

ALTITUDE™



  
KIM LIGHTING





"Every revolution was first a thought in one man's mind."

Ralph Waldo Emerson



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breadth



## KIM LIGHTING

Kim Lighting is known throughout the world as the premier designer and manufacturer of quality, high performance, and architecturally relevant outdoor lighting solutions. Kim Lighting is a division of Hubbell Lighting, Inc.







# visionary

## THE NEXT REVOLUTION IN LED OUTDOOR LIGHTING

Kim Lighting introduces ALTITUDE™, the ultimate in luminaire design innovation with a unique balance of form, engineering and superior optics. The low profile housing is proportional and scalable with six sizes to cover more pedestrian/site/roadway environments than ever before. The result is an architecturally relevant luminaire of unsurpassed quality and flexibility that maximizes the power and performance of Kim's unique patented PicoPrism™ optics.

For over seven decades Kim Lighting has been the industry leader in architecturally relevant outdoor lighting, providing you with the utmost quality in LED luminaires, parking structure products and a comprehensive landscape line. Every luminaire must pass standards of perfection based on innovation, relentless testing and uncompromising quality.

*This is the Next Revolution in LED outdoor lighting perfection. This is Kim Lighting.*

# rugged parts

## DIE-CAST ALUMINUM COMPONENTS

All ALTITUDE™ die-cast components are produced from low copper alloy (<0.6% Cu) aluminum for strength, corrosion resistance and precise detail. Castings are internally reinforced to withstand extreme forces from wind, vibration and ice. The containment walls of the housing increase the structural integrity, separating the electrical components from the optics allowing the electrical components to stay cool.







- TOOL-LESS ENTRY
- PICOPRISM™ MODULES
- BARRIER WALL
- TOOL-LESS ENTRY
- SPEED DIAL
- SPLICE COVER FOR WIRE CONNECT
- LUMINAIRE SLIDES ON SPEED MOUNT



# rugged fixture



ALT60



ALT96



ALT120



ALT180



ALT240



ALT300



# expandable

## ONE SITE. MULTIPLE NEEDS. ONE LUMINAIRE FAMILY.

The key design elements of ALTITUDE™ are expandability and architectural relevance. ALTITUDE is designed to be proportional for the application, to blend and enhance the site. The housing is available in six lengths; as the quantity of PicoPrism™ modules increases, the housing expands proportionally, following Kim's Theory of Relativity. Specify the 60, 96 or 120 LED luminaire for pedestrian walkways, parks and building perimeters. The 180, 240 or 300 LED luminaire is the choice for parking lots, bridges and roadways. ALTITUDE provides the answer and flexibility to the broadest range of design applications filling every niche from the smallest project to the needs of an entire campus.





# breathe

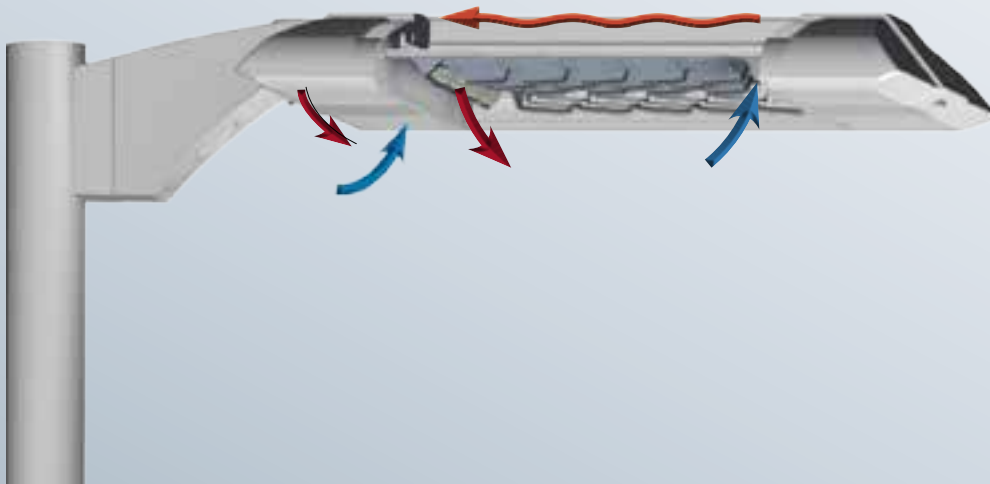
## ADVANCED THERMAL MANAGEMENT

Heat is the enemy of LEDs, shortening their life, reducing their efficiency and performance. The low profile of ALTITUDE™ and ribbed exterior is an integral feature that provides more surface area for heat to be dissipated directly into the environment. An entirely new combination of ribs, vents and solid barrier walls between the optical area and the driver compartments are utilized to keep heat at bay. In addition, the marriage of the ALTITUDE housing and its unique optics creates a luminaire that breathes. The breathing is the result of heat rising inside the luminaire creating a convection current to pull cooling air in from bottom of the luminaire around the PicoPrism modules. This process also eliminates the intrusion of harmful debris, rain and other pollutants.

## AUTOMATIC THERMAL SELF-MONITORING AND ADJUSTMENT

Each EmitterDeck® incorporates thermal monitoring with sensors positioned at the hottest locations. The sensors detect above-tolerance temperatures and automatically lower the current to the system preserving diode life. Lumen output is restored to full brightness when the temperature returns to normal range.

