CANLYTE

KEENE | MakesLightWork

# NextLED™

Taking LED to the Next Level

Keene is a Philips group brand

PHILIPS

## The New Standard in LED Technology

**Canlyte and Philips have worked together, leveraging our expertise in Light Emitting Diode (LED) technology and high-end optical design to develop the first of many new outdoor LED product innovations for our Keene brand. This team approach has allowed us to harness the full potential of LED technology to achieve new standards for light quality, reliability and energy efficiency.**

The introduction of NextLED, a complete LED light system approach, is our assurance to you that we have transformed LED technology into a robust, visually pleasing, commercially viable and sustainable system. Its proven performance has earned NextLED our corporate evoSmart endorsement.

**NextLED will change the way you think about LED and lighting specifications.**

evo LED Smart

**Lighting Technology Evolves. Will you switch?**

Canlyte's evoSmart designation identifies lighting products and technology that set significantly improved standards in energy efficiency and environmental friendliness—meeting our commitment to reducing our impact on the environment with everything we do.

# The LED Promise

**Not since the invention of the incandescent lamp has there been a product with such potential to change the way we think about light. With 25% of all current electricity use attributed to lighting alone, the tremendous savings that a shift to LED sources can accomplish is too great to ignore.**

**LEDs are optically easier to control and do not suffer the optical losses of traditional HID, fluorescent and incandescent sources. While they don't produce as many total lumens, all the light they produce can be targeted with greater control—as a system, LEDs can perform better.**

**Also, LEDs are a very durable light source that provide energy efficiency with the added benefits of long life and environmental friendliness.**

## The Reality Of LED Performance

With these dramatic potential benefits, it's not surprising that many manufacturers have rushed to deliver products that incorporate LED technology. Yet without accommodating the unique needs of LED sources (managing light distribution and heat transfer), many of these products have compromised performance. This in turn, has created concerns about the ability of LED sources to deliver expected standards of light quality and durability, **until now**.

# NextLED Promise

## Taking LED to the Next Level

The NextLED system design has allowed us to take a common platform and convert it to accommodate LED solutions—creating a wide range of outdoor LED products which are cost-effective, economical, reliable and environmentally-friendly ... a combination not previously available until now with LED lighting.

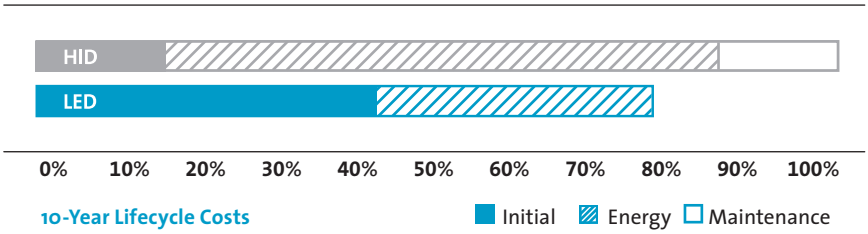
Through a system approach, the NextLED family of products harnesses the power of LED technology while overcoming concerns of energy and optical efficiency, heat management and reliability. It is our promise to deliver the highest quality LED products —uncompromising quality of light, lowest cost of ownership, sustainability and an energy-efficient design.

With the NextLED system you can count on the reliability of our system, the quality of our components and the assurance of our 5–year warranty.


**Five-Year LED Guarantee**

NextLED's reliability and performance is backed by Keene's 30+ years of lighting experience in Canada and our five-year LED guarantee—one of the best guarantees in the industry.

## Lifecycle Costs

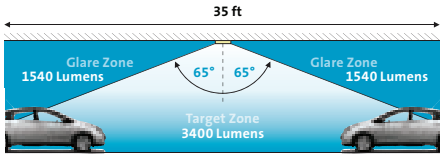



LED technology typically costs more than other sources, so LED luminaires must provide additional in-application benefits to make economic sense.

