

CHAPTER 152: OUTDOOR LIGHTING CODE

152.01 Title	152.10 Illuminated Signs
152.02 Purpose and Intent	152.11 Recreational Facilities
152.03 Definitions	152.12 Special Light Sources
152.04 General Regulations	152.13 Exemptions
152.05 Light Trespass	152.14 Nonconforming Outdoor Lighting
152.06 Control of Glare – Luminaire Design	152.15 Development Permits
152.07 Buildings and Vertical Structures	152.16 Variances
152.08 Street Lighting	152.17 Field Verification
152.09 Off-Street Lighting	152.18 Penalties

152.01 TITLE. This chapter shall be known as the “City of Robins Outdoor Lighting Code,” and is referred to as the “Lighting Code” or “Lighting Ordinance” when a shortened title is necessary.

152.02 PURPOSE AND INTENT. To protect and preserve the rights, privileges and property of the City's residents, and to preserve and improve the peace, safety, health, welfare, comfort and convenience of its residents, this chapter is intended to minimize glare, minimize light trespass and establish regulations for outdoor lighting. All outdoor lighting shall be installed with the idea of being a “good neighbor,” to keep unnecessary direct light from shining onto abutting properties or streets. This chapter encourages lighting practices that will reduce light pollution by reducing up-light, glare and over lighting, and sets standards for outdoor lighting so that its use does not interfere with the reasonable use and enjoyment of property within the City. It is recognized that this chapter might need to be revised to accommodate lighting designs and fixtures that are newly developed after the adoption of the ordinance codified herein.

152.03 DEFINITIONS. For the purposes of this chapter, terms used shall be defined as follows:

1. “After hours lighting” means a reduction of standard light levels by 75% during the hours of 10 p.m. and 6 a.m. through the means of a control system or systems for outdoor general area lighting.
2. “Candlepower” means luminous intensity of a light in a specified direction measured in candelas (cd) (*e.g.*, an ordinary wax candle has a candlepower of one candela)
3. “Cutoff angle” (of a luminaire) means the angle, measured up from nadir, between the vertical axis and the first line of sight at which the light source is not visible, displayed within Figure 1 contained in the definition of nadir.
4. “Cutoff fixture” means a luminaire, which has a light distribution where the candlepower does not exceed 2.5% of the lamps’ rated initial lumen output at an angle of 90 degrees above nadir, and does not exceed 10% of the lamps’ rated initial lumen output at a vertical angle of 80 degrees above nadir. This applies to all lateral angles around the luminaire.
5. “Foot candle” (fc) means a unit of illumination when one lumen is evenly distributed on a one square foot area.

6. “Forward throw” means any downlight luminaire whose distribution pattern is Type IV (as defined by the IESNA). These luminaires have minimal backlight effect thereby reducing light trespass.
7. “Full cutoff fixture” means a luminaire, which has a light distribution where the candlepower does not exceed 0% of the lamps’ rated initial lumen output at an angle of 90 degrees above nadir, and does not exceed 10% of the lamps’ rated initial lumen output at a vertical angle of 80 degrees above nadir. This applies to all lateral angles around the luminaire.
8. “Glare” means the sensation produced by luminances within the visual field that are sufficiently greater than the luminance to which the eyes are adapted to cause annoyance, discomfort, or loss in visual performance and visibility.
9. “IESNA” means the Illuminating Engineering Society of North America.
10. “Illuminance” means lumens per unit area incident on a surface, measured in foot candles (1 fc = 1 lm/sf).
11. “Illumination” means an alternative term for illuminance most commonly used to avoid confusion between illuminance and luminance. (*e.g.*, it can be used in a qualitative sense to designate the act of illuminating or quantitatively by stating *level of illumination*).
12. “Light trespass” means light falling beyond the intended target area where it is not wanted or needed, including by way of illustration, but not necessarily limited to, across property boundaries.
13. “Lumen” (lm) means a unit of luminous flux. (*e.g.*, 1800 lumens is the approximate equivalent to a 100 watt incandescent bulb).
14. “Luminaire” means a complete lighting unit consisting of a lamp or lamps together with the components designed to distribute the light, such as reflectors, refractors, lenses, etc.
15. “Luminance” means the luminous intensity of a surface in a given direction per unit of projected area. (*e.g.* candela/SF). This is not to be confused with illuminance.
16. “Luminous flux” means a quantitative expression of the brilliance of a source of visible light measured in lumens.
17. “Mounting height” means the vertical distance from the face of the luminaire to the surface area intended to be lit.
18. “Nadir” means the vertical line projecting downward to the ground from the center of the lens of a luminaire, displayed as follows:

