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Nata

LumCAT: 4-2413-L

Luminaire:

Report No: NATA0100

Voltage(V): 34.1700

Test No: GC2020010626

Current(A): 0.6000

LampCAT: LUMINUS CXM-14-AC40

Power (W): 20.5020

Lamp flux(lm): 2559.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2507.57

Efficiency(%): 97.99%

Lumens(lm)/Power(W): 122.31

Central intensity(cd): 5031.141

Maximum intensity(cd): 5031.141

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=38.5

[C90/270]Total=38.5

Field angle(10%Imax): [C0/180]Total=70.2

[C90/270]Total=70.2

Maximum s/h(1/2): C0_180=0.63 C90_270=0.63

Maximum s/h(1/4): C0_180=0.63 C90_270=0.63

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 97.99%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.347%

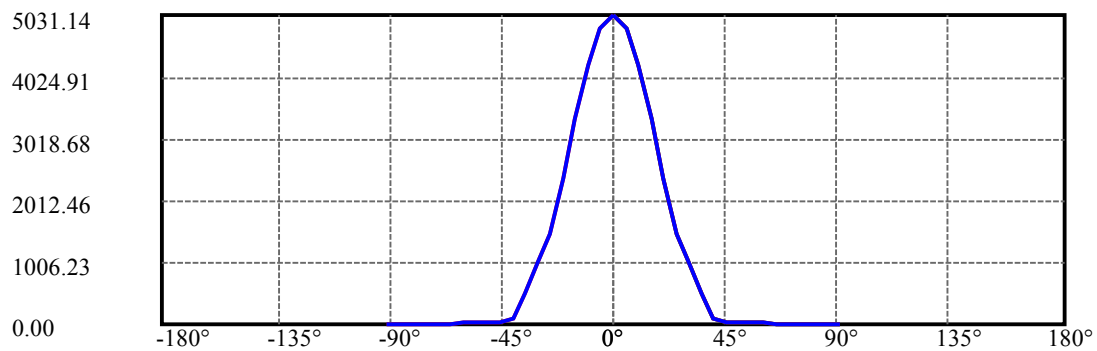
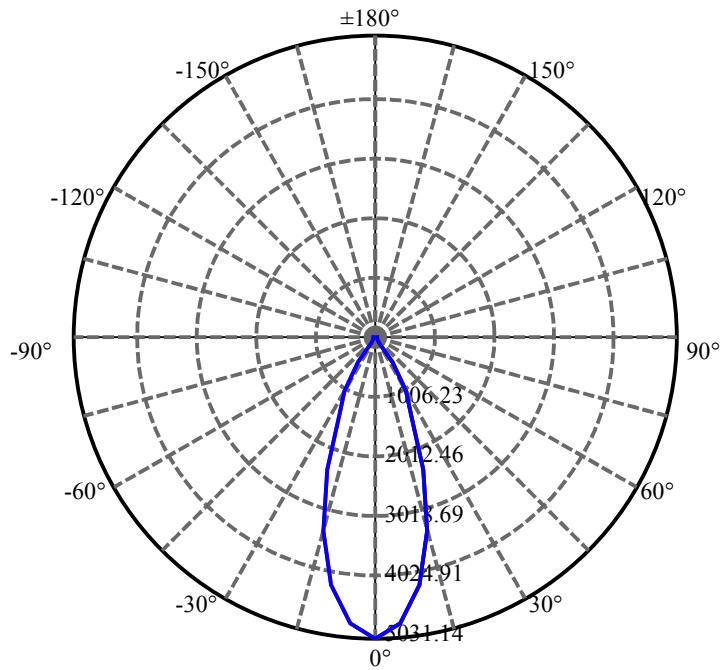
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5031.141	0.000	0	.000%	.000%
5.0	4799.461	117.522	117.522	4.592%	4.687%
10.0	4210.031	322.298	439.82	12.595%	17.540%
15.0	3343.852	448.091	887.911	17.510%	35.409%
20.0	2367.211	470.672	1358.583	18.393%	54.179%
25.0	1477.238	403.212	1761.795	15.757%	70.259%
30.0	1031.794	317.520	2079.315	12.408%	82.922%
35.0	511.017	227.190	2306.504	8.878%	91.982%
40.0	108.070	103.290	2409.794	4.036%	96.101%
45.0	35.529	26.589	2436.383	1.039%	97.161%
50.0	24.293	12.088	2448.471	.472%	97.643%
55.0	18.977	9.408	2457.879	.368%	98.018%
60.0	16.657	8.237	2466.116	.322%	98.347%
65.0	15.068	7.712	2473.829	.301%	98.655%
70.0	13.697	7.283	2481.112	.285%	98.945%
75.0	12.762	6.916	2488.028	.270%	99.221%
80.0	12.248	6.692	2494.72	.262%	99.488%
85.0	11.756	6.523	2501.242	.255%	99.748%
90.0	11.341	6.324	2507.567	.247%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2079.31	81.25%	82.92%
0-40	2409.79	94.17%	96.10%
0-60	2466.12	96.37%	98.35%
0-90	2501.24	97.74%	99.75%
0-120	2501.24	97.74%	99.75%
0-180	2507.57	97.99%	100.00%
60-90	43.36	1.69%	1.73%
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%
0-28.85	2006.05	78.39%	80.00%

