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Nata

LumCAT: 1658-S	
Luminaire: 92.70.122.00	
Report No: NATA0100	Voltage(V): 37.7000
Test No: GC2018080302	Current(A): 0.2000
LampCAT: BRIDGELUX V4 HD	Power (W): 7.5400
Lamp flux(lm): 735.0	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): 648.29
Efficiency(%): 88.20%
Lumens(lm)/Power(W): 87.54
Central intensity(cd): 2067.368
Maximum intensity(cd): 2067.368
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=27.8
[C90/270]Total=27.8
Field angle(10%Imax): [C0/180]Total=62.2
[C90/270]Total=62.2
Maximum s/h(1/2): C0_180=0.47 C90_270=0.47
Maximum s/h(1/4): C0_180=0.49 C90_270=0.49
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.80%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.918%

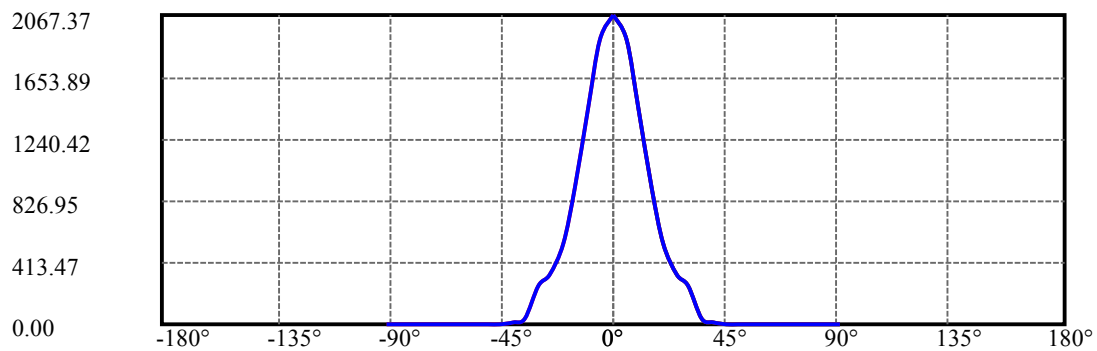
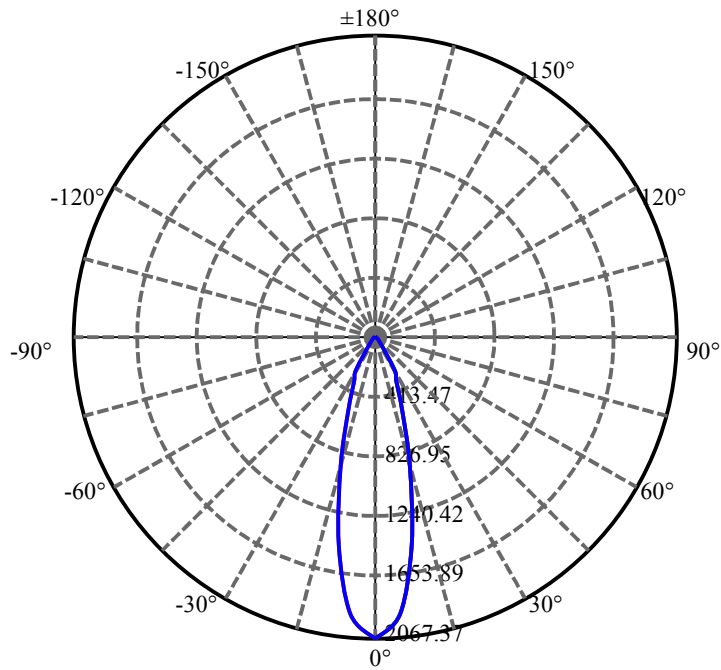
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2067.368	12.363	12.363	1.682%	1.907%
5.0	1898.207	90.684	103.047	12.338%	15.895%
10.0	1445.299	137.568	240.615	18.717%	37.115%
15.0	915.058	129.818	370.433	17.662%	57.140%
20.0	539.319	101.108	471.541	13.756%	72.736%
25.0	335.259	77.664	549.205	10.566%	84.716%
30.0	253.927	69.593	618.798	9.468%	95.451%
35.0	39.152	12.309	631.108	1.675%	97.350%
40.0	7.481	2.636	633.743	.359%	97.756%
45.0	3.861	1.496	635.24	.204%	97.987%
50.0	3.524	1.480	636.719	.201%	98.215%
55.0	3.297	1.480	638.199	.201%	98.444%
60.0	3.152	1.496	639.696	.204%	98.674%
65.0	3.042	1.511	641.207	.206%	98.907%
70.0	2.980	1.535	642.742	.209%	99.144%
75.0	2.966	1.570	644.312	.214%	99.386%
80.0	2.925	1.579	645.891	.215%	99.630%
85.0	2.925	1.597	647.488	.217%	99.876%
90.0	2.925	0.802	648.29	.109%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	618.80	84.19%	95.45%
0-40	633.74	86.22%	97.76%
0-60	639.70	87.03%	98.67%
0-90	647.49	88.09%	99.88%
0-120	647.49	88.09%	99.88%
0-180	648.29	88.20%	100.00%
60-90	9.29	1.26%	1.43%
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%
0-23.03	518.63	70.56%	80.00%

