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Nata

LumCAT: LN01D04524DA-N

Luminaire:97.70.234.00

Report No: 200708-B012

Test No: 200708-C012

LampCAT: CREE CXA1304

Lamp flux(lm): 506.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 37.3800

Current(A): 0.1510

Power (W): 5.6400

PF: 0.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 458.50

Efficiency(%): 90.61%

Lumens(lm)/Power(W): 81.29

Central intensity(cd): 1029.628

Maximum intensity(cd): 1029.628

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=37.8

[C90/270]Total=37.8

Field angle(10%Imax): [C0/180]Total=59.6

[C90/270]Total=59.6

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

Maximum s/h(1/4): C0_180=0.60 C90_270=0.60

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 90.61%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.329%

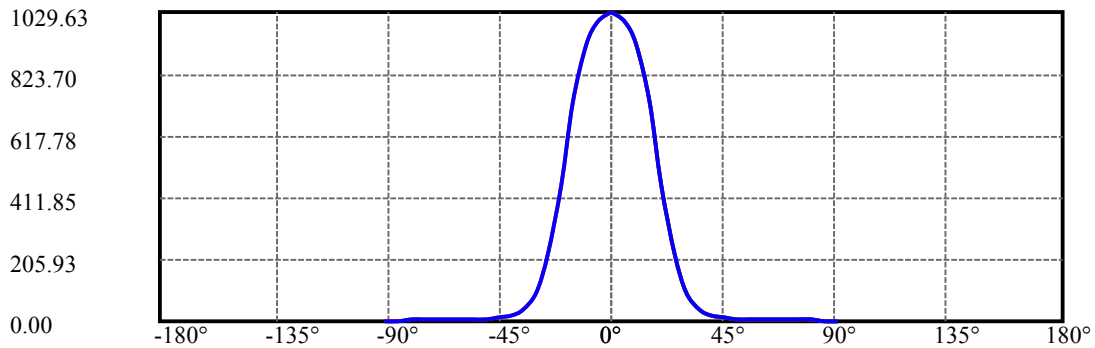
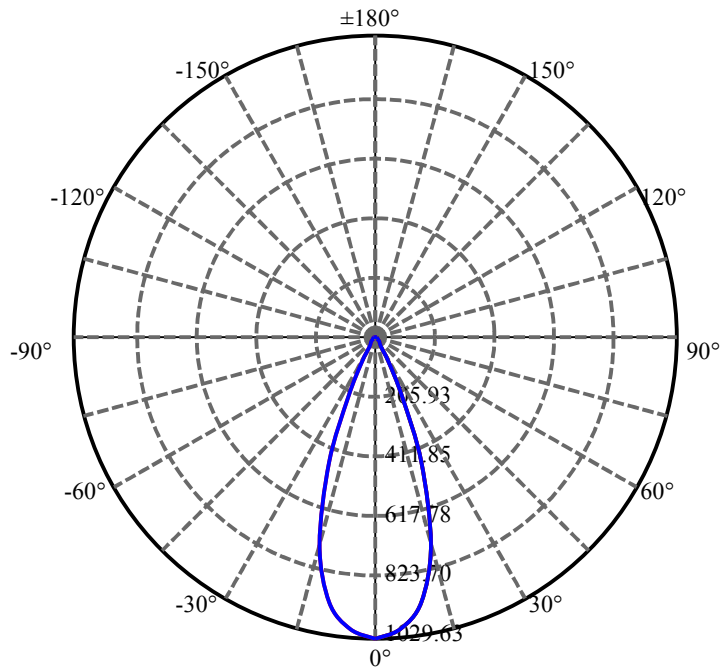
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1029.628	0.000	0	.000%	.000%
5.0	1000.252	24.267	24.267	4.796%	5.293%
10.0	921.038	68.731	92.997	13.583%	20.283%
15.0	731.791	98.045	191.042	19.376%	41.667%
20.0	453.558	97.689	288.731	19.306%	62.973%
25.0	223.601	71.021	359.753	14.036%	78.463%
30.0	97.777	40.671	400.423	8.038%	87.333%
35.0	38.798	20.112	420.535	3.975%	91.719%
40.0	20.595	9.909	430.444	1.958%	93.881%
45.0	12.551	6.137	436.581	1.213%	95.219%
50.0	8.276	4.208	440.79	.832%	96.137%
55.0	5.801	3.061	443.85	.605%	96.804%
60.0	4.598	2.404	446.254	.475%	97.329%
65.0	3.902	2.067	448.321	.408%	97.779%
70.0	3.523	1.880	450.201	.372%	98.189%
75.0	5.295	2.305	452.505	.455%	98.692%
80.0	4.936	2.737	455.243	.541%	99.289%
85.0	2.489	2.018	457.26	.399%	99.729%
90.0	2.046	1.242	458.502	.245%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	400.42	79.14%	87.33%
0-40	430.44	85.07%	93.88%
0-60	446.25	88.19%	97.33%
0-90	457.26	90.37%	99.73%
0-120	457.26	90.37%	99.73%
0-180	458.50	90.61%	100.00%
60-90	13.41	2.65%	2.92%
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%
0-25.87	366.80	72.49%	80.00%

