
Nata

LumCAT: 1536-A	
Luminaire: 92.70.064.00	
Report No: NT2016070103	Voltage(V): 9.4000
Test No: GC2016070103	Current(A): 0.3000
LampCAT: CITIZEN CLU700	Power (W): 2.8200
Lamp flux(lm): 314.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 25	Width(mm): 25
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 284.50
Efficiency(%): 90.60%
Lumens(lm)/Power(W): 100.89
Central intensity(cd): 273.868
Maximum intensity(cd): 276.187
Angle of maximum intensity: C=0.0 γ =5.0
Beam Angle(50%Imax): [C0/180]Total=64.6
[C90/270]Total=64.6
Field angle(10%Imax): [C0/180]Total=87.9
[C90/270]Total=87.9
Maximum s/h(1/2): C0_180=0.98 C90_270=0.98
Maximum s/h(1/4): C0_180=0.96 C90_270=0.96
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.60%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.479%

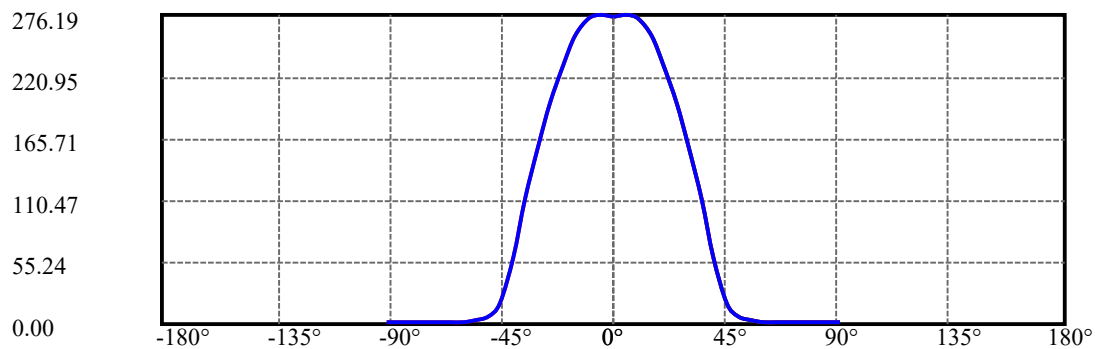
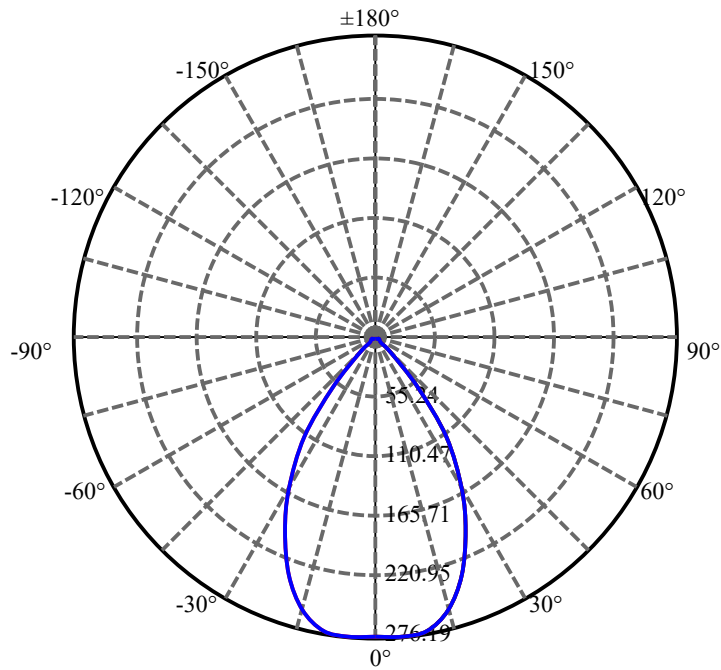
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	273.868	0.000	0	.000%	.000%
5.0	276.187	6.576	6.576	2.094%	2.311%
10.0	273.193	19.653	26.229	6.259%	9.219%
15.0	257.981	31.509	57.738	10.035%	20.295%
20.0	231.512	40.341	98.079	12.847%	34.474%
25.0	196.992	44.942	143.021	14.313%	50.271%
30.0	160.070	45.186	188.207	14.391%	66.154%
35.0	112.023	40.067	228.275	12.760%	80.238%
40.0	59.378	28.597	256.872	9.107%	90.290%
45.0	19.022	14.516	271.388	4.623%	95.392%
50.0	7.064	5.271	276.659	1.679%	97.245%
55.0	3.314	2.257	278.916	.719%	98.038%
60.0	2.116	1.255	280.171	.400%	98.479%
65.0	1.569	0.896	281.067	.285%	98.794%
70.0	1.390	0.749	281.816	.239%	99.058%
75.0	1.314	0.707	282.523	.225%	99.306%
80.0	1.273	0.692	283.216	.221%	99.549%
85.0	1.167	0.663	283.878	.211%	99.782%
90.0	1.094	0.619	284.498	.197%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	188.21	59.94%	66.15%
0-40	256.87	81.81%	90.29%
0-60	280.17	89.23%	98.48%
0-90	283.88	90.41%	99.78%
0-120	283.88	90.41%	99.78%
0-180	284.50	90.60%	100.00%
60-90	4.96	1.58%	1.74%
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%
0-34.92	227.60	72.48%	80.00%