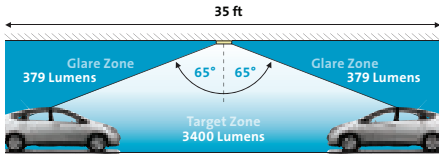
Our drive was to produce a better financial return based on total cost of ownership (purchase, energy use and maintenance costs) and deliver high fixture efficacy (lm/w) versus traditional sources. Depending on which type of source (HPS or MH) is replaced by LEDs, the energy savings can range from 30% to 50%. This is achieved by providing greater optical control, higher lumen maintenance and system efficiency.

## Target Lumens

While LED sources generate fewer initial lumens, NextLED optics make it possible to deliver equal or more lumens on the target as conventional sources with significantly less energy. The examples below demonstrate this in a parking garage.




**Traditional Metal Halide Spectra-Lyte**
**Source Watts: 150W | Input Watts: 185W**

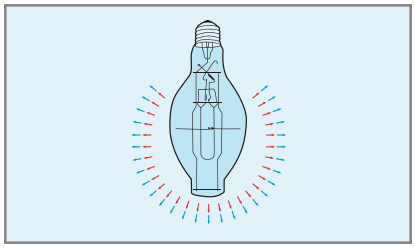



**NextLED Spectra-Lyte**
**Source Watts: 82W | Input Watts: 95W**

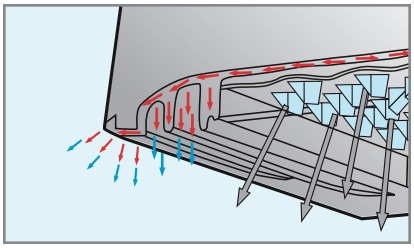
Unlike conventional light sources, LEDs produce a beam of light in one direction. This characteristic demands a new way of targeting and distributing lumens to ensure quality and comfort for users. It is no longer just about initial or maintained lumens, it's about usable light, and accurate control to put light on the target. Our patented optical system delivers high quality lighting with no uplight. Our LED systems for outdoor products are Dark Sky - compliant, full cutoff and available in multiple distributions for added control and preventing light trespass.

## Reliability

The strength of a system is only as strong as it's weakest component. A critical element in designing an LED system is managing the heat produced by the LED chip as heat negatively effects light output, colour stability, system life and is critical to overall performance. Our integrated heat sink design ensures total system performance by providing a proper interface between the LEDs, the circuit board and the heat sink. The NextLED system allows heat to be conducted to the outside air for maximum dissipation without compromising the integrity of the luminaire.



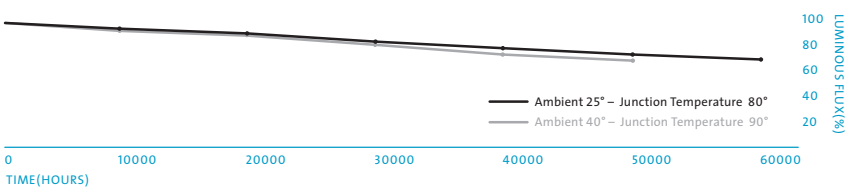
Conventional sources radiate most of their heat around, down and away from the luminaire. Heat management is not as critical to system performance.



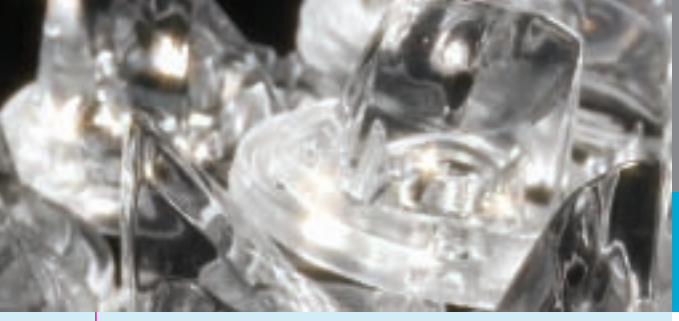
LED sources conduct most of their heat up from the circuit board and into the luminaire body. To function reliably, especially in outdoor applications, an LED heat management system must quickly and efficiently transfer heat to the outside environment without compromising the LED and the integrity of the luminaire housing.

