

**HOUSE . . . . . No. 731**

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The Commonwealth of Massachusetts

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**In the Year Two Thousand Nine**  
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An Act to limit outdoor night lighting, conserve energy, and reduce light pollution..

*Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:*

1 SECTION 1. Chapter 85 of the General Laws, as appearing in the 2002 Official Edition,  
2 is hereby amended by adding at the end thereof the following new sections:-

3 Section 37. As used in section thirty-seven A, the following words shall, unless  
4 the context clearly requires otherwise, have the following meaning:-

5 "Candela", a unit of luminous intensity.

6 "Direct light", light emitting generally in a downward direction by alamp, off a reflector,  
7 or through a refractor of a luminaire.

8 "Full-cutoff luminaire", a luminaire that allows no direct light from the luminaire above a  
9 horizontal plane through the luminaire's lowest light-emitting part, in its mounted form.

10 "Glare", direct light emitted by a luminaire that causes reduced visibility of objects or  
11 momentary blindness.

12 "Illuminance", the luminous power incident per unit area of a surface, as measured in lux  
13 (lumens per square meter) or foot-candles (lumens per square foot).

14 "Lamp", the component of a luminaire that produces light.

15 "Light Pollution", artificial light directed, reflected, or scattered upward into the  
16 atmosphere.

17 "Light trespass", light emitted by a luminaire that shines beyond the boundaries of the  
18 property on which the luminaire is located.

19 "Lumen", a specific standard unit of measurement of luminous flux.

20 "Luminaire", a complete lighting unit, including a lamp or lamps together with the parts  
21 designed to distribute the light, to position and protect the lamps, and to connect the lamps to the  
22 power supply.

23 "Outdoor light fixtures", outdoor artificial illuminating devices, permanently installed or  
24 portable, used for flood-lighting, roadway and area lighting, general illumination, or  
25 advertisement.

26 "Permanent outdoor luminaire", any fixed luminaire or system of luminaires that is  
27 outdoors and that is intended to be used for seven days or longer.

28 "Roadway lighting", permanent outdoor luminaires that are specifically intended to  
29 illuminate roadways for automotive vehicles.

30 "Semi-cutoff luminaire", a luminaire whose light distribution restricts the candela per  
31 lamp lumen to no more than five percent at angles exceeding 90 degrees above nadir.

32 "State funds", any bond revenues or any money appropriated or allocated by the General  
33 Court.

34 Section 37A. No state funds shall be used to install any new permanent outdoor luminaire  
35 or to replace an existing permanent outdoor luminaire unless the following conditions are met:

36 (a) The new or replacement luminaire is a full-cutoff luminaire when the rated output of  
37 the lamp is greater than one thousand eight hundred (1800) lumens;

38 (b) If a lighting recommendation or regulation applies, the minimum illuminance  
39 specified by the recommendation or regulation is used;

40 (c) If no lighting recommendation or regulation applies, the minimum illuminance  
41 adequate for the intended purpose is used with consideration given to recognized standards,  
42 including, but not limited to, recommended practices adopted by the illuminating engineering  
43 society of North America (IESNA);

44 (d) For roadway lighting unassociated with intersections of two or more streets or  
45 highways, a determination is made by the department of highways that the purpose of the  
46 lighting installation or replacement cannot be achieved by installation of reflectorized roadway  
47 markers, lines, warnings or informational signs, or other passive means; and

48 (e) Adequate consideration has been given to the conservation of energy and to the  
49 minimization of glare, light pollution, and light trespass. The requirements of this section shall  
50 not apply in any of the following circumstances, settings or location:

51 (1) a federal law, rule or regulation preempts state law;

52 (2) the outdoor lighting fixture is used on a temporary basis by emergency personnel  
53 requiring additional illumination for emergency procedures or used by repair personnel on a  
54 temporary basis for road repair;

55 (3) navigational lighting systems at airports and other lighting necessary for aircraft  
56 safety;

57 (4) special events or situations that may require additional illumination, including, but not  
58 limited to, sporting events and the illumination of historic structures, monuments, or flags;  
59 provided however, that all such illumination shall be selected and installed to shield the lamp  
60 used from direct view to the greatest extent possible, and to minimize light pollution and light  
61 trespass;

62 (5) any urban area where there is high night-time pedestrian traffic which has been  
63 examined by an engineer employed by the commonwealth and experienced in outdoor lighting  
64 and deemed to be an area where the installation of semi-cutoff luminaires is necessary;

65 (6) a state prison, county house of correction or county jail; or

66 (7) when a compelling safety interest exists that cannot be addressed by any other  
67 method.

68 The division of energy resources, in consultation with the department of highways, shall  
69 promulgate regulations to implement and enforce this section, including a system to ensure that  
70 the use of state funds for street lighting complies with the requirements set forth herein. Said  
71 regulations shall include the establishment of a waiver process, to be administered by the  
72 secretary of administration and finance or his designee, whereby a state agency, division or

73 department may apply for and may be granted an exemption by said secretary from the  
74 requirements of this section on the grounds that a bonafide operational, temporary, safety or  
75 specific aesthetic need exists to an extent that warrants such an exemption or upon the  
76 establishment by said agency, division or department that the installation and use of the  
77 permanent outdoor luminaries required by this section will not be cost effective over the  
78 expected use life of said luminaries.

SECTION 2. The provisions of this act shall take  
79 effect as of November 1, 2009.