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Nata

LumCAT: 1-0924-M
Luminaire: 92.70.125.00
Report No: NATA0100 Voltage(V): 37.3200
Test No: GC2020021911 Current(A): 0.3000
LampCAT: LUMILEDS LUXEON COB 1202SPower (W): 11.2080
Lamp flux(lm): 1310.0 PF: 0.0000
Number of Lamps: 1 Ballast type: DC
Length(mm): 30 Width(mm): 30
Phm Type: C Height(mm): 28

Photometric Results

Lumens(lm): 1003.32
Efficiency(%): 76.59%
Lumens(lm)/Power(W): 89.52
Central intensity(cd): 2961.422
Maximum intensity(cd): 2961.422
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=34.8
[C90/270]Total=34.8
Field angle(10%Imax): [C0/180]Total=53.4
[C90/270]Total=53.4
Maximum s/h(1/2): C0_180=0.58 C90_270=0.58
Maximum s/h(1/4): C0_180=0.56 C90_270=0.56
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 76.59%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.686%

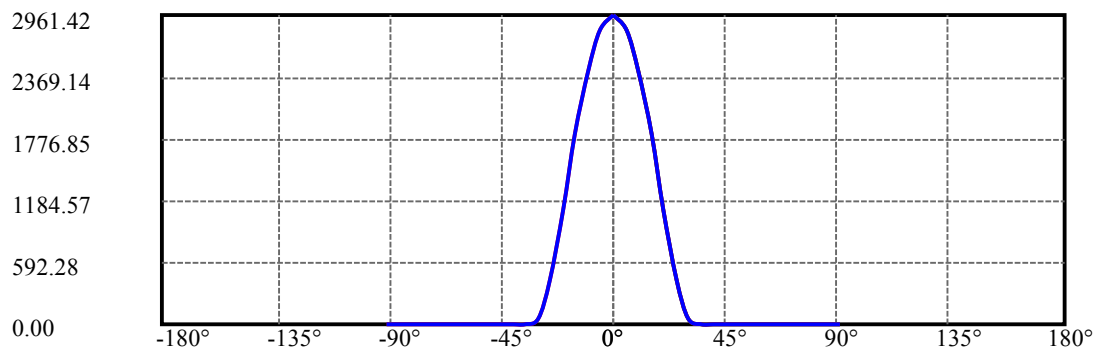
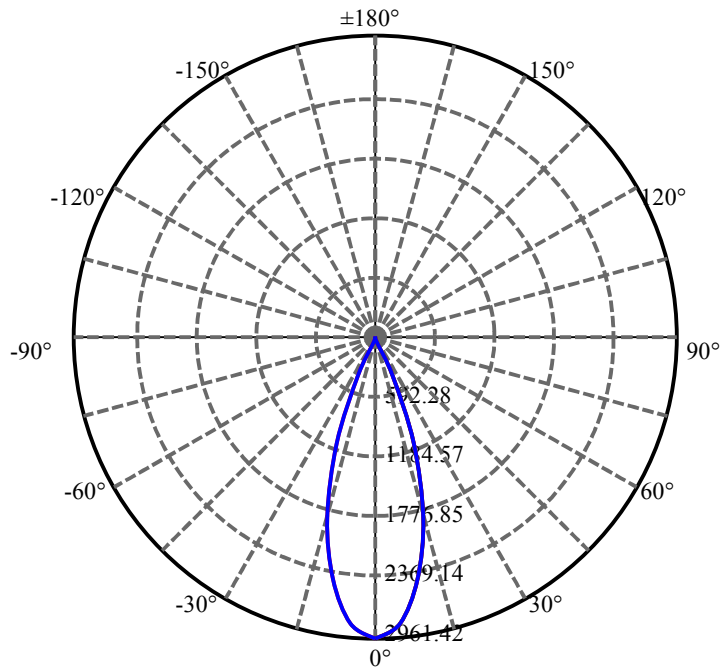
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2961.422	0.000	0	.000%	.000%
5.0	2821.852	69.137	69.137	5.278%	6.891%
10.0	2422.125	187.594	256.731	14.320%	25.588%
15.0	1825.945	251.993	508.724	19.236%	50.704%
20.0	1106.494	241.674	750.398	18.448%	74.792%
25.0	420.209	160.123	910.521	12.223%	90.751%
30.0	54.626	60.091	970.611	4.587%	96.740%
35.0	7.861	9.202	979.813	.702%	97.657%
40.0	5.871	2.291	982.104	.175%	97.886%
45.0	5.077	2.027	984.131	.155%	98.088%
50.0	4.711	1.978	986.109	.151%	98.285%
55.0	4.465	1.995	988.104	.152%	98.484%
60.0	4.331	2.033	990.137	.155%	98.686%
65.0	4.254	2.087	992.224	.159%	98.894%
70.0	4.212	2.144	994.368	.164%	99.108%
75.0	4.163	2.189	996.557	.167%	99.326%
80.0	4.163	2.228	998.784	.170%	99.548%
85.0	4.191	2.270	1001.054	.173%	99.775%
90.0	4.071	2.262	1003.316	.173%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	970.61	74.09%	96.74%
0-40	982.10	74.97%	97.89%
0-60	990.14	75.58%	98.69%
0-90	1001.05	76.42%	99.77%
0-120	1001.05	76.42%	99.77%
0-180	1003.32	76.59%	100.00%
60-90	12.95	0.99%	1.29%
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%
0-21.63	802.65	61.27%	80.00%

