

Dark Skies Lighting Development Code Amendments

City Council Public Hearing

January 10, 2024



600 x 338



Code Amendments Overview

File No. TA 22-03

Applicant: City of Sisters

Proposal: Update Sisters Development Code Chapter 2.15.2400
(Dark Skies Standards) Repeal and replace of Section 2.15.2400

Background: City Council Goal for 2023/24



Why the Changes?

1. **Changes in the Lighting Industry Since 2010/Ordinance Language Out of Date/2010 Non-Conforming Sunset Date**
2. **Community Support**
3. **City Council Goal Sisters Comprehensive Plan Support:**

Livability Policy 4.2.7 - “The City shall enhance its Dark Skies program to prevent light pollution and protect night sky views both through regulation of new development and through incentivizing retrofitting of existing non-conforming lighting.”

Public Facilities Policy 9.12 – “The City shall ensure that street lighting in Sisters is consistent with the City’s Western Design Theme, the dark skies ordinance, and other development code provisions, except where it is inconsistent with established or adopted safety-related requirements or standards.”

2. **City Council Goal for FY 23/24**



Feedback on Proposed Ordinance:

1. City Council
2. Planning Commission
3. Local Architects
4. School District Facility Manager
5. Electrical Engineers
6. Code Enforcement Officer
7. Public Works Staff
8. Community Development Department Staff
9. Legal
10. Business Owners
11. SHS Astronomy Club
12. Community Members
13. Dark Skies Consulting, LLC



Community Feedback

Summarized comments:

1. Public lighting must be subject to ordinance
2. Support retrofit of Cascade Avenue lights
3. Curfews on string lighting
4. 5-year timeframe amortization period for non-conforming private lighting
5. Support for International Dark Skies certification

Business Owner Feedback

Summarized Comments:

1. Widespread support for protecting the dark skies
2. Want regulations to work for their operations and be cost effective
3. Need to provide safety for employees/guests
4. Signage lit all night for guests checking in, unfamiliar to area
5. Support for financial incentives to replace old, non-conforming lighting; could be a showcase
6. Support phase out over time vs. strict timeline
7. Education first before enforcement
8. String lights – provides ambiance, regulating too far, support curfew

International Dark Sky Certification

Dark Skies Consulting, LLC: Meets all but one of the current Dark Skies requirement for IDSC eligibility.

- A provision that clearly indicates where, when, and under what circumstances new publicly owned lighting, including street lighting, is warranted and will be permitted.
- Meets:
 - Limits on overlighting and color temperature
 - Requires shielded lights
 - Regulations on illuminated signs
 - Regulations on outdoor sports lighting
 - Amortization of existing, non-conforming lighting



Proposed Ordinance - Purpose

1. Protect the valuable resource of dark night skies.
2. Preserve opportunities for viewing of stars, planets, and other astronomical features.
3. Promote human health and limit negative impacts from light at night.
4. Provide safely and responsibly lit areas for citizens and visitors.
5. Protect ecological wellness and support wildlife needs for darkness.
6. Reduce energy consumption, emissions, and cost.
7. Increase opportunities for tourism, such as astrotourism.



