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## Nata

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LumCAT: LN01D04560DA-N

Luminaire: 97.70.234.00

Report No: 201231-B010

Test No: 201231-C010

LampCAT: CITIZEN CLU028 LES9.8

Lamp flux(lm): 1521.0

Number of Lamps: 1

Length(mm): 92

Phm Type: C

Voltage(V): 36.9700

Current(A): 0.3800

Power (W): 14.0480

PF: 0.0000

Ballast type: DC

Width(mm): 92

Height(mm): 50

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## Photometric Results

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Lumens(lm): 1257.57

Efficiency(%): 82.68%

Lumens(lm)/Power(W): 89.52

Central intensity(cd): 1205.297

Maximum intensity(cd): 1205.297

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=59.0

[C90/270]Total=59.0

Field angle(10%Imax): [C0/180]Total=94.1

[C90/270]Total=94.1

Maximum s/h(1/2): C0\_180=0.89 C90\_270=0.89

Maximum s/h(1/4): C0\_180=0.90 C90\_270=0.90

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 82.68%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 94.115%

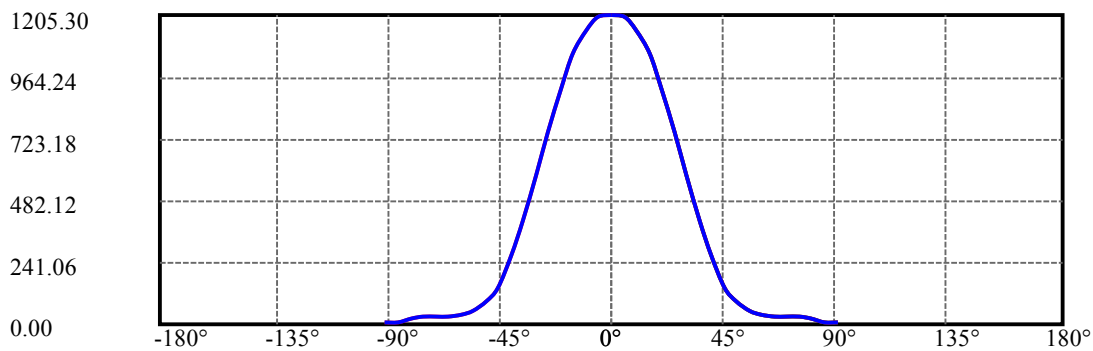
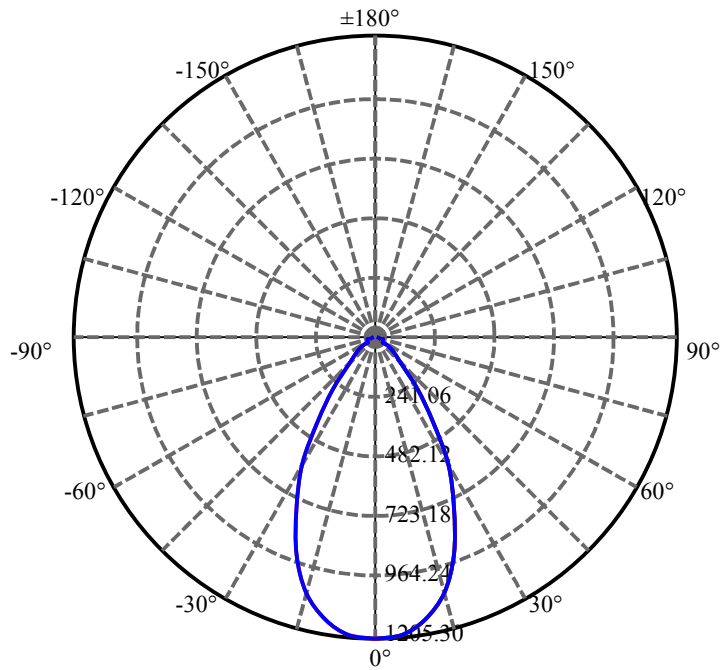
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1205.297	0.000	0	.000%	.000%
5.0	1194.117	28.684	28.684	1.886%	2.281%
10.0	1145.876	83.709	112.393	5.504%	8.937%
15.0	1053.148	130.445	242.838	8.576%	19.310%
20.0	919.209	162.550	405.388	10.687%	32.236%
25.0	752.063	175.286	580.673	11.524%	46.174%
30.0	586.005	169.334	750.007	11.133%	59.639%
35.0	407.756	146.338	896.345	9.621%	71.276%
40.0	266.098	112.427	1008.773	7.392%	80.216%
45.0	143.958	75.925	1084.698	4.992%	86.253%
50.0	86.295	46.526	1131.224	3.059%	89.953%
55.0	54.696	30.656	1161.88	2.016%	92.391%
60.0	39.129	21.687	1183.567	1.426%	94.115%
65.0	30.916	17.028	1200.595	1.120%	95.469%
70.0	29.046	15.183	1215.778	.998%	96.676%
75.0	27.176	14.695	1230.474	.966%	97.845%
80.0	22.795	13.371	1243.845	.879%	98.908%
85.0	10.948	9.169	1253.013	.603%	99.637%
90.0	5.709	4.561	1257.574	.300%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	750.01	49.31%	59.64%
0-40	1008.77	66.32%	80.22%
0-60	1183.57	77.82%	94.12%
0-90	1253.01	82.38%	99.64%
0-120	1253.01	82.38%	99.64%
0-180	1257.57	82.68%	100.00%
60-90	91.13	5.99%	7.25%
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%
0-39.88	1006.06	66.14%	80.00%

