

Will Model Lighting Ordinance have affect on Signs?

In our Spring 2003 Newsletter, USSC reported on the activities of the International Dark-Sky Association. You can find them at this web address: www.darksky.org

The International Dark-Sky Association (IDA) is a non-profit corporation originally founded by a group of scientists and astronomers to help "bring back the night sky", and has a rather large Membership consisting of scientists, astronomers, lighting professionals, planners, and local citizens.

From the start, IDA has been devoted to improving outdoor lighting; making it more effective, with less spill-over, so that unnecessary light was not affecting astronomical operations in Arizona, where IDA was founded and where the observatories were located. IDA works to help improve lighting design and construction to minimize and control nighttime illumination so that outdoor lighting could function, but would have less impact on the night sky.

In addition, the IDA is now combining notions of improved and more conservative light design, mandated changes in light fixture construction, and mandated energy conservation measures to achieve a broader range of goals.

In 2003, the USSC had gathered information on a new IDA initiative, a Model Lighting Ordinance or MLO, and we wrote an article giving readers a summary of the pending recommendations from IDA. In taking a leadership position on this critical issue to sign companies, the USSC aims to continue to fulfill its mission of Service to Members and the sign industry at large.

USSC Research

In response to the possible affects that IDA efforts might have on the On Premise Sign Industry, as reported in 2003, the USSC and USSC Foundation announced the funding of two separate research projects aimed at addressing issues that could potentially be raised by those interested in outdoor lighting and On Premises signs.

Study #1

Environmental Impact of On-Premise Identification Sign Lighting by Philip Garvey of the Pennsylvania Transportation Institute at Penn State (2004)

This study examined the actual impact of the illumination generated by internally illuminated signs on the "night sky". Do signs contribute to "light pollution"? What amount of lighting is generated by your average Channel letter sign? What amount of light actually reaches the ground, the viewer, and/or the sky?

This study was completed in 2004. PTI examined the available information and Standards, if any, in regard to On Premises Signs and the concepts of "Light Trespass", "Sky Glow" and "Glare." PTI then took actual field measurements of a representative sampling of On Premises signs, both internally and externally illuminated, and compared the measurement results with the current scientific standards for Sky Glow, Light Trespass, and Glare.

The study results found that, in some cases, there was no accurate scientific standard for the determination of a particular concept. For instance, it was found that "there are not agreed upon objective methods for physically measuring overall sky glow and no metric to measure sky glow from a single light source.....there are no universally agreed upon levels of acceptable or unacceptable sky glow."

In other cases, the study found that On Premises Signs were below the standard for determining that they had a negative lighting impact. For example, in regard to Light Trespass, the study found that at 33' to 49' from the On Premises Sign, "all lighting designs measured...had a vertical illuminance below 3.0 lux, a light level which has not been associated with light trespass." The lighting designs measured included: internally illuminated cabinets, externally illuminated signs, Channel Letters, exposed neon etc.

Results of the Environmental Impact study can help sign companies educate local government and the public on the critical issues related to On Premises Sign lighting: these signs do not contribute to "light pollution" or "light trespass; they do not create "glare" as measured by an objective standard; signs do not create "sky glow."

Study #2

Relative Visibility of Internally and Externally Illuminated On-Premises Signs by Philip Garvey, et. al., of the Pennsylvania Transportation Institute at Penn State (2004)

Our second study, in response to the Dark Sky situation, was a formal Test Track study comparing the performance of Internally illuminated signs, externally illuminated signs, and externally illuminated "gold leaf" signs. For Drivers, which signs perform best at night? Should one type of sign be prohibited by a Town if it is easier for Motorists to see and read, and performs better in objective, scientific testing?

This study was completed and published in 2004. It revealed that the signs that performed the best at night for Drivers were the Internally Illuminated Signs. It found that Externally Illuminated Signs with carved gold lettering performed very poorly at night. No externally illuminated sign provided adequate Legibility at traffic speeds over 20 MPH.

