

# **HOUSE . . . . . No. 4737**

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## The Commonwealth of Massachusetts

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HOUSE OF REPRESENTATIVES, July 11, 2018.

The committee on Ways and Means, to whom was referred the Bill relative to expanding resource efficiency in the Commonwealth (House, No. 3404), reports recommending that the same ought to pass with an amendment substituting therefor the accompanying bill (House, No. 4737).

For the committee,

JEFFREY SÁNCHEZ.

**HOUSE . . . . . No. 4737**

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**The Commonwealth of Massachusetts**

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**In the One Hundred and Ninetieth General Court  
(2017-2018)**  
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An Act relative to expanding resource efficiency in the Commonwealth.

*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. Section 2 of chapter 25B of the General Laws, as appearing in the 2016  
2 Official Edition, is hereby amended by inserting after the definition of “Central furnace” the  
3 following two definitions:-

4           “Color rendering index” or “CRI”, the measure of the degree of color-shift objects  
5 undergo when illuminated by a light source as compared to the color of those same objects when  
6 illuminated by a reference source of comparable color temperature.

7           “Commercial hot-food holding cabinet”, a heated, fully-enclosed compartment with 1 or  
8 more solid or glass doors designed to maintain the temperature of hot food that has been cooked  
9 using a separate appliance. A commercial hot-food holding cabinet shall not include heated glass  
10 merchandizing cabinets, drawer warmers or cook-and-hold appliances.

11           SECTION 2. Said section 2 of said chapter 25B, as so appearing, is hereby further  
12 amended by inserting after the definition of “Compensation” the following 5 definitions:-

13 “Computer”, a device that performs logical operations and processes data, including both  
14 stationary and portable units, a desktop computer, a portable all-in-one, a notebook computer, a  
15 mobile gaming system, a high-expandability computer, a small-scale server, a thin client, and a  
16 workstation; provided however, such devices that are capable of using input devices and displays  
17 are not required to be included with the computer when the computer is shipped. A computer is  
18 composed of, at a minimum:

19 (1) a central processing unit (CPU) to perform operations or, if no CPU is present, the  
20 device functions as a client gateway to a server that acts as a computational CPU;

21 (2) the ability to support user input devices such as a keyboard, mouse or touch pad; and

22 (3) an integrated display screen or the ability to support an external display screen to  
23 output information.

24 “Computer monitor”, an analog or digital device of size greater than or equal to 17 inches  
25 and less than or equal to 61 inches, that has a pixel density of greater than 5,000 pixels per  
26 square inch and is designed primarily for the display of computer-generated signals for viewing  
27 by 1 person in a desk-based environment. A computer monitor shall not include:

28 (1) a display with integrated or replaceable batteries designed to support primary  
29 operation without AC mains or external DC power, which includes, but is not limited to,  
30 electronic readers, mobile phones, portable tablets, battery-powered digital picture frames; and

31 (2) a television or signage display.

32 “Deep-dimming fluorescent lamp ballast”, a fluorescent ballast that is capable of  
33 operating lamps in dimmed operating modes at any number of levels at or below 50 per cent of

34 full output, which is designed to operate 1, 2, 3 or 4 T5 or T8 4-foot linear or U-shape  
35 fluorescent lamps.

36 “Dual-flush effective flush volume”, the average flush volume of 2 reduced flushes and 1  
37 full flush.

38 “Dual-flush water closet”, a tank-type water closet incorporating a feature that allows the  
39 user to flush the water closet with either a reduced or a full volume of water.

40 SECTION 3. Said section 2 of said chapter 25B, as so appearing, is hereby further  
41 amended by striking out the definition of “High-intensity discharge lamp”.

42 SECTION 4. Said section 2 of said chapter 25B, as so appearing, is hereby further  
43 amended by inserting after the definition of “Electricity Ratio (ER)” the following 3 definitions:-

44 “Faucet”, a lavatory faucet, kitchen faucet, metering faucet or replacement aerator for a  
45 lavatory or kitchen faucet.

46 “Flow rate”, the rate of water flow of a plumbing fitting.

