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Nata

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LumCAT: 3-1703-N  
Luminaire: 92.70.065.00+92.70.061.00  
Report No: NT2018041605  
Test No: nata-0100  
LampCAT: CITIZEN CLU038  
Lamp flux(lm): 2449.0  
Number of Lamps: 1  
Length(mm): 86  
Phm Type: C

Voltage(V): 36.6000  
Current(A): 0.6000  
Power (W): 21.9600  
PF: 0.0000  
Ballast type: DC  
Width(mm): 86  
Height(mm): 0

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Photometric Results

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Lumens(lm): 1877.89  
Efficiency(%): 76.68%  
Lumens(lm)/Power(W): 85.51  
Central intensity(cd): 4531.830  
Maximum intensity(cd): 4531.830  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=33.2  
                                  [C90/270]Total=33.2  
Field angle(10%Imax): [C0/180]Total=61.6  
                                  [C90/270]Total=61.6  
Maximum s/h(1/2): C0\_180=0.55 C90\_270=0.55  
Maximum s/h(1/4): C0\_180=0.56 C90\_270=0.56  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 77.71%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 96.120%

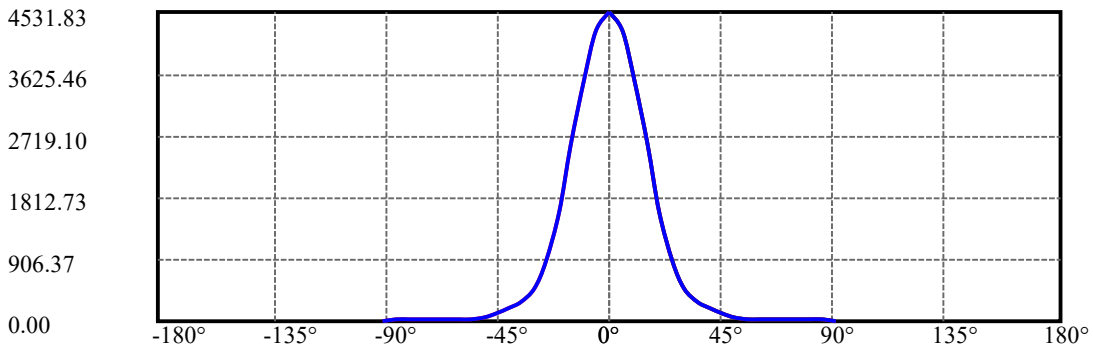
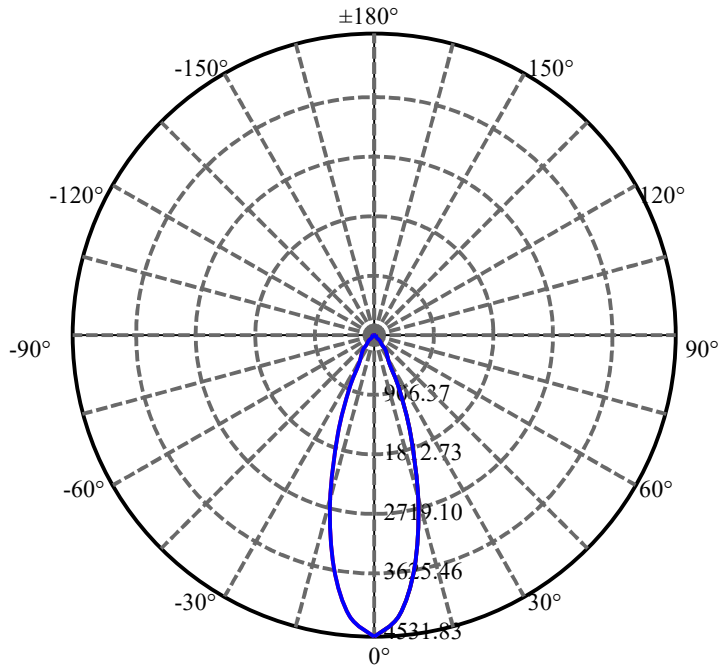
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4531.830	27.101	27.101	1.107%	1.443%
5.0	4243.541	202.728	229.829	8.278%	12.239%
10.0	3534.827	336.456	566.285	13.738%	30.155%
15.0	2586.687	366.969	933.254	14.984%	49.697%
20.0	1595.796	299.170	1232.424	12.216%	65.628%
25.0	880.386	203.944	1436.368	8.328%	76.488%
30.0	484.909	132.898	1569.267	5.427%	83.565%
35.0	291.014	91.495	1660.761	3.736%	88.438%
40.0	183.427	64.628	1725.389	2.639%	91.879%
45.0	112.301	43.527	1768.916	1.777%	94.197%
50.0	69.233	29.071	1797.987	1.187%	95.745%
55.0	41.327	18.556	1816.543	.758%	96.733%
60.0	26.991	12.813	1829.356	.523%	97.415%
65.0	20.729	10.298	1839.654	.420%	97.964%
70.0	17.866	9.202	1848.856	.376%	98.454%
75.0	15.409	8.158	1857.015	.333%	98.888%
80.0	16.414	8.860	1865.875	.362%	99.360%
85.0	18.100	9.883	1875.758	.404%	99.886%
90.0	7.784	2.133	1877.892	.087%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1569.27	64.08%	83.57%
0-40	1725.39	70.45%	91.88%
0-60	1829.36	74.70%	97.42%
0-90	1875.76	76.59%	99.89%
0-120	1875.76	76.59%	99.89%
0-180	1877.89	76.68%	100.00%
60-90	59.21	2.42%	3.15%
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%
0-27.48	1502.31	61.34%	80.00%

