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Nata

LumCAT: 1-0938-N
Luminaire: 92.70.361.000
Report No: 220516-B013
Test No: 220516-C013
LampCAT: CREE CMA1516
Lamp flux(lm): 1745.8
Number of Lamps: 1
Length(mm): 43
Phm Type: C

Voltage(V): 35.2100
Current(A): 0.3600
Power (W): 12.6750
PF: 0.0000
Ballast type: DC
Width(mm): 43
Height(mm): 0

Photometric Results

Lumens(lm): 1431.51
Efficiency(%): 82.00%
Lumens(lm)/Power(W): 112.94
Central intensity(cd): 2899.360
Maximum intensity(cd): 2899.360
Angle of maximum intensity: $C=0.0$ $\gamma=0.0$
Beam Angle(50%Imax): [C0/180]Total=41.7
[C90/270]Total=41.7
Field angle(10%Imax): [C0/180]Total=62.8
[C90/270]Total=62.8
Maximum s/h(1/2): C0_180=0.68 C90_270=0.68
Maximum s/h(1/4): C0_180=0.66 C90_270=0.66
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 82.00%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.012%

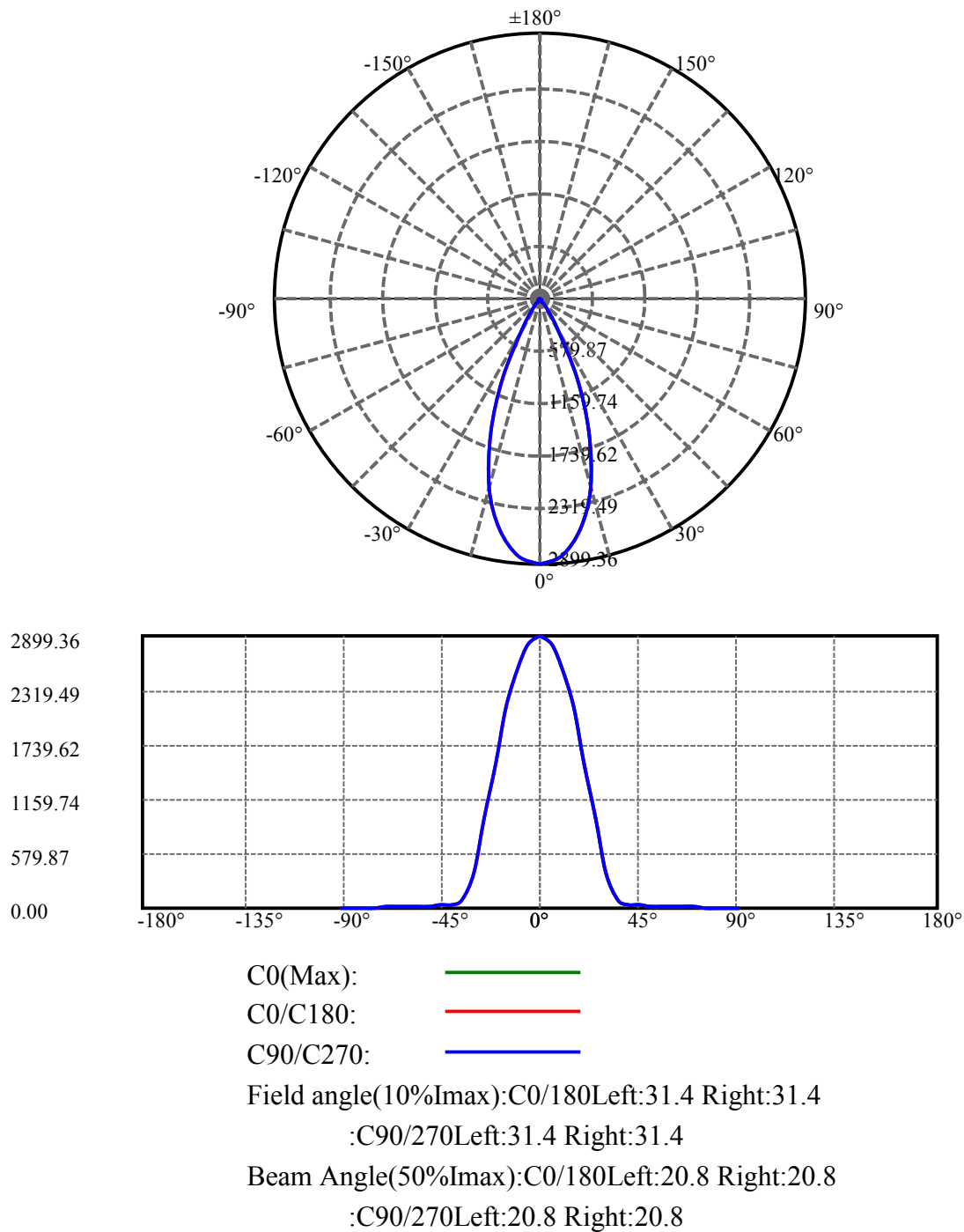
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2899.360	0.000	0	.000%	.000%
5.0	2810.179	68.256	68.256	3.910%	4.768%
10.0	2552.420	191.837	260.093	10.988%	18.169%
15.0	2149.536	278.917	539.01	15.976%	37.653%
20.0	1548.108	304.738	843.748	17.455%	58.941%
25.0	954.209	262.447	1106.194	15.033%	77.275%
30.0	370.423	167.633	1273.828	9.602%	88.985%
35.0	81.376	66.531	1340.358	3.811%	93.632%
40.0	42.208	20.619	1360.977	1.181%	95.073%
45.0	30.735	13.506	1374.483	.774%	96.016%
50.0	24.282	11.117	1385.601	.637%	96.793%
55.0	19.211	9.457	1395.057	.542%	97.453%
60.0	15.371	7.994	1403.051	.458%	98.012%
65.0	12.175	6.697	1409.747	.384%	98.480%
70.0	10.031	5.623	1415.37	.322%	98.872%
75.0	8.350	4.805	1420.175	.275%	99.208%
80.0	7.275	4.181	1424.356	.239%	99.500%
85.0	6.513	3.747	1428.102	.215%	99.762%
90.0	5.938	3.409	1431.511	.195%	100.000%

