
Nata

LumCAT: 1497-E	
Luminaire: 92.70.064.00	
Report No: NT2016041205	Voltage(V): 9.4000
Test No: GC2016041205	Current(A): 0.3100
LampCAT: CITIZEN CLU700	Power (W): 2.9140
Lamp flux(lm): 331.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 44	Width(mm):44
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 281.80
Efficiency(%): 85.14%
Lumens(lm)/Power(W): 96.71
Central intensity(cd): 419.557
Maximum intensity(cd): 419.557
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=44.4
[C90/270]Total=44.4
Field angle(10%Imax): [C0/180]Total=79.5
[C90/270]Total=79.5
Maximum s/h(1/2): C0_180=0.70 C90_270=0.70
Maximum s/h(1/4): C0_180=0.74 C90_270=0.74
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 85.14%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.951%

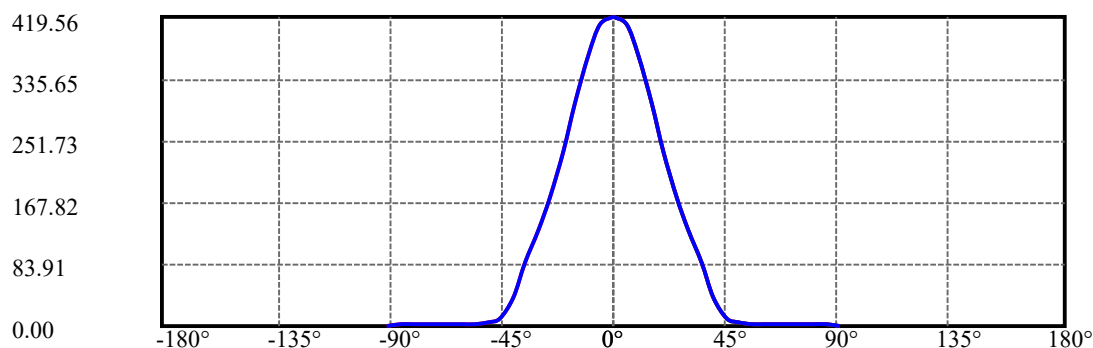
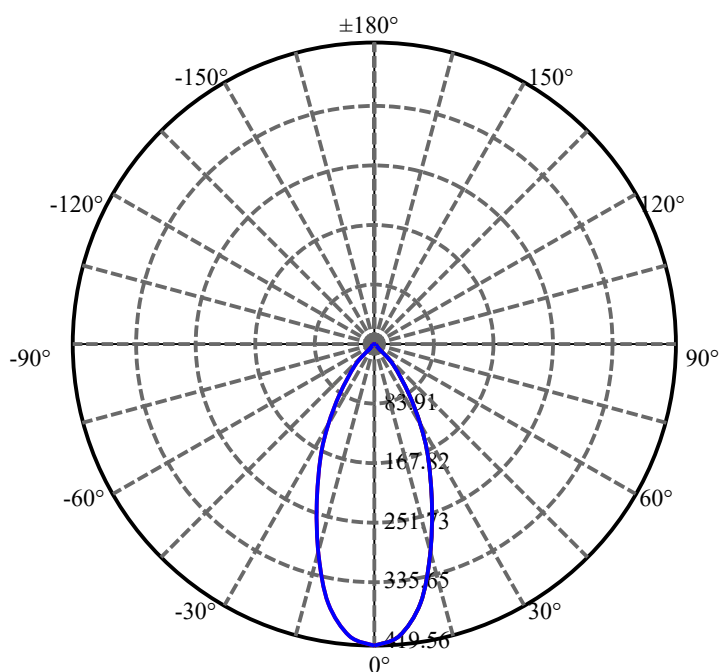
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	419.557	0.000	0	.000%	.000%
5.0	407.899	9.892	9.892	2.989%	3.510%
10.0	367.632	27.743	37.635	8.382%	13.355%
15.0	303.326	39.801	77.436	12.024%	27.479%
20.0	237.906	44.605	122.041	13.476%	43.307%
25.0	174.460	43.250	165.291	13.066%	58.655%
30.0	129.279	38.438	203.729	11.613%	72.295%
35.0	85.000	31.554	235.283	9.533%	83.493%
40.0	39.826	20.826	256.11	6.292%	90.883%
45.0	11.713	9.543	265.653	2.883%	94.269%
50.0	6.421	3.664	269.317	1.107%	95.570%
55.0	3.785	2.219	271.536	.670%	96.357%
60.0	3.455	1.673	273.21	.506%	96.951%
65.0	3.723	1.745	274.955	.527%	97.570%
70.0	3.888	1.927	276.882	.582%	98.254%
75.0	3.180	1.847	278.729	.558%	98.910%
80.0	1.879	1.353	280.083	.409%	99.390%
85.0	1.610	0.948	281.031	.286%	99.727%
90.0	1.204	0.771	281.802	.233%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	203.73	61.55%	72.30%
0-40	256.11	77.37%	90.88%
0-60	273.21	82.54%	96.95%
0-90	281.03	84.90%	99.73%
0-120	281.03	84.90%	99.73%
0-180	281.80	85.14%	100.00%
60-90	9.49	2.87%	3.37%
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%
0-33.44	225.44	68.11%	80.00%

