

Emigration Canyon Metro Township

DARK SKY ORDINANCE | UPDATE OF MUNICIPAL CODE:
19.73.110 NIGHT LIGHTING

GREATER SALT LAKE COUNTY MUNICIPAL SERVICES DISTRICT | PLANNING
AND DEVELOPMENT SERVICES

(Draft) 10/06/2022

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Purpose

The purposes of this chapter are to:

- Encourage outdoor lighting practices that will minimize light pollution, glare, light trespass, and sky glow to curtail the degradation of the night sky visual environment.
- Encourage lighting practices that promote energy conservation.
- Maintain nighttime safety, utility, and security and prevent unnecessary or inappropriate outdoor lighting and lighting nuisances on properties.
- Maintain the rural atmosphere and community character of the Metro Township.

Definitions

For the purpose of this chapter, certain words, phrases and terms used herein shall have the meanings assigned to them by this section:

A-M

Accent Lighting: Lighting of building surfaces, landscape features, statues, and similar items for the purpose of decoration or ornamentation; or lighting that does not contribute to the safety or security of residents, guests, employees, or customers on a property.

Adaptive Controls: Devices such as motion sensors, timers and dimmers used in concert with outdoor lighting equipment to vary the intensity or duration of operation of lighting.

Ambient light: The general overall level of lighting in an area.

Backlight: All the light emanating behind a luminaire.

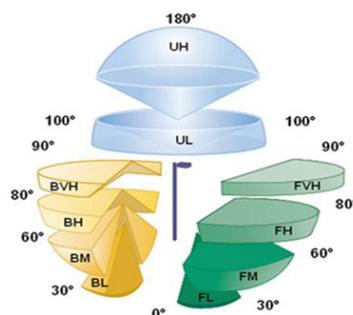
Ballast: A device used with a discharge lamp to obtain the necessary voltage, current, and/or wave form for starting and operating the lamp.

Brightness: Strength of the sensation that results from viewing surfaces from which the light comes to the eye.

B.U.G. Rating: A BUG Rating stands for backlight, uplight, and glare. Backlight (B) is the light directed behind the fixture, uplight (U) is any light directed upward above the horizontal plane of the luminaire, and glare (G) is the amount of light emitted from the luminaire at high angles.

ActiveLED Update

ActiveLED™



Application of **BUG** ratings for **Dark Skies**

- **Bx-U0-Gx** – Must have a “U” rating of “0” resulting in NO uplight
- The appropriate glare rating is determined by the community.

Figure XX: Explanation of BUG Ratings

Bulb or lamp: The source of electric light. To be distinguished from the whole assembly (see luminaire). Lamp often is used to denote the bulb and its housing.

Candela (cd): Unit of luminous intensity. One candela is one lumen per steradian. Formerly called the candle.

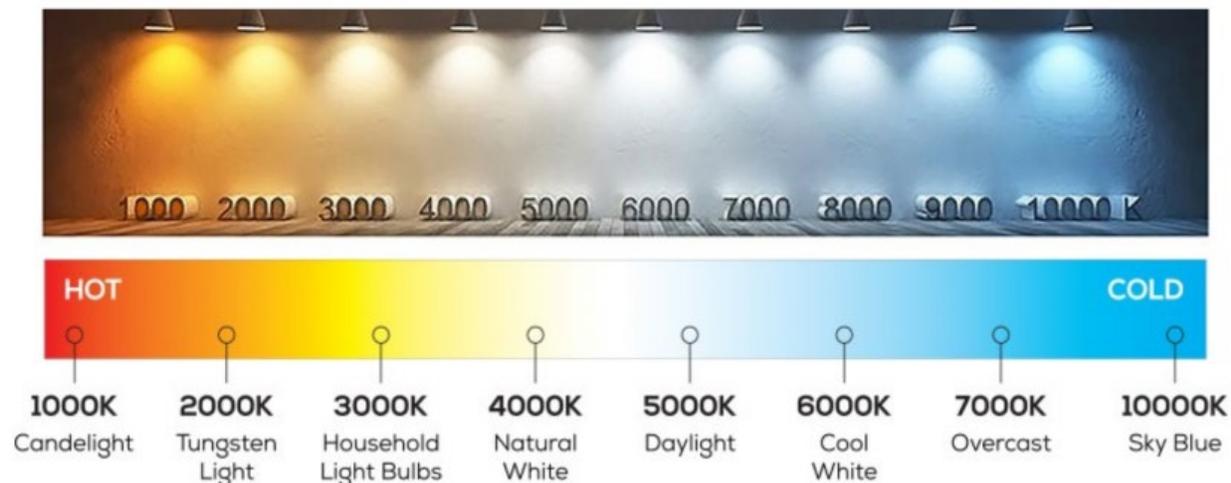


Figure XX: Candela Example

Candlepower: Luminous intensity expressed in candelas.

Correlated Color Temperature (CCT): A specification of the color appearance of the light emitted by a lamp, relating its color to the color of light from a reference source when heated to a particular temperature, measured in degrees kelvin (K).

Figure XX: Correlated Color Temperature



Cut off angle, of a luminaire: The angle, measured up from the nadir (i.e. straight down), between the vertical axis and the first line of sight at which the bare source (the bulb or lamp) is not visible.

Cutoff fixture: An IES definition “Intensity at or above 90° (horizontal) no more than 2.5% of lamp lumens, and no more than 10% of lamp lumens at or above 80°”

Diffuser: A device used to distribute light from a source.

