



HLS gen 4

integrated lighting



Award
Winning
Design

HLS Gen4 - Setting the Standard for Integrated LED Lighting

The multi-award winning HLS minipuck is the most flexible and vandal resistant LED handrail lighting module on the market, offering unrivalled uniformity and photometric performance. Designed with the specifier in mind, it accommodates a wide range of options of beams, CCT, colour, dimming protocols, emergency and solar alternatives.

The minipucks can be installed in new handrail or retrofitted into existing handrail, flat or oval metallic structures and surfaces. It is powerful, yet small and unobtrusive, making the minipuck ideal for incorporation into street sculptures, illuminating artwork or to wash walls with white or RGB light.

The HLS Gen4 minipuck is made in electropolished 316 stainless steel, with options of brass, painted finishes including aged bronze patina, aluminium and super-duplex stainless steel, which offers exceptional corrosion resistance.

To date, the majority of HLS installations are in public areas, as one of the main features of the minipuck is vandal resistance. The thread locking mechanism of the HLS minipuck and the unique tool required for removal prevents vandalism and theft. The fixture achieves the highest impact rating available; IK10 - European Standard EN62262.

The Planet Lighting HLS minipuck is the most widely specified LED module based handrail system in the world, with over 100,000 minipucks installed since 2006, ranging across locations in the United States, Canada, UK, France, Germany, Ireland, Holland, Sweden, Serbia, United Arab Emirates, Hong Kong, Singapore, Malaysia, India, New Zealand and Australia.

HLS Gen4 is 100% Made in Australia

'Concrete Transcendence' Stockholm, Sweden

Urban Artwork

Ebba Bohlin 2012



Features of HLS Gen4

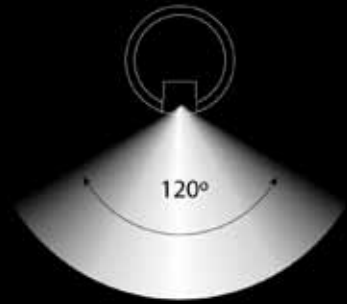
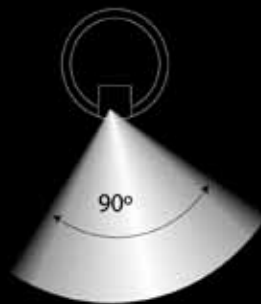
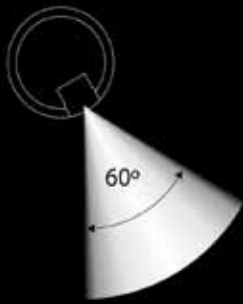
- 316 electropolished stainless steel LED module
- fits \varnothing 38-100mm handrail
- custom curvature available eg. \varnothing 25mm
- any metallic surface (minimum wall thickness 1.5mm)
- up to 150 lumens
- 100 lumens/watt
- 1.5W
- IP67
- 95% glare reduction*
- available in three beams
standard
asymmetric
symmetric
- Standard colour temperatures:
 - 2700K, 3000K, 4000K, 5000K
 - custom colours & RGB available
- any dimming protocol
- polycarbonate or borosilicate lens
- custom lensing available
- vandal resistant design
- IK10 (EN62262)
- easy and fast retrofit into existing handrail or surface
- emergency compatible
- stand alone solar PV solutions
- UL listing pending

*compared to Gen3



Brixton Windrushes
London, England
Street Sculpture

HLS minipuck beam types



Standard

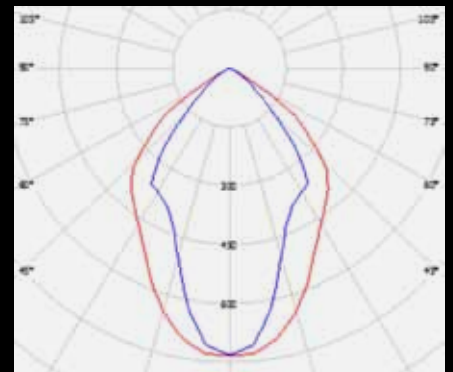
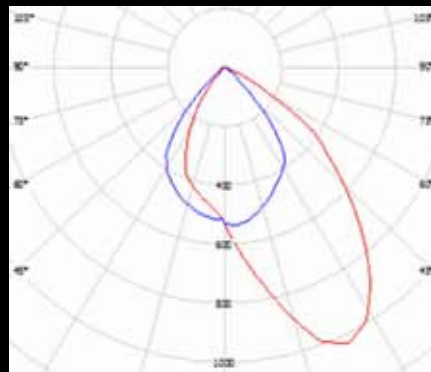
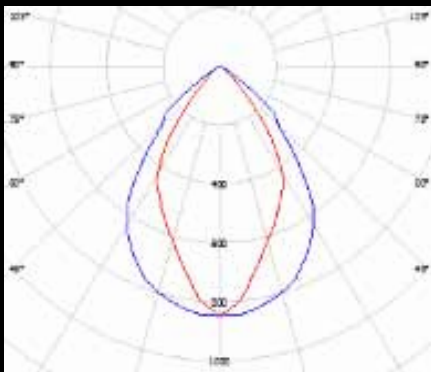
- 20-30° orientation in rail
- highest efficiency
- very little loss of light
- minimal spill of light onto wall

