

**HOUSE . . . . . No. 3404**

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**The Commonwealth of Massachusetts**

PRESENTED BY:

***Frank I. Smizik***

*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 relative to expanding resource efficiency in the Commonwealth.

PETITION OF:

NAME:	DISTRICT/ADDRESS:	DATE ADDED:
<i>Frank I. Smizik</i>	<i>15th Norfolk</i>	<i>1/20/2017</i>
<i>James B. Eldridge</i>	<i>Middlesex and Worcester</i>	
<i>Marjorie C. Decker</i>	<i>25th Middlesex</i>	
<i>John W. Scibak</i>	<i>2nd Hampshire</i>	
<i>Josh S. Cutler</i>	<i>6th Plymouth</i>	
<i>Michael D. Brady</i>	<i>Second Plymouth and Bristol</i>	
<i>Solomon Goldstein-Rose</i>	<i>3rd Hampshire</i>	
<i>Paul R. Heroux</i>	<i>2nd Bristol</i>	

**HOUSE . . . . . No. 3404**

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[SIMILAR MATTER FILED IN PREVIOUS SESSION  
SEE HOUSE, NO. 755 OF 2015-2016.]

**The Commonwealth of Massachusetts**

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**In the One Hundred and Ninetieth General Court  
(2017-2018)**  
\_\_\_\_\_

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, as so appearing in the 2014 Official Edition, is  
2 hereby amended by inserting after the definition of “Central furnace” the following definitions:-

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

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

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

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

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

21 (2) 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” means an analog or digital device of size greater than or equal to 17  
25 inches and less than or equal to 61 inches, that has a pixel density of greater than 5,000 pixels per  
26 square inch, and that is designed primarily for the display of computer-generated signals for  
27 viewing by one person in a desk-based environment. A computer monitor is composed of a  
28 display screen and associated electronics. A computer monitor does not include:

29 (1) displays with integrated or replaceable batteries designed to support primary  
30 operation without AC mains or external DC power (e.g., electronic readers, mobile phones,  
31 portable tablets, battery-powered digital picture frames); and

32 (2) a television or signage display.

33 “Deep-dimming fluorescent lamp ballast” means a fluorescent ballast that is capable of  
34 operating lamps in dimmed operating modes at any number of levels at or below 50% of full  
35 output. The term shall only apply to lamp ballasts designed to operate one, two, three, or four T5  
36 or T8 4-foot linear or U-shape fluorescent lamps.

37 “Dual-flush effective flush volume” means the average flush volume of two reduced  
38 flushes and one full flush.

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

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

43

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

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

47 “Fluorescent lamp” means 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 the following:

50 (1) Any straight-shaped lamp (commonly referred to as 4-foot medium bipin lamps) with  
51 medium bipin bases of nominal overall length of 48 inches and rated wattage of 25 or more.

52 SECTION 4. Said section 2 of chapter 25B, as so appearing, is hereby further amended  
53 by inserting after the definition of “F96T12 Lamp” the following definitions:-

54 “General service lamp” means a lamp that has an ANSI base; is able to operate at a  
55 voltage of 12 volts or 24 volts, at or between 100 to 130 volts, at or between 220 to 240 volts, or  
56 of 277 volts for integrated lamps, or is able to operate at any voltage for non-integrated lamps;  
57 has an initial lumen output of greater than or equal to 310 lumens (or 232 lumens for modified  
58 spectrum general service incandescent lamps) and less than or equal to 3,300 lumens; is not a  
59 light fixture; is not an LED downlight retrofit kit; and is used in general lighting applications.

60 General service lamps include, but are not limited to, general service incandescent lamps,  
61 compact fluorescent lamps, general service light-emitting diode lamps, and general service  
62 organic light-emitting diode lamps. General service lamps do not include:

63 (1) Appliance lamps;

64 (2) Black light lamps;

65 (3) Bug lamps;

66 (4) Colored lamps;

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

68

69 (6) General service fluorescent lamps;

70 (7) High intensity discharge lamps;

71 (8) Infrared lamps;

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

74 (10) Lamps that have a wedge base or prefocus base;

75 (11) Left-hand thread lamps;

76 (12) Marine lamps;

77 (13) Marine signal service lamps;

78 (14) Mine service lamps;

79 (15) MR shape lamps that have a first number symbol equal to 16 (diameter equal to 2  
80 inches) as defined in ANSI C79.1–2002, operate at 12 volts, and have a lumen output greater  
81 than or equal to 800;

