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Nata

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LumCAT: 2-1093-E	
Luminaire: 92.76.263.00	
Report No: NT2016121902	Voltage(V): 29.7000
Test No: GC2016121902	Current(A): 0.9500
LampCAT: VERO 18	Power (W): 28.2150
Lamp flux(lm): 3838.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 68	Width(mm): 68
Phm Type: C	Height(mm): 0

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Photometric Results

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Lumens(lm): 3412.54  
Efficiency(%): 88.91%  
Lumens(lm)/Power(W): 120.95  
Central intensity(cd): 4407.609  
Maximum intensity(cd): 4407.609  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=51.4  
                                  [C90/270]Total=51.4  
Field angle(10%Imax): [C0/180]Total=83.0  
                                  [C90/270]Total=83.0  
Maximum s/h(1/2): C0\_180=0.79 C90\_270=0.79  
Maximum s/h(1/4): C0\_180=0.84 C90\_270=0.84  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 89.52%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 97.961%

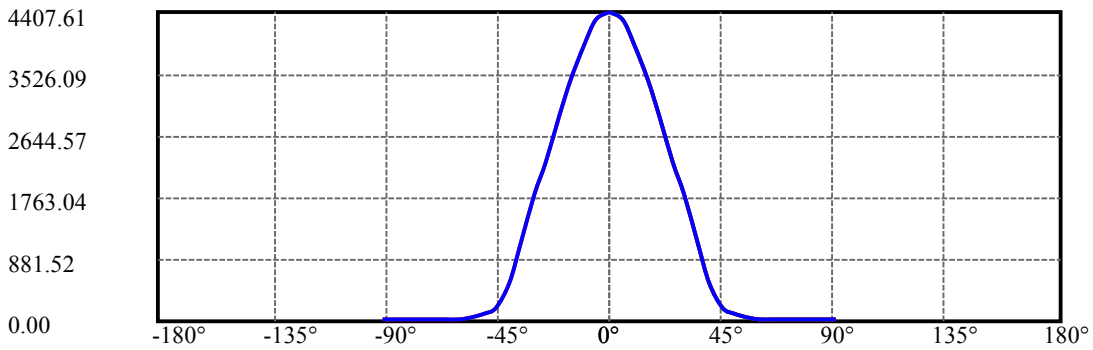
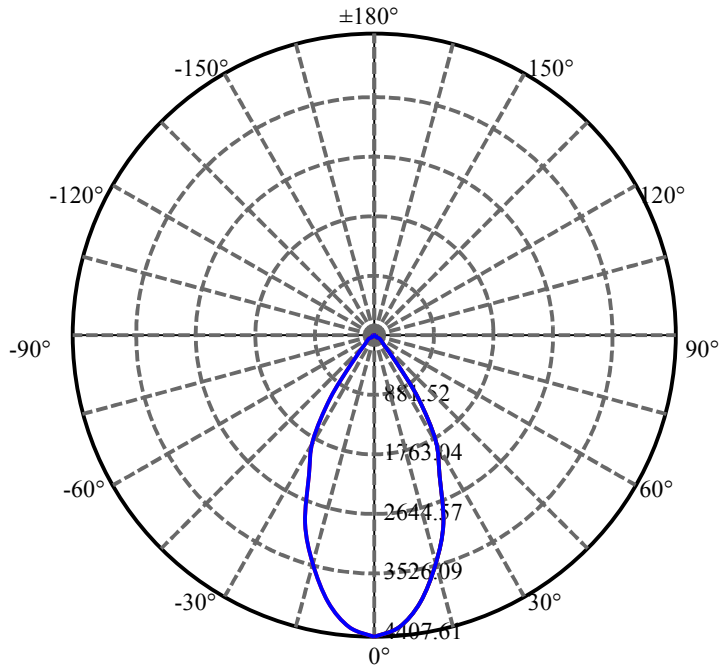
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4407.609	26.358	26.358	.687%	.772%
5.0	4296.395	205.253	231.611	5.348%	6.787%
10.0	3953.944	376.349	607.96	9.806%	17.815%
15.0	3462.153	491.170	1099.13	12.798%	32.209%
20.0	2937.328	550.673	1649.803	14.348%	48.345%
25.0	2268.943	525.607	2175.41	13.695%	63.748%
30.0	1798.004	492.777	2668.187	12.839%	78.188%
35.0	1124.217	353.452	3021.639	9.209%	88.545%
40.0	542.732	191.224	3212.863	4.982%	94.149%
45.0	200.350	77.654	3290.517	2.023%	96.424%
50.0	102.969	43.237	3333.754	1.127%	97.691%
55.0	47.892	21.504	3355.258	.560%	98.321%
60.0	21.768	10.333	3365.591	.269%	98.624%
65.0	15.849	7.874	3373.465	.205%	98.855%
70.0	15.705	8.089	3381.554	.211%	99.092%
75.0	16.476	8.723	3390.277	.227%	99.348%
80.0	17.226	9.299	3399.576	.242%	99.620%
85.0	16.737	9.139	3408.715	.238%	99.888%
90.0	13.950	3.823	3412.538	.100%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2668.19	69.52%	78.19%
0-40	3212.86	83.71%	94.15%
0-60	3365.59	87.69%	98.62%
0-90	3408.72	88.81%	99.89%
0-120	3408.72	88.81%	99.89%
0-180	3412.54	88.91%	100.00%
60-90	53.46	1.39%	1.57%
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%
0-30.87	2730.03	71.13%	80.00%

