

THORN

North Star Lighting

Milo

Innovative beam adjustment and image projection with outdoor LED spotlights



We have used patented innovations to provide designers and architects with Milo, LED spotlights with unlimited possibilities for reliable, flexible and creative effects

Milo is an outdoor spotlight for lighting designers and architects who require a compact projector. It is ideal for areas with limited space but is powerful enough to project up to 10 metres.

Available in five colours, Milo uses LED technology combined with a patented optical system which allows the beam to be adjusted from intensive to extensive, using just a simple tool.

"Milo: the compact, creative system that enables designers to define and re-invent shapes with light."

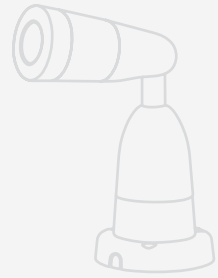
– Patrick Rimoux

Why LED?

LED technology offers unique benefits that enable it to surpass alternative solutions in both performance and functionality.

- Compact size – design flexibility
- Long operating life
- Maintenance cost saving
- High efficiency
- Low wattage
- Low voltage
- Cold beam, no UV, instant light
- High optical performance, beam control
- Choice of colours
- Dimming





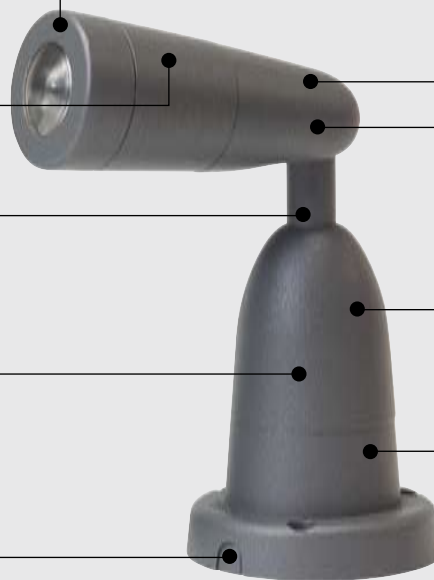
A High Light Output Ratio (LOR): 0.75 without gobo accessory support (0.5 with gobo accessory support)

Patented optical system with integrated beam adjustment from 10° to 24°

350° Rotation of the optical system (fixing tool supplied)

M6 aluminium body

Knock out for cable entry on side



A 2.4W LED PCB available in 5 colours (white, red, blue, green and yellow)

Vertical angle adjustment between -40/+90° (tool supplied)

Two IP65 versions: one with gear integrated in the base (Milo I) or remote gear version available (Milo R)

IP68 versions available for submersible applications (Milo S)

Designer: Patrick Rimoux

- Simple to use patented beam adjustment, which allows the beam to be altered after installation
- Due to the superior optical system, which is similar to camera optics, additional accessories are not needed to provide your desired beam control. Adjustment is simple using an Allen key.
- LEDs combine reduced power consumption with lower maintenance costs
- Full range includes underwater models (Milo S) and versions with remote or integral gear (Milo R and I)

- Milo S provides IP68 protection offering an inexpensive alternative to fibre optics. Due to the LED light source no maintenance is required
- Unique gobo support accessory available for outdoor image projection (see page 5)
- Gobo support accessory has a fully weatherproofed IP65 compact body
- All models have a contact temperature of 45°C
- Durable aluminium construction offering longer luminaire life and UV resistance

Lamps

☒ 2.4 W LED
(Pre-fixed PCB with 1 LED)
Available in white (5500K), red, blue, green and yellow.

Materials/Finish

Body/Frame: injected aluminium textured grey powder coated finish (close to RAL 9007) Other RAL colours available to order.
Lenses: polycarbonate
Endcaps: stainless steel
Gasket: silicone

Installation/Mounting

Base secured with two M6 (Milo I) or three M4 (Milo R and S) x 25mm screws. Installation aided with a fixing centre template to be found on installation instructions. Cable type required: HO7 RNF 2x1mm². Through wiring possible and product is supplied with two cable glands. Product supplied with two Allen screws to fix the orientation of optics (not with Milo S as position is fixed, Extensive beam is 24° and Intensive beam is 10°). For Milo I the maximum number of products in a series is 35. For Milo R and S the maximum number of products in a series is 5 when using the corresponding external gear, with a maximum distance between products of 33m for Milo R and 100m for Milo S.

