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## Nata

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LumCAT: LN01D04560DA-N

Luminaire: 97.70.234.00

Report No: 210106-B016

Test No: 210106-C016

LampCAT: SEOUL SAWX10 LES9.8

Lamp flux(lm): 1759.0

Number of Lamps: 1

Length(mm): 92

Phm Type: C

Voltage(V): 35.4500

Current(A): 0.3810

Power (W): 13.5060

PF: 0.0000

Ballast type: DC

Width(mm): 92

Height(mm): 50

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## Photometric Results

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Lumens(lm): 1450.35

Efficiency(%): 82.45%

Lumens(lm)/Power(W): 107.39

Central intensity(cd): 1375.875

Maximum intensity(cd): 1375.875

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

Beam Angle(50%Imax): [C0/180]Total=59.5

[C90/270]Total=59.5

Field angle(10%Imax): [C0/180]Total=94.7

[C90/270]Total=94.7

Maximum s/h(1/2): C0\_180=0.90 C90\_270=0.90

Maximum s/h(1/4): C0\_180=0.91 C90\_270=0.91

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 82.45%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 94.261%

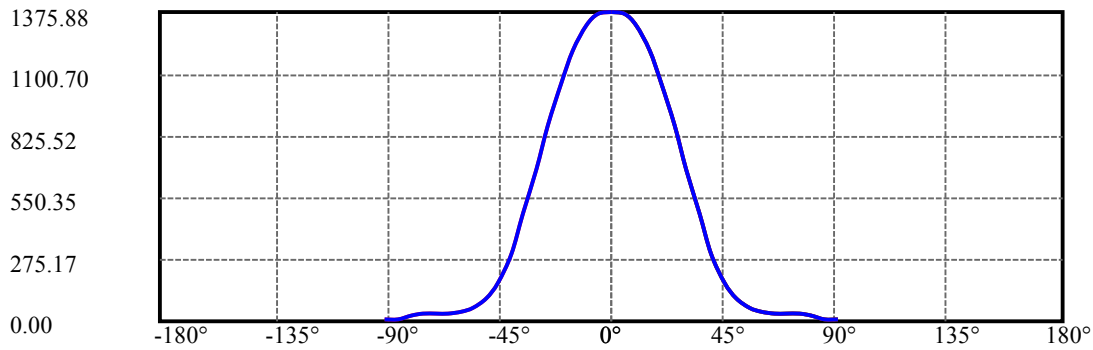
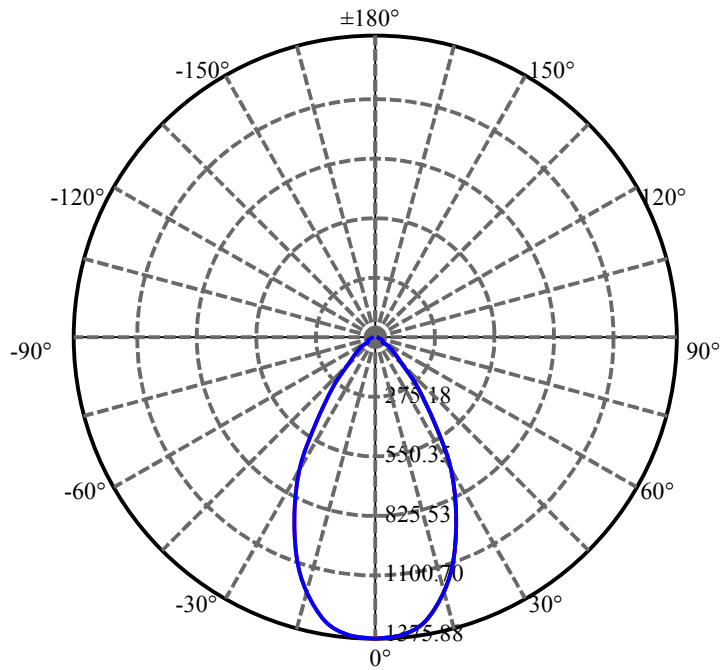
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1375.875	0.000	0	.000%	.000%
5.0	1366.102	32.780	32.78	1.864%	2.260%
10.0	1315.898	95.944	128.723	5.454%	8.875%
15.0	1202.063	149.364	278.087	8.491%	19.174%
20.0	1063.174	186.687	464.774	10.613%	32.046%
25.0	870.750	202.833	667.607	11.531%	46.031%
30.0	678.129	196.012	863.619	11.143%	59.545%
35.0	476.304	169.998	1033.617	9.664%	71.267%
40.0	302.484	129.935	1163.552	7.387%	80.225%
45.0	169.629	87.416	1250.968	4.970%	86.253%
50.0	101.855	54.857	1305.825	3.119%	90.035%
55.0	64.027	36.068	1341.893	2.050%	92.522%
60.0	45.120	25.229	1367.122	1.434%	94.261%
65.0	34.615	19.384	1386.506	1.102%	95.598%
70.0	32.105	16.894	1403.4	.960%	96.763%
75.0	30.670	16.408	1419.808	.933%	97.894%
80.0	25.643	15.068	1434.876	.857%	98.933%
85.0	12.284	10.306	1445.181	.586%	99.643%
90.0	6.602	5.171	1450.352	.294%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	863.62	49.10%	59.55%
0-40	1163.55	66.15%	80.23%
0-60	1367.12	77.72%	94.26%
0-90	1445.18	82.16%	99.64%
0-120	1445.18	82.16%	99.64%
0-180	1450.35	82.45%	100.00%
60-90	103.29	5.87%	7.12%
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%
0-39.87	1160.28	65.96%	80.00%