ZONAL LUMEN SUMMARY

0-10	607.96
10-20	1041.84
20-30	1018.38
30-40	544.68
40-50	120.89
50-60	31.84
60-70	15.96
70-80	18.02
80-90	9.14
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: —————

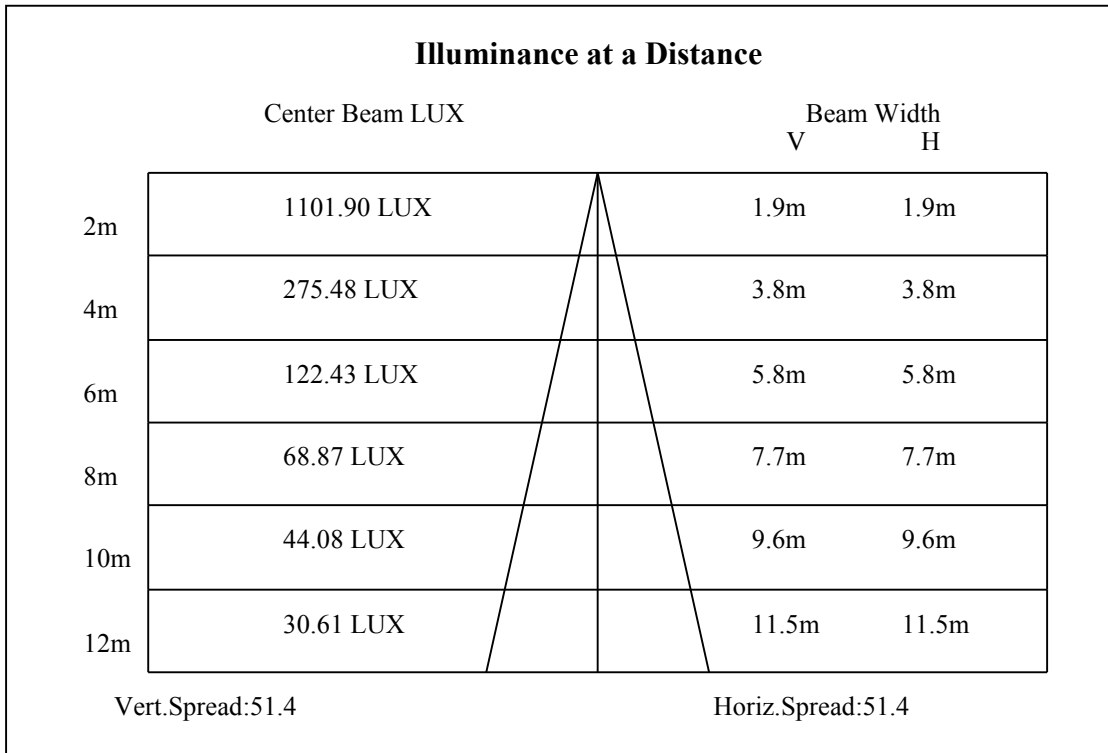
