Section 2.01 Definitions

**Lighting**: In reference to lighting standards, the following terms shall have the indicated meanings:

A. **Artificial sky glow**: The brightening of the night sky attributable to man-made light sources which obscure stars, comets, the moon, northern lights, and other natural phenomena.

B. **Canopy**: A roof-like covering over an area, that allows pedestrians/vehicles to pass in or under and upon which a light source is mounted.

C. **Development project**: Any residential, commercial, industrial, institutional or mixed use construction project submitted to the County for approval.

D. **Display lot or area**: Outdoor areas where active nighttime sales activity occurs and where accurate color perception of merchandise by customers is required.

E. **Foot-candle**: A measure of light falling on a surface. One foot-candle is equal to the amount of light generated by one candle shining on one square foot surface located one foot away.

F. **Fully shielded light fixture**: A lighting fixture constructed so that all light emitted by the fixture, either directly from the light source, lamp, or a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected below the horizontal plane as determined by photometric test or certification by the manufacturer. Any structural part of the lighting fixture providing this shielding must be permanently affixed.

G. **Glare**: Light emanating directly from a light source, lamp, reflector or lens that creates visual discomfort or momentary blindness when viewed.

H. **Lighting level measurement**: The measurement of outdoor light output from a luminaire expressed in footcandles. Lighting shall be measured with a properly calibrated light meter. Measurements shall be taken at final grade or in some cases when light is reflected on a vertical surface.

I. **Light trespass**: Light falling where it is not needed or wanted, typically across property lines.

J. **Luminaire**: (light fixture): A complete lighting device consisting of one or more lamps or light sources along with the other components sufficient to produce light.

K. **Outdoor light fixture**: An outdoor illuminating device, outdoor lighting or reflective surface, lamp or similar device, used for illumination or advertisement.

L. **Maximum outdoor light output**: The maximum total amount of light, measured in footcandles from all outdoor light fixtures. For lamp types that vary their output as they
Outdoor Lighting – Excerpt from Zoning Ordinance 15-1

age (such as high pressure sodium, fluorescent and metal halide) the initial output as defined by the manufacturer, is the value to be considered.

Section 22.06 Outdoor Lighting

22.06.1 Intent and Purpose

It is acknowledged that the county's economic well-being is heavily dependent upon the resort and tourist industry. This makes preserving the visual quality of the nighttime experience critical to Emmet County.

The purpose of the Section is to help protect the health, safety and welfare of the public by recognizing the need for buildings and sites to be illuminated for safety, security, and visibility from both pedestrian and motorist viewpoints. The goal is to provide guidelines that balance the functional requirements of nighttime lighting with sensitivity to light pollution, visual comfort, and aesthetics and further, to preserve the restful quality of nighttime by eliminating intrusive artificial light and lighting that unnecessarily contributes to sky glow.

This Section provides standards for various forms of lighting that will: minimize light pollution and light trespass, conserve energy, and enhance safety.

22.06.2 General Provisions

A. Projects requiring a permit: An outdoor lighting permit shall be required for all new development projects, except for single-family homes on existing lots of record and farms. Projects which by addition or modification, increase the number of existing dwelling units, gross floor area and/or parking spaces by twenty-five (25) percent or greater are subject to the requirements of this Section.

B. Outdoor Lighting subject to review includes but is not limited to lights used for:
   - Parking Lot Lighting
   - Security Lighting
   - Roadway Lighting
   - Buildings & Structures
   - Recreational Areas
   - Landscape Lighting
   - Building overhangs and open canopies
   - Signage and advertisement

C. Shielding and Security Lighting

   1. All outdoor luminaires subject to this Section shall be fully shielded lighting fixtures to minimize artificial sky glow.
2. All outdoor lighting fixtures shall be placed to prevent light trespass or glare beyond the property line.

3. All outdoor lighting shall be of a type, and placed, to prevent any light above the horizontal plane, as measured at the luminaire.

4. Flood or spot lamps shall be fully shielded and aimed no higher than 45 degrees above straight down (nadir) when the source is visible from any offsite residential property or public roadway.

5. All lighting for commercial, industrial, and any other non-residential activities including billboards and electronic message centers shall be extinguished between 10:00 p.m. or the close of business, whichever is later and 6:00 a.m. or the opening of business, whichever is earlier. Security lighting for these establishments shall be designated on the lighting plan and conform to the regulations of this Section.

D. Outdoor Lighting Districts
For the purposes of this Section there shall be three (3) lighting overlay districts established as follows:

1. Lighting Overlay District 1:
Those areas designated on the County Zoning map as B-1, B-2 and/or PUD along the State Trunk Lines north of Intertown Road and south of Graham and Powell Roads.