ZONAL LUMEN SUMMARY

0-10	37.64
10-20	84.41
20-30	81.69
30-40	52.38
40-50	13.21
50-60	3.89
60-70	3.67
70-80	3.20
80-90	0.95
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:

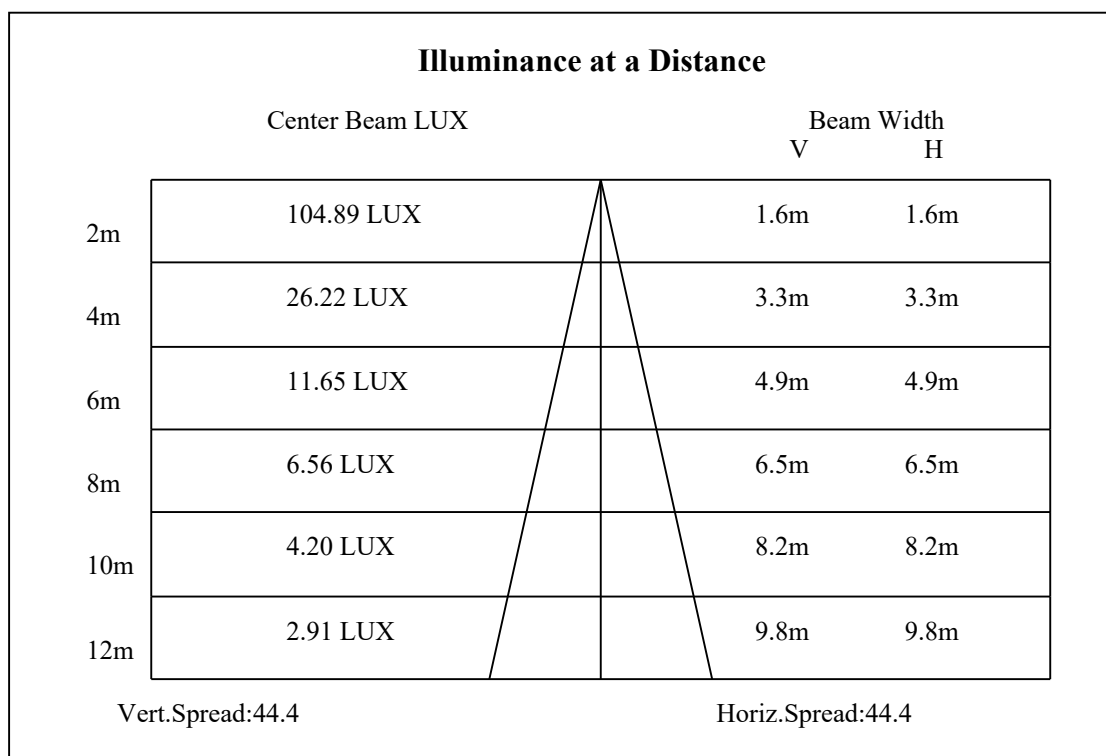
C90/C270:

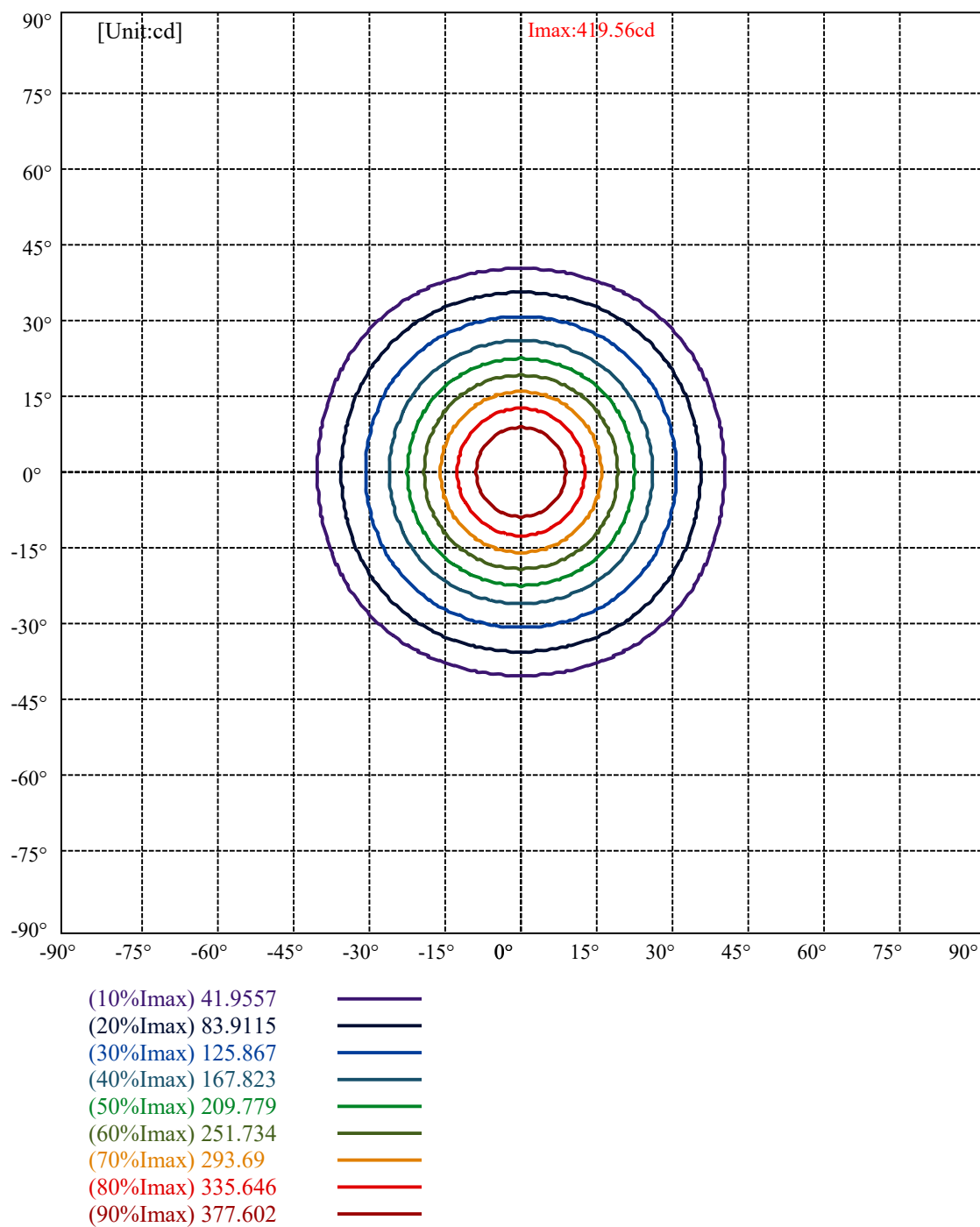
Field angle(10%Imax):C0/180Left:39.8 Right:39.8

