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## Nata

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LumCAT: 2-1549-A  
Luminaire: 92.76.374.00  
Report No: NT2017011901  
Test No: GC2017011901  
LampCAT: VERO SE 13B  
Lamp flux(lm): 3154.0  
Number of Lamps: 1  
Length(mm): 70  
Phm Type: C

Voltage(V): 36.0000  
Current(A): 0.6500  
Power (W): 23.4000  
PF: 0.0000  
Ballast type: DC  
Width(mm): 70  
Height(mm): 0

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## Photometric Results

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Lumens(lm): 2901.37  
Efficiency(%): 91.99%  
Lumens(lm)/Power(W): 123.99  
Central intensity(cd): 2899.958  
Maximum intensity(cd): 2899.958  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=64.8  
                                  [C90/270]Total=64.8  
Field angle(10%Imax): [C0/180]Total=83.4  
                                  [C90/270]Total=83.4  
Maximum s/h(1/2): C0\_180=1.03 C90\_270=1.03  
Maximum s/h(1/4): C0\_180=0.95 C90\_270=0.95  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 92.45%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.234%

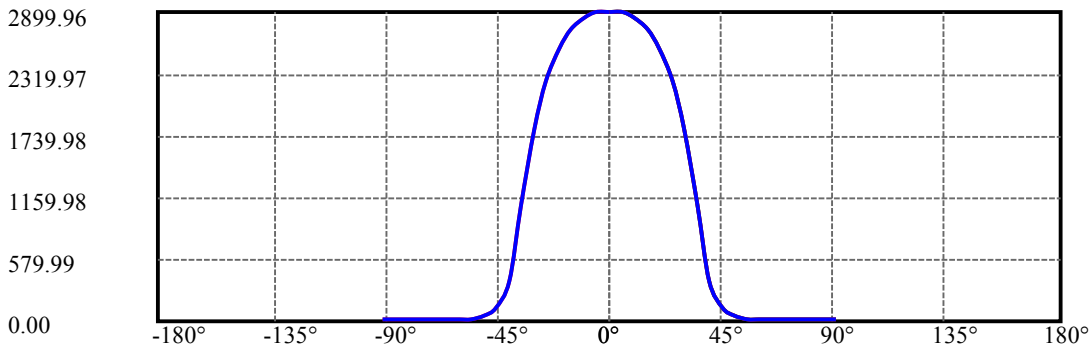
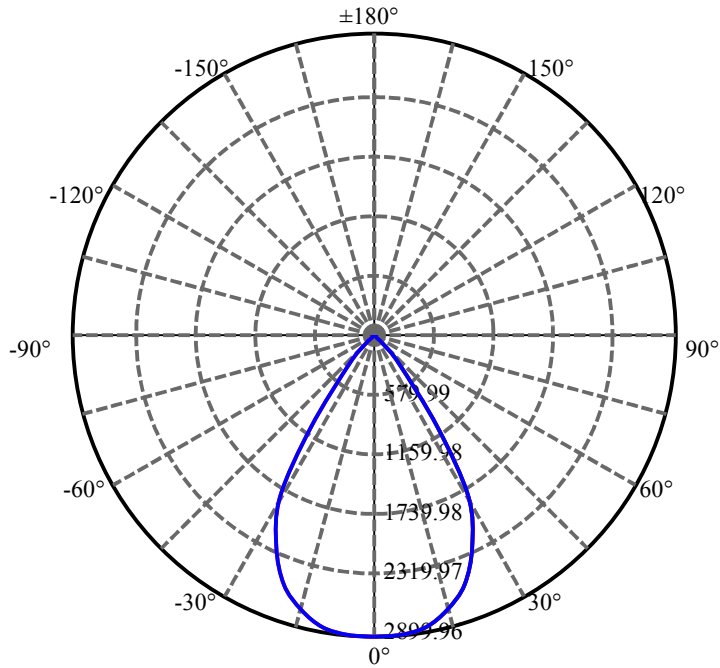
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2899.958	17.342	17.342	.550%	.598%
5.0	2891.218	138.123	155.465	4.379%	5.358%
10.0	2852.472	271.507	426.972	8.608%	14.716%
15.0	2741.809	388.976	815.948	12.333%	28.123%
20.0	2549.937	478.047	1293.995	15.157%	44.600%
25.0	2243.067	519.613	1813.608	16.475%	62.509%
30.0	1794.013	491.683	2305.291	15.589%	79.455%
35.0	1077.564	338.785	2644.076	10.741%	91.132%
40.0	371.472	130.883	2774.959	4.150%	95.643%
45.0	130.387	50.537	2825.496	1.602%	97.385%
50.0	53.701	22.549	2848.045	.715%	98.162%
55.0	21.362	9.592	2857.636	.304%	98.493%
60.0	14.349	6.812	2864.448	.216%	98.728%
65.0	12.835	6.376	2870.824	.202%	98.947%
70.0	12.746	6.565	2877.389	.208%	99.174%
75.0	12.718	6.734	2884.123	.213%	99.406%
80.0	12.697	6.854	2890.977	.217%	99.642%
85.0	12.684	6.926	2897.903	.220%	99.881%
90.0	12.642	3.465	2901.368	.110%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2305.29	73.09%	79.46%
0-40	2774.96	87.98%	95.64%
0-60	2864.45	90.82%	98.73%
0-90	2897.90	91.88%	99.88%
0-120	2897.90	91.88%	99.88%
0-180	2901.37	91.99%	100.00%
60-90	40.27	1.28%	1.39%
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%
0-30.23	2321.09	73.59%	80.00%

