

**ORDINANCE #12
SERIES OF 2023**

**AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ASPEN, COLORADO,
AMENDING THE LAND USE CODE SECTION 26.575.150 – OUTDOOR LIGHTING
RELOCATING OUTDOOR LIGHTING TO CHAPTER 26.512 AND AMENDING OTHER
RELATED CODE SECTIONS AS NECESSARY WITHIN THE LAND USE CODE**

WHEREAS, the City of Aspen (the “City”) is a legally and regularly created, established, organized and existing municipal corporation under the provisions of Article XX of the Constitution of the State of Colorado and the home rule charter of the City (the “Charter”); and,

WHEREAS, the zoning and land use powers conferred upon the City by the State of Colorado as a Home Rule Municipality empower the City to manage land use to ensure the public health, safety, and welfare; and,

WHEREAS, the City of Aspen currently regulates land uses within the City limits in accordance with the Aspen Land Use Code (hereinafter “Land Use Code”), Title 26 of the Aspen Municipal Code, adopted pursuant to its Home Rule Constitutional authority and the Local Government Land Use Control Enabling Act of 1974, as amended, §§29-20-101, *et seq.* C.R.S; and,

WHEREAS, the Land Use Code requires periodic amendments to ensure it supports adopted City policy, is aligned with the community vision, and responds to changes in community, development, technological and environmental conditions; and,

WHEREAS, changes to lighting technology, design trends, neighborly conflict due to excessive nighttime lighting, and a growing understanding of the value of the night skies to community character, human health, and the ecological and environmental health of flora and fauna have raised the need for an amendment of the lighting standards; and,

WHEREAS, pursuant to a newly created chapter for Outdoor lighting standards, Chapter 26.512 – Outdoor lighting, of the City of Aspen Municipal Code, provides overviews of the allowance, location, submittal process, type, and quality of outdoor lighting allowed on private property within the City of Aspen; and,

WHEREAS, objectives of these code amendments are to update the City’s outdoor lighting policy based on national best practices and to respond to updated lighting technology; and,

WHEREAS, the City elects to pursue reduction of light levels by parcel through the creation of Lighting Zones, to allow both prescriptive and performance based guidelines to evaluate how a building or parcel is illuminated holistically, reduce the amount of light pollution and wasted energy through the allowance of a maximum nighttime light trespass; and,

WHEREAS, the City elects to pursue appropriate fixtures and lighting design that directs a pleasant and purposeful quality of light, reduce overall conflicts arising from excessive or poorly



designed light at night through guidance on decorative lighting such as seasonal lighting or festoon lighting; and,

WHEREAS, through such updated standards for useful, targeted, low light levels, controlled lighting, and evaluation of the lighting spectrum, the City believes in the human right to access dark skies and be free from inappropriate lighting distractions at night; and,

WHEREAS, other amendments will be required within Chapter 26.435 – Development in Environmentally Sensitive Areas (ESA), Chapter 26.510 – SIGNS, and Section 26.515.080 – Special Review, to ensure consistency and coordination with the updated outdoor lighting standards within the Land Use Code; and,

WHEREAS, pursuant to Section 26.310.020(A), during a regular City Council meeting on November 9, 2021, City Council adopted Resolution #101, Series of 2021, granting approval of a contract with Clanton and Associates for professional services related to an update of the outdoor lighting standards within the City's Land Use Code; and,

WHEREAS, pursuant to Section 26.310.020(A), during a regular City Council meeting on February 28, 2023, City Council approved a Policy Resolution, granting authorization to amend Section 26.575.150 – Outdoor lighting and other related code sections as necessary within the Land Use Code; and,

WHEREAS, throughout the duration of the code alignment and draft process, City staff engaged in a public engagement process including a stakeholder visioning session, introductions to the draft code and feedback from the Planning and Zoning Commission, Historic Preservation Commission, and the Commercial Core and Lodging Commission, draft check-ins with lighting design experts and community stakeholders and on-going public outreach through multiple modes of communication; and,

WHEREAS, at a regular meeting on August 1, 2023, the Planning and Zoning Commission considered the amended code, and reviewed staff's memo, and by a four-three (4-3) vote approving Resolution #06, Series of 2023, recommending Council consideration and approval of amending Section 26.575.150 – Outdoor lighting; and,

WHEREAS, at a regular meeting on August 9, 2023, the Historic Preservation Commission considered the amended code, and reviewed staff's memo, and by a four-zero (4-0) vote approving Resolution #12, Series of 2023, recommending Council consideration and approval of amending Section 26.575.150 – Outdoor lighting; and,

WHEREAS, the Aspen City Council finds that this Ordinance furthers and is necessary for the promotion of public health, safety, and welfare; and,

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ASPEN, COLORADO, THAT:

Section 1:

The Land Use Code Section 26.575.150. - Outdoor lighting, shall be deleted in its entirety and readopted as follows under Land Use Code Chapter 26.512 – Outdoor lighting as presented in Exhibit A.

Section 2:

Land Use Code *Section 26.435.040.B.3.f. – Stream Margin review* shall be rescinded and readopted as follows:

f. All exterior lighting shall be low and downcast with no light(s) directed toward the river or located down the slope and shall be in compliance with Chapter 26.512 – Outdoor lighting. A lighting plan shall be submitted with all development applications.

Section 3:

Land Use Code *Section 26.435.060. – Hallam Lake Bluff review* shall be rescinded and readopted as follows:

(5) All exterior lighting shall be low and downcast with no light(s) directed toward the nature preserve or located down the slope and shall be in compliance with Chapter 26.512 – Outdoor lighting. A lighting plan shall be submitted with all development applications.

Section 4:

Land Use Code *Section 26.510.030(p). – Strings of Light and Strip Lighting* shall be rescinded and readopted as follows:

(p) All strings of light and strip lighting shall comply with Chapter 26.512 – Outdoor lighting.

Section 5:

Land Use Code *Section 26.430 – Special Review* shall be rescinded and readopted as follows:

Sec. 26.430.030. - Applicability.

Special review shall apply to all development in the City designated for special review by the following chapters or sections of this Title:

- Dimensional requirements (Chapter 26.710, Zone Districts)
- Replacement of nonconforming structures (Chapter 26.312)
- Reduction of open space requirements in CC Zone District (Section 26.575.030(b))
- Off-street parking requirements (Section 26.515.040)
- Reductions in the dimensions of utility and delivery service area provisions
- Subdivision standards (Section 26.480.050)
- Accessory Dwelling Unit Design Standards (Chapter 26.520)
- Wireless telecommunications facilities and/or equipment (Section 26.575.130)
- Affordable housing unit standards
- Variations to the Residential Demolition and Redevelopment Standards (Chapter 26.580)
- Outdoor lighting (Chapter 26.512)

(1) *Outdoor lighting standards.* A project may request variations from the requirements of Chapter 26.512 – Outdoor lighting. Whenever a special review is considered by the Planning & Zoning Commission or the Historic Preservation Commission it shall be reviewed in accordance with the following standards:

- (1) The outdoor lighting plan, luminaire, or installation has:
 - (a) a demonstrable community benefit; or,
 - (b) is for the purpose of public safety and health; and,
- (2) The proposed lighting plan, luminaire, or installation meets the intent and general characteristics of the underlying Lighting Zone.

Section 6:

Staff will need to correct any references in the Land Use Code as described as Section 26.575.150 – Outdoor lighting to reflect the new code location as Chapter 26.512 – Outdoor lighting.

Any scrivener's errors contained in the code amendments herein, including but not limited to mislabeled subsections or titles, may be corrected administratively following adoption of the Ordinance.

Section 7:

This ordinance shall not affect any existing litigation and shall not operate as an abatement of any action or proceeding now pending under or by virtue of the resolutions or ordinances repealed or amended as herein provided, and the same shall be conducted and concluded under such prior resolutions or ordinances.

Section 8:

A public hearing on this ordinance was held on the 30th day of October 2023, at a meeting of the Aspen City Council at 5:00 p.m. in the City Council Chambers, Aspen City Hall, Aspen, Colorado, a minimum of fifteen days prior to which hearing a public notice of the same shall was published in the Aspen Daily News, a newspaper of general circulation within the City of Aspen. The public hearing on this ordinance was continued to the 14th day of November 2023, at a meeting of the Aspen City Council at 5:00 p.m. in the City Council Chambers, Aspen City Hall, Aspen, Colorado.

INTRODUCED AND READ, as provided by law, by the City Council of the City of Aspen on the 22nd day of August 2023.

ATTEST:



Nicole Henning, City Clerk



Torre, Mayor

FINALLY, adopted, passed, and approved this 14th day of November, 2023.

Torre

Torre, Mayor

ATTEST:

Nicole Henning

Nicole Henning, City Clerk

APPROVED AS TO FORM:

James R. True

James R. True, City Attorney

Exhibit A: Section 26.512 – Outdoor lighting.

