



mawa®

secrets of wittenberg...

WITTENBERG
PRODUCT INFORMATION

General Information

Together with the lighting designer Jan Dinnebier, a spotlight has been developed which, with a minimal installation height of 54 mm, is 90° tiltable and 355° rotatable, thereby providing illumination in all directions. This newly developed, protected and TÜV certified design, was originally installed in several variations in the Luther House, a World Heritage site.

A teflon slide-bearing system, specially designed for this spotlight, ensures thermal separation of the spotlight and housing, while permitting precise and simple positioning of the individual spots. The spotlight mounting arm, offering protection against over-rotation, can be variably positioned in the case of multiple spotlights to achieve the highest possible rotational flexibility.

Material and Surface Finishes for the Wittenberg Luminaires

The Wittenberg luminaires are made of aluminum.

The standard powder-coatings are RAL 9016 (matt white), mawa 9005 (matt black), and DB702 (metallic gray). Other RAL/NCS colors are available upon request (custom orders).

Note with regard to the white finish: The light surface-finish is more sensitive, and, especially in the case of extended usage, much more likely to show dirt than the darker finishes. Cleaning is possible with a soft cloth and a standard glass cleaning product. Please test the suitability of the cleaning product first on a concealed spot of the luminaire.

The majority of our surface-mounted and recessed Wittenberg luminaires are also available in a standard chromed finish. Additionally, many of the lights are available with an anodized surface-finish as a custom order.

Information for Wittenberg Low-Voltage Variations

The low-voltage spotlight is designed specifically for the 35 watt Osram Halostar Pro halogen pin base lamp, and should only be operated with this brand. The light output of a 35W Pro lamp is equivalent to the efficiency of a standard 50W low-voltage halogen pin base lamp and is 100% dimmable.

The operation of the lamp is permitted without a cover glass. However, the use of a cover glass protects the reflector and halogen lamp from dirt and insect penetration.

Surface-mounted spotlights are delivered with a trailing-edge phase, dimmable ballast, except for wi-ab-1k-nv, wi-ab-2k-nv and wi-ab-1k-to-nv variations.

Recessed spotlights are delivered without a ballast. These may be ordered optionally through us, but are always necessary for the operation of low-voltage lamps. We offer a number of possibilities for dimming. We recommend using a transformer

fixed to an angled transformer base plate, which allows tension relief from either side, as well as permitting pass-through connectivity.

Reflectors

The low-voltage spot-heads are outfitted standard with narrow beam distributing, faceted, 15° spot reflectors. Optionally, we offer the possibility to order the lamps with 30° (medium) or 45° (flood) reflectors. They can, therefore, easily be used in a wide variety of situations.

Glass Covers

For the operation of Wittenberg low-voltage lights, we recommend the use of a clear glass cover, which helps prevent premature aging of the lamp through the accumulation of dirt and insects. Alternatively, you may use a matt glass cover, in which case the light is more broadly distributed, thereby increasing the beam angles of the reflectors respectively. However, consequently, the transmission factor of the glass is reduced, resulting in a loss of approximately 5–10% of the light. The exchange of glass covers is possible with a ring shaped spring included in the delivery, without the need for additional tools.

Filters, Colored Lenses and Honeycomb louvers

Color effects lenses with UV-filters, in addition to others, are available for special lighting applications: Dichroic borofloat glass lenses, which separate undesirable light rays by reflection from those which pass through the glass lens; The laminated glass lens is composed of several optical interference layers which produce the desired color effect in each case.

Through the combination of high and low breaking layers, a rainbow effect in the light cone section is created. The color of the lens varies depending upon the amount of sunlight, the angle of the observer, and the background.

An ultraviolet ray filter is available for the illumination of UV sensitive objects such as paintings or haute couture, and a heat reflecting filter is available for temperature sensitive objects. A four-sided baffle mechanism adjustable by the client, a symmetrical and an asymmetrical anti-glare shield (Tubus), as well as a sculpture lens for producing elliptical light distribution is available on request for special applications in museums and galleries. Additionally, we also offer special glass lenses for use in food service industries, for example, in bakeries.

A honeycomb grid available in black or silver can be inserted in the spotlight head to minimize sideways glare. The installation or exchange of baffles is possible without the use of tools, in the same way as the lenses, through a ring shaped spring.

An optional glass suction cup for the exchange of glass lenses is also available.

Information for Wittenberg LED Variations

We offer all our Wittenberg variations in LED versions as well. Already in the development phase, we strove to ensure that existing low-voltage variations could be exchanged, in most cases practically and retroactively, with new promising LED technology. Thus, we are able to make an important contribution to environmental protection by reducing electronic waste. An extremely uniform light beam with a soft edge, combined with a high degree of efficiency, results from this innovative lighting technology.

The Wittenberg LED spotlights are available in color temperatures of 2700 K and 3000 K. The spotlight reaches 750 lm (by 700 mA) with a consumption requirement of only 8,4 W. Three beam angles are available to choose from: 15° (spot), 24° (medium), and 37° (flood). All variations are dimmable in conjunction with the appropriate converters. The equipment we recommend, together with information about size and dimmability, as well as pricing, is available under:

www.mawa-design.de/en/Download/Preisliste_Wittenberg_LED_Konverter

Information for Recessed Wittenberg Spotlights

Due to their mechanical and thermal properties, as well as their extremely compact form, all recessed spotlights in the Wittenberg series are especially suitable for installation in drywall ceilings with minimal installation depths, concrete ceilings with minimal thicknesses, and sloped ceilings. The variations of flush-mounted recessed spotlights offer the most unobtrusive way to bring light into a room. These can be installed in ceilings as single spots in round or square form, or as multiple spots in rectangular form.

The recessed spotlight variations 1r, 1e, 2e, and 20v are appropriate for the Kaiser installation housing EnoX. When installing the wi-eb-1r-kr in concrete ceilings, we recommend the modification for the Kaiser slab ceiling large box 105.

Installation in Heat Sensitive Ceilings

With special drywall ceiling construction systems, for example air-handling ceilings and ceilings with vapor barrier foil and other heat sensitive insulation layers directly above the spotlight, we categorically recommend the installation of an intermediate teflon layer (approx. 150–200 mm larger than the ceiling opening) which protects the area over the light and especially over the transformer. During operation of the light and transformer, the resulting heat is not transferred directly to the foil or insulation at one point, but is first minimized by spreading out over the entire surface of the teflon layer before being transferred. The flexible teflon layer is rolled and inserted into the ceiling opening, and even in the case of small openings, is able to be inserted without difficulty.

The round »Saturn« variation (wi-eb-1r-sa), with a twice ventilated spot head, is designed for installation in extremely heat-sensitive ceilings, for example in cooled ceilings.

All Wittenberg recessed lights can be installed in single or double layer drywall ceilings.

Information for HIT Lamps

For professional and energy efficient lighting applications, we have developed a spotlight version accepting a 20 W halogen metal halide lamp, with nearly the same minimal dimensions as our standard spotlight (d = 76 mm, h = 42 mm). The Wittenberg spotlight, using an HIT lamp, can now be effectively applied in museum and exhibition lighting, as well as in professional showroom lighting.

Technical information for HIT lamps on page 31.

Information for LED Emergency lights

To fulfill requirements in the area of emergency lighting, mawa design offers a flush-mounted option with minimum visible surface for most of the recessed and profile variations.

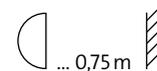
Implementation for surface-mounted spotlights is available on request.

Emergency lighting operation is possible with two standardized emergency lighting modules from CEAG and Inotec, for which TÜV certification according to DIN EN 60598-2-22 can be provided.

Notes for Installation

All electrical connections must be made by an authorized electrician only. Please exchange components only when the light is disconnected from the electrical supply and once the spot-head has cooled!

The distance to any lighted surface must be no less than 0.75 m.



Our QM-System is regularly monitored, according to certification regulations, by DEKRA.