47 “Fluorescent lamp”, a low-pressure mercury electric-discharge source in which a  
48 fluorescing coating transforms some of the ultraviolet energy generated by the mercury discharge  
49 into light, and includes only straight-shaped lamps with medium bipin bases of nominal overall  
50 length of 48 inches and rated wattage of 25 or more.

51 SECTION 5. Said section 2 of said chapter 25B, as so appearing, is hereby further  
52 amended by inserting after the definition of “F96T12 Lamp” the following 3 definitions:-

53 “General service lamp”, a lamp that: (a) has an ANSI base; (b) is able to operate at a  
54 voltage of 12 volts or 24 volts, at or between 100 to 130 volts, at or between 220 to 240 volts or  
55 277 volts for integrated lamps, or is able to operate at any voltage for non-integrated lamps; (c)  
56 has an initial lumen output of greater than or equal to 310 lumens, or 232 lumens for modified  
57 spectrum general service incandescent lamps, and less than or equal to 3,300 lumens; (d) is not a  
58 light fixture; (e) is not an LED downlight retrofit kit; and (f) is used in general lighting  
59 applications. General service lamps shall include, but shall not be limited to, general service  
60 incandescent lamps, compact fluorescent lamps, general service light-emitting diode lamps and  
61 general service organic light-emitting diode lamps. General service lamps shall not include:

62 (1) appliance lamps;

63 (2) black light lamps;

64 (3) bug lamps;

65 (4) colored lamps;

66 (5) G shape lamps with a diameter of 5 inches or more as defined in ANSI C79.1–2002;

67 (6) general service fluorescent lamps;

68 (7) high intensity discharge lamps;

69 (8) infrared lamps;

70 (9) J, JC, JCD, JCS, JCV, JCX, JD, JS and JT shape lamps that do not have Edison screw  
71 bases;

72 (10) lamps that have a wedge base or prefocus base;

- 73 (11) left-hand thread lamps;
- 74 (12) marine lamps;
- 75 (13) marine signal service lamps;
- 76 (14) mine service lamps;
- 77 (15) MR shape lamps that have a first number symbol equal to 16 (diameter equal to 2  
78 inches) as defined in ANSI C79.1–2002, operate at 12 volts and have a lumen output greater than  
79 or equal to 800;
- 80 (16) other fluorescent lamps;
- 81 (17) plant light lamps;
- 82 (18) R20 short lamps;
- 83 (19) reflector lamps that have a first number symbol less than 16 (diameter less than 2  
84 inches) as defined in ANSI C79.1–2002 and that do not have E26/E24, E26d, E26/50x39,  
85 E26/53x39, E29/28, E29/53x39, E39, E39d, EP39 or EX39 bases;
- 86 (20) S shape or G shape lamps that have a first number symbol less than or equal to 12.5  
87 (diameter less than or equal to 1.5625 inches) as defined in ANSI C79.1–2002;
- 88 (21) sign service lamps;
- 89 (22) silver bowl lamps;
- 90 (23) showcase lamps;
- 91 (24) specialty MR lamps;

92 (25) T shape lamps that have a first number symbol less than or equal to 8 (diameter less  
93 than or equal to 1 inch) as defined in ANSI C79.1–2002 and nominal overall length less than 12  
94 inches; or

95 (26) traffic signal lamps.

96 “High color rendering index fluorescent lamp”, a fluorescent lamp with a color rendering  
97 index of 87 or greater.

98 “High-intensity discharge lamp”, a lamp in which light is produced by the passage of an  
99 electric current through a vapor or gas and in which the light-producing arc is stabilized by bulb  
100 wall temperature and the arc tube has a bulb wall loading in excess of 3 watts per square  
101 centimeter.

102 SECTION 6. Said section 2 of said chapter 25B, as so appearing, is hereby further  
103 amended by inserting after the definition of “New appliance” the following 4 definitions:-

104 “On demand”, when the water cooler heats water as it is requested.

105 “Plumbing fitting”, a device that controls and guides the flow of water in a supply  
106 system.