The development of our proprietary integrated heat sink design maintains junction temperature for consistent and reliable performance and 60,000-hour lifetime at 70% lumen maintenance (L70). This has been measured using LM–79* and LM–80** IES recommended standards. NextLED will be operating at about 85% of initial lumens at the time most conventional light sources are at end of life.

### Maintained Lumens (L70)




* LM–79–08: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products
** LM–80–08: IESNA Approved Method For Measuring Lumen Depreciation of LED Light Sources



# NextLED Optics

## The NextLED System

The details are in the design. To meet the demands of optical control, energy efficiency, and durability, the development of a cohesive system is crucial to the success of an LED system.

The NextLED patented optical design provides unsurpassed quality of light and delivers targeted lumens to where the light is needed most. It also uses a controlled binning process to ensure consistent colour temperature. And with a CRI of 72+, NextLED is ideal for outdoor applications. Remarkably, the product provides a 60,000–hour life, while maintaining 70% lumen maintenance.

Our advanced technology ensures the consistent and controlled operation of the system with the latest driver technology, and the cool operation of all components with our integrated aluminum heat sink technology.

The NextLED system provides you with a wide range of outdoor lighting products complete with a rugged, sealed design, ideal for our demanding climate.

## Optics For Maximum Light Output, Control And Quality

NextLED is more than light emitting diodes—it's a system of five major components that contribute to an efficient platform and a new standard for lighting efficiency and quality.

**Patented, Individually Oriented Optics providing control.**
With NextLED, the individual LEDs are situated in specialized collimating optics that can be individually orientated to control how the light is distributed on the ground and the light levels required. The added benefit is no light pollution or glare.

**Targeted Lumens providing light where it is needed most.**
One of the keys to NextLED lighting efficiency and quality is the unique way that the optics focus and control light. This feature achieves better utilization of lumens in the targeted zones over other light sources.

**Consistent Colour Temperature through controlled binning.**
NextLED fixtures are designed to provide you with a consistent Correlated Color Temperature (CCT). Keene uses a controlled binning process for optimal colour and light output for consistency from fixture to fixture.

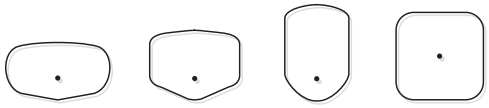
**CRI for Good Color Reproduction.**
Colour Rendering Index (CRI) is a measure of the ability of a light source to render colours compared to a reference source. With a CRI of 72+, the NextLED system makes objects appear more natural and vibrant than conventional light sources.