ZONAL LUMEN SUMMARY

0-10	256.73
10-20	493.67
20-30	220.21
30-40	11.49
40-50	4.00
50-60	4.03
60-70	4.23
70-80	4.42
80-90	2.27
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

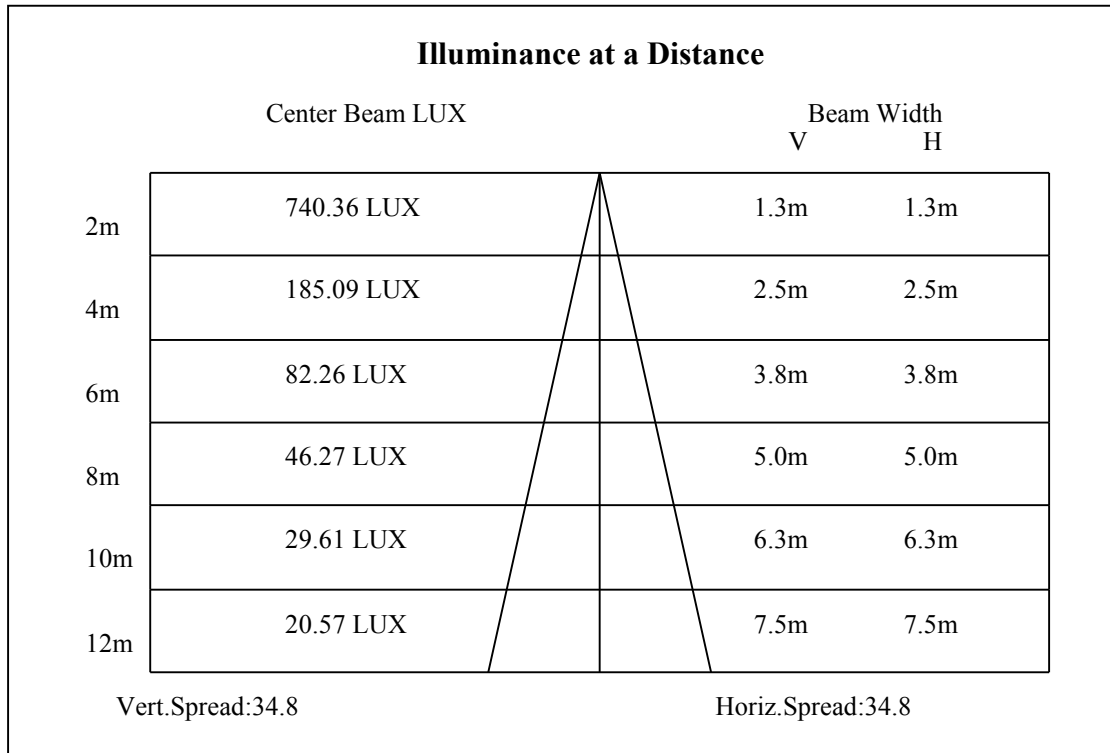
C0(Max): —————C0/C180: —————C90/C270: —————