ZONAL LUMEN SUMMARY

0-10	426.97
10-20	867.02
20-30	1011.30
30-40	469.67
40-50	73.09
50-60	16.40
60-70	12.94
70-80	13.59
80-90	6.93
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: —————

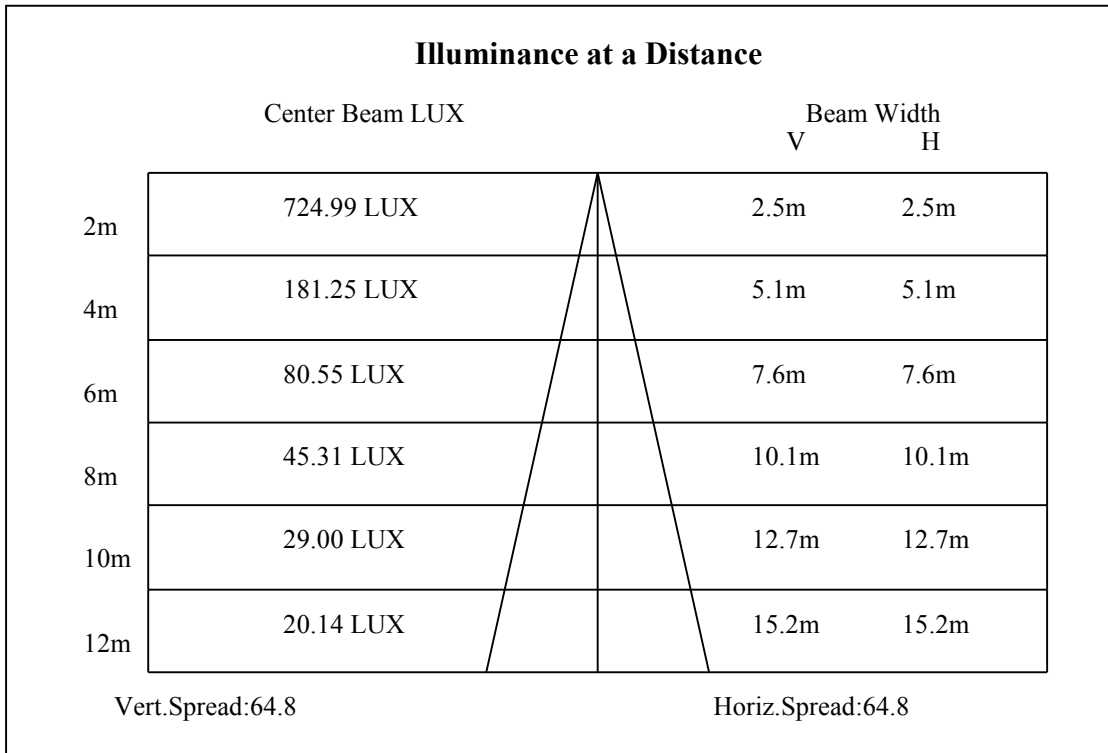
