




WALL WASHER & WALL GRAZER

APPLICATION NOTE



 LINEAR
 MODULAR
 INFINITE

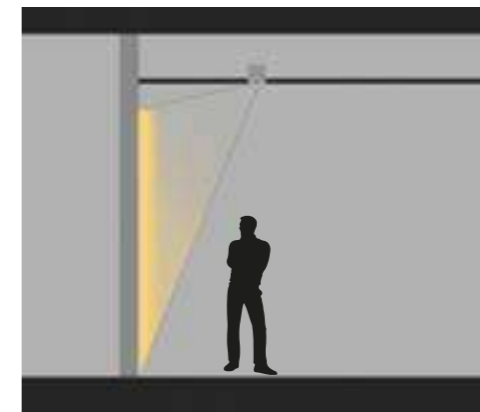
WALL WASH LIGHTING

What is wall wash lighting and why do we need it?

Wall washing or vertical illumination is a very important aspect of lighting in architecture. The wash of light on vertical surfaces helps define space or the spatial envelope. Until very recently, such lighting solutions could only be possible with specially designed optics from traditional luminaires, with circular or square profiles. It is only with the rapid development of linear LED profiles that we are now in a position to confidently state that slim linear LED luminaires can perform exceedingly well in this critical and complex application.

Which parameters have to be carefully evaluated?

- Uniformity, with a good ratio of light across the vertical plane
- Maximum coverage of light, without any patchy spots between luminaires
- Minimum glare when directly viewing the luminaire
- Easy integration into architectural ceiling design



Traditional circular/rectangular wall washers



Linear LED™ wall washers



Wall washer

PRODUCT OVERVIEW

MARS Wall Wash IP20

MARS Wall Wash (WW) is the top of the line product offering benefits from the revolutionary Bartenbach® reflector technology. It is designed to give the best vertical illumination possible. It is only 42 mm wide. It offers perfect longitudinal glare reduction with a uniform light distribution over the wall without lateral light spill for superior wall wash applications. These optics also enable outstanding control of color temperature (CCT) thanks to warm and cold white mixing within the reflectors. MARS WW can be configured for dynamic white (IQ White) for dynamic CCT tuning applications. This constant current fixture comes in six stand length.

IP20, CRI up to 95. Comes with ON/OFF or DALI driver.

Suitable applications:

High-end residential, museums, offices and hospitality projects requiring very slim high quality wall washing



XOOLUM™ R Wall Wash IP20

XOOLUM™ R is a uniquely designed surface mounted luminaire, that offers versatility in terms of its 45° tilting head. It can be used aiming straight downwards or at a 45° angle, hence illuminating vertical surfaces and act as a wall washer. XOOLUM™ was developed mainly for areas of general task and industry lighting but thanks to its reflectors it covers even more applications and is, thanks to the high efficacy the ideal solution to realize a sophisticated, flexible, easy-to-implement and energy-saving lighting.

Also available as an IP67 rated version with high quality polyurethane encapsulation.

IP20/IP67, CRI up to 97

Suitable applications:

