STAFF REPORT

To: Summit County Council
From: Ray Milliner, County Planner
Date of Meeting: March 13, 2019
Type of Item: Code Amendment – Public Hearing, Possible Action
Process: Legislative

RECOMMENDATION: Staff recommends that the Summit County Council review the proposed language to amend Chapter 10-4-21: Lighting Regulations in the Snyderville Basin Development Code conduct a public hearing and approve the attached ordinance per the findings of fact and conclusions of law in this staff report.

Proposal

The purpose of the amendments is to bring the lighting regulations in Chapter 10-4-21 of the Development Code up to date with current best practices.

Background

Recently, staff has been directed by both the Summit County Council and the Snyderville Basin Planning Commission to draft an extensive rewrite of the Snyderville Basin Development Code Lighting Regulations. Because of changes in lighting technology, many of the base requirements in the current lighting ordinance are out of date. For example, the ordinance requires that all outdoor lighting be high pressure sodium fixtures because of their efficiency. However, recent advances in technology have created other light sources, such as LED lighting, that are just as efficient as or more efficient than the high pressure sodium fixtures mandated by the Code.

To create the language, staff consulted with representatives from the University of Utah Consortium for Dark Sky Studies, Springdale City, Torrey City and Ketchum City. Each of these resources provided guidance for the creation of the ordinance.

60 North Main • P.O. Box 128 • Coalville, UT 84017
Phone (435) 336-3118, 615-3118, 783-4351 x3118 • Fax (435) 336-3046 • rmilliner@summitcounty.org

On February 12, 2019 the Snyderville Basin Planning Commission forwarded the attached language to the County Council with a positive recommendation. The Commission had reviewed the ordinance at 3 previous work sessions and conducted 2 public hearings.

March 6, 2019 Work Session

On March 6, 2019 the County Council reviewed the proposed ordinance and provided direction. The Council raised 3 main concerns and directed staff to research a way to resolve them.

1. Is there a way to regulate lumen output from large windows of homes? Staff was directed to research the possibility of requiring treated windows in homes and commercial buildings.
2. Provide the Council with examples of properties that would and would not be in compliance with this ordinance.
1. On commercial properties, clarify language stating that a property is allowed 100,000 lumen output per acre. Staff inserted the following language into the document.

> "Allowed lumen output shall correspond with the size of the Parcel, for example a Parcel that is .75 acres shall have a maximum output of 75,000 lumens, or a parcel that is 1.5 acres shall have a maximum output of 150,000 lumens."

Staff will have information on the windows, and compliant/noncompliant properties at the March 13, 2019 public hearing.

Ordinance Highlights

1. All exterior outdoor lighting all zones in the Snyderville Basin are required to conform to the lighting requirements. The current lighting regulations apply only to commercial establishments.
2. The Planning Commission included language for the amortization of all non-conforming lighting fixtures in the Basin. It would require lighting to be brought into compliance within 5 years of the approval of the ordinance, during remodels or when old fixtures are broken and need to be replaced.
3. Establishes language requiring all lighting to be "full cutoff" which means a light fixture must have the top and sides made of completely opaque material so that light only escapes through the bottom of the fixture.
4. Establishes exemptions for certain lighting fixtures such as holiday lighting and temporary emergency lighting.
5. Prohibits floodlights, architectural lighting, up lighting, neon, blinking and flashing lights etc.
6. Establishes regulations requiring that the maximum correlated color temperature for Outdoor Light Fixtures not exceed 3000 degrees kelvin (color temperature measures the color of the light. It is measured in degrees of kelvin on a scale from 1,000 to 10,000).

7. Establishes requirements for the maximum amount of lumens allowed per light fixture as well as per property (lumens measure the brightness of the light source).
8. The Planning Commission proposed language requiring that parking lots of greater than 1 acre have motion sensors and dimmable fixtures. This would enable allow people to light only the areas of the lot that are in use.
9. Requirements proposed for athletic facilities limit the height of poles to 18 feet, with an exception that the Planning Commission review requests for greater height.

Recommendation

Staff recommends that the Summit County Council review the proposed language to amend Chapter 10-4-21: Lighting Regulations in the Snyderville Basin Development Code conduct a public hearing and approve the attached ordinance per the findings of fact and conclusions of law in this staff report.

Findings of Fact

1. The goal of Chapter 5 of the Snyderville Basin General Plan is update the lighting regulations to allow for the newest technologies that allow for the most efficient lighting.
2. Uncontrolled lighting can create unwanted glare.
3. Uncontrolled lighting can disrupt the normal behavior wildlife, including migration and mating habits.
4. Uncontrolled lighting can trespass onto adjoining properties.
5. Lighting fixtures that use inefficient technology, are poorly targeted, or operate at unnecessary times waste energy.
6. Uncontrolled night lighting diminishes and obscures views of the natural night sky.
7. The proposed lighting regulations are designed to prevent the degradation of the night sky and to prevent glare and light trespass onto neighboring properties.
8. The Snyderville Basin Planning Commission conducted public hearings on November 13, 2018, and January 22, 2019.
9. The Summit County Council conducted a public hearing for this item on March 13, 2019.
10. The proposed lighting regulations encourage individuals to use lighting fixtures that are energy efficient

Conclusions of Law:

1. The amendment is consistent with the goals, objectives, and policies of the General Plan.
2. The amendment will not permit the use of land that is not consistent with the uses of properties nearby.
3. The amendment will not permit suitability of the properties affected by the proposed amendment for the uses to which they have been restricted.

4. The amendment will not permit the removal of the then existing restrictions which will unduly affect nearby property.
5. The amendment will not grant special favors or circumstances solely for one property owner or developer.
6. The amendment will promote the public health, safety and welfare better than the existing regulations for which the amendment is intended to change.