C90/C270: —————

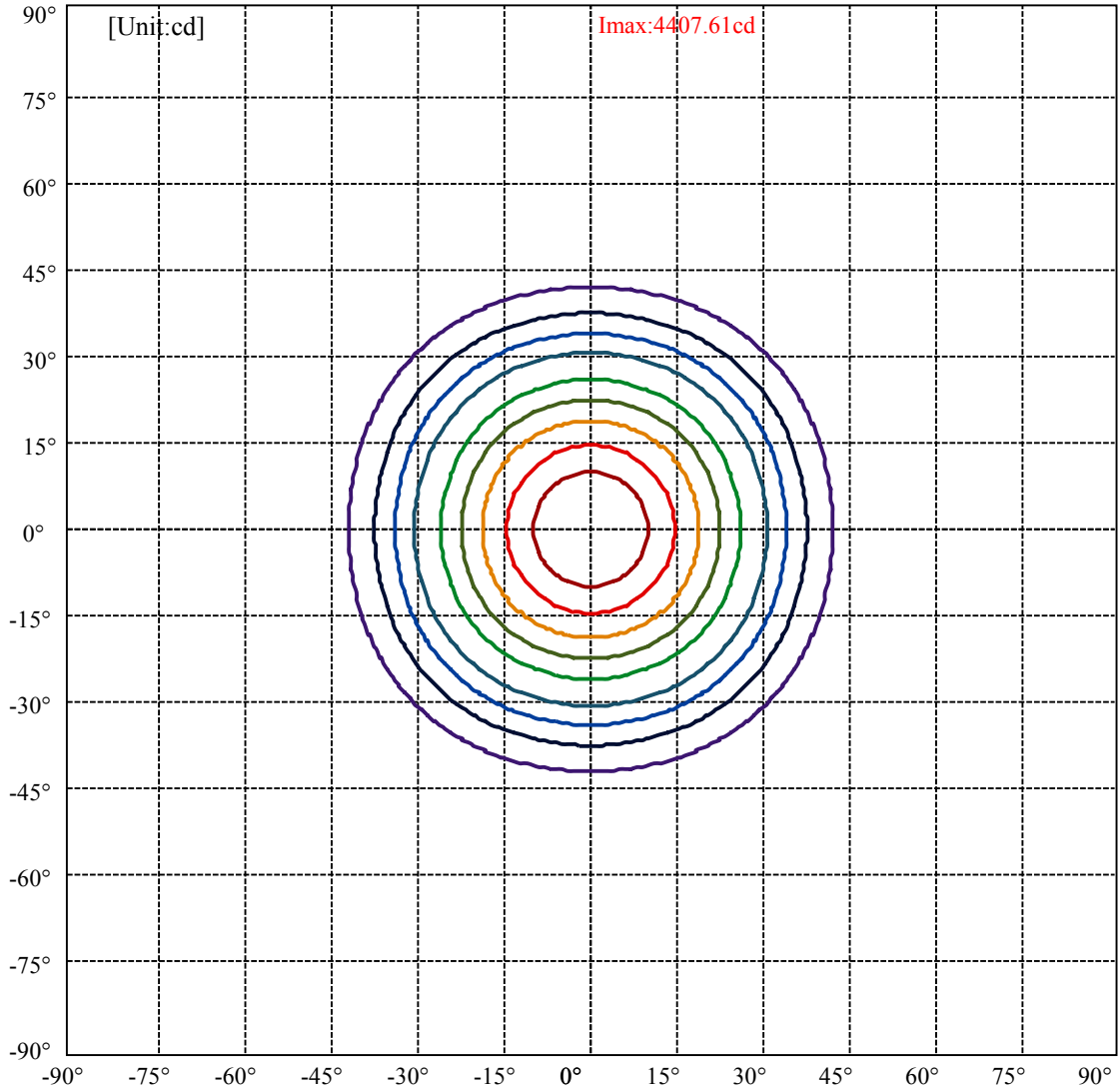
Field angle(10%Imax):C0/180Left:41.5 Right:41.5

:C90/270Left:41.5 Right:41.5

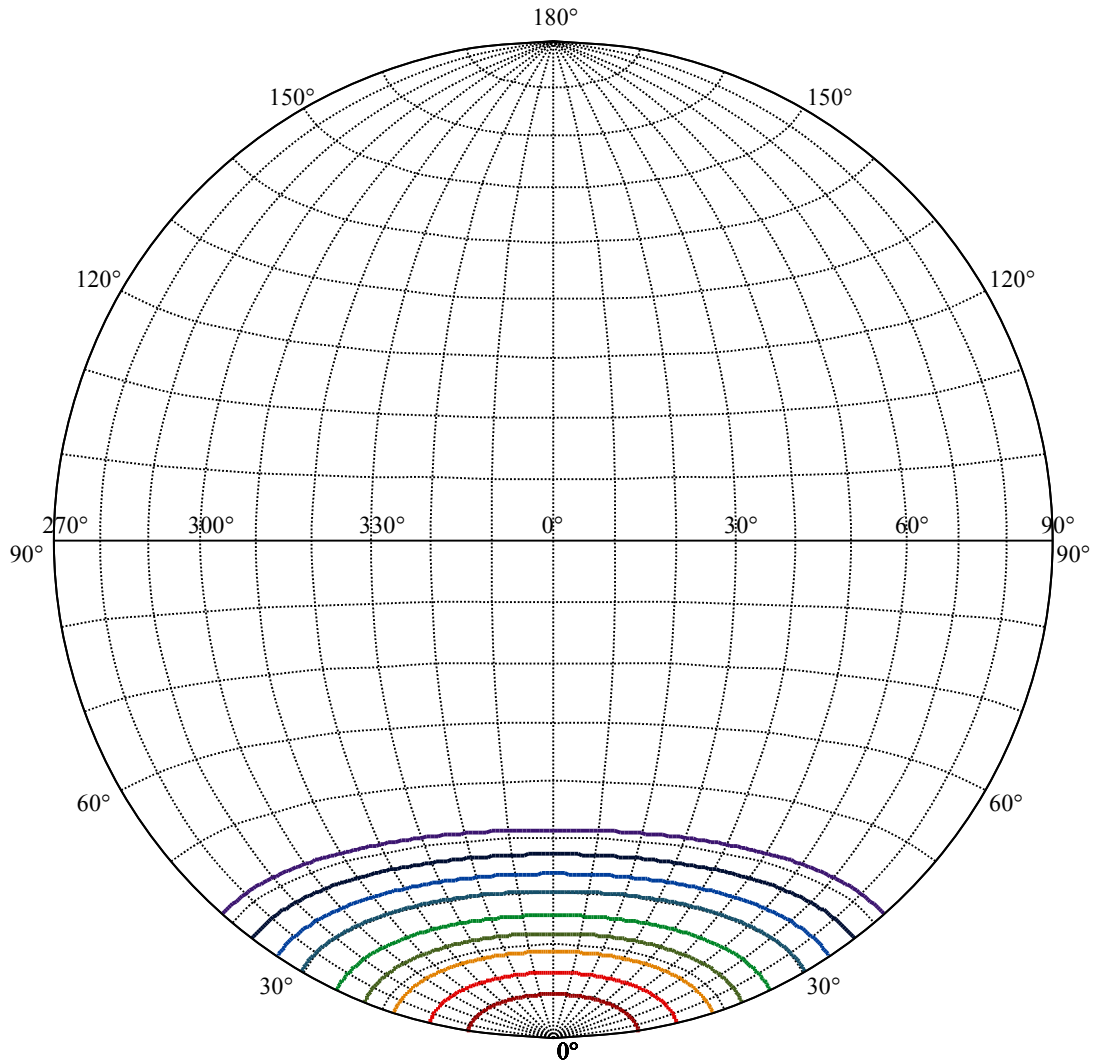
Beam Angle(50%Imax):C0/180Left:25.7 Right:25.7

