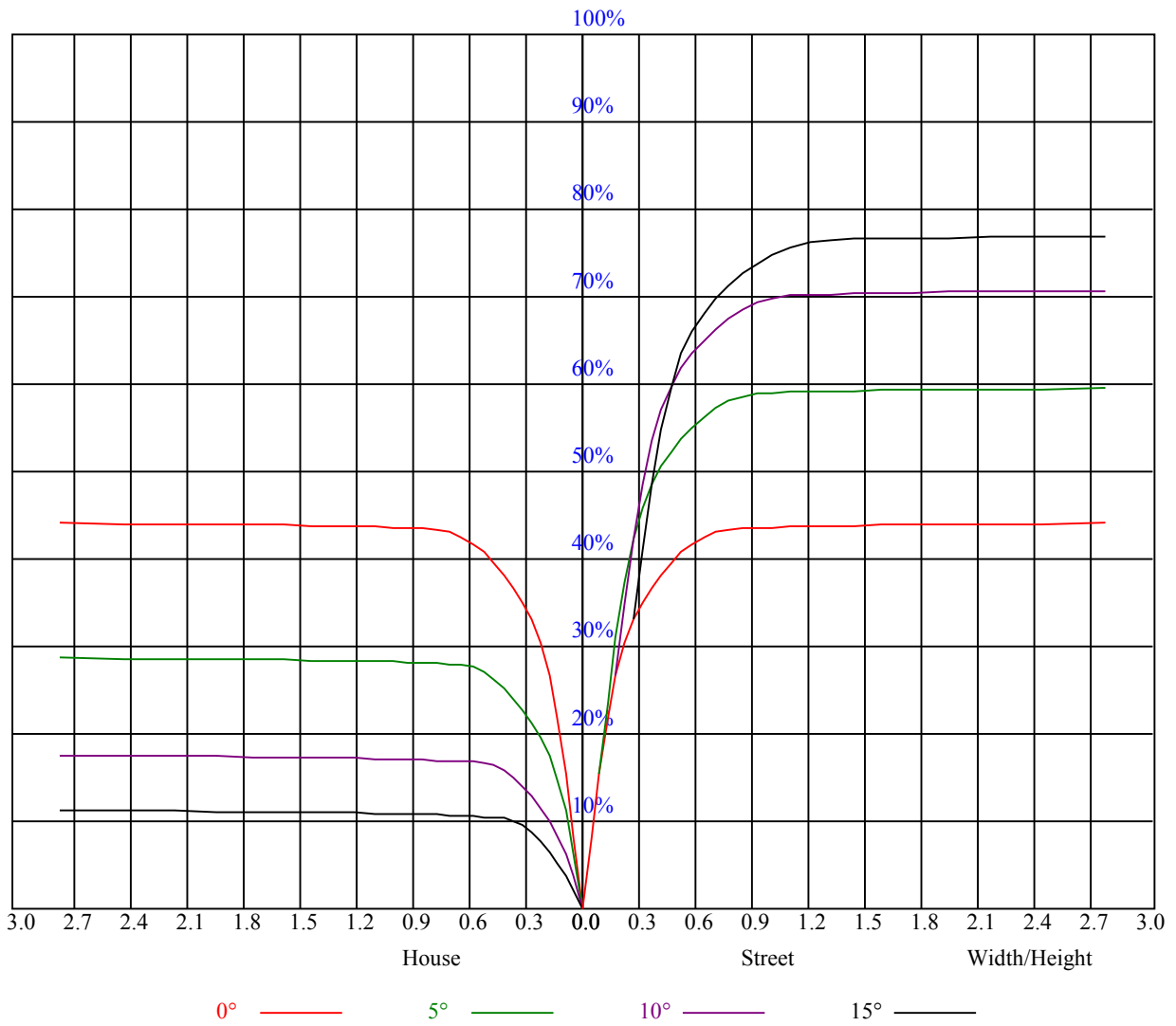
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.06	1.06	1.06	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	0.99	0.97	0.96	0.98	0.96	0.94	0.94	0.93	0.91	0.91	0.90	0.89	0.88	0.87	0.86	0.84
2	0.94	0.91	0.89	0.93	0.90	0.88	0.90	0.88	0.86	0.88	0.86	0.84	0.85	0.84	0.82	0.81
3	0.90	0.87	0.84	0.89	0.86	0.83	0.87	0.84	0.82	0.85	0.82	0.81	0.83	0.81	0.79	0.78
4	0.86	0.82	0.80	0.85	0.82	0.79	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.75
5	0.83	0.79	0.76	0.82	0.78	0.76	0.81	0.78	0.75	0.79	0.77	0.74	0.78	0.76	0.74	0.73
6	0.80	0.76	0.73	0.79	0.76	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.70
7	0.77	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.68
8	0.75	0.71	0.68	0.74	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.66
9	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.65
10	0.71	0.67	0.64	0.70	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.68	0.66	0.64	0.63



