

THE SOURCE OF LIGHT.

 **MODUL** 

ELECTRO

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2010 | 11

MADE IN GERMANY



LIGHT IS NATURE.

Light is Nature.

Light is the indispensable prerequisite for life on our planet earth.

As a company whose employees deal with this fascinating medium on a daily basis, BLV is well aware of its responsibilities toward the environment.

Since its foundation in 1968, matters of environmental compatibility, ecologically sensible packaging and long life of our products have been the main objectives of our company.

That is why we decided to produce this present catalogue as environmentally friendly as possible.

The ecologically central agreement is the usage of the natural paper PLANO ART® of the paper manufacturers SCHNEIDERSÖHNE – a wood free, natural paper manufactured from raw materials in sustainable forestry.

A further ecological aspect is the environmentally friendly printing ink used. Developed by HUBER GROUP, Munich, it utilizes only naturally sustainable and renewable primary products such as plant oils and tree resin.



© MIX product group from sustainable forestry and controlled resources.

THE COMPANY BLV



Since its foundation in 1968, BLV Licht- und Vakuumtechnik GmbH has continuously developed into a lamp manufacturer with worldwide activities.

The medium-sized enterprise is a wholly owned subsidiary of the Japanese group USHIO Inc., Tokyo.

BLV-lamps are designed and manufactured in the plant at Steinhöring near Munich, Germany.

To serve customers with the highest quality and to make available an innovative range of products has always been the guiding principle of BLV's philosophy.

Competence, quality and not at least environment protection are implemented with modern technologies.

BLV's programme offers a wide choice of discharge, tungsten-halogen lamps and LED's.

The competence of the enterprise is based on the extraordinary quality and the long life of the products as well as on the sophisticated assortment of lamps.

BLV was the first lamp manufacturer in the world to be awarded the DIN EN ISO 9001 certificate. BLV meets the challenge to „live“ quality in all fields of activity, from incoming orders up to the delivery of goods.

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Highly motivated employees and regular training programmes support this objective. Yearly inspections ensure that BLV works according to the strictest standards of quality. BLV has its own Research and Development department.

BLV's technicians develop all the machinery and procedures for the production lines.

All the machines are constantly being adapted to meet the specific needs of BLV's customers.

One of the company's principle objectives is to optimize environmental protection in all its fields of activity. Thus particular emphasis is placed upon the longevity of our lamps and ecologically acceptable packaging.

PRODUCT CATALOG 2010|11

TUNGSTEN HALOGEN LAMPS
DISCHARGE LAMPS
SPECIAL LAMPS / LED's

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TUNGSTEN HALOGEN LAMPS

| | |
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TUNGSTEN HALOGEN LAMPS

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LONG LIFE • DIMMABLE • SAFE

EUROSTAR TITAN

Low voltage dichroic lamps
in professional quality



5000 hours

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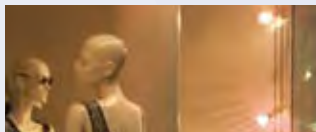
ADVANTAGES:

- High-quality titanium oxide coating
- Constant light colours through the rear of the reflectors
- Exact illumination because of precise beam angles
- UV protection (UV-P)
- Dimmable

APPLICATIONS:

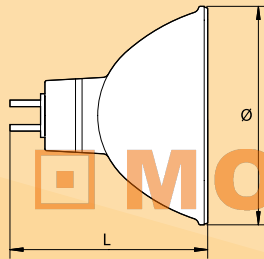
for accent illumination with large quantities e. g.:

