This draft of an outdoor lighting ordinance has been prepared by the Jemez Mountains Night Sky Consortium and is submitted to Los Alamos County Staff and Government as a proposed replacement for Section 16-276 of the present Los Alamos County Development Code.

We have consulted and compared the Lighting Ordinances of

1. Flagstaff Arizona (https://www.flagstaff.az.gov/DocumentCenter/View/14707/Chap10-50_SupplementaltoZones_Part2_Nov1?bidId=);
2. Tucson & Pima County Arizona (https://www.tucsonaz.gov/files/pdsd/codes-ordinances/2012_outdoor_lighting_code_.pdf);
3. Jemez Springs New Mexico (http://jemezsprings-nm.elaws.us/code/coor_ch51);
4. Moab, Utah (https://moabcity.org/DocumentCenter/View/2836/City-of-Moab-Outdoor-Lighting-Ordinance-2019-03)
5. Springdale, Utah https://codelibrary.amlegal.com/codes/springdaleut/latest/springdale_ut/0-0-0-5535
6. Templates provided by the International Dark-Sky Association (IDA) (www.darksky.org), and guidance from the Illuminating Engineering Society (IES) (www.ies.org).
7. Of particular benefit was the Model Lighting Ordinance prepared jointly by the IDA and the IES (https://www.darksky.org/wp-content/uploads/bsk-pdf-manager/16_MLO_FINAL_JUNE2011.PDF).
8. We also acknowledge considerable help from John Barrentine, of the International Dark-Sky Association.

From these various sources, and adapting to particular circumstances of Los Alamos County, we have prepared the following draft for consideration.

Please note that changes to existing lighting to meet the standards established in this ordinance draft is not required before the "grandfather" period (section IX.A) expires on January 1, 2030 (or whatever date the County eventually establishes).

Respectfully submitted on behalf of the Jemez Mountains Night Sky Consortium by

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I. Preamble

Whereas, a naturally dark night-time sky has been part of human heritage for all but the last two hundred years of our existence, filling with a sense of wonder and peace all who can gaze into a star-studded sky;

Whereas, while artificial lighting has brought many benefits to humankind, it has unfortunately resulted in reducing or eliminating the view of the starry sky that our ancestors enjoyed;

Whereas, the neighboring Village of Jemez Springs has recently adopted a strong ordinance reducing the impact of artificial light on night-time skies;

Whereas, the County of Los Alamos is neighbor to two units of the National Park System, namely Bandelier National Monument and Valles Caldera National Preserve, both known for beautiful natural and cultural resources, wildlife, and tourism, and one of these has already been certified as an International Dark Sky Park by the International Dark-Sky Association, and the other is pending certification;

Whereas, other units of the National Park System in our region, namely Chaco Canyon National Historic Park and Capulin National Monument, have already achieved Dark Sky Park status, rendering possible the establishment of a Dark Sky Corridor all across Northern New Mexico with the possibility of attracting astronomical tourism to this area;

Whereas, the County of Los Alamos is host to scientific institutions of world-class caliber that have attracted astronomers in large numbers, both professional and amateur, to take advantage of its clear air and dark night-time skies;

Whereas, much artificial light that is generated is wasted by propagating skyward instead of down to the ground where it is needed for public safety and guidance;

Whereas, rising energy prices and the need to reduce emission of greenhouse gases have encouraged communities to seek ways of reducing wasteful lighting practices;

Whereas, there is growing public interest among residents of Los Alamos County in preserving our dark night-time sky;

Whereas, tourism to this area benefits from the preservation of our dark night-time sky;

Whereas, overuse of lighting has been shown to adversely affect the diurnal cycles of wildlife in undeveloped areas within the County and on neighboring state, federal, and tribal lands;

and Whereas, this Lighting Ordinance will allow Los Alamos County to protect and improve upon our dark night-time sky by addressing the issues of light pollution, sky glow, glare and light trespass in a manner that reduces energy waste while maintaining effective lighting sources:

Therefore we establish and ordain the following as part of the Development Code for Los Alamos County.

