



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: 1658-S	
Luminaire: 92.70.126.00	
Report No: NATA0100	Voltage(V): 36.1000
Test No: GC2018082004	Current(A): 0.4000
LampCAT: LUMINUS CHM-9-AA10	Power (W): 15.4400
Lamp flux(lm): 1813.0	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): 1613.86
Efficiency(%): 89.02%
Lumens(lm)/Power(W): 105.98
Central intensity(cd): 4016.227
Maximum intensity(cd): 4016.227
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=33.7
[C90/270]Total=33.7
Field angle(10%Imax): [C0/180]Total=65.1
[C90/270]Total=65.1
Maximum s/h(1/2): C0_180=0.55 C90_270=0.55
Maximum s/h(1/4): C0_180=0.58 C90_270=0.58
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.26%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.318%

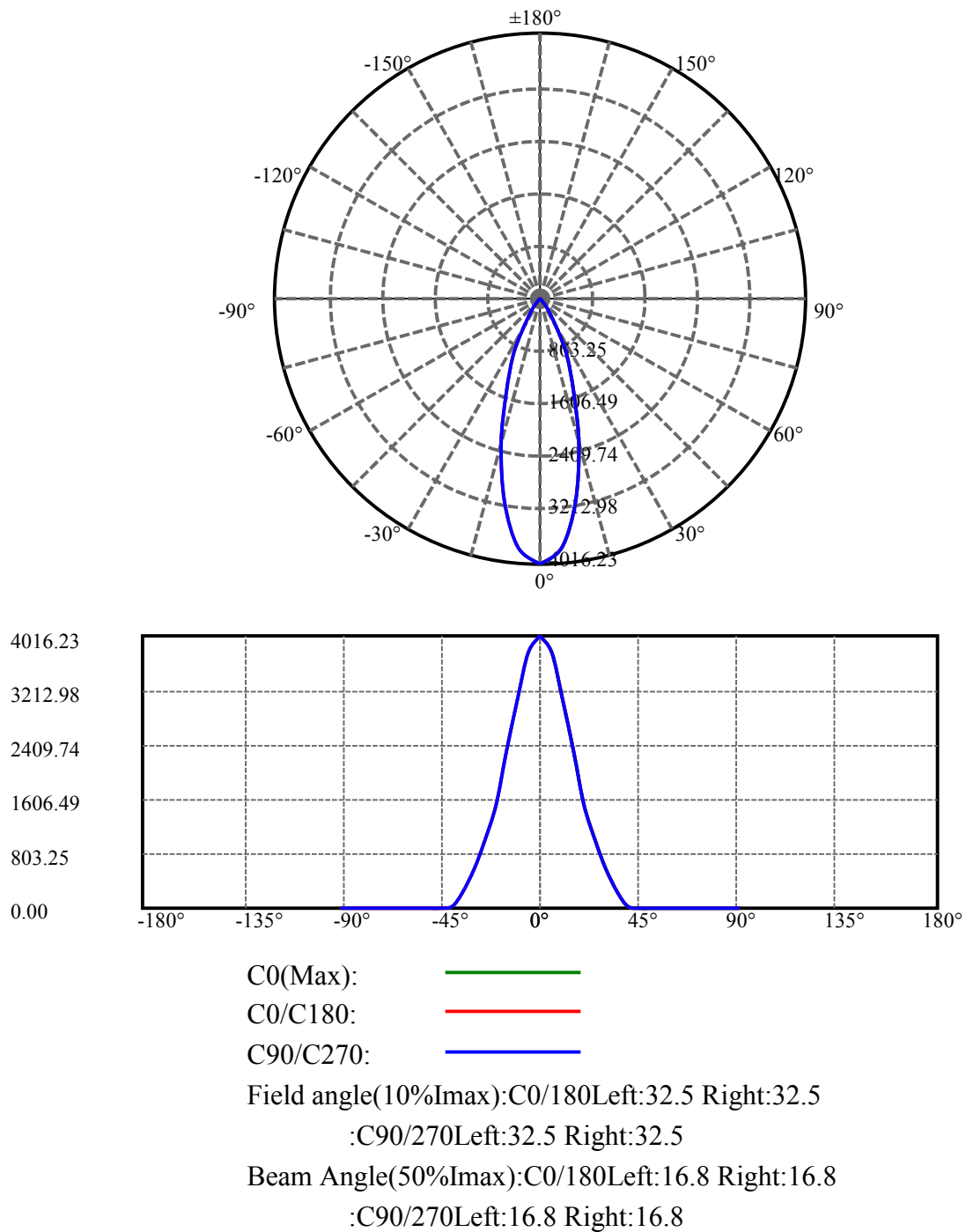
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4016.227	24.018	24.018	1.325%	1.488%
5.0	3773.841	180.289	204.307	9.944%	12.660%
10.0	3128.442	297.775	502.081	16.424%	31.111%
15.0	2283.739	323.990	826.072	17.870%	51.186%
20.0	1532.220	287.251	1113.323	15.844%	68.985%
25.0	968.132	224.271	1337.594	12.370%	82.882%
30.0	578.863	158.648	1496.242	8.751%	92.712%
35.0	229.916	72.285	1568.527	3.987%	97.191%
40.0	25.119	8.850	1577.378	.488%	97.739%
45.0	9.986	3.870	1581.248	.213%	97.979%
50.0	8.926	3.748	1584.996	.207%	98.212%
55.0	8.279	3.717	1588.714	.205%	98.442%
60.0	7.894	3.747	1592.461	.207%	98.674%
65.0	7.618	3.785	1596.245	.209%	98.909%
70.0	7.439	3.832	1600.077	.211%	99.146%
75.0	7.343	3.888	1603.965	.214%	99.387%
80.0	7.302	3.942	1607.907	.217%	99.631%
85.0	7.281	3.976	1611.883	.219%	99.878%
90.0	7.212	1.977	1613.86	.109%	100.000%