Dimmer: Dimmers can reduce the input power requirements and the rated lumen output levels of incandescent and fluorescent lights. Fluorescent lights need special dimming ballasts. Dimming incandescent lights reduces their efficiency.

Direct Illumination: Illumination resulting from light emitted directly from a lamp, luminaire, or reflector. This does not include light reflected from other surfaces, such as the ground or building faces.

Dusk: The darker part of [twilight](#) especially at night. Timetables identifying specific hour for dusk on any given day are located at: <https://www.gaisma.com/en/location/salt-lake-city-utah.html>.

Efficiency: A measure of the effective or useful output of a system compared to the input of the system.

Energy (radiant energy): Unit is erg, or joule, or kWh.

Façade lighting: The illumination of the exterior of a building. (see also Accent Lighting)

Fixture: The assembly that holds the lamp in a lighting system. It includes the elements designed to give light output control, such as a reflector (mirror) or refractor (lens), the ballast, housing, and the attachment parts.

Fixture Lumens: A light fixture's light output after processing of emitted light by optics in that fixture.

Fixture Watts: The total power consumed by a fixture. This includes the power consumed by the lamp(s) and ballast(s).

Floodlight: A fixture designed to "flood" a well-defined area with light.

Footcandle: Illuminance produced on a surface one foot from a uniform point source of one candela.

Full-cutoff fixture: An IES definition; "Zero intensity at or above horizontal (90° above nadir) and limited to a value not exceeding 10% of lamp lumens at or above 80°".

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Fully Shielded Fixture:

An outdoor light fixture constructed and mounted so that the installed fixture emits no light above the horizontal plane.

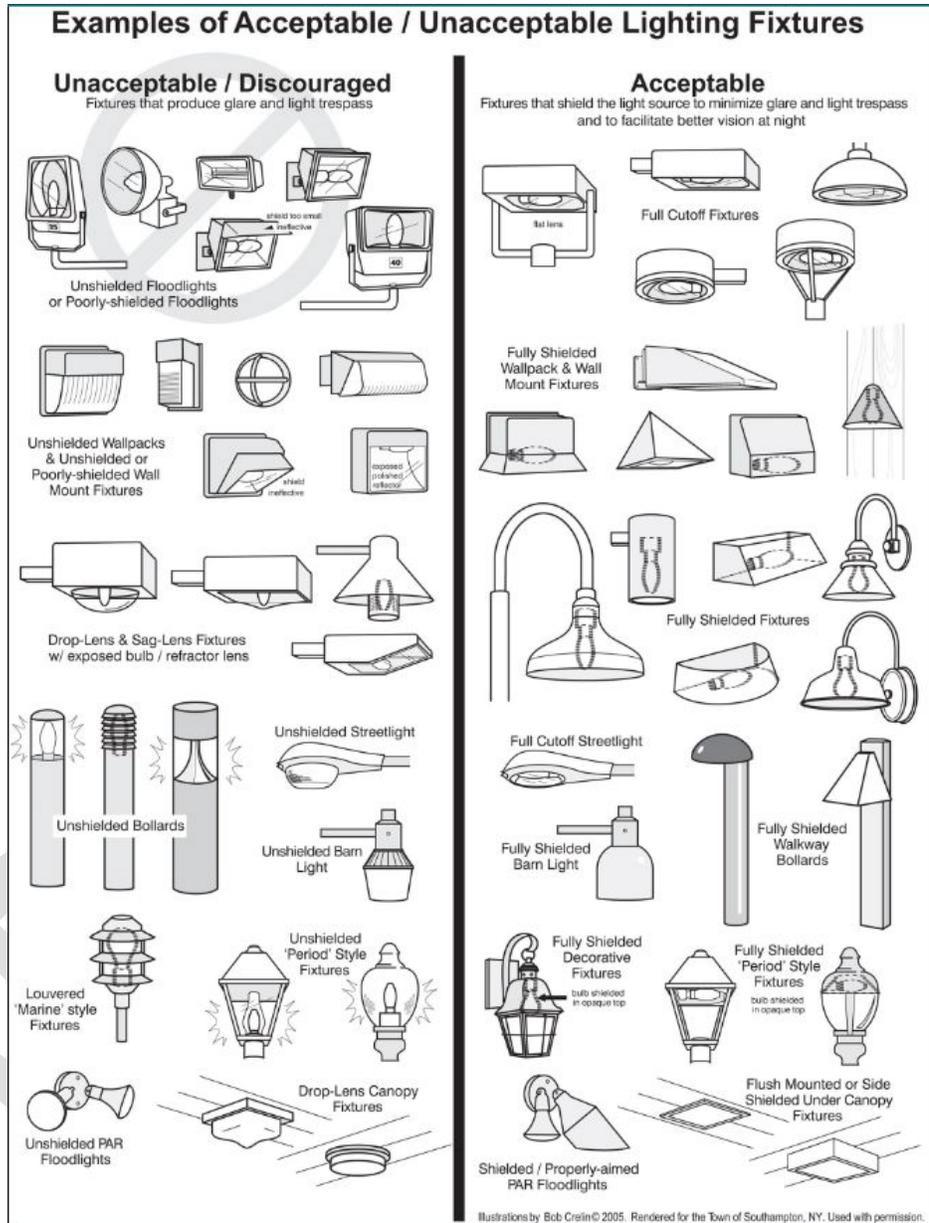
Where a light manufacturer provides a BUG rating, the uplight rating (U) must equal zero (0).