C90/C270: —————

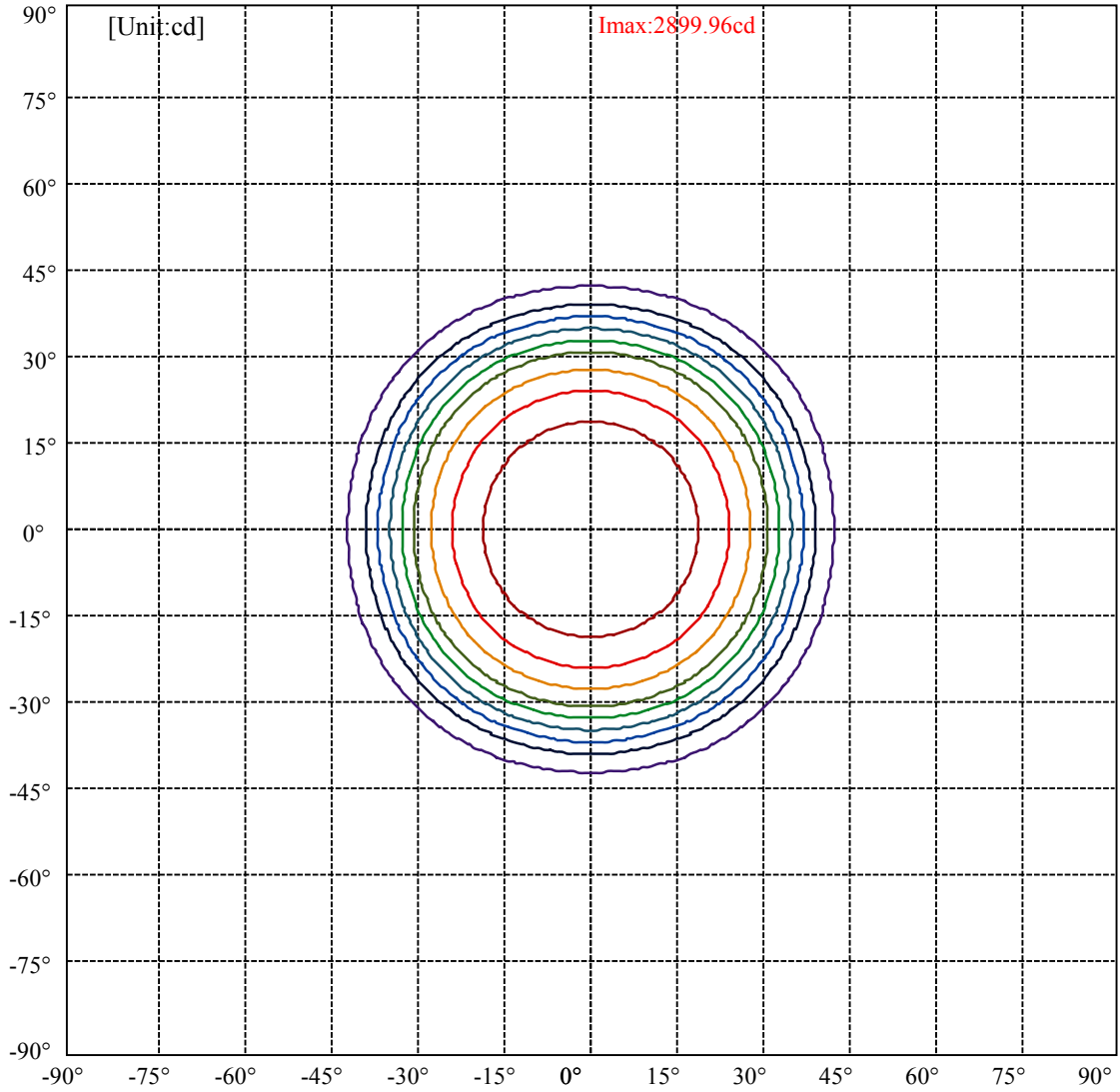
Field angle(10%Imax):C0/180Left:41.7 Right:41.7

:C90/270Left:41.7 Right:41.7

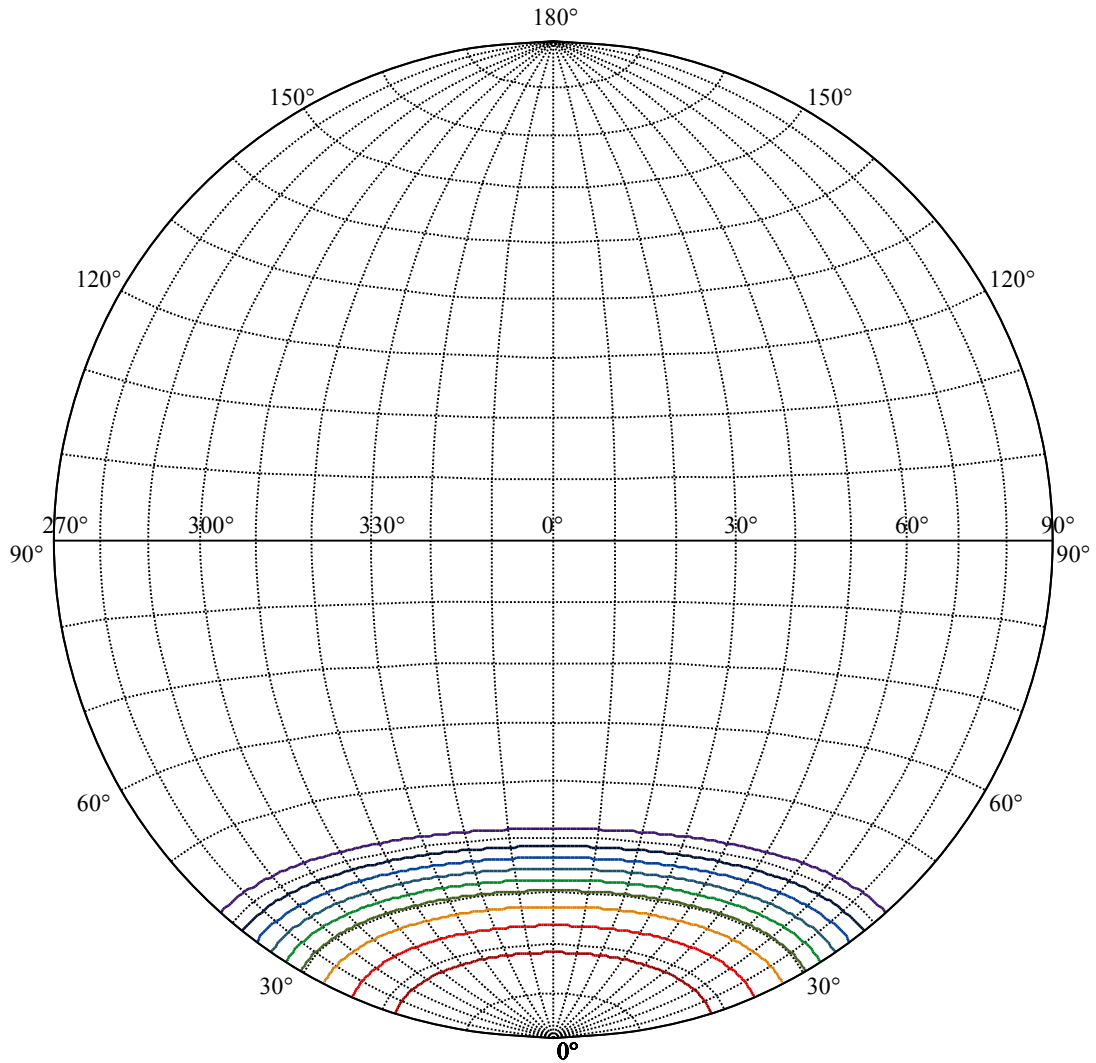
Beam Angle(50%Imax):C0/180Left:32.4 Right:32.4

