

**The Commonwealth of Massachusetts**

**In the One Hundred and Ninety-Second General Court  
(2021-2022)**

1 by inserting the following four sections:-

2 "SECTION X. Chapter 85 of the General Laws is hereby amended by adding the  
3 following section:

4 Section 38. (a) As used in this section, the following words shall have the following  
5 meanings unless the context clearly requires otherwise:

6 "Correlated color temperature" or "CCT", the apparent hue of the light emitted by a  
7 fixture, expressed in kelvin (K).

8 "Façade lighting", illumination of exterior surfaces of buildings for the enhancement of  
9 their nighttime appearance, achieved by shining light onto building surfaces, or by internal or  
10 external illumination of translucent building surfaces, or with fixtures solely for decorative  
11 function.

12 "Fixture", a complete lighting unit, including a light source together with the parts  
13 designed to distribute the light, to position and protect the light source and connect the light  
14 source to the power supply.

15 “Fully shielded fixture”, a fixture that in its mounted position has an uplight value of U0  
16 as defined by the Illuminating Engineering Society’s standards publication TM-15-20  
17 (Luminaire Classification System for Outdoor Luminaires).

18 “Glare”, light emitted by a fixture that causes visual discomfort or reduced visibility.

19 “Illuminance”, the luminous power incident per unit area of a surface.

20 “Light trespass”, light that falls beyond the property it is intended to illuminate.

21 “Lumen”, a standard unit of measurement of the quantity of light emitted from a source  
22 of light.

23 “Municipal funds”, bond revenues or money appropriated or allocated by the governing  
24 body of a town or city within the Commonwealth.

25 “Ornamental lighting”, a lighting fixture that has a historical or decorative appearance  
26 and that serves a decorative function in addition to serving to light a roadway, parking lot,  
27 walkway, plaza, or other area.

28 “Parking-lot lighting”, a permanent outdoor fixture specifically intended to illuminate an  
29 uncovered vehicle-parking area.

30 “Part-night service”, a rate charged by a utility company to provide unmetered electricity  
31 for permanent outdoor fixtures that operate for only a portion of each night’s dusk-to-dawn  
32 cycle.

33 “Permanent outdoor fixture”, a fixture for use in an exterior environment installed with  
34 mounting not intended for relocation.

35 “Roadway lighting”, a permanent outdoor fixture specifically intended to illuminate a  
36 public roadway.

37 “Sky glow”, scattered light in the atmosphere that is caused by light directed upward or  
38 sideways from fixtures, reducing an individual’s ability to view the natural night sky.

39 “State funds”, bond revenues or money appropriated or allocated by the general court.

40 “Uplight,” direct light emitted above a horizontal plane through the fixture’s lowest light-  
41 emitting part in its mounted position

42 (b) State or municipal funds must not be used to install or cause to be installed a new  
43 permanent outdoor fixture or to pay for the cost of operating a new permanent outdoor fixture,  
44 for the specific purposes listed below, unless the following conditions are met:

45 (i) Fixtures used for roadway lighting or parking-lot lighting, whether mounted to poles,  
46 buildings or other structures, must be fully shielded unless they are ornamental lighting fixtures,  
47 or are fixtures used to light tunnels or roadway underpasses;

48 (ii) Ornamental lighting fixtures must emit fewer than 500 lumens of uplight;

49 (iii) Fixtures used for roadway lighting must not be more numerous than is necessary for  
50 adequate vehicular and pedestrian safety, as determined by the current lighting-needs criteria  
51 published by the Federal Highway Administration and the Illuminating Engineering Society;

52 (iv) Building-mounted fixtures must be fully shielded unless they are façade lighting  
53 fixtures;

54 (v) Façade lighting fixtures must be selected and installed to direct the light onto the  
55 intended target, and must be shielded, so that glare, sky glow, and light trespass are minimized;

56 (vi) Fixtures used to light historic structures, flags, monuments, statuary and works of art  
57 must be selected and installed to direct the light onto the intended target, and must be shielded,  
58 so that glare, sky glow, and light trespass are minimized;

59 (vii) Fixtures used to light athletic playing areas must be selected and installed so as to  
60 minimize glare, light trespass and sky glow outside the athletic playing area;

61 (viii) Fixtures installed for any purpose must have a correlated color temperature that is  
62 not greater than 3000 K unless (1) an exemption up to 4000 K is granted, in which case a public  
63 safety need must be demonstrated; or (2) the fixtures are used exclusively for the decorative  
64 illumination through color of certain building façade or landscape features; or (3) the fixtures are  
65 used to illuminate athletic playing areas.

66 (ix) Lighting installed for any purpose should provide maintained illuminance levels  
67 equal to the minimum values recommended by the Illuminating Engineering Society for the  
68 intended application and may not exceed those recommended minimum values by more than  
69 50% unless a demonstrated and verified need exists for higher levels to ensure safety or security.

70 (c) This section shall not apply: (i) if it is preempted by federal law; (ii) if the outdoor  
71 lighting fixture is used temporarily for emergency, repair, construction or similar activities; (iii)  
72 to navigational and other lighting systems necessary for aviation and nautical safety; (iv) if a  
73 compelling and bona fide safety or security need exists that cannot be addressed by another  
74 reasonable method; (v) to the replacement of a previously installed permanent outdoor fixture  
75 that is destroyed, damaged or inoperative, has experienced electrical failure due to failed

76 components, or requires standard maintenance; (vi) to festoon lighting as defined in the NFPA 70  
77 National Electrical Code, or (vii) to fixtures installed for any specific purpose that is not listed in  
78 (b) above.

79 (d) The Massachusetts Department of Energy Resources, in consultation with the  
80 Massachusetts Department of Transportation, shall:

81 (i) develop and promulgate regulations to implement and enforce this section; provided,  
82 however, that if a municipal or county ordinance or regulation specifies a different illuminance  
83 level, the illuminance level required for the intended purpose by the ordinance or regulation may  
84 be used; and

85 (ii) develop and promulgate regulations to ensure that the use of state or municipal funds,  
86 including, but not limited to, operating costs for new permanent outdoor fixtures for roadway  
87 lighting or parking-lot lighting installed by electric distribution companies and municipal  
88 aggregators, comply with this section.

89 SECTION X. The Massachusetts Department of Transportation shall review and issue a  
90 report on existing roadway lighting and lighting operational costs. The report shall include a  
91 review of standards and other criteria for roadway lighting and an analysis of lighting operational  
92 costs; a review of roadway lighting's impact on human health, human safety, and environmental  
93 impact; actions taken by the department to comply with current standards; procedures and  
94 accepted best practices relative to roadway lighting; and a plan to reduce lighting operational  
95 costs through the replacement of existing high-wattage, unshielded fixtures with lower-wattage,  
96 fully shielded fixtures and the replacement of unnecessary roadway lighting with the installation  
97 of passive safety measures. The department shall issue its report to the Department of Energy

98 Resources and the clerks of Senate and the House of Representatives not later than January 1,  
99 2023.

100 SECTION X. The Massachusetts Department of Public Utilities shall: (i) develop a rate  
101 for part-night service that applies to dimmable and controls-operated fixtures used for unmetered  
102 roadway or parking-lot lighting; and (ii) develop a rate for unmetered roadway or parking-lot  
103 lighting fixtures utilizing less than 25 watts of electricity.

104 SECTION X. Sections 1 and 2 shall take effect on January 1, 2023."