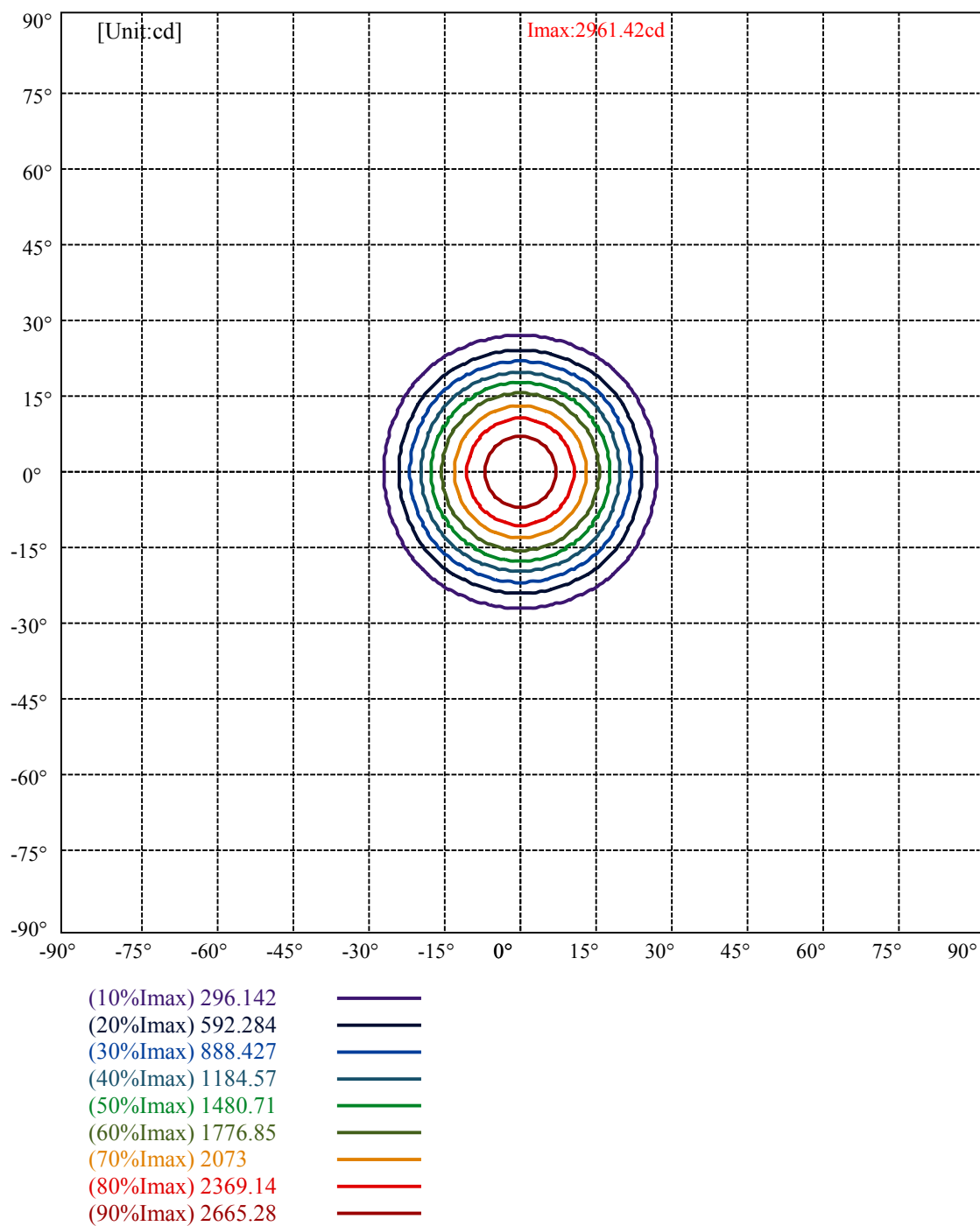
Field angle(10%Imax):C0/180Left:26.7 Right:26.7

