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LumCAT: LED-BL1A-OVaL-12W-200 4000K-1

Luminaire:

Report No:	Voltage(V): 230.2000
Test No:	Current(A): 0.0630
LampCAT: LED-BL1A-OVaL-12W-200 4000K-1	Power (W): 11.8200
Lamp flux(lm): 850.0	PF: 0.8090
Number of Lamps: 1	Ballast type:
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

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### Photometric Results

Lumens(lm): 953.21  
Efficiency(%): 112.14%  
Lumens(lm)/Power(W): 80.64  
Central intensity(cd): 263.631  
Maximum intensity(cd): 266.751  
Angle of maximum intensity: C=45.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=134.2  
                                  [C90/270]Total=99.2  
Field angle(10%Imax): [C0/180]Total=208.3  
                                  [C90/270]Total=167.6  
Maximum s/h(1/2): C0\_180=1.36 C90\_270=1.20  
Maximum s/h(1/4): C0\_180=1.94 C90\_270=1.30  
Up flux rate of lamp(%): 12.24%  
Down flux rate of lamp(%): 99.90%  
Up flux rate of LUM(%): 10.92%  
Down flux rate of LUM(%): 89.08%  
CIE Type : Semidirect lighting  
Output flux ratio in  $\pi$  solid angle : 63.200%

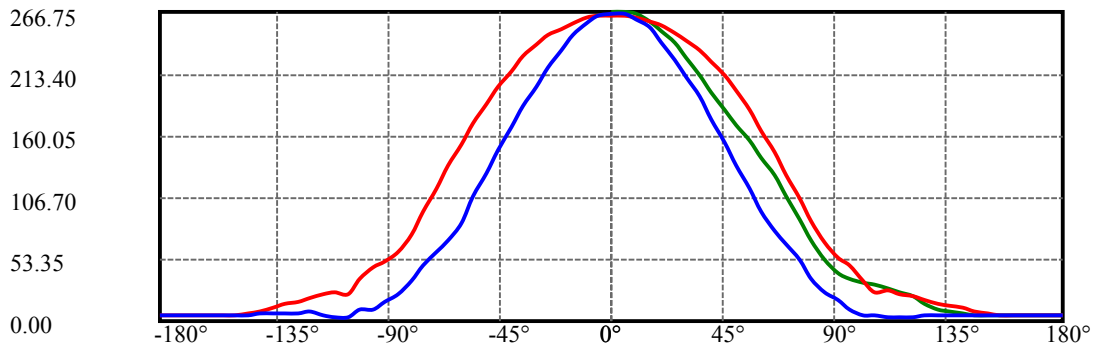
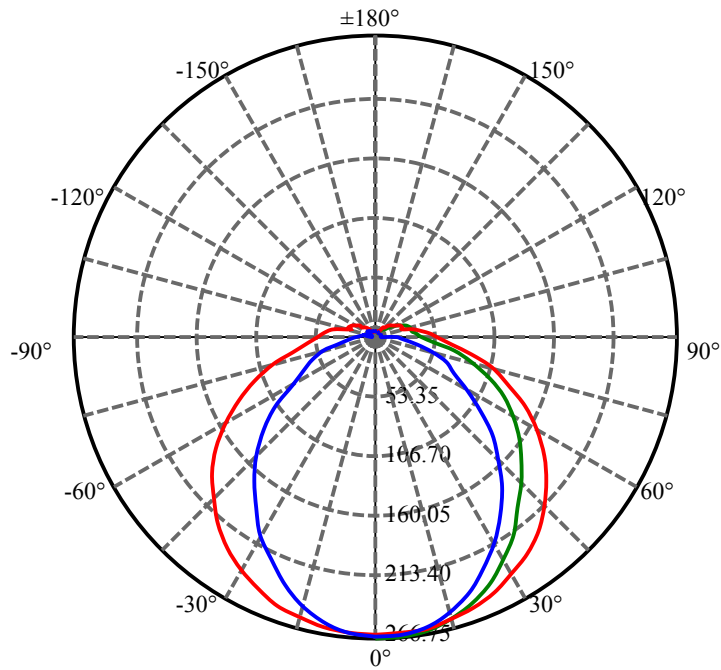
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	265.142	.000	.000	.000%	.000%
5.0	263.899	6.325	6.325	.744%	.744%
10.0	260.267	18.751	25.076	2.206%	2.950%
15.0	253.735	30.490	55.566	3.587%	6.537%
20.0	244.522	41.063	96.629	4.831%	11.368%
25.0	233.236	50.108	146.737	5.895%	17.263%
30.0	221.001	57.484	204.221	6.763%	24.026%
35.0	207.522	63.103	267.324	7.424%	31.450%
