ComfortView™

Neighborhood Streetlights

Application and Technical Overview

LEOTEK®

www.leotek.com

LED streetlights first entered the marketplace nearly a decade ago. Since that time, millions of luminaires have been specified, installed, and most importantly, experienced by the public. Some of the lessons-learned from those early installations, especially residential installations, are that residents often prefer lower light levels, and warmer color temperatures.

Another element of streetlighting that citizens are becoming increasingly aware of is glare. Glare control is important for all outdoor luminaire applications, however for residential streetlight applications, design and luminaire selection must be especially sensitive to glare and the needs of motorists, pedestrians, cyclists, and residents.

"...it should be used with the same prudence with which we use any other technology. This means that although LED lighting is an energy-efficient way to illuminate streets, it's important to direct the light only where it's needed; to make sure the emitted spectrum supports visibility, safety, and the health of humans and other living creatures; and to **limit glare for pedestrians, bicyclists, and drivers.**"

- Department of Energy (DOE),
Get the Facts: LED Streetlighting, June 21, 2016

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Streetlighting Glare

According to the IESNA RP-8-14 Roadway Lighting standard, *"roadway lighting systems are under increasing scrutiny from various sectors of the public. While the general public is not usually aware of specific design requirements of roadway lighting systems, observations of glare, light trespass, and sky-glow, are widely perceived and might be subject to criticism"**

From the IESNA standard, *"Discomfort glare is glare producing a sense of annoyance or pain. It produces a sensation of discomfort due to high contrast of a non-uniform distribution in the field of view."*

"The AMA also recommends all LED lighting should be properly shielded to minimize glare…."
- American Medical Association (AMA), AMA Adopts Guidance to Reduce Harm from High Intensity Streetlights (June 14, 2016)

"The IES is aligned with the AMA in support of the proper conversion of outdoor area and roadway lighting to LED light sources to reduce energy consumption, with proper optics and shielding to reduce glare and light trespass."
- IESNA Position Statement PS-09-17, June 2017

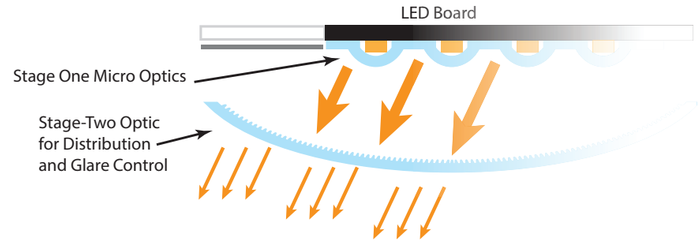
*IESNA RP-8-14, Section 3.6

Example of Discomfort Glare

ComfortView Optics

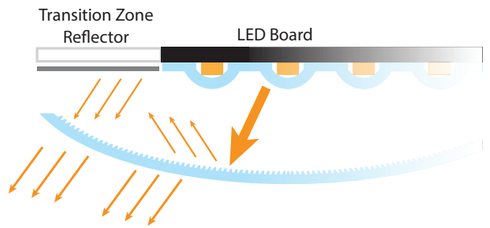
ComfortView Two-Stage Refractive Optics

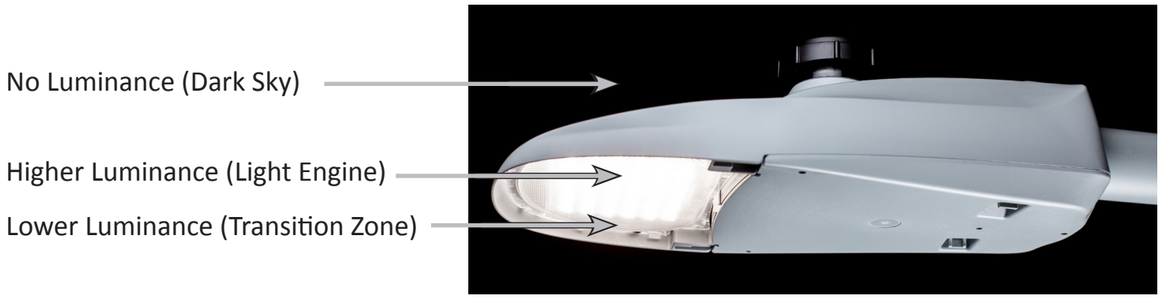
For residential applications, including local streets, alleys, sidewalks and pedestrian walkways, addressing visual comfort is an imperative. Traditional first-generation LED optical systems incorporate a single optic above the LED. Two-stage optical systems incorporate a second optic, which reduces pixelation and glare, and maximizes visual comfort.