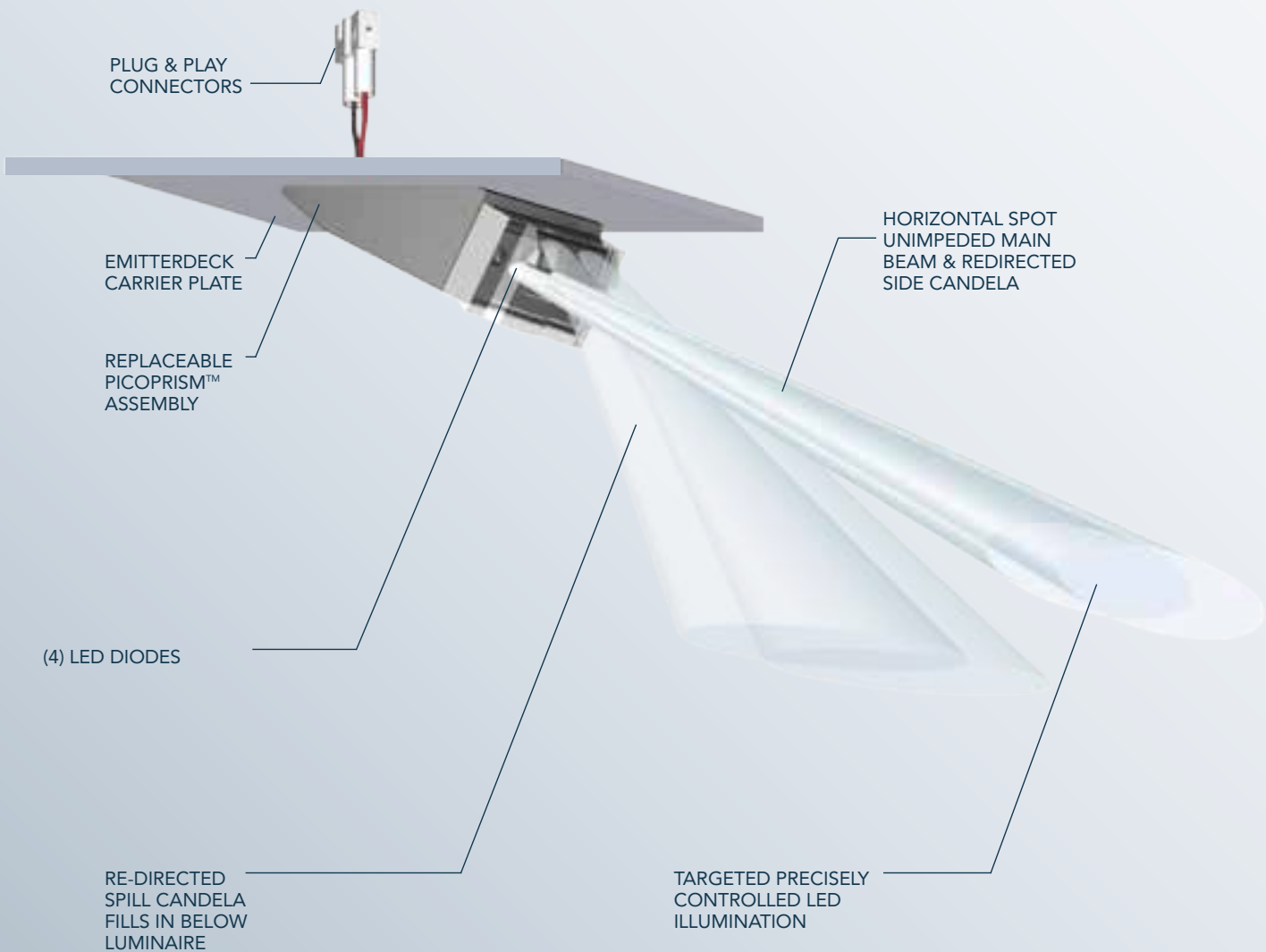
## HEAT DISSIPATION





## THE INVENTIVE PICOPRISM™ MODULE

Each PicoPrism™ assembly is die cast and consists of 4 high performance LEDs with a premium optical grade PMMA acrylic prism. The PicoPrism is designed to IP66 standards to withstand the heavy force of water spray brought on by weather and maintenance. Both the die-cast housing and heat sink are anodized to protect from oxidation and corrosion and to maximize heat dissipation. Each PicoPrism is individually controlled and arranged separately in the housing to prevent heat build up and maximize life.



# performance

## ADVANCED ENGINEERED PRISM

The efficient design of PicoPrism™ makes it highly customizable, allowing the light distribution to be aimed toward the task while amplifying and redirecting to maximize uniformity and prevent light trespass. Each PicoPrism produces a horizontal spot distribution with tight cutoff for a glare free pattern. When multiplied, PicoPrism modules aimed toward the desired task will overlap and combine patterns to achieve outstanding uniformity with low glare. When aimed forward, the backlight from the luminaire is minimized. The horizontal spot from each PicoPrism is aimed at just under 70° which places the main candela at 2.5 mounting heights. As the light pattern spreads across the task, the vertical luminance is ideal for drivers and pedestrians to see obstacles in their path.



