
Nata

LumCAT: 1408-N	
Luminaire: 92.70.064.00	
Report No: NT2018041117	Voltage(V): 36.8000
Test No: nata-0100	Current(A): 0.2400
LampCAT: SAMSUNG LC008	Power (W): 8.8320
Lamp flux(lm): 1044.2	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 39	Width(mm): 39
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 905.95
Efficiency(%): 86.76%
Lumens(lm)/Power(W): 102.58
Central intensity(cd): 890.592
Maximum intensity(cd): 890.592
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=56.9
[C90/270]Total=56.9
Field angle(10%Imax): [C0/180]Total=98.2
[C90/270]Total=98.2
Maximum s/h(1/2): C0_180=0.84 C90_270=0.84
Maximum s/h(1/4): C0_180=0.89 C90_270=0.89
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 87.19%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.902%

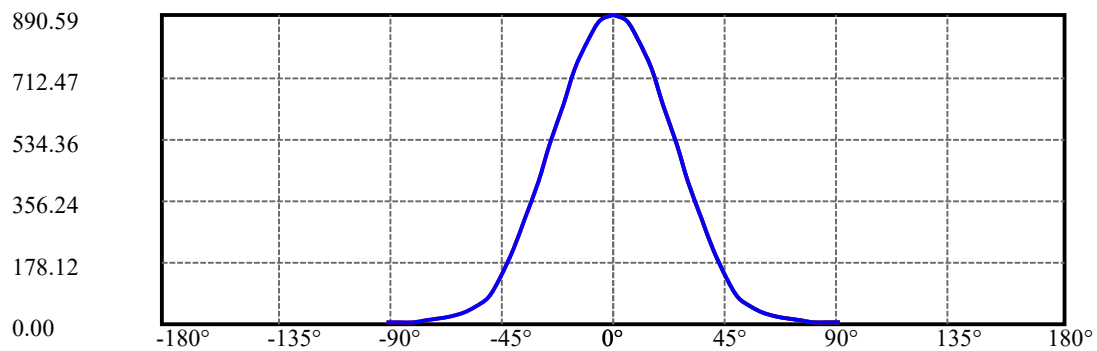
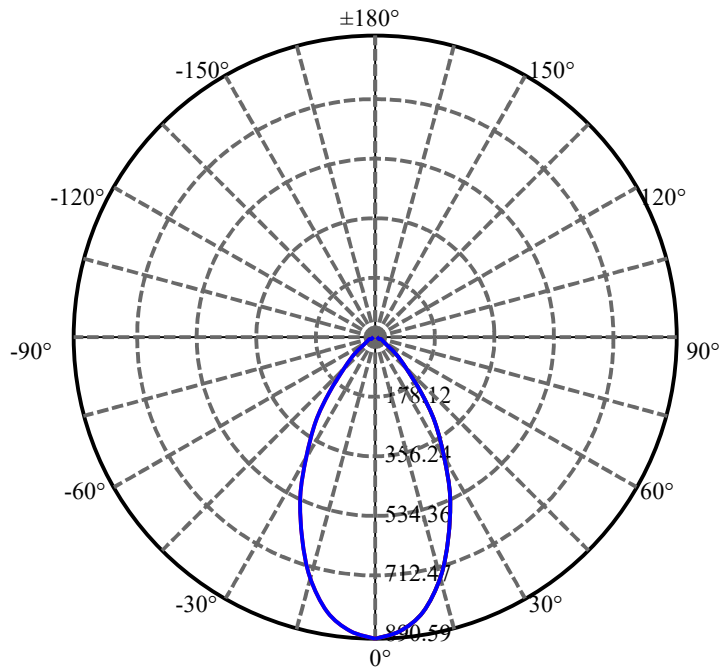
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	890.592	5.326	5.326	.510%	.588%
5.0	873.415	41.726	47.052	3.996%	5.194%
10.0	820.891	78.135	125.187	7.483%	13.818%
15.0	734.728	104.235	229.421	9.982%	25.324%
20.0	632.763	118.627	348.048	11.360%	38.418%
25.0	517.860	119.964	468.012	11.488%	51.660%
30.0	411.987	112.913	580.925	10.813%	64.123%
35.0	304.517	95.740	676.664	9.168%	74.691%
40.0	213.344	75.169	751.833	7.198%	82.988%
45.0	131.199	50.852	802.685	4.870%	88.601%
50.0	79.667	33.452	836.137	3.203%	92.294%
55.0	48.284	21.680	857.817	2.076%	94.687%
60.0	32.208	15.289	873.106	1.464%	96.374%
65.0	22.188	11.022	884.128	1.056%	97.591%
70.0	16.021	8.252	892.381	.790%	98.502%
75.0	11.121	5.888	898.269	.564%	99.152%
80.0	7.543	4.072	902.341	.390%	99.601%
85.0	4.845	2.646	904.986	.253%	99.893%
90.0	3.524	0.966	905.952	.092%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	580.92	55.63%	64.12%
0-40	751.83	72.00%	82.99%
0-60	873.11	83.61%	96.37%
0-90	904.99	86.67%	99.89%
0-120	904.99	86.67%	99.89%
0-180	905.95	86.76%	100.00%
60-90	47.17	4.52%	5.21%
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%
0-38.20	724.76	69.41%	80.00%