:C90/270Left:32.4 Right:32.4





(10%Imax) 289.996	—
(20%Imax) 579.992	—
(30%Imax) 869.988	—
(40%Imax) 1159.98	—
(50%Imax) 1449.98	—
(60%Imax) 1739.98	—
(70%Imax) 2029.97	—
(80%Imax) 2319.97	—
(90%Imax) 2609.96	—



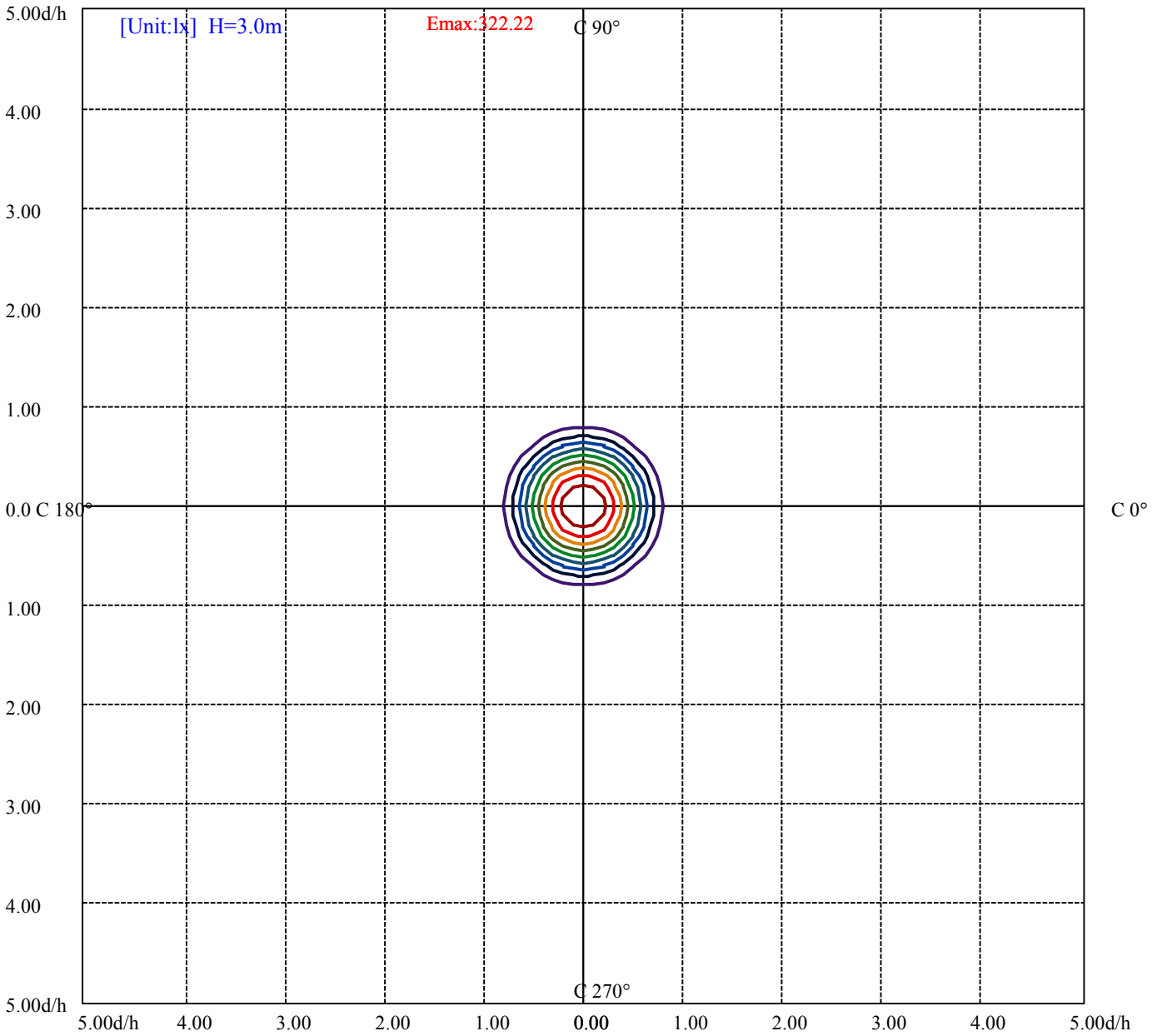
House