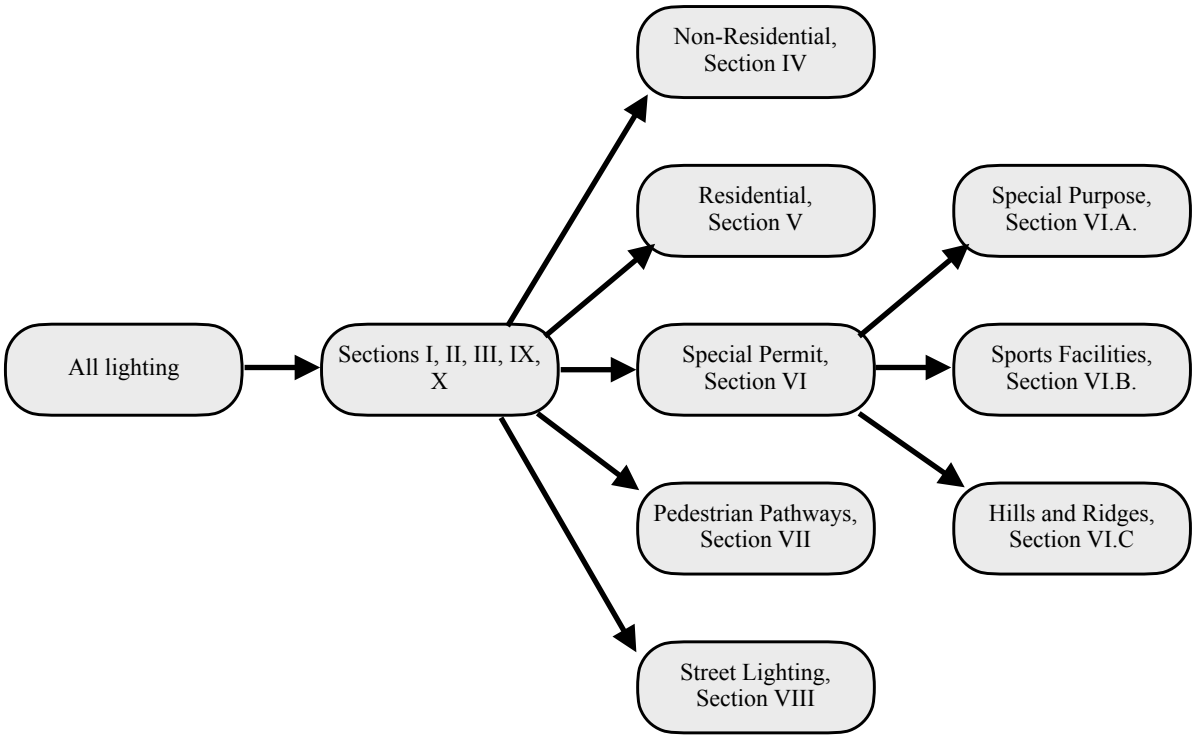
Purpose

The purpose of this ordinance is to provide regulations for outdoor lighting that will:

a. Permit the use of outdoor lighting that does not exceed levels specified by the Illuminating Engineering Society (IES, formerly IESNA, the Illuminating Engineering Society of North America) as the recommended practices for night-time safety, utility, security, productivity, enjoyment, and commerce.
b. Minimize adverse off-site impacts of lighting such as light trespass and obtrusive light.
c. Help protect wildlife and the natural environment from adverse effects of artificial light.
d. Curtail light pollution, reduce sky glow, and improve the night-time environment for outdoor enthusiasts, amateur, professional, and tourist astronomers.
e. Conserve energy and resources and reduce greenhouse gas emissions.

In this ordinance we refer to IES standards because they are well documented, well understood by lighting engineers, and easy to apply.

Guide to this Ordinance
The flowchart below indicates what sections of this ordinance are relevant fo the lighting application of concern.

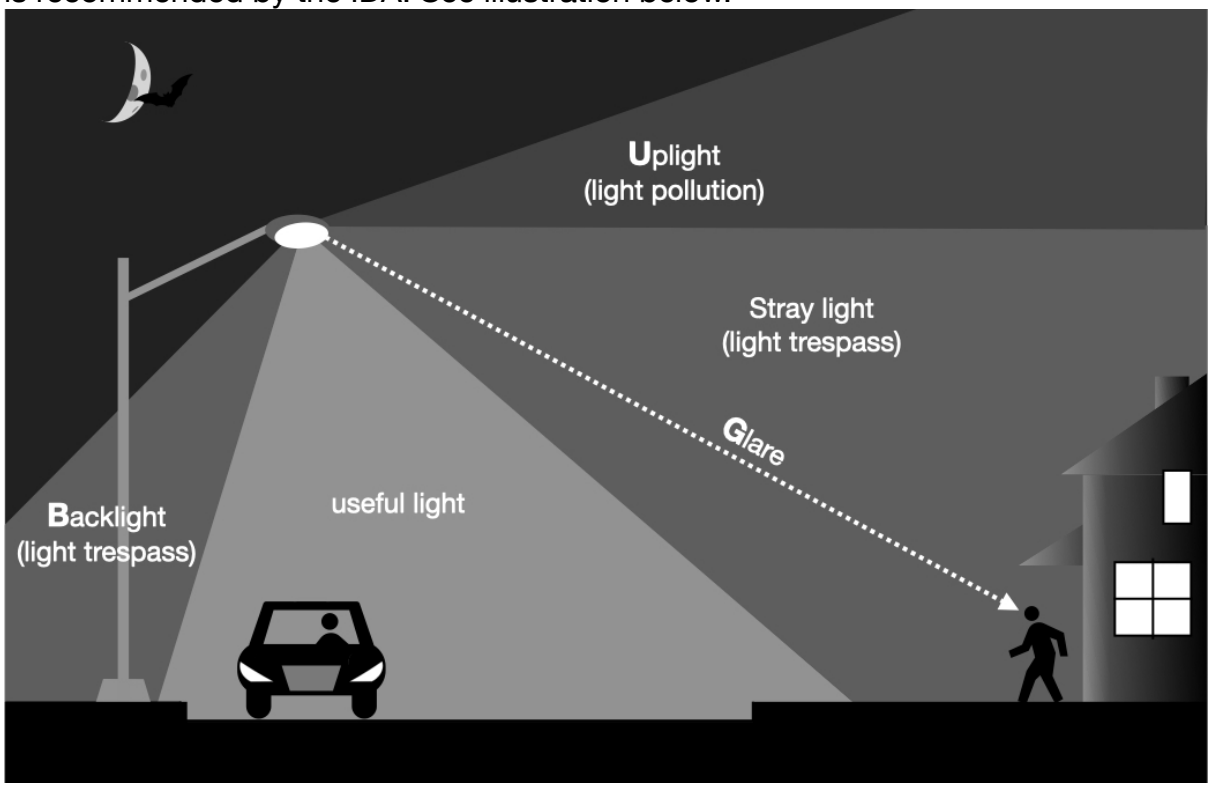


I. Definitions

Architectural lighting
Lighting designed to reveal architectural beauty, shape, or form and for which lighting for any other purpose is incidental.

