

HADCO

by @signify

Urban

Refractive globe with LumiLock LED

CL32/CL52 Post top



Whether you are looking to beautify or add a sense of security and well-being to your outdoor space, the highly configurable Philips Hadco LED refractive post tops paired with the latest LumiLock light engine GX4 will definitely help you achieve your goals. A multitude of exterior luminaire styles allow you to create promenades and areas exuding timeless, historical charm both day and night. The configurable LED light engine GX4 is an ideal alternative to HID sources, providing you with significant energy savings, and more choices for light levels, optics and controls. Includes Service Tag, Philips innovative way to provide assistance throughout the life of the product.

Project: _____

Location: _____

Cat.No: _____

Type: _____

Lamps: _____ Qty: _____

Notes: _____

Ordering guide: Luminaire

example: CL32 M D K A 1 A S N W A 3 N N CLO N SP1

Series	Pod	Roof	Cage	Brim	Fastener	Finish	Optic	Pod Photo Control (location inside of pod)
CL32 Narrow Body Type 3	M ¹ Contemporary smooth tapered cone fitter	D Short	K Cage 4 legs	A ² Brim	1 Hex head	A Black	S Short	E 120 VAC Button Eye
CL52 Narrow Body Type 5	P ¹ Contemporary smooth tapered fitter	H Round	L Cage 8 legs	N None	2 Allen head	B White	W Wide	H 208/240/277 Button Eye
	R Contemporary round fitter	J Flat	N None			G Verde		R ^{3,4} 3-Pin Receptacle
		K Cone				H Bronze		N None
						J Green		

Optional programs							
Color Temp	Voltage	Drive Current	Integral Control Options	Option 1	Option 2	Option 3	Surge Protection
W 3000K N 4000K	A 120-277 VAC B 347-480 VAC	2 ⁷ 200mA 3 350mA 4 ⁷ 450mA 5 530mA	Dynadimmer ⁵ DA 4 Hrs 25% Reduction DB 4 Hrs 50% Reduction DC 4 Hrs 75% Reduction DD 6 Hrs 25% Reduction DE 6 Hrs 50% Reduction DF 6 Hrs 75% Reduction DG 8 Hrs 25% Reduction DH 8 Hrs 50% Reduction DJ 8 Hrs 75% Reduction DL ⁵ DALI S ⁸ FAWS Switch N None	AST ⁵ Adjustable start up time N None	CLO ⁵ Constant light output N None	OTL ⁵ Over the life N None	SP1 10kV/10kA Surge Protector SP2 ⁶ 20kV/20kA Surge Protector

- 1 Fits 4" O.D. post top tenon.
- 2 Must be used with (K) or (L) cage.
- 3 Twistlock photocell receptacle (R) only available in (M) pod.
- 4 Use of photoelectric cell or shorting cap is required to ensure proper illumination. When (R) option is selected, product will ship with shorting cap installed.
- 5 Optional Dynadimer dimming schedules, DALI, AST, CLO, and OTL not available with 347-480 VAC.
- 6 When SP2 option is selected, luminaire will be fitted with SP2 instead of SP1.
- 7 Not available with B 347-480 voltage.
- 8 FAWS not available with CLO.



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LED Wattage and Lumen Values: 4000K