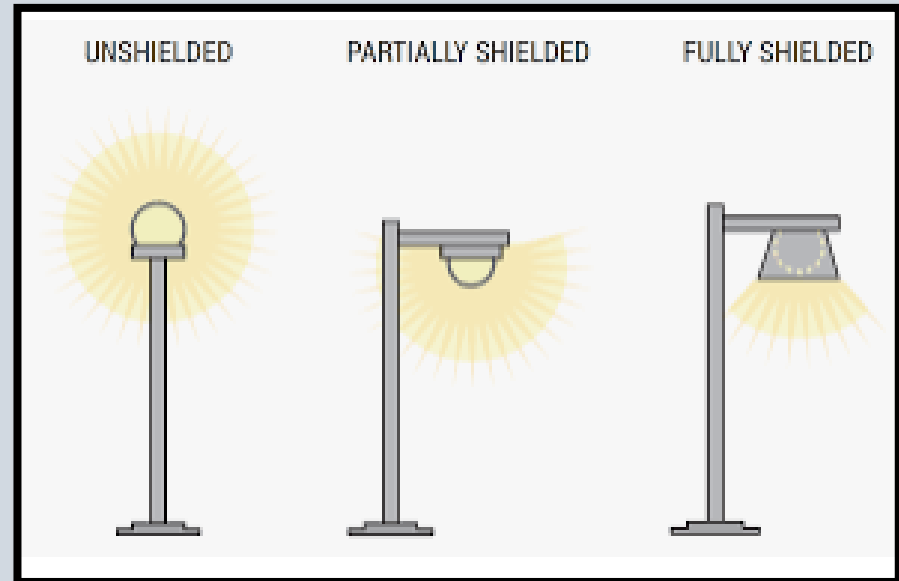
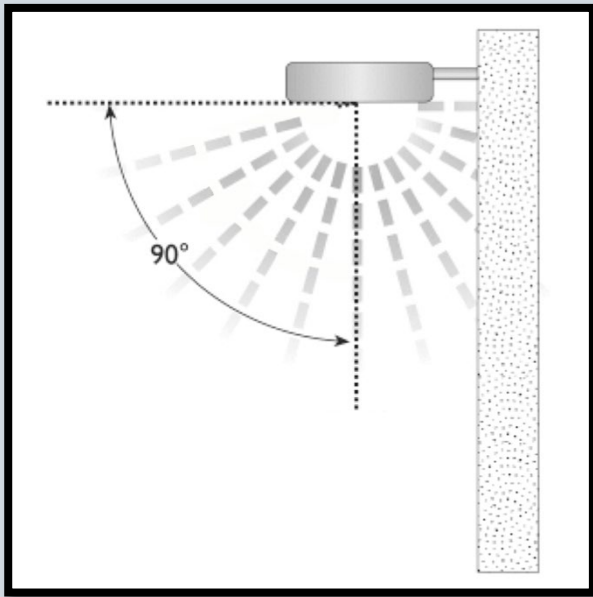
Guiding Principles of Updated Ordinance (not approval criteria):

1. **Useful.** Light should only be used if needed. All light should have a clear purpose, with consideration about how light will impact neighbors, wildlife, and their habitats.
2. **Targeted.** Light fixtures should be directed so light falls only where it is needed. Shielding and careful aiming to target the direction of the light beam so that it points downward should be employed to prevent spill beyond where lighting is needed.
3. **Low Level.** Lights should be no brighter than necessary, using the lowest light level possible. Attention should be given to reflective surfaces that will amplify lights and direct light into the sky or neighboring properties.
4. **Controlled.** Lighting should only occur when it is needed. Controls such as timers or motion detectors should be employed to ensure that light is available when it is needed, dimmed when possible and turned off when not needed.
5. **Color.** Warmer color lights should be used where possible.



Definitions

- Definitions help to guide administration of the ordinance
- Key Definitions: Downcast, Fully Shielded, Light Trespass



