THERMAL MANAGEMENT

The reliability and performance of an LED luminaire is dependent on a combination of factors. Keeping the temperature of the drivers, LEDs and electronic components as low as possible is critical to maintaining the luminaire's efficiency.

One of Holophane's key luminaire design principles ensures that **Denver iD: Wall** utilises all three heat transfer principles of conduction, convection and radiation.

Conduction

Taking heat away from electronic components, LEDs and drivers.

Denver iD: Wall's driver and LEDs are mounted directly to the LM6 Aluminium to promote efficient transfer of heat.

Convection

From luminaire heat sink chassis and LED module to ambient air.

Denver iD: Wall's driver and LEDs are mounted separately to avoid compound heating of components. In addition there is a protective thermal membrane between the LED module and gear housing.

Radiation

Surface finish and form designed to maximise heat radiation.

Denver iD: Wall's large flat surface area helps to promote cooling through radiation.

THERMAL MANAGEMENT

INSTALLATION AND MAINTENANCE

Installation

Denver iD: Wall offers numerous ways of mounting the luminaire. This can be done either directly with the standard product or with a range of back boxes for uneven wall surfaces (dependent on option choice).

Maintainability

In the unlikely situation when an LED module has become damaged or prematurely failed the LED module can be easily removed and replaced in situ.

Additionally, drivers and emergency batteries are easily accessed via the gear compartment.

Upgradability

As LED technology ever improves and LEDs become more efficient the LED modules also have the ability to be upgraded in situ. This enables the luminaire to be future proof and can take advantage of any performance gains.

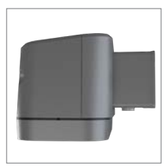
Sustainability

With the ability to replace major components the **Denver iD: Wall** ensures a longer more sustainable luminaire system life.

At the end-of life the majority of the components can be recycled via recycling centres such as Lumicom.

Standard

Back Box
.B



Deep PIR Back Box
.PL0, .PL1 or .PL2

Deep PIR Back Box with multiple cable entry
.PL0, .PL1 or .PL2 + .B

MAINTENANCE

SPECIFICATION

Specification

Holophane Denver iD: Wall consists of a 2-part body and a removable LED module manufactured from LM6 marine grade die-cast aluminium with integrated thermal management properties. The LED module optical arrangement consists of LEDs with individual PMMA optical lenses surrounded by a patented white Transition Zone to reduce perceived glare. This is sealed behind high-transparency 'hydrophilic' glass. Both luminaire body and LED module are sealed to IP65 and rated IK10. Drivers and LED are mounted separately from each other to promote low operating temperatures and long system life. Mounting of the luminaire is facilitated by mounting the back casting of luminaire to suitable surface. Cable entry and termination to the luminaire is a via an 2 x IP65 20mm cable gland. Access to the luminaire is via 2 x nuts.

3000K or warmer must be selected for IDA dark sky certification.

Features and benefits

Exceptional Performance

- Lumen packages from 700 - 4,000 lumens with efficacies of up to 130 lumens per Watt.
- 5 optimised optical distributions (Symmetric, Asymmetric, Long & Narrow and High Beam Long & Narrow) delivered by quality LEDs with individual lenses behind a high-transparency hydrophilic glass cover.
- Patented Transition Zone helps to achieve improved visual comfort and lower perceived glare.

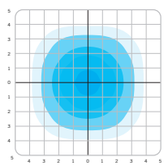
Easy Installation & Maintenance

- 2-part body construction ensures ease of installation of the luminaire to a suitable surface.
- A removable/upgradeable LED module and easy access to gear compartment ensures that key components can be removed and replaced if required.

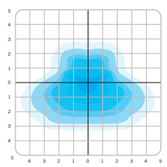
Fully Controllable

- Integrated ZD4i compatibility via the TZ01 option. Compatibility with a range of 3rd party photocells, devices and sensors.
- Integrated 1hr & 3hr emergency options.
- Compatible with Controlux Air.
- Developed with fully integrated presence detectors.

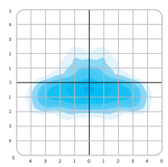
Light Distributions



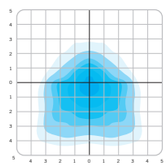
Symmetric (.SY)



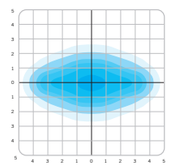
Asymmetric (.AY)



Long & Narrow (.NR)



Forward Throw (.FW)



High Beam Long & Narrow (.HN)

SPECIFICATION

CONTROLS

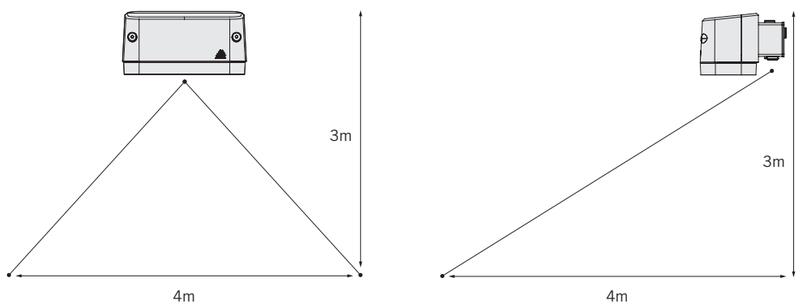
Integrated Presence Sensors

Denver iD: Wall is available with a range of integrated controls and PIR options to suit project requirements. This ranges from simple on/off switching to dimming.
All PIRs require an additional Back-Box which is included within the option.