40.0	192.263	66.701	334.025	7.847%	39.297%
45.0	177.298	68.427	402.453	8.050%	47.347%
50.0	162.478	68.657	471.109	8.077%	55.425%
55.0	147.025	67.296	538.406	7.917%	63.342%
60.0	129.939	64.019	602.425	7.532%	70.874%
65.0	113.047	59.070	661.495	6.949%	77.823%
70.0	96.327	53.015	714.510	6.237%	84.060%
75.0	78.485	45.693	760.203	5.376%	89.436%
80.0	60.862	37.285	797.488	4.387%	93.822%
85.0	45.848	28.996	826.484	3.411%	97.233%
90.0	36.878	22.651	849.135	2.665%	99.898%
95.0	31.565	18.740	867.875	2.205%	102.103%
100.0	27.177	15.962	883.837	1.878%	103.981%
105.0	21.961	13.148	896.985	1.547%	105.528%
110.0	21.132	11.264	908.249	1.325%	106.853%
115.0	19.158	10.202	918.451	1.200%	108.053%
120.0	16.989	8.787	927.238	1.034%	109.087%
125.0	12.723	6.868	934.106	.808%	109.895%
130.0	10.042	4.950	939.056	.582%	110.477%
135.0	8.433	3.733	942.789	.439%	110.916%
140.0	6.630	2.789	945.578	.328%	111.245%
145.0	5.435	2.013	947.591	.237%	111.481%
150.0	4.924	1.525	949.117	.179%	111.661%
155.0	4.753	1.225	950.341	.144%	111.805%
160.0	4.850	1.007	951.348	.118%	111.923%
165.0	4.924	.806	952.154	.095%	112.018%
170.0	4.972	.587	952.741	.069%	112.087%
175.0	4.924	.354	953.095	.042%	112.129%
180.0	4.631	.114	953.209	.013%	112.142%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	204.22	24.03%	21.42%
0-40	334.03	39.30%	35.04%
0-60	602.42	70.87%	63.20%
0-90	849.14	99.90%	89.08%
0-120	927.24	109.09%	97.28%
0-180	953.21	112.14%	100.00%
60-90	310.73	36.56%	32.60%
90-120	100.75	11.85%	10.57%
90-130	112.57	13.24%	11.81%
90-150	122.63	14.43%	12.87%
90-180	126.61	14.90%	13.28%
0-75.32	762.57	89.71%	80.00%

