

1 State of Arkansas As Engrossed: H2/18/19 H2/21/19 H2/27/19

2 92nd General Assembly

A Bill

3 Regular Session, 2019

HOUSE BILL 1309

4

5 By: Representative S. Meeks

6

7

For An Act To Be Entitled

8

AN ACT TO CREATE THE ARKANSAS NIGHTTIME ENVIRONMENT
9 PROTECTION ACT; AND FOR OTHER PURPOSES.

10

11

12

Subtitle

13

TO CREATE THE ARKANSAS NIGHTTIME
14 ENVIRONMENT PROTECTION ACT.

15

16

17 BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

18

19 SECTION 1. DO NOT CODIFY. Findings.

20 The General Assembly finds that:

21 (1) Energy is wasted when methods of illumination are used
22 excessively and inefficiently;

23 (2) The wasteful use of energy is not a cost-effective use of
24 taxpayer money and adds unnecessary pollutants to our environment from the
25 energy generation;

26 (3)(A) Light pollution has been implicated in disruption of the
27 human and animal circadian rhythm and strongly suspected as an etiology of
28 suppressed melatonin production, depressed immune systems, and increases in
29 certain cancer rates.

30 (B) The findings set out in subdivision (2)(A) of this
31 section prompted the American Medical Association in June 2009 to adopt a
32 resolution advocating the reduction of light pollution and glare through the
33 use of energy-efficient and shielded lighting;

34 (4) Light pollution disrupts nocturnal animal activity, which
35 results in diminished health and survival of various animal and plant
36 populations;



1 (5) Light pollution reduces the ability for Arkansans to enjoy
2 recreational or educational astronomical observations of the starry night
3 sky;

4 (6) Light pollution reduces the ability for Arkansas scientists
5 to conduct scientific research of the cosmos;

6 (7) Inefficient luminaries may cast unwanted light outside the
7 intended target area, creating light trespass; and

8 (8) It is in the public interest to reduce light pollution to
9 protect the nighttime environment and create awareness of the need to reduce
10 light pollution.

11
12 SECTION 2. Arkansas Code Title 8, Chapter 14, is amended to read as
13 follows:

14 Chapter 14

15 ~~Shielded Outdoor Lighting Act~~ Arkansas Nighttime Environment Protection Act

16
17 8-14-101. Title.

18 This chapter shall be known and may be cited as the "~~Shielded Outdoor~~
19 ~~Lighting Act~~" "Arkansas Nighttime Environment Protection Act".

20
21 8-14-102. Purpose.

22 The purpose of this chapter is to ~~conserve energy and preserve the~~
23 ~~environment through the regulation of outdoor lighting fixtures~~ regulate
24 outdoor night lighting fixtures to promote safety, conserve energy, save tax
25 dollars, and preserve the state's natural nighttime environment for astronomy
26 and the health and welfare of the state's citizens and wildlife.

27
28 8-14-103. Definitions.

29 As used in this chapter:

30 ~~(1) "Outdoor lighting fixture" means an automatically~~
31 ~~controlled, outdoor artificial illuminating device, whether permanent or~~
32 ~~portable, used for illumination or advertisement, including searchlights,~~
33 ~~spotlights, and floodlights, whether for architectural lighting, parking lot~~
34 ~~lighting, landscape lighting, billboards, or street lighting; and~~

35 ~~(2) "Shielded" means a fixture that is covered in a manner that~~
36 ~~light rays emitted by the fixture, either directly from the lamp or~~

1 ~~indirectly from the fixture, are projected below a horizontal plane running~~
2 ~~through the lowest point on the fixture where light is emitted.~~

3 (1) "Direct light" means light emitted directly from a light
4 source, off a reflector, or through a refractor or lens of a fixture;

5 (2)(A) "Electronic message center" means a self-luminous sign
6 that emits or projects any kind of light, color, or message that is computer-
7 generated or electronically generated.

