

AN ORDINANCE OF THE CITY OF HENDERSONVILLE CITY COUNCIL TO ADD ARTICLE 19 – LIGHTING STANDARDS; TO THE CITY OF HENDERSONVILLE ZONING ORDINANCE TO REGULATE THE INSTALLATION OF ON-SITE LIGHTING IN CERTAIN ZONING DISTRICTS WITHIN THE CITY OF HENDERSONVILLE.

WHEREAS, the City of Hendersonville’s Planning Board has reviewed and recommended for adoption a zoning text amendment to create Article 19 - Lighting Standards for certain zoning districts as identified within the City of Hendersonville; and

WHEREAS, the proposed amendment is intended to encourage compatible redevelopment and infill development by reducing the potential negative impacts of these projects on existing development and on natural resources; and

WHEREAS, City Council desires to minimize adverse offsite impacts of lighting such as light trespass and obtrusive light, curtail light pollution, reduce skyglow, improve the nighttime environment, help protect the natural environment from the adverse effects of artificial lighting at night and conserve energy and resources to the greatest extent possible.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Hendersonville, North Carolina that Article 12 – Definition of Terms of the Zoning Ordinance of the City of Hendersonville be amended to add the following definitions and that Article 19 – Lighting Standards be added in its entirety:

ARTICLE XIX LIGHTING STANDARDS

19-1 Purpose. The purpose of this Ordinance is as follows:

- A) Minimize adverse offsite impacts of lighting such as light trespass and obtrusive light.
- B) Curtail light pollution, reduce skyglow and improve the nighttime environment.
- C) Help protect the natural environment from the adverse effects of artificial lighting at night.
- D) Conserve energy and resources to the greatest extent possible.

19-2 Lighting Zones. The Lighting Zone shall determine the limitations for lighting as specified in this ordinance. The Lighting Zones shall be as follows:

- A) **Natural Resource Zone (NRZ):** Areas where the natural environment will be adversely affected by lighting. The vision of human residents and users is adapted to the darkness, and they expect to see little or no lighting. When not needed, lighting should be extinguished.
 - i) **Parcels within 50’ of an un-piped Blue Line Stream on the most recent USGS seven-and-one-half minute quadrangle topographic maps and;**
 - ii) **Parcels with elevations above 2,300’.**

- B) **Residential Transition Zone (RTZ):** Areas where commercial and residential zoning districts abut, which require additional standards to minimize the adverse offsite impact of lighting such as light trespass, and obtrusive light.
- i) **50' from the edge of any parcel within the Commercial & Multi-Family Zone as established below which abuts parcels in R-40, R-40 CZD, R-20, R-20 CZD, R-15, R-15 CZD, R-10, R10-CZD, R-6, R-6 CZD, PMH**
- C) **Commercial & Multi-Family Zone (CMFZ):** Areas where human activity requires lighting generally designed for safety, security and/or convenience. Lighting is often uniform and continuous. Lighting may be extinguished or reduced in most areas as activity levels decline.
- i) **Application of Ordinance is associated with the following Zoning Districts; I-1, I-1 CZD, UV, C-1, C-1 CZD, C-2, C-2 CZD, C-3, C-3 CZD PMD, PCD, C-4, C-4 CZD, PRD, CMU, CMU CZD, HMU, HMU CZD, GHMU, GHMU CZD, CHMU, CHMU CZD, UR, RCT, RCT CZD, PID, MIC, MIC CZD**

19-3 General Requirements.

A) **Conformance with All 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**

Except as described below, all outdoor lighting installed after the date of effect of this Ordinance shall comply with these requirements. This includes, but is not limited to, new lighting, replacement lighting, or any other lighting whether attached to structures, poles, the earth, or any other location, including lighting installed by any third party.

- i) **Exemptions from 19-3 (B)** The following are not regulated by this Ordinance:
- (1) Lighting within the public right-of-way or easement for the principal purpose of illuminating roads and highways. No exemption shall apply to any street lighting and to any lighting within the public right of way or easement when the purpose of the luminaire is to illuminate areas outside of the public right of way or easement.
 - (2) Lighting for public monuments and statuary.
 - (3) Lighting solely for signs (lighting for signs is regulated by the Sign Ordinance).
 - (4) Repairs to existing luminaires not exceeding 25% of total installed luminaires on an annual basis.
 - (5) Temporary lighting for theatrical, television, performance areas and construction sites;
 - (6) Underwater lighting in swimming pools and other water features
 - (7) Temporary lighting and seasonal lighting.
 - (8) Lighting that is only used under emergency conditions.

