



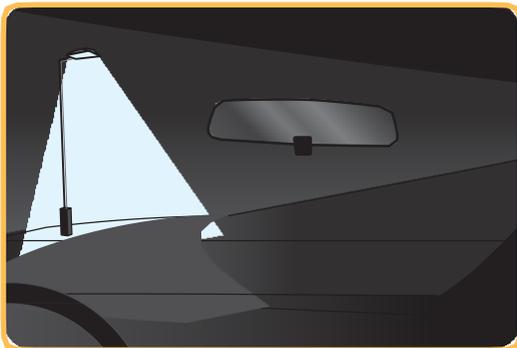
Optical design

Aiming to please

GE uses an advanced reflective optic design that meets RP-8 recommended practices for luminance, illuminance and small target visibility. This unique design ensures that Evolve ERL fixtures will deliver light control with significantly less waste than the other optical technologies used by many of our competitors.

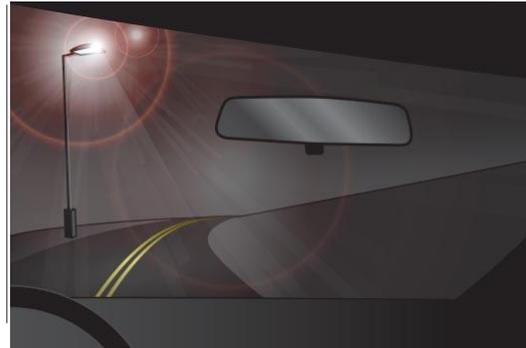
Evolve ERL fixtures have improved ratings for backlight, up-light and glare (BUG ratings) to direct more light on the road and not in neighboring properties or in the eyes of nighttime drivers, meeting tight local ordinances and International Dark-Sky (IDA) requirements.

GE



Our unique reflective technology allows us to focus light where it's needed – on the road – with less glare.

Others / HPS

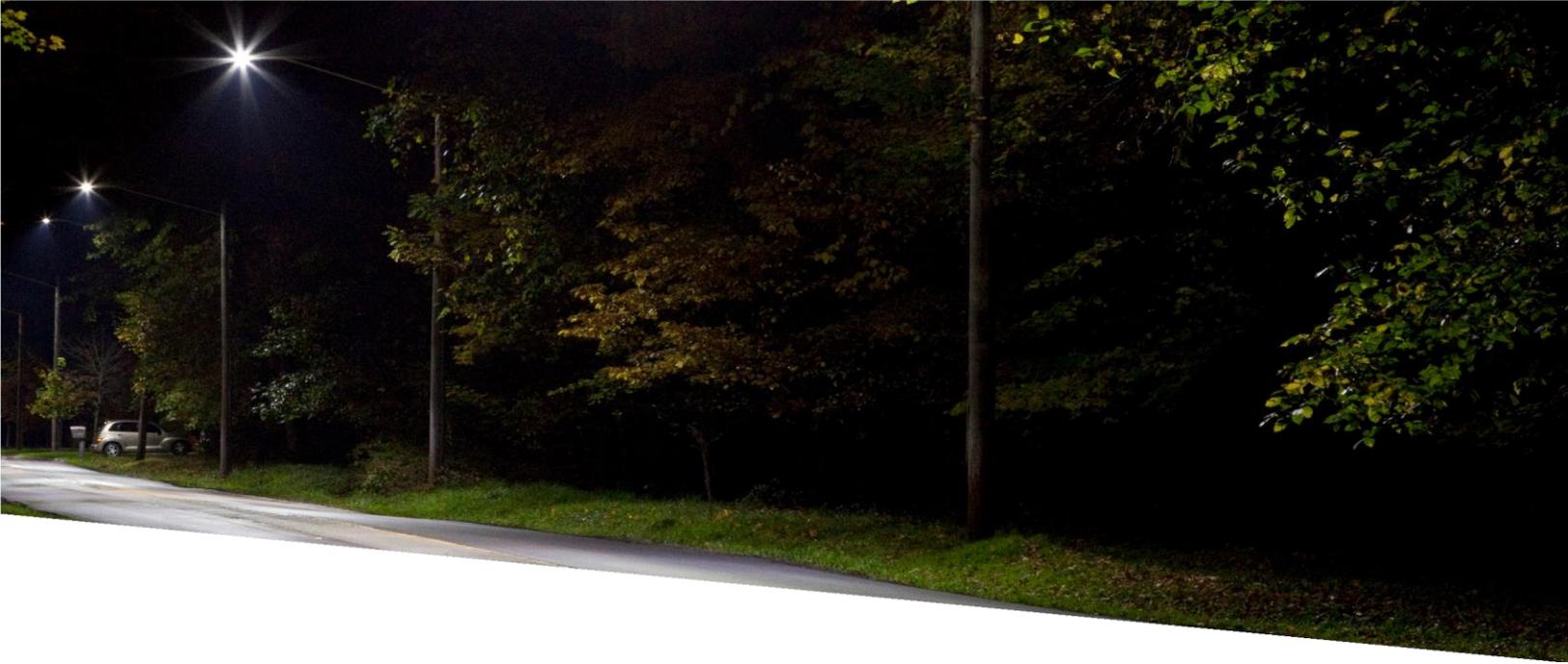


The refractive technology design used by other manufacturers typically results in more wasted light trespass and glare for drivers.