:C90/270Left:25.7 Right:25.7





(10%Imax) 440.761	—
(20%Imax) 881.522	—
(30%Imax) 1322.28	—
(40%Imax) 1763.04	—
(50%Imax) 2203.8	—
(60%Imax) 2644.57	—
(70%Imax) 3085.33	—
(80%Imax) 3526.09	—
(90%Imax) 3966.85	—



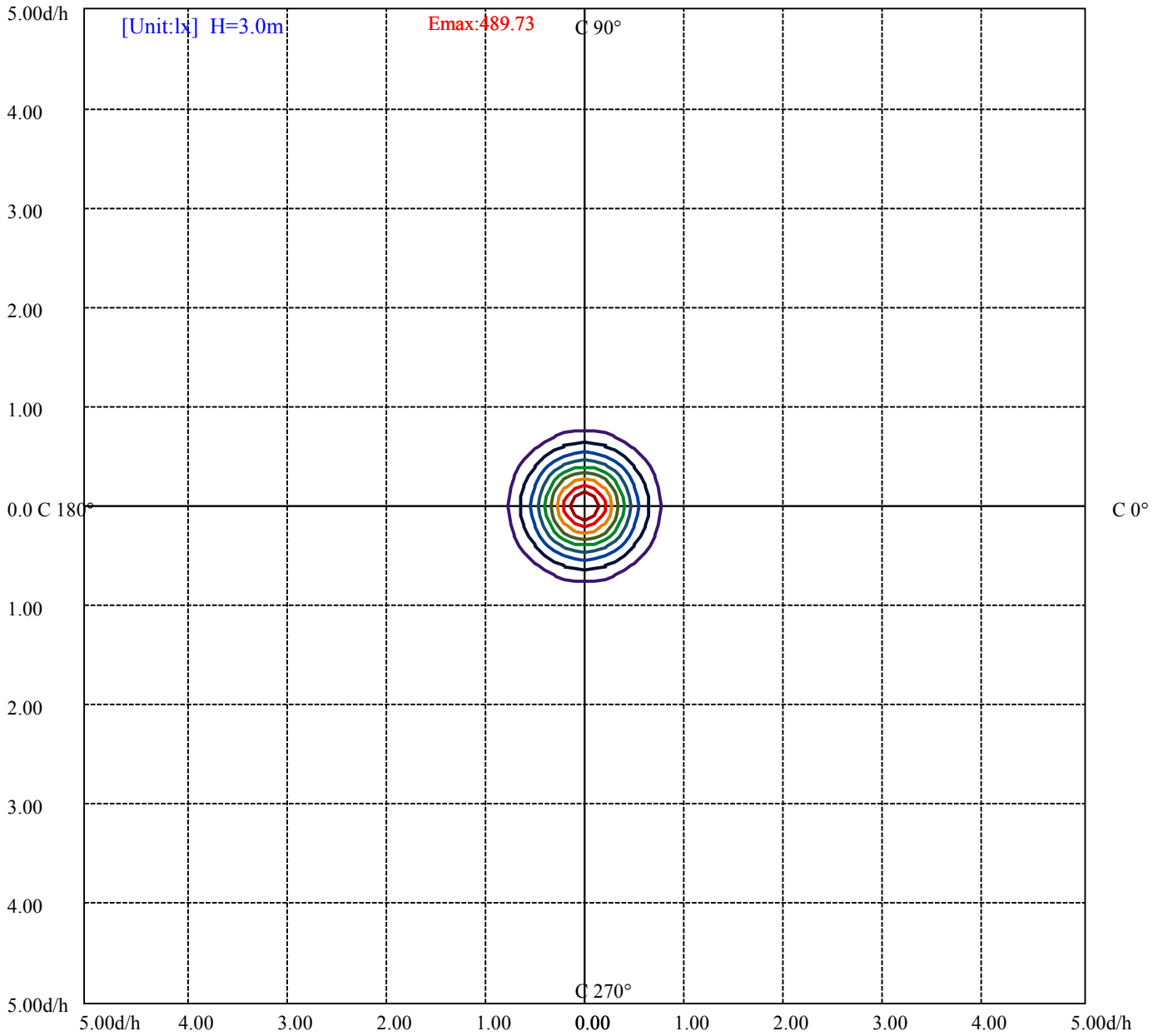
House