(9) Low voltage landscape lighting.

ii) **Exceptions to 19-3 (B)** All lighting shall follow provisions in this ordinance; however, any special requirements for lighting listed in a) and b) below shall take precedence.

(a) Lighting specified or identified in a specific use permit.

(b) Lighting required by federal, state, territorial, commonwealth or provincial laws or regulations.

C) Lighting Control Requirements

i) Automatic Switching Requirements

Controls shall be provided that automatically extinguish all outdoor lighting when sufficient daylight is available using a control device or system such as a photoelectric switch, astronomic time switch or equivalent functions from a programmable lighting controller, building automation system or lighting energy management system, all with battery or similar backup power or device.

(a) Exceptions

(i) Automatic lighting controls are not required for the following:

1. Lighting under canopies.

2. Lighting for tunnels, parking garages, garage entrances, and similar conditions.

19-4 Lighting Standards. For all commercial properties, and for residential properties of nine dwellings or more (single family or multi-family) and having common outdoor areas, all outdoor lighting shall comply with Part A of this section.

A) An outdoor lighting installation complies with this section if it meets the requirements of subsections (1) and (2), below.

(1) Total Site Lumen Limit

(a) The total installed initial luminaire lumens of all outdoor lighting shall not exceed the total site lumen limit. The total site lumen limit shall be determined using either the Parking Space Method (Table A) or the Hardscape Area Method (Table B). Only one method shall be used per permit application, and for sites with existing lighting, existing lighting shall be included in the calculation of total installed lumens.

(b) The total installed initial luminaire lumens is calculated as the sum of the initial luminaire lumens for all luminaires

<u>Table A</u>		
<u>Natural Resource Zone (NRZ)</u>	<u>Residential Transition Zone (RTZ)</u>	<u>Commercial & Multi-Family Zone (CMFZ)</u>

<u>350</u> <u>lumens per parking space</u>	<u>840</u> <u>lumens per parking space</u>	<u>840</u> <u>lumens per parking space</u>
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<u>Table B</u>		
<u>Natural Resource Zone (NRZ)</u>	<u>Residential Transition Zone (RTZ)</u>	<u>Commercial & Multi-Family Zone (CMFZ)</u>
<u>Base Allowance</u>		
<u>0.5 lumensper SF of Hardscape</u>	<u>5.0 lumensper SF of Hardscape</u>	<u>5.0 lumensper SF of Hardscape</u>

(2) Limits to Off Site Impacts.

(a) All luminaires shall be rated and installed according to Table C.

<u>TABLE C-1</u>	<u>NRZ</u>	<u>RTZ</u>	<u>CMFZ</u>
<u>Allowed Backlight Rating*</u>			
<u>Greater than 2 mounting heights from property line</u>	<u>B1</u>	<u>B4</u>	<u>B5</u>
<u>1 to less than 2 mounting heights from property line and ideally oriented**</u>	<u>B1</u>	<u>B3</u>	<u>B4</u>
<u>0.5 to 1 mounting heights from property line and ideally oriented**</u>	<u>B0</u>	<u>B2</u>	<u>B3</u>
<u>Less than 0.5 mounting height to property line and ideally oriented**</u>	<u>B0</u>	<u>B0</u>	<u>B1</u>

<u>TABLE C-2</u>	<u>NRZ</u>	<u>RTZ</u>	<u>CMFZ</u>
<u>Allowed Uplight Rating</u>	<u>U0</u>	<u>U2</u>	<u>U3</u>
<u>Allowed % light emission above 90 degree for street or area lighting</u>	<u>0%</u>	<u>0%</u>	<u>0%</u>

<u>TABLE C-3</u>	<u>NRZ</u>	<u>RTZ</u>	<u>CMFZ</u>
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<u>Allowed Glare Rating*</u>	<u>G0</u>	<u>G2</u>	<u>G3</u>
<u>Any luminaire not ideally oriented*** with 1 to less than 2 mounting heights to any property line of concern</u>	<u>G0</u>	<u>G0</u>	<u>G1</u>
<u>Any luminaire not ideally oriented*** with 0.5 to 1 mounting heights to any property line of concern</u>	<u>G0</u>	<u>G0</u>	<u>G1</u>
<u>Any luminaire not ideally oriented*** with less than 0.5 mounting heights to any property line of concern</u>	<u>G0</u>	<u>G0</u>	<u>G0</u>

(3) Light Shielding for Parking Lot Illumination

- (a) All parking lot lighting shall have no light emitted above 90 degrees.

