

## Light-Efficient Communities - Is My Home Light-Efficient? – 1/5

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Although most light pollution in a community comes from streetlights and industry, homes contribute their share through the use of unshielded interior and exterior lighting. Escaping light contributes to light trespass which effects neighbors, local flora and fauna as well as the night environment in a negative manner.

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### Introduction

The goal of this project is to ensure that the lighting on your property is consistent with the goals of the Light-Efficient Community. In the process you can improve the quality of light round your property and reduce energy consumption, waste and costs.

***A Light-Efficient Community (LEC) is one that uses lighting responsibly. It uses the most effective, efficient artificial lighting available to minimize energy waste, glare, light trespass, light pollution and health hazards to living things. Light is used intelligently. It is only used when needed, where needed in the right quantity through the use of efficient lighting technologies for only the period of time required with the appropriate color.***

A gross example would be lighting a porch area all night using a 500 watt halogen lamp. A more acceptable example would be lighting a porch area with a shielded 25 watt-equivalent compact fluorescent or LED bulb that is triggered by a sensor and shuts off automatically when there is no movement.

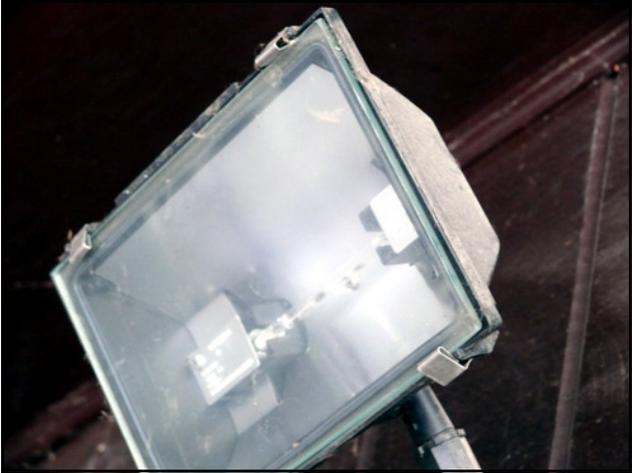
Each of us can do our part in creating a Light-Efficient Community by checking the lighting in and around our homes. It is surprising how many homes in a community waste a large amount of electricity and money on irresponsible, ineffective, inefficient, and unnecessary lighting. In the process, money and resources are wasted and the energy lost is used to make the community more unhealthy for humans, flora and fauna. As well, the light pollution extends far beyond the community, creating hazards for those not responsible for the waste. Our society can no longer accept this waste.

# Light-Efficient Communities - Is My Home Light-Efficient? – 2/5



Above: Globe lights are inefficient and often ineffective polluting fixtures.

Below: Porch fixtures are prime light polluters. This type of fixture creates glare and scatters light outward and upward with little going to the area required.



Left: A 500-Watt porch light wastes substantial energy and is lighting overkill when a 25 watt shielded bulb with reflector will do the job well.

Below: The standard 'farmyard light' is a common fixture for area lighting. It is extremely inefficient and wasteful and should not be purchased.



### **Exterior Lighting:**

Exterior lighting contributes the most to light pollution emanating from the home and to problems that occur as a result of light pollution in the community. The exterior is the first area you should check in determining how LEC compatible your home and yard is.

### **Examples of a Lighting Faux-pas:**

***Irresponsible Lighting:*** lighting up the neighboring properties (and often keeping awake, disturbing and/or angering your neighbors.) Irresponsible lighting contributes to general light pollution as well as increasing the damaging effects of light on human health, flora and fauna and the night environment. Many people cannot sleep when light levels are high and develop sleep deprivation illnesses and subsequent health, personal and social problems.

***Ineffective Lighting:*** using intense or high-glare lighting (which produces dangerous deep shadows) to promote safety and security. Light may be directed in the wrong way or may be too dim to be of any use. The wrong colour of lighting may also cause the lighting to be ineffective and/or irritating.