# EXCLUSIVE PICOPRISM™ TECHNOLOGY

## CANTED PICOPRISM™ DESIGN

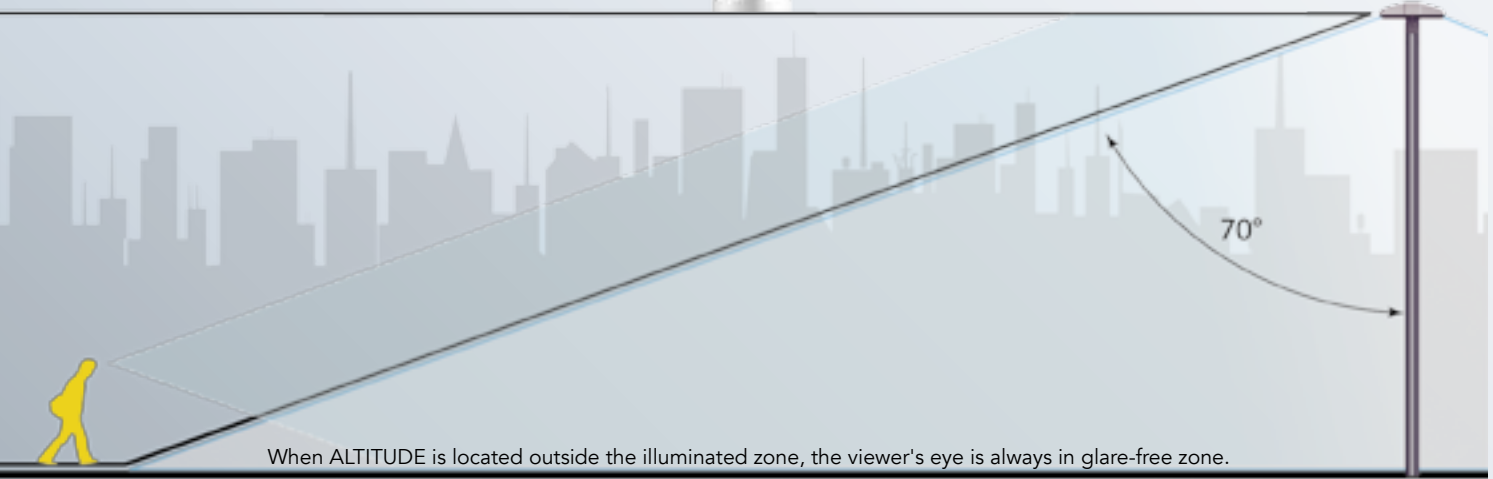
Each ALTITUDE™ LED board and prism is precisely aimed at optimal angles for maximum reach and uniform illumination.

## DEEPLY RECESSED PICOPRISM™

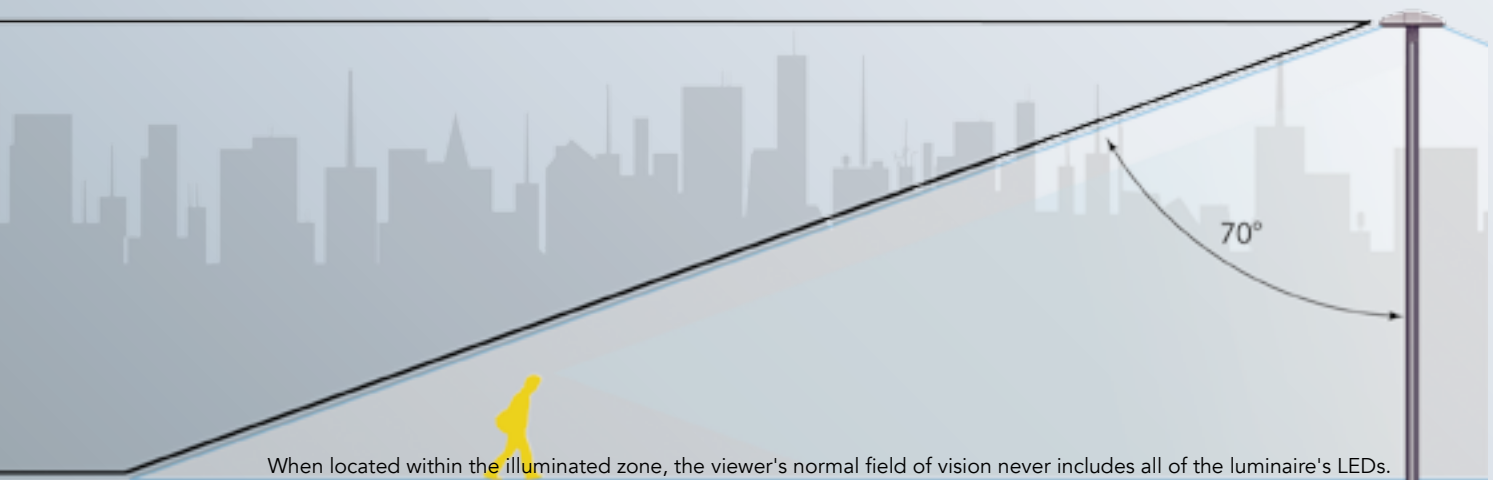
Significantly reduces glare and high angle brightness.

ZERO UPLIGHT

ZERO UPLIGHT



When ALTITUDE is located outside the illuminated zone, the viewer's eye is always in glare-free zone.



When located within the illuminated zone, the viewer's normal field of vision never includes all of the luminaire's LEDs.

# glare, no. brilliant, yes.

## THE 70° PRINCIPLE

The 70° angle is critical for outdoor lighting because of the peripheral vision of the human eye.

While it is true that the average person has 180° peripheral vision, our vertical vision field is limited to only 135°. Our upward vision is blocked by the eye lid and eye brow allowing for only a 60° angle of upward acuity. Candela angles that are under 70° will not cause distraction and provide low glare and good visual acuity. In addition, half of ALTITUDE™ PicoPrism™ modules are directed away from the viewer, automatically reducing glare by nearly 50% as compared to competitor's designs.



