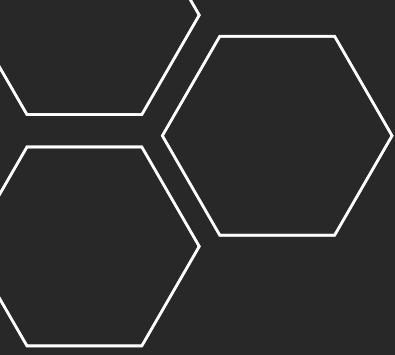


BEACON
PRODUCTS



VIPER

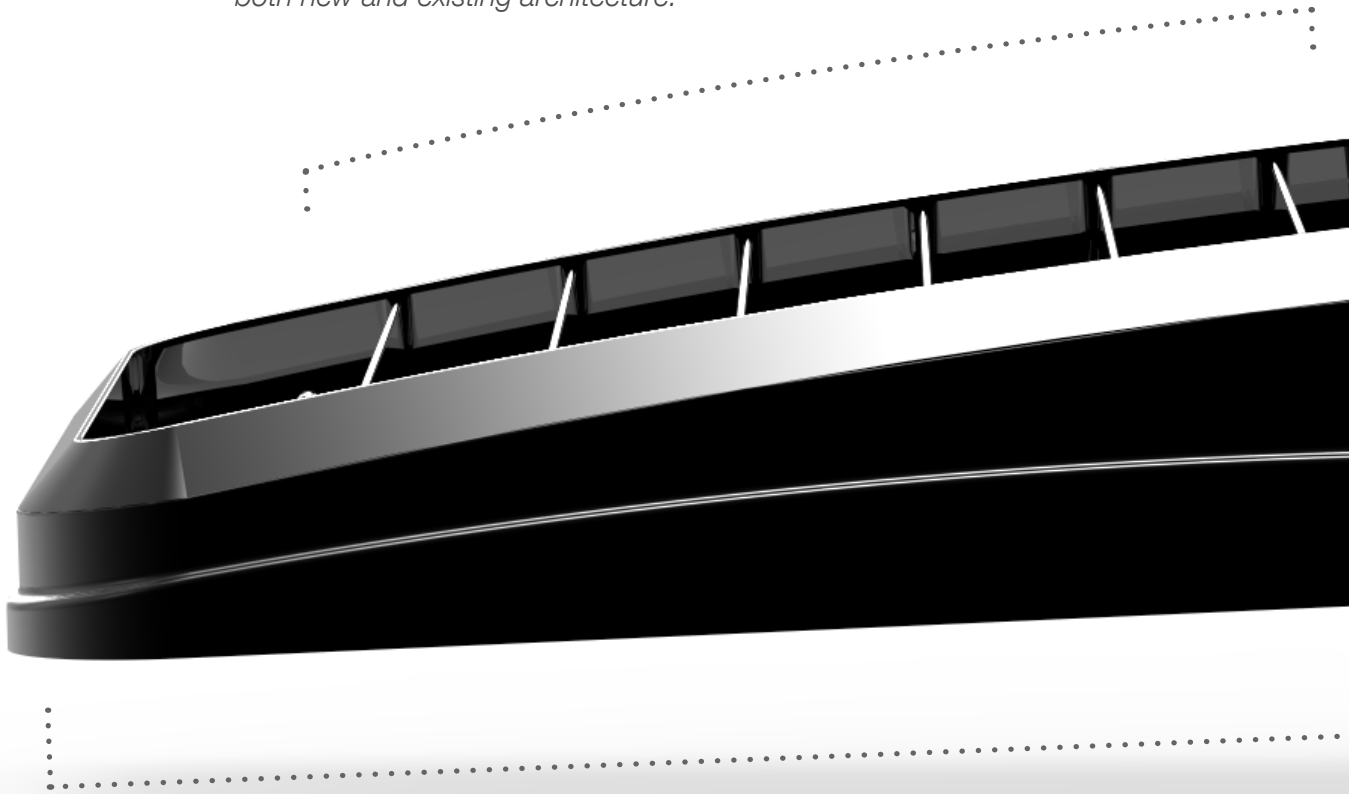
For LED Roadway Applications



VIPER LED ROADWAY LIGHTING

I INTEGRATED HEAT DISSIPATION

The Viper LED lighting system from BEACON PRODUCTS offers a low-profile, ultimate solution in pathway, roadway, and parking applications. With its contemporary-streamlined design, it leads the industry with a unique visual appearance that is sure to complement both new and existing architecture.