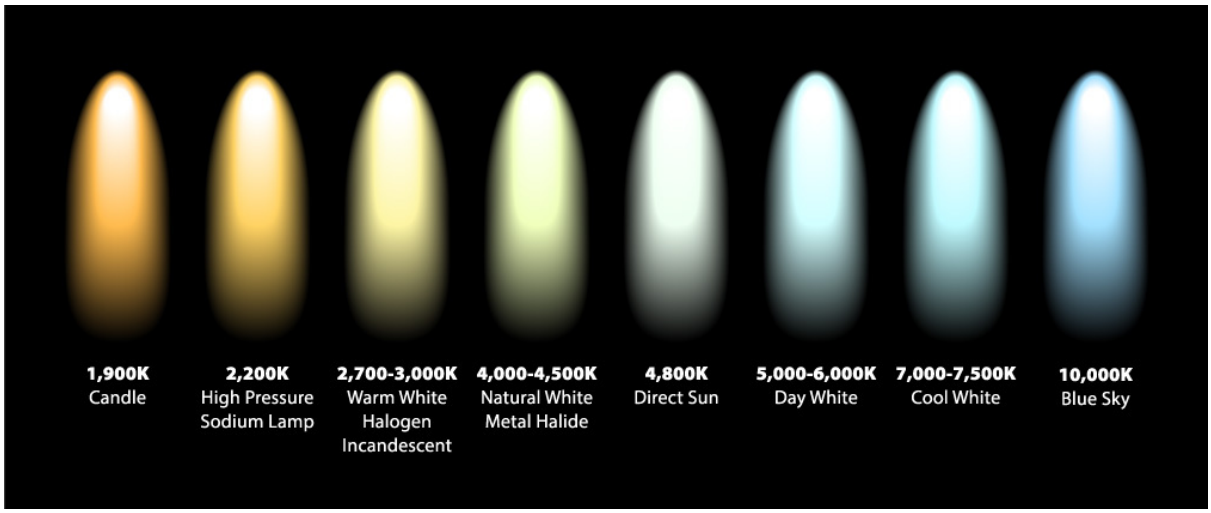
Backlight
Light emitted in the quarter-sphere below horizontal and in the opposite direction from the intended orientation of the luminaire. For example, light visible from a property behind a curb-mounted streetlight is *backlight*. Not all backlight is light trespass. Illumination that falls on a sidewalk behind a streetlight is not light traspass, but backlight that falls beyond the sidewalk is light trespass. See illustration under BUG.

BUG
A luminaire classification scheme that distinguishes *backlight* (B), *uplight* (U), and *glare* (G). This rating system was developed by the IES (reference IES publication TM-15-11) to measure the light that escapes from any luminaire in three sectors that are beyond the intended orientation of the luminaire. The lighting industry is moving away from the older "*cutoff*" system to this more precise classification scheme. Luminaire manufacturers now report BUG ratings for their fixtures, and this scheme is recommended by the IDA. See illustration below.

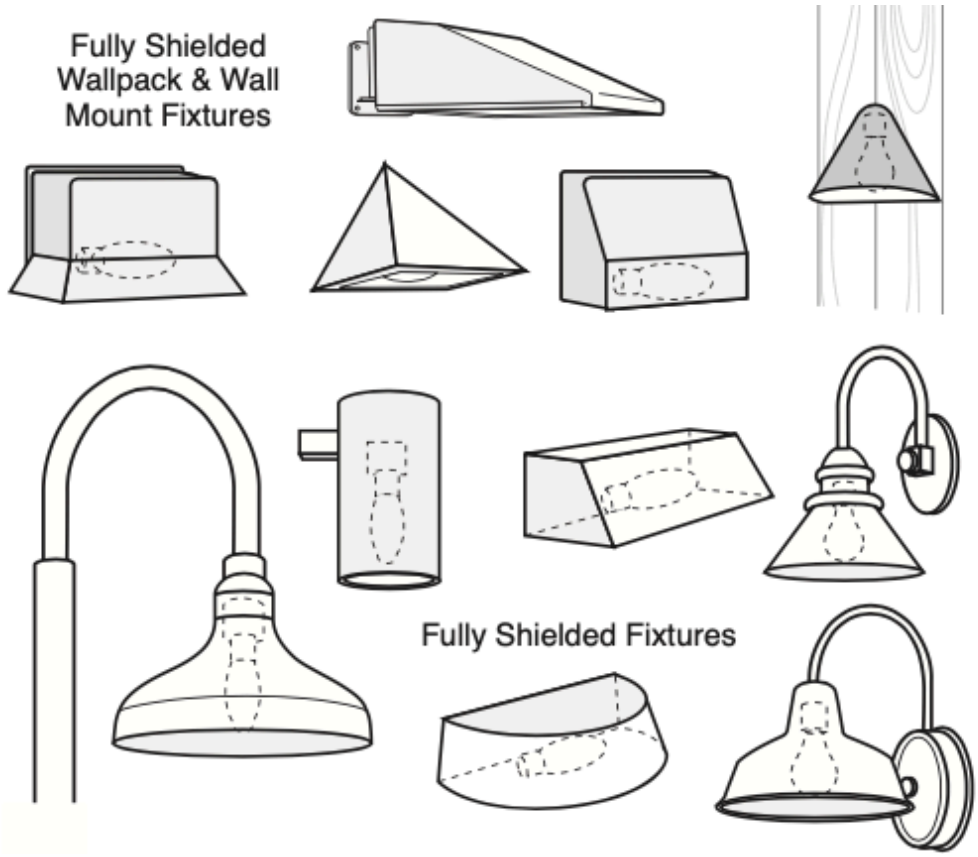


Canopy
A covered structure with at least one side open for pedestrian or vehicular access. Light fixtures mounted on the underside of a canopy must be fully shielded.