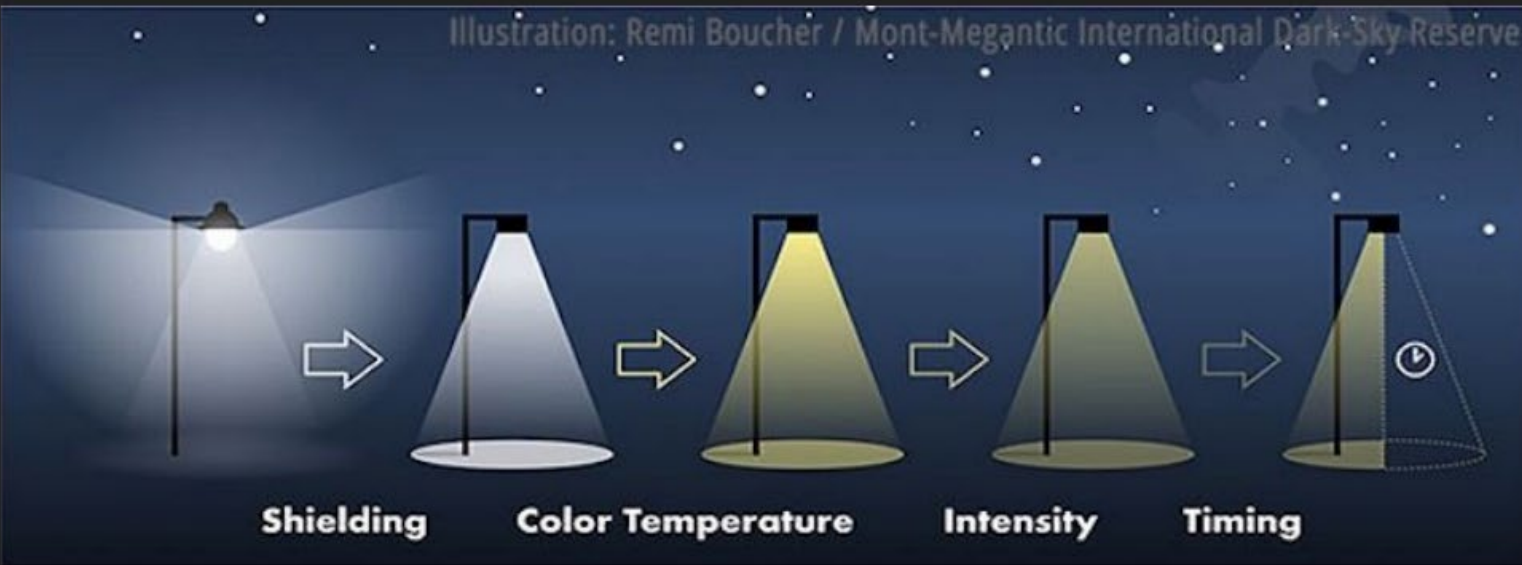
Applicability

- B. Except as otherwise exempted by the SDC, the Dark Skies Standards are generally applicable to all new lighting installed on or after the Effective Date and therefore apply even if proposed lighting does not require the filing of an application or the issuance of a permit of approval (or even if no development occurs, see e.g. 2.15.2400(E)(4)). The Dark Skies Standards are in addition to applicable provisions of the Building Code and Electrical Code, and other provisions of the SDC including, without limitation, Chapter [3.4](#) (Signs).

Outdoor Lighting 101

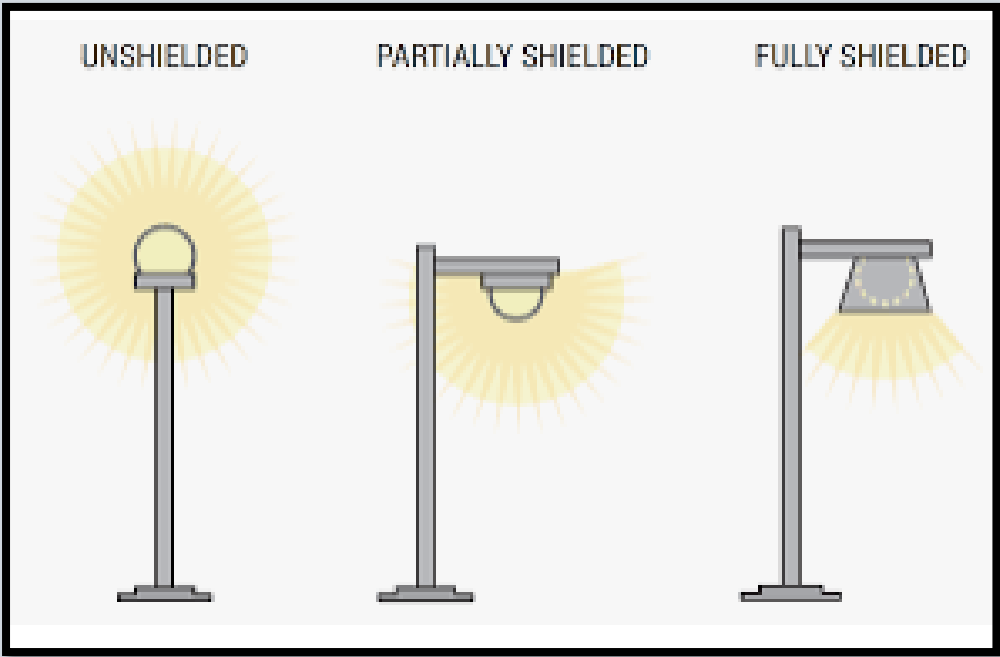
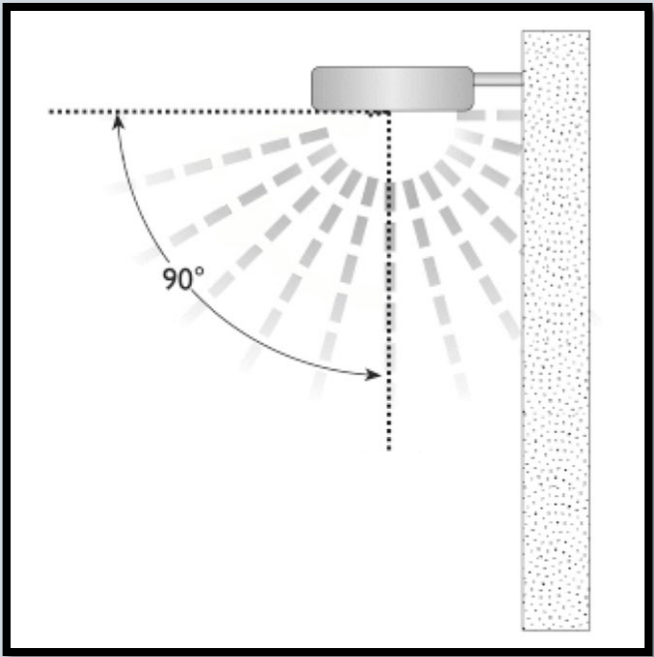
Preventing Light Pollution... ★ 5 Principles of Responsible Lighting