Fully shielded light fixtures must be shielded in and of themselves.

Surrounding structures, like canopies, are not to be considered when determining if the fixture is fully shielded.

Fully shielded fixtures must be appropriately mounted so that the shielding prevents light from escaping above the horizontal and all light is directed downward.

Figure XX: Types of Light Fixtures



Glare: the visual sensation caused by excessive brightness, and which causes annoyance, discomfort, or a disability loss in visual performance or visibility.

Figure XX:: Unwanted Glare

Hardscape: Shall mean any non-living horizontal site element, including but not limited to patios, decks, walkways, sidewalks, driveways, and steps.

House-side Shield: Opaque material applied to a fixture to block the light from illuminating a residence or other structure being protected from light trespass.

Illuminance: Density of luminous flux incident on a surface. Unit is footcandle or lux.

Illuminating Engineering Society of North America (IES or IESNA): The professional society of lighting engineers, including those from manufacturing companies, and others professionally involved in lighting.

Incandescent lamp: Light is produced by a filament heated to a high temperature by electric current.

Indoor Lighting: Any lamp, pendant, or fixture used to illuminate the interior of any structure.

Intensity: The degree or amount of energy or light.

Internally Illuminated: As it relates to signs, any sign which has a light source entirely enclosed within the sign and not directly visible.

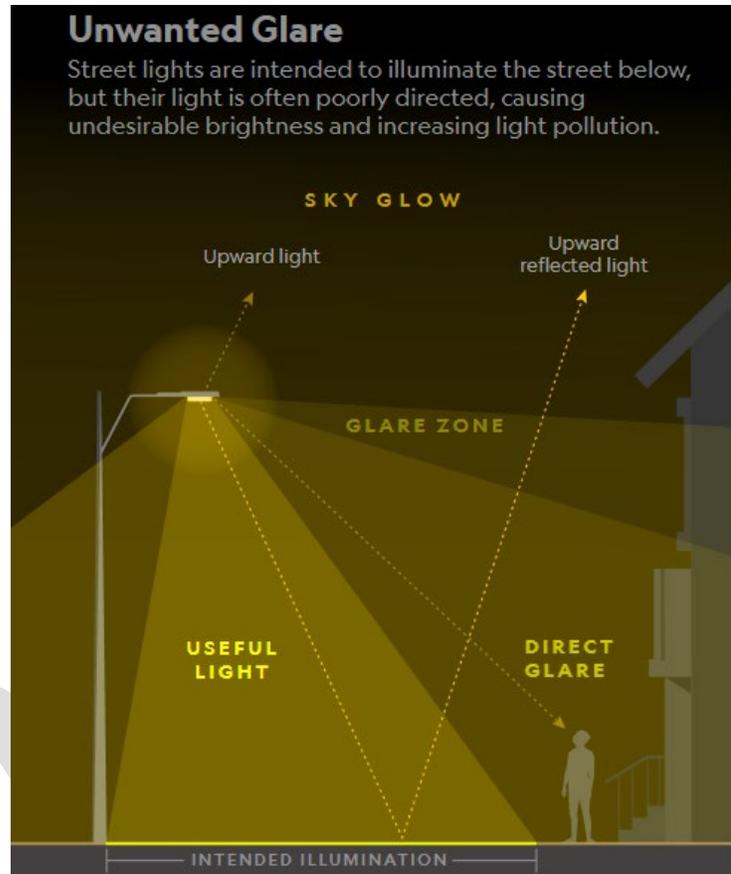
International Dark-Sky Association (IDA, Inc.): A non-profit organization whose goals are to build awareness of the value of dark skies, and of the need for quality outdoor lighting.

kWh: Kilowatt-hour: A unit of energy equal to the work done by one kilowatt (1000 watts) of power acting for one hour.

Lamp: A generic term for a manufactured source created to produce [optical radiation](#).

Lamp Life: The average life span for a specific type of lamp. Half of lamps will perform longer than the average; the others will fail before the average.

LED: Light emitting diode.



Light Pollution: Any adverse effect of artificial light.

Figure XX: Gradient of Light Pollution in the Form of Sky Glow

Light Source: The part of a lighting fixture that produces light, e.g. the bulb, lamp, or chips on board.

Light Quality: A measurement of a person’s comfort and perception based on the lighting.

Light Spill: Unwanted spillage of light onto adjacent areas and may affect sensitive receptors particularly residential properties and ecological sites.

Light Spill: Unwanted spillage of light onto adjacent areas and may affect sensitive receptors particularly residential properties and ecological sites.

Light Trespass: Light falling where it is not wanted or needed. Light Spill. Obtrusive light.

Figure XX: Light trespass Compared to Adequate Shielding

Lighting Controls: Devices used for either turning lights on and off or for dimming.

Photocells Sensors that turn lights on and off in response to natural light levels. Some advanced mode can slowly dim or increase the lighting. See also: Adaptive Controls.

Low-Pressure Sodium (LPS) lamp: A discharge lamp where the light is produced by radiation from sodium vapor at a relatively low partial pressure (about 0.001 torr). LPS is a “tube source”. It is monochromatic light.



Lumen: A unit of luminous flux equal to the light emitted by a uniform point source of one candle intensity. Lumens refers to the amount of light emitted by a bulb (a bulb with higher lumens outputs brighter light).



