

Town of Branford, Connecticut

Zoning Regulation Amendments * Branford, CT
Concerning Outdoor Lighting
EFFECTIVE 9:00 A.M. JUNE 1, 1997

Purpose: The purpose of the proposed amendments is to provide more specific guidelines for site plan applications and standards in regard to lighting, in order to maximize the effectiveness of site lighting, to avoid unnecessary upward illumination and illumination of adjacent properties, and to reduce glare.

31.4.2.6 Signs and Lighting:

Locations, size, height, orientation, design and plans of all signs and outdoor lighting. A detail drawing showing type of fixture and level of wattage should also be provided. For site plans showing a high level of illumination, the Commission may require an iso-lux plan indicating levels of illumination in footcandles, at ground level.

Section 31 - Site Plans **31.5 Standards**

(a) That all exterior lights and illuminated signs shall be designed, located, installed and directed in such a manner as to prevent objectionable light at [and glare across,] the property lines and disability glare at any location on or off the property. The "maintained horizontal illuminance recommendations" set by the Illuminating Engineering Society of North America (IES) shall be observed. (See Appendix A)

(* Editor's note - I FOUND THAT THESE IES RECOMMENDATIONS ARE VERY IMPORTANT TO INCLUDE BECAUSE THE IES IS THE "STANDARD-CREATOR" IN THE LIGHTING INDUSTRY. THE LEVELS THAT THEY RECOMMEND ARE FAR BELOW WHAT YOU'LL SEE TYPICALLY BEING USED OUT THERE TODAY, ESPECIALLY BY NATIONAL CHAINS -FAST FOOD, ETC. INCLUDING "LIGHTING LEVELS" IN NEW REGULATIONS AND ORDINANCES IS VITAL BECAUSE EVEN FULL CUT-OFFS WITH OUTRAGEOUS LIGHT LEVELS WILL CONTRIBUTE TO SKYGLOW.)

* All parking area lighting will be full cut-off type fixtures.

* Uplighting is prohibited. Externally lit signs, display, building and aesthetic lighting must be lit from the top and shine downward. The lighting must be shielded to prevent direct glare and/or light trespass. The lighting must also be, as much as physically possible, contained to the target area. Internally lighted signs are acceptable. "Internally lighted signs are prohibited within the Town Center Overlay District."

* All building lighting for security or aesthetics will be full cut-off or a shielded type, not allowing any upward distribution of light. Floodlighting is discouraged, and if used, must be shielded to prevent:

- A. Disability glare for drivers or pedestrians
- B. Light trespass beyond the property line, and
- C. Light above a 90 degree horizontal plane. Wallpack type fixtures are not acceptable.

* Adjacent to residential property, no direct light source will be visible at the property line at ground level or above.

* All non-essential lighting will be required to be turned off after business hours, leaving only the necessary lighting for site security. ("Non-essential" can apply to: display, aesthetic, parking and sign lighting).

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(* Editor's note - THIS NEXT SECTION OF DEFINITIONS IS KEY, MOST TOWN/CITY GOVERNMENT PEOPLE AREN'T IN-THE-KNOW ABOUT LIGHTING TERMS, MOST NEED THEM. IT HAS ALREADY AVOIDED A PROBLEM IN TOWN BECAUSE I MADE SURE THAT THESE WERE THOROUGH. MY DEFINITION OF FULL CUT-OFF DESCRIBES A "FLAT-LENS" CUTOFF. THERE ARE GLARY "SAG LENS" AND "BUBBLE LENS" FIXTURES OUT THERE THAT ARE CONSIDERED "IES CUT-OFF", BUT YOU DON'T WANT TO GET STUCK WITH THEM. CLEAR DEFINITIONS WILL HELP YOU AVOID PROBLEMS. I ALSO LATER ADDED ILLUSTRATIONS OF THE MENTIONED FIXTURES TO FOOL-PROOF IT)

Section 6 - Definitions:

The following definitions are proposed to be inserted into Section 6 in alphabetical order and all subsequent definitions to be renumbered.

Disability Glare: The eye's Line-of-sight contact with a direct light source, which causes a partial blindness

Footcandle: A unit of measure for illuminance. A unit of illuminance on a surface that is everywhere one foot from a uniform point source of light of one candle and equal to one lumen per square foot.

Full Cut-Off Type Fixture: A luminaire or light fixture that; by design of the housing, does not allow any light dispersion or direct glare to shine above a 90 degree, horizontal plane from the base of the fixture. Full cut-off fixtures must be installed in a horizontal position as designed, or the purpose of the design is defeated, and disability glare will result.

Horizontal Illuminance: The measurement of brightness from a light source, usually measured in footcandles or lumens, which is taken through a light meter's sensor at a horizontal position.

Light Trespass: Light from an artificial light source that is intruding into an area where it is not wanted or does not belong.

Uplighting: Any light source that distributes illumination above a 90 degree horizontal plane.

U. Ratio: Uniformity ratio, describing the average level of illumination in relation to the lowest level of illumination for a given area. Example: U. ratio = 4:1 for the given area, the lowest level of illumination (1) should be no less than % or "4 times less" than the average (4) level of illumination.

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APPENDIX A

IES PARKING LOT LEVELS OF ACTIVITY (EXAMPLES)	IES MAINTAINED HORIZONTAL ILLUMINANCE RECOMMENDATIONS (FOOTCANDLES)					
	General Parking & Pedestrian			Vehicle Use Area Only		
	Ave	Min	U. Ratio	Ave	Min	U. Ratio
HIGH Major League Athletic Events Major Cultural or Civic Events Regional Shopping Centers Fast Food Facilities	3.6	0.9	4:1	2.0	0.67	3:1
MEDIUM Community Shopping Centers Cultural, Civic or Recreational Events Office Parks Hospital Parking Transportation Parking (Airports, Commuter Lots, Etc.) Residential Complex Parking	2.4	0.6	4:1	1.0	0.33	3:1
LOW Neighborhood Shopping Industrial Employee Parking Educational Facility Parking Church Parking	0.8	0.2	4:1	0.5	0.13	4:1
IES states: "This recommendation is based on the requirement to maintain security at any time in area where there is a low Level of nighttime activity." Local interpretation and application of IES Parking Lot Levels of Activity Examples not specifically identified or quantified:						
Level Of Activity						
Regional shopping centers containing retail space of 300,000 square feet or greater.						HIGH
Community shopping centers containing retail space of 5,000 to 299,999 square feet.						MEDIUM
Neighborhood shopping containing retail space of less than 5,000 square feet.						LOW
Fast Food Facilities (means only with customer seating capacity of 40 or greater).						HIGH
Automotive Dealerships						HIGH
Entertainment theaters. sports arenas						HIGH