

Nata

LumCAT: 3-1867-E
Luminaire: LMOP009-2619-DH+92.76.233.00
Report No: 2017010036
Test No: 2017010905
LampCAT: CITIZEN CLU241
Lamp flux(lm): 615.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C
Voltage(V): 218.2000
Current(A): 0.0290
Power (W): 6.3000
PF: 0.9860
Ballast type: AC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 568.23
Efficiency(%): 92.40%
Lumens(lm)/Power(W): 91.22
Central intensity(cd): 1166.645
Maximum intensity(cd): 1168.847
Angle of maximum intensity: C=90.0 $\gamma=0.0$
Beam Angle(50%Imax): [C0/180]Total=38.3
 [C90/270]Total=38.2
Field angle(10%Imax): [C0/180]Total=69.1
 [C90/270]Total=69.3
Maximum s/h(1/2): C0_180=0.62 C90_270=0.61
Maximum s/h(1/4): C0_180=0.64 C90_270=0.64
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 93.44%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.540%

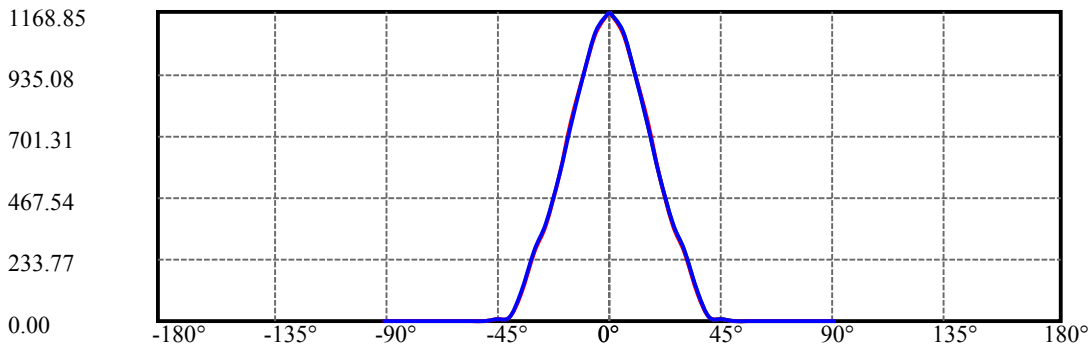
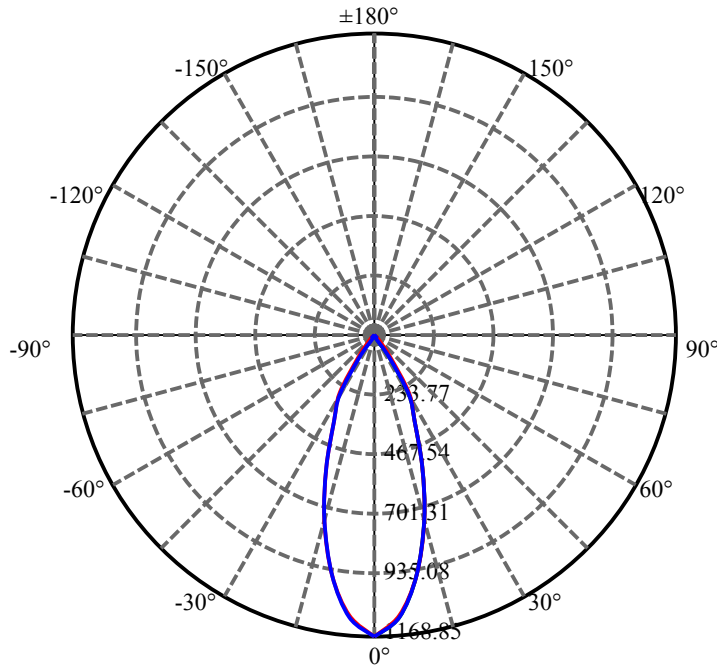
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1166.645	6.977	6.977	1.134%	1.228%
5.0	1095.925	52.356	59.333	8.513%	10.442%
10.0	941.946	89.657	148.99	14.578%	26.220%
15.0	747.570	106.056	255.047	17.245%	44.884%
20.0	550.426	103.191	358.237	16.779%	63.044%
25.0	367.061	85.031	443.268	13.826%	78.008%
30.0	264.828	72.581	515.849	11.802%	90.781%
35.0	103.774	32.627	548.476	5.305%	96.523%
40.0	16.345	5.759	554.234	.936%	97.537%
45.0	6.297	2.441	556.675	.397%	97.966%
50.0	2.973	1.248	557.924	.203%	98.186%
55.0	2.835	1.273	559.197	.207%	98.410%
60.0	2.808	1.333	560.53	.217%	98.645%
65.0	2.815	1.398	561.928	.227%	98.891%
70.0	2.677	1.379	563.307	.224%	99.133%
75.0	2.670	1.414	564.721	.230%	99.382%
80.0	2.615	1.412	566.132	.230%	99.631%
85.0	2.588	1.413	567.545	.230%	99.879%
90.0	2.505	0.687	568.232	.112%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	515.85	83.88%	90.78%
0-40	554.23	90.12%	97.54%
0-60	560.53	91.14%	98.64%
0-90	567.55	92.28%	99.88%
0-120	567.55	92.28%	99.88%
0-180	568.23	92.40%	100.00%
60-90	8.35	1.36%	1.47%
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%
0-25.78	454.59	73.92%	80.00%