8 (B) "Electronic message center" includes without
9 limitation displays using lamps, light-emitting diodes, liquid crystal
10 displays, or a flipper matrix and any sign that creates an image using an
11 array of picture elements or pixels;

12 (3) "Excessive cost" means:

13 (A) The cost to meet a requirement under this chapter or
14 the cost of additional wiring, controls, power requirements, poles,
15 materials, and commissioning, designing, and maintenance needed to meet a
16 requirement under this chapter that is at least one hundred twenty-five
17 percent (125%) more expensive than a nonconforming fixture; or

18 (B) In the case of a tariff on a streetlight, the tariff
19 for the streetlight for a conforming fixture is more expensive than the
20 tariff for a nonconforming fixture;

21 (4) "Fixture" means a complete lighting unit, including without
22 limitation a light source together with the parts designed to distribute the
23 light, to position and protect the light source, and to connect the light
24 source to the power supply;

25 (5) "Fully shielded" means a fixture that does not allow light
26 emissions, either directly from a light source or indirectly by reflection or
27 refraction from any part of the lighting unit, above a horizontal plane
28 running through the lowest point on the fixture where light is emitted;

29 (6) "Glare" means the effect produced by luminances within the
30 visual field that is sufficiently greater than the luminance to which the
31 eyes are adapted to cause annoyance, discomfort, or loss of visual
32 performance and visibility;

33 (7) "Governing body" means an agency director, elected official,
34 or a public body responsible for a fixture, including without limitation a
35 municipality, board, the Arkansas Department of Transportation, and the State
36 Highway Commission;

1 (8) "Illuminance" means the level of light measured on an
2 intercepting surface;

3 (9) "Lamp" means the component of a fixture that produces light;

4 (10) "Light pollution" means general sky glow caused by the
5 scattering of artificial light in the atmosphere;

6 (11) "Light trespass" means excessive or unreasonable light
7 emitted by a fixture that shines beyond the boundaries of the property on
8 which the fixture is located;

9 (12) "Lumen" means a unit of luminous flux emitted within a unit
10 solid angle by a point source with a uniform luminous intensity of one (1)
11 candela;

12 (13) "Lux" means a unit of illuminance that is equal to one (1)
13 lumen per square meter;

14 (14) "Partially shielded" means a fixture that is constructed so
15 that the bottom edge of the shield is below the plane of the center line of
16 the lamp, reducing light above the horizontal to less than twenty percent
17 (20%) of the light emitted from any part of the lighting unit;

18 (15) "Permanent outdoor fixture" means a fixture or system of
19 fixtures that is outdoors and intended to be used or is used for thirty (30)
20 days or longer; and

21 (16) "Public funds" means bond revenues or money appropriated or
22 allocated by the General Assembly, money raised through taxes or fees, and
23 county and municipal funds.

24
25 8-14-104. ~~Shielding—Prohibitions—Exemptions~~ Regulations for
26 outdoor illumination.

27 ~~(a) After January 1, 2006:~~

28 ~~(1)(A) No public funds shall be used to install an outdoor~~
29 ~~lighting fixture unless it is shielded.~~

30 ~~(B) Subdivision (a)(1)(A) of this section shall not apply~~
31 ~~to any municipality or county if the governing body of the municipality or~~
32 ~~county determines by ordinance or to a municipally owned utility if the~~
33 ~~municipal employee responsible for procurement determines that the cost of~~
34 ~~acquiring a shielded outdoor lighting fixture will be prohibitive after~~
35 ~~comparing:~~

36 ~~(i) The cost of the fixtures; and~~

1 ~~(ii) The projected energy cost of the operation of~~
2 ~~the fixtures;~~

3 ~~(2) The Arkansas Department of Environmental Quality shall~~
4 ~~promulgate regulations prohibiting any person or entity from knowingly~~
5 ~~placing or disposing of the bulb or tube portion of an electric lighting~~
6 ~~device containing hazardous levels of mercury in a landfill after January 1,~~
7 ~~2008, if:~~

8 ~~(A) The device contains more than two tenths milligram per~~
9 ~~liter (0.2 mg/l) of leachable mercury as measured by the Toxicity~~
10 ~~Characteristic Leaching Procedure as set out in EPA test Method 1311; and~~

11 ~~(B) Adequate facilities exist for the public to properly~~
12 ~~dispose of the device described in subdivision (a)(2)(A) of this section; and~~

13 ~~(3)(A) Each electric public utility shall offer a shielded~~
14 ~~lighting service option.~~

15 ~~(B) Not later than January 1, 2006, each electric public~~
16 ~~utility shall file an application with the Arkansas Public Service Commission~~
17 ~~to establish a schedule of rates and charges for the provision of a shielded~~
18 ~~lighting service option to the utility's customers.~~