107 “Plumbing fixture”, an exchangeable device, which connects to a plumbing system to  
108 deliver and drain away water and waste.

109 “Portable electric spa”, a factory-built electric spa or hot tub which may or may not  
110 include any combination of integral controls, water heating or water circulating equipment.

111 SECTION 7. Said section 2 of said chapter 25B, as so appearing, is hereby further  
112 amended by inserting after the definition of “Probe-start metal halide ballast” the following  
113 definition:-

114 “Public lavatory faucet”, a fitting intended to be installed in nonresidential bathrooms.

115 SECTION 8. Said section 2 of said chapter 25B, as so appearing, is hereby further  
116 amended by inserting after the definition of “Refrigerator-freezer” the following definitions:-

117 “Replacement aerator”, an aerator sold as a replacement, separate from the faucet to  
118 which it is intended to be attached.

119 SECTION 9. Said section 2 of said chapter 25B, as so appearing, is hereby further  
120 amended by inserting after the definition of “Residential furnace or boiler” the following  
121 definition:-

122 “Showerhead”, a device through which water is discharged for a shower bath and  
123 includes a body sprayer and handheld showerhead, but does not include a safety showerhead.

124 SECTION 10. Said section 2 of said chapter 25B, as so appearing, is hereby further  
125 amended by inserting after the definition of “Single-voltage external AC to DC power supply”  
126 the following 2 definitions:-

127 “Small-diameter directional lamp”, a lamp, including incandescent filament, LED and  
128 any other lighting technology, that meets all of the following criteria; provided however, that a  
129 small-diameter directional lamp shall not include a “general service lamp”:

130 (1) is capable of operation at 12 volts, 24 volts or 120 volts;



- 131 (2) has an ANSI ANSLG C81.61–2009 (R2014) compliant pin base or E26 base;
- 132 (3) is a non-tubular directional lamp with a diameter of less than or equal to 2.25 inches;
- 133 (4) has a lumen output of less than or equal to 850 lumens or has a wattage of 75 watts or
- 134 less; and
- 135 (5) has a rated life greater than 300 hours.

136 “Standby power”, the average power in standby mode, measured in watts.

137 SECTION 11. Said section 2 of said chapter 25B, as so appearing, is hereby further

138 amended by inserting after the definition of “State plumbing code” the following definition:-

139 “Storage-type”, thermally conditioned water that is stored in a tank in the water cooler

140 and is available instantaneously, including, but not limited to, point of use, dry storage

141 compartment and bottled water coolers.

142 SECTION 12. Said section 2 of said chapter 25B, as so appearing, is hereby further

143 amended by inserting after the definition of “Transformer” the following 4 definitions:-

144 “Trough-type urinal”, a urinal designed for simultaneous use by 2 or more persons.

145 “Urinal”, a plumbing fixture that receives only liquid body waste and conveys the waste

146 through a trap into a drainage system.

147 “Water closet”, a plumbing fixture with a water-containing receptor that receives liquid

148 and solid body waste and upon actuation conveys the waste through an exposed integral trap into

149 a drainage system.

150           “Water cooler”, a freestanding device that consumes energy to cool or heat potable water;  
151 provided however, that such device is not wall-mounted, under-sink or otherwise building  
152 integrated.

153           SECTION 13. Said section 2 of said chapter 25B, as so appearing, is hereby further  
154 amended by inserting after the definition of “Water heater” the following definition:-

155           “Water use”, the quantity of water flowing through a showerhead, faucet, water closet or  
156 urinal at point of use.

157           SECTION 14. Section 3 of said chapter 25B, as so appearing, is hereby amended by  
158 inserting after clause (j) the following 10 clauses:-

159           (k) commercial hot-food holding cabinets.

160           (l) computers and computer monitors.

161           (m) deep-dimming fluorescent lamp ballasts.

162           (n) general service lamps.

163           (o) high CRI fluorescent lamps.

164           (p) plumbing fittings.

165           (q) plumbing fixtures.

166           (r) portable electric spas.

167           (s) small-diameter directional lamps.

168           (t) water coolers.