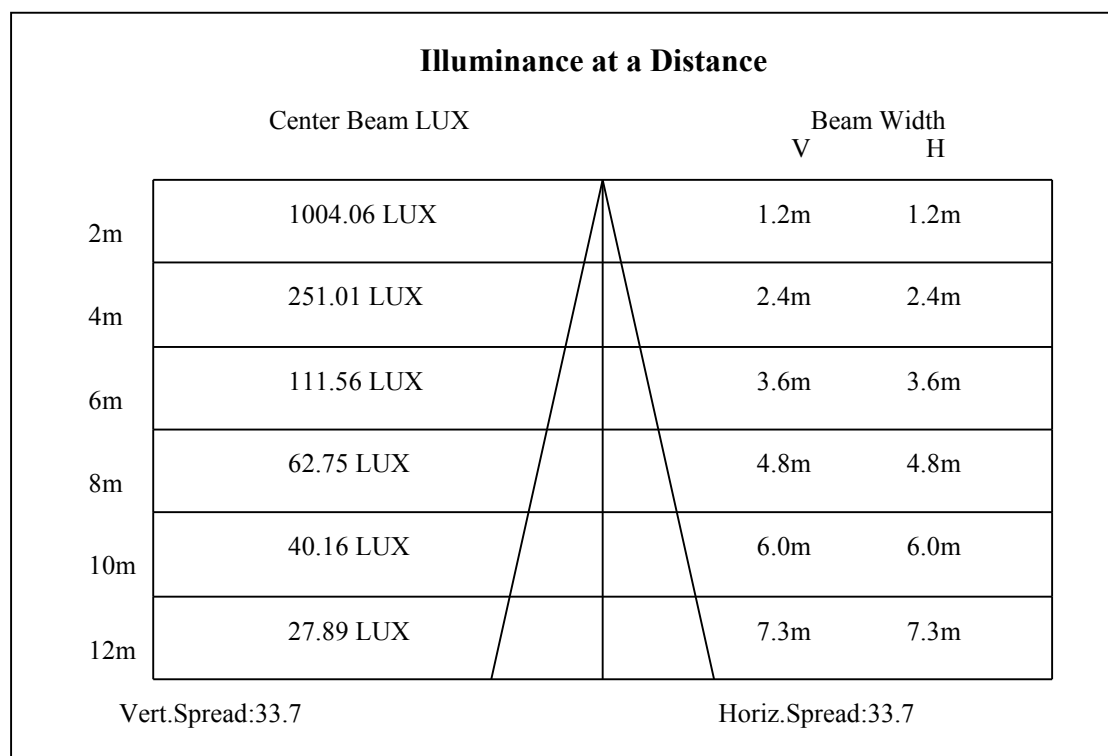
ZONAL LUMEN SUMMARY

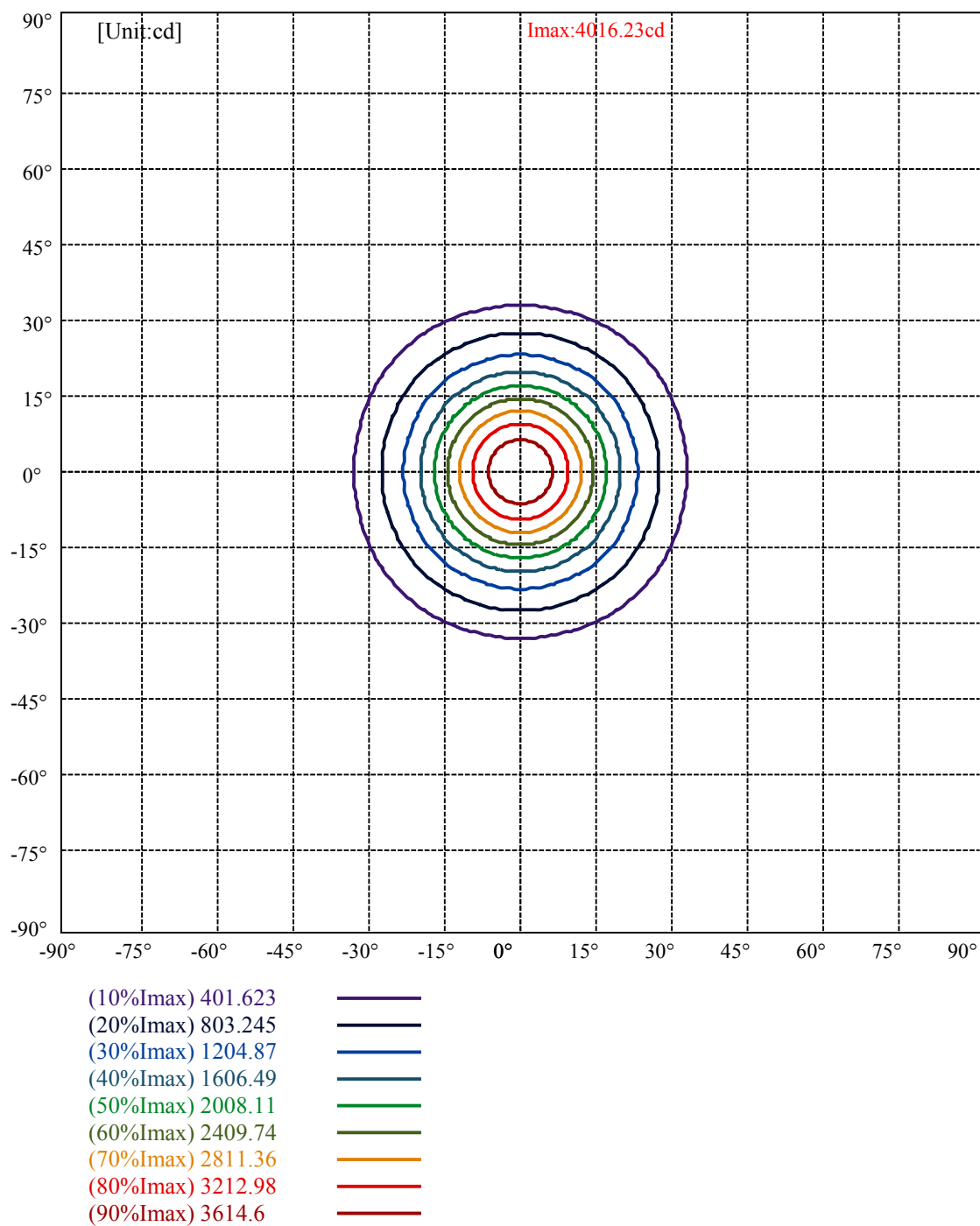
Zone	Lumens	%Lamp	%Fixt
0-30	1496.24	82.53%	92.71%
0-40	1577.38	87.00%	97.74%
0-60	1592.46	87.84%	98.67%
0-90	1611.88	88.91%	99.88%
0-120	1611.88	88.91%	99.88%
0-180	1613.86	89.02%	100.00%
60-90	23.17	1.28%	1.44%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-23.96	1291.09	71.21%	80.00%