				Short			Wide		
Ordering Code	Total LEDs	LED current (mA)	Average system watts¹ (W)	Delivered lumens²	Efficacy (LPW)	BUG rating	Delivered lumens²	Efficacy (LPW)	BUG rating
CL32, Metal Roof									
CL32xDxxxxxxNx2xxxxx	64	200	39	4383	111.5	B1-U3-G3	4111	104.6	B1-U3-G3
CL32xDxxxxxxNx3xxxxx	64	350	69	7399	107.2	B2-U4-G3	6940	100.6	B2-U3-G5
CL32xDxxxxxxNx4xxxxx	64	450	88	9039	103.3	B2-U4-G4	8478	96.9	B2-U4-G5
CL32xDxxxxxxNx5xxxxx	64	530	104	10510	100.9	B3-U5-G4	9859	94.6	B2-U4-G5
CL52, Metal Roof									
CL52xDxxxxxxNx2xxxxx	64	200	39	4339	111.0	B2-U3-G2	4035	103.2	B2-U3-G3
CL52xDxxxxxxNx3xxxxx	64	350	69	7325	106.8	B3-U4-G3	6811	99.3	B3-U3-G4
CL52xDxxxxxxNx4xxxxx	64	450	87	8948	102.9	B3-U4-G3	8321	95.6	B3-U3-G4
CL52xDxxxxxxNx5xxxxx	64	530	104	10405	100.4	B3-U4-G3	9675	93.4	B3-U4-G4

LED Wattage and Lumen Values: 3000K

				Short			Wide		
Ordering Code	Total LEDs	LED current (mA)	Average system watts ¹ (W)	Delivered lumens ²	Efficacy (LPW)	BUG rating	Delivered lumens ²	Efficacy (LPW)	BUG rating
CL32, Metal Roof									
CL32xDxxxxxxWx2xxxxx	64	200	39	3868	98.4	B1-U3-G3	3628	92.3	B1-U3-G3
CL32xDxxxxxxWx3xxxxx	64	350	69	6527	94.6	B2-U4-G3	6122	88.7	B2-U3-G4
CL32xDxxxxxxWx4xxxxx	64	450	88	7977	91.1	B2-U4-G4	7483	85.4	B2-U3-G5
CL32xDxxxxxxWx5xxxxx	64	530	104	9270	88.9	B2-U4-G4	8695	83.4	B2-U4-G5
CL52, Metal Roof									
CL52xDxxxxxxWx2xxxxx	64	200	39	3829	97.9	B2-U3-G2	3560	91.0	B2-U3-G3
CL52xDxxxxxxWx3xxxxx	64	350	69	6462	94.2	B3-U4-G3	6008	87.6	B3-U3-G3
CL52xDxxxxxxWx4xxxxx	64	450	87	7897	90.8	B3-U4-G3	7343	84.4	B3-U3-G4
CL52xDxxxxxxWx5xxxxx	64	530	104	9177	88.6	B3-U4-G3	8533	82.4	B3-U4-G4

Due to rapid and continuous advances in LED technology, LED luminaire data is subject to change without notice and at the discretion of Philips.

Lumen output by optic type will vary slightly. See IES files and specification sheets when available. All technical data is subject to change.

Lumen values based on photometric tests performed in compliance with IESNA LM-79.

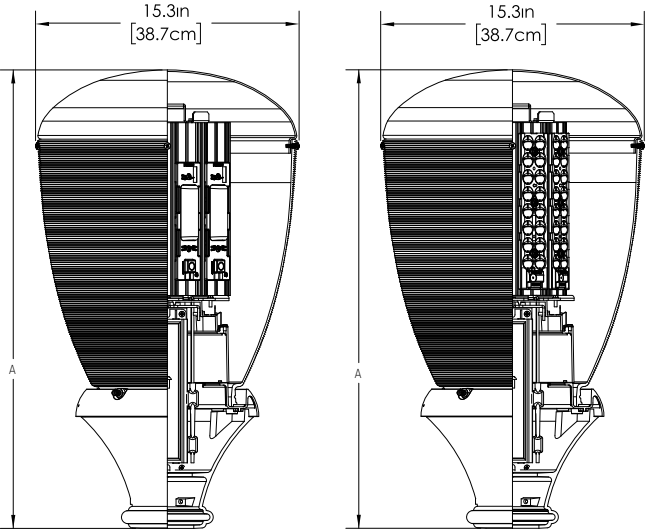
Note: Some data may be scaled based on tests of similar, but not identical, luminaires.