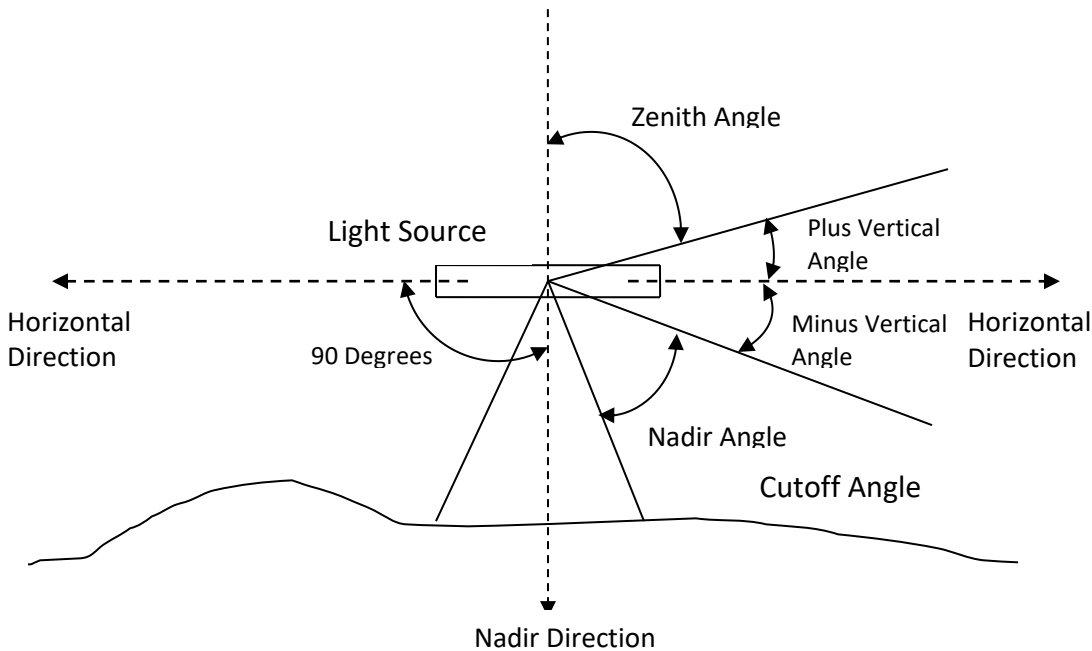


Figure 1 Light Source

19. “Standard light levels” means maximum light level approved for the property.

152.04 GENERAL REGULATIONS.

1. After Hours Lighting. The hours between 10:00 p.m. and 6:00 a.m. are defined as after hours and must comply with after hours lighting definition. Businesses open between 10:00 p.m. and 6:00 a.m. are exempt, however they must comply with the requirements of this chapter within one hour of closing.
2. Mounting Heights. The maximum luminary mounting height shall be limited to twenty-eight (28) feet for all luminaries, with the exception of sports lighting which shall follow IESNA guidelines.
3. Light Sources. The use of incandescent lamps shall not be permitted for outdoor lighting except for residential properties. In addition, low pressure sodium and mercury vapor HID lamps shall not be permitted in all cases.

152.05 LIGHT TRESPASS.

1. Residential and Public Right of Way. Illumination measured at the property line adjoining residential parcels and public right of ways shall not exceed 1.0 horizontal foot candles and 2.0 vertical foot candles.
2. Commercial, Industrial and Agricultural. Illumination measured at the property line adjoining commercial, industrial and agricultural parcels shall not exceed 2.0 horizontal foot candles and 4.0 vertical foot candles.

3. Compliance Methods. Methods of complying with the requirements include, by way of illustration, but are not necessarily limited to, fixture shielding, directional control designed into the fixture, fixture location, fixture height, and fixture aim.

152.06 CONTROL OF GLARE - LUMINAIRE DESIGN. Any luminaries rated at more than 1800 lumens, shall be a full cutoff fixture with the exception of those used for lighting recreational facilities, which shall comply with Section 152.11 of this chapter.

152.07 BUILDINGS AND VERTICAL STRUCTURES. Luminaries intended to illuminate buildings and other vertical structures shall meet the following requirements:

1. Shall be located within five (5) feet of the building or vertical structure that is being illuminated;
2. Shall not allow illumination to extend beyond the intended building or vertical structure;
3. Shall not exceed an average maintained vertical foot candle measurement of ten (10); and
4. Shall not have a vertical foot candle measurement that exceeds thirty (30).

152.08 STREET LIGHTING. Street lighting owned, operated, maintained or leased by the City of Robins shall be exempt. The City may establish, via resolution, guidelines for public lighting.

