

Why Is It So Dark Here?

It's a new year. The nights are crisp and the stars are bright. Before you know it, it will be warm enough at night to sit out and watch the night sky. With a number of newcomers to our HOA and to Green Valley, this is a good time to review "Why is it so dark here?"

The more waggish among us might think it's because we don't want to pay for streetlights. The truth of the matter is that it's by design, and driven by the Dark Sky Initiative. Most of our Homeowners are aware of it and conform to the recommendations. However, if you look for outdoor lighting at local and big box hardware stores, they are filled with outdoor fixtures and bulbs that run counter to HOA and County codes for outdoor lighting. Obviously, this can be confusing, if not confounding.

It is also a bit simplistic to say "So we can see the stars"; that's only part of the reason. The International Dark Sky Association lists a number of adverse effects of light pollution on wildlife, as well as each other. But when it comes down to regulations, much centers around the needs of nearby observatories.

While our HOA has a restriction on certain types of lighting, Pima County's Outdoor Lighting Code is much more detailed.

In the Code, various zones are identified based upon the proximity to major observatories and national parks. In our case, the San Ignacio Heights HOA is in one of the most restrictive zones, falling within 12 miles of the Whipple Observatory on Mt Hopkins.

Our 2007 CC&R's conform in some part to the 2012 Pima County Outdoor Lighting Code, but there are some other considerations if you are planning to change outdoor lighting fixtures or bulbs.

These considerations include **light shielding, light intensity and light color.**

1) Our CC&R's specify that light fixtures are to be "down-shielded only with no horizontal diffusion". The technical term is "fully shielded". The light bulb should be fully inside the shield. If you stand at the edge of your property & can see the bulb (or it's behind a translucent shield), it's not fully shielded.

2) Light intensity is rated in Lumens. By County Code, outdoor lighting on residential properties in our zone have a cap of 4 - 550 lumen bulbs (40 watt incandescent equivalents), with no unshielded fixtures.

3) Light Color is measured in Kelvins. The higher the Kelvin, the more blue in the light; the lower the Kelvin, the more yellow. "Daylight" bulbs are rated as 5000K; "Warm/Soft White" are usually rated at 2700-3000K. The International Dark Sky Association recommends 3000K or less. In a private discussion with the Dark Skies Coordinator at the Whipple Observatory, we learned they prefer a maximum of 2700K for outdoor lighting.

A quick drive-through of our HOA reveals that there are a good number of carriage style fixtures, jelly jar fixtures and unshielded wallpacks (similar to Jelly Jars). These fixtures were probably installed when the homes were first built in the 90's. It is **NOT** our intention or desire to demand those fixture be replaced. Nor is it our

intention to enforce County Code. These fixtures can still be used wisely, keeping in mind the Dark Sky recommendations to use light when you need it & where you need it. Lighting the way for arriving or departing guests is a very different use than leaving the fixture on all night as a "security" light.

As far as the HOA is concerned, we are mostly concerned with how you use an unshielded exterior light fixture, how much it impacts your neighbors or the common area, and if you plan to change your outdoor lighting fixtures. If the latter, please submit an Architectural Request form identifying a fixture that conforms to Code. If you meet code, you'll meet HOA requirements.

For your consideration:

If you are using a light bulb with high Lumen (Wattage equivalent), consider replacing it with a lower Wattage equivalent. A "100-Watt" bulb may be no more effective than a "40-Watt" bulb as a security deterrent, or even for safety while using your patio. If you install a security flood, direct it down, not out.

If you are considering replacing incandescent bulbs with LEDs, be especially mindful of the color. Most LEDs are higher in Kelvins, but there are LED bulbs available with a "Warm/Soft White" rating.

Attached is a useful guide for Homeowners, distributed by the Utah State Parks. Check out Page 6 for examples of acceptable and discouraged fixtures. (Also found online at <https://stateparks.utah.gov/wp-content/uploads/sites/13/2018/03/Dark-Sky-Manual-for-HomeOwners.pdf>)

You might also find the following useful or interesting:

<https://www.darksky.org/our-work/lighting/lighting-for-citizens/residentialbusiness-lighting/>

<https://www.amazon.com/GE-Standard-Equivalent-Medium-Non-Dimmable/dp/B07CTMGW5Y/>

<https://www.kgun9.com/absolutely-az/why-the-popes-telescope-is-in-southern-arizona>

<https://findstarlink.com/> (sighting the "string of pearls")

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Jan 12, 2022