A AERODYNAMIC BODY

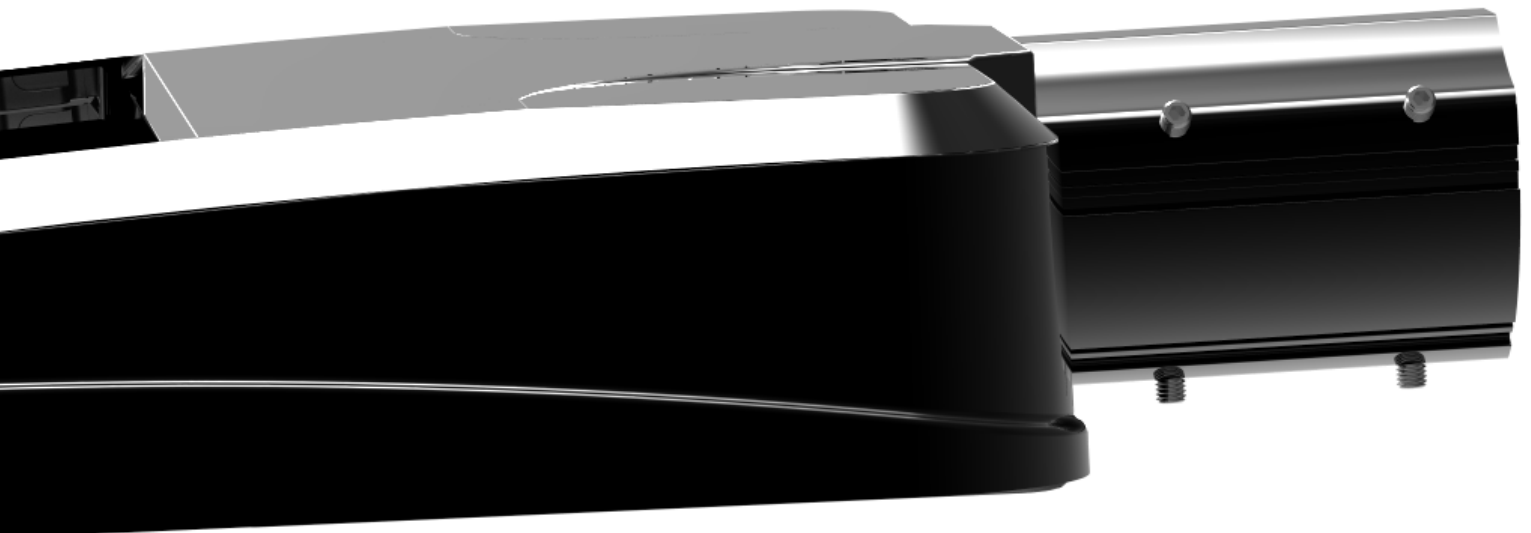
The clean design generates a universal appearance that will compliment today's and yesterday's architectural styles. Aesthetically pleasing style ensures a low EPA of 1ft² for the large Viper and 0.67ft² for the small Viper.

FEATURES

- *Contributes to a 'Green' environment thru power savings*
- *Contemporary & Elegant Design*
- *103 lu/w efficiency*
- *2 sizes (VP-S and VP-L) offer a TOTAL appearance in all applications*
- *9 wattages from 50W up thru 280W of LED efficiency*
- *6 lighting distributions puts light where it is needed, not wasted*
- *LifesShield™ thermal circuit protection insures optimum LED performance*
- *5 mounting options*

The Viper's **unique design** offers an added **advantage** in thermal management thereby providing even longer life of the **high wattage LED configurations** while its unique visual appearance is sure to complement the **both new and existing architecture**.