ZONAL LUMEN SUMMARY

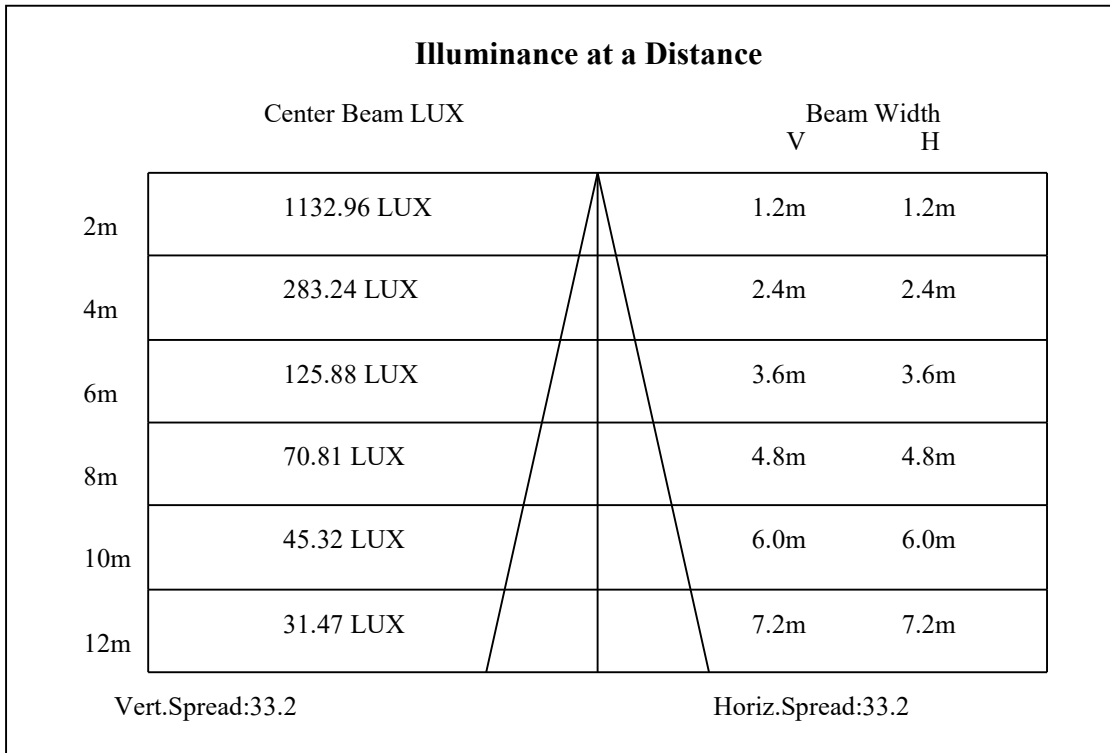
0-10	566.28
10-20	666.14
20-30	336.84
30-40	156.12
40-50	72.60
50-60	31.37
60-70	19.50
70-80	17.02
80-90	9.88
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