Retail, industrial, production facilities and offices



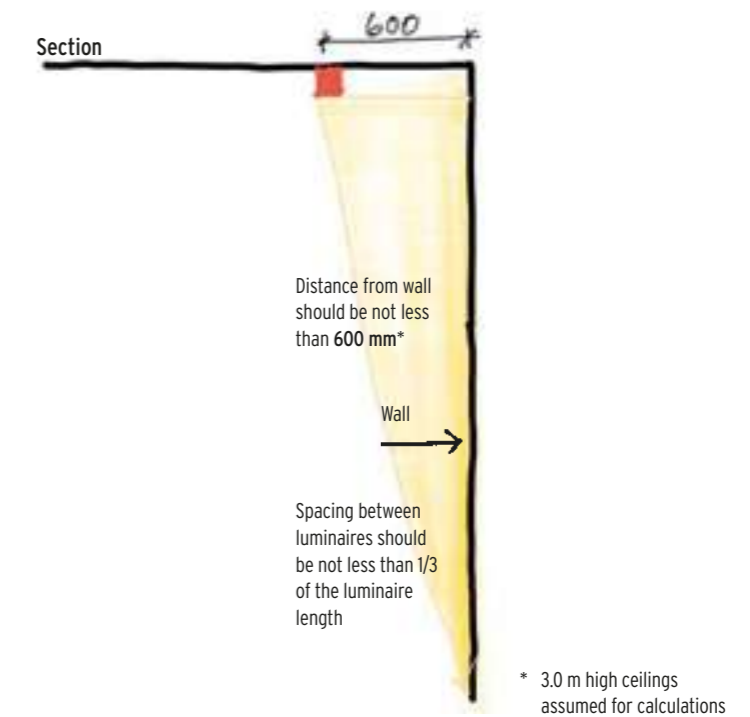


MARS Wall Wash as a recessed version for homogenous light

Wall washer

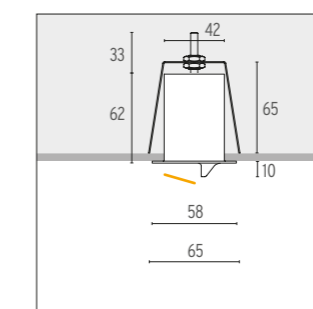
APPLICATION IDEA

1st method of using wall wash lighting –
mounting guide for MARS Wall Wash



The high efficiency optic in the MARS WW allows for installation very close to the wall surface - up to 600 mm. This can be very useful in spaces where distance from wall is restricted.

MARS Wall Wash



Mounting accessories



VarioClamp
Art. #: 13000080

Description

Pre-drilled holes on the backside of the profile for a simple screw connection between clamp and profile.

All dimensions in mm.

www.led-linear.com/marsww



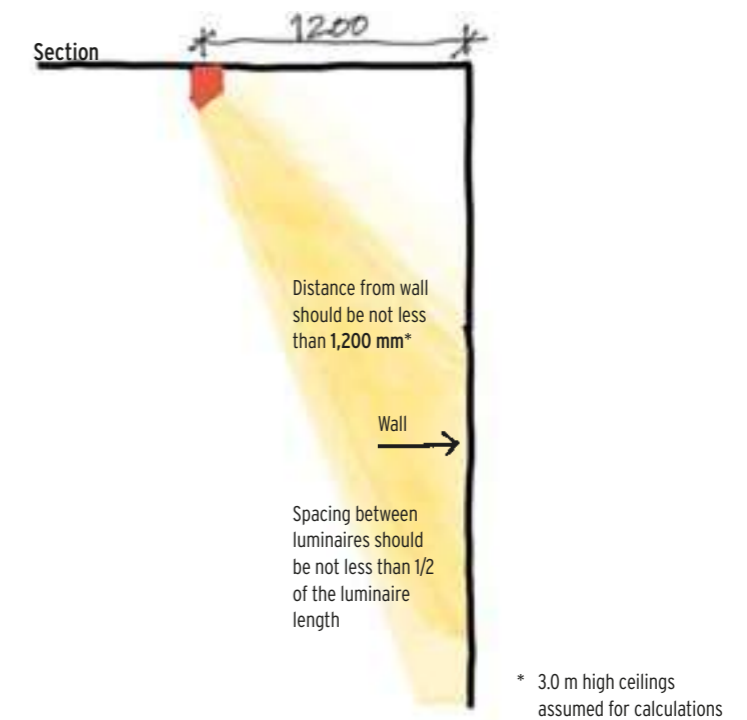


XOOLUM™ R mounted onto the surface.

Wall washer

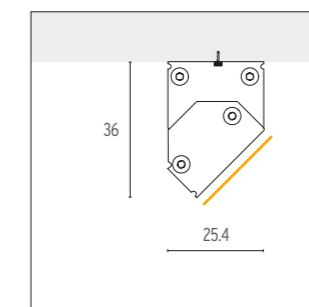
APPLICATION IDEA

2nd method of using wall wash lighting –
mounting guide for XOOLUM™ R Wall Wash



Amongst the 2 options, XOOLUM™ R WW has the most variety of length options - from 135 mm to 4,010 mm as a single length. This allows a lot of flexibility when using it as a wall washer. The distance (pitch) between two adjacent XOOLUM™ R WW luminaires should not be less than 1/2 of the luminaire length, while its offset distance from the wall should be minimum at 1,200 mm as a basic guide.