82 (16) Other fluorescent lamps;

83 (17) Plant light lamps;

84 (18) R20 short lamps;

85 (19) Reflector lamps that have a first number symbol less than 16 (diameter less than 2  
86 inches) as defined in ANSI C79.1–2002 and that do not have E26/E24, E26d, E26/50x39,  
87 E26/53x39, E29/28, E29/53x39, E39, E39d, EP39, or EX39 bases;

88 (20) S shape or G shape lamps that have a first number symbol less than or equal to 12.5  
89 (diameter less than or equal to 1.5625 inches) as defined in ANSI C79.1–2002;

90 (21) Sign service lamps;

91 (22) Silver bowl lamps;

92 (23) Showcase lamps;

93 (24) Specialty MR lamps;

94 (25) T shape lamps that have a first number symbol less than or equal to 8 (diameter less  
95 than or equal to 1 inch) as defined in ANSI C79.1–2002, nominal overall length less than 12  
96 inches, and that are not compact fluorescent lamps (as defined in this section);

97 (26) Traffic signal lamps;

98 “High color rendering index fluorescent lamp” means a fluorescent lamp with a color  
99 rendering index of 87 or greater.

100 SECTION 5. Said section 2 of chapter 25B, as so appearing, is hereby further amended  
101 by inserting after the definition of “New appliance” the following definitions:-

102 “On demand” means the water cooler heats water as it is requested, which typically takes  
103 a few minutes to deliver.

104           “On mode with no water draw” means a test that records the 24-hour energy consumption  
105 of a water cooler with no water drawn during the test period.

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

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

110           “Portable electric spa”, a factory-built electric spa or hot tub, supplied with equipment  
111 for heating and circulating water.

112           SECTION 6. Said section 2 of chapter 25B, as so appearing, is hereby further amended  
113 by inserting after the definition of “Probe-start metal halide ballast” the following definition:-

114           “Public lavatory faucet” means a fitting intended to be installed in nonresidential  
115 bathrooms that are exposed to walk-in traffic.

116           SECTION 7. Said section 2 of chapter 25B, as so appearing, is hereby further amended  
117 by inserting after the definition of “Refrigerator-freezer” the following definitions:-

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

120           SECTION 8. Said section 2 of chapter 25B, as so appearing, is hereby further amended  
121 by inserting after the definition of “Residential furnace or boiler” the following definition:-

122           “Showerhead” means 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 9. Said section 2 of chapter 25B, as so appearing, is hereby further amended  
125 by inserting after the definition of “Single-voltage external AC to DC power supply” the  
126 following definitions:-

127 “Small-diameter directional lamp” means a lamp that meets all of the following criteria:

- 128 (1) Capable of operation at 12 volts, 24 volts, or 120 volts;
- 129 (2) Has an ANSI ANSLG C81.61–2009 (R2014) compliant pin base or E26 base;
- 130 (3) Is a non-tubular directional lamp with a diameter of less than or equal to 2.25  
131 inches;
- 132 (4) Has a lumen output of less than or equal to 850 lumens or has a wattage of 75  
133 watts or less; and
- 134 (5) Has a rated life greater than 300 hours.
- 135 (6) Small-diameter directional lamp includes incandescent filament, LED, and any other  
136 lighting technology.
- 137 (7) Is not a “general service lamp.”

138 “Standby power”, the average power in standby mode, measured in Watts.

139 SECTION 10. Said section 2 of chapter 25B, as so appearing, is hereby further amended  
140 by inserting after the definition of “State plumbing code” the following definition:-

141           “Storage-type” means thermally conditioned water is stored in a tank in the water cooler  
142 and is available instantaneously. Point of use, dry storage compartment, and bottled water  
143 coolers are included in this category.

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

146           “Trough-type urinal” means a urinal designed for simultaneous use by two or more  
147 persons.

148           “Urinal”, a plumbing fixture that receives only liquid body waste and conveys the waste  
149 through a trap into a drainage system.

150           “Water closet”, a plumbing fixture with a water-containing receptor that receives liquid  
151 and solid body waste and upon actuation conveys the waste through an exposed integral trap into  
152 a drainage system.

153           “Water cooler”, a freestanding (i.e., not wall mounted, under sink, or otherwise building  
154 integrated) device that consumes energy to cool and/or heat potable water.

155           (1)   ‘Cold only’ units dispense cold water.

156           (2)   ‘Hot and cold units’ dispense both hot and cold water. Some units also offer  
157 room-temperature water.