Results of this particular study can help sign companies in two ways: (1) Customers on busy roadways with posted speeds over 20 MPH can be advised on the proper illumination method for Legibility; (2) local government can be advised regarding traffic safety issues when they attempt to ban internally illuminated signs and allow only externally illuminated signs or externally illuminated carved signs.

MLO from IDA was discontinued

We made USSC Members aware that the IDA was working on a new Model Lighting Ordinance, or MLO. The IDA's Model Lighting Ordinance Version 2004.1 was first released on June 16, 2004. IDA said this on their website: "The MLO has been developed to address the need for a strong, consistent model for outdoor lighting regulation in the U.S. It aims to address light pollution harms such as glare, light trespass, human health and environmental impacts, and energy waste, by regulating the amount of light that can be used, when it can be used, and what types of fixtures should be used to light outdoor areas."

Further, the MLO Comments Review Panel issued the following statement:

"The Panel feels that this ordinance will preserve IDA's goals of preserving dark skies, limiting light trespass, promoting manufacturer improvement, minimizing glare, limiting brightness of facades and signs, and that the overall impact of this model ordinance nationwide will reduce, and expediate the end of, "ratcheting" of outdoor lighting levels."

The IDA's hope, naturally, was that communities around the country would adopt the MLO.

USSC Members should also take note of the some of the comments that the IDA published in regard to signs and lighting:

Published Dark Sky comments:

Example A: "Internally Illuminated Signs (i.e. Pizza Hut) need to be banned completely. Short of banning them completely they should certainly be restricted by the ordinance by luminance restrictions.....Externally illuminated signs should also be banned completely. Short of banning them completely they should certainly be restricted by the ordinance by luminance restrictions, fixture position, and shielding requirements."

Example B: "Internally lit signs without limits at least in part are not acceptable. Many times I've seen them blasting bright to a point that they are a glare issue."

Example C: " Internally illuminated (or backlit) signs should simply be required to have dark backgrounds and light letters / logos. There are already lighting laws in place out there that enforce this. This does make a big difference in ambient light spill, especially for nearby residential areas. And, for a community's sake, the resulting appearance of dark background signage tends to be much less offensive than when the inexpensive, white background back-lit signs are used."

In 2005, the Dark Sky effort was terminated, and IDA joined forces with the Illuminating Engineering Society of North America (IESNA) to collaborate on a joint MLO. IESNA is the national association of lighting professionals and manufacturers, and has created a knowledge base over the years that covers many types of outdoor and indoor lighting issues.

The Current Model Lighting Ordinance 2005

The United States Sign Council has been monitoring the IDA/IESNA MLO developments on behalf of USSC Membership. We have attempted to build a relationship with the committee working on the project, and to obtain periodic reports on the committee's progress.

To date, we have been informed that On Premises signs will not be regulated under the new MLO. However, we have not seen a finished document or draft.

We have also been informed that it is likely that some sort of "lighting zone" concept will be included in the MLO. This is a concept borrowed from Europe where different geographic areas are labeled #1, #2, #3 or #4. A rural area near a national park might be labeled Zone #1. A suburban community might be labeled Zone #3 or #4, and so forth. Within these Zones, properties and/or outdoor lighting fixtures would be assigned a value or limit that cannot be exceeded for the Zone. For instance, a corner service station might have an overall lighting Cap or limit – that would encompass all of the lighting on the site: the Canopies, the exterior lighting fixtures, and perhaps the signs.

On Premises signs could be exempt from any lighting zone requirements. If, however, On Premises signs are included under the lighting zone scheme, and the lighting output of On Premises signs on a given property somehow comes under scrutiny under the MLO, there may be difficulties ahead for the MLO.

USSC Members should take note that the IDA/IESNA MLO may include On Premises Signs under the concept of "outdoor lighting", and this will add another layer of regulatory control and restriction on the design, fabrication, and installation of On Premises Signs:

- lighting output of signs may be restricted
- lighting design of signs may be restricted
- Colors on signs may be restricted (dark backgrounds OK; light backgrounds not OK)
- energy consumption of signs may be restricted

USSC does have the Research to address these issues if they are raised by the MLO, and we look forward to working with the Committee in the future as the MLO is ready for publication.

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