XOOLUM™ R Wall Wash IP20



Mounting accessories

No additional accessories are required for this mounting option.

Description

Special designed mounting profile for surface-mounting options. Holes have to be drilled at site.

All dimensions in mm.

www.led-linear.com/xoolumr

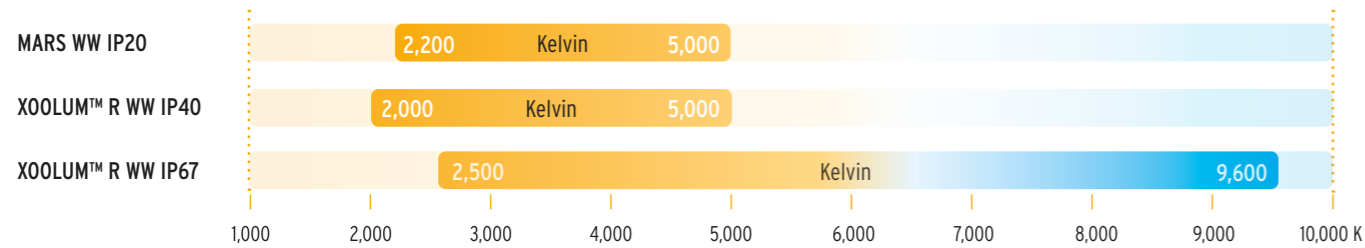


Wall washer TECHNICAL DATA

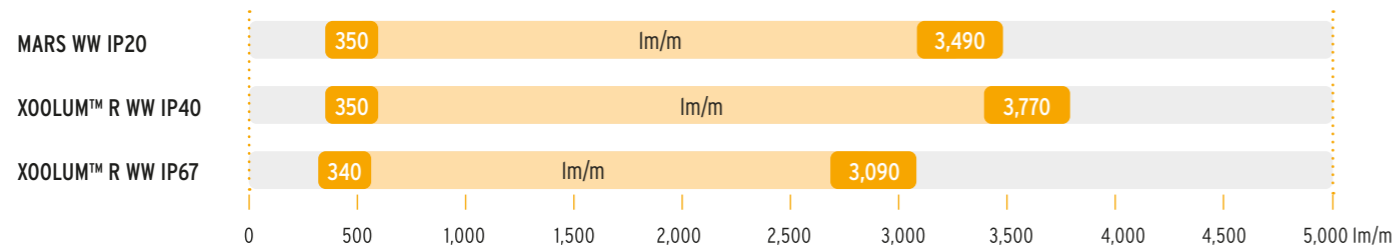
General data

	MARS WW IP20	XOOLUM™ R WW IP20	XOOLUM™ R WW IP67
Ingress protection	IP20	IP40	IP67
CRI	up to 95	up to 96	up to 96
Efficiency	up to 90 lm/W	up to 128 lm/W	up to 127 lm/W
Cross section	42 mm x 62 mm	25.4 mm x 36 mm	25.4 mm x 36 mm

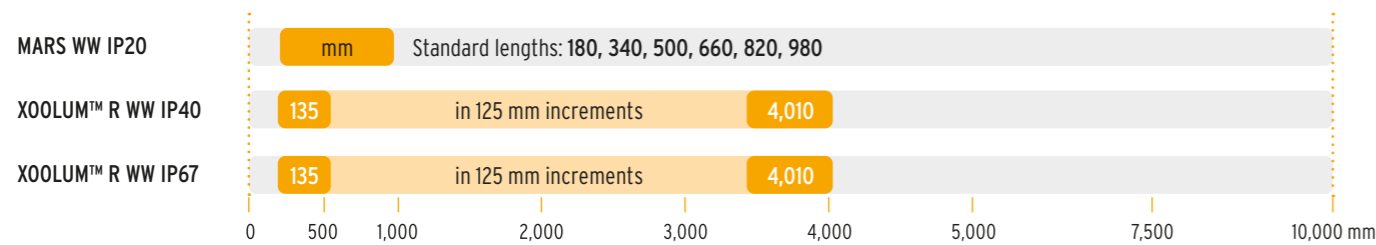
Color temperature (Kelvin)



