

3.3: Glare and Shielding

Glare and Shielding

Glare is defined as an intense and blinding light that reduces visibility. Such light produces glare within your field of vision is brighter than the level to which your eyes are adapted. Think of being in a dark room. Someone turns on the lights, and you usually squint. **Sky glow** is a diffuse, scattered light attributable to lighting sources on the ground and not in the air or a significant elevation. And some lighting may be so poorly designed that it leads to confusion; this is referred to as **clutter lighting**.

The need for good streetlights and security lighting is understood. However, the usually-poor design and use of such lighting is what is being questioned, not only by astronomers but by biologists, lighting engineers, and even crime and safety experts.

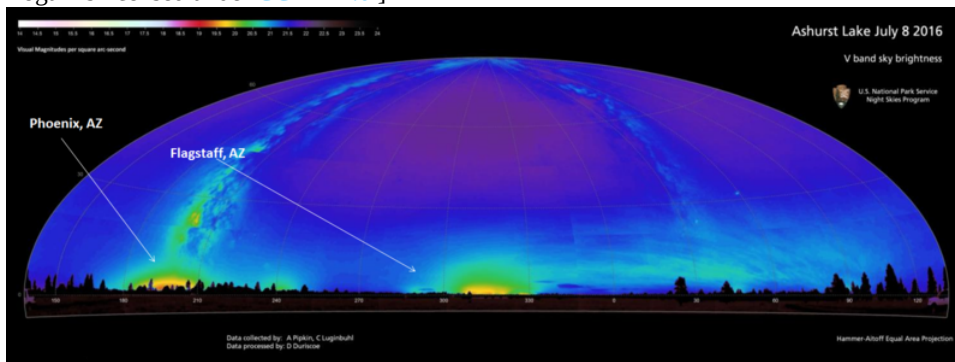
Many of today's outdoor lights are too bright and unshielded, decreasing safety and with other unintentional results. First, the glare from these bright, unshielded lights create shadows, making it more difficult for you to see. The brightness of the light itself, shining into your eyes, constricts your pupils and diminishes your ability to see in low light levels. ⁽¹⁾



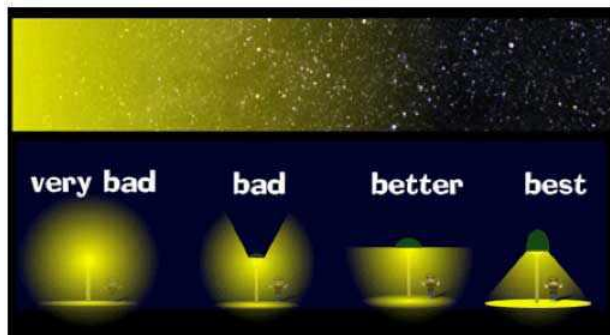
Mexico City at night, showing lights and resulting light pollution [“México City at Night 2005” by Quasipalmis licensed under [CC BY 2.0](https://creativecommons.org/licenses/by/2.0/)]



The lights of Los Angeles illuminate the sky as well as the streets and neighborhoods [“Lightmatter la at night 001” by Aaron Logan is licensed under [CC BY 1.0](#)]



A calibrated all-sky map shows the skyglow brightness of Phoenix and Flagstaff, Arizona [“All-sky map of measured skyglow brightness” by Pipkin, A., Duriscoe, D. & Luginbuhl, C. in the [Public Domain](#)]



Streetlight glare can be reduced by shielding, as shown above in a range from unshielded to the most effective shielding. [“Streetlight Glare” by Futurism is licensed under [CC BY 4.0](#)]

Shielding refers to an opaque material that blocks light. Many streetlights are made such that the bulb is easily visible, usually in a glass fixture. Instead of directing the light to the roadway, walkway, or the side of a building where it is needed, it shines everywhere, producing glare and sky glow. ⁽¹⁾

CC licensed content, Original

- **Authored by:** Florida State College at Jacksonville. **License:** [CC BY: Attribution](#)

This page titled [3.3: Glare and Shielding](#) is shared under a [CC BY 4.0](#) license and was authored, remixed, and/or curated by [Lumen Learning](#).