
Nata

LumCAT: 1652-S
Luminaire: 92.70.043.00
Report No: NT2017112402
Test No: nata-0100
LampCAT: CREE cxa1310
Lamp flux(lm): 658.0
Number of Lamps: 1
Length(mm): 23
Phm Type: C

Voltage(V): 18.0000
Current(A): 0.3600
Power (W): 6.4800
PF: 0.0000
Ballast type: DC
Width(mm): 23
Height(mm): 0

Photometric Results

Lumens(lm): 591.15
Efficiency(%): 89.84%
Lumens(lm)/Power(W): 91.23
Central intensity(cd): 1020.470
Maximum intensity(cd): 1020.470
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=40.8
 [C90/270]Total=40.8
Field angle(10%Imax): [C0/180]Total=79.6
 [C90/270]Total=79.6
Maximum s/h(1/2): C0_180=0.67 C90_270=0.67
Maximum s/h(1/4): C0_180=0.65 C90_270=0.65
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.68%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.832%

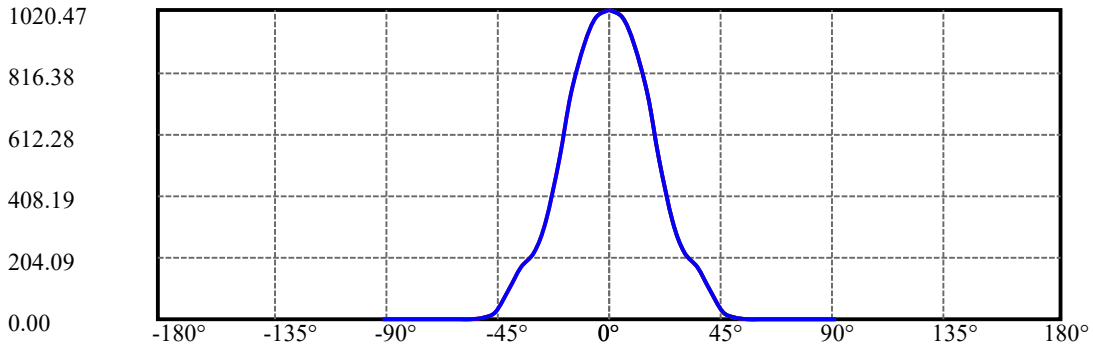
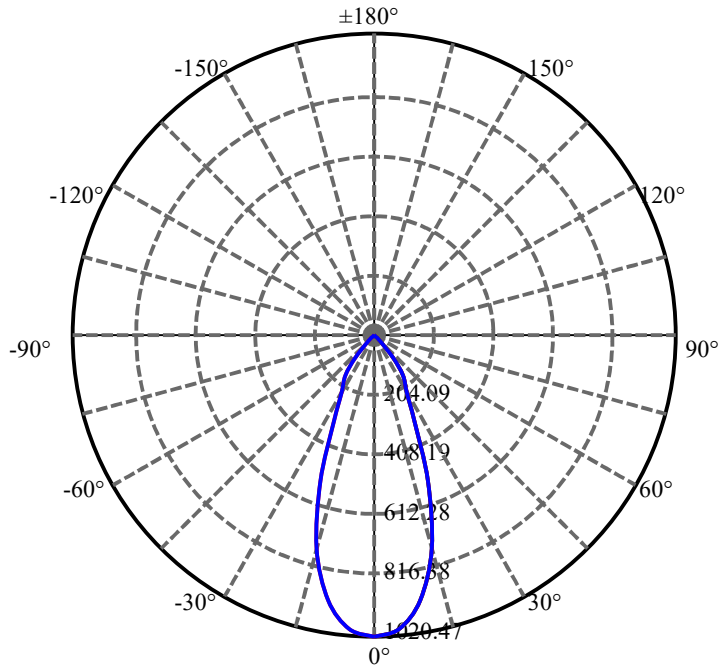
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1020.470	6.103	6.103	.927%	1.032%
5.0	997.113	47.635	53.738	7.239%	9.090%
10.0	907.818	86.409	140.147	13.132%	23.708%
15.0	744.294	105.592	245.739	16.047%	41.570%
20.0	526.979	98.795	344.534	15.014%	58.282%
25.0	320.456	74.235	418.768	11.282%	70.840%
30.0	223.742	61.321	480.089	9.319%	81.213%
35.0	170.400	53.573	533.662	8.142%	90.276%
40.0	98.861	34.832	568.494	5.294%	96.168%
45.0	26.523	10.280	578.775	1.562%	97.907%
50.0	5.568	2.338	581.112	.355%	98.303%
55.0	3.007	1.350	582.463	.205%	98.531%
60.0	2.705	1.284	583.747	.195%	98.748%
65.0	2.615	1.299	585.046	.197%	98.968%
70.0	2.567	1.322	586.368	.201%	99.192%
75.0	2.533	1.341	587.709	.204%	99.419%
80.0	2.512	1.356	589.065	.206%	99.648%
85.0	2.526	1.379	590.444	.210%	99.881%
90.0	2.560	0.702	591.146	.107%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	480.09	72.96%	81.21%
0-40	568.49	86.40%	96.17%
0-60	583.75	88.72%	98.75%
0-90	590.44	89.73%	99.88%
0-120	590.44	89.73%	99.88%
0-180	591.15	89.84%	100.00%
60-90	7.98	1.21%	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%
0-29.42	472.92	71.87%	80.00%

