
Nata

LumCAT: 1408-N	
Luminaire: 92.70.132.00	
Report No: NT2018040907	Voltage(V): 35.2000
Test No: nata-0100	Current(A): 0.3000
LampCAT: LUMILEDS 1203	Power (W): 10.5600
Lamp flux(lm): 1169.0	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): 923.06
Efficiency(%): 78.96%
Lumens(lm)/Power(W): 87.41
Central intensity(cd): 890.978
Maximum intensity(cd): 890.978
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=57.6
[C90/270]Total=57.6
Field angle(10%Imax): [C0/180]Total=98.4
[C90/270]Total=98.4
Maximum s/h(1/2): C0_180=0.85 C90_270=0.85
Maximum s/h(1/4): C0_180=0.90 C90_270=0.90
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 79.34%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.206%

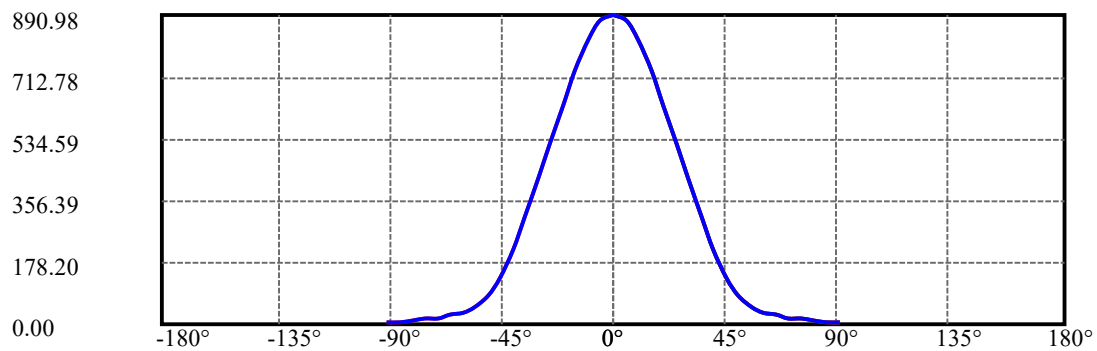
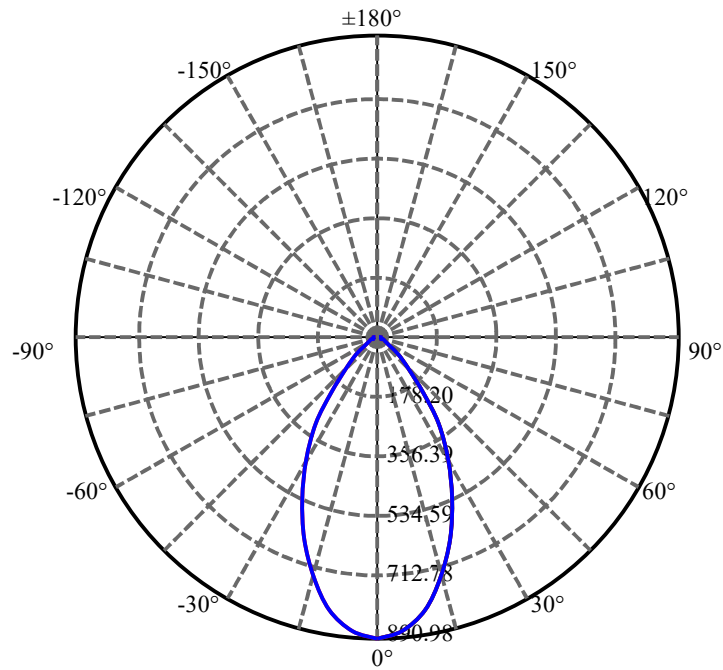
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	890.978	5.328	5.328	.456%	.577%
5.0	873.422	41.726	47.054	3.569%	5.098%
10.0	819.253	77.979	125.033	6.671%	13.546%
15.0	732.106	103.863	228.896	8.885%	24.798%
20.0	632.474	118.572	347.469	10.143%	37.643%
25.0	522.933	121.139	468.607	10.363%	50.767%
30.0	420.507	115.248	583.855	9.859%	63.252%
35.0	312.493	98.247	682.103	8.404%	73.896%
40.0	215.663	75.986	758.088	6.500%	82.128%
45.0	132.184	51.233	809.322	4.383%	87.679%
50.0	81.091	34.050	843.372	2.913%	91.367%
55.0	50.907	22.857	866.229	1.955%	93.844%
60.0	35.415	16.812	883.041	1.438%	95.665%
65.0	25.374	12.605	895.646	1.078%	97.031%
70.0	19.242	9.911	905.557	.848%	98.104%
75.0	14.487	7.670	913.227	.656%	98.935%
80.0	9.821	5.301	918.529	.453%	99.510%
85.0	6.442	3.517	922.046	.301%	99.891%
90.0	3.682	1.009	923.055	.086%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	583.86	49.94%	63.25%
0-40	758.09	64.85%	82.13%
0-60	883.04	75.54%	95.66%
0-90	922.05	78.87%	99.89%
0-120	922.05	78.87%	99.89%
0-180	923.06	78.96%	100.00%
60-90	55.82	4.77%	6.05%
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%
0-38.71	738.44	63.17%	80.00%

