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## Nata

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LumCAT: 2-2540-L	
Luminaire: 92.70.131.00	
Report No: 220915-B004	Voltage(V): 35.4300
Test No: 220915-C004	Current(A): 0.4790
LampCAT: CITIZEN CLU038	Power (W): 16.9700
Lamp flux(lm): 2261.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 43	Width(mm): 43
Phm Type: C	Height(mm): 0

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## Photometric Results

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Lumens(lm): 1972.30  
Efficiency(%): 87.23%  
Lumens(lm)/Power(W): 116.22  
Central intensity(cd): 4201.525  
Maximum intensity(cd): 4201.525  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=37.3  
                                  [C90/270]Total=37.3  
Field angle(10%Imax): [C0/180]Total=67.3  
                                  [C90/270]Total=67.3  
Maximum s/h(1/2): C0\_180=0.61 C90\_270=0.61  
Maximum s/h(1/4): C0\_180=0.62 C90\_270=0.62  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 87.23%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 97.966%

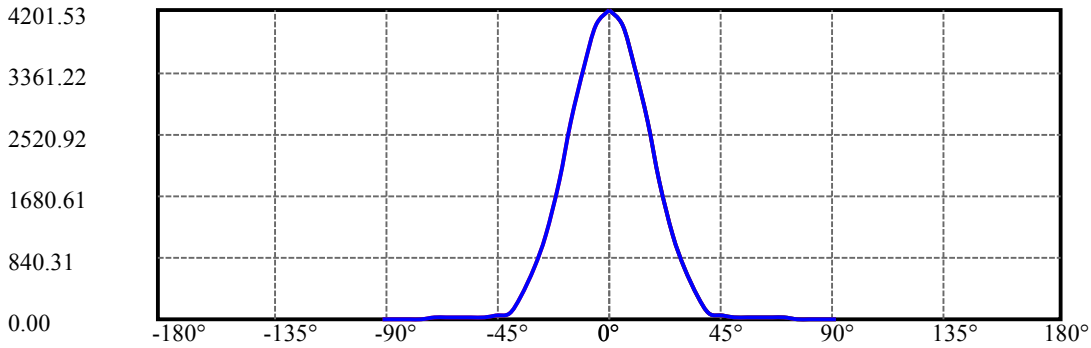
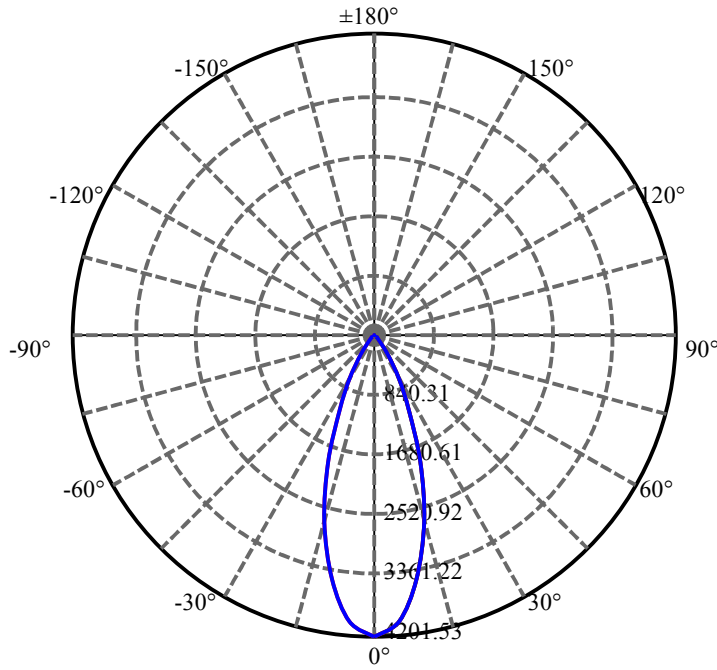
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4201.525	0.000	0	.000%	.000%
5.0	4000.531	98.053	98.053	4.337%	4.972%
10.0	3456.407	266.758	364.811	11.798%	18.497%
15.0	2678.498	363.918	728.73	16.096%	36.948%
20.0	1885.652	376.150	1104.88	16.637%	56.020%
25.0	1156.017	319.015	1423.895	14.110%	72.195%
30.0	709.820	236.123	1660.018	10.444%	84.167%
35.0	311.074	150.334	1810.352	6.649%	91.789%
40.0	66.251	62.954	1873.306	2.784%	94.981%
45.0	40.759	19.814	1893.119	.876%	95.986%
50.0	33.290	14.963	1908.082	.662%	96.744%
55.0	26.665	13.036	1921.118	.577%	97.405%
60.0	21.153	11.053	1932.171	.489%	97.966%
65.0	16.791	9.224	1941.395	.408%	98.433%
70.0	13.930	7.779	1949.174	.344%	98.828%
75.0	11.868	6.743	1955.917	.298%	99.170%
80.0	10.629	6.020	1961.936	.266%	99.475%
85.0	9.351	5.429	1967.365	.240%	99.750%
90.0	8.657	4.931	1972.296	.218%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1660.02	73.42%	84.17%
0-40	1873.31	82.85%	94.98%
0-60	1932.17	85.46%	97.97%
0-90	1967.37	87.01%	99.75%
0-120	1967.37	87.01%	99.75%
0-180	1972.30	87.23%	100.00%
60-90	46.25	2.05%	2.34%
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%
0-28.26	1577.84	69.79%	80.00%