Luminous flux (Lumens per meter)

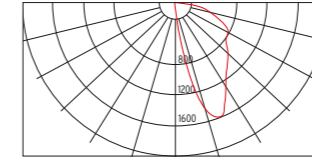


Length (mm)



Wall washer LIGHTING SIMULATION

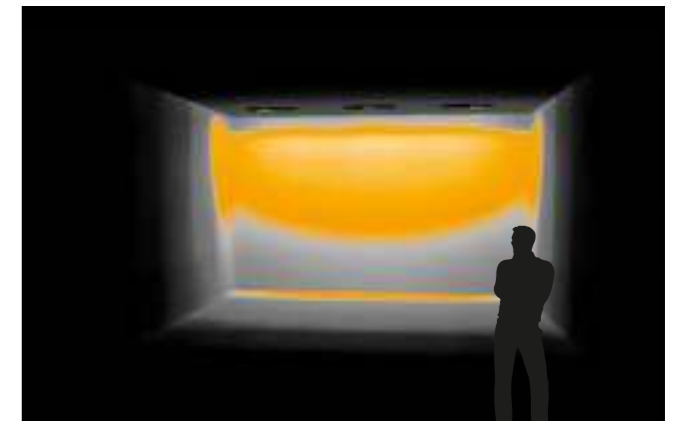
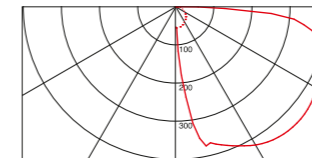
MARS WALL WASH IP20



Luminaires at 600 mm offset from wall

The best in class wall washing effect comes from the MARS WW. With a special Bartenbach® optic, the luminaires deliver a high uniformity across the wall with the lighting peak well distributed across the wall surface.

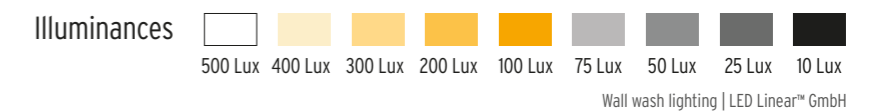
XOOLUM™ R WALL WASH IP40/IP67



Luminaires at 1,200 mm offset from wall

XOOLUM™ R WW delivers a 45° tilt wall wash, which complements the unique tilting feature of the luminaire. It is good for basic wall washing tasks, where uniformity and full wall coverage is not desired.

Room dimensions: 8 m x 5 m x 3 m (L x W x H)





Wall grazer PRODUCT OVERVIEW

XOOLUX™ NANO IP67

Thanks to the revolutionary NanoRay technology, XOOLUX™ NANO offers a unique combination of a miniaturized form factor and an accurate light beam shaping. It offers symmetric light distributions with angles of 15° and 25° and an oval (15° x 40°) light distribution for wall grazing. Thanks to the adjustable tilt from 0° to 45° in 5° increments made with a special clip fastener it fits perfectly into all wall grazing applications. The IP67 rated and anodized aluminum body of XOOLUX™ Nano enables the use both indoors and outdoors with high durability and robustness.

IP67, CRI up to 95.

Suitable applications:
High-end residential, museums, offices and hospitality projects requiring very slim, close to wall luminaires



KALYPSO IP67

Minimalistic design with maximum lighting effect, KALYPSO convinces as a high-performance encapsulated linear surface-mounted luminaire with precise linear optics. This discrete light line provides optimum directional light. The profile with a small cross section allows the use of three different linear lenses. 10° grazing light and 30° or 60° general illumination optics are available and guarantee a targeted illumination. It can be also used as a floor wall grazing application indoors.

IP67, IK 10, CRI up to 97.

Suitable applications:
Museums, civic buildings and offices (interiors, in-ground application)



XOOLINE™ IP40

The miniature surface mounted and cost-effective luminaire XOOLINE™ convinces with its high modularity thanks to 11 high quality optics to choose from: clear, diffuse or opal optics for soft light settings and 10° linear lens optics for wall grazing. That makes it perfect to the lighting tool for accent lighting of structured surfaces in indoor areas. The luminaire is made of an aluminum profile with cable feed on the side, back or front and fitted diffuse end caps for an optimal fixture to fixture installation and overlap (no light gap). Each luminaire can be easily clicked in a variety of mounting solutions for an easy and reliable installation.