ZONAL LUMEN SUMMARY

0-10	26.23
10-20	71.85
20-30	90.13
30-40	68.66
40-50	19.79
50-60	3.51
60-70	1.65
70-80	1.40
80-90	0.66
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:

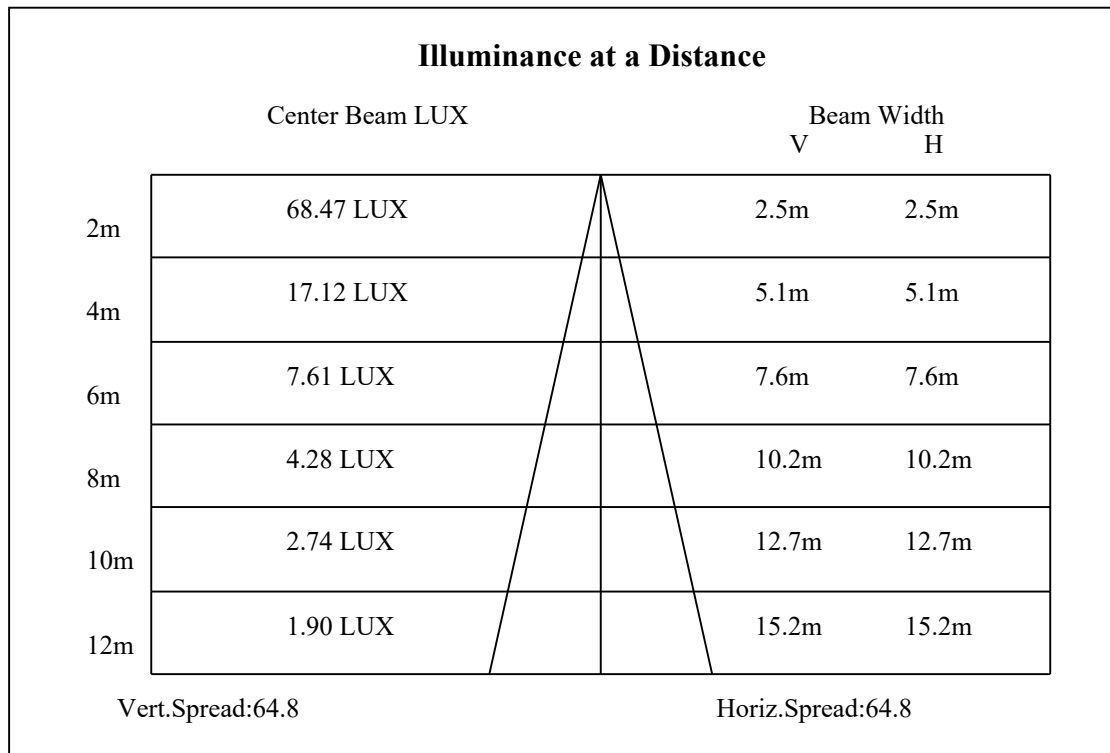
C90/C270:

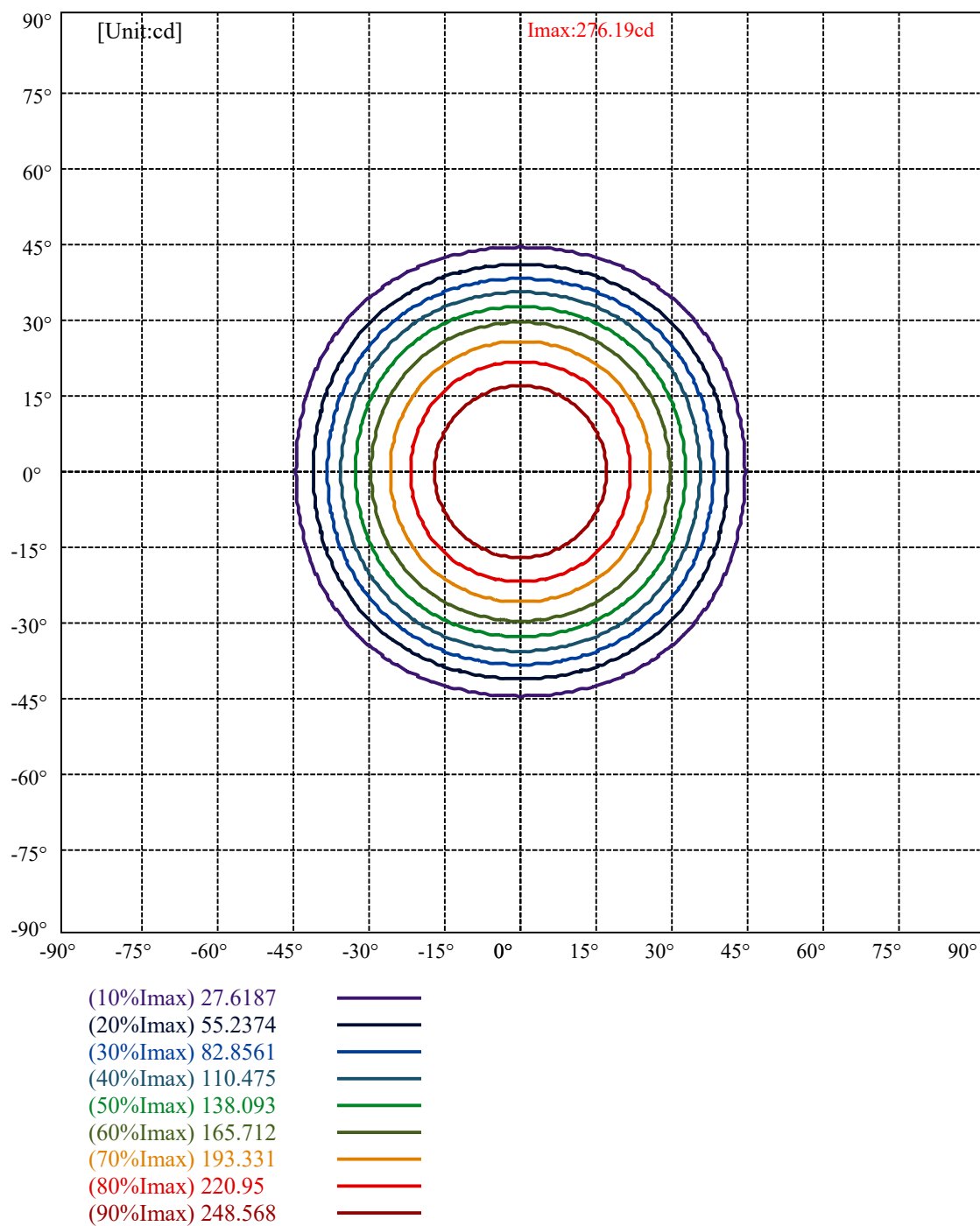
Field angle(10%Imax):C0/180Left:48.9 Right:38.9