ZONAL LUMEN SUMMARY

0-10	364.81
10-20	740.07
20-30	555.14
30-40	213.29
40-50	34.78
50-60	24.09
60-70	17.00
70-80	12.76
80-90	5.43
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: ———

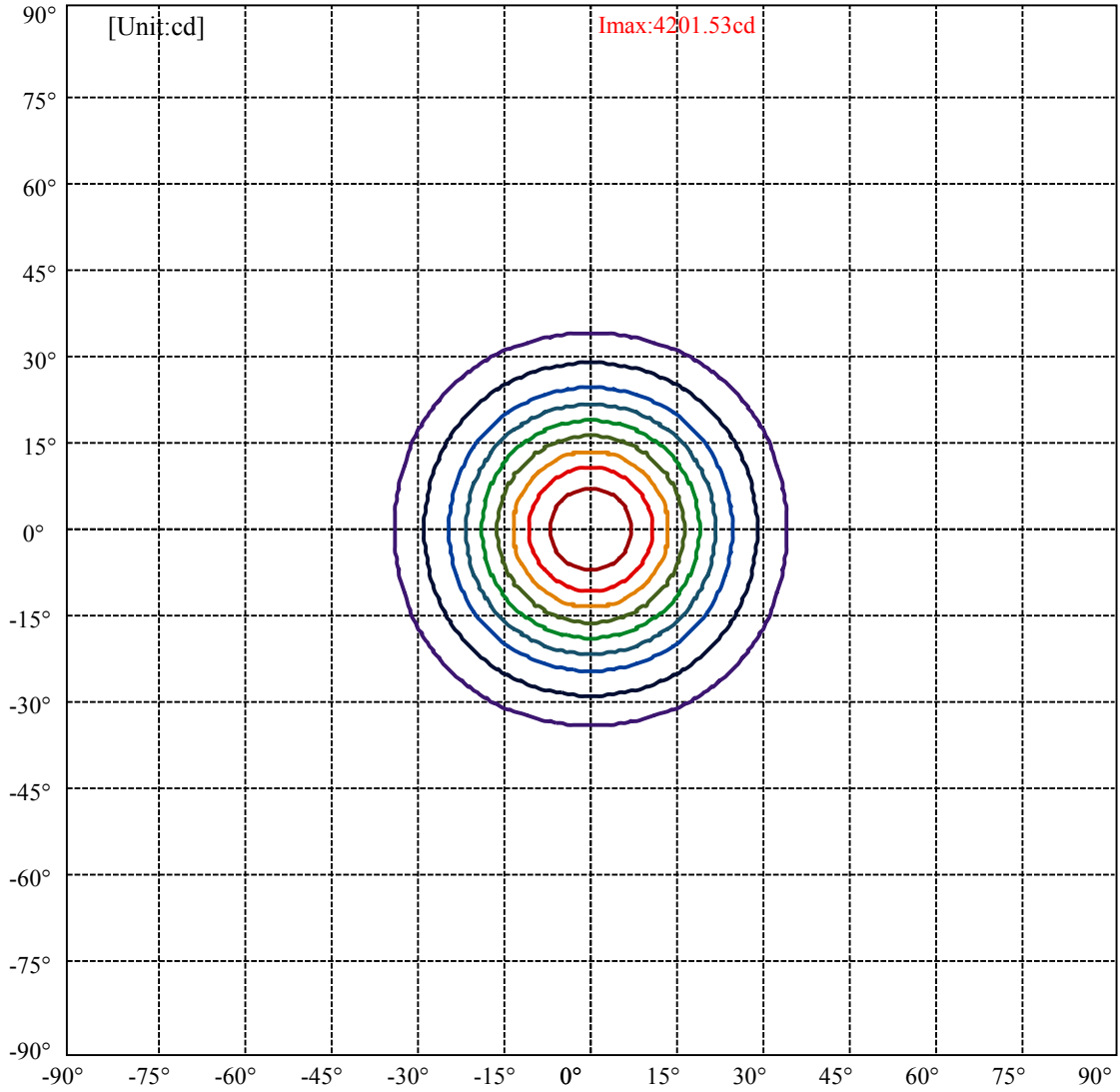
Field angle(10%Imax):C0/180Left:33.6 Right:33.6

