

THORN

North Star Lighting



Aviso 100% indirect lighting

Design: Designit®

Aviso is a range of outdoor lighting luminaires providing genuine 100% indirect lighting. For the first time, the lighting designer can now use indirect lighting and at the same time achieve performance, plus the avoidance of light pollution.



Indirect lighting is being used more and more for decorative city lighting. However the difficulty of controlling the light distribution has limited the application of indirect lighting as it has often led to an increase in light pollution and poor light output ratios.

Now Thorn has introduced new technologies to resolve these issues. Aviso offers a new generation of indirect lighting that provides strong aesthetic values, high performance, energy saving and control of light pollution.



Mosaïque®

an innovative reflector improves the performance of indirect lighting.



what is...

indirect lighting?

The indirect lighting concept was developed in indoor lighting applications to provide a softer, more mellow light with reduced shadows.



Traditionally in outdoor lighting, any indirect lighting not captured by a reflector would be lost, wasting energy and causing light pollution.

The light that is reflected downward from a reflector might not be enough for the lighting task, in which case higher output lamps or even additional light fittings might be required. Because of these limitations, indirect lighting luminaires previously have been restricted to essentially decorative units.

An outdoor indirect lighting luminaire is made up of three elements:

Top reflector

Captures the light emitted from the projector and reflects it to the ground

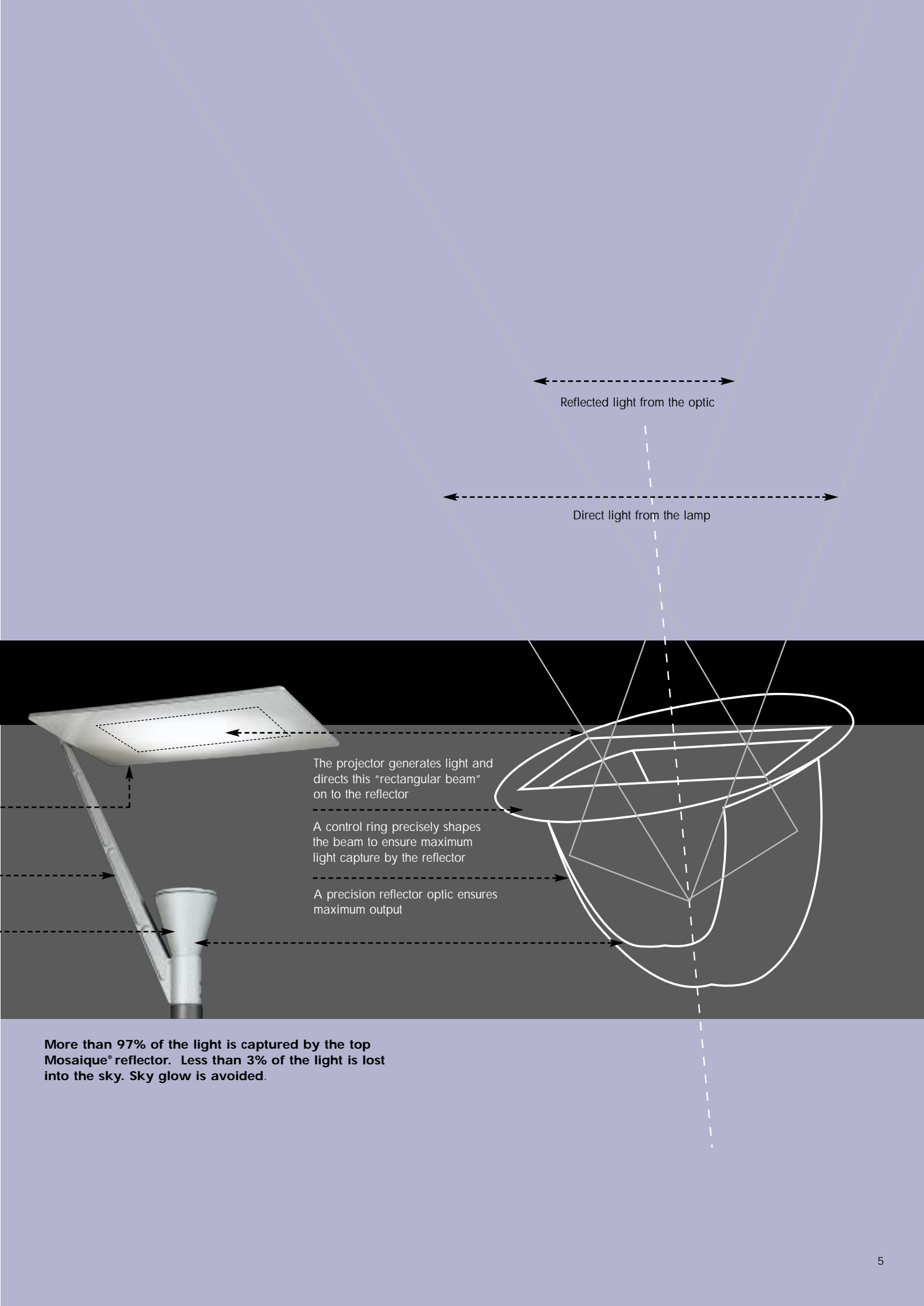
Luminaire body

A construction grouping all elements together.

Projector

Contains the lamp and generates the light output

Thorn have developed Aviso to address outdoor indirect lighting issues, providing increased downward light output ratio, whilst reducing light pollution. Two new technologies have been developed (patents pending) - a 'rectangular light' projector and the Mosaïque® reflector.



Reflected light from the optic

Direct light from the lamp

The projector generates light and directs this "rectangular beam" on to the reflector

A control ring precisely shapes the beam to ensure maximum light capture by the reflector

A precision reflector optic ensures maximum output

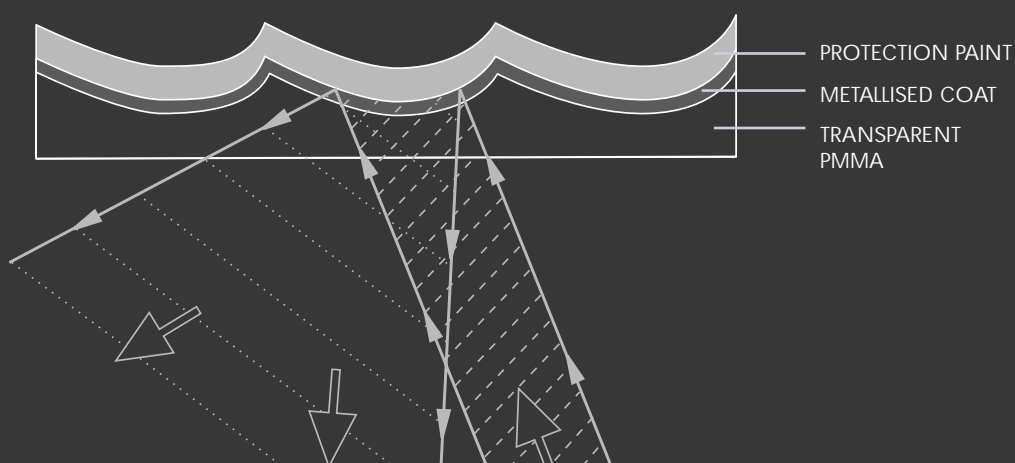
More than 97% of the light is captured by the top Mosaique® reflector. Less than 3% of the light is lost into the sky. Sky glow is avoided.

what is a ...

mosaique[®] reflector?

Patent pending

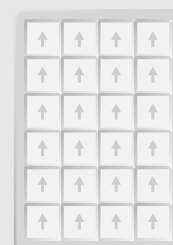
A reflecting plate with complex multi-facets, composed of three layers as shown below: a coat of protection paint, a metallised coat and transparent PMMA.



The Mosaique[®] reflector is composed of 24 tiles. Each tile, which is composed of 9 facets, has three layers as shown.