ComfortView Transition Zone System

A bright light source alone does not necessarily cause glare, but a bright light source in front of a dark background can cause glare. To reduce the contrast between the light source and the dark sky, ComfortView incorporates an intermediate lower luminance "transition zone," which redirects internally reflected light back out of the luminaire.





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Field-Tuning of Streetlights

Even the most thorough streetlighting designs cannot anticipate every field condition. Inevitably there will be light levels too high or too low, or light “trespassing” into an area that requires less light or no light at all. For these situations luminaires need to be specified as “field-tunable”.

Networked Lighting Control Field Tuning of Light Levels

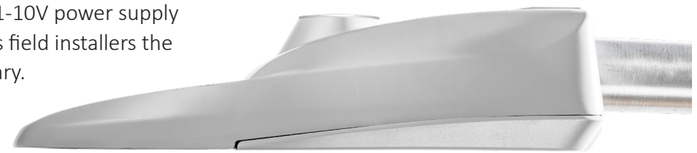
By specifying industry–standard 7-pin photocell receptacles, customers can attach networked lighting control nodes. These “smart” nodes allow for the remote tuning of light output.

Traditional Photocell

Networked Lighting Control Node

Field-Tuning of Light Levels

ComfortView luminaires include a standard dimmable 1-10V power supply with an eight-position LED output selector. This enables field installers the ability to easily change light levels in the field if necessary. The positive-lock current selector ensures light levels aren’t changed accidentally during installation.

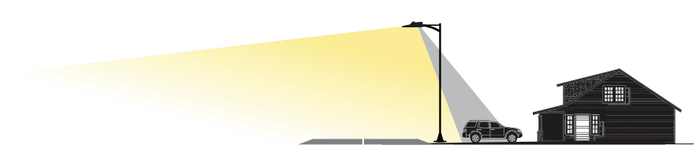


Field-Tuning of Light Distribution

ComfortView is available with 4 specialized shields to accommodate different light trespass requirements. Convenient Light Trespass Shields can be easily field installed.

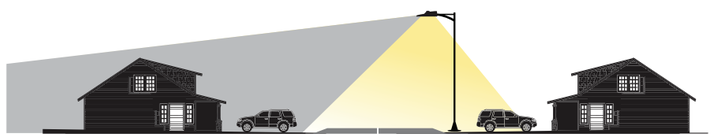
House Side Shield (HSSCV)

Flush mounted House Side Shield cuts light off at 1 times the mounting height behind the luminaire and 2¾ times the mounting height laterally.



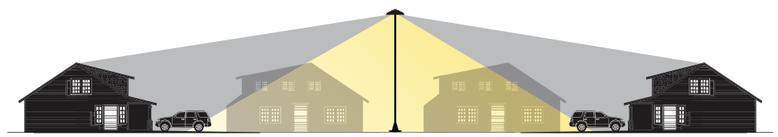
Front Side Shield (FSSCV)

Flush mounted Front Side Shield cuts light off at approximately 1½ times the mounting height in front of the luminaire (street side) and 2¼ times the mounting height laterally.



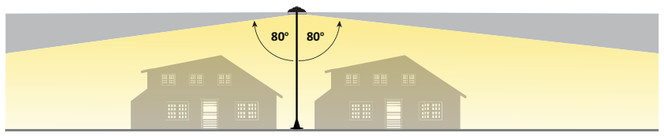
Cul-de-Sac Shield (CSSCV)

Flush mounted Cul-de-Sac Shield cuts light off at 1 times the mounting height behind the luminaire, 1¾ in front, and 2¼ times the mounting height laterally.