Vertical Down Asymmetric

- 90° vertical down orientation in rail
- some wall wash

Vertical Down Symmetric

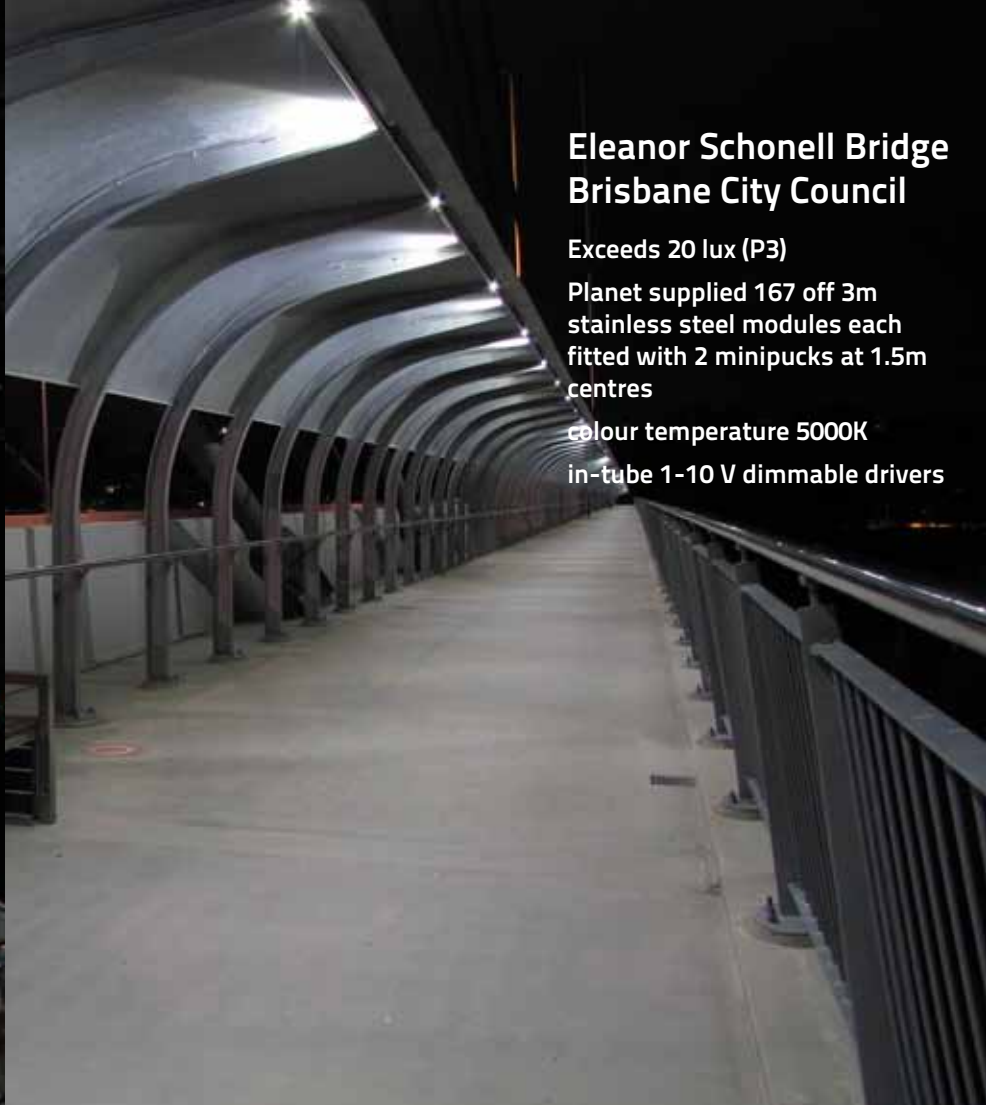
- 120° vertical down orientation in rail
- perfect for mid-rails



3000K Standard beam
0.5m centres, 2m wide stair
Average 200 lux
Uniformity 0.67

3000K Asymmetric beam
0.5m centres, 2m wide stair
Average 150 lux
Uniformity 0.64