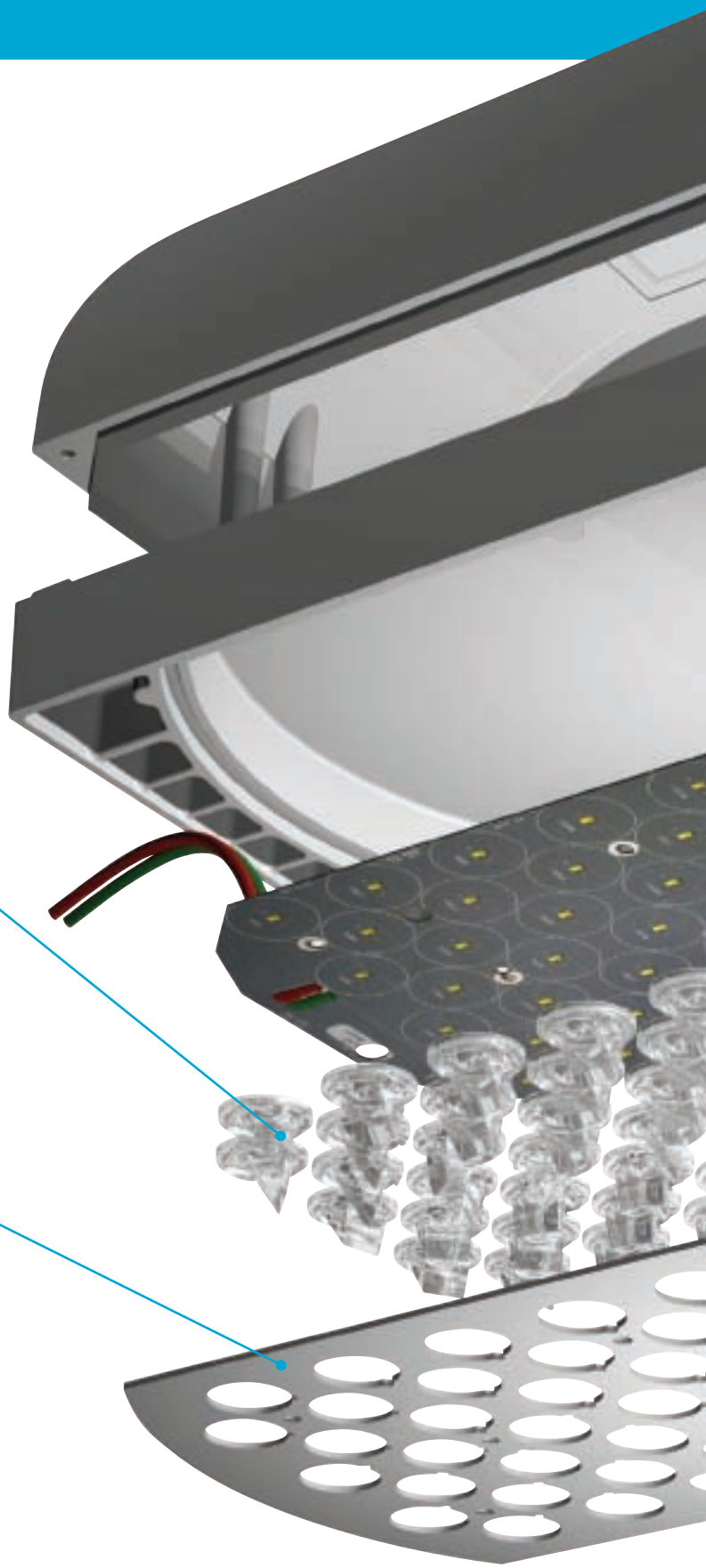
# NextLED Design

Individually oriented optics control and deliver light where it is needed most.