ZONAL LUMEN SUMMARY

0-10	112.39
10-20	292.99
20-30	344.62
30-40	258.77
40-50	122.45
50-60	52.34
60-70	32.21
70-80	28.07
80-90	9.17
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



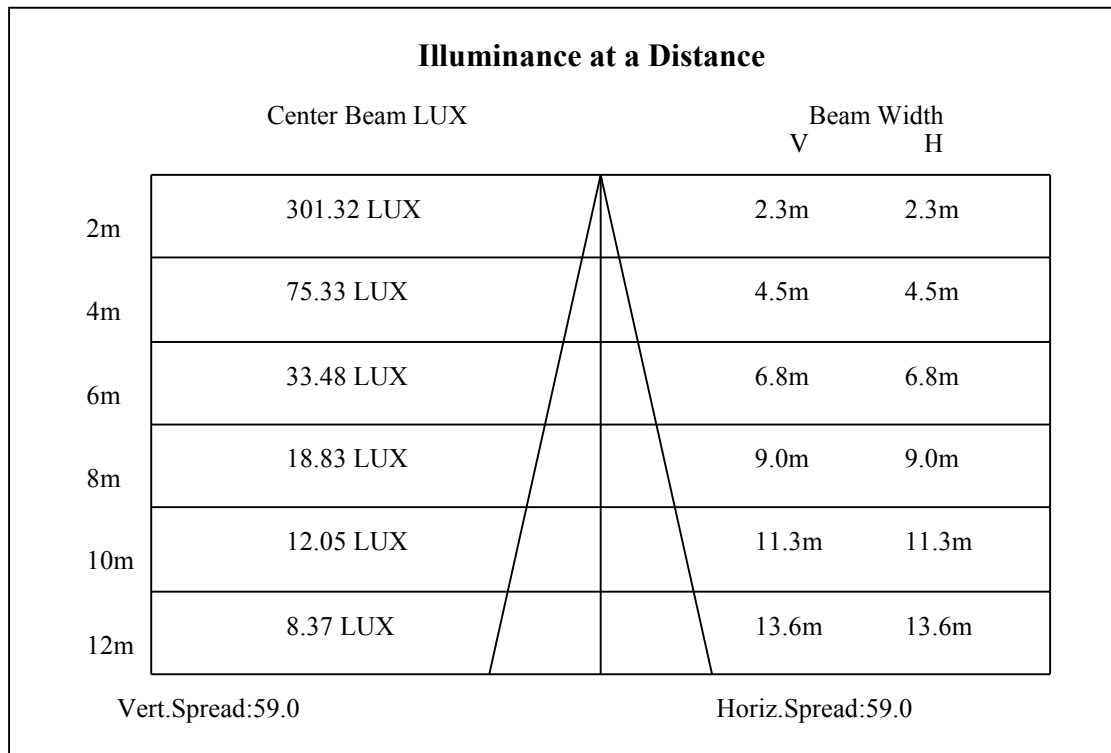
C0(Max): —————

C0/C180: —————

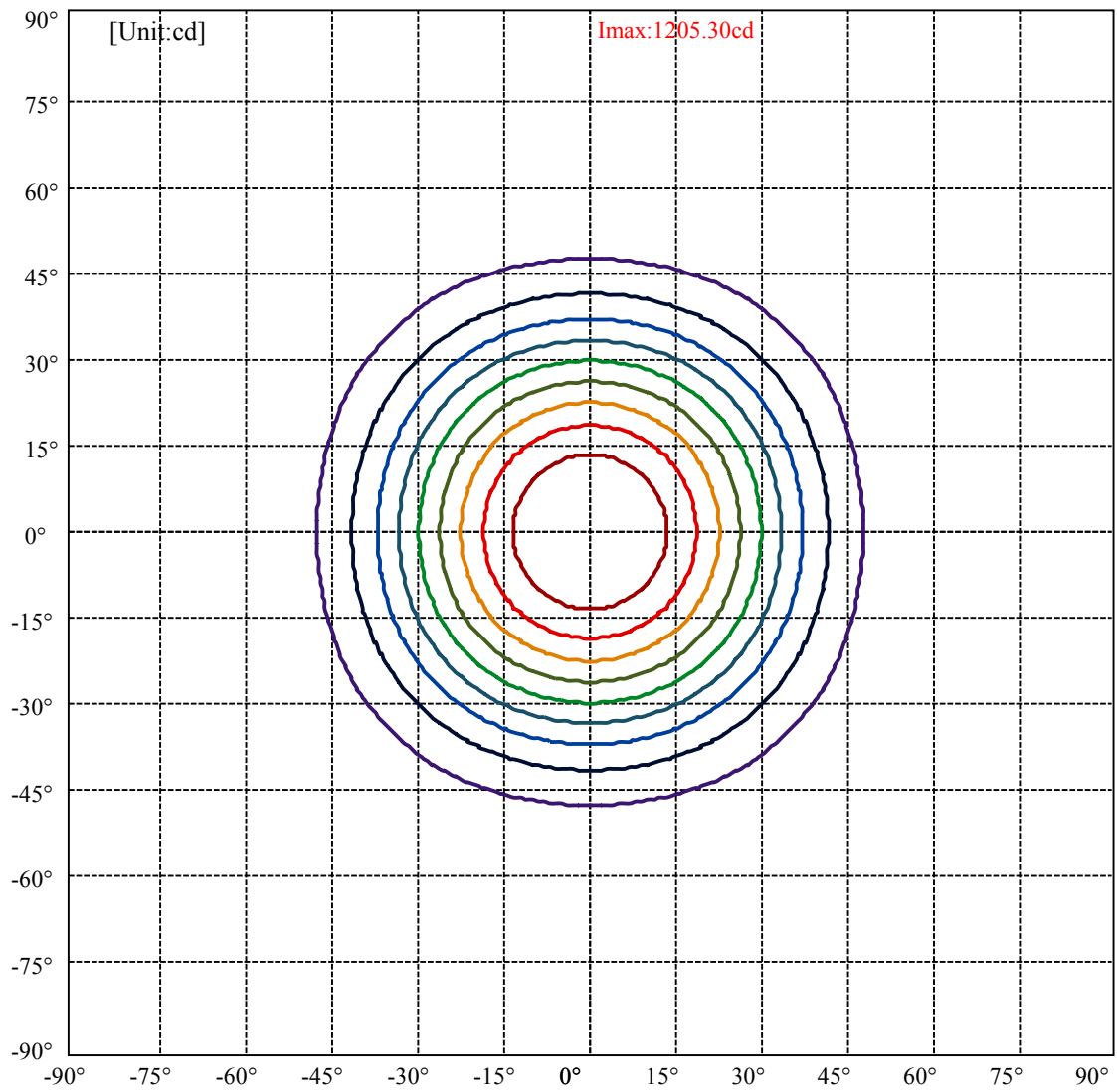
C90/C270: —————

Field angle(10%Imax):C0/180Left:47.0 Right:47.0  
:C90/270Left:47.0 Right:47.0

Beam Angle(50%Imax):C0/180Left:29.5 Right:29.5  
:C90/270Left:29.5 Right:29.5



ISO-Intensity(V-H)

