PHILIPS

G GARDCO
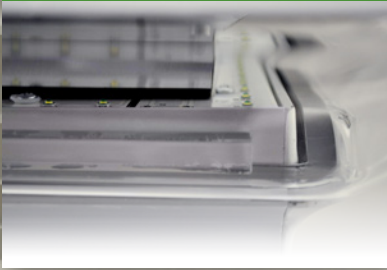
LED

Site & Area

Vizor LED

Engineered
for **superior**
performance

Parking & under canopy series G3
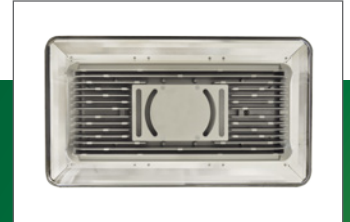
Vizor LED

Industry's first
Non-Direct View Optics
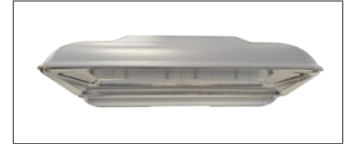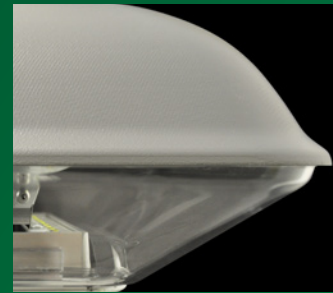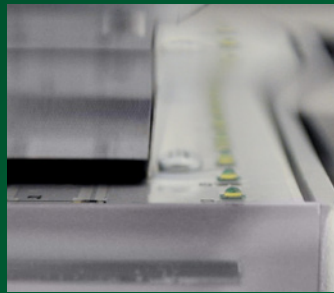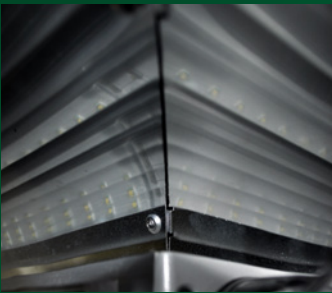
Philips Gardco engineers set out to create a solution to maximize photometric performance without sacrificing safety and visual experience for drivers and pedestrians alike.

VizorLED delivers a unique optical package using Non-Direct View (NDV) optics that minimizes glare, delivers volumetric lighting uniformity, maximizes efficiency and creates an inviting and comfortable environment for people to park and walk through. VizorLED's new Gen-3 single piece die-cast aluminum housing has a single point of entry and improved heat sink design, ensuring a long system life up to 100,000 hours. Both standard and VizorLED with Proximo luminaires feature an IP65 rating to ensure maximum longevity and performance, years after installation for piece of mind.

Vizor LED
....
Site & Area
....
At a glance
....

A novel approach

Non-direct view (NDV) optics

VizorLED Gen-3 parking, low-bay, and under canopy luminaire is designed with Non-Direct View (NDV) optics where the LED source is hidden from direct line-of-sight, compared to traditional LED based luminaires where the LEDs are in direct view of drivers and pedestrians. The NDV approach significantly reduces discomfort glare and brightness, increases overall visual comfort and safety, while maximizing photometric performance.

One fixture per bay solution

High-lumen white LEDs combined with precision engineered optics and premium materials allow designers to specify one fixture per bay compared to the typical two fixtures per bay solution. As a result, owners will achieve superior energy savings and reduced installation costs.

Programmable and wireless controls deliver additional energy savings

As the industry increases its demand for reducing energy consumption during unoccupied periods, VizorLED Gen-3 offers two types of occupancy based control systems (programmable and wireless controls) to help you reduce your energy consumption and total cost of ownership. Both options requires no additional wiring during installation.

Superior thermal management for 100,000 hour system life

VizorLED's Gen-3 innovative thermal management system has improved its system (LED and driver) life expectancy from 60,000 up to 100,000 hours. The predicted life of the LEDs alone may extend well beyond 150,000 hours, thanks to our extremely low LED junction temperatures.

NDV optics deliver
superior performance

Whether you are driving a vehicle or a pedestrian within a space, having proper illumination to meet your physical and safety requirements is just as important as how the light is delivered.
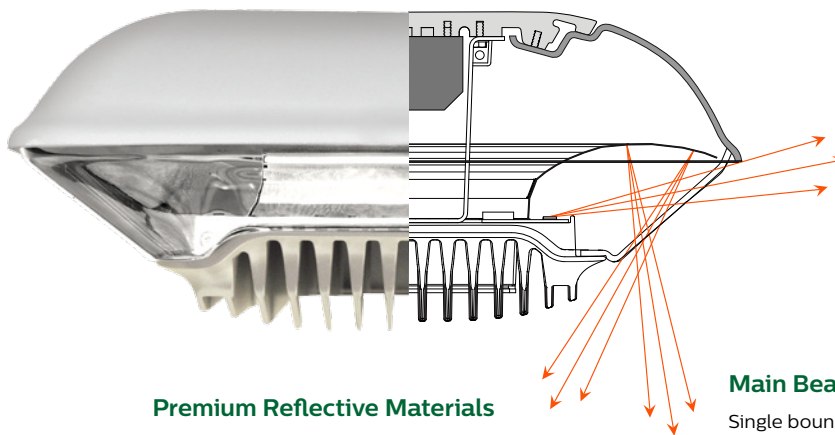
It does not matter how many footcandles illuminate a space if disability glare and lack of volumetric illumination effects your ability to see clearly and easily. Any distraction, even for a fraction of a second, can end in disaster. VizorLED's Non-Direct View Optics (NDV) help to create a wonderful visual experience unrivaled by today's competition.

