



External Lighting Brochure

**Hinckley DZ3
Unit 1**

Electrical Services

June 2023

P22034-WME-U1-ZZ-TS-E-B001-P3



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External Lighting Schedule

Schedule						
Label	Quantity	Catalog Number	Description	Lumens Per Lamp	Light Loss Factor	Wattage
J1-8	0	VMX.2.LA054.V1.F4L2.W036	Column Mounted @ 8m 0° Tilt	5197	1	36
AW8	0	DSX2.2.LA364.FW	Wall Mounted @ 8m	40787	1	328
AW7-BLS-70	7	DSX2.2.LA364.FW.BLS	Wall Mounted @ 7m, with Back Light Shield, CLO 70%	31845	0.7	328
A1-10	0	DSX2.2.LA364.FW	Column Mounted @ 10m	40787	1	328
B1-10	4	DSX1.2.LA304.FW	Column Mounted @ 10m	30330	1	286
CW8	0	DSX0.1.LA114.FW	Wall Mounted @ 8m	11644	1	88
BW8	0	DSX0.1.LA114.FW	Wall Mounted @ 8m	11644	1	88
CW8	1	DSX0.1.LA084.FW	Wall Mounted @ 8m	8023	1	64
C1-8	0	DSX0.1.LA114.AY	Column Mounted @ 8m	11322	1	88
D1-8	2	DSX1.2.LA304.AY	Column Mounted @ 8m	29463	1	286
D1-6	0	DSX0.1.LA084.AY	Column Mounted @ 6m	7802	1	64
E1-8	2	DSX0.1.LA084.AY	Column Mounted @ 8m	7802	1	64
EW-4	0	DWL.1.LA034.NR.W018	Wall Mounted @ 4m	2544	1	18
FW8	4	DSX1.2.LA224.FW	Wall Mounted @ 8m	24252	1	200
F	0	DBD.1.LA014.DO.AY.W009	1m Bollard	932	1	9
G1-8	5	DSX1.2.LA224.SY	Column Mounted @ 8m	25179	1	200
HW4	19	DWL.1.LA044.AY.W025	Wall Mounted @ 4m	3779	1	25
I	2	DBD.1.LA014.DO.AY.W009	1m Bollard	932	1	9
AW7-70	6	DSX2.2.LA364.FW	Wall Mounted @ 7m, CLO 70%	40787	0.7	328
B1-10-70	3	DSX1.2.LA304.FW	Column Mounted @ 10m, CLO 70%	30330	0.7	286
A1 Y-70	0	DSX2.2.LA364.FW	Column Mounted @ 10m, CLO 70%	40787	0.7	328
NW	4	DEW.LA024.CGL.NR	Wal Mounted @ 4m	2451	1	23.2

D Series

D-SERIES



D-SERIES




HOLOPHANE®

D-SERIES

The modern styling of the **D-Series** is striking yet unobtrusive - making a bold, progressive statement as it blends seamlessly with its environment. **D-Series** takes all the benefits of LED technology and moulds it into a high performance, high efficacy and long life area lighting luminaire.

With its exceptional 'finned' thermal management system, **D-Series** is capable of delivering over 100,000 hours LED module life. Offering a wide range of lumen packages and optical distributions, **D-Series** delivers optimised lighting application designs.

With the integrated ZD4i compatibility **D-Series** delivers a controllable luminaire that helps you realise energy consumption goals and demonstrate environmental responsibility. With its unique optics placed below each LED it ensures light is delivered where it needs to be, providing a uniform Nighttime Friendly environment with minimal light pollution.

Applications

- Amenity Areas
- Car Parks
- Retail Parks
- Truck Yards
- Warehousing
- Exterior Areas

Optics / Light Source

- Lumen packages ranging from 2,000 - 36,000 in 3 different luminaire variants
- Fully soak tested light engines ensuring LED reliability and eliminating early failures.
- 4000K/3000K colour temperature.
- RA 70.

TM66 CEAM-Make Rating

Preliminary Rating: 2.3 (Definite/substantial progress to circularity).

Approvals

Complies with EN60598



IP IP65 luminaire and LED optic

Ta -40°C to +40°C

DSX1



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.

THE D-SERIES RANGE 3 LUMINAIRES, ONE COMPLETE PROJECT SOLUTION

The **D-Series** range has been designed not only for super optical quality and performance but also to have a cohesive family aesthetic.

Available in 3 luminaire sizes, the D-Series range offers a full outdoor lighting solution for any environment.



DSX2

30,000 - 36,000 lumens
8m mounting heights and above

DSX1

11,000 - 30,000 lumens
between 6m & 10m mounting heights

DSX0

2,000 to 10,000 lumens
up to 6m mounting heights

PRODUCT FEATURES

Enhanced Performance

The **D-Series** range features the very latest LED technologies. In conjunction with PMMA optics this delivers the best lighting performance coupled with low-energy consumption and high efficacy. This also means D-Series meets BREEAM compliance.