ZONAL LUMEN SUMMARY

0-10	93.00
10-20	195.73
20-30	111.69
30-40	30.02
40-50	10.35
50-60	5.46
60-70	3.95
70-80	5.04
80-90	2.02
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: —————

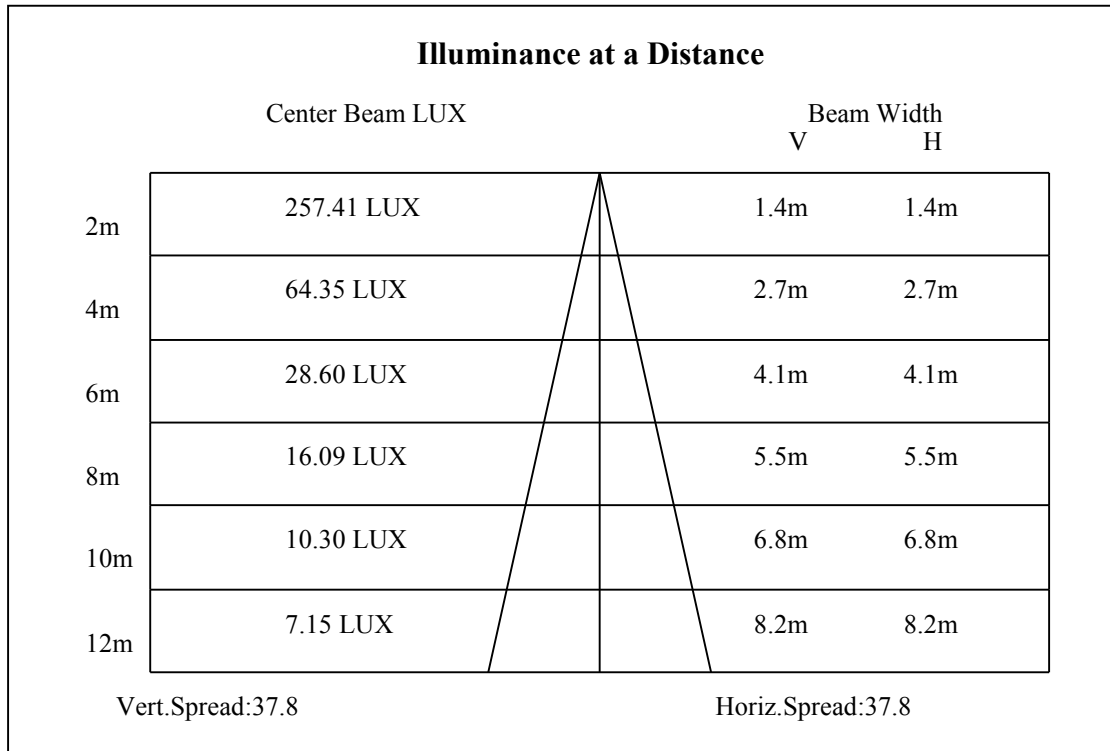
C90/C270: —————

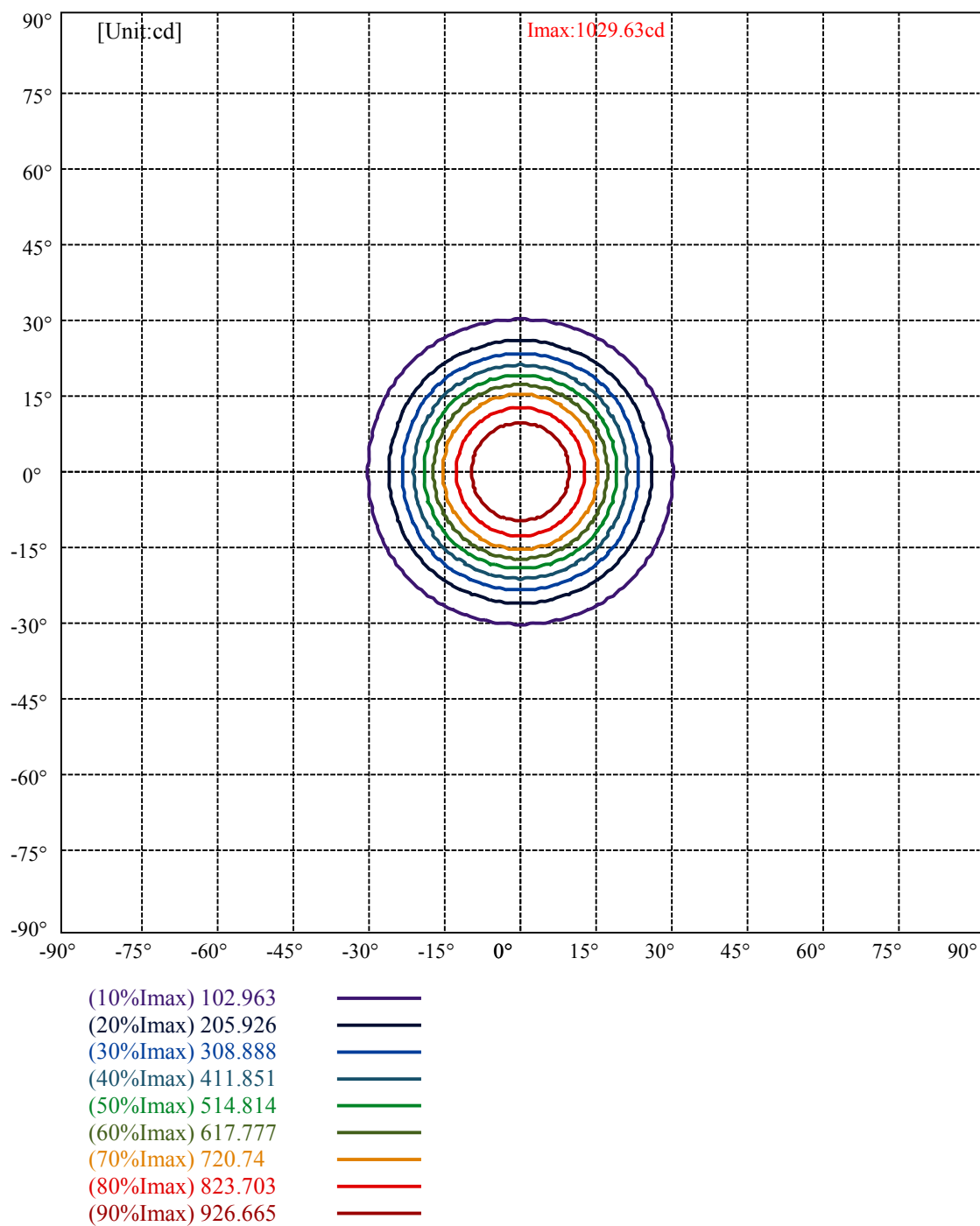
Field angle(10%Imax):C0/180Left:29.8 Right:29.8