ZONAL LUMEN SUMMARY

0-10	125.19
10-20	222.86
20-30	232.88
30-40	170.91
40-50	84.30
50-60	36.97
60-70	19.27
70-80	9.96
80-90	2.65
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:

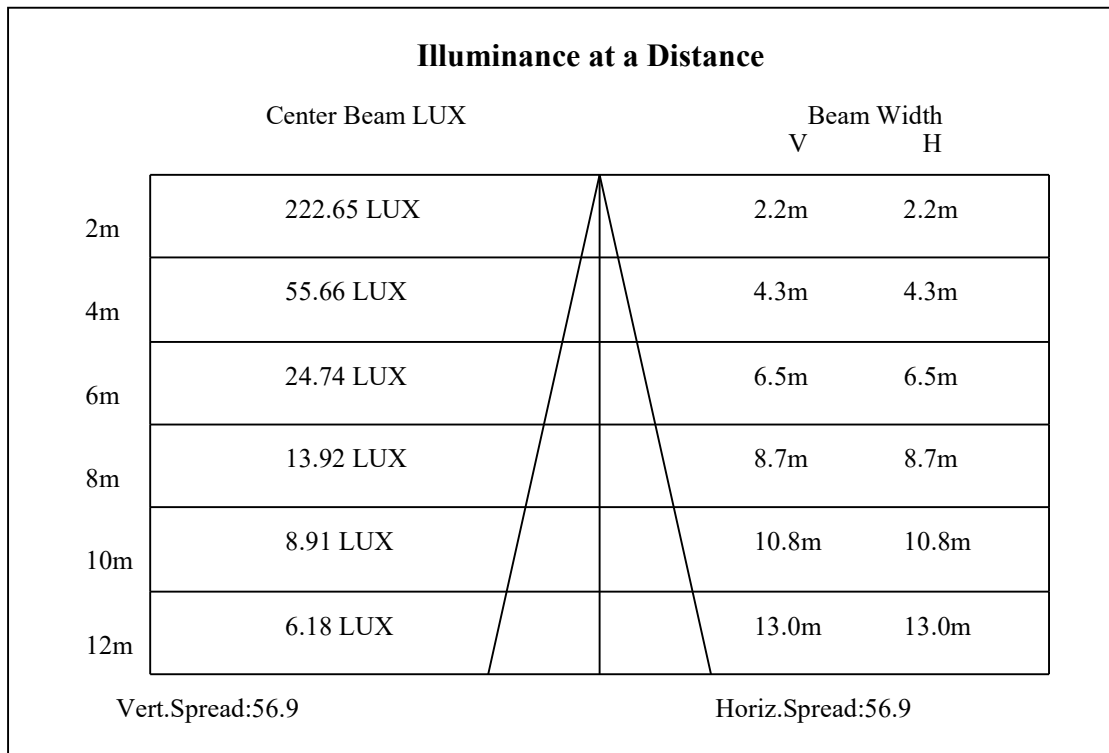
C90/C270:

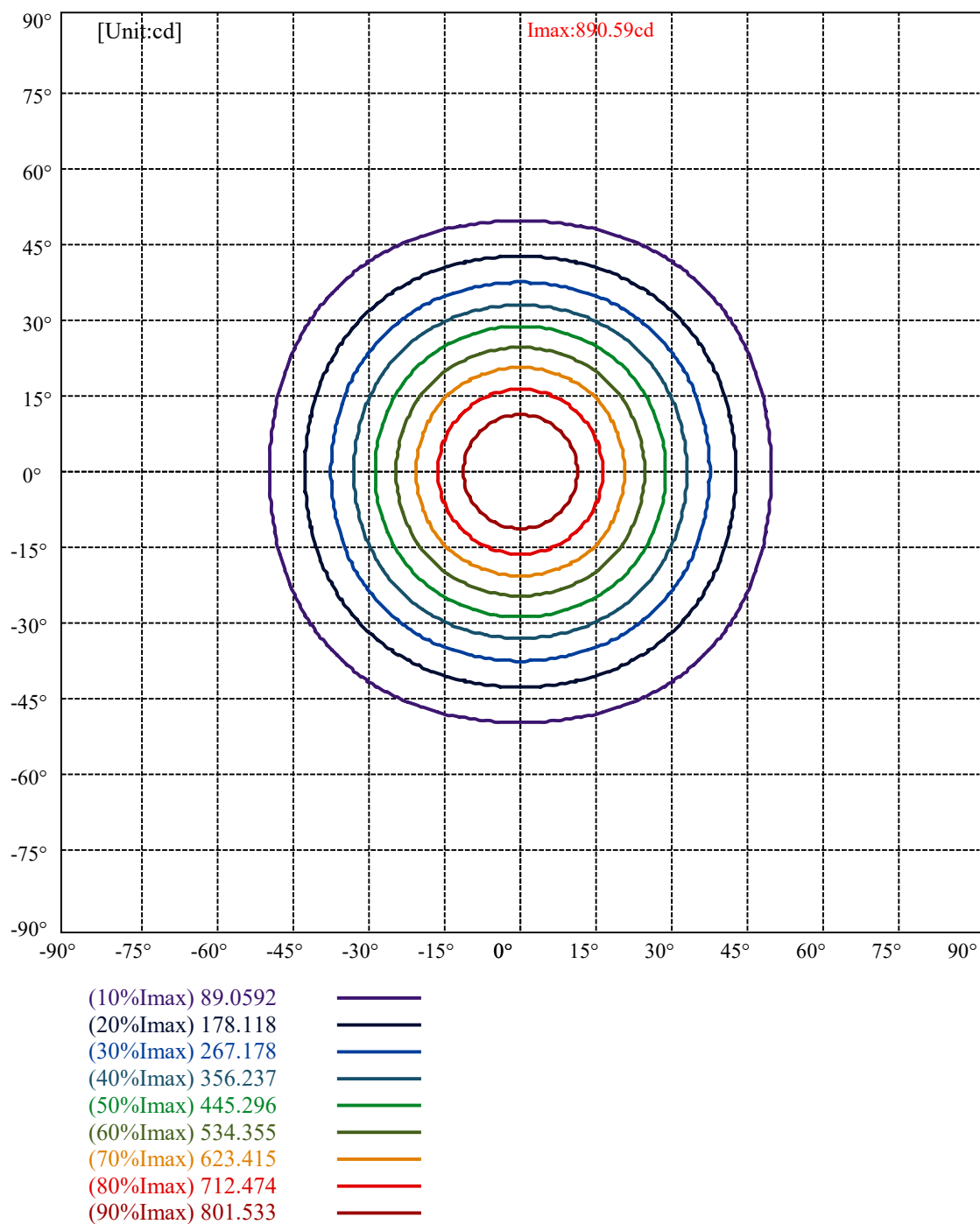
Field angle(10%Imax):C0/180Left:49.1 Right:49.1