(4) Exception

- (a) Ornamental parking lighting shall be permitted by special permit only and shall meet the requirements of Table C-1 for Backlight, Table C-2 for Uplight, and Table C-3 for Glare, without the need for external field-added modifications.

* For property lines that abut public walkways, bikeways, plazas, and parking lots, the property line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the center-line of the public roadway or public transit corridor for the purpose of determining compliance with this section. NOTE: This adjustment is relative to Table C-1 and C-3 only and shall not be used to increase the lighting area of the site.

** To be considered 'ideally oriented', the luminaire must be mounted with the backlight portion of the light output oriented perpendicular and towards the property line of concern.

*** Any luminaire that cannot be mounted with its backlight perpendicular to any property line within 2X the mounting heights of the luminaire location shall meet the reduced Allowed Glare Rating in Table C-3.

19-6 Lighting by Special Permit Only.

A) High Intensity and Special Purpose Lighting

- i) The following lighting systems are prohibited from being installed or used except by special use permit:
- (1) Temporary lighting in which any single luminaire exceeds 20,000 initial luminaire lumens or the total lighting load exceeds 160,000 lumens.
 - (2) Aerial Lasers.
 - (3) Searchlights.
 - (4) Other very intense lighting defined as having a light source exceeding 200,000 initial luminaire lumens or an intensity in any direction of more than 2,000,000 candelas.

B) Complex and Non-Conforming Uses

- i) Upon special permit issued by the Authority, lighting not complying with the technical requirements of this ordinance but consistent with its intent may be installed for complex sites or uses or special uses including, but not limited to, the following applications:
 - (1) Sports facilities, including but not limited to unconditioned rinks, open courts, fields, and stadiums.
 - (2) Construction lighting.
 - (3) Lighting for industrial sites having special requirements, such as petrochemical manufacturing or storage, shipping piers, etc.
 - (4) Parking structures.
 - (5) Urban parks
 - (6) Ornamental and architectural lighting of bridges, public monuments, statuary and public buildings.
 - (7) Theme and amusement parks.
 - (8) Correctional facilities.
- ii) To obtain such a permit, applicants shall demonstrate 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 describing the mitigation measures. Such statement shall be accompanied by a photometric plan.
 - (2) Employs lighting controls to reduce lighting at a Project Specific Curfew ("Curfew") time to be established in the Permit, if possible.
 - (3) Complies with the standards of this ordinance after Curfew.
- iii) The Authority shall review each such application. A permit may be granted if, upon review, the Authority believes that the proposed lighting will not create unwarranted glare, sky glow, or light trespass

19-6 Existing Lighting. Lighting installed prior to the effective date of this ordinance shall comply with the following:

A) Nonconforming Lighting

- i) Lighting not permitted in the light zone classification in which it is located shall be considered non-conforming and may continue to be used only in accordance with the provisions of this section.
- ii) Any new lighting shall meet the requirements of this ordinance
- iii) Normal repair and maintenance may be performed to allow the continuation of nonconforming lighting existing as of the effective date of this ordinance, provided that any modification or replacement of existing fixtures does not exceed 25% of total site fixtures during any 12-month period.
- iv) Minor repairs to and routine maintenance of land, buildings, structures, or other development of land where nonconforming lighting is utilized is permitted, provided the cost of such repairs and maintenance within any 12-month period does not exceed 10% of the current assessed taxable value of the land (including parking areas), buildings, and structures. When repairs exceed 10% of the current assessed taxable value of the land (including parking areas), building, and structures, all nonconforming lighting must be brought into compliance with the provisions of this Ordinance.
- v) A site with non-conforming lighting may be expanded, without bringing the nonconforming lighting into conformity with these regulations, only if the area of the expansion does not exceed a 50% increase in the pre-expansion floor area or paved surface, either with a single addition/expansion or with cumulative additions after the effective date of this Ordinance and the area of lot/parcel/site into

which the expansion is taking place are both brought into conformity with the requirements of this ordinance. Expansions or additions exceeding 50%

shall require the entire property/development to be brought into conformance with this Ordinance.

