

# Loudoun County Lighting Ordinance Notes

## Important Characteristics of this Ordinance

1. **Environmental Zones** – This ordinance adopts the 1999 IESNA recommendation to establish Environmental Zones. Environmental zones are administered in a similar way as other zoning classifications. This allows for appropriate lighting levels to be maintained for different types of needs (i.e. Less light for rural residential and more light for high density commercial).
2. **Shielding Requirements** – Using properly installed and shielded lighting fixtures is the key to eliminating glare, light trespass, light pollution, and ultimately citizen complaints. This ordinance requires the use of fully shielded lighting fixtures except in most cases when the fixture emits less than 2000 lumens (2000 lumens is approximately equal to a 100 watt incandescent light bulb.).
3. **Lumens/Net Acre Caps** - The approach of limiting lumens per acre is used in large part because of its simplicity of application and *to avoid* the wide use of technical specifications and the concomitant imposition of technical training and design complications on planning departments.

Upon receiving lighting specifications from a contractor, the examiner simply verifies that acceptable fixtures are being used and the total amount of light is within the cap for the Environmental Zone in question. The examiner need only be able to identify properly shielded fixtures and perform a simple calculation to determine if a proposal is in compliance with the code. Daytime verification that fixtures are installed correctly is a simple process. The alternative is to establish foot-candle or lux averages that require interpreting technical lighting plans and even taking physical measurements at night. The lumens per net acre caps circumvent this difficult process. In addition, it allows the professional lighting engineer maximum flexibility under the cap to design a system that meets the needs of the customer.

The only discussions of foot-candle measurements are the design goals (not regulations, this is meant to assist the professional designer) for recreational facilities and the actual regulation of spill light on display lots. These two cases generally require professional design and the professional is required to certify that the goals and/or regulations will be met.

## Issues for Further Discussion / Inclusion in the Ordinance

1. **Grandfathering / Sunset Clauses** - This ordinance “Grandfathers” current lighting installations. The typical half-life of outdoor lighting fixtures is approximately 10 years therefore it is expected that current installations would be brought into compliance within that time period. A “Sunset” clause sets a deadline when all lighting must be brought into compliance. This ordinance as submitted does not proscribe a sunset date except in the case of signage that is listed at 5 years from the adoption of the ordinance. The county should consider this issue carefully. This approach is perhaps “typical” but is by no means the only approach. A sunset clause could be very beneficial and worth the extra effort.
2. **Dealing With Complaints** - There are numerous examples of intrusive lighting in any location without an ordinance. The county should consider how it would deal with “Grandfathered” installations that draw complaints from residents. In residential situations, it may be appropriate in this case for the county to contribute some of the cost of replacing or shielding the fixture. Many reasonable options could be proposed.