Exhibits

Exhibit A. Proposed Ordinance

SUMMIT COUNTY, UTAH
ORDINANCE NO. _____

AN ORDINANCE AMENDING THE SNYDERVILLE BASIN DEVELOPMENT CODE SECTION 10-4-21: LIGHTING REGULATIONS

PREAMBLE

WHEREAS, Utah Code Annotated ("UCA") §17-27a-102(b) provides that Counties can enact all ordinances that they consider necessary or appropriate to govern, among other things, outdoor lighting; and,

WHEREAS, the goal of Chapter 5 of the Snyderville Basin General Plan is to encourage community site design techniques that promote sustainable land use practices by updating the lighting regulations to allow for the newest technologies that allow for the most efficient lighting; and

WHEREAS, In furtherance of this goal, §10-1-1 of the Snyderville Basin Development Code provides that The Snyderville Basin General Plan was developed to was developed "to ensure that the resort and mountain character of the basin is to be embraced and protected, while suburban development patterns, which erode the unique character of the basin, is discouraged and, to the extent possible, prohibited." and,

WHEREAS, uncontrolled lighting can create unwanted glare; and

WHEREAS, uncontrolled lighting can disrupt the normal behavior wildlife, including migration and mating habits; and

WHEREAS, uncontrolled lighting can trespass onto adjoining properties; and

WHEREAS, Lighting fixtures that use inefficient technology, are poorly targeted, or operate at unnecessary times waste energy; and

WHEREAS, the Snyderville Basin Planning Commission held a public hearing on November 13, 2018 and January 22, 2019; and

WHEREAS, the Snyderville Basin Planning Commission recommended adoption of the amended sections of the Snyderville Basin Development Code on February 12, 2019; and

WHEREAS, the Summit County Council held a public hearing on March 13, 2019; and,

NOW, THEREFORE, the County Council of the County of Summit, State of Utah, ordains as follows:

Section 1. **SNYDERVILLE BASIN DEVELOPMENT CODE** The Snyderville Basin Development Code is amended as depicted in Exhibit A.

Section 2. **Effective Date.** This Ordinance shall take effect immediately after publication.

Enacted this ___ day of _____, 2019.

ATTEST:

_____
Kent Jones
Summit County Clerk

APPROVED AS TO FORM

_____
David L. Thomas
Chief Civil Deputy

SUMMIT COUNTY COUNCIL

_____
Roger Armstrong, Chair

VOTING OF COUNTY COUNCIL:

Councilmember Carson	_____
Councilmember Robinson	_____
Councilmember Wright	_____
Councilmember Armstrong	_____
Councilmember Clyde	_____

10-4 -21: LIGHTING REGULATIONS:

A. Purpose

The purpose of this Section is to:

1. Balance the environmental and sustainability goals set forth in the Snyderville Basin General Plan with the need to provide safe lighting practices.
2. To minimize light pollution for the enjoyment of the Snyderville Basin's residents and visitors.
3. To prevent the degradation of the nighttime visual environment by production of unsightly and dangerous glare;
4. To create lighting practices that promote the health and safety of the Snyderville Basin's residents and visitors;
5. To prevent unnecessary waste of energy and resources in the production of excessive light or wasted light;
6. To prevent interference in the use or enjoyment of property which is not intended to be illuminated at night and the loss of the scenic view of the night sky due to increased urban sky-glow and light trespass.

B. Applicability

All exterior outdoor lighting installed after the effective date of this Chapter in all zones in the Snyderville Basin shall conform to the requirements established by this Chapter.

1. This Chapter does not apply to indoor lighting.
2. Should this Chapter be found to be in conflict with other sections of this Code, or a Development Agreement, Settlement Agreement or other regulation, the more restrictive shall apply.

C. Amortization of Nonconforming Outdoor Lighting

Amortization: The County shall require the termination of use of any and all nonconforming outdoor lighting fixtures, structures, lamps, bulbs or other devices that emit or generate light which are not otherwise exempted by this chapter, pursuant to the amortization schedule contained in this Section.

Schedule of Amortization: All outdoor lighting legally existing and installed prior to the effective date of this chapter and which is not exempted shall be considered nonconforming and shall be brought into compliance by the property owner as follows:

1. Immediate abatement as a condition for approval upon application for a building permit, sign permit, conditional use permit, design development review or similar County permit or review when said site improvements, construction, reconstruction, expansion, alteration or modification of existing sites, structures, or uses individually or cumulatively equal or exceed one thousand five hundred (1,500) square feet. Projects less than one thousand five hundred (1,500) square feet will not be subject to immediate abatement.
2. All damaged or inoperative nonconforming lighting shall be replaced or repaired only with lighting equipment and fixtures compliant with this chapter.

3. All outdoor lighting not previously scheduled for amortization or otherwise exempted shall be brought into conformance with this chapter within five (5) years from the effective date of this chapter.

D. Application and Review Procedures

Lighting Plans Required: All Development Permit applications or submittals that propose exterior outdoor lighting or street lighting shall include a lighting plan that shows evidence that the proposed lighting fixtures and light sources comply with this Section and shall include the following:

1. Plans or drawings indicating the proposed location of lighting fixtures, height of lighting fixtures on the premises, and type of illumination devices, lamps, supports, shielding and reflectors used and installation and electrical details.
2. Illustrations, including but not limited to a manufacturer's catalog cuts, of all proposed lighting fixtures. For commercial, resort and industrial uses, photometric diagrams of proposed lighting fixtures are also required. In the event photometric diagrams are not available, the applicant must provide sufficient information regarding the light fixture, lumens, degrees kelvin, and shielding mechanisms for the Planning Commission or Community Development Director to be able to determine compliance with the provisions of this Chapter.
3. A table showing the total number of proposed exterior lights, by fixture type, degrees kelvin, lumens, and lamp type.

E. Full Cutoff Fixture Requirements:

1. Unless specifically exempted by this Chapter, all outdoor lighting shall use full cutoff fixtures and shall be installed so light is directed downward with no light emitted above the horizontal plane of the fixture.
2. Lighting must not be placed at a location, angle, or height that directs illumination or horizontal trespass outside the property boundaries where the light fixtures are located.
3. In order to qualify as a "full cutoff" fixture, a light fixture must have the top and sides made of completely opaque material so that light only escapes through the bottom of the fixture. Fixtures with translucent or transparent sides, or sides with perforations or slits, do not qualify as full cutoff. Any glass or diffuser on the bottom of the fixture must be flush with the fixture (no drop lenses). Merely placing a light fixture under an eave, canopy, patio cover, or other similar cover does not qualify as full cutoff.