ZONAL LUMEN SUMMARY

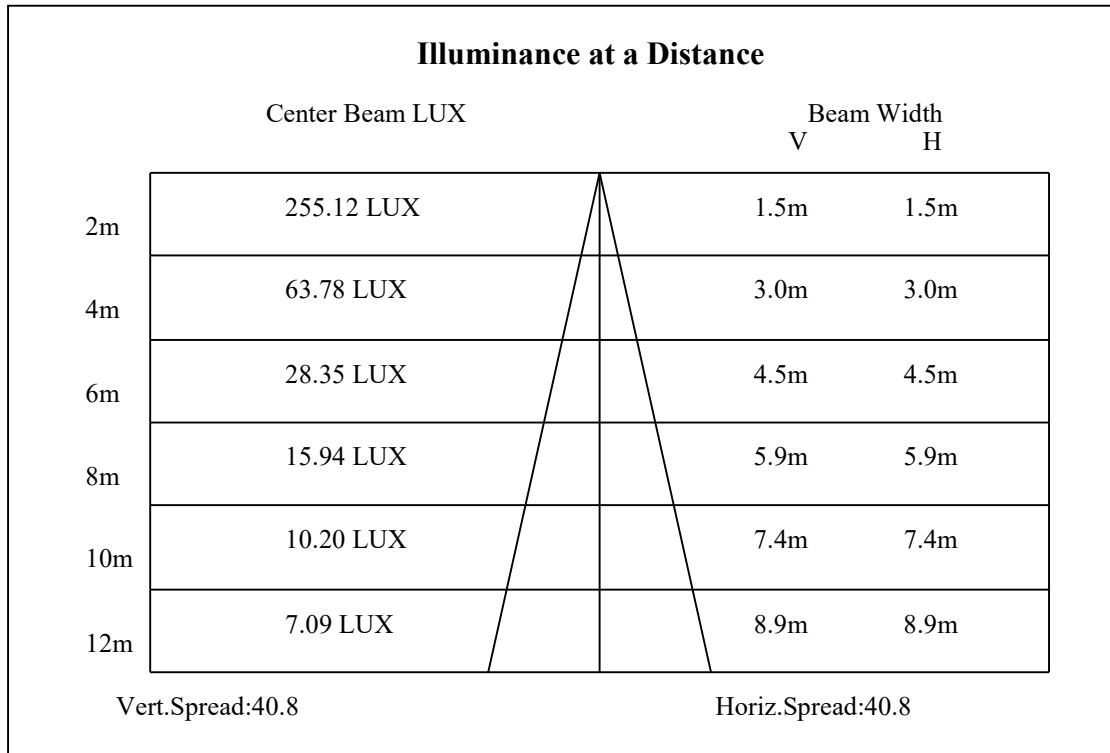
0-10	140.15
10-20	204.39
20-30	135.56
30-40	88.41
40-50	12.62
50-60	2.63
60-70	2.62
70-80	2.70
80-90	1.38
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

