

TOPIC 4 | DARK-SKY & LIGHTING PERFORMANCE

GOAL: Regulating outdoor illumination, sign lighting, and glare to preserve the night-time character of both the built and natural environments.

EXISTING CODE CHALLENGES

NIGHTTIME GLARE

THE CHALLENGE

Traditional open, unshielded outdoor light fixtures allow light to escape horizontally and upward. This causes glare that can distract drivers, disturb nearby residents, and contribute to night-sky light pollution.

APPROACH FOR UPDATE

Illumination and light fixture siting and designs were studied to transition commercial developments toward shielded, downward-focused lighting that illuminates only the immediate site.

PROPOSED AMENDMENT

All non-residential outdoor lighting must use full cutoff fixtures that point light directly downward to prevent atmospheric light pollution. Non-cutoff fixtures are restricted strictly to decorative elements that are not to exceed 12’ in height.

PROPOSED UNIFIED DEVELOPMENT CODE UPDATE

ALLOWING FOR APPROPRIATE SITE ILLUMINATION & FIXTURES

Outdoor lighting standards promote safety, security, and visibility while protecting neighborhood character. Regulations have been designed to reduce glare, light trespass, and night sky pollution, ensuring light functionality without intrusive to nearby properties or roadways. Standards apply to new and replacement outdoor lighting on non-residential sites.

Fixture Height

- Building-mounted lights may not exceed building height
- Freestanding lights are limited to 24 feet
- Decorative freestanding lights are limited to 12 feet

Style & Direction

- Lighting must be shielded and directed downward
- Parking lot lights must use full cutoff fixtures
- Wall lights must be shielded by architecture or cutoff devices
- Maximum color temperature: 4,000 Kelvin
- Fixture style should reflect the surrounding character

Lighting Levels Regulated

- Lighting must stay on-site and protect neighbors:
- Adjacent to residential uses: 0.5 footcandles max
- Adjacent to non-residential uses: 1.0 footcandles max

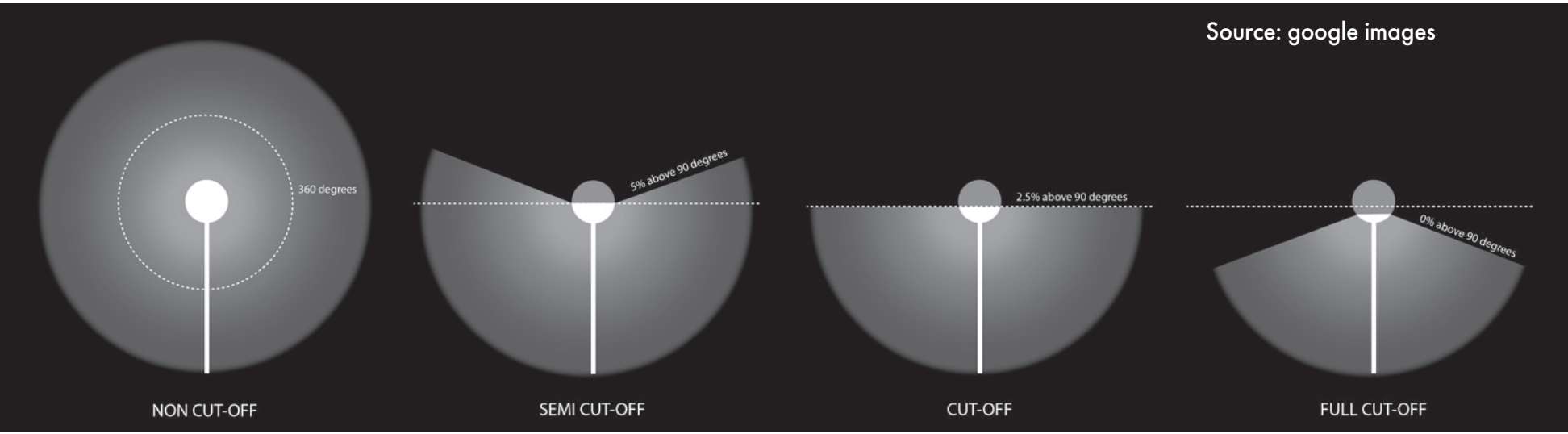
Exempt Lighting

- Temporary holiday lighting
- Gas or flame-based lighting
- Emergency and public safety lighting
- Street and traffic lights
- Lighting required by federal agencies