3000K Symmetric beam
0.5m centres, mid-rail
Average 100 lux
Uniformity 0.25



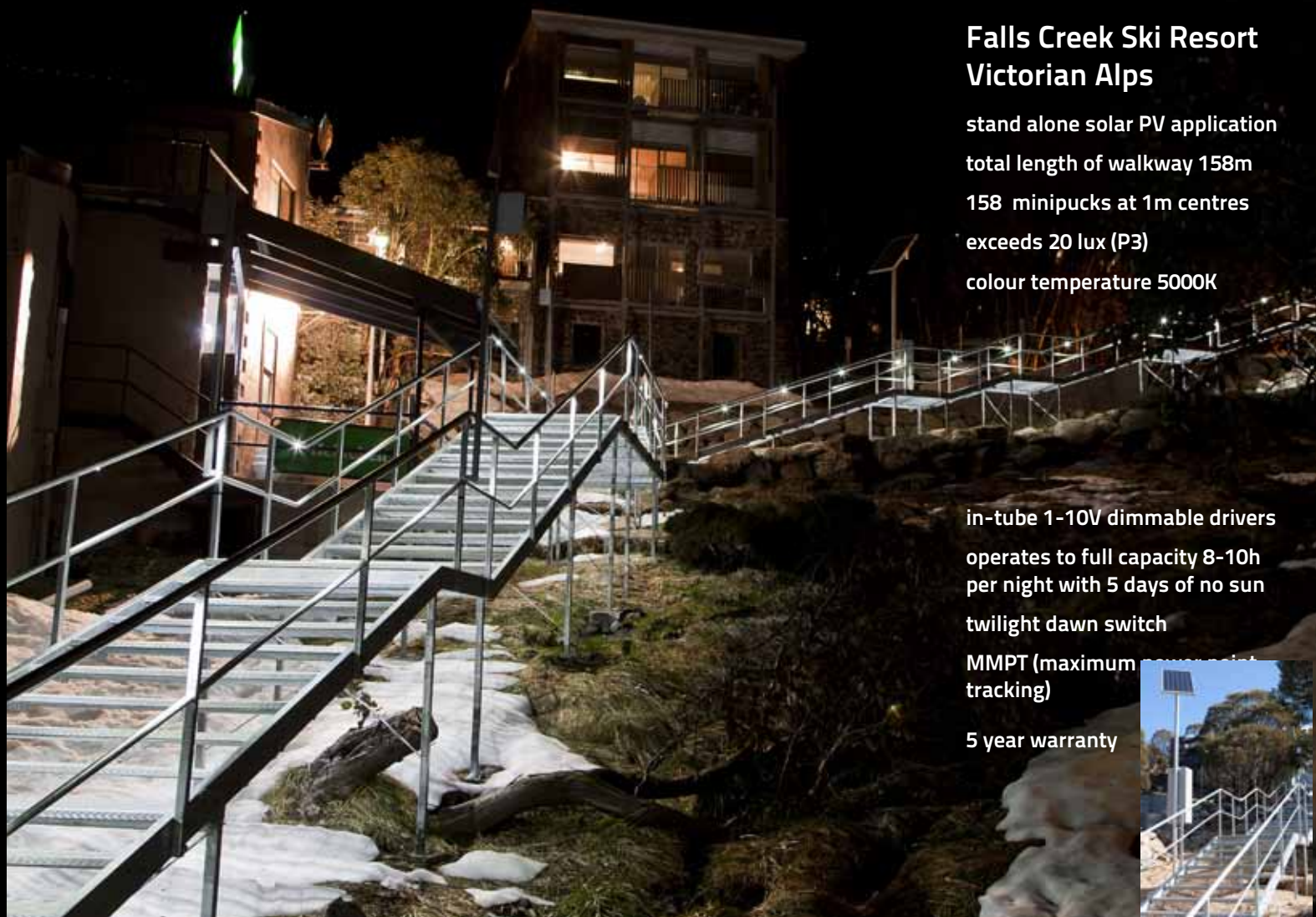
Eleanor Schonell Bridge Brisbane City Council

Exceeds 20 lux (P3)

Planet supplied 167 off 3m stainless steel modules each fitted with 2 minipucks at 1.5m centres

colour temperature 5000K

in-tube 1-10 V dimmable drivers



Falls Creek Ski Resort Victorian Alps

stand alone solar PV application

total length of walkway 158m

158 minipucks at 1m centres

exceeds 20 lux (P3)

colour temperature 5000K

in-tube 1-10V dimmable drivers

operates to full capacity 8-10h

per night with 5 days of no sun

twilight dawn switch

MMPT (maximum power point tracking)

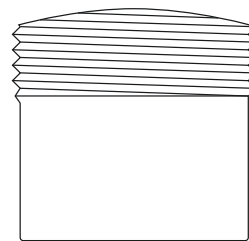
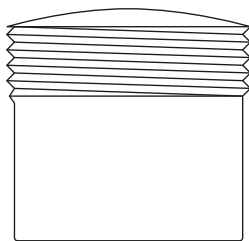
5 year warranty





HLS minipuck thread types

(handrail/material wall thickness)



Heavy Wall Handrail

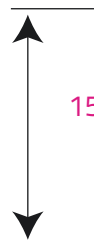
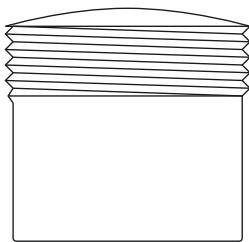
- equipped with a shoulder designed to fit into a 1.8mm counterbored hole
- Suitable for handrail wall thickness 2.5mm or greater.