ZONAL LUMEN SUMMARY

0-10	439.82
10-20	918.76
20-30	720.73
30-40	330.48
40-50	38.68
50-60	17.65
60-70	15.00
70-80	13.61
80-90	6.52
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: —————

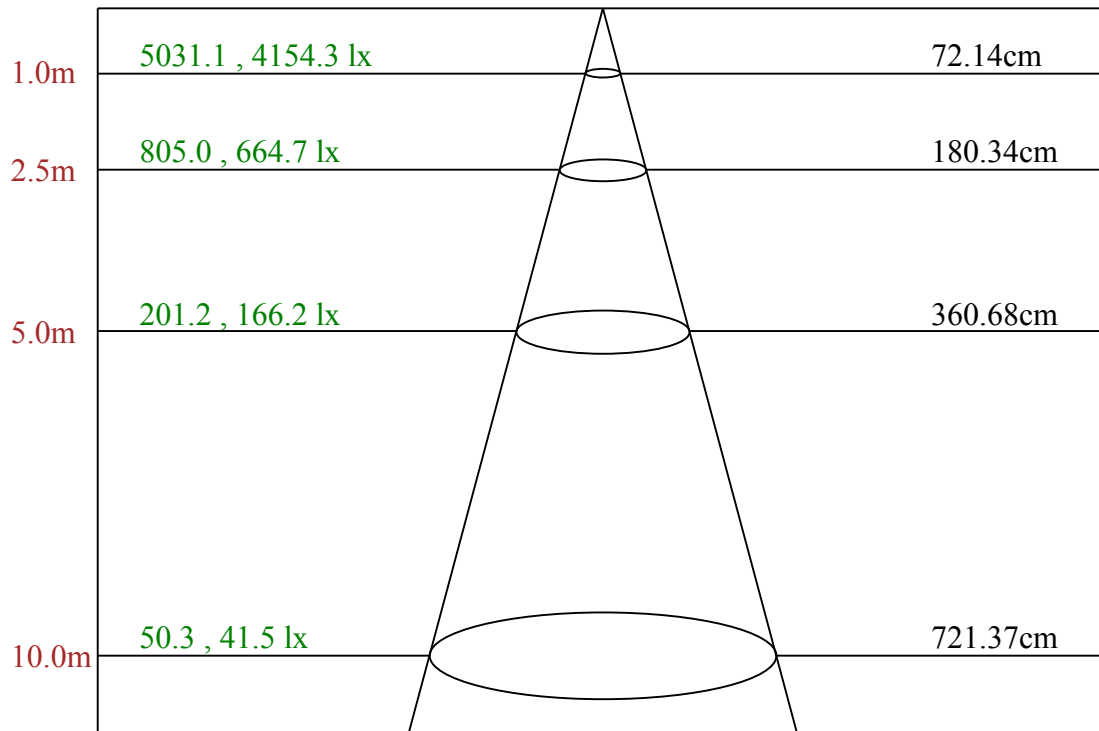