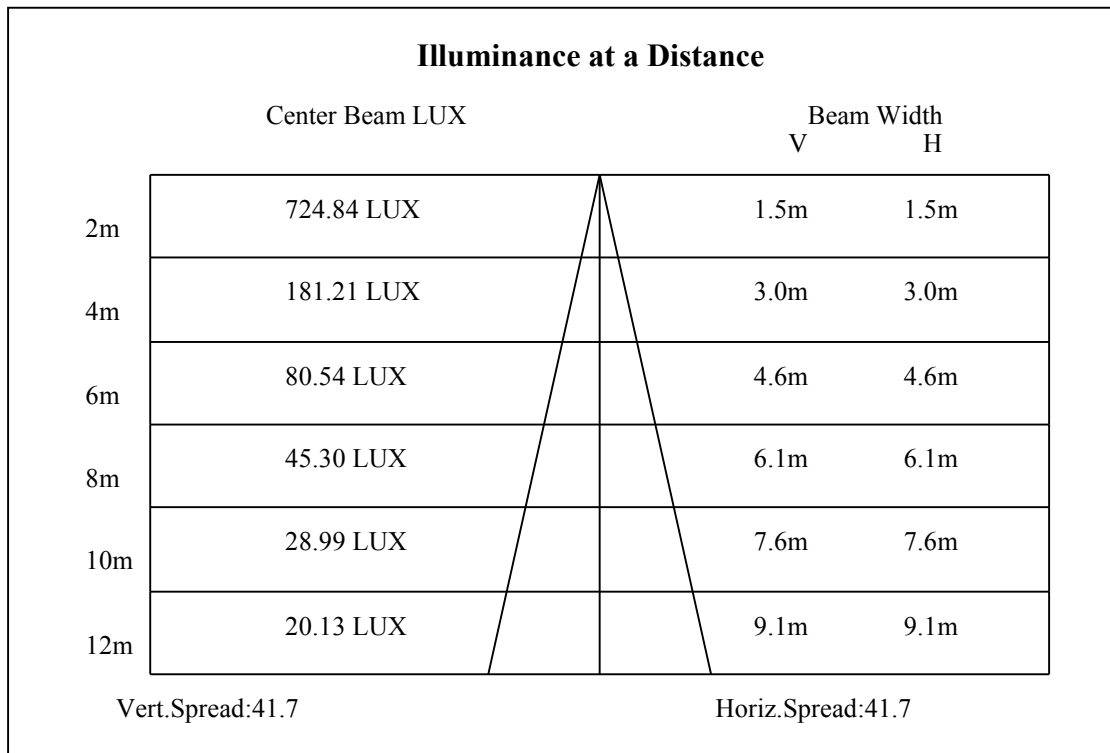
ZONAL LUMEN SUMMARY

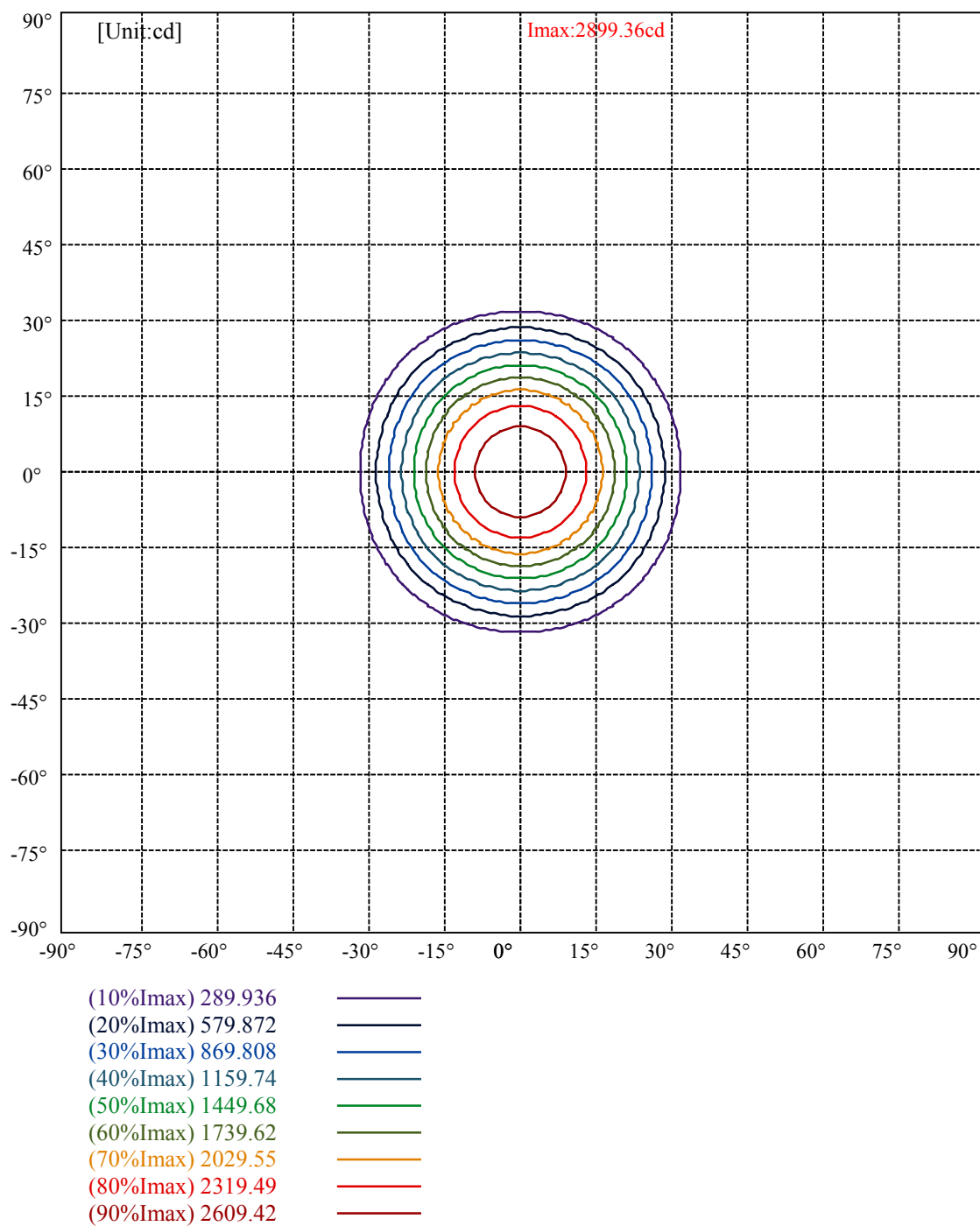
Zone	Lumens	%Lamp	%Fixt
0-30	1273.83	72.96%	88.98%
0-40	1360.98	77.96%	95.07%
0-60	1403.05	80.37%	98.01%
0-90	1428.10	81.80%	99.76%
0-120	1428.10	81.80%	99.76%
0-180	1431.51	82.00%	100.00%
60-90	33.04	1.89%	2.31%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-26.16	1145.21	65.60%	80.00%