For the most current ratings go to  
[www.kimlighting.com/design-tools/ies-library](http://www.kimlighting.com/design-tools/ies-library)

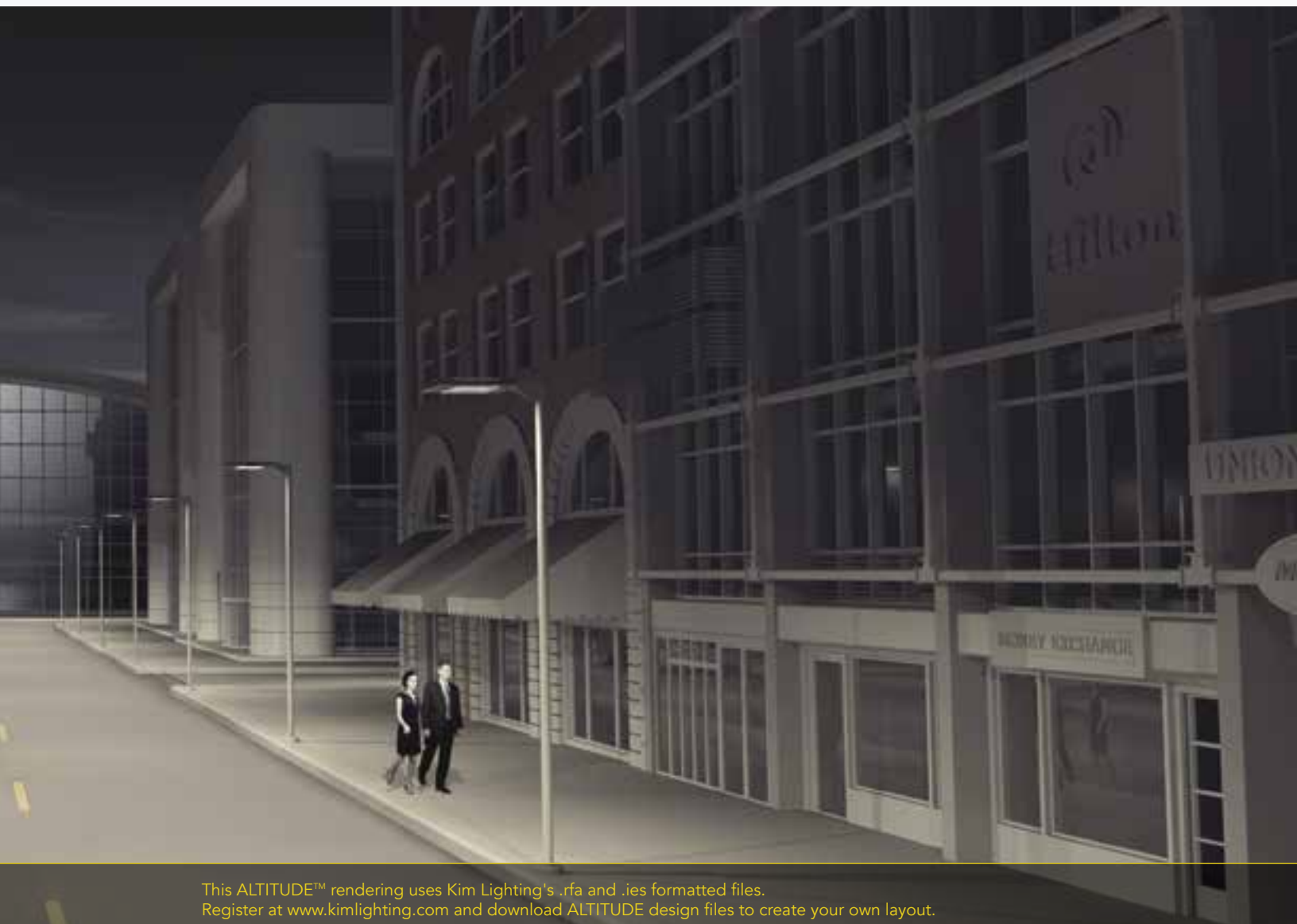


## UNIFORM ILLUMINATION

ALTITUDE™ is perfect for new street lighting or relighting and upgrade projects. Communities can safely utilize existing pole installations. The state-of-the-art optics are a game changer with the lowest max-to-min ratios to maintain uniform illumination between luminaires.



# envision

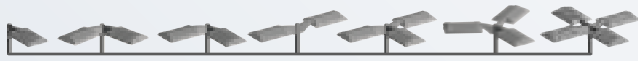


This ALTITUDE™ rendering uses Kim Lighting's .rfa and .ies formatted files. Register at [www.kimlighting.com](http://www.kimlighting.com) and download ALTITUDE design files to create your own layout.

## MAINTAIN EXISTING POLE SPACING

Kim Lighting's patented PicoPrism™ Technology features unparalleled ability to capture and harness light using an optical system that shapes, points and tightly controls the beam of individual clusters of LEDs within independent PicoPrism modules. The result places light where it is needed, creating superior uniformity by evenly distributing horizontal footcandles and reducing glare.





## AMAZING DISTRIBUTION CAPABILITIES

Achieve any IES distribution as well as new unique and custom distributions with the incredible versatility of Kim Lighting's PicoPrism™ modules. Each module is replaceable and upgradeable. The LED deck is designed for maximum optical control. Designers have the flexibility to specify distributions specific to their project's criteria.

[WWW.KIMLIGHTING.COM/DESIGN-TOOLS/IES-LIBRARY](http://WWW.KIMLIGHTING.COM/DESIGN-TOOLS/IES-LIBRARY)



SCAN CODE FOR  
THE MOST CURRENT  
PHOTOMETRY DATA

TYPE I



For narrow pathways or residential streets, 5 mounting heights apart.



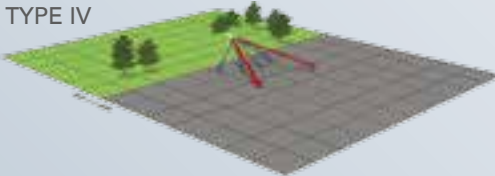
For narrow roads or residential streets, 5 mounting heights apart.

TYPE III



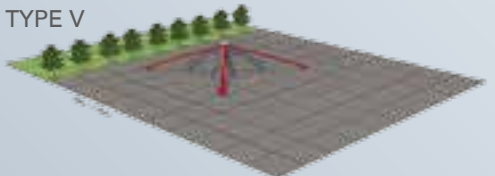
For double lane roads with two-way traffic, 5 mounting heights apart, staggered on both sides of the street.