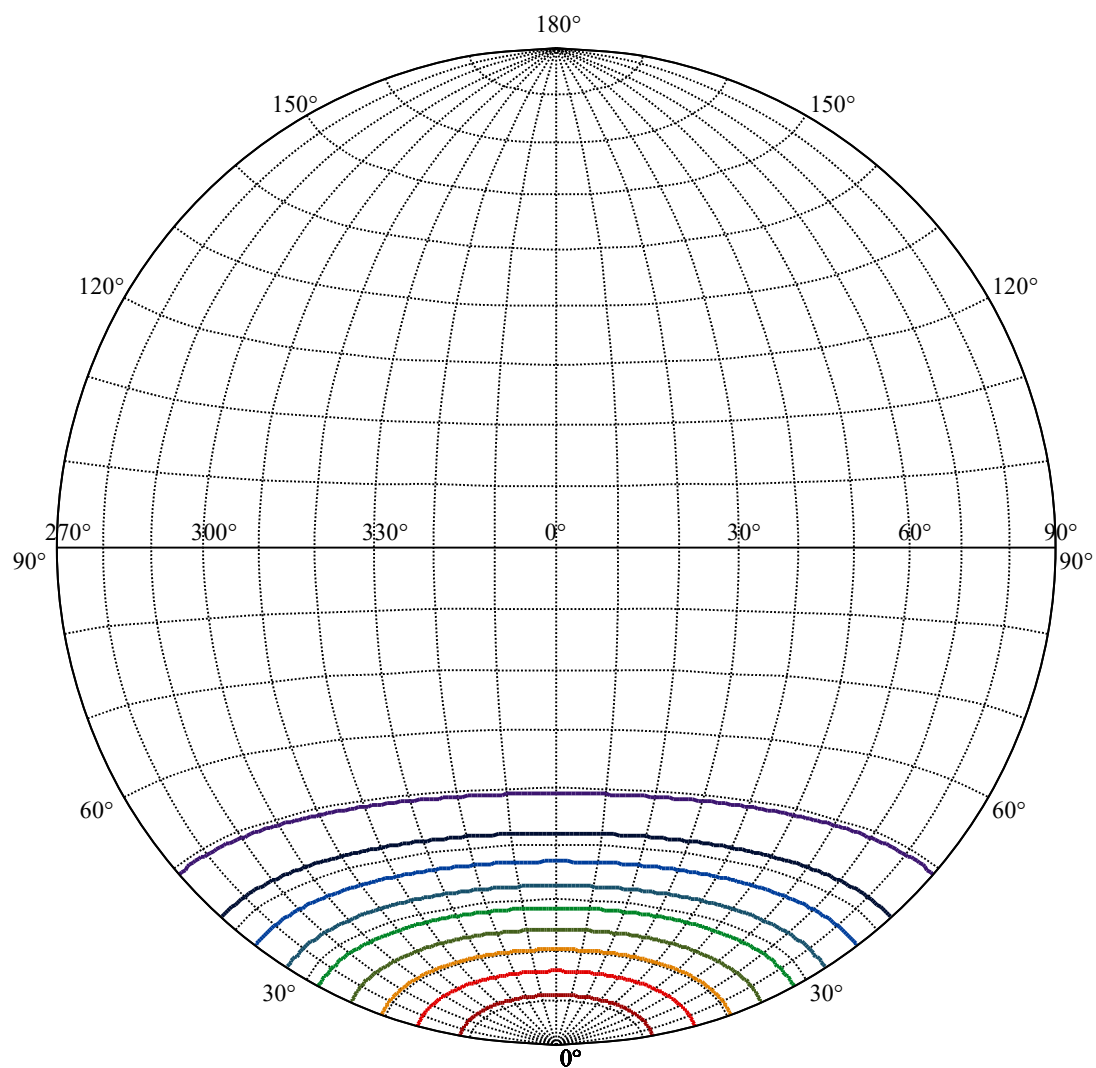
:C90/270Left:49.1 Right:49.1

Beam Angle(50%Imax):C0/180Left:28.4 Right:28.4

:C90/270Left:28.4 Right:28.4







House

[Unit:cd]