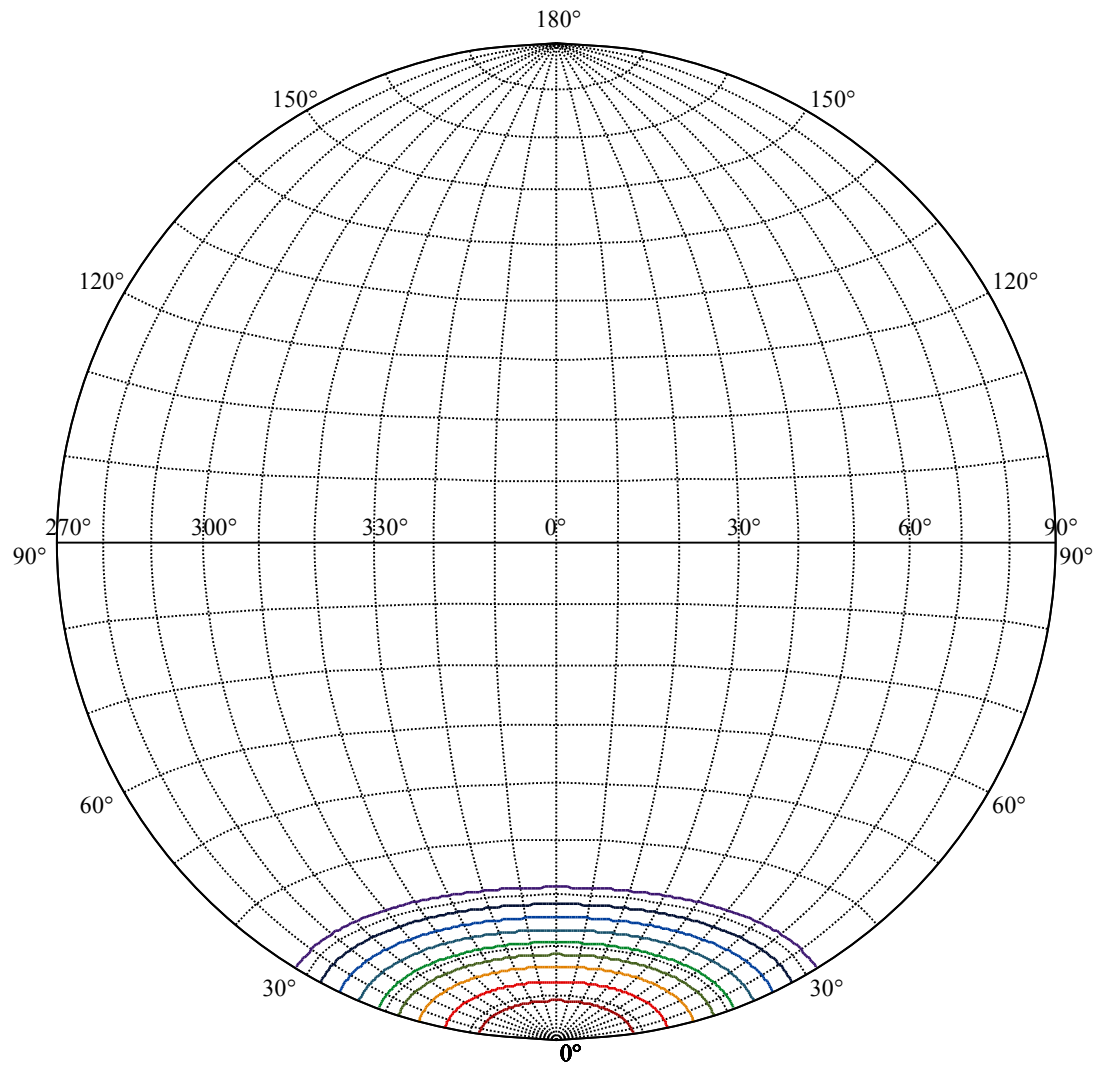
ZONAL LUMEN SUMMARY

0-10	260.09
10-20	583.65
20-30	430.08
30-40	87.15
40-50	24.62
50-60	17.45
60-70	12.32
70-80	8.99
80-90	3.75
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