EXHIBIT A

Chapter 26.512. – Outdoor lighting.

26.512.010 – Intent and Purpose.

(a) *Background.* As the global population continues to grow, a larger percentage of people are living in urban environments, leading to expansion and development. In 2007, the global urban population exceeded the global rural population for the first time in history. According to the 2020 Census, in North America 82% of people live in urban areas.

One problem associated with population growth and urban sprawl is the use of artificial light at night. This issue was first identified in the 1970s, when astronomers detected a degradation of the night sky. Continued increase in the quantity of high angle and uncontrolled reflected light has diminished the dark sky. For most of the U.S. population, a clear view of the stars is no longer possible.

Excessive, poorly designed, or poorly installed lighting at night creates issues that include skyglow, wasted energy, and unsafe or unpleasant conditions. Irresponsible light at night can also be harmful to the ecological health of flora, fauna, and humans. The City of Aspen is not excluded from these impacts. In the City of Aspen, darkness is as much a part of the natural environment as the trees, animals, and mountains. The dark night sky is currently an endangered resource. Unnecessary lighting of natural and semi-natural areas impedes our ability to connect to the natural environment of the dark night sky. When we are unable to see the stars, we become estranged from the wildness that makes the City of Aspen such a special place.

(b) *Purpose.* The City of Aspen believes in the human right to access dark skies and be free from inappropriate lighting distractions at night. When the need for darkness conflicts with the need for light, good lighting design can find a workable balance between safety, aesthetics, human health, and the ecological and environmental impacts.

The City of Aspen understands that some exterior lighting is appropriate and necessary for the safety of people at night. What to light, why, and when, is a cornerstone of this lighting chapter. Because the effects of light pollution can persist as far as 200 kilometers (120 miles) from the source, local control and regional coordination is encouraged for both dark sky preservation and ecological protection. The following principles are used as a guide for responsible lighting design in the City of Aspen:

- (1) Useful – All lighting at night should have an intended purpose.
- (2) Targeted – Light should be directed only where it is needed.
- (3) Low Light Levels – Light should be no brighter than necessary for the task.
- (4) Controlled – Lighting should only be used when it is useful.
- (5) Spectrum – Lighting shall be restricted to the range of Correlated Color Temperatures (CCTs) used outdoors to reduce disruptive, shorter wavelengths while encouraging warm-white light color temperature.

(c) *Goals.* In addition to the principles of responsible lighting design mentioned above, the following goals are intended to guide the City of Aspen's decision makers regarding artificial exterior light at night:

- (1) Use American National Standards Institute (ANSI)/ Illuminating Engineering Society (IES) exterior illuminance recommendations to reduce pedestrian accidents and promote the health, safety, and welfare of people;
- (2) Reduce obtrusive and glaring light that inhibit human vision and detract from enjoyment of the night sky;
- (3) Curtail light pollution, reduce sky glow metrics, and improve the nighttime environment for residents, visitors, and astronomer enthusiasts;
- (4) Avoid inappropriate and poorly designed or installed outdoor lighting;
- (5) Protect local and migrating ecological systems from the adverse effects of artificial light;
- (6) Prevent light trespass from unnecessarily disturbing people (and their sleep patterns) and from unnecessarily restricting access to nighttime darkness as a natural resource.

26.512.020 – Lighting Zone Planning and Designations.

- (a) *Background.* Introduced in the late 1990s, Lighting Zones (LZ) are a municipal planning tool to help reduce light levels, light pollution, wasted energy, and neighborly conflicts arising from excessive or poor use of light at night. LZs can achieve these goals by leveraging the adaptation of human vision in low light levels, enabling lighting solutions based on ambient conditions rather than brightly lit adjacent properties.

Knowing what to light, or not light, is an important consideration for the nighttime environment. Having a hierarchy of planned lighting can add context and visual order, improve coherency and understanding of one's surroundings, and ultimately give a pedestrian the confidence to engage with outdoor space at night. Avoiding visual distractions and glare are also key considerations for improving nighttime vision of residents, pedestrians, and motorists. This chapter will leverage the following guidance from the ANSI, the IES, and the International Dark Sky Association (IDA):
 - (1) ANSI/IES LP-2 Designing Quality Light for Exterior Environments
 - (2) ANSI/IES RP-43-22 Lighting Exterior Applications
 - (3) ANSI/IES LP-11-20 Environmental Conditions for Outdoor Lighting
 - (4) IDA Model Lighting Ordinance, 2011
- (b) *Definitions.* Officially defined within *ANSI/IES LP-11-20 Environmental Conditions for Outdoor Lighting*, LZs are briefly defined here:
 - (1) NDZ – Natural Dark Zones
 - (2) LZ0 – No Ambient Light
 - (3) LZ1 – Low Ambient Light
 - (4) LZ2 – Moderate Ambient Light
 - (5) LZ3 – Moderately High Ambient Light
- (c) *Purpose.* LZ designations allow for illuminance recommendations regarding what to light and at what intensity based on the expected activities. Assigning these designations within the City of Aspen is essential to reference and use ANSI/IES recommendations for exterior lighting.
- (d) *Goals.* LZ designations should not be based on existing conditions, but rather the type of environment the municipality seeks to achieve.
- (e) *Designations.* LZs are most effective when they coordinate with, and overlay on, land use zone districts and their associated tasks. LZ designations will cross reference to the City of Aspen Zone Districts as follows:

- (1) Lighting Zone 0 (LZ0): Specific City of Aspen Parks may apply
- (2) Lighting Zone 1 (LZ1): All Residential Zone Districts – AH, AH-PD, R-3, R-6, R-15, R-15A, R-15B, R-30, RR, R/MF, R/MFA
- (3) Lighting Zone 2 (LZ2): A, CC, C-1, CL, L, MU, NC, PUB, SCI, SKI
- (4) Lighting Zone 3 (LZ3): Only available for Temporary Uses, or Special Review
- (5) *Planned Developments (PDs)*. PDs with adopted outdoor lighting regulations are not included in a LZ. All PDs without an adopted outdoor lighting regulation are subject to underlying zoning and the related LZ. In all circumstances, if a PD is silent on a particular topic related to outdoor lighting, the provisions of this Title shall apply. For new PDs, lighting requirements should be evaluated with guidance from underlying zoning and the related LZ.
- (6) *City of Aspen Parks, Trails, and Open Spaces*. Parks, trails, and open spaces managed by the City of Aspen are distinct use types that have distinct lighting needs based on the location and intensity of the use. City of Aspen parks, trails, and open spaces have diverse underlying zone districts based on the distribution of their locations. In most circumstances City of Aspen parks, trails, and open spaces shall be limited to the standards under NDZ, LZ0, LZ1 or LZ2. See Section 26.512.090 - Parks, Trails, and Open Spaces, for guidance on outdoor lighting characteristics found across City of Aspen parks, trails, and open spaces.

26.512.030 – Applicability.

- (a) *Applicability*. The lighting requirements of this chapter shall be applicable to all exterior lighting on private property within the City of Aspen. This includes use of light, hours of operation, and mitigation of light trespass.
 - (1) *Trespass and curfew*. Trespass and curfew regulations are in effect immediately upon the passage of this chapter.
 - (2) *5-year Legacy Exemption*. Existing outdoor lighting fixtures that do not meet the provisions of this chapter shall be considered nonconforming for five (5) years from the adoption date of this chapter.
 - (3) *Nonconforming lighting*. Unless otherwise specified within this chapter, within five (5) years of the effective date of this chapter all outdoor lighting luminaires that do not conform to the requirements of Chapter 26.512 shall be replaced or retrofitted to comply with the provisions of this chapter. After five (5) years from the effective date of this chapter, noncompliant outdoor lighting luminaires will be considered a violation of this chapter and subject to the penalties set forth herein. The Community Development Department may issue an Administrative Notice of Violation per Section 2.02.120. - Uniform enforcement of City regulations, to any person or property owner using noncompliant outdoor lighting luminaires, and such violation shall be cured within ninety (90) days from the date of the Administrative Notice of Violation.
- (b) *Compliance by development scenario*.
 - (1) *Routine Maintenance and one-for-one replacement*. Proposals fall into this category if they do not require a permit. The repaired or replaced fixture(s) shall conform with the requirements of this chapter.
 - (2) *Renovations and Modifications*.
 - a. Proposals fall into this category if a renovation or modification to outdoor lighting requires a permit, and the total lumens of replaced or added fixtures is less than 40% of the total site lumen allowance listed in Table 2 or Table 4, as applicable. Only the

outdoor lighting fixtures replaced or added in the permit shall need to come into compliance with the requirements of this chapter.