169 SECTION 15. Section 5 of said chapter 25B, as so appearing, is hereby amended by  
170 striking out the words, in line 24, “clauses (f) to (s)” and inserting in place thereof the following  
171 words:- clauses (f) to (t).

172 SECTION 16. The third paragraph of said section 5 of said chapter 25B, as so appearing,  
173 is hereby amended by adding after clause (5) the following 10 clauses:-

174 (6) Commercial hot-food holding cabinets with an interior volume of 8 cubic feet or  
175 greater shall have a maximum idle energy rate of 40 watts per cubic foot of interior volume, as  
176 determined by the idle energy rate-dry test in ASTM Standard F2140-11, “Test Method for the  
177 Performance of Hot Food Holding Cabinets,” published by ASTM International. Interior volume  
178 shall be measured as prescribed in Version 2.0 of the ENERGY STAR program product  
179 specifications for commercial hot-food holding cabinets.

180 (7) Computers and computer monitors shall meet the requirements of section 1605.3 of  
181 Title 20 of the California Code of Regulations, as adopted on December 14, 2016, as measured  
182 in accordance with test methods prescribed in section 1604 of those regulations.

183 (8) Deep-dimming fluorescent lamp ballasts shall meet the requirements of section  
184 1605.3 of Title 20 of the California Code of Regulations, as measured in accordance with test  
185 methods prescribed in section 1604 of those regulations.

186 (9) General service lamps shall meet or exceed a lamp efficacy of 45 lumens per watt,  
187 when tested in accordance with the applicable federal test methods for general service lamps,  
188 prescribed in Appendices R, W, BB and DD to Subpart B of Part 430 of Title 10 of the Code of  
189 Federal Regulations.

190 (10) High CRI fluorescent lamps shall meet the following requirements when tested in  
191 accordance with the test procedure prescribed in Appendix R to Subpart B of Part 430 of Title 10  
192 of the Code of Federal Regulations:

193 (a) The minimum average lamp efficacy (lumens/watt) of high CRI fluorescent lamps  
194 with a correlated color temperature less than or equal to 4,500 K shall meet or exceed 92.4; and

195 (b) The minimum average lamp efficacy (lumens/watt) of high CRI fluorescent lamps  
196 with a correlated color temperature greater than 4,500 K and less than or equal to 7,000 K shall  
197 meet or exceed 88.7.

198 (11) Plumbing fittings shall meet the following requirements:

199 (a) When tested in accordance with the flow rate test procedure prescribed in Appendix S  
200 to Subpart B of Part 430 of Title 10 of the Code of Federal Regulations: the flow rate of lavatory  
201 faucets and replacement aerators shall not be greater than 1.5 gallons per minute (hereafter  
202 referred to as gpm) at 60 pounds per square inch (hereafter referred to as psi); for sprayheads  
203 with independently controlled orifices and manual controls, the maximum flow rate of each  
204 orifice that manually turns on or off shall not exceed the maximum flow rate for a lavatory  
205 faucet; and for sprayheads with collectively controlled orifices and manual controls, the  
206 maximum flow rate of a sprayhead that manually turns on or off shall be the product of (i) the  
207 maximum flow rate for a lavatory faucet, and (ii) the number of component lavatories (rim space  
208 of the lavatory in inches (millimeters) divided by 20 inches [508 millimeters]);

209 (b) The flow rate of residential kitchen faucets and replacement aerators shall not be  
210 greater than 1.8 gpm with optional temporary flow of 2.2 gpm at 60 psi when tested in

211 accordance with the flow rate test procedure prescribed in Appendix S to Subpart B of Part 430  
212 of Title 10 of the Code of Federal Regulations; and

213 (c) The flow rate of public lavatory faucets and replacement aerators shall not be greater  
214 than 0.5 gpm at 60 psi when tested in accordance with the flow rate test procedure prescribed in  
215 Appendix S to Subpart B of Part 430 of Title 10 of the Code of Federal Regulations;

216 (d) The flow rate of showerheads shall not be greater than 2.0 gpm at 80 psi when tested  
217 in accordance with the flow rate test procedure prescribed in Appendix S to Subpart B of Part  
218 430 of Title 10 of the Code of Federal Regulations, effective on January 3, 2017.