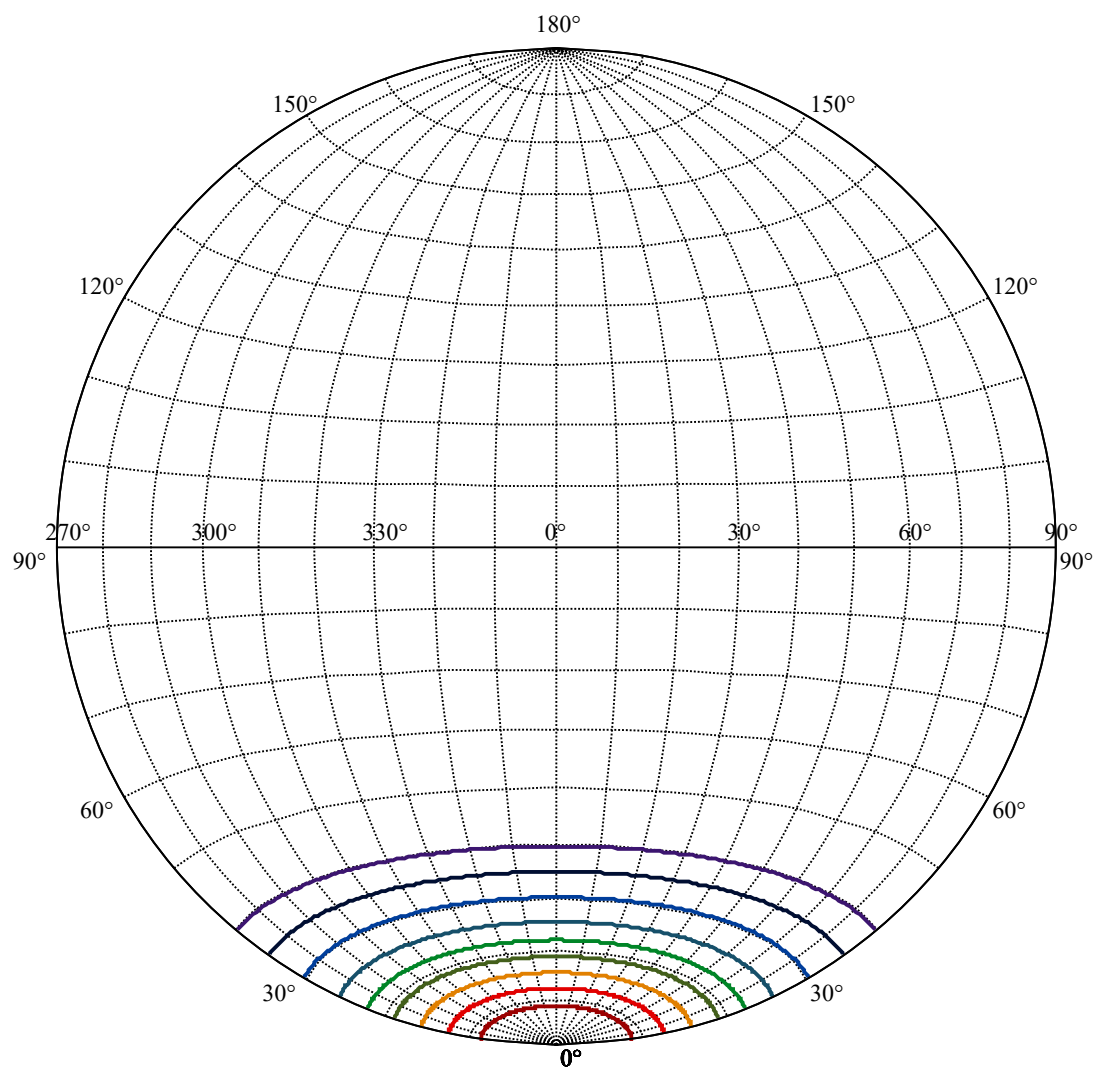
:C90/270Left:39.8 Right:39.8

Beam Angle(50%Imax):C0/180Left:22.2 Right:22.2

:C90/270Left:22.2 Right:22.2





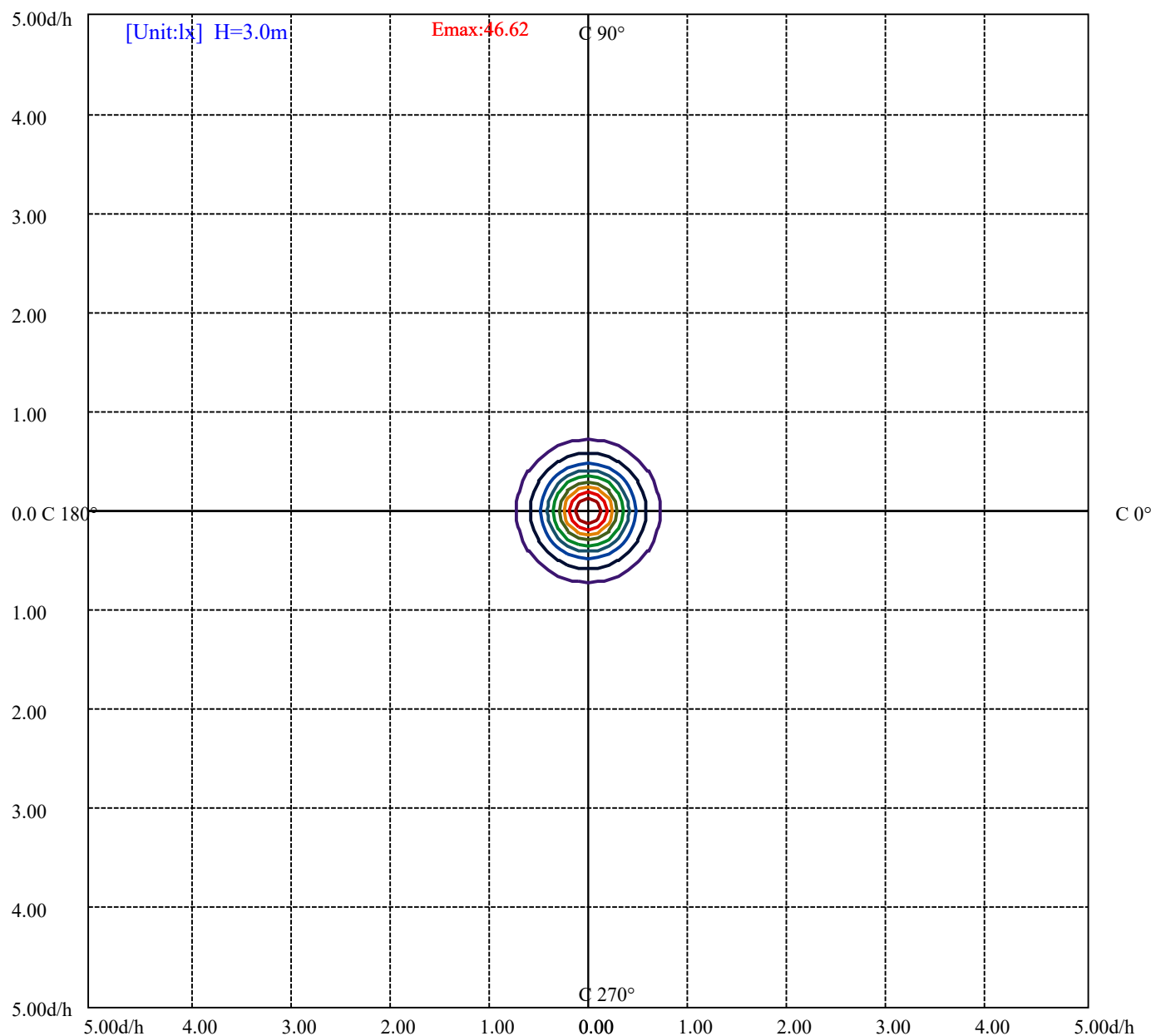


House

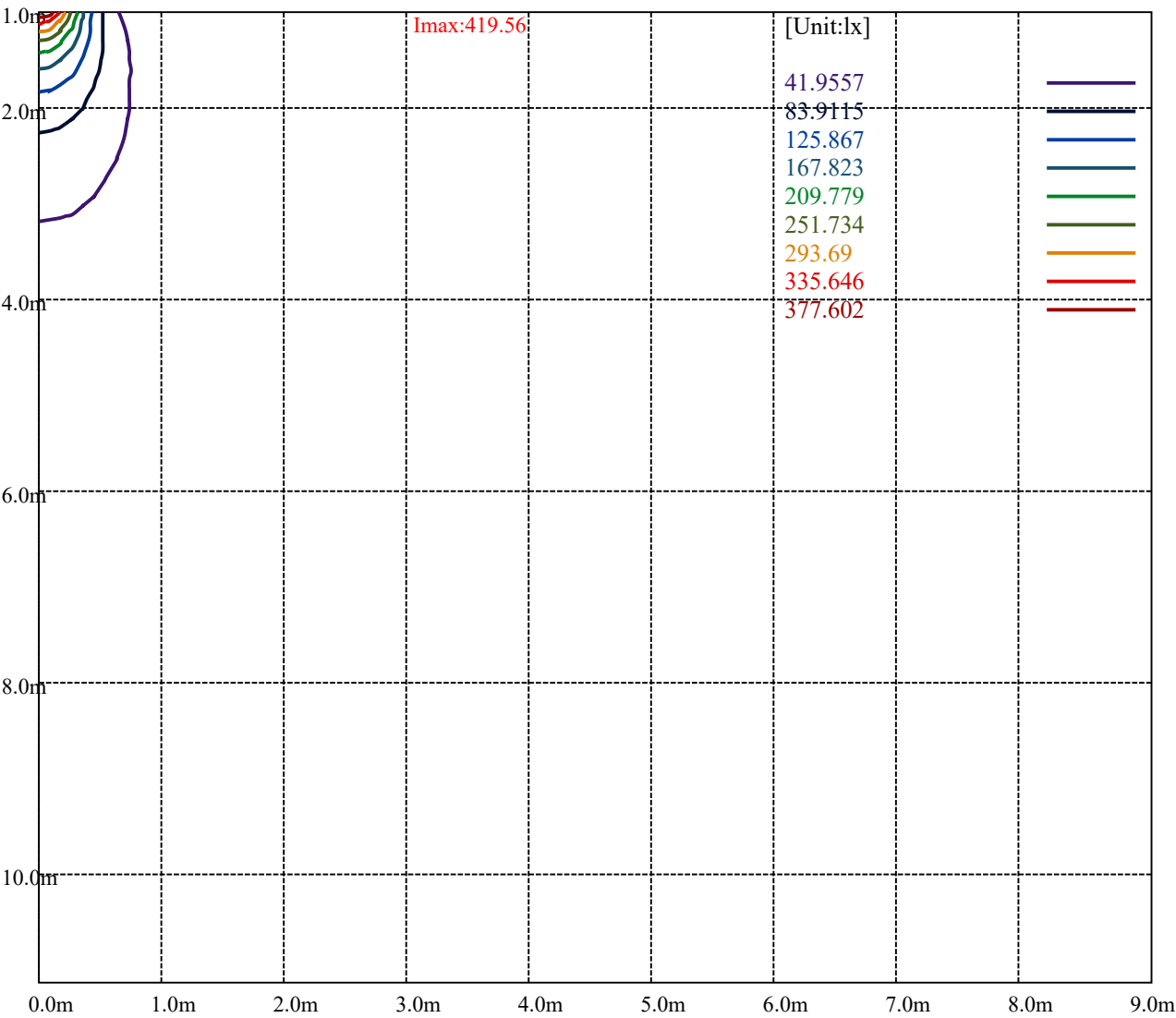
[Unit:cd]

Road