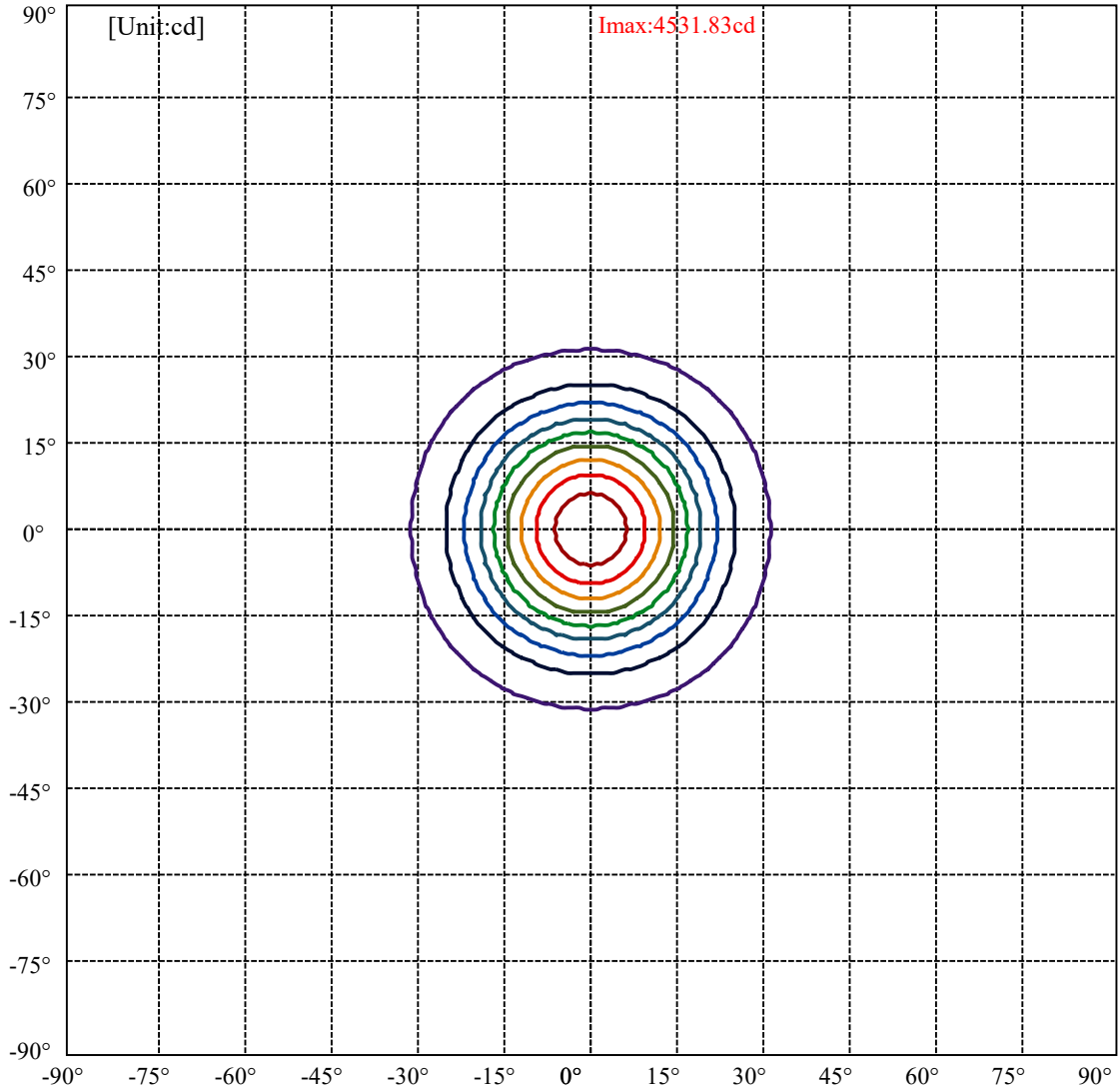


C0(Max): —————  
C0/C180: —————  
C90/C270: —————

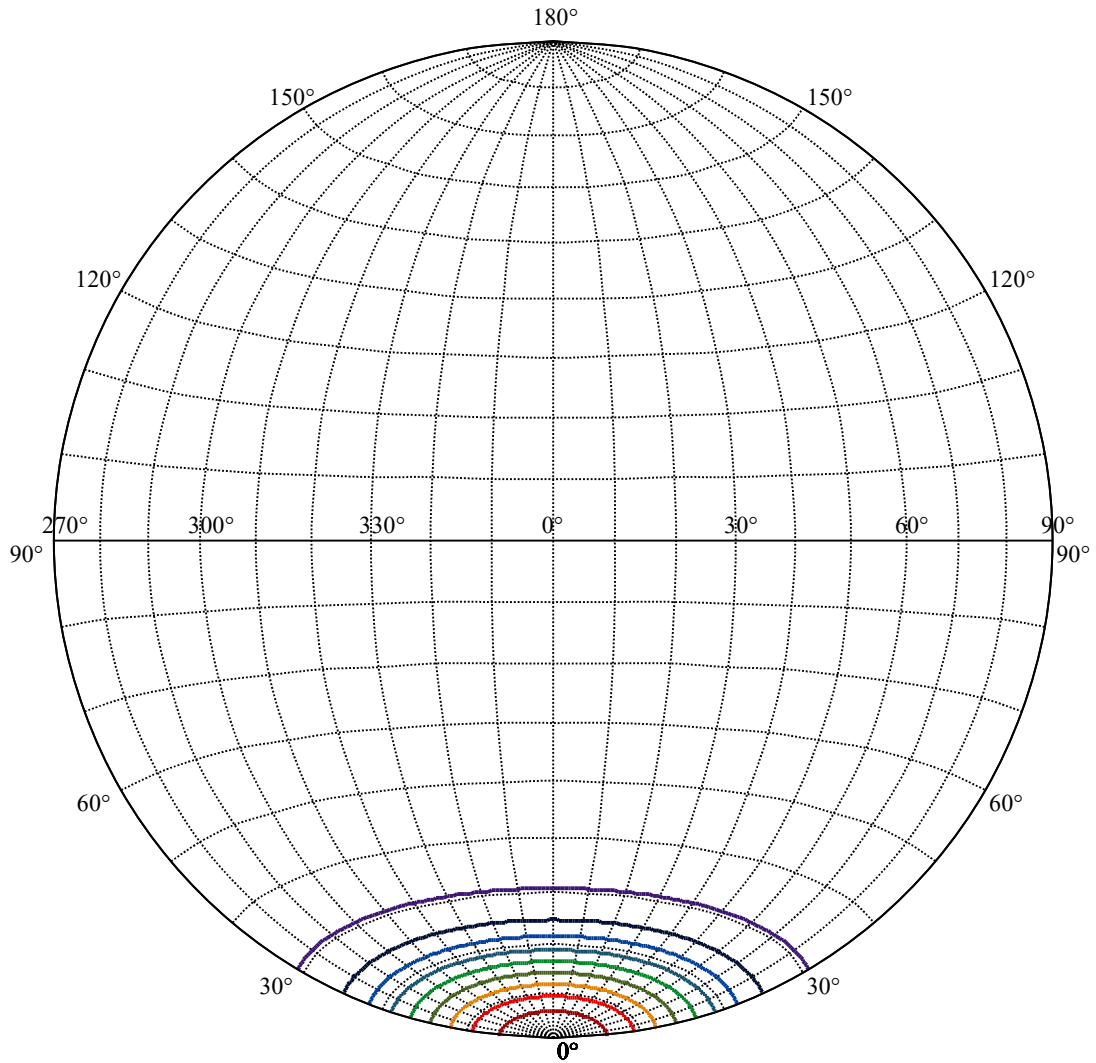
Field angle(10%Imax):C0/180Left:30.8 Right:30.8  
:C90/270Left:30.8 Right:30.8