Road

Imax:890.59

(10%Imax) 89.0592

(20%Imax) 178.118

(30%Imax) 267.178

(40%Imax) 356.237

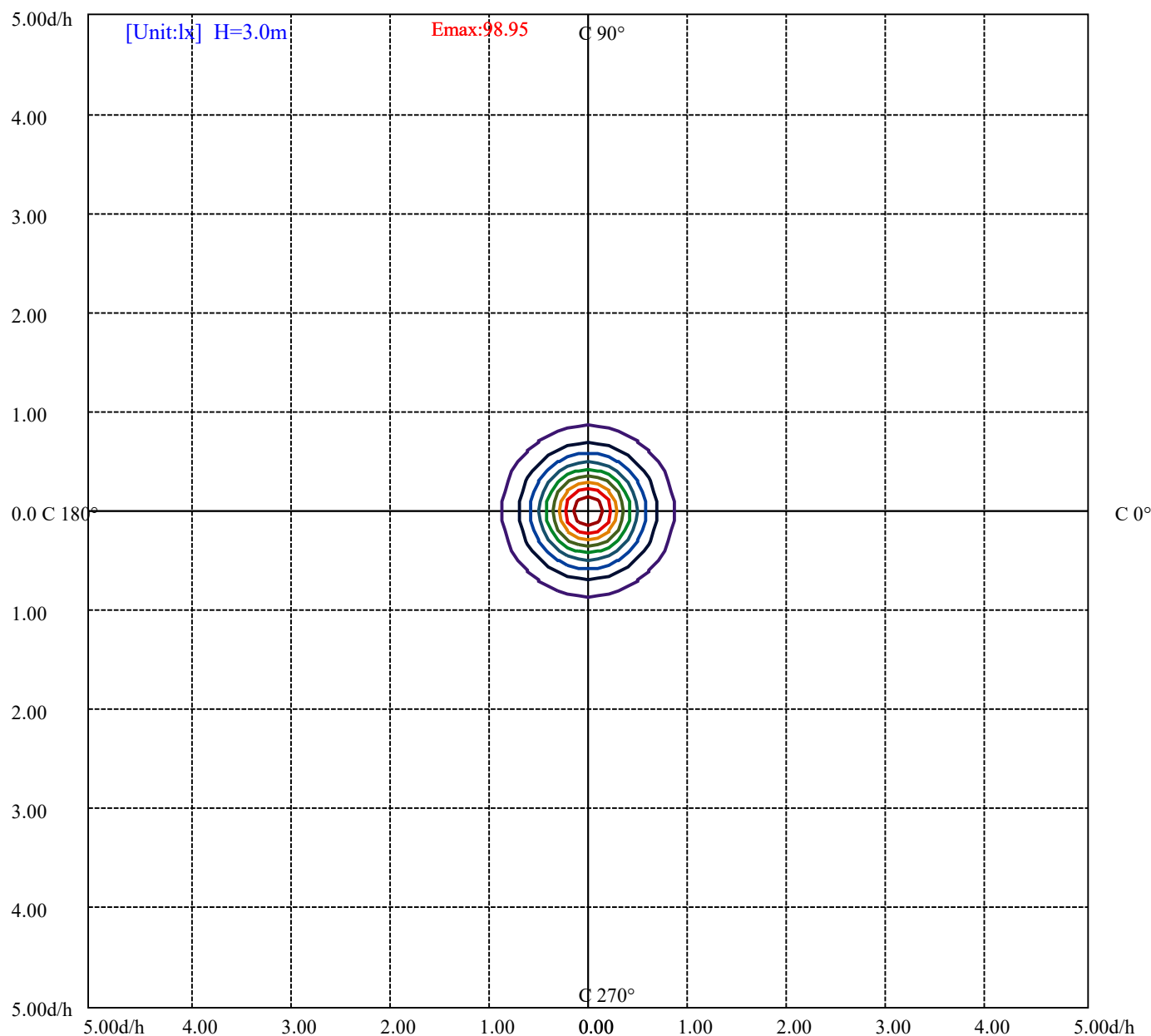
(50%Imax) 445.296

(60%Imax) 534.355

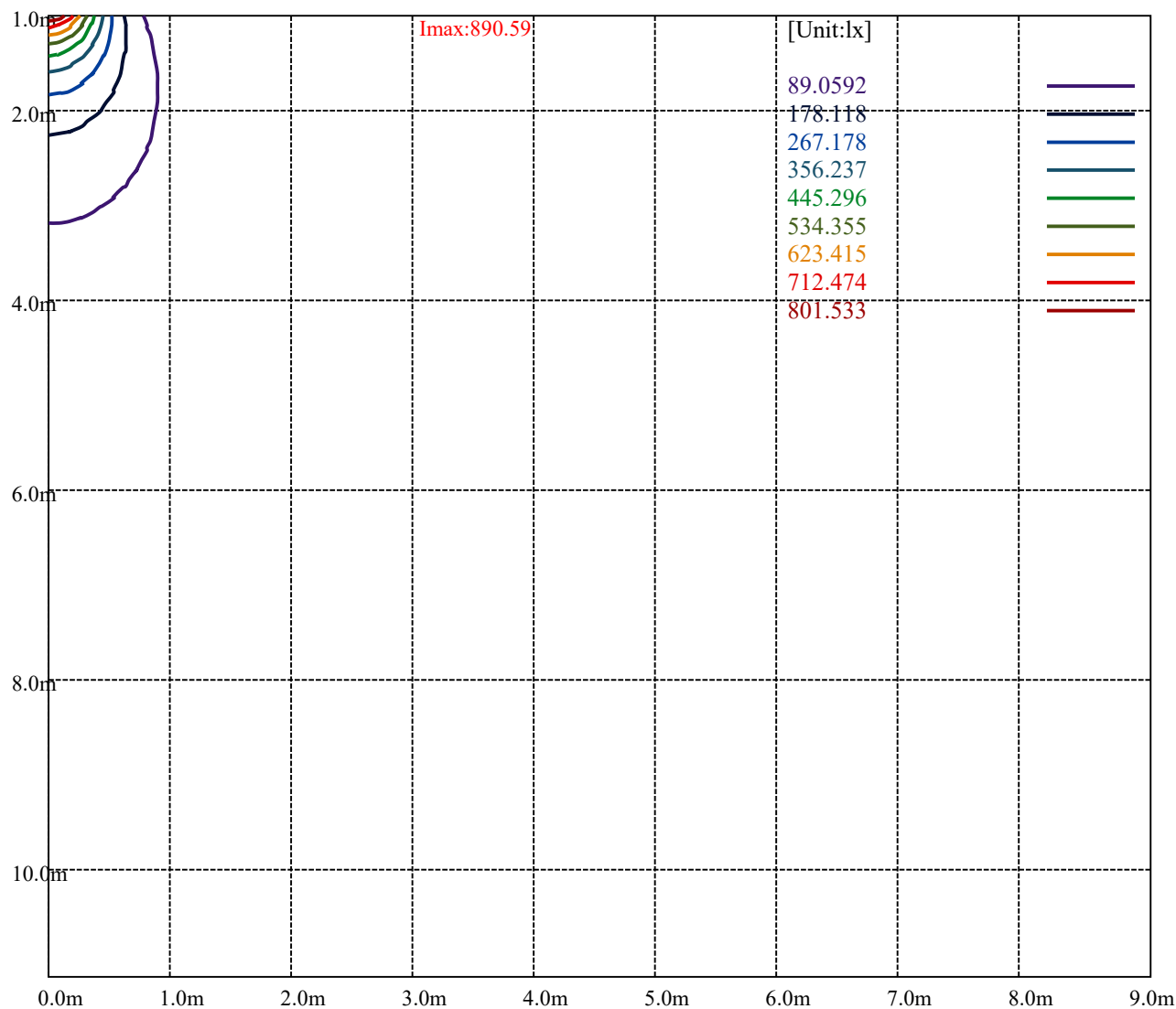
(70%Imax) 623.415

(80%Imax) 712.474

(90%Imax) 801.533



(10%Emax)	9.895466	—
(20%Emax)	19.79089	—
(30%Emax)	29.68645	—
(40%Emax)	39.58189	—
(50%Emax)	49.47733	—
(60%Emax)	59.37278	—
(70%Emax)	69.26822	—
(80%Emax)	79.16367	—
(90%Emax)	89.05923	—