Competition's direct view design

VizorLED NDV design
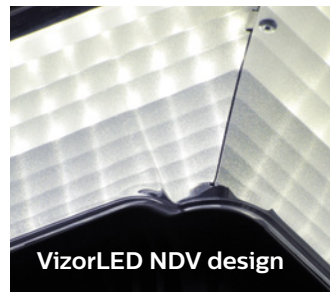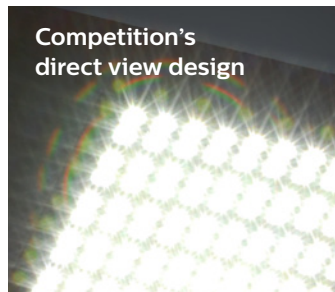
Seeing is truly believing

Many LED parking garage luminaires' main beam angles are facing directly towards the viewer, causing high levels of glare and discomfort. VizorLED's NDV aims the LEDs upward to remain out of direct line of sight to significantly reduce disability glare and excessive brightness.

NDV
Non-Direct View Optics

Up to 10% Uplight

VizorLED is designed to aim its LEDs toward the ceiling and vertical surfaces to eliminate the cave effect typically created by optics aimed downward. VizorLED's 10% uplight provides soft, uniform illumination and improves the volumetric lighting ratio in the space.

Premium Reflective Materials

Unique specular and slightly diffuse characteristics help to maximize efficiency while providing general scatter illumination directly below the luminaire. This indirect system eliminates traditional hot spots directly below the luminaire for maximum uniformity.
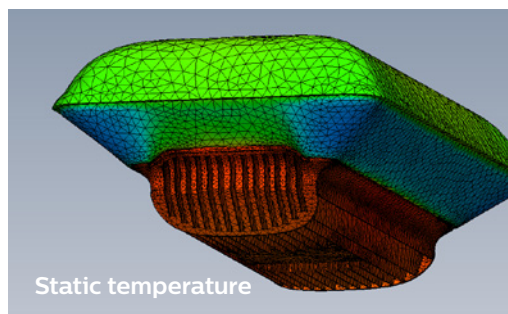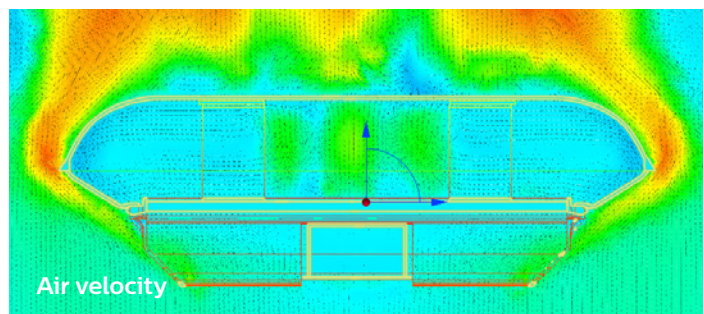
Main Beam

Single bounce indirect optics maximize efficiency while directing peak candlepower at optimum angles to meet recommended IES guidelines. Eliminates wasted flux directly beneath the luminaire to maximize volumetric illumination and design uniformity. Main candela: 68o – 'B' symmetric. 35o – 'D' downlight.

Vizor LED
....
Site & Area
....
**Performance and
life expectancy**
....

Life expectancy

Air velocity

Vy- Velocity (in/s)

-4.76055 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 9.76406

Static temperature

Static Temperature (°C)

40   45   50   55   60   62.9852

Thermal management and predicted life expectancy

Philips Gardco's team utilizes the latest innovations in engineering software to develop proper heatsink designs and simulate performance results. Moldflow and thermal analysis software ensure VizorLEDs castings will be structurally sound and will effectively dissipate heat generated from high brightness white LED's. As a result, Philips Gardco's engineer team was able to channel air where needed, increasing conductivity and keeping the LEDs and driver cooled for optimal performance.
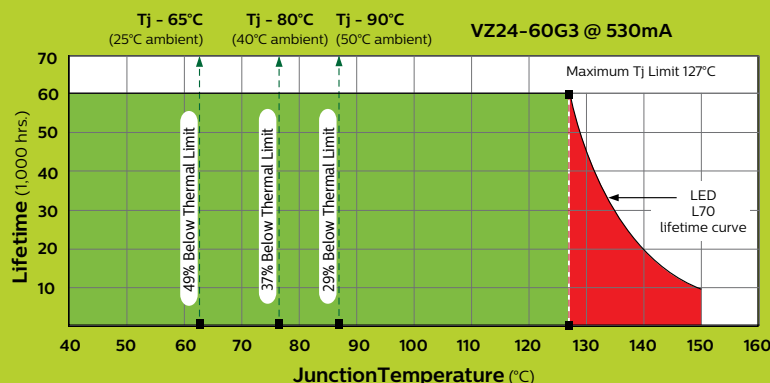
Measured junction temperature (Tj)

Rated system life (hours)[1]

Model	25°C (77°F)	50°C (122°F)
VZ24-60G3-530	100,000	50,000

TM-21[1] Reported and projected lumen maintenance life[6]

Model	Reported [3,4] lumen L_{70}(9K)[5] life	Projected [3] lumen L_{70}(9K)[5] life
VZ24 (all configurations)	>54,000 hours	>239,000 hours

Philips Gardco reserves the right to change specifications and dimensions without notice. Always download the latest technical and performance details at www.philips.com/luminaires

Green shaded portion represents junction temperatures below LED manufacturer's recommended limit to ensure a minimum of 60,000 hours of rated life.

