

## Successes in Responsible Lighting

- ★ Kingston Ontario - replacing all cobra head style street light fixtures with full cutoff light fixtures - starting 2001 October



Full Cut Off light fixture similar to the one being installed in Kingston Ontario.

- ★ Torrence Barrens Dark Sky Reserve - located outside Gravenhurst, Ontario
- ★ Richmond Hill Ontario and Saanich BC have bylaws promoting the use of efficient lighting practices.
- ★ Rising National Media coverage and awareness of the issue as energy prices rise.

## What can you do locally?

- ★ Inspect your own outdoor lighting for aiming (use it where you need it, shield it if necessary), trespass (don't let your light trespass), overwattage (do you really need 200 watts? Try out 60 watts and see if it is enough), install a motion sensor if a light does not need to be on all night, or use photocell controlled fixtures so your light does not stay on all night AND day.

## The Royal Astronomical Society of Canada - Kingston Centre

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Monthly Public Meetings & Lectures

2<sup>nd</sup> Friday of each month at 7:30pm  
Queen's University Stirling Hall, Theatre A  
(enter from Bader Lane (formerly Queen's Crescent))

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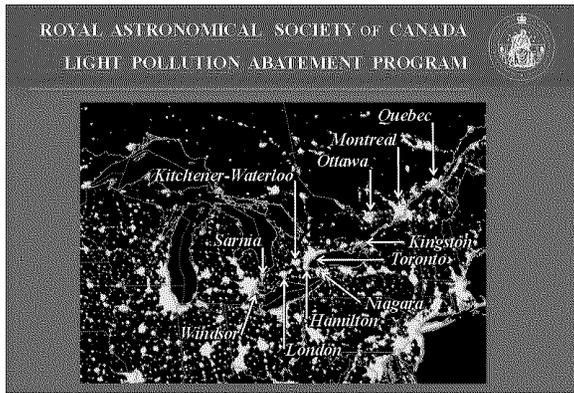
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## Responsible Lighting

*Light Pollution is the Problem...  
Responsible Lighting is the Solution*



**Light Pollution view of Eastern North America.** *Everything you see here is wasted energy and is considered light pollution.*

This picture was taken in 1972 by satellite and is a composite from many images. As you can see, the night light that is produced can be seen from space.

### How much energy is wasted?

With unshielded lights, about 40% of the light is directed to the sky, where it serves no useful purpose. Another 30-50% is reflected from bright ground sources. Since outdoor lighting consumes about 30% of our total electrical energy use, we are talking about large sums of money, **YOUR MONEY.**

### What is Light Pollution?

Light pollution is a generic term that encompasses many different aspects of improper lighting.. The three major components of light pollution are **light trespass, glare, and urban sky glow.**

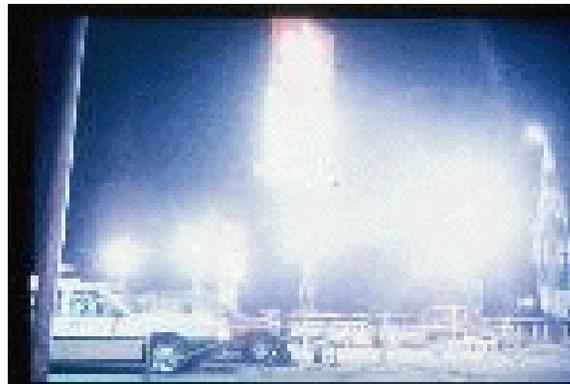


**Bad Lighting - Light Trespass**



**Good Lighting - Well Shielded and Aimed**

**Light trespass** can be described as the effects of light or illuminance that strays from its intended purpose. Probably the most annoying and safety related aspect of light pollution is **glare.**



*Glare from poorly aimed, overpowered lighting*



*A photograph of the **sky glow** above a city. No stars at all. Very visible evidence of wasted light, energy, money and of an adverse impact on the night environment and of our view of the universe.*



*Similar view of the sky from a location well away from the city. Quite a difference!*

**Urban sky glow** is the result of stray light being scattered in the atmosphere brightening the natural sky background level. This effect is extremely detrimental to astronomers.

#### **Basic tenets for responsible lighting:**

- Use light only where you need and use it
- Use full cutoff fixtures to use the light where you want it and no where else.
- Use the appropriate wattage and not more than you need
- Use a motion sensor, timer to reduce the time of lighting to when it is needed

#### **References/Resources:**

RASC Kingston: <http://www.rasc.ca/kingston>

RASC NLPA:

<http://www.rasc.ca/light/>

IDA (International Dark Sky Association):

<http://www.darksky.org/ida/>

Membership Application forms are available at:

<http://www.rasc.ca/>