ZONAL LUMEN SUMMARY

0-10	148.99
10-20	209.25
20-30	157.61
30-40	38.39
40-50	3.69
50-60	2.61
60-70	2.78
70-80	2.83
80-90	1.41
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



C90(Max): ———

C0/C180: ———

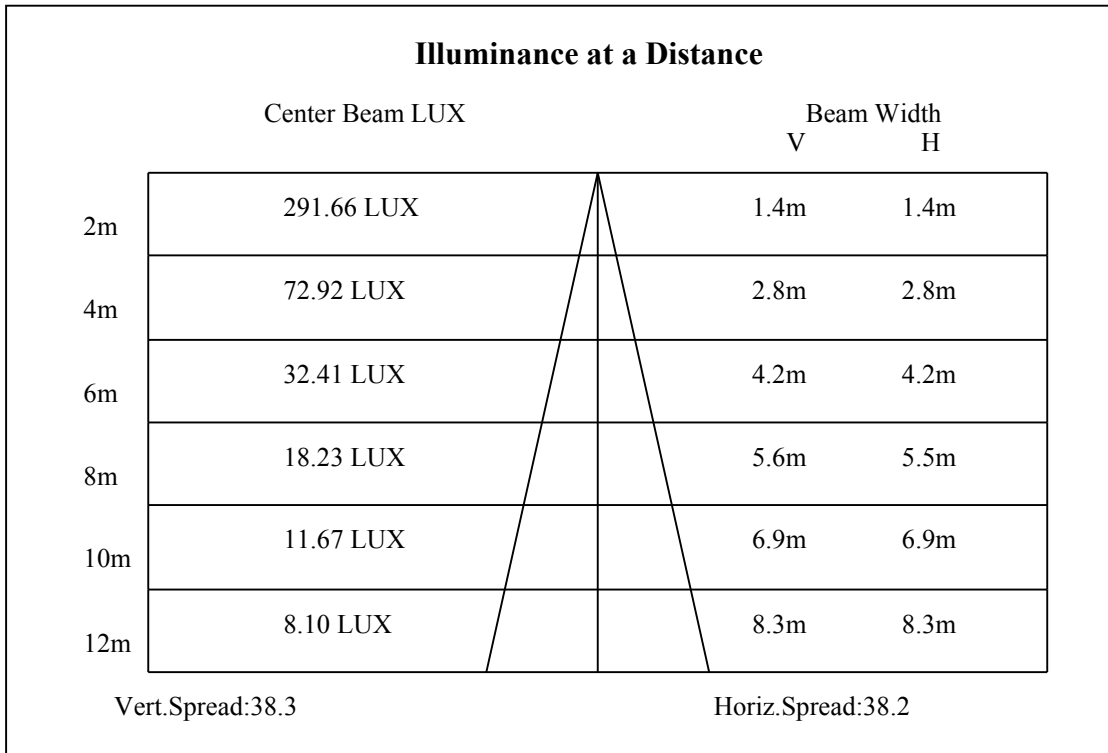
C90/C270: ———

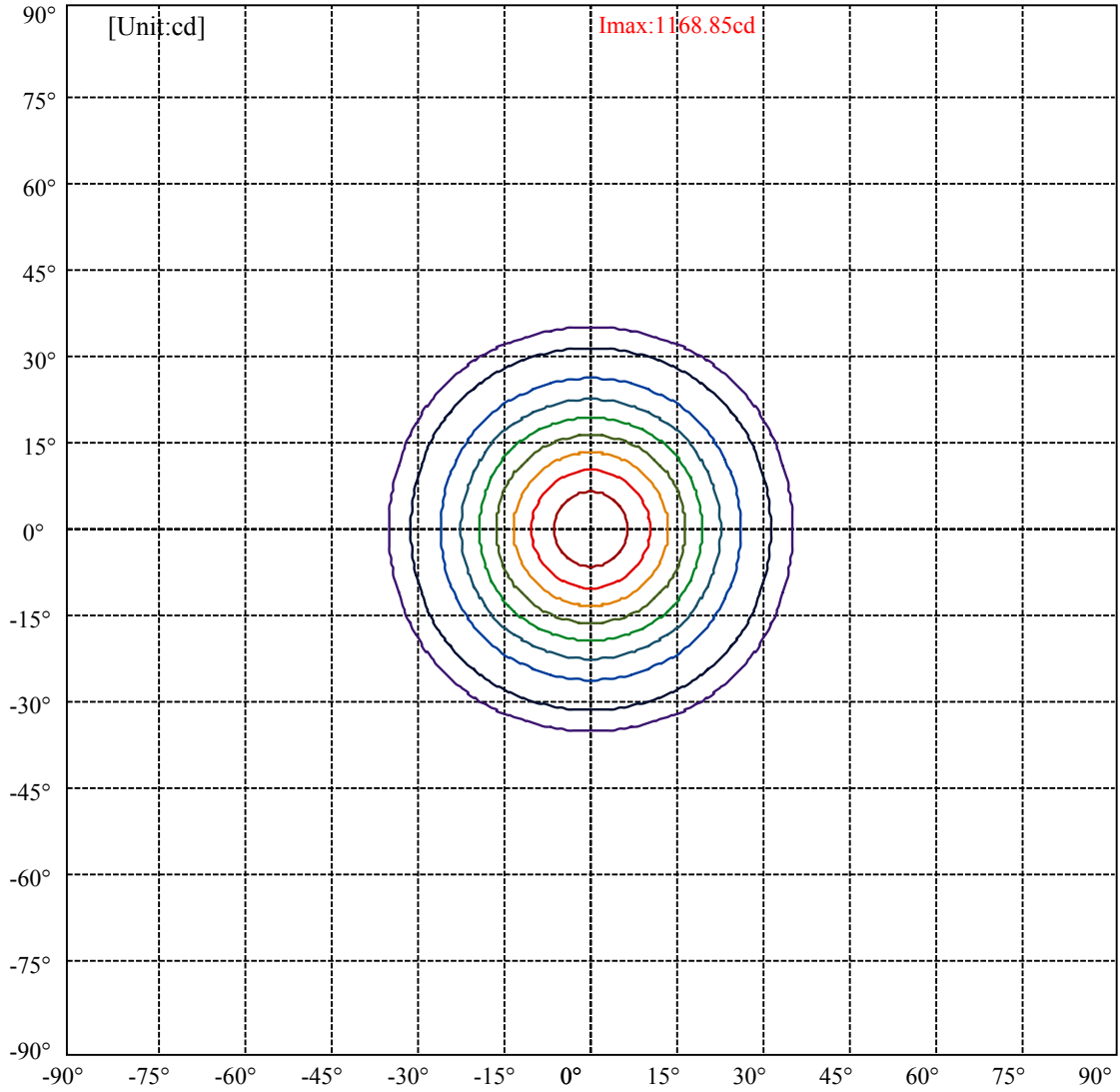
Field angle(10%Imax):C0/180Left:34.6 Right:34.6