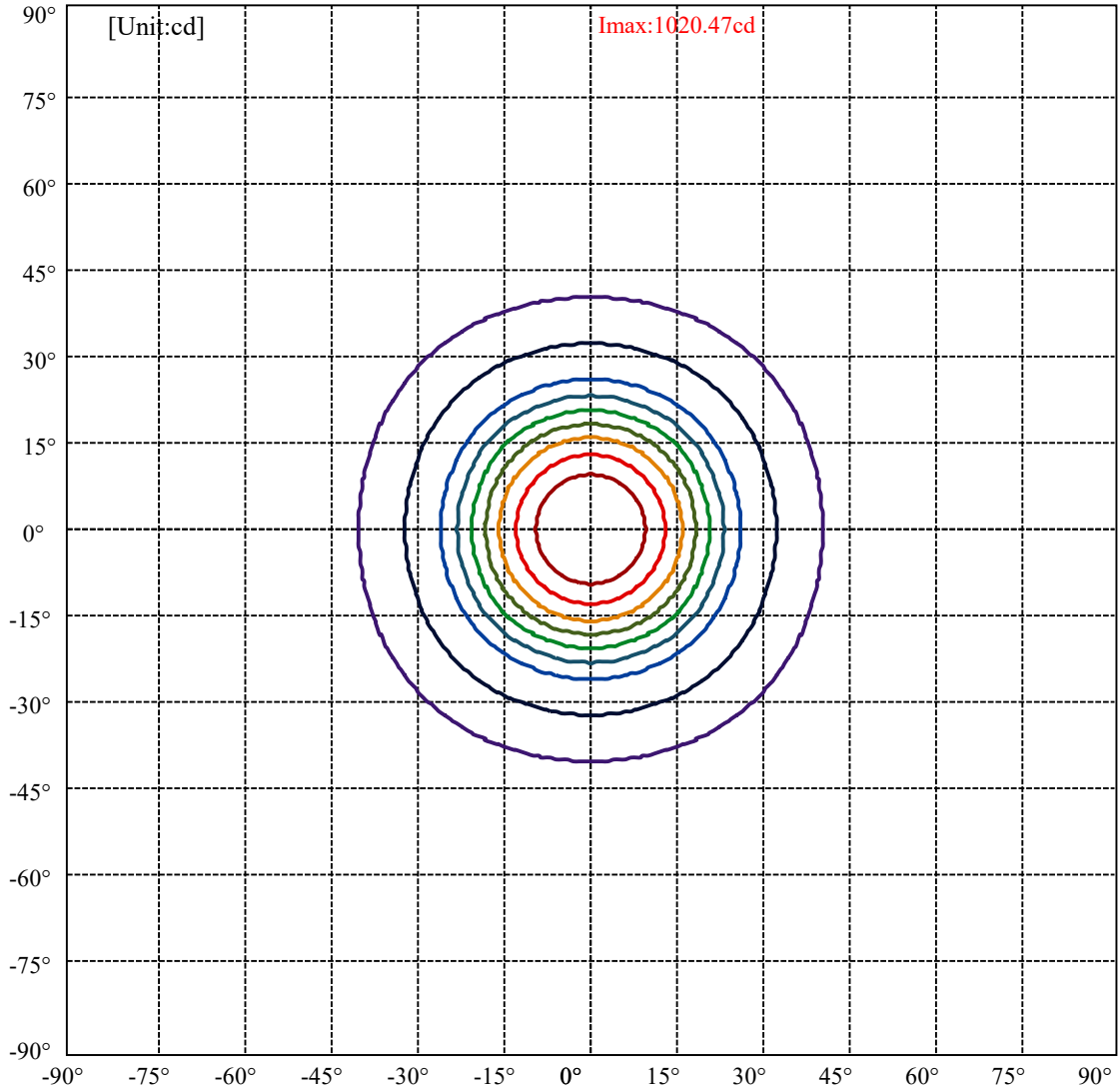


C0(Max): —————
 C0/C180: —————
 C90/C270: —————

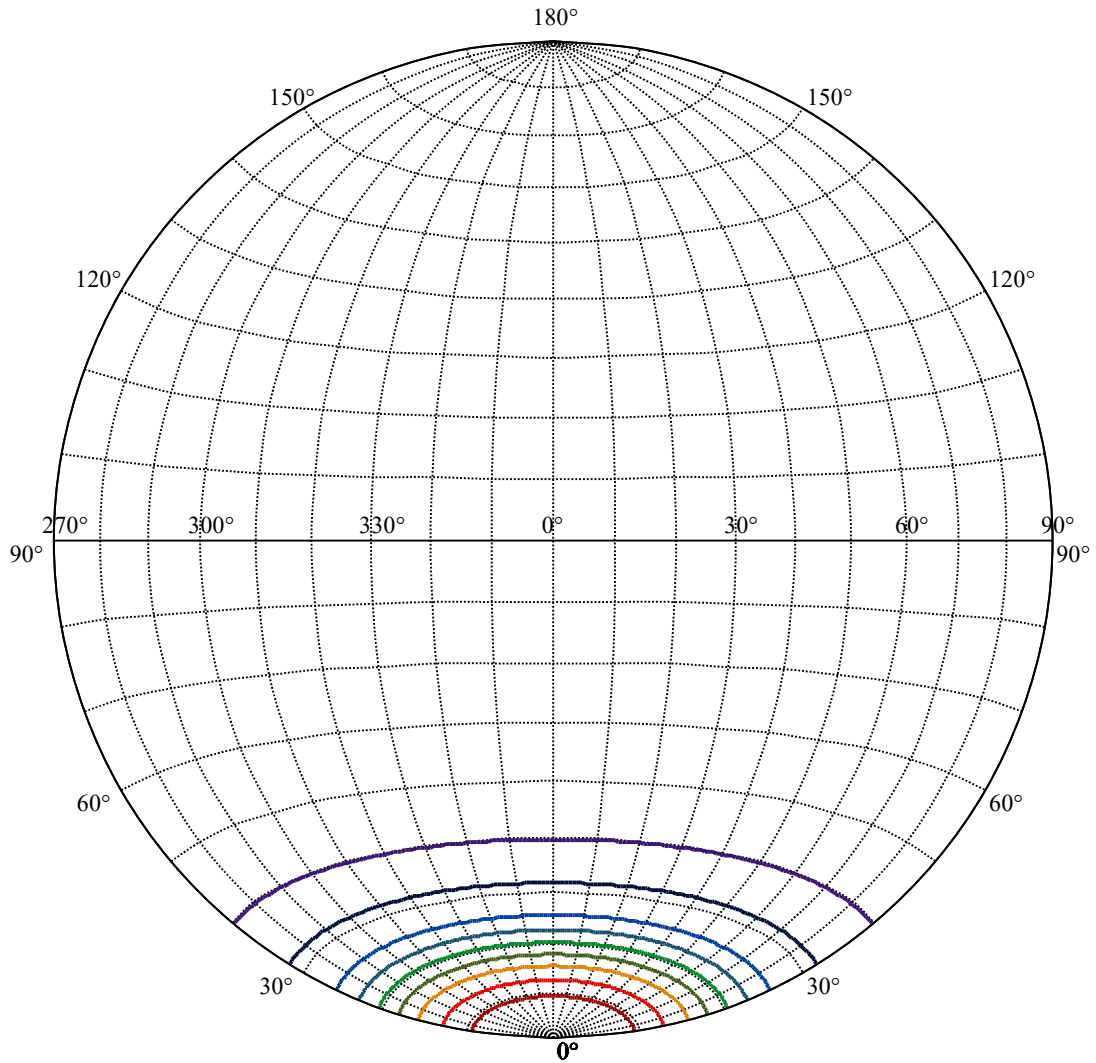
Field angle(10%Imax):C0/180Left:39.8 Right:39.8
 :C90/270Left:39.8 Right:39.8