Gobo Support (image projection)
Insert gobo image (not supplied) in the gobo support, then directly thread without tool on to Milo R or I (not possible with Milo S)
Required dimensions for the gobo image:
external diameter: 25.8mm
image diameter: 20mm
printed on glass, metal or plastic (see page 7).

Standards

Designed and manufactured to comply with EN 60598
☐ Class II Electrical (Milo I)
⬠ Class III Electrical (Milo R and S)
IK 09 impact resistance
T_a-20/+40°C
◆▲▲ IP65 (Milo I and R)
◆◆ IP68 (Milo S, to 1m depth underwater)
CE

Specification

To specify state:
LED spotlight for 2.4 W LED's, with gobo attachment, integral or remote gear and submersible versions available.
As Thorn Milo I/R/S/gobo

Applications

Milo has been designed to produce stunning effects for applications where a traditional large projector is not practical



Applications

Milo is a single LED spotlight, which can obtain dramatic lighting effects by adjusting the beam (extensive or intensive). Milo S, the IP68 version can be installed in any submersible application. All these features make Milo suitable for use in shopping and business centres, hotels, monuments and fountains.

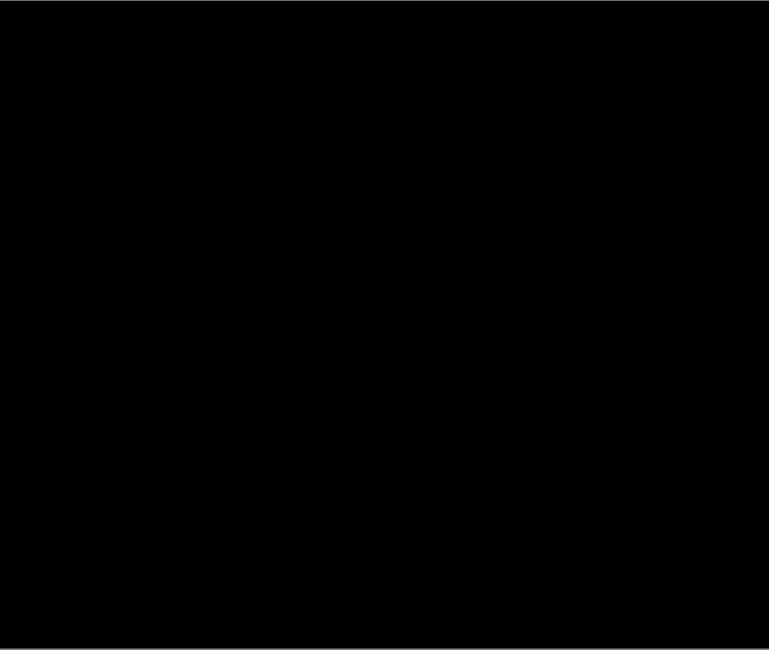
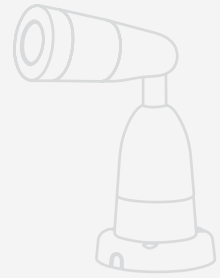
Colours

Milo is available with the following colour options:

- White (5500K)
- Red
- Blue
- Green
- Yellow



Salies de Salat (31). © P.DUMAS



Milo gobo support accessory can be combined with Milo R and I to create an imaginative tool. By attaching Milo's gobo image projector the possibilities for creating effects are endless. This unique image projection accessory combined with LED technology delivers a temperature so cool you can print your own gobo on any material (glass, metal, or even plastic) with a high quality printer. The Milo gobo simply screws into place over your transparency then the superb optical system projects onto your chosen surface, without distortion. Projection of colour images, photographs, text or shapes formerly only possible using expensive gobo projectors are now possible.