Two reflectors, Mosaique[®] 1 and Mosaique[®] 2, are made by changing the arrangement of the tiles.

MOSAIQUE[®] 1



A visually appealing optic

The Mosaique® reflector has a precise pattern of unique optical elements for a stylish appearance by day and night.

Reflection and refraction

Light is both reflected and refracted from the top reflector. It casts the light precisely in the required direction whilst maintaining outstanding visual comfort.

Excellent photometric performance

The reflector captures more than 97% of the light emitted by the light engine. The DLOR is around 50%.

Avoids light pollution

The Mosaique® reflector receives almost all the light from the light engine and distributes the light in the direction required. As a result light pollution is minimised.

Visual comfort

A typical scheme has a threshold increment (TI) lower than 4%.

Easy maintenance long life reflector

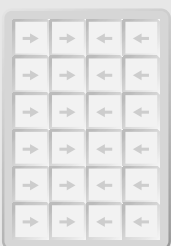
The flat smooth surface of the reflector is easy to clean and is resistant to the accumulation of dirt. The reflector's metallised coat is completely protected by the PMMA layer and is not exposed to the environment, offering performance coupled with durability.

Light distributions to suit a wide range of applications

Two reflectors, Mosaique® 1 and Mosaique® 2, combining with different arm configurations and tilt angles, can produce various light distribution options, and can therefore meet many amenity and streetlighting applications.



MOSAIQUE® 2



a range of ...

options

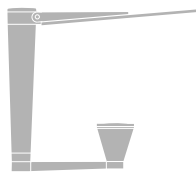
Shapes

2 shapes:

Aviso A: 0° or 6° tilt angle



Aviso B: 4° or 10° tilt angle



Aviso A with white reflector

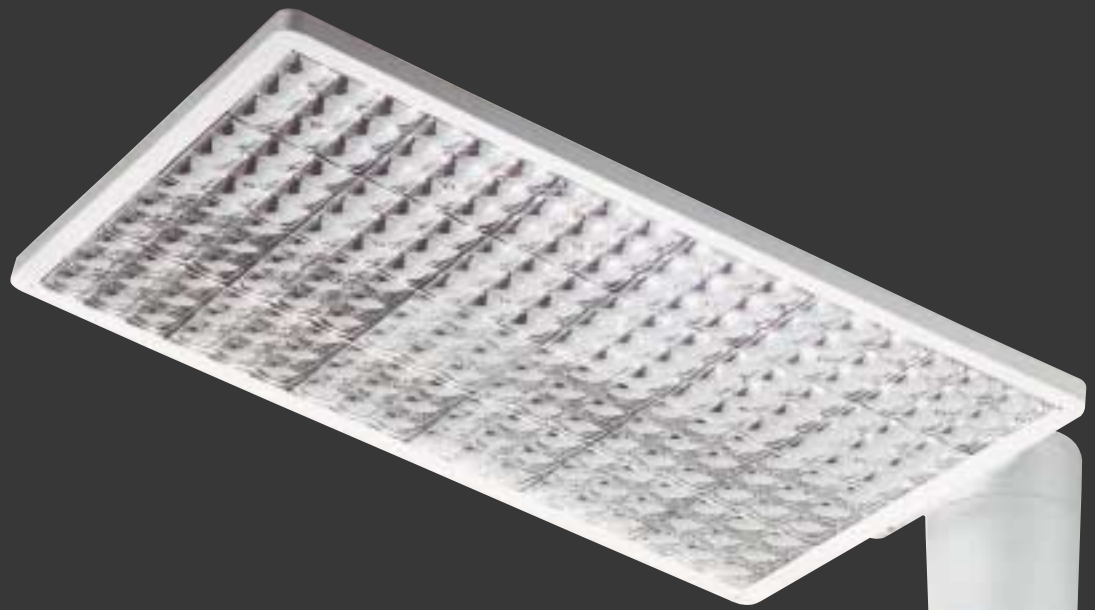
Both double version and wall mounting version (for the Aviso B only) available on request