ZONAL LUMEN SUMMARY

0-10	240.61
10-20	230.93
20-30	147.26
30-40	14.95
40-50	2.98
50-60	2.98
60-70	3.05
70-80	3.15
80-90	1.60
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:

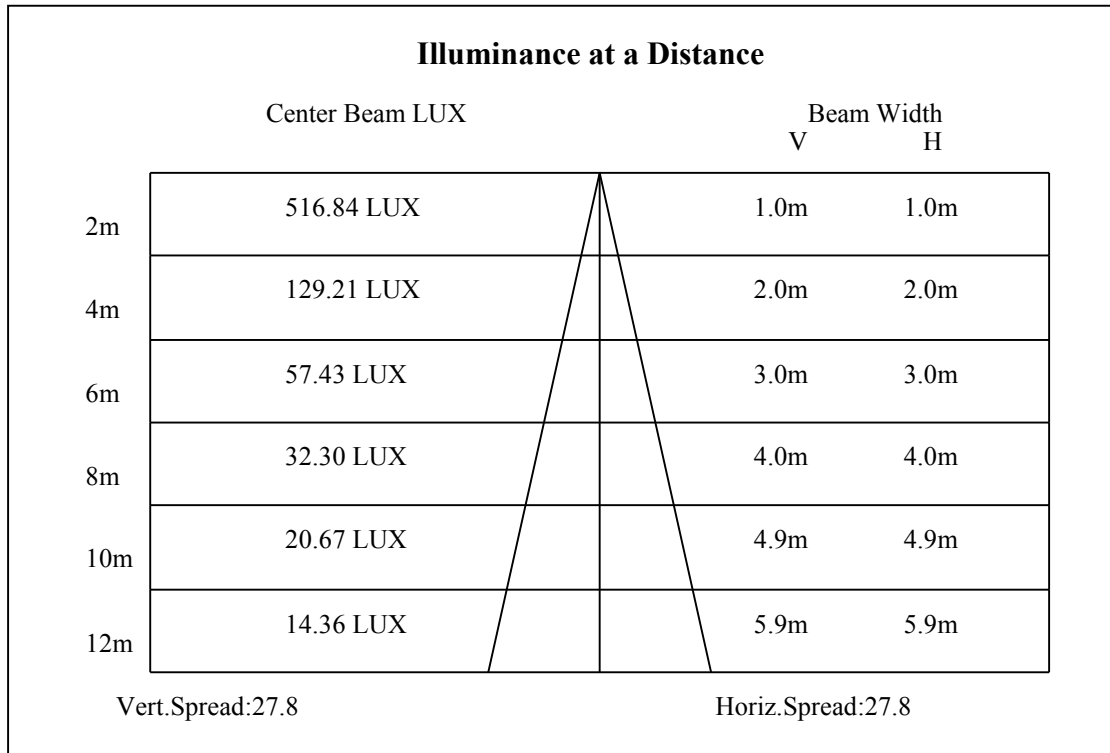
C90/C270:

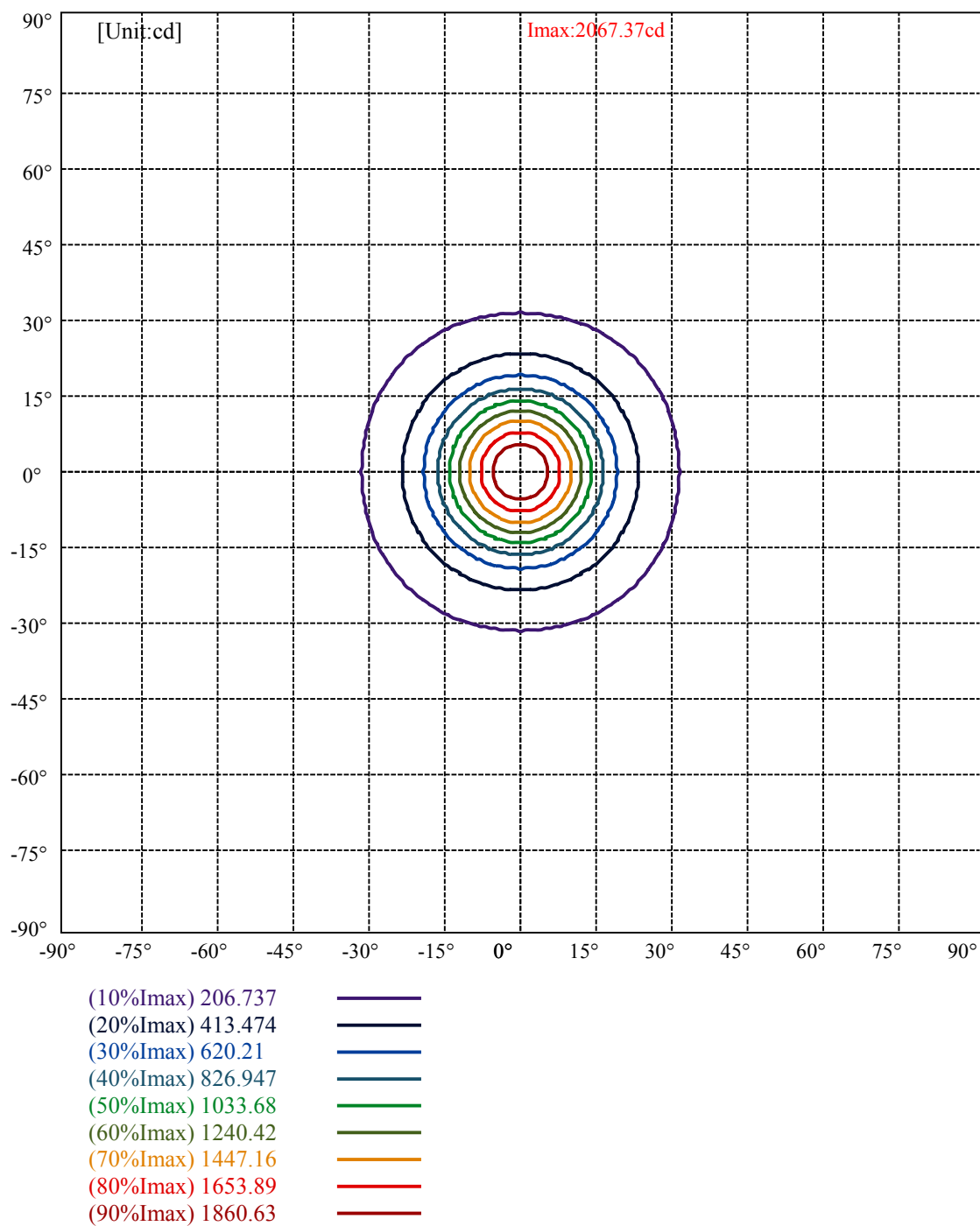
Field angle(10%Imax):C0/180Left:31.1 Right:31.1