PL0 Option
Integrated PIR, suitable from 4.5m up to 9m. Switches off after 10 minutes of inactivity.

PL1 Option
Integrated PIR, suitable from 4.5m up to 9m. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes.

PL2 Option
Groupable PIR (within 4m range), suitable up to 4m. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes.



CONTROLS

The **ZD4i architecture** provides a future-proof foundation that enables users to build on whenever their site/project is ready to opt into new advances in technology. It is designed to work with industry-recognised, futureproof drivers and sensors that have the potential to increase energy efficiency. By having **Denver iD** ZD4i ready customers can upgrade/adjust the controllability of their lighting and gather valuable data whenever they are ready.

Customer Benefits

Increased Energy Savings

Sensors and devices can be used to optimise luminaires to give greater energy savings and provide light only when it is required.

Flexibility

The ZD4i architecture enables the interchanging and upgrading of sensor and device options should and when the end-user pleases.

Future Proof

End-users have access to an ever expanding eco-system of devices and sensors through 3rd-party suppliers. The ZD4i architecture is an industry recognised platform.

Note: Please ensure that the selected IoT device is compatible and suitable for the respective luminaire. All installation should be completed in compliance with the respective devices installation instructions (and limitations). Holophane cannot be held responsible for the operation of its luminaires with third party devices.

IOT.TZ.CA
For use with TZ01

CONTROLUX AIR is a wireless technology that offers intelligent lighting with reductions in energy consumption of up to 80%. It optimises energy savings thanks to the individual control of light sources. It controls, monitors and manages street lighting, reporting consumptions, operating hours or system faults.

IOT.TZ.TSZC
For use with TZ01

The PrecizionHALO is Lucy Zodion's latest photocell innovation that packs a number of features into its small, compact design. Optimised for the latest generation of LED Streetlights, the PrecizionHALO works alongside Zhaga drivers and connectors.

IOT.TZ.EAS
For use with TZ01

EasyAir SNO110 is ideally suited for outdoor applications and is intended for individual pole control and configuration. It automatically connects to the Global Navigation Satellite System (GNSS) to obtain date and time information in real time. On/off switching as well as a 5-step DynaDimmer scheduling based on date and time can be configured using Bluetooth communication. Therefore, this device can easily replace a photocell or LineSwitch-based control mechanism.

ORDERING DETAILS

Code	**Luminaire** (required)
DWL	Denver iD Wall

Code	**Series** (required)
.1	Series 1

Code	**Lamp Type** (required)
.LA012	LED light engine producing c.1,000 lm with a nominal 2700K colour temperature
.LA022	LED light engine producing c.2,000 lm with a nominal 2700K colour temperature
.LA032	LED light engine producing c.3,000 lm with a nominal 2700K colour temperature
.LA042	LED light engine producing c.4,000 lm with a nominal 2700K colour temperature
.LA013	LED light engine producing c.1,000 lm with a nominal 3000K colour temperature
.LA023	LED light engine producing c.2,000 lm with a nominal 3000K colour temperature
.LA033	LED light engine producing c.3,000 lm with a nominal 3000K colour temperature
.LA043	LED light engine producing c.4,000 lm with a nominal 3000K colour temperature
.LA014	LED light engine producing c.1,000 lm with a nominal 4000K colour temperature
.LA024	LED light engine producing c.2,000 lm with a nominal 4000K colour temperature
.LA034	LED light engine producing c.3,000 lm with a nominal 4000K colour temperature
.LA044	LED light engine producing c.4,000 lm with a nominal 4000K colour temperature

Code	**Distribution** (required)
.SY	Symmetric
.AY	Asymmetric
.NR	Long and Narrow light distribution
.FW	Forward Throw
.HN	High Beam Long and Narrow light distribution

Code	**Colour** (required)
.C1	Smooth White (RAL9016)
.C4	Graphite (RAL 7011)
.C6	Smooth Grey (RAL7035)
.C7	Black (RAL9005)
.C9	Metallic Silver (RAL9006)
.RAL****	RAL Colour (Customer choice)

Code	**Paint Finish** (option)
.C	Enhanced Paint Finish

Code	**Voltage Electrical Class** (option)
.CII	Class II

Code	**Photocell** (option)
.TSZ	Complete with miniature 70 lux factory fitted photocell. (Zodion SS12)
.TZ01	Complete with 4-Pin Zhaga Socket - 'Top' (suitable photocell/node supplied by others) with weather proof locking cap

Code	**Controls** (option)
.PL0	Integrated PIR, suitable up to 6m. Switches off after 10 minutes of inactivity. Remotely re-programmable with accessory HEL.PRG (purchased separately)
.PL1	Integrated PIR, suitable from 4.5m up to 9m. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes. Remotely re-programmable with accessory HEL.PRG (purchased separately)
.PL2	Groupable PIR (within 4m range), suitable up to 4m. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes. Remotely re-programmable with accessory HEL.PRG.G (purchased separately)
.CA	Wireless lighting node (top socket) for use with Holophane Controlux Air System. (Includes subscription package for two years). Suitable up to 12m.