Intensity data(cd)

C/γ(°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	3711.90	3645.83	3376.06	2912.48	2362.47	1753.55	1270.15	840.16	536.25
45.0	3671.16	3733.93	3612.25	3259.34	2782.55	2170.32	1591.13	1102.23	710.23
90.0	3710.25	3721.26	3545.63	3140.42	2595.36	1998.55	1444.68	983.31	643.94
135.0	3685.48	3702.54	3526.91	3131.06	2588.75	2013.96	1450.19	965.14	638.65
180.0	3711.90	3610.05	3291.27	2811.73	2227.58	1624.71	1087.09	760.66	500.13
225.0	3671.16	3419.00	2964.79	2451.66	1842.19	1098.15	886.57	567.47	389.14
270.0	3710.25	3471.86	3094.72	2519.93	1925.32	1396.23	956.33	609.47	415.13
315.0	3685.48	3495.53	3093.07	2546.36	1956.15	1391.28	947.52	618.94	407.03
360.0	3711.90	3645.83	3376.06	2912.48	2362.47	1753.55	1270.15	840.16	536.25
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	378.24	305.56	283.54	266.75	256.56	247.04	239.33	230.52	186.15
45.0	463.02	335.29	290.15	272.58	261.96	251.77	243.62	234.98	221.22
90.0	410.50	308.48	262.29	244.78	235.04	226.94	218.90	208.39	190.66
135.0	427.79	323.18	288.50	267.52	257.39	249.63	241.42	232.94	208.88
180.0	344.38	297.19	273.96	261.96	252.38	244.40	235.09	223.25	164.07
225.0	310.52	280.79	265.59	256.67	247.97	239.39	232.06	189.78	106.37
270.0	311.62	279.14	266.31	256.51	247.37	240.87	235.86	207.78	140.56
315.0	301.87	265.15	241.86	235.26	227.82	226.61	225.73	205.20	140.45
360.0	378.24	305.56	283.54	266.75	256.56	247.04	239.33	230.52	186.15
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	110.55	34.63	12.33	9.74	7.16	5.95	5.29	4.84	4.57
45.0	163.52	81.15	22.52	11.62	9.08	6.66	6.33	5.78	5.40
90.0	131.36	65.74	17.95	12.11	9.52	7.60	7.27	6.77	6.17
135.0	140.83	55.39	13.71	9.58	7.32	5.95	5.95	5.73	5.56
180.0	80.22	21.97	8.70	6.50	4.35	3.91	3.74	3.69	3.58
225.0	38.32	10.30	7.65	5.18	4.24	4.13	4.07	4.07	4.07
270.0	56.54	13.49	11.40	8.59	7.60	7.43	6.99	6.55	6.11
315.0	59.96	16.63	12.55	9.97	8.09	7.60	6.77	6.11	5.67
360.0	110.55	34.63	12.33	9.74	7.16	5.95	5.29	4.84	4.57
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	4.29	4.07	3.91	3.74	3.63	3.52	3.47	3.36	3.30
45.0	5.01	4.68	4.35	4.13	3.91	3.80	3.63	3.52	3.36
90.0	5.62	5.12	4.68	4.35	4.02	3.85	3.63	3.52	3.36
135.0	5.34	5.01	4.68	4.40	4.13	3.96	3.85	3.69	3.58
180.0	3.58	3.58	3.58	3.58	3.52	3.47	3.41	3.36	3.30
225.0	4.07	4.07	4.02	3.85	3.74	3.63	3.52	3.47	3.36
270.0	5.56	5.12	4.68	4.40	4.13	3.91	3.74	3.58	3.47
315.0	5.12	4.73	4.35	4.07	3.85	3.69	3.47	3.36	3.30
360.0	4.29	4.07	3.91	3.74	3.63	3.52	3.47	3.36	3.30
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	3.25	3.19	3.14	3.14	3.08	3.08	3.03	2.97	3.03
45.0	3.30	3.25	3.19	3.14	3.08	3.03	3.03	3.03	2.92
90.0	3.30	3.25	3.19	3.19	3.14	3.08	3.03	2.97	2.92
135.0	3.47	3.36	3.30	3.30	3.30	3.19	3.19	3.08	2.92
180.0	3.25	3.19	3.14	3.08	3.08	3.03	2.97	2.97	2.92
225.0	3.30	3.25	3.19	3.14	3.08	3.03	3.03	2.97	2.92
270.0	3.36	3.30	3.30	3.25	3.25	3.14	3.03	2.92	2.86
315.0	3.19	3.14	3.08	3.08	3.03	2.97	2.97	2.92	2.86
360.0	3.25	3.19	3.14	3.14	3.08	3.08	3.03	2.97	3.03

Intensity data(cd)

C/γ(°)	90.0
0.0	2.97
45.0	2.92
90.0	2.86
135.0	2.86
180.0	2.81
225.0	2.81
270.0	2.81
315.0	2.86
360.0	2.97