

**HOUSE . . . . . No. 2941**

**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 adoption of the accompanying bill:

An Act improving outdoor lighting and increasing dark-sky visibility.

PETITION OF:

NAME:	DISTRICT/ADDRESS:
<i>Sean Garballey</i>	<i>23rd Middlesex</i>
<i>Cynthia S. Creem</i>	<i>First Middlesex and Norfolk</i>
<i>Kay Khan</i>	<i>11th Middlesex</i>
<i>Tom Sannicandro</i>	<i>7th Middlesex</i>
<i>Peter V. Kocot</i>	<i>1st Hampshire</i>
<i>David M. Rogers</i>	<i>24th Middlesex</i>
<i>Jonathan Hecht</i>	<i>29th Middlesex</i>
<i>Denise Andrews</i>	<i>2nd Franklin</i>
<i>Carolyn C. Dykema</i>	<i>8th Middlesex</i>
<i>Chris Walsh</i>	<i>6th Middlesex</i>
<i>Patricia D. Jehlen</i>	<i>Second Middlesex</i>
<i>James B. Eldridge</i>	<i>Middlesex and Worcester</i>
<i>Jennifer L. Flanagan</i>	<i>Worcester and Middlesex</i>
<i>Ann-Margaret Ferrante</i>	<i>5th Essex</i>
<i>Linda Campbell</i>	<i>15th Essex</i>
<i>Aaron Vega</i>	<i>5th Hampden</i>
<i>Byron Rushing</i>	<i>9th Suffolk</i>
<i>Marjorie C. Decker</i>	<i>25th Middlesex</i>

<i>Kate Hogan</i>	<i>3rd Middlesex</i>
<i>Paul R. Heroux</i>	<i>2nd Bristol</i>
<i>Antonio F. D. Cabral</i>	<i>13th Bristol</i>
<i>Carl M. Sciortino, Jr.</i>	<i>34th Middlesex</i>
<i>Ellen Story</i>	<i>3rd Hampshire</i>
<i>Bruce E. Tarr</i>	<i>First Essex and Middlesex</i>
<i>Alice Hanlon Peisch</i>	<i>14th Norfolk</i>
<i>Thomas P. Conroy</i>	<i>13th Middlesex</i>
<i>James Arciero</i>	<i>2nd Middlesex</i>

**HOUSE . . . . . No. 2941**

By Mr. Garballey of Arlington, a petition (accompanied by bill, House, No. 2941) of Sean Garballey and others relative to improving outdoor lighting and increasing dark-sky visibility. Telecommunications, Utilities and Energy.

[SIMILAR MATTER FILED IN PREVIOUS SESSION  
SEE HOUSE, NO. 1762 OF 2011-2012.]

**The Commonwealth of Massachusetts**

**In the Year Two Thousand Thirteen**

An Act improving outdoor lighting and increasing dark-sky visibility.

*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 2008 Official Edition,  
2 is hereby amended by adding the following three (3) sections:

3 Section 37. As used in Sections 38 and 39, the following words shall, unless the context  
4 clearly requires otherwise, have the following meanings:

5 “Direct light”, light emitted by a fixture, whether from the light source, from a reflector,  
6 or through a refractor

7 “Façade lighting”, permanent outdoor fixtures that are specifically intended to illuminate  
8 the exterior surfaces of buildings or structures

9 “Fixture”, a complete lighting unit, including a light source together with the parts  
10 designed to distribute the light, to position and protect the light source, and to connect the light  
11 source to the power supply

12 “Fixture lumens”, total lumens emitted by a fixture

13 “Fully shielded fixture”, a fixture that emits no direct light above a horizontal plane  
14 through the fixture’s lowest light-emitting part, in its mounted position