:C90/270Left:33.6 Right:33.6

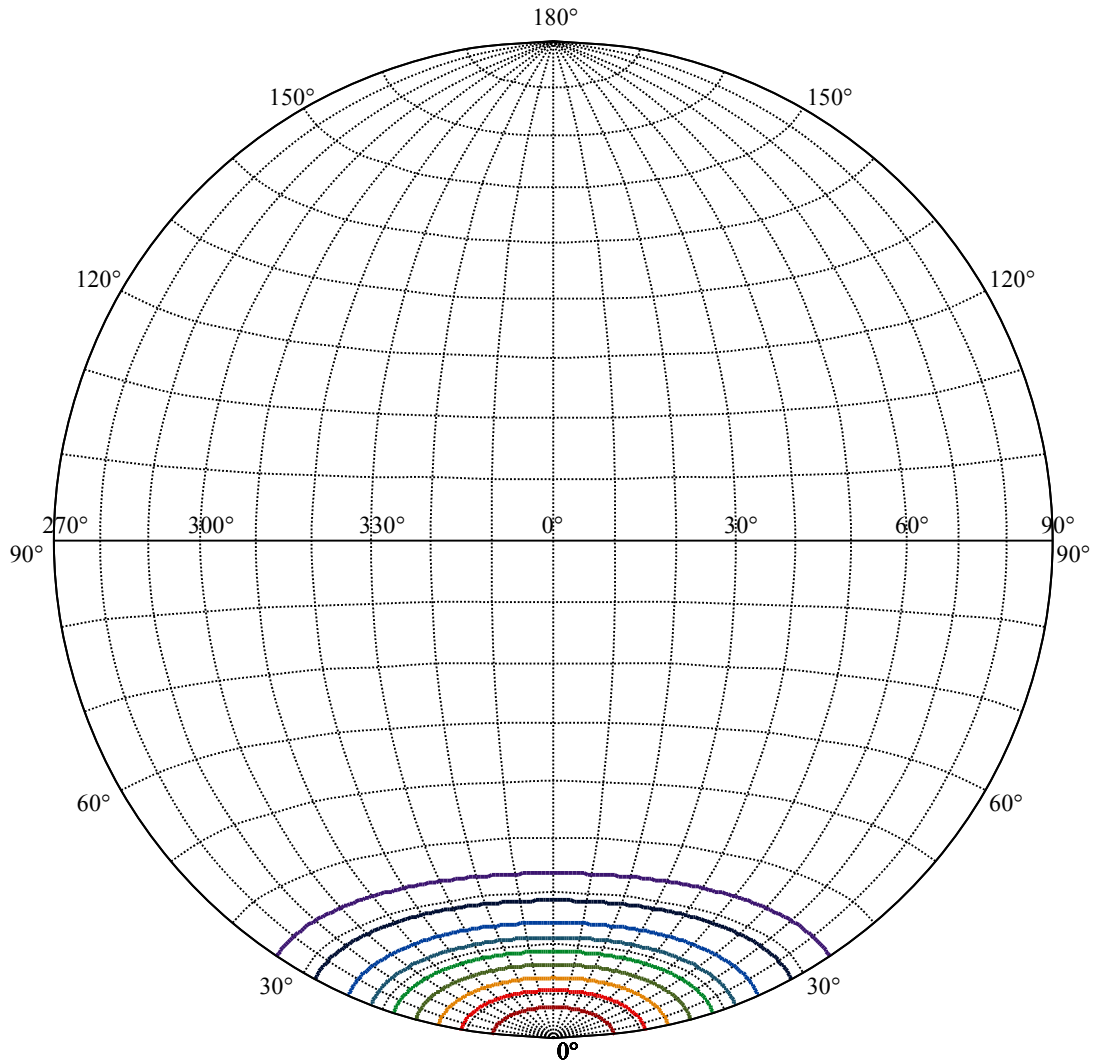
Beam Angle(50%Imax):C0/180Left:18.6 Right:18.6