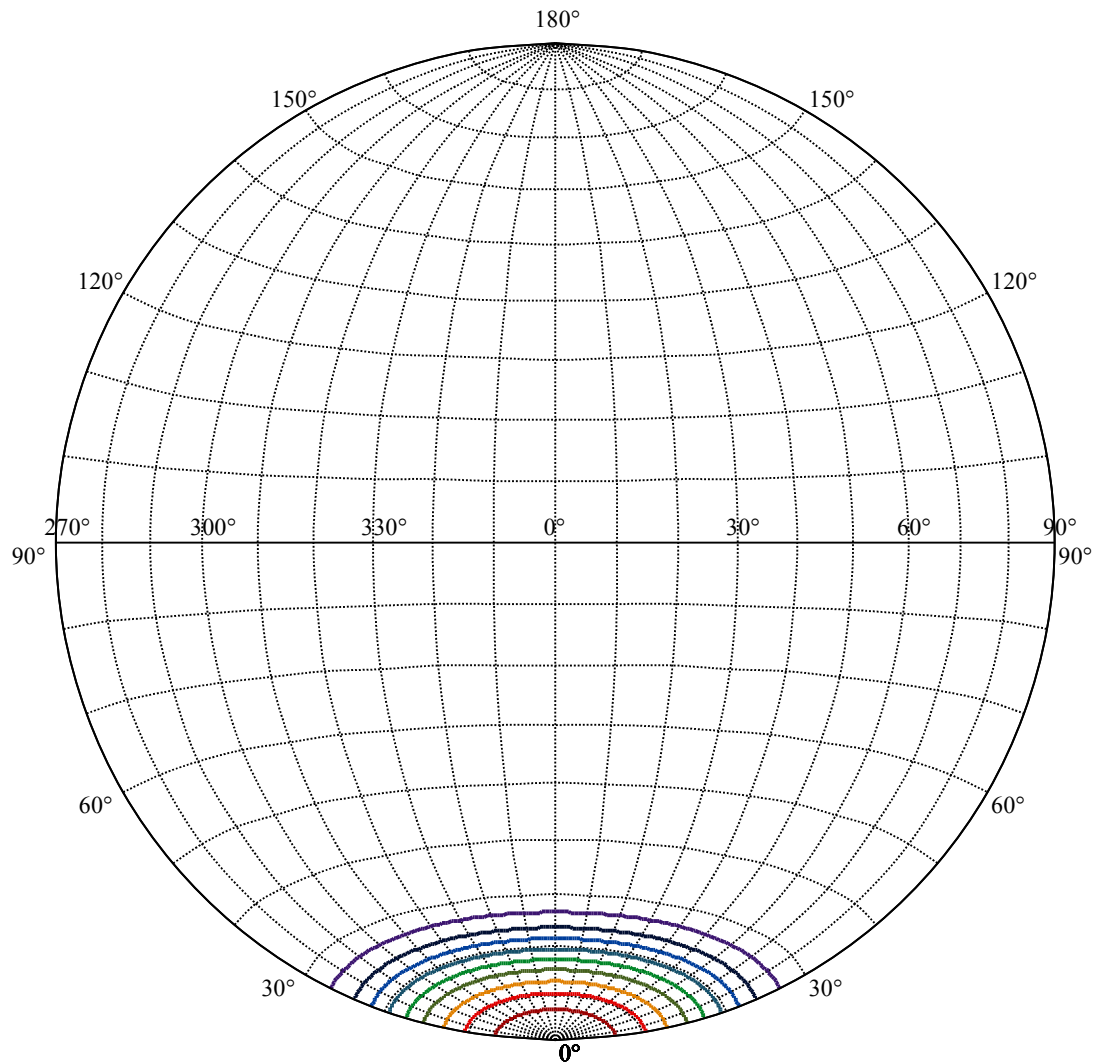
:C90/270Left:26.7 Right:26.7

Beam Angle(50%Imax):C0/180Left:17.4 Right:17.4

:C90/270Left:17.4 Right:17.4







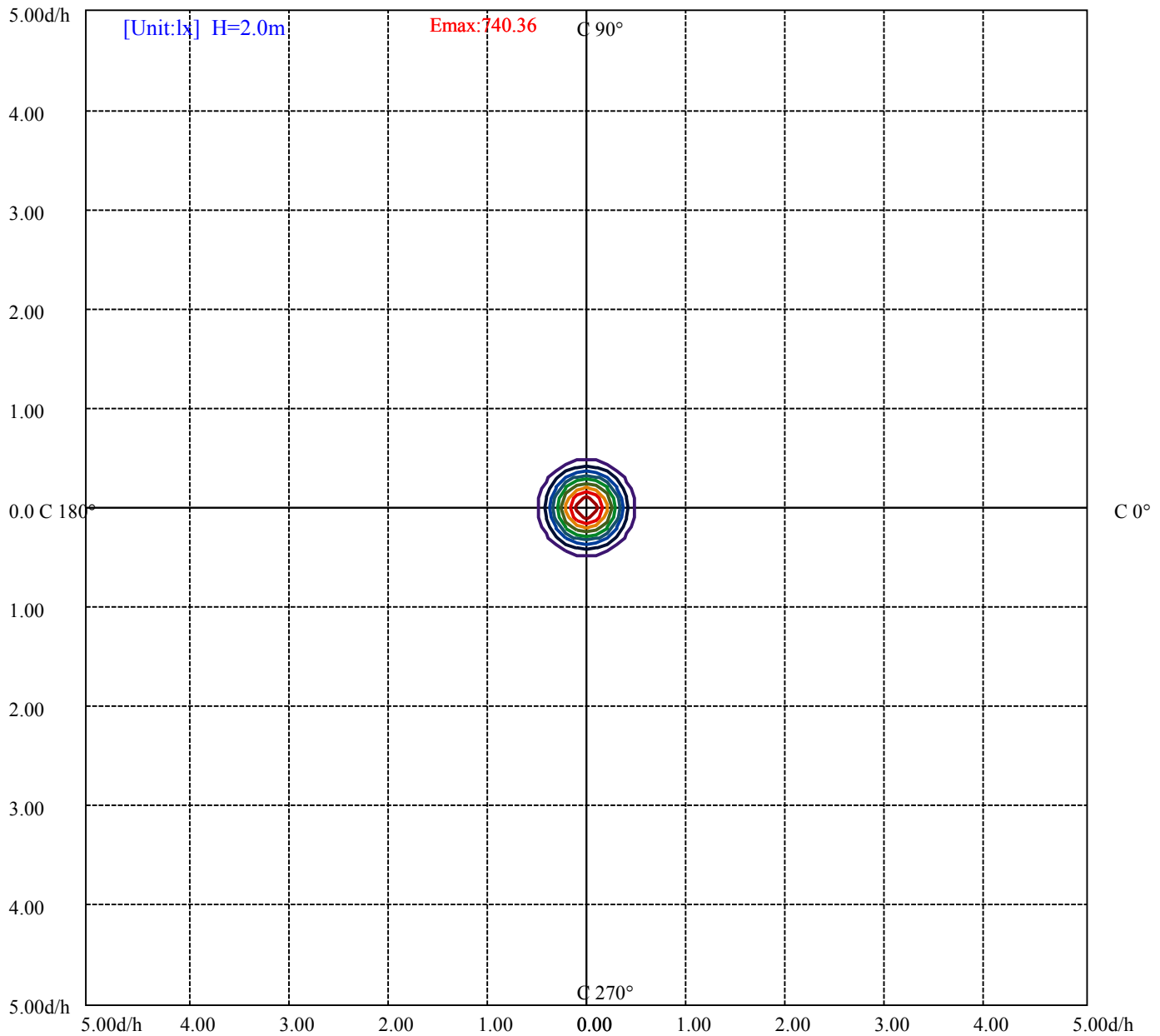
House

[Unit:cd]