158           (3)   ‘Cook and cold units’ dispense both cold and room-temperature water.

159           SECTION 12. Said section 2 of chapter 25B, as so appearing, is hereby further amended  
160 by inserting after the definition of “Water heater” the following definitions:-

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

163 SECTION 13. Section 3 of chapter 25B of the General Laws, as so appearing, is hereby  
164 amended by inserting after subsection (j) the following 10 subsections:-

165 (k) commercial hot food holding cabinets.

166 (l) computers and computer monitors

167 (m) deep-dimming fluorescent lamp ballasts

168 (n) general service lamps

169 (o) high CRI fluorescent lamps

170 (p) plumbing fittings

171 (q) plumbing fixtures

172 (r) portable electric spas.

173 (s) small-diameter directional lamps

174 (t) water coolers.

175 SECTION 14. Section 5 of said chapter 25B of the General Laws, as so appearing, is  
176 hereby amended by striking out the words “clauses (f) to (s)” in line 23 and inserting in place  
177 thereof the words “clauses (f) to (t)”.

178 SECTION 15. Said section 5 of chapter 25B of the General Laws, as so appearing, is  
179 hereby amended by inserting the following subsections:-

180 (6) Commercial hot-food holding cabinets with an interior volume of 8 cubic feet or  
181 greater shall have a maximum idle energy rate of 40 watts per cubic foot of interior volume, as  
182 determined by the “idle energy rate-dry test” in ASTM Standard F2140-11, “Test Method for the  
183 Performance of Hot Food Holding Cabinets,” published by ASTM International. Interior volume  
184 shall be measured as prescribed in Version 2.0 of the ENERGY STAR program product  
185 specifications for commercial hot-food holding cabinets on which took effect on October 1,  
186 2011.

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

190 (8) Deep-dimming fluorescent lamp ballasts shall meet the requirements of Section  
191 1605.3 of Title 20 of the California Code of Regulations as in effect on January 3, 2017 as  
192 measured in accordance with test methods prescribed in Section 1604 of those regulations.

193 (9) General service lamps shall meet or exceed a lamp efficacy of 45 lumens per watt,  
194 when tested in accordance with the applicable federal test methods for general service lamps,  
195 prescribed in Appendices R, W, BB, and DD to Subpart B of Part 430 of Title 10 of the Code of  
196 Federal Regulations as in effect on January 3, 2017.

197 (10) High CRI fluorescent lamps shall meet the following requirements:

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

200           (2)     The minimum average lamp efficacy (lumens/watt) of high CRI fluorescent lamps  
201 with a correlated color temperature greater than 4,500 K and less than or equal to 7,000 K shall  
202 meet or exceed 88.7;

203           when tested in accordance with the test procedure prescribed in Appendix R to Subpart B  
204 of Part 430 of Title 10 of the Code of Federal Regulations—“Uniform Test Method for  
205 Measuring Average Lamp Efficacy (LE), Color Rendering Index (CRI), and Correlated Color  
206 Temperature (CCT) of Electric Lamps”—as in effect on January 3, 2017:

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

208           (1)     The flow rate of lavatory faucets and replacement aerators shall not be greater  
209 than 1.2 gpm at 60 pounds per square inch (psi). For sprayheads with independently controlled  
210 orifices and manual controls, the maximum flow rate of each orifice that manually turns on or off  
211 shall not exceed the maximum flow rate for a lavatory faucet. For sprayheads with collectively  
212 controlled orifices and manual controls, the maximum flow rate of a sprayhead that manually  
213 turns on or off shall be the product of (a) the maximum flow rate for a lavatory faucet and (b) the  
214 number of component lavatories (rim space of the lavatory in inches (millimeters) divided by 20  
215 inches [508 millimeters]);

216           (2)     The flow rate of kitchen faucets and replacement aerators shall not be greater than  
217 1.8 gpm with optional temporary flow of 2.2 gpm at 60 psi; and

218           (3)     The flow rate of public lavatory faucets and replacement aerators shall not be  
219 greater than 0.5 gpm at 60 psi;

220 when tested in accordance with the flow rate test procedure prescribed in Appendix S to  
221 Subpart B of Part 430 of Title 10 of the Code of Federal Regulations—“Uniform Test Method  
222 for Measuring the Water Consumption of Faucets and Showerheads” as in effect on January 3,  
223 2017.

224 (4) Showerheads shall meet:

225 (a) The U.S. EPA WaterSense specifications for showerheads, Version 1.0, which  
226 took effect on February 9, 2010.