:C90/270Left:18.6 Right:18.6





(10%Imax) 420.153	—
(20%Imax) 840.305	—
(30%Imax) 1260.46	—
(40%Imax) 1680.61	—
(50%Imax) 2100.76	—
(60%Imax) 2520.92	—
(70%Imax) 2941.07	—
(80%Imax) 3361.22	—
(90%Imax) 3781.37	—



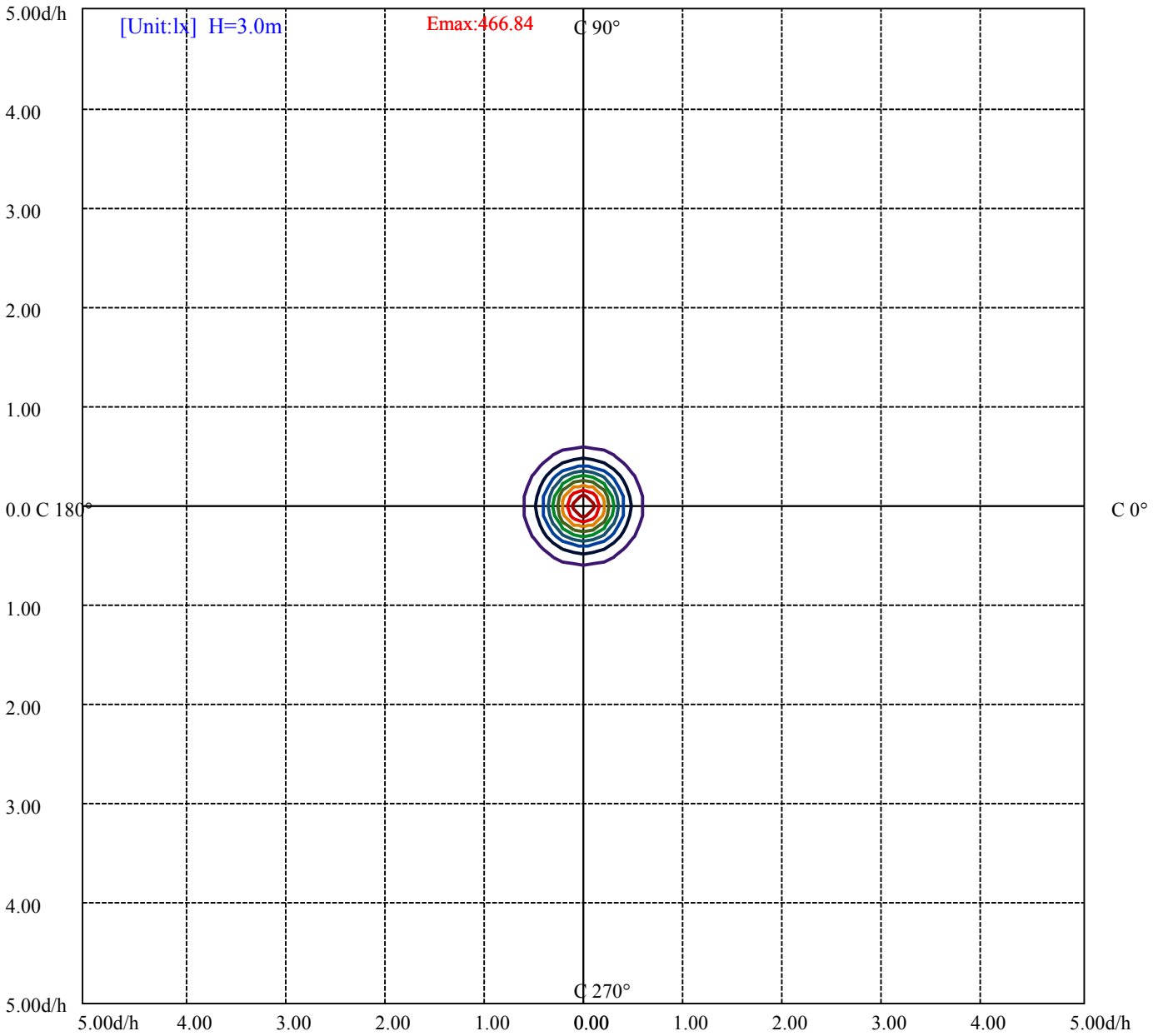
House

[Unit:cd]