F. Ridgeline Development.

In certain cases (such as, but not limited to, steep topography, significant changes in grade, Development in The Ridgeline Overlay Zone District, or Development affecting identified ridgelines), additional shielding may be required to mitigate glare or light trespass. The need for additional shielding will be considered as part of the review process described in section 10-4-3 of this Chapter.

G. Exemptions.

The following shall be exempt from the requirements and review standards of this Chapter:

1. Holiday lighting. Winter holiday lighting which is temporary in nature and which is illuminated only between and including November 15 and March 1 shall be exempt from the provisions of this Chapter, provided that such lighting does not create dangerous glare on adjacent streets or properties, is maintained and does not constitute a public hazard.
2. Traffic control signals and devices.
3. Temporary emergency lighting in use by law enforcement or government agencies or at their direction.
4. The lighting of federal or state flags, provided that the light is a narrow beam aimed and shielded to illuminate only the flag. Flag lighting should use appropriate illumination levels to light the flag, while at the same time fulfilling the purposes of this Chapter.
5. Low voltage LED lights and solar lights used to illuminate pathways in residential areas, provided the lights are installed no more than eighteen inches (18") above the adjacent ground level and are downward directed.

H. Prohibited Lighting

The following types of lights are prohibited:

1. Floodlights or spotlights affixed to buildings for the purpose of lighting parking lots or sales display lot areas.
2. Architectural lighting intended to accent or draw attention to architectural features of a building or structure.
3. Landscape lighting intended to accent or draw attention to landscape elements of the property.
4. Search lights, laser source lights or any similar high intensity lighting is prohibited except in emergencies by police and fire personnel or at their direction.
5. Up lighting to illuminate buildings and other structures.
6. Flashing, blinking, intermittent or other lights that move or give the impression of movement.
7. Neon or luminous tube lighting except as permitted in Section 10-8-2 of this Chapter.
8. Window display lighting between the hours of 10 p.m. and 7 a.m.

I. Color Temperature

The maximum correlated color temperature for Outdoor Light Fixtures is as follows (Color temperature is a way to describe the light appearance provided by a light fixture. It is measured in degrees of kelvin on a scale from 1,000 to 10,000):

1. All lighting shall make use of lamps whose correlated color temperature does not exceed 3,000 degrees kelvin.
2. The correlated color temperature of lighting may exceed 3,000 degrees kelvin in situations where the Community Development Director determines that accurate color rendition is crucial to public safety or the activities of law enforcement. In no case shall the correlated color temperature of such critical lighting exceed 5,000 degrees kelvin.

J. Lumens per Fixture

The maximum lumens allowed for Outdoor Light Fixtures are as follows (The acceptability of a particular light is decided by its Lumen output, not wattage; check manufacturer's specifications):

2. For single-family residential Uses, fixtures up to 2,000 Lumens output per lamp.
3. For commercial, industrial, Resort and Multi-Family Uses, fixtures up to 2,500 lumens output per lamp.
4. Total Outdoor Light Output: total outdoor light output, excluding streetlights used to illuminate public Rights-of-Way, shall not exceed the following limits averaged over the entire project (values listed are total initial lamp Lumens per Acre and per residence):
5. For Single-Family Detached Dwellings and Duplexes the maximum outdoor light output shall not exceed 20,000 lumens per residence.
6. For commercial, industrial and multi-family Dwelling Units the maximum outdoor light output shall not exceed 100,000 lumens per acre. Allowed lumen output shall correspond with the size of the Parcel, for example a Parcel that is .75 acres shall have a maximum output of 75,000 lumens, or a parcel that is 1.5 acres shall have a maximum output of 150,000 lumens.
7. Mounting Height: total outdoor light output shall not exceed the following limits when mounted at the heights prescribed below:

Mounting Height (Feet)	**Maximum Lumens Allowed**
6	1,000
8	1,600
10	2,000
12 or above	2,500

K. Specific Requirements for Lighting Applications and Fixtures:

These fixtures shall be located at the necessary distance from property boundary in order to ensure light does not trespass onto adjacent properties. The Applicant shall demonstrate appropriate placement on the required lighting plan.

1. Wall Mounted Area Lighting:

All wall mounted or building mounted fixtures shall not exceed twelve feet (12') above Finished Grade, measured directly below the light fixture. In cases where there is second Story access directly from the outdoors, a single fixture may be placed above or adjacent to the access.

2. Parking Lot Lighting:

    1. Pole top mounted fixtures shall not be mounted more than sixteen feet (16') above Finished Grade, as measured to the top of the fixture or a horizontal plane being lit by the fixture.
    2. All parking lot lighting shall use full cutoff fixtures.
    3. All pole top mounted parking lot lights shall be set back from property lines a distance equal to two and one-half (2 ½) times the height of the pole.
    4. Pole mounted fixtures shall be limited to two light sources per pole.
    5. Spot or flood lighting of parking lots from a building or other structure is prohibited.

6. On parking lots greater than one (1) acre in size, programmable full cut off fixtures shall be used. These fixtures shall be dimmable and paired with motion sensors that are incorporated into the lighting system.

3. Walkway/Pathway Lighting:

    1. All pathway pole top symmetric distribution fixtures shall not be mounted more than ten feet (10') above Finished Grade directly below the fixture, as measured to the top of the fixture.

4. Roadway Lighting:

    1. Streetlights are prohibited unless required by the Summit County Public Works Director or required by UDOT to ensure the safety of the public. All streetlights shall utilize lamp types that are energy efficient and minimize sky glow and other unintended impacts of artificial lighting and feature the lowest illumination design that meets the minimum illumination requirements set by UDOT shall be used.