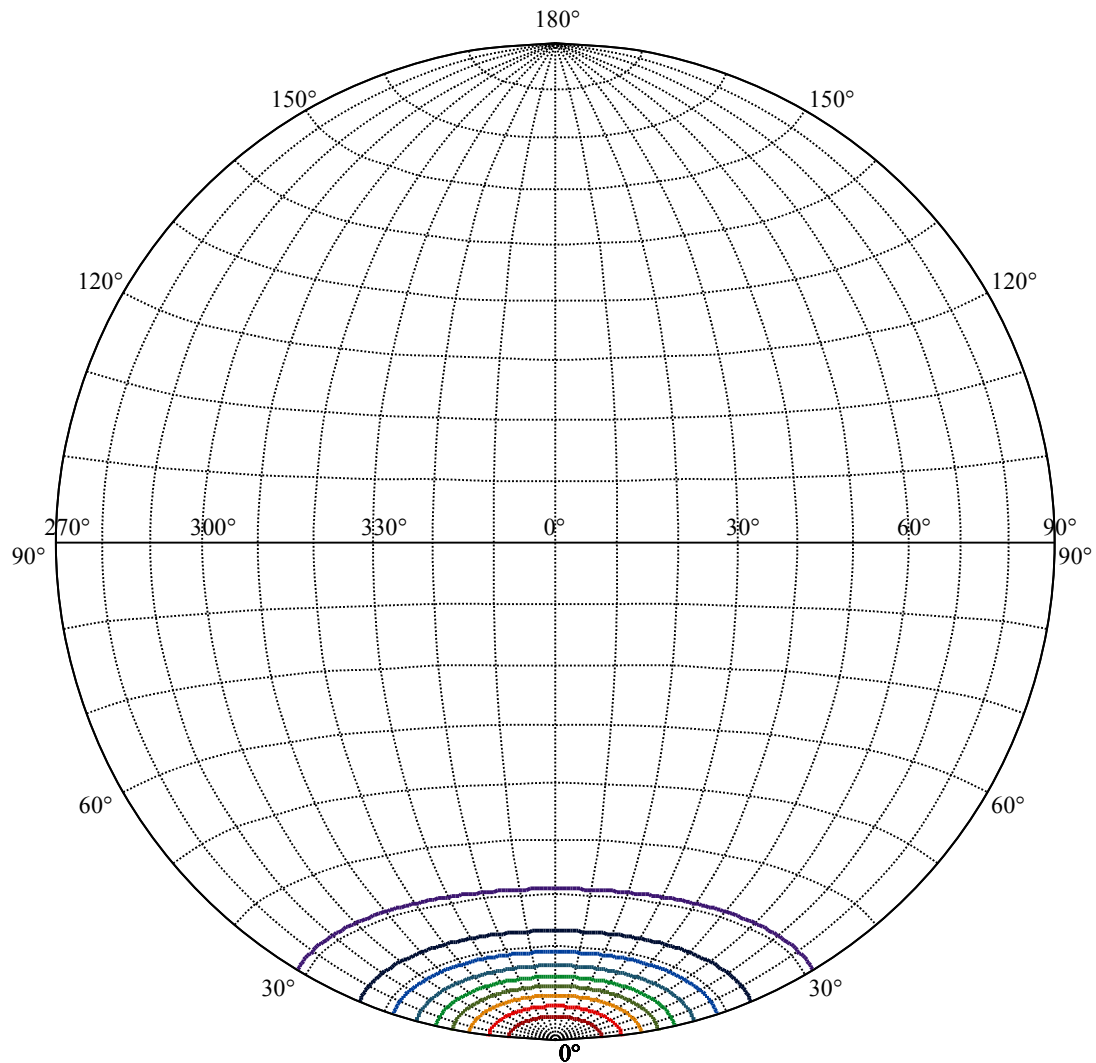
:C90/270Left:31.1 Right:31.1

Beam Angle(50%Imax):C0/180Left:13.9 Right:13.9

:C90/270Left:13.9 Right:13.9







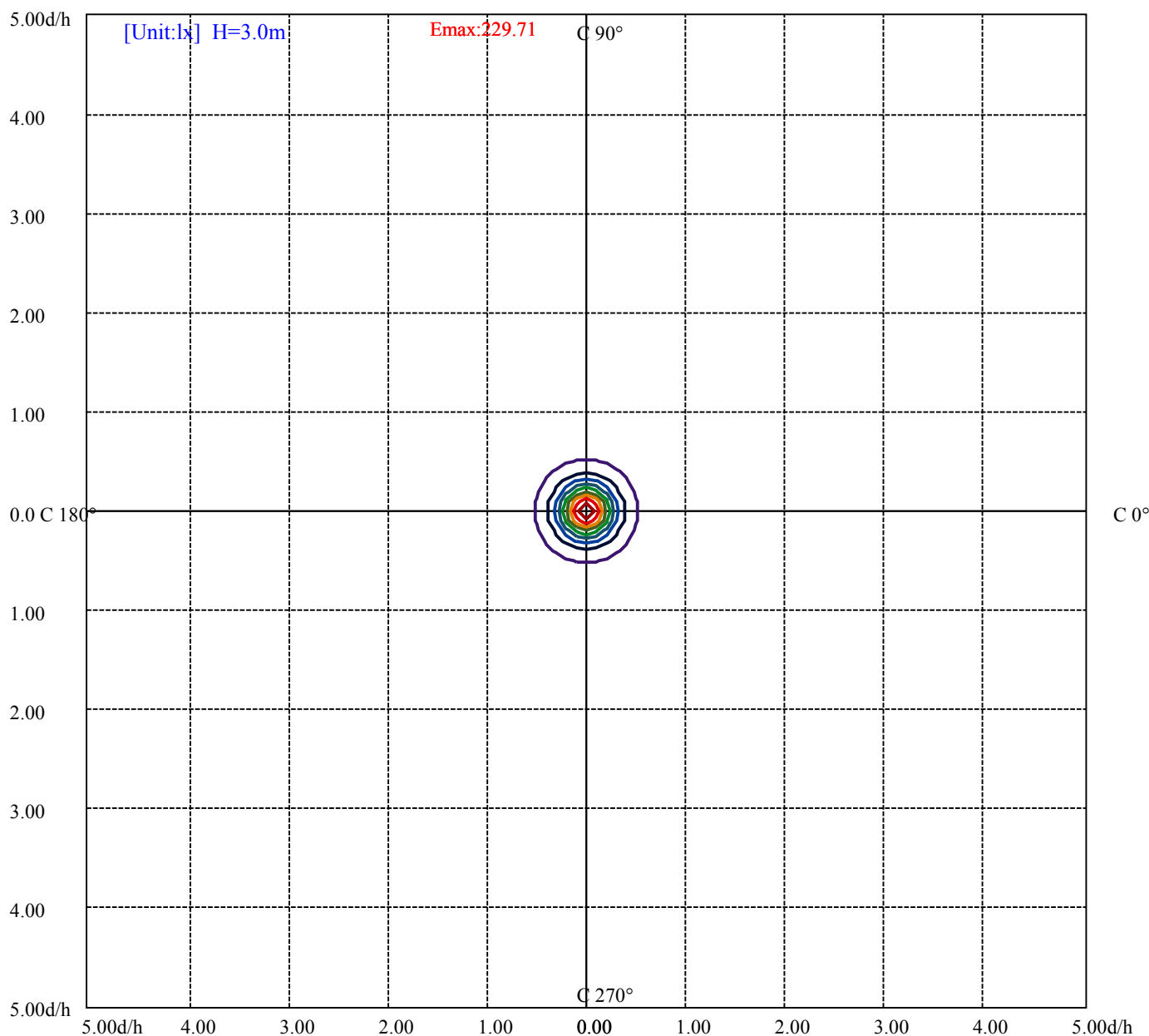
House

[Unit:cd]