- vi) Structures on a site with non-conforming lighting may be renovated without bringing the non-conforming lighting into compliance provided that the total cost of renovations do not exceed 50% of the assessed value of the building according to Henderson County tax records
- vii) Where a nonconforming structure is damaged by fire, flood, wind, or other act of God, and such damage does not exceed 50% of the current assessed taxable value of the structure, it may be restored to its original dimensions and conditions as long as a building permit for the restoration is issued within 12 months of the date of the damage.

19-7 Enforcement and Penalties.

- 1) Reserved

19-9 Tables.

- 1) Table A - Allowed Total Initial Luminaire Lumens per Site for Non-residential Outdoor Lighting, Per Parking Space Method May only be applied to properties up to 10 parking spaces (including handicapped accessible spaces).

<u>NRZ</u>	<u>RTZ</u>	<u>CMFZ</u>
<u>350</u> <u>lms/space</u>	<u>840</u> <u>lms/space</u>	<u>840</u> <u>lms/space</u>

- 2) Table B - Allowed Total Initial Lumens per Site for Non- residential Outdoor Lighting, Hardscape Area Method

- a) May be used for any project. When lighting intersections of site drives and public streets or road, a total of 600 square feet for each intersection may be added to the actual site hardscape area to provide for intersection lighting.

<u>NRZ</u>	<u>RTZ</u>	<u>CMFZ</u>
<u>Base Allowance</u>		
<u>0.5 lumensper SF of</u> <u>Hardscape</u>	<u>5.0 lumensper SF of</u> <u>Hardscape</u>	<u>5.0 lumensper SF of</u> <u>Hardscape</u>

- 3) Table B - Lumen Allowances, in Addition to Base Allowance

	<u>NRZ</u>	<u>RTZ</u>	<u>CMFZ</u>
<u>Additional allowances for sales and service facilities.</u> <u>No more than two additional allowances per site.</u>			

Outdoor Sales Lots. This allowance is lumens per square foot of un-covered sales lots used exclusively for the display of vehicles or other merchandise for sale, and may not include driveways, parking or other non-sales areas. To use this allowance, luminaires must be within 2 mounting heights of sales lot area.	<u>0</u>	<u>8</u> <u>lumens per</u> <u>squarefoot</u>	<u>16</u> <u>lumens per</u> <u>squarefoot</u>
Outdoor Sales Frontage. This allowance is for lineal feet of sales frontage immediately adjacent to the principal viewing location(s) and unobstructed for its viewing length. A corner sales lot may include two adjacent sides provided that a different principal viewing location exists for each side. In order to use this allowance, luminaires must be located between the principal viewing location and the frontage outdoor sales area	<u>0</u>	<u>1,000</u> <u>perLF</u>	<u>1,500</u> <u>perLF</u>
Drive Up Windows. In order to use this allowance, luminaires must be within 20 feet horizontal distance of the center of the window.	<u>0</u>	<u>2,000</u> <u>lumens per drive-up</u> <u>window</u>	<u>8,000</u> <u>lumens per drive-up</u> <u>window</u>
Vehicle Service Station. This allowance is lumens per installed fuel pump.	<u>0</u>	<u>4,000</u> <u>lumens per pump</u> <u>(based on 5 fchoriz)</u>	<u>16,000</u> <u>lumens per pump</u> <u>(based on 10 fchoriz)</u>

4) Table C - Maximum Allowable Backlight, Uplight and Glare (BUG) Ratings

- a) May be used for any project. A luminaire may be used if it is rated for the lighting zone of the site or lower in number for all ratings B, U and G. Luminaires equipped with adjustable mounting devices permitting alteration of luminaire aiming in the field shall not be permitted.