I_{max}:419.56(10%I_{max}) 41.9557(20%I_{max}) 83.9115(30%I_{max}) 125.867(40%I_{max}) 167.823(50%I_{max}) 209.779(60%I_{max}) 251.734(70%I_{max}) 293.69(80%I_{max}) 335.646(90%I_{max}) 377.602



(10%Emax)	4.661745	—
(20%Emax)	9.323489	—
(30%Emax)	13.98522	—
(40%Emax)	18.647	—
(50%Emax)	23.30867	—
(60%Emax)	27.97044	—
(70%Emax)	32.63222	—
(80%Emax)	37.294	—
(90%Emax)	41.95567	—



Luminance Table

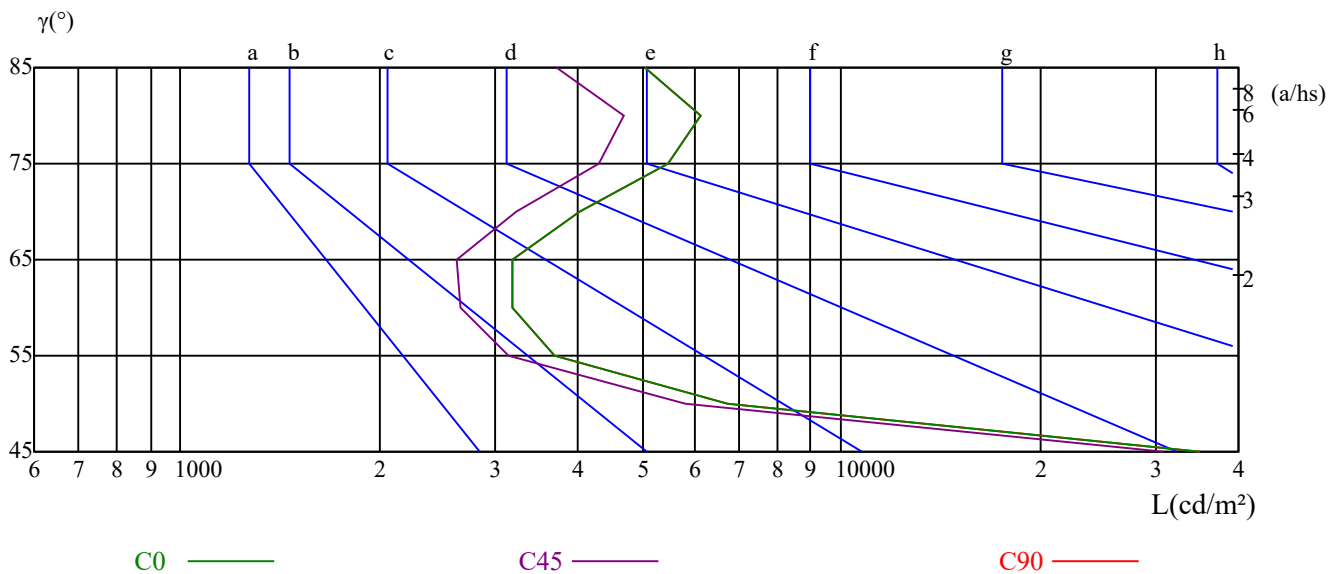
γ	45	50	55	60	65	70	75	80	85
C0	35095	6742	3685	3174	3185	4009	5471	6136	5037
C45	30731	5818	3131	2653	2614	3223	4295	4686	3718
C90	35095	6742	3685	3174	3185	4009	5471	6136	5037