IP40, CRI up to 97.

Suitable applications:
Museums, civic buildings and offices





WALL GRAZE LIGHTING

What is wall graze lighting and why do we need it?

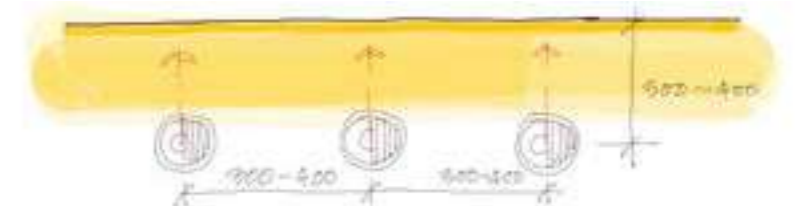
Wall grazing or vertical surface highlight is used only when there is a need to illuminate a special architecture surface, to make it radiate with light. This is specially useful when we need to highlight texture, material, or any other kind of material.

This kind of lighting is challenging because specialised optics delivering a punch of light are not commonly found. But with linear profiles using LED sources, it is possible to create this effect in a very slim form factor.

This is a big development over traditional light sources that were circular in nature, because traditional light sources needed to be many and placed close to each other to get overlapping light beams, whereas this is not the case with linear light fixtures that are joined end to end.

Which parameters have to be carefully evaluated?

- Reflection from wall surface
- Coverage of light - no shadow spots
- Extent of spill light (to the floor surface)
- Integration into architectural ceiling design
- Low glare



Traditional wall grazing lights (far from wall)



Linear wall grazing lights (closer to wall)

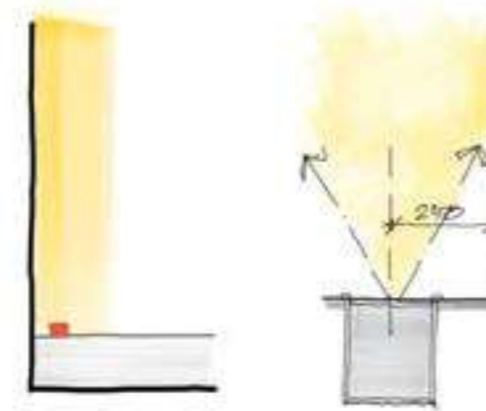


XOOLUX™ NANO underlines the structure of the façade

Wall grazer

APPLICATION IDEA

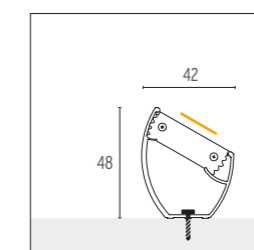
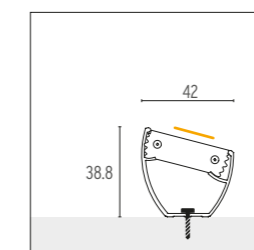
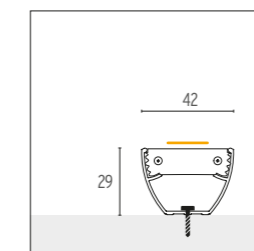
1st method of using wall graze lighting – external wall up light



Surface mount from floor

IP67 rated outdoor luminaires are positioned to up light features of a façade - a simple and elegant lighting solution made possible with small sized luminaires with high quality nano-optics.

Surface-mounted



Mounting accessories



XOOLUX™ NANO
Mounting Bracket,
0° Black Plastic
Art. #: 13000291-SCH



XOOLUX™ NANO
Mounting Bracket,
0° - 15° Black Aluminum
Art. #: 13000292-SCH



XOOLUX™ NANO Mounting Bracket,
15° - 30° Black Aluminum
Art. #: 13000293-SCH



XOOLUX™ NANO Mounting Bracket,
30° - 45° Black Aluminum
Art. #: 13000294-SCH

Description

5 cm long, surface mounting brackets. Installs with screws to surface. The product can be tilted every 5 degrees inside the bracket. Plastic lips for indoor use only. Recommended to use every 50 cm.