Beam Angle(50%Imax):C0/180Left:20.4 Right:20.4
 :C90/270Left:20.4 Right:20.4





(10%Imax) 102.047	—
(20%Imax) 204.094	—
(30%Imax) 306.141	—
(40%Imax) 408.188	—
(50%Imax) 510.235	—
(60%Imax) 612.282	—
(70%Imax) 714.329	—
(80%Imax) 816.376	—
(90%Imax) 918.423	—



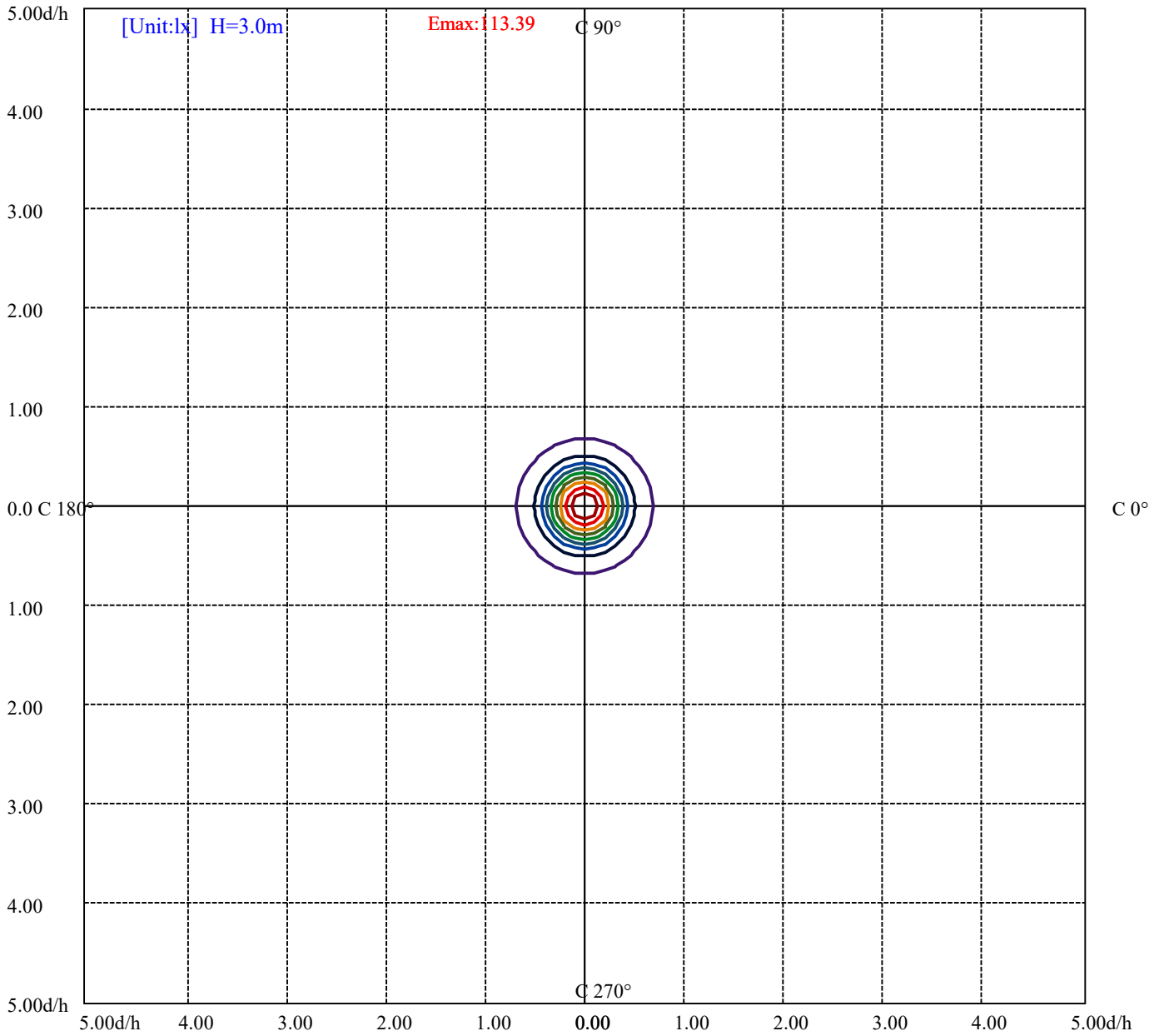
House

[Unit:cd]

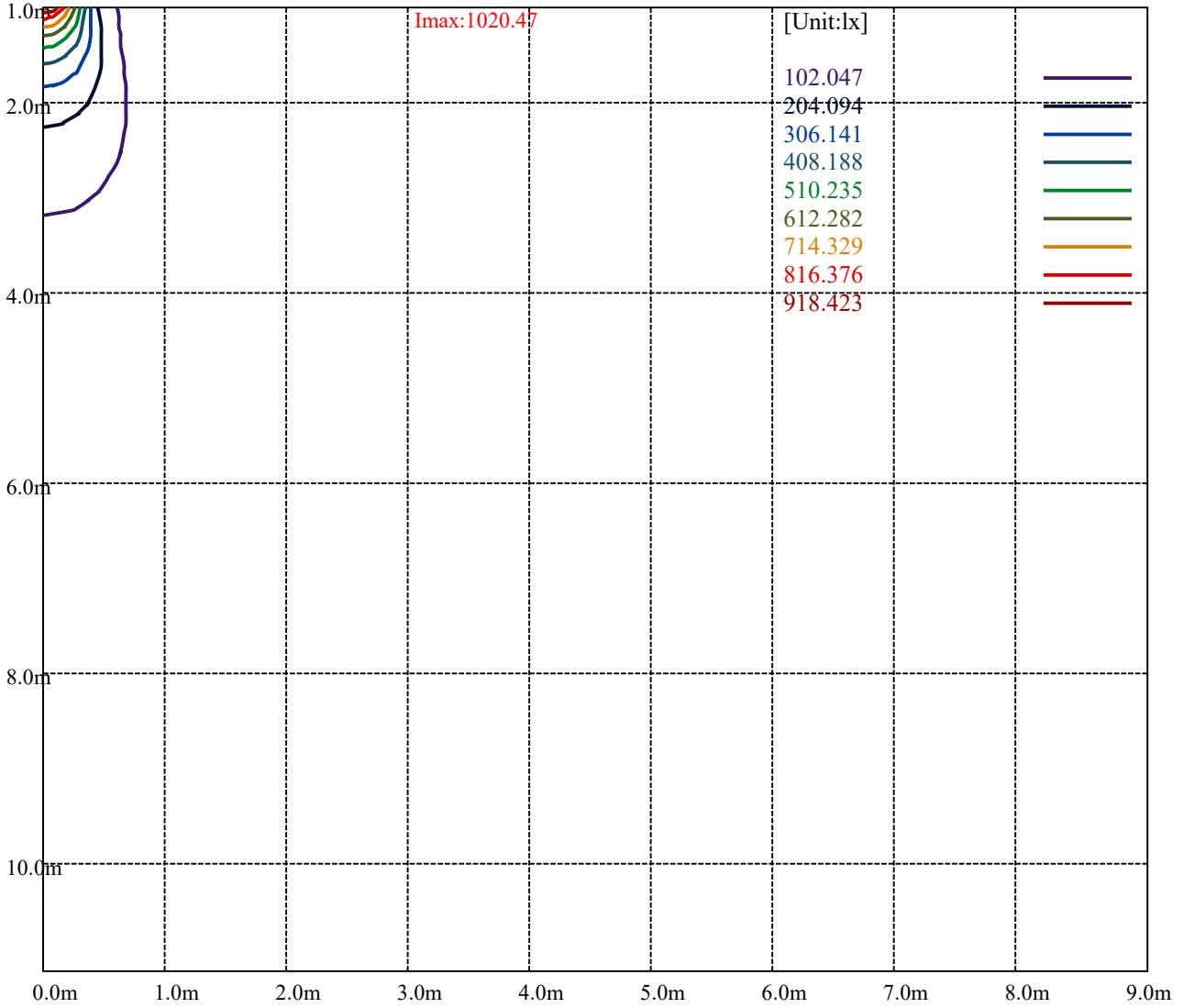
Road

Imax:1020.47

(10%Imax)	102.047	—
(20%Imax)	204.094	—
(30%Imax)	306.141	—
(40%Imax)	408.188	—
(50%Imax)	510.235	—
(60%Imax)	612.282	—
(70%Imax)	714.329	—
(80%Imax)	816.376	—
(90%Imax)	918.423	—