Class leading optics

The **D-Series** range has the flexibility of 4 optimised optical distributions. Through using individual bubble optics per LED D-Series controls the light exactly where it's needed. This results in a luminaire that provides best in class spacings and uniformity.

Easy maintenance

The **D-Series** range has an easily accessible gear compartment ensuring fast and simple component changes if required.

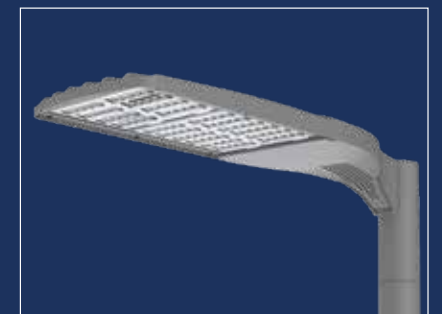
ZD4i
ready

**0%
ULOR**

D-SERIES



DSX1



DSX2

Connected

The **D-Series** range is ZD4i compatible when specified with the 4-pin Zhaga socket options (TZ01 or TZ02) enabling a future proof luminaire that can be used in conjunction with Controlux Air or a expanding ecosystem of third party devices and sensors.

Note: Post Top Bracket for The D-Series range is sold separately. Please enquire with your Holophane representative for the full range of mounting options.



DSX0



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 the **D-Series** family utilises all three heat transfer principles of conduction, convection and radiation.



Conduction

Taking heat away from electronic components, LEDs and drivers.

The **D-Series** range has drivers and LEDs that are mounted directly to thermally efficient, LM6 Aluminium to promote efficient transfer of heat from these critical components.



Convection

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

The **D-Series** range is designed to have drivers and LEDs that are mounted separately to avoid compound heating of components. This ensures critical components are kept as cool as possible to ensure long system life.



Radiation

Surface finish and form designed to maximise heat radiation.

The **D-Series** range incorporates a large finned casting design which increases the total surface area of the luminaire and in turn helps to promote cooling through radiation.

THERMAL MANAGEMENT

DSX1



SPECIFICATION

Specification

Single-piece die-cast aluminium housing, that conforms to EN1706 AC-46500, with integral heat sink fins to optimise thermal management through conductive cooling. LED modules are IP65 with individual lenses, and high grade aluminium housing to transfer heat away from the LEDs and dissipate through the finned housing for cooling. The LED driver is mounted in direct contact with the finned housing for cooling to promote low operating temperature and long system life. Housing is completely sealed against moisture and environmental contaminants (IP65). Installation is via the integrated mounting block and integral arm that facilitate a quick and easy installation. 3000K or warmer must be selected for IDA dark sky certification.

Features and benefits

System Longevity

- The D-Series's diecast aluminium housing acts as its primary heat sink. Its longitudinal fins employ conductive cooling techniques to dissipate heat away from the key LED components and driver that extends the life of the luminaire.
- Light engine(s) consist of either 20 or 30 high efficacy LEDs (subject to chosen configuration) mounted to a metal-core circuit board to maximize heat dissipation and promote long life.

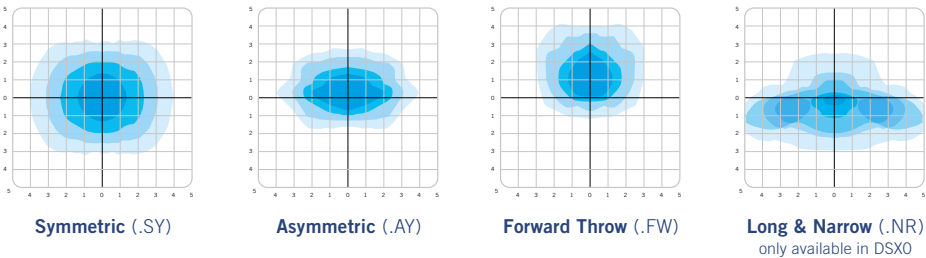
Exceptional Performance

- Offering six lumen packages ranging from 2000 lm to 36,000 lm with efficiencies of up to 143 lpw (Lumens Per Watts).
- Three optimised distributions (asymmetric, symmetric and forward throw) delivered by quality LEDs and bespoke UV stabilised optics.
- LED light engines with 0% ULOR ensuring night time friendly.

Complete Light Package

- Available with ZD4i compatibility for use with range of 3rd-party sensors and devices.
- Fully integrated into Holophane standard column range.