C90/C270: —————

Field angle(10%Imax):C0/180Left:35.1 Right:35.1

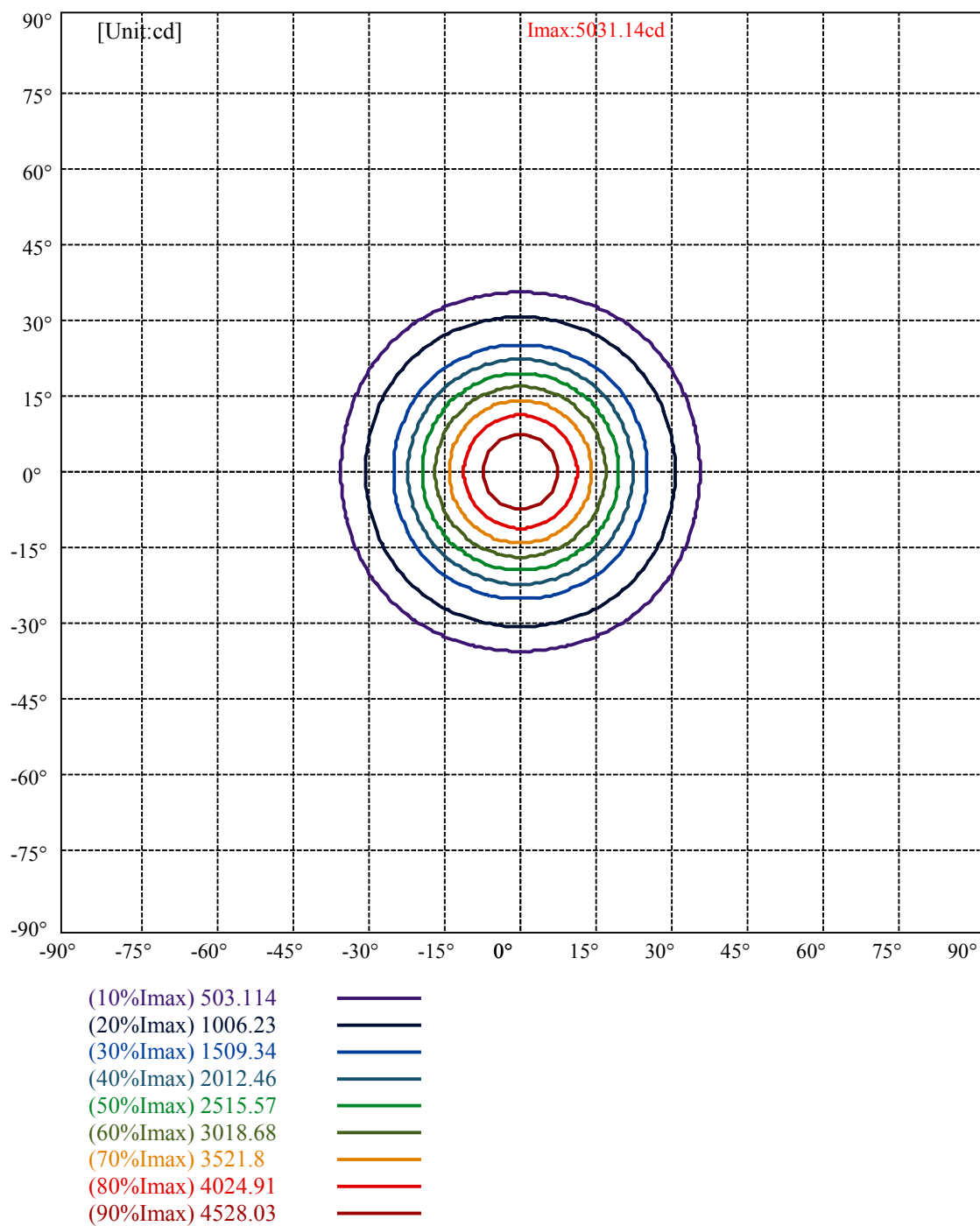
:C90/270Left:35.1 Right:35.1

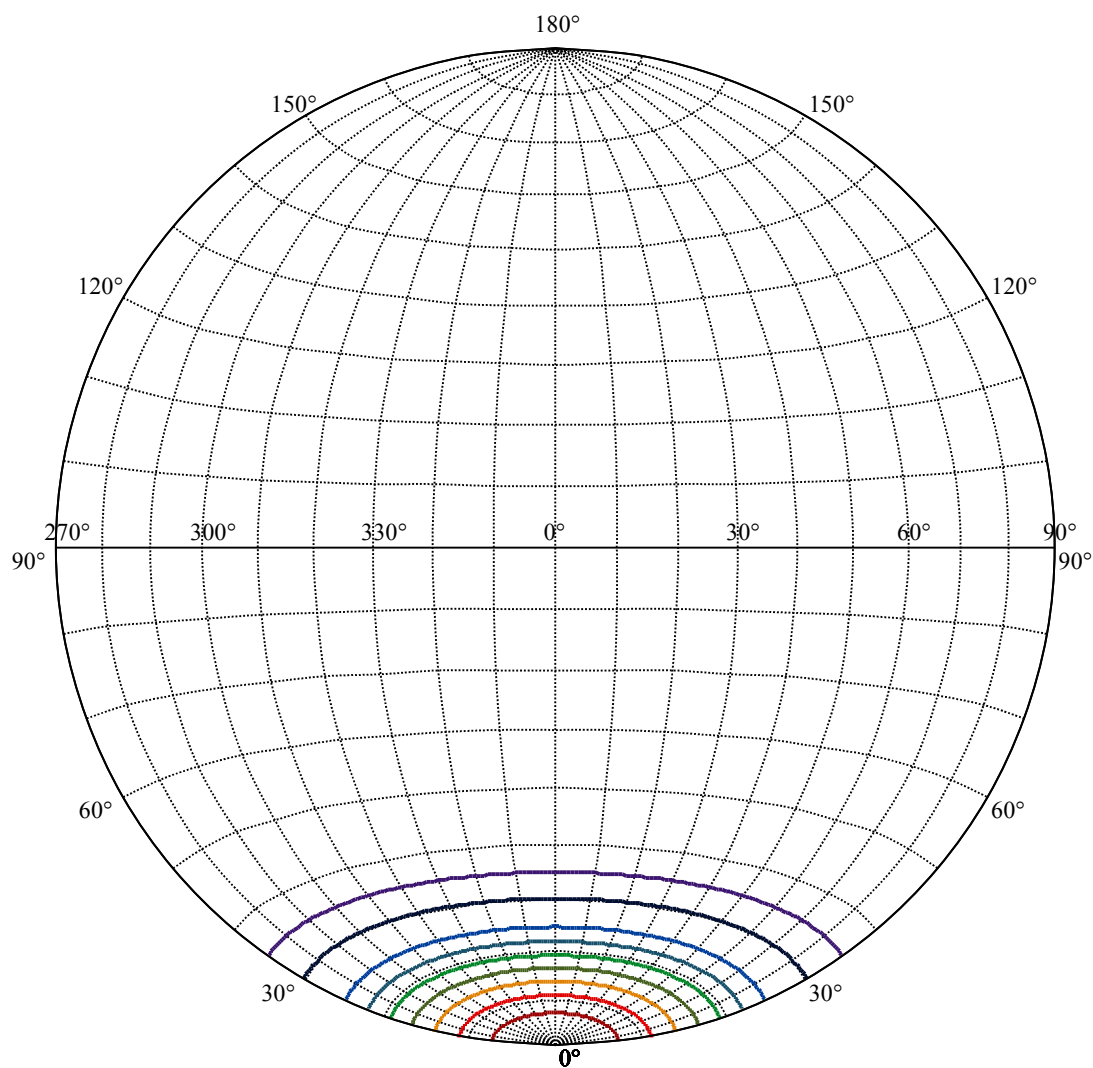
Beam Angle(50%Imax):C0/180Left:19.2 Right:19.2