- (10%E_{max}) 11.33856
- (20%E_{max}) 22.67711
- (30%E_{max}) 34.01567
- (40%E_{max}) 45.35422
- (50%E_{max}) 56.69278
- (60%E_{max}) 68.03133
- (70%E_{max}) 79.36989
- (80%E_{max}) 90.70844
- (90%E_{max}) 102.047



Luminance Table

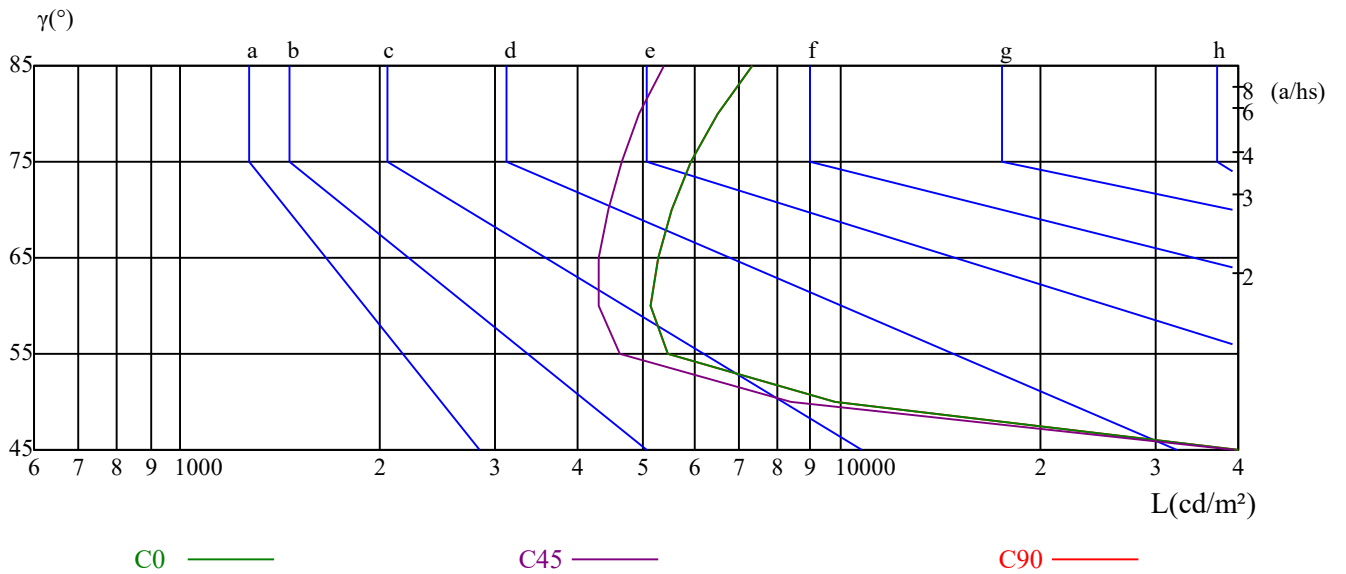
γ	45	50	55	60	65	70	75	80	85
C0	45302	9783	5485	5167	5288	5558	5949	6502	7343
C45	39407	8385	4628	4288	4310	4439	4644	4942	5404
C90	45302	9783	5485	5167	5288	5558	5949	6502	7343