Ordering Guide, Photometrics & Dimensions



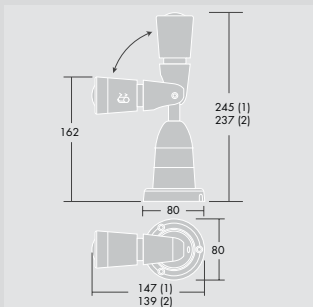
Milo R and S



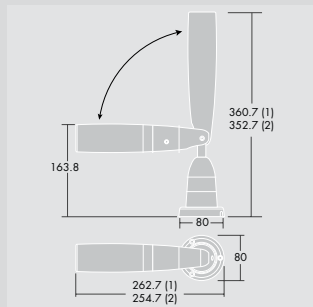
Milo I



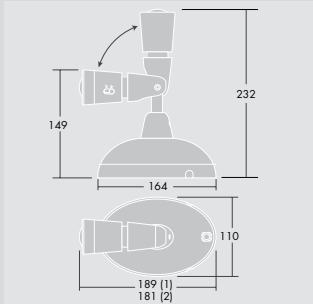
Milo gobo accessory support



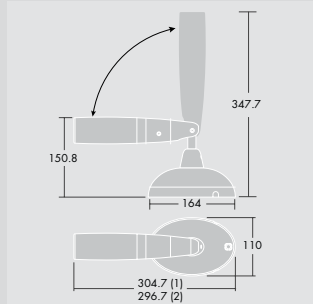
Milo R without Gobo accessory support



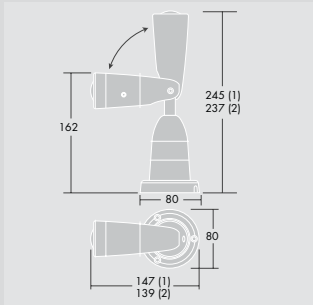
Milo R with Gobo accessory support



Milo I without Gobo accessory support



Milo I with Gobo accessory support



Milo S without Gobo accessory support

Remote gear Milo R:
240(L) x 50(W) x 50(H)
Remote gear Milo S:
230(L) x 105(W) x 79(H)

(1) Intensive beam
(2) Extensive beam

Ordering Guide

Description	Weight (kg)	SAP Code
Milo R - IP65/Beam adjustment/No gear		
MILO R 1X2.4W 1LED WHI/5500K	0.7	96220436
MILO R 1X2.4W 1LED BLU	0.7	96220435
MILO R 1X2.4W 1LED GRN	0.7	96220434
MILO R 1X2.4W 1LED RED	0.7	96220433
MILO R 1X2.4W 1LED YEL	0.7	96220432
Milo S - IP68/Beam pre-fixed/No gear/Submersible		
Intensive beam		
MILO S 1X2.4W 1LED WHI/5500K NW	0.7	96220431
MILO S 1X2.4W 1LED BLU NW	0.7	96220430
MILO S 1X2.4W 1LED GRN NW	0.7	96220429
MILO S 1X2.4W 1LED RED NW	0.7	96220428
MILO S 1X2.4W 1LED YEL NW	0.7	96220427
Extensive beam		
MILO S 1X2.4W 1LED WHI/5500K WD	0.7	96220426
MILO S 1X2.4W 1LED BLU WD	0.7	96220425
MILO S 1X2.4W 1LED GRN WD	0.7	96220424
MILO S 1X2.4W 1LED RED WD	0.7	96220423
MILO S 1X2.4W 1LED YEL WD	0.7	96220422
Milo I - IP65/Beam adjustment/Integrated gear		
MILO I 1X2.4W 230/240V 1LED WHI/5500K	1.1	96220421
MILO I 1X2.4W 230/240V 1LED BLU	1.1	96220420
MILO I 1X2.4W 230/240V 1LED GRN	1.1	96220419
MILO I 1X2.4W 230/240V 1LED RED	1.1	96220418
MILO I 1X2.4W 230/240V 1LED YEL	1.1	96220417
Support for image projection (Milo I & R Only)		
MILO GOBO SUPPORT	0.6	96231578
IP65 Gear for Milo R or Milo S		
MILO R GT 17W 0.7A-24V	0.5	96231579
MILO S GT 25W 1.05A-24V	0.5	96231580