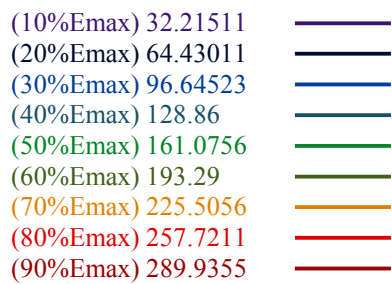


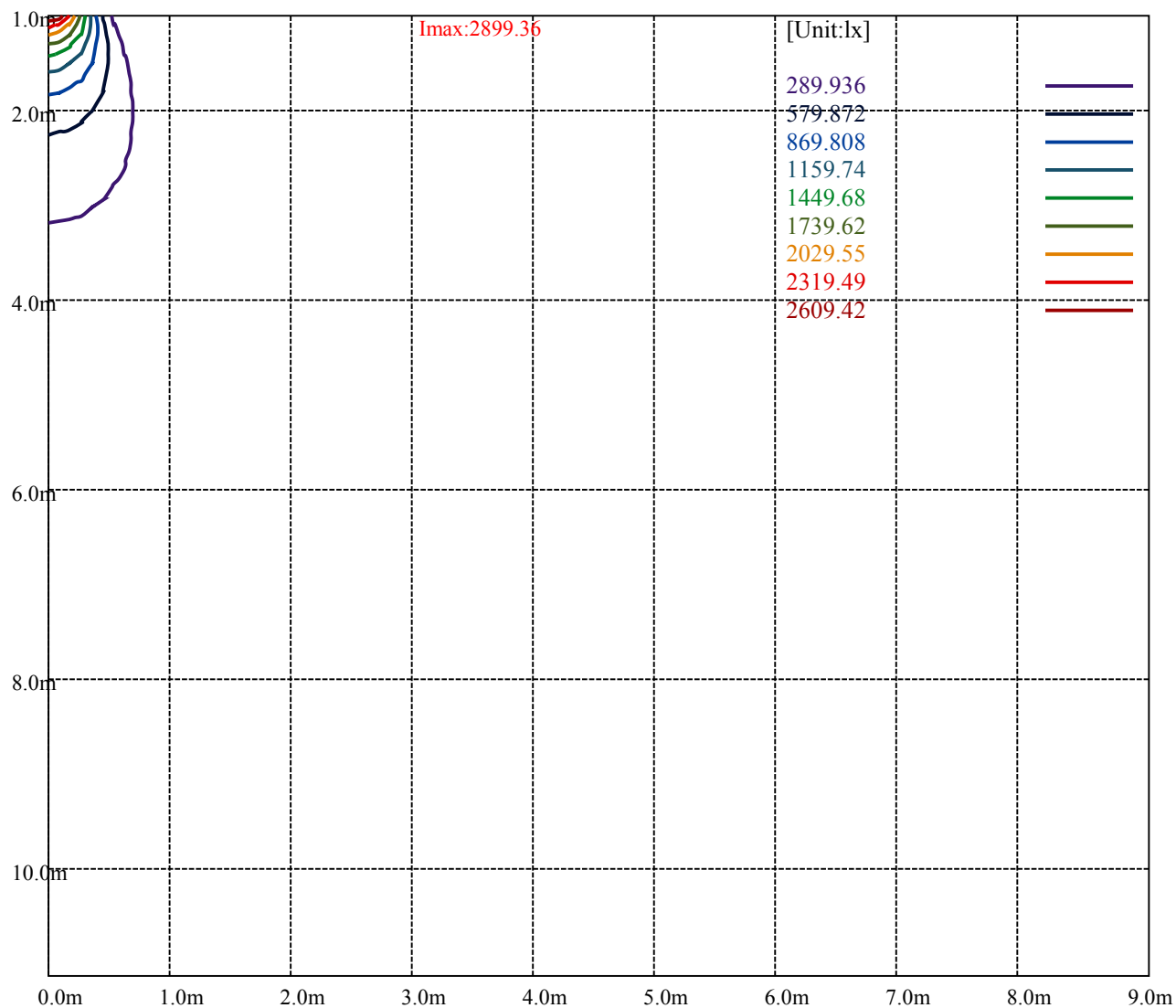




House [Unit:cd] Road

Imax:2899.36	
(10%Imax) 289.936	—
(20%Imax) 579.872	—
(30%Imax) 869.808	—
(40%Imax) 1159.74	—
(50%Imax) 1449.68	—
(60%Imax) 1739.62	—
(70%Imax) 2029.55	—
(80%Imax) 2319.49	—
(90%Imax) 2609.42	—