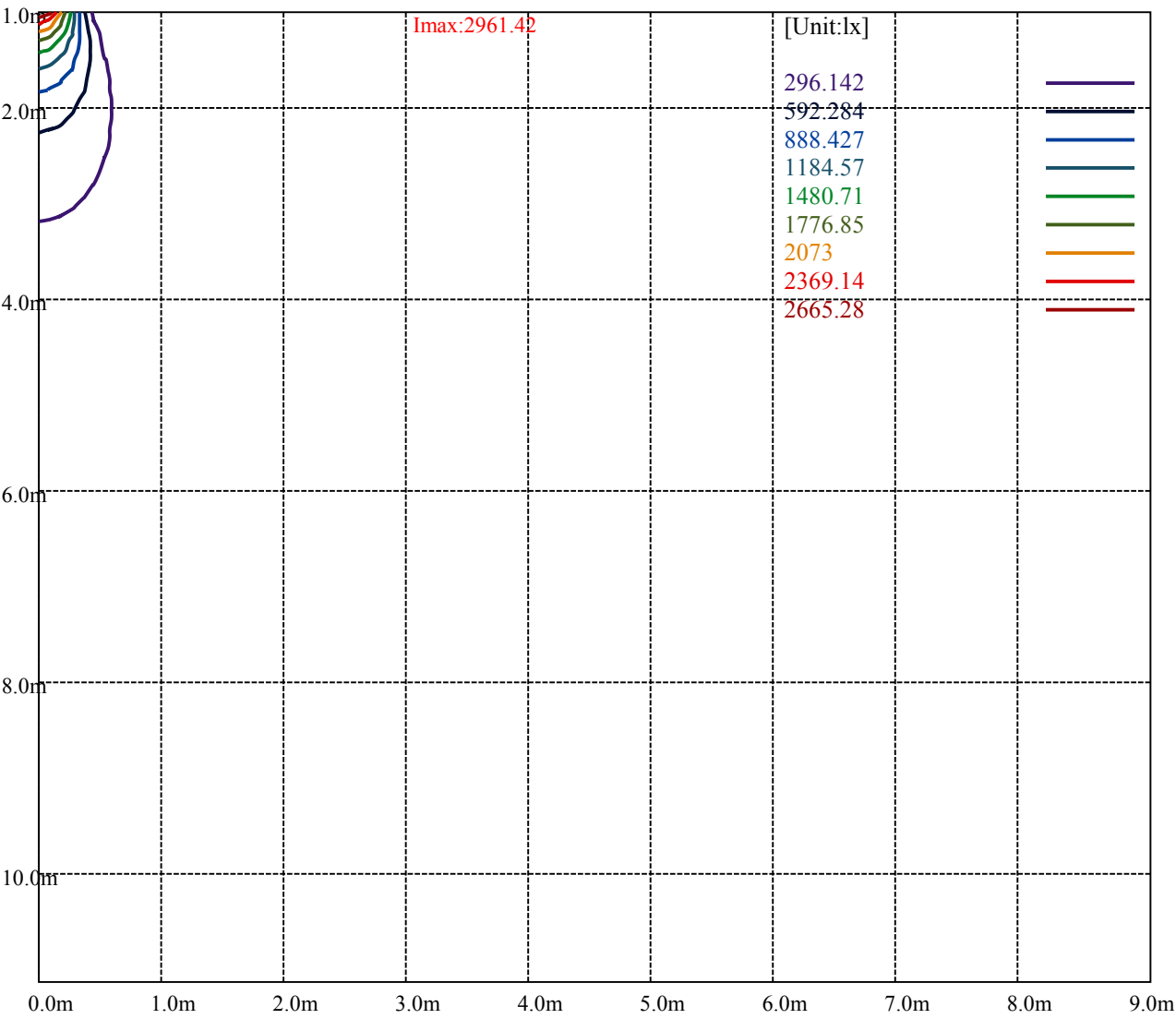
Road

Imax:2961.42

(10%Imax)	296.142	—
(20%Imax)	592.284	—
(30%Imax)	888.427	—
(40%Imax)	1184.57	—
(50%Imax)	1480.71	—
(60%Imax)	1776.85	—
(70%Imax)	2073	—
(80%Imax)	2369.14	—
(90%Imax)	2665.28	—



