

BCC Mtg. Date: April 9, 2024

Effective Date: April 12, 2024

ORDINANCE NO. 2024 - 05

**AN ORDINANCE OF ORANGE COUNTY, FLORIDA,
AMENDING CERTAIN PROVISIONS OF CHAPTER 9
("BUILDING AND CONSTRUCTION REGULATIONS") OF
THE ORANGE COUNTY CODE BY AMENDING ARTICLE
XVI ("EXTERIOR LIGHTING STANDARDS") AND
PROVIDING AN EFFECTIVE DATE.**

**BE IT ORDAINED BY THE BOARD OF COUNTY COMMISSIONERS OF
ORANGE COUNTY, FLORIDA:**

Section 1. Amendments; In General. Chapter 9 ("Building and Construction Regulations") of the Orange County Code is amended as set forth in Section 2 below, with additions being shown as underlined and deletions being shown as ~~struck through~~:

Section 2. Amendments to Chapter 9, Article XVI ("Exterior Lighting Standards").
Article XVI is hereby amended as follows:

ARTICLE XVI. - EXTERIOR LIGHTING STANDARDS

Sec. 9-646. - Purpose and intent.

The purpose and intent of this article is to ensure that exterior (outdoor) lighting positively enhances the visual impact of a building or project on surrounding properties and uses. To that end, exterior lighting at a building or project shall be designed and installed in a consistent and coordinated fashion to provide safe, convenient and efficient lighting for customers, pedestrians and vehicles, and to avoid the creation of hot spots, glare, obtrusive light, light pollution, light trespass, and visual nuisance. Also, exterior lighting should accentuate key architectural elements of the building or project, and highlight or otherwise emphasize landscape features. The provisions of this ~~a~~ Article shall be administered by the ~~p~~ Planning & Division.

Sec. 9-647. - Scope.

This ~~a~~ Article shall apply to all buildings and projects that incorporate exterior lighting, except agricultural, single family residential, duplexes, triplexes, and quadraplexes uses. At religious institutions, this ~~a~~ Article shall apply only to paved parking areas; IES (defined hereinbelow) ~~NA~~ standards shall apply to non-paved parking areas.

Sec. 9-648. - Definitions.

The following words, terms, and phrases, when used in this ~~a~~ Article, shall have the meanings ascribed to them in this section, except where the context may clearly indicate a different meaning:

Color rendering index (CRI) shall mean the scale used to compare the effect of the light source on the color appearance of its surroundings. (The higher the score, the more accurately the light source reflects true color.)

Correlated Color Temperature (CCT): is the warm or cool appearance of light emitted by a light source. It's measured in Kelvin (°K). Lamps with a CCT of less than 3,200 °K are reddish-orange and considered warm. Lamps with a CCT greater than 4,000 °K are bluish-white and considered cool.

Cutoff fixture shall mean an outdoor light fixture that provides a cutoff (shielding) of the emitted light, with no emission of light above the horizontal cut off.

Fixture shall mean the assembly that houses the lamp or lamps, and may include all or some of the following parts: reflector (mirror), refractor (lens), ballast, driver, housing, and other attachment parts.

Footcandle (f.c.) shall mean a measure of light noted as a unit of illuminance amounting to one lumen per square foot.

Glare shall mean intense and somewhat blinding light, or the sensation produced by a brightness within the visual field that is sufficiently greater than the intensity of light to which human eyes are accustomed or adapted, thereby causing annoyance, discomfort, visual impairment, or loss or reduction of visibility.

Hot spot shall mean an area of very high illumination above normal footcandle levels — typically found in an area underneath a luminaire, making normal f.c. levels appear relatively dark.

Illuminance shall mean the quantity of light arriving at a surface divided by the area of the lighted surface, measured in footcandles.

Illuminating Engineering Society of North America (IES or IESNA) shall mean the nonprofit professional society of lighting engineers and specialists that has established recommended design standards for various exterior lighting applications and are recognized ANSI standards.

Internal louvered optical system shall mean a series of high specular ~~or~~ (mirror type) stacked louvers that cover the lamp or light engine, creating a cutoff, low glare light pattern.