1. The rated system life is the minimum number of hours an LED luminaire is expected to operate before requiring maintenance. The rated system life table on the left details a complete list of predicted life expectancy. Actual system life may extend well beyond listed hours based on ambient temperature, or the use of secondary controls. The limiting factor of VizorLED Gen-3 is the LED driver, which is the first component expected to require maintenance within the system.

2. TM-21-11 is the IESNA's recommended method of projecting long term maintenance of LED light sources.
3. Lumen maintenance values are calculated in accordance with TM-21-11.
4. Reported lumen maintenance life is limited to six times (6x) the total test duration of the device under testing ([DUT] i.e. the packaged LED chip).
5. L_{70}(9K) = Elapsed operating time to 70% lumen maintenance based on 9,000 hrs of testing per LM-80.
6. LM80 report, in-situ thermal report, and TM-21 calculations available upon request.

Energy saving economics

Energy analysis	VizorLED (530mA)[2]	150 PSMH[2]
# of units*	66	132
watts per unit	97	189
total installed system watts	6,402	24,948
kWh usage/yr	56,082	218,544
kWh savings/yr*	162,462	
kWh rate	$0.12	
$ saved/yr[1]	$19,495	
Achieve 74% kWh savings by switching from HID to VizorLED with no controls.		

Energy savings with VizorLED

VizorLED offers superior energy and operating cost saving solutions as a stand-alone fixture or with our programmable Proximo occupancy detector and LimeLight wireless control options. VizorLED Gen-3 with Proximo provides efficient motion and ambient detection without the expense and complexity of more traditional control systems making the VizorLED a complete turn-key solution for parking garage spaces.

1. VizorLED savings only without Proximo.
2. Analysis is based on a new construction scenario comparing a traditional two-fixtures per bay HID pulse start to 1-fixture per bay VizorLED G3.

Light levels

Traditional light levels

One fixture per bay solution

VizorLED Gen-3 one fixture per bay solution meets new horizontal and vertical light levels set forth by the Illuminating Engineering Society of North America (IESNA) and Department of Energy's Commercial Building Energy Alliances (CBEA), "High Performance Parking Structure Lighting Performance Specification." VizorLED's one fixture per bay solution provides significant energy savings, while maintaining light levels over time and reducing installation time and costs.
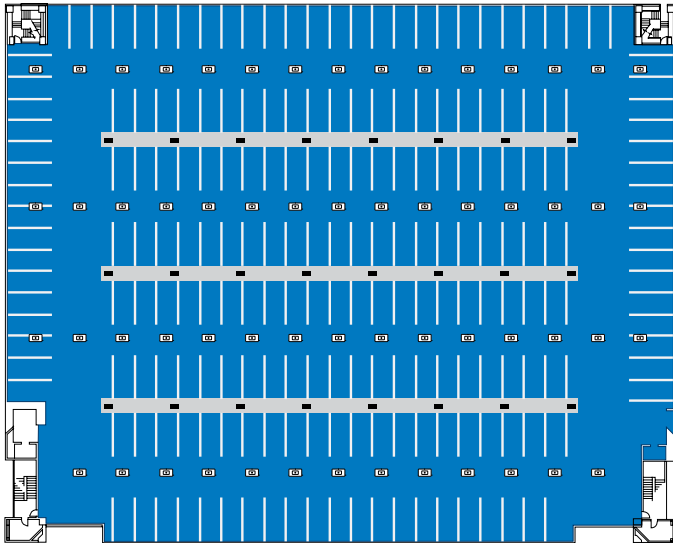
VizorLED with 530 mA driver

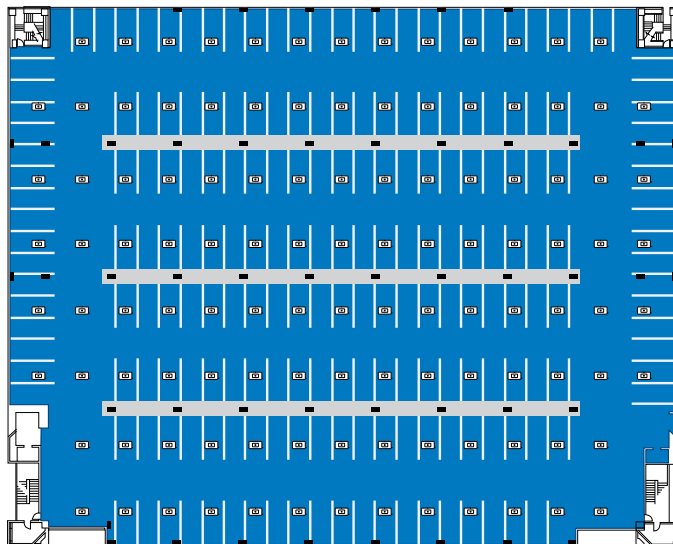| Energy analysis	Area	Units	Total watts (per unit)	Total install watts	Total energy savings:
HID	75438	154	129	19,866	**68%**
VZ-24G3	75438	64	97	6,305	

Values are based on standard 100 watt pulse start HID and VZ24-60G3 luminaires.
Reflectance: ceiling – 38%, walls – 20%, and floor – 20%, at a 9.5' wall height.
Vertical 1 fc values are based on readings taken 5' above grade; meters facing right.
Vertical 2 fc values are based on readings taken 5' above grade; meters facing left.