## ZONAL LUMEN SUMMARY

0-10	25.08
10-20	71.55
20-30	107.59
30-40	129.80
40-50	137.08
50-60	131.32
60-70	112.09
70-80	82.98
80-90	51.65
90-100	34.70
100-110	24.41
110-120	18.99
120-130	11.82
130-140	6.52
140-150	3.54
150-160	2.23
160-170	1.39
170-180	0.35



C45(Max): ———

C0/C180: ———

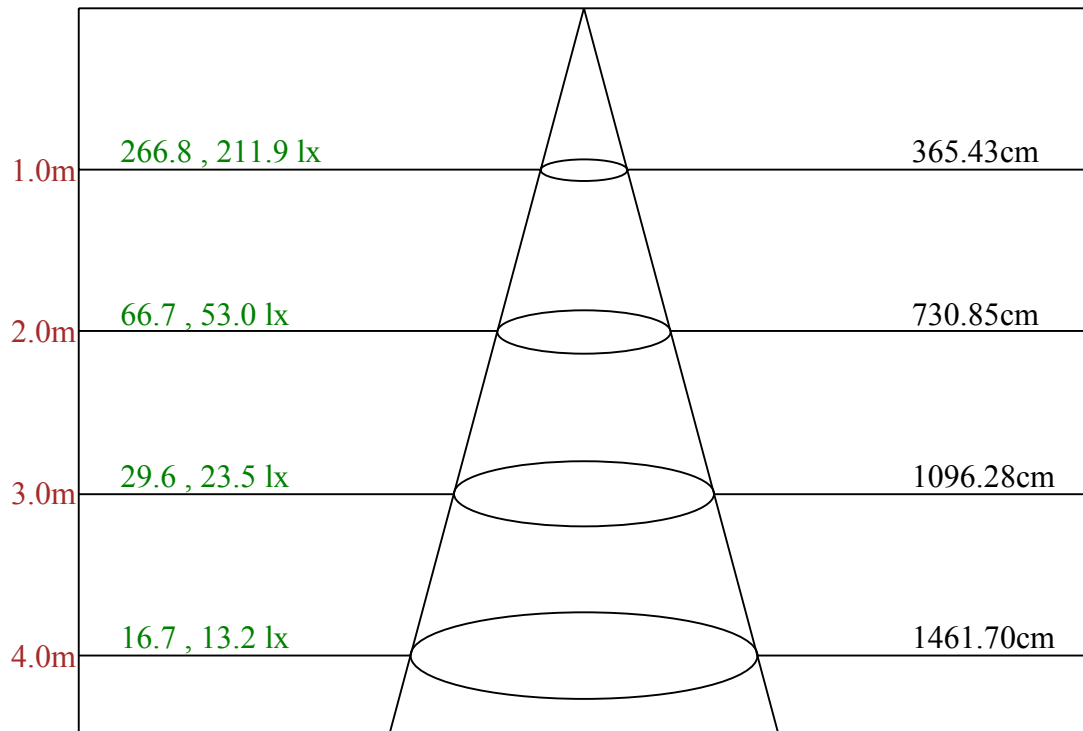
C90/C270: ———

Field angle(10%Imax):C0/180Left:103.8 Right:104.5

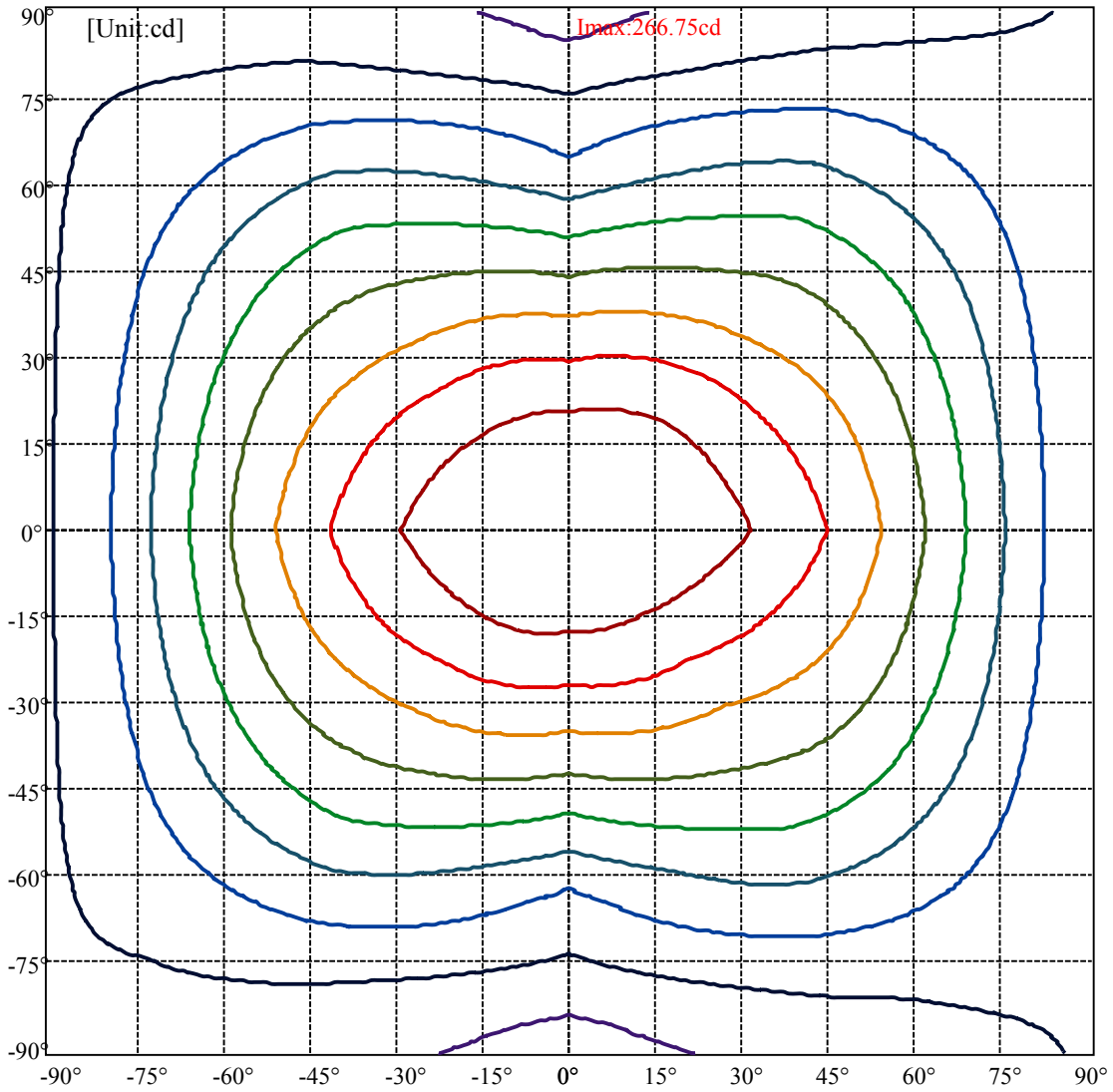