TYPE IV



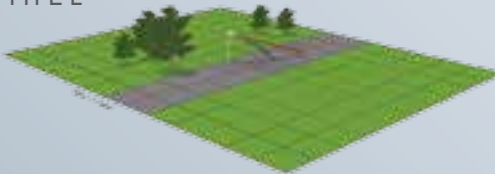
For parking lot perimeter areas with two-way traffic, 4 mounting heights apart.

TYPE V



For parking lot interior areas with lighting desired in all directions, 4 mounting heights apart.

TYPE L



For one-way road or pathway illumination position away from traffic, 4 mounting heights apart.

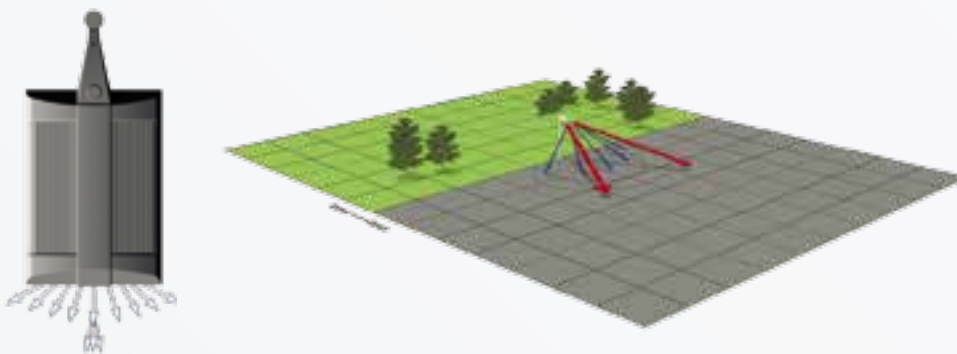
TYPE R



For one-way road or pathway illumination position away from traffic, 4 mounting heights apart.

# respectful

## TYPE IV - NFO



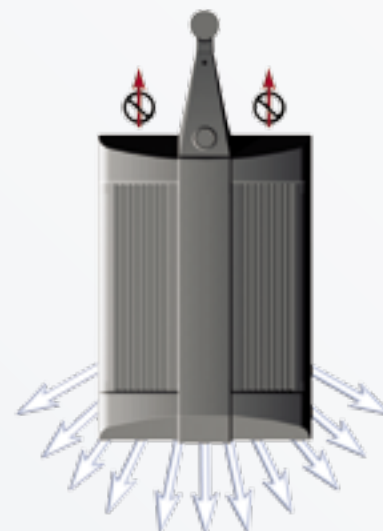
### NEIGHBOR FRIENDLY OPTIC

The prevention of light spill or light trespass is an important design element of ALTITUDE™. PicoPrism™ optics are designed to solve light trespass issues by reducing the back light into neighboring yards or across property lines. The PicoPrism optic shapes, points and directs the beam of light where it is needed. If more shielding is required the Neighbor Friendly Optic option is used to further reduce the presence of light behind the pole. The no backlight configuration meets stringent LEED requirements in the areas of Light Pollution Reduction, Light Trespass and Energy Efficiency. The Neighbor Friendly Optic maintains the appearance and EPA of the luminaire.



The USGBC logo is a trademark owned by the U.S. Green Building Council.

Contact your Kim Lighting representative for additional details on creating custom distributions to meet city ordinances and strict illumination criteria.









low profile



## SPEED MOUNT INSTALLATION

The attachment of the luminaire to the pole is often a neglected detail that ruins a clean design. Not so with ALTITUDE™. In addition, installations are quick and easy with Kim's exclusive Speed Mount.

The tapered arm slides into place and locks onto three sides of the solid aluminum Speed Mount. Then luminaire is secured with a stainless steel bolt on the top of the arm. The Speed Mount is designed for mounting to square or round poles.

## ASSEMBLY



INSTALL SPEED MOUNT, FISH WIRE THROUGH POLE AND SPEED MOUNT



SLIDE LUMINAIRE ONTO SPEED MOUNT AND SECURE



CONNECT WIRES TO TERMINAL BLOCK



REINSTALL SPLICE COVER AND TURN SPEED DIAL

## FIELD UPGRADEABLE COMPONENTS

ALTITUDE uses modern plug-n-play mounting features right out of the box that make installation a snap.



TOOL-LESS WIRE ACCESS



QUICK DISCONNECT HARNESS



REMOVABLE DRIVER TRAY

## HORIZONTAL SLIP-FITTER MOUNT

An optional horizontal slip-fitter arm is available for mounting to a 1-1/4" (1-5/8" diameter) pipe through a 2" pipe (2-3/8" diameter) by means of an adjustable die-cast plate. The casting has a  $\pm 5^\circ$  adjustment to accommodate davit arms that are not horizontal.

## ROTATABLE PHOTOCELL

The optional Rotatable Photoelectric Receptacle is a NEMA twistlock adjustable receptacle which allows for 359° orientation for photoelectric cell or other controls.



SLIDE LUMINAIRE ON TO SLIP-FITTER



ADJUST BOLTS TO SECURE LUMINAIRE



ROTATABLE PHOTOCELL RECEPTACLE

## NO DETAIL TOO SMALL

Another Kim exclusive is the Speed Dial and splice cover. The large dial allows easy access to the terminal block even with gloved hands.



SPEED DIAL



SPLICE COVER



TERMINAL BLOCK

## PICOPRISM™ MODULE REPLACEMENT

To replace a PicoPrism™ module simply remove two stainless steel screws, disconnect the two wires and remove the PicoPrism. To replace an entire EmitterDeck, simply remove the stainless steel screws around the perimeter of the optical area.



DETACH MODULE



QUICK DISCONNECT



SECURE NEW MODULE

# radical

## WALL MOUNT

ALTITUDE™ mounts to the wall using a Speed Mount and mounting bracket.