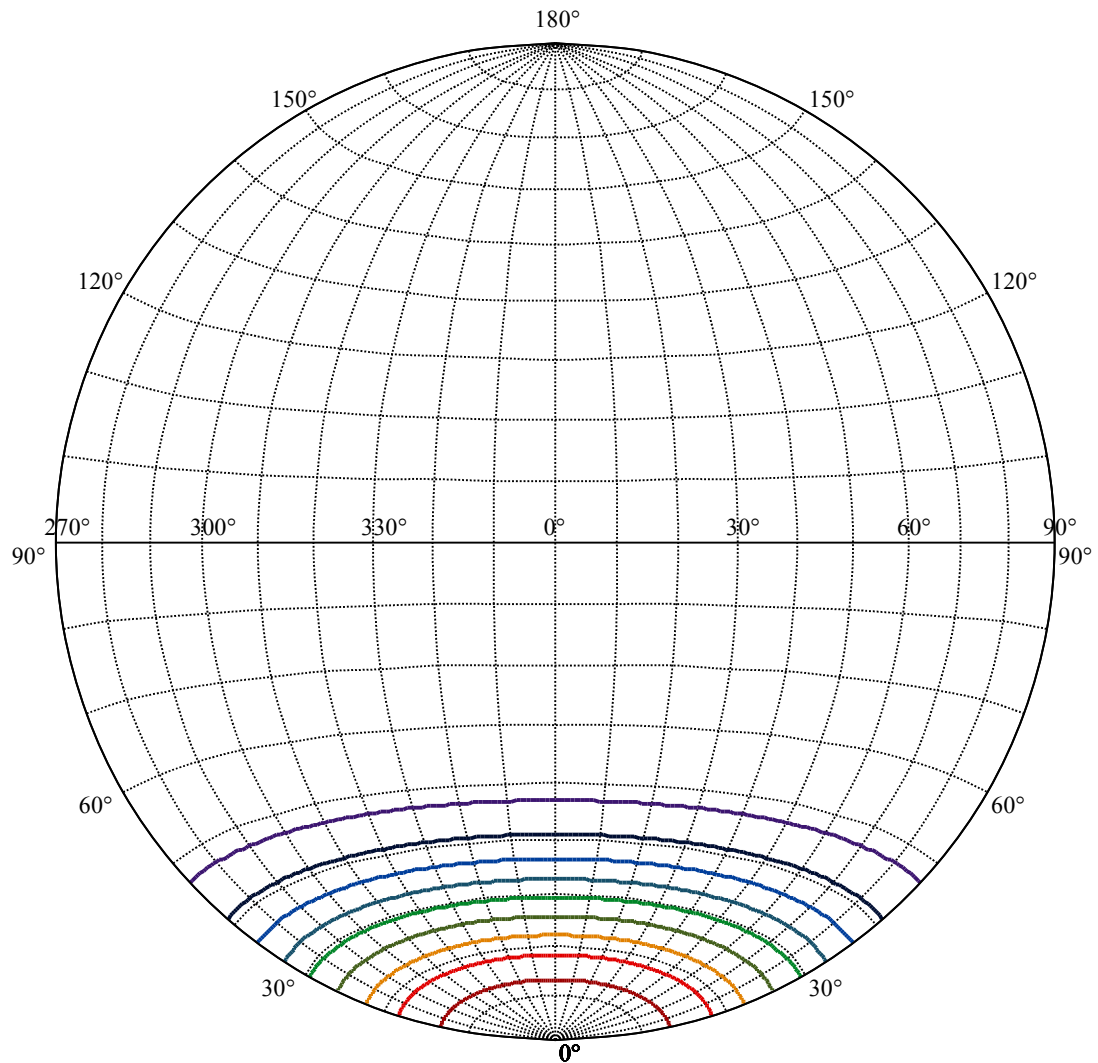


(10%Imax) 120.53	—
(20%Imax) 241.059	—
(30%Imax) 361.589	—
(40%Imax) 482.119	—
(50%Imax) 602.648	—
(60%Imax) 723.178	—
(70%Imax) 843.708	—
(80%Imax) 964.237	—
(90%Imax) 1084.77	—