[Unit:cd]

Road

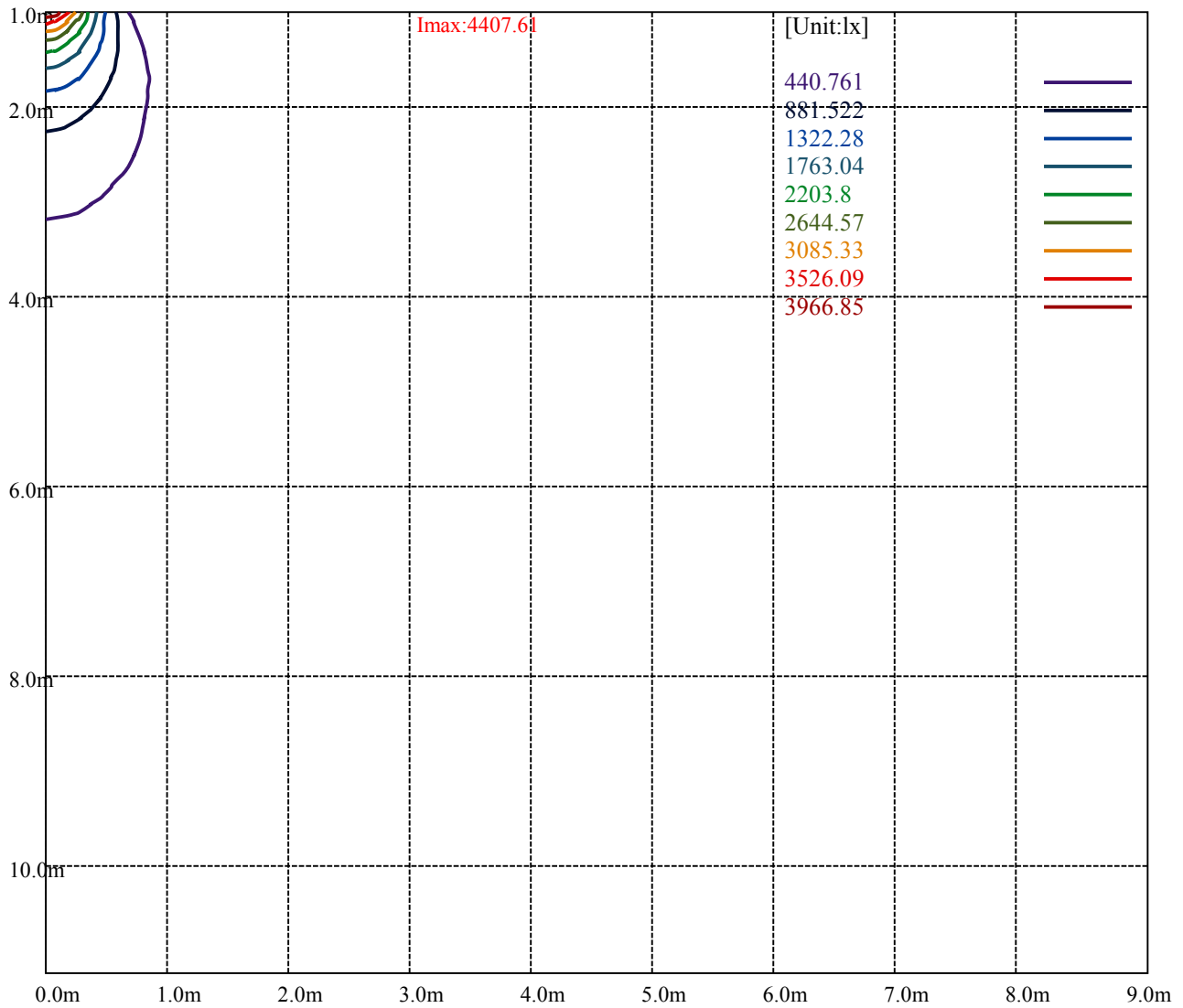
**Imax:4407.61**

(10%Imax) 440.761	—
(20%Imax) 881.522	—
(30%Imax) 1322.28	—
(40%Imax) 1763.04	—
(50%Imax) 2203.8	—
(60%Imax) 2644.57	—
(70%Imax) 3085.33	—
(80%Imax) 3526.09	—
(90%Imax) 3966.85	—