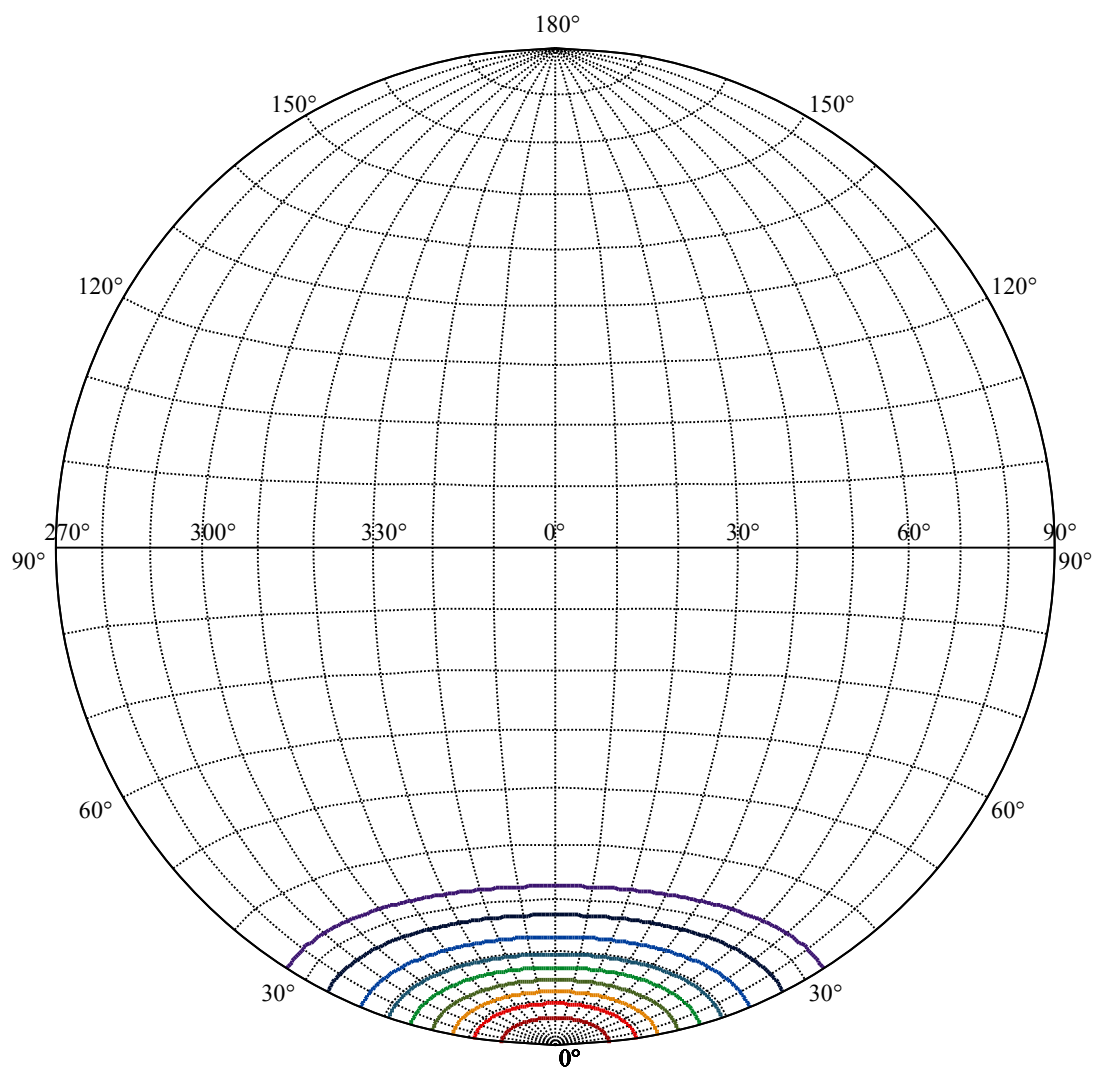
ZONAL LUMEN SUMMARY

0-10	502.08
10-20	611.24
20-30	382.92
30-40	81.14
40-50	7.62
50-60	7.46
60-70	7.62
70-80	7.83
80-90	3.98
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