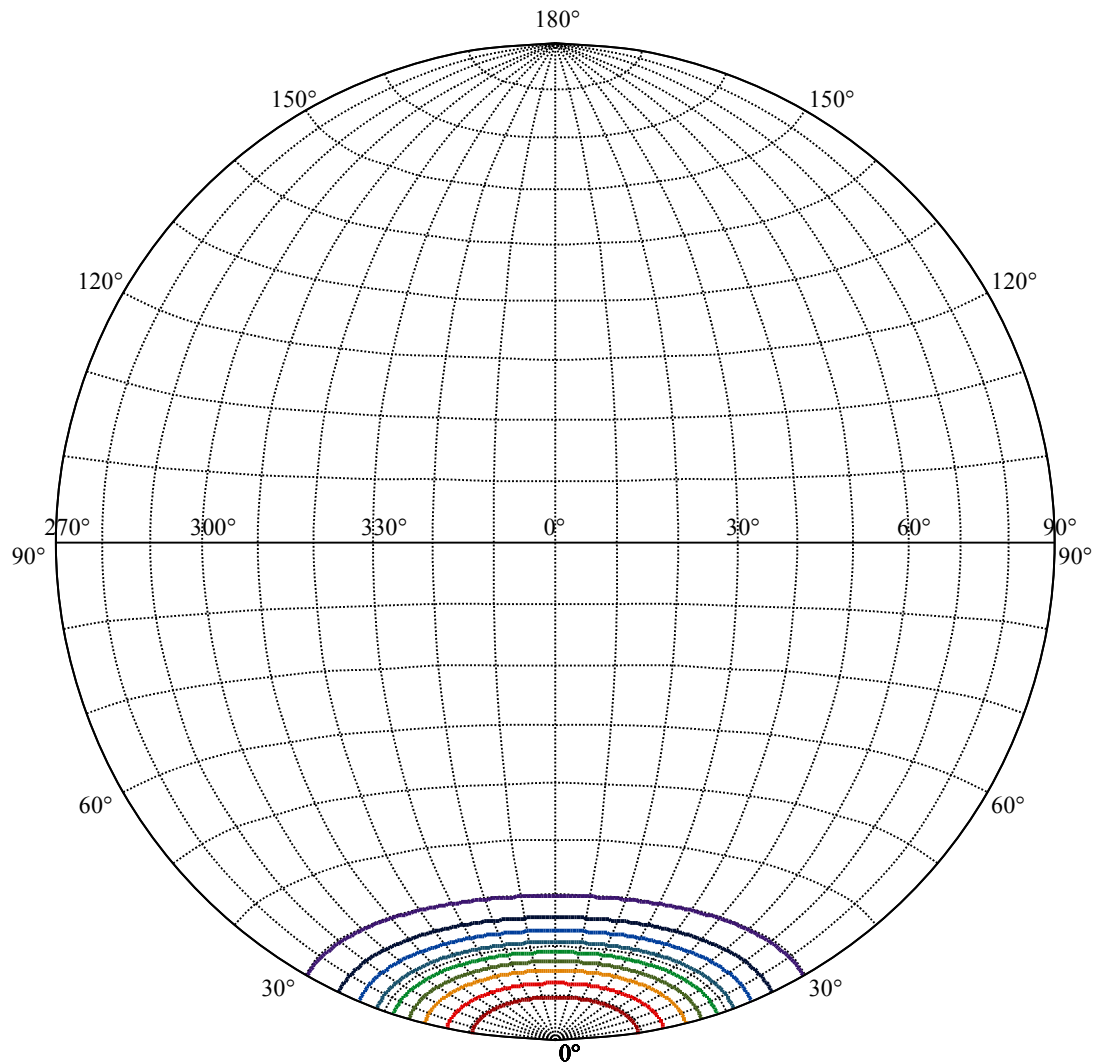
:C90/270Left:29.8 Right:29.8

Beam Angle(50%Imax):C0/180Left:18.9 Right:18.9