Spotlight
with HIT spot reflector
18° **wi-re-hit-sr**
with HIT flood reflector
36° **wi-re-hit-fr**
(not illustrated)

Spotlight
with LV spot reflector
15° **wi-re-15°**
with LV medium reflector
30° **wi-re-30°**
with LV flood reflector
45° **wi-re-45°**

Borosilicate glass lens
clear high-efficiency
wi-g-hec
matt high-efficiency
wi-g-hem

Heat
protection
filter
glass lens
wi-g-ws

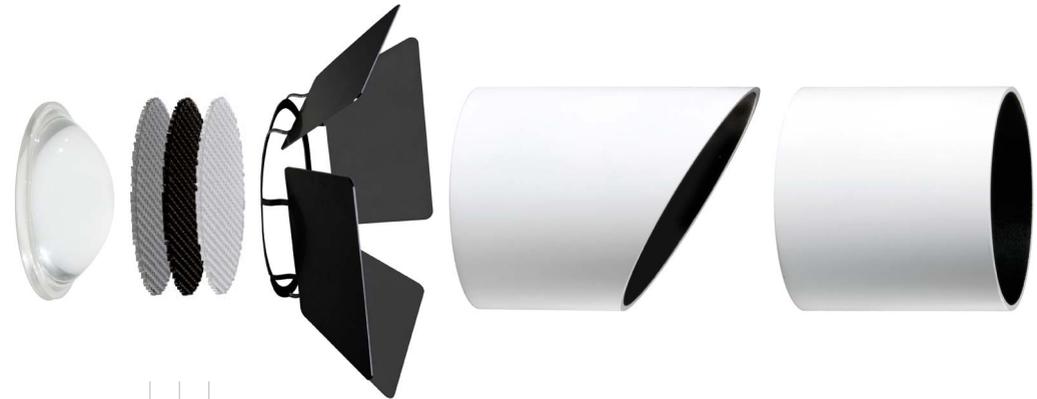


Glass lens, matt
finish on reverse,
ø 67 mm, H 22 mm
wi-linse-m

Anti-glare
flaps 4×
wi-bl-4

Asymmetrical
glare shield
wi-bl-as

Symmetrical
glare shield
wi-bl-sy



Spotlight
with LED module

Beam diverging film
for LED heads

Color effects glass lens
dichroic coating 2.2 mm

UV-filter
glass
wi-g-uv

Honeycomb grid
silver **wi-wa-si**
black **wi-wa-s**
white (only for LED) **wi-wa-w**

Extras (not illustrated)
wi-an glass removal tool

2700 K
15° **wi-k-led-g3-15°-2700**
24° **wi-k-led-g3-24°-2700**
37° **wi-k-led-g3-37°-2700**

20° **wi-led-vl-20°**
30° **wi-led-vl-30°**
40° **wi-led-vl-40°**
60° **wi-led-vl-60°**

magenta **wi-g-mg**
blue **wi-g-bl**
green **wi-g-gr**

Sculpture lens
for elliptical
light distribution
wi-g-sk

3000 K
15° **wi-k-led-g3-15°-3000**
24° **wi-k-led-g3-24°-3000**
37° **wi-k-led-g3-37°-3000**

Surface-mounted spotlights

wi-ab-1k ›Stülerbau‹

Surface-mounted spotlight, 1 spot, round, minimized housing ø 76 mm, external transformer, powder-coated
Socket:

LV GY 6,35 for QT12 35W/12V Osram Halostar Pro

wi-ab-1r ›Telescope‹

1 spot, electronic transformer in housing, powder-coated
Socket:

LV GY6,35 for QT12 35W/12V Osram Halostar Pro, EEI=B

HIT PGJ5 20W for Philips MasterColour CDM-Tm Mini

LED 8,4W, 700mA, CRI > 90, 750lm, 2700K/3000K, LED life expectancy >50.000 h, EEI=A

wi-ab-2r ›Binoculars‹

2 spotlights, electronic transformer in housing, powder-coated
Socket:

LV GY6,35 for QT12 35W/12V Osram Halostar Pro, EEI=B each socket

LED 8,4W, 700mA, CRI > 90, 750lm, 2700K/3000K, LED life expectancy >50.000 h, EEI=A each socket

wi-ab-125-1e /-2e /-3e /-4e

Surface-mounted spotlight: angular, series with width of 125 mm, end faceplates with minimal shadow gap, powder-coated, no visible connections, electronic transformer included, emergency power capability optionally available
Socket:

LV GY6,35 for QT12 35W/12V Osram Halostar Pro, EEI=B each socket

HIT PGJ5 20W für Philips MasterColour CDM-Tm Mini each socket

LED 8,4W, 700mA, CRI > 90, 750lm, 2700K/3000K, LED life expectancy >50.000 h, EEI=A each socket

wi-ab-125-4q

Square, surface-mounted spotlight dimensions: 275 × 275 × 72 mm, no visible connections, powder-coated electronic transformer included
Socket:

LV GY6,35 for QT12 35W/12V Osram Halostar Pro, EEI=B each socket

HIT PGJ5 20W for Philips MasterColour CDM-Tm Mini each socket

LED 8,4W, 700mA, CRI > 90, 750lm, 2700K/3000K, LED life expectancy >50.000 h, EEI=A each socket

wi-ab-1e-kb /-2e-kb /-3e-kb

Angular, spot-heads flush with housing, powder-coated, no visible connections, electronic transformer included
Socket:

LV GY6,35 für QT12 35W/12V Osram Halostar Pro, EEI=B each socket

HIT PGJ5 20W for Philips MasterColour CDM-Tm Mini each socket

LED 8,4W, 700mA, CRI > 90, 750lm, 2700K/3000K, LED life expectancy >50.000 h, EEI=A each socket

Wall-mounted spotlights

wi-ab-1k-to ›Torso‹

Round, single-arm recessed spotlight, powder-coated, external transformer for installation in the wall

connection: via AS outlet, ø 70mm, d = 45mm (not included in delivery)

Socket:

LV GY6,35 for QT12 35W/12V Osram Halostar Pro 35W, EEI=B

HV G9 für QT14, max. 40W

LED 8,4W, 700mA, CRI > 90, 750lm, 2700K/3000K, LED life expectancy >50.000 h, EEI=A

wi-1sab /-2sab ›Alkasum‹

Surface-mounted luminaire with one or two spotlights, LV version available as up or downlight, angular, wall-mounted housing, powder-coated, optionally available with integrated potentiometer, electronic transformer included
Socket:

LV GY 6,35, 35W/12V Osram Halostar Pro each socket

HIT PGJ5 20W each socket

wi-ab-1e-wa

Wall connected spotlight: rectangular, with swivel-mounted up and downlight, spotlights sit flush with housing in closed position, powder-coated, electronic transformer included
Socket:

LV GY6,35, QT12, 35W/12V Osram Halostar Pro

HIT PGJ5 20W

wi-ab-2e-wa

Wall connected spotlight: rectangular, with swivel-mounted up and downlight, spotlights sit flush with housing in closed position, powder-coated, electronic transformer included
Socket:

LV GY6,35, QT12 35W/12V Osram Halostar Pro each socket

Recessed spotlights

wi-eb-1r

Round, installation depth 40 mm powder-coated, transformer not included
Socket:

LV GY6,35 for QT12 35W/12V Osram Halostar Pro, EEI=B

HIT PGJ5 20W for Philips MasterColour CDM-Tm Mini

LED 8,4W, 700mA, CRI > 90, 750lm, 2700K/3000K, LED life expectancy >50.000 h, EEI=A

For flush mounting with plaster ring **wi-ep-1r** in single or double layer drywall ceilings.

wi-eb-1r-sa

Round, twice ventilated spot-head, installation depth 40 mm, especially suitable for heat sensitive ceilings, installation in single or double layer drywall ceilings as well as wood ceilings; transformer not included
Socket:

LV GY6,35 for QT12 35W/12V Osram Halostar Pro, EEI=B

HIT PGJ5 20W for Philips MasterColour CDM-Tm Mini

LED 8,4W, 700mA, CRI > 90, 750lm, 2700K/3000K, LED life expectancy >50.000 h, EEI=A

wi-eb-1r-kr

Round, minimal cover plate ø 76 mm, new spring mechanism installation depth reduced from 60 to 40 mm, powder-coated
Socket:

LV GY6,35 for QT12 35W/12V Osram Halostar Pro, EEI=B

HIT PGJ5 20W for Philips MasterColour CDM-Tm Mini

LED je 8,4W, 700mA, CRI > 90, 750lm, 2700K/3000K, LED life expectancy >50.000 h, EEI=A

wi-eb-1e/2e/3e/4e/4q

Angular, installation depth 40 mm
powder-coated

Socket:

LV GY6,35 for QT12 35W/12V

Osram Halostar Pro, EEL=B

HIT PGJ5 20W for Philips MasterColour
CDM-Tm Mini

LED je 8,4W, 700mA, CRI > 90, 750lm,
2700K/3000K, LED life expectancy
>50.000h, EEL=A

wi-eb-1e-db/-2e-db/-3e-db/-4e-db >Stülerbau<

Angular, recessed housing for flush-
mounted installation in suspended
ceilings, installation depth 70 mm,
spot-heads insertable by a teflon
supported, 3-point-patented-click-
system, powder-coated housing,
transformer not included. (We recom-
mend the following transformers
for installation depths greater than
70 mm: wi-eb-1e-db = Insta SNT 40,
wi-eb-2e-db/-3e-db/-4e-db = Insta
SNTF 105 [entire series],
HIT models are operated with HID-PV
m 35/s CDM or HID-PV m 20/s CDM)
Socket:

LV GY6,35 for QT12 35W/12V Osram

Halostar Pro, EEL=B pro Fassung

HIT PGJ5 20W für Philips MasterColour
CDM-Tm Mini each socket

LED 8,4W, 700mA, CRI > 90, 750lm,
2700K/3000K, LED life expectancy
>50.000h, EEL=A each socket

Template for ceiling cut-out
(wi-eb-1e-db-es/-2e-db-es/-3e-db-es/
-4e-db-es) available as an accessory.

wi-eb-20v

Oval spot-plate, installation depth
40mm, powder-coated, transformer not
included

Socket:

LV GY6,35 for QT12 35W/12V

Osram Halostar Pro, EEL=B each socket

HIT PGJ5 20W für Philips MasterColour
CDM-Tm Mini each socket

LED 8,4W, 700mA, CRI > 90, 750lm,
2700K/3000K, LED life expectancy
>50.000h, EEL=A each socket

Template for ceiling cut-out included
(wi-eb-20v-es) available as an accessory.

wi-eb-10v-db/-20v-db

Oval spotlight for flush-mounted
installation, installation depth 80 mm,
powder-coated, transformer not
included

Socket:

LV GY6,35 for QT12 35W/12V Osram

Halostar Pro, EEL=B each socket

HIT PGJ5 20W für Philips MasterColour
CDM-Tm Mini each socket

LED 8,4W, 700mA, CRI > 90, 750lm,
2700K/3000K, LED life expectancy
>50.000h, EEL=A each socket

Template for ceiling cut-out included

wi-eb-10v-db-r/-20v-db-r

Oval spotlight for quick and simple
installation in drywall ceilings,
installation depth 80 mm, powder-
coated, transformer not included

Socket:

LV GY6,35 for QT12 35W/12V Osram

Halostar Pro, EEL=B each socket

HIT PGJ5 20W für Philips MasterColour
CDM-Tm Mini each socket

LED 8,4W, 700mA, CRI > 90, 750lm,
2700K/3000K, LED life expectancy
>50.000h, EEL=A each socket

Template for ceiling cut-out included

Recessed Concrete Spotlights

wi-be-1e/-2e/-3e

Angular, no visible connections, strong
magnet connections allow simple
revision, electronic transformer included

Socket:

LV GY6,35 for QT12 35W/12V

Osram Halostar Pro, EEL=B each socket

HIT PGJ5 20W für Philips MasterColour
CDM-Tm Mini each socket

LED 8,4W, 700mA, CRI > 90, 750lm,
2700K/3000K, LED life expectancy
>50.000h, EEL=A each socket

wi-be-1e-rl/-2e-rl/-3e-rl

Angular, spot-heads in closed position
flush with ceiling, starter device
technology to be attached to a technical
plate and fixed in concrete recess.
height adjustable with spacing bolts
electronic transformer included

Socket:

LV GY6,35 for QT12 35W/12V

Osram Halostar Pro, EEL=B each socket

HIT PGJ5 20W für Philips MasterColour
CDM-Tm Mini each socket

LED 8,4W, 700mA, CRI > 90, 750lm,
2700K/3000K, LED life expectancy
>50.000h, EEL=A each socket

wi-be-1e-kb-fk/2e-kb-fk/3e-kb-fk

Concrete installation coffer made
of Fermacell converts the Wittenberg
surface-mounted spotlights
(wi-ab-1e-kb/-2e-kb/-3e-kb) into
recessed concrete spotlights:
Fermacell coffer constructed of 18 mm
thick gypsum fiberboard for
embedding in concrete or for instal-
lation in drywall construction,
edges chamfered on all 4 sides.

Security Lighting

si-led-1/-2

Emergency light module from mawa
design, narrow or wide beam, com-
patible with CEAG and Inotec, light color:
approx. 8000K/100 lm (cool white),
TÜV certified according to EN 60598/1
Equipped with: LED Cree, 2 × 3,2W

si-zu-es-3

Emergency light module from Zumtobel,
Resclite Escape Emergency Set NT3,
3 hour capacity
Equipped with: Power-LED, 2 × 2,7W

si-zu-ap-3

Emergency light module from Zumtobel,
Resclite Anti-Panic Emergency Set NT3,
3 hour capacity
Equipped with: Power-LED, 2 × 2,7W

si-zu-sp-3

Emergency light module from Zumtobel,
Resclite Spot Emergency Set NT3,
3 hour capacity
Equipped with: Power-LED, 2 × 2,7W

Surface-Mounted Spotlights

Ceiling-mounted spotlights (angular) 125 Series

wi-ab-125-1e	1 × spotlight square housing (incl. transformer)
wi-ab-125-2e	2 × spotlight square housing (incl. transformer)
wi-ab-125-3e	3 × spotlight square housing (incl. transformer)
wi-ab-125-4e	4 × spotlight square housing (incl. transformer)
wi-ab-125-4q	4 × spotlight square housing (incl. transformer)

Ceiling-mounted spotlights (flush spot-heads)

wi-ab-1e-kb	1 × spotlight square housing (incl. transformer)
wi-ab-2e-kb	2 × spotlight square housing (incl. transformer)
wi-ab-3e-kb	3 × spotlight square housing (incl. transformer)
wi-ab-4e-kb	4 × spotlight square housing (incl. transformer)

Wall-mounted spotlights (flush spot-heads)

wi-ab-2e-wa	Wall luminaire, 1 × spotlight (up or down), angular housing
wi-ab-1e-wa	Wall luminaire, 2 × spotlight (up and down), angular housing
wi-1sab	1 × spotlight ›Alkasum‹, rectangular shaped Wall-mounted housing (incl. transformer)
wi-2sab	2 × spotlight ›Alkasum‹, rectangular shaped Wall-mounted housing (incl. transformer)
wi-ab-1k-to	Wall luminaire, 1 × spotlight

Ceiling-mounted spotlights (round)

wi-ab-1k	1 × spotlight ›Stülerbau‹ round (external transformer, optional)
wi-ab-1r	1 × spotlight ›Telescope‹ round (incl. transformer)
wi-ab-2r	2 × spotlight ›Binoculars‹ round (incl. transformer)
wi-ab-3r	3 × spotlight ›Zyklus‹ round (incl. transformer)

Recessed Spotlights

Recessed ceiling spotlights (angular)

wi-eb-1e	1 × spotlight square faceplate
wi-eb-2e	2 × spotlight square faceplate
wi-eb-3e	3 × spotlight square faceplate
wi-eb-4e	4 × spotlight square faceplate
wi-eb-4q	4 × spotlight rectangular faceplate

Recessed ceiling spotlights (round)

wi-eb-1r	1 × spotlight round faceplate
wi-eb-1r-db	incl. plaster ring, flush with ceiling
wi-eb-1r-sa	1 × spotlight round faceplate / double insulated
wi-eb-1r-kr	1 × spotlight no faceplate
wi-eb-20v	2 × spotlights oval faceplate
wi-eb-10v-db-r	1 × spotlight, recessed housing included, spot-heads flush with ceiling
wi-eb-20v-db-r	2 × spotlights, recessed housing included, spot-heads flush with ceiling

Recessed ceiling spotlights (flush with ceiling)

wi-eb-10v-db	1 × spotlight, recessed housing included, spot-heads flush with ceiling
wi-eb-20v-db	2 × spotlight, recessed housing included, spot-heads flush with ceiling
wi-eb-1e-db	1 × spotlight ›Stülerbau‹ recessed housing included, spot-heads flush with ceiling
wi-eb-2e-db	2 × spotlight ›Stülerbau‹ recessed housing included, spot-heads flush with ceiling
wi-eb-3e-db	3 × spotlight ›Stülerbau‹ recessed housing included, spot-heads flush with ceiling
wi-eb-4e-db	4 × spotlight ›Stülerbau‹ recessed housing included, spot-heads flush with ceiling
wi-te	teflon layer (size in square meters: depending on size of ceiling cut-out)