Color Temperature
The color temperature of a light source is the temperature of an ideal black body radiator that emits light of a color comparable to the light source, measured in degrees Kelvin. Counterintuitively, lower color temperatures correspond to what is conventionally called "warm lighting," while high color temperatures are conventionally called "cool lighting." In night-time lighting, a lower color temperature (or warmer lighting) is preferred because it is gentler on the eyes of humans and wildlife. Higher color temperatures, associated with white or blueish light, causes more contraction of the pupils, and renders it more difficult for us to see in the dark. Blue light is more strongly scattered by the atmosphere and suspended particles (which is why the sky is blue) and contributes disproportionally to sky glow. Warmer (lower color temperature) lighting is better for reducing the contrast between lit and unlit spaces, better for human health and wildlife, and improves safety. See graphic below for an illustration of color temperature (from www.inlineelectric.com).



Fully shielded luminaire
A luminaire constructed and installed so that all light emitted, either directly from the lamp or diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected below the horizontal plane through the luminaire's lowest light-emitting part. A fully shielded luminaire is one that is designed to achieve no uplight, that is, a rating of U0 in the BUG classification scheme. Surrounding structures, like canopies, are not to be considered when determining if a fixture is fully shielded. The fixture must be shielded in and of itself. See illustration below (Bob Crelin, used with permission).



Glare
Light entering the eye directly from a luminaire or indirectly from reflective surfaces, producing a large contrast between foreground and background, reducing visibility into shadows, causing visual discomfort, or distracting the eye from a visual task (driving, for example). Light emitted at angles greater than 60° from the nadir is more likely to cause glare than light emitted downwards, so this angle is specified in the BUG ratings. See illustration under BUG.

IDA
International Dark-Sky Association (www.darksky.org).

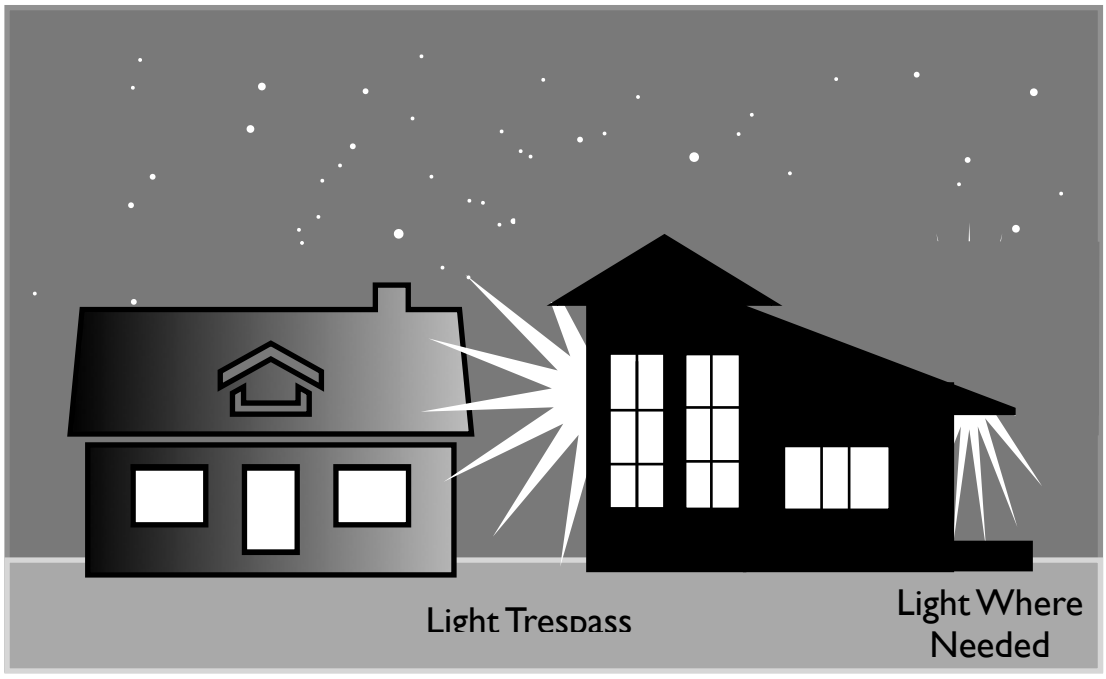
IES
Illuminating Engineering Society (www.ies.org), formerly the Illuminating Engineering Society of North America (IESNA).

Lamp
The generic term for a source of optical radiation (light), sometimes called “bulb” or “tube”. Examples include incandescent, fluorescent, high-intensity discharge (HID), low-pressure sodium (LPS) lamps, and light-emitting diode (LED) modules and arrays.

Landscape lighting
Lighting of trees, shrubs, or other plant material as well as ponds and other landscape features.

Light pollution
Any adverse effect of artificial lighting including, but not limited to, glare, light trespass, sky glow, energy waste, compromised safety and security, and impacts on the nocturnal environment.