Figure XX: Lumen Example

Figure XX: Comparison of Bulbs with Light Output and Cost

	YOU USED TO BUY		YOUR CHOICES NOW			energy use energy cost per year
	LEAST EFFICIENT		MOST EFFICIENT			
	Standard Incandescents	New Halogen Incandescents	CFLs	LEDs		
450 lumens	40 W \$5.34/yr	29 W \$3.87/yr	10 W \$1.34/yr	5 W \$0.67/yr		
800 lumens	60 W \$8.02/yr	43 W \$5.74/yr	13 W \$1.74/yr	10 W \$1.34/yr		
1100 lumens	75 W \$10.02/yr	53 W \$7.08/yr	16 W \$2.14/yr	15 W \$2.00/yr		
1600 lumens	100 W \$13.36/yr	72 W \$9.62/yr	20 W \$2.67/yr	19 W \$2.54/yr <small>(limited availability)</small>		
	TYPICAL LIFE = 1 year*	TYPICAL LIFE = 1-2 years	TYPICAL LIFE = 10 years	TYPICAL LIFE = 15-25+ years		

* rated life is based on 3 hours of use per day

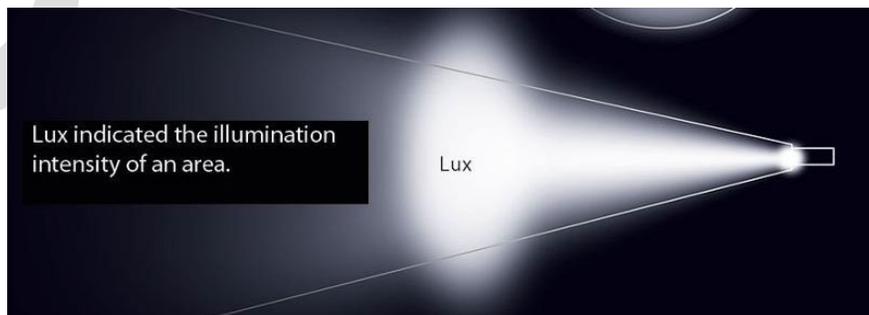
<https://georgebrazilplumbingelectrical.com/how-to-choose-the-best-light-bulb-for-your-home/>

Luminaire: A complete lighting unit that usually includes the fixture, ballasts, and lamps.

Luminance: At a point and in a given direction, the luminous intensity in the given direction produced by an element of the surface surrounding the point divided by the area of the projection of the element on a plane perpendicular to the given direction. Units: candelas per unit area.

Lux: (symbol: lx) is the unit of illuminance, or luminous flux per unit area.

Figure XX: Lux Example



Manufacturer’s Catalog

Cuts: A publication or other printed material of a lamp or lighting manufacturer offering visual and technical information about a lighting fixture or lamp.

Mercury lamp: An HID lamp where the light is produced by radiation from mercury vapor.

Metal-halide lamp: An HID lamp where the light is produced by radiation from metal-halide vapors.

Mounting height: The height of the fixture or lamp above the ground.

N-Z

Optic: The components of a luminaire such as reflectors, refractors, protectors which make up the light emitting section.

Outdoor Light Fixture (Outdoor Lighting): An outdoor, electric, or solar powered, illuminating lamp or similar device used for lighting structures, parking lots, pathways, service canopies, recreational areas, signs, or other similar outdoor uses. These lighting fixtures may be attached to a building, parking structure, or sign, or may stand on their own.

Partially Shielded Light Fixture: An outdoor light fixture constructed and mounted so that the installed fixture emits most of its light below the horizontal plane. Light emitted at or above the horizontal plane (sideways or upwards) shall arise solely from incidental decorative elements or strongly colored or diffusing materials, such as colored glass or plastic. Fixtures using spot or flood lamps are considered partially shielded if the lamps are aimed no higher than forty-five (45) degrees above the vertical plane beneath the fixture.



Figure 1: Unshielded versus Shielded Light Fixtures

Pathway Lights: A luminaire, or collection of luminaires, less than eighteen inches (18") in height, lining one or both sides of a pathway which offer illumination to guide along an outdoor path or walkway.

Photometry: The quantitative measurement of light level and distribution.

Photocell: An electronic device that changes the light output of a luminaire dynamically in response to the ambient light level around the luminaire.

Pool Lighting: Underwater lighting fixtures providing illumination to all underwater areas of the pool.

Recreational Lighting: Lighting used to illuminate sports fields, ball courts, playgrounds, or similar outdoor recreational facilities.

Reflector: An optic that achieves control of light by means of reflection (using mirrors).

Refractor: An optic that achieves control of light by means of refraction (using lenses).

Security Lights: Lighting designed to illuminate a property or grounds for the purpose of visual security.

Shielding: An opaque material that blocks the transmission of light.

Skyglow: The brightening of the nighttime sky resulting from the scattering and reflection of artificial light by moisture and dust particles in the atmosphere. Skyglow is caused by light directed or reflected upwards or sideways and reduces one’s ability to view the nighttime sky (Figure 5).

Spotlight: A fixture or lamp designed to light a small area very brightly. See definition of Floodlight.

Stray light: Emitted light that falls away from the area where it is needed or wanted. Light trespass.

Task Lighting: Task lighting is used to provide direct light for specific activities without illuminating the entire area.

Tower: Any monopole, antenna or the like that exceeds eighteen feet (18’) in height.

Unshielded Fixture (lighting): A fixture that allows light to be emitted above the horizontal plane, either directly from the lamp or indirectly from the fixture or reflector.