ZONAL LUMEN SUMMARY

0-10	128.72
10-20	336.05
20-30	398.84
30-40	299.93
40-50	142.27
50-60	61.30
60-70	36.28
70-80	31.48
80-90	10.31
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: —————

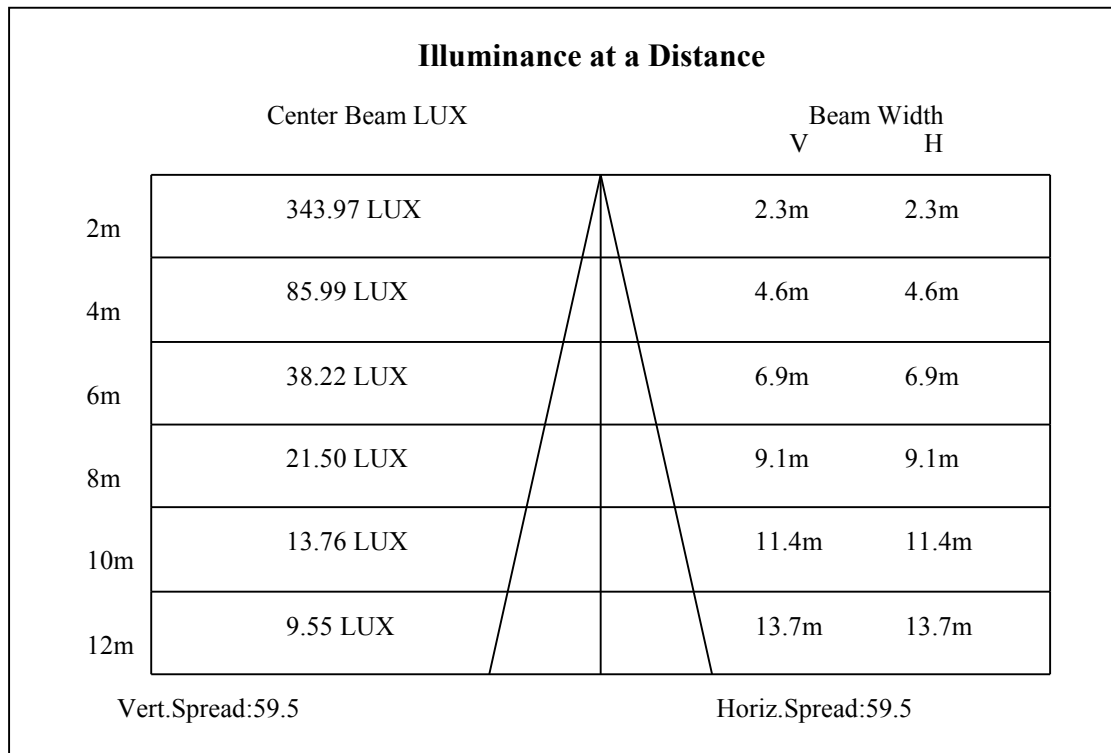
C90/C270: —————

Field angle(10%Imax):C0/180Left:47.4 Right:47.4

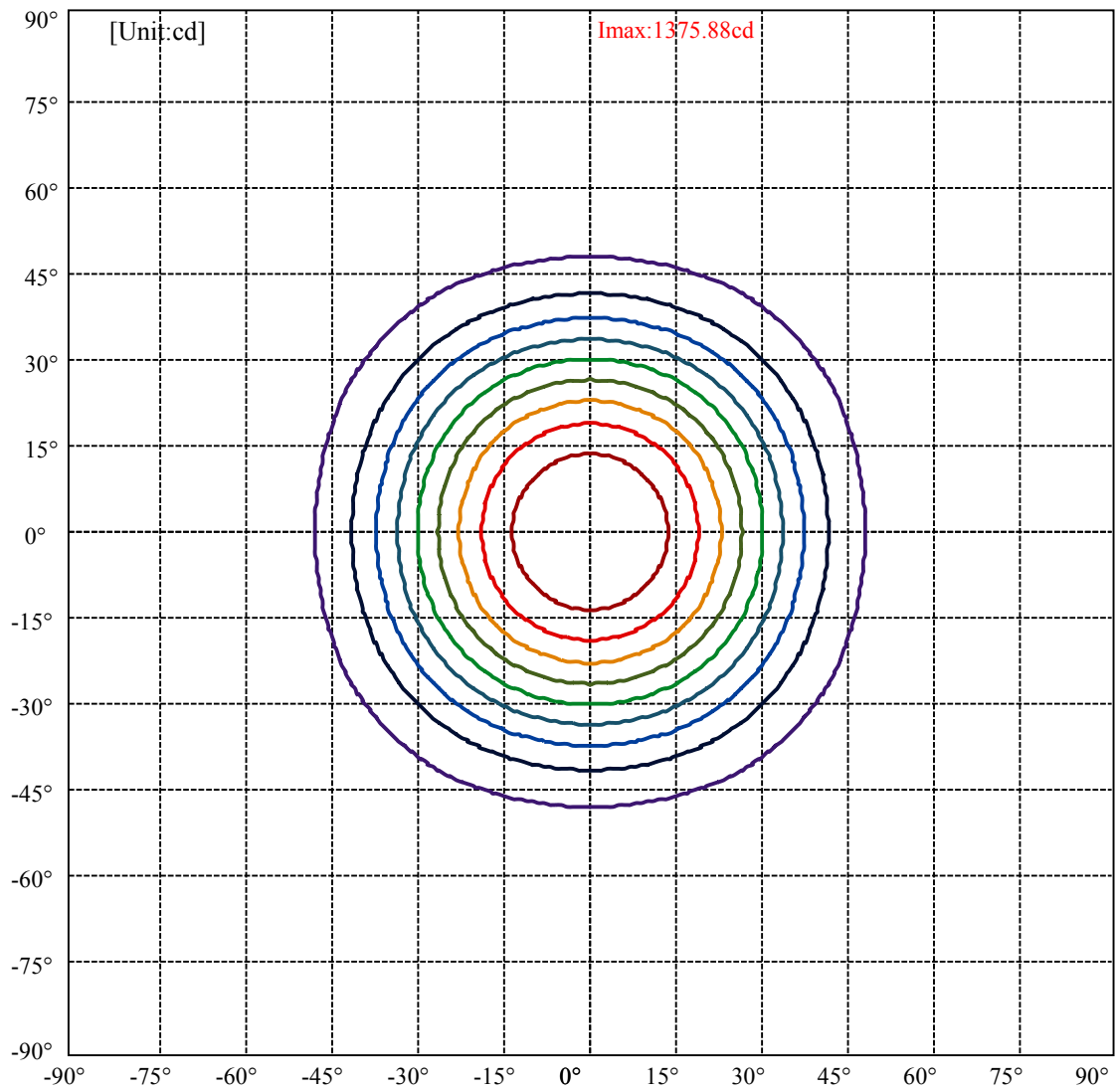
:C90/270Left:47.4 Right:47.4

Beam Angle(50%Imax):C0/180Left:29.7 Right:29.7

:C90/270Left:29.7 Right:29.7



ISO-Intensity(V-H)