Luminance Table

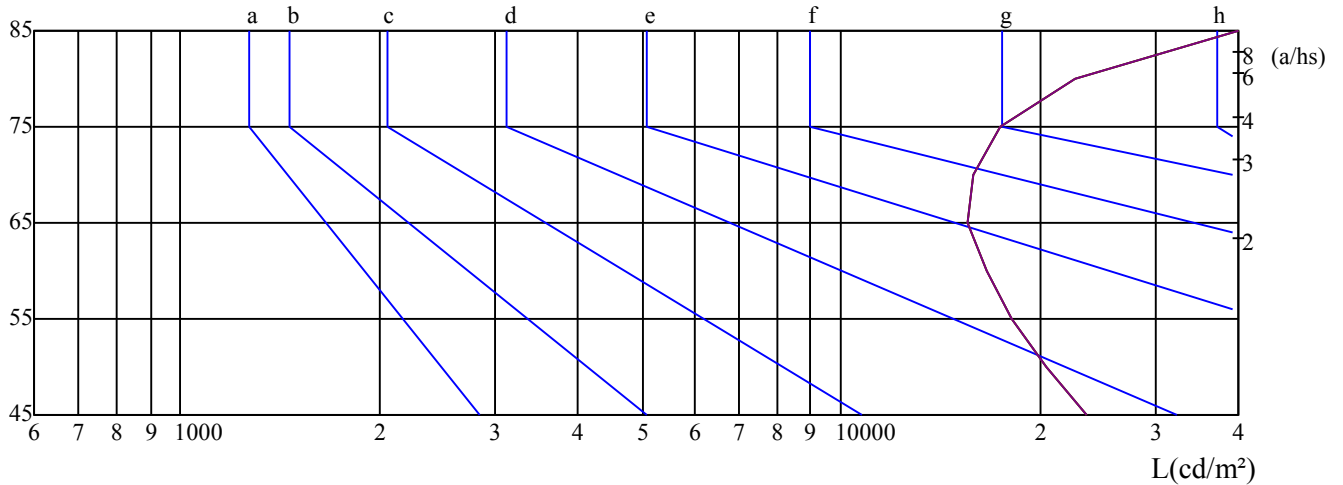
γ	45	50	55	60	65	70	75	80	85
C0	23508	20431	18114	16627	15580	15862	17449	22658	40416
C45	23508	20431	18114	16627	15580	15862	17449	22658	40416
C90	23508	20431	18114	16627	15580	15862	17449	22658	40416

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
15580	15580	15580	17449	17449	17449	40416	40416	40416

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

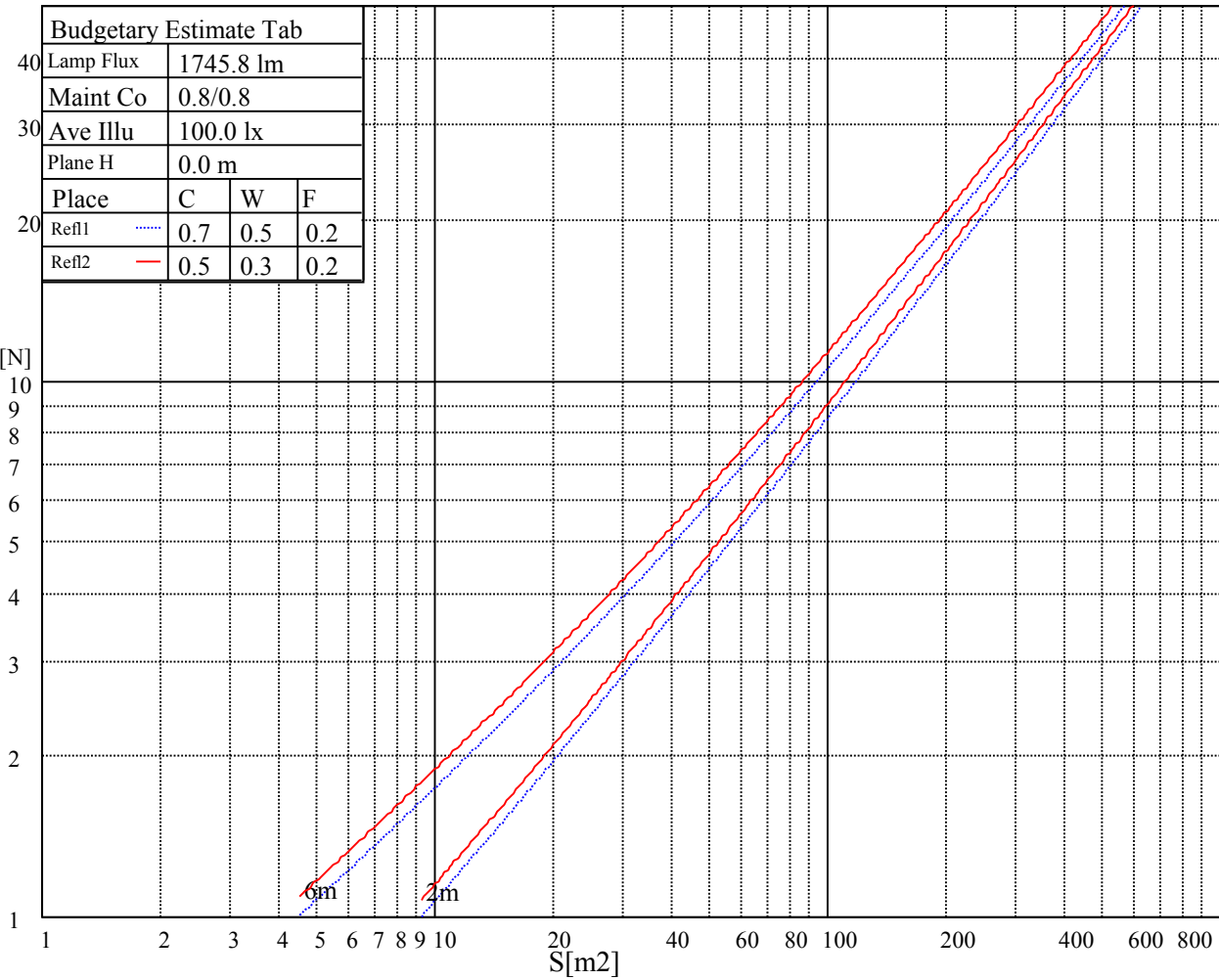
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