:C90/270Left:19.2 Right:19.2



Max , Ave Beam angle of C0 plane 39.67





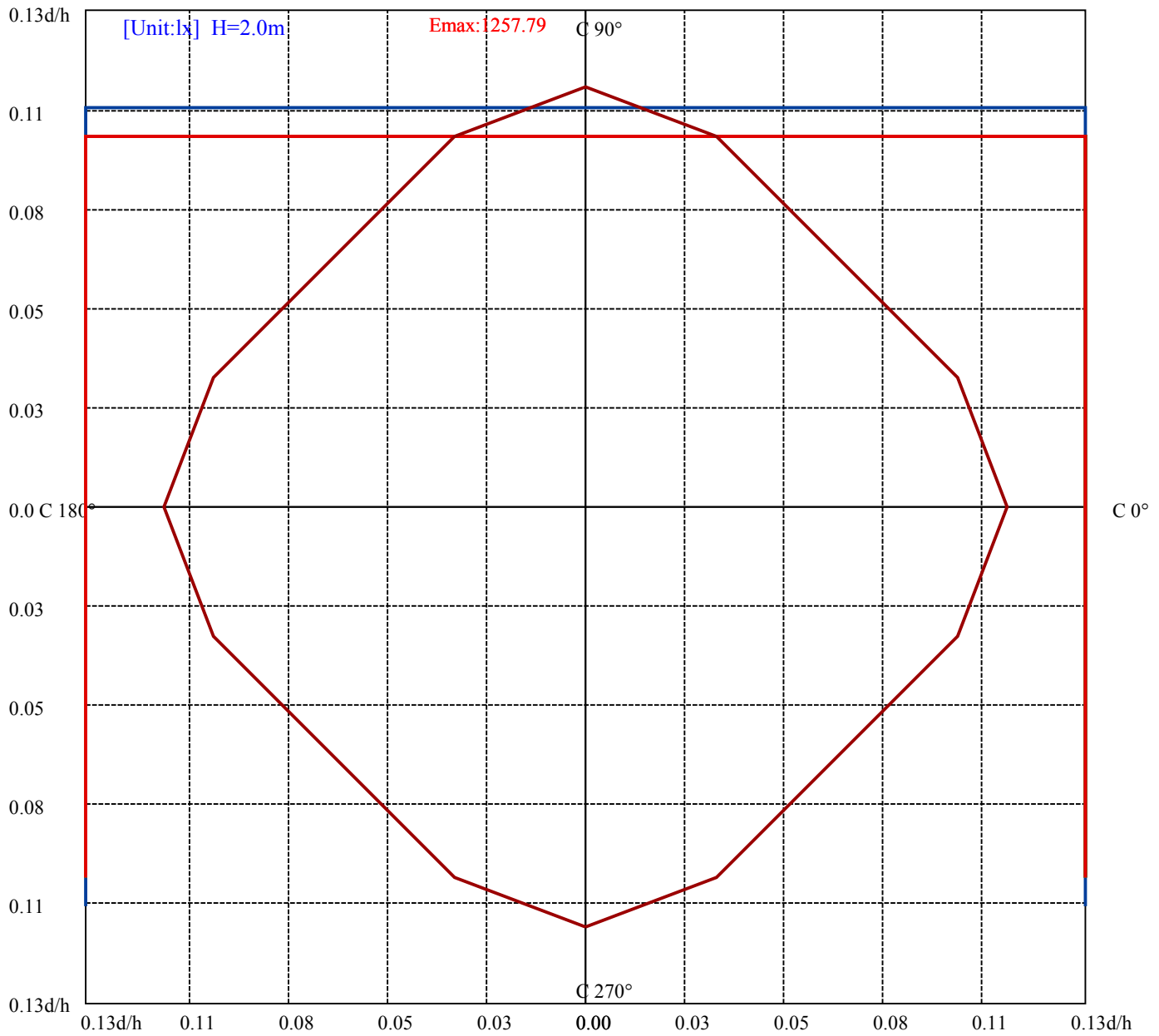
House

[Unit:cd]

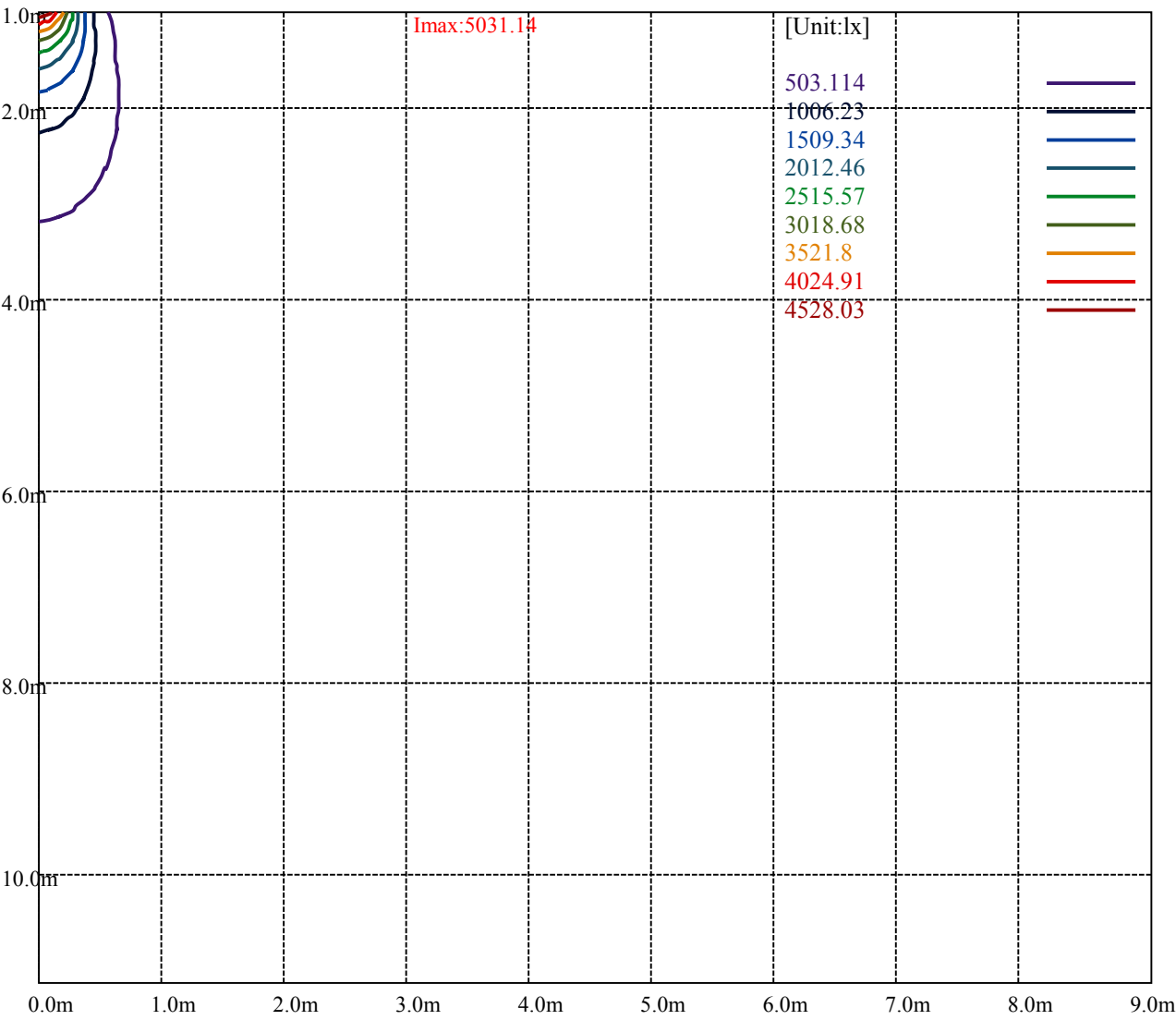
Road

Imax:5031.14

(10%Imax)	503.114	—
(20%Imax)	1006.23	—
(30%Imax)	1509.34	—
(40%Imax)	2012.46	—
(50%Imax)	2515.57	—
(60%Imax)	3018.68	—
(70%Imax)	3521.8	—
(80%Imax)	4024.91	—
(90%Imax)	4528.03	—



