

HOUSE No.

The Commonwealth of Massachusetts

PRESENTED BY:

Sean Garballey

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts in General Court assembled:

The undersigned legislators and/or citizens respectfully petition for the passage of the accompanying bill:

An Act to limit outdoor night lighting, conserve energy, and reduce light pollution.

PETITION OF:

NAME:

Sean Garballey

DISTRICT/ADDRESS:

23rd Middlesex

The Commonwealth of Massachusetts

In the Year Two Thousand and Nine

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, is hereby amended
2 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 the context clearly
4 requires otherwise, have the following meaning:-

5 "Candela", a unit of luminous intensity.

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

8 "Full-cutoff luminaire", a luminaire that allows no direct light from the luminaire above a horizontal plane
9 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 momentary
11 blindness.

12 "Illuminance", the luminous power incident per unit area of a surface, as measured in lux (lumens per
13 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 atmosphere.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

59 The division of energy resources, in consultation with the department of highways, shall promulgate regulations to
60 implement and enforce this section, including a system to ensure that the use of state funds for street lighting
61 complies with the requirements set forth herein. Said regulations shall include the establishment of a waiver process,
62 to be administered by the secretary of administration and finance or his designee, whereby a state agency, division
63 or department may apply for and may be granted an exemption by said secretary from the requirements of this
64 section on the grounds that a bonafide operational, temporary, safety or specific aesthetic need exists to an extent
65 that warrants such an exemption or upon the establishment by said agency, division or department that the
66 installation and use of the permanent outdoor luminaries required by this section will not be cost effective over the
67 expected use life of said luminaries.

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

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