Kelvin shall mean the International System of Units (SI) base unit of thermodynamic temperature (equivalent in size to the degree Celsius), first introduced as the unit used in the Kelvin scale.

Lamp shall mean a light bulb.

LED shall mean a Light Emitting Diode.

Light engine shall mean the engineered combination of LEDs and optical packages such as lenses, refractors, or mirrors that, combined, provide light output replacing the conventional lamp function in a luminaire.

Light pollution shall mean any adverse effect of ~~artificial~~ ~~manmade~~ light, often used to denote a brightness of the night sky, commonly known as urban sky glow.

Light trespass shall mean light falling where it is not desired, wanted, or needed.

Lumen shall mean a quantitative unit measuring the amount of light emitted by a lamp or luminaire.

Luminaire shall mean a complete lighting unit consisting of the lamp or light engine, the fixture, and other parts designed to distribute the light.

~~*Metal halide (lamp)* shall mean a high intensity discharge lamp where the light is produced by radiation from metal halide vapors, and which renders colors close to their daytime appearance.~~

Obtrusive light shall mean light which causes annoyance, discomfort, visual impairment, or loss or reduction of visibility.

Sag lens, convex lens, or drop-lens shall mean a clear or prismatic refracting lens that extends below the lowest opaque portion of a light fixture.

Spill light shall mean light that ~~which~~ falls outside the property where the luminaire is sited.

Sec. 9-649. - Exterior lighting.

(a) General standards.

(1) *Exterior lighting plan.* An exterior lighting plan, including a photometric plan (which covers the parcel ~~that~~ ~~which~~ is the site of the building or project in question), appropriate pole, fixture, and lamp cut sheets, and descriptions of lenses and appropriate data tables, shall be submitted for review. The exterior lighting plan shall be prepared by a licensed professional engineer, who shall certify that the exterior lighting plan complies

with this a Article.~~(The~~ photometric plan shall be prepared in a scale that is easily legible).

(2) *Lighting intensities.* Lighting intensities for buildings, projects, or ~~other~~ uses not specifically regulated by this article (~~for example e.g.,~~ athletic fields, courts, and swimming pools) shall be designed as recommended by the ~~Illuminating Engineering Society of North America (IES NA)~~. However, a All such uses shall comply with these regulations for control of glare and light level at the property line.

(3) *Footcandle intensities.* Footcandle intensities specified in this article shall be maintained values calculated using a maintenance factor ("m.f.") not lower than 0.85 ~~0.72~~.

(4) *Light fixtures; types.* All light fixtures, including security lighting, shall be cutoff fixtures, and shall be incorporated as an integral design element that complements the design of the building or project through style, material, and/ or color. Luminaires shall not be physically or optically tilted. Lighting of or on buildings shall be limited to wall washer type fixtures or up-lights, ~~which that~~ do not produce spill light or glare. A cutoff fixture shall not have more than one percent (1%) of lamp lumens above horizontal. Sag lenses, convex lenses, and drop lenses shall be prohibited. Lighting at a building or project shall not be composed comprised in whole or in part of any floodlights, except that floodlights may be permitted with a noncommercial industrial use, provided the floodlights are shielded to disallow off-site light spill ~~meet cut-off standards~~.

(5) *Illumination levels.* Illumination levels at the property line of the building or project shall not be more than 0.5 f.c. at any point when the building or project is located next to any residential use, and shall not be more than 1.0 f.c. when located next to any other use. On-site light levels at vehicular access points along roadways shall be limited to 3.6 f.c. To avoid glare or spill light from encroaching onto adjacent properties, illumination light fixtures shall be installed with house side shielding ~~s and reflectors~~, and shall be maintained in such a manner as to restrict confine light distribution rays to the premises of the building or project.

(6) *Time controls.* Non-residential lighting shall be installed with time controls so that light levels are reduced not later than one hour after the close of operations to the minimum levels needed under the IES ~~NA~~ to ensure safety and security (approximately a fifty (50) percent reduction).