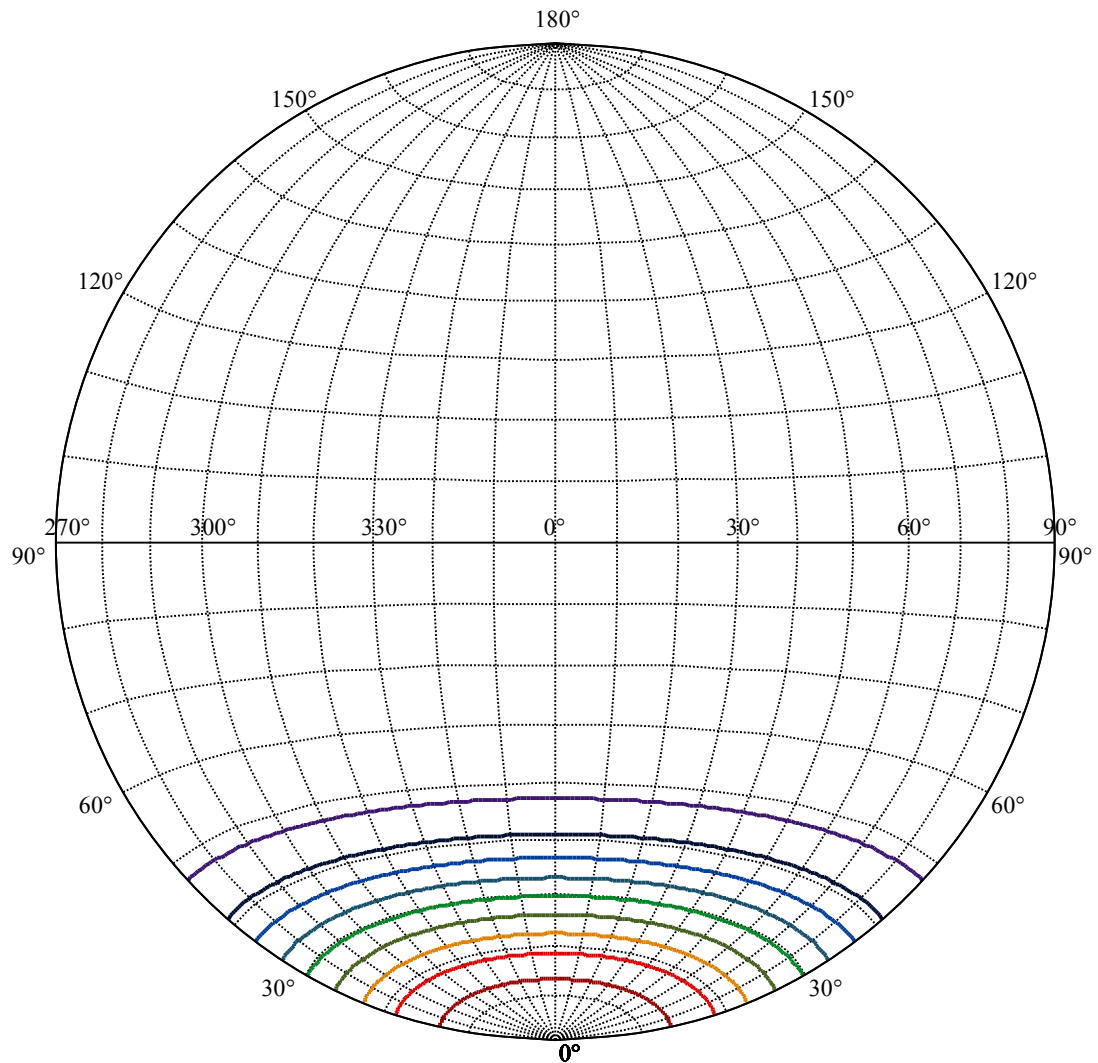


(10%Imax) 137.587	—
(20%Imax) 275.175	—
(30%Imax) 412.763	—
(40%Imax) 550.35	—
(50%Imax) 687.938	—
(60%Imax) 825.525	—
(70%Imax) 963.112	—
(80%Imax) 1100.7	—
(90%Imax) 1238.29	—

