
A BILL FOR AN ACT

RELATING TO STREET LIGHTING.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. The legislature finds that improperly aimed
2 lighting can produce unsafe conditions such as glare and deep
3 shadows and can contribute to light pollution of the night sky.
4 Whereas properly directed lighting can save in operation costs,
5 resulting in a more efficient use of tax dollars to pay for
6 state-funded light fixtures. The legislature further finds that
7 properly aimed lighting can minimize light trespass and
8 pollution, reduce glare, and improve the view of the night sky,
9 thereby preserving one of Hawaii's natural resources.

10 The legislature also finds that fully shielded lighting
11 units considerably reduce light pollution. The replacement of
12 unshielded lighting units with fully shielded lighting units can
13 result in the substantial lowering of the lamp wattage needed to
14 maintain an equivalent level of lighting on the ground, thereby
15 realizing a considerable energy savings to the State.
16 Therefore, it is in the public interest to require the use of
17 fully shielded lighting units to the maximum extent possible.



1 The purpose of this Act is to provide a regulatory strategy
2 for outdoor lighting that will:

3 (1) Curtail and reverse the degradation of the nighttime
4 environment and the night sky;

5 (2) Minimize glare, obtrusive light, and artificial sky
6 glow by limiting outdoor lighting that is misdirected,
7 excessive, or unnecessary;

8 (3) Permit reasonable uses of outdoor lighting for night-
9 time safety, utility, security, productivity,
10 enjoyment, and commerce;

11 (4) Conserve energy and resources to the greatest extent
12 possible; and

13 (5) Preserve the dark night sky for astronomy.

14 SECTION 2. Chapter 264, Hawaii Revised Statutes, is
15 amended by adding a new part to be appropriately designated and
16 to read as follows:

17 **"PART . SHIELDED HIGHWAY AND STREET LIGHTING FIXTURES**

18 **§264- Definitions.** As used in this part:

19 "Direct light" means light emitting generally in a downward
20 direction by a lamp, off a reflector or through a refractor of a
21 lighting unit.

1 "Fully shielded lighting unit" means a lighting unit that
2 is constructed in such a manner that all light emitted, either
3 directly from the lamp or indirectly by reflection or refraction
4 from any part of the lighting unit, is projected below the
5 horizontal plane of the lamp.

6 "Glare" means direct light emitted by a lighting unit that
7 causes reduced visibility of objects or momentary blindness.

8 "Lamp" means the component of a lighting unit that produces
9 light.

10 "Light pollution" means a general sky glow caused by the
11 scattering of artificial light in the atmosphere.

12 "Lighting unit" means a complete lighting unit, including a
13 lamp or lamps together with the parts designed to distribute the
14 light, to position and protect the lamps and to connect the
15 lamps to the power supply.

16 "Lumen" means a specific standard unit of measurement of
17 luminous flux.

18 "Outdoor light fixtures" means outdoor artificial
19 illuminating devices, installed or portable, used for flood-
20 lighting, roadway and area lighting, general illumination or
21 advertisement.



1 "Partially shielded lighting unit" means a lighting unit
2 that is constructed in such a manner that more than zero but
3 less than ten per cent of the light emitted, either directly
4 from the lamp or indirectly by reflection or refraction from any
5 part of the lighting unit, is projected above the horizontal
6 plane of the lamp.

7 "Permanent outdoor lighting unit" means any fixed lighting
8 unit or system of lighting units that is outdoors and that is
9 intended to be used for seven days or longer.

10 "Roadway lighting" means permanent outdoor lighting units
11 that are specifically intended to illuminate roadways for
12 automotive vehicles.

13 "Unshielded lighting unit" means a lighting unit that is
14 constructed in such a manner that more than ten per cent of the
15 light emitted, either directly from the lamp or indirectly by
16 reflection or refraction from any part of the lighting unit, is
17 projected above the horizontal plane of the lamp.

18 **§264- Highway and street lighting control.** (a) The
19 installation of any new or replacement permanent outdoor
20 lighting unit by the department of transportation for the
21 lighting of highways or streets shall meet the following
22 conditions:

1 (1) The new or replacement lighting unit permits are no
2 more than two per cent of the total lumen in the zone
3 of ninety to one hundred eighty degrees vertical angle
4 if the rated output of the lumen is greater than
5 thirty-two hundred lumens;

6 (2) The minimum lighting allowance specified by an
7 applicable recommendation or regulation shall be used.
8 The average minimum allowance adequate for the
9 intended purpose shall be used if no lighting
10 recommendation or regulation is applicable, giving
11 full consideration to energy conservation and glare;
12 and

13 (3) Adequate consideration shall be given to conserving
14 energy and minimizing glare and light pollution.

15 (b) The following shall be exempt from the requirements of
16 subsection (a):

17 (1) Where federal laws, rules, or regulations preempt
18 state laws or rules;

19 (2) Where fire, police, rescue, or repair personnel need
20 light for temporary emergencies or road repair work;

21 (3) Where there are special requirements, such as sports
22 facilities, historic decorative considerations, or

1 flag or monument lighting. All such lighting shall be
2 selected and installed to shield the lamp or lamps
3 from direct view to the greatest extent possible and
4 to minimize upward lighting and light pollution;

5 (4) Where there is substantial nighttime pedestrian
6 traffic in an urban area and an engineer experienced
7 in outdoor lighting has deemed it necessary to permit
8 the installation of partially shielded lighting units;
9 and

10 (5) Where it has been determined that a reasonable safety
11 and security interest exists that cannot be addressed
12 by another method without increasing the cost or
13 reducing the effectiveness of the lighting.

14 **§264- Rules.** The department of transportation shall
15 adopt rules for the efficient implementation of this part."

16 SECTION 3. Chapter 46, Hawaii Revised Statutes, is amended
17 by adding a new section to part I to be appropriately designated
18 and to read as follows:

19 "§46- Highway and street lighting; standards. The
20 installation of new lighting units and the replacement of
21 existing lighting units for highways and streets under the

1 control of a county shall be in accordance with part of
2 chapter 264."

3 SECTION 4. (a) Not later than December 31, 2007, the
4 department of transportation shall establish an implementation
5 plan to retrofit all highway and street lighting units
6 maintained by the department of transportation to the standards
7 established under this Act. The implementation of the
8 retrofitting plan shall be completed by December 31, .

9 (b) The department of transportation shall submit a report
10 containing the implementation plan required under this section
11 to the legislature not later than twenty days prior to the
12 convening of the 2008 regular session. The department of
13 transportation shall also submit an annual report to each
14 succeeding legislature not later than twenty days prior to the
15 convening of each subsequent regular session on the status of
16 retrofitting the highway and street lighting units maintained by
17 the department of transportation to the standards established
18 under this Act. The department of transportation shall submit a
19 final report on its completion of the retrofitting process
20 required under this section no later than twenty days prior to
21 the convening of the regular session.

22 SECTION 5. New statutory material is underscored.

1 SECTION 6. This Act shall take effect upon its approval.

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HB 2264

Report Title:

Fully Shielded Street Lighting Fixtures; Required

Description:

Requires the State to install fully shielded lighting fixtures when replacing highway and street lights. Requires the counties to follow the same lighting standards as the State when installing new highway or street lights or replacing existing ones.