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Dimensions

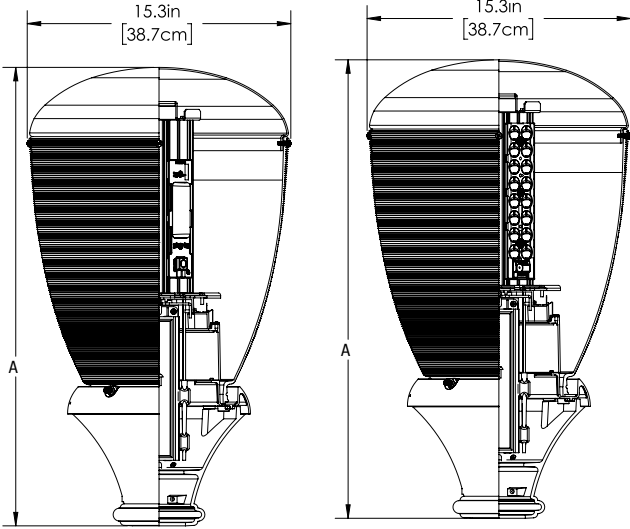
CL32 - Type 3



CL32RHNNxxW configuration shown

CL32RHNNxxS configuration shown

CL52 - Type 5



CL52RHNNxxW configuration shown

CL52RHNNxxS configuration shown

Roof	Dimension "A"	
	(in)	(cm)
D Short	28.9	73.5
H Round	26.5	67.4
J Flat	27.6	70.0
K Cone	30.4	77.2

EPA: 2.08 sq. ft. (Varies depending on options selected)
Weight: 55lbs (maximum)

Dimensions will vary when other pod, cage and brim options are specified.
See specification text on pages 5 and 6 for option dimensions.

Housing Options

Body Globe



Narrow Body
CL32/CL52

Brim



A Brim

Fitter/Pod Options



M Smooth
Tapered Cone



R Smooth
Tapered



P Round

Roof Options



H Round



J Flat



K Cone



D Short

Cage Options



K 4 Legs



L 8 Legs

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Predicted Lumen Depreciation Data

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L70 is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L70 hours limited to 6 times actual LED test hours.

Driver mA	Optic	Ambient Temperature °C	Calculated L70 Hours	L70 per TM-21 (Hours)	Lumen Maintenance % at 60,000 hrs
530	Wide	25	>85,000	>60,000 hours	>88%
530	Short	25	>100,000	>54,000 hours	>98%
450	Wide	25	>100,000	>60,000 hours	>93%
450	Short	25	>100,000	>54,000 hours	>98%
350	Wide	25	>100,000	>60,000 hours	>94%
350	Short	25	>100,000	>54,000 hours	>98%
200	Wide	25	>100,000	>60,000 hours	>94%
200	Short	25	>100,000	>54,000 hours	>98%

Field Adjustable Wattage (FAWS) Multiplier Chart

All 350, 450, and 530 mA Configurations

FAWS Position	Typical Delivered Lumens Multiplier	Typical System wattage and typical current
1	0.30	0.28
2	0.53	0.48
3	0.62	0.56
4	0.73	0.67
5	0.78	0.73
6	0.83	0.78
7	0.87	0.85
8	0.91	0.89
9	0.95	0.93
10	1.00	1.00

All 200mA Configurations

FAWS Position	Typical Delivered Lumens Multiplier	Typical System wattage and typical current
1	0.30	0.35
2	0.50	0.55
3	0.59	0.62
4	0.69	0.72
5	0.77	0.80
6	0.83	0.85
7	0.88	0.90
8	0.93	0.92
9	0.96	0.97
10	1.00	1.00

Specifications

Housing

Optional Pods:

A: Octagonal style fitter is constructed of die-cast 360 aluminum alloy with bottom-hinged door providing 135° entry into the fitter assembly for easy access to the electrical components. Accepts standard HADCO Twistlock ballast assemblies. Wiring block to accept three #8 solid or stranded wires. Optional internal twist-lock photo eye receptacle or optional button eye photocell. Easy access to photo eye through the door on the pod. Heavy cast aluminum post fitter utilizes four 5/16-18 black cadmium stainless steel set screws (Hex head or Allen head as specified) for mounting to 3" O.D. post tenon. Globe holder has an internal water trap to prevent water from entering ballast compartment. Globe is held by utilizing four 5/16-18 black cadmium stainless steel fasteners (Hex head or Allen head as specified). All hardware to be stainless steel and captive. Pod height is 10-3/4" and width is 10-1/4".

B: Round fitter with scalloped petals is constructed of die-cast 360 aluminum alloy with side-hinged door providing 180° entry into the fitter assembly for easy access to the electrical components. Accepts standard HADCO Twistlock ballast assemblies. Wiring block to accept three #8 solid or stranded wires. Optional internal twist-lock photo eye receptacle or optional button eye photocell. Easy access to photo eye through the door on the pod. Heavy cast aluminum post fitter utilizes four 5/16-18 black cadmium stainless steel set screws (Hex head or Allen head as specified) for mounting to 3" O.D. post tenon. Globe holder has an internal water trap to prevent water from entering ballast compartment. Globe is held by utilizing four 5/16-18 black cadmium stainless steel fasteners (Hex head or Allen head as specified). All hardware to be stainless steel and captive. Pod height is 12-1/4" and width is 11-1/2".

H: Round contemporary fitter is constructed of 356 HM High-Strength, Low-Copper cast aluminum. Accepts standard HADCO Twistlock ballast assemblies. Wiring block to accept three #8 solid or stranded wires. Optional internal twist-lock photo eye receptacle or optional internal button eye photocell. Easy access to photocell through tool-less door on pod. Heavy cast aluminum post fitter utilizes four 5/16-18 black cadmium stainless steel set screws (Hex head or Allen head as specified) for mounting to 3" O.D. post tenon. Globe holder has an internal water trap to prevent water from entering ballast compartment. Globe is held by utilizing four 5/16-18 black cadmium stainless steel fasteners (Hex head or Allen head as specified). All hardware to be stainless steel and captive. Pod height is 10" and width is 10".

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Specifications (continued)

Roof

D: Roof is 0.090" thick spun aluminum. 6-1/2" height and 15-3/16" width. The roof and bottom globe sections are secured in a slip-fit, 1/2" overlap design and use four #10-24 stainless steel pan head screws with four aluminum nuts providing a mechanical lock and enabling easy future replacement of either the roof or bottom globe section if required.

H: Roof is 0.090" thick spun aluminum. 4" height and 15" width. The roof and bottom globe sections are secured in a slip-fit, 1/2" overlap design and use four #10-24 stainless steel pan head screws with four aluminum nuts providing a mechanical lock and enabling easy future replacement of either the roof or bottom globe section if required.

J: Roof is 0.090" thick spun aluminum. 5" height and 15-5/8" width. The roof and bottom globe sections are secured in a slip-fit, 1/2" overlap design and use four #10-24 stainless steel pan head screws with four aluminum nuts providing a mechanical lock and enabling easy future replacement of either the roof or bottom globe section if required. Finish is polyester thermoset powdercoat.

K: Roof is 0.090" thick spun aluminum. 8" height and 15" width. The roof and bottom globe sections are secured in a slip-fit, 1/2" overlap design and use four #10-24 stainless steel pan head screws with four aluminum nuts providing a mechanical lock and enabling easy future replacement of either the roof or bottom globe section if required.

Cage

K: Cage for narrow globe (15" dia.). Constructed of 360 High-Strength, Low-Copper Die-cast aluminum. Cage has 4 curved legs, attached by a solid band. Height of cage is 16-7/8" and width of cage is 16-5/8".