19 ~~(C) The commission shall require each electric public~~
20 ~~utility to inform its customers of the availability of the shielded lighting~~
21 ~~service.~~

22 ~~(b) This chapter does not apply to acquisitions of:~~

23 ~~(1) Incandescent outdoor lighting fixtures of one hundred fifty~~
24 ~~watts (150W) or less or other light sources of seventy watts (70W) or less;~~

25 ~~(2) Outdoor lighting fixtures on advertisement signs on~~
26 ~~interstate or federal primary highways;~~

27 ~~(3)(A) Outdoor lighting fixtures existing and legally installed~~
28 ~~before August 12, 2005.~~

29 ~~(B) However, if an existing outdoor lighting fixture~~
30 ~~exempted from this chapter under subdivision (b)(3)(A) of this section needs~~
31 ~~to be replaced, the acquisition of the replacement outdoor lighting fixture~~
32 ~~shall be subject to the provisions of this chapter;~~

33 ~~(4) Navigational lighting systems at airports or other lighting~~
34 ~~necessary for aircraft safety; and~~

35 ~~(5) Outdoor lighting fixtures that are necessary for worker~~
36 ~~safety at farms, ranches, dairies, or feedlots or industrial, mining, or oil~~

1 ~~and gas facilities.~~

2 ~~(c) This chapter does not apply to outdoor lighting fixtures~~
3 ~~maintained or installed by:~~

4 ~~(1) A public school district;~~

5 ~~(2) A correctional facility;~~

6 ~~(3) A juvenile detention facility;~~

7 ~~(4) An adult detention facility;~~

8 ~~(5) A mental health facility; or~~

9 ~~(6) A state supported institution of higher education.~~

10 (a) A state agency, public corporation, county, or municipality shall
11 not use public funds to operate, maintain, install, or cause to be installed
12 a new or replacement permanent outdoor fixture unless the following
13 conditions are met:

14 (1) The permanent outdoor fixture is a fully shielded fixture
15 when the initial rated lumens of the lamp of the permanent outdoor fixture is
16 greater than one thousand eight hundred lumens (1,800 lm);

17 (2)(A) Consideration has been given to the use of public funds
18 for the goals of eliminating glare, light pollution, and light trespass,
19 reducing energy use, and preserving the natural light environment.

20 (B) The state agency, public corporation, county, or
21 municipality may use as guidance the guidelines for the illuminance of a
22 surface as recommended by the Illuminating Engineering Society of North
23 America, as the guidelines existed on January 1, 2019, or the minimum
24 illuminance recommendation by the United States Department of Transportation,
25 as the recommendation existed on January 1, 2019, as guidance; and

26 (3) The color temperature is four thousand kelvin (4,000K) or
27 less.

28 (b) Illuminated roadway signage installed or replaced after October 1,
29 2019, shall be illuminated from within or from above the roadway signage,
30 except when illumination of the roadway signage from within or above is not
31 possible or would create excessive cost or maintenance issues.

32 (c)(1) An electric utility shall not operate, maintain, install, or
33 cause to be installed a fixture for new or replacement residential or
34 commercial area lighting unless the following conditions are met:

35 (A) The fixture is a fully shielded or partially shielded
36 fixture when the initial rated lumens of the lamp of the fixture is greater

1 than one thousand eight hundred lumens (1,800 lm);

2 (B) The fixture is designed to maximize energy
3 conservation and to minimize light pollution, glare, and light trespass; and

4 (C) The color temperature is four thousand kelvin (4,000K)
5 or less.

6 (2) If a property owner purchases a fixture that does not
7 conform to the requirements of subdivision (c)(1) of this section from a
8 third party, the electric utility, at the electric utility's discretion, may
9 install, operate, and service the fixture.

10 (d) After taking into account all costs, including long-term costs,
11 associated with the operation and maintenance of a given fixture, the
12 Arkansas Public Service Commission shall ensure that the rate schedule for
13 public, residential, and commercial outdoor security and street lighting
14 published by an electric utility for fixtures that are better shielded, use
15 lower wattage, and require less maintenance, are properly reflective of the
16 long-term cost of the fixtures and the energy consumption of the fixtures
17 over the life of the fixtures.