5. Gas Station Canopies:

    1. Lighting levels on gasoline station canopies shall be to illuminate the activities taking place under the canopy, not to attract attention to the business.
    2. Gas station canopies may be illuminated provided all light fixtures are mounted on the undersurface of the canopy and all light fixtures are full cutoff. Light fixtures mounted on canopies shall be recessed so that the lens cover is recessed or flush with the bottom surface of the canopy and/or shielded by the fixture or the edge of the canopy.
    3. The undersurface of the canopy shall be nonreflective (built or painted with low reflectivity colors or materials).

6. Soffit Lighting:

    1. For Detached Single-Family Dwellings if lighting an area with fixtures mounted in the soffit of a building, the fixture cannot be mounted above twelve feet (12’), as measured from the fixture to Finished Grade.
    2. For commercial, industrial and Multi-Family Dwellings, If lighting an area with fixtures mounted in the soffit of a building, the fixture cannot be mounted above twenty feet (20'), as measured from the fixture to Finished Grade.
    3. Light fixtures mounted on soffits shall be recessed so that the lens cover is recessed or flush with the bottom surface of the soffit and/or shielded by the fixture or the edge of the soffit.

7. Lighting for commercial outdoor Recreation and athletic facilities:

    1. The recreational lighting has provisions for minimizing glare, spill light and up light by the use of louvers, hoods, or shielding.
    2. The recreational lighting will only illuminate the field or court area with no direct illumination falling outside of those areas.
    3. Pole mounted recreational lighting shall be limited to eighteen feet (18') in height.

4. Pole mounted recreational lighting must be set back a minimum of sixty feet (60') from adjacent residential properties.
5. Lighting for sports fields should be shut off no later than eleven o'clock (11:00) P.M.
6. The lighting for nonfield and noncourt areas shall conform to all provisions of this Chapter.

Exemption: Because of their unique requirements for nighttime visibility and their limited hours of operation, lighting fixtures for baseball diamonds, playing fields, tennis courts and ski area runs may exceed the eighteen foot (18') height limit subject to the following:

1. Planning Commission review. All applications for pole height greater than eighteen feet (18') shall be reviewed by the Snyderville Basin Planning Commission.
2. In no case shall any lighting fixture exceed seventy feet (70') in height as measured from the top of the fixture to the adjacent grade or the horizontal plane being lit by the fixture.
3. Lighting fixtures shall be subject to all other requirements in this Chapter.

8. Lighting for Private Outdoor Recreation and Athletic Facilities:

    1. The recreational lighting has provisions for minimizing glare, spill light and up light by the use of louvers, hoods, or shielding.
    2. The recreational lighting will only illuminate the field or court area with no direct illumination falling outside of those areas.
    3. The light source for the recreational light will not be visible from adjacent properties.
    4. Pole mounted recreational lighting shall be limited to eighteen feet (18') in height.
    5. Pole mounted recreational lighting must be set back a minimum of sixty feet (60') from adjacent properties.
    6. Lighting for sports fields should be shut off no later than eleven o'clock (11:00) P.M.
    7. The lighting for nonfield and noncourt areas shall conform to all provisions of this Chapter.

9. Towers:

    1. All monopole, antenna, tower or support facility lighting not required by the Federal Aviation Administration (FAA) or the Federal Communication Commission (FCC) is prohibited.
    2. When lighting is required by the FAA or the FCC, such lighting shall not exceed the minimum requirements of those agencies. Collision markers should have a dual mode for day and night to minimize impact to the night sky and migrating birds.
    3. All other lighting used on the property not regulated by the FAA or FCC shall conform to this Chapter.

A. Purpose: The purpose of this section is to regulate the use of outdoor artificial illuminating devices emitting undesirable light rays into the night sky, or onto private properties which have a detrimental effect on the rural mountain environment. Standards for controlling lighting and glare are set forth to reduce the annoyance and inconvenience to property owners and traffic hazards to motorists. These standards are intended to allow reasonable enjoyment of adjacent and nearby property by their owners and occupants, while requiring adequate levels of lighting of parking areas.

B. Conformance Required: All outdoor artificial illuminating devices shall be installed in conformance with these regulations.

C. Approved Materials And Methods Of Installation: The standards provided herein are intended to prevent the use of any materials or method of installation not specifically prescribed hereunder. Alternatives will be considered by the director, who may approve such alternatives if they are found to generally comply with the intent of the regulations herein.

1. High pressure sodium is the lamp source that will be utilized throughout the Snyderville Basin for all roadway, pathway, area and building facade illumination. Sport facility lighting is the only application where a metal halide lamp source may by used, subject to the limitations herein.

2. Any materials or methods of installation not specifically prescribed herein will be evaluated by the director, as permitted above, for approval. Approval shall be based on providing equivalence to the applicable standards herein and otherwise complying with the intent of these regulations.

3. No floodlighting shall be permitted.

D. Nonconforming Lighting Schemes:

1. Any development permit that invokes an amendment to an approved SPA plan, a significant change to an approved site plan, or a certificate of occupancy shall specify and require that any nonconforming area lighting located within the boundaries of the development site authorized in the original permit shall be brought into conformance with these regulations.

2. Nonconforming area lighting may be maintained. However, any change to fixtures and poles, beyond simple replacement of expired parts, shall require that the lighting be brought into conformance with the provisions of these regulations.

E. Violation And Enforcement: It shall be unlawful to install or operate an outdoor light fixture in violation of these regulations. Enforcement of any violation of these regulations shall be pursuant to the provisions of this title.

F. Specific Requirements For Lighting Applications And Fixtures:

1. Area Lighting: The following shall apply to area lighting applications such as, but not limited to, parking lots:

a. Wall Mounted Area Lighting:

(1) All wall mounted or building mounted fixtures shall not be mounted above twelve feet (12'), as measured from grade directly below the light fixture to the top of the fixture or a horizontal plane being lit by the fixture. The exception shall be those instances where there is second story access directly from the outdoors.

(2) The fixture shall house a high pressure sodium lamp that shall not exceed one hundred fifty (150) watts.