Luminance Table

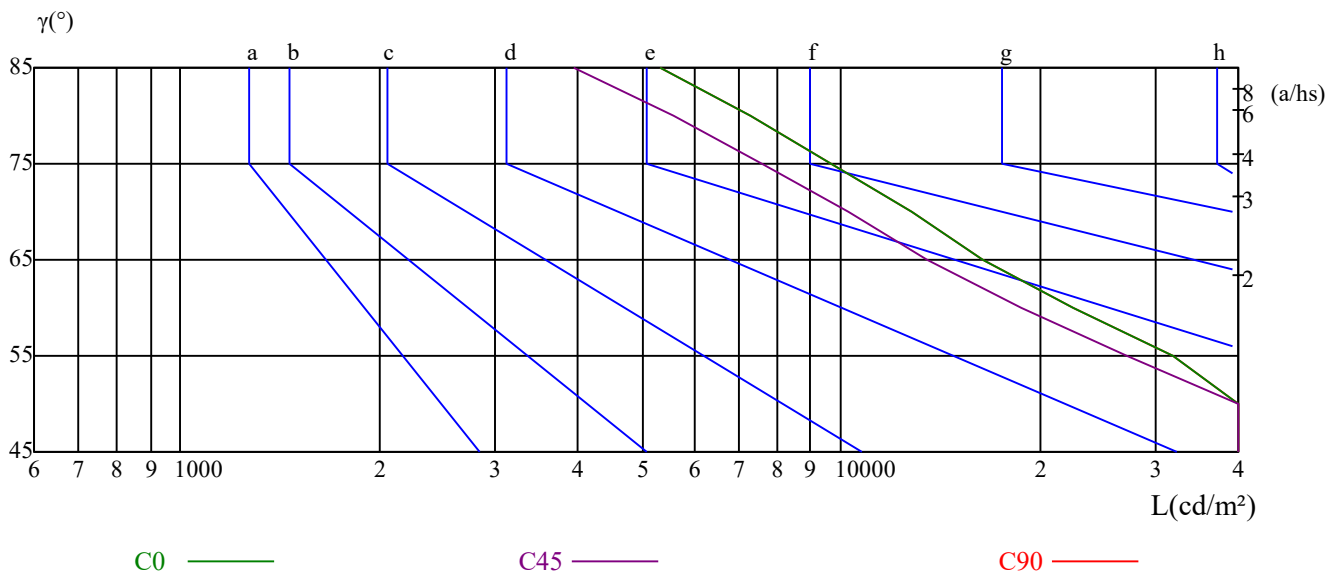
γ	45	50	55	60	65	70	75	80	85
C0	80636	50576	31948	22429	16439	12785	9695	7307	5327
C45	70708	43708	27187	18771	13508	10291	7622	5585	3934
C90	80636	50576	31948	22429	16439	12785	9695	7307	5327

