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## TOP PRIVATE FLEETS

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# Optronics: LEDs can sanitize trucks

Along with their sizable improvements in bulb life and efficiency, LEDs are offering advanced, even health- and business-enhancing capabilities in trucking. Heavy-duty LED vehicle lighting manufacturer Optronics International adds a new wrinkle with its LED-based decontaminating/sanitizing lights, the Purilite Light-Shield line.

These truck LED lights can reduce particulate matter, pathogens and bacteria to decontaminate and sanitize the air, according to the company, while producing light that approximates sunlight to support optimal vision. Optronics said the products improve hygiene, air quality and worker safety and are especially well-suited for trucks, which often are used not only for transport but as drivers' living quarters over the road.

"Sleeper cabs, vehicles with multiple users, and dry bulk and refrigerated food transportation haulers may be at greater risk of exposure" to harmful pollution and contaminants, noted Brett Johnson, the company's president and CEO. The climate where a vehicle operates can also be a factor in collecting and growing pathogens.

Any workers regularly around vehicles are exposed to microscopic airborne pollutants that can penetrate into the body and damage organs and tissue, Optronics noted, and it's worse for truck drivers. Particle pollution you'll find around trucks includes many types of mold and bacteria—particularly trucks transporting food—as well as soot emitted by diesel engines and diesel-fired APUs.



**Optronics says its Purilite Light-Shield LEDs can decontaminate and sanitize the air while producing light.** Photo: Optronics

## HOW IT WORKS

Optronics' Purilite Light-Shield LEDs have a special coating that generates a constant stream of negative ions, according to the company. The lamps decontaminate and sanitize the air while producing light that approaches the color temperature of natural sunlight, which Optronics noted is "optimal light quality for human vision."

The company further explained that the new LEDs sanitize by both physical and biological means.

First, the physical: Negative ions that the LEDs produce bind to lightweight airborne particulate matter, adding mass and essentially "fattening them up" so gravity will cause them to float safely to the ground.

The negative ions also combine with positive molecules in mold spores and bacterial proteins, which destroys them and causes them to decompose. What's left of the pathogens also falls inertly to the ground, Optronics said, and is rendered essentially sterile.

The LEDs work whenever activated. "When the lights are on, they are doing their job—it's deceptively simple. A sleeper cab driver can flip on these lights

and go grab a bite, and when they return, the cab environment will be significantly cleaner," Johnson said. "If they prefer, drivers can remain in the cab while the lights are working. It's perfectly safe just to leave them on."

## RESULTS

Optronics said it has seen some significant results with its preliminary tests of the LEDs' ability to sanitize. With one hour of the Purilite Light-Shield LED being on in a controlled environment, the company said it measured a 77% reduction in PM2.5, which is fine inhalable solid particles and liquid droplet matter with a diameter generally 2.5 micrometers or less. The LEDs also were able to reduce E. coli bacteria by 65%, according to the company.

## APPLICATIONS

The LEDs can help food supply chain and cold chain shipping companies comply with stricter requirements for sanitary food transport under the federal Food Safety Modernization Act (FSMA), Optronics pointed out.

"Until today, surface cleaning procedures and bacteria-resistant surface treatments were the only methods available to fleets required to adhere to FSMA guidelines," Johnson said. He added the Purilite Light-Shield LEDs "transcend simple surface-oriented decontamination methods and move toward cleansing the entire interior environment of a vehicle, including the air." **—Aaron Marsh**

## Phillips app for product distributors, users

Phillips Industries has a new app that offers quick and easy access to information related to the company and its products in one centralized location. The tool is for distributors and users of Phillips products, which include advanced electrical and air brake system components, as well as electronic

solutions for communicating vehicle data to fleets and their drivers.

Access to updated product literature and catalogs, including Phillips' 24V products, in English, Spanish and French are instantly available with simple navigation. Product bulletins regarding product revisions and/or up-

grades can also be accessed along with Phillips' library of Tech Tips. Company and product videos can be viewed in the app as well.

Currently, the app is available for Apple iPad devices only and can be downloaded from the Apple App Store by searching for PhillipsTools. **■**