This Viper is THE **cutting edge** in LED **style, performance and technology**.



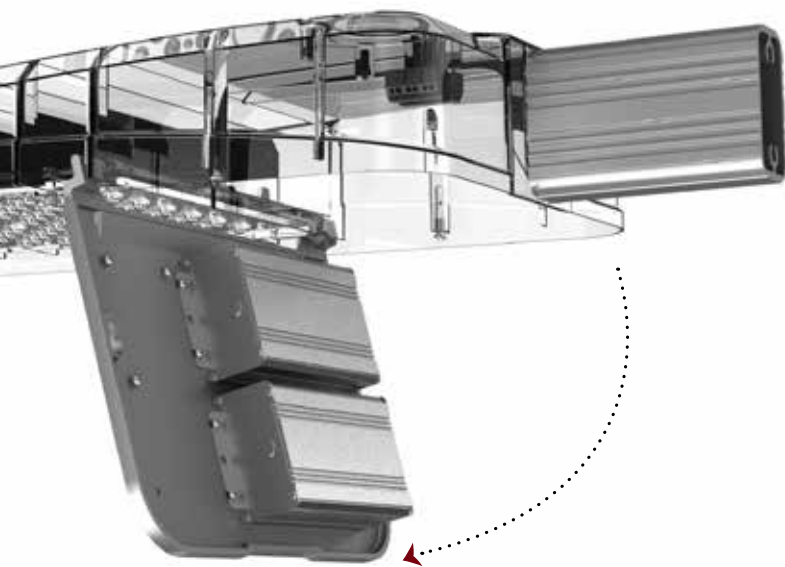
Large Viper (VP-L)
shown with 2" slip fitter (SF2) option



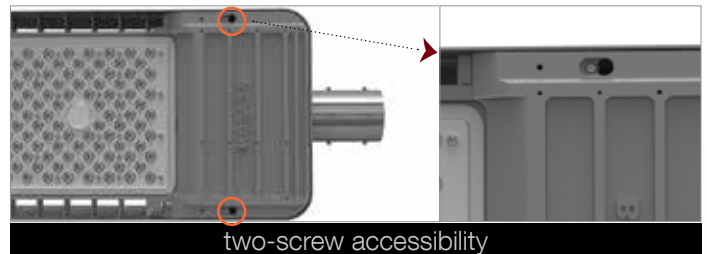
Small Viper (VP-S)
shown with 2" slip fitter (SF2) option



VIPER INSTALLATION AND MAINTENANCE

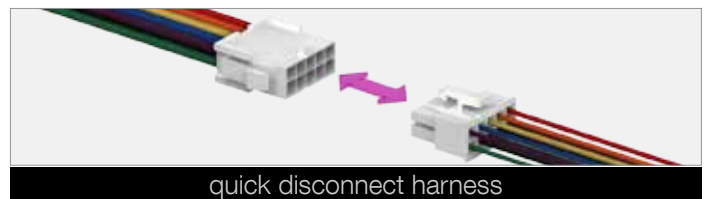


In addition to its cutting edge design, the Viper provides ease of installation and maintenance.



HINGED ACCESS

The swing-down, hinged door (with two screws) provides access to the drivers, photocell and terminal block. It allows for easy installation and hassle-free maintenance and component hardware replacement.