15 “Glare”, light emitted by a fixture that causes visual discomfort or reduced visibility  
16 “Illuminance”, the luminous power incident per unit area of a surface  
17 “Light trespass”, light that falls beyond the property it is intended to illuminate  
18 “Lumen”, a standard unit of measurement of the quantity of light emitted from a source  
19 of light  
20 “Ornamental Roadway Lighting”, a roadway-lighting fixture that serves a decorative  
21 function in addition to a roadway-lighting function and which has a historical period appearance  
22 or decorative appearance.  
23 “Parking-lot lighting”, permanent outdoor fixtures specifically intended to illuminate  
24 uncovered vehicle-parking areas  
25 “Part-night service”, a rate charged by a utility company to provide unmetered electricity  
26 for permanent outdoor fixtures that operate for only a portion of each night’s dusk-to-dawn  
27 cycle.  
28 “Permanent outdoor fixture”, a fixture for use in an exterior environment installed with  
29 mounting not intended for relocation  
30 “Roadway lighting”, permanent outdoor fixtures specifically intended to illuminate  
31 public roadways  
32 “Sky glow”, scattered light in the atmosphere, caused by light directed upward or  
33 sideways from fixtures, reducing one’s ability to view the natural night sky.  
34 “State funds”, bond revenues or money appropriated or allocated by the General Court.  
35 Section 38.  
36 (a) No state funds shall be used to install a new permanent outdoor fixture, or to pay for  
37 the cost of operating such fixture, unless the following conditions are met:  
38 (1) in the case of roadway lighting or parking-lot lighting; whether mounted to poles,  
39 buildings, or other structures, the fixture is fully shielded.  
40 (2) in the case of building-mounted fixtures not specifically intended for roadway  
41 lighting, parking-lot lighting, or façade lighting, the fixture is fully shielded when its initial  
42 fixture lumens is greater than 3000 lumens.  
43 (3) in the case of façade lighting, the fixture is shielded to reduce glare, sky glow, and  
44 light trespass to the greatest extent possible.

45 (4) in the case of ornamental roadway lighting fixtures, the fixture emits no more 700  
46 lumens above a horizontal plane through the fixture's lowest light-emitting part.

47 (5) for illumination by new permanent outdoor fixtures for applications covered in  
48 Section 38(a), only the illuminance levels required for the intended purpose as defined in the  
49 10th edition of The Lighting Handbook, published by the Illuminating Engineering Society  
50 (IES), may be used. Where local city or county laws, ordinances, or regulations specify a  
51 different requirement, only the illuminance levels required for the intended purpose by these  
52 laws, ordinances, or regulations are to be used.

53 (6) in the case of roadway lighting unassociated with intersections of two or more streets  
54 or highways, the Department of Transportation has determined that the purpose of the fixture  
55 installation or replacement cannot be achieved by installation of reflectorized roadway markers,  
56 lines, warning or informational signs, or other passive means.

57 (b) This section shall not apply:

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

59 (2) if the outdoor lighting fixture is used temporarily for emergency procedures or for  
60 road repair;

61 (3) to navigational and other lighting systems necessary for aviation and nautical safety;

62 (4) to lighting for an athletic playing area; provided, however, that the fixtures used  
63 therefor shall be selected and installed so as to minimize glare, light trespass, and sky glow  
64 outside the athletic playing area;

65 (5) if a compelling and bona fide safety or security need exists that cannot be addressed  
66 by any other method;

67 (6) to the replacement of previously installed permanent outdoor fixtures that are  
68 destroyed, damaged, or inoperative; have experienced electrical failure due to failed components;  
69 or require standard maintenance;

70 (7) to lighting intended for tunnels and roadway underpasses; or

71 (8) to special events or situations that might require additional illumination, including,  
72 but not limited to, the illumination of historic structures, monuments, or flags; provided,  
73 however, that all such illumination be selected and installed to minimize glare, light trespass, and  
74 sky glow to the greatest extent possible.

75 (c) No public utility company shall install a permanent outdoor fixture for roadway  
76 lighting or parking-lot lighting if the cost of operating such fixture is paid for by state funds,  
77 unless the provisions specified for such uses under Sections 38 (a) and 38(b) are met.

78 (d) The Department of Energy Resources, in consultation with the Department of  
79 Transportation, shall develop and promulgate regulations to implement and enforce this section,  
80 including a system to ensure that the use of state funds complies with the requirements set forth  
81 herein.

82 SECTION 2. The Department of Transportation shall:

83 (a) review and update warranting and other criteria for roadway lighting, to comply with  
84 current standards, procedures, and accepted best practices;

85 (b) make a study of lighting operational costs, and develop recommendations on cost  
86 reduction through replacement of existing fixtures with lower-wattage, fully shielded fixtures,  
87 and by removal of unnecessary roadway lighting and installation of passive safety measures  
88 where possible.;

89 (c) issue the first report of its findings and recommendations as required in this section to  
90 the Department of Energy Resources on or before August 31, 2014, and annually thereafter.

91 SECTION 3. The Department of Public Utilities shall, subject to its ratemaking  
92 authority, develop a rate for part-night service for unmetered roadway or parking-lot lighting to  
93 apply to each new electric utility rate case submitted after January 1, 2014.

94 SECTION 4. This act shall take effect on November 1, 2013.