Light Distributions



SPECIFICATION

DIMENSIONS & PERFORMANCE

Typical luminaire performance

Configuration	Delivered Lumens	Circuit Power (W)	Driver output current (mA)	Luminaire total number of LEDs	Luminaire efficacy (lm/W)
DSX0.1.LA02X	c.2,000	15	450	20	133
DSX0.1.LA03X	c.3,000	21	650	20	143
DSX0.1.LA04X	c.4,000	29	450	20	138
DSX0.1.LA05X	c.5,000	37	570	20	135
DSX0.1.LA06X	c.6,000	45	700	20	133
DSX0.1.LA08X	c.8,000	64	990	20	125
DSX0.1.LA10X	c.10,000	81	1250	20	123
DSX1.2.LA11X	c.11,000	105	1050	30	116
DSX1.2.LA16X	c.16,000	131	700	60	126
DSX1.2.LA22X	c.22,000	208	1050	60	113
DSX1.2.LA30X	c.30,000	286	1400	60	105
DSX2.2.LA30X	c.30,000	282	1050	100	115
DSX2.2.LA36X	c.36,000	328	1000	100	121

Weight (with control gear)

DSX 0 8.0 kg
DSX 1 12.2 kg
DSX 2 15.0 kg

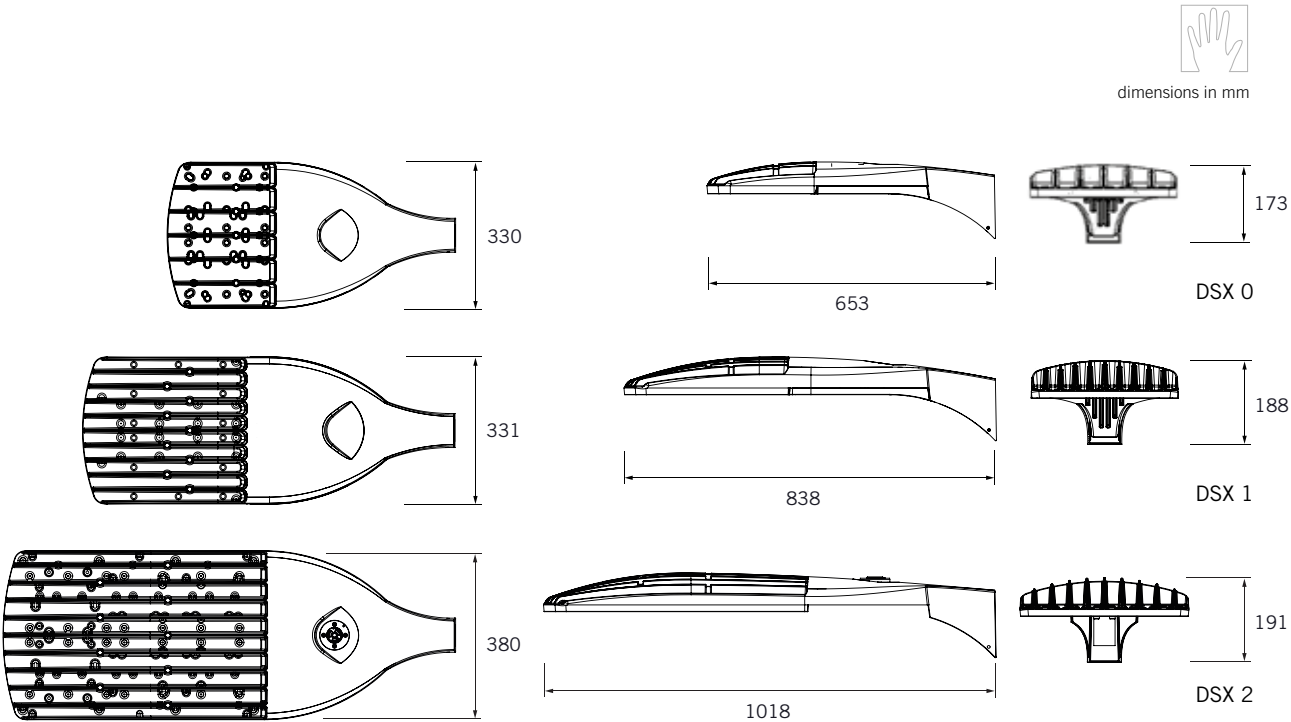
Windage (effective projected area)

DSX 0 0.09 m²
DSX 1 0.09 m²
DSX 2 0.10 m²

TA

-40°C to 40°C

Note: Data is correct at time of print.
* For other life metric data in line with IEC PAS62722-2-1 and 62717 contact your Holophane Representative for details.



