

# Five Principles for Responsible Outdoor Lighting



## 1 – Does the Light Serve a Clear and Necessary Purpose?

Light is useful for safe wayfinding and to help perform specific tasks. In the example below, the light illuminates only the entryway and stairs, where it is needed.

If you find that lights on your property are not necessary or useful, remove or disable them so that they are not accidentally turned on.



## 2 - Does the Light Fall Only Where it is Needed?

Direct the light down, not up into the sky, and target your fixtures so that light does not spill beyond where it is needed. The light source should not be visible from beyond your property.

If the light spills beyond where it is needed, install proper shielding and/or re-orient the light so that it does not extend beyond where it is needed. Be especially mindful of light that spills up into the sky, or onto other people's property.



### 3 – Is the amount of light appropriate for the intended task?



Use the lowest lighting level needed to perform the task. Light levels are measured in lumens, so check your light source and use the lowest lumens possible.

Excessive light can contribute to glare, actually making it harder to see things well. If you find that the lighting level around your home is too bright for the task it is intended for, consider changing the fixture's bulb or installing a new fixture with a lower lumens value.



### 4 – Is the light connected to active controls?



All outdoor lighting should be connected to a light switch, timer, and/or motion sensor so that they are used only when they are needed

Outdoor lights that cannot be easily controlled with an on/off switch should be connected to a timer or motion sensor. Motion sensors should be set to times of 5 minutes or less. Dusk-to-dawn sensors are strongly discouraged as they release light when it is not needed.

\*Make sure sensor triggers are set appropriately so that they light the area only when people are present.



### 5 – Is the light source warm in color?



Most lightbulbs manufactured today have a Kelvin rating printed on the bulb. Low Kelvin ratings (3000 Kelvin or less) are considered warm and generally emit less harmful blue light than high Kelvin. .



# DEFINITIONS



**Fixture:** An electrical device used to create artificial light through the use of an electric lamp. A fixture may house one or more lamps which can be either built-in or manually replaceable (i.e. bulbs).



**Lamp:** The bulb or other light-emitting portion of a fixture. This may include light-emitting elements built into a fixture (i.e. built-in LEDs) but is not inclusive of any reflective materials used to direct light.



**Shielding:** The portion of lighting fixture which covers the fixture's lamp(s). A fully-shielded fixture is a fixture constructed so that in its installed position, all of the light emitted is projected below the horizontal (90-degree) plane passing through the lowest light-emitting part of the fixture. Essentially, the shield is built so the fixture's lamp is not visible at all below the shield.



**CCT:** A measure of the color properties of light emitted by lamps, being equal to the temperature, expressed in kelvins (K), of a blackbody whose spectrum best approximates the spectrum of the light source in question. The higher the temperature in Kelvins, the "cooler" (bluer) the light is. CCT values are typically provided in lighting manufacturer data sheets or are printed onto LED light sources.



**Lumens:** The SI unit of luminous flux, equal to the amount of light emitted per second into a unit solid angle of one steradian from a uniform source of one candela. The higher the number of lumens emitted, the brighter a source will appear.



**Active Controls:** Any electronic or mechanical device that is attached to a fixture which is meant to dynamically control the duration, intensity, spectrum, or area illuminated by the lighting fixture. These can include timers, motion sensors, dimmers,



## Town of Marana Outdoor Lighting Code FREQUENTLY ASKED QUESTIONS



### **Why does the Town Of Marana have an Outdoor Lighting Code?**

The purpose of this code is to preserve the relationship of the residents of the Town of Marana to their unique desert environment through protection of access to the dark night sky. Intended outcomes include continuing support of astronomical activity and minimizing wasted energy, while not compromising the safety, security and wellbeing of persons engaged in outdoor night time activities.



### **Do I need a permit for the installation of new and/or additional lighting fixtures?**

The installation and replacement of exterior lighting fixtures does need to be permitted thru the Town of Marana and reviewed for lighting code compliance.



### **I have installed string lights on my patio and/or pergola. Are these allowed?**

String lights and seasonal decorations that are plugged into approved receptacles are not required to get a permit as long as they meet curfew requirements and are turned off by 11:00 pm.



### **I am concerned about my safety. Am I allowed to install security lighting at my home?**

Security lighting is allowed if fixture is shielded, pointed in a direction that the light does not leave your property and is controlled by motion detection.