ZONAL LUMEN SUMMARY

0-10	125.03
10-20	222.44
20-30	236.39
30-40	174.23
40-50	85.28
50-60	39.67
60-70	22.52
70-80	12.97
80-90	3.52
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:

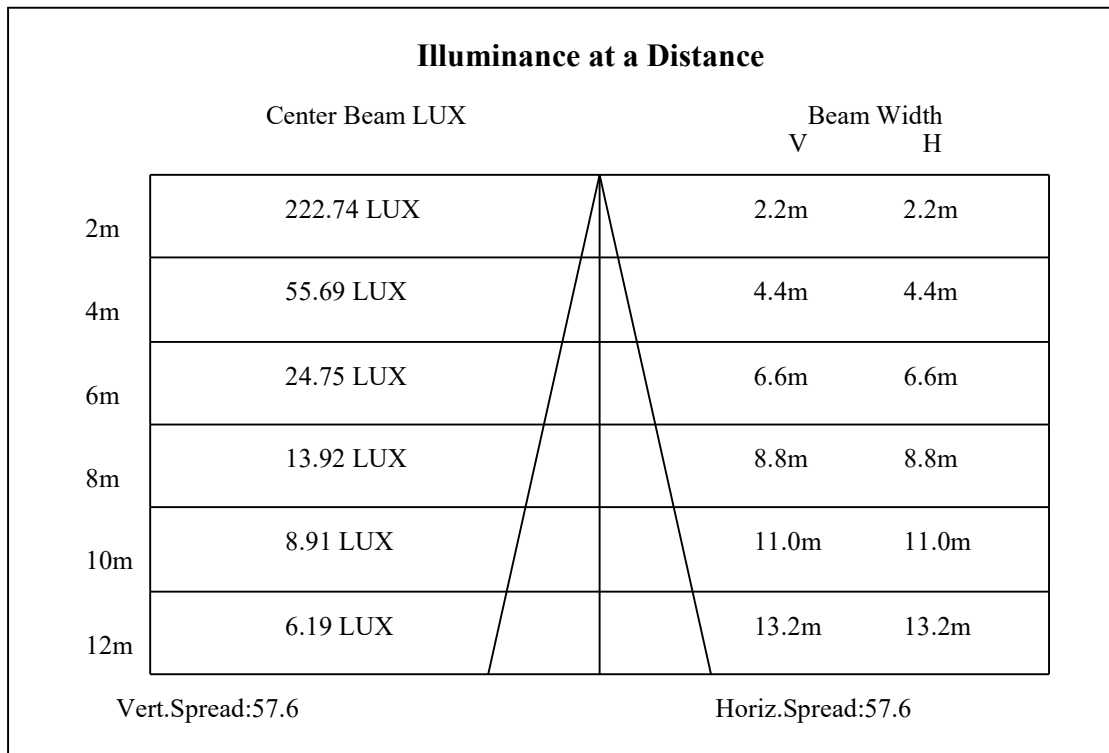
C90/C270:

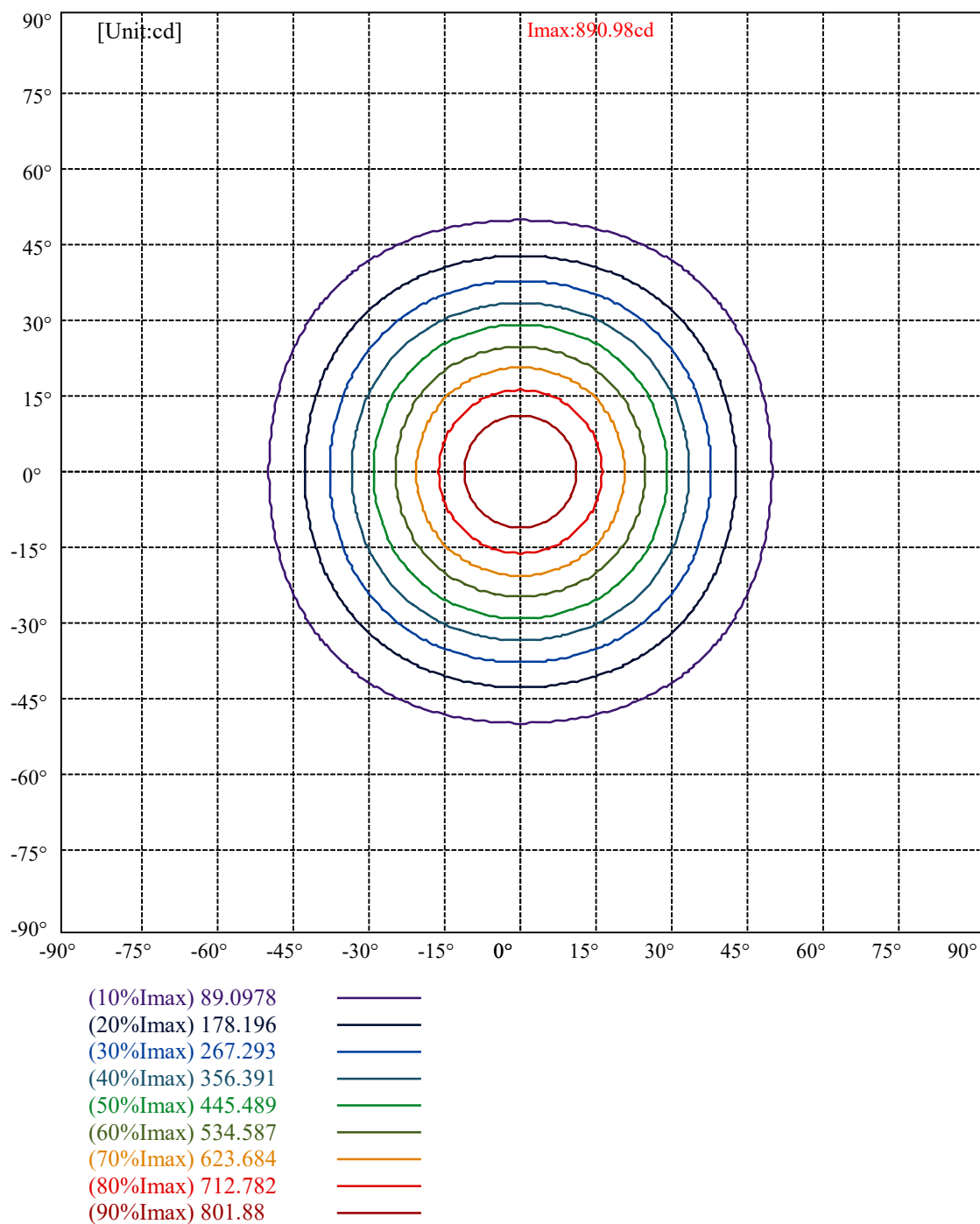
Field angle(10%Imax):C0/180Left:49.2 Right:49.2