:C90/270Left:18.9 Right:18.9







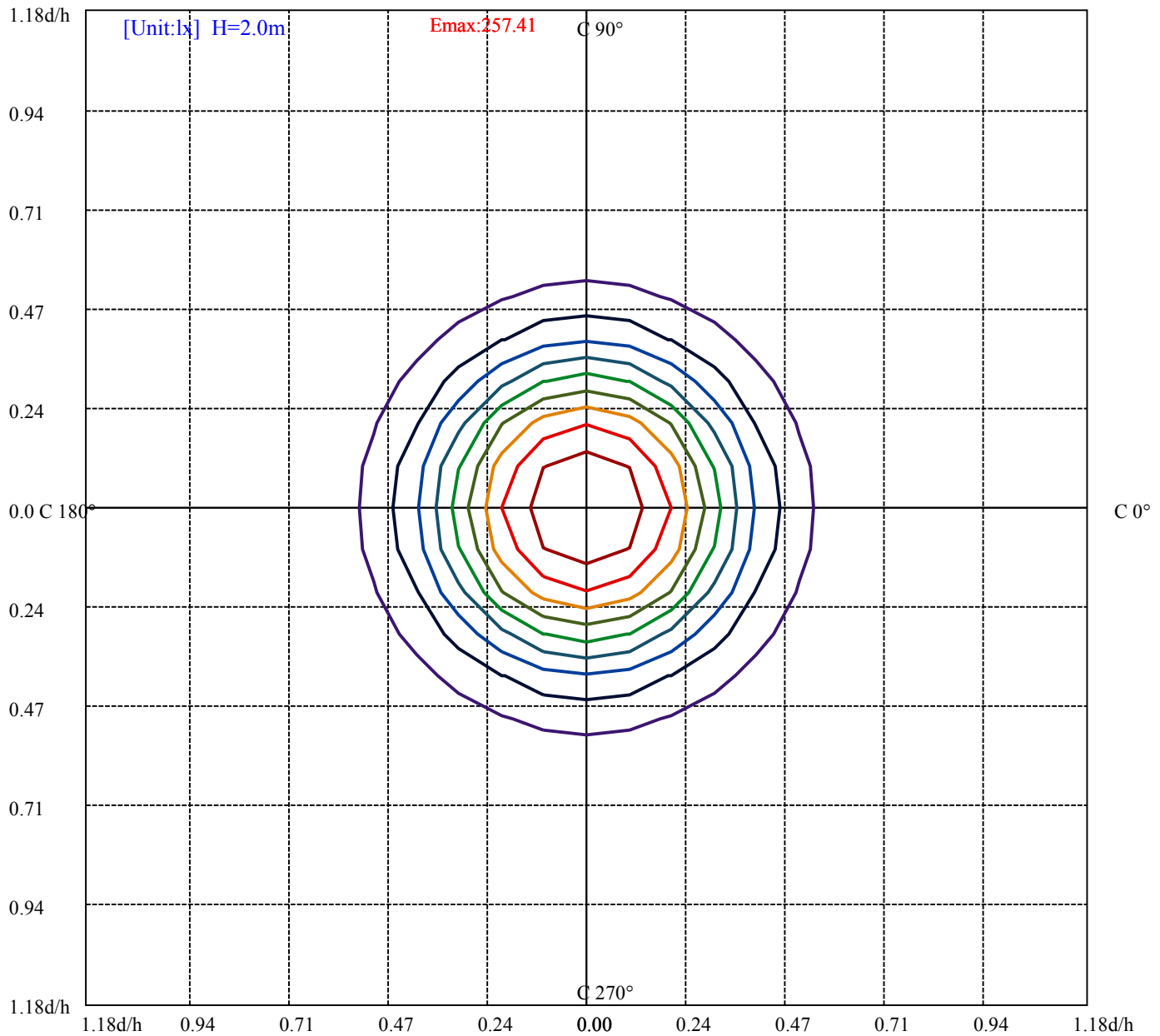
House

[Unit:cd]