:C90/270Left:83.4 Right:84.2










Beam Angle(50%Imax):C0/180Left:65.5 Right:68.7

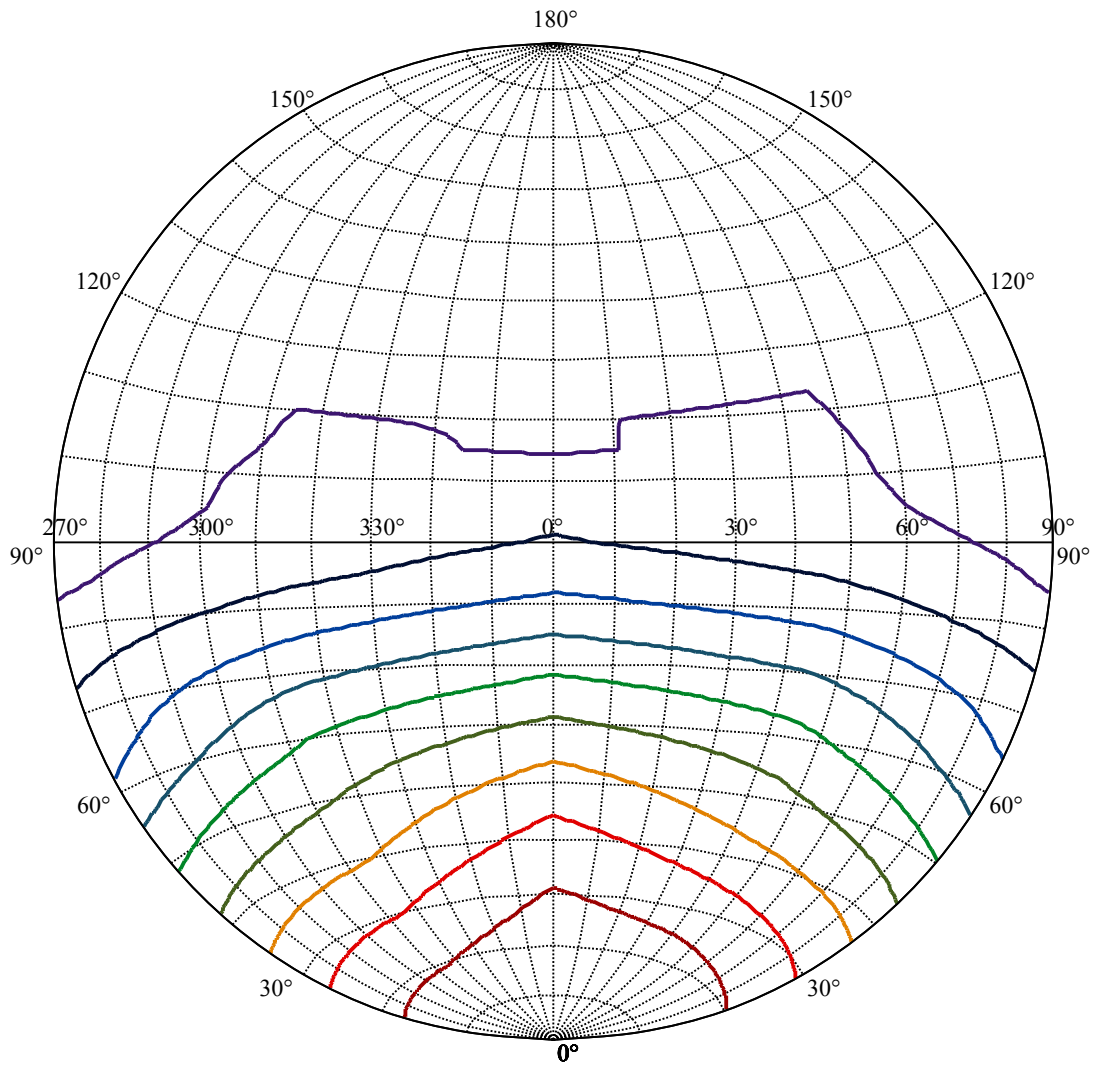
:C90/270Left:48.8 Right:50.4



Max , Ave      Beam angle of C45plane122.45



(10%Imax) 26.6695	
(20%Imax) 53.3391	
(30%Imax) 80.0086	
(40%Imax) 106.678	
(50%Imax) 133.348	
(60%Imax) 160.017	
(70%Imax) 186.687	
(80%Imax) 213.356	
(90%Imax) 240.026	



House

[Unit:cd]