(10%Emax) 74.0355	—
(20%Emax) 148.071	—
(30%Emax) 222.1062	—
(40%Emax) 296.1425	—
(50%Emax) 370.1775	—
(60%Emax) 444.2125	—
(70%Emax) 518.2475	—
(80%Emax) 592.2825	—
(90%Emax) 666.32	—



Luminance Table

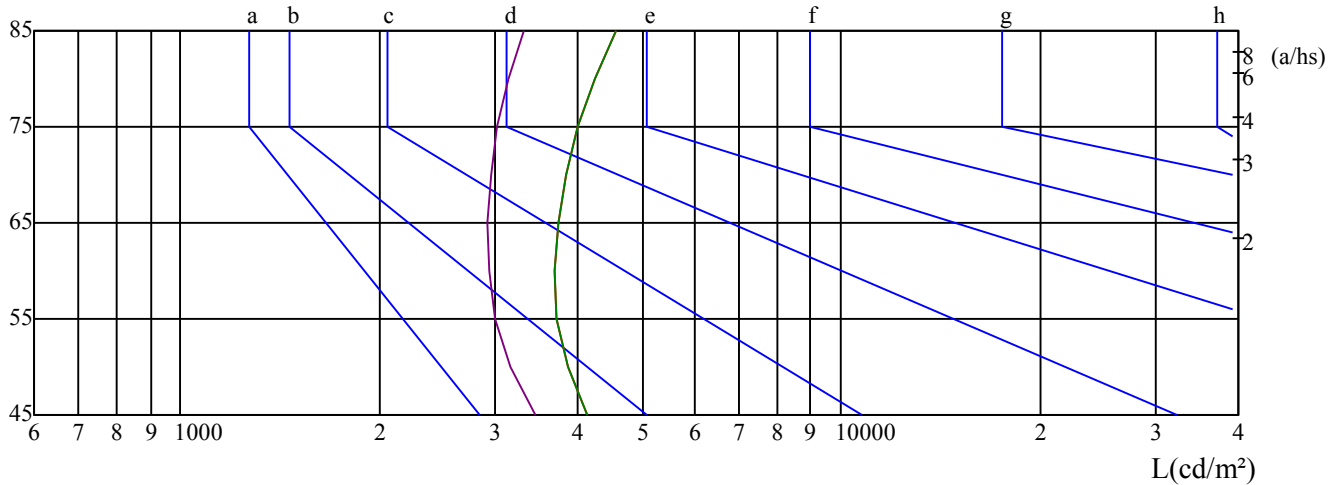
γ	45	50	55	60	65	70	75	80	85
C0	4126	3855	3707	3678	3726	3839	3986	4232	4579
C45	3438	3165	2998	2929	2920	2957	3015	3139	3321
C90	4126	3855	3707	3678	3726	3839	3986	4232	4579

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
11184	11184	11184	17870	17870	17870	53424	53424	53424