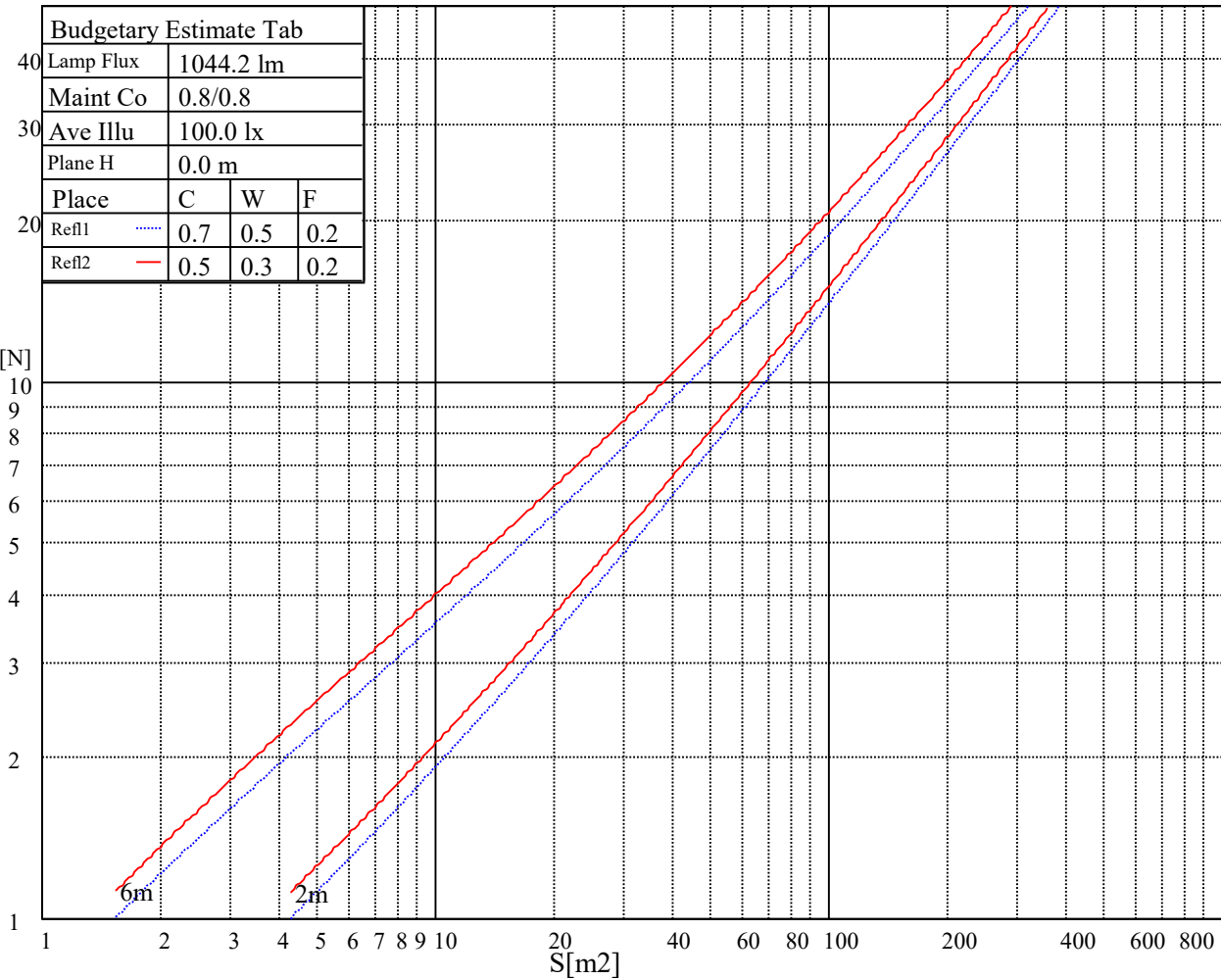
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
34517	34517	34517	28251	28251	28251	36548	36548	36548

Glare Table

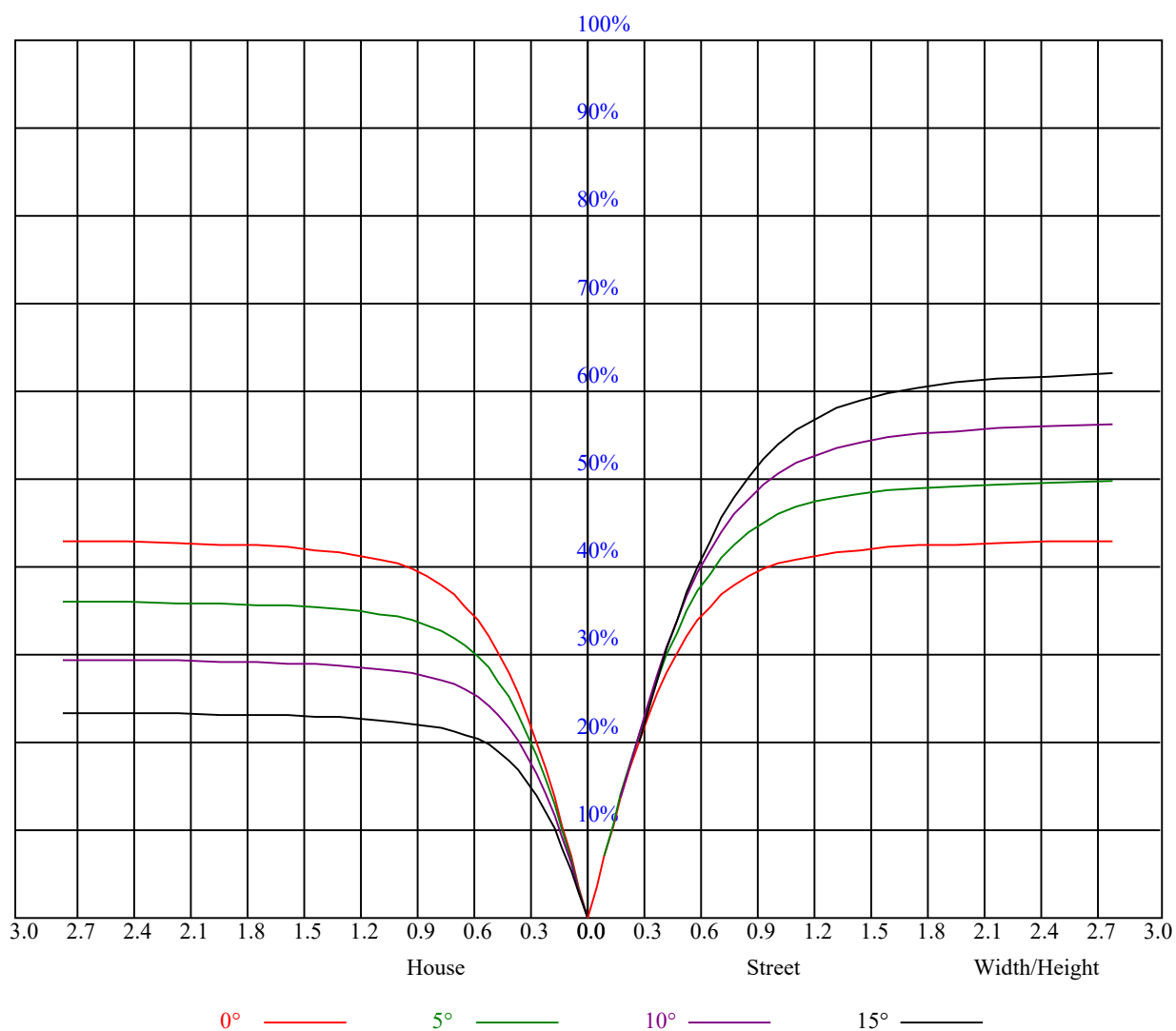
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