Road

**Imax:266.75**

(10%Imax) 26.6751

(20%Imax) 53.3502

(30%Imax) 80.0252

(40%Imax) 106.7

(50%Imax) 133.375

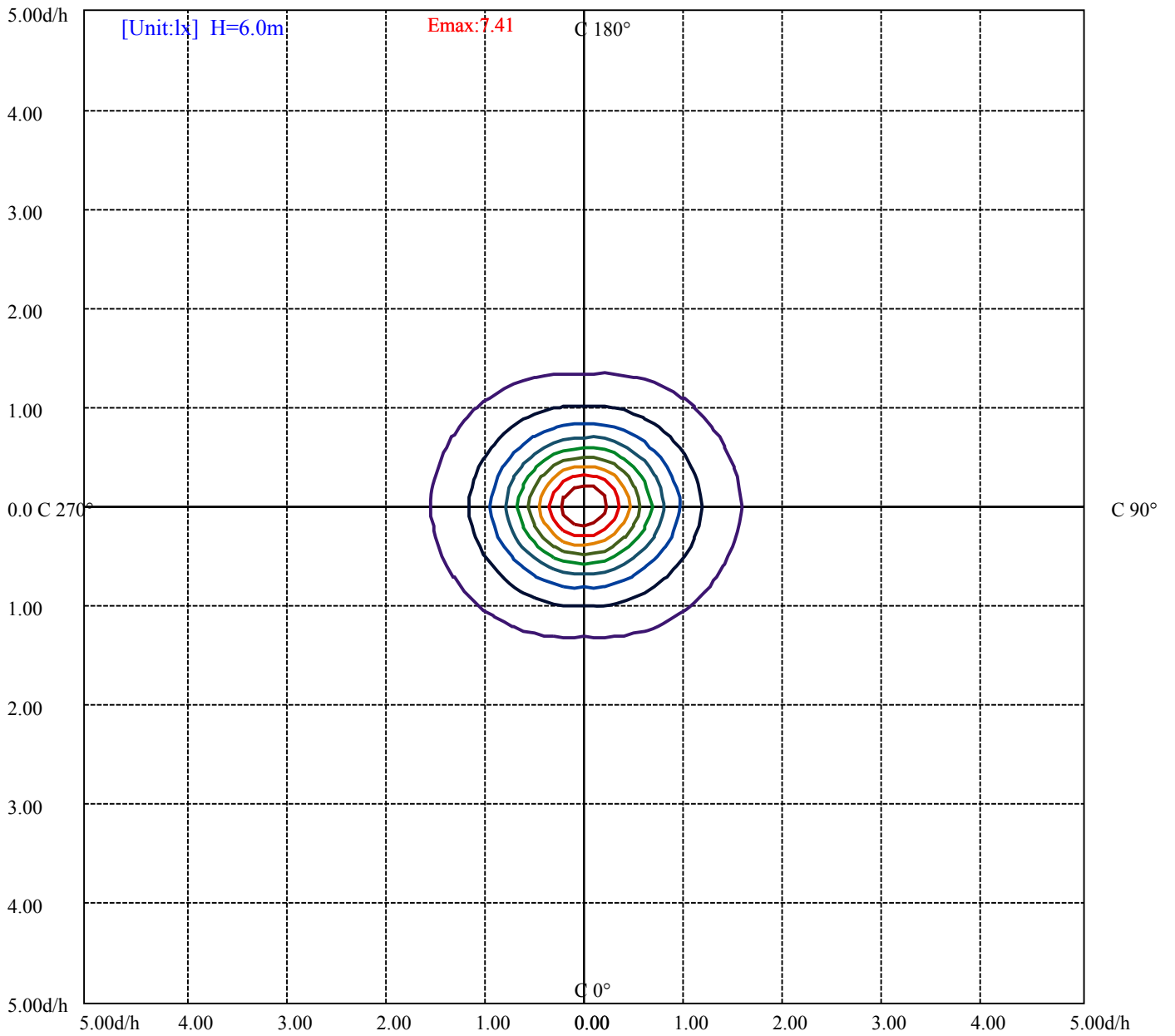
(60%Imax) 160.05

(70%Imax) 186.726

(80%Imax) 213.401

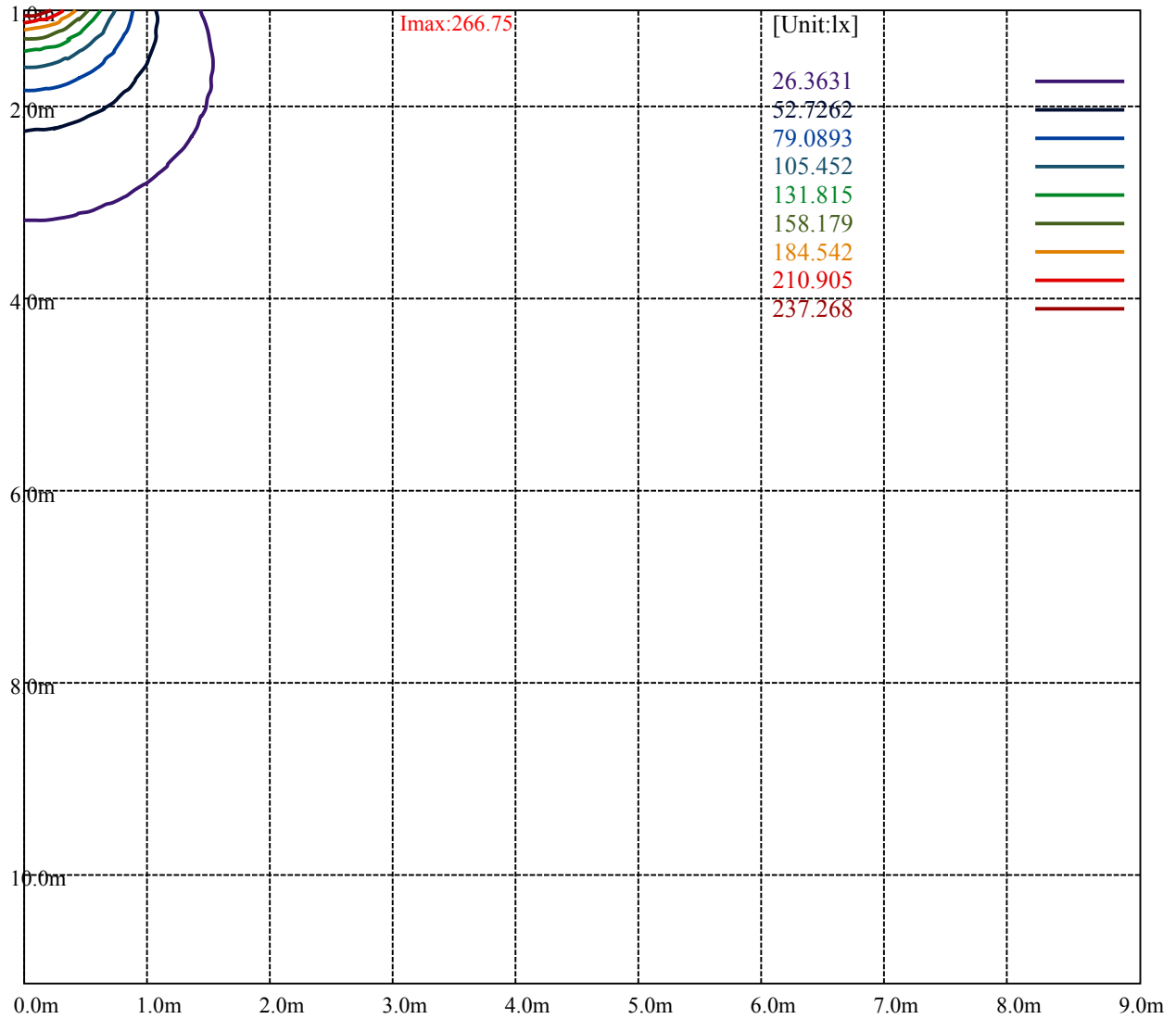
(90%Imax) 240.076





- (10%Emax) 0.740975