INSTALL WALL BRACKET



ATTACH SPEED MOUNT  
TO WALL MOUNT COVER



SECURE LUMINAIRE



QR CODE

SCAN CODE FOR  
ALTITUDE LAUNCH VIDEO

KIM LIGHTING



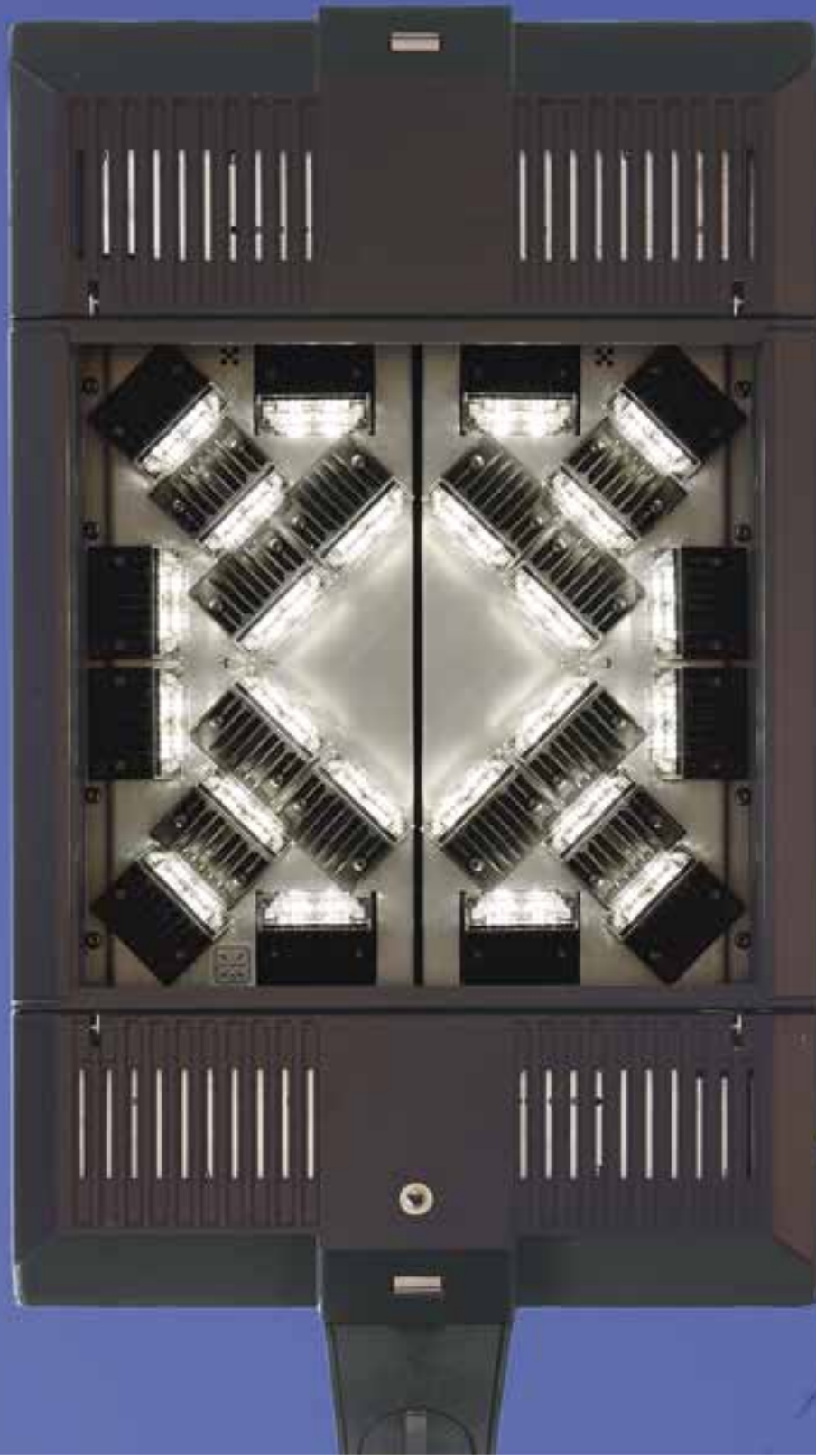
ALTITUDE™



HOLLYWOOD





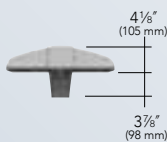
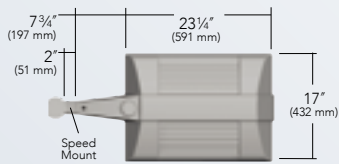


Clemson University, Clemson, SC

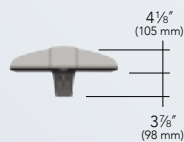
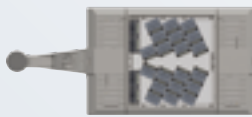
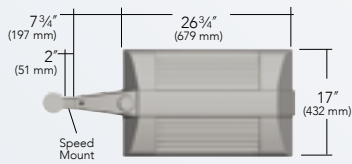


# SPECIFICATIONS / ALTITUDE SMALL

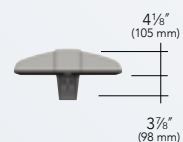
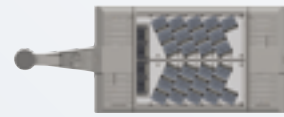
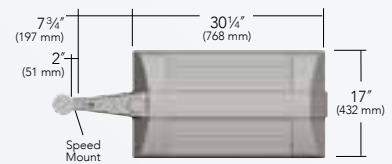
## ALT60



## ALT96



## ALT120



**HOUSING:** One piece, low copper, aluminum extrusion is secured with stainless steel fasteners to low copper aluminum die-cast electrical compartment and end cap. The electrical compartment includes an integrated support arm for mounting directly to round and square poles. A solid barrier wall separates the optical and electrical compartment for thermal control. Electrical compartment and end cap covers are securely fastened with two hinges and a single latch at each cover.