All dimensions in mm.

www.led-linear.com/xoolux



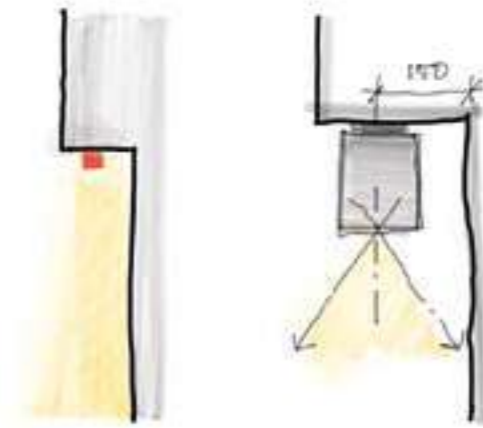


KALYPSO blends in perfectly into the architecture
Photo: SBM Light OÜ

Wall grazer

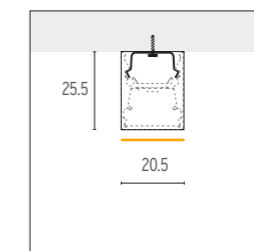
APPLICATION IDEA

2nd method of using wall graze lighting –
surface mounted



Surface mounted wall grazing luminaires can be installed very close to the wall surface - there is no risk of creating scallops like in traditional circular downlights.

Surface-mounted



Mounting accessories



VarioClip 010 Set
Art. #: 13000202

Description

Aluminum mounting clip with washer.
Clips inside the fixture profile for an
invisible mounting. Recommended to
use every 60 cm.

All dimensions in mm.

www.led-linear.com/kalypso





XOOLINE™ mounted with clips onto the surface

Wall grazer

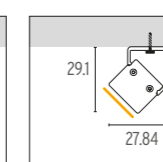
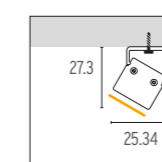
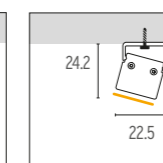
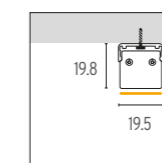
APPLICATION IDEA

3rd method of using wall graze lighting – ceiling mounted








Due to small cross section, linear ceiling surface mounted luminaires score a big advantage as they do not conflict with HVAC and other ceiling services. Compare a 20 mm height of a linear LED profile to that of a 150 mm high traditional downlight!

Surface-mounted*, horizontal



* Low cover

Mounting accessories

-  Full length mounting channel
Digits in order code: MP
-  0° aluminum mounting clip in 90 mm length
Digits in order code: CL0
-  15° aluminum mounting clip in 90 mm length
Digits in order code: CL15
-  30° aluminum mounting clip in 90 mm length
Digits in order code: CL30
-  45° aluminum mounting clip in 90 mm length
Digits in order code: CL45

Description

Aluminum surface mounting bracket, recommended to use every 50 cm. Available in four different angles.



All dimensions in mm.