Illustration: Remi Boucher / Mont-Megantic International Dark-Sky Reserve



<https://www.hillcountryalliance.org/nightskylighting>

Requirements Downcast & Fully Shielded



Maximum Light Brightness

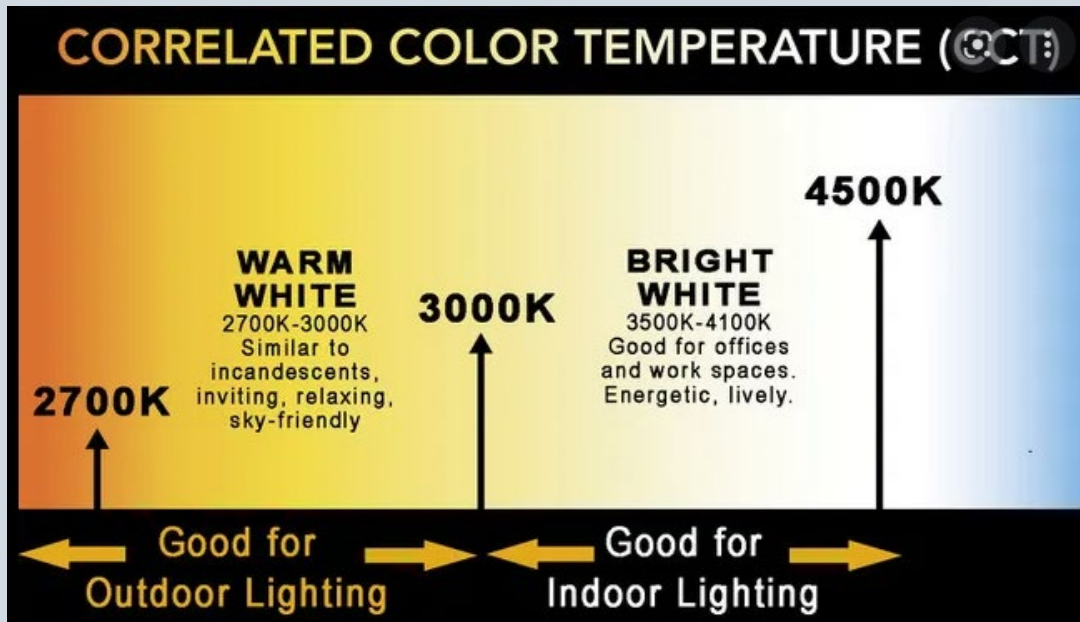
1. To prevent over-lighting, lighting shall not exceed the following maximum lamp brightness:
 - a. Single Family Residential: No individual lighting fixture may exceed 850 lumens and the entire property may not exceed 4,000 lumens in total or 6,000 lumens in total if the property contains an accessory dwelling.
 - b. Duplex and Triplex: No individual lighting fixture may exceed 850 lumens and the entire property shall not exceed 6,000 lumens in total for a duplex or 8,000 lumens for a triplex.
 - c. Multi-Family Residential: No individual lighting fixture may exceed 850 lumens and the entire property may not exceed 20,000 lumens per net acre.
 - d. Mixed Use and Non-Residential: No individual lighting fixture may exceed 1,500 lumens and entire property may not exceed 25,000 lumens for the initial net acre plus 2,000 lumens for each additional net acre.
 - e. Publicly Owned Lighting: Public street lighting shall adhere to the standards contained in the current edition of IES Recommended Practice 8 (“Design of Roadway Facility Lighting”).