L: Cage for narrow style globes (15" dia.). Constructed of 360 High-Strength, Low-Copper Die-cast aluminum. Cage has 8 curved legs, attached by a solid band. Height of cage is 16-7/8" and width of cage is 16-5/8".

Brim

A: Brim is 0.090" thick spun aluminum. Height is 3-1/2" and width is 28-3/8". The brim is only available with the cage option (K or L) and is attached to the cage via stainless steel fasteners.

Fasteners

Used to secure post fitter to post tenon and globe to globe holder.

- 1: Hex Head Bolts: Black cadmium stainless steel.
- 2: Allen Head Bolts: Black cadmium stainless steel.

Light engine

GX4 is composed of four main components: Heat Sink, LED, Optical System, and Driver. Electrical components are RoHS compliant.

Entire luminaire is rated for operation in ambient temperature of -40°C / -40°F up to +40°C / +104°F. B Voltage configurations rated for operation in ambient temperature of -40°C / -40°F up to +35°C / +95°F.

LED & Optics

Composed of 64 high power LEDs. LED board substrate is MCPCB (Metal Core Printed Circuit Board), designed to minimize thermal resistance from LED junction to heat sinks. Color temperature as per ANSI/NEMA bin Neutral White, 4000 Kelvin nominal (3985K +/- 275K or 3710K to 4260K) or Warm White, 3000 Kelvin nominal (3045K +/- 175K or 2870K to 3220K), CRI 70 Min. 75 Typical.

(W) Wide and (S) Short Optic choices are available. Both optics are made of optical grade PC and have been optimized to achieve maximum spacing, target lumens, and a superior lighting uniformity.

Wide Optics – Superior performance and light level uniformity for applications where typical pole spacing is approximately six times mounting height of luminaire.

Short Optics – Superior performance and light level uniformity for applications where typical pole spacing is approximately five times mounting height of luminaire. Provides higher illumination levels under pole area, ideal for increased security and applications requiring superior facial recognition.

Type 3 and Type 5 distribution choices are available.

LEDs and optics (S) Short or (W) Wide form an IP66 light engine to ensure complete environmental protection against water and dust ingress and corrosion, critical to long term LED reliability. All wiring is full copper, with 105C rated insulation. LED modules are secured to heatsinks using #8 stainless steel hardware, guaranteeing construction rigidity and vibration resistance.

Heat sinks

LED Engine construction consists of four 6063-T5 aluminum heat sinks, clear anodized to MIL-A-8625 specifications for excellent corrosion resistance and surface finish. Fin spacing has been optimized for maximum convective heat transfer under natural convection conditions, maximizing LED life and efficiency. Heat sinks provide greater than 700 sq. in. of convective surface area total, ensuring proper junction temperature control, lumen maintenance, and system reliability. Extruded heatsinks meet or exceed tolerances as specified by AEC (Aluminum Extruders Council) standards and have been designed to provide superior surface flatness, ensuring excellent contact between heatsinks and LEDs. Product does not use any cooling device with moving parts (passive cooling only).

Heat sinks are secured using galvanized steel brackets and stainless steel hardware to provide additional corrosion resistance.

Globe Assembly

Narrow globe is constructed of clear injection molded U.V. stabilized acrylic. A two-piece (Globe and Roof) slip-fit, 1/2" overlap, design utilizes nuts and stainless steel fasteners, which eliminates a seam appearance.

The optical section of the globe has a neck opening of 7-3/8" and an outside neck diameter of 8". Globe (less the roof) has a 15-1/2" height and 15" width at the top with 114 horizontal prisms and 360 highly polished vertical prisms.

Driver

Driver comes standard with 0-10V dimming capability. High power factor of 95%. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277 VAC rated for both application line to line or line to neutral, Class I, THD of 20% max. Driver operating ambient temperature range is -40°F (-40°C) to +130°F (+55°C). Certified in compliance to UL1310 cULus requirement (dry and damp location). Assembled on a LumiLock twistlock removable cover with Tyco quick disconnect plug resisting to 221°F (105°C). The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction. Standard built in driver surge protection of 2.5kV (min).