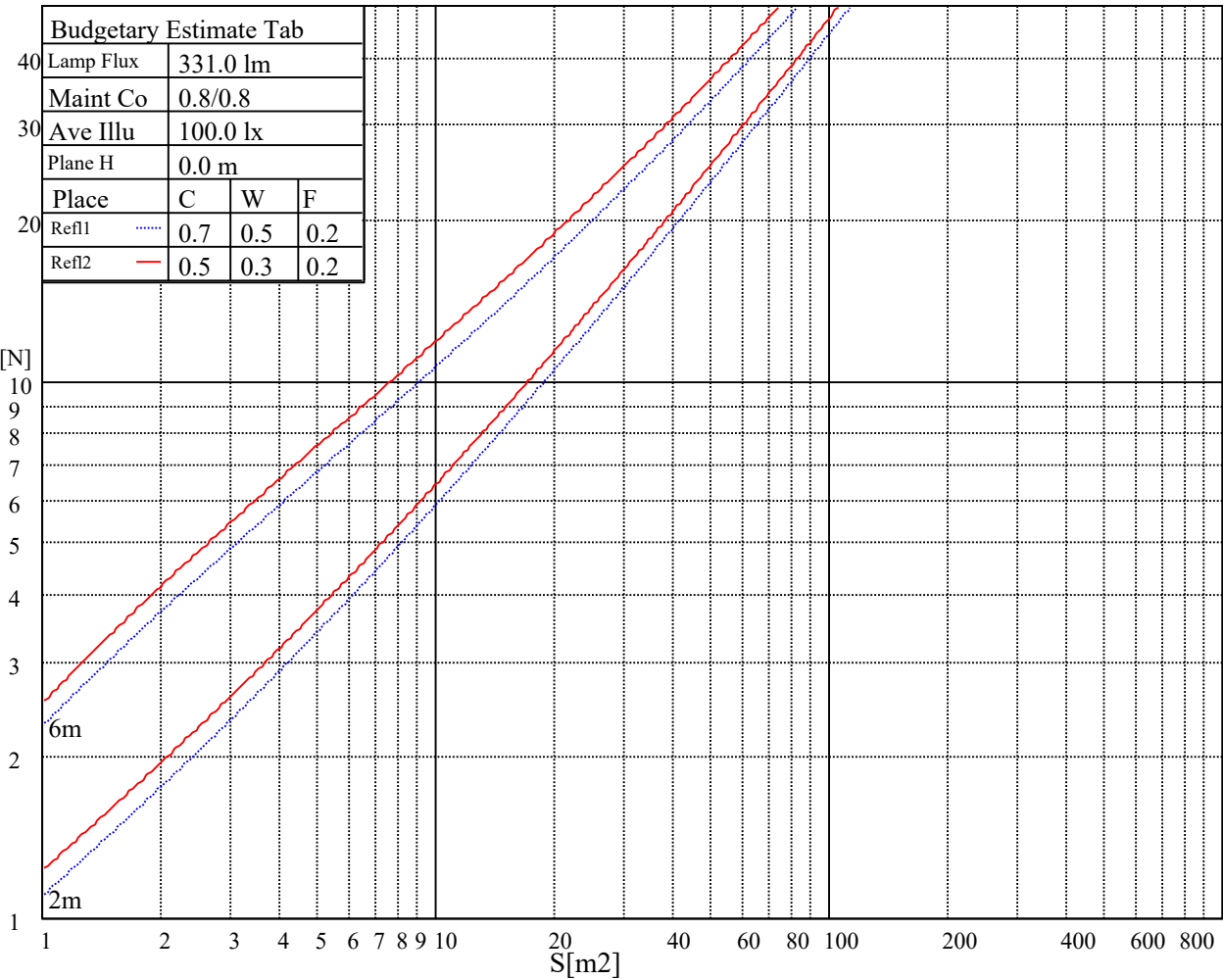
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6749	6749	6749	16123	16123	16123	35078	35078	35078