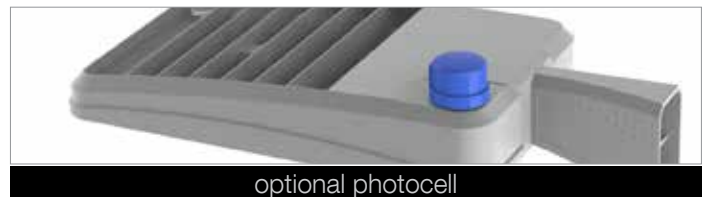
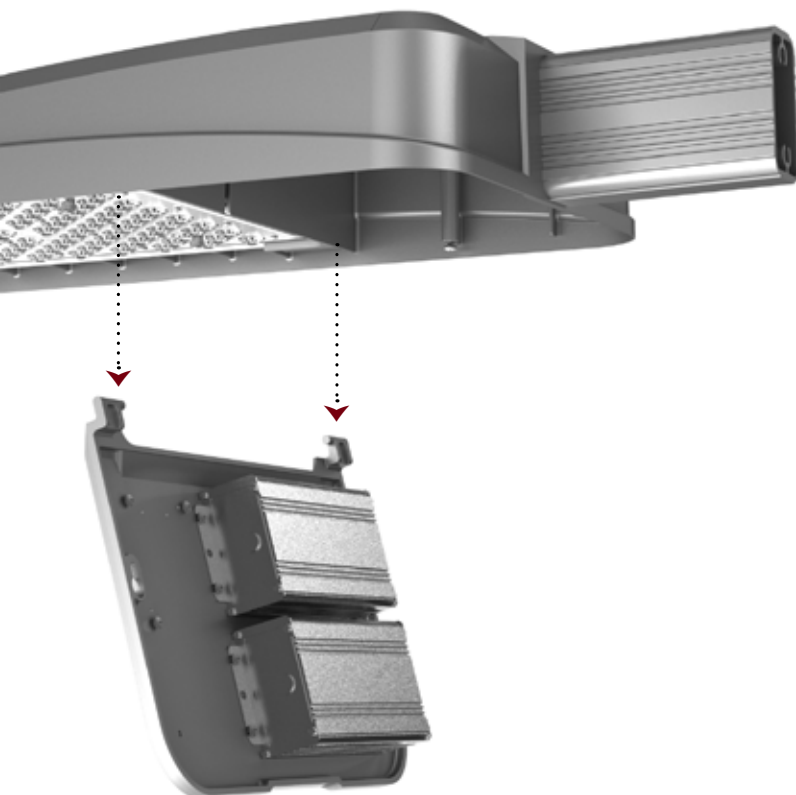


QUICK DISCONNECT WIRING HARNESSES

The swing-down, hinged door provides access to the drivers, photocell and terminal block. It allows for easy installation and hassle-free maintenance and component hardware replacement. It can also be removed and completely detached if necessary.

REMOVEABLE DOOR

The maintenance door is designed to not only swing down to allow access, but it is also capable of being completely removed allowing for uninhibited access to the mounted components and wiring.



PHOTOCELL (optional)

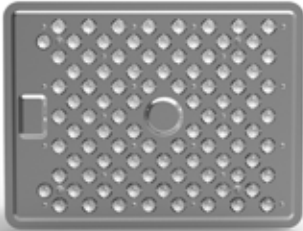
The optional photocell provides the ability for dusk-to-dawn control and communication when 'Smart' photocells are used.

LED BEZEL

The 'Heart' of Beacon Products leadership in utilizing the latest in LED technology is incorporated in the unique LED Bezel consisting of an LED engine, LED lamps, optics, gasket and stainless steel bezel and ON-Board LifeShield™ electronics.

With Beacon's specially designed optical-grade acrylic lenses, each bezel produces a choice of 6 different, specific light distribution patterns which eliminates light trespass, reduces glare and maintains uniformity regardless of the mounting height.

This modular component is featured in many of the Beacon Products luminaires, including the Genesis, Genesis-2X, Urban, Endura, Aurora, Traverse, and Cruzler.