Thin Wall Handrail

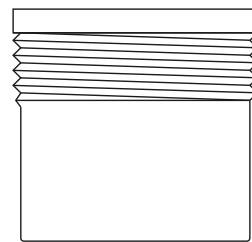
- threaded to the top ensuring sufficient purchase in thinner walled applications.
- Suitable for handrail wall thickness 1.5mm or greater.



HLS minipuck face types



15mm



Curved Face

- fits \varnothing 38-100mm rail standard
- custom versions available eg. \varnothing 25mm
- minimum wall thickness 1.5mm

Flat Faced

- suitable for flat metallic surfaces and structures
- minimum wall thickness 1.5mm

Sir James Mitchell Park
Perth Foreshore, Swan River
Perth City Council



Colour temperatures/Colours

Standard: 2700K 3000K 4000K 5000K

On request: Solid colours, RGB

Driver solutions

Standard: 1-10V or Push Dim
Drives 1-30 minipucks @ 500mA

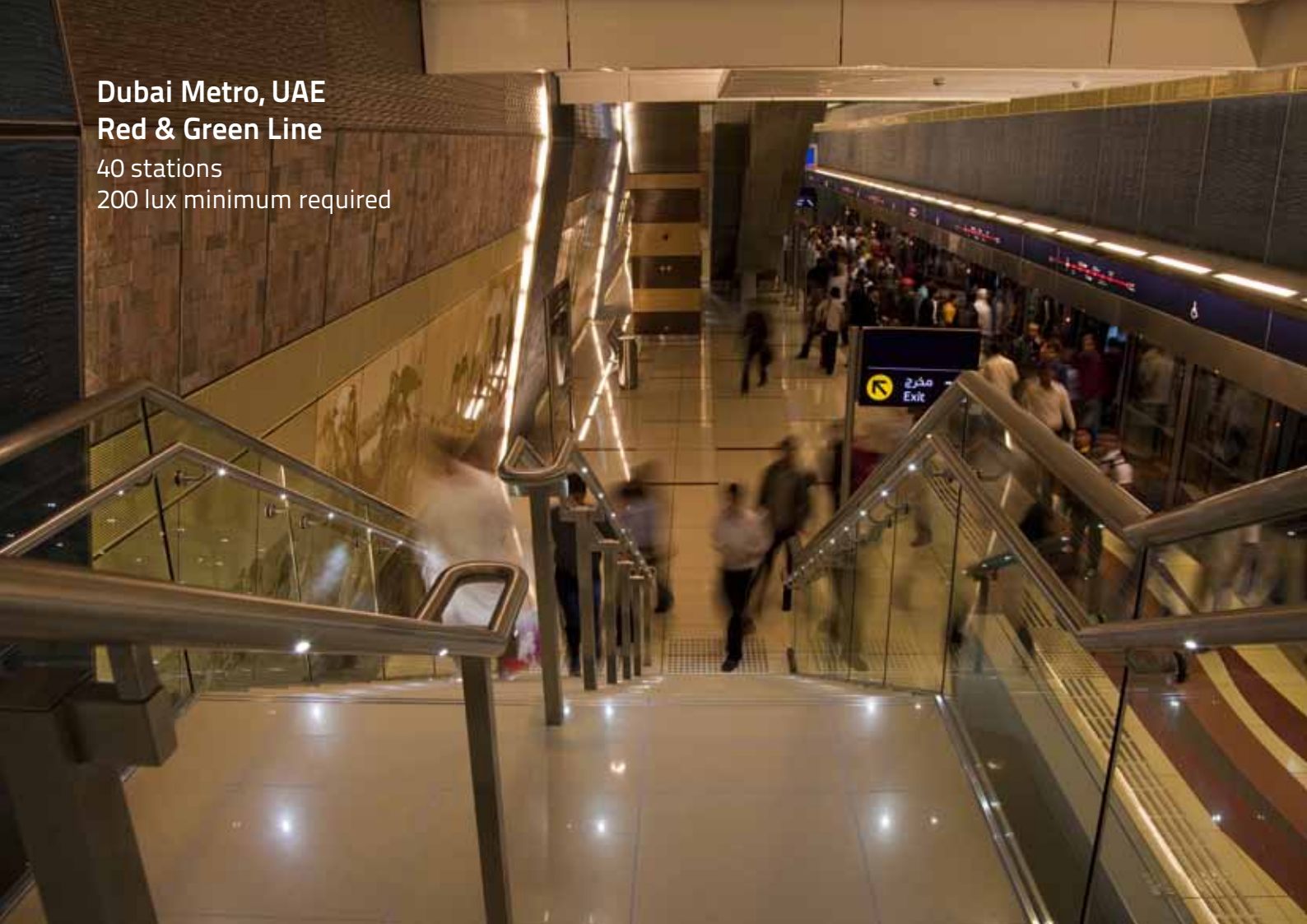
Other dimming protocols available:
DMX, DALI, DSI, Leading/trailing edge phase