(10%Emax)	125.7783	—
(20%Emax)	251.5575	—
(30%Emax)	377.335	—
(40%Emax)	503.1125	—
(50%Emax)	628.8925	—
(60%Emax)	754.67	—
(70%Emax)	880.4475	—
(80%Emax)	1006.227	—
(90%Emax)	1132.005	—



Luminance Table

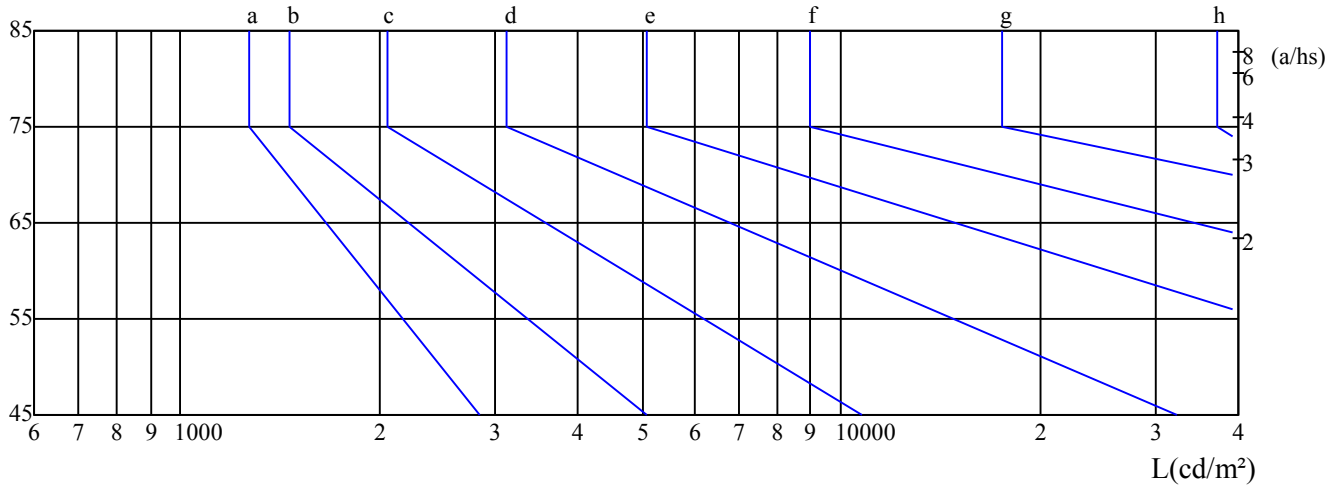
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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