Light levels	Average	Max.	Min.	Avg/Min	Max/Min
Horizontal fc – HID	9.56	15.8	1.6	5.98	9.88
Horizontal fc – LED	4.96	7.5	1.0	4.96	7.5
Vertical 1-HID	20.19	31.2	2.8	7.21	11.14
Vertical 2-LED	3.65	5.5	1.7	2.15	3.24
Vertical 1 – HID	19.23	31.5	2.8	6.87	11.25
Vertical 2 – LED	8.15	16.0	1.4	5.82	3.25

Increased light levels

Two fixtures per bay solution

When increased light levels are required for areas concerned with Safety and Security, VizorLED's two fixtures per bay solution provides uniform illumination while using less fixtures than traditional HID sources. VizorLED's optics address design issues such as direct glare, modeling of faces and objects, peripheral vision detection, and high potential pedestrian & vehicular contact conflict.

VizorLED with 530 mA driver

Energy analysis	Area	Units	Total watts (per unit)	Total install watts	Total energy savings:
HID	75438	154	129	19,866	**44%**
VZ-24G3	75438	114	97	11,058	

Values are based on standard 100 watt pulse start HID and VZ24-60G3 luminaires.
Reflectance: ceiling – 38%, walls – 20%, and floor – 20%, at a 9.5' wall height.
Vertical 1 fc values are based on readings taken 5' above grade; meters facing right.
Vertical 2 fc values are based on readings taken 5' above grade; meters facing left.

Light levels	Average	Max.	Min.	Avg/Min	Max/Min
Horizontal fc – HID	9.56	15.8	1.6	5.98	9.88
Horizontal fc – LED	7.92	11.6	1.4	5.66	8.29
Vertical 1-HID	20.19	31.2	2.8	7.21	11.14
Vertical 2-LED	5.67	7.2	4.3	1.32	1.67
Vertical 1 – HID	19.23	31.5	2.8	6.87	11.25
Vertical 2 – LED	13.76	17.1	5.5	2.50	3.11

1. IESNA Lighting Handbook 10th Edition. Table 26.2.2.
2. CBEA High-Performance Lighting Parking Structure Specification. Section 1.5. Lighting Requirements.

Vizor LED
....
Site & Area
....
**Light levels
and Proximo**
....

Proximo occupancy sensor

Proximo is a standalone smart system and is 100% integral to the luminaire that requires no additional wiring or commissioning during installation.

Sensors

VizorLED's Proximo sensors have the ability to detect and adjust to motion and ambient light levels. Proximo is designed with a maximum 25' diameter reach at a 9' mounting height. Standard dim level low set to 10%, at the factory.

Fully field programmable

Every application is unique, requiring specific control settings that can be changed by Proximo's wireless IR handheld programmer. The 'PX10-HAP' handheld programmer provides simple step-by-step navigation via wireless access directly to the sensor to change multiple paramaters. Custom factory programming available if field commissioning is not an option.

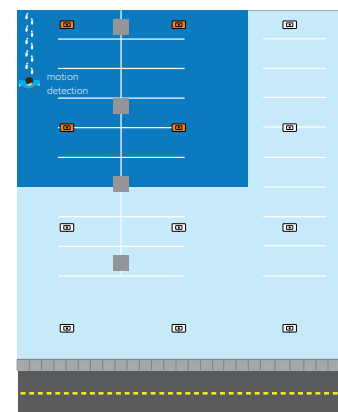**Horizontal detection**

Vertical detection
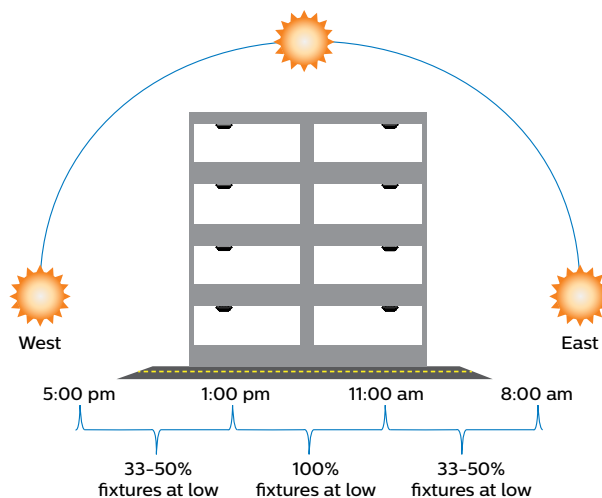
PX10-HAP
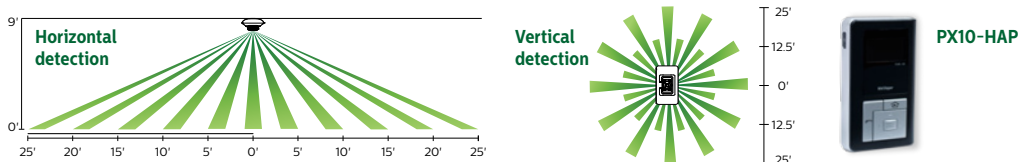
How Proximo works