[Unit:cd]

Road

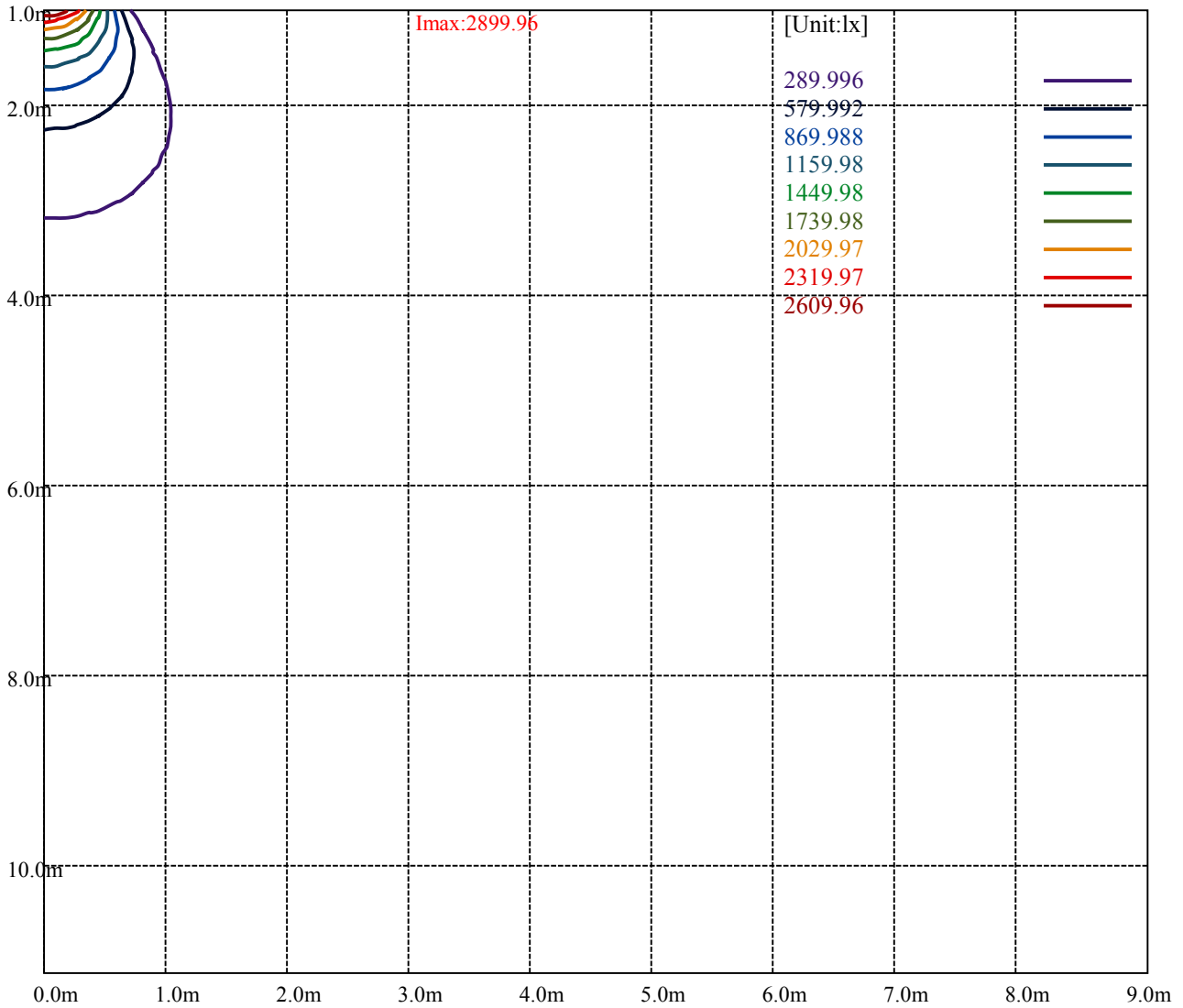
**Imax:2899.96**

(10%Imax) 289.996	—
(20%Imax) 579.992	—
(30%Imax) 869.988	—
(40%Imax) 1159.98	—
(50%Imax) 1449.98	—
(60%Imax) 1739.98	—
(70%Imax) 2029.97	—
(80%Imax) 2319.97	—
(90%Imax) 2609.96	—