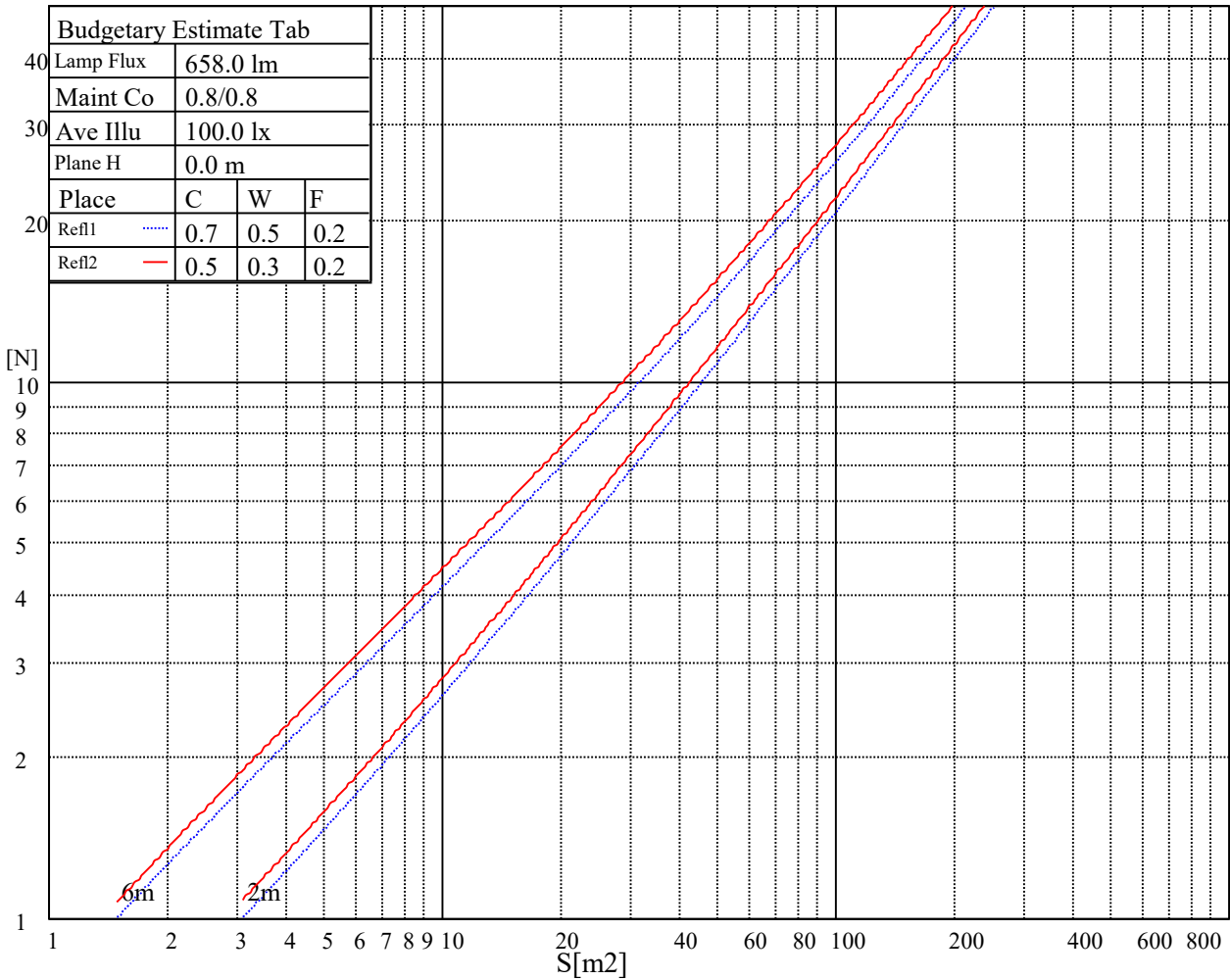
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
11698	11698	11698	18498	18498	18498	54781	54781	54781