DSX2



Code	Luminaire (required)							
DSX0	D-Series 1 Luminaire							
Code	Series (required)							
.1	Series 1							
Code	Lamp Type (required)							
.LA02X	LED light engine producing c.2,000 lm with a nominal 3000K or 4000K colour temperature							Replace 'X' in lamp type code with either: 3 for 3000K 4 for 4000K
.LA03X	LED light engine producing c.3,000 lm with a nominal 3000K or 4000K colour temperature							
.LA04X	LED light engine producing c.4,000 lm with a nominal 3000K or 4000K colour temperature							
.LA05X	LED light engine producing c.5,000 lm with a nominal 3000K or 4000K colour temperature							
.LA06X	LED light engine producing c.6,000 lm with a nominal 3000K or 4000K colour temperature							
.LA08X	LED light engine producing c.8,000 lm with a nominal 3000K or 4000K colour temperature							
.LA10X	LED light engine producing c.10,000 lm with a nominal 3000K or 4000K colour temperature							
Code	Distribution (required)							
.SY	Symmetric light distribution							
.AY	Asymmetric light distribution							
.FW	Forward Throw distribution							
.NR	Long & Narrow distribution							
.BLC	Long & Narrow distribution with extreme backlight cut-off							
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	Voltage Electrical Class (option)							
.CII	Class II							
Code	Photocell (option)							
.TSZ	Complete with miniature 70 lux factory fitted photocell. (Zodion SS12)							
.T1	Complete with NEMA socket. (To accept standard NEMA Photocell, available from Holophane).							
.T5	Complete with 5-pin dimming NEMA ANSI C136.41 socket (photocell/node supplied by others) without locking top							
.T7	Complete with 7-pin dimming NEMA ANSI C136.41 socket (photocell/node supplied by others) without locking top							
.T5T	Complete with 5-pin dimming NEMA ANSI C136.41 socket (photocell/node supplied by others) with weather proof locking top							
.T7T	Complete with 7-pin dimming NEMA ANSI C136.41 socket (photocell/node supplied by others) with weather proof locking top							
.TZ01	Complete with 4-Pin Zhaga Socket - 'Top' (suitable photocell/node supplied by others) with weather proof locking cap							
.TZ02	Complete with 4-Pin Zhaga Socket - 'Bottom' (suitable photocell/node supplied by others) with weather proof locking cap							
.TZ03	Complete with 4-Pin Zhaga Socket - 'Top & bottom' (suitable photocell/node supplied by others) with weather proof locking cap							
Code	Controls (option)							
.PH1	PIR on a Zhaga socket, suitable up to 12m. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes. Remotely re-programmable with accessory HEL.PRG (purchased separately).							
.PH2	Groupable PIR on a Zhaga socket, suitable up to 12m. 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)							
.CAP	Wireless lighting node (top socket) & PIR (bottom socket) for use with Holophane Controlux Air System. (Includes subscription package for two years). Suitable up to 12m.							
Code	Control Gear (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							
.CL****	Customer specified programming							
Code	Dimming outputs (option)							
.LRD	DALI enabled							
.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	Paint finish (option)							
.C	Enhanced Paint Finish							
DSX0	.LA02X	.AY	.C7	.CII	.TSZ	.CL7	.LRD	.C
Example								



Code	Luminaire (required)							
DSX1	D-Series 1 Luminaire							
DSX2	D-Series 2 Luminaire							
Lamp Type (required)								
.LA05X* LED light engine producing c 5,000 lumens								
.LA06X* LED light engine producing c 6,000 lumens								
.LA08X* LED light engine producing c 8,000 lumens								
.LA11X* LED light engine producing c 11,000 lumens								
.LA16X* LED light engine producing c 16,000 lumens								
.LA22X* LED light engine producing c 22,000 lumens								
.LA30X [†] LED light engine producing c 30,000 lumens								
.LA364** LED light engine producing c 36,000 lumens								
With a nominal 3000K or 4000K colour temperature.								
Replace X with 3 for 3000K or 4 for 4000K.								
								
Code	Distribution (required)							
.AY	Asymmetric							
.SY	Symmetric							
.FW	Forward throw							
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	Photocell (option)							
.T	Mini Photocell							
.T1	Complete with NEMA socket (To accept standard NEMA Photocell, available from Holophane)							
.T5	Complete with 5-pin dimming NEMA ANSI C136.41 socket (suitable photocell/node supplied by others) without locking top							
.T7	Complete with 7-pin dimming NEMA ANSI C136.41 socket (suitable photocell/node supplied by others) without locking top							
.T5T	Complete with 5-pin dimming NEMA ANSI C136.41 socket (photocell/node supplied by others) with weather proof locking top							
.T7T	Complete with 7-pin dimming NEMA ANSI C136.41 socket (photocell/node supplied by others) with weather proof locking top							
.TZ01	Complete with 4-Pin Zhaga Socket - Top (suitable photocell/node supplied by others) with weather proof locking top ^{*†}							
.TZ02	Complete with 4-Pin Zhaga Socket – Bottom (suitable node/presence detector supplied by others) with weather proof locking top ^{*†}							
.TZ03	Complete with 4-Pin Zhaga Socket - 'Top & bottom' (suitable photocell/node supplied by others) with weather proof locking cap.							
Code	Control Gear (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							
.D2	DALI HF electronic control gear							
Code	Controls (option)							
.PH1	PIR on a Zhaga socket, suitable up to 12m. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes. Remotely re-programmable with accessory HEL.PR.G (purchased separately).							
.PH2	Groupable PIR on a Zhaga socket, suitable up to 12m. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes. Remotely re-programmable with accessory HEL.PR.G.G (purchased separately).							
.CA	Wireless lighting node (top socket) for use with Holophane Controlux Air System. (Includes subscription package for two years)							
.CAP	Wireless lighting node (top socket) & PIR (bottom socket) for use with Holophane Controlux Air System. (Includes subscription package for two years). Suitable up to 12m.							
Code	Dimming outputs (option)							
.LRD	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							
Code	Paint finish (option)							
.C	Enhanced Paint Finish							
DSX1	.LA224	.AY	.C7	.T1	.CL7	.PH1	.LRT56	.C
Example								