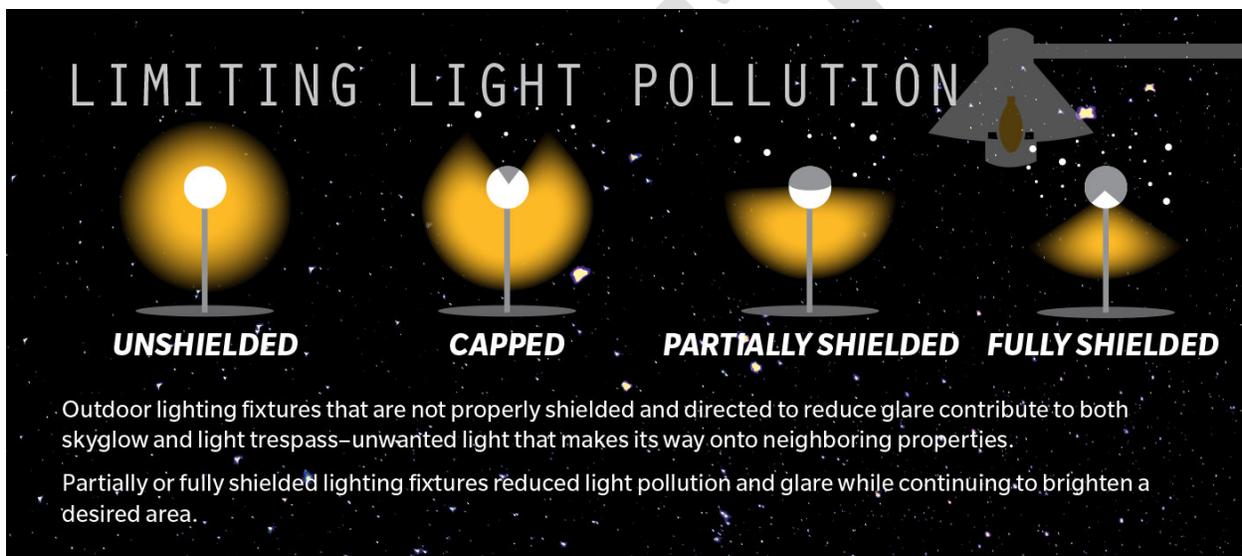


Figure XX: Unshielded, Capped, Partially Shielded, and Fully Shielded Fixtures

Vertical Illuminance: The amount of light falling on a vertical surface or plane.

Visibility: Being perceived by the eye. Seeing effectively. The goal of night lighting.

Wallpack: A luminaire, typically affixed to the side of a structure, used for area lighting.

Scope and Applicability

Compliance:

All outdoor lighting installed and/or replaced after the effective date hereof in all zones in the Metro Township shall conform to the requirements established by this chapter. This chapter does not directly apply to indoor lighting. However, any light trespass at the property line must meet the standards established within this ordinance.

Nonconforming Uses:

All existing outdoor lighting that does not meet the requirements of this chapter and is not exempt from the requirements of this chapter shall be considered a nonconforming use. The town will encourage property owners to voluntarily bring nonconforming exterior lighting into compliance with this chapter. Where appropriate, the Metro Township may also provide information and expertise to homeowners in bringing their exterior lighting fixtures into compliance with this chapter.

Modifications:

Compliance Through Building Permit Process: The Metro Township may require exterior lighting fixtures to be brought into compliance through the building permit process. If modifications are made to any structure which require the removal of a nonconforming luminaire, the luminaire shall be replaced with a compliant luminaire. In the event a nonconforming Luminaire is replaced, destroyed, damaged, or modified by fifty percent (50%) or more, the replacement shall comply with the provisions of this ordinance.

In the event a nonconforming outdoor light fixture is replaced, destroyed, damaged, or modified by fifty percent (50%) or more, the replacement fixture shall conform with the provisions of this ordinance.

Change Of Ownership:

Properties that change ownership, whether residential or commercial, must bring exterior lighting into compliance with this chapter.

Conflicts:

In the event any federal, state, or county statute or regulation conflicts with any provision of this Chapter, the most restrictive statute, regulation, or provision shall govern unless otherwise required by law. In the event any provision of the Metro Township's other ordinances conflicts with the provisions of this Chapter, the provisions of this Chapter shall govern.

Outdoor Lighting Standards

Total Light Output:

- **Commercial Properties** - The total amount of outdoor lighting, whether shielded or unshielded, shall not exceed 1.5 footcandle per square foot of hardscape including the square footage of any structures on the site.
- **Multi-Family Residential Properties** - The total amount of outdoor lighting, whether shielded or unshielded, shall not exceed .75 footcandle per square foot of hardscape including the square footage of any structures on the site.
- **Residential Properties** - The total amount of outdoor lighting, whether shielded or unshielded, shall not exceed .5 footcandle per square foot of hardscape including the square footage of the primary residential structure on the site. Residential units used for overnight accommodations or other commercial uses shall comply with the residential standards for total light output.
- **For all Properties** – Light output from indoor and outdoor sources shall not exceed .25 footcandles at the property line.

Required:

Unless specifically exempted by this chapter, all outdoor lighting shall use fully shielded fixtures that are designed and constructed so that:

- No light is emitted and/or reflected above the horizontal plane of the fixture.
- Lighting must be placed and/or directed at a location, angle, and/or height to prevent direct illumination outside the property boundaries where the light fixtures are located.
- Where a light manufacturer provides a BUG rating, the uplight rating (U) must equal zero (0).