Code	**Emergency** (option)
.EM1	1hr maintained integrated emergency. Self-test
.EM3	3hr maintained integrated emergency. Self-test

Code	**Dimming Outputs** (option)
.LRD	LED Regulable Dali
.LRT56	Pre-set to dim to 50% between 12am to 6am
.LRT66	Pre-set to dim to 60% between 12am to 6am
.LRT76	Pre-set to dim to 70% between 12am to 6am
.LRT******	Customer specified pre-set dimming

Code	**Control Gear** - 4 (option)
.CL7	Programmed to deliver 70% of the initial lumens over the life of the luminaire
.CL8	Programmed to deliver 80% of the initial lumens over the life of the luminaire
.CL9	Programmed to deliver 90% of the initial lumens over the life of the luminaire

Code	**Cable Entry** (option)
.B	Cable backbox for side, top and bottom cable entry

Code	**Screws** - 21 (option)
.V1	Vandal-resistant screws

Example	DBD	.LA012	.SY	.C1	.C	.CII	.TSZ	.TZ01			

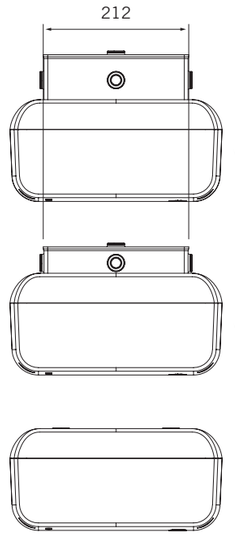
Note: TSZ not compatible with TZ01/PIR0/PIR1.

accessories

Code	
DWL.VK	Vandal Key
DWL.FLS	Front Light Shield
DWL.BB	Back box
DWL.PM	Pole mount adapter

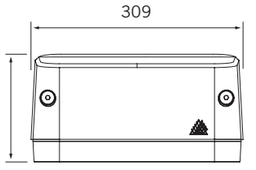
Note: The specifications of the Holophane luminaire, all descriptions, illustrations, drawings and specifications in the Holophane catalogue and website represent only general particulars of the goods to which they apply and shall not form part of any contract. The company reserves the right to change specifications at its discretion without prior notification or public announcement.

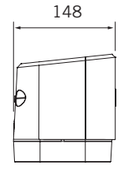
DIMENSIONS & PERFORMANCE

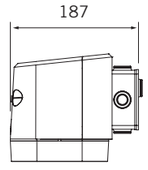


with PIR0 & PIR1 option

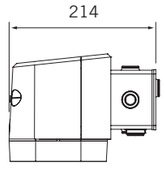
with .B option







with .B option



With .B, .PIR0 or .PIR1 option

dimensions in mm

Typical luminaire performance

Configuration	Delivered Lumens	Circuit Power (W)	Driver output current (mA)	Luminaire total no. of LEDs	Luminaire Efficacy (lm/W)
DWL.LA01X	c.1,000	7	200	8	127
DWL.LA02X	c.1,500	12	360	8	135
DWL.LA03X	c.2,500	18	650	8	137
DWL.LA04X	c.4,000	25	475	16	153

Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturers data) and luminaire power of +/- 5%.

Weight

DWL 6.5 kg

GIVING YOUR OUTDOOR SPACE ITS OWN IDENTITY

WALL DENVER iD™

DENVER iD WALL

HOLOPHANE®

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Telephone: +44 (0)1908 649292 E-mail: info@holophane.co.uk
www.holophane.co.uk

HOL-BRO-DWL-UK-12/24

AcuityBrands.

EXTERNAL LUMINAIRE X6

01743 290 779 | studio@camlins.com | www.camlins.com

DENVER™ iD BOLLARD

DENVER iD BOLLARD

HOLOPHANE®

MADE IN BRITAIN®

REGISTERED EUROPEAN DESIGN
PATENTED DESIGN

BOLLARD
DENVER™ iD

The Denver iD: Bollard combines a cohesive family aesthetic with an unrivalled system performance - perfect for creating the ideal design-inspired landscape.

Featuring a patented Transition Zone the Denver iD: Bollard offers improved visual comfort; perfect for the unique requirements of pedestrian-friendly amenity spaces.

Coupled with the latest LED technologies, smart controls integration and class-leading optical performance the new Denver iD: Bollard truly brings together form and a feature rich luminaire system.

The Denver iD: Family consists of Pole, Wall and Bollard luminaires, offering the complete solution to your next outdoor environment.

Future-proofing is catered for with the integration of ZD4i, enabling use with an ever expanding eco-system of smart sensors and devices.