- (20%Emax) 1.481947
- (30%Emax) 2.222922
- (40%Emax) 2.963889
- (50%Emax) 3.704861
- (60%Emax) 4.445833
- (70%Emax) 5.186833
- (80%Emax) 5.927805
- (90%Emax) 6.668778





Luminance Table

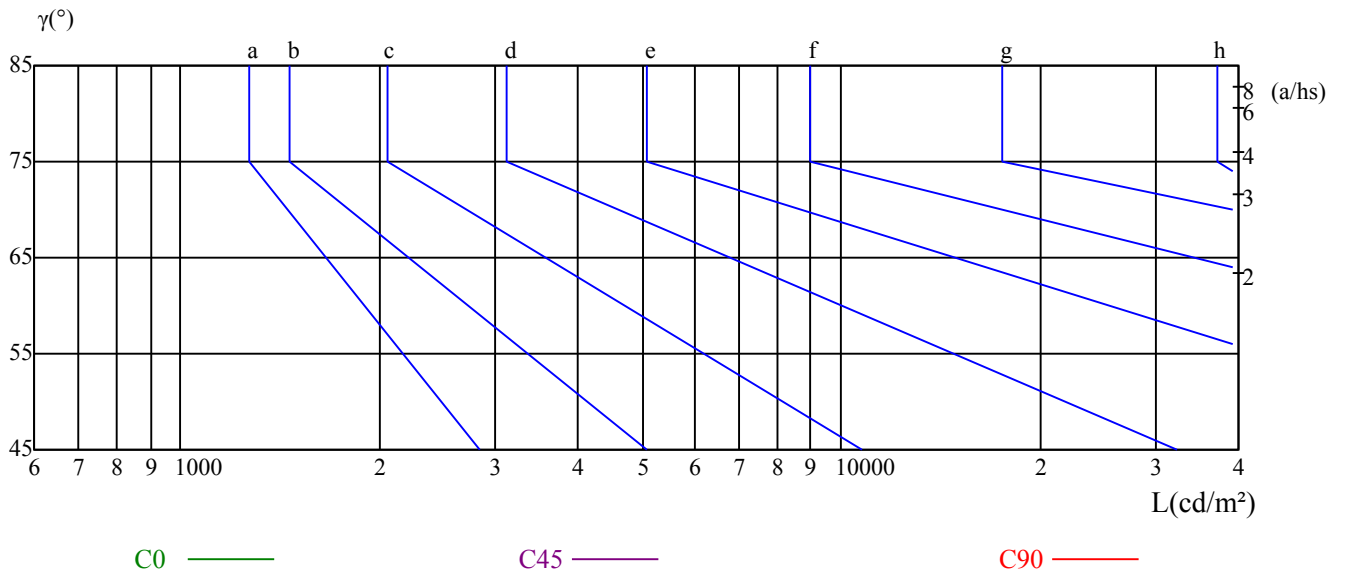
$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