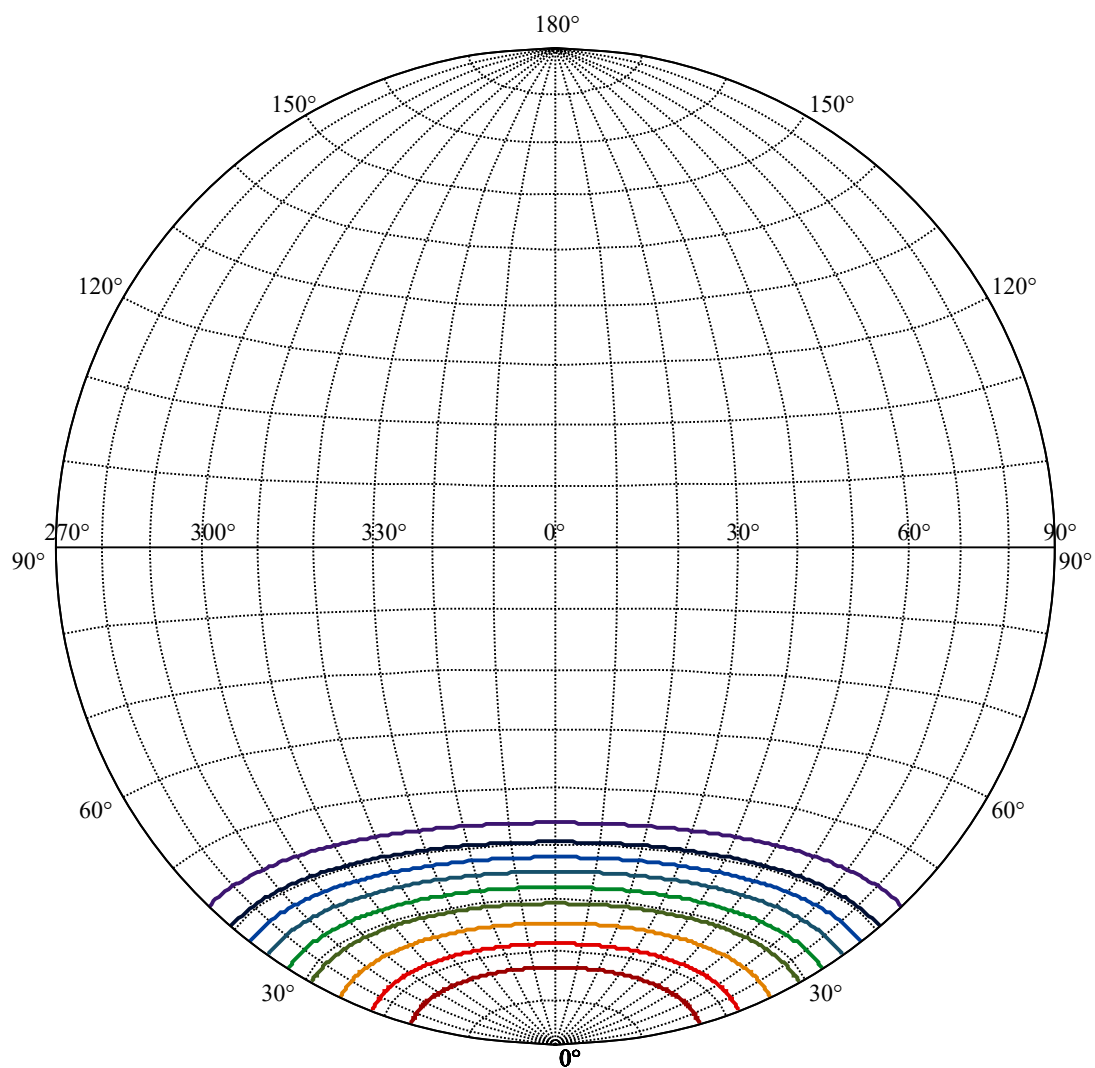
:C90/270Left:48.9 Right:38.9

Beam Angle(50%Imax):C0/180Left:37.3 Right:27.3

:C90/270Left:37.3 Right:27.3







House

[Unit:cd]