(10%Emax) 32.22178	—
(20%Emax) 64.44356	—
(30%Emax) 96.66522	—
(40%Emax) 128.8867	—
(50%Emax) 161.1089	—
(60%Emax) 193.33	—
(70%Emax) 225.5522	—
(80%Emax) 257.7744	—
(90%Emax) 289.9955	—





Luminance Table

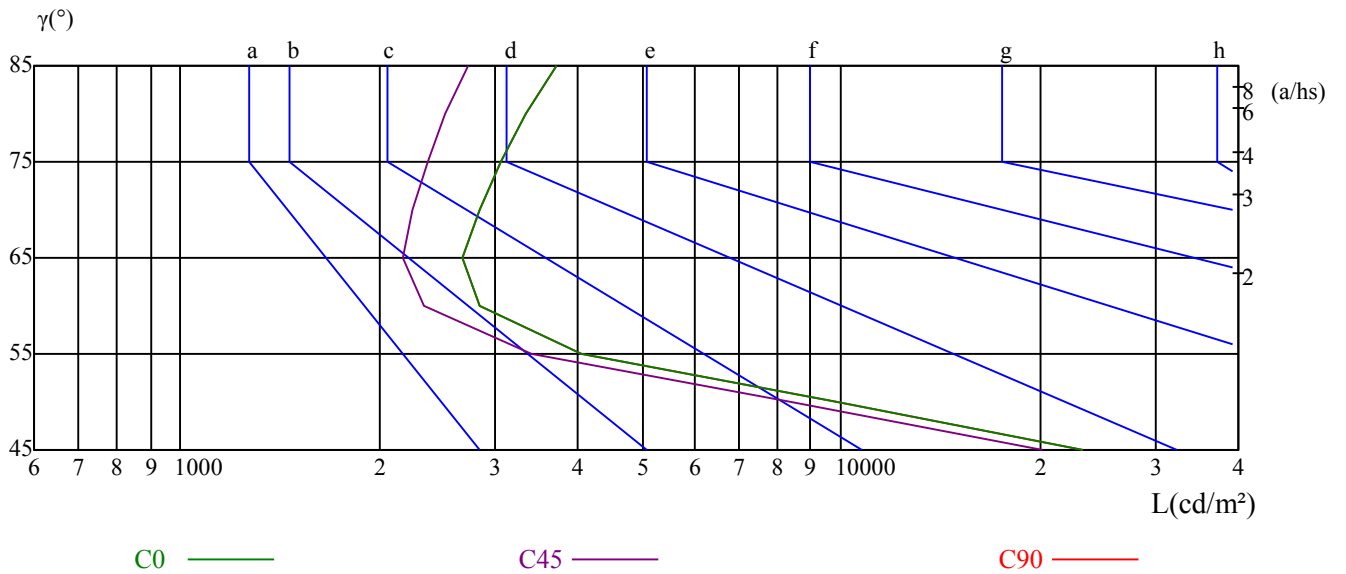
$\gamma$	45	50	55	60	65	70	75	80	85
C0	23312	9843	4049	2838	2675	2830	3046	3328	3703
C45	20138	8377	3392	2338	2165	2246	2364	2518	2717
C90	23312	9843	4049	2838	2675	2830	3046	3328	3703