Equipment: GMS1980  
Temperature(°C): 25.0

Date: 2021/01/06  
Humidity(%): 65.0%

Operator: NT07  
Distance(m): 7.50



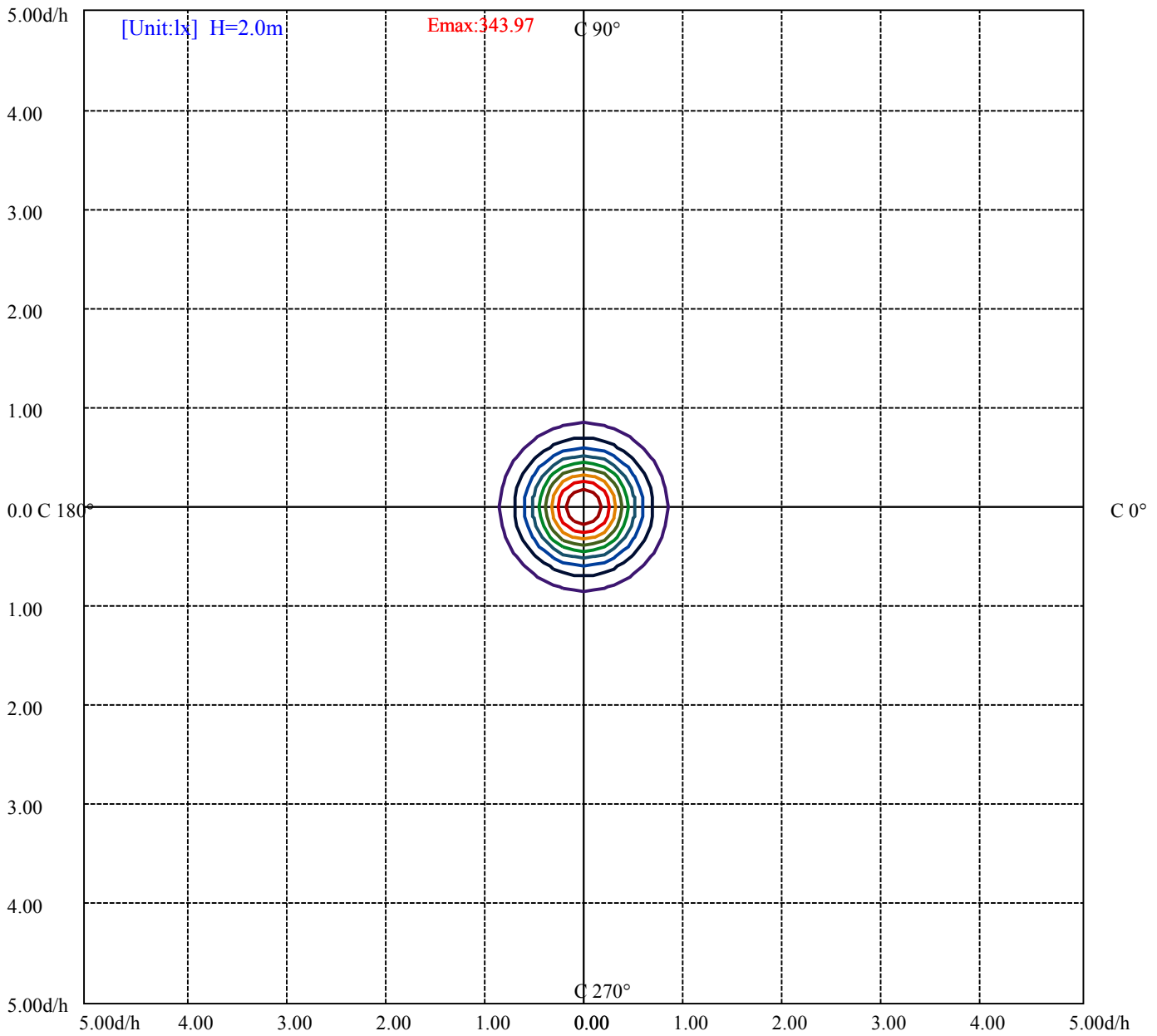
House

[Unit:cd]

Road

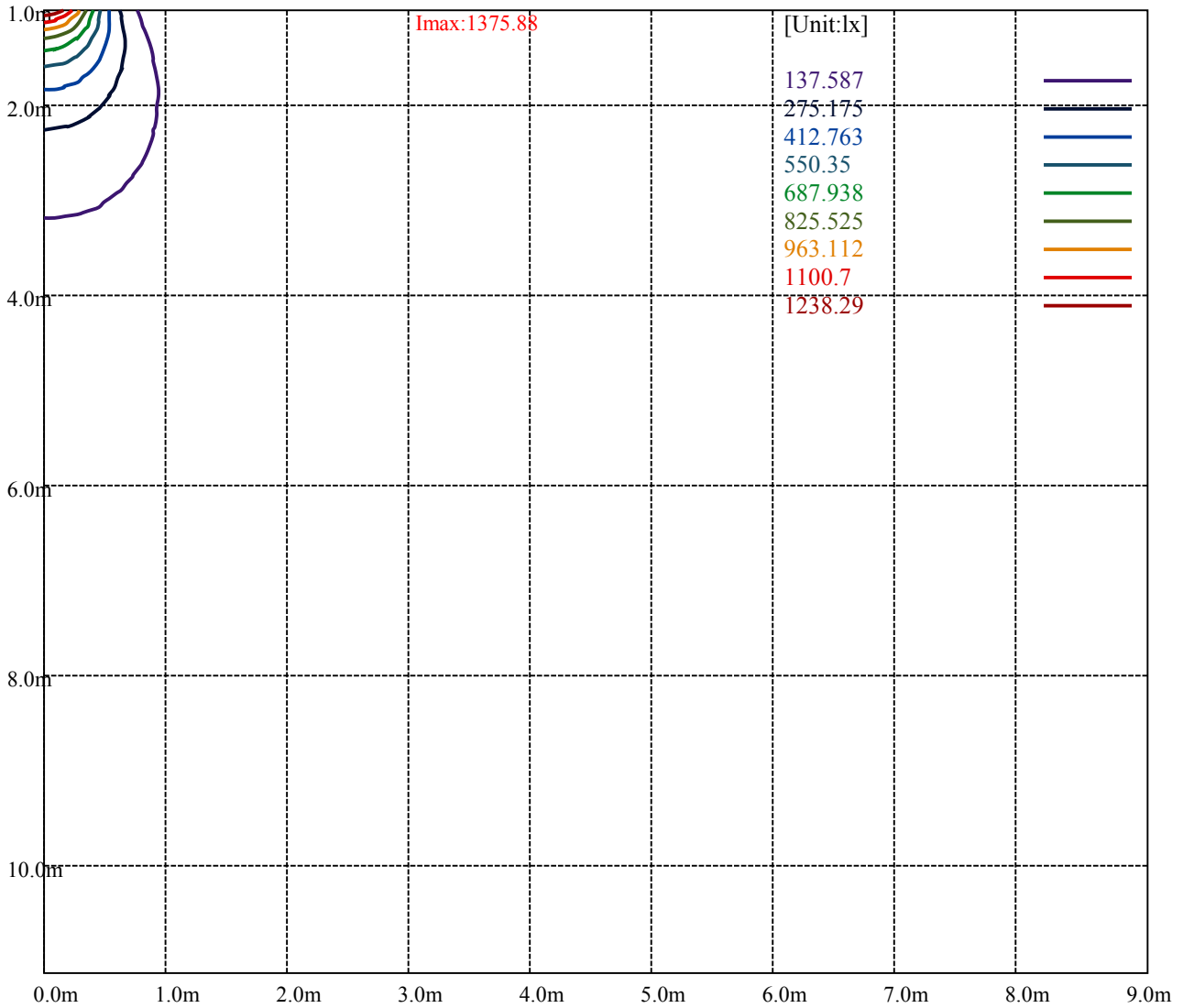
**Imax:1375.88**

(10%Imax)	137.587	—
(20%Imax)	275.175	—
(30%Imax)	412.763	—
(40%Imax)	550.35	—
(50%Imax)	687.938	—
(60%Imax)	825.525	—
(70%Imax)	963.112	—
(80%Imax)	1100.7	—
(90%Imax)	1238.29	—