Road

Imax:276.19

(10%Imax) 27.6187

(20%Imax) 55.2374

(30%Imax) 82.8561

(40%Imax) 110.475

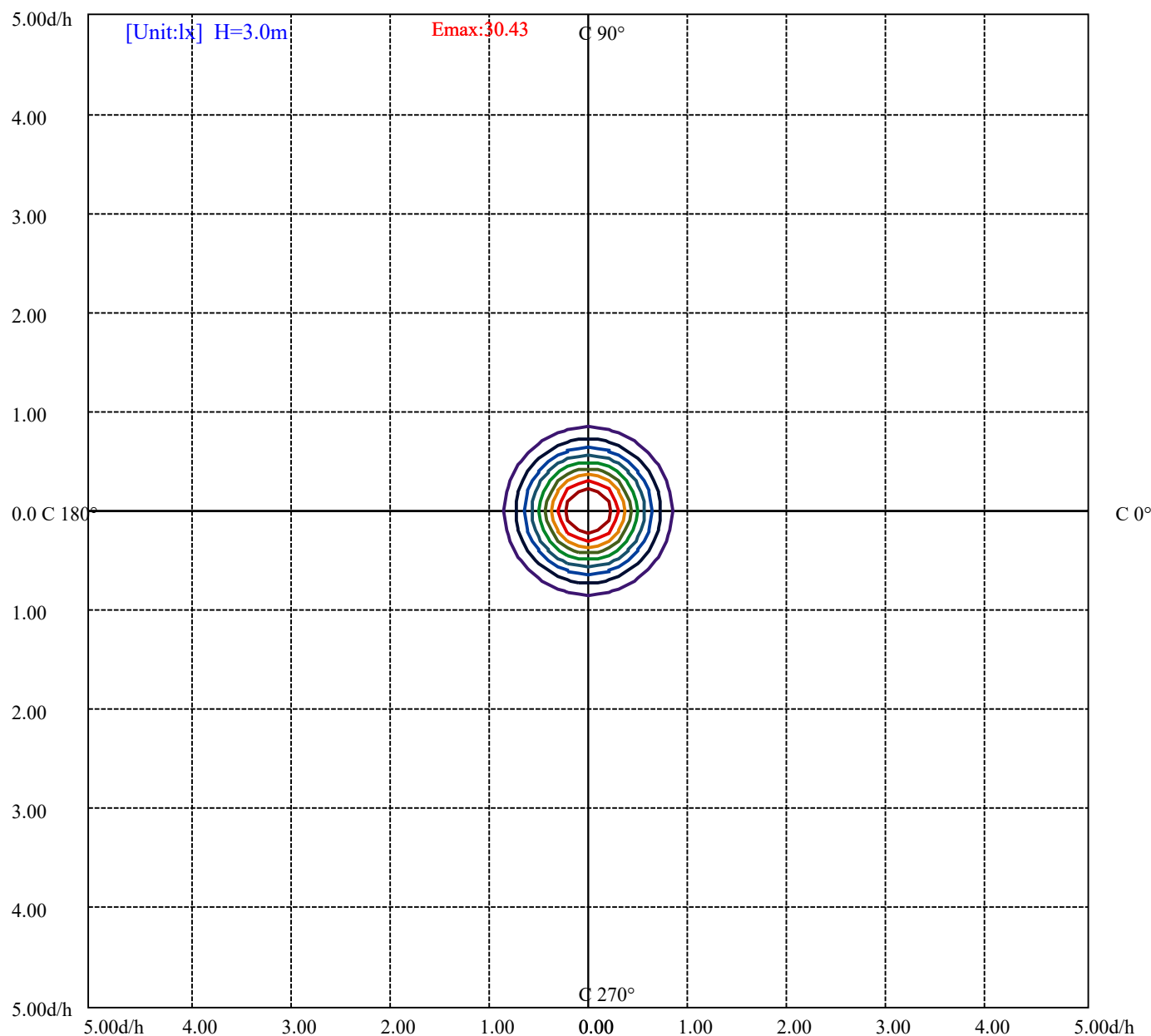
(50%Imax) 138.093

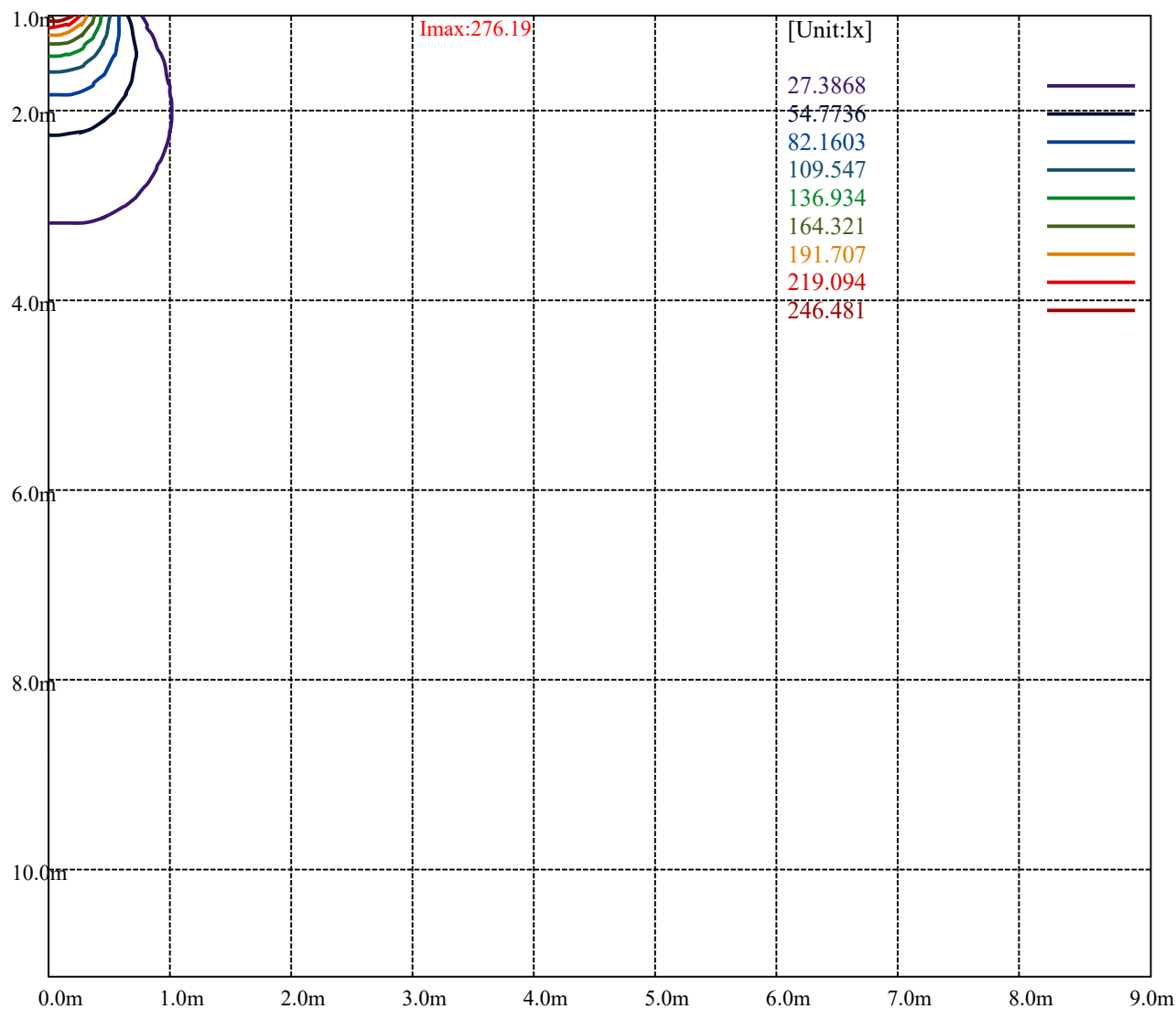
(60%Imax) 165.712

(70%Imax) 193.331

(80%Imax) 220.95

(90%Imax) 248.568