Road

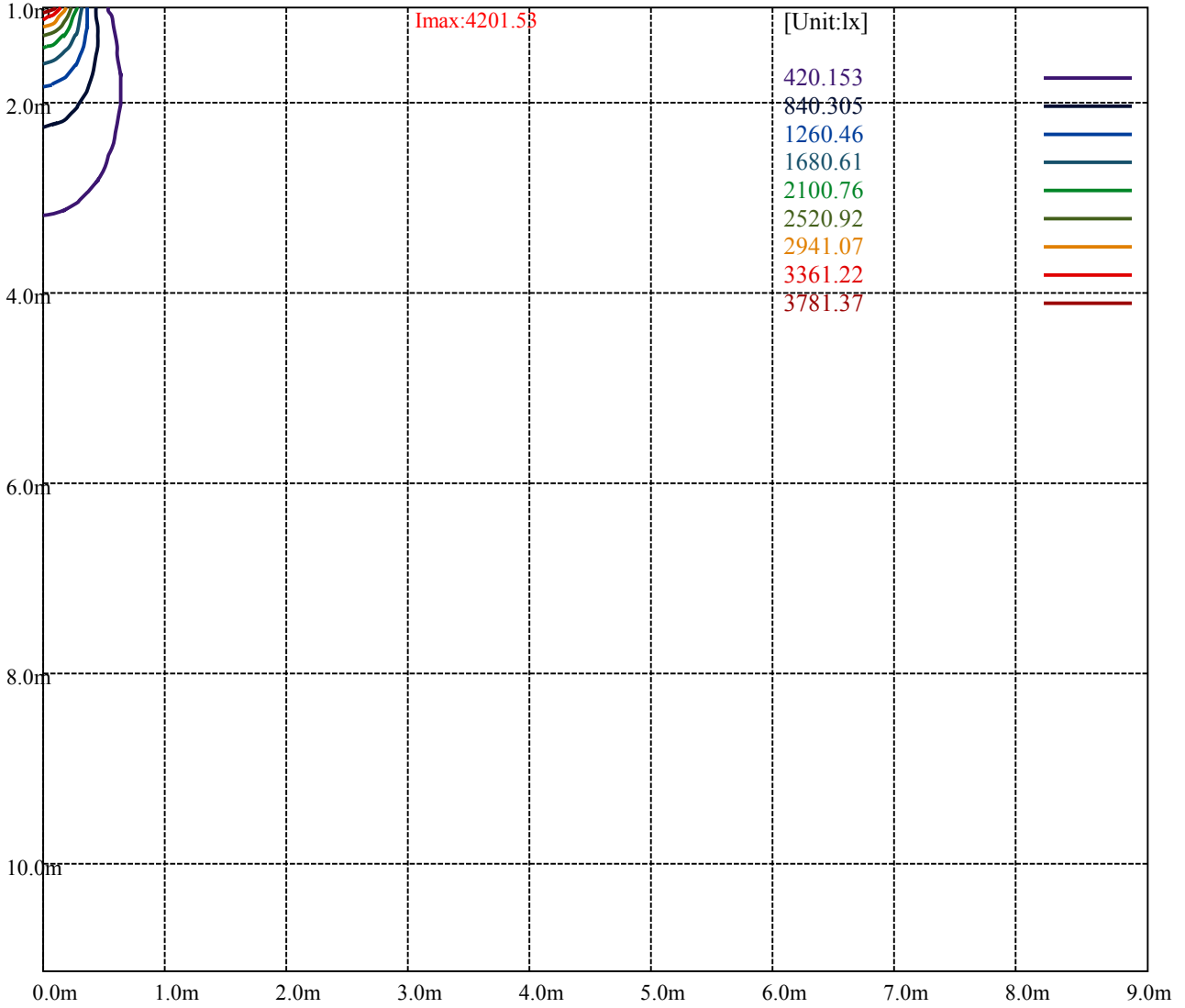
**Imax:4201.53**

(10%Imax)	420.153	—
(20%Imax)	840.305	—
(30%Imax)	1260.46	—
(40%Imax)	1680.61	—
(50%Imax)	2100.76	—
(60%Imax)	2520.92	—
(70%Imax)	2941.07	—
(80%Imax)	3361.22	—
(90%Imax)	3781.37	—



- (10%Emax) 46.68356
- (20%Emax) 93.36711
- (30%Emax) 140.0511
- (40%Emax) 186.7344
- (50%Emax) 233.4178
- (60%Emax) 280.1011
- (70%Emax) 326.7845
- (80%Emax) 373.4689
- (90%Emax) 420.1522