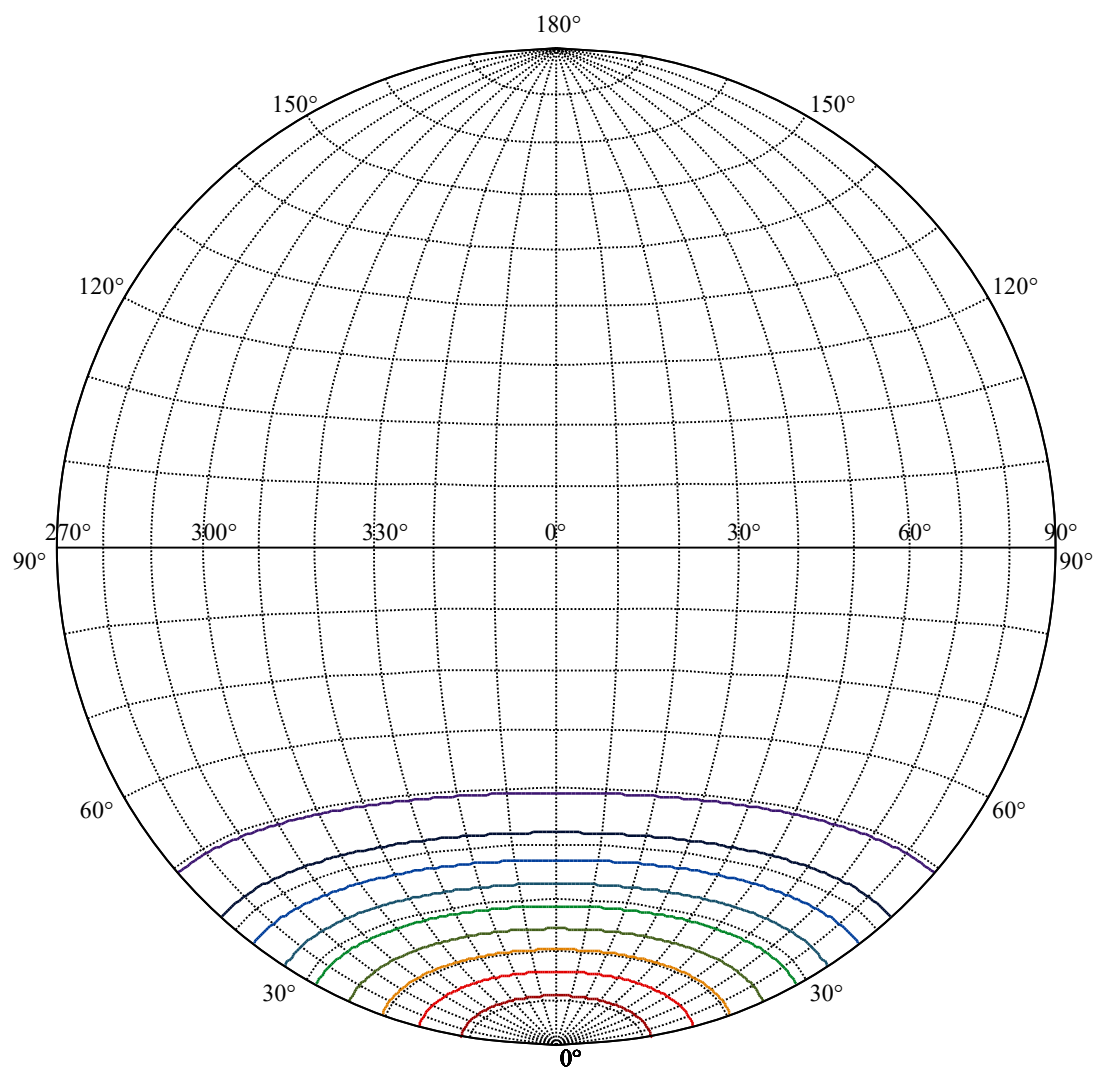
:C90/270Left:49.2 Right:49.2

Beam Angle(50%Imax):C0/180Left:28.8 Right:28.8

:C90/270Left:28.8 Right:28.8







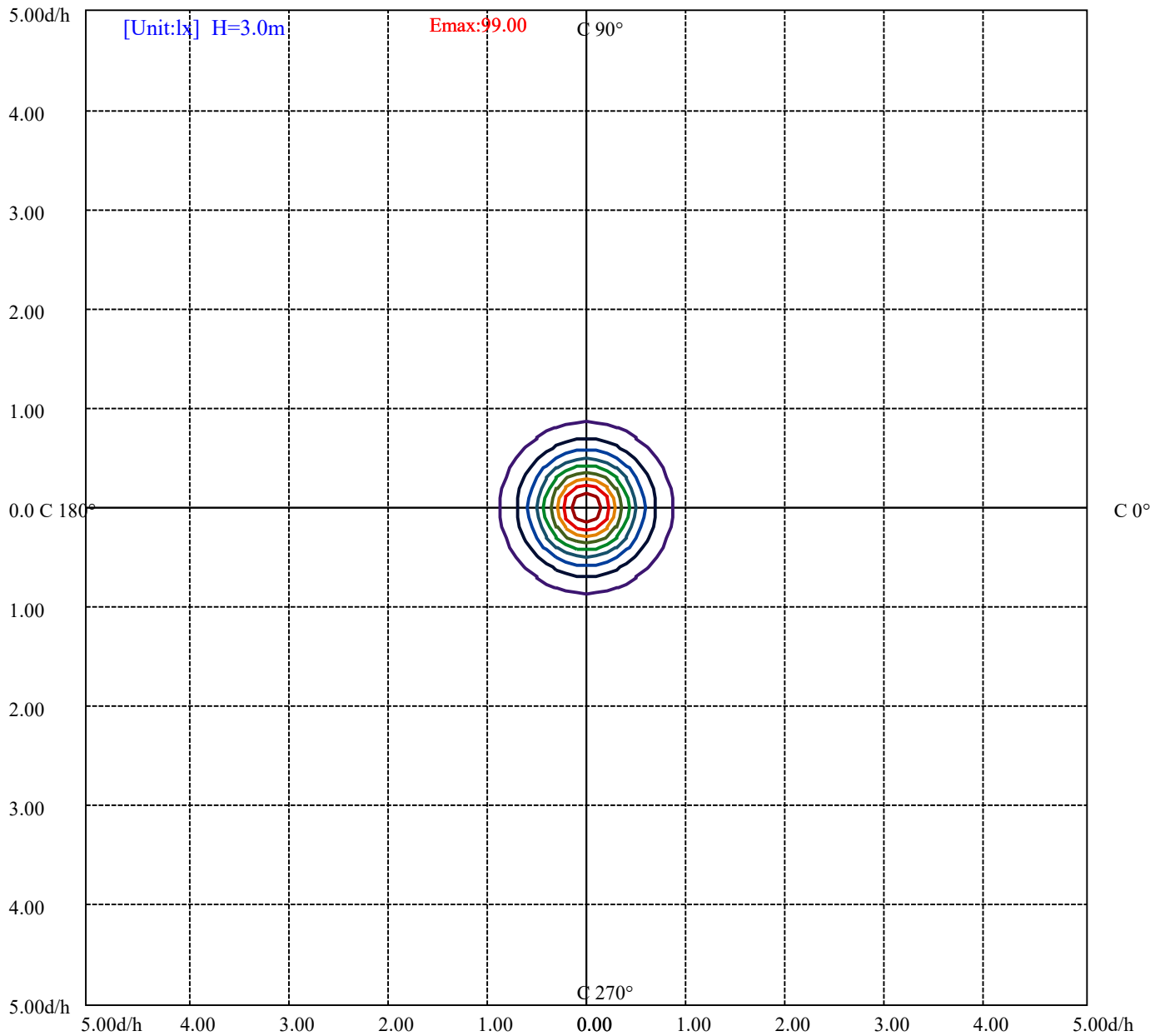
House

[Unit:cd]