- (10%Emax) 34.39675
- (20%Emax) 68.79375
- (30%Emax) 103.1905
- (40%Emax) 137.5875
- (50%Emax) 171.9843
- (60%Emax) 206.3813
- (70%Emax) 240.778
- (80%Emax) 275.175
- (90%Emax) 309.5725





Luminance Table

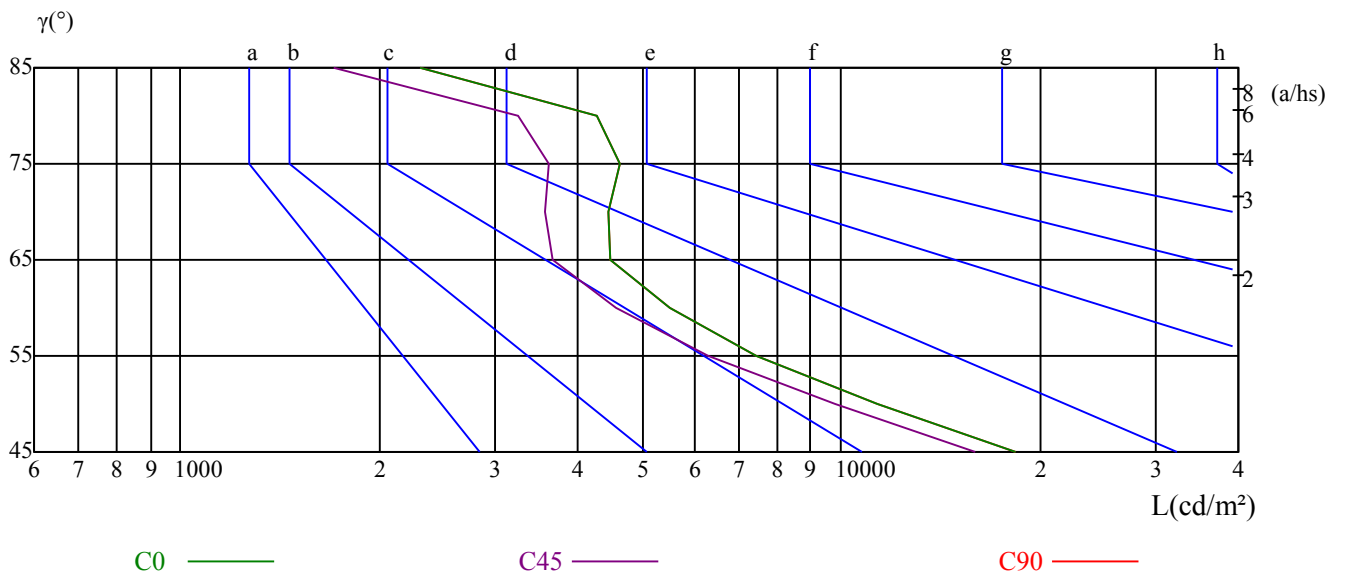
$\gamma$	45	50	55	60	65	70	75	80	85
C0	18363	11362	7425	5492	4469	4448	4623	4274	2309
C45	16025	9771	6287	4573	3654	3564	3619	3256	1702
C90	18363	11362	7425	5492	4469	4448	4623	4274	2309