152.09 OFF-STREET LIGHTING. Luminaries intended to illuminate off-street parking shall be directed away from residential areas and public streets and shall not illuminate more than 2.0 horizontal foot candles and 4.0 vertical foot candles adjoining commercial, industrial or agricultural zoned properties and shall not exceed 1.0 horizontal foot candles and 2.0 vertical foot candles adjoining any residential zoned properties as measured at the property line or public right of ways.

152.10 ILLUMINATED SIGNS. Illuminated signs, where permitted, shall not illuminate more than 2.0 horizontal foot candles and 4.0 vertical foot candles adjoining commercial, industrial or agricultural zoned properties and shall not exceed 1.0 horizontal foot candles and 2.0 vertical foot candles adjoining any residential zoned properties as measured at the property line or public right of ways.

152.11 RECREATIONAL FACILITIES.

1. Lighted recreational facilities shall satisfy the requirements set forth in the most current editions of the Illuminating Engineering Society of North America (IESNA) RP-6 Recommended Practice for Sports and Recreational Area Lighting and the IESNA Lighting Handbook. Appropriate lighting criteria shall be selected based on the Class of Play of the facility and participants as defined by the IESNA.
2. No outdoor recreational facility, public or private, shall be illuminated after 11:00 p.m. except to conclude a specific activity, which is in progress under such illumination prior to 11:00 p.m.
3. Luminaires shall be installed to meet the criteria of a cutoff fixture.

4. Luminaires shall be aimed no greater than a distance two (2) mounting heights or less from the base of the pole (a maximum angle of 63 degrees up from nadir or a minimum of 27 degrees down from horizontal). Refer to Figure 1 within the definition of nadir.
5. Light trespass attributable to the recreational facility lighting system shall not exceed one-half (0.5) initial horizontal foot candles and two (2.0) initial vertical foot candles on adjacent properties within a residential zoning district, except public ways.
6. Initial illumination levels shall not exceed the target levels specified by the IESNA by more than 30% to account for light loss factors such as lamp lumen depreciation and luminaire dirt depreciation.

152.12 SPECIAL LIGHT SOURCES.

1. Laser Source Light. The use of laser source light or any similar high intensity light is prohibited.
2. Towers. Lighting on towers is prohibited except as required by regulations of the Federal Aviation Administration.
3. Searchlights. The operation of searchlights for advertising is prohibited.
4. Variances. As with other light sources, variances from the provisions of this section may be granted as provided in Section 152.16.

152.13 EXEMPTIONS.

1. All areas that have a luminary producing 1800 lumens or less shall be exempt from this chapter.
2. All temporary emergency lighting needed by the Police or Fire Departments or other emergency services, as well as all vehicular luminaries, shall be exempt from the requirements of this chapter.
3. All hazard-warning luminaries required by Federal regulatory agencies are exempt from the requirements of this chapter.
4. A building or structure that has been designated for historic preservation by the City of Robins, the State of Iowa or the Federal Government, shall be exempt from the full cutoff fixture requirements, if an historic restoration cannot be achieved by other means.
5. Any federal, state or local laws that conflict with this chapter shall take precedence over the conflicting provisions of this chapter.

152.14 NONCONFORMING OUTDOOR LIGHTING. All outdoor lighting fixtures within residential zoned areas lawfully installed prior to and operable on the effective date of the ordinance codified in this chapter are exempt from the requirements of this chapter with the exception when the outdoor lighting is deemed a public safety hazard or, upon receipt of a written complaint, when the City of Robins determines that the outdoor lighting fixtures are detrimental to the well being and/or enjoyment to the complainant's property. All outdoor light fixtures in zoning districts, other than residential, lawfully installed prior to and operable on the effective date

of the ordinance codified in this chapter are exempt from the requirements of this chapter except as provided below:

1. There shall be no change in use or lamp type, or any replacement (except for same-type and same-output lamp replacement) or structural alteration made, without conforming to all applicable requirements of this chapter. If more than fifty percent (50%) of the luminaries on a parcel of property are being replaced within a twelve (12) month period of time, such replaced luminaries must comply with the provisions of this chapter even if the replacements are of the same type and same output.
2. If the property is abandoned, or if there is a change in use of the property, the provisions of the chapter will apply when the abandonment ceases or the new use commences.
3. All lighting fixtures in zoning districts, other than residential, that are capable of being aimed, must be aimed in a manner that complies with this chapter within one year of enactment of this chapter.
4. All lighting fixtures in zoning districts, other than residential, which can be converted to full cutoff fixtures by adding a shielding device manufactured by the original equipment manufacturer, must do so within two years of enactment of this chapter.