- (10%Emax) 48.97344
- (20%Emax) 97.94678
- (30%Emax) 146.92
- (40%Emax) 195.8933
- (50%Emax) 244.8667
- (60%Emax) 293.84
- (70%Emax) 342.8134
- (80%Emax) 391.7867
- (90%Emax) 440.76





Luminance Table

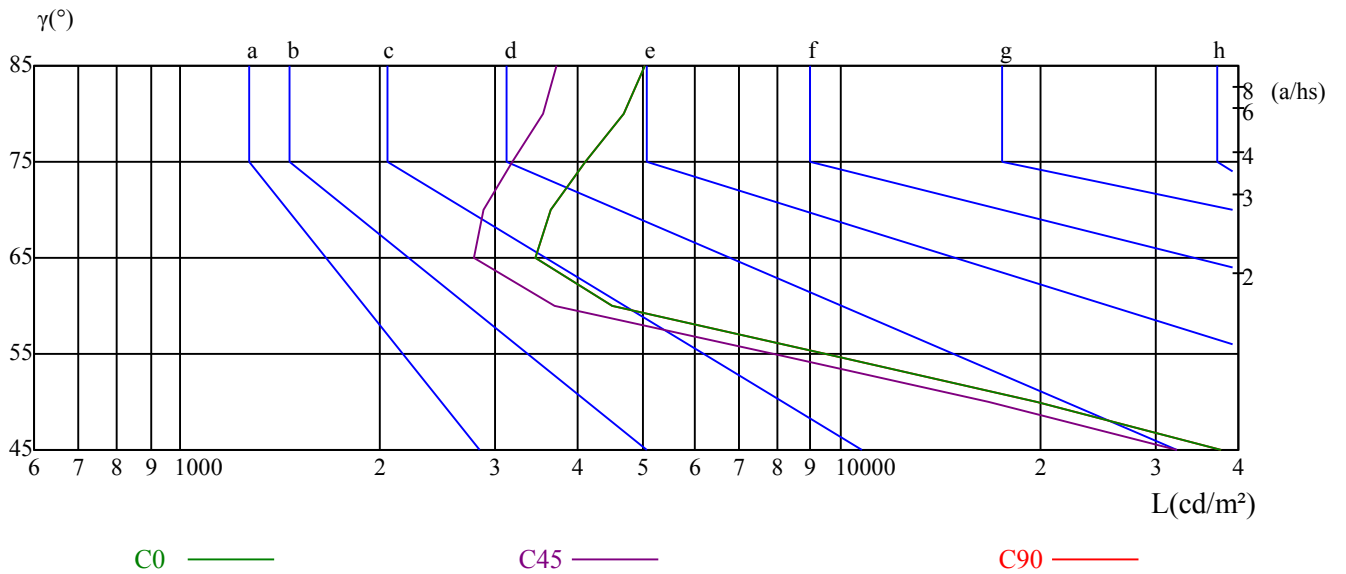
$\gamma$	45	50	55	60	65	70	75	80	85
C0	37538	19756	9488	4494	3442	3628	4097	4678	5048
C45	32348	16770	7930	3694	2780	2873	3174	3533	3701
C90	37538	19756	9488	4494	3442	3628	4097	4678	5048