:C90/270Left:34.7 Right:34.7

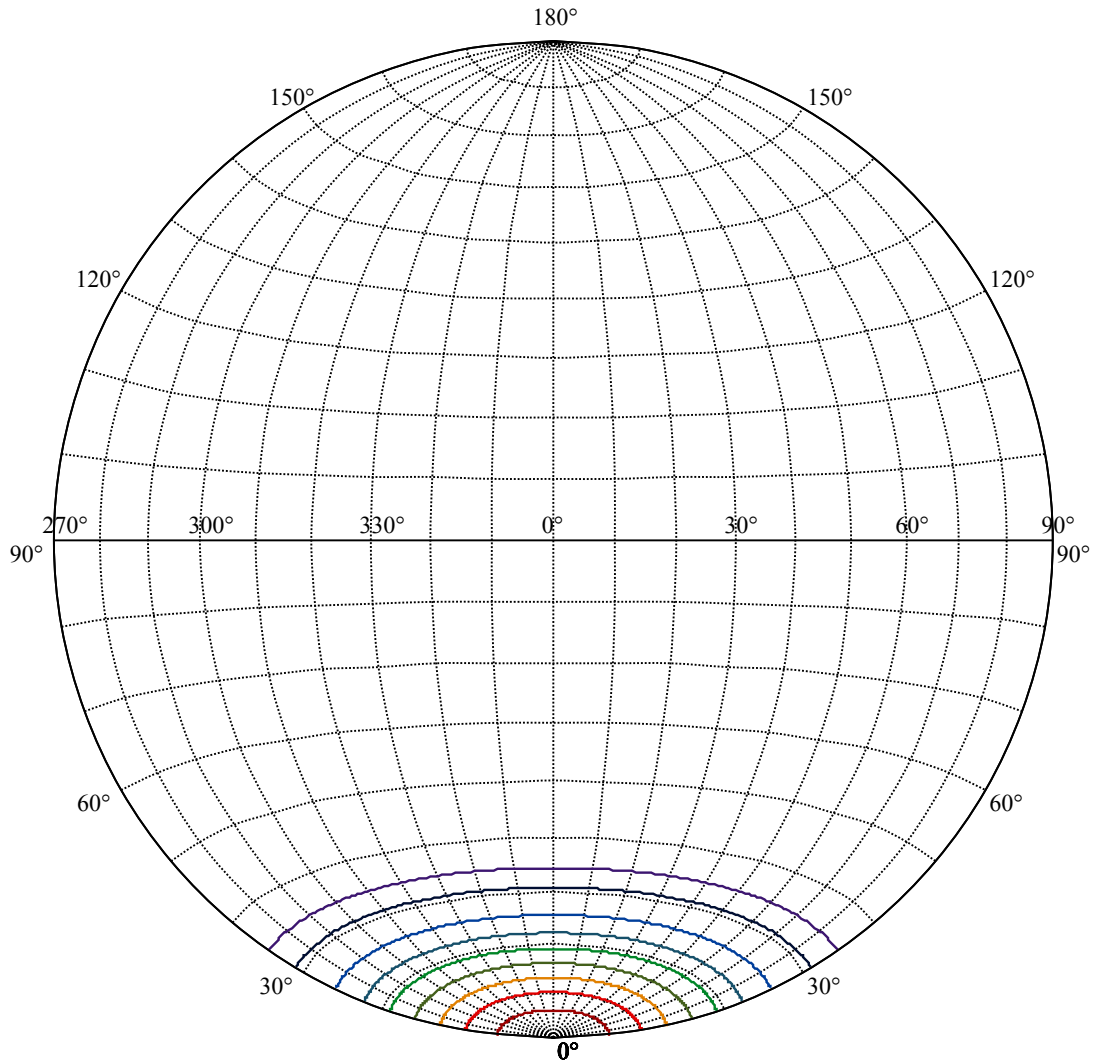
Beam Angle(50%Imax):C0/180Left:19.2 Right:19.2

:C90/270Left:19.1 Right:19.1





(10%I _{max}) 116.885	—
(20%I _{max}) 233.769	—
(30%I _{max}) 350.654	—
(40%I _{max}) 467.539	—
(50%I _{max}) 584.424	—
(60%I _{max}) 701.308	—
(70%I _{max}) 818.193	—
(80%I _{max}) 935.078	—
(90%I _{max}) 1051.96	—