Simply program the system to activate dimming during the desired hours. Luminaires will remain at the programmed light levels during unoccupied periods. When motion is detected at vehicular or pedestrian entry points, the system will immediately raise light levels to 100% power. Luminaires will remain at 100% output until the field-programmable time-out period has elapsed; ranging from 30 seconds to 30 minutes.

motion detection

Total Annual energy savings with Proximo by occupancy level

Save an additional $4,327 or 16.5% with Proximo controls and 30% occupancy.			Average occupancy level					No dimming
			30%	40%	50%	60%	70%	100%
Power at low	10%		$23,684	$23,066	$22,448	$21,829	$21,211	$19,357
	20%		$23,203	$22,654	$22,104	$21,555	$21,005	$19,357
	30%		$22,722	$22,242	$21,761	$21,280	$20,799	$19,357
	40%		$22,242	$21,829	$21,417	$21,005	$20,593	$19,357
	60%		$21,280	$21,005	$20,731	$20,456	$20,181	$19,357
No dimming	100%		$19,357	$19,357	$19,357	$19,357	$19,357	$19,357

Fixtures activated to 100%.
Fixtures pre-set to 10%.

West

East

5:00 pm   1:00 pm   11:00 am   8:00 am

33-50% fixtures at low   100% fixtures at low   33-50% fixtures at low

Energy savings with Proximo and daylight harvesting

Proximo will detect ambient light levels to provide additional energy saving opportunities. During installation, an auto set-point feature automatically detects artificial and ambient light levels for automated calibration. The unit will remain at a lower light level mode until natural light levels decrease to the point where electric light contributions are once again required.

Software programs such as AGi32 have full daylight harvesting capabilities to determine light levels delivered by the sun at anytime of day, year, and weather conditions.

See Proximo spec sheet WLSP0406 for factory preset settings and field programming instructions.

Wireless controls create a
smarter cost savings solution

VizorLED offers LimeLight's cutting-edge wireless controls system.

When fully leveraging all aspects of the LimeLight system, you can determine your peak hours of operation, minimize energy consumption and have the ability to modify your light levels according to your facility's usage patterns based on occupancy activity and daylight harvesting. This allows end-users to minimize energy consumption and reduce wasted illumination by perfectly calibrating their garage.

LimeLight's graphical user interface (GUI) is truly the power of the system enabling you to manage your entire parking garage facility lighting via the web. Every fixture has its own MAC address so owners can check the status of a single fixture and any fixture can be interdependent or independent in terms of grouping. The GUI is a web based tool that can be accessed straight from the internet, requiring no additional software installation. Each user will receive a unique user name and password to access the LimeLight user interface. There are five levels of access to ensure that the owner, building operator, or security manager can access only the information they need.
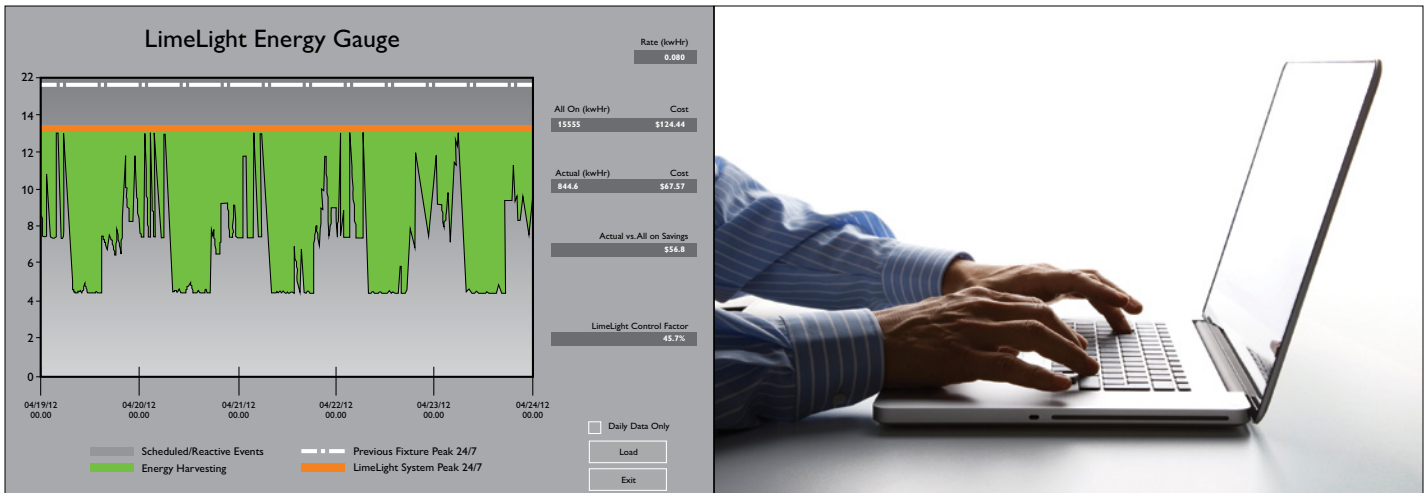
Superior management and control capability

When coupled with VizorLED Gen-3, LimeLight's wireless system features all of the benefits of traditional standalone control systems with the added ability to wirelessly communicate with your system to provide an optimal and safe experience for the customer.