Dubai Metro, UAE Red & Green Line

40 stations

200 lux minimum required



Internal Wiring

Series wiring to shunt protected minipucks - limits unlikely fail to single LED without compromising integrity of the circuit

100% water proof connections

Wire distances and sizes

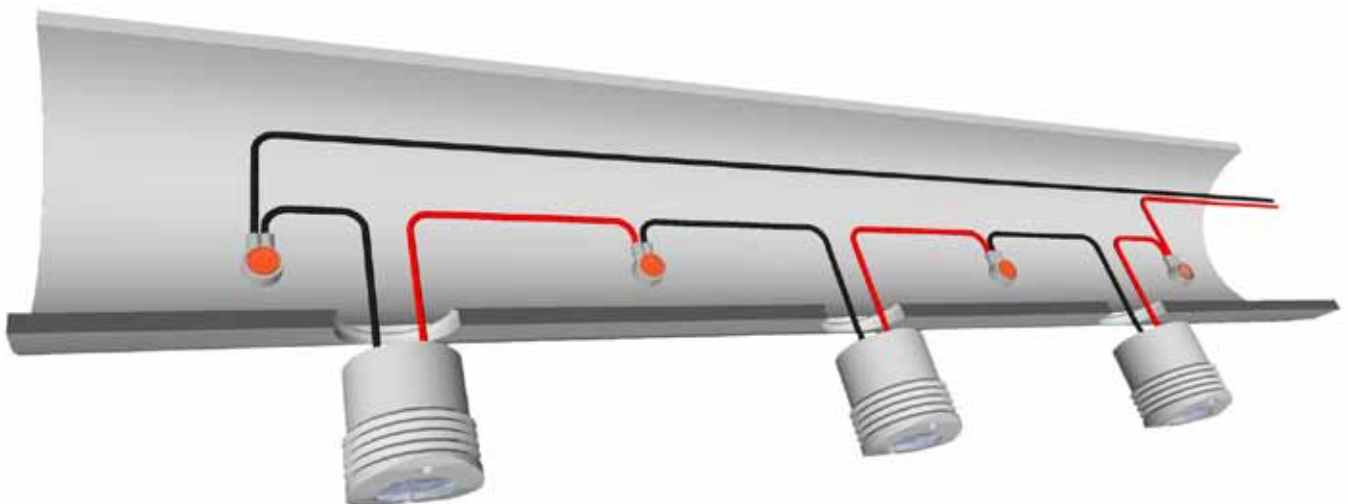
wire size max OD 2.08mm

<100m - 0.5mm²

<150m - 0.75mm²

<200m - 1mm²

<250m - 1.5mm²



Retro-fit or new installation



HLS Gen4 drill jig equipment (patent pending):

- accurate
- simple
- fast

on site drilling of handrail for easy retro fit or new installations.

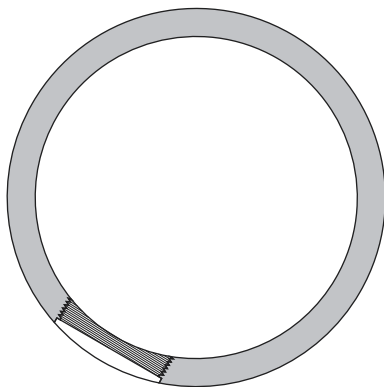
The key to a successful installation is having the right tool for the job.

Over the last half-decade Planet Lighting has progressively developed and improved the HLS drill-jig equipment and support. The Gen4 drill-jig enables installers without previous experience of metal work to align, drill, counterbore and tap holes with precision and speed.