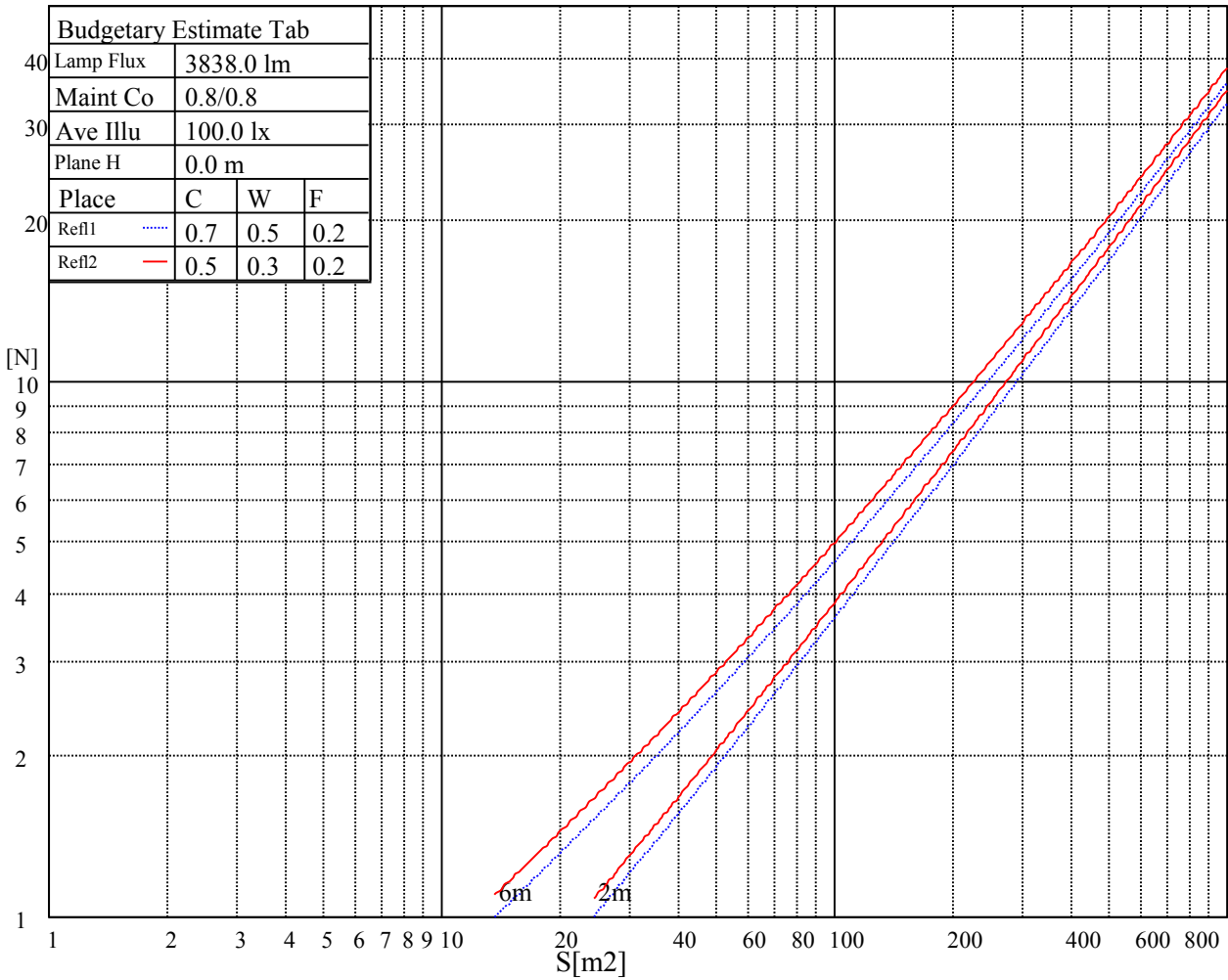
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
8110	8110	8110	13767	13767	13767	41531	41531	41531