Templates for ceiling cut-outs

wi-eb-1e-db-es	ceiling cut-out template for wi-eb-1e-db
wi-eb-2e-db-es	ceiling cut-out template for wi-eb-2e-db
wi-eb-3e-db-es	ceiling cut-out template for wi-eb-3e-db
wi-eb-4e-db-es	ceiling cut-out template for wi-eb-4e-db
wi-eb-20v-es	ceiling cut-out template for wi-eb-20v

Plaster ring

wi-ep-1r	plaster ring for wi-eb-1r, RAL 9016 matt white
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Recessed Spotlights

wi-be-1e	1 × spotlight, faceplate wi-eb-1e, magnetic connection access to operating unit
wi-be-2e	2 × spotlight, faceplate wi-eb-2e, magnetic connection access to operating unit
wi-be-3e	3 × spotlight, faceplate wi-eb-3e, magnetic connection access to operating unit
wi-be-1-rl	1 × spotlight, shorter faceplate, magnetic connection access to operating unit
wi-be-2-rl	2 × spotlight, shorter faceplate, magnetic connection access to operating unit
wi-be-3-rl	3 × spotlight, shorter faceplate, magnetic connection access to operating unit
wi-be-1e-kb-fk	concrete installation coffer for wi-ab-1e
wi-be-2e-kb-fk	concrete installation coffer for wi-ab-2e
wi-be-3e-kb-fk	concrete installation coffer for wi-ab-3e

Lamps

For low voltage

lm-IRC-25	lamp: Osram GY6,35 12V/25W Halostar Pro, EEI=B
lm-IRC-35	lamp: Osram GY6,35 12V/35W Halostar Pro, EEI=B
lm-IRC-50	lamp: Osram GY6,35 12V/50W Halostar Pro, EEI=B

For high voltage

lm-hv-40	lamp: Osram Halopin Pro (G9, QT14 max. 40W)
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For HIT

wi-cdm-20	lamp: Philips MasterColour PGJ5 CDM-Tm Mini 20W, EEI=A+
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Security Lighting

si-led-1	Mawa emergency light module, narrow beam
si-led-2	Mawa emergency light module, wide beam
si-zu-es-3	Zumtobel emergency light module, Resclite Escape Emergency Set NT3
si-zu-ap-3	Zumtobel emergency light module, Resclite Anti-Panic Emergency Set NT3
si-zu-sp-3	Zumtobel emergency light module, Resclite Spot Emergency Set NT3

Accessories

Spotlight reflectors

wi-re-15°	low voltage spot reflector 15°
wi-re-30°	low voltage medium reflector 30°
wi-re-45°	low voltage flood reflector 45°
wi-re-hit-sr	HIT spot reflector 18°
wi-re-hit-fr	HIT flood reflector 36°
wi-k-led-g3-15°-2700	LED-spotlight, spot 15°, 2700K; 8,4 W; 700mA
wi-k-led-g3-15°-3000	LED-spotlight, spot 15°, 3000K; 8,4 W; 700mA
wi-k-led-g3-24°-2700	LED-spotlight, medium 24°, 2700K; 8,4 W; 700mA
wi-k-led-g3-24°-3000	LED-spotlight, medium 24°, 3000K; 8,4 W; 700mA
wi-k-led-g3-37°-2700	LED-spotlight, flood 37°, 2700K; 8,4 W; 700mA
wi-k-led-g3-37°-3000	LED-spotlight, flood 37°, 3000K; 8,4 W; 700mA

Glass Lenses

wi-g-hec	borosilicate glass lens, clear, high efficiency
wi-g-hem	borosilicate glass lens, matt, high efficiency
wi-g-mg	color effects lens, magenta
wi-g-bl	color effects lens, blue
wi-g-gr	color effects lens, green
wi-g-uv	UV-filter glass lens
wi-g-ws	heat protection glass lens
wi-g-sk	sculpture lens
wi-linse-m	glass lens, matt finish on rear, ø 67 mm, H 22 mm
wi-g-ko	conversion filter for optimal product presentation

Honeycomb Grids

wi-wa-si	honeycomb grid, silver
wi-wa-s	honeycomb grid, black
wi-wa-w	honeycomb grid, white (LED spotlights only)

Glare Shields

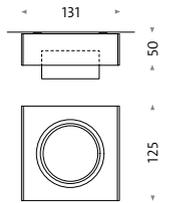
wi-bl-4	anti-glare flaps, 4 ×
wi-bl-as	asymmetrical glare shield
wi-bl-sy	symmetrical glare shield

Extras

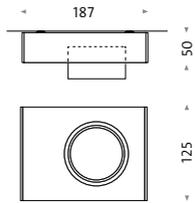
wi-an	glass removal tool
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Surface-Mounted Spotlights (angular) 125 Series

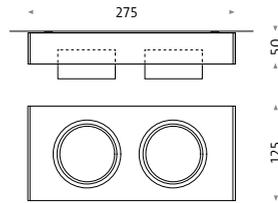
wi-ab-125-1e-nv / -led



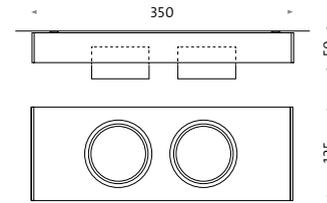
wi-ab-125-1e-hit



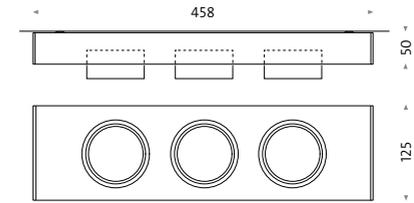
wi-ab-125-2e-nv / -led



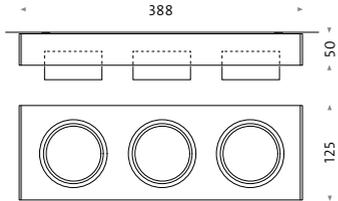
wi-ab-125-2e-hit



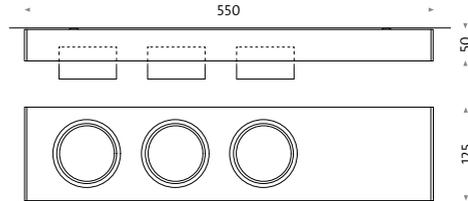
wi-ab-125-3e-led



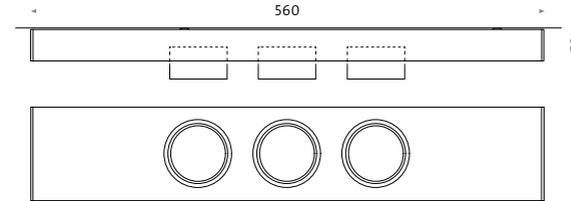
wi-ab-125-3e-nv



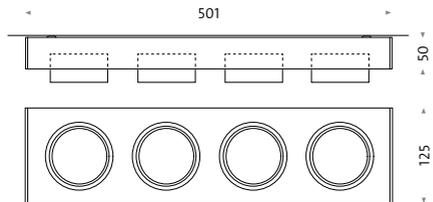
wi-ab-125-3e-hit (asymmetrical)



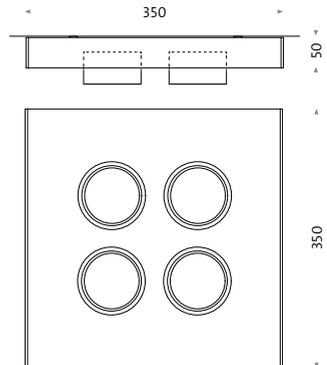
wi-ab-125-3e-hit (symmetrical)