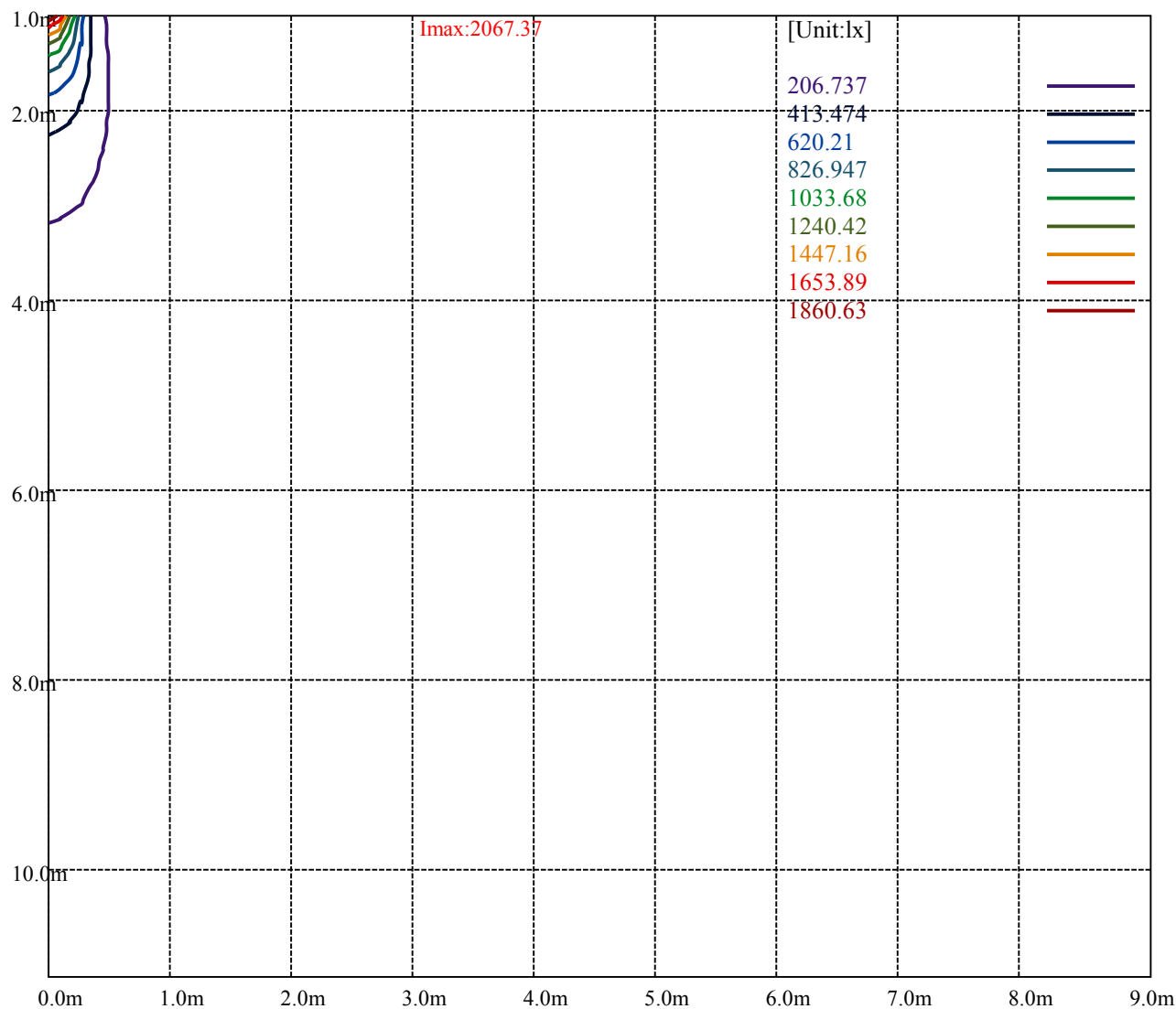
Road

Imax:2067.37

(10%Imax)	206.737	—
(20%Imax)	413.474	—
(30%Imax)	620.21	—
(40%Imax)	826.947	—
(50%Imax)	1033.68	—
(60%Imax)	1240.42	—
(70%Imax)	1447.16	—
(80%Imax)	1653.89	—
(90%Imax)	1860.63	—