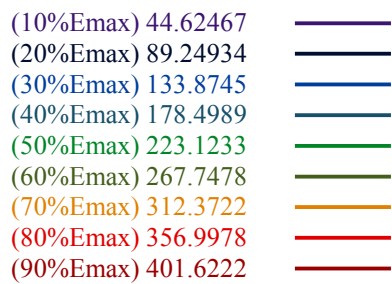
House

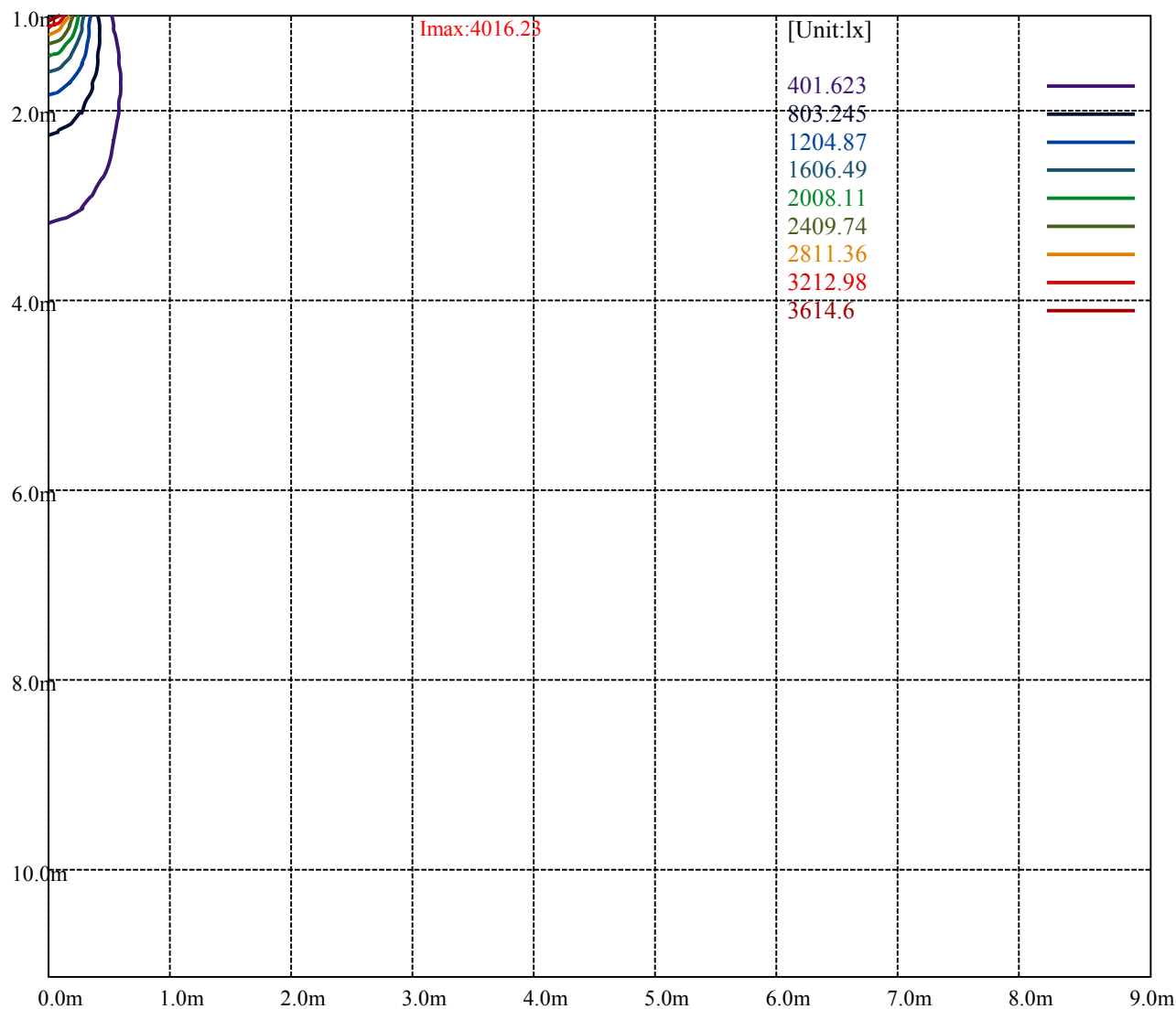
[Unit:cd]

Road

Imax:4016.23

(10%Imax)	401.623	—
(20%Imax)	803.245	—
(30%Imax)	1204.87	—
(40%Imax)	1606.49	—
(50%Imax)	2008.11	—
(60%Imax)	2409.74	—
(70%Imax)	2811.36	—
(80%Imax)	3212.98	—
(90%Imax)	3614.6	—