227 (b) As measured in accordance with the test criteria prescribed in the WaterSense  
228 specifications for showerheads, Version 1.0 which took effect on February 9, 2010

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

230 (1) The water consumption of urinals and water closets, other than those designed  
231 and marketed exclusively for use at prisons or mental health care facilities, shall be no greater  
232 than the values shown in items (1)(b)(i) through (1)(b)(iv) when tested in accordance with the:

233 (a) Water consumption test prescribed in Appendix T to Subpart B of Part 430 of  
234 Title 10 of the Code of Federal Regulations—“Uniform Test Method for Measuring the Water  
235 Consumption of Water Closets and Urinals”—as in effect on January 3, 2017.

236 (b) Waste extraction test for water closets (Section 7.10) of ASME A112.19.2/CSA  
237 B45.1-2013.

238 (i) Trough-type urinals shall have a maximum gallons per flush of:

239 Trough length (in inches)

240

16

241 (ii) Wall-mounted urinals shall have a maximum flush volume of 0.125 gallons per  
242 flush. Other urinals shall have a maximum flush volume of 0.5 gallons per flush.

243 (iii) Water closets, except for dual-flush tank-type water closets, shall have a  
244 maximum flush volume of 1.28 gallons per flush.

245 (iv) Dual-flush tank-type water closets shall have a maximum effective flush volume  
246 of 1.28 gallons per flush.

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

250 (14) Small diameter directional lamps must have a rated life of 25,000 hours or greater  
251 and meet one of the following requirements:

252 (1) have luminous efficacy of at least 80 lumens per watt.

253 (2) have a minimum luminous efficacy of 70 lumens per watt or greater and a  
254 minimum compliance score of 165 or greater, where compliance is calculated as the sum of the  
255 luminous efficacy and CRI.

256 When tested in accordance with the test methods in Table K-1 of the California Code of  
257 Regulations, Section 1604 as in effect on January 3, 2017

258 (15) Water coolers shall have on mode with no water draw energy consumption less than  
259 or equal to:

- 260 (1) 0.16 kilowatt-hours per day for cold-only and cook and cold units
- 261 (2) 0.87 kilowatt-hours per day for hot and cold units—storage type; and
- 262 (3) 0.18 kilowatt-hours per day for hot and cold units—on demand,
- 263 as measured in accordance with the test criteria prescribed in Version 2.0 of the
- 264 ENERGY STAR program product specifications for water coolers which took effect on February
- 265 1, 2014.

266 SECTION 16. Said section 5 of said chapter 25B of the General Laws, as so appearing, is

267 hereby further amended by inserting, in line 78, after the figure “2008” the following: -

268 “On or after January 1, 2019, no commercial hot-food holding cabinet, deep-dimming

269 fluorescent ballast, lavatory faucet, kitchen faucet, public lavatory faucet, portable electric spa,

270 replacement aerator, showerhead, urinal, water closet, water cooler, or high CRI fluorescent

271 lamp may be sold or offered for sale in the state unless the efficiency of the new product meets

272 or exceeds the efficiency standards set forth in the regulations adopted pursuant to this section.

273 On or after July 1, 2019, no computer or computer monitor may be sold or offered for sale in the

274 state unless the efficiency of the new product meets or exceeds the efficiency standards set forth

275 in the regulations adopted pursuant to this section. On or after January 1, 2020, no small-

276 diameter directional lamp or general service lamp may be sold or offered for sale in the state

277 unless the efficiency of the new product meets or exceeds the efficiency standards set forth in the

278 regulations adopted pursuant to this section.”

279 SECTION 17. Section 9 of said chapter 25B of the General Laws, as so appearing, is

280 hereby amended by inserting after the first paragraph the following paragraph:-



281            “If any of the energy or water conservation standards issued or approved for publication  
282 by the Office of the United States Secretary of Energy as of January 19, 2017 pursuant to the  
283 Energy Policy and Conservation Act (10 C.F.R. §§ 430-431) are withdrawn, repealed or  
284 otherwise voided, the minimum energy or water efficiency level permitted for products  
285 previously subject to federal energy or water conservation standards shall be the previously  
286 applicable federal standards and no such product may be sold or offered for sale in the state  
287 unless it meets or exceeds such standards. This paragraph shall not apply to any federal energy or  
288 water conservation standard set aside by a court upon the petition of a person who will be  
289 adversely affected, as provided in 42 U.S.C. § 6306(b).”