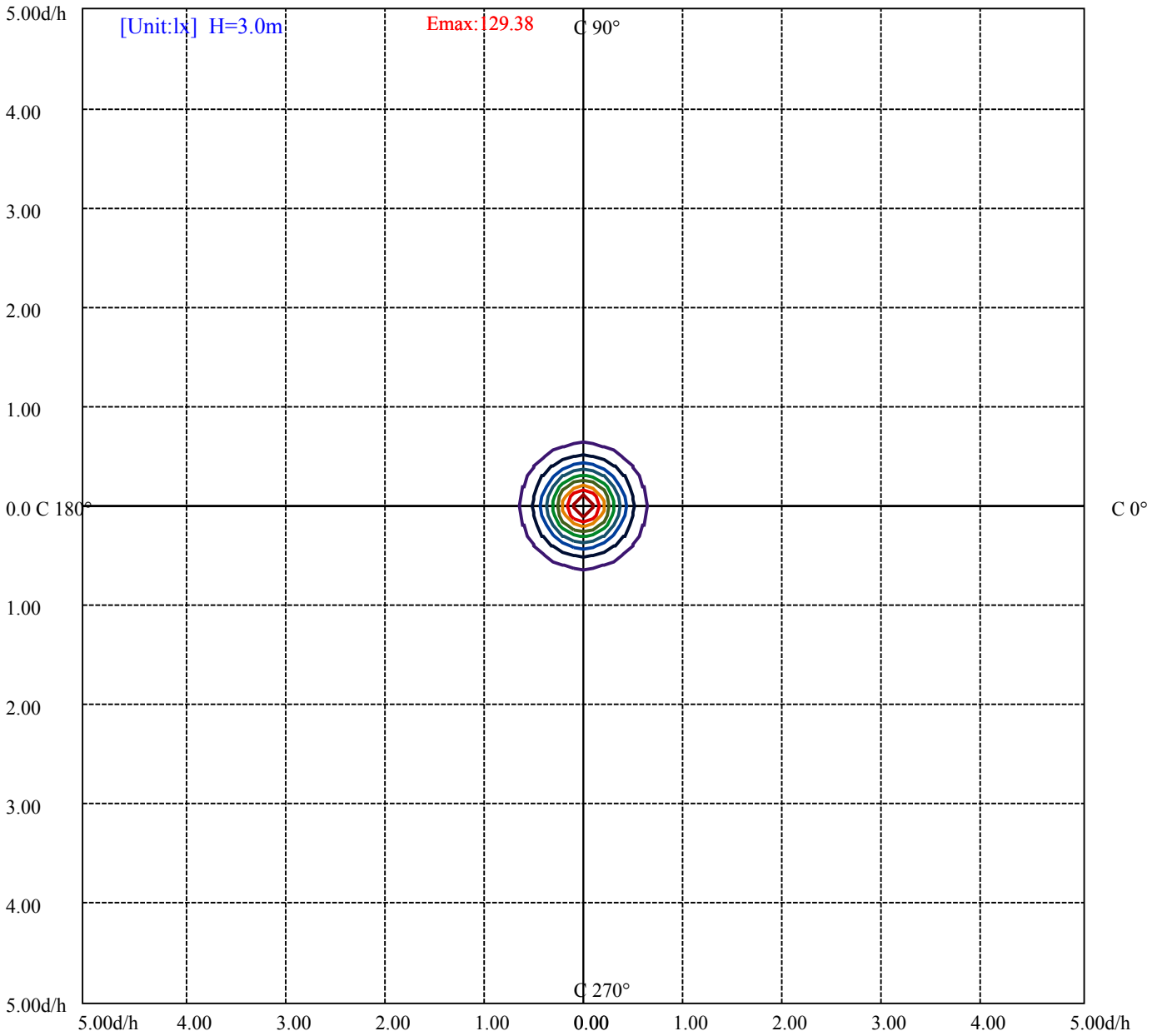
House

[Unit:cd]