Luminance Table

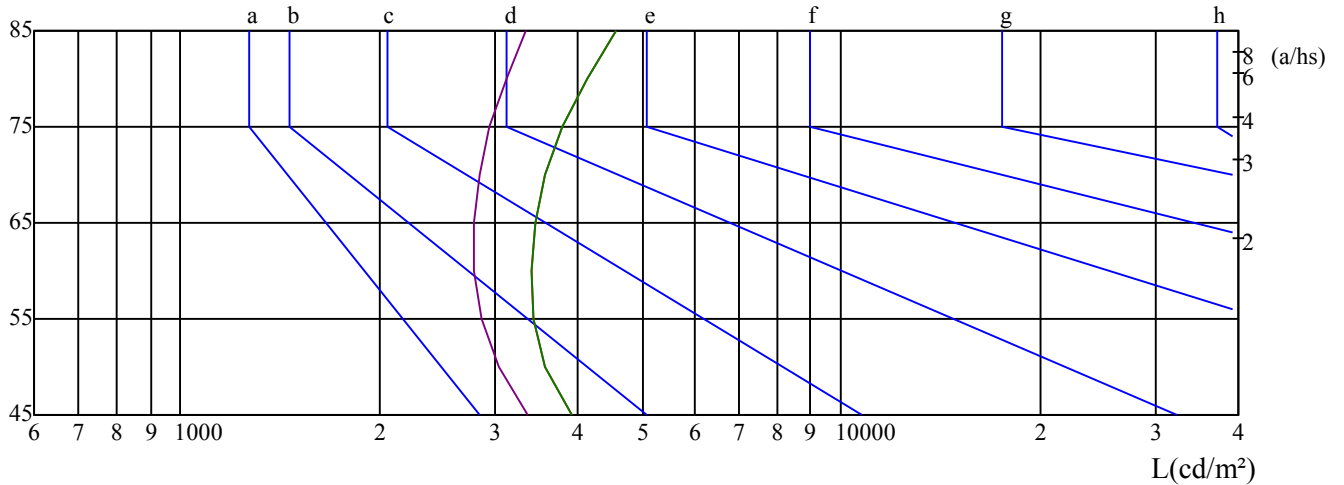
γ	45	50	55	60	65	70	75	80	85
C0	3902	3570	3418	3394	3445	3576	3797	4120	4559
C45	3360	3028	2854	2788	2780	2829	2940	3111	3342
C90	3902	3570	3418	3394	3445	3576	3797	4120	4559

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
8161	8161	8161	12844	12844	12844	37819	37819	37819

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

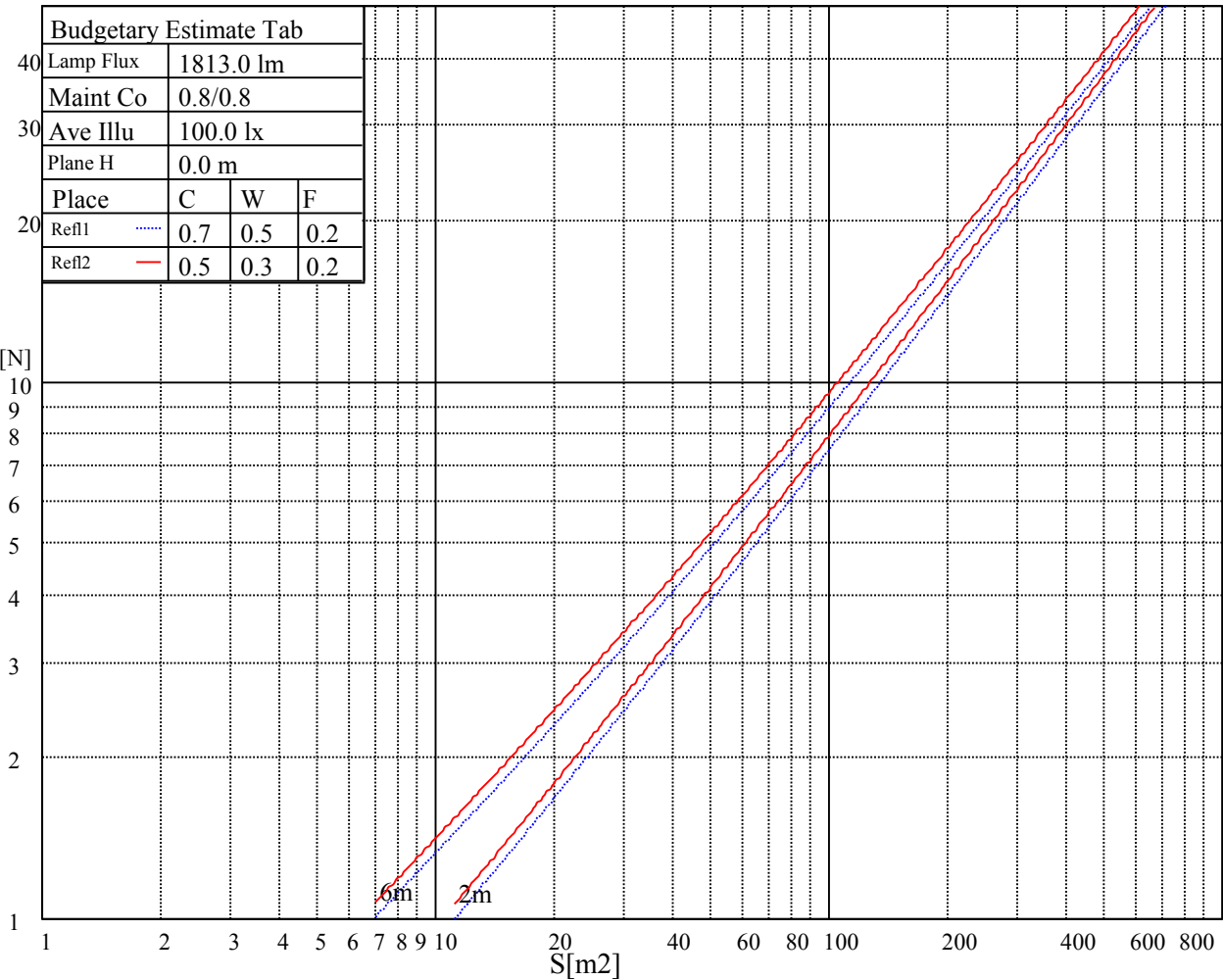
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