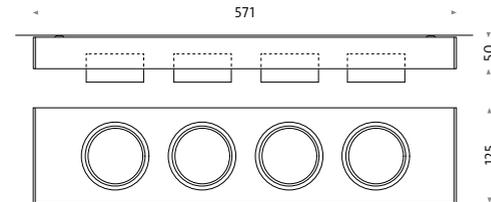
wi-ab-125-4e-nv



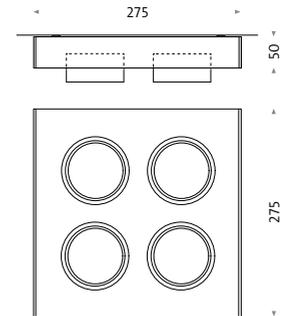
wi-ab-125-4q-hit



wi-ab-125-4e-led

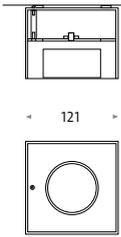


wi-ab-125-4q-nv / -4q-led

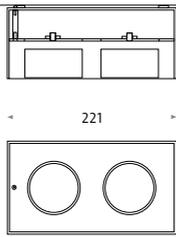


Surface-Mounted Spotlights (flush spot-heads)

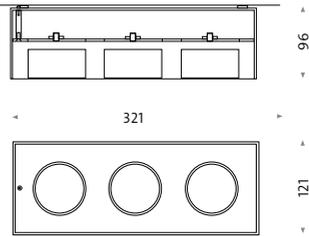
wi-ab-1e-kb



wi-ab-2e-kb

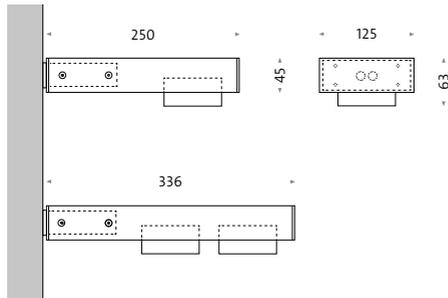


wi-ab-3e-kb

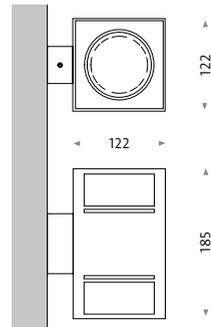


Wall-mounted Spotlights

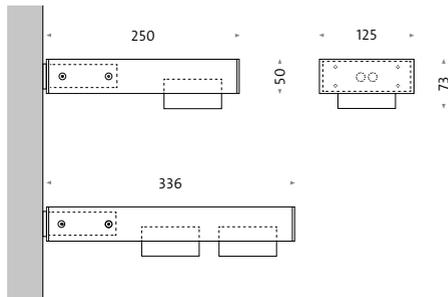
wi-ab-1 sab-nv /-led and 2sab-nv /-led



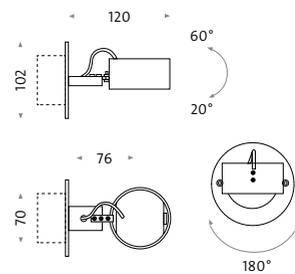
wi-ab-2d-wa



wi-ab-1 sab-hit and 2sab-hit

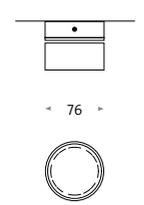


wi-ab-1k-to

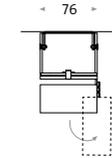


Surface-Mounted Spotlights (round)

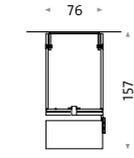
wi-ab-1k



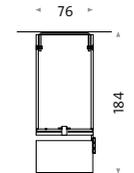
wi-ab-1r-nv



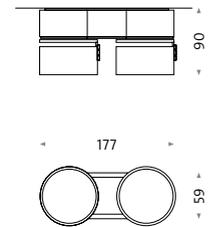
wi-ab-1r-led



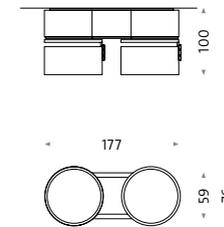
wi-ab-1r-hit



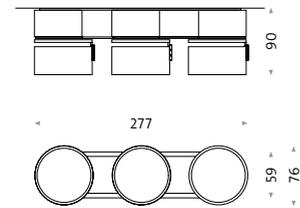
wi-ab-2r-nv



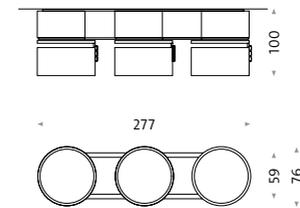
wi-ab-2r-led



wi-ab-3r-nv

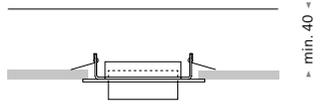


wi-ab-3r-led

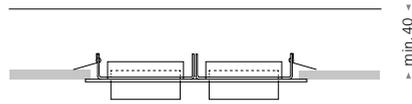


Recessed Spotlights (angular)

Installation depth for wi-eb-1e to 4e

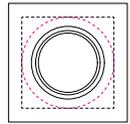


Installation depth for wi-eb-4q



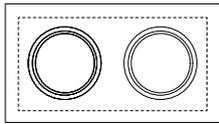
wi-eb-1e

140
125



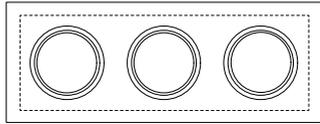
wi-eb-2e

255
229



wi-eb-3e

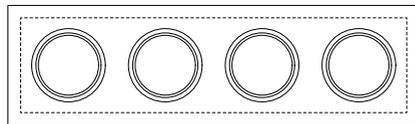
370
344



* beim 1er auch 125 mm-Kreisausschnitt möglich

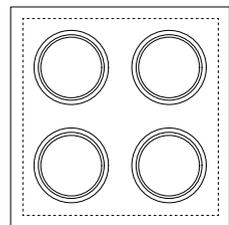
wi-eb-4e

480
458



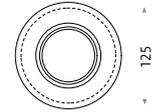
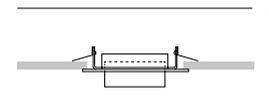
wi-eb-4q

255
238

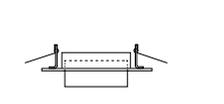
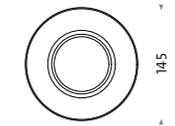
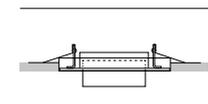


Recessed Spotlights (round)

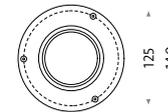
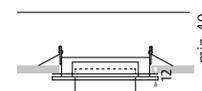
wi-eb-1r



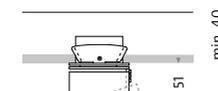
flush with plaster ring wi-ep-1r



wi-eb-1r-sa



wi-eb-1r-kr

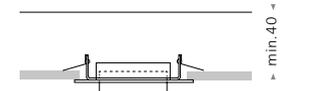


76
68-70

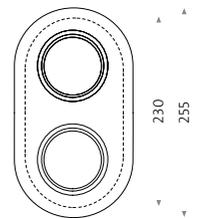


* Ceiling cut-out:
min. 68 – max. 70 mm

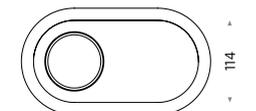
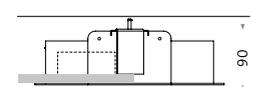
wi-eb-20v



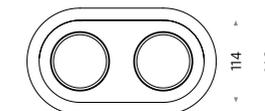
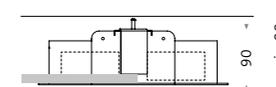
140
125