Parking Lot Lighting

4. Parking Lot Lighting: Parking lot lighting shall be downcast, fully shielded and meet the maximum brightness in accordance with recommended minimum value of the IES Standard RP-20-1 “Lighting for Parking Facilities” and shall not exceed a threshold of allowable light trespass of 0.1 foot-candle at the property line.

Color of Light



- Blue light brightens the night sky more than any other color of light.
- Exposure to blue light at night has also been shown to harm human health and endanger wildlife.
- Bluer spectrum yields increased skyglow visible at large distances from cities.
- Proposed: 3,000K max

Curfew and Color

4. Curfew. In all non-residential zones, all exterior lighting shall be extinguished either by 11 P.M.; or within one (1) hour of the close of normal business hours; or at the conclusion of usual operations, whichever occurs later. The use of such lighting may resume one (1) hour before sunrise (or opening of business for the property, whichever is earlier) of the following day. Businesses whose normal operating hours are twenty-four (24) hours per day are exempt from this provision. Security lighting in accordance with the current edition of IES Guide 1 (“Guide for Security Lighting for People, Property and Critical Infrastructure”) is permitted during curfew.
5. Color. The Correlated Color Temperature (CCT) shall not exceed 3000 Kelvins.



Publicly Owned Lighting

7. Publicly Owned Lighting. Publicly owned lighting (including streetlights located in the public right-of-way) shall be fully shielded, comply with the color limits in Section 2.15.2400.E.6. and meet the brightness limits in Section 2.15.2400.3.e. They are encouraged, but not required, to comply with the light trespass requirement. Notwithstanding the foregoing, all outdoor light fixtures on property (other than public right-of-way) or buildings that are owned and operated by the City of Sisters must be fully shielded unless exempt under Section 2.15.2400(H) and adaptive controls and curfews must be employed.

Signage

- F. Signage. Notwithstanding anything in Chapter 3.4 to the contrary, lighting of signage must meet the following requirements:
1. Except for businesses whose normal operating hours are twenty-four (24) hours per day, sign illumination must be extinguished completely one (1) hour after sunset (or at close of business for the property, whichever is later), and remain off until one (1) hour before sunrise (or opening of business for the property, whichever is earlier);
 2. The illuminated surface area of an individual sign cannot exceed 200 square feet; and
 3. Lighting must be downcast and fully shielded.

Prohibitions

G. Prohibitions.

1. Laser Source Light. The use of laser source light or any similar high intensity light is prohibited if it projects beyond the property lines of the property on which it is located.
2. Searchlights. The operation of searchlights for purposes other than public safety or emergencies is prohibited.
3. Upward-pointing light fixtures. All light fixtures must be downcast including illumination of signs, landscaping, flags (except the US and state flag, if flown on the same flagpole), and other items.

Exemptions

- B. Exemptions. Notwithstanding anything hereinto the contrary, the following forms of lighting are exempt from the Dark Skies Standards.
1. Non-conforming lighting subject to Section 2.15.2400(I).
 2. Airport operations lighting and aircraft navigational beacons required by the Federal or State Law are exempt from these provisions. All other airport outdoor lighting must conform with this ordinance.

String Lights



- a. String lights may be allowed in occupied dining and entertainment areas only and the CCT must not exceed three thousand (3,000) Kelvin and each bulb may not exceed 50 lumens. String lights shall not be used as landscape lights. These limitations do not apply to holiday lighting.