Characteristics:

To qualify as a "fully shielded" fixture, the top and sides of a light fixture must be made of completely opaque material, such 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 fully shielded. Any glass or diffuser on the bottom of the fixture must be flush with the fixture (no drop lenses) and must not reflect light such that it returns to break the horizontal plan established at the top of the fixture. Merely placing a light fixture under an eave, canopy, patio cover or other similar cover does not qualify as fully shielded.

Exemptions To Fully Shielded Fixture Requirements:

All lighting identified in this section shall be excluded in the calculation of total candlefoot output allowed.

Spotlights:

Spotlights controlled by motion sensors having a light output less than one thousand (1000) lumens per lamp (allowing a maximum of a 60-watt incandescent, 43-watt halogen, 13-watt compact fluorescent, or a 10-watt LED bulb) are exempt from the fully shielded requirement, provided:

- The fixture is a spotlight or other type of directed light that shall be directed at a forty-five-degree (45°) angle or less, where the zero (0) angle is pointing straight down, and
 - The fixture must not be placed in such a manner that results in light trespass, and
 - The lighting elements controlled by motion sensors shall not be triggered by movement or activity located off the property on which the light is located.
- The fixture is hooded or shielded to the extent necessary to prevent glare on adjacent properties or roadways.
- The lighting is activated by **motion sensors** and shuts off, within or before, fifteen (15) minutes after each disturbance or when the activity involved is completed.

Pathway Lights:

Less than eighteen inches (18") in height are exempt from the fully shielded fixture requirement if:

- The total light emitted by all pathway light fixtures along the centerline of the pathway lighted does not exceed .33 footcandles; and
- The lights have opaque caps that direct light below the horizontal plane.

Temporary Exterior Lighting:

Temporary exterior lighting intended as holiday or seasonal decorations displayed between December 1 and the following January 3, provided that individual lamps do not exceed 70 lumens and the lighting

does not cause light intrusion and do not interfere with the reasonable use and enjoyment of surrounding properties.

Law Enforcement Lighting Traffic Control Signals and Traffic Safety Devices:

Traffic control signals, traffic safety devices, and law enforcement lighting is exempt from and not governed by the provisions of this Chapter

Temporary Emergency Lighting:

Temporary emergency lighting in use by law enforcement or government agencies, or at their direction.

Pool Lighting

Underwater lighting fixtures providing illumination to all underwater areas of the pool.

Restrictions On Total Amount of Unshielded Lighting:

Outdoor lighting that is exempt from the shielding requirement in this chapter shall not contribute more than the equivalent of .1 footcandle per square foot of hardscape including the square footage of the footprint of any structures for commercial and multi-family properties and .05 footcandles per square foot of hardscape including the square footage of the footprint of the primary residence for residential properties.



All lighting fixtures shall be fully shielded when installed within twenty-five (25) feet of adjacent residential property lines.

General Conditions and Standards

Minimum Necessary:

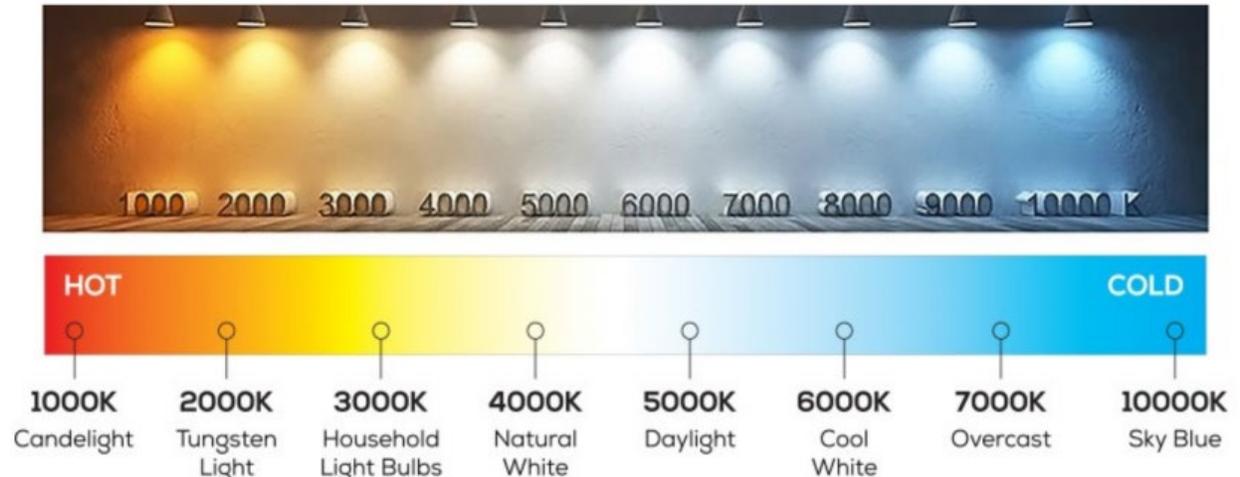
Outdoor lighting shall be the minimum necessary to provide for safety and functionality. The lowest lumen light source necessary for a lighting application shall be used.

All lighting should be **purpose driven**:

- **Useful:** All light used should have a clear purpose.
- **Targeted:** Light should be directed only to where needed.
- **Low Light Levels:** Light should be no brighter than necessary.
- **Controlled:** Light should be used only when it is useful.
- **Color:** Where possible, warmer color lights should be used.

Maximum Color Temperature of All Lighting Fixtures:

The correlated color temperature of any outdoor lighting fixture shall not exceed three thousand degrees kelvin (3000°K).