Prohibited Lighting

- Searchlights, beacons, lasers, or flashing lights
- High-intensity decorative lighting
- Building outline or “tracing” lighting

Lighting Fixture Types



Section 8.01 and Section 8.02
Establishes the purpose and broad applicability of the outdoor lighting standards. The standards established do not apply to single-, two-, and three-family residential properties.

Section 8.07.B.2. Lighting Styles
All non-residential lights must use full cut-off fixtures. This section also establishes height and fixture standards to minimize externalities and ambiguity around outdoor lighting.

Section 8.07.A.3. Lighting Styles
Limits non-cut-off fixtures to decorative lighting such as pedestrian streetlamps with a maximum height of 12 feet to minimize and reduce glare effects, while allowing for lighting that improves pedestrian safety.

GLARE FROM SIGNAGE ILLUMINATION

THE CHALLENGE

Bright, flashing electronic signs cause significant visual distraction for drivers and severe light pollution at night in residential areas if unshielded or overly bright.

APPROACH FOR UPDATE

Planners analyzed nit levels and the transition times of digital message boards to balance business visibility with public safety and night-sky preservation.

PROPOSED AMENDMENT

Electronic signs must not exceed 5,000 nits during the day and 500 nits between dusk and dawn, requiring automatic dimmers and a 7-second message hold. No scrolling, flashing, or motion is permitted.

SIGNAGE ILLUMINATION BALANCING MARKET & ENVIRONMENT

Table 7.09-1: Permitted Permanent Sign Types							
SIGN TYPE	AGRICULTURAL USES	SINGLE- AND TWO-FAMILY DWELLINGS	MULTI-FAMILY DWELLINGS	PUBLIC AND SEMI-PUBLIC USES	COMMERCIAL USES	INDUSTRIAL USES	SIGN TYPE REGULATIONS
Awning or Canopy Signs	PS	-	-	PS	PS	PS	7.09.A
Electronic Message Boards	-	-	-	PS	PS	PS	7.09.B
Ground Mounted Signs	PS	-	-	PS	PS	PS	7.09.C
Incidental Signs	PS	-	PS	PS	PS	PS	7.09.D
Interstate Business Signs	Per Section 7.09.E.1						7.09.E
Menu Board Signs	-	-	-	-	PS	-	7.09.F
Monument Entrance Signs	Per Section 7.09.G						7.09.G
Pole Signs	-	-	-	-	PS	PS	7.09.H
Projecting Signs	-	-	-	PS	PS	PS	7.09.I
Wall Signs	PS	-	-	PS	PS	PS	7.09.J
Window Signs	PS	-	-	PS	PS	PS	7.09.K
PS	Permitted with Standards						
Shaded / -	Prohibited						



8. Electronic Message Boards
- Electronic message boards are permitted for any public or institutional, commercial, or industrial use, subject to the following regulations:
1. Electronic message boards (EMB) shall be located a minimum of 250 feet from any agricultural or residential use, unless such EMB is not visible from the agricultural or residential use.
 2. No more than one (1) electronic message board is permitted per parcel.
 3. Electronic message boards shall only be permitted on ground mounted signs and shall not exceed 50 percent of the size of the total sign to ensure that the electronic component is subordinate to the principal sign face in size.
 4. Electronic message board signs shall be constructed of brick, stone, cultured stone, brick composite, or similar material. This does not apply to electronic menu boards or electronic gas station price signs that are located on a canopy fabric.
 5. Scrolling, flashing, and moving operations are prohibited.
 6. Each message on an electronic message board shall be displayed for no less than seven (7) seconds before transitioning.
 7. Electronic message boards shall not stream full-motion video, audio, flash on or off, change in intensity of illumination, or illustrate movement.
 8. Electronic message boards shall be equipped with automatic dimmer controls to produce a distinct illumination change from a higher illumination level to a lower illumination level between one-half hour before sunset (dusk) and one-half hour after sunrise (dawn).
 9. Electronic message boards shall not exceed a maximum illumination of 5,000 nits (candelas per square meter) during daylight hours and a maximum illumination of 500 nits (candelas per square meter) between dusk to dawn as measured from sign face at maximum brightness. The applicant shall provide a certificate of maximum illumination prior to approval of any sign permit.