80 Degree Cutoff Shield (VHCS)

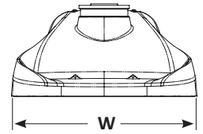
80 Degree Cutoff Shield mitigates high angle glare above 80 degrees from nadir and cuts light off at 1½ times the mounting height behind and 2½ times the mounting height laterally.

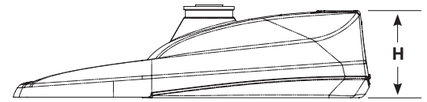


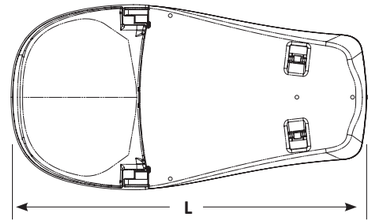
ComfortView Specifications

Dimensions

Length	Width	Height
18.35”	9.55”	4.48”
466mm	243mm	121mm







Weight 7 lbs [3.2 kg]

EPA 0.39 ft^2

Standard Finishes

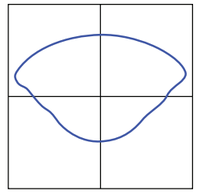
Grey

Dark Bronze

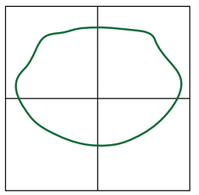
Black

Distribution Types

Type 2



Type 3



Available Color Temperatures

- 2200K
- 2700K
- 3000K
- 4000K

- Sized for residential street applications.
- Lumen packages up to 8,227 Lumens.

The GreenCobra® Family of LED Streetlights

ComfortView™ GCJ GCM GCL GC2

HPS Equivalent Ranges

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Visit LEOTEK.com to learn more about our innovative LED Lighting products

ComfortGuide®

Arieta® ComfortGuide™ is perfectly suited for parking lots, campuses, office complexes, streets and public parks, as well as many other applications. ComfortGuide™ utilizes a new approach to address glare produced by traditional lighting. First-generation LED optical systems incorporate a single optical lens over the LED.

Eseta™

Eseta's subtly distinctive form harmonizes with architecture without altering the building aesthetic. Eseta™ features ultra-high efficiency LED lighting greater than 100 lumens/watt, emergency battery system, two targeted distributions, innovative glare control, and motion sensor compatibility. Cold-weather rated for temperature range rating of -4oF to 140oF (-20oC to +60oC). An appealing and easy choice for retrofit applications.

Post Top Colonial

LEOTEK's Post Top Colonial Lantern provides the traditional aesthetic of an old-style lantern with the versatility, cost-savings and benefits of advanced LED technology. The Post Top Colonial is a specification-grade luminaire constructed of durable die-cast aluminum and finished with longlasting protective powder coat paint. Fasteners are stainless-steel, captive, and tool-less. While traditional in design, the Post Top Colonial incorporates state of the art long-life rated components and is tested to meet rigorous industry standards.

LEOTEK®

LEOTEK Electronics USA LLC, located in California's Silicon Valley, is celebrating over thirty years as an LED lighting manufacturer, and is a leading supplier of LED streetlights worldwide. Globally recognized as a pioneer in light-emitting diode technology, and with millions of LED products installed worldwide, the company has a historical legacy of proven performance. LEOTEK offers innovative LED lighting products that integrate cutting-edge IoT and smart technology features into their lighting applications encompassing traffic, transit, street, and area lighting, providing advanced functionalities for efficient and intelligent lighting systems. LEOTEK street and area lighting products are assembled in the USA.

1955 Lundy Ave., San Jose, CA 95131 ◎ 408.380.1788

SOLA COMMUNITY FRIENDLY LIGHTING PROGRAM · DLC LISTED · 10 YEAR WARRANTY · Assembled in the U.S.A. · c UL us LISTED · ida INTERNATIONAL DARK-SKY ASSOCIATION APPROVED