(10%Emax) 22.97066	—
(20%Emax) 45.94144	—
(30%Emax) 68.91211	—
(40%Emax) 91.88278	—
(50%Emax) 114.8533	—
(60%Emax) 137.8244	—
(70%Emax) 160.7944	—
(80%Emax) 183.7656	—
(90%Emax) 206.7367	—



Luminance Table

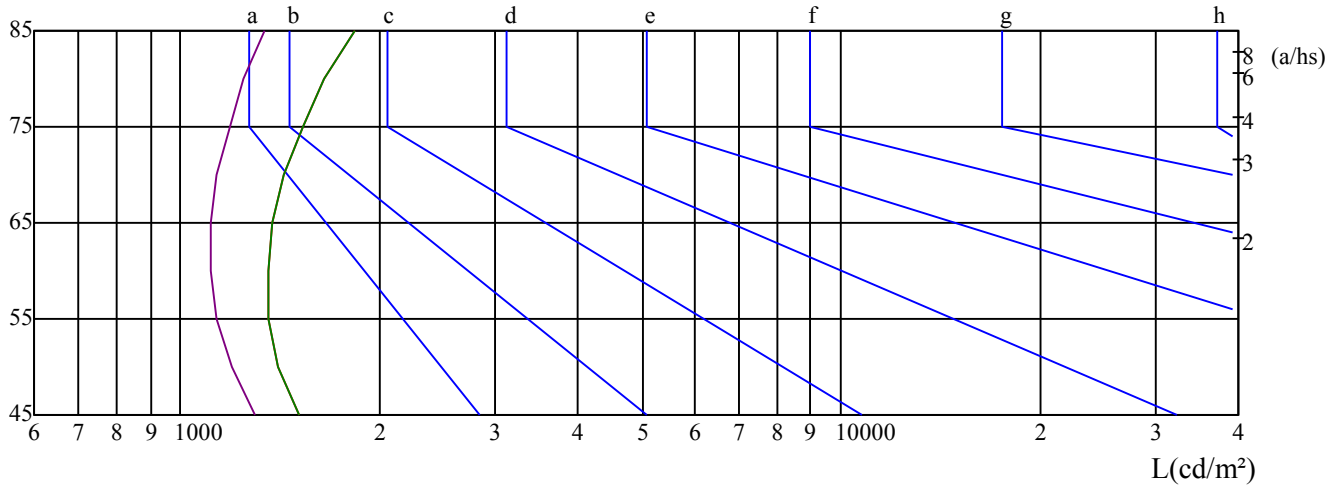
γ	45	50	55	60	65	70	75	80	85
C0	1509	1409	1361	1355	1376	1432	1534	1650	1831
C45	1299	1195	1137	1113	1110	1133	1187	1246	1342
C90	1509	1409	1361	1355	1376	1432	1534	1650	1831

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3258	3258	3258	5188	5188	5188	15192	15192	15192