18 (e) An entity that installs new or replacement street or outdoor
19 lighting on behalf of a state agency, public corporation, county, or
20 municipality or new or replacement street or outdoor lighting that will
21 become the responsibility of a state agency, public corporation, county, or
22 municipality shall comply with subsection (a) of this section.

23
24 ~~8-14-105. Penalties~~

25 ~~Violations of this chapter are punishable by:~~

26 ~~(1) A warning for a first offense; and~~

27 ~~(2) A fine of twenty five dollars (\$25.00) minus the replacement~~
28 ~~cost for each offending outdoor lighting fixture for a second or subsequent~~
29 ~~offense or for an offense that continues for thirty (30) calendar days from~~
30 ~~the date of the warning.~~

31
32 8-14-106. Enforcement.

33 ~~This chapter may be enforced by a town, city, or county of this state~~
34 ~~by seeking injunctive relief in a court of competent jurisdiction.~~

35 This chapter shall be enforced by:

36 (1) The governing body of a political subdivision of the state

1 within its jurisdiction; and

2 (2) A local code enforcement agency within the jurisdiction of
3 the governing body of a political subdivision of the state.

4 ~~8-14-107. Provisions supplemental~~

5 ~~The provisions of this chapter are cumulative and supplemental and~~
6 ~~shall not apply within a town, city, or county of this state that by~~
7 ~~ordinance has adopted provisions restricting light pollution that are equal~~
8 ~~to or more stringent than the provisions of this chapter.~~

9
10 8-14-108. Illuminated roadway signage – Electronic messaging centers.

11 (a) If roadway signage is illuminated with external fixtures:

12 (1) The external fixtures shall be directed and designed so that
13 a majority of the light falls upon the roadway sign's surface; and

14 (2) The external fixtures shall not create glare, light
15 trespass, or excessive amounts of light pollution.

16 (b)(1) Commercial and advertising roadway signage and devices,
17 including billboards and electronic message centers, installed or replaced
18 after October 1, 2019, that are within one-half (1/2) mile of and visible
19 from a highway system shall not prevent the driver of a vehicle from having a
20 clear and unobstructed view of official signs and approaching or merging
21 traffic.

22 (2) If a commercial and advertising roadway sign or device is
23 illuminated with an external fixture:

24 (A) The external fixture shall be directed and designed so
25 that a majority of the light falls upon the advertisement surface; and

26 (B) The external fixture does not create glare, light
27 trespass, or excessive amounts of light pollution.

28 (3) If a commercial and advertising roadway sign or device is an
29 electronic message center, the commercial and advertising roadway sign or
30 device shall:

31 (A) Be equipped with a sensor or other device that
32 automatically determines the ambient light conditions and is programmed to
33 automatically dim appropriately;

34 (B) Not be of an intensity or brilliance that may cause
35 glare or impair the vision of a driver of a motor vehicle, or otherwise
36 interfere with a driver's operation of a motor vehicle;

1 (C) Not change intensity or expose its message for less
2 than four (4) seconds; and

3 (D) Not exceed three luxes (3 lx) over the ambient light
4 as measured with an illuminance meter.

5 (4) A measurement required under this subsection shall:

6 (A) Not be made within thirty (30) minutes after sunset or
7 thirty (30) minutes before sunrise;

8 (B) Be taken from or as close as is practically possible
9 to directly in front of or perpendicular from the center point of the face of
10 the roadway signage from a height of five feet (5') or approximately the same
11 height as a driver's eye level;

12 (C) Be taken from or as close as is practically possible
13 to a distance from the roadway signage in feet equal to the square root of
14 the area of the commercial and advertising roadway sign or device in square
15 feet multiplied by one hundred (100);

16 (D) Be taken with the roadway signage displaying a solid
17 white image or if monochrome a solid image of the roadway signage's color;
18 and

19 (E) Be taken with the roadway signage on and compared to
20 the ambient light with the sign off.

21 (5) Under this subsection, roadway signage is considered visible
22 from the highway system if it or light emitting from it is plainly visible to
23 a driver of a vehicle who is proceeding in a legally designated direction and
24 traveling at the posted speed limit.

25 (6) Billboards and electronic message centers installed before
26 October 1, 2019, that are within one-half (1/2) mile of and visible from a
27 highway system shall be brought into compliance within five (5) years after
28 October 1, 2019.