Beam Angle(50%Imax):C0/180Left:16.6 Right:16.6  
:C90/270Left:16.6 Right:16.6





(10%Imax) 453.183	—
(20%Imax) 906.366	—
(30%Imax) 1359.55	—
(40%Imax) 1812.73	—
(50%Imax) 2265.92	—
(60%Imax) 2719.1	—
(70%Imax) 3172.28	—
(80%Imax) 3625.46	—
(90%Imax) 4078.65	—



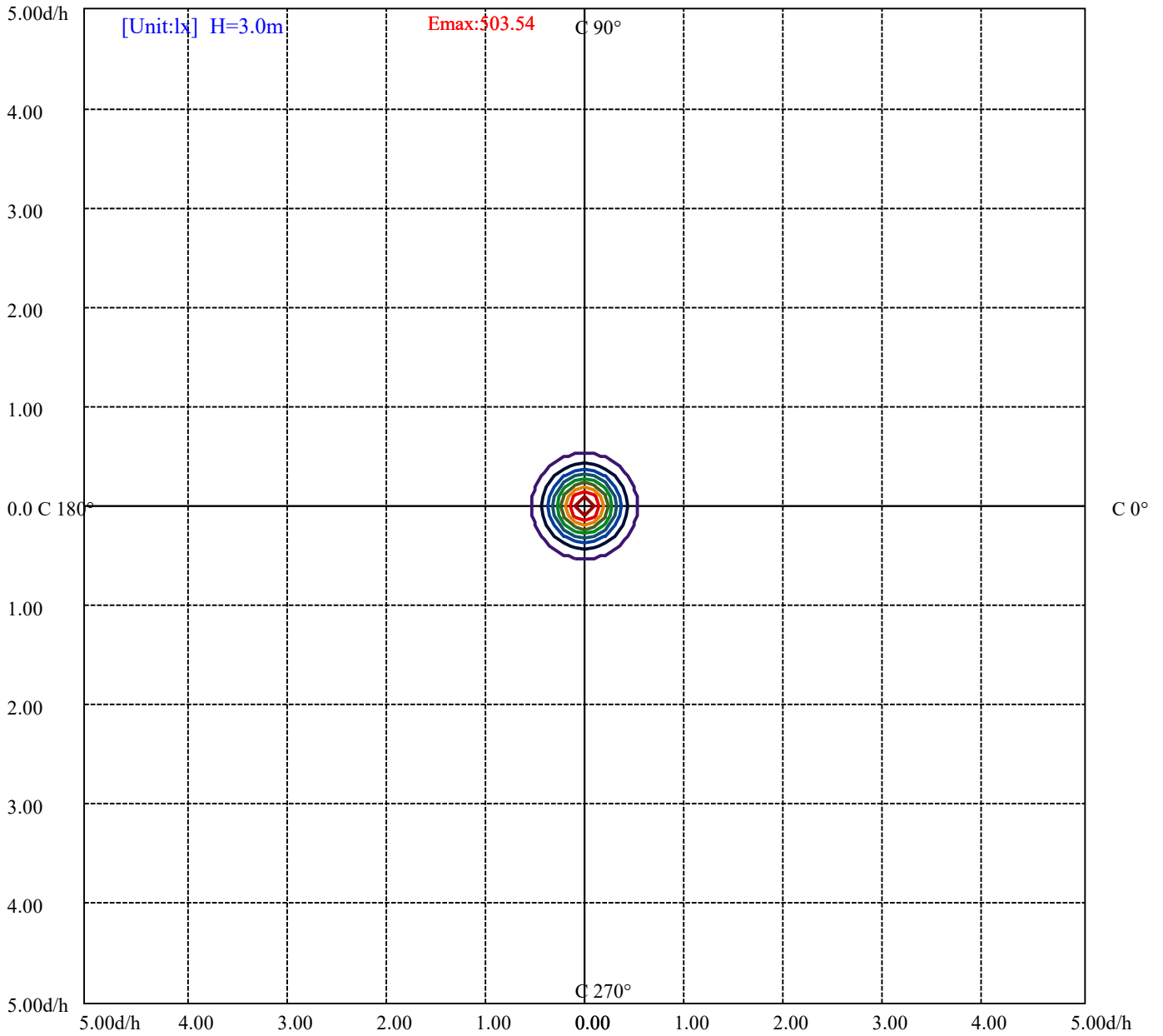
House

[Unit:cd]

Road

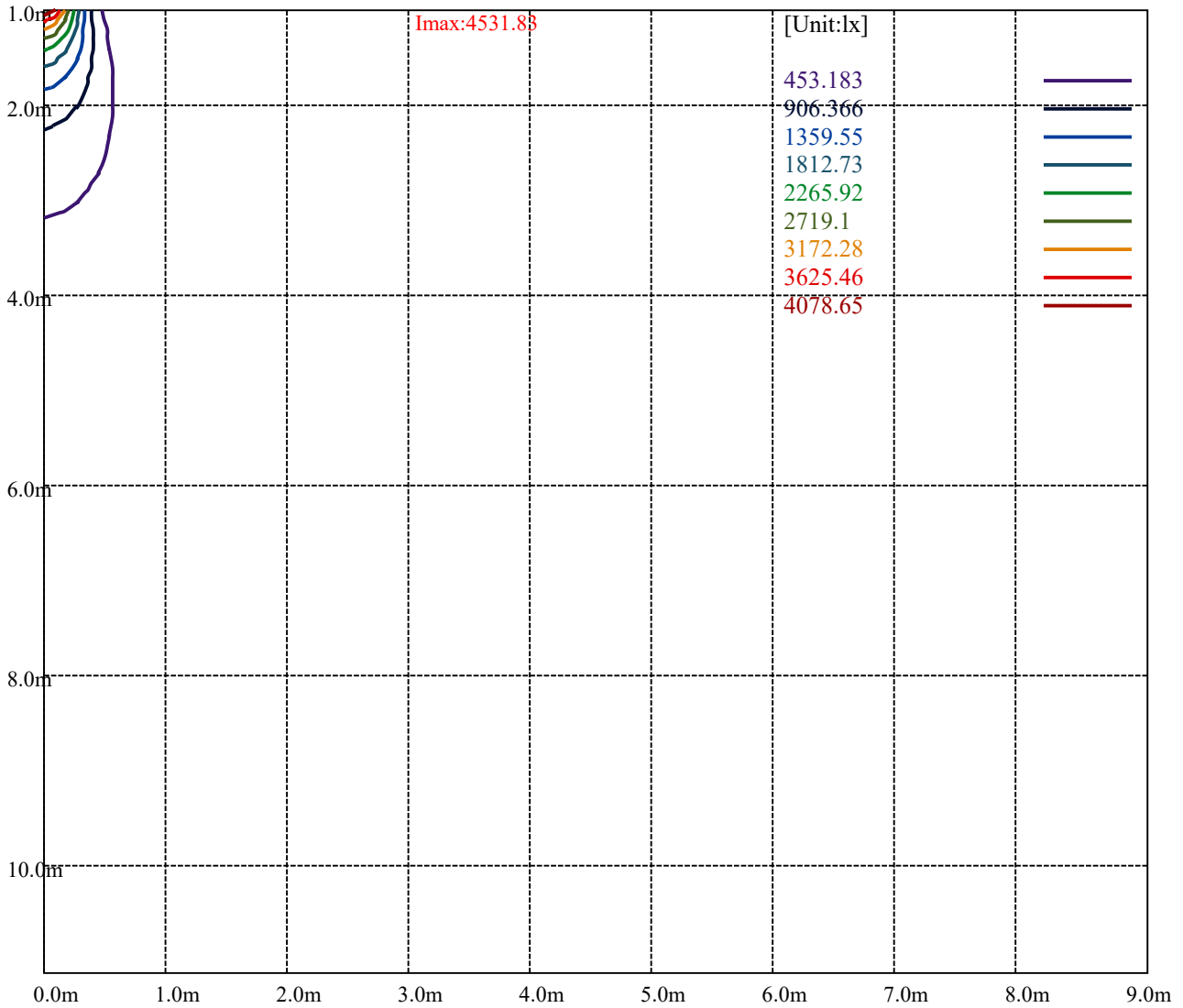
**Imax:4531.83**

(10%Imax) 453.183	—
(20%Imax) 906.366	—
(30%Imax) 1359.55	—
(40%Imax) 1812.73	—
(50%Imax) 2265.92	—
(60%Imax) 2719.1	—
(70%Imax) 3172.28	—
(80%Imax) 3625.46	—
(90%Imax) 4078.65	—



