

EXHIBIT 1
NORWOOD PLANNING AND ZONING COMMISSION
RESOLUTION 0820, SERIES OF 2018

§ 5.08 Exterior Lighting Standards

(a) Purpose and Intent. The purpose of the regulation is to regulate outdoor night-time lighting fixtures to preserve, protect and enhance the Town’s dark sky while conserving energy, permitting reasonable and safe use of outdoor night-time lighting, minimizing glare and obtrusive light, and helping to protect the natural environment from the damaging effects of night lighting.

(b) Applicability. All outdoor lighting Luminaires (fixtures) shall be installed in conformance with this section to maintain the Town’s designation as an International Dark-Sky Association (IDA) Dark Sky Community. These regulations are based on the requirements of the International Dark-Sky Association Dark Sky Community guidelines as described in its Model Lighting Ordinance for Lighting Zone 1¹.

(c) Residential.

(1) Luminaires and lighting installations shall be Fully Shielded and/or IDA approved luminaires with no uplight. IDA approved luminaires are readily available. Look for the IDA symbol:



(2) Individual Luminaires shall not exceed 850 Lumens (equivalent to 60w incandescent).

(3) Maximum allowed Lumens per Site: 3,400 with limitation of no more than 2,400 Lumens for Luminaires that are not on automatic light control devices.

(4) Maximum allowed Correlated Color Temperature: 3,000 Kelvin (K).

(5) Directional flood lighting is prohibited.

(6) Lighting installations on structures shall not exceed the height of the eave or fourteen (14) feet whichever is less.

¹ Table D, Performance Method Allowed Total Site Lumens, Table E, Performance Method Additional Initial Luminaire Lumen Allowances and Table G, Residential Lighting Limits.

- (7) Residential mounting pole height restrictions can be considered but mounting heights shall not exceed fourteen (14) feet.
- (8) Residents are encouraged to use timers to control Luminaires.
- (9) Residents are encouraged to use motion sensors for Luminaires after midnight.

(d) Non-residential.

- (1) A photometric analysis must be submitted with exterior lighting plans unless the Town Planner deems it unnecessary.
- (2) All Luminaires and lighting installations shall be Fully Shielded or have a BUG rating not to exceed:
 - i. a B1 rating for backlighting.
 - ii. a U0 rating for uplight.
 - iii. a G1 rating for glare.
- (3) Maximum allowed Lumens per square foot: 1.25.
- (4) Maximum allowed Lumens per Site: 10,000.
- (5) Maximum allowed Correlated Color Temperature: 3,000 K.
- (6) Directional flood lighting is prohibited.
- (7) Luminaires must be extinguished at close of business unless required for safety of employees during employee working hours. If employee lighting is required, it must be approved in conjunction with the Exterior Lighting Plan. After close of business, automatic lighting control devices, such as motion sensors, must be used for canopies, pedestrian pathways and entrances/exits where required for public safety.
- (8) Light for illuminating signs may not be used after midnight. Vertical illuminance from Luminaires shall not exceed ten (10) foot-candles on surface of sign.²
- (9) Building entrances or exits shall not exceed 1,000 lumens within 20 feet of door.
- (10) Canopies. Luminaires must be located on underside of canopy and shall not exceed 1.5 to 3 foot-candles per sq. ft. of unit area within the drip line of the canopy.
- (11) Outdoor Dining, per unit area for the total hardscape of outdoor dining maximum

² Additional restrictions in Land Use Code sec. 5.06 may apply to exterior lighting.

of 3 Lumens/sq. ft.

(e) Parking Lots (see definition below) for General Commercial, Public and mixed uses.

(1) In addition to the requirements for Non-residential exterior lighting, parking lot light installations must also meet these standards:

Mounting Height	14 feet
Average light levels at ground	Maximum 1.5 foot-candles
Recommended Average light level at ground	No more than 0.3 foot-candles
Maximum light level at ground	5 foot-candles
Uniformity ratio maximum: minimum	20:1
Uniformity ratio average: minimum	8:1

(2) After close of business, event or midnight whichever is later, automatic light control devices that dim light levels by a minimum of fifty percent (50%) are required but extinguishing the luminaires is encouraged.