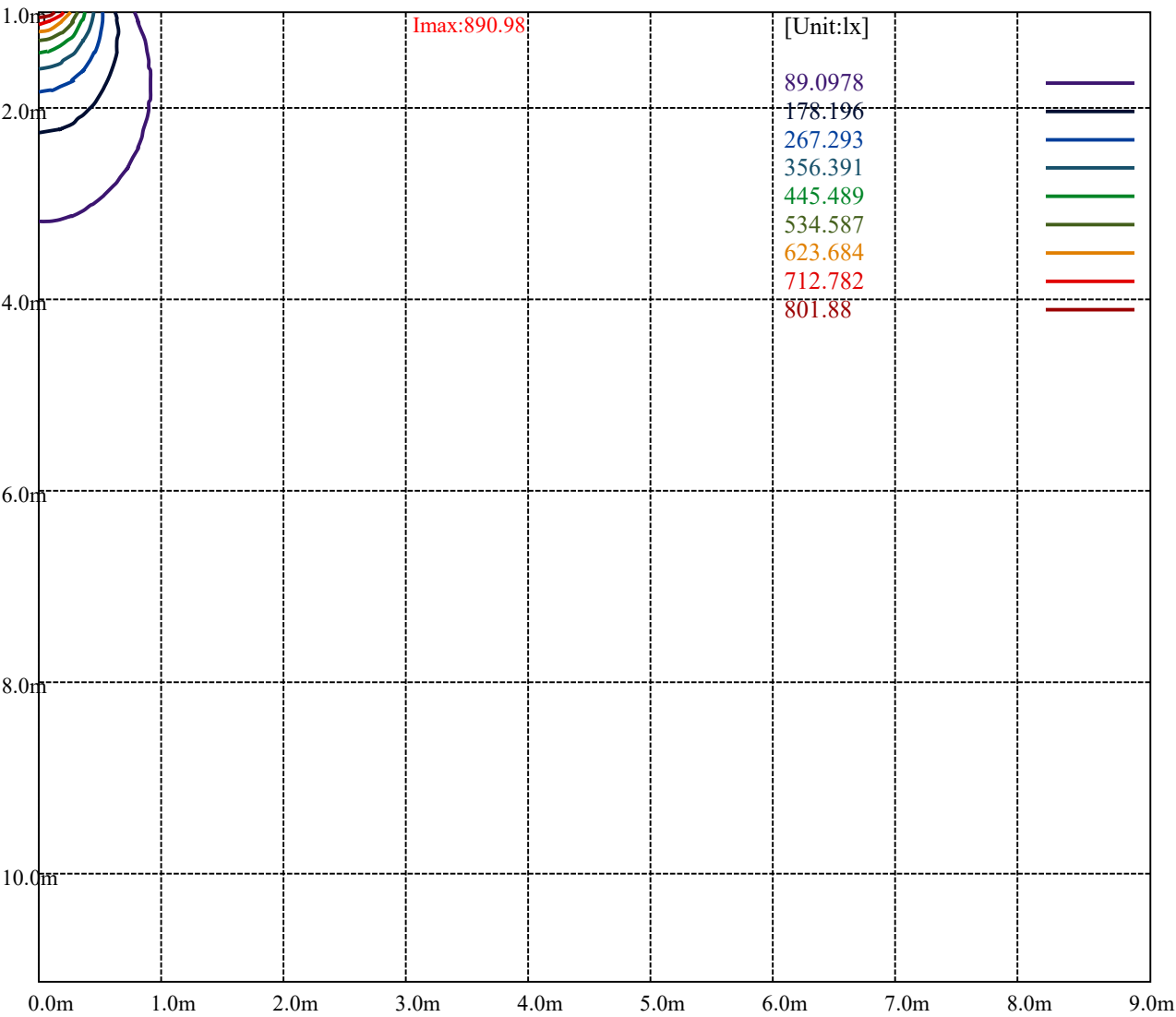
Road

Imax:890.98
(10%Imax) 89.0978
(20%Imax) 178.196
(30%Imax) 267.293
(40%Imax) 356.391
(50%Imax) 445.489
(60%Imax) 534.587
(70%Imax) 623.684
(80%Imax) 712.782
(90%Imax) 801.88