(10%Emax) 50.35356	—
(20%Emax) 100.7071	—
(30%Emax) 151.0611	—
(40%Emax) 201.4144	—
(50%Emax) 251.7678	—
(60%Emax) 302.1211	—
(70%Emax) 352.4745	—
(80%Emax) 402.8289	—
(90%Emax) 453.1822	—





Luminance Table

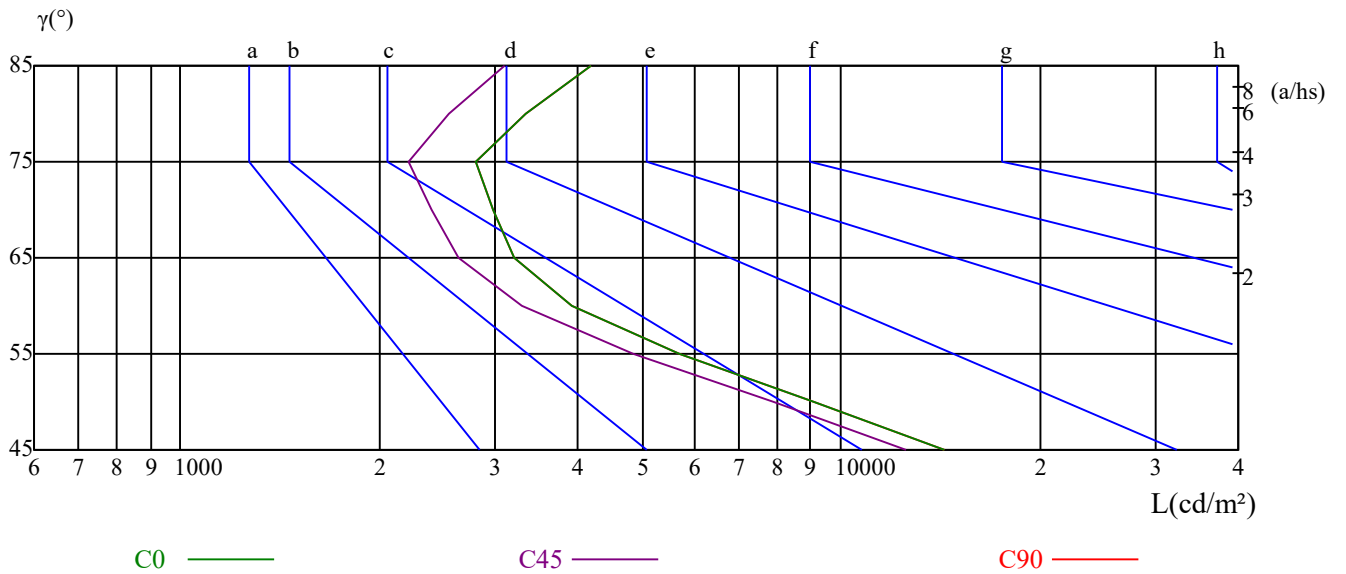
$\gamma$	45	50	55	60	65	70	75	80	85
C0	14316	9125	5683	3911	3200	2975	2809	3332	4182
C45	12579	7903	4847	3281	2635	2400	2212	2551	3092
C90	14316	9125	5683	3911	3200	2975	2809	3332	4182