***Inefficient Lighting:*** Using wattage overkill (Using a 500 watt bulb when a 25 watt bulb/ equivalent would do.) Or, using less energy efficient bulbs when more efficient types are available. Bare bulbs are also inefficient as a major portion of the light is wasted outwards and upwards.

***Unnecessary Lighting:*** leaving the porch light, yard lights or other lights on all night or when not in use or lighting areas not being used.

After referring to the ‘Better Lights for Better Nights’ by Bob Crelin at the end of this document check the exterior lighting on the house and around your grounds. Identify which fixtures are not fully shielded and are leaking light onto the neighbor’s property or into the night sky. Are there any bare bulbs in use? Do these fixtures have to be there or they more decorative than practical? How many watts are the fixtures? How much are they costing you? How effective are they? Are any of the fixtures on a ‘dusk to dawn’ circuit and remain on all night? Is it time to replace them?

These fixtures should be replaced with full cut-off, sensor-based or switch-operated lights, if indeed they are necessary at all. Most of these fixtures are ‘security’ fixtures, meaning they are meant to improve our feeling of security and reduce the chances of vandalism or criminal activity.

You should also check habits, attitudes and fears and see which are causing light pollution to emanate from your home and yard. Leaving the lights on is one bad habit that can be changed. Energy-saving, habit-related ideas should be adopted for lighting use in your home.

Most exterior lighting is for safety and security concerns. However, our safety and security fears often drive our use/misuse of light.

Research indicates that about 80% of crimes occur during daylight hours. Most personal assaults and murders are caused by people you know well, often people with whom you live.

Vandalism and break-ins are actually reduced by removing lighting or using appropriate lighting such as sensor-based lighting. The flash of sensor-based lights demand and attract attention, thus often foiling vandalism or criminal activities. Light, when properly used, can be an ally in the fight against crime.

(Check the LEC-Kit handout “Lighting and Crime.”) Vandalism and trespassing on properties can virtually be eliminated by shutting off yard lights which act like a magnet to those who would commit crimes. This applies to farmyards as well. Farm yard lights are major light pollution offenders and act like a welcoming beacon to thieves.

Criminals have the same fears as most humans and avoid areas which are not lit for fear of what is there. They need light to:

- identify targets
- assess targets for value
- assess targets for dangers
- plan their activities
- plan an escape route
- do their deeds
- escape safely

Vandals need light to see what they are doing and have others see the results of their work. Light not only helps criminals do their work, it encourages them! Our own fears and habits as well as misuse of light most often aid criminal activity.

Check for dangerous, burned-out, inoperable or defective lighting fixtures. Check them for appropriate bulb wattage, shielding, and direction. Replace them, as necessary, with fully shielded fixtures of the right wattage controlled by sensors where appropriate.

### Interior Lighting:

One does not often think that interior lighting is contributing to the general light pollution in the community. However, many room lights are not properly shielded and emit light directly through the windows into the night. Interior lights should be producing indirect lighting with none shining directly outwards.

As well, curtains and blinds should be used to contain interior lighting and to keep the home warmer in winter. Check all interior lights to ensure they are all shielded or pointed away from windows. As well, check the efficiency and effectiveness of each, changing bulbs and/or fixtures as need be.

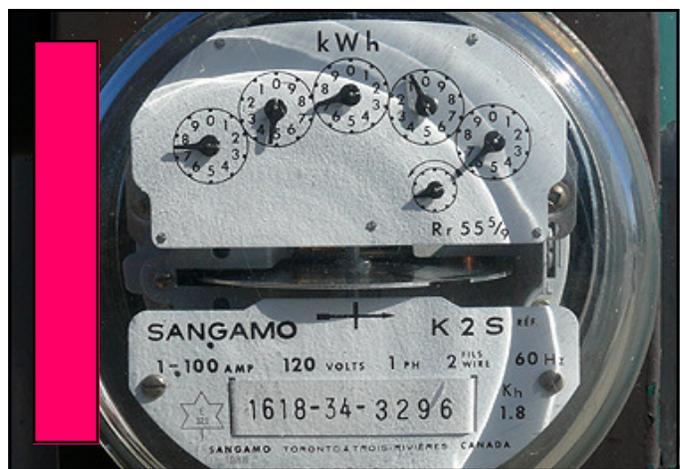
### Conclusion:

Check the interior and exterior of the house to determine the state of lighting on your property. Make a list of all the fixtures you plan to replace. Consult the “Better Lights for Better Nights” diagrams and choose the types of fixtures that would be appropriate for your needs. Check with local lighting merchants to see and evaluate the fixtures they carry. Ensure the fixtures are well shielded and are effective, efficient and appropriate.