- b. Proposals fall into this category if a renovation or modification to outdoor lighting requires a permit, and the total lumens of replaced or added fixtures is equal to or more than 40% of the total site lumen allowance listed in Table 2 or Table 4, as applicable. These proposals shall cause the entire property to meet the requirements of this chapter.
- c. Changes that qualify as an International Existing Building Code (IEBC) Alteration Level 3 on an existing development (e.g., square footage, occupant capacity, parking spaces) shall cause the entire property to meet the requirements of this chapter.
- d. Any re-zoning or change of use, per Title 26, shall cause the entire property to meet the requirements of this chapter.

(3) *New development and Redevelopment.* If new development occurs on a vacant lot or a property is redeveloped, as defined in Section 26.104.100 – Definitions, this shall cause the entire property to meet the requirements of this chapter.

(c) *Exemptions.* The following types of lighting installations shall be exempt from the requirements within this chapter.

- (1) *Lawful.* Lighting required by federal, state, county, municipal, or other territorial laws or regulations that conflict with this chapter.
- (2) *Flags.* When possible, lower and remove flags from sunset to sunrise so illumination is not needed. For flags displayed at night, nighttime illumination of the United States of America flag and the Colorado State flag is allowed. Nighttime illumination of other flags is not allowed. Nighttime illumination of flags shall follow the guidelines below:
 - a. For an even distribution of light on the flag surface when fully extended, use either top of pole downward directed light, a maximum of three (3) in-ground uplights, or three (3) shielded spotlights that are surface mounted at grade. To preserve the night sky, the use of top of pole downward directed lights is encouraged.
 - b. In-ground and surface mounted shielded spotlights should be narrow beam (15 degree maximum), no more than 100 lumens per foot of height (e.g., 2,500 lumens per light for a 25-foot-tall flag), with point sources of light not to be visible outside of a 15-foot radius. Surface mounted lights should rotate and tilt and be aimed to hit the flag.
- (3) *Street, Public Trails, and Roadway.* Lighting installed within the public right-of-way or an easement that is for the benefit of public safety, such as emergency, traffic control, or streetlights, is not subject to this chapter. Lighting installed within the public right-of-way with a purpose of illuminating outside the public right-of-way is not exempt from the requirements of this chapter.
- (4) *Signage.* See Chapter 26.510 – Signs.

(d) *Special Circumstances.* If a lighting plan, luminaire, or installation is proposed and does not meet the requirements of this chapter, but has a demonstrable community benefit, an exemption may be considered. The applicant shall submit additional information so the benefit to the community can be evaluated, and the lighting may then be approved by the Community Development Director. Should the Community Development Director deny an application of this nature, an applicant may pursue a Temporary Use review with City Council per Chapter 26.450 or a Special Review with Planning & Zoning Commission or the Historic Preservation Commission per Chapter 26.430.

- (1) This process shall apply to outdoor art installations involving lighting.

(2) This process may also apply to lighting scenarios not addressed in other sections of this code, such as a clock tower in a public area.

26.512.040 - Submittal Process.

(a) *General.* Unless otherwise required by this Title, evaluation of lighting shall be made at building permit review. For example, while Planned Development and Environmentally Sensitive reviews would require a lighting plan during land use review, most projects will involve the evaluation of lighting at building permit. Lighting plans shall be submitted to the Community Development Department for approval. For all submissions, either method described below is acceptable. Proposals that do not trigger a permit are exempt from submitting lighting plans and shall conform with the requirements of this chapter.

(b) *Prescriptive Method.* For administrative simplicity, a project shall be charted using The City of Aspen Outdoor Lighting Permit Submission Tool containing identification for each luminaire type, quantity, lumen output, BUG rating for luminaires (if available), the total expected site lumens, and a calculated total site lumens compared to the total site lumen allowance listed in Table 2 or Table 4.

- (1) A sub-total is required for the total lumens coming from partially shielded light allowed in Table 2 or Table 4, as applicable. The total lumens coming from partially shielded lights cannot exceed 20% of the allowable lumens.
- (2) Supporting data sheets for exact luminaires (model numbers), light distribution plots, fixture BUG ratings, luminaire locations, mounting heights, and aiming directions shall be included to the extent necessary to show compliance with requirements.

(c) *Performance Method.* For larger and more complex projects, an outdoor lighting design may be analyzed using industry standard lighting software. This outdoor lighting plan shall include:

- (1) The City of Aspen Outdoor Lighting Compliance Statement signed and stamped by the architect, electrical engineer, contractor, or lighting designer verifying that the outdoor lighting plan meets the requirements of the chapter.
- (2) Luminaire locations, mounting heights, aiming directions, point-by-point calculation plan indicating average, maximum, and minimum illumination values, with isolume lines or false-color bands showing illumination levels and points of calculation 10' past the property line. The plane of calculation shall be at the ground level.
- (3) The average illuminance (in footcandles or lux) for any one task should not exceed ANSI/IES standards for the applicable lighting zone, including but not limited to:
 - i. Façade, building entrance, porte cochere, softscape, and perimeter barriers.
 - ii. Walking paths adjacent to architecture, hardscape, exits, landscape, waterfront, stairs, and ramps.
 - iii. Patios, outdoor dining, decks, terraces, pools, and pool decks.
- (4) The analysis shall utilize an enclosure comprised of calculation planes with zero reflectance values around the perimeter of the site including a top plane no less than 33 feet (10 meters) above the tallest luminaire. The illuminance on the calculation planes shall not exceed the limits of light trespass defined within this chapter.

(d) Prior to Certificate of Occupancy, the applicant shall submit one of the following when pursuing Section 26.512.040(b) – Prescriptive Method:

- (1) The City of Aspen Outdoor Lighting Compliance Statement signed by the architect, electrical engineer, contractor, or lighting designer verifying that the outdoor lighting meets the requirements of this chapter and has not changed from the approved permit documentation; or,

- (2) If the outdoor lighting plan has changed, the City of Aspen Outdoor Lighting Compliance Statement signed by the architect, electrical engineer, contractor, or lighting designer verifying that the outdoor lighting meets the requirements of this chapter with an updated City of Aspen Outdoor Lighting Permit Submission Tool and updated supporting documents per 26.512.040(b) - Prescriptive Method.
- (e) Prior to Certificate of Occupancy, the applicant shall submit one of the following when pursuing Section 26.512.040(c) – Performance Method:
 - (1) The City of Aspen Outdoor Lighting Compliance Statement signed by the architect, electrical engineer, contractor, or lighting designer verifying that the outdoor lighting meets the requirements of this chapter and has not changed from the approved permit documentation; or,
 - (2) If the outdoor lighting plan has changed, the City of Aspen Outdoor Lighting Compliance Statement signed by the architect, electrical engineer, contractor, or lighting designer, and a revised lighting calculation plan and updated supporting documents per Section 512.040(c) – Performance Method.
- (f) *Review.* Site lighting plans shall be subject to review and approval by the City of Aspen Community Development. Site lighting plans submitted as a part of a building permit application shall be reviewed administratively by the Community Development Director. The Director shall have the authority to refer an application to the Planning and Zoning Commission or the Historic Preservation Commission if deemed appropriate per 26.430, Special Review.
- (g) *Appeals.* An appeal made by an applicant aggrieved by a decision made by the Community Development Director regarding administration of this Chapter may appeal such decision to the City Council, pursuant to 26.316, Appeals. Other administrative remedy may be available pursuant to C.R.S. § 31-23-209.
- (h) *Future Amendments to Chapter 26.512 – Outdoor Lighting.* All future amendments of a technical nature to this Chapter shall be exempt from the requirement of Policy Resolution for code amendments (Section 26.310.020(b)(1), (2)). Future amendments may proceed directly to a First and Second Reading, pursuant to Section 26.310.020(b)(3). Necessary amendments that raise policy questions shall follow the normal procedures for Land Use Code amendments per Chapter 26.310, Amendments to the Land Use Code.

26.512.050 – Light Trespass.

- (a) *Background.* Light trespass refers to measurable light extending beyond the boundary of its intended usage area. This causes annoyance, loss of privacy, or other nuisances. In the City of Aspen, light trespass can be a major source of frustration between neighbors. Often light trespass is referring to outdoor lighting, but light spilling outdoors through windows or other translucent surfaces in a façade also contributes to light trespass.
- (b) *Requirements.* All outdoor light sources in the City of Aspen shall be located and optically cutoff such that the point light source shall not be visible from adjacent property or public right-of-way during hours of curfew defined in Section 26.512.050(d). Additionally, interior point light sources shall not be visible from the property line during hours of curfew. Unless permitted otherwise by the City of Aspen, the total maximum illumination of interior and exterior light sources at any point along the property line as defined in Section 26.512.050(c) shall not exceed the requirements listed in Table 1. Meeting these requirements will likely require mounting locations 2.5 times the luminaire height away from any property lines. Additional distance or shielding will likely be required for lighting installed along ridgelines or hillsides. Methods encouraged for interior and exterior light sources to meet these light trespass limits include shielding, dimming, timers, and window shades.