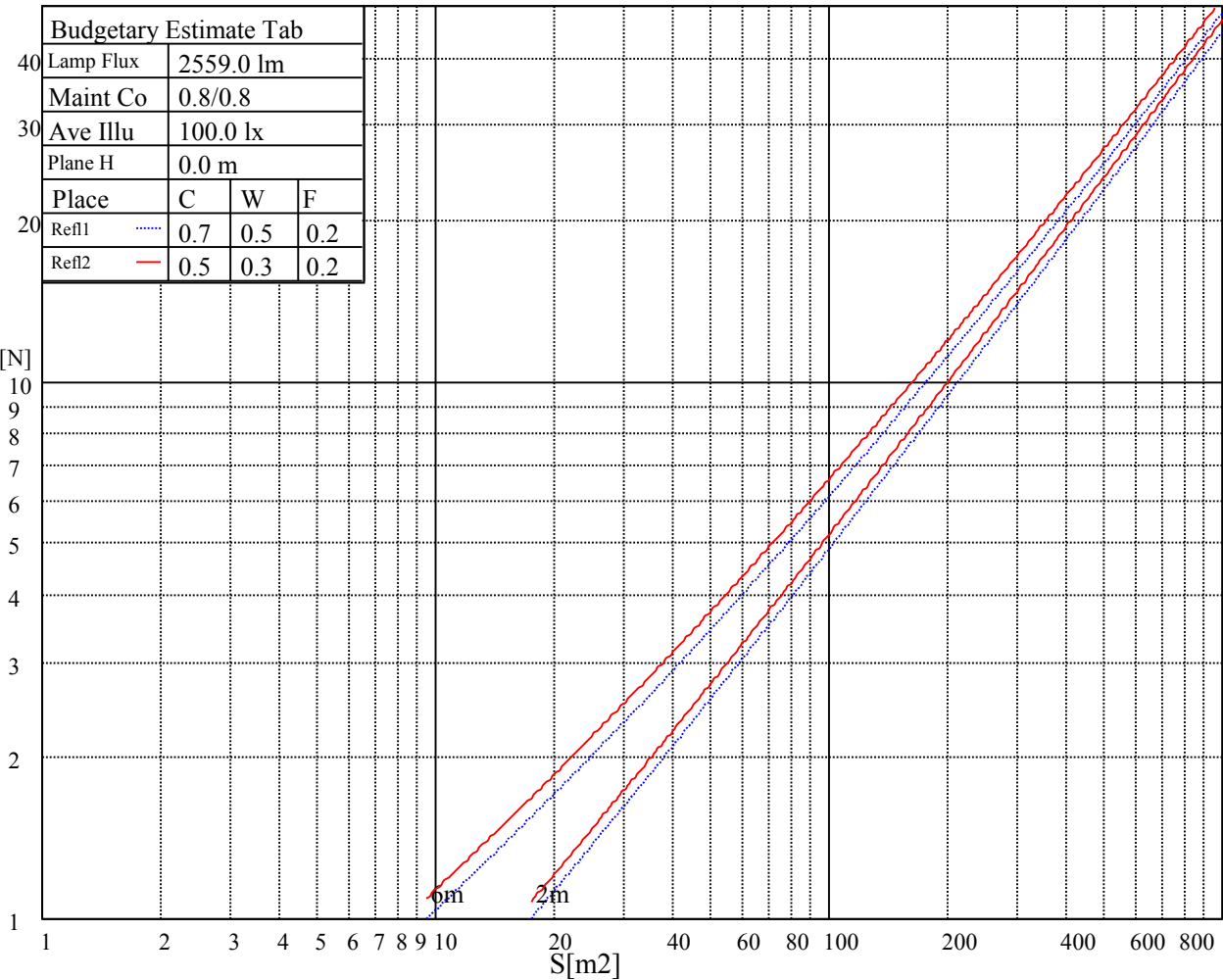
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