Sign Lighting is Still Lighting

Often times signage illumination is overlooked in zoning regulations. By introducing clear and appropriate sign illumination standards, businesses can still advertise during dark hours without compromising dark sky goals.

Section 15.02. Definitions
Clearly define “Reader Board” and “Sign, Changeable Copy” which are sign types that often include electronic message boards and illumination.

Section 7.09.B. Electronic Message Boards
Establishes standards for electronic message boards that are integrated into sign structures. These displays are only permitted for certain use types in defined locations. Additionally, the operation and illumination of the signs must meet pre-established standards.

Section 7.13. Sign Lighting
Establishes requirements for all sign illumination including non-glare and shield lighting, preventing distractions for motorists and traffic hazards, and lighting intensity to prevent spill over to adjacent properties and rights-of-way.

LIGHT TRESPASS AND WARMTH LIMITS

THE CHALLENGE

Commercial floodlights often spill directly into neighboring residential windows, and cold blue-white light creates a harsh environment that disturbs sleep cycles and nocturnal wildlife.

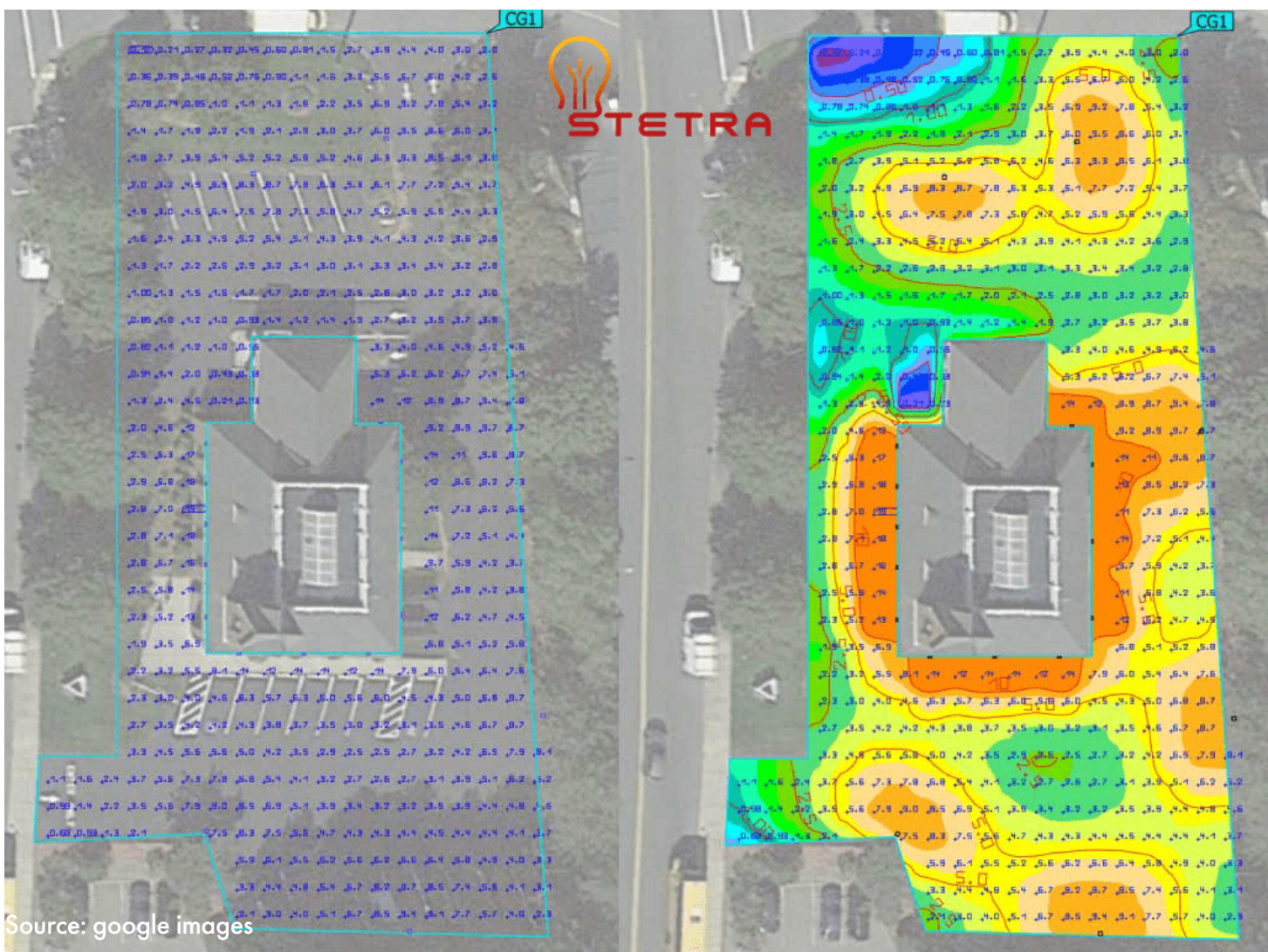
APPROACH FOR UPDATE

Staff established precise, measurable light metrics at property boundaries and analyzed color spectrums to replace subjective nuisance rules with clear, enforceable limits.

PROPOSED AMENDMENT

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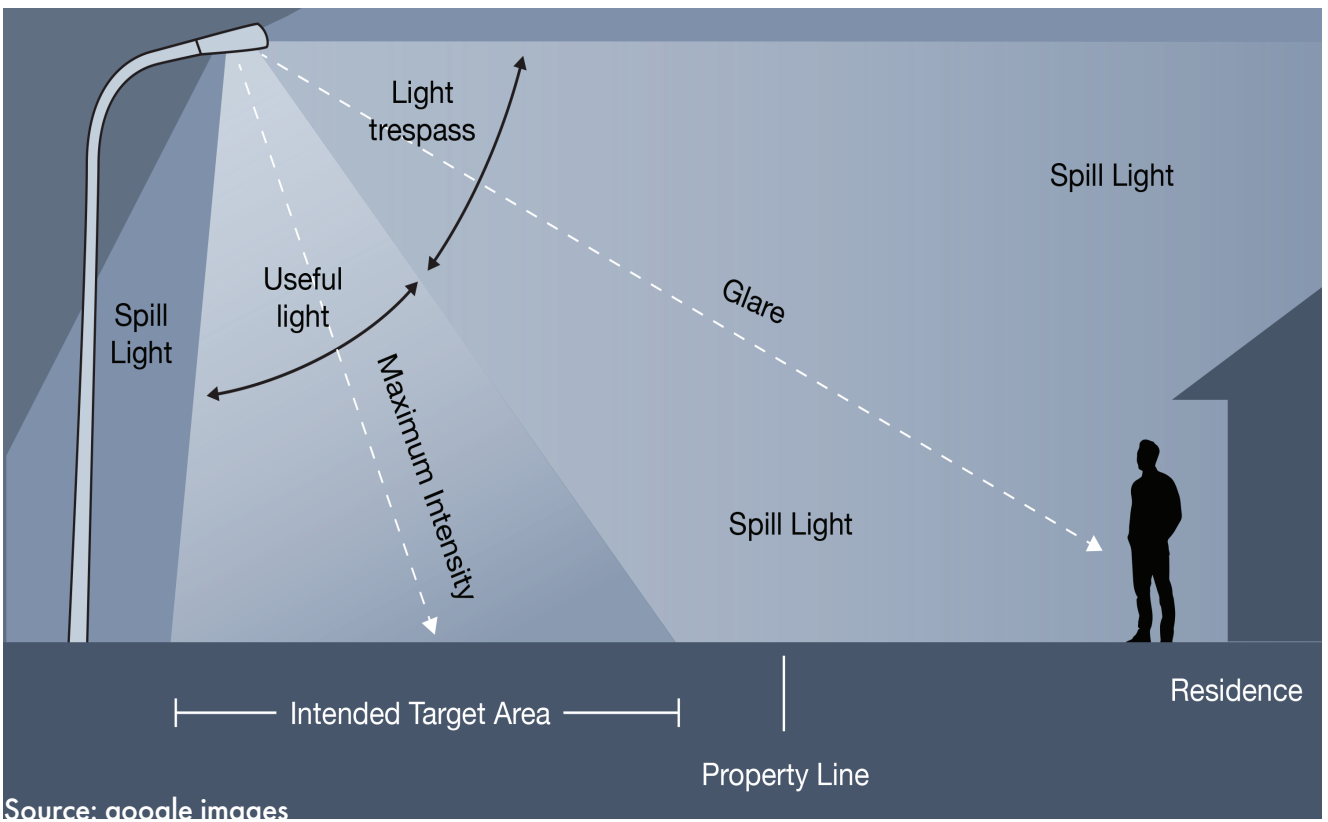
ILLUMINATION LEVELS, COLORS, AND TEMPERATURE