29 (7) Remote sensing equipment shall not be installed on a sign
30 for the purpose of personalizing advertisements displayed on an electronic
31 message center.

32
33 8-14-109. Exemptions.

34 Section 8-14-104 does not apply if:

35 (1) A federal law, rule, or regulation preempts § 8-14-104;

36 (2) Fire, police, rescue, correctional, or medical personnel

1 need outdoor lighting for temporary emergencies not to exceed thirty (30)
2 days in duration unless a waiver is granted by the Director of the Arkansas
3 Department of Emergency Management;

4 (3) The outdoor lighting fixture is necessary for worker safety
5 and is used on a temporary basis for nighttime work, including without
6 limitation work performed:

7 (A) On projects or improvements relating to the
8 construction, reconstruction, improvement, or maintenance of a street,
9 highway, building, structure, or facility;

10 (B) On farms, ranches, dairies, and feedlots; and

11 (C) In industrial, drilling, mining, or oil and gas
12 facilities;

13 (4) The lighting is part of a navigational lighting system for
14 an airport or on a navigable waterway or provides other lighting necessary
15 for aircraft or watercraft safety;

16 (5)(A) There are special lighting requirements, including
17 without limitation:

18 (i) At sports facilities;

19 (ii) For historic decorative considerations;

20 (iii) At monuments;

21 (iv) For decorative lighting on bridges over
22 navigable waterways;

23 (v) For lighting of the United States flag under the
24 Federal Flag Code, 4 U.S.C. §§ 4-10;and

25 (vi) For lighting at a public or private state
26 correction facility, a detention facility, or a mental health facility,
27 including lighting on the grounds of the facility and on necessary roads
28 leading up to and around the facility as determined by the facility in
29 consultation with the Arkansas Department of Transportation or the entity
30 responsible for the road leading up to and around the facility.

31 (B) However, lighting exempted under subdivision (a)(5)(A)
32 of this section shall be selected and installed to shield the lamp or lamps
33 from direct view to the greatest extent possible and to minimize upward
34 lighting and light trespass;

35 (6)(A) The outdoor fixture existed and was legally installed
36 before October 1, 2019.

1 (B) If an outdoor fixture exempted under subdivision
2 (6)(A) of this section is to be replaced, the outdoor fixture shall be
3 brought into compliance with § 8-14-104, unless the governing body determines
4 that excessive cost, excessive structural modifications, or safety concerns
5 prevent compliance; and

6 (7)(A) The governing body responsible for the fixtures has:

7 (i) Determined that compliance with this chapter
8 would impose an excessive cost on the governing body; and

9 (ii) Adopted an ordinance or resolution that shows
10 the excessive cost of installing conforming fixtures.

11 (B) The ordinance or resolution shall include a:

12 (i) Specific list of the fixtures exempted; and

13 (ii) Cost analysis of installing conforming fixtures
14 versus non-conforming fixtures that supports the governing body's conclusion
15 that the cost of installing conforming fixtures is excessive.

16
17 8-14-110. Violations.

18 (a) A person that violates this chapter is subject to a:

19 (1) Warning for a first offense;

20 (2) Fine of twenty-five dollars (\$25.00) for a subsequent
21 offense or an offense that continues for thirty (30) days after the date of
22 the warning; and

23 (3) Fine of twenty-five dollars (\$25.00) for each offending
24 fixture for each calendar month the violation continues for an offense
25 continuing for more than sixty (60) days after the date of the warning.

26 (b) Money raised by fines assessed under subsection (a) of this
27 section shall be deposited into:

28 (1) The general fund of the public corporation, county, or
29 municipality assessing the fine; or

30 (2) If the fine is assessed by the Arkansas Department of
31 Environmental Quality, the funds shall be deposited into the Arkansas
32 Department of Environmental Quality Fund Account to be utilized as set out in
33 19-5-302(4)(A).

34
35 8-14-111. Chapter cumulative and supplemental.

36 This chapter is cumulative and supplemental and shall not apply within

1 a county or municipality that, by ordinance or resolution, has adopted
2 provisions restricting light pollution that are equal to or more stringent
3 than this chapter.

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SECTION 3. EFFECTIVE DATE. This act is effective on and after October
1, 2019.

/s/S. Meeks