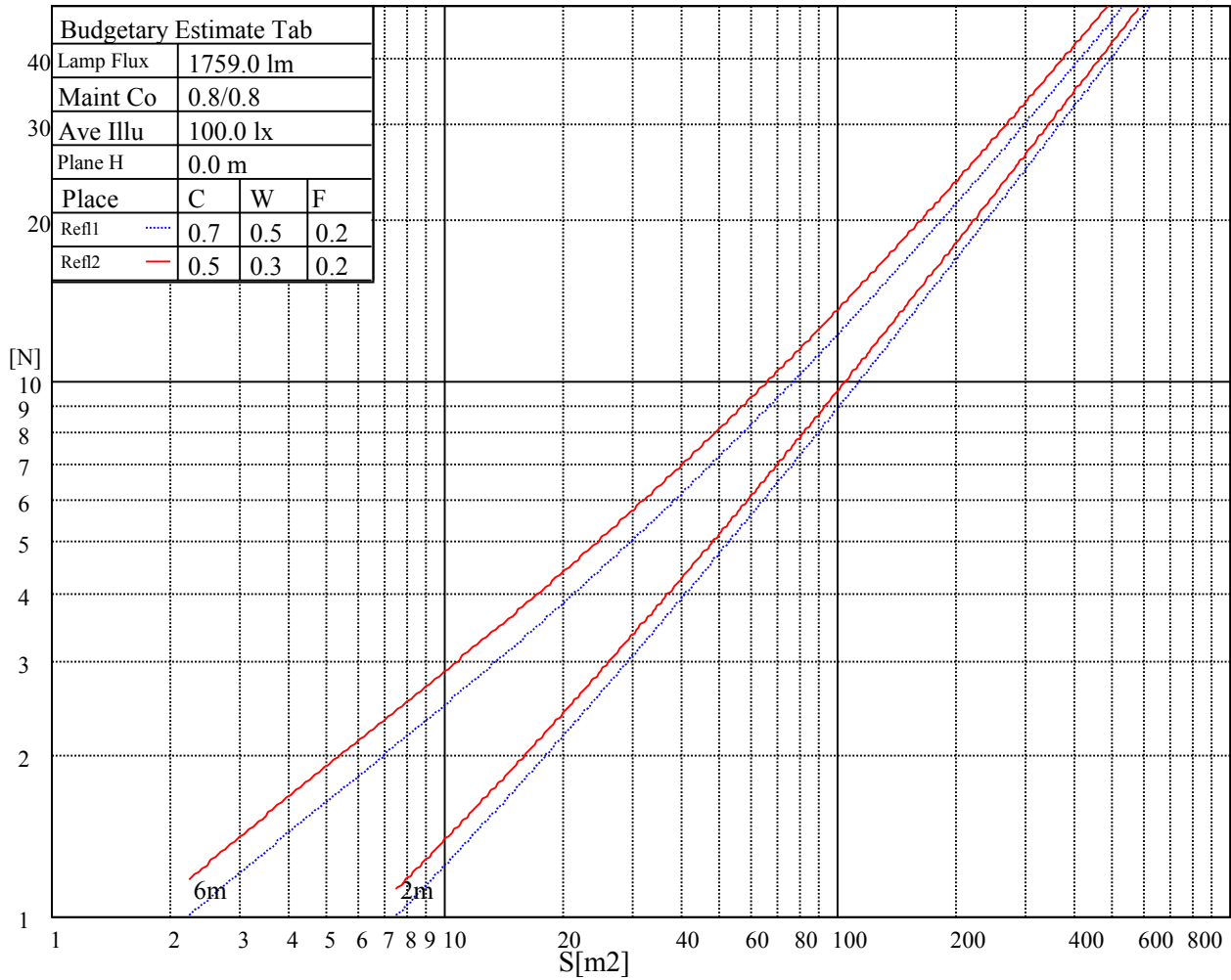
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
9677	9677	9677	14001	14001	14001	16652	16652	16652