Features	Wireless controls system	Standalone controls system
Requires no additional wiring during installation	✓	✓
Motion and Daylight Sensor provides full 360° detection range	✓	✓
Lengthens life of luminaire and electrical components	✓	✓
Fixtures are fully programmable in the field	✓	✓
Individual fixtures, groups, or entire facility are programmable from any remote computer	✓	✗
Fixtures can be grouped according to location without complicated additional wiring schemes	✓	✗
System can report energy usage, occupancy rates and occupancy times	✓	✗
Allows you to temporarily override schedules for special events at the click of a mouse	✓	✗
Notifies you after a power outage	✓	✗
Sends email alert notifications of system status and failure conditions	✓	✗

Understanding
wireless technology

LimeLight's wireless technology is a web-based system that operates through high density mesh (HDM) wireless technology.

The diagram below demonstrates how all of the components of our wireless system work together to create a true mesh network. The system starts with the web based graphical user interface (GUI), which is accessed to view fixture status and to manage the luminaires in the parking garage. All of the commands to the system go through the central LimeLight database, which receives information from the LimeLight Gateway and checks the status of every fixture.

1. Graphical User Interface (GUI)

2. Central Limelight Database

3. Customer Firewall

2nd Floor

1st Floor

4. The Gateway

4. LED Luminaires
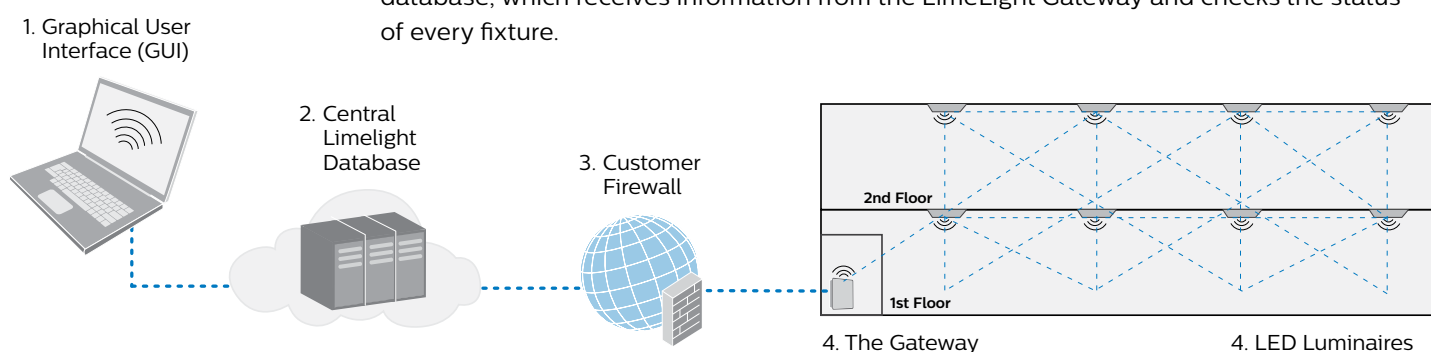
## Eliminate the 'popcorn effect' of single luminaire dimming control

Although widely accepted, individual fixture control is true line-of-sight, which means each luminaire is brought to high output only when motion is detected. This creates a visual domino or 'popcorn effect' as a patron makes their way through the space.

Thanks to LimeLight's ability to easily create fixture groups or lighting zones, patrons will never see any change in illumination levels and will always be in a fully illuminated space until exiting the parking structure. Eliminating the undesirable domino or popcorn effect to create a seamless, safe and inviting visual experience.

After the patron has safely exited the garage, the previously activated zones gradually dim back to their low state as long as no additional occupancy is detected. This time delay can be easily programmed to specific settings to further ensure safety and security as well as maximize energy saving potential.
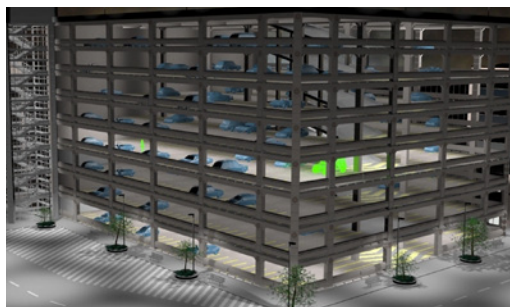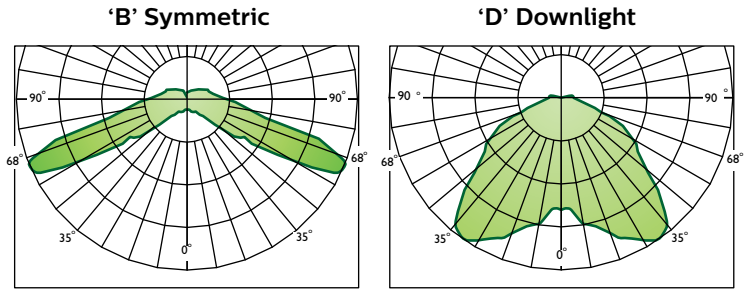
A parking patron enters the third floor to retrieve their vehicle, illuminating the entire floor upon entering
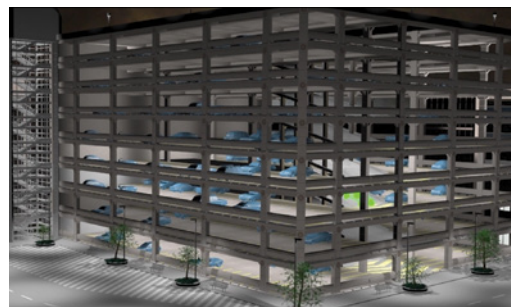
As the patron exits the garage, the luminaires on the next level illuminate to full power before the vehicle makes the turn