For over 125 years Holophane has enjoyed an enviable reputation throughout the world for expertise, quality and innovation in Lighting. From the earliest days, when the company pioneered its famous glass refractor, the Holophane name has been ever present as a leader in the field of luminaire and lighting design. **Denver iD: Bollard** is a continuation of this proud tradition and builds on our heritage of designing luminaires with exceptional optical performance and thermal management which fused together deliver a solution that is future-proof and fully serviceable.

Applications

- Amenity Areas
- Town Squares
- Campuses
- Retail Parks
- Car Parks
- Landscaped Areas

Overview

- Available in lumen packages of 1000 to 3000 (delivered lumens).
- 2 optimised optical distributions including Single or Double-sided optics.
- 2700K, 3000K & 4000K options available.
- CRI > 70.
- Integrated presence detector, controls and emergency options (c.300 lm in emergency mode).
- Enhanced vandal resistance.

TM66 CEAM-Make Rating

Preliminary Rating: 2.4 (Definite/substantial progress to circularity).

Approvals

CE UKCA

Complies with EN60598

IP65 and IK10

-20˚C to +45˚C

MADE IN BRITAIN

For further information please visit the Holophane website **www.holophane.co.uk**

AN ENVIABLE REPUTATION THROUGHOUT THE WORLD

125 years of Innovation & Excellence

When Holophane was founded in 1896 in London, headed by Pelham Trotter, it marked the start of an incredible history that has now seen Holophane become a global business revered throughout the world for its expertise, quality, innovation and excellence in lighting.

Holophane's first product was the famous patented globe in 'white' or 'rose crystal' that sold for around 2 shilling (10p). Today, Holophane continues this proud tradition with our values deeply rooted in the dedication to creating luminaires, with exceptional lighting performance, innovative patented technologies, and delivering added customer value beyond illumination.

What does it mean for our customers?

A Trusted & Reliable UK Manufacturer

From Royalty all the way to small residential projects, Holophane has been a trusted manufacturer over the decades for all manner of projects. You can be sure you are in good hands and can rely on the collective knowledge and expertise we have gathered since our inception in 1896.

Development of Innovative Products

As part of our design philosophy, Holophane are always trying to push boundaries in the development of unique product innovations. As such many of our luminaires hold UK and International design patents.

Products That Deliver Added Value

In today's world, sustainability and added value are becoming increasingly important. As such our products and solutions go further than just lighting. Many of our innovations include integrated smart connected solutions to help customers achieve further energy savings and can also enable remote monitoring.

Delivering excellent customer service

Over our 125-year history we have always been committed to delivering the best service to our customers and supporting in a myriad of ways to ensure the best possible outcomes. This goes as far as offering a free lighting design service to one-off products/ solutions to meet customers unique needs.

A COHESIVE FAMILY

The **Denver iD** range was designed to have a cohesive family aesthetic to give consistency across a project and achieve a luminaire identity.

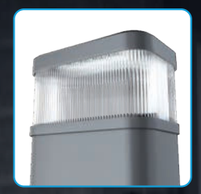
From the commonality of the LED modules to the sleek and simple lines, Denver iD gives your outdoor space its own identity.

Scan the QR codes for information on **Denver iD: Pole** & **Denver iD: Wall**.

DENVER iD POLE

DENVER iD WALL

DENVER iD BOLLARD



PRODUCT FEATURES

BOLLARD DENVER™ iD

Class Leading Performance

Denver iD: Bollard features the very latest LED technologies and bespoke individual PMMA optical lenses. These have been optimised to provide the best spacings possible on lighting schemes whilst ensuring low-energy consumption.

The optical aperture is available in both single-sided or double-sided versions.

Easily maintainable

Denver iD: Bollard has an easily removable and replaceable LED module. This enables at anytime for the module and emergency pack to be replaced in case of unlikely failures or upgraded.

This helps to extend the overall system life and sustainability of the luminaire.

Two Heights

Denver iD: Bollard is available in either 750mm or 1000mm heights.

NIGHTTIME FRIENDLY™

Vandal Resistance

Unlike the majority of luminaires Bollards are more susceptible to damage and vandalism.

Denver iD: Bollard has been engineered using a construction of robust cast and extruded Aluminium parts as well as a polycarbonate lens. This culminates in a Bollard that is IK10 rated.

In addition to this, Denver iD: Bollard is available with 2 x vandal resistant nuts to prevent vandals from accessing the luminaire.

IK10

Connected

Denver iD: Bollard can be used in conjunction with Holophane's Controlux Air system to create a full connected lighting scheme. This is achieved using an internal ZD4i device.

For simple motion control Denver iD: Bollard is available with a discrete PIR mounted in the body.

CONTROLUX air

TRANSITION ZONE

Patented Transition Zone

An intermediary zone between the ‘bright LEDs’ and dark night sky. Individual LEDs can often give a pixelation effect and be uncomfortable to the observer. The Transition Zone’s angled white surface helps give the effect of a large lit area/light source and thus creating a smoother lit effect.

This is important, especially in pedestrian-friendly amenity spaces, to stop LED dazzle and create a more visually comfortable environment.