Glare Table

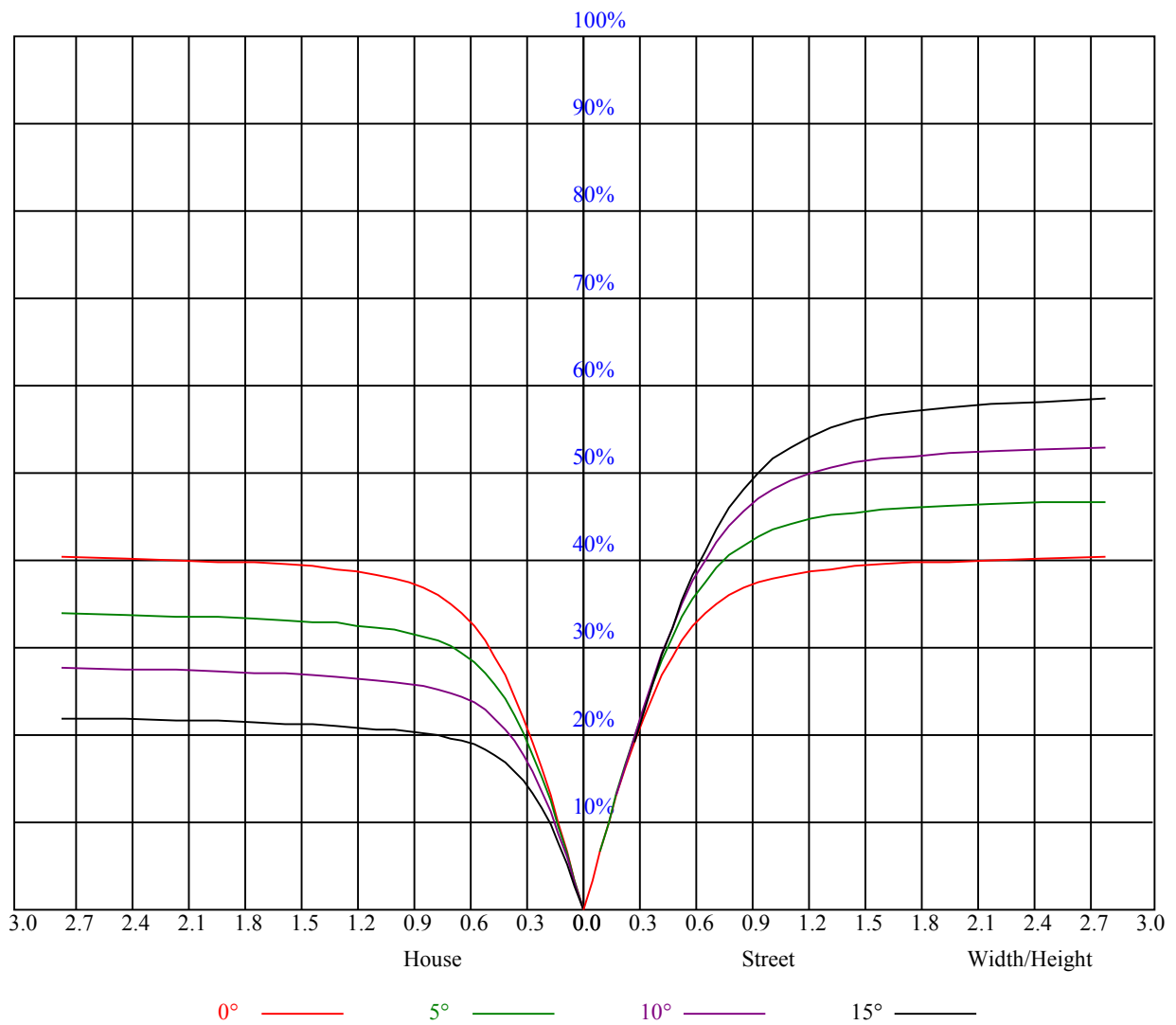
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.82
1	0.90	0.87	0.85	0.88	0.86	0.84	0.84	0.83	0.81	0.81	0.80	0.79	0.78	0.77	0.76	0.75
2	0.82	0.78	0.75	0.81	0.77	0.74	0.78	0.75	0.72	0.75	0.73	0.71	0.73	0.71	0.69	0.68
3	0.76	0.71	0.67	0.74	0.70	0.66	0.72	0.68	0.65	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	0.65	0.62	0.59	0.64	0.61	0.58	0.57
5	0.65	0.59	0.55	0.64	0.59	0.55	0.62	0.58	0.55	0.61	0.57	0.54	0.60	0.56	0.54	0.52
6	0.60	0.55	0.51	0.60	0.54	0.51	0.58	0.54	0.50	0.57	0.53	0.50	0.56	0.52	0.50	0.48
7	0.56	0.51	0.47	0.56	0.51	0.47	0.55	0.50	0.47	0.54	0.49	0.46	0.53	0.49	0.46	0.45
8	0.53	0.47	0.44	0.52	0.47	0.43	0.51	0.47	0.43	0.50	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	0.40	0.48	0.43	0.40	0.47	0.43	0.40	0.39
10	0.47	0.41	0.38	0.46	0.41	0.38	0.46	0.41	0.38	0.45	0.41	0.38	0.44	0.40	0.38	0.36



Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	1375.31	1375.88	1344.94	1257.19	1120.50	943.88	749.25	542.25	361.69
45.0	1377.56	1370.25	1326.94	1224.56	1087.31	905.06	713.81	514.13	329.06
90.0	1375.31	1361.25	1305.00	1179.56	1029.88	826.20	631.69	445.11	280.69
135.0	1375.31	1359.56	1294.88	1178.44	1020.38	842.63	653.63	454.50	294.19
180.0	1375.31	1343.25	1262.81	1122.08	974.48	774.06	606.54	408.99	249.30
225.0	1377.56	1364.06	1299.38	1121.74	1035.17	845.21	648.06	447.30	275.12
270.0	1375.31	1377.56	1351.69	1276.31	1131.75	924.19	710.44	505.69	321.19
315.0	1375.31	1377.00	1341.56	1256.63	1105.93	904.78	711.62	492.47	308.64
360.0	1375.31	1375.88	1344.94	1257.19	1120.50	943.88	749.25	542.25	361.69
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	204.41	117.96	73.35	50.06	36.45	28.86	23.40	18.68	13.11
45.0	181.97	109.91	67.50	47.25	35.61	28.24	22.50	17.78	12.38
90.0	158.40	97.14	61.20	43.48	33.24	27.56	25.88	19.18	10.86
135.0	161.83	95.74	61.59	43.93	36.45	46.07	52.82	43.20	10.80
180.0	143.21	86.63	56.08	41.57	31.73	25.54	19.91	15.47	9.96
225.0	153.90	94.28	60.13	43.03	32.74	26.55	21.26	16.54	11.59
270.0	180.51	109.35	67.84	47.08	34.88	28.29	25.26	21.88	12.60
315.0	172.80	103.84	64.52	44.55	35.83	45.73	54.34	52.43	16.99
360.0	204.41	117.96	73.35	50.06	36.45	28.86	23.40	18.68	13.11
C/ $\gamma$ (°)	90.0								
0.0	7.37								
45.0	6.75								
90.0	6.24								
135.0	6.08								
180.0	6.64								
225.0	6.86								
270.0	6.36								
315.0	6.53								
360.0	7.37								