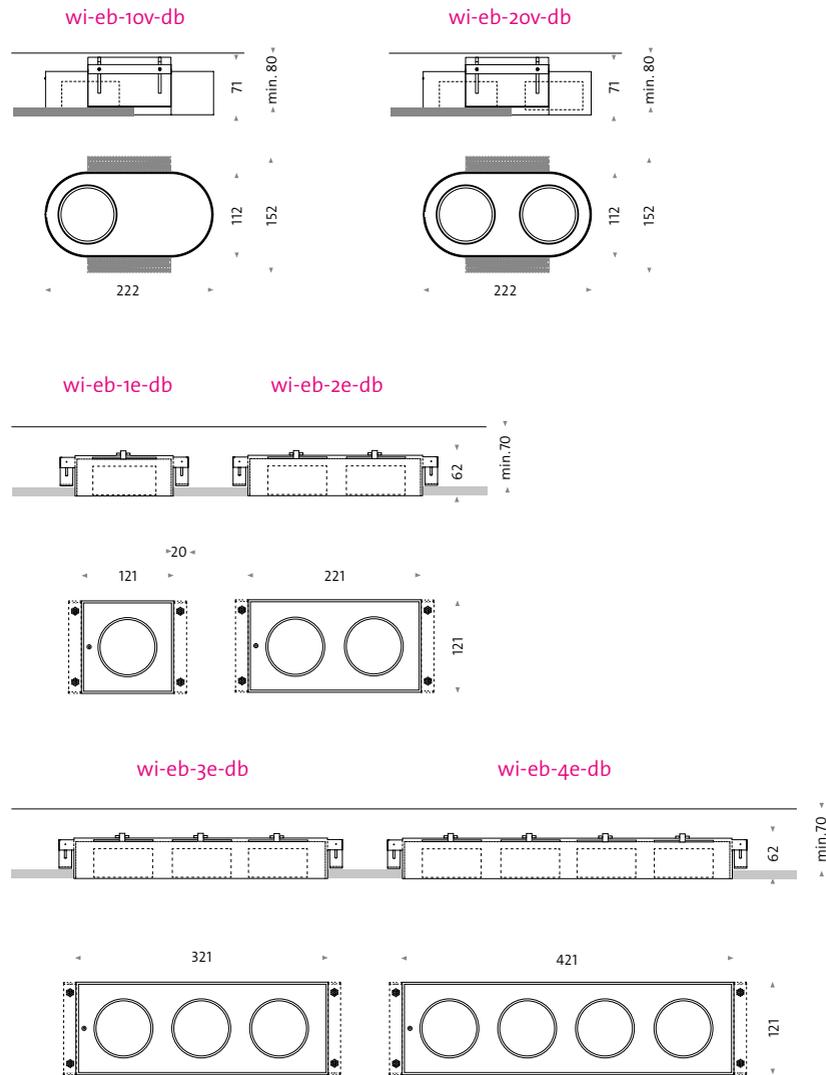
wi-eb-10v-db-r



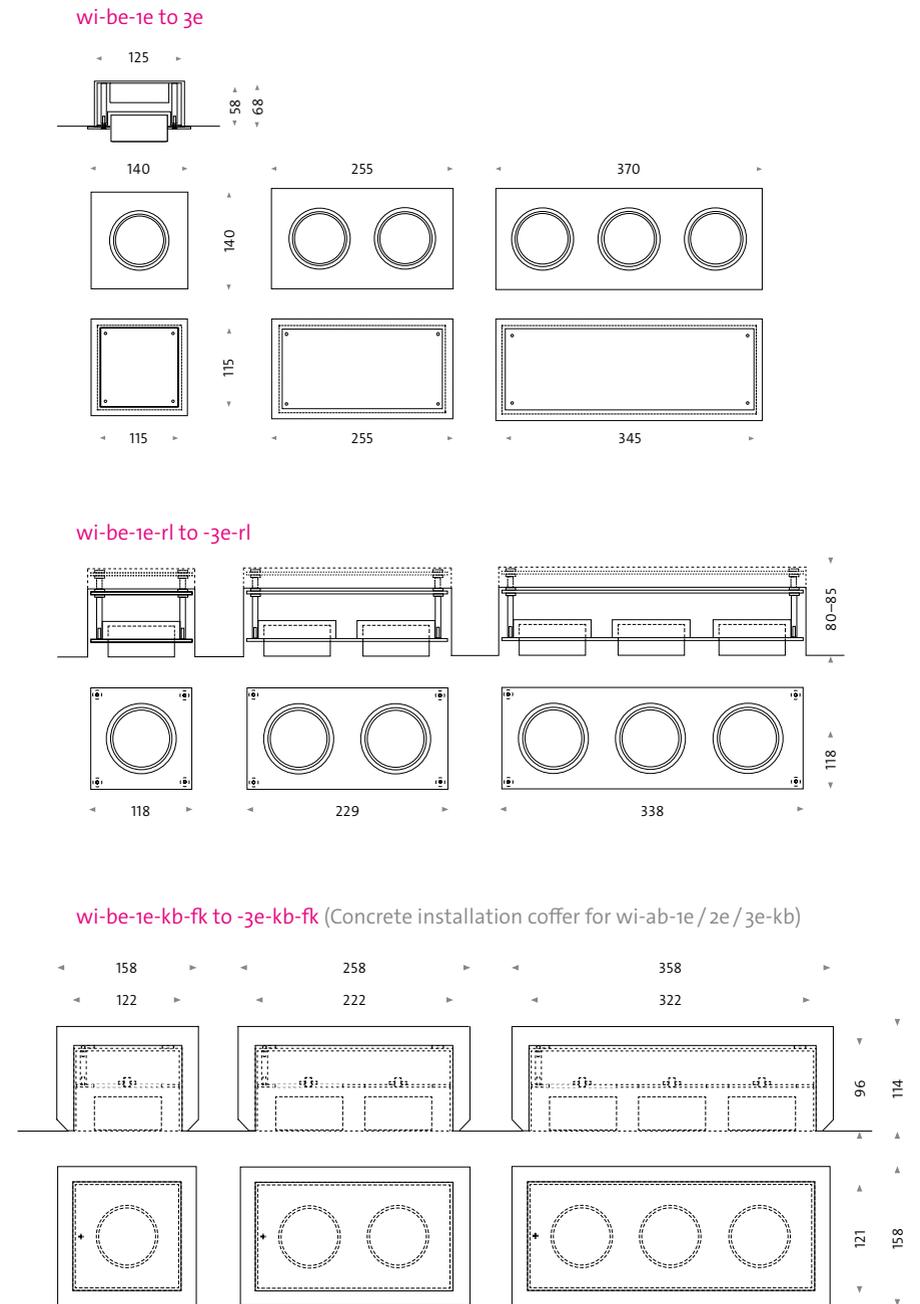
wi-eb-20v-db-r



Recessed Spotlights (flush with ceiling)