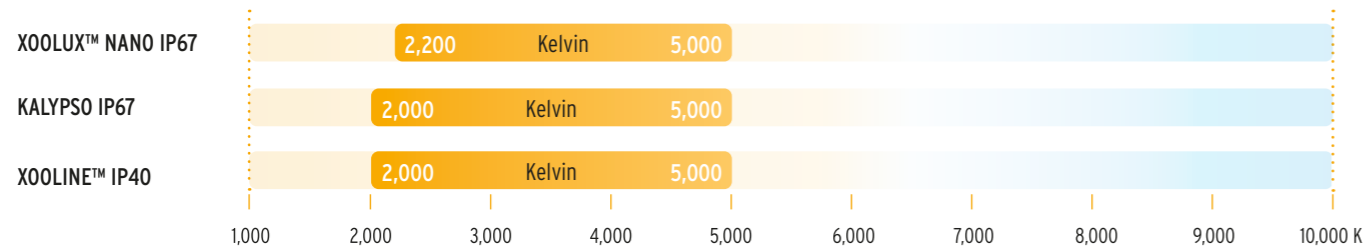
www.led-linear.com/xooline

Wall grazer TECHNICAL DATA

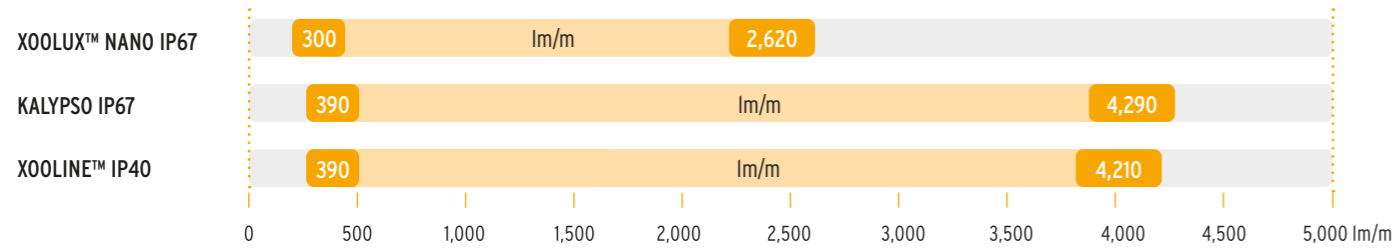
General data

	XOOLUX™ NANO IP67	KALYPSO IP67	XOOLINE™ IP40
Ingress protection	IP67	IP67	IP40
CRI	up to 95	up to 96	up to 96
Efficiency	up to 78 lm/W	up to 121 lm/W	up to 143 lm/W
Cross section	41.4 mm x 17.7 mm	20.5 mm x 25.5 mm	19.5 mm x 19.9 mm

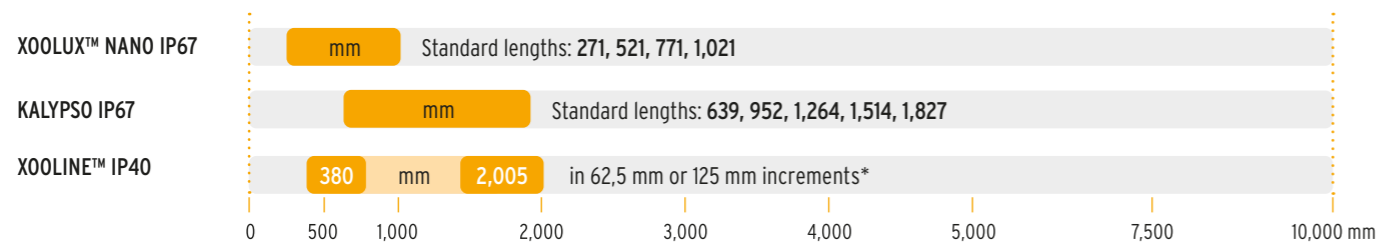
Color temperature (Kelvin)



Luminous flux (Lumens per meter)



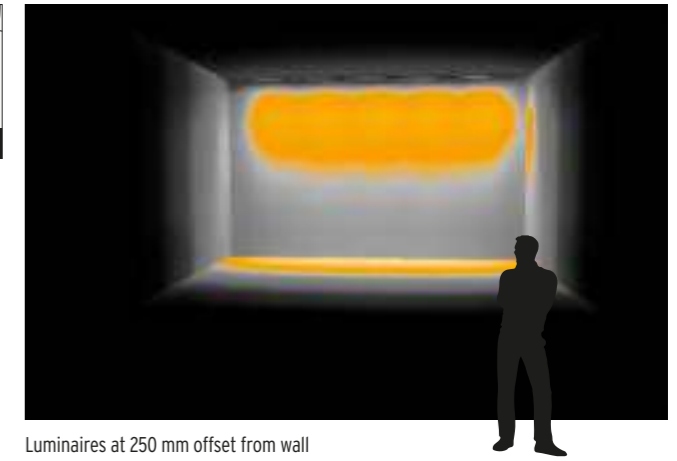
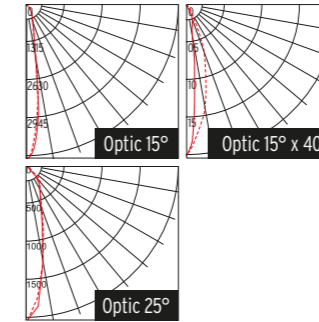
Length (mm)