219 (12) Plumbing fixtures shall meet the following requirements:

220 (a) The water consumption of urinals and water closets, other than those designed and  
221 marketed exclusively for use at prisons or mental health care facilities, shall be no greater than  
222 the values shown in items (a)(ii)(A) through (a)(ii)(D) when tested in accordance with the:

223 (i) Water consumption test prescribed in Appendix T to Subpart B of Part 430 of Title 10  
224 of the Code of Federal Regulations.

225 (ii) Waste extraction test for water closets (Section 7.10) of ASME A112.19.2/CSA  
226 B45.1-2013.

227 (A) Trough-type urinals shall have a maximum flush volume equal to or less than the  
228 product of the maximum flush volume of a urinal and the length of the trough-type urinal in  
229 inches (millimeters) divided by 16 inches (406 millimeters).

230 (B) Urinals shall have a maximum flush volume of 0.5 gallons per flush.

231 (C) Water closets, except for dual-flush tank-type water closets, shall have a maximum  
232 flush volume of 1.28 gallons per flush.

233 (D) Dual-flush tank-type water closets shall have a maximum effective flush volume of  
234 1.28 gallons per flush.

235 (13) Portable electric spas shall meet the requirements of the American National  
236 Standard for Portable Electric Spa Energy Efficiency (ANSI/APSP/ICC-14 2014), as approved  
237 on September 12, 2014.

238 (14) Small-diameter directional lamps shall have a rated life of 25,000 hours or greater  
239 when tested in accordance with the test methods in Table K-1 of the California Code of  
240 Regulations, section 1604, and meet one of the following requirements:

241 (a) have luminous efficacy of at least 80 lumens per watt; or

242 (b) have a minimum luminous efficacy of 70 lumens per watt or greater and a minimum  
243 compliance score of 165 or greater, where compliance is calculated as the sum of the luminous  
244 efficacy and CRI.

245 (15) Water coolers shall have on mode with no water draw energy consumption, a test  
246 that records the 24-hour energy consumption of a water cooler with no water drawn during the  
247 test period, less than or equal to the following, as measured in accordance with the test criteria  
248 prescribed in Version 2.0 of the ENERGY STAR program product specifications for water  
249 coolers:

250 (a) 0.16 kilowatt-hours per day for cold-only and cook-and-cold units;

251 (b) 0.87 kilowatt-hours per day for hot-and-cold units—storage type; and

252 (c) 0.18 kilowatt-hours per day for hot and cold units—on demand.

253 SECTION 17. Said section 5 of said chapter 25B, as so appearing, is hereby further  
254 amended by inserting after the fourth paragraph the following paragraph:-

255 On or after January 1, 2020, no commercial hot-food holding cabinet, computer or  
256 computer monitor, deep-dimming fluorescent ballast, lavatory faucet, kitchen faucet, public  
257 lavatory faucet, portable electric spa, replacement aerator, showerhead, small-diameter  
258 directional lamp or general service lamp, urinal, water closet, water cooler or high CRI  
259 fluorescent lamp may be sold or offered for sale in the state unless the efficiency of the new  
260 product meets or exceeds the efficiency standards set forth in the regulations adopted pursuant to  
261 this section.

262 SECTION 18. Section 9 of said chapter 25B, as so appearing, is hereby amended by  
263 inserting after the first paragraph the following paragraph:-

264 If any of the energy or water conservation standards issued or approved for publication  
265 by the Office of the United States Secretary of Energy as of January 19, 2017 pursuant to the  
266 Energy Policy and Conservation Act, 10 C.F.R. §§ 430-431, are withdrawn, repealed or  
267 otherwise voided, the minimum energy or water efficiency level permitted for products  
268 previously subject to federal energy or water conservation standards shall be the previously  
269 applicable federal standards and no such product may be sold or offered for sale in the state  
270 unless it meets or exceeds such standards.