Glare Table

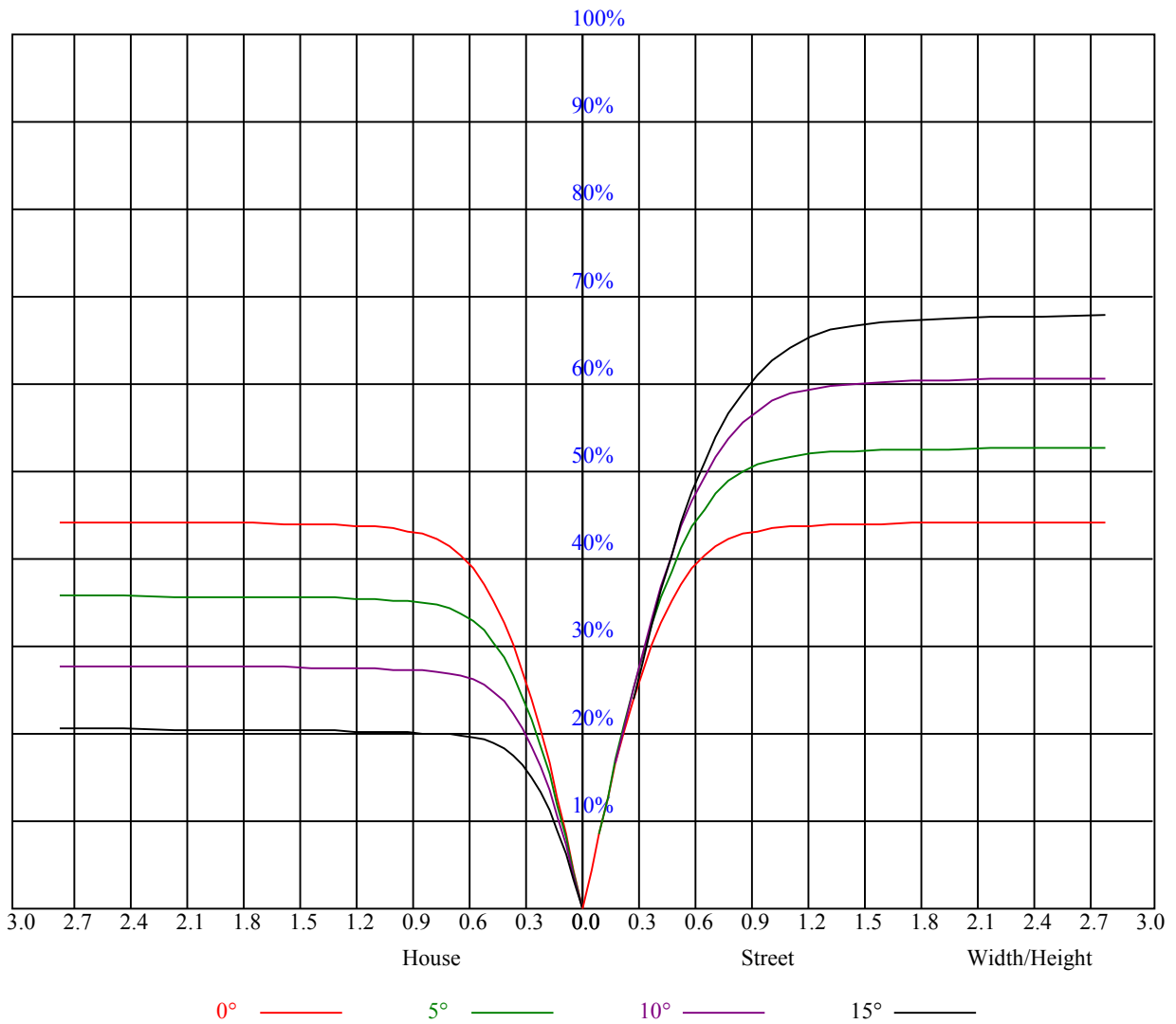
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.07	1.07	1.07	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.90
1	0.99	0.96	0.94	0.97	0.94	0.92	0.93	0.91	0.90	0.90	0.88	0.87	0.87	0.85	0.84	0.83
2	0.92	0.89	0.85	0.91	0.87	0.85	0.88	0.85	0.83	0.85	0.83	0.81	0.83	0.81	0.79	0.78
3	0.86	0.82	0.79	0.85	0.81	0.78	0.83	0.80	0.77	0.81	0.78	0.76	0.79	0.76	0.74	0.73
4	0.81	0.77	0.73	0.80	0.76	0.73	0.78	0.75	0.72	0.77	0.73	0.71	0.75	0.72	0.70	0.69
5	0.77	0.72	0.68	0.76	0.71	0.68	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.65
6	0.73	0.68	0.64	0.72	0.67	0.64	0.71	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.61
7	0.69	0.64	0.60	0.68	0.64	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.58
8	0.65	0.60	0.57	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.56	0.62	0.59	0.56	0.55
9	0.62	0.57	0.54	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.54	0.60	0.56	0.53	0.52
10	0.59	0.55	0.51	0.59	0.54	0.51	0.58	0.54	0.51	0.58	0.54	0.51	0.57	0.54	0.51	0.50



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	4393.50	4304.86	3976.72	3521.41	3009.38	2320.08	1859.81	1240.42	602.32
45.0	4423.23	4298.25	3989.39	3452.59	2930.65	2237.49	1800.89	1134.71	527.99
90.0	4410.02	4247.60	3841.29	3354.59	2791.91	2127.93	1679.77	990.96	414.85
135.0	4403.41	4297.15	3958.00	3463.05	2971.39	2275.48	1806.40	1155.63	555.52
180.0	4393.50	4271.28	3893.59	3388.17	2807.88	2202.26	1726.02	1039.91	476.57
225.0	4423.23	4313.12	3979.48	3488.37	2956.53	2295.85	1813.56	1064.19	547.04
270.0	4410.02	4340.65	4056.56	3589.13	3083.71	2435.70	1915.96	1294.38	679.40
315.0	4403.96	4298.25	3936.53	3439.92	2947.17	2256.76	1781.63	1073.54	538.18
360.0	4393.50	4304.86	3976.72	3521.41	3009.38	2320.08	1859.81	1240.42	602.32
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	281.89	111.16	55.77	23.45	15.97	15.42	17.01	17.07	16.24
45.0	184.49	104.66	48.67	22.79	16.79	16.85	17.01	16.74	16.90
90.0	158.29	94.15	38.92	19.38	16.08	17.62	19.49	19.32	18.17
135.0	173.98	103.67	48.23	21.75	15.64	15.14	15.58	16.24	15.47
180.0	161.81	94.37	42.28	20.43	15.47	15.25	16.35	19.49	18.94
225.0	180.86	100.04	42.72	21.42	15.64	15.20	15.42	16.24	16.52
270.0	284.64	112.15	57.70	24.17	15.80	15.14	15.25	16.46	16.74
315.0	176.84	103.56	48.84	20.76	15.42	15.03	15.69	16.24	14.92
360.0	281.89	111.16	55.77	23.45	15.97	15.42	17.01	17.07	16.24
C/γ(°)	90.0								
0.0	13.93								
45.0	13.93								
90.0	13.98								
135.0	13.93								
180.0	13.93								
225.0	13.98								
270.0	13.98								
315.0	13.93								
360.0	13.93								