MOUNTING OPTIONS

Large Viper (VP-L) w/ Rectangular Arm (RA)



Small Viper (VP-S) w/ Rectangular Arm (RA)



Large Viper (VP-L) w/ 2" Slip Fitter (SF2)



Small Viper (VP-S) w/ 2" Slip Fitter (SF2)





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design . performance . technology

Ordering
rev 03.27.2013

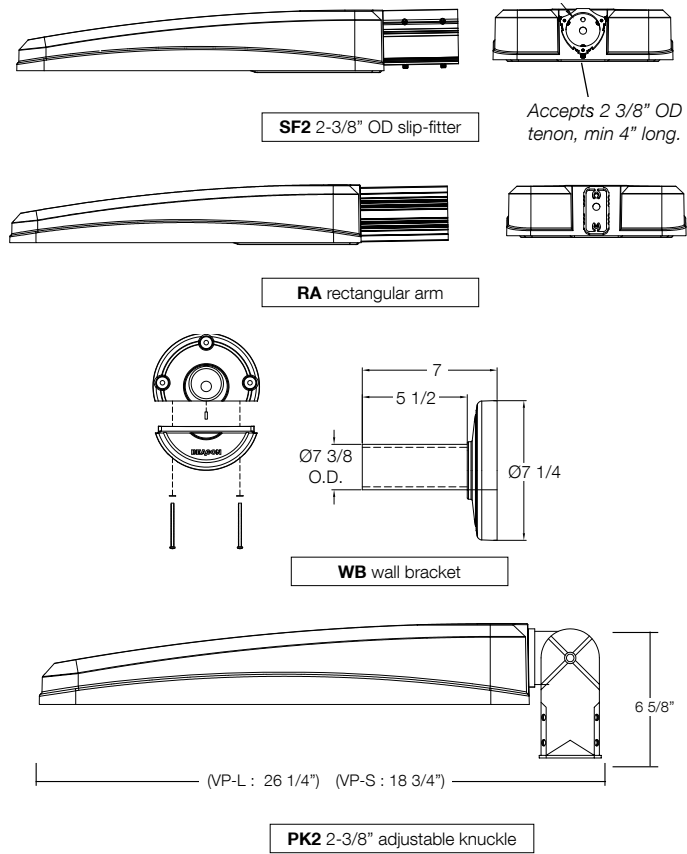
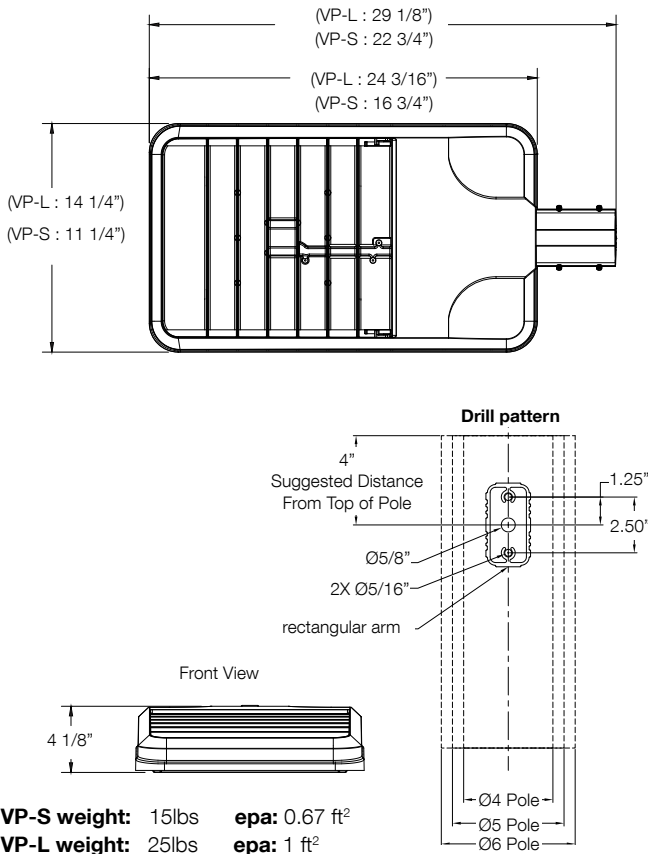
Type:

Ordering Code:

Job Name:

Notes:

VIPER (LARGE & SMALL)