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

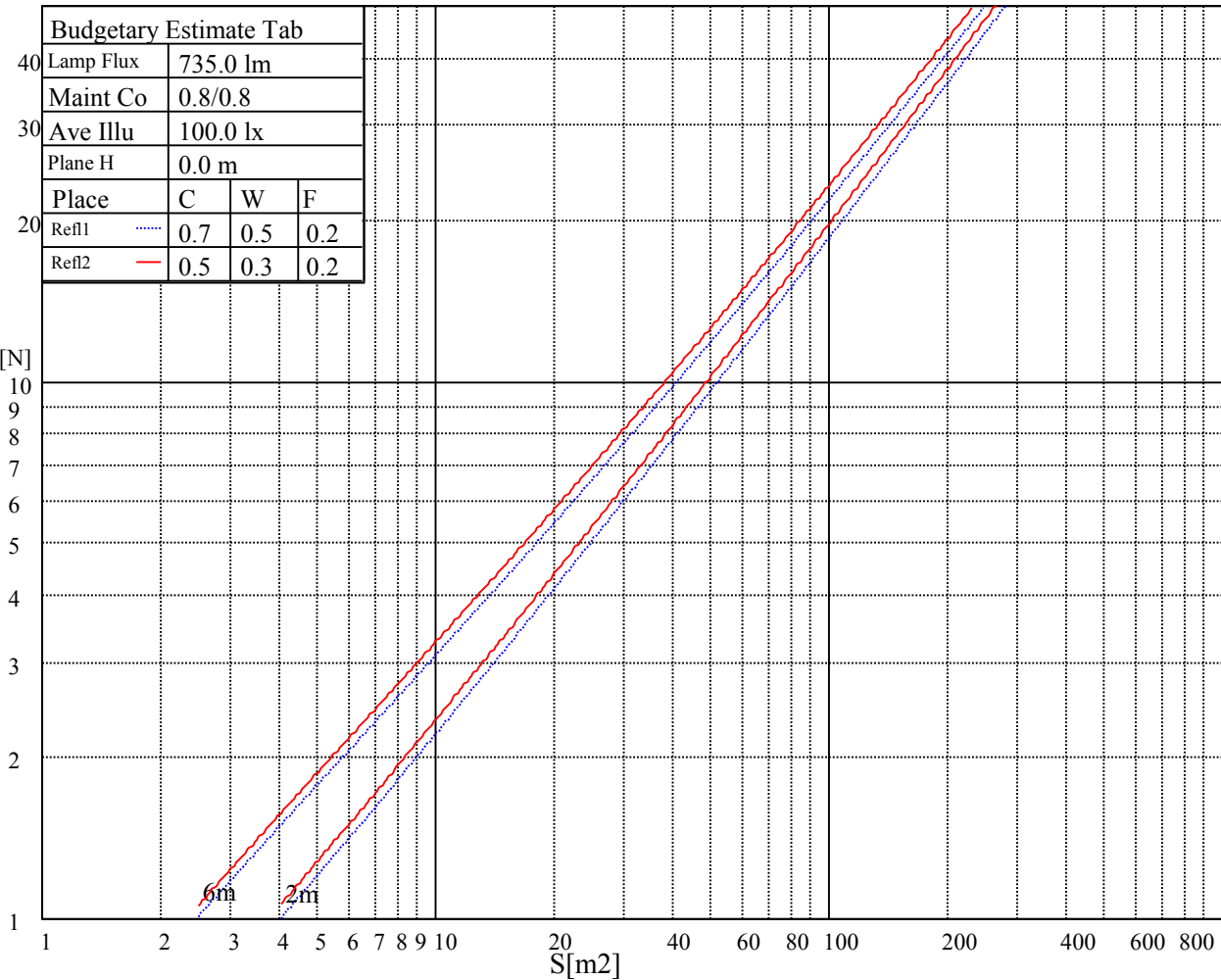
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