(7) *Upgrade or replacement.* When fifty (50) percent or more of any component (e.g., luminaires, poles) of the exterior lighting system at a building or project is upgraded, changed, or replaced (not including regular maintenance), ~~such~~ components for the remainder of the exterior lighting shall be brought into substantial compliance with the requirements of this a Article.

(b) *Specific standards.* All light sources shall be white LED with a CRI of seventy (70) or higher and a Correlated Color Temperature of no higher than 4000K and no lower than 3000K. Lumen output shall not exceed 30,000 Lumens per fixture.

(1) *Height.* Except as otherwise required under this article, the height of an pole-mounted outdoor lighting fixture (inclusive of the pole and light source/luminaire) shall be a maximum of thirty (30) feet above the finished grade within a parking lot, and a maximum of fifteen (15) feet within a nonvehicular pedestrian area. Height shall be measured from the finished grade to the bottom top of the light fixture where light is emitted.

(2) *Parking areas.* To avoid conflict in layout, parking area lighting shall be coordinated with the required parking area landscape plans. In a parking area, the following lighting requirements shall apply:

a. ~~The lamp source shall be metal halide, or compact fluorescent, or a light source that produces a Color Rendering Index (CRI) of sixty five (65) or higher. Wattage shall not exceed four hundred (400) watts per bulb.~~

b. ~~Illumination levels outside the radius of any light pole (with radius meaning or equaling the height of the pole, not to exceed thirty (30) feet, but no less than twenty (20) feet) shall range between a minimum of 0.6 f.c. and a maximum of 3.6 f.c. The thirty-foot or lesser radius shall be clearly shown on the photometric plan. The spacing between poles shall be no closer than two and one-half (2½) times the pole height. However, overflow lighting in a transition zone around a canopied area (see subsection (b)(4) regarding canopied areas) shall be permissible in the parking area surrounding the canopied area, notwithstanding the general lighting requirements in this subsection (b)(2) for parking areas.~~

be. ~~Decorative acorn-type fixtures shall not exceed eighteen (18) feet in height and 19,000 Lumens per fixture and two hundred fifty (250) watts per bulb, and shall have a textured clear lens/globe, frosted/phosphor coated bulbs, and an internal louvered optical system. (Refractor type glass globes that meet the cutoff standard and are equipped with frosted/phosphor coated bulbs, an opaque cap are acceptable.) Acorn-style light fixtures located within eighty (80) feet of property zoned as single family residential shall incorporate opaque-internal shielding on the inside of the globe 's surface, which internal shielding shall be field-adjusted to minimize off-site light intrusion onto any adjacent property.~~

c. Conflicts between light poles and trees shall be avoided to the greatest extent possible. Exterior lighting plans shall consider the planned location of trees as depicted on the approved landscape plan. Poles may be located centrally, between parking lot tree islands, to avoid conflicts with trees. In landscape areas where conflict is unavoidable, light pole and tree trunk locations shall be coordinated to provide a minimum of fifteen (15) feet clearance between such pole locations and tree trunks.

d. For ~~Ø~~ other type fixtures/luminaires, light-levels and mounting heights may be allowed in a special geographic area as may be formally approved from time to time by the board of county commissioners. Examples of such special geographic areas include Buena Vista North, Plaza International, and the I-Drive Activity Center.

(3) *Pedestrian walkways and bikeways.* In pedestrian walkways or bikeways, the following lighting requirements shall apply:

a. The light fixture/luminaire shall be decorative in appearance, style, and finish.

~~b. The lamp source shall be metal halide, or compact fluorescent, or a light source that produces a CRI of sixty five (65) or higher. Wattage shall not exceed one hundred (100) watts per bulb.~~

~~c.~~ Illumination levels shall range between a minimum of 0.2 f.c. and a maximum of 2.5 f.c. Lumen output shall not exceed 10,000 lumens per fixture.

(4) *Canopied areas.* At a canopied area, such as that found at drive-through facilities at banks, service stations, convenience centers, pharmacies, and car-washes, and similar facilities, lighting under the canopy, awning, porte-cochere, etcetera, shall be either recessed or cut-off fixtures. ~~Additionally, the following lighting requirements shall apply:~~

~~a. The lamp source shall be either metal halide, with wattage not to exceed two hundred fifty (250) watts per bulb, or compact fluorescent, or a light source that produces a CRI of sixty five (65) or higher;~~

~~b.~~ The maximum footcandle level shall be twenty (20) f.c. (average maintained maximum), with a maximum to minimum ratio of 2:1. Lumen output shall not exceed 15,000 Lumens per fixture.