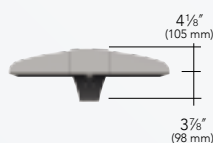
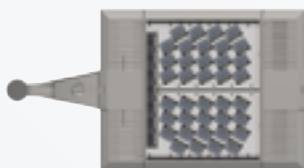
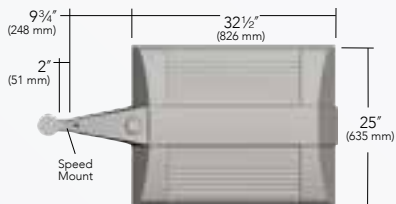
**OPTICAL MODULE:** The high performance optic utilizes the IP66 constructed PicoPrism™ technology securely attached to internal heat sink modules producing incredible uniformity and visual comfort. This PicoPrism optic utilizes canted prism lens aimed toward the task and spread horizontally to produce high lumen output as well as great uniformity. All the optical modules are fastened to the body of the luminaire across the center as well as around the perimeter.

**ELECTRICAL COMPARTMENT:** Input voltage is 120 through 480V @ 50/60Hz. Class 2 output with power factor >0.9 at full load in accordance with the National Electrical Code, ANSI/NFPA 70. Integral 10kV surge suppression protection standard. To address inrush current, slow blow fuse or type C/D breaker should be used. All electronic components are UL and CSA recognized and mounted directly to a driver tray for maximum heat dissipation and modularity. Driver is rated for -40°C starting and has a 0-10V dimming interface for multi-level illumination options.

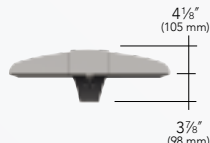
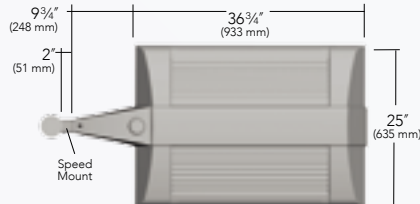
**SUPPORT ARM:** Die-cast, low copper aluminum with splice access cover and tool-less entry. A die-cast pole adaptor and an internal reinforcing plate are provided with wire strain relief. Arm adaptor is circular cut for specified round pole. For field wire connections, a terminal block is mounted in the arm cavity and accessible behind the splice access cover. Accepts #14 to #8 wire sizes and is factory prewired to electrical module quick-disconnect plug inside the electrical compartment.

## SPECIFICATIONS / ALTITUDE LARGE

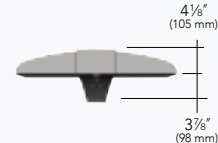
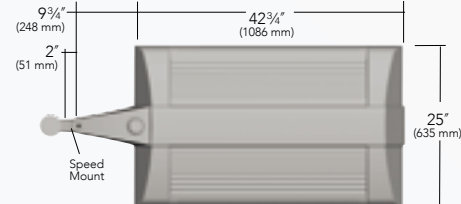
ALT180



ALT240



ALT300



**OPTIONAL HORIZONTAL SLIP-FITTER:** Cast low copper aluminum with stamped, splice access cover. A die-cast adaptor plate is provided to secure the luminaire to 1-1/4" to 2" IPS pipe size arms. The casting has a  $\pm 5^\circ$  adjustment to accommodate davit arms that are not horizontal. For field wire connections, a terminal block is mounted in the arm cavity and accessible behind the splice access cover. Accepts #14 to #8 wire sizes and is factory prewired to electrical module quick-disconnect plug inside the electrical compartment.

**OPTIONAL WALL MOUNT:** ALTITUDE™ easily mounts to the wall. A cast aluminum wall bracket is attached to the wall over the junction box. Bolt the Speed Mount to the cover plate. Then install the assembly over the wall mount bracket. Slide the luminaire into place for hands free wiring and finishing.

**FINISH:** Each luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) polyester powdercoat finish. Standard colors include Black (BL), Dark Bronze (DB), White (WH), Platinum Silver (PS), Stealth Gray (SG), Light Gray (LG), and Custom Color (CC) (Include the RAL#).

**LISTED TO:** UL 1598 Standard for Luminaires - UL 8750 Standard for Safety for Light Emitting Diode (LED) Equipment for use in Lighting Products and CSA C22.2#250.0 Luminaires. RoHS compliant. Meets Buy American requirements within ARRA.

**CAUTION:** Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

US Patent Numbers D674,950 S and D674,965 S.  
Other patents pending.

# ORDERING INFORMATION / ALTITUDE

## ORDERING EXAMPLE:

1SA / ALT3P35 / 120L5K277 / WH / A26-7 / PRA20-4188SA / WH

**1**      **2**      **3**      **4**      **5-11**      **12**

1 MOUNTING: 3SY configuration is available for round poles only.



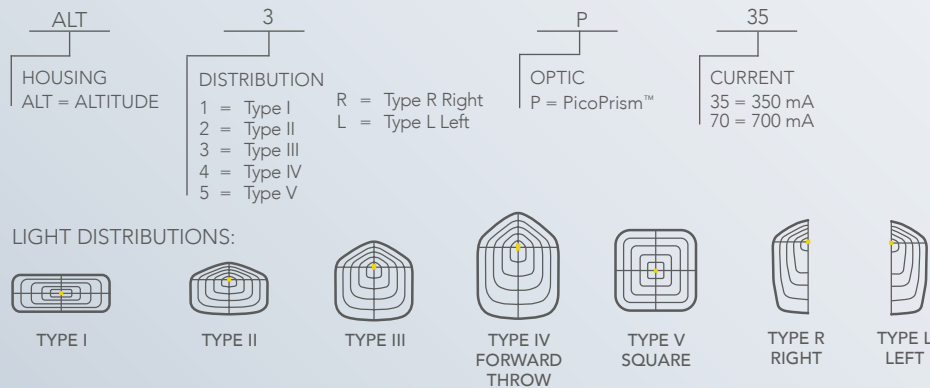
CAT. NO.:    1SA            2SB            2SL            3ST            3SY            4SC            1SW\*