Minimizing glare

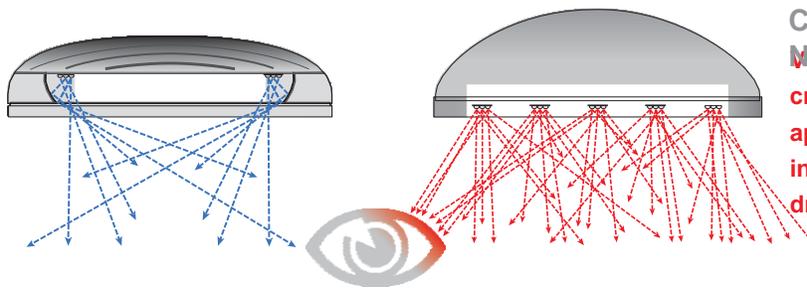
GE's innovative reflective design only puts light where it is needed and minimizes direct view of the light source with a non-pixelated appearance.

GE design recesses the LED array within the optic (or reflector) to limit visibility of the LEDs from the drivers' field of view, minimizing glare. Many competing optical designs use LED arrays with individual optics, making the entire array visible to the driver, resulting in a pixelated appearance with higher levels of glare and increased light trespass.



GE

Minimized visible light source, creating non-pixelated appearance to driver's field of view



COMPETITIO

Visibility to every LED, creating a pixelated appearance and increased glare to driver's field of view

Why is luminance an important focus of GE's optical reflector design?

GE optical design provides outstanding overall visibility while driving, offering reflector optics that were designed with the driver in mind.

This design angles reflectors away from the driver. GE provides consistent luminance uniformity in the driver's center field of view, while many competing products have greater variation. GE also ensures reduced glare at the critical angles, improving small target visibility which allows drivers to detect objects faster while driving. The uniformity of light in the driver's field of view improves the retina image.

Designing for the driver's field of view with consistent retina light levels provides excellent overall visibility while driving.



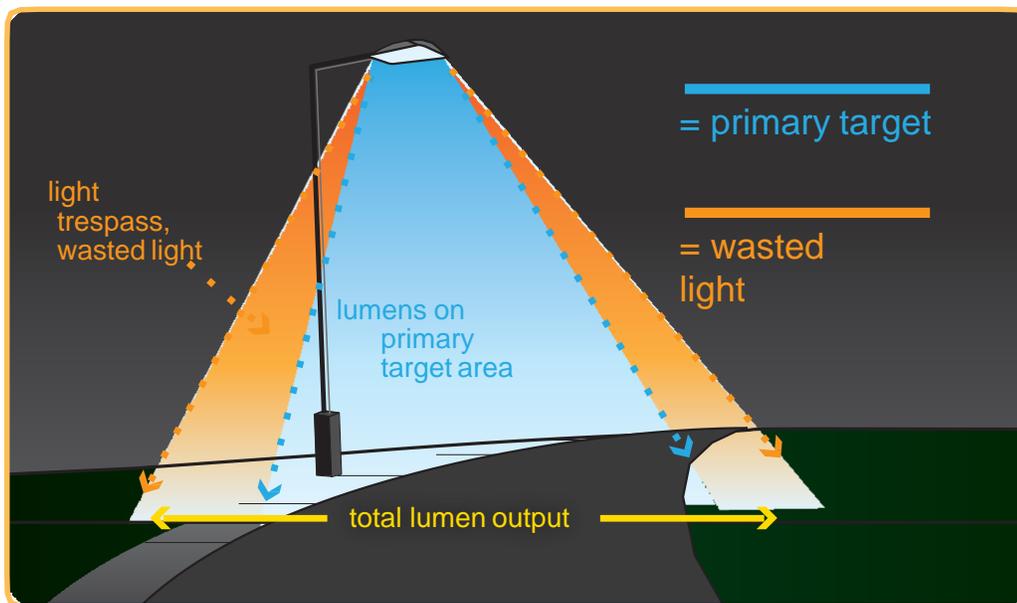


Optical

design

Light on target: coefficient of utilization

By putting energy toward the task of lighting the roadway and not the surrounding area, Evolve ERL fixtures put light where it is intended and provide more efficient utilization of light. This is known as coefficient of utilization or (CU), and is a key characteristic of any fixture when determining its ability to light the intended area. A higher CU means less wasted light which, in turn, means lower energy consumption. This will reduce costs over the life of the fixture.



Efficiency in action

- Lumens per Watt (LPW) = Total Lumen Output/Total Watts
- Coefficient of Utilization (CU) = Lumens on Primary Target Area/Total Lumen Output
- Higher the Coefficient of Utilization (CU) = Less Wasted Light