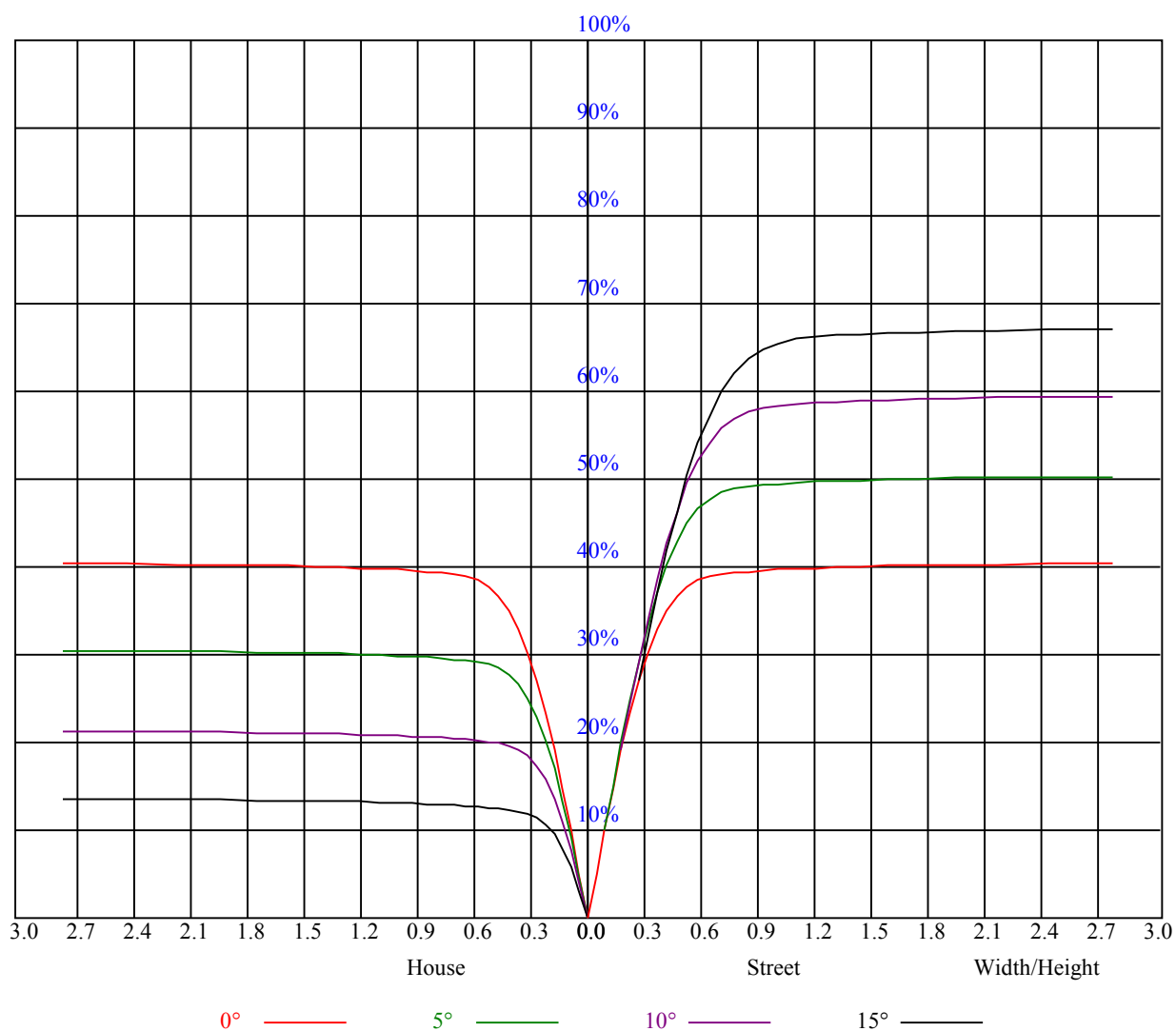
C0 ———

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	0.98	0.98	0.98	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.84	0.84	0.84	0.82
1	0.91	0.89	0.88	0.90	0.88	0.86	0.86	0.85	0.84	0.83	0.82	0.81	0.80	0.80	0.79	0.77
2	0.86	0.83	0.80	0.84	0.82	0.79	0.82	0.80	0.78	0.79	0.78	0.76	0.77	0.76	0.74	0.73
3	0.81	0.77	0.75	0.80	0.77	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.74	0.72	0.71	0.69
4	0.77	0.73	0.70	0.76	0.72	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.71	0.69	0.67	0.66
5	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.70	0.67	0.64	0.68	0.66	0.64	0.63
6	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.60
7	0.66	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.63	0.60	0.58	0.57
8	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.59	0.56	0.61	0.58	0.56	0.61	0.58	0.56	0.55
9	0.61	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.54	0.59	0.56	0.54	0.58	0.56	0.53	0.52
10	0.58	0.54	0.52	0.58	0.54	0.52	0.57	0.54	0.51	0.57	0.54	0.51	0.56	0.53	0.51	0.50



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	2893.83	2846.03	2643.47	2268.82	1741.20	1117.38	461.29	85.27	41.29	
45.0	2905.19	2798.23	2524.56	2100.31	1500.99	853.87	320.87	59.10	37.82	