(10%Emax)	9.899745	—
(20%Emax)	19.79945	—
(30%Emax)	29.69922	—
(40%Emax)	39.599	—
(50%Emax)	49.49878	—
(60%Emax)	59.39845	—
(70%Emax)	69.29823	—
(80%Emax)	79.198	—
(90%Emax)	89.09778	—



Luminance Table

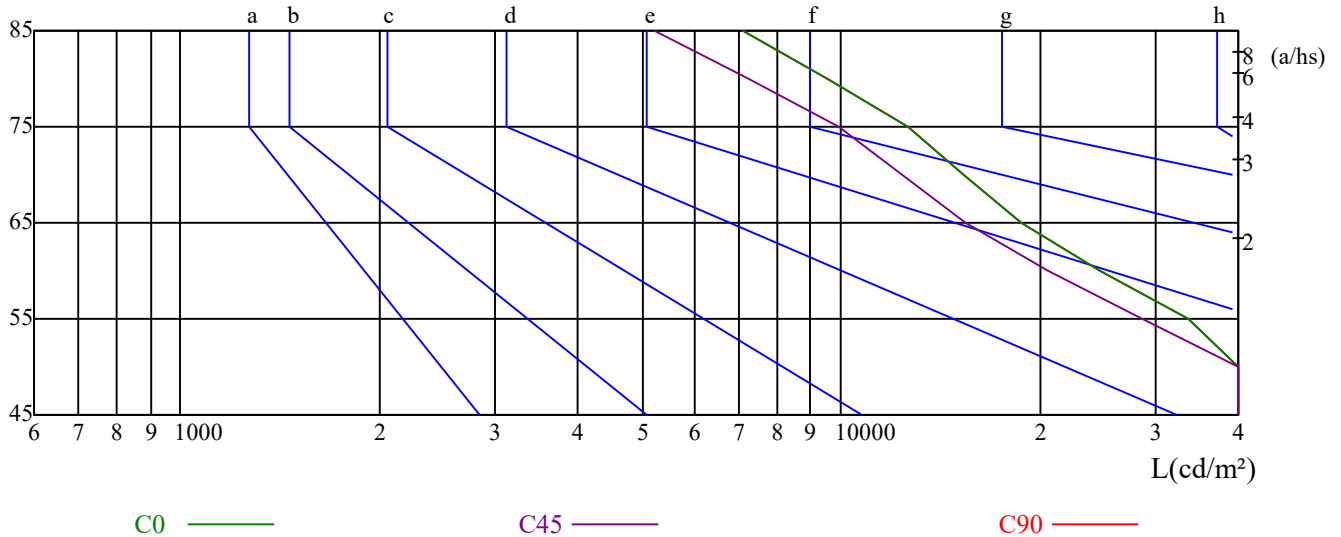
γ	45	50	55	60	65	70	75	80	85
C0	81241	51480	33683	24662	18800	15355	12629	9514	7082
C45	71238	44490	28663	20641	15448	12360	9928	7272	5231
C90	81241	51480	33683	24662	18800	15355	12629	9514	7082