Columns

2 kinds of columns:

- Ø102 in galvanized steel, textured sandy dark grey 900 (AKZONOBEL) powder coat. Height 3,2 metres
- Ø102 in galvanized steel, textured sandy dark grey 900 (AKZONOBEL) powder coat. Height 5,2 metres
- Both columns heights available in root or flange plate mounting



Reflectors

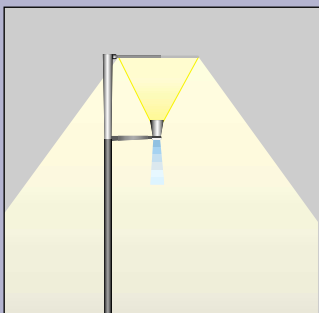
3 top reflectors:

- White reflector with high reflectance paint
- Mosaïque® 1
Throw more light towards longitudinal direction
- Mosaïque® 2
Throw more light towards transverse direction

Aviso B with Mosaïque® reflector and blue downlight beam for decorative effect



Aviso B has the addition of a blue downlight beam for decorative effect

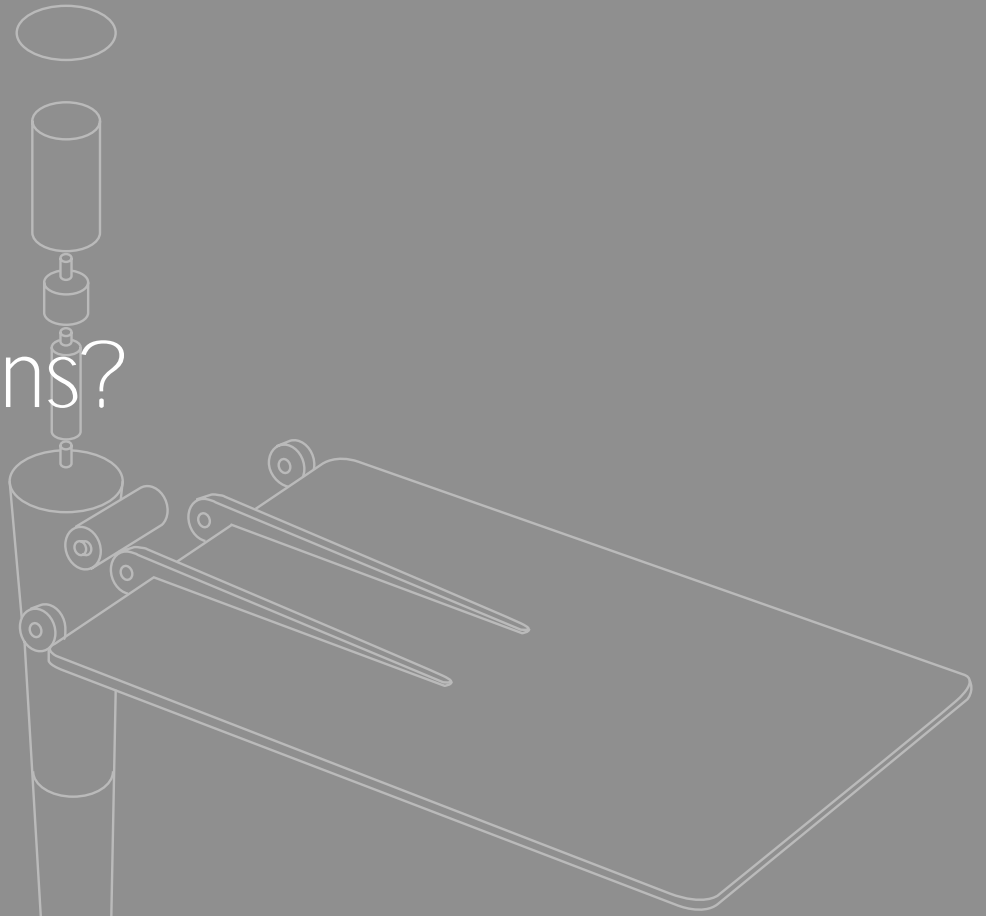


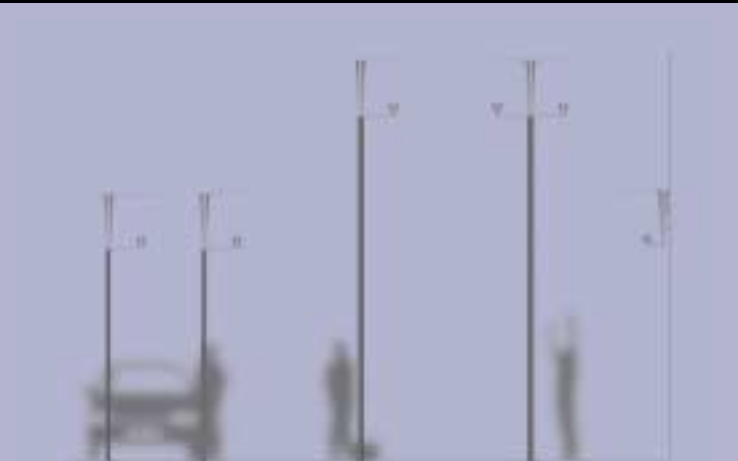
Lamps

- Aviso uses "white light" lamps, CDM-T 70W/150W.
- Lamps supplied in choice of 3000K and 4200K