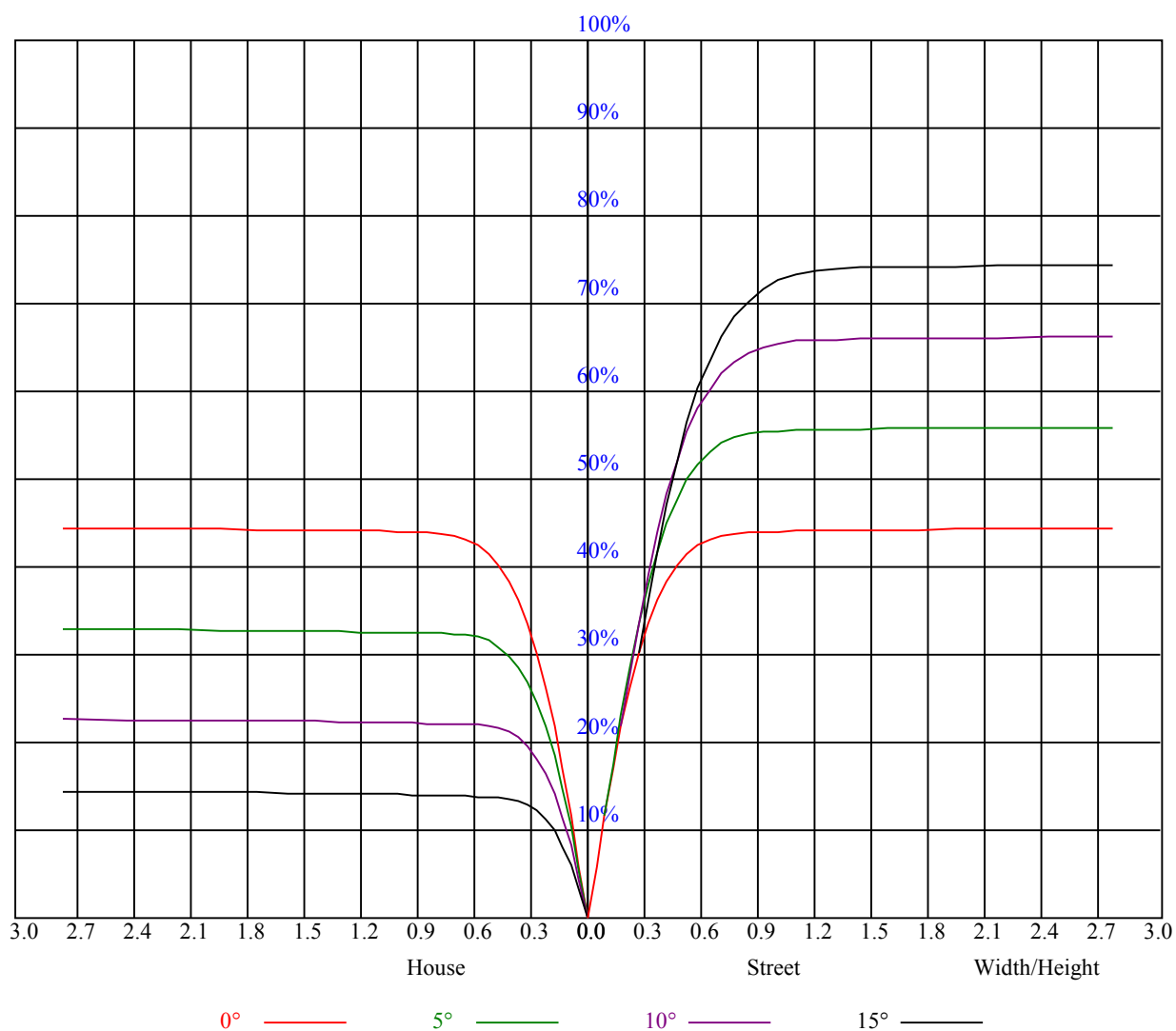
C0 ———

C45 ———

C90 ———



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	1.07	1.07	1.07	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	1.00	0.97	0.95	0.98	0.95	0.94	0.94	0.92	0.91	0.91	0.89	0.88	0.87	0.86	0.85	0.84
2	0.94	0.91	0.88	0.93	0.90	0.87	0.90	0.87	0.85	0.87	0.85	0.83	0.85	0.83	0.82	0.80
3	0.90	0.86	0.83	0.88	0.85	0.82	0.86	0.83	0.81	0.84	0.82	0.79	0.82	0.80	0.78	0.77
4	0.86	0.81	0.78	0.85	0.81	0.78	0.83	0.80	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.74
5	0.82	0.78	0.75	0.81	0.77	0.74	0.80	0.76	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.71
6	0.79	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.69
7	0.76	0.72	0.68	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.66
8	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.64
9	0.71	0.66	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.62
10	0.68	0.64	0.62	0.68	0.64	0.61	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.60



Nata 1658-S

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	4002.05	3850.64	3234.56	2353.66	1621.96	1016.89	611.13	290.70	25.99		
45.0	4027.93	3755.95	3053.98	2266.67	1475.51	923.85	575.34	281.89	21.69		