Property Line Vertical Light Trespass: Illuminance Limits				
	LZ0	LZ1	LZ2	LZ3
Footcandles (fc)	0.05	0.1	0.3	0.8
Lux (lx)	0.5	1	3	8

Table 1: Property Line Vertical Light Trespass: Illuminance Limits. Measured in footcandles or lux.

- (c) *Measurements.* To measure vertical light trespass for any property in Aspen, a light meter shall be placed at 5-feet above grade and aimed perpendicular to the property line, pointed towards the light source. Multiple readings shall be taken to ensure compliance around the property line. When bordering with public right-of-way, the property line shall be considered five feet beyond the actual property line. Any location a measurement is taken along the property line shall meet the criteria in Table 1.
- (d) *Enforcement Hours.* The Community Development Department may take light trespass readings within the following hours and enforce upon any light that exceeds the levels outlined in Table 1 above:
 - (1) Hours of enforceable light trespass for all City of Aspen private property lighting shall be the following:
 - a. Residential Uses: Curfew hours shall be 10pm to 7am.
 - b. Non-Residential Uses: Curfew hours of 10pm to 7am shall apply to all businesses unless normal operating hours end or begin within the hours of curfew. If so, the curfew applies until one hour after closing or one hour before opening. For example, if a business closes at 11pm, the curfew for that business shall be 12am to 7am. If a business opens at 6am, the curfew for that business shall be 10pm to 5am.

26.512.060 – Requirements for All Outdoor Lighting.

- (a) *Conformance.* All outdoor lighting shall meet the requirements of this chapter, applicable electrical and energy codes, and applicable sections of the building code.
- (b) *Responsible Design Criteria.*
 - (1) *Correlated Color Temperature (CCT).* In an effort to minimize potentially disruptive and/or harmful spectrum at night, all exterior lighting subject to this chapter shall have a standard CCT of 2700K up to a maximum of 3000K. A CCT of 2200K or lower is allowed for non-commercial uses provided the Color Rendering Index (CRI) is greater than 65.
 - (2) *Direct Uplight.* Unless otherwise allowed in Tables 3 and 5, all light sources shall be fully shielded or partially shielded. Luminaires that have a UO rating (produce zero uplight per IES TM-15) are encouraged but are not required. All luminaires shall be constructed in such a manner that all light emitted, either directly from the light source, through a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected no higher than the horizontal plane.

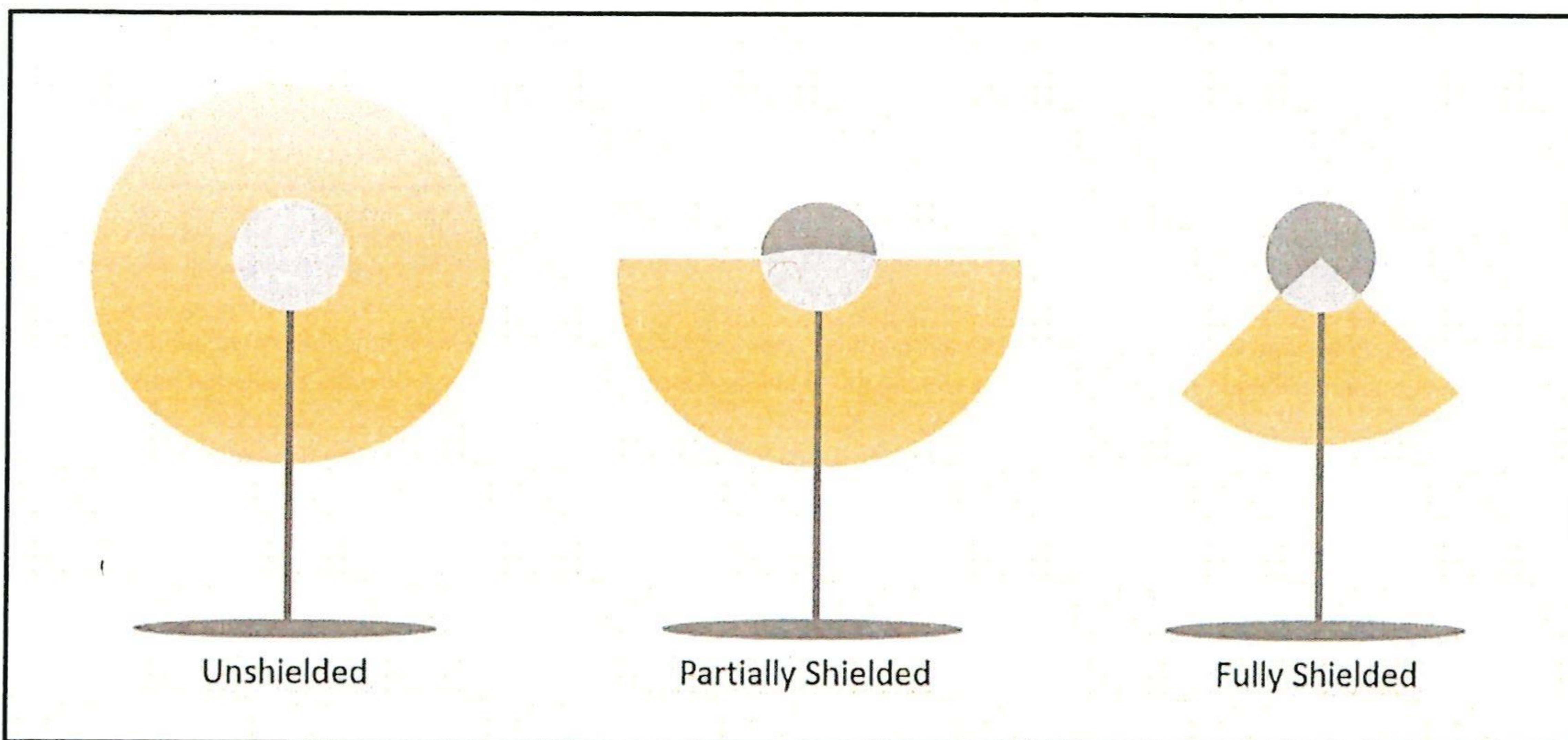


Figure 1: Unshielded, Partially Shielded, and Fully Shielded Light Emittance

(3) *Poles.*

- a. Bollard, pathway, or post-top lighting taller than 42 inches from finished grade is prohibited within residential zones.
- b. Pole mounted lighting within multi-family common areas or any parking lot adjacent to a residential use are allowed up to 12 feet from finished grade. This allowance shall not exceed light trespass limits.
- c. Pole mounted lighting for non-residential parking lots is allowed up to 20 feet tall from finished grade, provided it is not directly adjacent to a residential property. This allowance shall not exceed light trespass limits.

(c) *Prohibitions.* The following types of exterior lighting sources, luminaires and installations, and those interior lighting sources, luminaires, and installations that can be seen directly from the exterior by the public or are causing light trespass or direct glare into any property or public right-of-way, shall be prohibited in the City of Aspen.

- (1) Non-shielded and partially shielded fixtures unless identified as allowed in Tables 3 and 5.
- (2) Mercury vapor lighting.
- (3) Inefficient lamps or LED luminaires (those with an efficacy of less than 45 lumens per watt) shall be prohibited for outdoor use.
- (4) Blinking, flashing, moving, revolving, scintillating, flickering, changing intensity, and changing color lights. This prohibition does not apply to Section 26.512.110(f) - Seasonal Lighting.
- (5) Neon lighting and LED strips simulating the appearance of neon are both prohibited. This includes its usage for the outlining of buildings and for signage.
- (6) Non-shielded floodlights are prohibited. Fully shielded floodlights are subject to the lumen maximums in Tables 3 and 5. For motion sensor lights see Section 26.512.100(a) – Security.
- (7) Lighting directed towards the Roaring Fork River and its tributary streams or Hallam Lake is prohibited per Chapter 26.435 – Development in Environmentally Sensitive Areas (ESA).
- (8) No outdoor lighting shall be used in any manner that could interfere with the safe movement of motor vehicles on public thoroughfares. The following is prohibited:
 - a. Any permanent light source not intended for roadway illumination that still produces direct light or glare onto a roadway that could be disturbing to the operator of a motor vehicle (e.g., pedestrian architectural lighting, landscape lighting).

- b. Any light that may be confused with or construed as a traffic control device except as authorized by State, Federal or City government.

(9) Aerial lasers, beacons, and searchlights are prohibited except for emergency use.

26.512.070 – Residential Lighting.