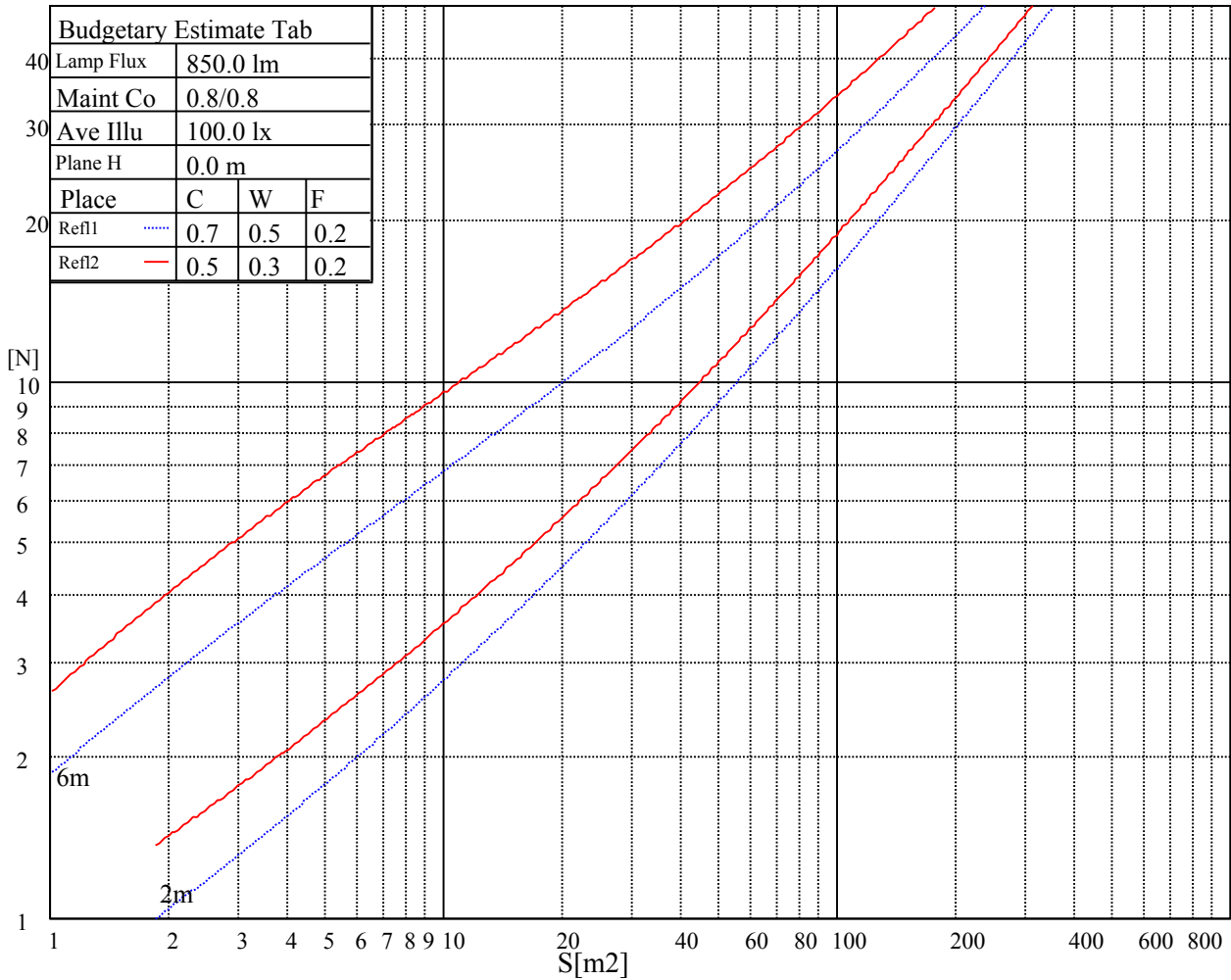
L横(65)	L纵(65)	L45(65)	L横(75)	L纵(75)	L45(75)	L横(85)	L纵(85)	L45(85)
0	0	0	0	0	0	0	0	0