90.0	2898.02	2761.78	2451.66	1998.73	1178.81	741.47	207.94	57.96	37.41	
135.0	2902.20	2795.24	2528.15	2139.15	1571.50	915.41	379.43	79.65	42.66	
180.0	2893.83	2753.41	2463.61	2030.40	1347.43	836.90	278.51	72.48	41.71	
225.0	2905.19	2835.28	2579.53	2203.69	1668.30	1028.65	445.46	102.83	47.74	
270.0	2894.43	2859.18	2647.05	2275.39	1796.17	1156.82	505.51	118.85	48.64	
315.0	2902.20	2832.29	2581.33	2179.79	1580.46	983.17	364.37	74.87	40.39	
360.0	2893.83	2846.03	2643.47	2268.82	1741.20	1117.38	461.29	85.27	41.29	
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	
0.0	30.59	24.44	19.60	15.95	12.67	10.34	8.66	7.47	6.69	
45.0	28.74	23.06	18.46	14.82	11.77	9.80	8.19	7.29	6.45	
90.0	28.44	22.95	18.05	14.40	11.35	9.50	7.95	7.05	6.33	
135.0	31.19	24.50	19.18	15.42	12.07	9.92	8.25	7.17	6.39	
180.0	30.41	23.78	18.52	14.82	11.65	9.56	8.07	6.99	6.27	
225.0	33.34	25.75	20.20	15.83	12.79	10.34	8.54	7.41	6.57	
270.0	33.34	26.11	20.55	16.37	12.91	10.64	8.72	7.47	6.69	
315.0	29.82	23.66	19.12	15.36	12.19	10.16	8.43	7.35	6.69	
360.0	30.59	24.44	19.60	15.95	12.67	10.34	8.66	7.47	6.69	
C/ γ (°)	90.0									
0.0	5.92									
45.0	5.98									
90.0	5.92									
135.0	5.92									
180.0	5.86									
225.0	6.04									
270.0	5.98									
315.0	5.92									
360.0	5.92									