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

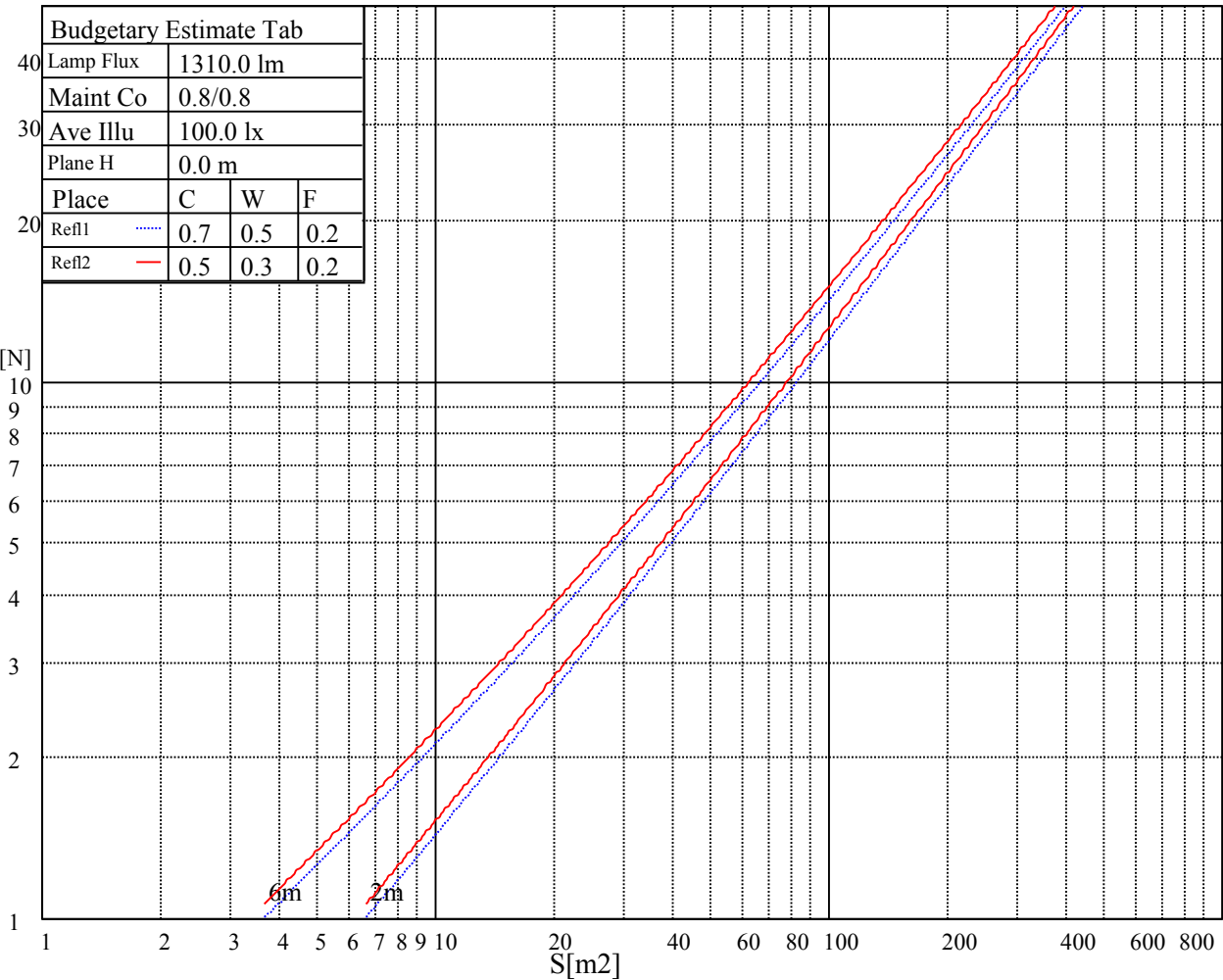
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