RHOC	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	1.04	1.04	1.04	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.95	0.93	0.90	0.93	0.91	0.89	0.90	0.88	0.86	0.86	0.85	0.83	0.83	0.82	0.81	0.79
2	0.88	0.84	0.80	0.86	0.83	0.79	0.83	0.80	0.78	0.81	0.78	0.76	0.78	0.76	0.74	0.73
3	0.81	0.76	0.73	0.80	0.76	0.72	0.78	0.74	0.71	0.75	0.72	0.70	0.73	0.71	0.69	0.67
4	0.75	0.70	0.66	0.74	0.70	0.66	0.73	0.68	0.65	0.71	0.67	0.64	0.69	0.66	0.63	0.62
5	0.70	0.65	0.61	0.70	0.64	0.61	0.68	0.63	0.60	0.66	0.63	0.59	0.65	0.62	0.59	0.58
6	0.66	0.60	0.56	0.65	0.60	0.56	0.64	0.59	0.56	0.63	0.58	0.55	0.61	0.58	0.55	0.54
7	0.62	0.56	0.52	0.61	0.56	0.52	0.60	0.55	0.52	0.59	0.55	0.52	0.58	0.54	0.51	0.50
8	0.58	0.53	0.49	0.58	0.53	0.49	0.57	0.52	0.49	0.56	0.52	0.48	0.55	0.51	0.48	0.47
9	0.55	0.50	0.46	0.55	0.49	0.46	0.54	0.49	0.46	0.53	0.49	0.46	0.52	0.48	0.45	0.44
10	0.52	0.47	0.43	0.52	0.47	0.43	0.51	0.46	0.43	0.50	0.46	0.43	0.50	0.46	0.43	0.42



Nata 1408-N

Intensity data(cd)										Appendix Page: 14 Total:14	
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	890.59	873.41	820.89	734.73	632.76	517.86	411.99	304.52	213.34		
45.0	890.59	873.41	820.89	734.73	632.76	517.86	411.99	304.52	213.34		
90.0	890.59	873.41	820.89	734.73	632.76	517.86	411.99	304.52	213.34		
135.0	890.59	873.41	820.89	734.73	632.76	517.86	411.99	304.52	213.34		
180.0	890.59	873.41	820.89	734.73	632.76	517.86	411.99	304.52	213.34		
225.0	890.59	873.41	820.89	734.73	632.76	517.86	411.99	304.52	213.34		
270.0	890.59	873.41	820.89	734.73	632.76	517.86	411.99	304.52	213.34		
315.0	890.59	873.41	820.89	734.73	632.76	517.86	411.99	304.52	213.34		
360.0	890.59	873.41	820.89	734.73	632.76	517.86	411.99	304.52	213.34		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	131.20	79.67	48.28	32.21	22.19	16.02	11.12	7.54	4.84		
45.0	131.20	79.67	48.28	32.21	22.19	16.02	11.12	7.54	4.84		
90.0	131.20	79.67	48.28	32.21	22.19	16.02	11.12	7.54	4.84		
135.0	131.20	79.67	48.28	32.21	22.19	16.02	11.12	7.54	4.84		
180.0	131.20	79.67	48.28	32.21	22.19	16.02	11.12	7.54	4.84		
225.0	131.20	79.67	48.28	32.21	22.19	16.02	11.12	7.54	4.84		
270.0	131.20	79.67	48.28	32.21	22.19	16.02	11.12	7.54	4.84		
315.0	131.20	79.67	48.28	32.21	22.19	16.02	11.12	7.54	4.84		
360.0	131.20	79.67	48.28	32.21	22.19	16.02	11.12	7.54	4.84		
C/γ(°)	90.0										
0.0	3.52										
45.0	3.52										
90.0	3.52										
135.0	3.52										
180.0	3.52										
225.0	3.52										
270.0	3.52										
315.0	3.52										
360.0	3.52										