what are its...

applications?



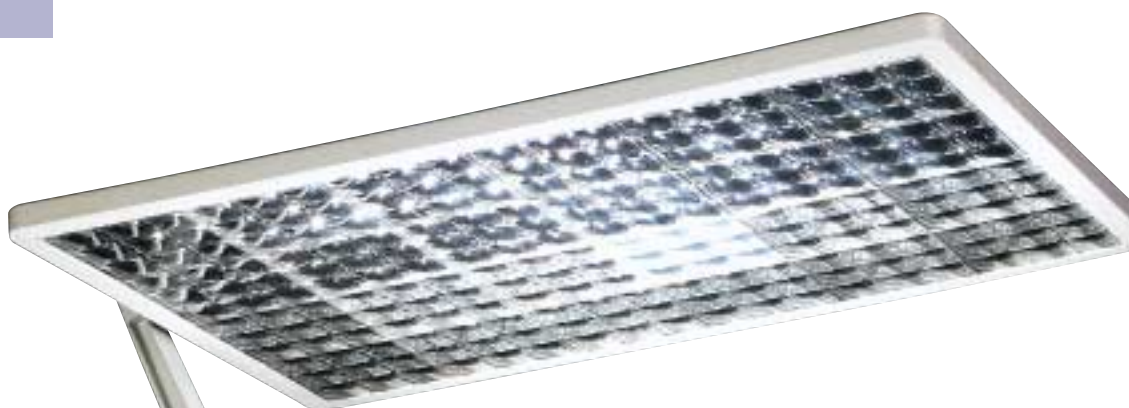


- Shopping plazas and business centres
- Precincts
- Pedestrian areas
- Esplanades
- Approach roads
- Residential areas
- Car parks
- City streets

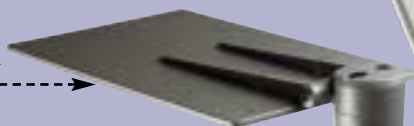


A custom designed product for a pedestrian shopping area in Aarhus, Denmark

Aviso



Top reflector



Aviso A arm

Luminaire body

Projector



Lamps

70W, 150W CDM-T ceramic metal halide, cap: G12 3000K or 4200K

Materials/Finish

White reflector: pressed sheet aluminium, coated with white high reflectance polyester paint

Mosaique® reflector: pressed sheet aluminium, metallised reflector protected by transparent PMMA

Projector:

Inside: anodised spun and pressed aluminium reflector.
Outside: die-cast aluminium, textured sandy grey 150 (AKZONOBEL) powder coat.