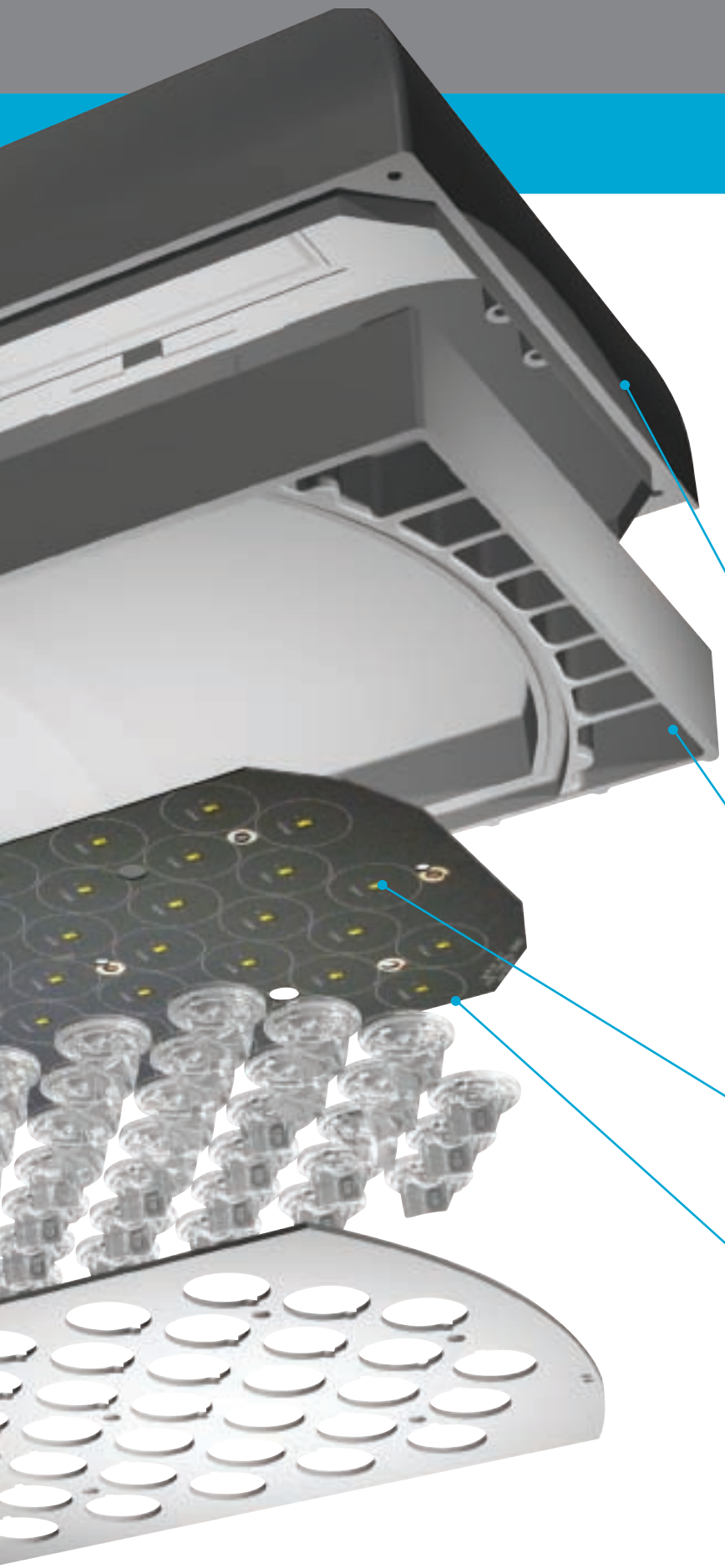
Canlyte has developed an LED light engine called NextLED. The system is not a single unit but rather an array of state-of-the-art LEDs exactly positioned for accurate light generation, placement and heat removal.

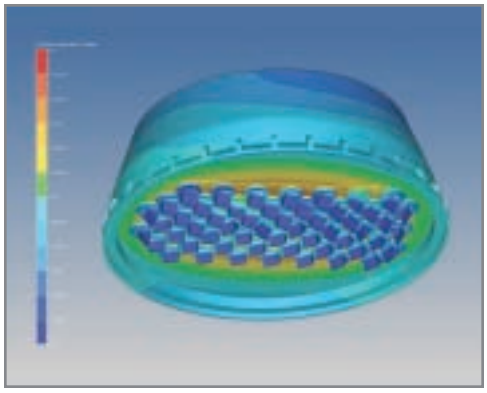
NextLED solves the two main industry LED performance problems regarding uniformity and intensity. NextLED consists of multiple LEDs on a board. On top of that is a keyed optic mask that pre-determines the orientation of each optic. There are numerous masks available that help deliver exact IES roadway formats of Type II, III, IV and V.



Due to rapid advancements in LED technology please consult individual product spec sheets for the most current technical information.





A properly designed heat management system ensures cool operation and a long life.

The NextLED integrated heat management system disperses heat without compromising the ability of the luminaire's housing to keep out moisture, dust and other environmental contaminants.

The heat sink is designed to prevent debris build-up, with a low profile edge or inverted design to maintain proper heat management over the life of the product.

The LEDs are energized by an advanced power source that feeds current to the LEDs and protects the luminaire with advanced surge protection.

A sophisticated circuit board design ensures that in the event of an individual LED failure all the remaining LEDs continue to function at the appropriate operating levels.

