



ACTON PLANNING DIVISION ZONING REVIEW

Outdoor Lighting Requirements (LED) – June 2020

The Acton Zoning Bylaw requires that certain regulations be met for outdoor lighting installations. It is recommended to seek zoning approval when filing for an electrical permit, and prior to installation. This guidance only pertains to outdoor lighting installations using LED lamps and to replacements of non-LED lamp types with LED lamps. The Zoning Bylaw also has regulations for other non-LED lamp types (incandescent, halogen, metal halite, etc.)

The check list below intends to provide basic guidance on whether or not your lighting is in compliance with Zoning Bylaw regulations. If your lighting installation fails to meet any of these standards it will not be in compliance and will potentially be subject to zoning enforcement and fines. Taking advantage of a zoning compliance review before the lighting installation begins can help avoid such an outcome. The Zoning Enforcement Officer and Planning Division staff is here to help.

DO MY OUTDOOR LIGHTS COMPLY (CHECKLIST)?

- No LED Lamp has a color rating that is higher than 3000 Kelvin**
- No Lamp exceeds 400 watts**
- All lights are properly shielded¹**
- All lights are on a timer to turn off when business is closed²**
- All lights are located on the same property that they illuminate**
- Light trespass onto the street is less than 0.8 fc and light trespass onto abutting lots in residential or conservation use is less than 0.3 fc**

Not sure? Contact the Planning Division at planning@actonma.gov or (978) 929-6631

¹ Go to Shielding of Outdoor Lights on the next page to determine which type of shielding is applicable

² Except: motion detector activated security lights with a run time up to 10 minutes, temporary holiday lights, and temporary construction lights.

Requirements for new LED installations and source replacements

All sites that have already installed luminaires using LEDs that are greater than color temperature 3000K or otherwise do not comply with the Zoning Bylaw's LED lighting requirements must conform with the Zoning Bylaw's outdoor LED lighting standards by October 5, 2021, or at the time of any source replacements that occur before then. For all such installations, as well as for replacements of formerly used incandescent, halogen, metal halide, mercury vapor, or high/low pressure sodium lamps with LED lighting, a certified lighting plan showing compliance must be submitted to the Zoning Enforcement Officer for approval prior to any new installation or any source replacement.

Shielding of Outdoor Lights

All LED outdoor light fixture (luminaires) must be shielded so that no direct observation of the LED light source can be visible from an adjacent street or from adjacent property that is in residential and conservation use. In addition, LED that meet or exceed the wattages in the Shielding Table (Table 1) below, must be fully shielded. Examples of acceptable fully shielded luminaires are shown in figure 1 below alongside examples of unacceptable luminaires that are not fully shielded.

Shielding Table

Lamp Type	Shielded	Fully Shielded
LED30 ($\leq 3000\text{K}$)	-	70 w
LED60 ($\leq 3000\text{K}$)	-	135 w
LED90 ($\leq 3000\text{K}$)	-	205 w