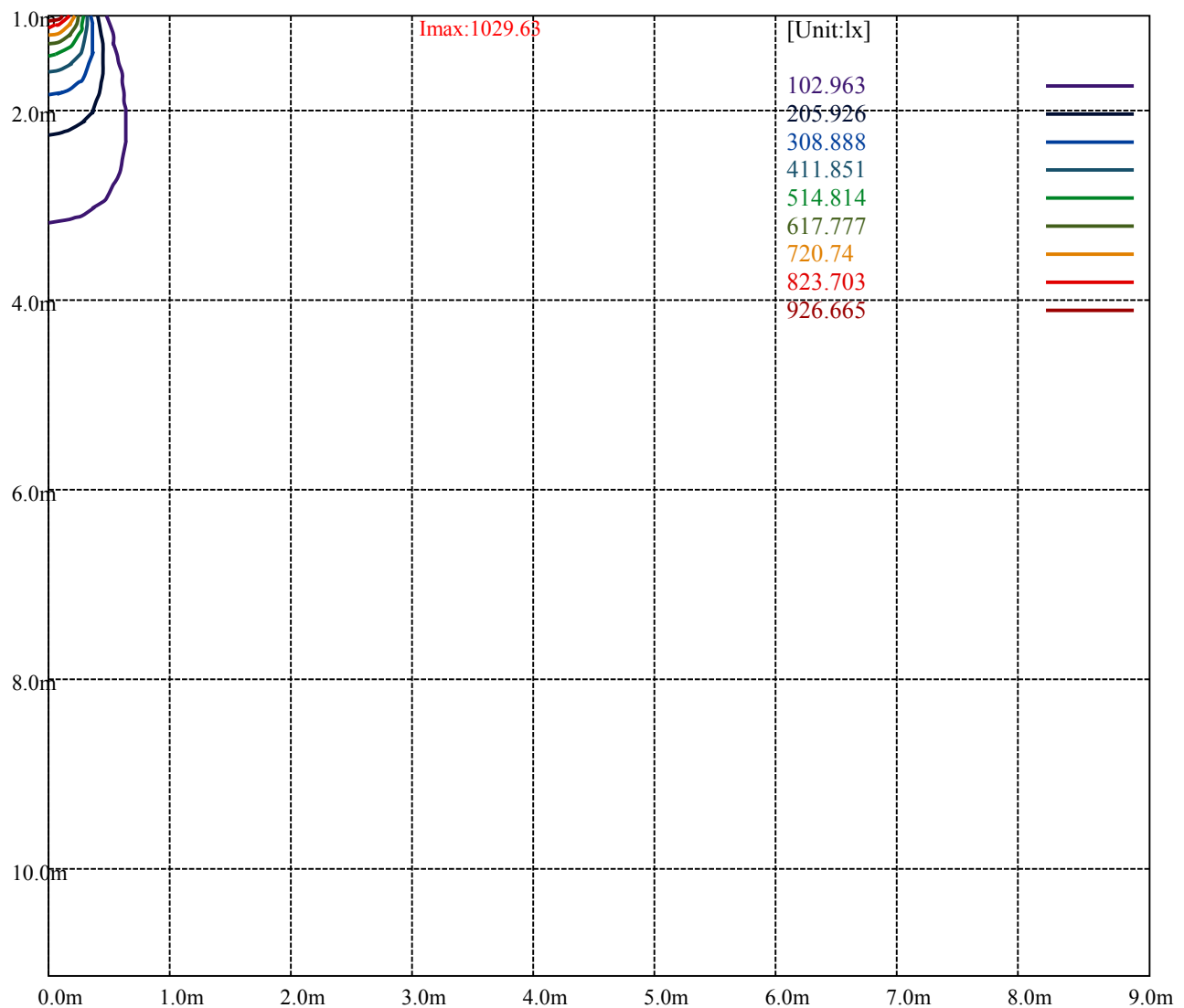
Road

Imax:1029.63

(10%Imax)	102.963	—
(20%Imax)	205.926	—
(30%Imax)	308.888	—
(40%Imax)	411.851	—
(50%Imax)	514.814	—
(60%Imax)	617.777	—
(70%Imax)	720.74	—
(80%Imax)	823.703	—
(90%Imax)	926.665	—



(10%Emax)	25.74075	
(20%Emax)	51.48125	
(30%Emax)	77.222	
(40%Emax)	102.9628	
(50%Emax)	128.7035	
(60%Emax)	154.444	
(70%Emax)	180.1848	
(80%Emax)	205.9255	
(90%Emax)	231.6662	



Luminance Table

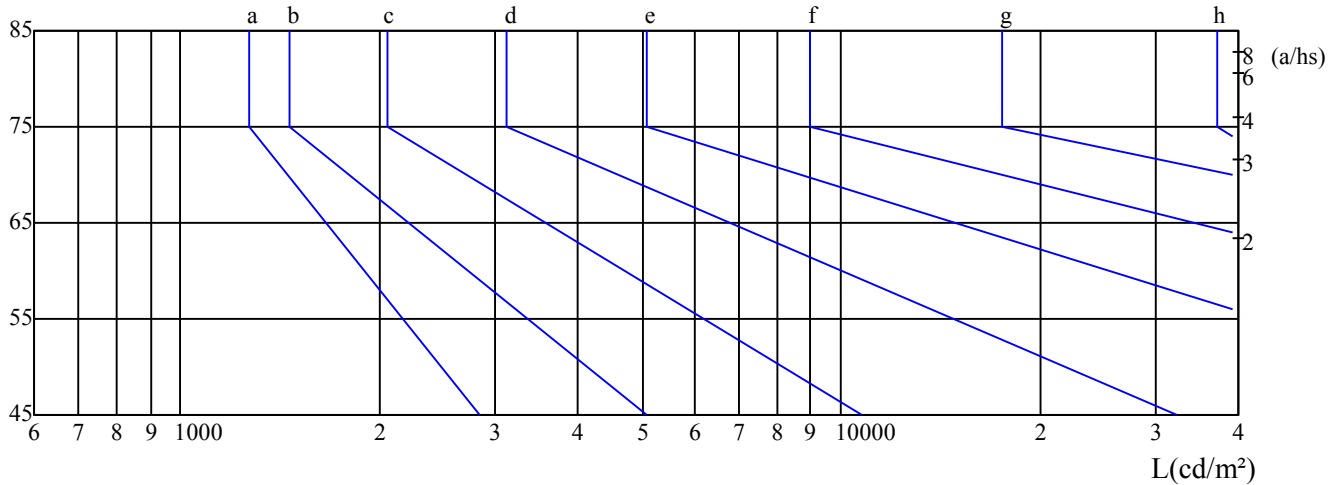
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