Luminance Table

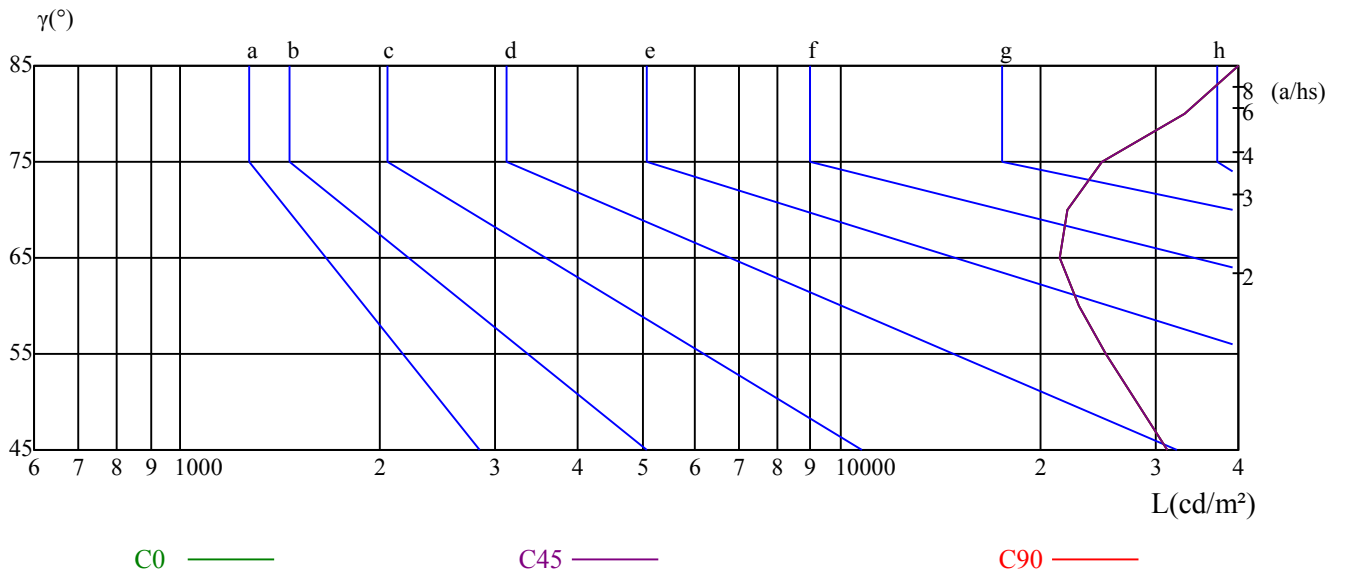
$\gamma$	45	50	55	60	65	70	75	80	85
C0	31175	28010	25143	22880	21487	22027	24800	33103	58028
C45	31175	28010	25143	22880	21487	22027	24800	33103	58028
C90	31175	28010	25143	22880	21487	22027	24800	33103	58028