Equipment: GMS1980  
Temperature(°C): 25.0

Date: 2020/12/31  
Humidity(%): 65.0%

Operator: NT07  
Distance(m): 7.50












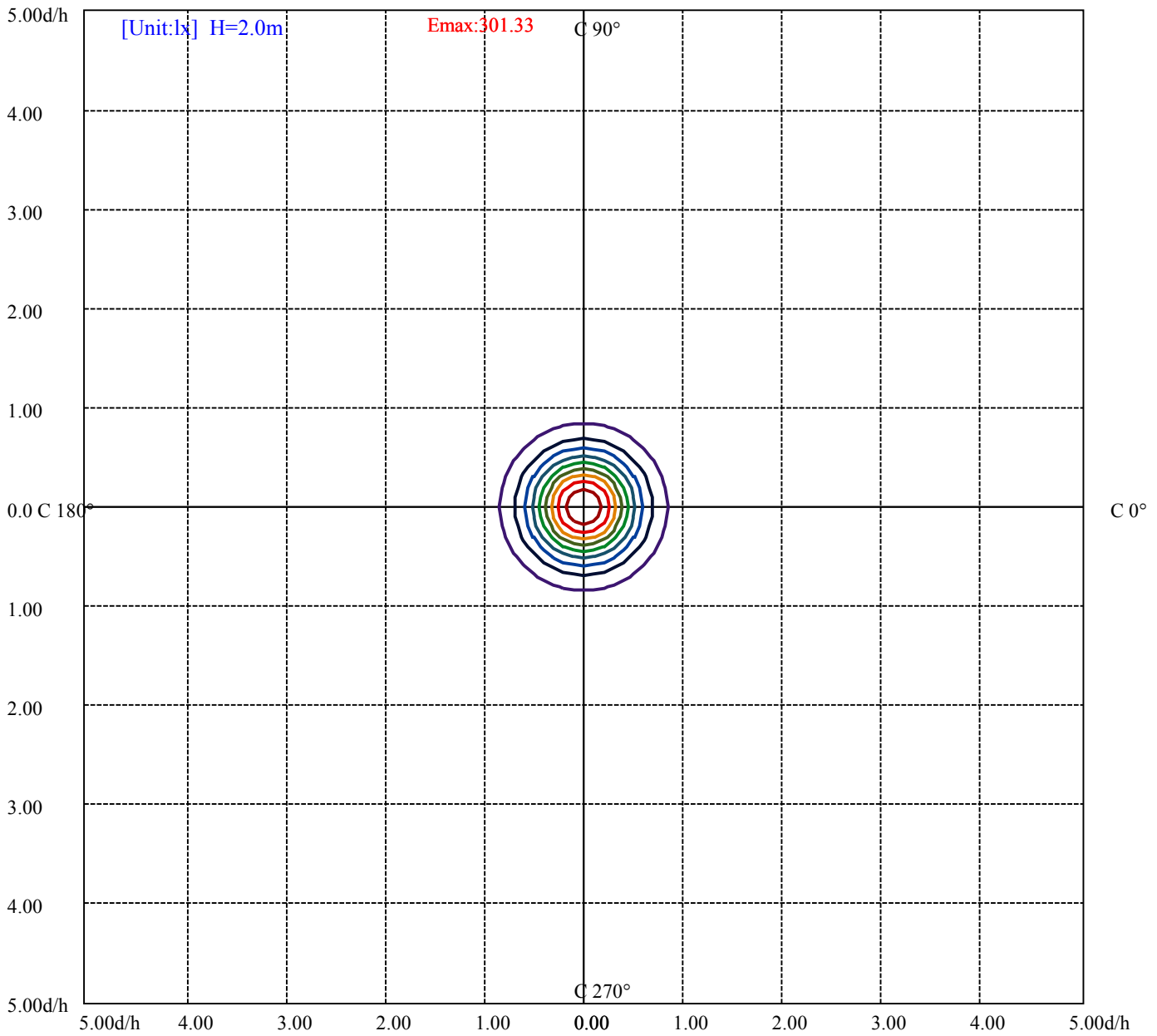
House

[Unit:cd]

Road