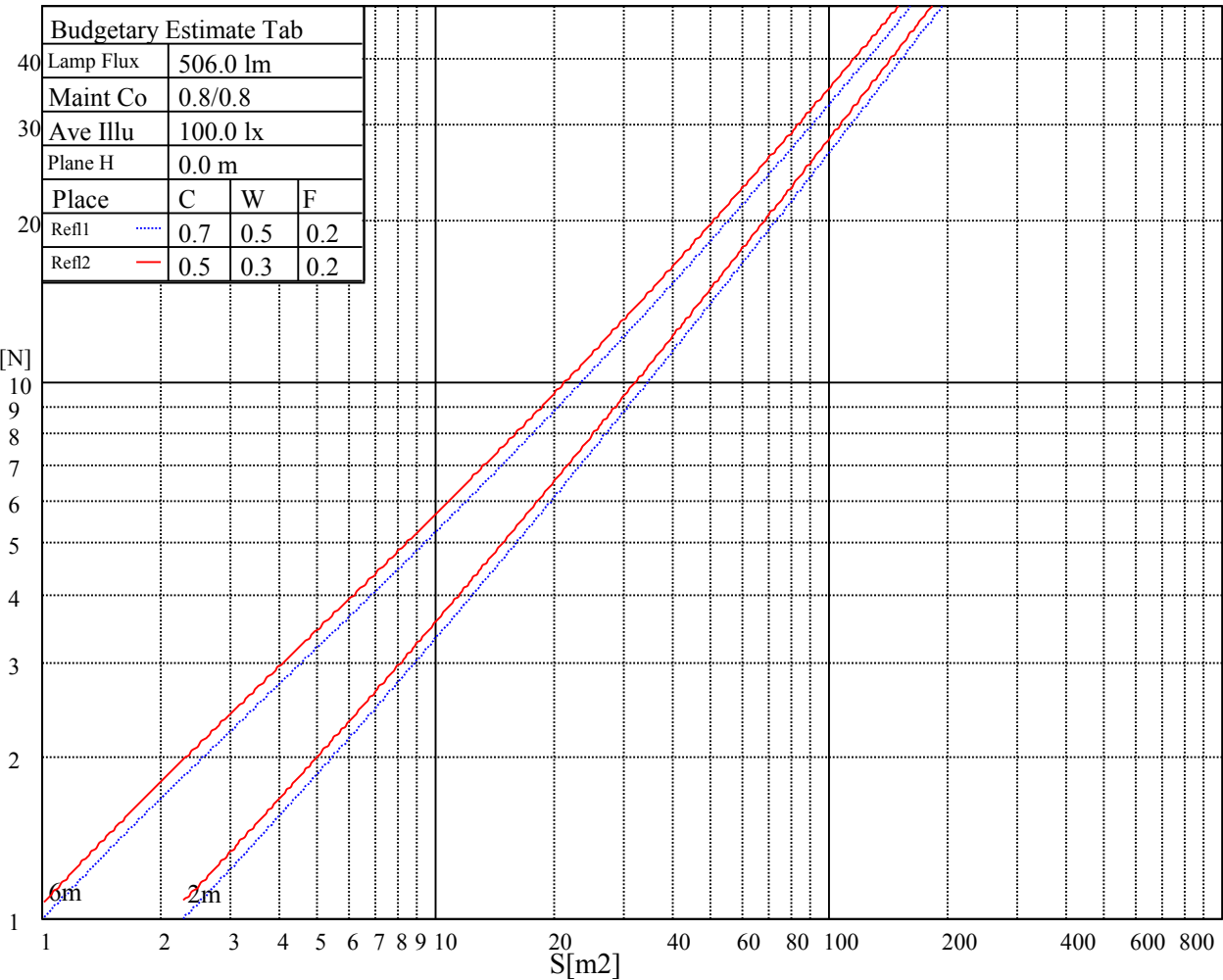
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