(3) The fixture shall be a "full cutoff" variety, where no more than ten percent (10%) of the total lumen output of the fixture will come out at ninety degrees (90°) above the horizontal plane of the fixture from nadir.

(4) The fixture must shield the lamp in such a way that there will be total cutoff when viewed from sixty feet (60') or more from the light source.

(5) All light must be directed downward. The washing of the side of the building shall be minimized to the maximum extent possible.

(6) Timers and motion sensor devices shall be used wherever practical to minimize light pollution within the Snyderville Basin.

b. Pole Top Area Symmetrical Lighting:

(1) Pole top mounted symmetrical distribution fixtures shall not be mounted more than sixteen feet (16') above grade, as measured to the top of the fixture or a horizontal plane being lit by the fixture. More fixtures mounted at lower heights are preferred to fewer fixtures mounted high in the air.

(2) The fixture shall house a high pressure sodium lamp, with no more than four hundred (400) watts per pole.

(3) These fixtures shall be used in interior parking/site installations only, and a full cutoff variety shall be used. No more than ten percent (10%) of the total lumen output of the fixture will come out at ninety degrees (90°) above the horizontal plane of the fixture from nadir.

(4) The fixtures shall be appropriately spaced so that the foot-candles produced on the ground shall not exceed the following:

Average foot-candles = 2.15 to 3

Maximum foot-candles = 9 or less

~~Minimum foot-candles = 1.15 or more~~

~~Maximum/minimum foot-candles = 7.85 or less~~

~~(5) These fixtures shall shield the lamp in such a way that there will be total cutoff when viewed from seventy feet (70') or more from the light source.~~

~~(6) Timers and motion sensor devices shall be used wherever practical to minimize light pollution within the Snyderville Basin.~~

~~c. Pole Top Area Asymmetrical Lighting:~~

~~(1) Pole top mounted asymmetrical distribution fixtures shall not be mounted more than sixteen feet (16') above grade, as measured to the top of the fixture or a horizontal plane being lit by the fixture.~~

~~(2) The fixture shall house a high pressure sodium lamp, with no more than four hundred (400) watts per pole.~~

~~(3) These fixtures shall be used in interior parking/site installations only, and a full cutoff variety shall be used. No more than ten percent (10%) of the total lumen output of the fixture will come out at ninety degrees (90°) above the horizontal plane of the fixture from nadir.~~

~~(4) The fixtures shall be appropriately spaced so that the foot-candles produced on the ground shall not exceed the following:~~

~~Average foot-candles = 2.15 to 3~~

~~Maximum foot-candles = 9 or less~~

~~Minimum foot-candles = 1.15 or more~~

~~Maximum/minimum foot-candles = 7.85 or less~~

~~(5) These fixtures shall shield the lamp in such a way that there will be total cutoff when viewed from seventy feet (70') or more from the light source.~~

~~d. Area Lighting; Maximum Levels:~~

~~(1) The maximum point shall not exceed fifteen (15) foot-candles within the circulation area being lit.~~

~~(2) The average light level shall not exceed four (4) foot-candles within the circulation area being lit.~~

~~(3) No more than one foot-candle will be allowed outside of twenty feet (20') beyond the circulation area being lit.~~

~~(4) No more than 0.01 foot-candle shall be allowed to spill beyond the property line of the property within which the area lighting is provided.~~

~~e. Walkway/Pathway Symmetrical Lighting:~~

(1) All pathway pole top symmetric distribution fixtures shall not be mounted more than ten feet (10') above grade directly below the fixture, as measured to the top of the fixture or a horizontal plane being lit by the fixture.

(2) The fixture shall house a high pressure sodium lamp, not to exceed one hundred fifty (150) watts per pole. These fixtures can be used down a pathway, at an intersection of the pathway, or at the termination of a pathway. A full cutoff variety shall be used. No more than ten percent (10%) of the total lumen output of the fixture shall be emitted at ninety degrees (90°) above the horizontal plane of the fixture from nadir.

(3) The fixtures shall be appropriately spaced so that the foot-candles produced on the ground shall not exceed the following:

Average foot-candles = 1.35 to 2

Maximum foot-candles = 5 or less

Minimum foot-candles = 0.55 or more

Maximum/minimum foot-candles = 8.5 or less

(4) These fixtures shall shield the lamp in such a way that there will be total cutoff when viewed from seventy feet (70') or more from the light source.

f. Walkway/Pathway Asymmetrical Lighting:

(1) All pathway pole top asymmetric distribution fixtures shall not be mounted more than ten feet (10') above grade directly below the fixture, as measured to the top of the fixture or a horizontal plane being lit by the fixture.

(2) The fixture shall house a high pressure sodium lamp, not to exceed more than one hundred (100) watts per pole. These fixtures can be used down a pathway, at an intersection of the pathway, or at the termination of a pathway. A full cutoff variety shall be used. No more than ten percent (10%) of the total lumen output of the fixture will come out at ninety degrees (90°) above the horizontal plane of the fixture from nadir.

(3) The fixture should have a die cast aluminum housing, and shall be a type III distribution pattern.

(4) These fixtures shall be located an appropriate distance from property boundary in order to ensure light does not inappropriately spill onto adjacent properties. The applicant shall provide a lighting plan to ensure appropriate placement.