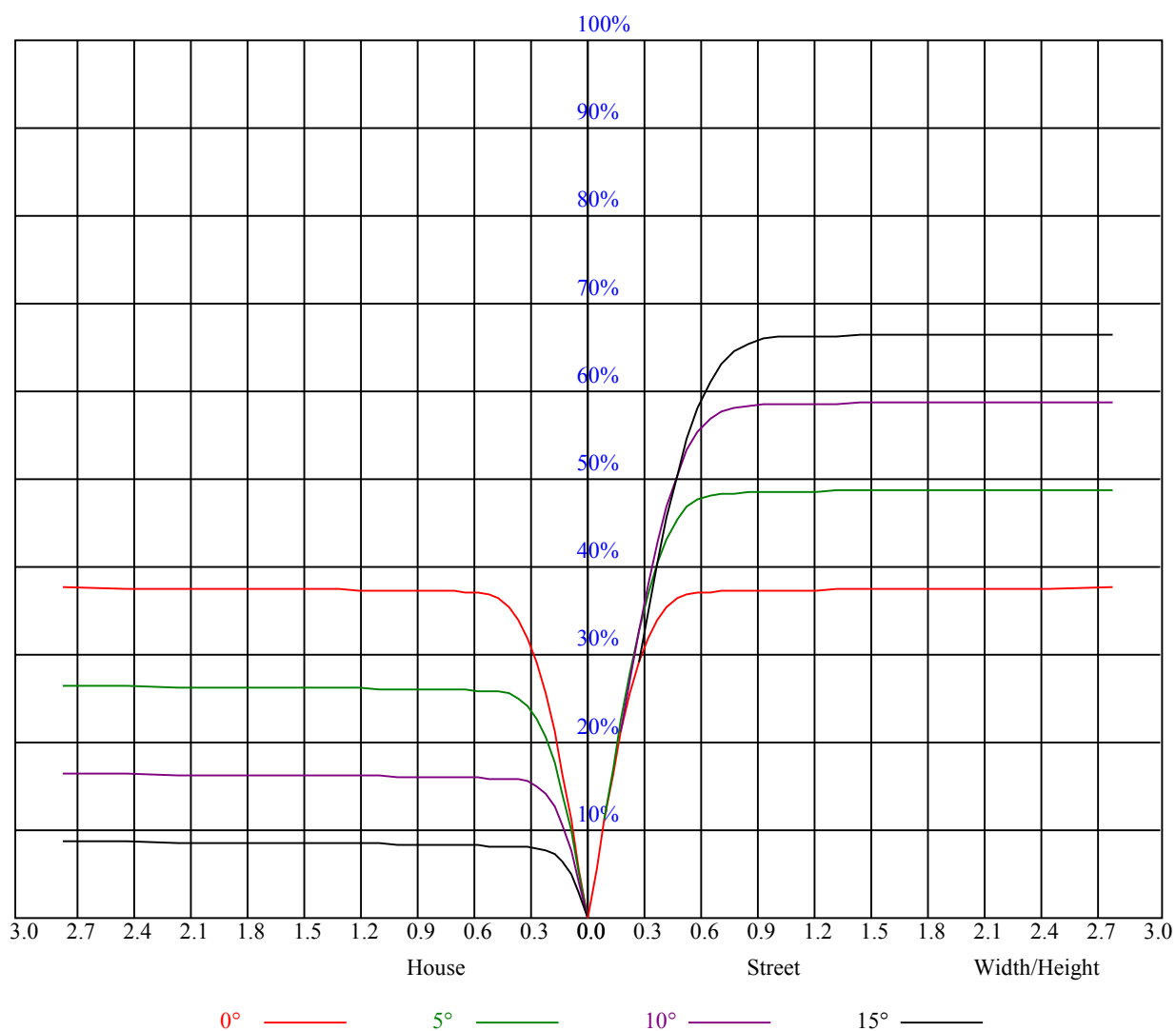
C0 ———

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	0.91	0.91	0.91	0.89	0.89	0.89	0.85	0.85	0.85	0.81	0.81	0.81	0.78	0.78	0.78	0.77
1	0.86	0.84	0.83	0.84	0.83	0.82	0.81	0.80	0.79	0.78	0.78	0.77	0.76	0.75	0.75	0.73
2	0.82	0.79	0.77	0.80	0.78	0.76	0.78	0.76	0.74	0.76	0.74	0.73	0.74	0.72	0.71	0.70
3	0.78	0.75	0.72	0.77	0.74	0.72	0.75	0.73	0.71	0.73	0.71	0.70	0.71	0.70	0.69	0.68
4	0.74	0.71	0.69	0.74	0.71	0.68	0.72	0.70	0.67	0.71	0.68	0.67	0.69	0.68	0.66	0.65
5	0.71	0.68	0.66	0.71	0.68	0.65	0.69	0.67	0.65	0.68	0.66	0.64	0.67	0.65	0.64	0.63
6	0.69	0.65	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.66	0.64	0.62	0.65	0.63	0.61	0.61
7	0.66	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.64	0.61	0.60	0.63	0.61	0.59	0.58
8	0.64	0.60	0.58	0.63	0.60	0.58	0.63	0.60	0.58	0.62	0.59	0.58	0.61	0.59	0.57	0.57
9	0.62	0.58	0.56	0.61	0.58	0.56	0.61	0.58	0.56	0.60	0.58	0.56	0.60	0.57	0.56	0.55
10	0.60	0.56	0.54	0.59	0.56	0.54	0.59	0.56	0.54	0.58	0.56	0.54	0.58	0.56	0.54	0.53



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	2958.75	2905.88	2588.06	2036.81	1373.63	624.38	170.78	9.68	6.36		
45.0	2957.06	2871.00	2525.63	1980.56	1253.81	528.19	83.98	8.21	6.02		
90.0	2962.69	2792.81	2384.44	1738.13	991.97	352.41	25.76	7.03	5.68		
135.0	2967.19	2833.88	2410.88	1776.38	1105.88	378.56	26.44	7.48	5.79		
180.0	2958.75	2711.25	2247.75	1550.25	849.38	225.39	13.16	6.81	5.51		
225.0	2957.06	2771.44	2338.31	1716.19	968.01	321.58	16.43	7.14	5.63		
270.0	2962.69	2853.56	2423.81	1957.50	1193.06	500.06	57.49	8.33	5.91		
315.0	2967.19	2835.00	2458.13	1851.75	1116.23	431.10	42.98	8.21	6.08		
360.0	2958.75	2905.88	2588.06	2036.81	1373.63	624.38	170.78	9.68	6.36		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	5.29	4.78	4.56	4.39	4.28	4.22	4.16	4.16	4.16		
45.0	5.18	4.78	4.50	4.33	4.28	4.16	4.11	4.11	4.11		
90.0	5.01	4.67	4.44	4.33	4.33	4.33	4.33	4.33	4.39		
135.0	5.01	4.67	4.44	4.33	4.22	4.16	4.11	4.11	4.11		
180.0	4.95	4.67	4.44	4.33	4.28	4.22	4.16	4.22	4.22		
225.0	4.95	4.67	4.44	4.28	4.22	4.22	4.16	4.11	4.16		
270.0	5.12	4.73	4.44	4.33	4.22	4.22	4.16	4.16	4.28		
315.0	5.12	4.73	4.44	4.33	4.22	4.16	4.11	4.11	4.11		
360.0	5.29	4.78	4.56	4.39	4.28	4.22	4.16	4.16	4.16		
C/ γ (°)	90.0										
0.0	4.16										
45.0	4.11										
90.0	4.05										
135.0	4.05										
180.0	4.05										
225.0	4.05										
270.0	4.05										
315.0	4.05										
360.0	4.16										