

light pollution by Randal Smith v. trespass.



Above: A terrific guide to light pollution and trespass is available at no cost from the Lighting Research Center's National Lighting Product Information Program's Lighting Answers website at <http://www.lrc.rpi.edu/programs/nlrp/lightinganswers/lightpollution>

An awareness of the consequences of night lighting is growing among lighting specifiers. Communities are drafting ordinances designed to control skyglow and unwanted light across property lines. The issues are called light pollution and light trespass, and they can be easily confused.

Light pollution is when the illumination from a property, or a community is directed upward into the sky. This has the effect of causing the night sky to literally glow over that area. The sky glow blocks out the view of the night sky for all of us. It makes the work of astronomers nearly impossible. It ruins the atmosphere of small towns and rural areas at night. Many communities feel that the darkness is an important reason why they moved to the small towns in the first place.

Light trespass is when a luminaire of the wrong distribution is used on a property,

and the light is being distributed in improper directions causing other property owners to experience glare on their property.

Dealing with these problems is gaining in importance partially due to several issues. The Leadership in Energy and Environmental Design (LEED) program offers a credit for controlling stray light on a project. Some communities are adopting the Model Lighting Ordinance. A greater environmental awareness is growing in the lighting community, prompted by the International Dark Sky Association and the Illuminating Engineering Society of North America.

The causes of light pollution and light trespass are not always the same things, and neither are the solutions. But using luminaires with optics designed for better cutoff of light distribution can be a good start toward helping solve both problems. A free publication is available from the Lighting Research Center—see caption at left.

ballast bullets.



Ballasts are not sexy. They are, however, crucial to the success of the luminaires and lighting systems that require them. We've written about ballasts in the past, but from the inquiries we get, it seems time to briefly revisit this topic.

Flexibility

- Even though this is changing a bit with new multi-lamp, multi-volt ballasts, most ballasts can only run one (or two) lamp types and wattages, on one voltage. Installing the wrong lamp in a ballast can result in bad lighting, ruin lamps, ruin ballasts and may even be dangerous.

Starting Method (Fluorescent Electronic Ballasts)

- Instant Start: the most common type found because they use 2-3W less than rapid start. But if you have frequently switched (i.e. motions sensors) your lamp life may suffer.
- Rapid Start: not as common, uses more watts, so almost never used in rebate job although you may get longer lamp life.
- Programmed Start: originally designed to guard against end-of-life problems, they also start the lamps correctly. Save more energy than rapid start, and offer potentially dramatically longer lamp life (over 30,000 hours, even with motion sensors. The **only** ballast to use with T5HO systems.

HID

- Until fairly recently electronic ballasts for HID were too expensive to use and did not

offer compelling energy savings for pay-back. But new systems for metal halide can make them competitive from an energy savings standpoint with T5HO in height-ceiling applications. Offers better lumen maintenance and lamp life.

New Generation

- Newer designs for ballasts (and lamps) have moved the energy consumption downward while raising ratings for lamp life upward without impacting lighting performance. These new lamp and ballast combinations mean that specifiers must begin to think about integrated lighting systems instead of just lamps and ballasts in order to get the best lighting performance and greatest energy savings. The new 'high-performance T-8' systems fall into this category.