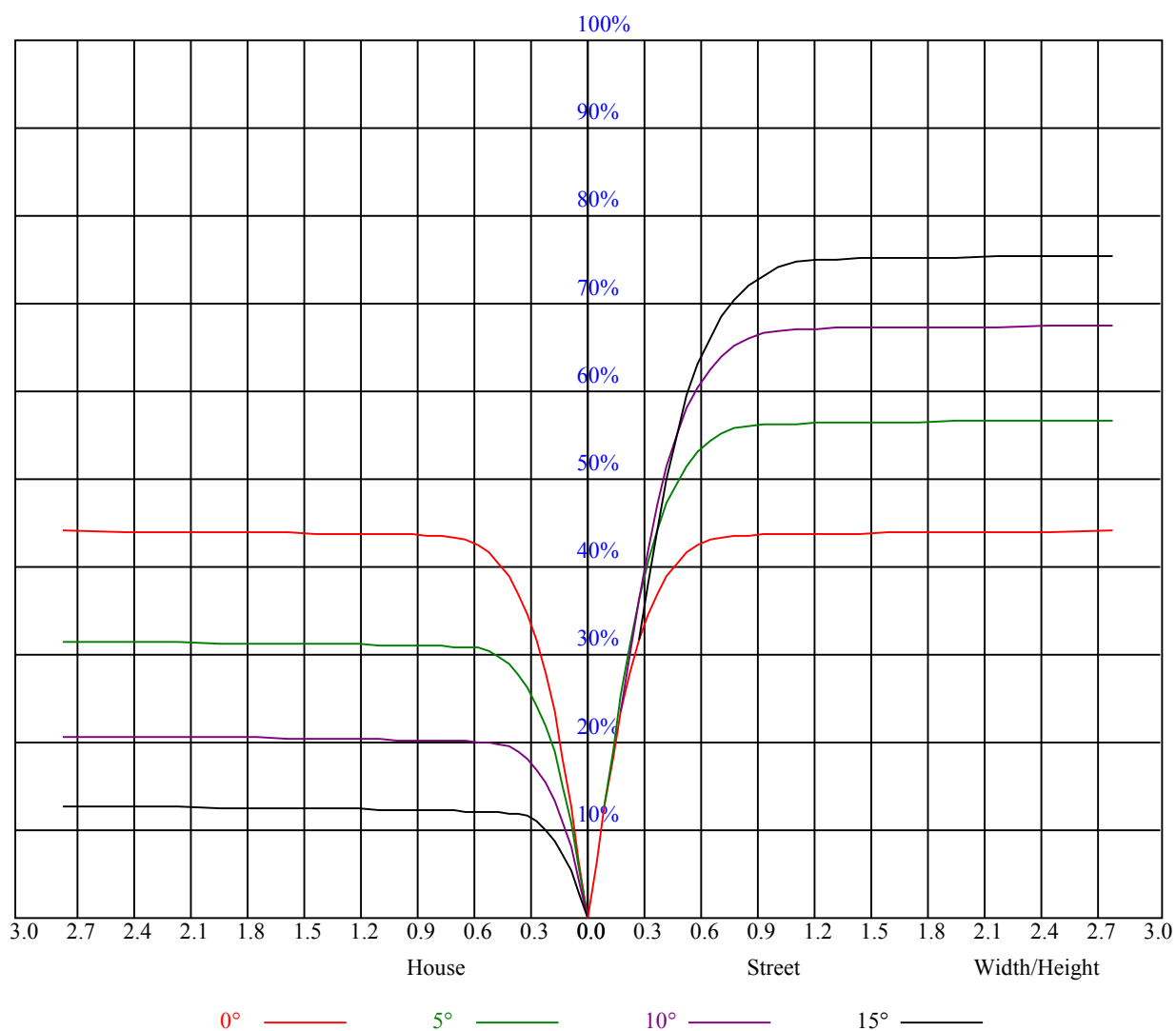
C0 ———

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	1.04	1.04	1.04	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	0.99	0.96	0.94	0.97	0.95	0.93	0.93	0.91	0.90	0.90	0.88	0.87	0.87	0.86	0.85	0.83
2	0.94	0.90	0.88	0.92	0.89	0.87	0.89	0.87	0.85	0.87	0.85	0.83	0.84	0.83	0.81	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	0.82	0.79	0.85	0.81	0.78	0.83	0.80	0.77	0.81	0.79	0.76	0.80	0.77	0.76	0.74
5	0.82	0.78	0.75	0.82	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.74	0.78	0.75	0.73	0.72
6	0.79	0.75	0.72	0.79	0.75	0.72	0.78	0.74	0.72	0.76	0.73	0.71	0.75	0.73	0.71	0.70
7	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.73	0.71	0.69	0.68
8	0.74	0.70	0.67	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.69	0.67	0.66
9	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.70	0.67	0.65	0.64
10	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.68	0.65	0.63	0.62



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	2058.56	1913.76	1477.16	927.15	542.86	332.54	261.57	35.95	7.05		
45.0	2069.57	1911.56	1482.12	929.35	548.36	334.74	261.08	44.16	7.38		
90.0	2066.82	1854.30	1396.78	886.35	513.35	326.81	237.13	25.66	7.21		
135.0	2074.53	1913.76	1515.70	1002.58	596.81	365.57	278.59	67.94	9.47		
180.0	2058.56	1879.07	1395.68	902.70	534.05	336.61	251.88	44.60	7.76		
225.0	2069.57	1909.91	1406.14	850.29	529.31	327.81	239.72	31.22	7.65		
270.0	2066.82	1939.09	1493.13	977.25	567.08	346.30	280.79	48.12	7.82		
315.0	2074.53	1864.21	1395.68	844.79	482.73	311.67	220.67	15.58	5.51		
360.0	2058.56	1913.76	1477.16	927.15	542.86	332.54	261.57	35.95	7.05		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	3.74	3.41	3.25	3.08	3.03	2.97	2.97	2.86	2.92		
45.0	3.80	3.52	3.25	3.14	3.03	3.03	2.97	2.97	2.92		
90.0	3.80	3.47	3.25	3.14	3.03	2.97	2.97	2.92	2.92		
135.0	4.07	3.63	3.36	3.19	3.08	2.97	2.97	2.92	2.92		
180.0	3.96	3.63	3.36	3.14	3.03	2.97	2.92	2.86	2.92		
225.0	3.91	3.58	3.36	3.19	3.08	2.97	2.97	2.97	2.92		
270.0	3.91	3.52	3.30	3.19	3.03	2.97	2.97	2.97	2.97		
315.0	3.69	3.41	3.25	3.14	3.03	2.97	2.97	2.92	2.92		
360.0	3.74	3.41	3.25	3.08	3.03	2.97	2.97	2.86	2.92		
C/ γ (°)	90.0										
0.0	2.92										
45.0	2.92										
90.0	2.97										
135.0	2.86										
180.0	2.92										
225.0	2.97										
270.0	2.92										
315.0	2.92										
360.0	2.92										