(a) *Background.* Lighting in residential areas provides for safe navigation to and from residences at night, adds visual character, and the ability to enjoy outdoor spaces in hours of darkness. Functional lighting of facades, landscaping, and peripheral boundaries of a residential property allows residents and guests to stay oriented within a space, which fosters an improved sense of safety and wellbeing. Decorative or excessive lighting of facades, landscaping, and peripheral boundaries of a residential property contributes to light pollution and degradation of dark sky and natural darkness goals. Any points of ingress or egress can also benefit from quality lighting for both wayfinding and threat detection. Vertical illuminance plays a critical role in addressing this need, allowing movement in silhouette or shadow to be easily detectable.

Effective lighting for these needs should be unobtrusive, avoid creating glare, and avoid excessive light which can harm the night sky and the health of people, wildlife, and landscaping. For this reason, maximum limits on lumens per site, see Table 2, and light trespass limits apply to all residential properties in the City of Aspen.

(b) *Light Output.* The upper lumen limits listed below should not be the design goal. The design goal should be to use the minimum light levels that meet the requirements of the task. The total allowable site lumens for a residential property are limited to:

Total Site Lumen Allowance: Residential Uses				
Gross Lot Area Square Feet (sf)	LZ1		LZ2	
	Single-family/ Duplex	Multi- Family	Single-family/ Duplex	Multi- Family
50,000 sf+	20,000	20,000	20,000	20,000
30,000 sf	13,500	13,500	13,500	13,500
15,000 sf	7,500	7,500	7,500	7,500
9,000 sf	5,000	5,000	5,000	5,000
6,000 sf	4,000	4,000	4,500	4,500
4,500 sf	3,350	3,350	3,700	3,700
< 3,000 sf	2,700	2,700	3,000	3,000

Table 2: Total Site Lumens Allowed: Residential Uses. Measured in lumens.

(c) *Additional Allowances.* The following additional lumen allowances apply only to residential properties if the following applies:

- 1) For multi-family units in a mixed-use development, each unit shall be allotted 1,000 lumens per unit above allowances provided in Table 4. Additional lumens shall not be traded between dwelling units or to a non-residential use.
- 2) On single-family/duplex residential lots larger than one acre with more than one dwelling unit, an additional 2,000 lumens for each additional dwelling unit is allowed. Additional lumens shall not be traded between dwelling units.
- 3) An additional 300 lumens per parking lot space is allowed for multi-family units in 100% residential developments. Additional lumens shall not be traded between dwelling units.

(d) *Partially shielded and Unshielded luminaries.* Partially shielded and Unshielded luminaries for the applications in Sections 26.512.070(e), (f), and (g) are permissible if the light distribution is limited to the targeted element (e.g., façade, sculpture, shrub), and if the total amount of light does not exceed 20% of the total site lumen allowance and the individual luminaire limits listed below:

Maximum Unshielded and Partially Shielded Luminaire Lumens - Residential			
Luminaire Type	LZ1	LZ2	LZ3
Low Voltage Luminaire	205	430	430
In-grade Uplight	455	910	910
Shielded Directional Floodlight	630	1,260	1,260
Partially Shielded Decorative	900	1,125	1,600

Table 3 –

Maximum Unshielded and Partially Shielded Luminaire Lumens - Residential. Measured in lumens.

(e) *Light for Orientation and Reassurance.* Vertical illuminance plays a critical role in allowing people to perceive the spatial perimeter and major obstacles in an area, as well as detect movement. This allows people to feel more confident navigating a space and allows for threat detection at night, especially in lower-activity residential areas. The design standards for this kind of lighting are detailed below.

- 1) *Trees, Gardens, and Landscape Lighting.*
 - a. Tree and landscape lighting shall be no taller than 25 feet from finished grade.
 - b. Tree and landscape lighting are subject to curfew hours and shall be turned off between the hours of 10pm and 7am.
- 2) *Walls, Stairs, Fences, and Perimeter Barriers.*
 - a. Perimeter fence lighting is prohibited within residential zones for residential use.
 - b. Illumination of site and retaining walls shorter than six (6) feet from finished grade and directly beneath them is allowed within common areas of multi-family developments and shall meet all the other requirements of this chapter.

(f) *Light for Wayfinding, Pathways, and Stairs.* Changes in grade or terrain are more hazardous when visibility is poor. Stairways, curbs, raised pavement, potholes, and slippery surfaces are all examples of possible trip and fall hazards that can require lighting at night to navigate to or from a residence safely. The design standards for this type of lighting are detailed below:

- 1) *Driveway and Parking.* Driveway and parking lot lighting for single-family, duplex, triplex, and four-plex residential uses shall be fully shielded so that the point light source is not visible from adjoining property lines or rights-of way. Lighting shall be included in total allowable lumens and meet Table 3 luminaire limit requirements. Building mounted lighting for driveway and parking shall be no higher than 12 feet above finished grade. Non-building mounted lighting shall comply with Section 26.512.060(3).
- 2) *Address Markers.* Are not exempt from lumen allowance.
- 3) *Entrances and Porte Cochères.* Porte cochère and covered porch lighting is allowed. Luminaires shall be aimed downward and installed such that the bottom of the luminaire or lens, whichever is lower, is recessed or fully shielded and not producing any light above the horizontal. All light emitted by an under-canopy luminaire shall be substantially confined to the posts, façades, and ground surface directly beneath the perimeter of the canopy.

4) *Pathways, Exterior Stairs, and Steps.* Luminaires in these applications shall be no taller than 42 inches from finished grade.

(g) *Light for Atmosphere and Enjoyment.*

- 1) Lighting used to illuminate patios, above grade decks, balconies, or gazebos shall be fully shielded with the point light source not visible beyond the property line.
- 2) Art, monuments, and fountain features may be illuminated if they are within 10 horizontal feet of the residential structure. Lighting shall be turned off between the hours of 10pm to 7am per Section 26.512.050(d).
- 3) Outdoor televisions may be allowed so long as the screen is directed inwards and is not visible from any property line. Television screens mounted outdoors shall be turned off during the hours of curfew defined in Section 26.512.050(d). For the use of television screens as signage please refer to Chapter 26.510 – Signs.

26.512.080 - Non-Residential Lighting.

(a) *Background.* Lighting in non-residential areas provides for safe navigation to and from businesses and activities at night, adds visual character, and allows for shopping and recreation in hours of darkness. Lighting facades, landscaping, and peripheral boundaries of non-residential spaces allows residents and visitors to the City of Aspen to stay oriented within a space, fostering an improved sense of safety and wellbeing. Any points of ingress or egress for non-residential spaces can also benefit from quality lighting for both wayfinding and threat detection. Vertical illuminance plays a critical role in addressing this need, allowing movement in silhouette or shadow to be easily detectable. It also helps to define spatial boundaries in busier non-residential areas and avoid conflicts between users.

Effective lighting for these needs should be unobtrusive, avoid creating glare, and avoid excessive light which can harm the night sky and the health of people and landscaping. For this reason, maximum limits on lumens per site and light trespass limits apply to all non-residential properties in the City of Aspen.

(b) *Light Output.* The upper lumen limits listed below should not be the design goal. The design goal should be to use the minimum light levels that meet the requirements of the task. The total allowable site lumens for non-residential properties are based on the square footage of the facade and other elements of the developed structure, landscape buffer, and hardscape. A site shall calculate a maximum site lumen allowance by choosing a maximum of four (4) of the lighting types as identified in Table 4. Individual site lumen limits by lighting type are as follows:

Site Lumen Allowances: Non-Residential/Commercial Uses				
Lighting Requirement. A maximum of four types are permitted per site.	Unit	LZ1	LZ2	LZ3
Building Entrance(s): This allowance is per door. To use this allowance, luminaires shall be within 20 feet of the door.	each	500	1,000	1,500
Building Facades: This allowance is lumens per square foot of building facade that is illuminated. To use this allowance, luminaires shall be aimed at the facade and capable of illuminating it without obstruction.	square foot of building facade	8	16	24

Nighttime Service Loading: This allowance is per service loading door. To use this allowance, luminaires shall be within 20 feet of the door.	each	2,000	4,000	6,000
Outdoor At-grade Parking Lot: This allowance is per parking space. To use this allowance, luminaires shall be within a maximum height of 20 feet from the finished grade of the parking space(s).	space	400	600	800
Gas Station Canopy**: This allowance is lumens per installed fuel pump. Each side of a two-sided pump qualifies for an allowance.	pump	4,000	8,000	10,000
Outdoor dining: This allowance is lumens per illuminated hardscape for outdoor dining. To use this allowance, luminaires shall be within 6 feet of the hardscape area of outdoor dining.	square foot of outdoor dining area	1	5	10

Table 4 – Site Lumen Allowances: Non-Residential/Commercial Uses. Measured in lumens.

**Measured illuminance shall not exceed fifty (50) footcandles horizontal on average, measured at grade, under the canopy.

