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ENVIRONMENTAL PROTECTION

HOUSE FILE 2141
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BUKTA, and STEVENS

Passed House, Date _____ Passed Senate, Date _____
Vote: Ayes _____ Nays _____ Vote: Ayes _____ Nays _____
Approved _____

A BILL FOR

1 An Act relating to outdoor light fixture efficiency and local
2 goals and regulations for outdoor light fixture efficiency.
3 BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF IOWA:

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HF 2141

1 Section 1. NEW SECTION. 459.1 OUTDOOR LIGHT FIXTURE
2 EFFICIENCY -- DEFINITIONS.

3 As used in this section unless the context otherwise
4 requires:

- 5 1. "Celestial objects" means stars, constellations, the
6 milky way, meteors, comets, the northern lights, star
7 clusters, nebulae, galaxies, the moon, and the planets.
- 8 2. "Full cutoff" means no more than one-tenth of a percent
9 of the total light emitted by a fixture is emitted above a
10 horizontal plane through the lowest part of the fixture.
- 11 3. "Glare" means light from a light source that draws
12 attention to the light source itself rather than to what the
13 light source is illuminating, and that causes visual
14 discomfort, eye fatigue, or a loss in visual performance.
- 15 4. "Light pollution" means the obtrusive elements of
16 outdoor lighting, namely upright, glare, light trespass, and
17 excessive light levels.
- 18 5. "Light trespass" means light that shines into or onto
19 neighboring properties, and is of an intrusive and
20 objectionable nature.
- 21 6. "Night sky" means the sky overhead on a clear night.
- 22 7. "Outdoor light fixture" means an electricity powered
23 illuminating device which is permanently installed outdoors
24 containing a total light source of more than one thousand
25 eight hundred lumens per fixture.
- 26 8. "Terrestrial light" means light produced by electric
27 light sources.
- 28 9. "Uplight" means light that goes directly up into the
29 night sky from a light fixture.

30 Sec. 2. NEW SECTION. 459.2 FINDINGS.

31 The general assembly makes all of the following findings:

- 32 1. The night sky is an important part of the natural
33 heritage of the citizens of this state and steps should be
34 taken to minimize the amount of terrestrial light that shines
35 up into the night sky. Uplight from terrestrial light sources

1 is wasteful and has made it increasingly difficult for the
2 citizens of the state to enjoy the night sky because celestial
3 objects are obscured.

4 2. Outdoor light fixtures that produce uplight usually
5 also produce glare. Outdoor light fixtures that do not
6 produce uplight generally do not produce much glare. Glare
7 often hinders visibility and produces a cluttered,
8 unattractive nighttime environment. Glare should be kept to a
9 minimum. Light that leaves a fixture in or near the
10 horizontal plane through the lowest part of the fixture
11 produces glare.

12 3. Outdoor light fixtures should direct light only to
13 where the light is wanted or needed. When practicable,
14 outdoor light fixtures should produce light only when that
15 light is needed. This will result in energy savings, lower
16 operating costs, and more efficient utilization of the light.
17 Other benefits include improved night sky visibility, reduced
18 glare, improved safety and security due to better nighttime
19 visibility, and a more attractive environment.

20 4. The illuminating engineering society of North America
21 has recommended light levels for various outdoor lighting
22 applications. These light levels should not be exceeded.
23 Excessive light levels are unnecessary and wasteful and often
24 result in light which is obtrusive, causing glare, light
25 trespass, and uplight.

26 5. Uplight, glare, light trespass, and excessive light
27 levels all constitute light pollution. Steps must be taken
28 immediately to begin the long process of reducing light
29 pollution caused by outdoor lighting in this state.

30 Sec. 3. NEW SECTION. 459.3 LOCAL GOALS AND REGULATIONS.

31 By January 1, 2003, all political subdivisions of the state
32 shall take steps to address the obtrusive elements of outdoor
33 lighting through new or revised local ordinances. These
34 ordinances shall include any of the following:

35 1. Requirements that a high percentage of or all new and

1 replacement outdoor light fixtures be full cutoff outdoor
2 light fixtures.

3 2. Requirements that a high percentage of or all new and
4 replacement outdoor light fixtures emit no more than four
5 percent of their light in the zone from the horizontal plane
6 through the lowest part of the fixture to fifteen degrees
7 below the horizontal plane.

8 3. Set maximum allowable light levels for various outdoor
9 lighting applications based on illuminating engineering
10 society of North America recommendations.

11 4. Prohibition of outdoor lighting which shines or
12 reflects light onto or into a neighboring property, so as to
13 annoy or disturb the persons inhabiting such neighboring
14 property, as constituting a nuisance.

15 5. Require electric utilities serving rural customers to
16 offer as an option, if not required as in subsection 1, full
17 cutoff outdoor light fixtures to their customers for dusk-to-
18 dawn security lights.

19 EXPLANATION

20 This bill relates to outdoor light fixture efficiency and
21 goals for local regulations regarding outdoor light
22 efficiency.

23 The bill lists the following legislative findings:

24 1. The night sky, defined as the sky overhead on a clear
25 night, is important to the citizens and uplight, defined as
26 light that goes directly up into the night sky from a light
27 fixture, is wasteful.

28 2. Glare, defined as light from a light source that draws
29 attention to the light source itself rather than to what the
30 light source is illuminating and that causes visual
31 discomfort, eye fatigue, or a loss of visual performance,
32 hinders visibility and should be kept to a minimum.

33 3. Outdoor light fixtures should direct light only to
34 where the light is wanted and should only produce light when
35 that light is needed.

1 4. The illuminating engineering society of North America
2 has recommended light levels for various outdoor lighting
3 applications and these light levels should not be exceeded.

4 5. Steps must be taken to reduce light pollution, defined
5 as obtrusive elements of outdoor lighting.

6 The bill provides that by January 1, 2003, all political
7 subdivisions of the state shall take steps to address the
8 obtrusive elements of outdoor lighting through new or revised
9 local ordinances. These ordinances shall include any of the
10 following:

11 1. Requirements that new and replacement light fixtures be
12 full cutoff.

13 2. Recommendations for new and replacement light fixtures
14 to emit no more than 4 percent of their light in the zone from
15 the horizontal plane through the lowest part of the fixture to
16 15 degrees below the horizontal plane.

17 3. Set maximum allowable light levels for various outdoor
18 lighting applications based on illuminating engineering
19 society of North America recommendations.

20 4. Prohibitions of outdoor lighting which shines or
21 reflects light onto or into a neighboring property, so as to
22 annoy or disturb the persons inhabiting such neighboring
23 property as constituting a nuisance.

24 5. Require electric utilities serving rural customers to
25 offer as an option, if not otherwise required, full cutoff
26 light fixtures to their customers for dusk-to-dawn security
27 lights.

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