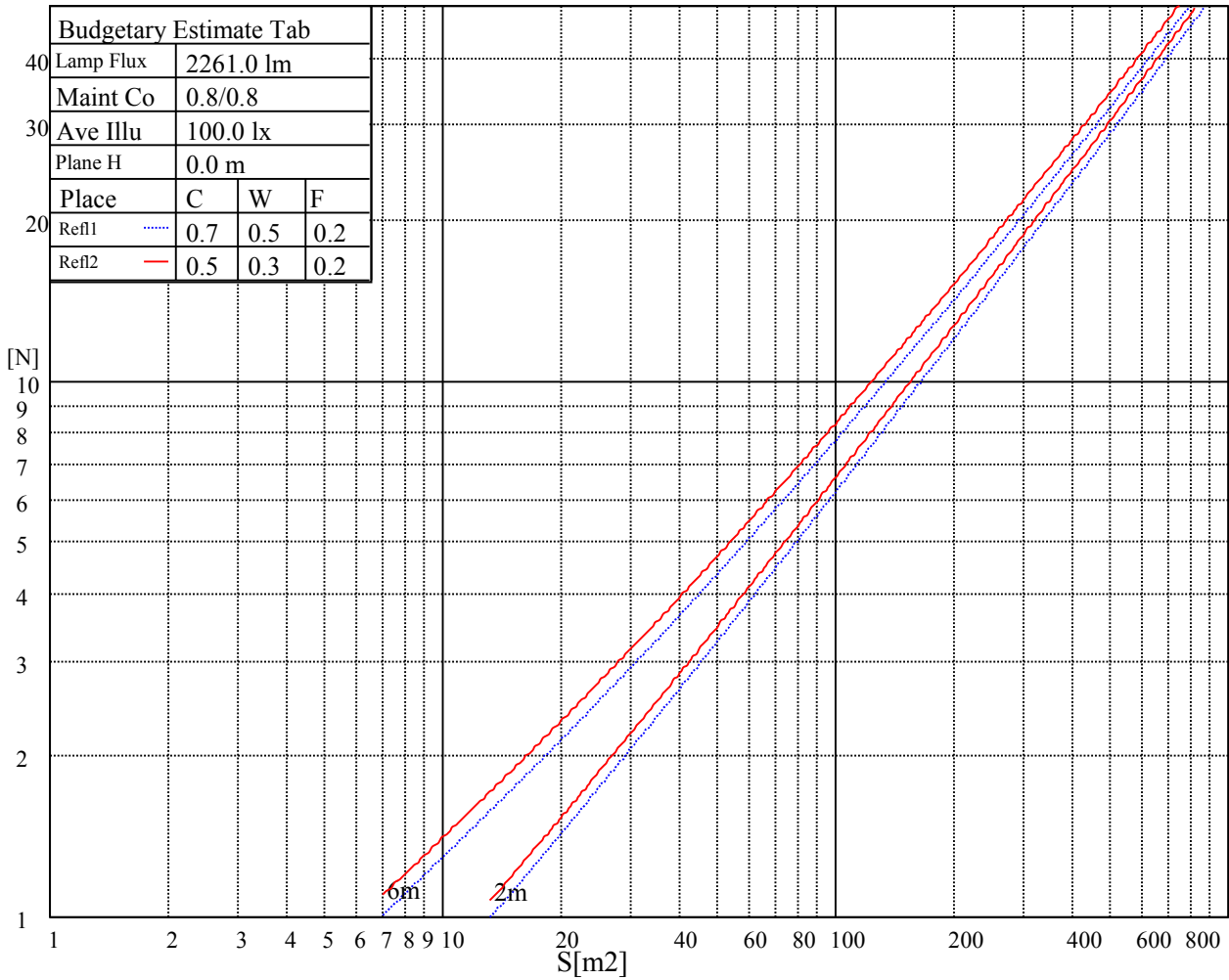
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
21487	21487	21487	24800	24800	24800	58028	58028	58028

Glare Table

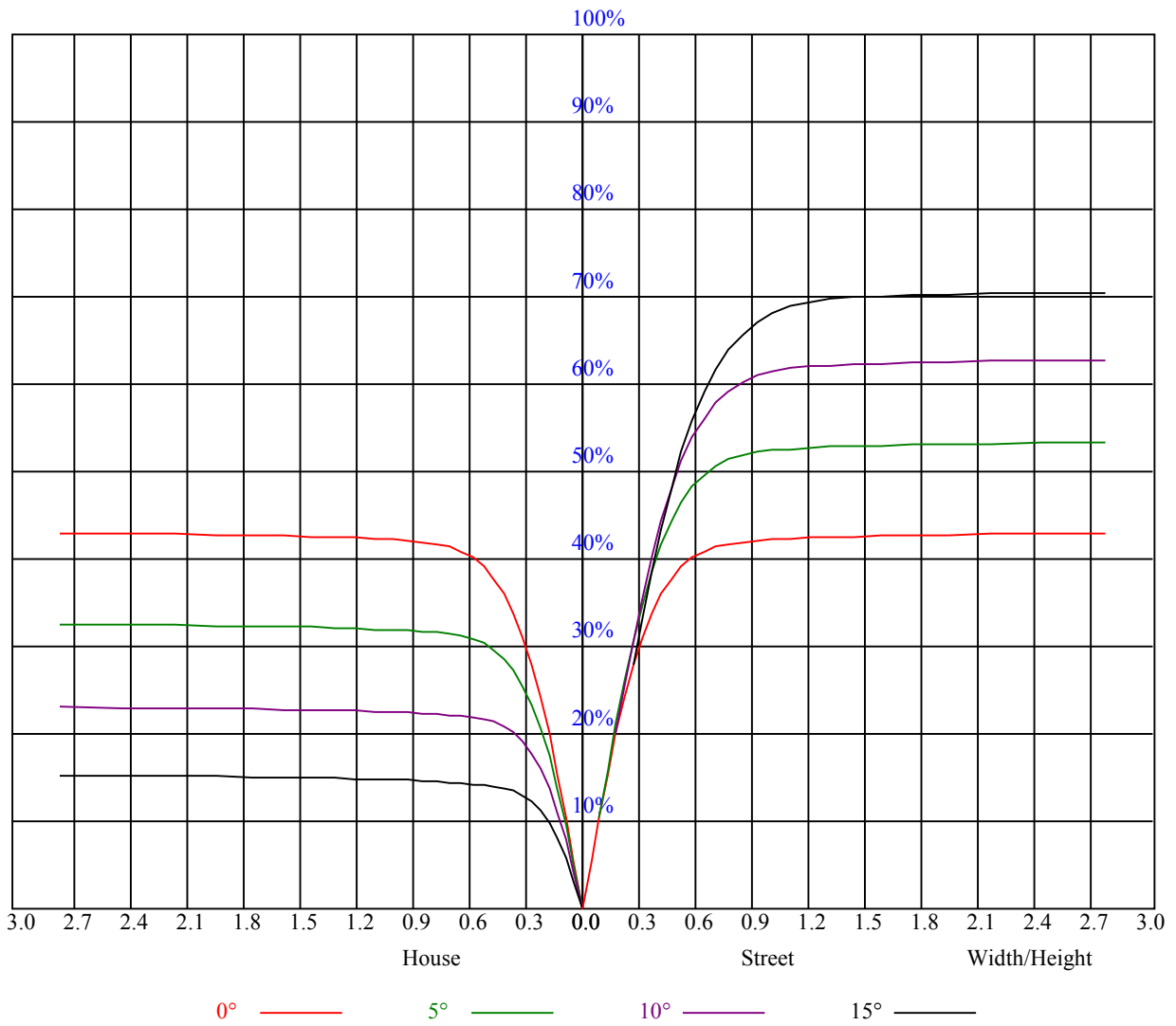
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.04	1.04	1.04	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.97	0.95	0.93	0.95	0.93	0.92	0.92	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.84	0.82
2	0.91	0.88	0.85	0.90	0.87	0.84	0.87	0.84	0.82	0.84	0.82	0.81	0.82	0.80	0.79	0.77
3	0.86	0.82	0.79	0.85	0.81	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.78	0.76	0.75	0.73
4	0.81	0.77	0.74	0.80	0.76	0.73	0.78	0.75	0.72	0.77	0.74	0.71	0.75	0.73	0.71	0.69
5	0.77	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.66
6	0.73	0.69	0.65	0.73	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.63
7	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.60
8	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.64	0.60	0.58	0.57
9	0.64	0.59	0.56	0.63	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.55
10	0.61	0.57	0.54	0.61	0.56	0.54	0.60	0.56	0.54	0.59	0.56	0.53	0.59	0.56	0.53	0.52