Patented Transition Zone - Performance

The patented Transition Zone’s angled white surface helps to further reflect/control high angle light in a more precise way that may otherwise have been wasted in a luminaire not using a transition zone.

Recessed LEDs

The LED boards in Denver iD: Bollard are recessed into the LED module. This helps to prevent unnecessary up light.

High Transparency Lens

The plastic extrusion used in Denver iD: Bollard is highly transparent ensuring that optical performance remains uncompromised.

TRANSITION ZONE

THERMAL MANAGEMENT

The reliability and performance of an LED luminaire is dependent on a combination of factors. Keeping the temperature of the drivers, LEDs and electrical components as low as possible is critical to maintaining the luminaire's efficiency.

One of Holophane's key design luminaire design principles ensures that **Denver iD: Bollard** utilises all three heat transfer principles of conduction, convection and radiation.

Conduction

Taking heat away from electronic components, LEDs and drivers.

Denver iD: Bollard's driver and LEDs are mounted directly to the LM6 Aluminium to promote efficient transfer of heat.

Convection

From luminaire heat sink chassis and LED module to ambient air.

Denver iD: Bollard's driver and LEDs are mounted separately to avoid compound heating of components. The luminaire gear is suspended within the extruded body to encourage air movement around the driver.

Radiation

Surface finish and form designed to maximise heat radiation.

Denver iD: Bollard's large flat surface area helps to promote cooling through radiation.

THERMAL MANAGEMENT

INSTALLATION AND MAINTENANCE

Installation

Denver iD: Bollard has been designed to facilitate easy installation. With only two nuts needed to remove the bollard LED module and combined gear, this makes it easy to quickly remove the bollard head to access the mounting base of the luminaire.

Installation is achieved either using the standard base or in conjunction with a root spike. The base has 4 x mounting holes to ensure stability.

Maintainability

In the unlikely situation when an LED module has become damaged or prematurely failed the LED module can be easily removed and replaced in situ.

Additionally, emergency packs are easily accessed via the gear compartment.

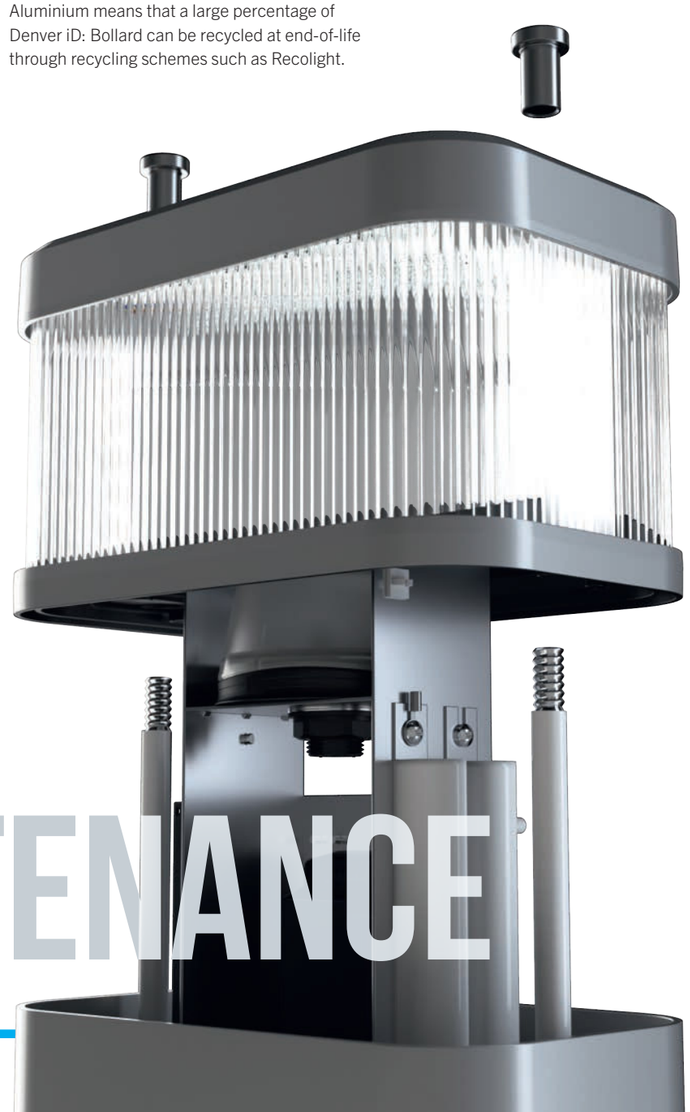
Upgradability

As LED technology ever improves and LEDs become more efficient the LED modules also have the ability to be upgraded in situ. This enables the luminaire to be future proof and can take advantage of any performance gains.

Sustainability

The ability to replace major components means that the **Denver iD: Bollard** can deliver a longer, more sustainable luminaire system life.

Using recyclable components such as Glass and Aluminium means that a large percentage of Denver iD: Bollard can be recycled at end-of-life through recycling schemes such as Recolight.