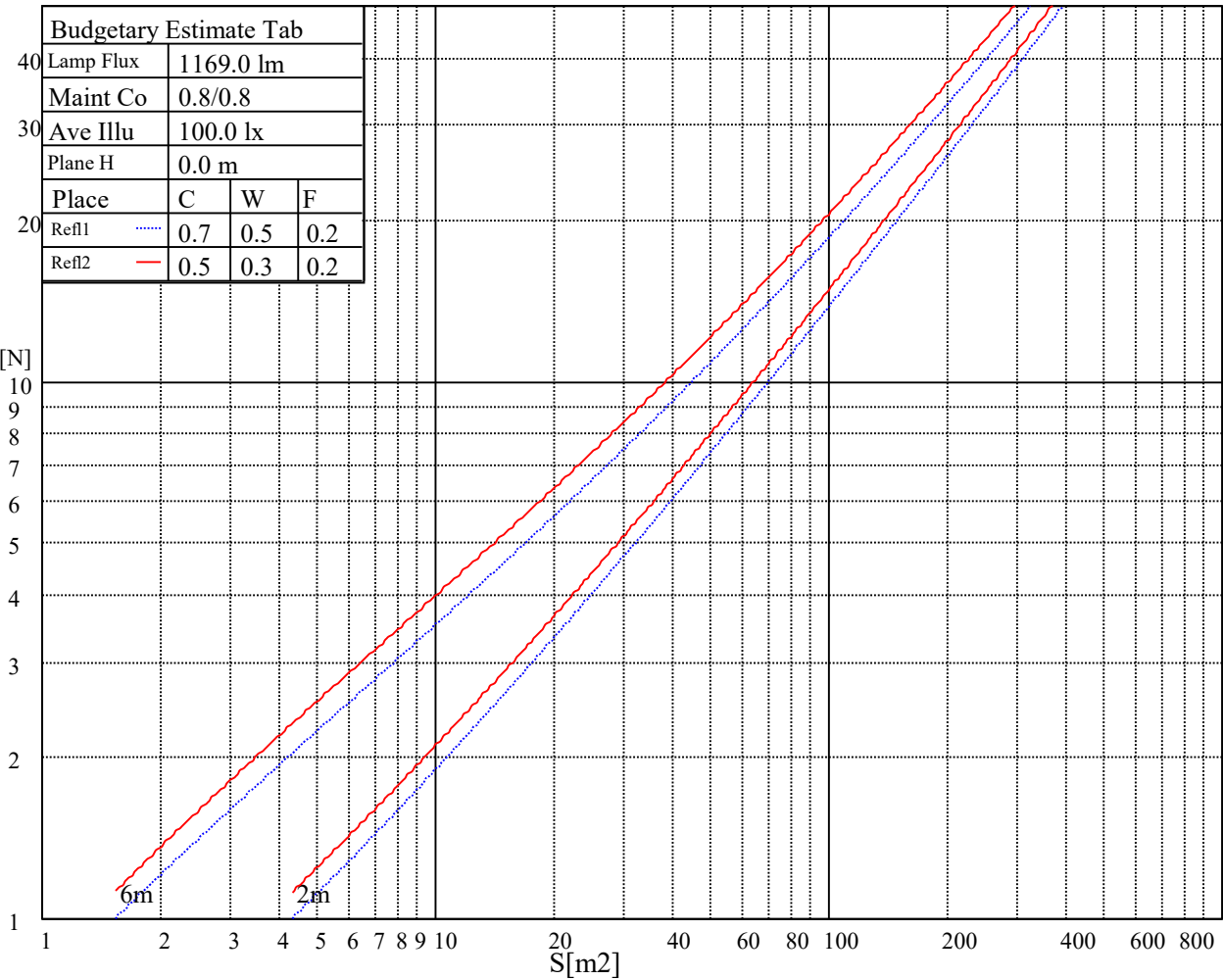
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
39474	39474	39474	36800	36800	36800	48592	48592	48592

Glare Table

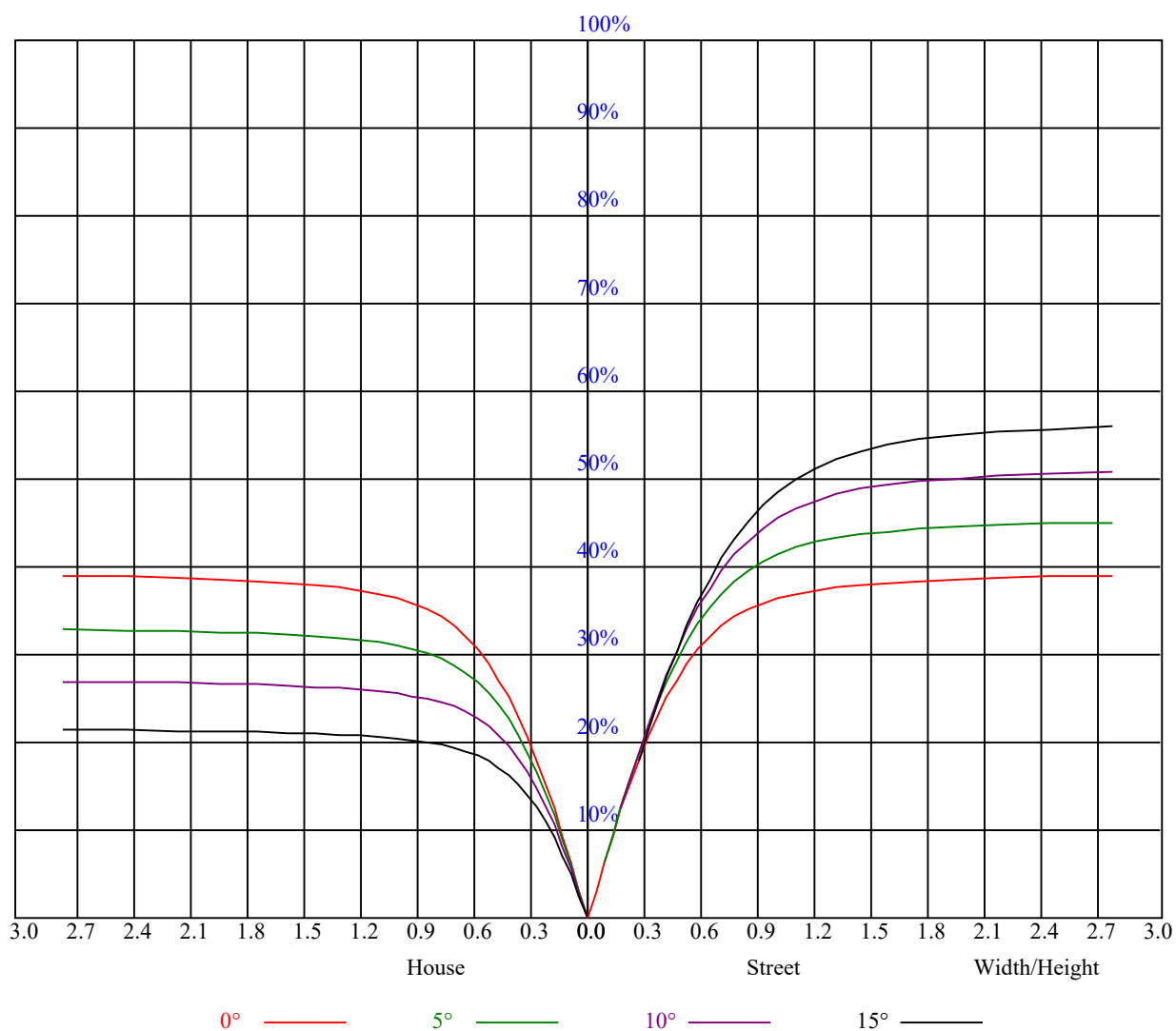
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