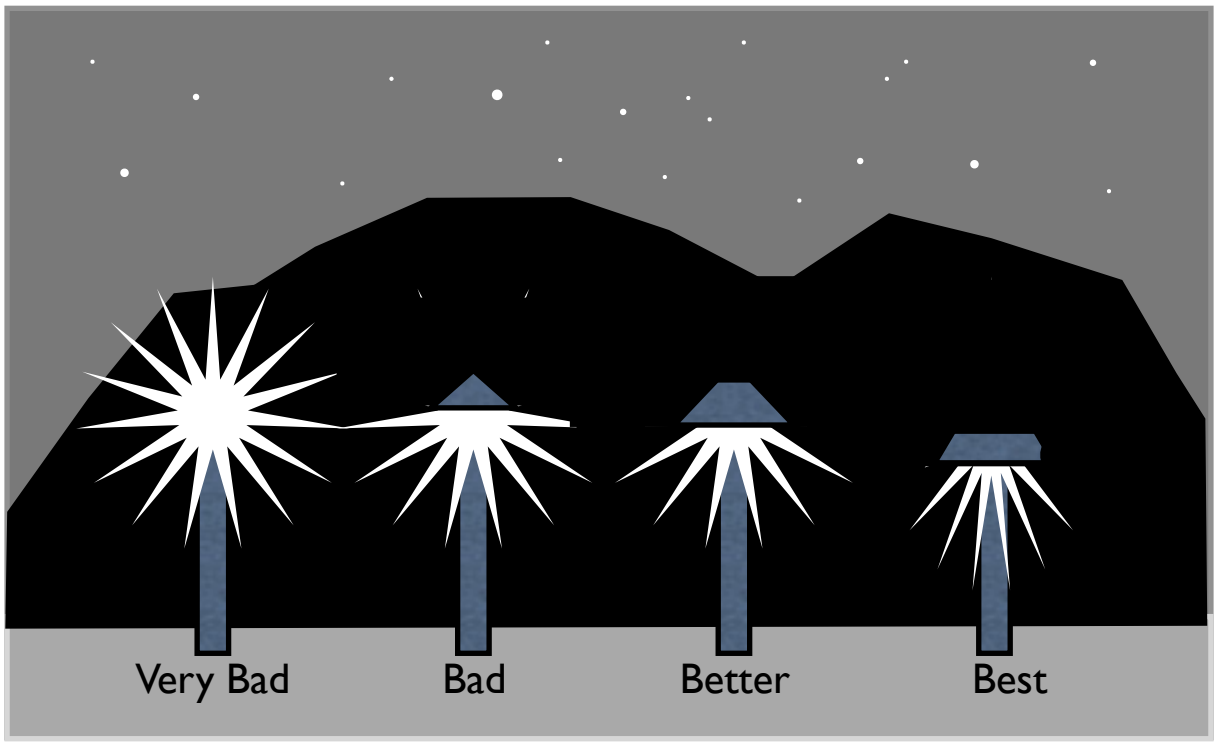
Light trespass
Artificial light that falls beyond the property it is intended to illuminate. Such light does not need to be considered obtrusive by the neighbor. Even if no one objects, light falling beyond the boundary of the property on which the light is located is light trespass See illustration below.



Lighting zone
An overlay zoning system establishing legal limits for lighting for particular parcels, areas, or districts in a community. Lighting overlay zones correspond with zones for land use or development density, and thus reflect expected human needs for outdoor lighting.

Lumen
The SI unit of luminous flux, the quantity of visible light emitted by a source per unit of time. US federal energy policy requires that lamps be sold with packaging indicating light output in lumens and power consumption in watts. For example, a 100-watt incandescent lamp has a light output of about 1600 lumens. An LED with the same light output consumes only about 15 watts, so is a far more efficient source of lighting.

Luminaire
A complete lighting unit, or fixture, consisting of lamp, lamps, (and ballast when applicable), together with parts designed to distribute the light (reflector, lens, diffuser), to position and protect the lamps, and to connect the lamps to the power supply. See illustration below for examples of luminaires of varying degrees of conformance with the spirit of this ordinance.

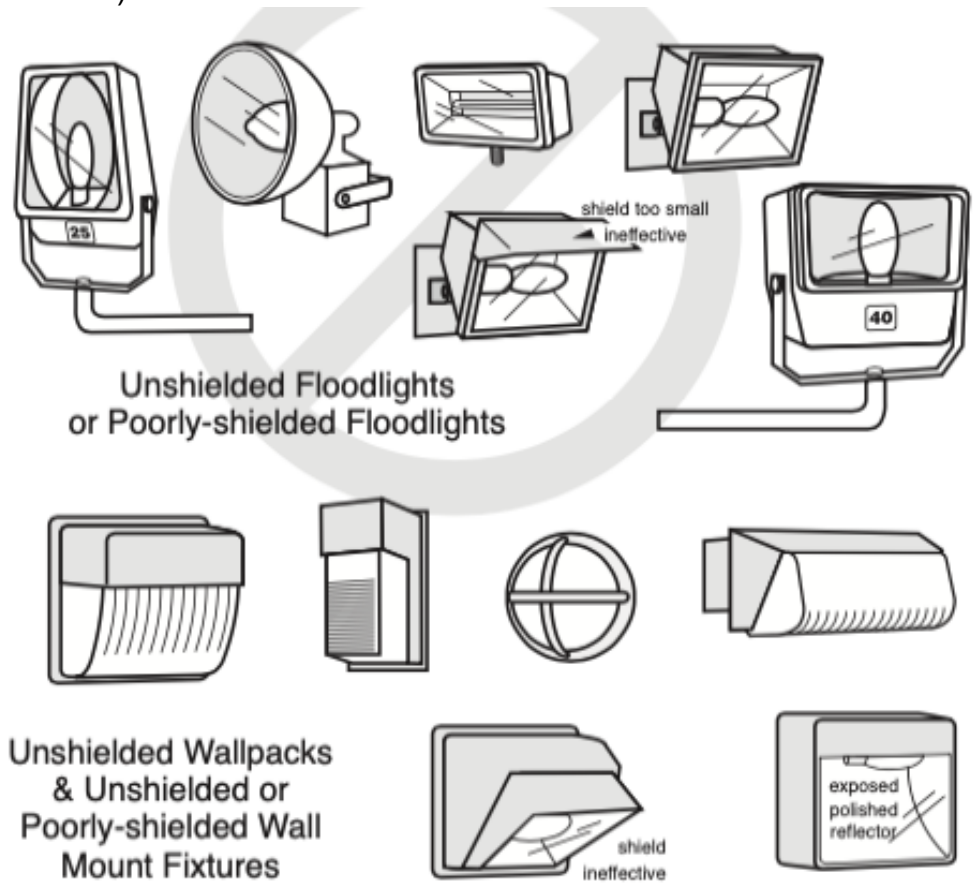


Lux
The SI unit of illuminance, measuring luminous flux per unit area. One lux is one lumen per square meter. In common use is also the *footcandle,* which is one lumen per square foot, or with adequate accuracy about 10 lux (10.76 is more precise). Full moonlight averages about 0.1 lux and public outdoor areas in large cities have illuminances between 20 and 50 lux at night. Some lighting ordinances (Tucson, for

