

By Mr. Marzilli of Arlington, petition of J. James Marzilli, Jr. and other members of the General Court for legislation to limit outdoor night lighting, conserve energy and reduce light pollution. Energy.

The Commonwealth of Massachusetts

In the Year Two Thousand and Three.

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
2 the 2000 Official Edition, is hereby amended by adding at the end
3 thereof the following new sections:

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

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

9 “Full-cutoff luminaire”, a luminaire that allows no direct light
10 from the luminaire above a horizontal plane through the lumi-
11 naire’s lowest light-emitting part, in its mounted form.

12 “Glare”, direct light emitted by a luminaire that causes reduced
13 visibility of objects or momentary blindness.

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

15 “Light Pollution”, general sky glow caused by the scattering of
16 artificial light in the atmosphere.

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

20 “Lumen”, a specific standard unit of measurement of luminous
21 flux.

22 “Luminaire”, a complete lighting unit, including a lamp or
23 lamps together with the parts designed to distribute the light, to

24 position and protect the lamps, and to connect the lamps to the
25 power supply.

26 “Non-cutoff luminaire”, a streetlight luminaire in which either
27 the lamp and surrounding glass lens extends well below the hori-
28 zontal plane of opaque shielding elements of the luminaire, or the
29 lamp is situated on top of a post or on a pivoting support on the
30 side of a building, causing light to be cast as glare outward and
31 upward, beyond its useful range.

32 “Outdoor light fixtures”, outdoor artificial illuminating devices,
33 permanently installed or portable, used for flood-lighting,
34 roadway and area lighting, general illumination, or advertisement.

35 “Permanent outdoor luminaire”, any fixed luminaire or system
36 of luminaires that is outdoors and that is intended to be used for
37 seven days or longer.

38 “Roadway lighting”, permanent outdoor luminaires that are
39 specifically intended to illuminate roadways for automotive vehi-
40 cles.

41 “Semi-cutoff luminaire”, a luminaire that allows no more than
42 six percent of the light from the lamp to be emitted above a hori-
43 zontal plane passing through the luminaire’s lowest light-emitting
44 part.

45 “State funds”, any bond revenues or any money appropriated or
46 allocated by the General Court.

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

50 (a) The new or replacement luminaire is a full-cutoff luminaire
51 when the rated output of the luminaire is greater than one thou-
52 sand eight hundred lumens;

53 (b) If a lighting recommendation or regulation applies, the min-
54 imum illuminance specified by the recommendation or regulation
55 is used;

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

61 (d) For roadway lighting unassociated with intersections of two
62 or more streets or highways, a determination is made by the

63 department of highways that the purpose of the lighting installa-
64 tion or replacement cannot be achieved by installation of reflec-
65 torized roadway markers, lines, warnings or informational signs,
66 or other passive means; and

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

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

72 (2) the outdoor lighting fixture is used on a temporary basis by
73 emergency personnel requiring additional illumination for emer-
74 gency procedures or used by repair personnel on a temporary
75 basis for road repair;

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

78 (4) special events or situations that may require additional illu-
79 mination, including, but not limited to, sporting events and the
80 illumination of historic structures, monuments, or flags; provided
81 however, that all such illumination shall be selected and installed
82 to shield the lamp used from direct view to the greatest extent
83 possible, and to minimize upward lighting and light trespass;

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

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

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

92 The division of energy resources, in consultation with the
93 department of highways, shall promulgate regulations to imple-
94 ment and enforce this section, including a system to ensure that
95 the use of state funds for street lighting complies with the require-
96 ments set forth herein. Said regulations shall include the establish-
97 ment of a waiver process, to be administered by the secretary of
98 administration and finance or his designee, whereby a state
99 agency, division or department may apply for and be granted an
100 exemption from the requirements of this section on the grounds
101 that a bonafide operational, temporary, safety or specific aesthetic

102 need exists to an extent that warrants such an exemption or upon
103 the establishment by said agency, division or department that the
104 installation and use of the permanent outdoor luminaries required
105 by this section will not be cost effective over the expected use life
106 of said luminaries.

1 SECTION 2. The provisions of this act shall take effect as of
2 November 1, 2003.