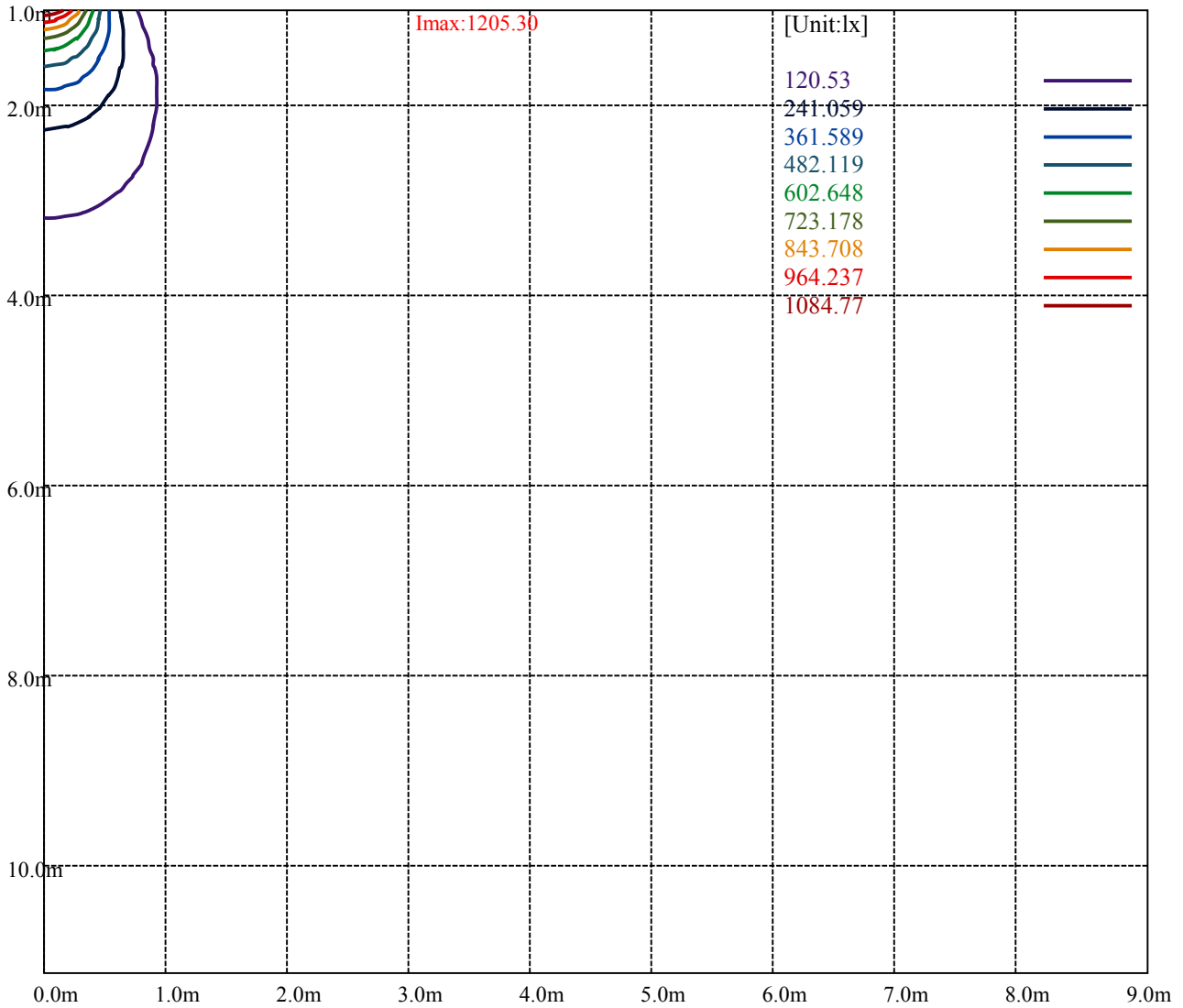
**Imax:1205.30**

(10%Imax)	120.53	
(20%Imax)	241.059	
(30%Imax)	361.589	
(40%Imax)	482.119	
(50%Imax)	602.648	
(60%Imax)	723.178	
(70%Imax)	843.708	
(80%Imax)	964.237	
(90%Imax)	1084.77	