Glare Table

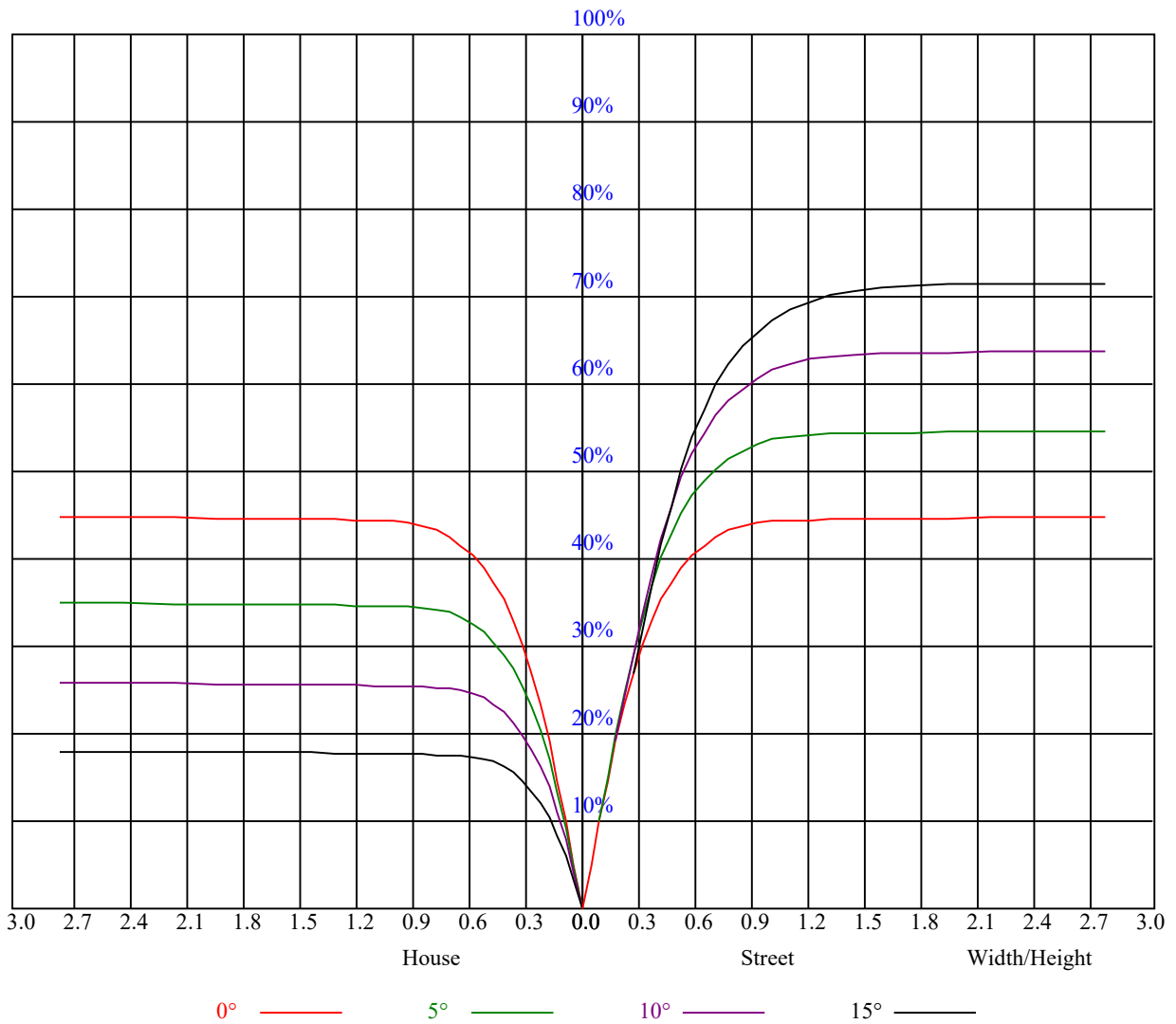
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.01	1.01	1.01	0.96	0.96	0.96	0.93	0.93	0.93	0.91
1	1.00	0.98	0.95	0.98	0.96	0.94	0.94	0.93	0.91	0.91	0.90	0.88	0.88	0.87	0.86	0.84
2	0.94	0.90	0.87	0.92	0.89	0.86	0.90	0.87	0.85	0.87	0.85	0.83	0.84	0.83	0.81	0.80
3	0.89	0.85	0.81	0.87	0.84	0.81	0.85	0.82	0.79	0.83	0.80	0.78	0.81	0.79	0.77	0.75
4	0.84	0.79	0.76	0.83	0.79	0.76	0.81	0.77	0.75	0.79	0.76	0.74	0.78	0.75	0.73	0.72
5	0.80	0.75	0.72	0.79	0.75	0.71	0.77	0.74	0.71	0.76	0.73	0.70	0.75	0.72	0.69	0.68
6	0.76	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.65
7	0.73	0.68	0.64	0.72	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.62
8	0.69	0.65	0.61	0.69	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.60	0.59
9	0.66	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.58	0.64	0.61	0.58	0.64	0.60	0.58	0.57
10	0.64	0.59	0.56	0.63	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.55



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	1020.42	995.86	910.25	761.60	593.45	369.37	243.18	186.75	116.77
45.0	1017.06	985.01	898.19	735.06	530.74	328.96	223.31	166.60	96.68
90.0	1021.68	986.94	879.86	701.31	469.03	282.22	209.65	149.75	72.95
135.0	1022.73	1007.37	924.45	736.93	492.75	296.09	213.73	159.11	87.04
180.0	1020.42	1000.21	901.11	719.92	473.65	276.44	204.37	155.04	78.95
225.0	1017.06	996.74	906.56	745.35	518.08	304.24	219.45	171.89	97.61
270.0	1021.68	1007.37	937.56	803.00	588.61	370.47	242.69	191.49	130.98
315.0	1022.73	997.40	904.58	751.19	549.52	335.84	233.55	182.57	109.89
360.0	1020.42	995.86	910.25	761.60	593.45	369.37	243.18	186.75	116.77
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	38.81	6.17	3.47	2.75	2.64	2.59	2.59	2.53	2.53
45.0	24.22	5.45	2.86	2.70	2.59	2.53	2.53	2.53	2.53
90.0	13.71	4.90	2.75	2.64	2.59	2.53	2.53	2.53	2.64
135.0	19.05	5.34	2.81	2.64	2.64	2.59	2.53	2.53	2.53
180.0	14.37	4.68	2.75	2.70	2.59	2.59	2.53	2.48	2.53
225.0	26.76	5.23	2.92	2.70	2.59	2.53	2.48	2.48	2.48
270.0	45.75	6.44	3.36	2.75	2.64	2.59	2.53	2.48	2.48
315.0	29.51	6.33	3.14	2.75	2.64	2.59	2.53	2.53	2.48
360.0	38.81	6.17	3.47	2.75	2.64	2.59	2.59	2.53	2.53
C/ γ (°)	90.0								
0.0	2.48								
45.0	2.42								
90.0	2.42								
135.0	3.47								
180.0	2.42								
225.0	2.42								
270.0	2.42								
315.0	2.42								
360.0	2.48								