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	4200.63	4066.18	3580.39	2794.05	2045.94	1269.75	795.91	355.53	69.97
45.0	4210.79	3921.58	3267.89	2473.77	1699.97	1038.51	583.79	316.09	51.81
90.0	4182.11	3798.49	3166.31	2345.90	1554.17	985.39	528.04	153.33	48.88
135.0	4212.58	3999.26	3422.05	2627.34	1794.38	1120.37	671.62	317.89	56.41
180.0	4200.63	3952.65	3342.58	2546.67	1732.83	1072.80	591.85	222.76	54.79
225.0	4210.79	4100.84	3650.30	2877.10	2099.72	1178.75	835.35	382.54	82.70
270.0	4182.11	4133.71	3747.10	3018.72	2207.87	1391.65	905.85	432.01	104.33
315.0	4212.58	4031.53	3474.63	2744.45	1950.33	1190.94	766.15	308.44	61.13
360.0	4200.63	4066.18	3580.39	2794.05	2045.94	1269.75	795.91	355.53	69.97
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	42.25	34.84	27.90	22.05	17.27	14.46	12.13	10.93	9.38
45.0	38.18	31.55	24.92	19.72	15.95	13.27	11.41	10.34	9.02
90.0	37.52	30.77	24.32	19.48	15.54	13.03	11.47	10.22	8.96
135.0	40.27	32.80	26.71	20.79	16.61	13.74	11.77	10.58	9.08
180.0	39.86	32.63	25.69	20.20	16.31	13.50	11.47	10.16	9.08
225.0	42.96	34.54	28.26	22.41	17.57	14.58	12.31	10.93	9.86
270.0	43.62	35.49	28.62	23.06	18.05	14.76	12.49	11.05	9.86
315.0	41.41	33.70	26.89	21.51	17.03	14.10	11.89	10.82	9.56
360.0	42.25	34.84	27.90	22.05	17.27	14.46	12.13	10.93	9.38
C/γ(°)	90.0								
0.0	8.60								
45.0	8.60								
90.0	8.60								
135.0	8.60								
180.0	8.54								
225.0	8.72								
270.0	8.84								
315.0	8.72								
360.0	8.60								