(10%Emax) 30.1325	—
(20%Emax) 60.26475	—
(30%Emax) 90.39725	—
(40%Emax) 120.5297	—
(50%Emax) 150.662	—
(60%Emax) 180.7945	—
(70%Emax) 210.927	—
(80%Emax) 241.0592	—
(90%Emax) 271.1925	—





Luminance Table

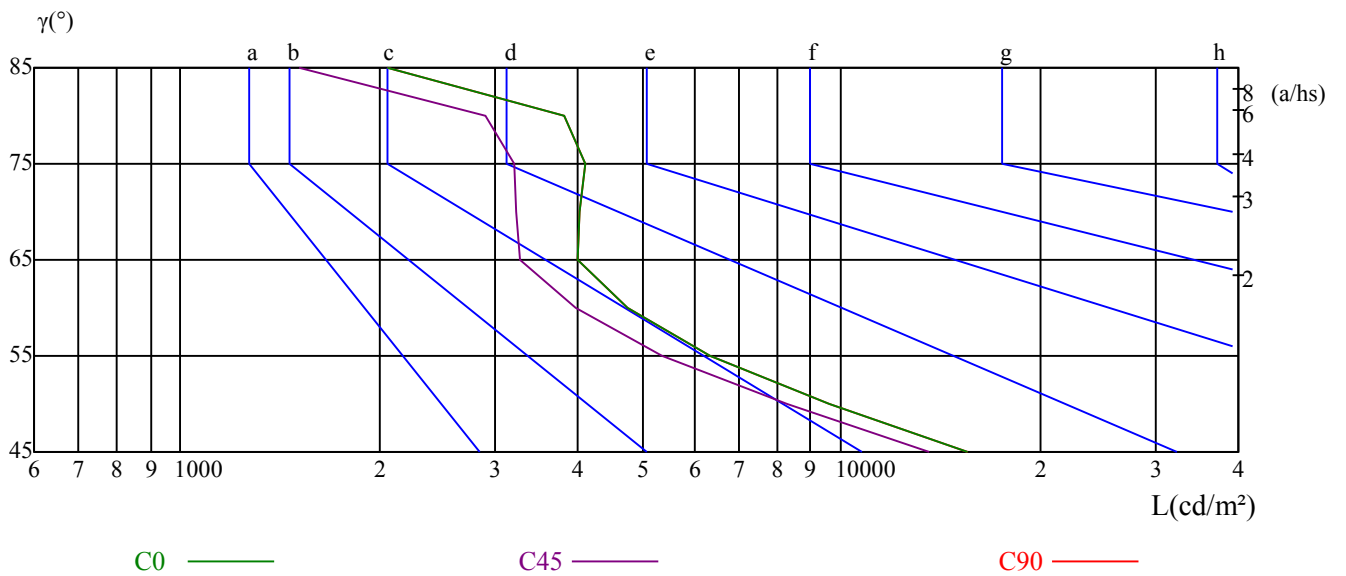
$\gamma$	45	50	55	60	65	70	75	80	85
C0	15584	9626	6343	4763	3991	4024	4096	3799	2058
C45	13600	8278	5371	3966	3264	3225	3207	2894	1517
C90	15584	9626	6343	4763	3991	4024	4096	3799	2058