Vizor LED Gen-3 Ordering Matrix

'B' Symmetric

'D' Downlight

Note: VizorLED Symmetric 'B' and Downlight 'D' optics provide up to 10% Uplight.

Ordering Information

example: VZ24 60G3 530 B 120 UNV TW2 LLRC TSA PX10-KIT

Series	#of LEDs	Driver	Distribution	Voltage[3]		Mounting		Options (factory installed)		Finish	Accessories[6]
VZ24	**60G3**	**530**								**TSA**	
VZ24	60G3	530	**B** Bi-Axial Symmetric **D** Downlight (see polar curves above for details)	**120**[1] **208** **240** **277**[1] **UNV**[1]	120 V 208 V 240 V 277 V Universal 120-277V	**EZ** **EZBP** **PND-RC-24LDS** **TW2** **Y**	Easy Hanger Plate (standard) Bulk Pack Easy Hanger Plate Pendant Mount to rigid conduit with 24" leads Thru-Wire Provision Yoke Mount	**PX10**[1,5] **PXCP**[1,2,5] **LLRC**[3,4]	Proximo Programmable Occupancy Detector (10% low) Proximo Custom Factory Programming LimeLight Wireless Controls System (each luminaire includes Radio and Motion Sensor)	**TSA** Textured Satin Aluminum	**F1-KIT** **F2-KIT** **F3-KIT** **PX10-KIT**[1,5] Proximo Occupancy Detector Field installed kit **PX10-HAP**[4,5] Proximo Handheld Programmer

1. Proximo available in 120 and 277V only.
2. **PXCP** custom factory programming requires approved submittals to set profile.
3. Limelight only available 120–277V. See VizorLED spec sheet for complete ordering details.
4. **PX10-HAP** is for use with **PX10** option for field programming.
   Minimum one required per job if field programming is required.
5. Not available with **LLRC** wireless controls system.
6. Field installed, must be ordered separately.

| Technical data	VZ24-60G3-530-B[1]	VZ24-60G3-530-D[1]
Total System Watts	97 W[2]	98 W[2]
Initial Lumens @ 25°C Ambient	7,520	7,856
Lumens per Watt @ 25°C Ambient	78	80
Initial Lumens @ 40°C Ambient	7,369	7,699
Lumens per Watt @ 40°C Ambient	76	79
Initial Lumens @ 50°C Ambient	7,219	7,542
Lumens per Watt @ 50°C Ambient	74	77

1. Technical data and performance are subject to change.
2. Due to LED forward voltage variations and driver efficiency, total system watts could vary +/-4%.

Vizor LED
....
Site & Area
....
Specifications
....
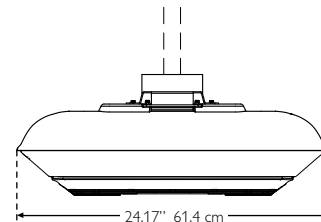
Dimensions

VZ24 'EZ' Easy Hanger Plate Mount (Standard)

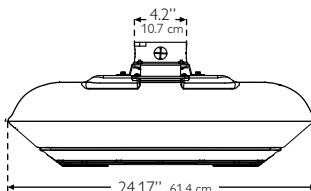Mounts to standard 4" square or octagonal j-boxes.
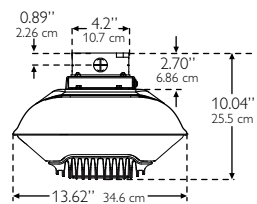
Weight: 22 lbs 12.7 kgs

5.35''
13.6 cm
0.95'' 2.4 cm
8.04''
20.4 cm
5.18''
13.2 cm
13.62'' 34.6 cm
24.17'' 61.4 cm
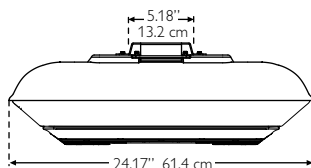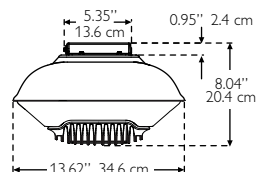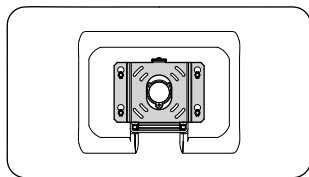
VZ24 Pendant Mount ('PND–RC–24LDS')
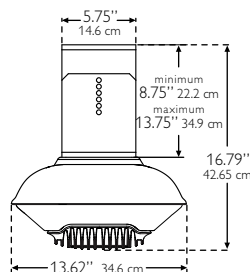
Pendant by others,
3/4" NPT required.