(5) The fixtures shall be appropriately spaced so that the foot-candles produced on the ground shall not exceed the following:

Average foot-candles = 2

Maximum foot-candles = 10 or less

Maximum foot-candles outside of 20 feet of the area being lit = 1 or less

~~Maximum foot-candles beyond the property line = 0.05 or less; 0.01 or less when the adjacent property is residential.~~

~~(6) These fixtures shall shield the lamp in such a way as so there will be total cutoff when viewed from fifty feet (50') or more from the light source.~~

~~g. Walkway Lighting; Maximum Levels:~~

~~(1) The maximum point shall not exceed ten (10) foot-candles within the circulation area being lit.~~

~~(2) The average light level shall not exceed two (2) foot-candles within the circulation area being lit.~~

~~(3) No more than one foot-candle will be allowed outside of twenty feet (20') beyond the circulation area being lit.~~

~~(4) No more than 0.05 foot-candle shall be allowed to spill beyond the property line of the property within which the area lighting is provided, or no more than 0.01 foot-candle when the adjacent property is residential.~~

~~h. Roadway Lighting:~~

~~(1) Roadway pole fixtures shall not exceed twenty five feet (25') in height.~~

~~(2) The fixture should house a high pressure sodium lamp, not to exceed one hundred fifty (150) watts per pole. A full cutoff variety shall be used. No more than ten percent (10%) of the total lumen output of the fixture shall be omitted ninety degrees (90°) above the horizontal plane of the fixture from nadir.~~

~~(3) The fixture should have photometrics so that when used on a fifty foot (50') wide road, and placed on opposing one hundred foot (100') spacings, mounted on a twenty five foot (25') pole with a type III distribution, and one hundred fifty (150) watt high pressure sodium lamp, the following foot-candles should be produced on the roadway:~~

~~Average foot-candles = 1.23 or more~~

~~Maintained minimum = 0.16 or more~~

~~Maximum/minimum uniformity = 30 or less~~

~~(4) At forty feet (40') away from the pole, the roadway should not have less than 0.1 horizontal foot-candle minimum maintained at any point on the road, and one vertical foot-candle as measured from ground level to six feet (6') above grade in the middle of the road.~~

~~(5) The fixture should have die cast aluminum housing, and shall be a type II, III or IV distribution pattern.~~

~~(6) Decorative roadway pole mounted fixtures:~~

~~(A) Shall not be mounted above fourteen feet (14') above grade.~~

(B) Shall house a high pressure sodium lamp, with no more than one hundred fifty (150) watts per pole.

(C) Decorative roadway application fixtures shall utilize highly refractive globes, which have a minimum of eighty five (85) horizontal and three hundred forty five (345) vertical prisms, to evenly direct the light and evenly diffuse the light source. The fixture should have the ability to have internal light directing reflectors which can be field installed after fixture installation to accommodate customization of the lighting output and/or to redirect unwanted light to the traffic area.

(D) The fixture should have photometrics so that when used on a forty foot (40') wide road, and placed on opposing one hundred twenty five foot (125') spacings, mounted on a fourteen foot (14') pole with a type III distribution, and one hundred fifty (150) watt high pressure sodium lamp, the following foot-candles should be produced on the roadway:

Average foot-candles = 1 or more

Maintained minimum = 0.4 or more

Maximum/minimum uniformity = 4.45 or less

(E) The roadway should not have less than 0.1 horizontal foot-candle minimum maintained at any point on the road, and 1.5 vertical foot-candle as measured from ground level to six feet (6') above grade at forty feet (40') away from the pole in the middle of the road.

i. Building Canopy/Soffit Lighting:

(1) If lighting an area with fixtures mounted on a canopy, or off of a soffit of a building, the fixture cannot be mounted above twenty feet (20'), as measured from the top of the fixture to the adjacent grade or the horizontal plane being lit by the fixture. Such lighting shall be minimized to the extent possible.

(2) The fixture should house a high pressure sodium lamp, of no more than one hundred fifty (150) watts.

(3) The fixtures must be a cutoff variety, whereas no more than ten percent (10%) of the total lumen output of the fixture will come out at ninety degrees (90°) above the horizontal plane of the fixture from nadir.

(4) Canopy/soffit mounted fixtures should be mounted a minimum distance of seventy feet (70') from the circulation area, or other critical light cutoff boundaries.

(5) The fixture must shield the lamp in such a way so that if a person is standing seventy feet (70') away from the fixture, there will be total visual cutoff of the lamp.

(6) The maximum point should not exceed twenty (20) foot-candles within the circulation area being lit.

(7) The average light level should not exceed ten (10) foot-candles within the circulation area being lit.

(8) No more than one foot-candle will be allowed outside of twenty feet (20') around the circulation area being lit.

(9) No more than 0.05 foot-candle will be allowed outside the property lines of the property being lit.

(10) No more than 0.01 foot-candle should be allowed to spill on any residential property as a result of another party lighting their own property.

(11) The only exception to above maximums would be in the case of a gas station canopy, whereas the maximum point should not exceed sixty (60) foot-candles, and the average light level should not exceed thirty (30) foot-candles within the boundaries of underneath the canopy. All other restrictions apply.

j. Sports Lighting Applications:

(1) Sports lighting fixtures should not be mounted above seventy feet (70'), as measured from the top of the fixture to the adjacent grade or the horizontal plane being lit by the fixture.

(2) The fixture should house a lamp that should not exceed one thousand five hundred (1,500) watts.

(3) The fixture should be an IES cutoff variety, whereas when aimed at a point that is at a distance of two (2) times their mounted height, the candlepower per one thousand (1,000) lamp lumens does not numerically exceed twenty five (25) (2.5 percent) at an angle of ninety degrees (90°) above nadir (horizontal), and one hundred (100) (10 percent) at a vertical angle of eighty degrees (80°) above nadir. This applies to any lateral angle around the luminaire. The fixture should have a redirecting reflector which reflects high angle rays back into the beam achieving high beam utilization. It should be made of die cast aluminum, and the lamp should be able to be changed without removal or dismantling of the fixture lens. The ballast should be totally encapsulated in a solid polyester resin compound.

(4) Lighting for sports fields should be shut off no later than eleven o'clock (11:00) P.M.

(5) Specific application of sport lighting may be modified by the director.

k. Building Facade Lighting: Any proposal for building facade lighting must be approved by the director. As a general rule it will not be allowed. It may be considered if the following apply:

(1) The building surface being lit is not in the line of sight of any residential living unit.

(2) The average vertical foot-candles on the surface being lit does not exceed the average horizontal foot-candles of the adjoining circulation areas by more than three (3) times, and the maximum point does not exceed twenty (20) foot-candles.