*DSX1 only +DSX1 & 2 **DSX2 only



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.

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Denver ID Bollard

DENVERTM iD BOLLARD



DENVER
 BOLLARD




HOLOPHANE[®]

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



Complies with EN60598

IP65 and IK10

-20°C to +45°C



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What does it mean for our customers?

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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

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.



BOLLARD DENVER™ iD

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.



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 Lumicom.



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.

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.

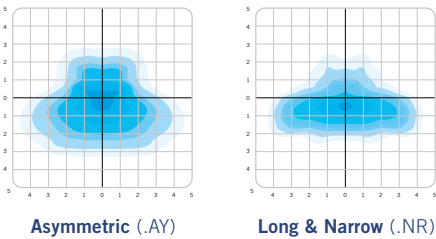
Easy Installation & Maintenance

- 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.

Light Distributions



SPECIFICATION

CONTROLS



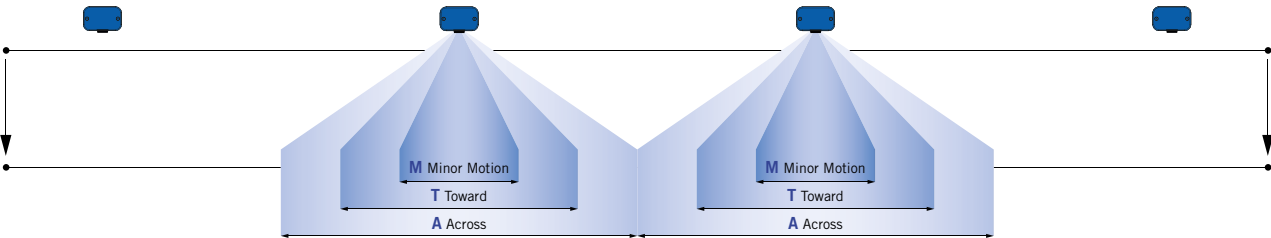
Integrated Presence Sensors

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.

PIR0 Option
Passive Infrared Sensor. Switches off luminaire when no occupancy detected after 10 minutes.

PIR1 Option
Passive Infrared Sensor. Dims luminaire to 30% when no occupancy detected after 10 minutes.

PIR2 Option
Passive Infrared Sensor both sides. Dims luminaire to 30% when no occupancy detected after 10 minutes.



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.



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)									
.PL0	Integrated PIR, suitable up to 4m. Switching only functionality - switches off after 20 minutes. Remotely re-programmable with accessory HEL.PRГ (purchased separately).									
.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.PRГ (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.PRГ.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.PRГ.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										

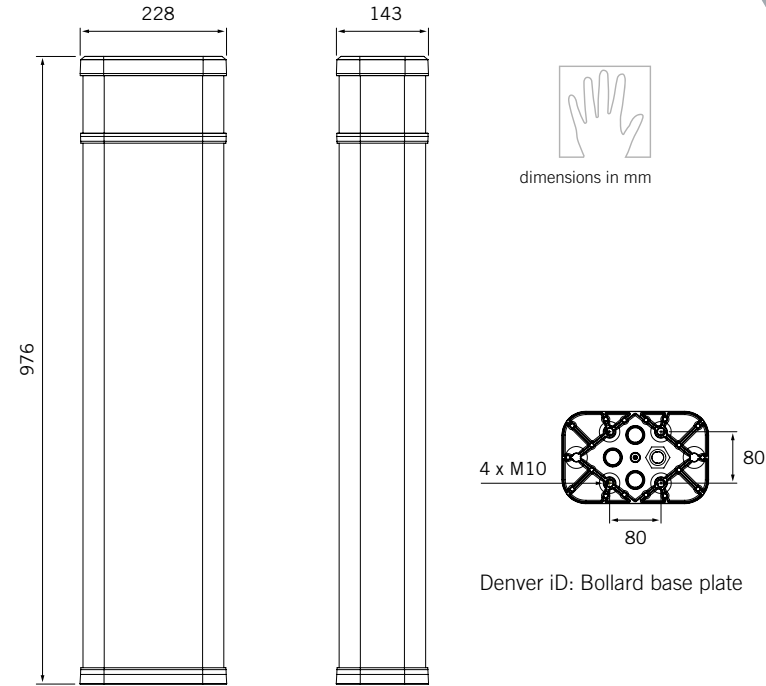


accessories

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 2 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