EPA (Effective Projected Area)

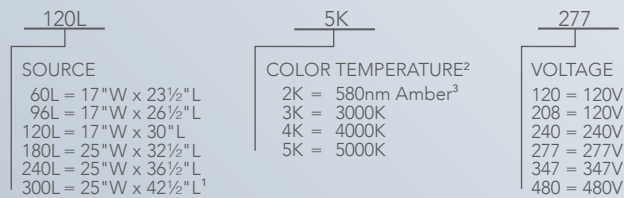
ALT60	0.58	1.17	0.91	1.50	1.50	1.66	n/a
ALT96	0.64	1.28	0.97	1.61	1.61	1.78	n/a
ALT120	0.72	1.44	1.05	1.77	1.77	1.93	n/a
ALT180	0.92	1.84	1.47	2.38	2.38	2.66	n/a
ALT240	1.01	2.01	1.55	2.56	2.56	2.83	n/a
ALT300	1.14	2.28	1.68	2.82	2.82	3.10	n/a

\*WALL MOUNTING: ALTITUDE™ easily mounts to the wall. Cast aluminum wall bracket is attached to the wall over the junction box. Bolt the Speed Mount to the cover plate. Install the assembly over the wall mount bracket. Slide the luminaire into place for hands free wiring and finishing.

2 FIXTURE: Catalog No. designates fixture and light distribution



3 ELECTRICAL MODULE:



¹Only available in 350mA.

²For custom optics and color temperature configurations, contact factory.

³Turtle friendly.

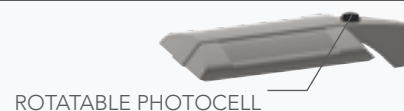
4 FINISH: TGIC powder coat

Color:    Stealth Gray    Light Gray    Platinum Silver    White    Black    Dark Bronze    Custom Colors  
CAT. NO.:    SG            LG            PS            WH            BL            DB            CC\*

\*Consult your Kim Lighting representative for custom colors.

**5 OPTIONAL FUSING:** High temperature fuse holders factory installed inside the fixture housing. Fuse is included.  
 (internal only) Line Volts: 120V 208V 240V 277V 347V 480V  
 Cat. No.: SF DF DF SF SF DF

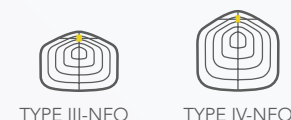
**6 OPTIONAL ROTATABLE PHOTOCELL RECEPTACLE:**  
 CAT. NO.: **A26-7**  
 Rotatable 7 wire photocell receptacle provided for NEMA base photocell (by others).



**7 OPTIONAL LENSES:**  
 CAT. NO.: **FGL / FPL**  
 One-piece flat glass (FGL) or polycarbonate (FPL) lens slips into reveal. Extra silicone gasketing will be provided to retain a clear optical compartment. (Only available for 350mA systems).  
 CAUTION: Use only when vandalism is anticipated to be high.



**8 NEIGHBOR FRIENDLY OPTIC:**  
 CAT. NO.: **NFO**  
 Integrated Neighbor Friendly Optic on each PicoPrism™ module to completely control unwanted backlight. Most effective with Type III and IV distributions.



**9 OPTIONAL HORIZONTAL SLIP-FITTER MOUNT:**  
 CAT. NO.: **HSF**

Replaces standard mounting arm with a cast aluminum fitter to adapt to a horizontal 1 1/4" to 2" pipe-size mounting end (1 5/8" to 2 3/8" OD). The casting has a ± 5° adjustment to accommodate davit arms that are not horizontal.



**10 OPTIONAL VERTICAL SLIP-FITTER MOUNT:**

Allows fixture or fixtures with standard mounting arm to mount to a pole with a 2" pipe-size tenon (2 3/8" O.D.). Minimum 4" tenon length required.

Specify configuration (1SA, 2SB, 2SL, 3ST, 3SY, 4SC) 4" round or square aluminum with flush cap. Finish to match fixture and arm. NOTE: 3Y only available on round slip-fitter.

CAT. NO.:		CAT. NO.:		Mounting Configuration
VSF-1SA		SVSF-1SA		1SA - Single arm mount
VSF-2SB		SVSF-2SB		2SB - 2 at 180°
VSF-2SL		SVSF-2SL		2SL - 2 at 90°
VSF-3ST		SVSF-3ST		3ST - 3 at 90°
VSF-3SY		_____		3SY - 3 at 120°
VSF-4SC		ROUND		SVSF-4SC

**11 OPTIONAL WIRELESS CONTROL:**

For wireless control options, go to <http://www.hubbell-automation.com>.

**12 POLES:**

See Kim Arms and Poles Selection Guide for a complete selection of round and square poles in aluminum and steel.

For full warranty see <http://www.hubbellighting.com/resources/warranty>



# Additional Kim Lighting Premium LED Families



ALTITUDE®  
SITE / ROADWAY



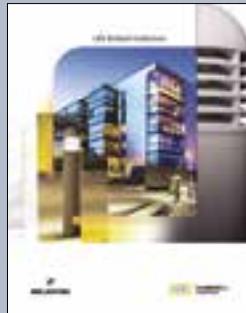
THE PICO PROGRAM  
SITE / ROADWAY



WARP9  
SITE / ROADWAY



LIGHTVAULT® 8  
IN-GRADE



LED BOLLARD COLLECTION  
LOW LEVEL



LANDSCAPE LIGHTING  
COLLECTION



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