For peace of mind, Planet Lighting offers:

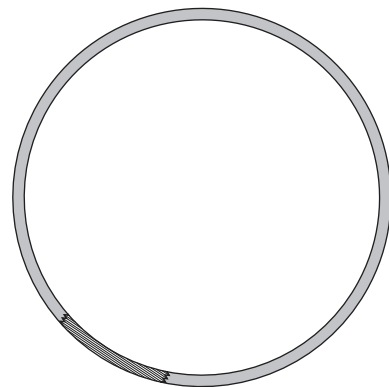
- full installation service
- installation supervision
- telephone/online support

Available worldwide via our distributors



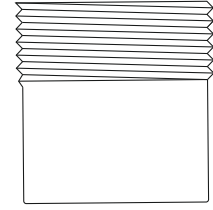
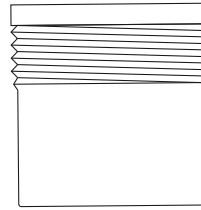
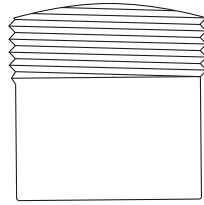
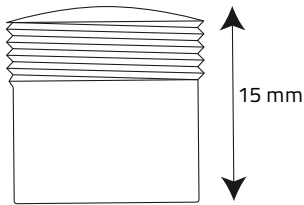
Heavy Wall Minipucks

- \varnothing 15mm drilled hole
- \varnothing 16 x 1.8mm counterbore
- tapped M16x1



Thin Wall Minipucks

- \varnothing 15mm drilled hole
- tapped M16x1



Heavy Wall Curved Face

- $\varnothing 38$ -100mm pipe
- wall thickness >2.5mm
- 15mm hole with $\varnothing 16$ mm x 1.8mm counterbore
- M16 x 1 internal thread

Thin Wall Curved Face

- $\varnothing 38$ -100mm pipe
- wall thickness >1.5mm
- 15mm hole
- M16 x 1 internal thread

Heavy Wall Flat Face

- Flat surface
- wall thickness >2.5mm
- 15mm hole with $\varnothing 16$ mm x 1.8mm counterbore
- M16 x 1 internal thread

Thin Wall Flat Face

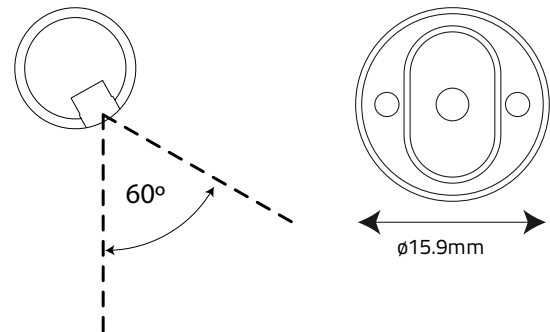
- Flat surface
- wall thickness >1.5mm
- 15mm hole
- M16 x 1 internal thread

Lighting Data

LED Quantity	1
LED type	Cree
Power	1.5W
Colour temperature	Lumen output
5000K	148
4000K	137
3000K	127
2700K	118

Electrical Data

Input current	500mA
Vf	3V
Driver	Maxi Jolly HV 1-30 minipucks in series
Connection	waterproof gel filled connector
Wire size and distances	max OD 2.08mm
	<100m - 0.5mm ²
	<150m - 0.75mm ²
	<200m - 1mm ²



Fixture data

Metalware standard	316 stainless steel	
Metalware option	aluminium, brass, aged bronze patina, paint finish, hyper-duplex stainless steel	
Lens standard	polycarbonate lens	
Lens option	borosilicate lens	
IP rating	IP66	polycarbonate lens
	IP67	borosilicate lens
Impact rating	IK10 (polycarbonate lens)	
Ambient temperature	55°C	
Warranty	5 years	

Standard Beam Heavy wall suitable for wall thickness >2.5mm Curved Face $\varnothing 38$ -1000mm handrail pipe

HLS-ST-HW-CF-DW	Standard, Heavy Wall, Curved, Face, 5000K
HLS-ST-HW-CF-NW	Standard, Heavy Wall, Curved Face, 4000K
HLS-ST-HW-CF-WW	Standard, Heavy Wall, Curved Face, 3000K
HLS-ST-HW-CF-IW	Standard, Heavy Wall, Curved, Face 2700K

Standard Beam Thin wall suitable for wall thickness >1.5mm Curved Face $\varnothing 38$ -1000mm handrail pipe

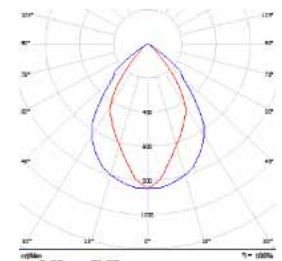
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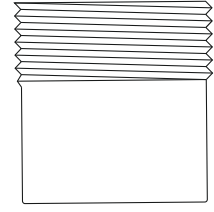
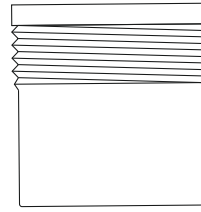
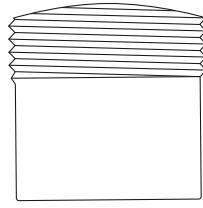
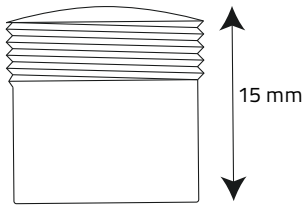
Standard Beam Heavy wall suitable for wall thickness >2.5mm Flat Face Surface