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 (lm/W)
DBD.LA01X.SU	c.500	6	270	5	85
DBD.LA01X.DO	c.1,000	9	265	10	110
DBD.LA01X.SU	c.1,000	11	585	5	90
DBD.LA02X.DO	c.1,500	14	425	10	106
DBD.LA02X.SU	c.1,500	18	1000	5	85
DBD.LA02X.DO	c.2,000	20	600	10	101

Weight

DBD	9.5 kg
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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%.



GIVING YOUR OUTDOOR SPACE ITS OWN IDENTITY



Denver Wall

DENVERTM iD WALL



DENVER
iD WALL




HOLOPHANE[®]

REGISTERED EUROPEAN DESIGN
PATENTED DESIGN

WALL DENVER™ iD

The Denver iD: Wall 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: Wall offers improved visual comfort and lower perceived glare; perfect for the unique requirements of pedestrian-friendly amenity spaces.

Coupled with the latests LED technologies, smart controls integration and class-leading optical performance the new Denver iD: Wall 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.

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: Wall** 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
- Campuses
- Retail Parks
- Car Parks
- Landscaped Areas
- Offices
- Walkways
- Perimeter areas

Overview

- Available with lumen ranges from 700 to 4,000 (delivered lumens).
- 5 optimised optical distributions suitable for a variety of environments.
- 2700K, 3000K & 4000K options available.
- CRI > 70.
- Available with integrated control and emergency options (c.300 lm in emergency mode).
- Ease of installation via modular design.
- Spacings of 15m to 20m at 3m mounting height with 5 lux average.

TM66 CEAM-Make Rating

Preliminary Rating: 2.6 (Excellent circularity).

Approvals



Complies with EN60598

IP65 and IK10

-20°C to +45°C



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: Bollard**.

DENVER
iD POLE



DENVER
iD WALL



DENVER
iD BOLLARD



PRODUCT FEATURES

Class Leading Performance

Denver iD: Wall 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.



WALL DENVER™ iD



2-part housing

Denver iD: Wall is constructed in two parts consisting of the Front casting combined with the LED module and back box. This design makes installation easy but also ensures easy maintenance for driver or emergency battery changes.

Cable entry and termination is via 2 x 20mm IP65 membrane cable glands.

Easily maintainable

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

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



With option
.B, PIRO & PIR1

Connected

Denver iD: Wall is ZD4i compatible when specified with the 4-pin Zhaga socket options (TZ01) enabling a future proof luminaire that can be used in conjunction with Controlux Air or a expanding ecosystem of third party devices and sensors.



TRANSITION ZONE

Patented Transition Glare

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.

Hydrophilic Properties

The glass in Denver iD: Pole has hydrophilic properties which attracts water particles. However, there are benefits for outdoor luminaires.

Hydrophilic glass encourages water droplets to combine together to 'sheet' and run off the surface easily, minimizing the effect on emitted light. Conversely, whilst Hydrophobic glass encourages beading of water on the surface, it does not encourage water particles to combine and run off. This can effect overall light output negatively.

High Transparency Glass

The glass used in Denver iD: Pole is over 99% transparent ensuring that no light output is compromised. Additionally, this means that less light emitted at higher angles is not wasted and thus improves overall performance of the luminaire.

Recessed LEDs

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

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 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
.PIRO or .PIR1



Deep PIR Back Box with
multiple cable entry
.PIRO/.PIR1 + .B

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 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.

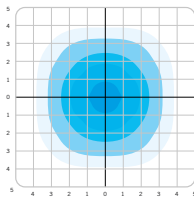
Easy Installation & Maintenance

- 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.

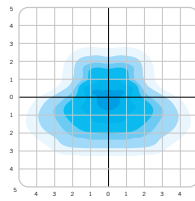
Fully Controllable

- 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.