(c) *Partially shielded and Unshielded luminaries.* Partially shielded and Unshielded luminaries for the applications in Sections 26.512.080(d), (e), and (f) are permissible if the light distribution is limited to the targeted element (e.g., façade, sculpture, shrub), and if the total amount of light does not exceed 20% of the total site lumen allowance and the individual luminaire limits listed below:

Maximum Unshielded and Partially Shielded Luminaire Lumens – Non-residential			
Luminaire Type	LZ1	LZ2	LZ3
Low Voltage Luminaire	205	430	430
In-grade Uplight	455	910	910
Shielded Directional Floodlight	630	1,260	1,260
Partially Shielded Decorative	900	1,125	1,600

Table 5 – Maximum Unshielded and Partially Shielded Luminaire Lumens Per Fixture – Non-residential. Measured in lumens.

(d) *Light for Orientation and Reassurance.* Vertical illuminance plays a critical role in allowing people to perceive the spatial perimeter and major obstacles in an area, as well as detect movement. This allows people to feel more confident navigating busier non-residential areas and allows for threat detection at night. The design standards for this kind of lighting are detailed below.

(1) *Façade Lighting.*

- The point light source shall not be visible from adjacent properties or create glare in the right-of-way.
- Façade lighting for a mixed-use property shall not be installed above floors with residential dwelling units.

- c. Display window lighting is allowed when it complies with the restrictions in place for point sources light trespass, and Section 26.512.090.
- (2) *Trees, Gardens, and Landscape Lighting.*
 - a. Tree and landscape lighting is subject to curfew per Section 26.512.050.d.
- (3) *Walls, Stairs, Fences, and Perimeter Barrier.*
 - a. Illumination of site/retaining walls within six feet of finished grade is allowed within non-residential common areas, provided they are washed using approved façade or landscape lighting techniques and meet all the other requirements of this chapter.
- (e) *Light for Wayfinding and Pathways.* Changes in grade or terrain are more hazardous when visibility is poor. Stairways, curbs, raised pavement, potholes, and slippery surfaces are all examples of possible trip and fall hazards that can require lighting at night to navigate around safely in a non-residential area. The design standards for this type of lighting are detailed below.
 - (1) *Driveway and Parking.* Outdoor lighting used to illuminate parking spaces, driveways, or maneuvering areas shall be fully shielded and be designed, arranged, and shielded so that the point light source is not visible from adjoining property lines or rights-of-way. Building mounted lighting for driveway and parking shall be no higher than 12 feet above finished grade. Non-building mounted lighting shall comply with Section 26.512.060(3).
 - (2) *Entrances and Porte Cochères.* Porte cochère and covered porch lighting is allowed. Luminaires shall be aimed downward and installed such that the bottom of the luminaire or lens, whichever is lower, is recessed or fully shielded and not producing any light above horizontal. All light emitted by an under-canopy luminaire shall be substantially confined to the posts, façades, and ground surface directly beneath the perimeter of the canopy.
 - (3) *Pathways, Exterior Stairs, and Steps.* Light luminaires in these applications shall be no taller than forty-two (42) inches from finished grade.
- (f) *Light for Atmosphere and Enjoyment.*
 - (1) Lighting used to illuminate patios, above grade decks, balconies, or gazebos shall be fully shielded with the point light source not visible beyond the property line.
 - (2) Art, monuments, and fountain features may be illuminated if they are within 10 horizontal feet of the residential structure. Lighting is subject to curfew per Section 26.512.050(d).
 - (3) Outdoor televisions may be allowed so long as the screen is directed inwards and is not visible from any property line. Television screens mounted outdoors shall be turned off during the hours of curfew defined in Section 26.512.050(d). For the use of television screens as signage please refer to Chapter 26.510 – Signs.

26.512.090 - Parks, Trails, and Open Space Lighting.

The following designations are informed by best practices and give guidance to the City of Aspen Parks Department in determining appropriate outdoor lighting across the City of Aspen Park system. In no circumstance shall an individual luminaire located within a park, trail or open space exceed limitations as defined in this Chapter.

- (a) *Open Areas.* No outdoor lighting is required within undeveloped backcountry, natural wilderness areas, or areas concerned with migration and habitat for birds and animals, or the preservation of dark sky. This use may be designated as a NDZ (Natural Dark Zone) on the lighting zone overlay. This restriction exists for environmental protection and conservation for both public and private land.

- (b) *Rural Parks.* Very little outdoor lighting is required for rural park amenities and terrain safety during nighttime hours of operation. Elements such as restroom entrances, visitor centers, maintenance facilities, signage, and curbs, stairs, or other hazardous changes in grade may need illumination. Illuminance criteria for these applications may follow general requirements regarding, CCT, uplight, and light trespass within this chapter, and ANSI/IES illuminance guidance for tasks within LZ0.
- (c) *Suburban and Urban Parks.* Varied in size, and situated amongst mixed use and non-residential zone districts, suburban and urban park users at night have expectations of outdoor lighting. Elements such as signage, restroom entrances, amenity, stages, landscape, artistic features, and curbs, stairs, or other hazardous changes in grade may need illumination. Illuminance criteria for these applications may follow general requirements regarding, CCT, uplight, and light trespass within this chapter, and ANSI/IES illuminance guidance for tasks within LZ1 or LZ2. Suburban and urban parks require just enough light for the tasks required, including transitional light levels from adjacent properties to foster pedestrian reassurance.
- (d) *Sport and Recreation Areas.* Lighting for sport and recreational areas that do not need to obtain a Special Event Permit shall confine any illumination to the field, bleacher, track, or recreational area. Such lighting may sometimes need to exceed lighting zone illumination standards to meet requirements for play and safety per ANSI/IES RP-6 rules for amateur and recreational levels of play.
 - 1. *Light trespass limits apply.* Shielding and internal louvers may be required to prevent light trespass.
 - 2. *Subject to curfew.* Curfew hours of 10pm to 7am shall apply to all scheduled events. If the scheduled event ends or begins within the hours of curfew, the curfew applies until one hour after the event ends or one hour before the event begins. Lighting shall be extinguished no later than one (1) hour after any scheduled event ends.

26.512.100 - Special Use.

- (a) *Security Lighting.* Motion sensor lights shall be permitted if they are fully shielded and aimed no higher than 70 degrees from below the horizon. All motion sensor lights, or proposed security surveillance systems shall meet the following criteria. The Planning and Zoning Commission or the Historic Preservation Commission may allow lighting of a greater intensity per Chapter 26.430 – Special Review.
 - (1) Multi-Family, Mixed Use, and Commercial common areas with increased density and activity may require increased illumination at primary points of entrances or exits. Light intensity shall not exceed five (5) foot-candles average at grade.
 - (2) Shielded floodlights controlled by a motion sensor shall be limited to motion within the owner's property lines and turned off no more than five (5) minutes after such motion was detected.
 - (3) Security lighting shall be properly installed/commissioned so it shall not be oversensitive to surroundings and be triggered repeatedly in an unreasonable or disruptive manner by naturally occurring causes (such as wind in foliage).
- (b) *Lights located at Historic Landmark Structures.* Luminaires that are consistent with the time period and historic character of a Historic Landmark Structure and have the specific purpose of illuminating the structure may be exempt from shielding, uplight, and light trespass requirements upon request and subsequent approval from the Historic Preservation Officer or Historic Preservation Commission (HPC). All lighting related to historic properties or located in a historic district shall be otherwise consistent with all other performance standards laid out in this chapter.

- (1) For Historic Landmark Structures, HPC may vary lighting types as appropriate to the building but shall not increase the total site lumen amount for the property.
- (2) Historic luminaires that have been previously approved for use in the City of Aspen by the HPC but do not meet the general lighting or light trespass criteria of this chapter shall be limited to 1,000 delivered lumens per luminaire.
- (3) Luminaire design elements, such as shades with translucent, perforated patterns, and diffusers, may be exempted from the fully shielded requirement provided they are less than 1,000 lumens and otherwise consistent with the provisions within this code and meet all other requirements of this chapter and demonstrate a benefit for the community.

26.512.110 - Miscellaneous Lighting Types.