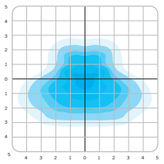
MAINTENANCE

SPECIFICATION

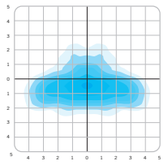
Specification

Holophane Denver iD: Bollard Denver consists of LM6- extruded Aluminium body and a removable LED module manufactured from LM6 marine grade die-cast aluminium with integrated thermal management properties. The LED module optical arrangement consists of LEDs with individual PMMA optical lenses surrounded by a patented white Transition Zone to reduce perceived glare and up light. This is sealed behind high-transparency clear Polycarbonate extrusion. Both luminaire body and LED module are sealed to IP65 and rated IK10. Drivers and LED are mounted separately from each other to promote low operating temperatures and long system life. Mounting of the luminaire is facilitated by using the mounting base of the bollard through specifically drilled points. Cable entry and termination to the luminaire is via an IP65 cable gland. Access to the luminaire is via 2 x nuts.

Light Distributions



Asymmetric (.AY)



Long & Narrow (.NR)

Features and benefits

Exceptional Performance

- Achieves spacings of up to 12m at 10lux average/2lux minimum
- Available with both a single or double sided optical distributions. Giving flexibility to put light where it's needed.
- Patented Transition Zone helps to reduce perceived glare of LEDs.

Easy Installation & Maintenance

- LED module uses a plug and play system and can be removed from the luminaire as one unit to aid in easy access to the base of the luminaire for installation.
- A removable/upgradeable LED module and easy access to gear compartment ensures that key components can be removed and replaced if required.

Fully Controllable

- Integrated discrete PIR sensor option for motion sensing capabilities either per luminaire or as a group of luminaires.
- Integrated 1hr & 3hr emergency options.
- Compatible with Controlux Air.

SPECIFICATION

CONTROLS

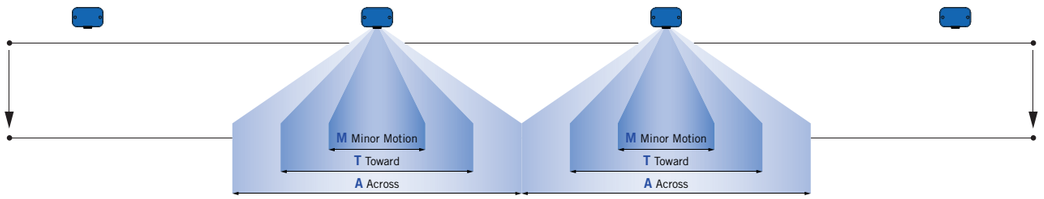
Integrated Presence Sensors

Denver iD: Bollard is available with a range of integrated controls and PIR options to suit project requirements. These range from simple on/off detection on one side of the bollard to double sided detection with pre-set dim levels.

PL1 Option
Integrated PIR, suitable up to 4m. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes. Remotely re-programmable with accessory HEL.PRG (purchased separately).

PL2 Option
Groupable Integrated PIR. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes. Remotely re-programmable with accessory HEL.PRG.G (purchased separately).

2PL2 Option
Dual Groupable Integrated PIR. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes. Remotely re-programmable with accessory HEL.PRG.G (purchased separately).



Distance from Bollard	m	2.4	3.0	3.6	6.0
	M	1.0	2.0	3.0	-
	T	3.0	4.0	5.0	6.0
	A	5.0	6.0	7.0	9.0

CONTROLS

The **ZD4i architecture** provides a future-proof foundation that enables users to build on whenever their site/project is ready to opt into new advances in technology. It is designed to work with industry-recognised, futureproof drivers and sensors that have the potential to increase energy efficiency and collect different types of data. By having **Denver iD: Bollard** ZD4i ready customers can upgrade/adjust the controllability of their lighting and gather valuable data whenever they are ready.

Customer Benefits

Increased Energy Savings

Sensors and devices can be used to optimise luminaires to give greater energy savings and provide light only when it is required.

Flexibility

The ZD4i architecture enables the interchanging and upgrading of sensor and device options should and when the end-user pleases.

Future Proof

End-users have access to an ever expanding eco-system of devices and sensors through 3rd-party suppliers. The ZD4i architecture is an industry recognised platform.

CONTROLUX AIR is a wireless technology that offers intelligent lighting with reductions in energy consumption of up to 80%. It optimises energy savings thanks to the individual control of light sources. It controls, monitors and manages street lighting, reporting consumptions, operating hours or system faults.

Note: Please ensure that the selected IoT device is compatible and suitable for the respective luminaire. All installation should be completed in compliance with the respective devices installation instructions (and limitations). Holophane cannot be held responsible for the operation of its luminaires with third party devices.

Internal Controlux Air Node

Denver iD: Bollard is available with an internally mounted Controlux Air Node to enable full connectivity and luminaire control.