HLS-ST-HW-FF-DW	Standard, Heavy Wall, Flat Face, 5000K
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Standard Beam Thin wall suitable for wall thickness >1.5mm Flat Face Surface

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HLS-ST-TW-FF-WW	Standard, Thin Wall, Flat Face, 3000K
HLS-ST-TW-FF-IW	Standard, Thin Wall, Flat Face, 2700K





Heavy Wall Curved Face

- $\varnothing 38$ -100mm pipe
- wall thickness >2.5mm
- 15mm hole with $\varnothing 16$ mm x 1.8mm counterbore
- M16 x 1 internal thread

Thin Wall Curved Face

- $\varnothing 38$ -100mm pipe
- wall thickness >1.5mm
- 15mm hole
- M16 x 1 internal thread

Heavy Wall Flat Face

- Flat surface
- wall thickness >2.5mm
- 15mm hole with $\varnothing 16$ mm x 1.8mm counterbore
- M16 x 1 internal thread

Thin Wall Flat Face

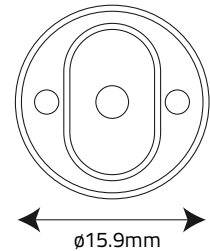
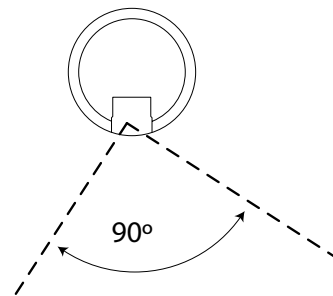
- Flat surface
- wall thickness >1.5mm
- 15mm hole
- M16 x 1 internal thread

Lighting Data

LED Quantity	1
LED type	Cree
Power	1.5W
Colour temperature	Lumen output
5000K	140
4000K	130
3000K	119
2700K	110

Electrical Data

Input current	500mA
Vf	3V
Driver	Maxi Jolly HV 1-30 minipucks in series
Connection	waterproof gel filled connector
Wire size and distances	max OD 2.08mm
	<100m - 0.5mm ²
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Metalware standard	316 stainless steel	
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Lens option	borosilicate lens	
IP rating	IP66	polycarbonate lens
	IP67	borosilicate lens
Impact rating	IK10 (polycarbonate lens)	
Ambient temperature	55°C	
Warranty	5 years	

Assymmetric Beam Heavy wall suitable for wall thickness >2.5mm Curved Face $\varnothing 38$ -1000mm handrail pipe

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HLS-VA-HW-CF-IW	Standard, Heavy Wall, Curved, Face, 2700K

Assymmetric Beam Thin wall suitable for wall thickness >1.5mm Curved Face $\varnothing 38$ -1000mm handrail pipe

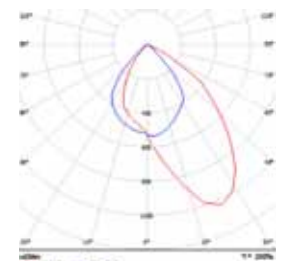
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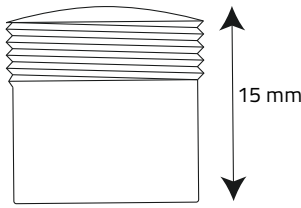
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Assymmetric Beam Thin wall suitable for wall thickness >1.5mm Flat Face Surface

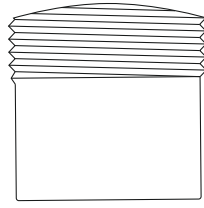
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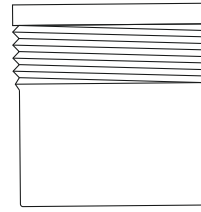
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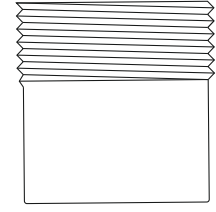
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Heavy Wall Flat Face

- Flat surface
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Thin Wall Flat Face

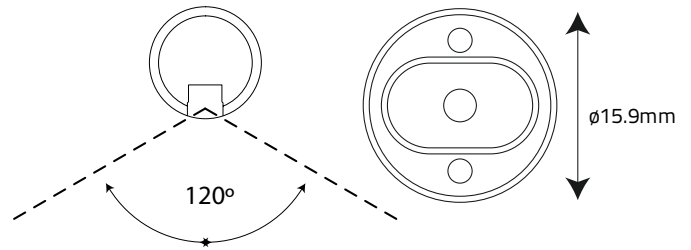
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Symmetric Beam Thin wall suitable for wall thickness >1.5mm Curved Face $\varnothing 38$ -1000mm handrail pipe