Exemptions (String Lights)

1. String Lights, subject to the following standards:
 - a. String lights may be installed in either residential or non-residential zones.
 - b. String lights shall not be used to illuminate or decorate landscaping features.
 - c. All installations of string lighting shall employ lamps that do not flash or flicker and whose individual output does not exceed fifty (50) lumens.
 - d. When used for purposes other than holiday lighting, string lights shall consist only of white light sources with a CCT not to exceed three thousand (3000) Kelvin.
 - e. String lights are exempt from the downcast and full shielding requirements of Section 2.15.400.E; it should be noted, however, the installation and operation of string lights in accordance with these provisions may still result in civil nuisance claims.
 - f. In non-residential zones, string lights may be installed in outdoor dining and entertainment areas only and shall not be used to delineate or outline the edges of a building or for any other purpose. String lighting must be completely extinguished by the end of normal business hours. Permanent string lighting installations shall be subject to inclusion in the total lumen allowance calculation.
 - g. In residential zones, string lighting may be used to delineate or outline the edges of patios, porches, decks and similar structures that do not face directly toward a street or public right of way. String lighting must be completely extinguished by 11 P.M.
 - h. The aforementioned limitations do not apply to holiday lighting.

Exemptions (Decorative Lighting)

1. Decorative Lighting
 - a. Holiday lighting shall be allowed for no more than the period between November 1 and February 15.
 - b. Decorative low lumen lights are permitted only in residential districts.
 - c. Low lumen landscape lighting is permitted, but such lighting shall be shielded in such a way as to prevent glare and light trespass. Light fixtures shall be mounted no more than three (3) feet above grade and used solely for landscape delineation rather than area lighting.

Landscape & Deck Lighting



1. Low lumen landscape lighting is permitted, but such lighting must be shielded in such a way as to minimize glare and light trespass. Luminaries must be mounted in or at grade (but not more than 3 feet above grade) and must be used solely for landscape delineation rather than area lighting.



Exemptions

1. Special events that require the use of temporary outdoor light fixtures are exempt if the exemption does not exceed five (5) days for a particular property in any calendar year; however, permanent installations special event venues must conform to the Dark Skies Standards.
2. Lighting for U.S. flags properly displayed (consistent with the U.S. Flag Code).
3. Temporary construction lighting necessary for an allowed use.
4. Lighting under the jurisdiction of the Oregon Department of Transportation.

Exemptions (Athletic Fields)

- H. Athletic field lighting meeting the following conditions:
 - a. Current Illuminating Engineering Society (IES) lighting guidelines are followed according to the appropriate class of play.
 - b. Field lighting is provided exclusively for illumination of the surface of play and viewing stands and not for any other applications.
 - c. Illuminance levels must be adjustable based on the task (e.g., active play vs. field maintenance).
 - d. Off-site impacts of the lighting will be limited to the greatest practical extent possible.
 - e. Lights must be extinguished by 10:00 pm local time or one hour after the end of play, whichever is later.
 - f. Timers must be installed to prevent lights being left on accidentally overnight.

Non-Conforming Lighting

- I. Non-Conforming Lighting. Outdoor light fixtures lawfully installed and operable prior to the Effective Date are exempt from all such requirements, except as follows:
 1. All publicly owned lighting must be brought into conformance within five (5) years after the Effective Date.
 2. All privately owned lighting must be brought into conformance within ten (10) years after the Effective Date.
 3. Notwithstanding anything herein to the contrary, any replacement or modification to nonconforming outdoor lighting must comply with the Dark Skies Standards.
 4. Notwithstanding anything herein to the contrary, all non-conforming outdoor lighting must be brought into compliance as a condition of land use approval involving a Conditional Use or a Site Plan Review.



Lighting Plans Required

- J. Lighting Plan Required. All applications for Site Plan Review and/or building permits must include lighting plans showing location, type, height, color temperature, lumen output and amount of all proposed and existing light fixtures, along with light fixture cut sheets from the manufacturer. The applicant must provide enough information to demonstrate compliance with the Dark Skies Standards. The Community Development Director may request any additional information necessary or appropriate to evaluate compliance with the Dark Skies Standards.



Next Steps

If City Council approves Ordinance 536 (City File# TA 22-03), then it will become effective 30 days later (unless appealed to LUBA)



Questions?



Good lighting!