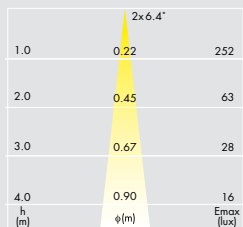
WHI - white, BLU - Blue, GRN - Green, RED - Red, YEL - Yellow

Milo without gobo accessory support

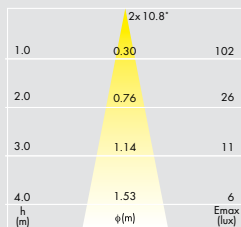
Milo with gobo accessory support

For image projection, you can install Milo (R or I) with the gobo accessory support. The gobo accessory support operates exactly like a camera zoom (focal 28 mm to 70mm). This accessory enables you to project any picture by a simple print or stencil of the required image on any material (glass, metal or even plastic).

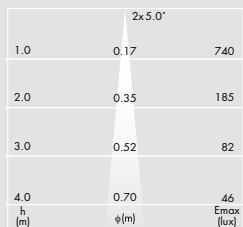
Requirements for the gobo image: external diameter: 25.8mm and image diameter: 20mm
Image size (diameter of the projected image) and focus (precision of the projected image) obtained by adjusting the beam using Milo's patented optical lens system.



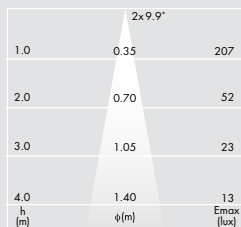
MILO Yellow - Intensive Beam



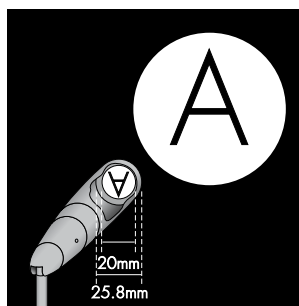
MILO Yellow - Extensive Beam



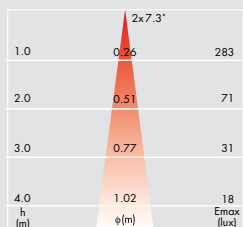
MILO White - Intensive Beam



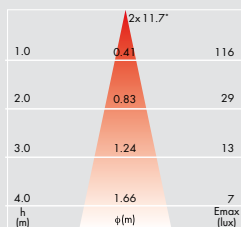
MILO White - Extensive Beam



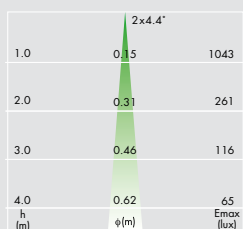
Different elements will have an effect on the distance between the Milo gobo and the projected image, e.g. LED colour, type of image (cut-out shape/logo or picture) and ambient light. Minimum required distance between Milo with gobo and the projection surface is 1 metre. A 20mm gobo image projected at a distance of 3m offers an image projection, which is adjustable from 0.9m to 2.2m. To project a 2m image size, it is possible to install Milo from 2.8m to 6.7m in front of the projected surface.