Encourage your neighbors to change their fixtures out as well, if need be. Your health, the health of your family and that of the environment are depending on the choices you make. As well, you will be creating a safer, more secure home that is reducing lighting costs while saving energy and money.

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### Remember - Your power meter is running!

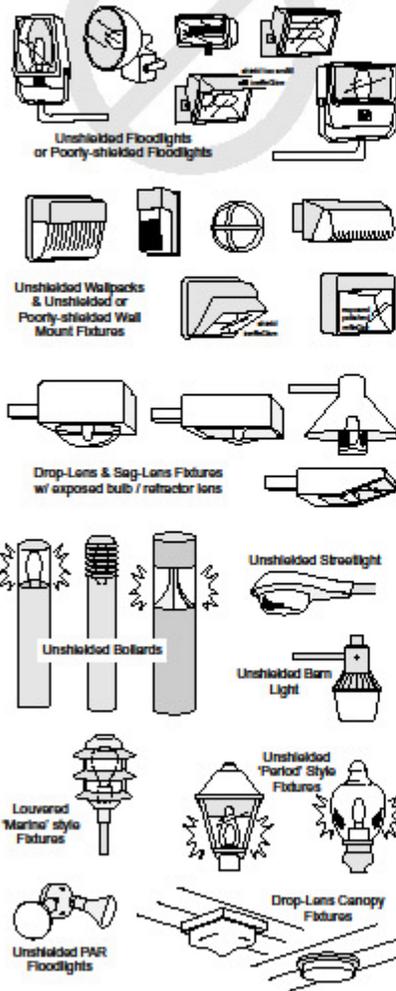


# Better Lights for Better Nights

Help eliminate light pollution. Select the best fixture for your application using this guide. Use the lowest wattage bulb appropriate for the task and turn off the light when it's not being used.

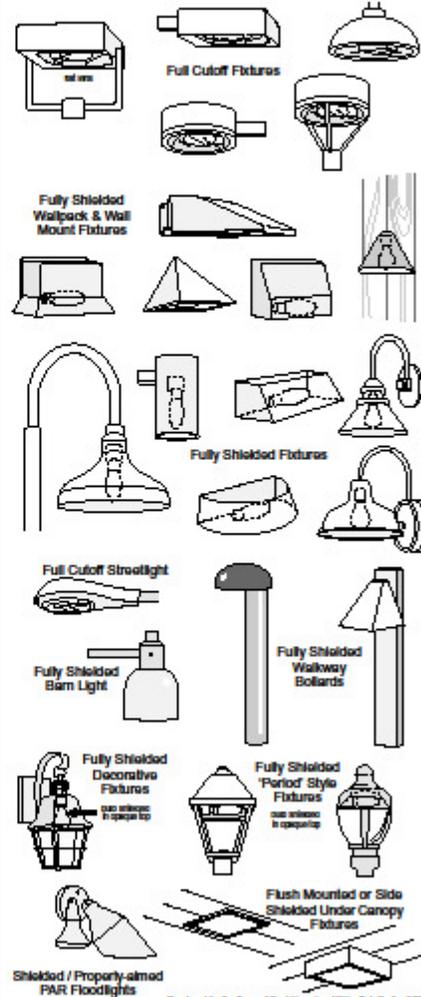
## Unacceptable / Discouraged

Fixtures that produce glare and light trespass



## Acceptable

Fixtures that shield the light source to minimize glare and light trespass and to facilitate better vision at night



Reordered for the Town of East Hampton, NY by Bob Crelin 6/2005

presented by the

**Dark Sky Society**  
www.darksksociety.org

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