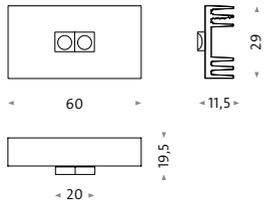


Recessed Concrete Spotlights



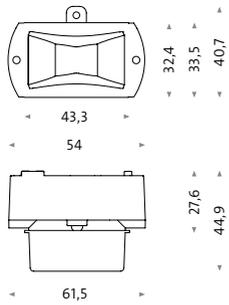
Security Lighting

Mawa Emergency Light

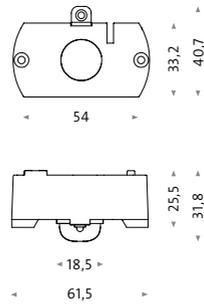


Emergency Light from Zumtobel

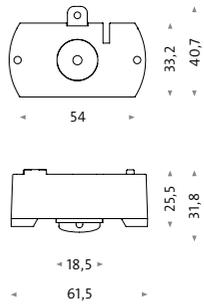
si-zu-es-3



si-zu-ap-3



si-zu-sp-3

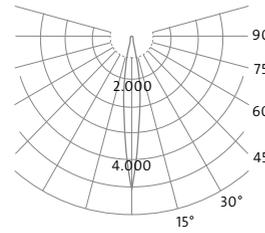


Light Distribution Curves

Low Voltage



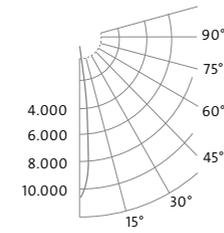
LV flood 15° (35W)
CAL/KLM



HIT



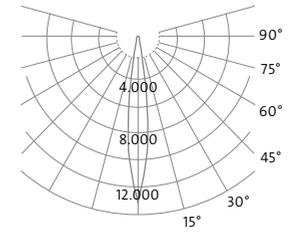
HIT spot 18°
CAL/KLM



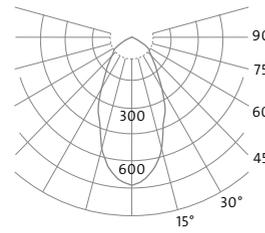
LED



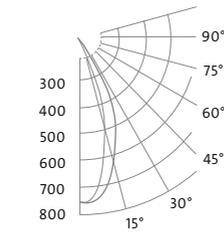
LED 8,4W/700mA spot 15°
CAL/KLM



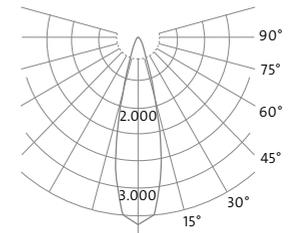
NV medium 30° (35W)
CAL/KLM



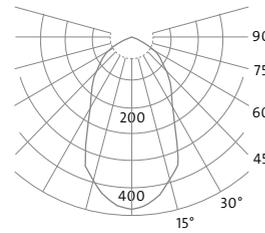
HIT flood 26°
CAL/KLM



LED 8,4W/700mA medium 24°
CAL/KLM

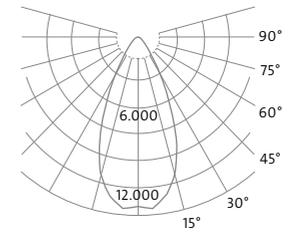


NV flood 45° (35W)
CAL/KLM



EEI = B

LED 8,4W/700mA flood 37°
CAL/KLM



EEI = A

Technical Data for Surface-Mounted Low Voltage (LV) Lamps

Manufacturer	mawa design GmbH	
Article Nr.	wi-ab-125-1e-nv / -2e-nv / -3e-nv / -4e-nv / -4q-nv, wi-ab-1e-kb-nv / -2e-kb-nv / -3e-kb-nv / -4e-kb-nv, wi-ab-1r-nv / -2r-nv, wi-1sab-nv / -2sab-nv, wi-ab-1k-nv / -2k-nv, wi-ab-1k-to-nv / -2k-to-nv	
Protection class	⊕ wi-ab-125-1e-nv / -2e-nv / -3e-nv / -4e-nv / -4q-nv, wi-ab-1e-kb-nv / -2e-kb-nv / -3e-kb-nv / -4e-kb-nv, wi-ab-1r-nv / -2r-nv, wi-1sab-nv / -2sab-nv ⊕ wi-ab-1k-nv / -2k-nv, wi-ab-1k-to-nv / -2k-to-nv	
Protection degree	IP20	
Primary current	230V, 50 Hz	
Secondary current	12V	
Socket	GY 6,35	
Lamp	each socket: max. 35 W Osram Halostar Pro (35 W Halostar Pro is equivalent to a 50 W standard halogen lamp)	
Energy efficiency	B	
Ballast	wi-ab-125-1e-nv wi-ab-125-2e/3e/4e/4q wi-ab-1e-kb-nv wi-ab-2e/3e/4e-kb-nv wi-ab-1r-nv wi-ab-2r-nv wi-1sab-nv wi-2sab-nv wi-ab-1k/2k wi-str-1e-nv	Insta SNT40 Insta SNTF/105 LI Insta SNT40 Tridonic TE-C 0105 Speedy Relco MINIHOLE 20–60 W Tridonic TE-C 0105 Speedy Insta SNT40 Tridonic TE-C 0105 Speedy External transformer (your choice) Insta SNT40
Dimming	Insta SNT40	Tronic and leading / trailing edge
Ballast	Insta SNTF/105 LI Tridonic TE-C 0105 Speedy Relco MINIHOLE 20–60 W	Tronic and leading / trailing edge Leading / trailing edge Trailing edge dimmer

All the transformers installed in mawa surface-mounted lights bear the  and  marks and have protection against overheating.

Technical Data for Surface-Mounted High Voltage (HV) Lamps

Manufacturer	mawa design GmbH
Article Nr.	wi-ab-1k-hv / -2k-hv
Protection class	⊕
Protection degree	IP20
Primary current	230V, 50 Hz
Socket	G9
Lamp	each socket: QT14 max. 40W
Energy efficiency	D

Technical Data for Surface-Mounted Halogen Metal Halide (HIT) Lamps

Manufacturer	mawa design GmbH	
Article Nr.	wi-ab-125-1e-hit / -2e-hit / -3e-hit / -4e-hit / -4q-hit, wi-ab-1e-kb-hit / -2e-kb-hit / -3e-kb-hit / -4e-kb-hit, wi-ab-1r-hit, wi-1sab-hit / -2sab-hit, wi-str-1e-hit	
Protection class	⊕	
Protection degree	IP20	
Primary current	230V, 50 Hz	
Socket	PGJ5	
Lamp	20 W/830 Philips MasterColour CDM-Tm Mini (≈ 75 W Halogen) Operate only with Philips HID-PV Mini 20 W HPF	
Energy efficiency	A	
Ballast	Philips HID-PV Mini 20 W HPF	
Dimming	none	
Cover glass	HIT lamps must be operated with a cover glass	

Technical Data for Surface-Mounted LED Lamps

Manufacturer	mawa design GmbH	
Article Nr.	wi-ab-125-1e-led / -2e-led / -3e-led / -4e-led / -4q-led, wi-ab-1e-kb-led / -2e-kb-led / -3e-kb-led / -4e-kb-led, wi-ab-1r-led / -2r-led, wi-1sab-led / -2sab-led, wi-ab-1k-led / -2k-led, wi-ab-1k-to-led / -2k-to-led, wi-str-1e-led	
Protection class	⊕	
Protection degree	IP20	
Primary current	230V, 50 Hz	
Secondary current	700 mA	
Capacity	each spotlight: 8,4 W (750 lm at 700 mA) 2700/3000 K	
Energy efficiency	A	
Converter (Standard)	wi-ab-125-1e-led / -2e-led	ELT DLC 110/700-B
	wi-ab-125-3e-led / -4e-led	Osram OTe 20
	wi-ab-125-4q-led	Harvard CL700-240-C
	wi-ab-1e-kb-led / -2e-kb-led	TCI DC Jolly 25W
	wi-ab-3e-kb-led / -4e-kb-led	TCI Maxi Jolly 50W
	wi-ab-1r-led	ELT DLC 110/700-B
	wi-ab-2r-led	Osram OTe 25
	wi-1sab-led	Osram OTe 10
	wi-2sab-led	TCI DC Jolly 25W
	wi-ab-1k-led / -2k-led	External converter (your choice)
Dimming Converter	ELT DLC 110/700-B	Leading/trailing edge
	Osram OTe 25	Leading/trailing edge
	Osram OTe 10	Leading/trailing edge
	TCI DC Jolly 25W	1–10V / PUSH DIM
	TCI Maxi Jolly 50W	1–10V / PUSH DIM
	Harvard CL700-240-C	Switchable / non dimmable

All variations can be built with alternate converters. Details at:
www.mawa-design.de/en/Download/Preisliste_Wittenberg_LED_Konverter

Specification sheets for the devices are available on the relevant pages from the manufacturer.

Technical Data for Recessed Low Voltage (LV) Lamps

Manufacturer	mawa design GmbH	
Article Nr.	wi-eb-1r-nv, wi-eb-1e-nv / -2e-nv / -3e-nv / -4e-nv / -4q-nv, wi-eb-20v-nv, wi-eb-2e-rl-nv, wi-eb-1e-db-nv / -2e-db-nv / -3e-db-nv / -4e-db-nv, wi-eb-1r-db-nv, wi-eb-1r-sa-nv, wi-eb-1r-kr-nv, wi-eb-10v-db-nv / -20v-db-nv, wi-eb-10v-db-r-nv / -20v-db-r-nv, wi-be-1e-nv / -2e-nv / -3e-nv, wi-be-1e-rl-nv / -2e-rl-nv	
Protection class	⊕	
Protection degree	IP20	
Primary current	230V, 50 Hz	
Secondary current	12 V	
Socket	GY 6,35	
Lamp	each socket: max. 35W Osram Halostar Pro (35W Halostar Pro is equivalent to the 50W standard halogen)	
Energy efficiency	B	

The ballasts installed together with mawa design Wittenberg recessed lights must be labelled with the ∇_M and ∇_F marks and have protection against overheating.