(f) High Intensity or Special Purpose, including, but not limited to, Conditional Uses, vehicle service station fueling areas, ATMs, night depositories, and stadiums shall be reviewed on a case by case basis for approval by the Planning and Zoning Commission. To obtain such a permit, applicant shall demonstrate that it has made every effort to mitigate the effects of light on the environment and surrounding properties. A statement of the mitigation measures must be submitted with the Exterior Lighting Plan and shall include calculations showing variances from these standards. The Planning and Zoning Commission may approve the lighting installation if it finds that it will not create unwarranted glare, sky glow or light trespass and will cause an undue threat to the community International Dark Sky designation.

(g) The following are exceptions from the requirements of this section:

(1) Outdoor lighting fixtures existing or legally installed prior to [insert date of adoption of ordinance]; compliance with the provisions of Chapter 1, Section 1.06 is required and when compliance is required under said section lighting installations are subject to all the provisions of this section.

(2) Holiday lights are allowed to be displayed for up to forty-five (45) days in any one year. Use of automatic light control devices are encouraged to extinguish light after midnight.

(3) Temporary lighting that cannot meet these standards shall not be used more than thirty (30) days in any one year shall require approval as a temporary Conditional Use.

(4) Emergency lighting used by police, firefighters or medical personnel and that is in operation as long as the emergency exists.

(5) Existing outdoor recreational facilities, whether public or private, shall not be illuminated after 11:00 p.m. except to conclude any recreational or sporting event or other activity conducted, which is in progress prior to 11:00 p.m. at a ballpark, arena or similar facility.

(h) **Additional Requirements:**

(1) Architectural Lighting is prohibited.

(2) Landscape Lighting shall be included in the total allowed lumens per site.

(3) Light Trespass is prohibited.

(4) Use of mercury vapor lighting fixtures is prohibited.

(i) **Definitions:**

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

BUG. A luminaire classification system that classifies backlight (B), uplight (U) and glare (G).

Correlated Color Temperature. A unit of measure for light color based on the Kelvin temperature scale (K). Color temperatures over 4000 K are called cool colors (bluish white), while lower color temperatures (2700–3000 K) are called warm colors (yellowish white through red).

Foot-candle. The unit of measure expressing the quantity of light received on a surface. One foot-candle is the illuminance produced by a candle on a surface one foot square from a distance of one foot.

Fully Shielded. A Luminaire that is 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 refraction from any part of the Luminaire, is projected below the horizontal plane through the Luminaire's lowest light-emitting part.

Glare. Lighting entering the eye directly from Luminaires or indirectly from reflective surfaces that causes visual discomfort or reduced visibility.

Landscape lighting. Luminaries mounted in or at grade (but not more than 3 feet above grade) and used solely for landscape rather than any area lighting.

Light Trespass. Light that falls beyond the property it is intended to illuminate.

Lumen. A unit used to measure the amount of light that is produced by a lamp at the lamp, not by the energy input, which is indicated by the wattage.

Luminaire (light fixture). The complete lighting unit consisting of one or more electric lamps, the lamp holder, any reflector or lens, ballast (if any), together with the components designed to distribute light, to position and protect lamps, and to connect the lamps to power supply and any other accessories.

Parking Lot. A parking area with more than twenty (20) spaces for vehicle parking.

Site:

- (a) Residential: an undivided or combination of undivided lots under one ownership occupied by a residential structure or a residential duplex structure regardless of the square footage.
- (b) Non-residential: an undivided or combination of undivided lots under one ownership occupied by a non-residential structure regardless of the square footage.

Photometric Analysis: details of a proposed exterior lighting plan used to verify compliance with these standards of light output over a given area, such as parking lots and commercial areas & walkways. (Using photometric software, a property layout can be entered, designed, and adjusted.)

Obtrusive light. Spill light that causes glare, annoyance, discomfort, or loss of visual ability.

Outdoor/Exterior lighting. Lighting equipment installed within the property line and outside structures whether attached to poles, structures, the earth, or any other location; and any associated lighting control equipment.