* Depending on the tape

Wall grazer LIGHTING SIMULATION

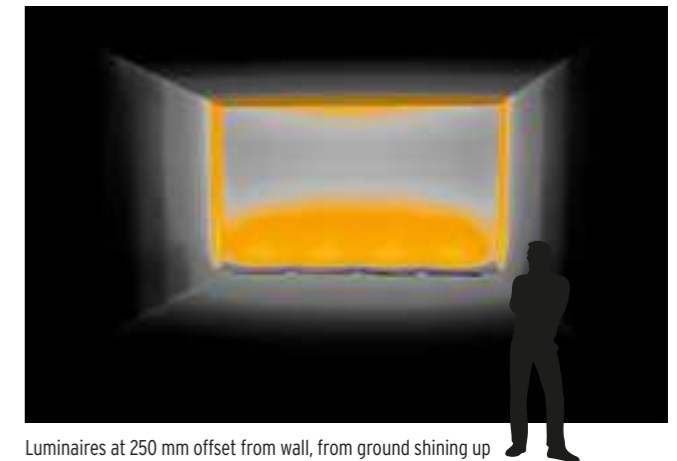
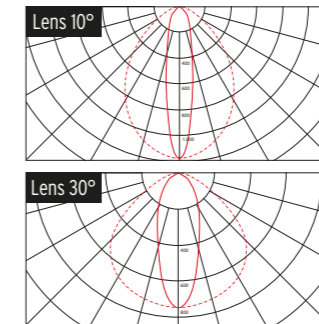
XOOLUX™ NANO IP67



Luminaires at 250 mm offset from wall

XOOLUX™ NANO IP67 is best suited for outdoor applications either surface mounted on ceiling or on the floor. The 3 different optics allow for close placement to wall, yet get a surface illumination without strong hot spots. The oval optic is recommended for applications with broader target areas.

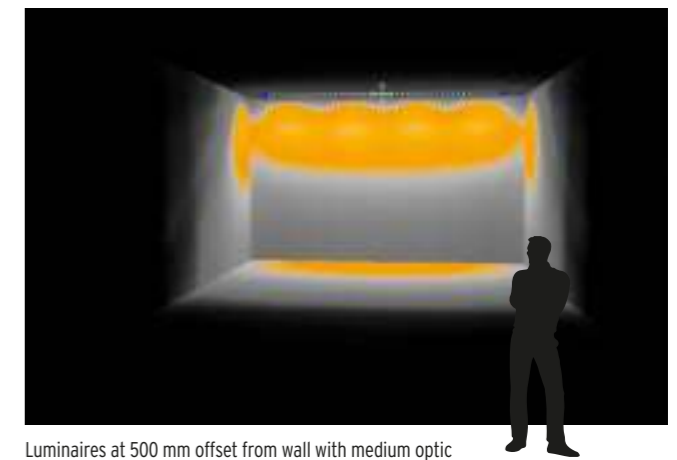
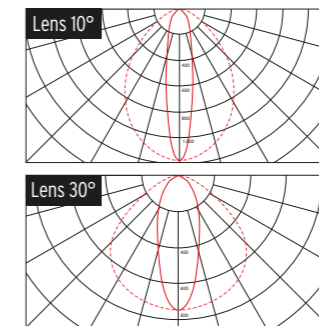
KALYPSO IP67



Luminaires at 250 mm offset from wall, from ground shining up

KALYPSO used as in-ground in interior applications shows the versatility of the luminaire, where it excels as a wall grazer from the ground up. Its narrow and medium optics can be used either 100 mm or 250 mm offset from the wall respectively.

XOOLINE™ IP40



Luminaires at 500 mm offset from wall with medium optic

XOOLINE™ has 2 optics that can be used for wall grazing applications, the narrower the beam angle, the closer the luminaire needs to be from the wall. Highest intensity of light (ideal for textured surfaces) is best seen with the narrow and medium optics.

Room dimensions: 8 m x 5 m x 3 m (L x W x H)

Illuminances



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