<u>TABLE C-1</u>	<u>NRZ</u>	<u>RTZ</u>	<u>CMFZ</u>
<u>Allowed Backlight Rating*</u>			
<u>Greater than 2 mounting heights from property line</u>	<u>B1</u>	<u>B4</u>	<u>B5</u>
<u>1 to less than 2 mounting heights from property line and ideally oriented**</u>	<u>B1</u>	<u>B3</u>	<u>B4</u>
<u>0.5 to 1 mounting heights from property line and ideally oriented**</u>	<u>B0</u>	<u>B2</u>	<u>B3</u>

<u>Less than 0.5 mounting height to property line and ideally oriented**</u>	<u>B0</u>	<u>B0</u>	<u>B1</u>
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5) Table C - 2 Maximum Allowable Uplight (BUG) Ratings – Continued

<u>TABLE C-2</u>	<u>NRZ</u>	<u>RTZ</u>	<u>CMFZ</u>
<u>Allowed Uplight Rating</u>	<u>U0</u>	<u>U2</u>	<u>U3</u>
<u>Allowed % light emission above 90 degree for street or area lighting</u>	<u>0%</u>	<u>0%</u>	<u>0%</u>

6) Table C - 3 Maximum Allowable Glare (BUG) Ratings – Continued

<u>TABLE C-3</u>	<u>NRZ</u>	<u>RTZ</u>	<u>CMFZ</u>
<u>Allowed Glare Rating*</u>	<u>G0</u>	<u>G2</u>	<u>G3</u>
<u>Any luminaire not ideally oriented*** with 1 to less than 2 mounting heights to any property line of concern</u>	<u>G0</u>	<u>G0</u>	<u>G1</u>
<u>Any luminaire not ideally oriented*** with 0.5 to 1 mounting heights to any property line of concern</u>	<u>G0</u>	<u>G0</u>	<u>G1</u>
<u>Any luminaire not ideally oriented*** with less than 0.5 mounting heights to any property line of concern</u>	<u>G0</u>	<u>G0</u>	<u>G0</u>

* For property lines that abut public walkways, bikeways, plazas, and parking lots, the property line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the center- line of the public roadway or public transit corridor for the purpose of determining compliance with this section. NOTE: This adjustment is relative to Table C-1 and C-3 only and shall not be used to increase the lighting area of the site.

** To be considered 'ideally oriented', the luminaire must be mounted with the backlight portion of the light output oriented perpendicular and towards the property line of concern.

*** Any luminaire that cannot be mounted with its backlight perpendicular to any property line within 2X the mounting heights of the luminaire location shall meet the reduced Allowed Glare Rating in Table C-3.

ARTICLE XII DEFINITION OF TERMS

<i>Absolute Photometry</i>	Photometric measurements (usually of a solid-state luminaire) that directly measure the footprint of the luminaire. Reference Standard IES LM-79
<i>Architectural Lighting</i>	Lighting designed to reveal architectural beauty, shape and/or form and for which lighting for any other purpose is incidental.
<i>Authority</i>	The adopting municipality, agency or other governing body.
<i>Astronomic Time Switch</i>	An automatic lighting control device that switches outdoor lighting relative to time of solar day with time of year correction.
<i>Backlight</i>	For an exterior luminaire, lumens emitted in the quarter sphere below horizontal and in the opposite direction of the intended orientation of the luminaire. For luminaires with symmetric distribution, backlight will be the same as front light.
<i>BUG</i>	A luminaire classification system that classifies backlight (B), uplight (U) and glare (G).
<i>Canopy</i>	A covered, unconditioned structure with at least one side open for pedestrian and/or vehicular access. (An unconditioned structure is one that may be open to the elements and has no heat or air conditioning.)
<i>Common Outdoor Areas</i>	One or more of the following: a parking lot; a parking structure or covered vehicular entrance; a common entrance or public space shared by all occupants of the domiciles.
<i>Curfew</i>	A time defined by the authority when outdoor lighting is reduced or extinguished.
<i>Emergency conditions</i>	Generally, lighting that is only energized during an emergency; lighting fed from a backup power source; or lighting for illuminating the path of egress solely during a fire or other emergency situation; or, lighting for security purposes used solely during an alarm.
<i>Footcandle</i>	The unit of measure expressing the quantity of light received on a surface. One footcandle is the illuminance produced by a candle on a surface one foot square from a distance of one foot.
<i>Forward Light</i>	For an exterior luminaire, lumens emitted in the quarter sphere below horizontal and in the direction of the intended orientation of the luminaire.