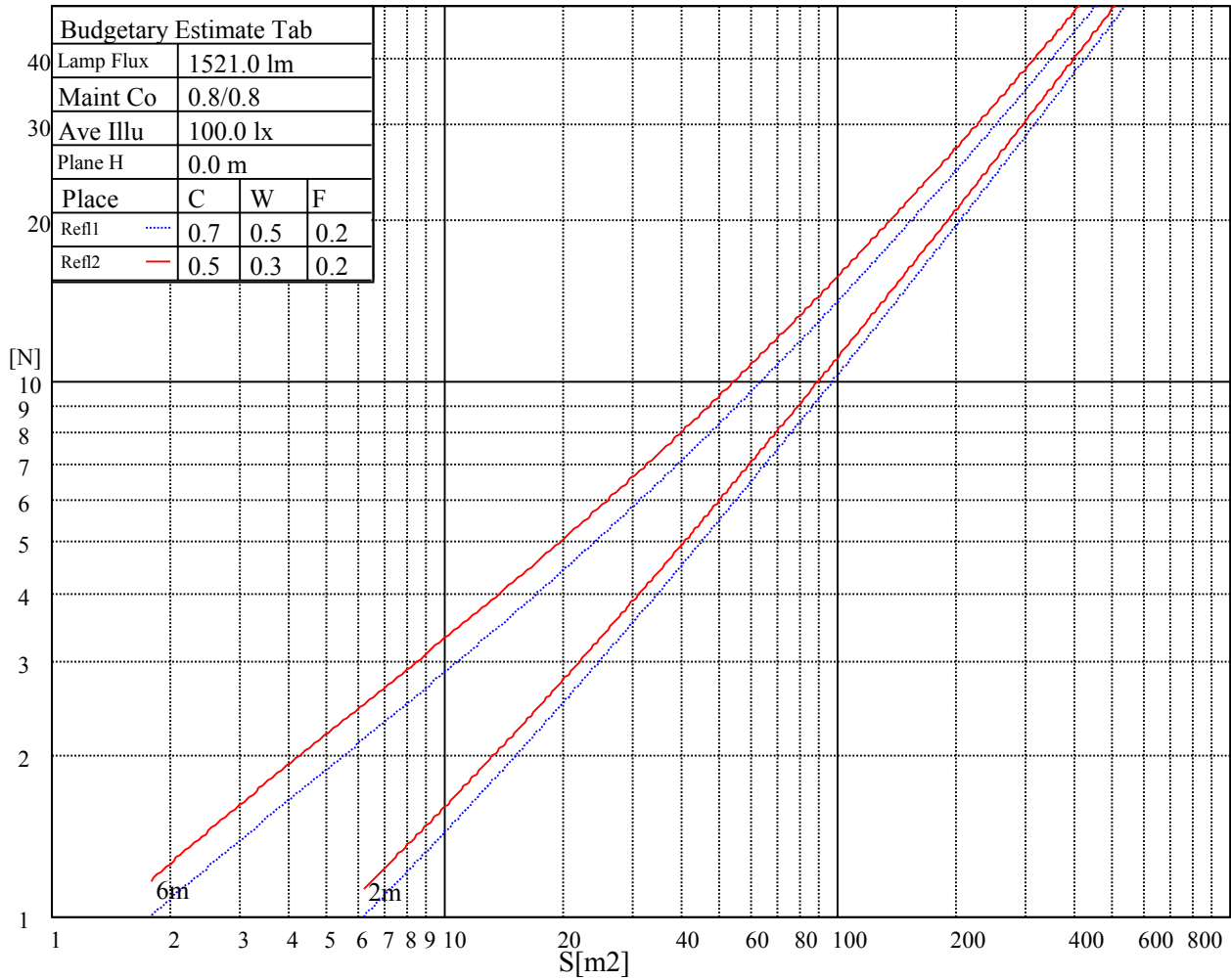
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
8643	8643	8643	12405	12405	12405	14841	14841	14841