Luminance Table

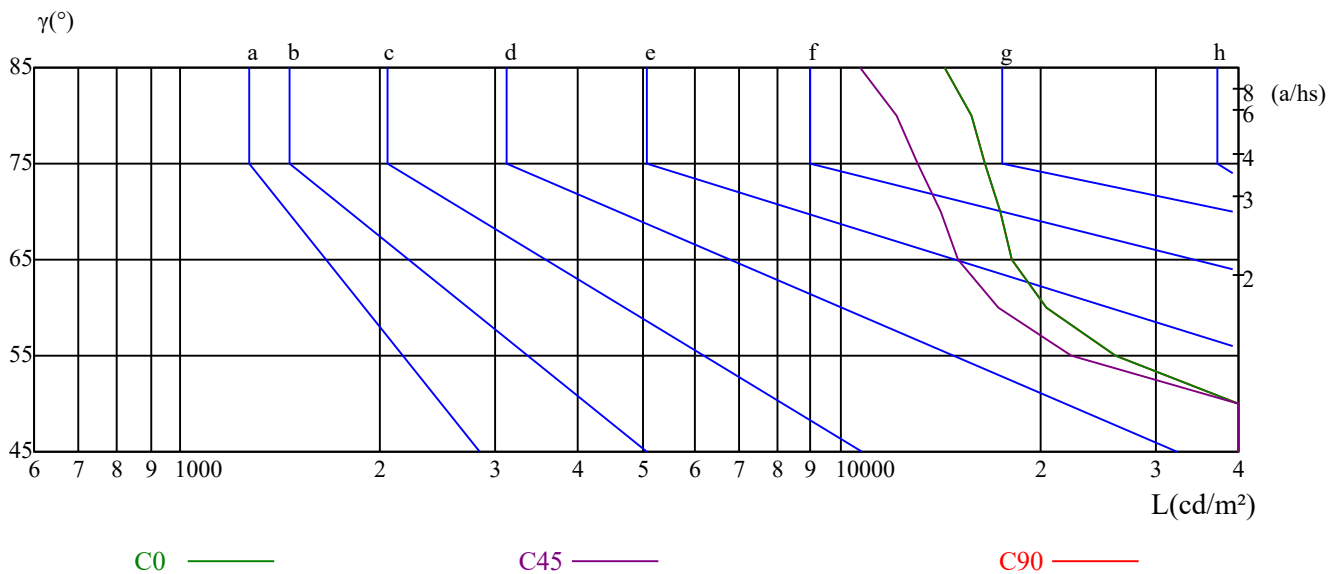
γ	45	50	55	60	65	70	75	80	85
C0	129909	59896	25984	20458	18159	17487	16499	15795	14392
C45	114782	52172	22291	17262	15042	14186	13062	12144	10670
C90	129909	59896	25984	20458	18159	17487	16499	15795	14392