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





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 RHOF <sub>C</sub> =20 CU															
0	1.31	1.31	1.31	1.26	1.26	1.26	1.18	1.18	1.18	1.10	1.10	1.10	1.03	1.03	1.03	1.00
1	1.11	1.05	1.00	1.07	1.02	0.97	1.00	0.96	0.92	0.93	0.90	0.87	0.87	0.85	0.82	0.79
2	0.95	0.87	0.80	0.92	0.85	0.78	0.86	0.80	0.74	0.81	0.75	0.71	0.75	0.71	0.67	0.64
3	0.83	0.73	0.66	0.80	0.71	0.64	0.75	0.68	0.61	0.70	0.64	0.59	0.66	0.61	0.56	0.53
4	0.73	0.63	0.55	0.71	0.61	0.54	0.67	0.58	0.52	0.62	0.55	0.50	0.59	0.53	0.48	0.45
5	0.65	0.55	0.47	0.63	0.53	0.46	0.59	0.51	0.45	0.56	0.49	0.43	0.53	0.46	0.41	0.39
6	0.59	0.48	0.41	0.57	0.47	0.40	0.54	0.45	0.39	0.50	0.43	0.37	0.48	0.41	0.36	0.34
7	0.53	0.43	0.36	0.51	0.42	0.35	0.49	0.40	0.34	0.46	0.39	0.33	0.43	0.37	0.32	0.30
8	0.48	0.39	0.32	0.47	0.38	0.31	0.44	0.36	0.30	0.42	0.35	0.30	0.40	0.33	0.29	0.26
9	0.44	0.35	0.29	0.43	0.34	0.28	0.41	0.33	0.27	0.39	0.32	0.27	0.37	0.30	0.26	0.24
10	0.41	0.32	0.26	0.40	0.31	0.25	0.38	0.30	0.25	0.36	0.29	0.24	0.34	0.28	0.23	0.21

## 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	263.63	263.05	261.49	258.95	254.47	248.62	242.18	233.80	223.85
45.0	266.75	266.56	264.61	259.15	250.57	239.45	226.58	212.74	196.36
90.0	265.58	265.00	260.90	252.71	241.01	226.00	210.40	193.63	173.54
135.0	264.61	264.02	260.90	254.27	244.72	232.82	219.76	205.72	189.92
180.0	263.63	262.85	261.29	257.59	252.52	246.08	238.28	228.53	215.86
225.0	266.75	264.80	259.73	251.93	241.40	228.73	215.47	201.43	186.61
270.0	265.58	263.24	256.81	246.67	232.82	218.39	202.40	185.05	166.91
315.0	264.61	261.68	256.42	248.62	238.67	225.80	212.93	199.28	185.05
360.0	263.63	263.05	261.49	258.95	254.47	248.62	242.18	233.80	223.85

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	211.96	198.31	182.90	164.77	146.05	126.75	106.47	86.38	68.25
45.0	181.54	168.47	155.99	141.37	125.58	107.83	88.53	70.00	53.04
90.0	154.63	134.55	114.07	93.79	77.61	66.10	53.04	37.24	24.57
135.0	175.69	163.01	150.34	136.30	120.12	102.37	81.51	63.57	48.16
180.0	202.60	187.78	171.40	152.87	133.96	113.88	93.99	74.88	59.28
225.0	171.98	159.50	146.25	131.23	112.32	93.79	75.07	57.33	43.87
270.0	147.80	127.92	107.25	84.82	70.00	60.25	48.16	34.51	22.81
315.0	172.18	160.28	148.00	134.35	118.75	99.64	81.12	62.98	46.80
360.0	211.96	198.31	182.90	164.77	146.05	126.75	106.47	86.38	68.25

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	55.18	47.77	35.10	25.35	26.13	23.79	21.25	18.33	15.21
45.0	41.14	35.68	33.15	30.81	28.27	25.54	22.03	14.62	10.14
90.0	17.94	9.16	4.87	4.48	3.90	3.70	4.09	4.48	4.68
135.0	38.80	35.10	32.76	30.42	27.69	24.76	20.28	11.89	7.99
180.0	50.89	46.41	37.24	23.01	25.35	22.62	20.28	17.35	14.43
225.0	36.85	34.32	32.17	29.44	26.91	23.98	20.28	14.04	10.14
270.0	16.57	9.94	10.33	2.92	4.09	5.07	7.60	7.41	7.21
315.0	37.63	34.12	31.78	29.25	26.71	23.79	20.08	13.65	10.53
360.0	55.18	47.77	35.10	25.35	26.13	23.79	21.25	18.33	15.21

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	12.67	11.11	8.58	6.24	4.29	4.48	4.68	4.68	5.07
45.0	8.58	6.43	4.48	4.29	4.48	4.48	4.87	4.87	4.87
90.0	4.87	5.07	5.07	5.07	5.07	5.07	5.07	5.07	4.87
135.0	7.02	4.87	4.48	4.68	4.87	4.87	4.87	5.07	4.87
180.0	11.89	8.97	6.82	4.87	4.48	4.68	4.87	5.07	5.07
225.0	7.60	4.87	4.48	4.68	4.87	5.07	5.07	5.07	4.87
270.0	6.82	6.63	5.26	5.26	5.46	5.46	5.07	5.07	4.87
315.0	7.99	5.07	4.29	4.29	4.48	4.68	4.87	4.87	4.87
360.0	12.67	11.11	8.58	6.24	4.29	4.48	4.68	4.68	5.07

C/γ(°)	180.0
0.0	4.68
45.0	4.48
90.0	4.68
135.0	4.68
180.0	4.68
225.0	4.48
270.0	4.68
315.0	4.68
360.0	4.68