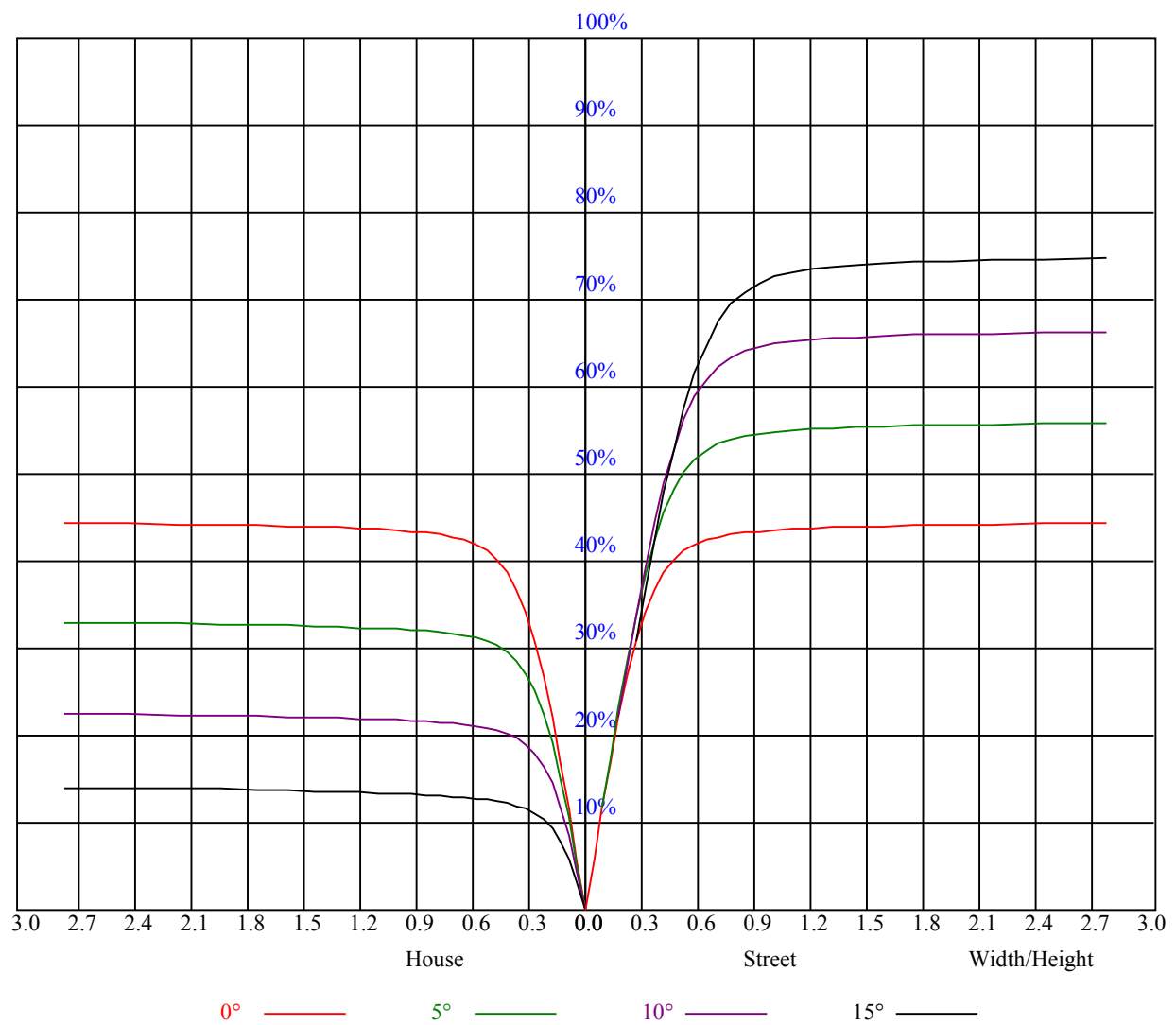
C0 ———

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	1.08	1.08	1.08	1.05	1.05	1.05	1.01	1.01	1.01	0.96	0.96	0.96	0.92	0.92	0.92	0.91
1	1.01	0.99	0.97	0.99	0.97	0.95	0.95	0.94	0.92	0.92	0.91	0.89	0.89	0.88	0.87	0.85
2	0.95	0.91	0.89	0.93	0.90	0.88	0.90	0.88	0.86	0.88	0.86	0.84	0.85	0.84	0.82	0.81
3	0.90	0.86	0.82	0.88	0.85	0.82	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.77
4	0.85	0.81	0.77	0.84	0.80	0.77	0.82	0.79	0.76	0.80	0.77	0.75	0.79	0.76	0.74	0.73
5	0.81	0.76	0.73	0.80	0.76	0.73	0.79	0.75	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.70
6	0.77	0.73	0.69	0.77	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.67
7	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.64
8	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.61
9	0.68	0.63	0.60	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.59
10	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.57



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	1024.99	982.63	907.93	726.36	453.99	231.86	98.78	38.93	21.77		
45.0	1033.20	1001.42	924.30	734.85	455.29	216.28	96.19	37.91	20.70		
90.0	1033.99	1007.66	919.29	702.96	414.11	196.14	78.98	32.79	18.62		