2. Lighting Overlay District 2:
Those areas designated on the County Zoning Map as B-1, B-2, B-3, PUD, I-1 and/or I-2 along State Trunk lines to a depth of 200' from the road right-of-way, excepting those properties in District 1.

3. Lighting Overlay District 3:
Those areas of Emmet County outside of Districts 1 and 2.

22.06.3 Outdoor Lighting District Standards

A. The following lighting level measurement standards shall apply to uses established within each Outdoor Lighting District. The values shown are the maximum allowed outdoor light levels as measured from any spot that is illuminated, expressed in footcandles (fc).

<table>
<thead>
<tr>
<th>USE</th>
<th>District 1</th>
<th>District 2</th>
<th>District 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking Lots (non-display)</td>
<td>8 fc</td>
<td>7 fc</td>
<td>4 fc</td>
</tr>
<tr>
<td>Gas Station Canopy Lighting</td>
<td>30 fc</td>
<td>20 fc</td>
<td>20 fc</td>
</tr>
<tr>
<td>Display lots</td>
<td>24 fc</td>
<td>20 fc</td>
<td>16 fc</td>
</tr>
<tr>
<td>Private Roadway Lighting</td>
<td>3 fc</td>
<td>2 fc</td>
<td>1 fc</td>
</tr>
</tbody>
</table>
### Outdoor Lighting – Excerpt from Zoning Ordinance 15-1

<table>
<thead>
<tr>
<th>Building/Landscape ambient lighting</th>
<th>2 fc</th>
<th>1 fc</th>
<th>1 fc</th>
</tr>
</thead>
</table>

B. All uses regulated in this Section shall not exceed 0.5 footcandles at the property line. Where it can be demonstrated by the applicant that allowing a greater intensity at the property line would not negatively affect the lighting quality, health, safety, and welfare of the community, the Zoning Board of Appeals may modify the standards. This does not apply to the limits set in the table above.

C. **Additional Uses:** For those uses not listed above the reviewing agency shall use the Illuminating Engineering Society of North America (IESNA) current lighting guidelines for illumination levels. The current issues of these publications shall be maintained and available to the public at the Office of Planning and Zoning.

D. **Luminaire Mounting Heights**

1. All luminaires shall be located and/or mounted at a height no greater than twenty (20) feet measured from final grade to the bottom of the luminaire.

2. The reviewing agency may approve greater mounting/pole heights for the interior of development projects when all of the following conditions are met:
   - Fewer luminaires will be required for the site.
   - The greater mounting height will not cause light trespass and/or glare beyond the property line for reasons of topography, screening or similar circumstances.
   - The greater mounting height will contribute less artificial sky glow by reducing the intensity of the lighting beneath the luminaire.

E. **Prohibited Lighting**

1. Unshielded luminaires of any type.

2. Luminaires designed such that the light source is visible from off-site.

### 22.06.4 Application/Review Procedures

To obtain a permit required by this Section, a lighting plan shall be submitted for approval before installation. The lighting plan shall at a minimum, contain all of the following:

A. Site plan including the location of all proposed and existing illuminating devices. All directional lighting shall have arrows indicating target areas of illumination indicated in drawings.
Outdoor Lighting – Excerpt from Zoning Ordinance 15-1

B. Description of all illuminating devices, fixtures, lamps, supports, reflectors. The description shall include manufacturer's data sheets, illustrations and the like.

C. Photometric data superimposed on the site plan; provided, that for smaller or less complex projects, the reviewing body may accept photometric data supplied by the manufacturer which is separate from the site plan.

D. Such other information about the site or adjoining sites as may be essential for the reviewing body to determine if the requirements of this Section are being met.

Following submission of a complete lighting plan in accordance with this Section, the reviewing body shall act to approve, conditionally approve, or deny the lighting plan with reasons stated. The reviewing body shall begin formal review of the lighting plan at its next regularly scheduled meeting provided a complete plan has been submitted at least ten (10) days before the meeting.

22.06.5 Variances

Subject to a hearing and notification to adjoining property owners of record within 300 feet of the subject parcel, the Zoning Board of Appeals may grant a variance to the standards of this Section if all of the following are met:

A. Neighboring properties will not be adversely affected.

B. Unique conditions exist on the site.

No modifications shall be granted with respect to the standards regarding luminaire shielding.

22.06.6 Exempt Lighting

The following types of lighting are exempt from the standards of this Section.

A. Holiday lighting.

B. Lighting required by governmental agencies

C. Airport lighting

D. Emergency lighting as used by law enforcement, firefighters, and other public safety agencies.

E. Temporary construction lighting when used for periods up to 30 days, which are fully shielded and do not emit lighting levels greater than 0.5 fc at the property boundary lines.”