example) give illuminance limits in terms of lumens per net acre, as we do in this draft. For reference, 100,000 lumens per net acre is approximately 25 lux, if the light is uniformly distributed. The limit expressed in lumens per net acre is easy to establish at installation time, whereas illuminance on the ground in lux must be measured photometrically. (By "net acre" is meant the area of a property that is actually used, not including parts of the gross acreage that are unused.) On installation, a lighting designer calculates the correct amount of light for the task and designs the lighting accordingly. An acceptable lighting plan must demonstrate that illuminances are correct for the application and that the total site limit is not exceeded.

Ornamental lighting
Lighting that does not affect the function and safety of an area but is purely decorative and included for aesthetic effect or for holiday celebration.

Partly shielded luminaire
A luminaire with opaque top and translucent or perforated sides, designed to emit most light downward, but unlike *fully shielded luminaires*, emits part of the light above the horizontal plane. See illustration below (Bob Crelin, used with permission).



Shielded directional luminaire
A luminaire that includes an adjustable mounting device allowing aiming in any direction and that includes a shield, louver, or baffle to reduce direct view of the lamp from other directions.

Sky glow
The brightening of the night-time sky that results from artificial light emitted upwards or sideways, or scattered and reflected upwards by the ground and dust, water, or other particles suspended in the atmosphere. Sky glow reduces one's ability to view the night sky, and is frequently visible as a dome of light above a distant city. The photograph below, taken in August 2016, shows the sky glow from Los Alamos visible from the White Rock Overlook Park.

Unshielded luminaire
A luminaire capable of emitting light in any direction, upwards as well as horizontally and downwards. A globe lamp is an example. Such luminaires are expressly forbidden by this ordinance..

Uplight
The luminous flux emitted in the hemisphere above the horizontal plane through the luminaire's lowest light-emitting part. See illustration under BUG.

II. Lighting Zones

The Lighting Zones shall determine the limitations for lighting specified in this ordinance. In Los Alamos County, we define the following lighting overlay zones (reference to zoning district designations is made as they existed in 2020, prior to the changes in the development code):

LZ0: No artificial lighting
Areas where the natural environment will be seriously and adversely affected by lighting. Impacts include disturbing the biological cycles of flora and fauna, and detracting from human enjoyment of the natural environment. Human activity in this environment is subordinate to nature, and those humans who are present are dark-adapted, and expect to see little or no lighting. In Los Alamos, **LZ0** encompasses zoning districts **W-1**, **W-2**, the Forest Service portions of **F-L**, and the vacant DOE portions of **F-L**.

LZ1: Low ambient lighting
Areas where lighting might disturb the character of the area and human sleep patterns. Lighting is used for safety, guidance, and convenience but is not necessarily uniform or continuous. Lighting shall be reduced after 11 pm as activity levels decline. In Los Alamos, **LZ1** encompasses zoning districts **R** (all subtypes) and **PD**.

LZ2: Moderate ambient lighting
Areas of human activity where the vision of residents and users is adapted to moderate light levels. Lighting is used for safety, guidance, and convenience but is not necessarily uniform or continuous. Lighting may be reduced after 11 pm as activity levels decline. In Los Alamos, **LZ2** encompasses zoning districts **C, DT, M** (all subtypes), **R&D**, the municipal school and county building portions of **P-L** (for sports fields see below **III.D.1**), and the higher density regions of the DOE's portions of **F-L**.

The table below shows the lumen limits and average illuminance levels for these overlay lighting zones. *These are the standards recommended by the iDA*.

Lighting Zone	lumens per net acre	lux = lumens per sq meter
LZ0	0	0
Residential, LZ-1,-2	20000	5
Non-residential, LZ-1	20000	5
Non-residential, LZ-2	50000	12

See Sections **IV** and **V** for details.

III. General Requirements

A. Conformance with applicable codes

All outdoor lighting shall be installed in conformance with the provisions of this ordinance, applicable Electrical and Energy Codes, and applicable sections of the Building Code.

B. Applicability

1. The provisions of this ordinance shall apply to all outdoor light fixtures or luminaires used for illumination or advertisement and installed after the effective date of this ordinance.
2. Luminaires that are existing, operative, and legally installed before the effective date of this ordinance are exempt from these requirements until the end of the grandfather period (section **VII.A**) or upon repair, replacement, or relocation. Relamping of existing non-conforming fixtures does not annul the exemption, provided the new lamps do not exceed the lumen output or the color temperature ratings for the old lamps. If it is possible to relamp with lower color temperature or lumen output, it is encouraged to do so.
3. All luminaires that are replaced or relocated shall be subject to all the provisions of this ordinance.
4. Federal and State governmental agencies that operate within the limits of Los Alamos County are *encouraged* to comply with the provisions of this ordinance.
5. Decorative lighting during the winter holiday season (November 15 through January 15) is exempt provided that individual lamps emit less than 70 lumens, and strings of dim lights are subject to an overall site limit of 1000 lumens. It is also suggested, though not required, that holiday lighting be installed on timers that shut them off after 11 pm.