(3) The facade lighting shall be turned off by ten o'clock (10:00) P.M. each night, and not turned on until dusk the following day.

l. Applications:

(1) Any person applying for a building or electrical permit to install outdoor lighting fixtures shall as part of said application submit evidence that the proposed work will comply with this section.

(2) The application shall contain, but not be limited to, the following:

(A) Plans indicating the location on the premises, and the type of illuminating devices, fixtures, lamp supports, and other devices. This description may include, but is not limited to, manufacturers'

~~specifications and drawings, including sections where required.~~

~~(B) Description of the illuminating devices, fixtures, lamp supports, and other devices. This description may include, but is not limited to, manufacturers' specifications and drawings, including sections where required.~~

~~(C) Photometry data such as that furnished by manufacturers, or similar, showing the angle of cutoff of light emissions for the proposed luminaire.~~

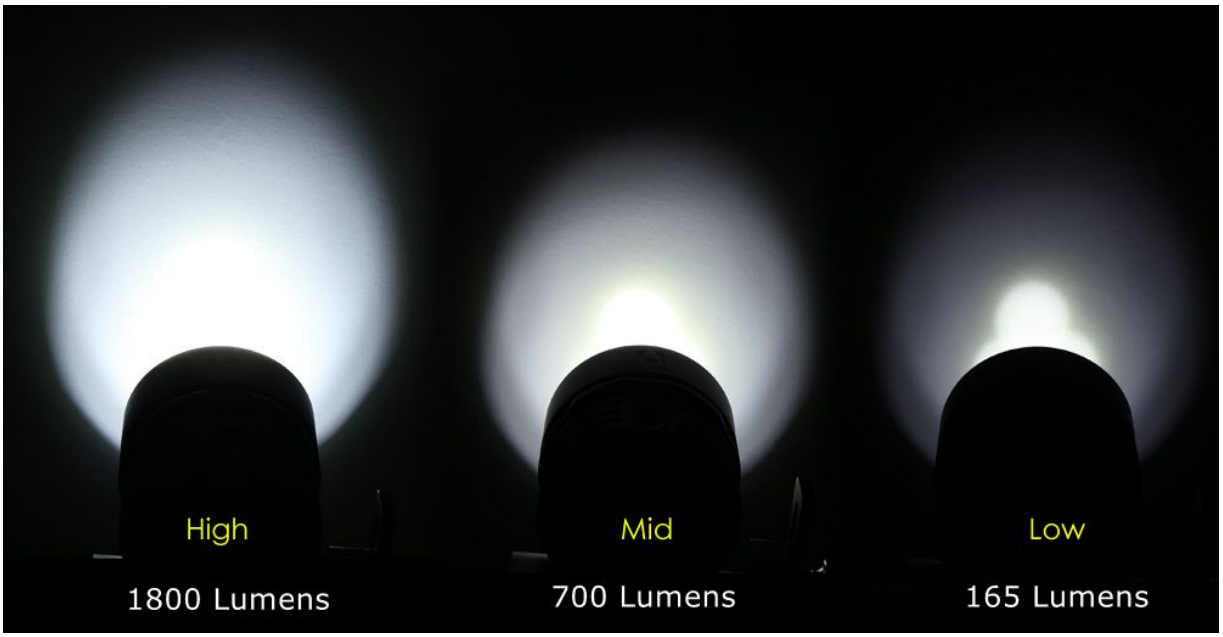
~~(D) Computer generated point to point calculation on a scaled site plan indicating conformance with this section.~~

~~(E) Such other information as the community development director may determine is necessary to ensure compliance with this section.~~

~~m. Exemptions:~~

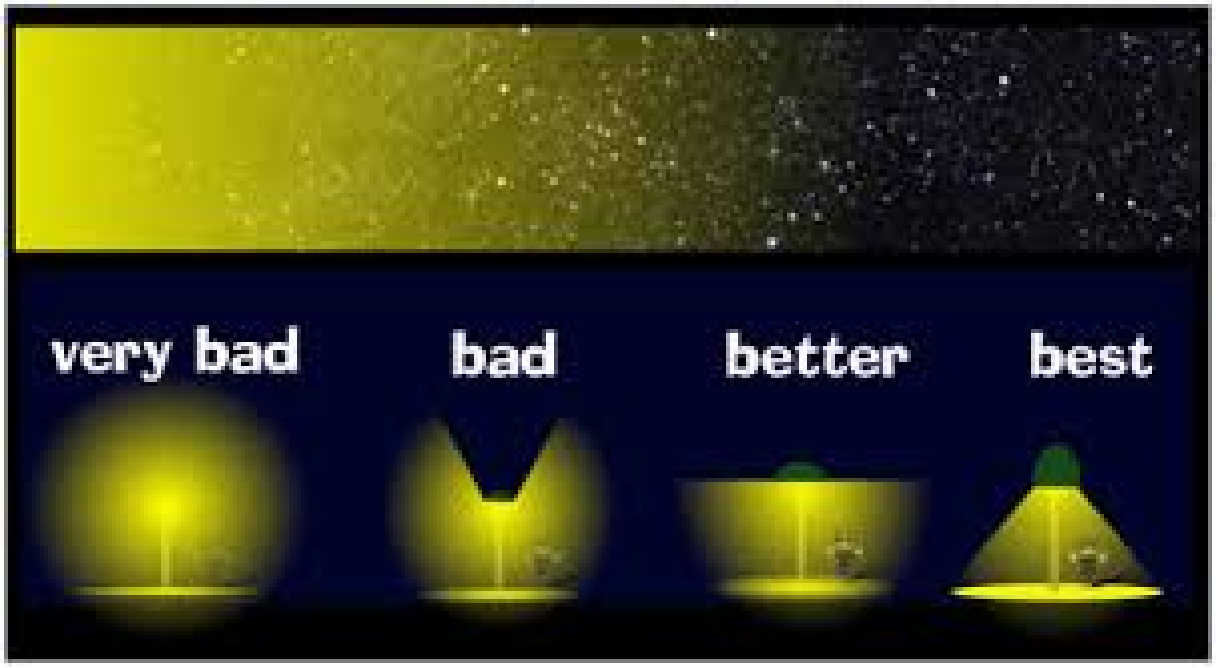
~~(1) Lighting necessary for construction or emergencies is exempt from the provisions herein, provided said lighting is temporary and is discontinued immediately upon completion of the construction work or abatement of the emergency necessitating said lighting.~~