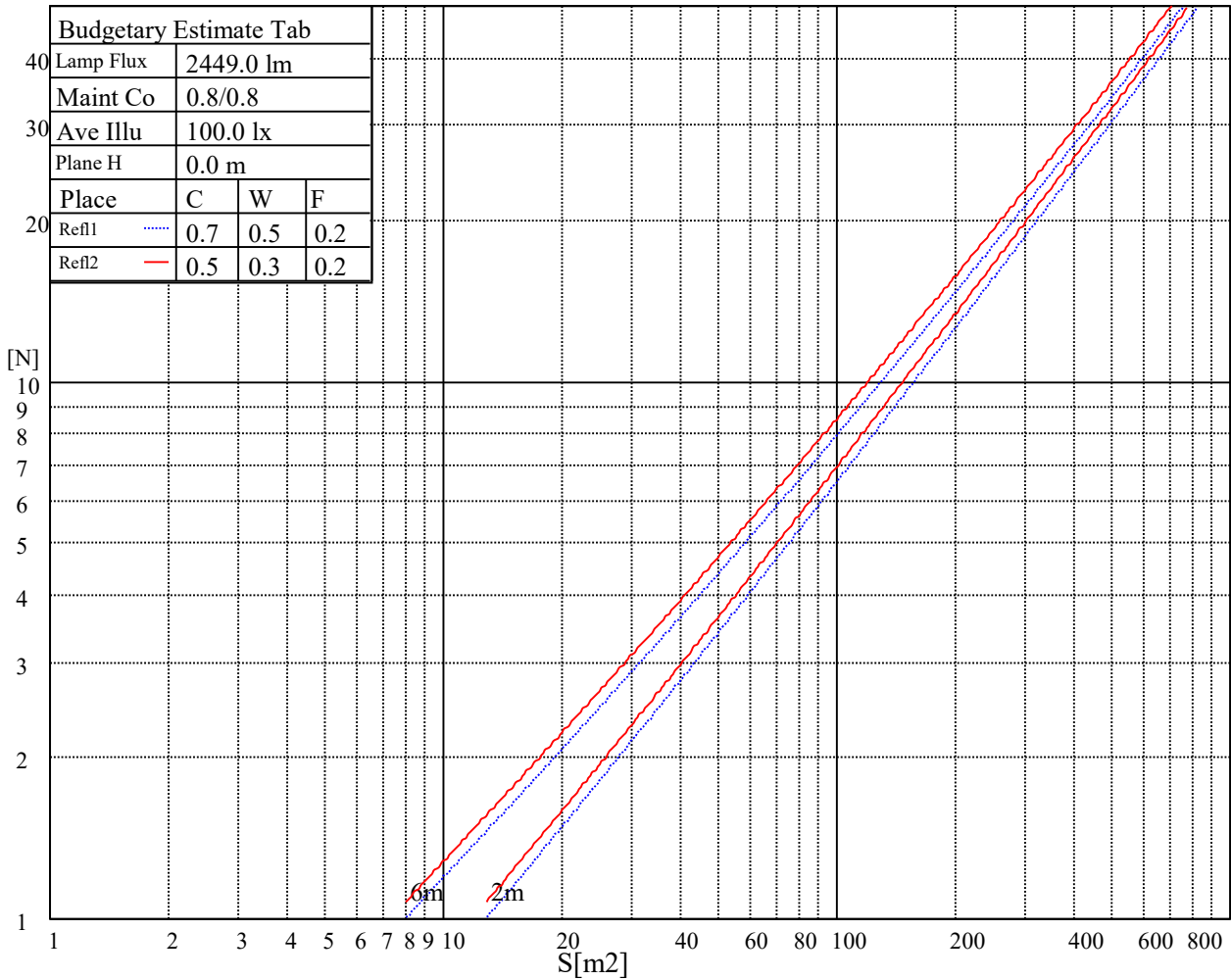
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6632	6632	6632	8050	8050	8050	28079	28079	28079