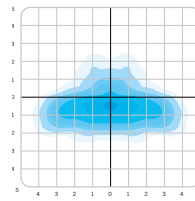
Light Distributions



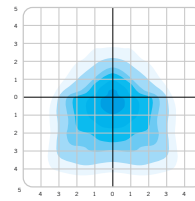
Symmetric (.SY)



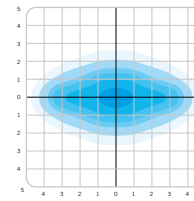
Asymmetric (.AY)



Long & Narrow (.NR)



Forward Throw (.FW)



High Beam Long
& Narrow (.HN)

MAINTENANCE

SPECIFICATION

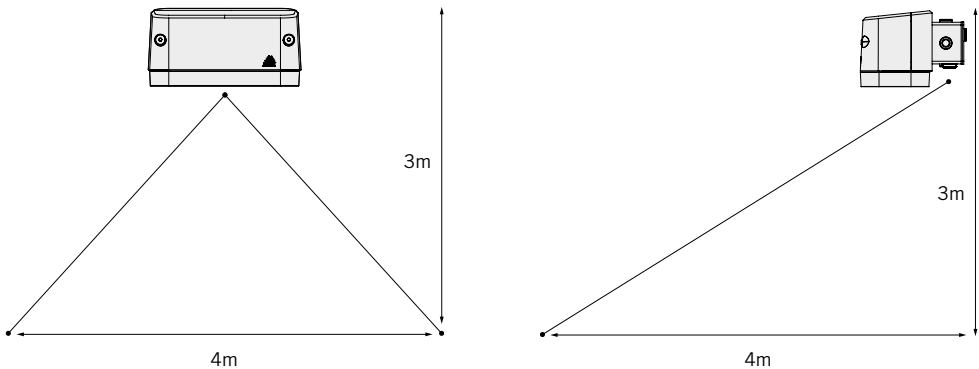
CONTROLS

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.

PIRO Option
Passive Infrared Sensor. Switches off luminaire when no occupancy detected after 10 minutes.

PIR1 Option
Passive Infrared Sensor. Dims luminaire to 30% when no occupancy detected after 10 minutes.



CONTROLS

ZD4i

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



IOT.TZ.TSZC
For use with TZ01



IOT.TZ.EAS
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.



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.

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.

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)						
Code	Controls (option)						
.PLO	Integrated PIR, suitable up to 6m. Switches off after 10 minutes of inactivity. Remotely re-programmable with accessory HEL.PRГ (purchased separately)						
.PL1	Integrated PIR suitable up to 6m. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes. Remotely re-programmable with accessory HEL.PRГ (purchased separately).						
.PL2	Groupable, suitable up to 6m. Dims to 30% after 10 minutes of inactivity - switches off after further 10 minutes. Remotely re-programmable with accessory HEL.PRГ.G (purchased separately).						
.CA	Wireless lighting node (top socket) 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	Dimming Outputs (option)						
.LRD	LED Reguable 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						
DBD	.LA012	.SY	.C1	.C	.CII	.TSZ	.TZ01

Example

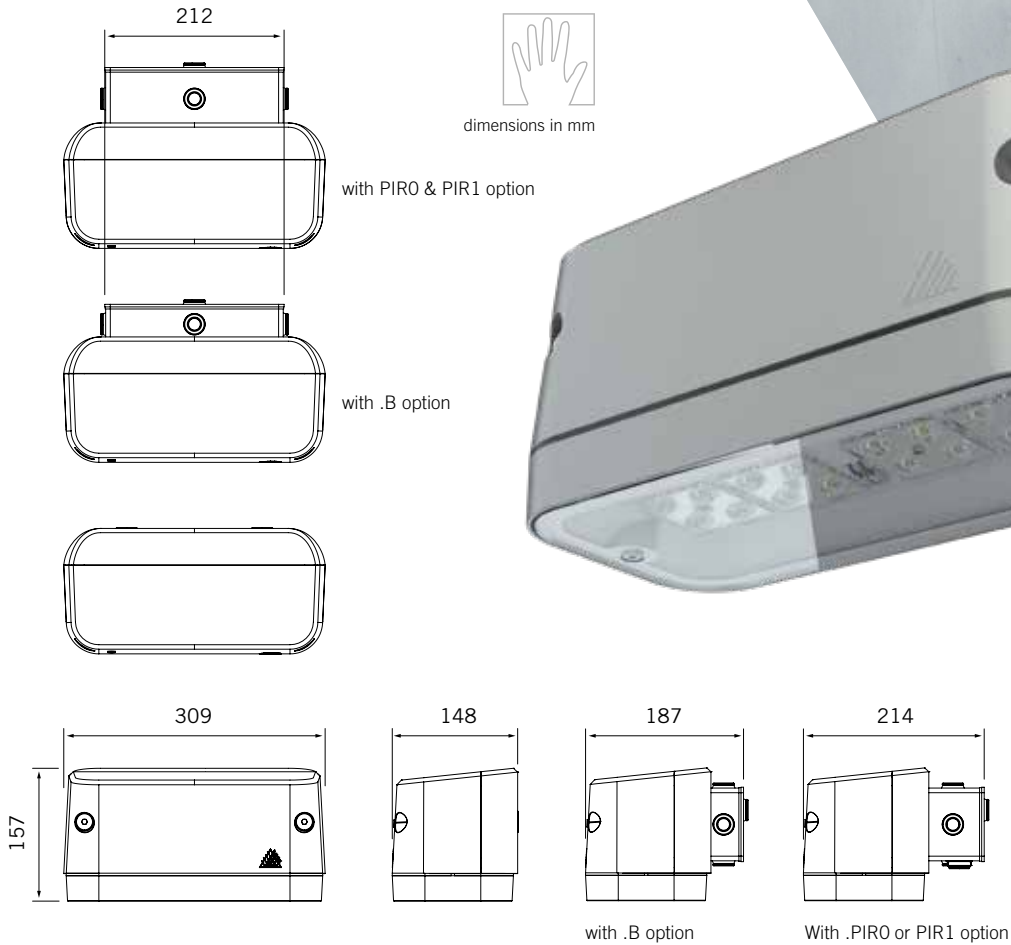
Note: TSZ not compatible with TZ01/PIRO/PIR1.