Projector closure: tempered glass (for use with white reflector) or anti-glare treated flat glass (for use with Mosaique® reflector)

Aviso B luminaire body: die-cast aluminium, textured sandy grey 150 (AKZONOBEL) powder coat

Aviso A arm: hardened die-cast aluminium

Installation/Mounting

Lantern recommended mounting height 4 to 6 meters.

Post-top lantern: Suitable for 60mmØ x 100 mm long spigot.

Control gear unit: mounts in column, supplied c/w plug to connect with projector. Supplied with lamp.

Column: Flange or root mounting. 271mm flange fixed via four fixing bolts (JT 16/14 x 300) at 200 mm centres. Bolts not supplied.

Wall mounting (for Aviso B only) available on request

Standards

Designed and manufactured to comply with EN60598

IP65 (optical compartment and gear tray)

IP54 (gear tray compartment)

IK08 (5 joules) shock resistant
Electrical class I

ENEC Certification in progress

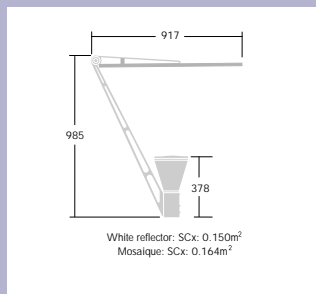
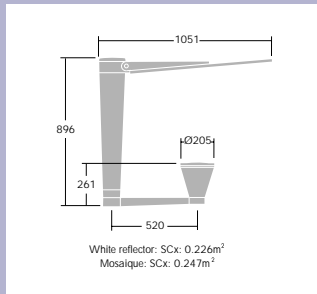
Specification

To specify lantern state:

Die-cast aluminium indirect lantern for post top mounting with powder coated sandy grey 150 (AKZONOBEL) finish. Aluminium top plate with white high reflectance polyester paint or metallised Mosaïque® reflector protected by transparent PMMA. Projector with a ring shielding unnecessary light and an anodised, pressed and spun aluminium reflector minimising light pollution. Optical compartment and gear tray, IP65; gear tray compartment, IP54. IK08. 100% indirect lighting, employing CDM-T lamp 70W/150W. As Thorn Aviso

To specify column state:

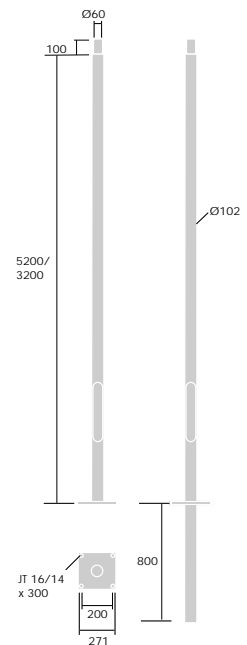
102mmØ 3.2m/5.2m galvanised steel column, powder coated sandy grey 900 (AKZONOBEL) finish. Supplied for root or flange mounting. As Thorn Aviso