C. Preferred Lighting Sources

Due to their high energy efficiency, long life, and spectral characteristics, Narrow-Spectrum Amber LEDs are the preferred illumination source throughout Los Alamos County. As technology develops further, the principle to apply in choosing new types of lighting sources is that the emission should be confined to the longer-wavelength portion of the visible spectrum (e.g. amber, or white-light sources having a color temperature no greater than 2700 K), and that energy efficiency be maximized. Amber light is known to be less detrimental to night-time vision and to nocturnal wildlife than broad-spectrum, white, or blue light, and amber light contributes less to sky glow. Use of such lamps is encouraged, while not required, for outdoor illumination whenever their use would not be detrimental to the use of the property.

D. Lighting Classes

1. Class 1 lighting is lighting used for applications in which color termperatures higher than 2700 K or broad-spectrum white light is required. All such applications must be specifically permitted by the County, and under no circumstance should light from these sources be allowed to trespass beyond the property which is specifically to be illuminated. As with all other

lighting, Class 1 lighting must be held to full-shielding standards, and glare must be eliminated (BUG rating U0, B1, G0). Such lighting must be extinguished at 11 pm.

2. Class 2 lighting is lighting used in applications where general illumination for safety is the primary concern. Examples are (a) pedestrian walkways and driveways; (b) streets and roadways; (c) parking lots; (d) outdoor security. Narrow-Spectrum Amber LEDs or other lamps as specified in **III.C** above are *required* in all Class 2 lighting applications.
3. Class 3 lighting is outdoor lighting used for decorative purposes. Examples include (a) architectural illumination; (b) landscape lighting; (c) flag and monument lighting. Class 3 lighting fixtures shall be included in the total lumen calculations for the site.
4. Luminaires used in all classes shall be fully shielded.

IV. Non-Residential Lighting

For all non-residential properties and for high-density or multi-family residential properties having common outdoor areas, all outdoor lighting shall comply with this section.

An outdoor lighting installation complies with this section if it meets the following requirements.

1. Total Site Lumen Limit:
   The total installed initial luminaire lumens of all outdoor lighting (calculated as the sum of the initial luminaire lumens for all luminaires) shall not exceed the total site lumen limit. This specifically includes lights installed in parking lots. For **LZ-1**, the limit is 20,000 lumens per net acre, or an average illuminance of approximately 5 lux; for **LZ-2**, the limit is 50,000 lumens per net acre, or an average illuminance of approximately 12 lux. For sites with existing lighting, the existing lighting must be included in the calculation of total installed lumens.
2. Limits to Off-Site Impacts:
   All luminaires shall be rated and installed so that (a) backlight is limited to 500 lumens per luminaire in **LZ-1** (BUG rating B1), and 1000 lumens per luminaire in **LZ-2** (BUG rating B2); (b) glare, or light emitted above 60º from the nadir, is limited to 100 lumens per luminaire in **LZ-1** (BUG rating G1), and 225 lumens per luminaire in **LZ-2** (BUG rating G2); (c) uplight is limited to *zero* lumens per luminaire in both **LZ-1** and **LZ-2** (BUG rating U0). Service station canopies may be lit by fixtures attached to the underside of the canopy, but such fixtures must be fully shielded, and the lumen outputs of all such fixtures shall be counted against the total site lumen limit.
3. Signs:
   All sign lighting shall 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 (including flags) must be mounted above the sign and directed downward such that only the face of the sign is illuminated. Internally illuminated signs shall consist of light-colored letters against a dark background, and use semiopaque material for sign text or

images such that the light emanating from the sign is diffused. Backlit signs shall be designed such that the light source is not visible, and that only diffuse light emanates from the sign. Lighted signs that flash, blink, or simulate movement are strictly prohibited.

4. Electronic Messaging Centers (EMC) or LED displays.
   Because LED displays, digital signs, or EMCs cannot be effectively shielded, and because they inevitably produce light trespass and glare, they are strictly prohibited.
5. Dispensing machines:
   Machines and kiosks that provide self-service dispensing (e.g. vending machines, gas pumps, ATM machines) may be illuminated provided the machine is under an opaque cover or canopy such that the light does not escape into the night sky.
6. Lighting curfew:
   Lighting used to advertise businesses shall be extinguished at the close of regular business hours. Lighting for business parking lots shall be extinguished within 1 hour after business closure. This does not apply to businesses that are open to the public 24 hours a day.
7. Ornamental parking lighting shall require special permits.

V. Residential Lighting

For residential properties (in **LZ-1** or **LZ-2**) including multiple residential properties not having common areas, all luminaires shall be fully shielded and none shall exceed 1260 lumens. The total site lumen limit per residential property is 20,000 lumens per acre, or an average illuminance of approximately 5 lux.

Exceptions to the fully-shielded requirement are:

1. Partly shielded luminaires at doors not exceeding 700 lumens.
2. Low-voltage landscape lighting not exceeding 300 lumens that does not create light trespass on adjacent properties.
3. Landscape or architectural lighting aimed so that direct light is not visible from adjacent properties and not exceeding 1000 lumens.
4. Open-flame gas lamps
5. Lighting installed with a motion sensor where the the lights are extinguished no more than 5 minutes after the area is vacated, and not exceeding 1000 lumens. The motion sensor must be adjusted so that it is only triggered by large animals and humans.

VI. Lighting by Special Permit Only

Upon special permit issued by the County, lighting not complying with the technical requirements of this ordinance but consistent with its intent may be installed for complex sites or special uses including, but not limited to, the applications listed in subsections **A**, **B**, and **C** of this section. To obtain a permit for these cases, applicants shall demonstrate why they cannot comply with the technical requirements in Sections **III**, **IV**, and **V**, and that the proposed lighting installation

1. has sustained every reasonable effort to mitigate the effects of light on the environment and surrounding properties, supported by a signed statement accompanied by relevant calculations;
2. employs lighting controls to reduce lighting at a project-specific hour ("Curfew") of the night (11 pm, for example); and
3. complies with Section **IV** after Curfew.