- (a) *Temporary Use.*
 - (1) See Chapter 26.450 - Temporary and Seasonal Uses.
- (b) *Special Review*
 - (1) See Chapter 26.430 – Special Review.
- (c) *Special Events.*
 - (1) See Chapter 14.20 – Park Rental and Special Event Permits.
- (d) *Construction.*
 - (1) See Title 29, Engineering Design Standards.
- (e) *Pool Lighting.*
 - (1) When approved by permit, underwater pool, spa, and pool deck lighting is allowed. Such lighting shall not exceed the minimum level needed to meet City of Aspen adopted building code. This lighting is not part of the total site lumen limit.
- (f) *Seasonal Lighting.* Seasonal lighting of a temporary nature is allowed between (November 15 and March 1). Seasonal lighting shall not create dangerous glare on adjacent streets or properties, shall be maintained in an attractive condition, and shall not constitute a fire hazard. Multicolored lighting is acceptable. When seasonal lighting is white, it shall not exceed a CCT of 4000K.
 - (1) When seasonal lighting occurs directly adjacent to (within 10 horizontal feet) the Hallam Lake Bluff or Stream Margin Environmentally Sensitive Area (ESA), it shall be subject to additional restrictions.
 - a. Seasonal lighting involving an ESA is not exempt from the City's curfew. Seasonal lighting shall be turned off between the hours of 10 pm and 7am.
 - b. All of a site's seasonal lighting shall remain within the relevant site lumen limit allowances shown in Table 2 or Table 4.
 - (2) Seasonal lighting is not allowed within the Hallam Lake Bluff or Stream Margin Environmentally Sensitive Areas (ESA). When seasonal lighting is located outside these ESAs, the following curfews apply:
 - a. Residential: 10pm to 7am.
 - b. Non-Residential: Curfew hours of 10pm to 7am shall apply to all businesses unless normal operating hours end or begin within the hours of curfew. If so, the curfew applies until one hour after closing or one hour before opening.

- (3) Seasonal lighting requirements apply to all Planned Developments unless otherwise stated in the Planned Development approvals.
- (g) *Festoon Lighting.* Also known as bistro or ping-pong lighting. Festoon lighting is allowable for outdoor installation when it is fully shielded or partially shielded and non-frosted appearance. This lighting shall not create dangerous glare on adjacent streets or properties, shall be maintained in an attractive condition, and shall not constitute a fire hazard. This is not seasonal lighting and is not intended to allow the use of other types of seasonal lighting year-round.
 - (1) Festoon lighting is allowed over patios, decks, pedestrian plazas, outdoor dining, and other pedestrian walkways where permanent, decorative lighting would be beneficial.
 - (2) Festoon lighting shall not be higher than 12 feet. Height of the festoon lighting shall be the measured vertical distance from finished grade or from the most adjacent walking surface below the luminaire up to the centerline of the luminaire.
 - (3) Festoon lighting shall not be used to wrap trees or define architectural features.
 - (4) Festoon lighting is subject to the curfew requirements.
 - a. Residential Uses: Curfew hours shall be 10pm to 7am
 - b. Non-residential Uses: Curfew hours of 10pm to 7am shall apply to all businesses unless normal operating hours end or begin within the hours of curfew. If so, the curfew applies until one hour after closing or one hour before opening.
 - (5) Festoon lighting requirements apply to all Planned Developments unless standards are otherwise stated in the planned development approvals.

26.512.120 - Enforcement and Penalty.

- (a) Enforcement and Penalty: Any lighting that does not meet the provisions of this chapter will be considered a violation. Any alleged violation of this chapter will be investigated, enforced, and penalized as allowed in Section 2.02.120. - Uniform enforcement of City regulations.

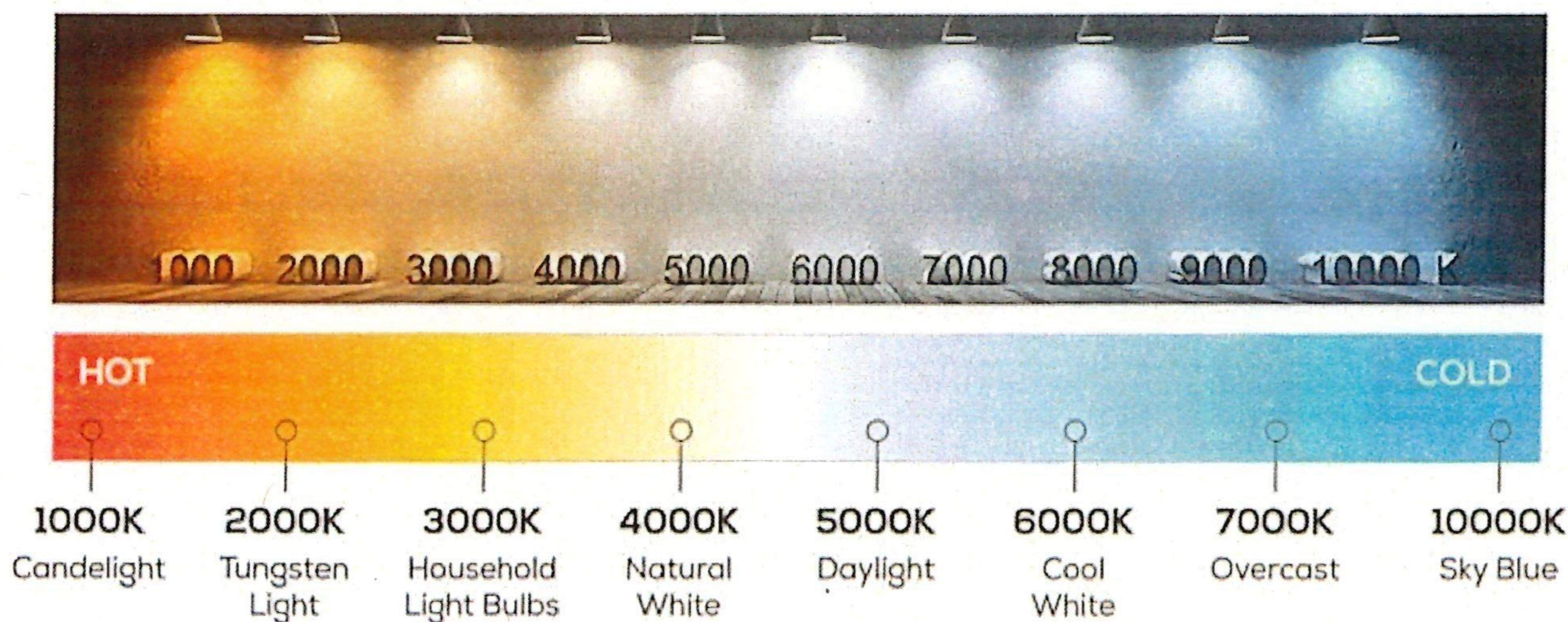
26.512.130 – Definitions.

As used in this Chapter, unless the context otherwise requires:

BUG (Backlight, Uplight, Glare) ratings means the IES TM-15 luminaire classification system describing the amount and location of light being emitted from a luminaire.

Color Rendering Index (CRI) means a quantitative measure, on a scale of 0 to 100, of artificial light's ability to render an object's natural color, with 100 being a good match for natural light.

Correlated Color Temperature (CCT) is measured in degrees Kelvin (K). A specification for the color appearance of the light emitted by a lamp.



Efficacy is measured in lumens per watt (lm/w), luminous efficacy is a measure of how well a light source produces visible light for the amount of energy consumed.

Facade means the square footage of a structure's vertical and horizontal dimensions as viewed in the elevation view. Also referred to as the "vertical surface area".