Driver Options

AST: Pre-set driver for progressive start-up of the LED module(s) to optimize energy management and enhance visual comfort at start-up.

CLO: Pre-set driver to manage the lumen depreciation by adjusting the power given to the LEDs offering the same lighting intensity during the entire lifespan of the LED module.

OTL: Pre-set driver to signal end of life of the LED module(s) for better fixture management.

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Specification (continued)

Dimming Options

DA: 4 Hrs 25% Reduction
DB: 4 Hrs 50% Reduction
DC: 4 Hrs 75% Reduction
DD: 6 Hrs 25% Reduction
DE: 6 Hrs 50% Reduction
DF: 6 Hrs 75% Reduction
DG: 8 Hrs 25% Reduction
DH: 8 Hrs 50% Reduction
DJ: 8 Hrs 75% Reduction
DALI: Pre-set driver compatible with DALI logarithmic control system.

FAWS

Field Adjustable Wattage Selector, pre-set to the highest position, can be easily switched in the field to the required position. This reduces total luminaire wattage consumption and reduces the light level – see the FAWS multiplier chart for more details.

Note: It is not recommended to use FAWS with other dimming or controls; if you do, set the switch to position 10 (maximum output) to enable the other dimming or controls. Switching FAWS to any position other than 10 will disable the other dimming or controls.

Surge Protection

Surge protector tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line Ground, Line Neutral and Neutral Ground, and in accordance with U.S. DOE (Department of Energy) MSSLC (Municipal Solid State Street Lighting Consortium) model specification for LED roadway luminaires electrical immunity requirements for High Test Level 10kV / 10kA. Option for SP2 20kV/20kA.

Finish

Color in accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with ± 1 mils / 24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard. The surface treatment achieves a minimum of 2000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard.

Luminaire Useful Life

Refer to IES files for energy consumption and delivered lumens for each option. Based on ISTMT in situ thermal testing in accordance with UL1598 and UL8750, using LM-80 data from LED manufacturers and engineering prediction methods, the luminaire useful life is expected to reach 100,000+ hours with >L70 lumen maintenance @ 25°C. 530mA configurations with short optics expected to reach 95,000+ hours with >L70 lumen maintenance @ 25°C. 530mA configurations with wide optics expected to reach >75,000 hours with >L70 lumen maintenance @ 25°C. Luminaire useful life accounts for LED lumen maintenance and additional factors, including LED life, driver life, PCB substrate, solder joints on/off cycles and burning hours for nominal applications. Lifetime statements do not include the use of controls, including networked controllers.

LED products manufacturing standard

The electronic components sensitive to electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with IEC61340 5 1 and ANSI/ESD S20.20 standards so as to eliminate ESD events that could decrease the useful life of the product.

Quality Control

The manufacturer must provide a written confirmation of its ISO 9001 2008 and ISO 14001 2004 International Quality Standards Certification.

Vibration Resistance

Meets the ANSI C136.31 2001, American National Standard for Roadway Luminaire Vibration specifications for Normal Applications.

Service Tag

Each individual luminaire is uniquely identifiable, thanks to the Philips Service tag application. With a simple scan of a QR code, placed inside the luminaire, you gain instant access to the luminaire configuration, making installation and maintenance operations faster and easier, no matter what stage of the luminaire's lifetime. Just download the APP and register your product right away.

For more details visit: philips.com/servicetag

Certifications and Compliance

cETL listed to Canadian safety standards for wet locations. Manufactured to ISO 9001:2008 Standards. UL8750 and UL1598 compliant. ETL listed to U.S. safety standards for wet locations. IP Rating: IP66 sealed light engine. LED luminaires are Design Lights Consortium qualified.

Warranty

5 year extended warranty.

See philips.com/warranties for details and restrictions.