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



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

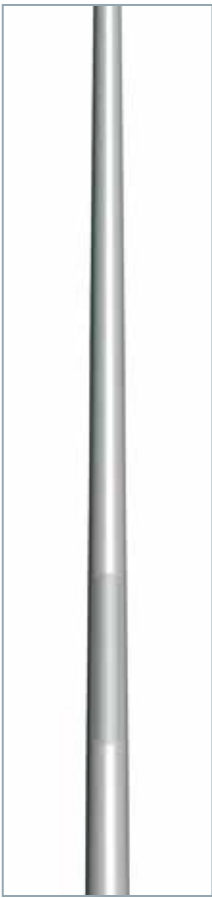
**GIVING YOUR OUTDOOR
SPACE ITS OWN IDENTITY**

WELCOME



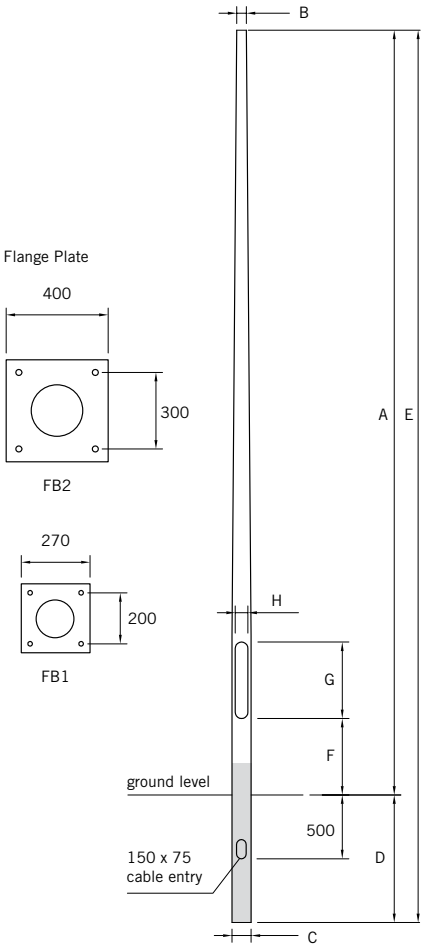
Columns

standard columns
conical aluminium



Holophane products
that are suitable

- aeris large
- aeris medium
- denver pole
- petxina
- QSM
- QSS
- seattle flood
- signature II
- urbandeco
- vista
- vista junior



Height (m)	Nominal Height	Top Diameter	Root End Diameter	Planting Depth	Overall Length	Door to Ground	Door Opening Length	Door Opening Width	Weight kg*	Bending Moment Nm
drawing ref	A	B	C	D	E	F	G	H		
3m std	3000	75	150	800	3800	600	600	100	15	5340
4m std	4000	75	150	800	4800	600	600	100	18	5070
5m std	5000	75	150	800	5800	600	600	100	21	4940
6m std	6000	75	150	1000	7000	600	600	100	25	4870
8m std	8000	75	165	1200	9200	600	600	100	38	6900
8m hd	8000	75	180	1200	9200	600	600	100	43	9120
10m std	10000	75	200	1500	11500	600	600	100	72	16190

* Exclusion TBC

3-6m Poles	Flange Plate FB1	Bolts	M18 x 330
8-10m Poles	Flange Plate FB2	Bolts	M18 x 330

Flange Plate and J-Bolt information will be confirmed at time of order due to the necessity in ensuring the correct plate and J-Bolts are supplied.

std = Standard hd = Heavy Duty

Column type to be confirmed at time of order as this is based on luminaire weight, windage and geographical location.