ORDERING EXAMPLE: VP-L / 96NB-280 / 5K / T5R / UNV / PCRU-TL / SF2 / BB

model	engine-watts	cct-color temp	optics	voltage	electrical options	mounting options	color
VP-S (small)	22NB-50	5K 5000K	T2 type II	UNV 120-277	PCRU photocell (specify voltage) ¹	RA rectangular arm	BB black
	22NB-70	4K 4000K	T3 type III	347	PCR3 photocell receptacle ²	SF2 2-3/8" OD slip-fitter	BZ bronze
	30NB-70	3K 3000K	T4 type IV	480	PCR4 photocell receptacle ³	PK2 2-3/8" adjustable knuckle	BW white
	30NB-90	5k 5000K (standard)	T5R rectangular	12VDC (consult factory)	TL twistlock photocontrol	WB wall bracket	BG green
VP-L (large)	64NB-135		T5QM sq med.	NP no photocontrol	BY gray		
	64NB-190	T5W round wide		2PF dual power feed ^{4,5}	MB met. bronze		
	80NB-180			std. electrical options	MT met. titanium		
	80NB-235			lifeshield™ thermal protection	___ RAL		
	96NB-220			20k-surge protection ⁶	___ OTHER		
	96NB-280			dimming drivers			

¹ 120-277 only ² 347V only ³ 480V only ⁴ not available on 64NB-145 or 30NB-90 ⁵ not available @ 347V/480V input ⁶ not available @ 347V input

VIPER (LARGE & SMALL)

GENERAL: The Beacon Viper luminaire is available in two sizes with a wide choice of different LED wattage configurations and optical distributions designed to replace HID lighting up to 1000W MH or HPS and with 5 different mounting options for application in a wide variety of new and existing installations. Luminaires are suitable for wet locations.

BEZEL OPTICAL SYSTEM: Each Viper luminaire is supplied with an one piece optical cartridge system consisting of an LED engine, LED lamps, optics, gasket and stainless steel bezel. The cartridge is held together with internal brass standoff soldered to the board so that it can be field replaced as a one piece optical system. Two-piece silicone and microcellular polyurethane foam gasket ensures a weather-proof seal around each individual LED.

The optical cartridge is secured to the die cast housing with fasteners. The optics are held in place without the use of adhesives. The cartridge assembly is available in various lighting distributions using TIR designed acrylic optical lenses over each LED.

LIFESHIELD™ CIRCUIT: Thermal circuit shall protect the luminaire from excessive temperature by interfacing with the 0-10V dimmable drivers to reduce drive current as necessary. The factory-preset temperature limits shall be designed to ensure maximum hours of operation to assure L70 rated lumen maintenance. The device shall activate at a specific, factory-preset temperature, and progressively reduce power over a finite temperature range.

A luminaire equipped with the device may be reliably operated in any ambient temperature up to 55°C (131°F). The thermal circuit will allow higher maximum wattages than would be permissible on an unregulated luminaire (if some variation in light output is permissible), without risk of premature LED failure or lumen depreciation. Operation shall be smooth and undetectable to the eye. Thermal circuit shall directly measure the temperature at the LED solder point. Thermal circuit shall consist of surface mounted components mounted on the LED engine (printed circuit board). For maximum simplicity and reliability, the device shall have no dedicated enclosure, circuit board, wiring harness, gaskets, or hardware. Device shall have no moving parts, and shall operate entirely at low voltage. The device shall be located in an area of the luminaire that is protected from the elements. Thermal circuit shall be designed to “fail on”, allowing the luminaire to revert to full power in the event of an interruption of its power supply, or faulty wiring connection to the drivers.

Device shall be able to co-exist with other 0-10V control devices (occupancy sensors, external dimmers, etc.). The device will effectively control the solder point temperature as needed; otherwise it will allow the other control device(s) to function unimpeded.

PRINTED CIRCUIT BOARD (PCB): Aluminum thermal clad board with 0.062” thick aluminum base layer, thermally conductive dielectric layer, 0.0014” thick copper circuit layer circuit layer designed with copper pours to minimize thermal impedance across dielectric. Board will be mounted to the heat sink using minimum 12 #4-40 screws to ensure contact with thermal pad and heat sink. Use of thermal grease will not be allowed.

