

backyards, or at least at our own homes. This is the first of a series of articles on exactly that, looking at our own home lighting with respect to the principles of responsible lighting.

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.

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, or timer to reduce the time of lighting to when it is needed.

Let's take a look at our back door light.



Responsible Lighting and Your Home, Part 1

by Kevin Kell

Hi! How is **your** lighting? Before we go off making a fuss about other people's light pollution and responsible lighting, perhaps we should take a look in our own

It was an unshielded 100 watt incandescent bulb when we moved in.

When you were outside looking at it, the

glare was incredible... to the point of being dangerous. Thus it violated responsible lighting in that it contained all three components of light pollution:

- 1) The neighbours could see it from there back yard, trespassing on their dark areas.
- 2) You literally could not see anything else but the bulb glare.
- 3) The light went everywhere, including up contributing to suburban sky glow.

So, the first thing we did was to look at the tenets: - use light only where you need and use it. Well that answer was yes, we both needed and used it in the back door area.



Were we using an appropriate wattage?

Heck no, it was way too much! So we replaced it with a 50 watt incandescent bulb, reducing both power consumption by 50%, but also reducing the glare level and the sky glow component. However it still was trespassing onto the neighbours property and causing direct line of sight glare and some skyglow.

Then along came Compact Fluorescent bulbs. We were able to replace the 50w incandescent with a NINE watt CF bulb and get the same amount of light to boot.



Then we tackled the other issues of glare and sky glow by adding a glass enclosure with a piece of aluminum foil.

Since compact fluorescent bulbs do not get nearly as hot as incandescent bulbs, we felt it was safe enough to add aluminum foil folded up a couple of times to acts as a full cut off fixture addition.



This completely blocked the direct line of sight glare into your eyes and you could see much better in the back yard area. In addition, it stopped the direct light trespass onto the neighbours property.





Picture on the left is the "before" image of the light, with direct glare and overpowering brightness.

Picture on the right is the "after" image with no direct glare (although some reflected glare off the siding of the house). Notice however that the camera exposed more because of the reduced light levels and now you can see some details of the door and the lobster trap that you could not before. So even the bright reflected light you see in the "after" image is actually artificially brighter than it really was. Next time I'll try for a fixed exposure for a more accurate comparison.

In summary, we reduced the amount of wattage by OVER 90% (100w down to 9w), reduced the absolute amount of lumens (light quantity) by about 50%, eliminated GLARE, eliminated LIGHT TRESPASS and greatly reduced the SKYGLOW that our back door fixture caused.

Next month we tackle the garage flood lights!

"Clear Skies!" ... hmmm how about "Clear Dark Skies!" instead?