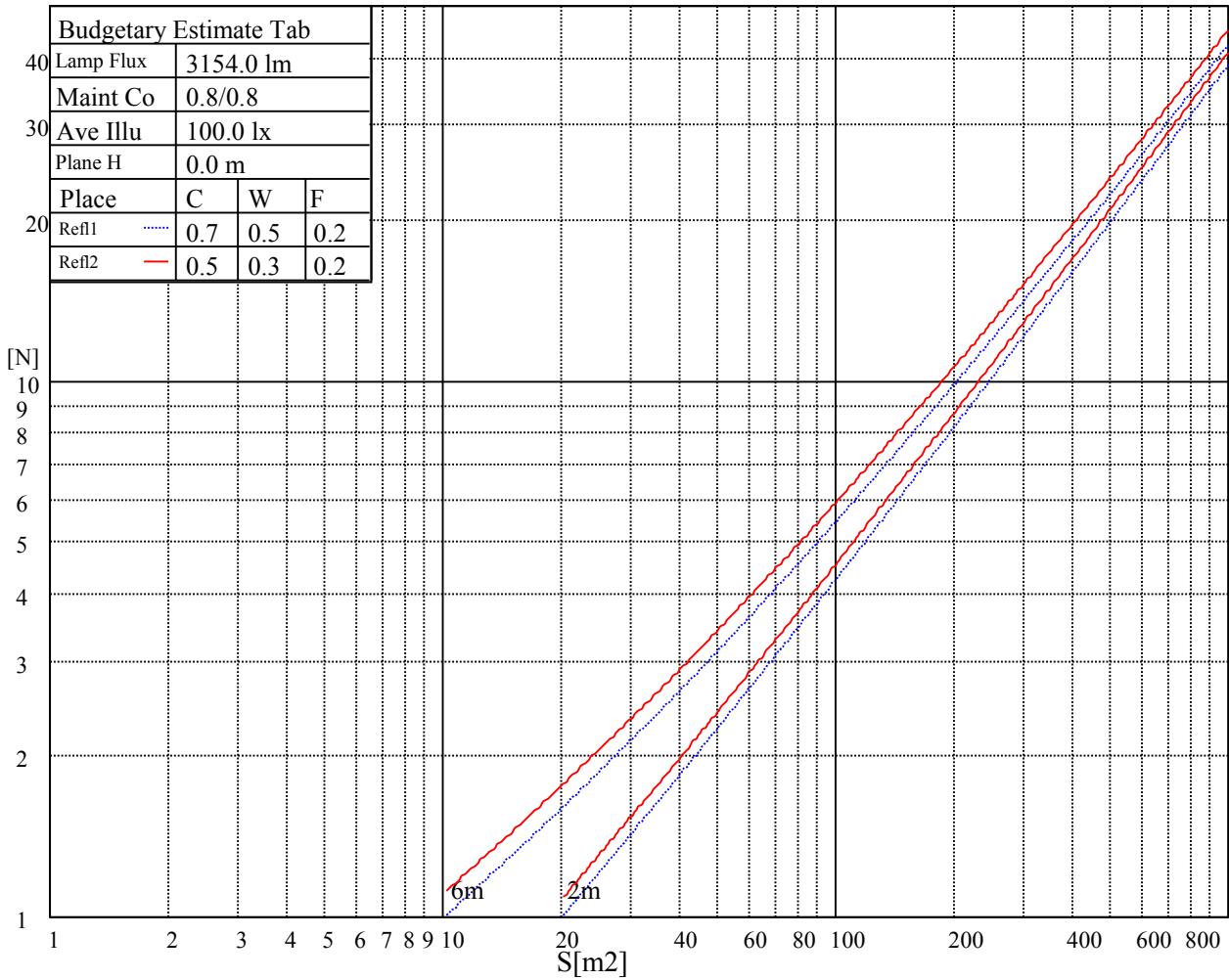
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6198	6198	6198	10028	10028	10028	29700	29700	29700