HOUSING AND LED THERMAL MANAGEMENT: The Viper’ monolithic housing design creates over 4.5 square feet (small Viper) or 7.7 square feet (large Viper) of heat-sinking surface area. Vertical fins, combined with flow-thru openings prevent sediment and moisture buildup on critical heat sinking surfaces without the need for grates, screens or other debris control tactics. The Viper housing, electrical compartment and fitter are made from die cast aluminum that is pre-treated and powder-coated to meet the most rugged industry standards. The finish is corrosion resistant to meet ASTM B-117, resists cracking or loss of adhesion per ASTM D522, resists surface impacts of up to 160 inch-pound. All external hardware is corrosion resistant. The housing serves as a heat-sink for the LED bezel with a separate compartment for the drivers.

ELECTRICAL ASSEMBLY: The fixture electrical compartment shall contain all LED driver components and shall be provided with a push-button terminal block for AC power connections. The housing is designed for an optional twist lock photo control receptacle.

ACCESSIBILITY: Although the Viper luminaire is designed to operate for many years without maintenance, accessibility is a key component in its design. The Drivers are mounted on a removable door that is secured with keyslotted screws and hinges down for convenient access. The drivers are field replaceable using quick disconnects.

DRIVERS: Luminaires are equipped with an LED driver that accepts 100V through 277V, 50 Hz to 60 Hz (UNIV), or a driver that accepts 347V or 480V input. Power factor is .92 at full load. All electrical components are rated at 50,000 hours at full load and 25°C ambient conditions per MIL- 217F Notice 2. Dimming drivers are standard, with connections for external dimming equipment available upon request. Component-to-component wiring within the luminaire may carry no more than 80% of rated load and is listed by UL for use at 600VAC at 50°C or higher. Plug disconnects are listed by UL for use at 600 VAC, 13A or higher. 13A rating applies to primary (AC) side only.

SURGE PROTECTOR: The onboard surge protector shall be a UL recognized component for the United States and Canada and have a surge current rating of 20,000 Amps using the industry standard 8/20 pSec wave. The LSP shall have a clamping voltage of 925V and surge rating of 540J. The case shall be a high-temperature, flame resistant plastic enclosure.

FASTENERS: All fasteners shall be stainless steel. When tamper resistant fasteners are required, spanner HD (snake eye) style shall be provided (special tool required, consult factory).

AGENCY CERTIFICATION: The luminaire shall bear a CSA label and be marked suitable for wet locations.

WARRANTY: Beacon luminaires feature a 5 year limited warranty. Beacon LED luminaires with LED arrays feature a 5 year limited warranty covering the LED arrays. LED drivers are covered by a 5 year limited warranty. PIR sensors carry a 5 year limited warranty from the sensor manufacturer. See Warranty Information on www.beaconproducts.com complete details and exclusions.

Power/Lumens & Distributions

Model	Engine	Wattage	Delivered Lumens (varies by optic)	Delivered LPW	TM21 Calculated % Lumen Maint. at 100,000 hrs
VP-S	22NB	50	4700-5020	93-103	96.19%
VP-S	22NB	70	5780-6200	82-103	85.79%
VP-S	30NB	70	6408-6850	91-103	95.02%
VP-S	30NB	90	7700-8260	85-97	85.79%
VP-L	64NB	135	12500-13150	93-97	93.84%
VP-L	64NB	190	16500-17900	86-94	79.77%
VP-L	80NB	180	17000-18100	93-100	92.73%
VP-L	80NB	235	20000-21780	86-93	79.97%
VP-L	96NB	220	20500-21780	93-100	92.73%
VP-L	96NB	280	24700-26130	88-93	79.77%

TM21 is the framework for taking LM-80 data and making useful LED lifetime projections. Reported and Calculated Lifetimes shown are based on hours at the time of this printing. For current Reported and Calculated hours please contact factory or Beacon’s web-site.

CCT (color Temp) Lumen Output Multipliers	CRI (Color Rendering)
5000K = 1.0	min 67 CRI
4000K = .92	min 70 CRI
3000K = .75	min 80 CRI

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