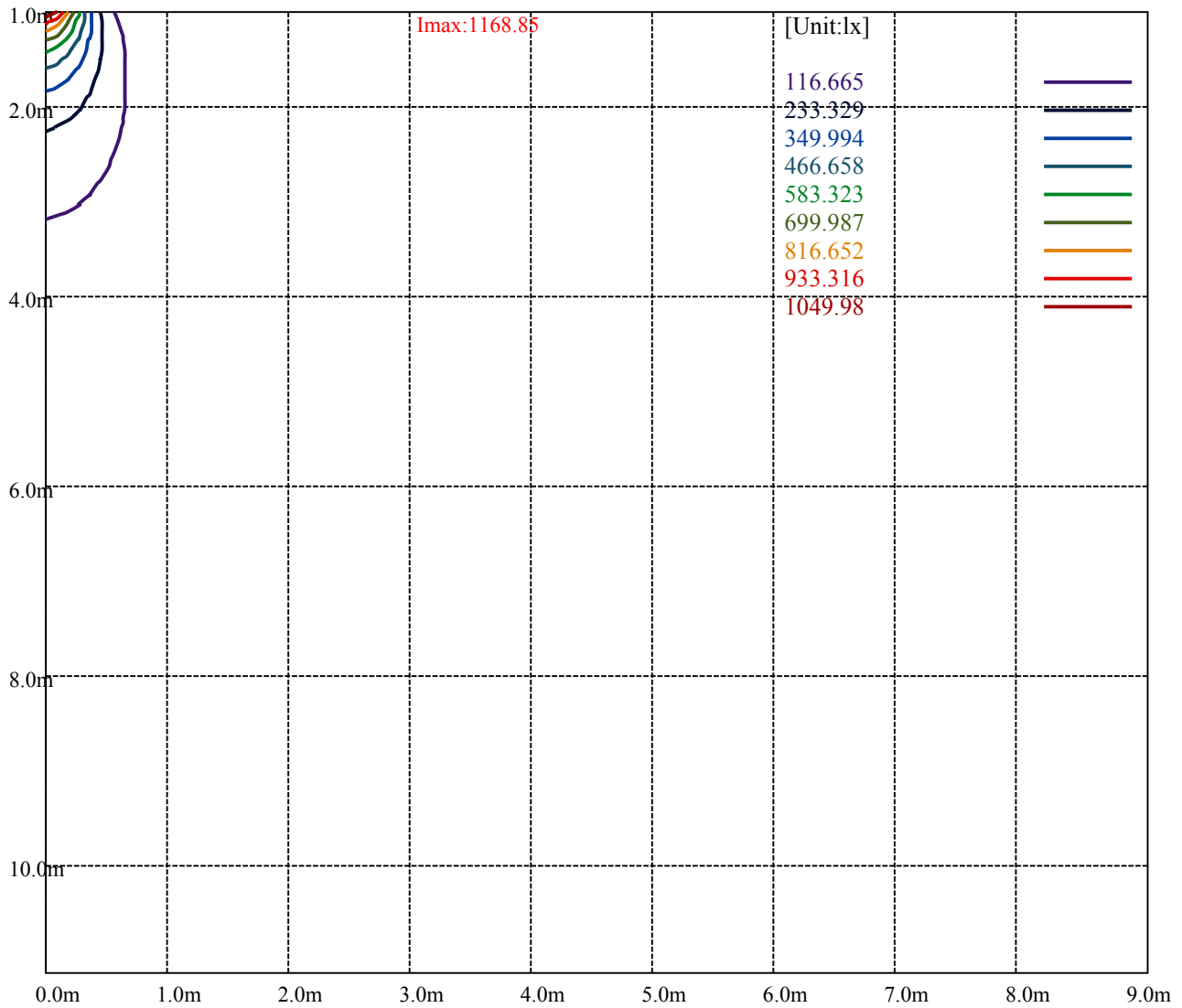
Road

Imax:1168.85

(10%Imax)	116.885	—
(20%Imax)	233.769	—
(30%Imax)	350.654	—
(40%Imax)	467.539	—
(50%Imax)	584.424	—
(60%Imax)	701.308	—
(70%Imax)	818.193	—
(80%Imax)	935.078	—
(90%Imax)	1051.96	—



- (10%Emax) 12.93822
- (20%Emax) 25.87644
- (30%Emax) 38.81467
- (40%Emax) 51.75289
- (50%Emax) 64.69122
- (60%Emax) 77.62944
- (70%Emax) 90.56767
- (80%Emax) 103.5059
- (90%Emax) 116.4444