(5) *Dealerships.*

a. Display areas at dealerships for new and used products, including automobiles, trucks, recreational vehicles, motorcycles, and boats, shall have a maximum footcandle level of twenty-four (24) f.c. for any row or tier of display that is adjacent to an external road or street (public or private), and a maximum level of ten (10) f.c. for all other rows or tiers of display. ~~However, Ø~~ Overflow lighting in a transition zone around a row or tier of display that is adjacent to an external road or street ~~shall~~ may be permissible between such row or tier and the adjoining row or tier.

b. Entrances and exits to and from the dealership shall not exceed ten (10) f.c.

c. All other areas (parking and storage) shall comply with the applicable requirements of this ~~a-~~Article.

(6) *Fire lanes and driveways.* Lighting at fire lanes or driveways at building entrances may exceed allowable standards of intensity for safety purposes upon demonstration that compliance with these lighting criteria would otherwise create a safety hazard; ~~however,~~ however, light levels shall not exceed five (5) f.c. at any point.

(7) *Automated ~~ie~~ teller machines (ATMs).* Lighting intensities at ATMs ~~machines~~ shall be governed by applicable Florida Statutes; however, ~~However,~~ ~~free-~~ standing ATMs shall not exceed twenty (20) f.c. within a five-foot radius from the ATM or five (5) f.c. within a thirty-foot radius.

(8) *Big box developments.* Acorn-style light fixtures shall be prohibited within the limits of all big box developments (defined in section 38-1 of this Code). Furthermore, parking area and building-mounted light fixtures shall be installed no more than twenty-five (25) feet above the parking lot finished grade.

(9) Stadium and Recreation Lights. Whenever players in sporting events and recreational activities require certain intense illumination levels for safety, then the location, intensity, quantity, height, shielding, and aim of such lights shall satisfy such requirement while still complying with these regulations. Refer to ANSI/IES Recommended Practice for design guidelines.

Sec. 9-650. - Technical deviations.

(a) Any proposal ~~that which~~ includes technical deviations from these lighting standards shall demonstrate the unique aesthetic and/or engineering design that meets or is within the spirit of these regulations. Such presentation shall include appropriate calculations and drawings or illustrations as necessary to explain the request or as may be required by the county.

(b) The ~~manager of the planning division~~ Building Official shall make a determination whether to accept such proposed technical deviation after consulting with a mutually acceptable licensed professional engineer. The cost of such consultation with a licensed professional engineer and any other costs associated with the request ~~making such determination~~ shall be borne by the party requesting the technical deviation.

Sec. 9-651. - Certificate of compliance required.

A hold shall be placed and a certificate of occupancy shall not be issued until a qualified licensed professional engineer, architect, or landscape architect delivers a certificate of compliance stating that the exterior lighting at the building and site has been installed and is performing in compliance ~~complies with the approved plans and the provisions of this a Article.~~ ~~However, where a project is of such a small scale that the lighting layout is considered an incidental engineering service, a certificate of compliance may be rendered by the licensed professional rendering the incidental service.~~

Sec. 9-652. - Appeals.

Any decision by the Building Official ~~manager of the planning division~~ with regard to this ~~a~~ Article may be appealed to the Building Codes Board of Adjustments and Appeals ~~development review committee~~.

Secs. 9-653—9-655. - Reserved.

Section 3. Effective date. This ordinance shall become effective pursuant to general law.

ADOPTED THIS 9 DAY OF April, 2024.

ORANGE COUNTY, FLORIDA
By: Board of County Commissioners

By: Jerry L. Demings
for Jerry L. Demings
Orange County Mayor

ATTEST: Phil Diamond, CPA, County Comptroller
As Clerk of the Board of County Commissioners

By: Jennifer Ann - Kinety
for Deputy Clerk