152.15 DEVELOPMENT PERMITS.

1. **Submission Contents.** The applicant for any building permit or site/plot plan required by any provision within this Code of Ordinances involving nonresidential outdoor lighting shall submit one outdoor lighting plan for operating hours, and one outdoor lighting plan for after-hours lighting (as part of the application for Site Development Plan or permit). Each outdoor lighting plan must provide evidence the proposed work or activity will comply with this chapter. The outdoor lighting plans shall be submitted to the Building Official for planning and zoning approval and issuance of an outdoor lighting permit. The outdoor lighting plans shall include:
 - A. Plans indicating the location, and the type of illuminating devices, fixtures, lamps, supports, reflectors, and other devices;
 - B. A detailed description of the illuminating devices, fixtures, lamps, supports, reflectors, and other devices. The description shall include manufacturer's catalog cuts and drawings, including sections when requested;
 - C. A point-by-point foot candle array, photometric data, such as that furnished by manufacturers, showing the angle of the designed full cutoff, aiming angle and light emissions.
2. **Additional Submission.** The above required plans, descriptions and data shall be sufficiently complete to enable the Building Official to readily determine whether compliance with the requirements of this chapter will be satisfied. If such plans, descriptions and data do not enable the Building Official to make this determination, the applicant shall additionally submit certified reports of tests proving compliance. Such tests shall have been performed and certified by a recognized testing laboratory.
3. **Luminaries Substitution.** Should any outdoor light fixture or the type of light source therein, be changed after an outdoor lighting permit has been issued, a change request must

be submitted for planning and zoning approval, together with adequate information to assure compliance with this chapter, which must be received prior to substitution.

152.16 VARIANCES.

1. Purpose. The Board of Adjustment, upon appeal in specific cases and after public hearing, may temporarily vary the regulations of this chapter in harmony with the general purpose and intent where the Board makes findings of fact in accordance with the standards hereinafter prescribed, and further finds that there are practical difficulties or unnecessary hardships in the way of carrying out the literal provisions of this chapter.
2. Application for Variance and Notice of Hearing. An application for a temporary variance shall be filed, in writing, with the Building Official. The application shall be in the number of copies and contain such information as the Board may, by rule, require. The Board shall select a reasonable time and place for the hearing of the request for a temporary variance. Notice of the time and place of such public hearing shall be published at least once in a publication of general circulation within the City, said publication to be made not less than 7 nor more than 20 days before the date of the hearing. The Board shall reach its decision within 45 days from the date of the hearing unless such time is extended by mutual consent of the petitioner and the Board.
3. Authorized Variance. Temporary variances from the regulations of this chapter may be granted by the Board. The Board may temporarily vary, modify or waive the requirements of this chapter so that substantial justice may be done and the public interest is secured provided, however, that such temporary variance, modification or waiver will not have the effect of nullifying the intent and purpose of this chapter. In granting a temporary variance, the Board may impose such additional conditions as are necessary to secure substantially the objectives of the requirements temporarily varied, modified or waived. In no event shall a variance be granted which:
 - A. Poses as a public hazard or nuisance; and
 - B. Is substantially similar to a variance that has previously been granted to the requestor within the prior twelve (12) months.

152.17 FIELD VERIFICATION. If measurement on private property is not possible or practical, light level measurements may be made at the boundary of the public street right-of-way that adjoins the property or at any other location on the property. All measurements shall be made thirty-six (36) inches above the ground. Horizontal measurements shall be taken with the meter held parallel to the ground pointing up. Vertical measurements shall be taken with the meter oriented towards the brightest light bank. The meter shall have cosine and color correction and have an accuracy tolerance of no greater than plus or minus five percent (5%). Measurements shall be taken with a light meter that has been calibrated within the year. Light levels are specified, calculated and measured in foot candles (FC). All FC values are initial foot candles.

152.18 PENALTIES.

1. Violation. It shall be a municipal infraction for any person to violate any of the provisions of this chapter. Both the landowner and occupant of real estate on which a violation of this

chapter exists shall have committed a municipal infraction. Each day during which the violation continues shall constitute a separate offense.

2. **Violations and Legal Actions.** If, after investigation, the City finds that any provision of this chapter is being violated, the City shall give written notice of such violation to the owner and/or to the occupant of such premises, demanding that the violation be abated within sixty (60) days of the date of the written notice. If the violation is not abated within the sixty (60) day period, the City may institute actions and proceedings to enjoin, restrain, and abate such violation and to collect the penalties provided for in subsection 3 below for such violations.
3. **Penalties.** A violation of this chapter, or any provision thereof, resulting in the owner of the premises receiving written notice of violation as provided for in subsection 2 above, shall be punishable by a civil penalty as provided for municipal infractions.