# NextLED Technology

## The Technology of an LED System

The NextLED system consists of LEDs mounted to a heat-conducting circuit board and heat sink for optimal performance.

**Sophisticated, Integrated Heat Management for long life.**
Using a thermal heat sink casting for the NextLED, heat is pulled away from the LED and can be transferred to a thermal management system. It includes a specialized circuit board that's bonded to an advanced aluminum heat sink to keep the internal junction of each LED component as cool as possible. This allows the NextLED engine to function at peak performance levels in varying environments and over a wide range of temperatures. LEDs are very heat sensitive and improper heat sinks can significantly impact the life and light output of the LED system.

**Advanced Driver for consistent operation.**
The constant current driver ensures that the LEDs are operated consistently and are regulated initially and over the life of the product. The NextLED driver provides constant energy consumption over life that does not increase over time. This is a significant advantage over constant voltage drivers that do not provide optimum regulation.

**Rugged Technology for our demanding Canadian environment.**
NextLED components are more rugged and damage-resistant than compact fluorescents, HID and incandescent bulbs. They can withstand shock and vibration making them less susceptible to failure. The driver utilizes built-in surge protection to protect against transient voltages.

**Excellent Lumen Maintenance delivered over a long life.**
Traditional lamp sources can rapidly reduce output in a short period of time. NextLED light output will slowly depreciate over its rated life of 60,000 hours, but the change is difficult to detect. An LED is generally considered out of specification when it reaches 70% of its rated output (L70).

**Fewer Pollutants providing an environmentally-friendly solution.**
Unlike fluorescent and HID sources, there are no heavy metals like mercury in NextLEDs to pollute landfills. There are also no Persistent Organic Pollutants (POP) or Volatile Organic Compounds (VOC) to cause injury. A longer life and no lamps to change means less products end up in landfills, providing a sustainable lighting solution.

NextLEDs use ROHS*– compliant parts.

NextLED is designed in accordance with the following industry recommended standards:

- IES LM-79
- IES LM-80

* RoHS is the Restriction of Hazardous Substances Directive which restricts the use of six hazardous materials (such as lead, mercury & cadmium) in the manufacture of various types of electronic and electrical equipment.

# NextLED Innovation

## Changing Today's Reality With NextLED

You can still design with all of the great products you love from Keene—but now you can make them more effective and efficient with the addition of NextLED.

Keene has a wide range of products and applications to choose from: Garage and Canopy Lighting, Wallcube Lighting, Site and Area Lighting and Floodlighting ... all integrated with the NextLED system.

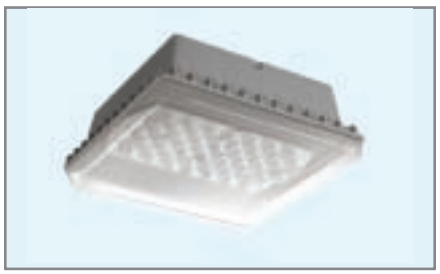
In fact with the introduction of NextLED, Keene now offers the widest range of outdoor LED products on the market. And because NextLED has been created as a system, the LED solution is not only an environmentally-friendly and reliable option, it is also a cost-effective and energy-efficient option for your clients to benefit from for years to come.

Be a part of the next great thing in LED lighting.

Specify the next generation family of outdoor LED products.

**NextLED. By Keene.**

### Garage and Canopy Lighting



Spectra-Lyte Square

Spectra-Lyte Round

### Wallcube Lighting

FloodPak

GeoScapes

### Area Lighting

Silhouette Series

Ellipse Series

### Floodlighting

PentaFlood 2

PentaFlood 3

**‘Doing more with less’ has emerged as the technological challenge of the twenty-first century. Its effects on the lighting industry are dramatic and ongoing.**

NextLED is our way of helping you evolve your specifications to embrace newer technologies comforted by the assurance that it has been tested, proven and backed by us according to industry standards.

**“Technology doesn’t drive change, it enables change”**
**Anonymous**

# Empowering Success

Keene... Makes Light Work



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