

# LIGHTING CODE BASICS

## DESCRIPTION

This basic outline was created in order to provide municipalities with an overview of what is generally included in effective dark sky ordinances. This outline does not constitute an official standard or recommendation but is rather an amalgamation of lighting code common elements and basic structure. The structure and content are flexible and should be adjusted to match the unique context, goals, and vision of each municipality. Write a code that is easy to understand and comply with, and residents will tend to do exactly that.

The standards necessary to achieve good light pollution control are conceptually simple, but writing a technically accurate and effective lighting code is less simple. If your community is seeking effective solutions to light pollution, the Flagstaff Dark Skies Coalition recommends using a code that has been tested and found technically sound and effective.

## IMPORTANT CONSIDERATIONS

The following template is an overview of the structure and common elements included in lighting code and dark sky ordinances. Use it to familiarize yourself with these basic elements. It will also be helpful to familiarize yourself with dark sky lighting terms and resources. Initially a municipality should also review their general plan, vision, and current land use code. We highly recommend communities consult with a lighting code expert.

Dark sky preservation is inherently a regional issue. One municipality can make a significant difference, but efforts to minimize light pollution will be far more effective if regionalism is recognized and efforts expand beyond one community's boundaries.

## EFFECTIVE ORDINANCES INCLUDE

- Definitions
- Procedures
- Standards
- Compliance methods
- Exemptions
- Enforcement
- What happens in cases of violation

## LIGHTING CODE TEMPLATE

1. **Purpose:** Define your purpose. Essentially your purpose is to minimize light pollution, promote energy conservation, regulate outdoor lighting fixtures, and to create a unifying, community-wide approach to outdoor lighting.
2. **Applicability:** Define where these lighting provisions will apply. All existing zones? All existing buildings and uses? New uses? How, where, and when do these rules apply?
3. **Lighting zones:** Establish lighting zones if there are separate areas within the town that have different lighting needs, natural conditions, levels of appropriate light usage, and sensitivities to the various obtrusive aspects of outdoor lighting. Overlay zoning is a sensible and effective option. See International Dark Sky Association's Recommended Lighting Zones as a reference.
4. **General requirements for all zone districts:** Which standards apply everywhere? Define each requirement clearly and thoroughly. Some requirements will require specific numbers and measurements.
  - a. *Shielding*
  - b. *Luminance*
  - c. *Height and space requirements*
  - d. *On-site lighting*
  - e. *Residential light trespass*
  - f. *Hours of operation*
  - g. *Streets and circulation in relation to lighting*
  - h. *Design standards:*
    1. *Light fixtures*
    2. *Light poles*
    3. *Light color*
    4. *Amount and location of lighting*
    5. *Lighting fixtures and materials*
    6. *Lamp type and wattage*
5. **Prohibited lighting:** Define which lighting is prohibited in each zone such as uplighting, flashing or blinking lights, flood lights, spotlights, searchlights, neon lights, laser lights, backlit canopies or awnings, etc.
6. **Exemptions:** Decide which outdoor lights are exempt from the set provisions. Examples include approved historic lights, holiday lights, lights required for public health and safety, government lighting, etc. Note that some exemptions may be time or date specific, like holiday lighting.
7. **Lighting standards for specific uses:** You may need to establish standards for specific uses or existing zones. Note that many requirements may be waived for lighting operated by motion sensors or timers. Specific uses may include:
  - a. *Intersections*
  - b. *Pedestrian areas*
  - c. *Walkway lighting*
  - d. *Parking area lighting*
  - e. *Gas stations*
  - f. *Signs (may extend to existing sign code)*
  - g. *Snow management*
  - h. *Recreation lighting*
  - i. *Flood/ security lighting*
  - j. *Landscaping*
  - k. *Towers*
  - l. *Hillsides*
  - m. *Ridgelines*
  - n. *Pools / water features*
  - o. *Other special cases*



## RESOURCES

### Utah Community Development Office - Dark Sky Assessment Guide

The initial groundwork for a dark sky designation is establishing the current status. This worksheet guides users through several evaluation methods which could be used for a general assessment of dark-sky-friendly lighting.

<https://www.darksky.org/wp-content/uploads/bsk-pdf-manager/2019/06/Dark-Sky-Assessment-Guide-Update-6-11-19.pdf>

### Utah Community Development Office - Dark Sky Planning Guide

An introduction to the issues surrounding light pollution, lighting basics, dark sky relevance, and guidance to local leaders. It also provides case studies and resources to assist communities.

<http://ruralplanning.org/darkskies>

### CPDSC - Lighting Ordinance Walkthrough

A breakdown of what a lighting ordinance is, the different formats it may take, links to example ordinances, and best practices.

<https://utah.maps.arcgis.com/apps/MapSeries/index.html?appid=1cb7caaa1aa543dea3c813ec9f1f7f93>

### Flagstaff Dark Skies Coalition - Outdoor Lighting Codes

Hub of information, resources, and links

<http://www.flagstaffdarkskies.org/dark-sky-solutions/dark-sky-solutions-2/outdoor-lighting-codes/>

### Pattern Outdoor Lighting Code (POLC) - 2010

Defines practical and effective measures by which the obtrusive aspects of outdoor light usage can be reduced, while preserving safety, security, and the nighttime use and enjoyment of property.

<http://www.flagstaffdarkskies.org/WPdev/wp-content/uploads/2015/10/CBL-POLC-standard-v2.0.pdf>

### Modeling lighting ordinances - dark sky impacts

Analysis of the light pollution control effectiveness of the IDA-IES Model Lighting Ordinance and the IDA Pattern Outdoor Lighting Code

<http://www.flagstaffdarkskies.org/model-lighting-ordinances-dark-sky-impacts/>

### IDA Lighting Code Handbook - 2002

This Handbook discusses issues relative to outdoor lighting codes, their effectiveness, implementation, and enforcement.

<http://www.flagstaffdarkskies.org/WPdev/wp-content/uploads/2013/02/IDA-Outdoor-Lighting-Code-Handbook-Version-1.14.pdf>

### IDA Model Lighting Ordinance (MLO) - 2011

This Model Lighting Ordinance (MLO) is the result of extensive efforts by the International Dark Sky Association (IDA) and the Illuminating Engineering Society of North America (IES). Among its features is the use of lighting zones (LZO-4) which allow each governing body to vary the stringency of lighting restrictions according to the sensitivity of the area as well as accommodating community intent.

[http://www.darksky.org/wp-content/uploads/bsk-pdf-manager/16\\_MLO\\_FINAL\\_JUNE2011.PDF](http://www.darksky.org/wp-content/uploads/bsk-pdf-manager/16_MLO_FINAL_JUNE2011.PDF)

### IDA - Lighting for Policy Makers

Arguments for why you municipality should be concerned about light pollution.

<http://www.darksky.org/lighting/policy-makers/>

### Multiple Lighting Ordinance Examples

Links to example code from multiple communities like Torrey, UT; Springdale, UT; Jackson, WY; and Kanab, UT.

<http://darkskystudies.org/lighting-ordinances/>

### Code Enforcement: Recommendations for Small Towns

Specifically catered to small towns, the guide is an introduction for local leaders on how to implement town vision through enforcement of local land use ordinances.

<http://ruralplanning.org/codeenforcement>

### IES Standards

The IES is an accredited Standards Development Organization (SDO) that develops its standards using American National Standards Institute (ANSI) approved procedures.

<https://www.ies.org/standards/>

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