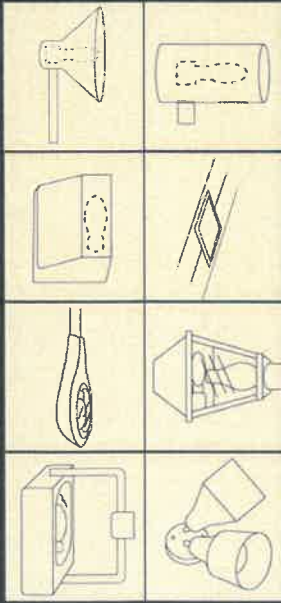


WHAT YOU CAN DO TO HELP

Check the outdoor lighting where you live.

- ◆ Replace unshielded fixtures with shielded or partially shielded ones.



Examples of fully and partially shielded light fixtures

- ◆ Point light fixtures towards the ground at an angle less than 45 degrees.
- ◆ Replace old bulbs with energy-efficient, Narrow-Spectrum Amber LED bulbs.
- ◆ Remove unnecessary or excessive outdoor lighting.

DID YOU KNOW?

15% of residential electricity used in the United States is for outdoor lighting every year. About 35% of that is wasted by unshielded and/or poorly aimed outdoor lighting.



Source: U.S. Department of Energy, 2011 data.

COMMUNITY PARTNERS

Contact or visit the website of one of these local agencies if you need assistance evaluating your household.

FLAGSTAFF DARK-SKIES COALITION
www.flagstaffdarkskies.org

SUSTAINABILITY ASSISTANCE

flagstaff.az.gov/homes
sustainability@flagstaffaz.gov
PH: 928.213.3608

CITY OF FLAGSTAFF

Community Development
211 W Aspen Ave
Flagstaff, AZ 86001
PH: 928.213.2104
flagstaff.az.gov/10/community-development

Dark Sky Compliance Specialist

Janice Hakala
Email: janice.hakala@flagstaffaz.gov
PH: 928.213.2148

COCONINO COUNTY

Coconino Planning Department
2500 N Fort Valley RD, Building 1
Flagstaff, AZ 86001
PH: 928.679.8850
coconino.az.gov/136/community-development

Dark Sky Compliance Specialist

Mark Stento
Email: mstento@coconino.az.gov
PH: 928.679.8856

DARK SKIES RESIDENTIAL PROPERTIES

Help Defend the Darkness

Protect the region's glorious night skies

Save energy with approved fixtures

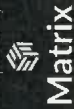
Improve the quality of the nighttime environment at your home or business

You can make a difference!.

This brochure was prepared under contract with Coconino County as a component of the Coconino County Military Installation Sustainability program. Financial support for this brochure was provided by the Department of Defense Office of Local Defense Community Cooperation (OLDDCC). The content reflects the views of Coconino County and does not necessarily reflect the views of the OLDDCC.



Prepared by



FLAGSTAFF was recognized as the world's first International Dark Sky City in 2001. Flagstaff and Coconino County are at the forefront of the effort to reduce light-pollution through education and best practices. This brochure provides a concise overview of outdoor lighting regulations and information on how to bring nonconforming lighting into conformance

WHO NEEDS DARK SKIES?



TOURISTS: Stargazing and astrotourism are ingrained in Flagstaff and Coconino County's culture. The dark skies in the area and the ability to see the night sky draw over 100,000 tourists a year.



YOU AND YOUR COMMUNITY: Dark skies are a priceless contribution to quality of life and personal health.



ASTRONOMERS: The Lowell Observatory is an educational and economic cornerstone of the community. It consists of five separate telescopes that attract researchers from all over the world. Important astronomical observations occur at these facilities every year.



THE MILITARY: The area hosts two Naval facilities that support astronomical research and critical military operations. They bring \$8.7 million a year and economic benefits to the region. Camp Navajo also relies on natural darkness for important night training operations.

WHAT PREVENTS DARK SKIES?