Luminance Table

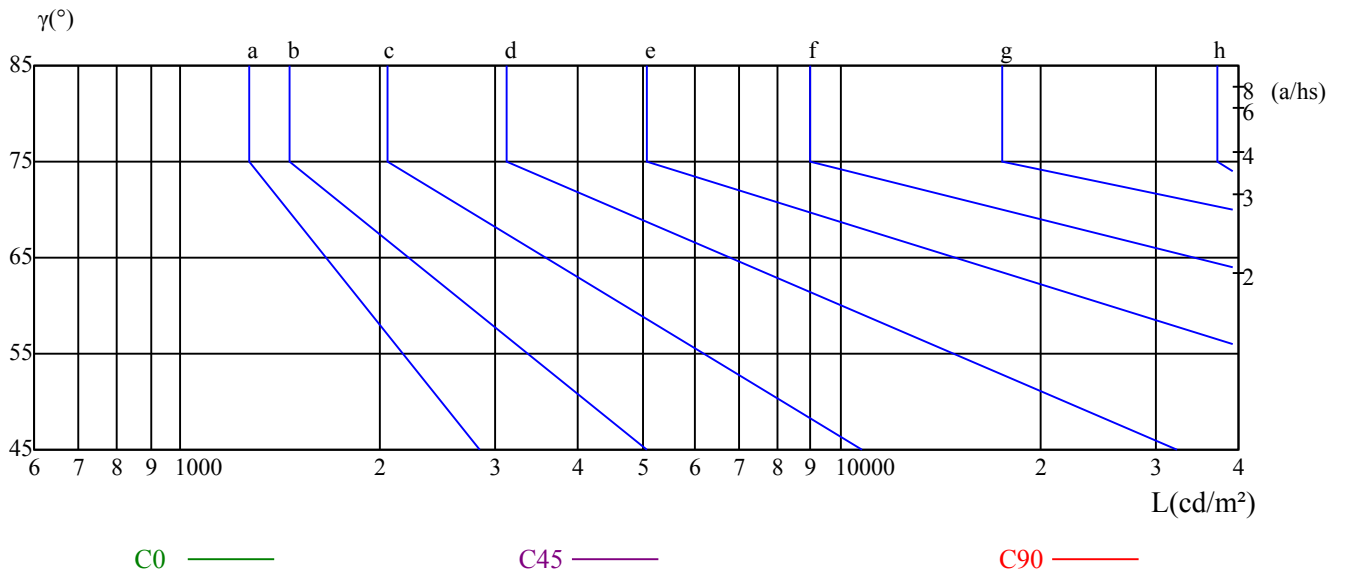
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

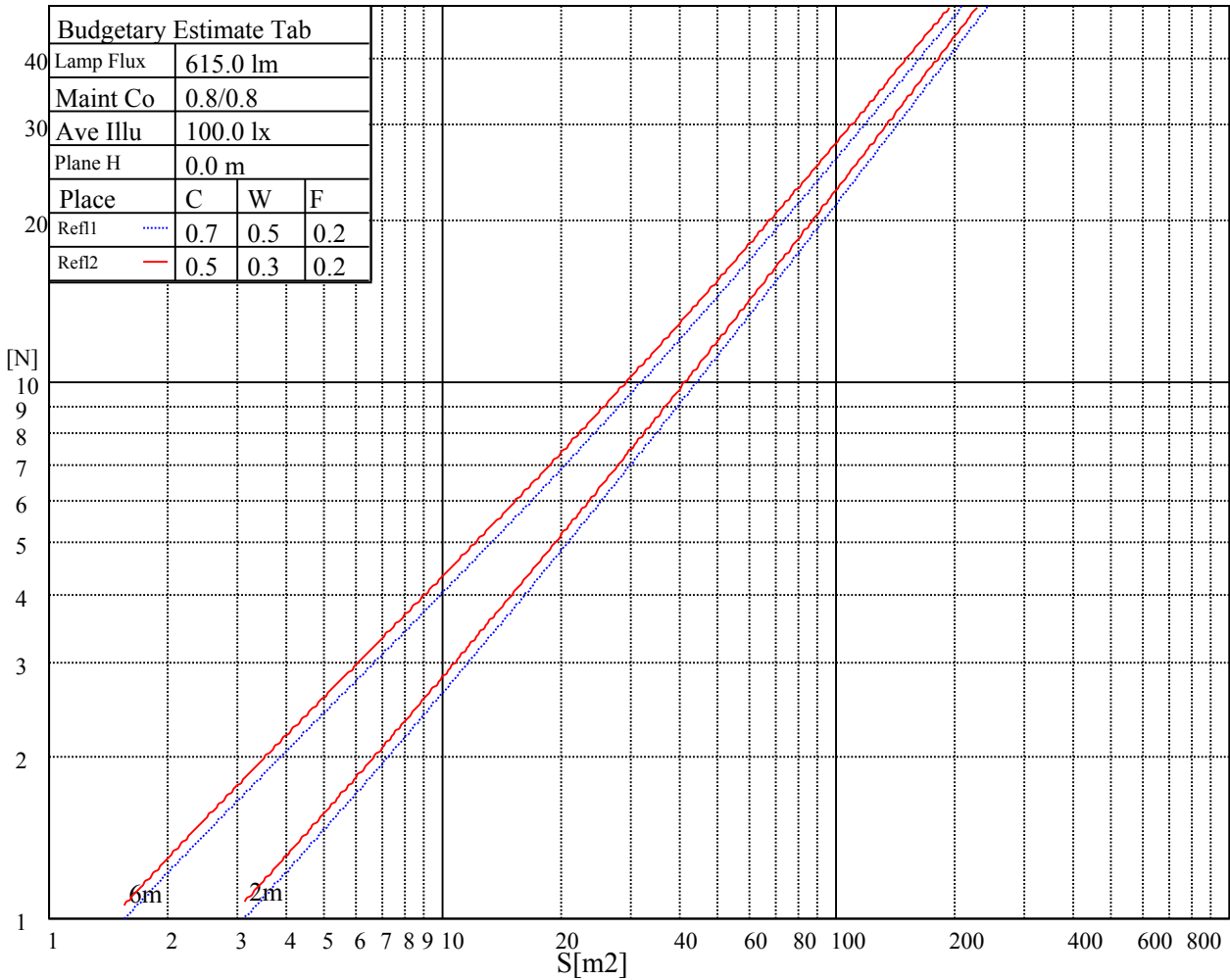
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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=20 CU															
0	1.11	1.11	1.11	1.09	1.09	1.09	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.03	1.01	0.98	1.01	0.99	0.97	0.97	0.96	0.94	0.94	0.92	0.91	0.91	0.89	0.88	0.87
2	0.97	0.94	0.91	0.96	0.93	0.90	0.93	0.90	0.88	0.90	0.88	0.86	0.87	0.86	0.84	0.83
3	0.92	0.88	0.85	0.91	0.87	0.84	0.89	0.85	0.83	0.86	0.84	0.82	0.84	0.82	0.80	0.79
4	0.88	0.83	0.80	0.87	0.83	0.79	0.85	0.81	0.79	0.83	0.80	0.78	0.81	0.79	0.77	0.76
5	0.84	0.79	0.76	0.83	0.79	0.75	0.81	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.74	0.72
6	0.80	0.76	0.72	0.80	0.75	0.72	0.78	0.74	0.71	0.77	0.74	0.71	0.76	0.73	0.71	0.69
7	0.77	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.67
8	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.64
9	0.71	0.67	0.63	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.62
10	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.60