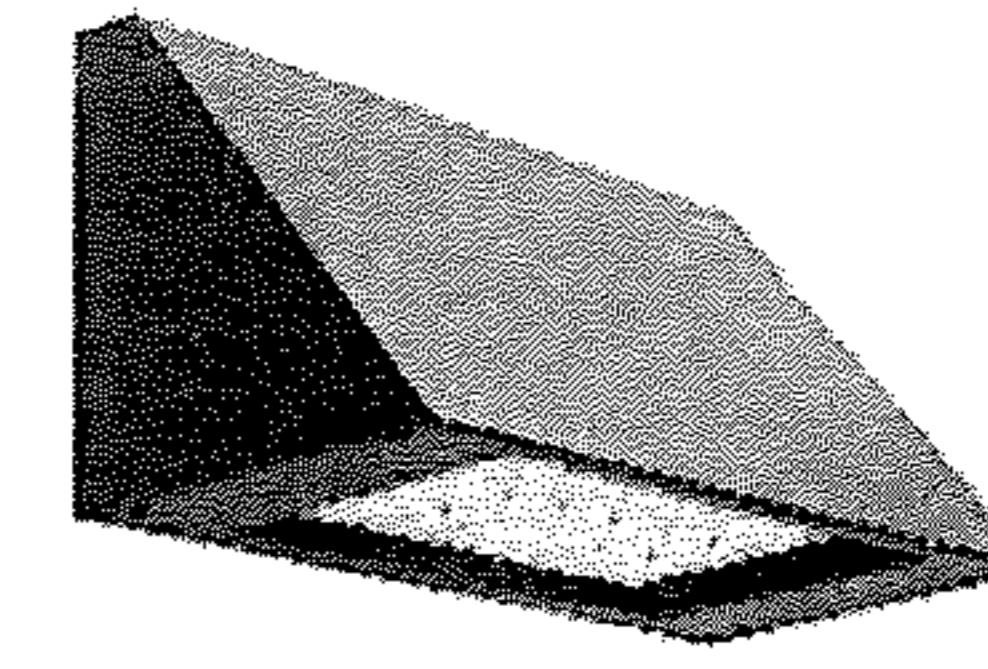
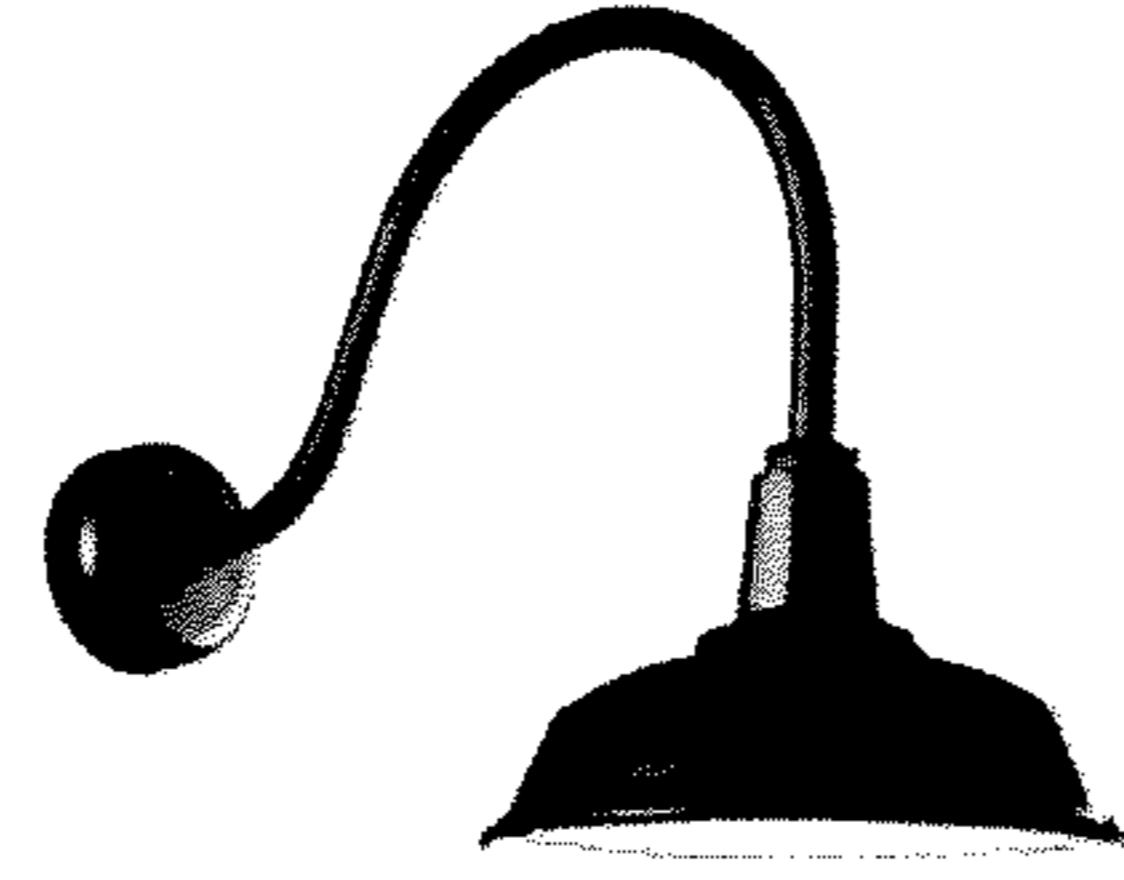
Facade Lighting is a type of lighting used to light up the exterior of a building. It can be used to highlight certain building features or provide general illumination.

Festoon lighting is also referred to as market lighting, bistro lighting, or ping-pong lighting. String lighting intended for permanent installation and year-round use. Festoon lighting is not Seasonal Lighting; see Seasonal Lighting for non-permanent lighting installations.

Footcandles means a unit of illumination equal to one (1) lumen per square foot.

Fully shielded luminaire means a fully shielded light fixture has a solid barrier (cap) at the top of the fixture in which the lamp (bulb) is located. The fixture is angled so the lamp is not visible below the barrier. No light shall be visible at or above the horizontal angle (technical description: candela values at or above an angle of 90 degrees above nadir are zero). Frosted glass in a luminaire does not constitute shielding.

Examples of fully shielded luminaires:



Glare means the visual sensation created by luminance (or brightness) that is significantly higher than the surrounding luminance that the eyes are adapted to, causing annoyance (discomfort glare) or loss in visual performance and visibility (disability glare).

Holiday lighting see 'Seasonal Lighting'.

Illuminance is measured in Footcandles (Fc) or lux. The density of light falling onto a surface; commonly measured in the horizontal and vertical planes.

Light pollution means stray and uncontrolled light, directly from a luminaire or reflected from a surface, which missed its target. A common example is light being emitted upwards, increasing skyglow.

Light trespass means measurable light extending past the property line without permission, causing annoyance, loss of privacy, or other nuisances. Often measured in footcandles. For the purposes of this chapter, light trespass may also be referred to as Vertical Light Trespass.

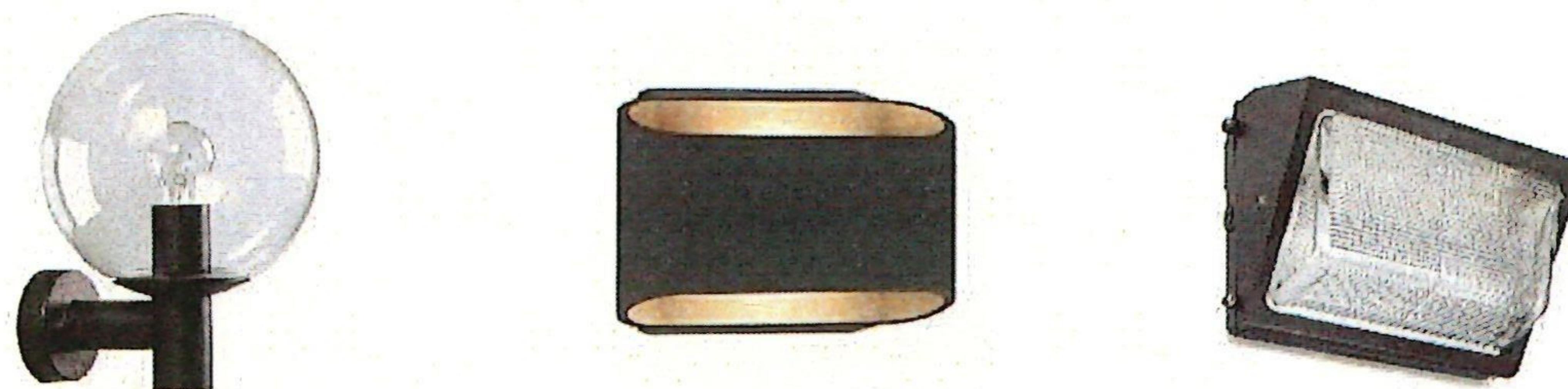
Lumen means the measure of visible light (luminous flux) emitted from a light source.

Luminaire is used interchangeably with "fixture". A complete electric light unit including light source, housing, optics, and driver.

Luminaire height means the height of the luminaire shall be the measured vertical distance from finished grade or from the most adjacent walking surface below the luminaire up to the centerline of the luminaire.

Lux means a unit used to measure illuminance. One lux is equal to one lumen per square meter (lm/m²).

Non-shielded or unshielded luminaire means luminaires without shielding that prevent light emission above the horizontal. These luminaires are prohibited except where specifically allowed in Tables 3 and 5. Frosted glass in a luminaire does not constitute shielding. Examples of non-shielded or unshielded luminaires:



Obtrusive light means any light that is discerned from beyond the intended target area, and which by its nature or presence is disturbing to individuals, harmful to the environment, or contributes to skyglow.

Partially shielded luminaire means a luminaire with opaque top and translucent or perforated sides, designed to emit most light downwards. These luminaires are discouraged. Up to 5% of the light distribution may be at or above the horizontal angle (technical description: candela values at 90 degrees or above nadir do not exceed 5%). Guidance for their use is provided in Tables 3 and 5. Frosted glass in a luminaire does not constitute shielding.

Point light source means the exact place from which illumination is produced from a luminaire (e.g. a light bulb filament or LED package) even when located behind a clear lens.

Seasonal lighting means string lighting meant for temporary use and displayed on buildings or landscaping.

Security lighting is intended to provide bright illumination for security surveillance. This lighting shall not be used continuously as a general deterrent during hours of darkness.

Shielded directional floodlight means a fully shielded luminaire that includes an adjustable mounting device and contains a shield, louver, or baffle to reduce direct view of lamp.

Vertical illuminance means the density of light falling onto a vertical surface.