~~(2) Fossil fuel light produced directly or indirectly by the combustion of natural gas or other utility type fossil fuels is exempt.~~

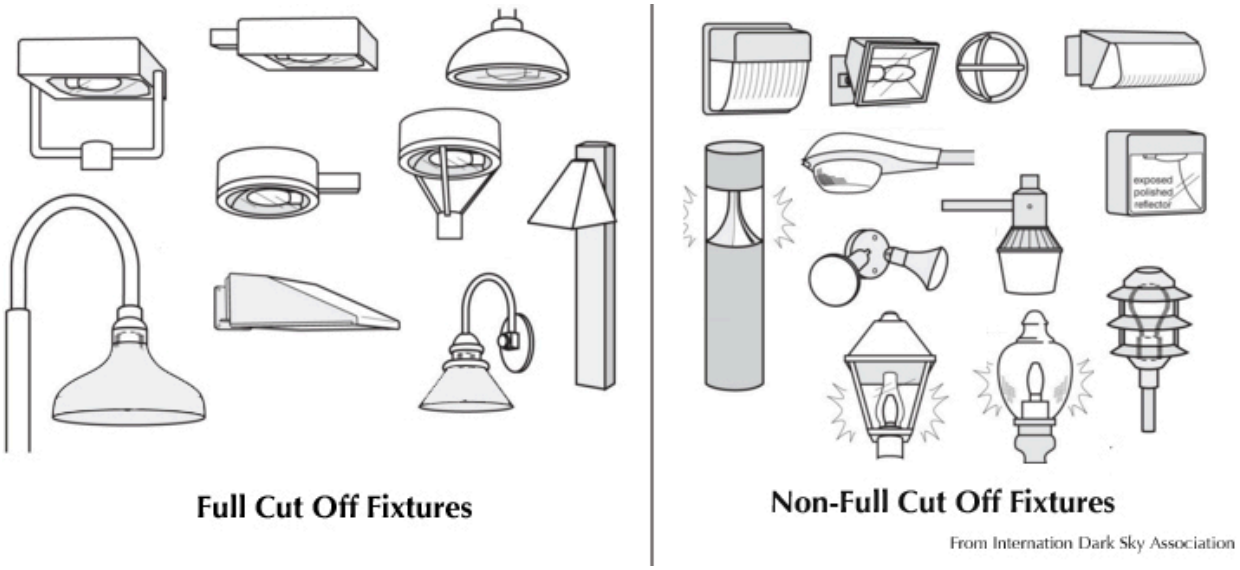


Lumen Example

Color Temperature Example (degrees Kelvin)



No cut off to full cut off



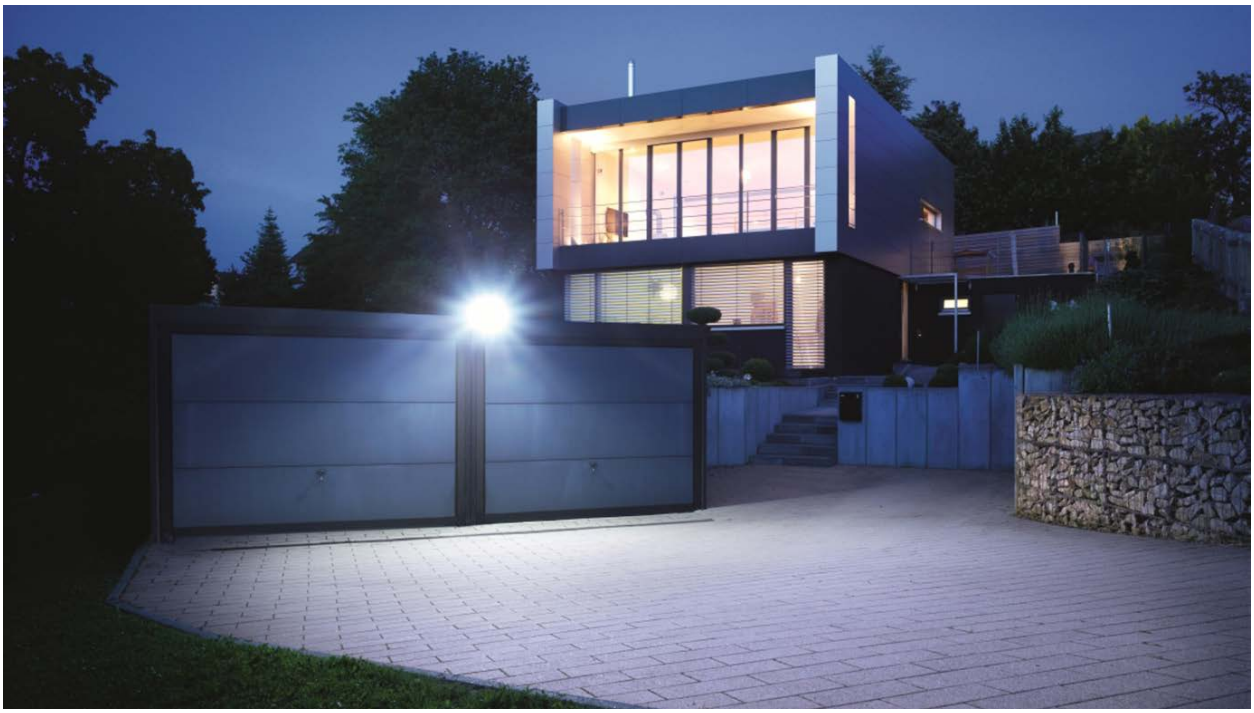
Examples of good and bad fixtures

Landscape Lighting

Architectural Lighting


Neon/flashing lights


Uplighting



Spotlight