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	1.01	1.01	1.01	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.85
1	0.94	0.92	0.90	0.92	0.90	0.88	0.89	0.87	0.86	0.85	0.84	0.83	0.82	0.81	0.81	0.79
2	0.87	0.84	0.81	0.86	0.83	0.80	0.83	0.80	0.78	0.80	0.78	0.76	0.78	0.76	0.75	0.73
3	0.81	0.77	0.74	0.80	0.76	0.73	0.78	0.75	0.72	0.76	0.73	0.71	0.74	0.72	0.70	0.68
4	0.76	0.72	0.68	0.75	0.71	0.68	0.73	0.70	0.67	0.72	0.69	0.66	0.70	0.67	0.65	0.64
5	0.72	0.67	0.63	0.71	0.66	0.63	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.60
6	0.67	0.62	0.59	0.67	0.62	0.59	0.66	0.61	0.58	0.64	0.61	0.58	0.63	0.60	0.57	0.56
7	0.64	0.59	0.55	0.63	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.54	0.60	0.57	0.54	0.53
8	0.60	0.55	0.52	0.60	0.55	0.52	0.59	0.55	0.51	0.58	0.54	0.51	0.57	0.54	0.51	0.50
9	0.57	0.52	0.49	0.57	0.52	0.49	0.56	0.52	0.49	0.55	0.51	0.48	0.54	0.51	0.48	0.47
10	0.54	0.49	0.46	0.54	0.49	0.46	0.53	0.49	0.46	0.53	0.49	0.46	0.52	0.48	0.46	0.45

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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	416.94	432.41	417.22	354.29	277.43	201.78	147.06	109.40	61.22
45.0	419.47	425.09	399.21	350.60	294.39	210.32	152.73	110.28	64.47
90.0	420.25	414.02	374.00	302.04	237.02	177.17	137.81	92.27	43.16
135.0	421.29	401.53	354.67	284.37	219.56	160.05	118.21	76.20	33.53
180.0	416.94	383.91	324.72	258.49	202.00	159.72	115.73	62.71	23.12
225.0	419.47	378.13	318.28	266.53	206.19	153.50	110.11	61.17	19.49
270.0	420.25	403.01	359.19	295.38	228.92	171.89	131.47	85.39	36.01
315.0	421.84	425.09	393.76	314.92	237.73	161.26	121.12	82.58	37.60
360.0	416.94	432.41	417.22	354.29	277.43	201.78	147.06	109.40	61.22
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	14.26	9.36	3.25	2.75	2.59	2.48	2.20	1.82	1.43
45.0	14.48	7.98	2.97	2.48	2.15	1.93	1.54	1.49	1.43
90.0	10.57	5.95	3.47	3.08	2.92	2.81	2.31	1.76	1.49
135.0	12.66	7.32	5.18	4.57	4.57	4.07	3.58	2.20	1.65
180.0	10.41	5.56	4.02	4.02	5.84	6.83	5.56	2.09	1.93
225.0	9.47	4.68	3.47	3.41	4.79	5.89	4.79	1.98	1.87
270.0	10.68	4.62	3.41	3.14	3.14	3.69	3.03	1.98	1.65
315.0	11.18	5.89	4.51	4.18	3.80	3.41	2.42	1.71	1.43
360.0	14.26	9.36	3.25	2.75	2.59	2.48	2.20	1.82	1.43
C/γ(°)	90.0								
0.0	1.21								
45.0	1.32								
90.0	1.27								
135.0	1.16								
180.0	1.16								
225.0	1.16								
270.0	1.21								
315.0	1.16								
360.0	1.21								