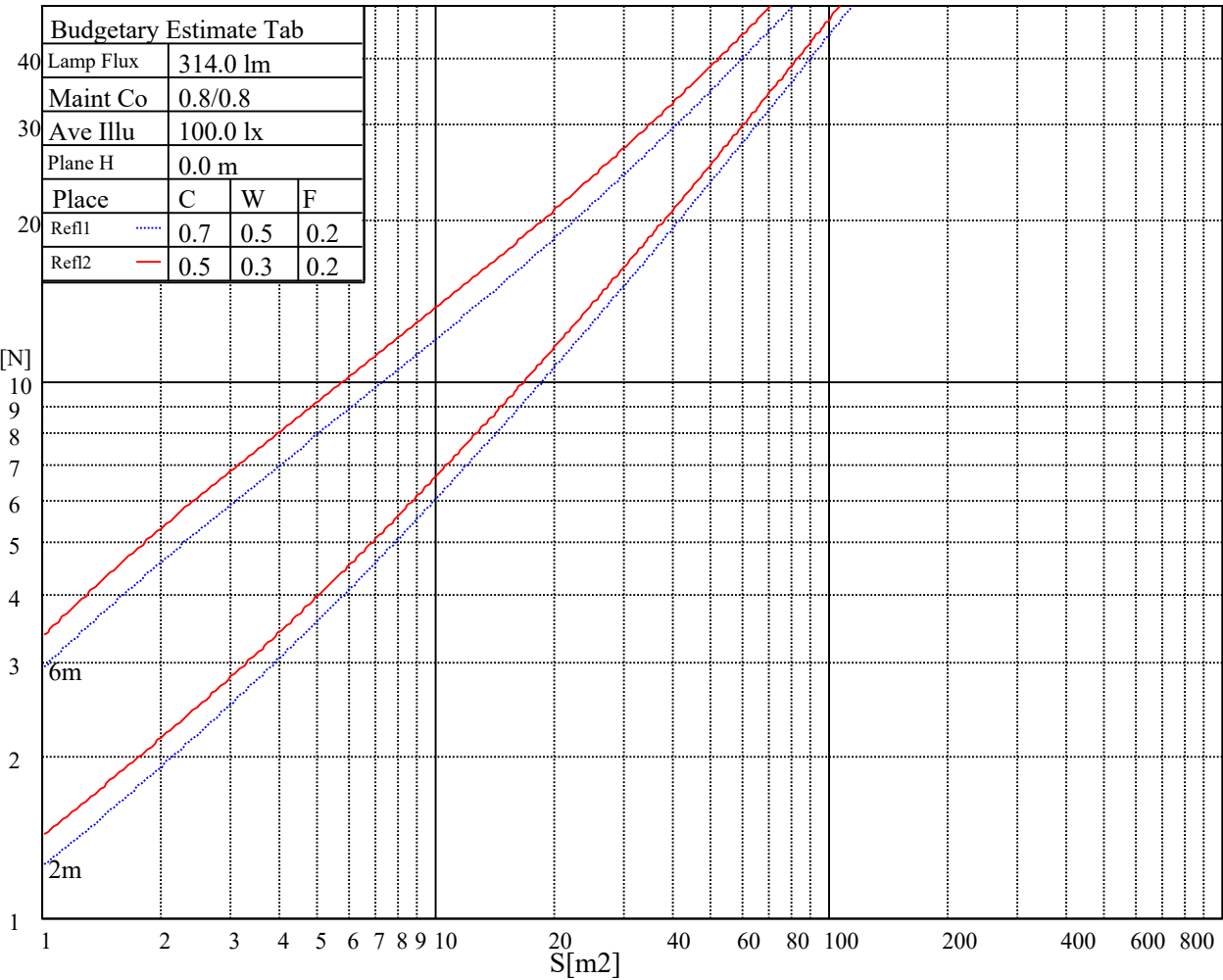
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
36332	36332	36332	45233	45233	45233	91158	91158	91158

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





RHOC	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	1.08	1.08	1.08	1.05	1.05	1.05	1.01	1.01	1.01	0.96	0.96	0.96	0.92	0.92	0.92	0.91
1	1.00	0.97	0.95	0.98	0.96	0.94	0.94	0.92	0.91	0.91	0.89	0.88	0.88	0.87	0.86	0.84
2	0.92	0.89	0.85	0.91	0.87	0.84	0.88	0.85	0.83	0.85	0.83	0.81	0.83	0.81	0.79	0.78
3	0.86	0.81	0.77	0.85	0.80	0.77	0.82	0.79	0.76	0.80	0.77	0.74	0.78	0.75	0.73	0.72
4	0.80	0.75	0.71	0.79	0.74	0.70	0.77	0.73	0.69	0.75	0.72	0.69	0.73	0.70	0.68	0.66
5	0.75	0.69	0.65	0.74	0.69	0.65	0.72	0.68	0.64	0.71	0.67	0.64	0.69	0.66	0.63	0.62
6	0.70	0.64	0.60	0.69	0.64	0.60	0.68	0.63	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.57
7	0.65	0.60	0.56	0.65	0.59	0.56	0.64	0.59	0.55	0.62	0.58	0.55	0.61	0.58	0.55	0.53
8	0.61	0.56	0.52	0.61	0.55	0.52	0.60	0.55	0.52	0.59	0.54	0.51	0.58	0.54	0.51	0.50
9	0.58	0.52	0.48	0.57	0.52	0.48	0.56	0.52	0.48	0.56	0.51	0.48	0.55	0.51	0.48	0.47
10	0.54	0.49	0.45	0.54	0.49	0.45	0.53	0.48	0.45	0.53	0.48	0.45	0.52	0.48	0.45	0.44