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	1166.65	1108.29	975.05	790.61	591.86	404.11	280.24	137.42	22.85
45.0	1164.44	1119.30	977.25	782.35	600.67	397.51	280.79	143.04	19.60
90.0	1168.85	1091.55	933.59	736.16	541.64	362.88	257.61	100.15	15.14
135.0	1166.65	1104.98	953.03	766.39	559.37	372.18	278.59	111.49	15.91
180.0	1166.65	1076.08	911.79	712.26	508.23	328.25	242.30	68.44	12.44
225.0	1164.44	1079.38	907.44	707.14	508.45	337.00	243.68	65.85	12.22
270.0	1168.85	1104.43	951.37	750.97	559.37	373.83	278.03	110.94	15.91
315.0	1166.65	1083.40	926.05	734.67	533.83	360.73	257.39	92.88	16.68
360.0	1166.65	1108.29	975.05	790.61	591.86	404.11	280.24	137.42	22.85
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	11.89	3.03	2.86	2.75	2.75	2.64	2.59	2.59	2.53
45.0	10.41	2.97	2.75	2.75	2.64	2.64	2.59	2.53	2.59
90.0	5.73	2.86	2.81	2.75	2.75	2.59	2.59	2.59	2.53
135.0	4.46	2.97	2.81	2.75	2.70	2.64	2.59	2.64	2.59
180.0	3.58	2.92	2.81	2.75	2.75	2.64	2.70	2.64	2.64
225.0	3.47	3.03	3.03	3.14	3.47	2.92	2.97	2.70	2.64
270.0	4.90	3.03	2.81	2.81	2.75	2.75	2.70	2.64	2.59
315.0	5.95	2.97	2.81	2.75	2.70	2.59	2.64	2.59	2.59
360.0	11.89	3.03	2.86	2.75	2.75	2.64	2.59	2.59	2.53
C/ γ (°)	90.0								
0.0	2.53								
45.0	2.53								
90.0	2.53								
135.0	2.48								
180.0	2.48								
225.0	2.53								
270.0	2.48								
315.0	2.48								
360.0	2.53								