ORDERING DETAILS

Code	**Luminaire** (required)
DBD	Denver iD Bollard

Code	**Series** (required)
.1	Series 1

Code	**Lamp Type** (required)
.LA012	LED light engine producing c.1,000 lm with a nominal 2700K colour temperature
.LA022	LED light engine producing c.2,000 lm with a nominal 2700K colour temperature
.LA013	LED light engine producing c.1,000 lm with a nominal 3000K colour temperature
.LA023	LED light engine producing c.2,000 lm with a nominal 3000K colour temperature
.LA014	LED light engine producing c.1,000 lm with a nominal 4000K colour temperature
.LA024	LED light engine producing c.2,000 lm with a nominal 4000K colour temperature

Code	**Optical Enclosure** (required)
.SU	Single Sided (5LEDs)
.DO	Double sided (10LEDs)

Code	**Distribution** (required)
.AY	Asymmetric
.NR	Long and Narrow light distribution

Code	**Head Height** (option)
.H75	750mm high
.H100	1000mm high

Code	**Colour** (required)
.C1	Smooth White (RAL9016)
.C4	Graphite (RAL 7011)
.C6	Smooth Grey (RAL7035)
.C7	Black (RAL9005)
.C9	Metallic Silver (RAL9006)
.RAL****	RAL Colour (Customer choice)

Code	**Shields** (option)
.LS	Internal light shield

Code	**Paint Finish** (option)
.C	Enhanced Paint Finish

Code	**Voltage Electrical Class** (option)
.CII	Class II

Code	**Photocell** (option)
.TSZ	Complete with miniature 70 lux factory fitted photocell

Code	**Controls** (option)
.PL1	Integrated PIR, suitable up to 4m. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes. Remotely re-programmable with accessory HEL.PRG (purchased separately).
.PL2	Groupable Integrated PIR. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes. Remotely re-programmable with accessory HEL.PRG.G (purchased separately).
.2PL2	Dual Groupable Integrated PIR. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes. Remotely re-programmable with accessory HEL.PRG.G (purchased separately).
.CA	Wireless lighting node (integrated) for use with Holophane Controlux Air System. (Includes subscription package for two years)

Code	**Emergency** (option)
.EM1	1hr maintained integrated emergency. Self-test
.EM3	3hr maintained integrated emergency. Self-test

Code	**Cut Out** (option)
.MCB	Mini Circuit Breaker

Code	**Dimming Outputs** (option)
.LRD	LED Regulable Dali
.LRT******	Customer specified pre-set dimming

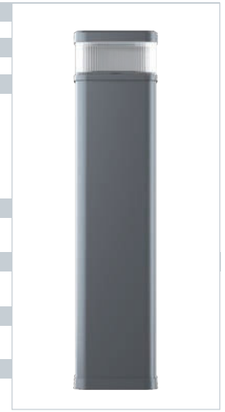
Code	**Control Gear** - 4 (option)
.CL7	Programmed to deliver 70% of the initial lumens over the life of the luminaire
.CL8	Programmed to deliver 80% of the initial lumens over the life of the luminaire
.CL9	Programmed to deliver 90% of the initial lumens over the life of the luminaire

Code	**Auxiliary Circuits** - 14 (option)
.TW	Through Wiring

Code	**Screws** - 21 (option)
.V1	Vandal-resistant screws

DBD	.LA012	.SU	.AY	.H75	.C1	.LS	.C	.CII	.TSZ	.CA

Example

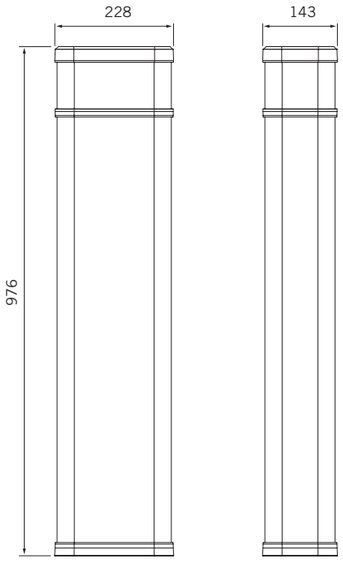


accessories

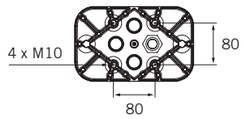
Code	
DBD.VK	Vandal Key
DBD.ROOT	Root Mounting Spike to fit Flange Base Denver iD Bollard. Includes set of 2 Bolts M10 x 100mm
DBD.FT	Set of 4 Bolts M10 x 100mm for Flange Base Fixing

Note: The specifications of the Holophane luminaire, all descriptions, illustrations, drawings and specifications in the Holophane catalogue and website represent only general particulars of the goods to which they apply and shall not form part of any contract. The company reserves the right to change specifications at its discretion without prior notification or public announcement.

DIMENSIONS & PERFORMANCE



dimensions in mm



Denver iD: Bollard base plate

Typical luminaire performance

Configuration	Delivered Lumens	Circuit Power (W)	Driver output current (mA)	Luminaire total no. of LEDs	Luminaire Efficacy (llm/W)
DBD.LA01X.SU	c.500	6	270	5	85
DBD.LA01X.DO	c.1,000	11	265	10	110
DBD.LA02X.SU	c.1,000	12	585	5	90
DBD.LA02X.DO	c.1,500	16	425	10	106
DBD.LA02X.SU	c.1,500	18	1000	5	85
DBD.LA02X.DO	c.2,000	23	600	10	101
DBD.LA03X.DO	c.3,000	28	850	10	96

Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturers data) and luminaire power of +/- 5%.