Glare Table

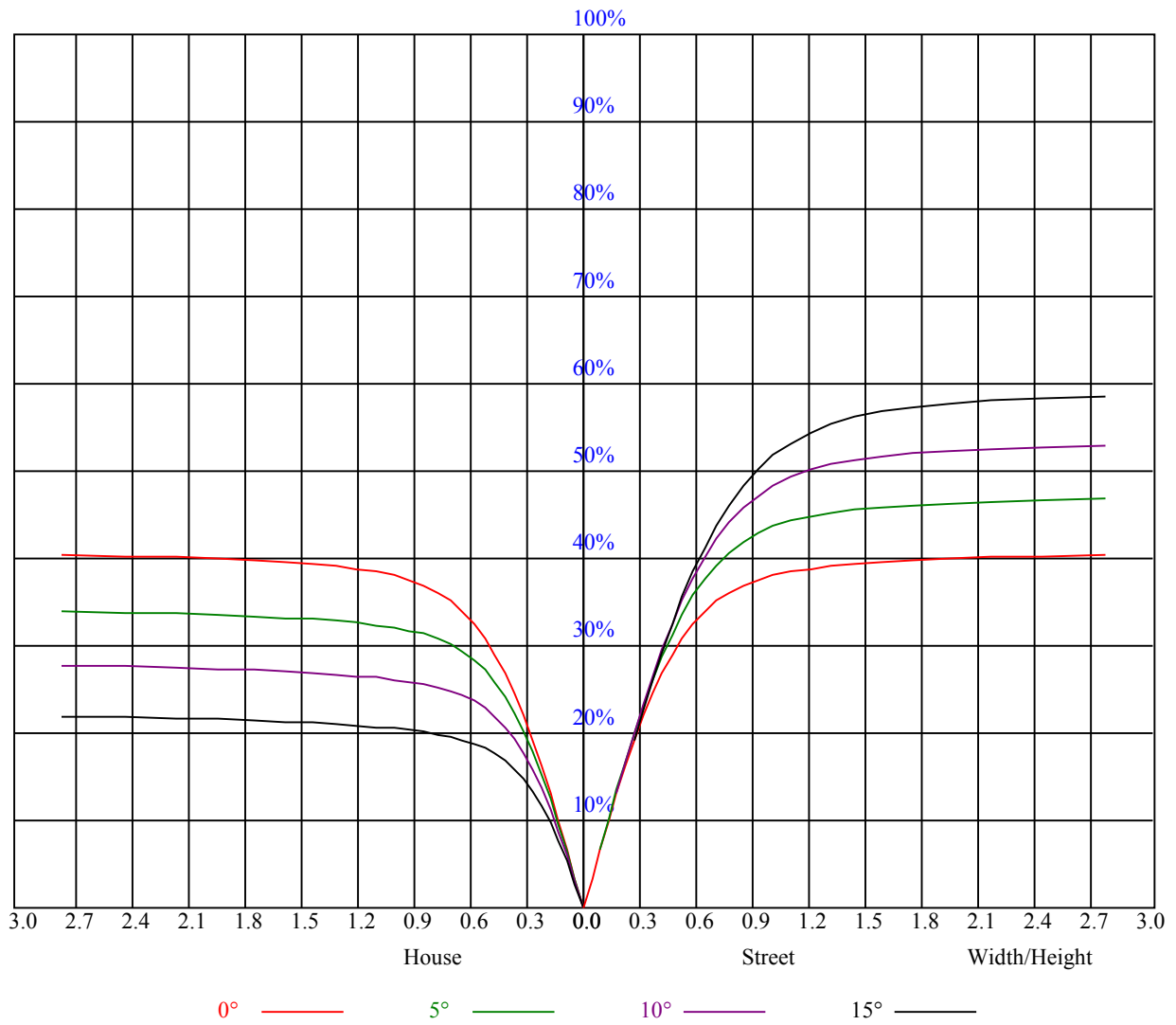
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.98	0.98	0.98	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84	0.83
1	0.90	0.87	0.85	0.88	0.86	0.84	0.85	0.83	0.81	0.82	0.80	0.79	0.79	0.78	0.76	0.75
2	0.82	0.78	0.75	0.81	0.77	0.74	0.78	0.75	0.73	0.76	0.73	0.71	0.73	0.71	0.69	0.68
3	0.76	0.71	0.67	0.75	0.70	0.67	0.72	0.69	0.66	0.70	0.67	0.64	0.68	0.66	0.63	0.62
4	0.70	0.65	0.61	0.69	0.64	0.60	0.67	0.63	0.60	0.66	0.62	0.59	0.64	0.61	0.58	0.57
5	0.65	0.60	0.55	0.64	0.59	0.55	0.63	0.58	0.55	0.61	0.57	0.54	0.60	0.56	0.54	0.52
6	0.61	0.55	0.51	0.60	0.55	0.51	0.59	0.54	0.50	0.57	0.53	0.50	0.56	0.53	0.50	0.48
7	0.57	0.51	0.47	0.56	0.51	0.47	0.55	0.50	0.47	0.54	0.50	0.46	0.53	0.49	0.46	0.45
8	0.53	0.47	0.44	0.52	0.47	0.44	0.52	0.47	0.43	0.51	0.46	0.43	0.50	0.46	0.43	0.42
9	0.50	0.44	0.41	0.49	0.44	0.41	0.48	0.44	0.41	0.48	0.43	0.40	0.47	0.43	0.40	0.39
10	0.47	0.42	0.38	0.46	0.41	0.38	0.46	0.41	0.38	0.45	0.41	0.38	0.44	0.41	0.38	0.37



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	1206.56	1194.19	1154.25	1070.44	948.94	794.81	644.06	466.88	300.38
45.0	1206.56	1188.56	1134.00	1031.63	898.88	747.00	587.25	414.00	293.63
90.0	1203.75	1184.06	1119.77	1016.21	867.94	696.60	531.06	366.92	224.44
135.0	1204.31	1196.44	1145.25	1047.94	905.06	729.00	565.88	383.63	289.69
180.0	1206.56	1190.81	1120.61	1028.08	872.44	715.67	539.49	356.12	219.94
225.0	1206.56	1202.06	1159.88	1061.44	921.88	745.09	577.74	391.16	233.21
270.0	1203.75	1203.19	1175.06	1105.88	996.75	814.50	637.31	460.69	292.50
315.0	1204.31	1193.63	1158.19	1063.58	941.79	773.83	605.25	422.66	275.01
360.0	1206.56	1194.19	1154.25	1070.44	948.94	794.81	644.06	466.88	300.38
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	173.14	100.01	60.98	43.99	31.78	25.20	20.48	16.43	11.70
45.0	148.67	87.86	56.36	39.71	29.76	23.85	19.46	15.47	10.07
90.0	120.66	76.89	49.50	36.00	36.90	48.04	52.82	39.94	8.94
135.0	129.32	79.93	51.19	37.01	28.97	22.89	18.11	14.06	8.78
180.0	122.34	74.64	48.88	36.39	27.96	22.39	18.17	13.95	9.28
225.0	138.54	82.58	53.10	38.31	28.97	23.23	18.90	15.24	10.24
270.0	163.29	97.26	59.46	41.12	32.85	42.47	49.95	51.81	17.55
315.0	155.70	91.18	58.11	40.50	30.15	24.30	19.52	15.47	11.03
360.0	173.14	100.01	60.98	43.99	31.78	25.20	20.48	16.43	11.70
C/γ(°)	90.0								
0.0	6.53								
45.0	5.40								
90.0	5.12								
135.0	5.51								
180.0	5.85								
225.0	5.63								
270.0	5.68								
315.0	5.96								
360.0	6.53								