 $\gamma(^{\circ})$ 



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	0.94	0.94	0.94	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84	0.81	0.81	0.81	0.79
1	0.86	0.84	0.82	0.85	0.83	0.81	0.81	0.80	0.78	0.78	0.77	0.76	0.76	0.75	0.74	0.72
2	0.80	0.76	0.73	0.78	0.75	0.72	0.76	0.73	0.70	0.73	0.71	0.69	0.71	0.69	0.67	0.66
3	0.74	0.69	0.66	0.72	0.68	0.65	0.70	0.67	0.64	0.68	0.65	0.63	0.66	0.64	0.62	0.61
4	0.68	0.63	0.60	0.67	0.63	0.59	0.66	0.62	0.59	0.64	0.61	0.58	0.62	0.60	0.57	0.56
5	0.64	0.59	0.55	0.63	0.58	0.55	0.61	0.57	0.54	0.60	0.56	0.54	0.59	0.56	0.53	0.52
6	0.60	0.54	0.51	0.59	0.54	0.51	0.58	0.53	0.50	0.57	0.53	0.50	0.55	0.52	0.49	0.48
7	0.56	0.51	0.47	0.55	0.50	0.47	0.54	0.50	0.47	0.53	0.49	0.46	0.52	0.49	0.46	0.45
8	0.53	0.48	0.44	0.52	0.47	0.44	0.51	0.47	0.44	0.50	0.46	0.44	0.50	0.46	0.43	0.42
9	0.50	0.45	0.41	0.49	0.45	0.41	0.48	0.44	0.41	0.48	0.44	0.41	0.47	0.43	0.41	0.40
10	0.47	0.42	0.39	0.47	0.42	0.39	0.46	0.42	0.39	0.45	0.41	0.39	0.45	0.41	0.39	0.37



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	891.53	886.30	845.34	766.61	667.01	553.26	447.55	332.21	226.45		
45.0	889.99	878.15	828.60	746.29	652.97	540.32	431.81	322.74	221.00		
90.0	888.34	864.06	805.09	714.36	618.45	509.05	403.23	294.06	205.36		
135.0	894.06	872.20	809.11	719.42	612.01	494.46	400.59	289.65	199.58		
180.0	891.53	858.55	797.38	704.61	602.98	502.33	400.48	291.96	201.51		
225.0	889.99	866.97	809.66	720.41	626.32	519.24	417.38	311.73	210.70		
270.0	888.34	879.80	829.81	746.40	643.00	531.40	428.45	330.12	230.14		
315.0	894.06	881.34	829.04	738.75	637.06	533.39	434.56	327.48	230.58		
360.0	891.53	886.30	845.34	766.61	667.01	553.26	447.55	332.21	226.45		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	143.20	86.55	52.85	37.00	26.70	21.09	17.23	12.72	7.65		
45.0	135.11	80.44	50.65	34.96	25.71	21.42	18.22	11.56	7.76		
90.0	125.47	76.31	48.67	33.91	24.61	19.27	14.98	9.36	6.77		
135.0	124.21	80.33	51.37	36.28	26.54	19.60	14.15	10.02	6.22		
180.0	122.50	76.64	48.34	35.29	24.72	17.95	12.77	8.64	5.56		
225.0	127.29	79.67	50.38	34.69	24.45	18.00	12.44	8.15	5.56		
270.0	141.33	87.10	53.51	36.06	25.38	18.55	12.99	8.97	5.78		
315.0	138.36	81.70	51.48	35.13	24.89	18.06	13.10	9.14	6.22		
360.0	143.20	86.55	52.85	37.00	26.70	21.09	17.23	12.72	7.65		
C/ γ (°)	90.0										
0.0	3.74										
45.0	3.58										
90.0	3.63										
135.0	3.69										
180.0	3.74										
225.0	3.63										
270.0	3.69										
315.0	3.74										
360.0	3.74										