<i>Fully Shielded Luminaire</i>	A luminaire constructed and installed in such a manner that all light emitted by the luminaire, either directly from the lamp or a diffusing element, or indirectly by reflection or re- fraction from any part of the luminaire, is projected below the horizontal plane through the luminaire's lowest light-emitting part.
<i>Glare</i>	Lighting entering the eye directly from luminaires or indirectly from reflective surfaces that causes visual discomfort or reduced visibility.
<i>Hardscape</i>	Permanent hardscape improvements to the site including parking lots, drives, entrances, curbs, ramps, stairs, steps, medians, walkways and non-vegetated landscaping that is 10 feet or less in width. Materials may include concrete, asphalt, stone, gravel, etc.
<i>Hardscape Area</i>	The area measured in square feet of all hard- scape. It is used to calculate the Total Site Lumen Limit in both the Prescriptive Method and Performance Methods. Refer to Hardscape definition.
<i>Hardscape Perimeter</i>	The perimeter measured in linear feet is used to calculate the Total Site Lumen Limit in the Performance Method. Refer to Hardscape definition.
<i>IDA</i>	International Dark-Sky Association.
<i>IESNA</i>	Illuminating Engineering Society of North America.
<i>Impervious Material</i>	Sealed to severely restrict water entry and movement
<i>Industry Standard Lighting Software</i>	Lighting software that calculates point-by- point illuminance that includes reflected light using either ray-tracing or radiosity methods.
<i>Lamp</i>	A generic term for a source of optical radia- tion (i.e. “light”), often called a “bulb” or “tube”. Examples include incandescent, fluor- escent, high-intensity discharge (HID) lamps, and low pressure sodium (LPS) lamps, as well as light-emitting diode (LED) modules and arrays.
<i>Landscape Lighting</i>	Lighting of trees, shrubs, or other plant material as well as ponds and other landscape features.
<i>LED</i>	Light Emitting Diode.
<i>Light Pollution</i>	Any adverse effect of artificial light including, but not limited to, glare, light trespass, sky- glow, energy waste, compromised safety and security, and impacts on the nocturnal environment.

<i>Light Trespass</i>	Light that falls beyond the property it is intended to illuminate.
<i>Lighting</i>	“Electric” or “man-made” or “artificial” lighting. See “lighting equipment”.
<i>Lighting Equipment</i>	Equipment specifically intended to provide gas or electric illumination, including but not limited to, lamp(s), luminaire(s), ballast(s), poles, posts, lens(s), and related structures, electrical wiring, and other necessary or auxiliary components.
<i>Lighting Zone</i>	An overlay zoning system establishing legal limits for lighting for particular parcels, areas, or districts in a community.
<i>Lighting Equipment</i>	Equipment specifically intended to provide gas or electric illumination, including but not limited to, lamp(s), luminaire(s), ballast(s), poles, posts, lens(s), and related structures, electrical wiring, and other necessary or auxiliary components.
<i>Low Voltage Landscape Lighting</i>	Landscape lighting powered at less than 15 volts and limited to luminaires having a rated initial luminaire lumen output of 525 lumens or less.
<i>Lumen</i>	The unit of measure used to quantify the amount of light produced by a lamp or emitted from a luminaire (as distinct from “watt,” a measure of power consumption).
<i>Luminaire</i>	The complete lighting unit (fixture), consisting of a lamp, or lamps and ballast(s) (when applicable), together with the parts designed to distribute the light (reflector, lens, diffuser), to position and protect the lamps, and to connect the lamps to the power supply.
<i>Luminaire Lumens</i>	For luminaires with relative photometry per IES, it is calculated as the sum of the initial lamp lumens for all lamps within an individual luminaire, multiplied by the luminaire efficiency. If the efficiency is not known for a residential luminaire, assume 70%. For luminaires with absolute photometry per IES LM-79, it is the total luminaire lumens. The lumen rating of a luminaire assumes the lamp or luminaire is new and has not depreciated in light output.
<i>Lux</i>	The SI unit of illuminance. One lux is one lumen per square meter. 1 Lux is a unit of incident illuminance approximately equal to 1/10 footcandle.
<i>Mounting height</i>	The height of the photometric center of a luminaire above grade level.
<i>New lighting</i>	Lighting for areas not previously illuminated; newly installed lighting of any type except for replacement lighting or lighting repairs.