Allowable Applications:

Outdoor lighting shall only be allowed in the following applications:

- To illuminate the **entrances** to buildings (including garage entrances).
- To illuminate **pathways** and **walkways**.
- To illuminate **parking areas** and parking area **access lanes**.
- To illuminate outdoor **gathering areas**, such as patios, pool and hot tub areas, outdoor dining areas and recreation areas.
- For **security** purposes, provided all the following conditions are met:
 - The lighting is activated by **motion sensors** and shuts off, within or before, fifteen (15) minutes after each disturbance or when the activity involved is completed.
 - The lighting is placed and directed such that **no direct illumination falls outside the property boundaries** where the security lighting is placed.
- To illuminate **signage**.
- For **Accent Lighting**, provided all the following conditions are met:
 - The property where the accent lighting is placed is on a property designated as **commercial** by the Metro Township.
 - The accent lighting is **compatible** with the purposes of this chapter as determined by the Planning Commission.
 - All accent lighting is mounted on and directed onto the **front of a commercial building** facing the street.
 - The accent lighting is **sufficiently shielded** such that the light source is not visible beyond the property boundaries.
 - The accent lighting is directed such that all **light falls on** the front of the building, and not on the adjacent ground or into the night sky.
 - The accent lighting uses **low lumen** light sources.
 - The accent lighting is **not used** to illuminate landscape, statues, or other similar features.
- To illuminate outdoor **water features**, provided all the following conditions are met:
 - The lighting is **angled** below the horizontal plane.

- The lighting is placed underneath or behind the water such that the water **diffuses** the light from all points where the light is visible.
- Each light source has a **total light output** of one thousand (1000) lumens or less and the total lighting is not greater than necessary to achieve the desired artistic effect.

Light Curfews:

Commercial Establishments: shall turn off all outdoor lighting, except those listed below, within one hour after closing. (For the purposes of this section, motels and hotels are considered open twenty-four (24) hours per day when they are open for the season.)

- Lighting to illuminate the entrance to the commercial establishment.
- Parking lot and pathway lighting required for the safety of guests.

Recreational Lighting (Residential and Commercial): shall be turned off one hour after dusk ending the following morning at 6:00 am, except to conclude a community approved sporting event that is underway.

Multi-Family Residential Properties - shall be turned off one hour after dusk ending the following morning at 6:00 am, except those listed below:

- Lighting to illuminate entrances.
- Parking lot and pathway lighting required for the safety of guests.
- Outdoor gathering and recreational spaces, when in use.

Residential Properties - shall be turned off one hour after dusk ending the following morning at 6:00 am, except those listed below:

- Lighting to illuminate entrances.
- Parking lot and pathway lighting required for the safety of guests.
- Outdoor gathering and recreational spaces, when in use.

Specialized Outdoor Lighting

Roadway/Streetlights:

Roadway and streetlights are prohibited, unless recommended by the County Engineer or required by the Utah Department of Transportation (UDOT) to provide public safety. When deemed necessary, streetlights shall utilize lamp types that are fully shielded luminaires that minimize sky glow, light trespass, and other unintended impacts of artificial lighting. All streetlights shall utilize the lowest light levels accepted by the County Engineer and/or UDOT.

Parking Lots:

- Spot or flood lighting of parking lots from a building or other structure is prohibited.
- The overall height of any light post used to illuminate parking lots in commercial zones shall not exceed fourteen feet (14'). All post-mounted parking lot lights shall be set back from property

lines a distance equal to two and one-half (2.5) times the height of the pole, unless an internal or external shield prevents the fixture being visible from outside the property boundaries.

- The overall height of any light post used to illuminate parking lots in residential zones shall not exceed six feet (6').
- All parking lot lighting shall use fully shielded fixtures.
- Internal or external shields shall prevent the light source from being visible from outside the parking lots.

Recreational Lighting:

The planning commission shall review all requests for new recreational lighting fixtures for fields or courts. The planning commission shall approve such requests only after finding:

- The recreational lighting has provisions for minimizing glare, spill light, and uplight using louvers, hoods, or shielding.
- The recreational lighting does not exceed illumination levels for class IV sports lighting set by the Illuminating Engineering Society of North America.
- The recreational lighting only illuminates the field or court area and is shielded to prevent illumination falling outside of those areas.
- The light source for the recreational light is not visible from adjacent properties.

Pole mounted recreational lighting:

Pole mounted recreational lighting shall be limited to eighteen feet (18') in height. Pole mounted recreational lighting must be set at a distance equal or greater too the height of the pole installed from any adjacent property line.

The **lighting for non-field and non-court areas** shall conform to all provisions of this chapter.

Amphitheater Lighting:

Outdoor amphitheatres may use illumination to light the performance area of the amphitheater and provide public safety. The following standards apply to all amphitheater lighting:

- Lighting used to illuminate the performance area must be either directed spotlighting or fully shielded lighting. If directed spotlighting, the light source must be located and designed such that it is not visible beyond the property boundaries.
- Lighting used to illuminate the performance area may only be turned on during performances or rehearsals.
- Lighting used to illuminate the seating areas, pathways, and other areas of the amphitheater must meet all standards of this chapter.

Signs:

Signs may be unlighted, lighted externally, lighted internally or backlit. All sign lighting must be designed, directed, and shielded in such a manner that the light source is not visible beyond the property boundaries where the sign is located. Lighting for signs must be directed such that only the sign face is illuminated. All lighted signs must have stationary and constant lighting.