- 8.06. LIGHTING PLAN**
- A lighting plan is required, unless specifically exempted herein. At a minimum, the lighting plan shall provide the following information:
- A. The locations of each of the proposed fixtures, including wall mounted, security, flood, and parking lot lighting;
 - B. The proposed height of the lighting fixtures shall be indicated;
 - C. The maximum and minimum intensity of illumination for the site;
 - D. A photometric plan showing the proposed intensity levels of lighting that extends as far as any proposed lighting will reach or up to 30 feet into adjacent properties, whichever is greater. The lighting plan shall include the property lines and right-of-way lines for the site. All lighting, existing and proposed that is over 25 watts shall be indicated on the lighting plan.
 - E. Details of all proposed lighting fixtures, indicating the manufacturer, model and style of fixture, including a graphic representation of the fixture and the fixture light type.
 - F. Any additional submittal requirements as may be determined by the Planning & Zoning Director.



Table 8.07-1: Maximum Illumination Levels	
When a non-residential land use is adjacent to a...	The maximum illumination level at the property line is...
Single-family or two-family dwelling	0.5 footcandles
Multi-family development	0.5 footcandles
Non-residential use	1.0 footcandles



Section 8.05.
Establishes how light trespass is officially measured in footcandles at the ground level.

Section 8.06.
In order to demonstrate compliance, applicants must provide a Lighting Plan in the form of a photometric plan showing fixture locations, height, and foot-candle measurements throughout the site and along all receiving property lines.

Table 8.07-1.
Limits light trespass to a maximum of 0.5 footcandles at any residential property line to avoid light spillover and glare in addition to full cut-off fixtures

- 8.07. LIGHTING STANDARDS**
- A. Height**
1. All lighting fixtures attached to the exterior of a structure shall not exceed the height of the structure.
 2. All freestanding lighting fixtures shall not exceed a maximum height of 24 feet above grade.
 3. Non-cutoff decorative freestanding lighting fixtures shall not exceed 12 feet in height.
- B. Lighting Styles and Types**
1. All outdoor lighting shall be located, screened, or shielded so that adjacent lots and the public right-of-way are not directly illuminated.
 2. Parking lot lighting shall be required to utilize full cutoff fixtures that are pointed down and away from the property line.
 3. Wall-mounted lights shall be screened by the building's architectural features, or contain a cutoff shield, to direct lighting onto the building and not onto adjacent lots.
 4. All outdoor lighting fixtures shall not exceed a color temperature of 4,000 Kelvin.
 5. Statues, monuments, fountains, or other similar objects, as determined by the Planning & Zoning Director, may utilize upward lighting in the form of spotlights to illuminate the object of interest.
 6. The type of lighting fixture should match the existing character of the surrounding built environment.
 7. Non-cutoff lighting shall only be used for decorative purposes only.