The County shall review each such application. A permit may be granted if, upon review, the County believes that the proposed lighting will not create unwarranted glare, sky glow, or light trespass.

A. High Intensity and Special Purpose Lighting

1. Construction lighting. Lighting shall be installed and operated so as to confine the illumination to the property under construction, and should be confined to the time when construction is actually being done. The light must not trespass beyond the construction site itself. Shielding to prevent light trespass, and light emitted above the horizontal plane shall be installed (BUG rating U0, B1, G0).
2. By special use permit, other temporary lighting (not to exceed 30 days) may be allowed, but an 11 pm curfew must be adhered to, and the lighting must be confined to the permitted property with no uplight (BUG rating U0, B1, G0).
3. Navigational lighting systems at the airport and designated helipads is permitted according to FAA standards..
4. Aerial lasers and searchlights for advertising are prohibited under any circumstances.

B. Sports Facilities

Lighting for sporting events shall be installed and operated so as to confine the illumination to the recreational area, track, or field, and is not used to illuminate any other part of the property on which the lighting is installed. The illumination for stands, concession facilities, and parking lots shall follow the guidance in section **IV** above. Shielding to prevent light trespass and light emitted above the horizontal plane shall be installed (BUG rating U0, B1). The recreational lighting shall not exceed illuminance levels for class IV sports lighting set by the Illuminating Engineering Society (IES). Direct light from the light sources for these facilities must not be visible from adjacent properties. These lights must be extinguished within one-half hour after the end of the sporting event.

C. Ridgelines, Hillsides, and Other Special Cases

The varied topography of Los Alamos requires special attention. A lamp designed to avoid light trespass in a flat neighborhood may nevertheless spill light from an uphill

property to a property located down the slope. The governing principle is still that light trespass must be eliminated, therefore additional shielding may be required on lamps on upslope properties to confine the illumination solely to the property on which the lamp is located.

VII. Public Pedestrian Pathway Lighting

Public pathway lights less than 18 inches (0.5 meter) in height are exempt from the fully shielded requirement, if the total light output from each pathway light is less than 300 lumens and the color temperature does not exceed 2700 K. Any other luminaires used for illuminating pedestrian pathways must conform with the fully shielded requirement (BUG rating U0), have a color temperature not exceeding 2200 K, and limit the light spilled onto adjacent properties (BUG rating B1). Examples of these are the luminaires at the crosswalks across Central Avenue downtown.

VIII. Street Lighting

The purpose of this portion of the ordinance is to control light pollution resulting from street lighting, including major roads, collector roads, local streets, alleys, sidewalks, and bikeways.

All street lighting not governed by regulations of federal or state jurisdiction are covered by this ordinance.

All street lighting shall be of Class 2 (Section **III.D.2**), have no light emitted above the horizontal plane (BUG rating U0) and backlight must be limited to avoid light trespass on adjacent properties (BUG rating B1).

Street lighting must conform to the following illuminance limits. The spacing and lumen outputs of each street lighting luminaire shall be calculated so that these limits are not exceeded. *These numbers are from the IES standards in IES-RP-8-18.*

A.	**West Road (**State Route 502**):**	9 lux
B.	**Trinity Drive** (Roundabout to Diamond Dr):	13 lux
C.	**Central Ave** (Roundabout to Canyon Rd):	10 lux
D.	**Canyon Rd** (Central Ave to Diamond Dr):	9 lux
E.	**Diamond Drive (**Orange St to the Laboratory):	10 lux
F.	**State Rte 4** (Rover Blvd to Grand Canyon Dr):	13 lux
G.	**Collector roads:**	6 lux
H.	**All other roads and rights-of-way:**	5 lux

These are maximum limits; lower levels of illuminance are permitted and encouraged. In particular, the establishment of these limits shall not be construed to permit increasing existing levels of illuminance in any location.

IX. Existing Lighting

Existing, non-conforming lighting installed prior to the effective date of this ordinance shall be allowed to remain non-conforming except as subject to the following.

A. Amortization. On or before 1 January 2030 (the grandfather period), *all* outdoor lighting shall comply with this ordinance.

B. New Uses or Structures, or Change of Use. Whenever there is a new use (e.g. conversion from a retail space to office space or industrial space or vice versa) for a property, all outdoor lighting on the property shall be brought into compliance with this ordinance. This also applies to changes in zoning, where a grace period of one year is allowed before full compliance is required.

C. Additions or Alterations. Modifications, additions, or replacements of more than 25 percent of a property (measured by either footprint or valuation) requires that all outdoor lighting be brought into compliance with this ordinance.

D. Abandonment. If a property with non-conforming lighting is abandoned for a period of six months or more, all outdoor lighting shall be brought into compliance with this ordinance before further use of the property occurs.

E. Destruction. If a structure with non-conforming lighting is destroyed by natural, accidental, or deliberate causes, the rebuilding or replacement of the structure requires that all outdoor lighting be brought into compliance with this ordinance.

F. Audits. Two years after the close of the grandfather period (i.e. in 2032), Los Alamos County shall perform an audit of all outdoor lighting within the County to identify all nonconforming lighting, and publish the findings in a document available to the public. Subsequent audits, no more frequently than once every 5 years, will be conducted at the request of the County Council.

X. Penalties and Enforcement

[*This section is paraphrased from the corresponding section in the Tucson & Pima County Lighting Ordinance. Obviously this must yet be adapted to Los Alamos County standards.*]

Any violation of this ordinance shall be considered a civil infraction and is subject to penalties not to exceed the amount of the maximum fine for a class 2 misdemeanor in accordance with State law. Each day of continuance of the violation constitutes a separate violation. Maximum fines are $750 for individuals and $10,000 for corporations, associations, or other legal entities. Enforcement procedures shall be pursuant to those established by the County of Los Alamos.