Weight

DBD 9.5 kg

GIVING YOUR OUTDOOR SPACE ITS OWN IDENTITY

BOLLARD DENVER iD™

DENVER iD BOLLARD

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AcuityBrands.

DBD UK 12/12/2024

EXTERNAL LUMINAIRE X7

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Light Up

Design iGuzzini **iGuzzini**

Last information update: June 2024

Product configuration: ER66+X490.13
ER66: Floor-recessed Orbit luminaire D=45mm - Flush-mounted stainless steel frame - Neutral White LED - Medium optic
X490.13: Outer casing in plastic for the ground, floor with stainless steel ring + closure cap - Steel

Product code
ER66: Floor-recessed Orbit luminaire D=45mm - Flush-mounted stainless steel frame - Neutral White LED - Medium optic

Technical description
Floor or ground-recessed luminaire designed to use white monochrome LED lamps, a fixed optic and powered with a continuous current of Max 350mA. The round frame with no visible screws and the optical assembly are made of AISI 304 stainless steel with an extra-clear, sodium-calcium tempered glass cover. The luminaire is fixed to the outer casing using special locking seals that hold it in place. The unit comes complete with LED circuit and a metallized plastic OPTI BEAM reflector. The product's wiring system features an A2 stainless steel cable gland with a 1800 mm long H05RNF type 2x1 mm² output power cable. The cable is equipped with an anti-transpiration device (IP68) that consists of a silicone-coated joint located on the power cable. An outer casing is available for installation and can be ordered separately from the plastic optic assembly. The glass unit, optical assembly, frame and outer casing together guarantee a maximum static load resistance of 2000 kg. The maximum surface temperature of the glass is less than 40°C.

Installation
The product is fixed to the outer casing using special locking seals with toolfree installation. The unit can be floor-recessed using the outer casing for installation or ground-recessed without the outer casing.

Colour	Weight (Kg)
Steel (13)* | Gold (14)* | Bronze (69)* | Burnished chrome (E6)*	0.59

* Colours on request

Mounting
Floor recessed|ground recessed

Wiring
Ballasts available: traditional and IP67 sealed 350mA. The product comes complete with a 1800 mm long H05RNF type 2x1 mm² output power cable and an electronic plate with a 350mA Max LED. Ballast to be ordered separately.

Notes
IP68 rating on both the product and the cable using IP68 connectors * The product is not suitable for installation in swimming pools and fountains. Versions with a Brass (.14), Bronze (.69) and Burnished Chrome (.E6) finish applied with PVD (Physical Vapor Deposition) coating technology on the stainless steel frame.

Complies with EN60598-1 and pertinent regulations

IK07 | 2000 kg | IP66 | IP68 (10m) — Complete immersion for limited periods, not suitable for use in swimming pools or fountains.

The lighting fixtures were designed and tested to withstand a static load of up to 20000 N and to resist drive-over stress by vehicles with tires. The fixtures cannot be used in lanes subjected to horizontal stresses due to acceleration, braking and / or changes of direction.

Accessory code
X490.13: Outer casing in plastic for the ground, floor with stainless steel ring + closure cap - Steel

Technical description
Made of plastic (polypropylene). Complete with front cap, cable extraction system and twin cable entrance.

Installation
Mounted on (concrete) walls, floors and ceilings using special brackets (anchors)

Colour	Weight (Kg)
Steel (13)	0.17

Mounting
ground surface|Floor recessed|ground recessed

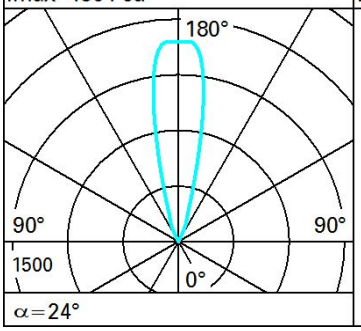
Complies with EN60598-1 and pertinent regulations

Technical data

lm system:	367	Colour temperature [K]:	4000
W system:	3.8	MacAdam Step:	2
lm source:	510	Life Time LED 1:	99,000h - L80 - B10 (Ta 25°C)
W source:	3.8	Life Time LED 2:	84,000h - L80 - B10 (Ta 40°C)
Luminous efficiency (lm/W, real value):	96.6	Lamp code:	LED
lm in emergency mode:	-	Number of lamps for optical assembly:	1
Total light flux at or above an angle of 90° [Lm]:	367	ZVEI Code:	LED
Light Output Ratio (L.O.R.) [%]:	72	Number of optical assemblies:	1
Beam angle [°]:	24°	Intervallo temperatura ambiente:	from -25°C to 50°C.
CRI (minimum):	80	LED current [mA]:	350

Polar

Imax=1801 cd



Lux

h	d	Em	Emax
4	1.7	96	112
8	3.4	24	28
12	5.1	11	12
16	6.8	6	7