Standards for Externally Illuminated Signs:

Lighting for externally illuminated signs must be aimed and shielded so that light is directed only onto the sign face and does not intrude onto adjacent streets, roads, or properties or into the night sky.

Lighting for externally illuminated signs must be mounted at the top of the sign (or within two (2) feet of the top of a building mounted sign), except for freestanding monument style signs which may be illuminated by ground mounted lighting.

Standards for Internally Illuminated Signs

Lighting Is Visible on Both Sides of Sign:

Only sign copy areas and logos may be illuminated on an internally illuminated sign.

Internally illuminated signs shall use semi-opaque materials for sign copy such that the light emanating from the sign is diffused. Transparent or clear materials are not allowed for sign copy. Non-copy portions of the sign (e.g., background and graphics) shall be made of completely opaque material.

Standards for Backlit Signs

Only One Side of Sign Is Lit:

Backlit signs shall be designed such that the light source is not visible.

Backlit signs shall be designed such that harsh, direct illumination does not emanate out of the sign. Rather, the backlighting shall only allow indirect illumination to emanate from the sign. For example, signs that create a "halo" effect around sign copy are allowed.

Backlit signs shall use low lumen light sources.

Illuminated Window Signage:

Illuminated window signs positioned to be primarily visible outside the business structure are allowed only if there are no more than two (2) signs per business space and each sign measures less than three and one-half ($3\frac{1}{2}$) square feet in area. Such signs must not be illuminated when the business is closed.

Prohibited Lighting

The following are prohibited:

- **Accent Lighting** that is directed upward above the horizontal plane to illuminate building structures, vegetation, or for any other use, except as allowed by other provisions in this chapter.
- **Flashing, blinking, intermittent,** or other lights that move or give the impression of movement, not including temporary exterior lighting that is intended to consist of or illuminate holiday or seasonal decorations from the period of between December 1 and the following January 3.
- **Floodlights or Spotlights affixed to buildings** for the purpose of lighting parking lots.
- Searchlights, laser source lights or any similar **high intensity light**.
- In the case of **Residential Properties**, no lighting fixture shall be mounted on a structure at an elevation of more than 14 ft. above the base floor elevation identified for primary entrance to the corresponding side of the structure. Each structure having identified a front, two sides, and a rear.

- For structures having sides with no entrance present. The height limitation established by the lowest base floor entrance elevation shall control.

Hillsides, Ridgelines and Special Cases

In certain cases (such as, but not limited to, properties on or near ridgelines or hillsides), additional shielding may be required to mitigate glare or light intrusion. The need for additional shielding will be considered as part of the review process performed by the planning commission prior to approval of any business or residence.

Towers

All **monopole, antenna, tower, or support facility lighting** not required by the federal aviation administration (FAA), the Federal Communications Commission (FCC), Municipal Fire and Police, or radio towers is prohibited.

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.

All other lighting used on the property not regulated by the FAA or FCC **shall conform** to this chapter.

Exemptions

Planning Commission Review:

The planning commission, as part of its review as outlined in this chapter, **may approve lighting that does not conform** to these standards if need is established. An applicant requesting such lighting is required to provide proof of requirements of property insurance or findings of competent research demonstrating the need for the requested lighting. The planning commission may attach other conditions to the approval of such lighting that will make the lighting comply with the spirit of this chapter.

Application and Review Procedures

Lighting Plans Required:

All sign permit applications, building permit applications and design/development review applications within any zoning district shall include a lighting plan that shows evidence that the proposed Luminaires, Fixtures, and lamps and bulbs shall distribute lighting in a manner constant with the with this chapter.

Lighting Plan shall include the following:

- 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.
- Illustrations, such as contained in a manufacturer's catalog cuts, of all proposed lighting fixtures. For commercial 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, bulb lumen, and shielding mechanisms for the planning commission to be able to determine compliance with the provisions of this chapter.
- A table showing the total amount of proposed exterior lights, by fixture type, lumens, and lamp type, including a Manufacture Cut Sheet whenever possible.
- Lighting plan demonstrating that no more than the allotted footcandle of light shall be utilized on the property or properties.
 - a. 1 footcandle per square foot of hardscape including the square footage of any structures on the site on commercial properties
 - b. .75 footcandle per square foot of hardscape including the square footage of any structures on the site on multi-family residential properties
 - c. .5 footcandle per square foot of hardscape including the square footage of the primary residential structure on the site on single-family residential properties

Approval Procedure:

- An outdoor lighting plan for all new development shall be submitted for approval concurrent with the associated application process.
- A certificate of occupancy shall not be issued until such time as the property is subject to a post installation nighttime inspection by the building inspector.

Violations and Enforcement

The following constitute violations of this chapter:

- The **installation, maintenance, or operation** of any lighting fixture not in compliance with the provisions of this chapter if such fixture is installed after the date when this chapter is formally adopted.
- The **alteration** of outdoor lighting fixtures after a certificate of occupancy has been issued without the review and approval of the planning commission when such alteration does not conform to the provisions of this chapter.
- **Failure** to shield, correct or remove lighting that is installed, operated, maintained, or altered in violation of this chapter.
- In the event a nonconforming outdoor light fixture is **destroyed, damaged, or modified** by fifty percent (50%) or more, the replacement fixture shall conform with the provisions of this ordinance.
- **Amortization:** All exterior lighting fixtures which do not conform to the following standards shall be brought into conformance no later than 10 years from the adoption of this ordinance.