Light Pollution: There are four primary causes of light pollution:

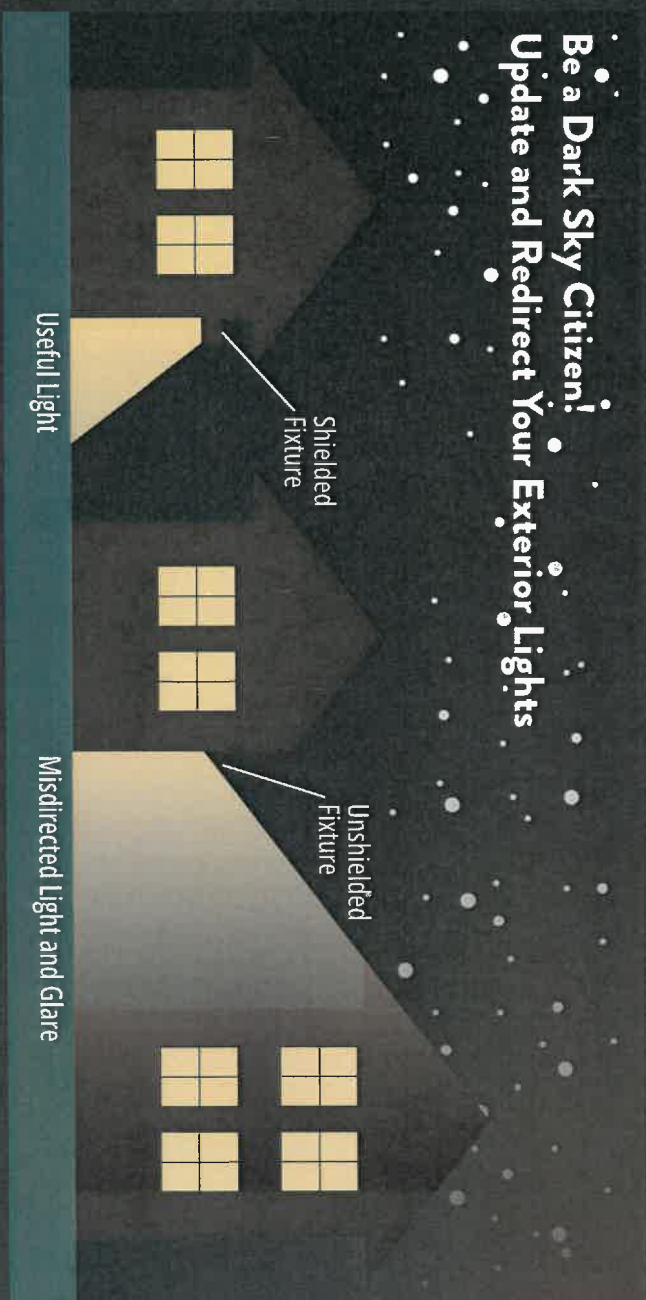
Excessive and Misdirected Light – Excessive light, or light shining in the wrong directions – directly into the sky or into your eyes – wastes energy and creates glare and sky glow.

Light trespass – When light illuminates areas where it is unneeded or unintended, like when your neighbors' light shines into your house.

Glare – When excessively bright or unshielded lights shine directly into your eyes, actually decreasing your ability to see.

Visual Clutter – When large numbers of poorly shielded and overbright lights create a cluttered appearance, often making it difficult to find what you need to see.

Be a Dark Sky Citizen! Update and Redirect Your Exterior Lights



DID YOU KNOW?

Replacing unshielded porch or garage lights with shielded fixtures helps dark skies, keeps your light on your property, and makes your lighting more neighbor-friendly! Consider using amber lights to decrease glare and other adverse effects.

THE EFFECTS OF LIGHT POLLUTION



ENVIRONMENT

Nocturnal wildlife is impacted. Predators are not able to see and prey have difficulty hiding. Sleeping, eating, reproduction and migration patterns are thrown off reducing wildlife vitality.



ENERGY

Energy consumption is wasted when lights are left, or too much light is being used. Financial costs and the costs to the environment increase from improper lighting.



HEALTH

Humans can suffer from misguided circadian rhythms leading to melatonin imbalances that increases the risk of obesity, depression, certain cancers, diabetes, and immune system problems.



CRIME

Data show crime does not actually decrease as light increases. Effective lighting design utilizing fully shielded fixtures can enhance security while using less energy and lowering impact.



SAFETY

Bright, unshielded white lights may negatively affect safety and adversely affect drivers in particular by creating dark shadows and blinding glare.

DID YOU KNOW?

Switching from conventional high-intensity lighting to LEDs can save you money every year due to the improved quality and longevity of LED bulbs. Just be sure to use amber colored LED products that do not emit blue light.