90.0	4005.35	3613.90	2879.45	2035.44	1345.03	862.90	465.06	107.75	17.89		
135.0	4029.58	3758.70	3067.19	2256.21	1518.46	953.03	562.13	289.60	23.67		
180.0	4002.05	3685.48	2996.17	2147.20	1457.34	910.85	524.52	170.90	23.78		
225.0	4027.93	3808.80	3206.48	2326.68	1527.82	991.95	604.68	214.78	27.69		
270.0	4005.35	3908.45	3410.19	2546.91	1745.84	1117.09	694.81	285.74	37.16		
315.0	4029.58	3808.80	3179.51	2337.14	1565.80	968.50	593.23	197.98	23.07		
360.0	4002.05	3850.64	3234.56	2353.66	1621.96	1016.89	611.13	290.70	25.99		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	9.86	8.86	8.26	7.87	7.60	7.43	7.32	7.32	7.27		
45.0	9.52	8.70	8.09	7.76	7.54	7.38	7.27	7.27	7.21		
90.0	9.52	8.70	8.09	7.82	7.60	7.49	7.43	7.43	7.38		
135.0	10.13	9.08	8.37	7.93	7.65	7.49	7.38	7.27	7.27		
180.0	10.02	9.08	8.42	7.93	7.65	7.43	7.32	7.27	7.27		
225.0	10.13	9.03	8.37	7.93	7.60	7.38	7.27	7.21	7.21		
270.0	10.90	9.14	8.42	8.04	7.71	7.49	7.43	7.38	7.38		
315.0	9.80	8.81	8.20	7.87	7.60	7.43	7.32	7.27	7.27		
360.0	9.86	8.86	8.26	7.87	7.60	7.43	7.32	7.32	7.27		
C/γ(°)	90.0										
0.0	7.27										
45.0	7.16										
90.0	7.21										
135.0	7.27										
180.0	7.21										
225.0	7.16										
270.0	7.21										
315.0	7.21										
360.0	7.27										