Transformers recommended by mawa

(Please double check the dimensions of the ceiling cut-out and the device in advance)

Tridonic TE-C 0105 Speedy (35-105W)	Leading / trailing edge dimmable
Insta SNT 40 (10-40W)	Tronic and leading / trailing edge dimmable
Insta SNT 70 (20-70W)	Tronic and leading / trailing edge dimmable
Insta SNTF 105 (20-105W)	Tronic and leading / trailing edge dimmable
Insta SNTF 105 LI (20-105W)	Tronic and leading / trailing edge dimmable

For use in emergency lighting applications according to DIN EN 50172, we recommend:

Tridonic TE 0105 one4all sc	DSI, DALI, Switch DIM-push button
Tridonic TE 0105u sc	1–10 V

Technical Data for Recessed LED Lamps

Manufacturer	mawa design GmbH
Article Nr.	wi-eb-1r-led, wi-eb-1e-led / -2e-led / -3e-led / -4e-led / -4q-led, wi-eb-20v-led, wi-eb-2e-rl-led, wi-eb-1e-db-led / -2e-db-led / -3e-db-led / -4e-db-led, wi-eb-1r-db-led, wi-eb-1r-sa-led, wi-eb-1r-kr-led, wi-eb-10v-db-led / -20v-db-led, wi-eb-10v-db-r-led / -20v-db-r-led wi-be-1e-led / -2e-led / -3e-led, wi-be-1e-rl-led / -2e-rl-led
Protection class	◆
Protection degree	IP20
Primary current	230V, 50 Hz
Secondary current	700 mA
Capacity	each spotlight: 8,4 W (750 lm at 700 mA) 2700/3000 K
Energy efficiency	A

Converters recommended for operation of the recessed variations

(Please double check the dimensions of the ceiling cut-out and the device in advance)

1 Spotlight

Osram OTe 10W	(109 × 53 × 32 mm)	Leading / trailing edge
ELT DLC 110/700-B	(80 × 38 × 21 mm)	Leading / trailing edge
TCI DC Jolly 25W	(103 × 68 × 22 mm)	1–10 V / PUSH DIM
TCI DC Jolly DALI 15-32W	(103 × 68 × 22 mm)	DALI

2 Spotlights

Osram OTe 25W	(109 × 53 × 32 mm)	Leading / trailing edge
TCI DC Jolly 25W	(103 × 68 × 22 mm)	1–10 V / PUSH DIM
TCI DC Jolly DALI 15-32W	(103 × 68 × 22 mm)	DALI

3 Spotlights

Osram OTe 25W (2 units)	(109 × 53 × 32 mm)	Leading / trailing edge
TCI Maxi Jolly 50W	(124 × 80 × 22 mm)	1–10 V / PUSH DIM
TCI Maxi Jolly DALI 50W	(124 × 68 × 22 mm)	DALI

4 Spotlights

Osram OTe 25W (2 units)	(109 × 53 × 32 mm)	Leading / trailing edge
TCI Maxi Jolly 50W	(124 × 80 × 22 mm)	1–10 V / PUSH DIM
TCI Maxi Jolly DALI 50W	(124 × 68 × 22 mm)	DALI

We recommend using these devices together with our transformer base plate, which offers the advantage of tension relief from both sides.

Frequently Asked Questions (FAQ)

Osram Halostar Pro (IRC-technology):

IRC lamp offer a much higher luminous efficacy compared to standard halogen lamps. Less energy is needed to create an equivalent amount of light output, thereby achieving energy savings. Energy savings of up to 30% are achieved through the use of two different technical principles:

1. Reducing heat loss through thermal radiation (IRC):

Using a special lamp geometry together with a complex coating on the lamp allows thermal (infrared) radiation emitted from the filament to be reflected back upon it. This causes it to be warmed further and thus the filament needs less electrical energy to reach higher temperatures.

2. Reducing loss of thermal radiation through a filling of Xenon gas:

The ability to conduct thermal radiation through a gas filling decreases as the size of the gas atoms increases. Choosing the fill gas accordingly permits a reduction in heat loss experienced by the tungsten filament resulting from thermal radiation through the gas. Therefore, less energy is required to heat the filament to higher temperatures.

Additionally, the use of a fill gas with the heaviest atoms possible slows the vaporisation of tungsten atoms from the filament. Thus the life span of the lamp is increased (more than double the mean life of standard halogen lamps).

Further effects: The reduced wattage of an IRC lamp necessary for maintaining an equivalent light output has the additional effect of drastically reducing the heat load of the lamp. Taking the additional factors of a resulting reduction of cooling costs and lower replacement costs resulting from the longer life of the energy saver lamp into account results in a cost savings (depending on the cost of electric) of up to 65% over standard lamps.

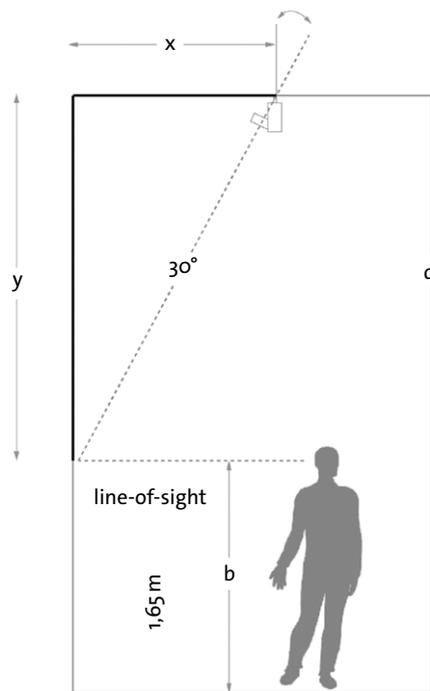
New installations of IRC lamps require fewer ballasts as opposed to installations with standard halogen lamps.

Information on Metal Halide Lamps:

The metal halide lamp (CDM-Tm) included in our units has a luminous efficacy of approximately 80 lm/W (Lumens per Watt) and an average life-span of approximately 9 000 hours, and is therefore a very economical lamp. The color temperature, similar to the halogen incandescent, is 3 000 Kelvin. The lamp requires a few minutes to restart and is therefore more appropriate for long term operations. Metal halide lamps are not dimmable.

Wittenberg Spotlights for Illuminating Artwork

The illumination of wall objects can be accomplished using a projection angle of 30–45° to the perpendicular. The steeper the projection angle, the stronger the effect of plasticity. If the projection angle is less than 30°, the so called museum angle, a maximum vertical lightfall is achieved and, at the same time, the possibility of reflected glare to the viewer is avoided. The projection angle must be taken into account on reflective surfaces, such as oil paintings or glass encased graphics, in order to prevent disruptive reflections in the observer's field of vision. Furthermore, for example, cast shadows on picture frames are minimised.



Museum Angle

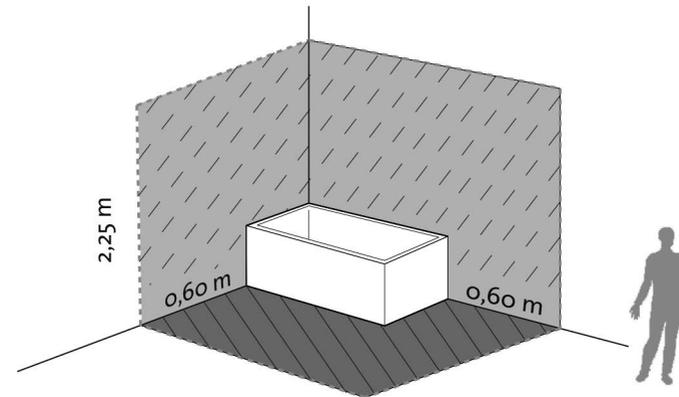
Formula for calculating the distance »x« between spotlight and wall for illuminating an object with a height of »y«:

$$y = d - b$$

$$x = \tan 30y$$

Wittenberg Spotlights for Bath/Damp Room Applications

The Wittenberg spotlight has a protection mode of IP20. As a result, according to VDE 0100, part 701, installation in baths or other damp rooms is only permissible outside the shaded zone in the picture (installation only over 2.25 m above the floor and more than 0.6 m away from showers, tubs, or sinks). Wittenberg spotlights should not be installed in areas affected by steam, and rooms should be well ventilated in order to hinder the premature aging of lamp materials.



NOTE! Mounting of the Wittenberg spotlight only outside the shaded zone!

Light Distribution Curve Data:

Light distribution curve data (Eulumdat – European lumen data format) for lighting calculations is available for each spot and flood variation of the »wittenberg« spotlight, as well as for the CDM-T variations. We will be happy to send this information on request.



Would you like to know more about us? Are your company information and product catalogs about us no longer up-to-date? We would be happy to send you the latest information about mawa design. Whether by telephone, fax, or E-mail, we look forward to hearing from you. We are located in Brandenburg, Michendorf, near Potsdam, 30 km away from the Ku'damm in Berlin.

Notes:



mawa design
Licht- und Wohnideen GmbH

Headquarter – mailing address:

Neu-Langerwisch 36
D-14552 Michendorf

Production – delivery address:

Ebereschenring 12–13
D-14554 Seddiner See

Tel +49 (0)33 205.2288 22

Fax +49 (0)33 205.2288 23

info@mawa-design.de
www.mawa-design.de