<i>Object</i>	A permanent structure located on a site. Objects may include statues or artwork, garages or canopies, outbuildings, etc.
<i>Object Height</i>	The highest point of an entity, but shall not include antennas or similar structures.
<i>Ornamental lighting</i>	Lighting that does not impact the function and safety of an area but is purely decorative, or used to illuminate architecture and/or land- scaping, and installed for aesthetic effect.
<i>Ornamental Street Lighting</i>	<p>A luminaire intended for illuminating streets that serves a decorative function in addition to providing optics that effectively deliver street lighting. It has a historical period appearance or decorative appearance, and has the follow- ing design characteristics:</p> <ul style="list-style-type: none"> · designed to mount on a pole using an arm, pendant, or vertical tenon; · opaque or translucent top and/or sides; · an optical aperture that is either open or enclosed with a flat, sag or drop lens; · mounted in a fixed position; and · with its photometric output measured using Type C photometry per IESNA LM-75-01.
<i>Outdoor Lighting</i>	Lighting equipment installed within the prop- erty line and outside the building envelopes, whether attached to poles, building structures, the earth, or any other location; and any associated lighting control equipment.
<i>Partly shielded luminaire</i>	A luminaire with opaque top and translucent or perforated sides, designed to emit most light downward.
<i>Pedestrian Hardscape</i>	Stone, brick, concrete, asphalt or other similar finished surfaces intended primarily for walking, such as sidewalks and pathways.
<i>Photoelectric Switch</i>	A control device employing a photocell or photodiode to detect daylight and automatical- ly switch lights off when sufficient daylight is available.
<i>Property line</i>	The edges of the legally-defined extent of privately owned property.
<i>Property line of concern</i>	The nearest property line to a light fixture
<i>Relative photometry</i>	Photometric measurements made of the lamp plus luminaire, and adjusted to allow for light loss due to reflection or absorption within the luminaire. Reference standard: IES LM-63.
<i>Repair(s)</i>	The reconstruction or renewal of any part of an existing luminaire for the purpose of its on- going operation, other than relamping or replacement of components including capacitor, ballast or photocell. Note that retrofitting a luminaire with new lamp and/or ballast technology is not considered a repair and for the purposes of this ordinance the luminaire shall be treated as if new. “Repair” does not include normal relamping or replacement of components including capacitor, ballast or photocell.

<i>Replacement Lighting</i>	Lighting installed specifically to replace existing lighting that is sufficiently broken to be beyond repair.
<i>Sales area</i>	Uncovered area used for sales of retail goods and materials, including but not limited to automobiles, boats, tractors and other farm equipment, building supplies, and gardening and nursery products.
<i>Seasonal lighting</i>	Temporary lighting installed and operated in connection with holidays or traditions.
<i>Shielded Directional Luminaire</i>	A luminaire that includes an adjustable mounting device allowing aiming in any direction and contains a shield, louver, or baffle to reduce direct view of the lamp.
<i>Sign</i>	Advertising, directional or other outdoor promotional display of art, words and/or pictures.
<i>Sky Glow</i>	The brightening of the nighttime sky that results from scattering and reflection of artificial light by moisture and dust particles in the atmosphere. Skyglow is caused by light directed or reflected upwards or sideways and reduces one's ability to view the night sky
<i>Temporary lighting</i>	Lighting installed and operated for periods not to exceed 60 days, completely removed and not operated again for at least 30 days.
<i>Third Party</i>	A party contracted to provide lighting, such as a utility company.
<i>Time Switch</i>	An automatic lighting control device that switches lights according to time of day.
<i>Translucent</i>	Allowing light to pass through, diffusing it so that objects beyond cannot be seen clearly (not transparent or clear).
<i>Unshielded Luminaire</i>	A luminaire capable of emitting light in any direction including downwards.
<i>Uplight</i>	For an exterior luminaire, flux radiated in the hemisphere at or above the horizontal plane.
<i>Vertical Illuminance</i>	Illuminance measured or calculated in a plane perpendicular to the site boundary or property line.

Adopted by the City Council of the City of Hendersonville, North Carolina on this 6th day of January 2022.

Attest:

Barbara G. Volk, Mayor, City of Hendersonville

Angela L. Reece, City Clerk

Approved as to form:

Angela S. Beeker, City Attorney