Glare Table

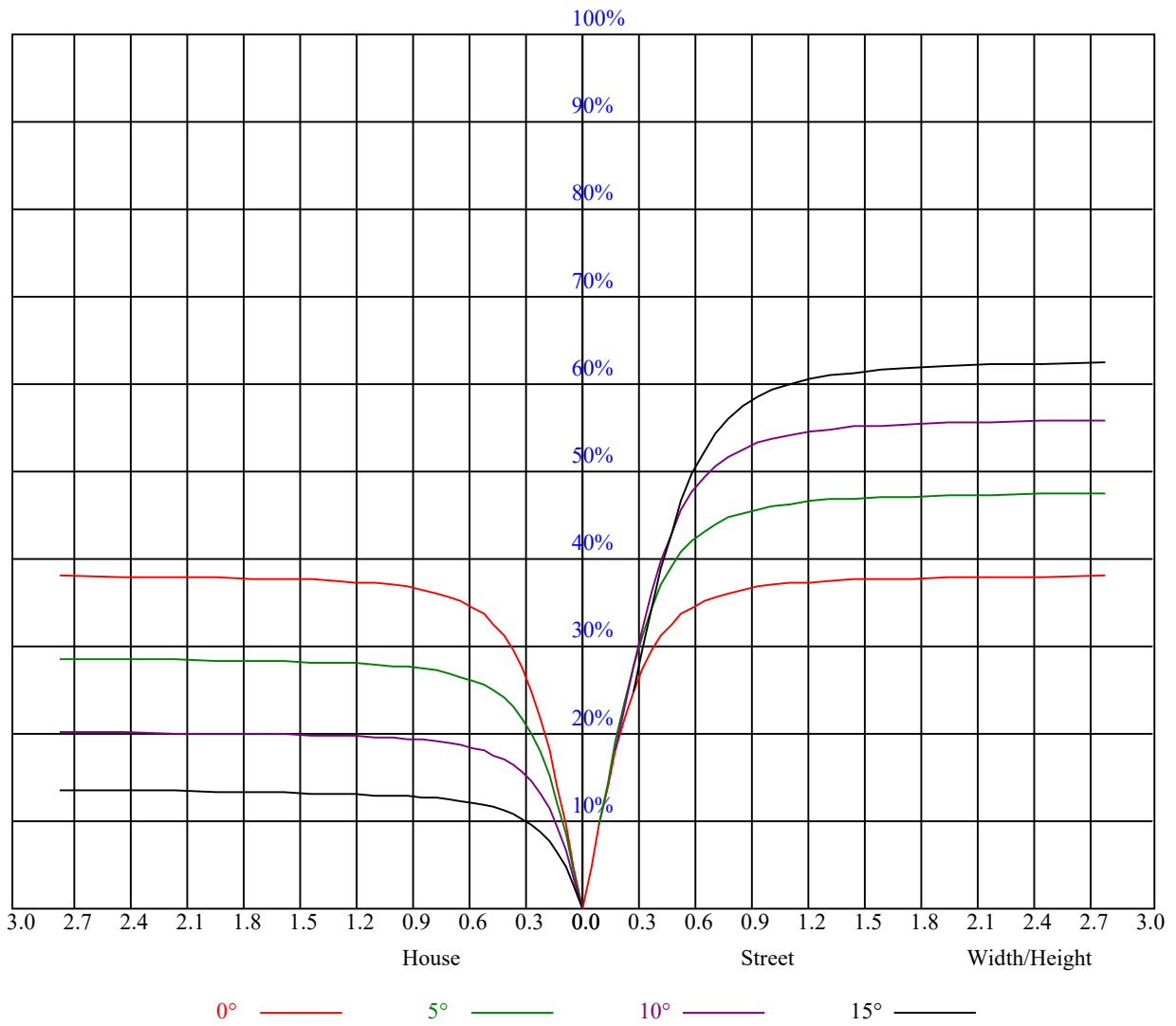
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.93	0.93	0.93	0.90	0.90	0.90	0.86	0.86	0.86	0.83	0.83	0.83	0.79	0.79	0.79	0.78
1	0.85	0.83	0.81	0.83	0.82	0.80	0.80	0.79	0.77	0.77	0.76	0.75	0.75	0.74	0.73	0.71
2	0.80	0.77	0.74	0.79	0.76	0.74	0.76	0.74	0.72	0.74	0.72	0.70	0.72	0.70	0.69	0.68
3	0.76	0.72	0.69	0.75	0.71	0.69	0.73	0.70	0.68	0.71	0.69	0.67	0.69	0.67	0.66	0.64
4	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.66	0.64	0.68	0.65	0.63	0.67	0.64	0.63	0.61
5	0.69	0.65	0.62	0.68	0.64	0.61	0.67	0.63	0.61	0.65	0.63	0.60	0.64	0.62	0.60	0.59
6	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.63	0.60	0.58	0.62	0.59	0.57	0.56
7	0.63	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.60	0.57	0.55	0.54
8	0.61	0.57	0.54	0.60	0.56	0.54	0.59	0.56	0.54	0.59	0.56	0.53	0.58	0.55	0.53	0.52
9	0.58	0.55	0.52	0.58	0.54	0.52	0.57	0.54	0.52	0.57	0.54	0.52	0.56	0.53	0.51	0.51
10	0.56	0.53	0.50	0.56	0.52	0.50	0.55	0.52	0.50	0.55	0.52	0.50	0.54	0.52	0.50	0.49



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	4508.57	4627.49	4031.78	3009.38	2022.22	1099.48	545.06	308.32	195.06
45.0	4500.86	4506.37	3883.13	2929.00	1978.73	1124.25	556.62	313.27	203.05
90.0	4536.10	4122.62	3362.84	2523.79	1635.18	842.80	486.48	295.71	189.06
135.0	4581.79	4118.77	3364.50	2554.07	1664.35	864.94	513.68	324.83	198.97
180.0	4508.57	3877.07	3176.75	2268.87	1064.85	739.63	453.33	278.31	170.95
225.0	4500.86	3924.97	3211.44	2226.48	1061.87	678.57	419.36	253.92	155.86
270.0	4536.10	4319.17	3579.22	2584.35	1654.44	842.36	466.88	284.64	176.95
315.0	4581.79	4451.86	3668.96	2597.56	1684.73	851.06	437.86	269.12	177.50
360.0	4508.57	4627.49	4031.78	3009.38	2022.22	1099.48	545.06	308.32	195.06
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	134.50	85.72	52.41	33.31	22.02	18.50	15.64	13.32	10.57
45.0	130.48	83.63	50.32	32.15	21.58	18.28	15.69	13.16	10.52
90.0	112.04	69.04	39.59	24.67	20.43	17.45	14.87	12.83	16.52
135.0	111.43	66.18	37.71	25.05	21.20	18.44	16.19	18.66	41.46
180.0	93.98	54.73	33.09	23.95	20.37	18.06	16.41	28.52	28.57
225.0	92.55	54.84	32.37	23.07	19.55	17.01	14.87	19.71	14.92
270.0	110.99	68.16	41.13	26.04	20.37	17.67	14.81	12.66	12.28
315.0	112.43	71.57	43.99	27.69	20.32	17.51	14.81	12.44	9.97
360.0	134.50	85.72	52.41	33.31	22.02	18.50	15.64	13.32	10.57
C/γ(°)	90.0								
0.0	8.37								
45.0	7.93								
90.0	7.54								
135.0	7.71								
180.0	7.76								
225.0	7.60								
270.0	7.54								
315.0	7.82								
360.0	8.37								