10.04''
25.5 cm
13.62'' 34.6 cm
24.17'' 61.4 cm
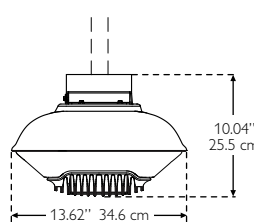
VZ24 Thru–Wire Provision ('TW2')

Thru–wire outlet box with 3/4" conduit hub and four 0.875" knockouts

0.89''
2.26 cm
4.2''
10.7 cm
2.70''
6.86 cm
10.04''
25.5 cm
4.2''
10.7 cm
13.62'' 34.6 cm
24.17'' 61.4 cm

VZ24 Yoke Mount ('Y')

Mounts to standard 4" square or octagonal j-boxes

5.75''
14.6 cm
minimum
8.75'' 22.2 cm
maximum
13.75'' 34.9 cm
16.79''
42.65 cm
7.50''
19.1 cm
13.62'' 34.6 cm
24.17'' 61.4 cm
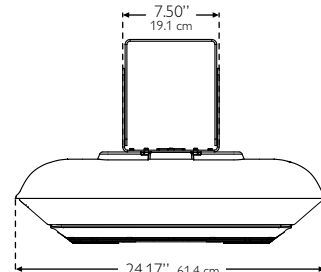
Specifications

Rated System Life (LED life per L70)

Driver and LED life: 100,000 hrs @ 25° to 40°C (77° to 104°F). 50,000 hrs @ 50°C (122°F). See page 3 for predicted L70 LED life.

Construction

Single piece die–cast upper housing and aluminum heatsink, optimally engineered. Standard unit constructed to IP65.

Non–Direct View (NDV) Optics

High-lumen white LED array shielded from direct view, significantly reduces glare and provides up to 8% uplight. Faceted MIRO reflector (min 94% reflectivity).

Energy Saving Benefits

System efficacy up to 83 lms/W with energy savings up to 70% over PSMH systems. (Meets DLC compliant guidelines.) Optional Proximo occupancy detector provides added energy savings of up to 94% during unoccupied periods and works as a 'Smart Fixture,' requiring no added wiring or controls.

LED and Board Array

Lumiled Luxeon R (G3): LED only: minimum 220 lms/W, System only: 75-83 lms/W. Color temp: 4000 K +/- 250 K. CRI is 70. Aluminum metal clad board. Thermal resistance LED solder point to ambient: <0.63°C per watt. LED junction to ambient: <0.69°C per watt. RoHS compliant.

Driver

Driver efficiency (>90% standard). Constant current (G3): 530 mA. 120-277 V. Temp range: –40°C (–40°F) to 50°C (122°F). Open/short circuit protection. Optional 0-10V dimming to 10% power. RoHS compliant. Surge protector standard. The surge protector is in accordance with IEEE / ANSI C62.41.2 guidelines, with a surge current rating of 10,000 amps.

Distribution

Bi-axial symmetric or downlight distribution. VZ24 unit available using a 60 LED array.

Mounting

Standard mounting shall include a galvanized steel Easy Hanger Plate. Alternately, unit may be pendant mounted to rigid conduit (by others), yoke mounted or specified with a through-wire provision.

Finish

Standard finish of die-cast upper housing shall be Textured Satin Aluminum.

Proximo Occupancy Detector

Option may be specified for additional energy savings during unoccupied periods. Standard dim level factory set to 10% and comes pre-programmed ready to install, no additional wiring required. Can be factory or field programmed. See Proximo spec sheet WLSP0406 for factory preset settings and field programming instructions.

Wireless Controls

LimeLight is an intelligent web-based system that operates through a high density mesh (HDM) wireless technology. Radio modules with motion and photocell sensors are integrated into each VizorLED luminaire that enables the fixtures to communicate with the ZigBee protocol. The Gateway is a mini computer that connects to the internet, and is located in the parking structure. The central LimeLight database channels communication to and from the gateway, allowing data to be viewed or accessed through the web-based graphical user interface (GUI).

Listings

ETL/cETL listed to the UL 1598 standard, suitable for Wet Locations. Suitable for use in ambients from -20° to 50°C (-4° to 122°F). VizorLED units with 'B' optics are DesignLights Consortium qualified products. The quality systems of this facility have been registered by UL to the ISO 9001 standards. Standard unit constructed to IP65.

Warranty

Standard 5 Year Limited Warranty. The current Philips Wide-Lite Warranty may be found at www.wide-lite.com (keyword: warranty) as well as the current Standard Terms and Conditions of Sale (keyword: terms). All sales of items in this catalogue shall be subject to the Philips Wide-Lite Standard Terms and Conditions of Sale current at the time of shipment. If you do not have a copy of the Philips Wide-Lite Warranty and Standard Terms, please contact the factory for same prior to ordering.

PGc-1304BR   08/15   philips.com/luminaires

Philips Lighting
North America Corporation
200 Franklin Square Drive
Somerset, NJ 08873
Tel. 855-486-2216

Philips Lighting Canada Ltd.
281 Hillmount Rd,
Markham, ON,
Canada L6C 2S3
Tel. 800-668-9008