Ordering Guide

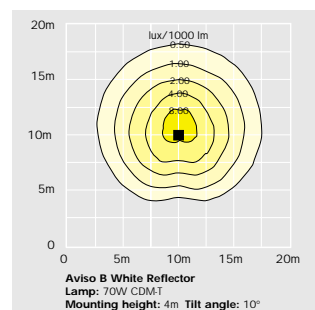
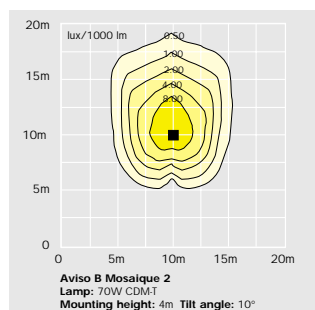
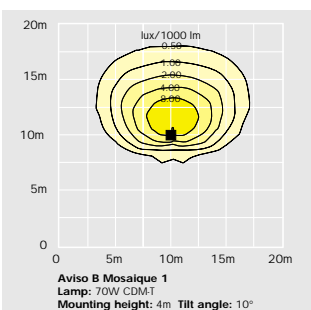
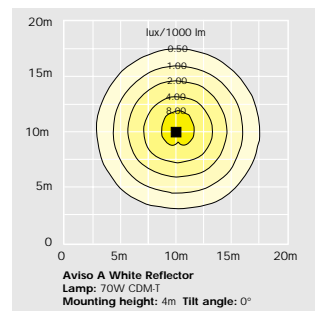
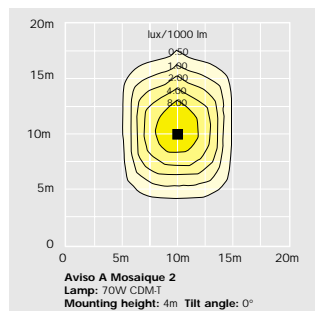
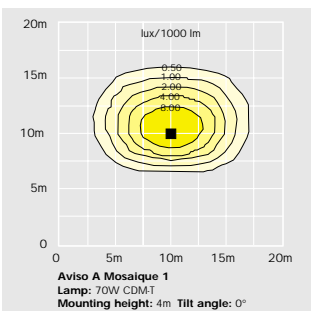
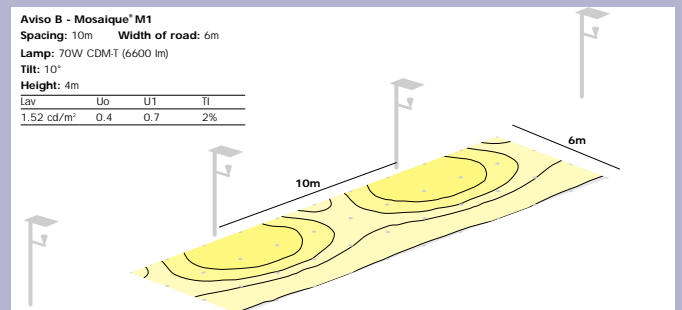
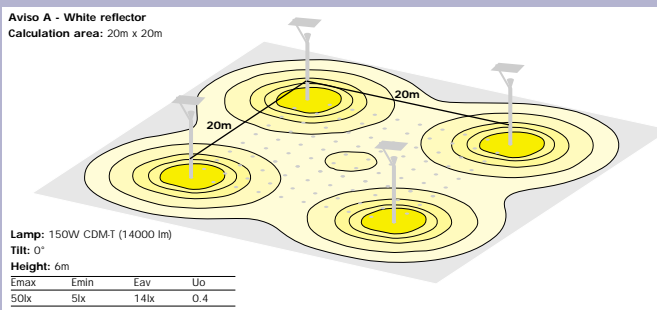
For complete unit order gear tray, arm, reflector and column. Gear trays are supplied complete with lamp.

Description	Weight (Kg)	Cat. No.
Sealed gear tray		
70W CDM-T, electronic ballast , 4200K, G12 cap	1.1	AVISOGT704200K
150W CDM-T, electronic ballast , 4200K, G12 cap	1.4	AVISOGT1504200K
70W CDM-T, electronic ballast , 3000K, G12 cap	1.1	AVISOGT703000K
150W CDM-T, electronic ballast, 3000K, G12 cap	1.4	AVISOGT1503000K
Arm with projector unit		
Aviso type B arm	13	AVISOBARM
Aviso type A arm	10	AVISOAARM
Top reflector		
Aviso reflector, white	10	AVISOREFW
Aviso reflector, with Mosaïque® type 1 optical system	13.5	AVISOREFM1
Aviso reflector, with Mosaïque® type 2 optical system	13.5	AVISOREFM2
Dedicated columns		
3.2m above ground, flange plate mounting	52	AVISOCOL3F
3.2m above ground, root mounting	65	AVISOCOL3R
5.2m above ground, flange plate mounting	85	AVISOCOL5F
5.2m above ground, root mounting	98	AVISOCOL5R



what is its...

performance?





Lighting people and places

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