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	274.13	270.38	262.40	245.99	221.71	189.72	157.68	112.76	60.07
22.5	275.39	267.24	256.73	236.80	208.33	177.06	142.60	87.59	37.16
45.0	274.18	266.97	252.38	226.78	199.80	167.87	121.67	64.47	25.49
67.5	275.17	270.05	255.79	232.23	206.79	174.14	130.76	77.90	30.83
90.0	273.41	271.76	256.51	235.37	206.24	172.00	133.57	77.52	29.46
112.5	273.13	274.73	267.08	248.41	219.51	188.24	150.47	97.78	44.49
135.0	273.02	278.92	270.55	251.33	221.82	187.47	150.30	97.45	45.31
157.5	272.91	281.61	280.46	267.52	239.22	202.88	165.06	119.14	63.70
180.0	273.30	284.53	285.91	273.08	244.62	205.47	166.71	122.00	65.41
202.5	275.39	283.65	291.80	280.95	251.66	215.49	177.83	130.15	74.33
225.0	274.18	282.27	292.96	287.34	260.91	223.31	186.04	142.65	81.59
247.5	275.17	281.50	290.70	281.17	256.95	216.59	179.54	137.09	78.46
270.0	273.41	280.13	286.51	279.03	258.43	224.58	186.15	146.56	93.10
292.5	273.13	278.53	280.68	268.73	244.40	207.51	177.12	133.79	79.28
315.0	273.02	274.57	274.24	263.11	239.72	207.29	175.57	134.06	80.05
337.5	272.91	272.14	266.42	249.85	224.08	192.26	160.05	111.43	61.33
360.0	274.13	270.38	262.40	245.99	221.71	189.72	157.68	112.76	60.07
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	16.57	7.76	3.52	2.20	1.49	1.38	1.32	1.21	1.10
22.5	12.39	6.17	2.81	1.87	1.49	1.38	1.32	1.27	1.10
45.0	10.13	4.51	2.42	1.76	1.43	1.38	1.27	1.27	1.16
67.5	10.41	5.07	2.59	1.82	1.43	1.38	1.27	1.27	1.16
90.0	8.37	4.40	2.37	1.76	1.43	1.32	1.27	1.21	1.10
112.5	10.63	5.23	2.53	1.82	1.43	1.32	1.27	1.21	1.16
135.0	10.08	4.90	2.37	1.82	1.43	1.32	1.27	1.21	1.16
157.5	15.53	6.28	2.92	1.98	1.60	1.38	1.32	1.38	1.16
180.0	16.08	6.00	2.92	1.98	1.54	1.38	1.38	1.32	1.16
202.5	24.56	8.48	3.91	2.37	1.65	1.43	1.38	1.43	1.27
225.0	29.90	10.68	4.73	2.59	1.76	1.49	1.32	1.32	1.27
247.5	26.37	8.64	3.85	2.31	1.65	1.43	1.32	1.27	1.21
270.0	36.39	9.86	4.62	2.53	1.87	1.49	1.38	1.32	1.21
292.5	28.24	8.31	3.74	2.37	1.65	1.43	1.32	1.27	1.16
315.0	32.26	9.30	4.13	2.48	1.71	1.43	1.32	1.27	1.16
337.5	16.46	7.43	3.58	2.20	1.54	1.32	1.32	1.16	1.16
360.0	16.57	7.76	3.52	2.20	1.49	1.38	1.32	1.21	1.10
C/ γ (°)	90.0								
0.0	1.10								
22.5	1.10								
45.0	1.10								
67.5	1.10								
90.0	1.10								
112.5	1.10								
135.0	1.10								
157.5	1.10								
180.0	1.05								
202.5	1.10								
225.0	1.10								
247.5	1.16								
270.0	1.10								
292.5	1.05								
315.0	1.10								
337.5	1.05								
360.0	1.10								