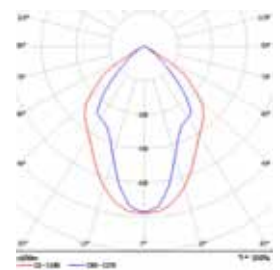
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Symmetric Beam Heavy wall suitable for wall thickness >2.5mm Flat Face Surface

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Symmetric Beam Thin wall suitable for wall thickness >1.5mm Flat Face Surface

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**Ardrey Memorial Auditorium
Northern Arizona University College of Arts
Flagstaff, USA**



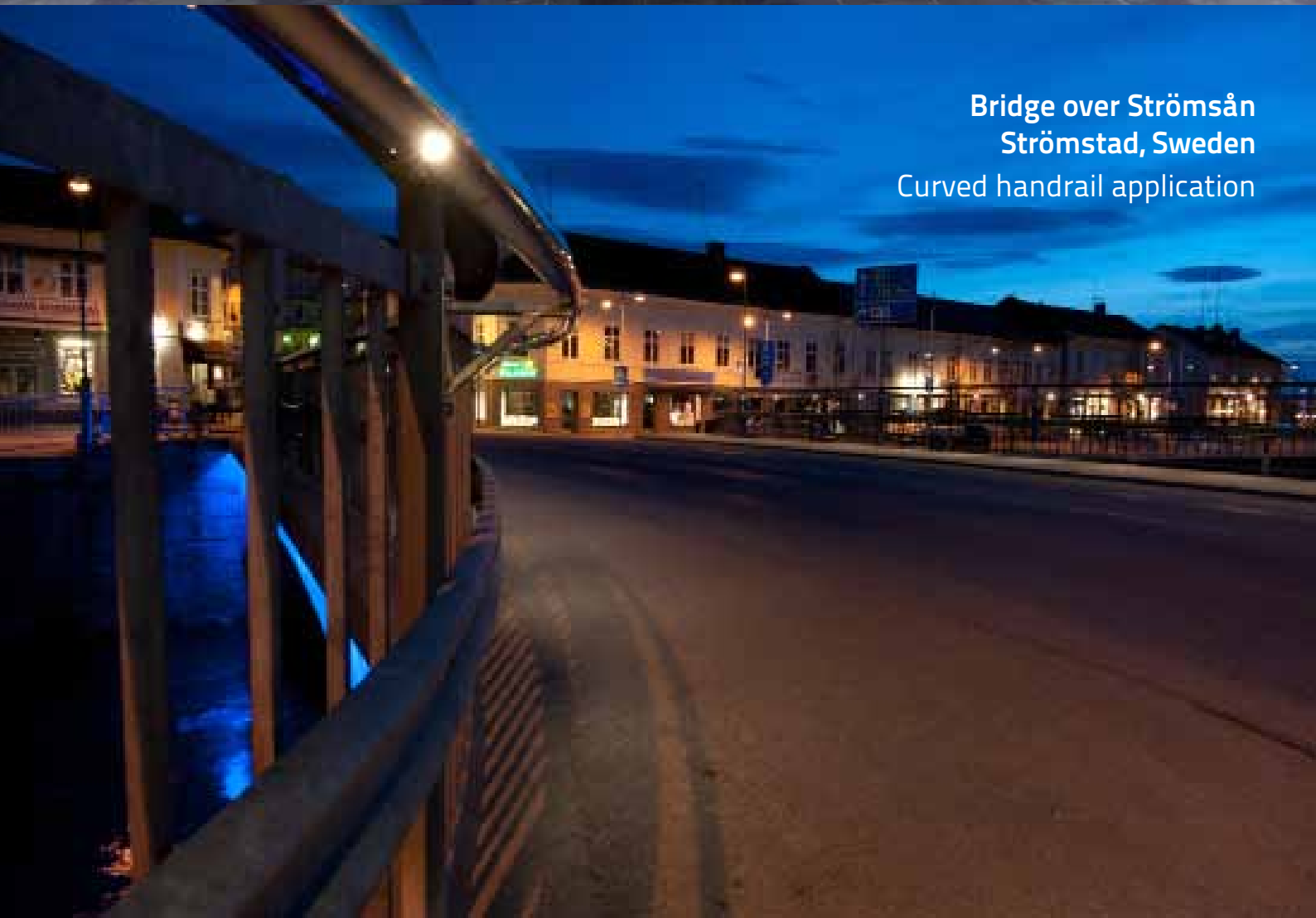
**60 St. Martins Lane
London, England
200 lux, DALI dimmable**



Swanston Street
Melbourne, City Council, Australia
Integrated under-seat lighting with integral driver



Bridge over Strömsån
Strömstad, Sweden
Curved handrail application



DISTRIBUTORS

AUSTRALIA

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Fax: 02 9882 6444

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