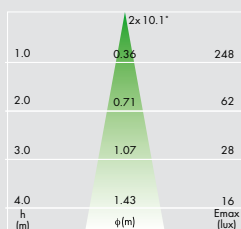
MILO Red - Intensive Beam



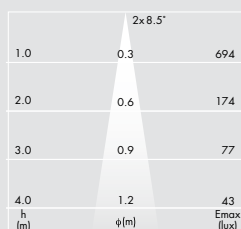
MILO Red - Extensive Beam



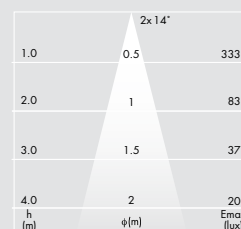
MILO Green - Intensive Beam



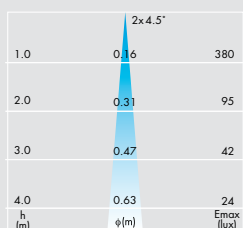
MILO Green - Extensive Beam



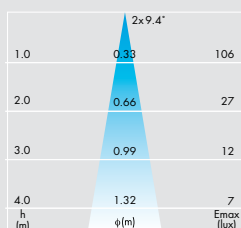
MILO Gobo White - focal 70mm



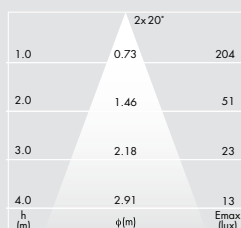
MILO Gobo White - focal 41mm



MILO Blue - Intensive Beam



MILO Blue - Extensive Beam



MILO Gobo White - focal 28mm

Examples for Milo white LED with gobo. Intensity will vary with other LED colours.

The beam angle for Milo R and I is adjustable using the patented optical system. For Milo S please choose intensive or extensive fixed beam as shown above.

THORN

North Star Lighting, Inc.

Lighting people and places

2150 Parkes Drive Broadview, IL 60155
Tel: 800-229-4330 Fax: 708-681-4006
website: www.nslights.com

Thorn Lighting Limited

UK

Silver Screens, Elstree Way, Borehamwood,
Hertfordshire, WD6 1FE

UK Sales desk -

Orders/Stock Enquiries

Tel: 08701 610 610
Fax: 08701 610 611

Project Enquiries:

Tel: 08701 610 710
Fax: 08701 610 711

Ireland

320 Harold's Cross Road, Dublin 6W
Tel: (353) 1 4922 877
Fax: (353) 1 4922 724
E-mail: enq.dublin@thornlight.com

Outdoor Lighting

Silver Screens, Elstree Way, Borehamwood,
Hertfordshire, WD6 1FE
Tel: 020 8732 9829
Fax: 020 8732 9825
E-mail: enquiries.outdoor@thornlight.com

Airfield Lighting

Silver Screens, Elstree Way, Borehamwood,
Hertfordshire, WD6 1FE
Tel: 020 8732 9804
Fax: 020 8732 9803
E-mail: airfield@thornlight.com
Website: www.thornairfield.com

Spare Parts

Tel: 0191 301 3131
Fax: 0191 301 3038
E-mail: spares@thornlight.com

Technical Support

Tel: 0870 600 8111
Fax: 0191 301 3907
E-mail: technical@thornlight.com

Brochureline Answering Service

Brochures on specific products/ranges
Tel: 020 8732 9898
Fax: 020 8732 9899
E-mail: brochures@thornlight.com

International Sales

Silver Screens, Elstree Way, Borehamwood,
Hertfordshire, WD6 1FE
Tel: 020 8732 9802
Fax: 020 8732 9803
E-mail: international.sales@thornlight.com

Thorn Lighting Ltd Dubai

Al Shoala Building, Office 301,
Block E, PO Box 1200, Deira, Dubai, UAE
Tel: (971) 4 2940181
Fax: (971) 4 2948838
E-mail: tluae@emirates.net.ae

Thorn Gulf LLC

Al Shoala Building, Office 301/2,
Block E, PO Box 1200, Deira, Dubai, UAE
Tel: (971) 4 2948938
Fax: (971) 4 2948838
E-mail: thorng@emirates.net.ae

Other Offices in:

Australia, Austria, China, Czech Republic,
Denmark, Estonia, France, Hong Kong, Italy,
Latvia, Lithuania, New Zealand, Norway,
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