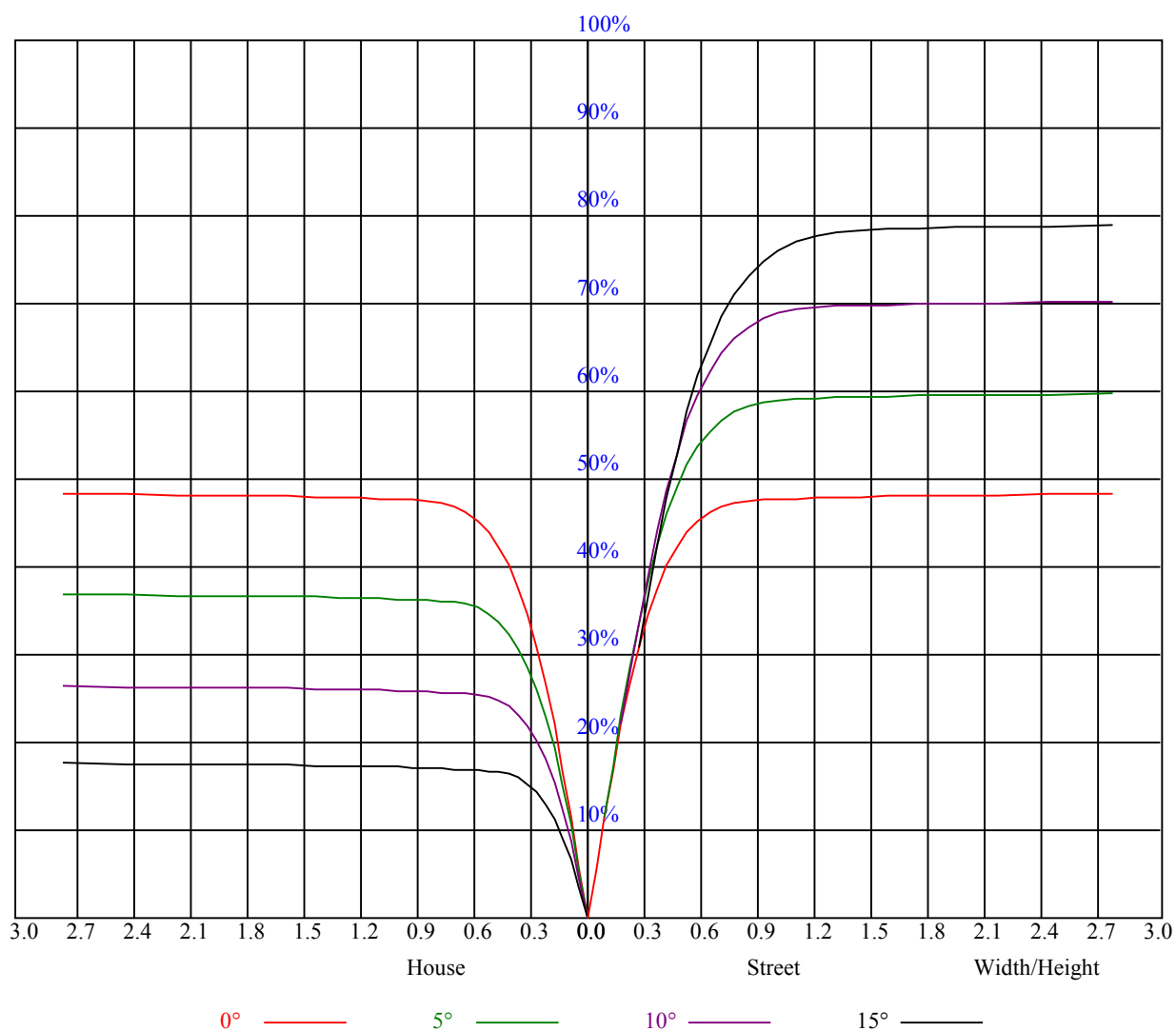
C0 ———

C45 ———

C90 ———



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	1.17	1.17	1.17	1.14	1.14	1.14	1.09	1.09	1.09	1.04	1.04	1.04	1.00	1.00	1.00	0.98
1	1.09	1.07	1.05	1.07	1.05	1.03	1.03	1.01	1.00	0.99	0.98	0.97	0.96	0.95	0.94	0.92
2	1.02	0.99	0.96	1.01	0.97	0.94	0.97	0.95	0.92	0.95	0.92	0.90	0.92	0.90	0.89	0.87
3	0.96	0.92	0.88	0.95	0.91	0.88	0.92	0.89	0.86	0.90	0.87	0.85	0.88	0.86	0.84	0.82
4	0.91	0.86	0.82	0.90	0.85	0.82	0.88	0.84	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.78
5	0.86	0.81	0.77	0.85	0.81	0.77	0.84	0.80	0.76	0.82	0.79	0.76	0.81	0.78	0.75	0.74
6	0.82	0.77	0.73	0.81	0.76	0.73	0.80	0.76	0.72	0.79	0.75	0.72	0.77	0.74	0.71	0.70
7	0.78	0.73	0.69	0.77	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.67
8	0.74	0.69	0.66	0.74	0.69	0.66	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.64
9	0.71	0.66	0.63	0.71	0.66	0.62	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.65	0.62	0.61
10	0.68	0.63	0.60	0.68	0.63	0.60	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.62	0.59	0.58



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	5044.50	4852.69	4598.44	4188.38	3260.81	1863.00	1132.31	327.94	55.41		
45.0	5049.00	4544.44	3828.94	2887.31	1906.88	1192.50	885.38	323.44	34.71		
90.0	4994.44	4353.75	3327.75	2271.38	1533.38	1093.33	885.54	489.99	50.40		
135.0	5036.63	4767.75	4254.19	3539.81	2671.31	1847.25	1285.88	717.75	170.55		
180.0	5044.50	5019.75	4641.75	4028.06	3121.31	2022.75	1119.83	411.98	71.21		
225.0	5049.00	5023.13	4557.38	3667.50	2251.13	1121.01	954.17	654.08	74.31		
270.0	4994.44	4961.81	4224.94	2917.13	1866.94	1117.13	889.31	735.19	314.44		
315.0	5036.63	4872.38	4246.88	3251.25	2325.94	1560.94	1101.94	427.78	93.54		
360.0	5044.50	4852.69	4598.44	4188.38	3260.81	1863.00	1132.31	327.94	55.41		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	30.54	21.49	17.33	15.41	14.18	13.28	12.71	12.15	11.70		
45.0	22.44	18.73	16.71	15.69	14.68	13.50	12.77	12.26	11.76		
90.0	29.98	21.94	18.62	17.61	15.58	13.84	12.83	12.32	11.76		
135.0	60.47	37.63	24.81	19.29	16.76	14.34	12.83	12.15	11.64		
180.0	34.20	23.29	18.00	16.26	15.24	13.84	12.94	12.38	11.81		
225.0	25.76	20.08	17.10	15.69	14.57	13.73	12.83	12.43	11.93		
270.0	32.12	21.54	17.72	15.98	14.57	13.67	12.77	12.32	11.87		
315.0	48.71	29.64	21.54	17.33	14.96	13.39	12.43	11.98	11.59		
360.0	30.54	21.49	17.33	15.41	14.18	13.28	12.71	12.15	11.70		
C/ γ (°)	90.0										
0.0	11.31										
45.0	11.48										
90.0	11.36										
135.0	11.19										
180.0	11.31										
225.0	11.53										
270.0	11.36										
315.0	11.19										
360.0	11.31										