135.0	1026.34	1007.33	943.37	767.25	480.04	243.90	103.84	39.09	20.14		
180.0	1024.99	988.99	894.88	716.63	438.47	214.59	97.20	36.96	19.29		
225.0	1033.20	1002.77	908.33	711.45	444.43	229.05	101.98	40.89	21.77		
270.0	1033.99	1017.96	955.80	780.69	508.89	253.97	116.16	47.36	23.12		
315.0	1026.34	993.26	914.40	714.15	433.24	203.01	89.10	36.45	19.35		
360.0	1024.99	982.63	907.93	726.36	453.99	231.86	98.78	38.93	21.77		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	12.99	8.66	6.02	4.73	3.99	3.43	3.09	2.87	2.25		
45.0	12.99	8.66	6.02	4.73	3.99	3.49	3.26	2.93	2.36		
90.0	11.31	7.48	5.34	4.39	3.77	3.43	3.60	3.43	2.42		
135.0	12.21	8.04	5.63	4.50	3.94	3.83	11.81	11.31	2.87		
180.0	12.15	8.21	5.79	4.56	3.88	3.38	3.15	2.81	2.25		
225.0	12.88	8.38	5.85	4.61	3.83	3.38	3.09	2.81	2.36		
270.0	13.84	8.83	6.13	4.78	3.99	3.54	3.32	3.88	2.59		
315.0	12.04	7.93	5.63	4.50	3.83	3.71	11.03	9.45	2.81		
360.0	12.99	8.66	6.02	4.73	3.99	3.43	3.09	2.87	2.25		
C/ γ (°)	90.0										
0.0	2.03										
45.0	2.14										
90.0	2.03										
135.0	2.03										
180.0	2.03										
225.0	2.08										
270.0	2.03										
315.0	2.03										
360.0	2.03										