Glare Table

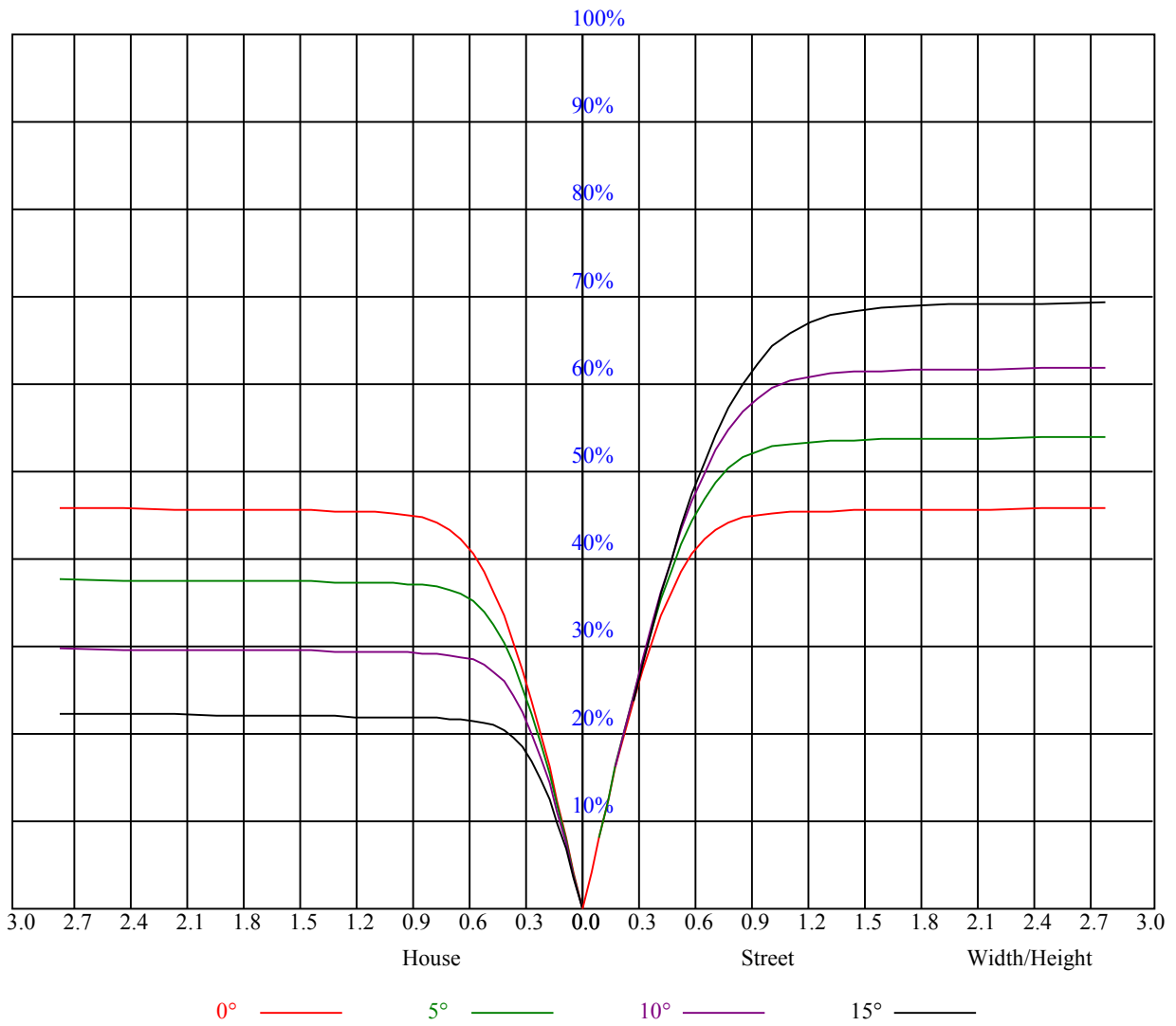
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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	1.10	1.10	1.10	1.08	1.08	1.08	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.02	0.99	0.97	1.00	0.98	0.96	0.96	0.94	0.93	0.93	0.91	0.90	0.90	0.88	0.87	0.86
2	0.95	0.92	0.88	0.94	0.90	0.87	0.91	0.88	0.85	0.88	0.86	0.84	0.85	0.84	0.82	0.80
3	0.89	0.85	0.81	0.88	0.84	0.81	0.86	0.82	0.79	0.83	0.81	0.78	0.81	0.79	0.77	0.75
4	0.84	0.79	0.75	0.83	0.78	0.75	0.81	0.77	0.74	0.79	0.76	0.73	0.77	0.75	0.72	0.71
5	0.79	0.74	0.70	0.78	0.73	0.70	0.77	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.67
6	0.75	0.69	0.66	0.74	0.69	0.65	0.73	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.64	0.63
7	0.71	0.65	0.62	0.70	0.65	0.62	0.69	0.65	0.61	0.68	0.64	0.61	0.67	0.63	0.61	0.59
8	0.67	0.62	0.58	0.67	0.62	0.58	0.66	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.57	0.56
9	0.64	0.59	0.55	0.63	0.58	0.55	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.54	0.53
10	0.61	0.56	0.52	0.60	0.55	0.52	0.59	0.55	0.52	0.59	0.55	0.52	0.58	0.54	0.52	0.51



Intensity data(cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	2894.87	2882.20	2838.16	2693.91	2497.91	2225.93	1887.33	1271.25	570.93
45.0	2894.31	2900.37	2834.85	2707.67	2525.44	2254.01	1896.14	1254.74	495.51
90.0	2903.12	2877.80	2832.65	2713.18	2515.53	2219.32	1730.42	960.24	302.98
135.0	2907.53	2885.51	2875.05	2808.98	2638.85	2337.69	1779.42	1011.94	297.86
180.0	2894.87	2886.61	2872.84	2807.88	2603.07	2190.69	1618.66	841.76	213.07
225.0	2894.31	2905.88	2861.83	2775.39	2579.94	2239.14	1725.47	963.49	268.79
270.0	2903.12	2899.82	2863.48	2749.52	2572.24	2287.04	1899.45	1229.96	446.51
315.0	2907.53	2891.56	2840.91	2677.94	2466.53	2190.69	1815.21	1087.14	376.15
360.0	2894.87	2882.20	2838.16	2693.91	2497.91	2225.93	1887.33	1271.25	570.93
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	184.38	84.29	31.55	16.52	12.83	12.72	12.66	12.66	12.61
45.0	164.56	76.42	26.21	15.69	12.94	12.77	12.77	12.72	12.66
90.0	115.78	44.05	19.27	13.71	12.83	12.77	12.72	12.72	12.66
135.0	106.20	39.81	17.67	13.38	12.83	12.77	12.77	12.72	12.72
180.0	75.65	28.74	15.42	12.88	12.66	12.66	12.61	12.61	12.55
225.0	95.85	32.21	16.74	13.32	12.77	12.72	12.72	12.72	12.83
270.0	148.10	58.47	21.03	14.42	12.94	12.77	12.72	12.72	12.72
315.0	152.56	65.63	23.01	14.87	12.88	12.77	12.77	12.72	12.72
360.0	184.38	84.29	31.55	16.52	12.83	12.72	12.66	12.66	12.61
C/γ(°)	90.0								
0.0	12.55								
45.0	12.66								
90.0	12.72								
135.0	12.66								
180.0	12.55								
225.0	12.66								
270.0	12.66								
315.0	12.66								
360.0	12.55								