Table 1

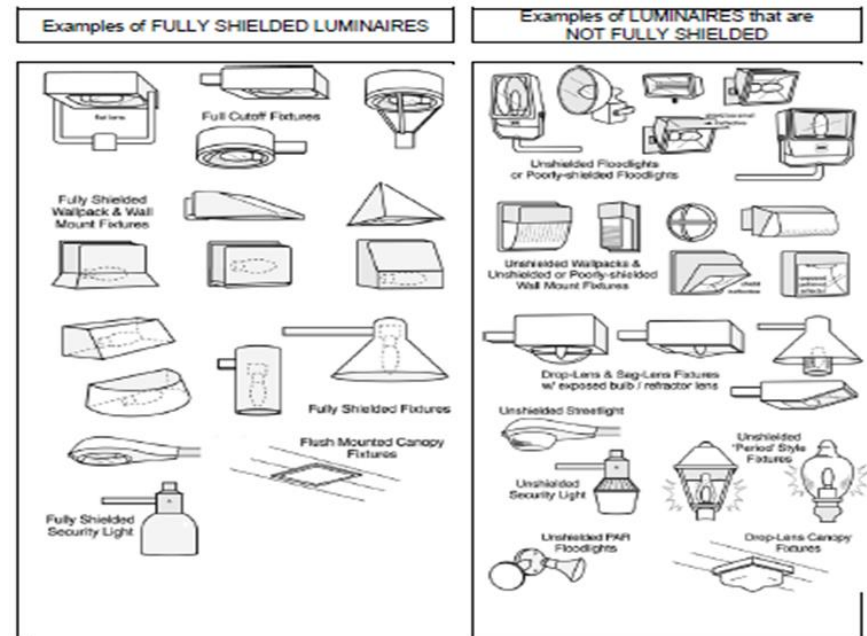


Figure 1



APPLICABLE ZONING BYLAW SECTIONS AND DEFINITIONS

Where can I find answers to my questions?

A good place to start is the Town website, which can be accessed at www.actonma.gov, where you can find specific information about your property by using the Town of Acton's Online GIS Viewer. You may also access the Town's Zoning Bylaw online. Section 10.6 ("Outdoor Lighting Regulations") of the Bylaw will provide most definitions and information about lighting.

If you have more specific questions, please contact the Planning Division:

- By email: planning@actonma.gov
- By phone: (978) 929-6631
- In person: 472 Main Street, Land Use Department Wing, Acton MA 01720

Definitions – Excerpt from Section 10.6.6 (Outdoor Lighting)

DIRECT LIGHT – Light emitted directly from the LAMP, from the reflector or reflector diffuser, or through the refractor or diffuser lens of a LUMINAIRE.

FULLY SHIELDED – Constructed in such a manner that no light emitted by the fixture, either directly from the LAMP or a diffusing element, or indirectly by reflection or refraction from any part of the LUMINAIRE, is projected above a horizontal plane passing through the lowest direct-light-emitting part of the LUMINAIRE (Figure 1). BUILDING CANOPIES, overhangs, roof eaves and similar types of construction shall not be considered as the means for providing the FULLY SHIELDED light cut-off characteristic. This shall be achieved by the LUMINAIRE itself.

GLARE – The sensation of visual discomfort or loss in visual performance and visibility produced by luminance within the visual field that is sufficiently greater than the luminance to which the eyes are adapted.

INDIRECT LIGHT – DIRECT LIGHT that has been reflected off the surface of any permanently constructed object other than the source LUMINAIRE.

LAMP – The light source component of a LUMINAIRE that produces the actual light.

LED (LIGHT EMITTING DIODE) - Any LUMINAIRE composed on an array of LEDs, typically a bank of 30, 60 or 90, used as a light source.

LIGHT TRESPASS – DIRECT or INDIRECT LIGHT produced by an artificial light source and which shines outside the boundaries of the lot or property containing the LUMINAIRE.

LUMINAIRE – A complete OUTDOOR LIGHTING unit or fixture including a LAMP or LAMPS, together with the parts designed to distribute the light, to position and protect the LAMPS, and to connect the LAMPS to the power supply, but not including a pole on which the LUMINAIRE may be mounted.

OUTDOOR LIGHTING – The night-time illumination of an outside area or object by a LUMINAIRE located outdoors. LUMINAIRES under a CANOPY are considered outdoor lights and are regulated by this Bylaw.

SHIELDED – A LUMINAIRE employing a shield to prevent GLARE. The LUMINAIRE shall have a generally downward distribution of light and must have a top shield to minimize upward light.

Additional Information

Additional Zoning Definitions are found in Section 1.3 of the Zoning Bylaw and 10.6.6. More detailed information and regulation on lighting compliance and exceptions (e.g. sign illumination, up-lighting, sports facility lighting) can be found in Zoning Bylaw Section 10.6 and subsections. Special provisions and exceptions to standards can be found in section 10.6.2.4, titled Special Provisions.

The Town of Acton Zoning Bylaw can be found here: <http://www.acton-ma.gov/DocumentCenter/View/659/2017-Zoning-Bylaws?bidId>