- Hotels
- Restaurants
- Fairs and exhibitions
- Shops
- Open-plan offices



TUNGSTEN HALOGEN LAMPS

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| | |
|--------------------|-------|
| Voltage (V) | 12 |
| Ø (mm) | 50,7 |
| Length L (mm max.) | 44,9 |
| Base | GU5.3 |
| Burning position | u360 |
| Packing unit | 50 |

| Wattage (W) | Beam angle | Luminous intensity (cd) | Colour temperature (K) | Average life (h) | ANSI-Code open | ANSI-Code closed | Order no. closed |
|-------------|------------|-------------------------|------------------------|------------------|----------------|------------------|------------------|
| 10 | 21° | 600 | 2850 | 1200 | | | 181052 |
| 20 | 12° | 3500 | 2950 | 5000 | ESX | ESX/CG | 187853 |
| 20 | 24° | 1200 | 2950 | 5000 | BBF | BBF/CG | 187852 |
| 20 | 36° | 600 | 2950 | 5000 | BAB | BAB/CG | 187851 |
| 20 | 60° | 270 | 2950 | 5000 | | | 187859 |
| 35 | 12° | 6000 | 2950 | 5000 | FMT | FMT/CG | 185353 |
| 35 | 24° | 2300 | 2950 | 5000 | FMV | FMV/CG | 185352 |
| 35 | 36° | 1300 | 2950 | 5000 | FMW | FMW/CG | 185351 |
| 35 | 60° | 510 | 2950 | 5000 | | | 185359 |
| 50 | 12° | 11000 | 3000 | 5000 | EXT | EXT/CG | 189853 |
| 50 | 24° | 3600 | 3000 | 5000 | EXZ | EXZ/CG | 189852 |
| 50 | 36° | 2000 | 3000 | 5000 | EXN | EXN/CG | 189851 |
| 50 | 60° | 850 | 3000 | 5000 | FNV | FNV/CG | 189859 |
| 75 | 12° | 13000 | 3000 | 5000 | EYF | EYF/CG | 188153 |
| 75 | 24° | 4800 | 3000 | 5000 | EZZ | EZZ/CG | 188152 |
| 75 | 36° | 2700 | 3000 | 5000 | EYC | EYC/CG | 188151 |
| 75 | 60° | 1220 | 3000 | 5000 | | | 188159 |
| 100 | 36° | 3700 | 3100 | 3500 | | | 189951 |

| Light planning | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|
| 1 m Distance Ø (m)/ E (lx) | 2 m Distance Ø (m)/ E (lx) | 3 m Distance Ø (m)/ E (lx) | 4 m Distance Ø (m)/ E (lx) |
| 0,37/600 | 0,74/150 | 1,11/67 | 1,48/38 |
| 0,21/3500 | 0,42/875 | 0,63/389 | 0,84/219 |
| 0,43/1200 | 0,85/300 | 1,28/133 | 1,7/75 |
| 0,65/600 | 1,3/150 | 1,95/67 | 2,6/38 |
| 1,15/270 | 2,31/68 | 3,46/30 | 4,62/17 |
| 0,21/6000 | 0,42/1500 | 0,63/667 | 0,84/375 |
| 0,43/2300 | 0,85/575 | 1,28/256 | 1,7/144 |
| 0,65/1300 | 1,3/325 | 1,95/144 | 2,6/81 |
| 1,15/510 | 2,31/128 | 3,46/57 | 4,62/32 |
| 0,21/11000 | 0,42/2750 | 0,63/1222 | 0,84/688 |
| 0,43/3600 | 0,85/900 | 1,28/400 | 1,7/225 |
| 0,65/2000 | 1,3/500 | 1,95/222 | 2,6/125 |
| 1,15/850 | 2,31/213 | 3,46/94 | 4,62/53 |
| 0,21/13000 | 0,42/3250 | 0,63/1444 | 0,84/813 |
| 0,43/4800 | 0,85/1200 | 1,28/533 | 1,7/300 |
| 0,65/2700 | 1,3/675 | 1,95/300 | 2,6/169 |
| 1,15/1220 | 2,31/305 | 3,46/136 | 4,62/76 |
| 0,65/3700 | 1,3/925 | 1,95/411 | 2,6/231 |

EUROSTAR FROSTED

Low voltage dichroic lamps
for creative applications



5000 hours

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ADVANTAGES:

- Decorative accents through frosted, flush fitting cover glass
- Titan oxide coated reflector for long life
- Glare-free
- UV protection (UV-P)
- Dimmable

APPLICATIONS:

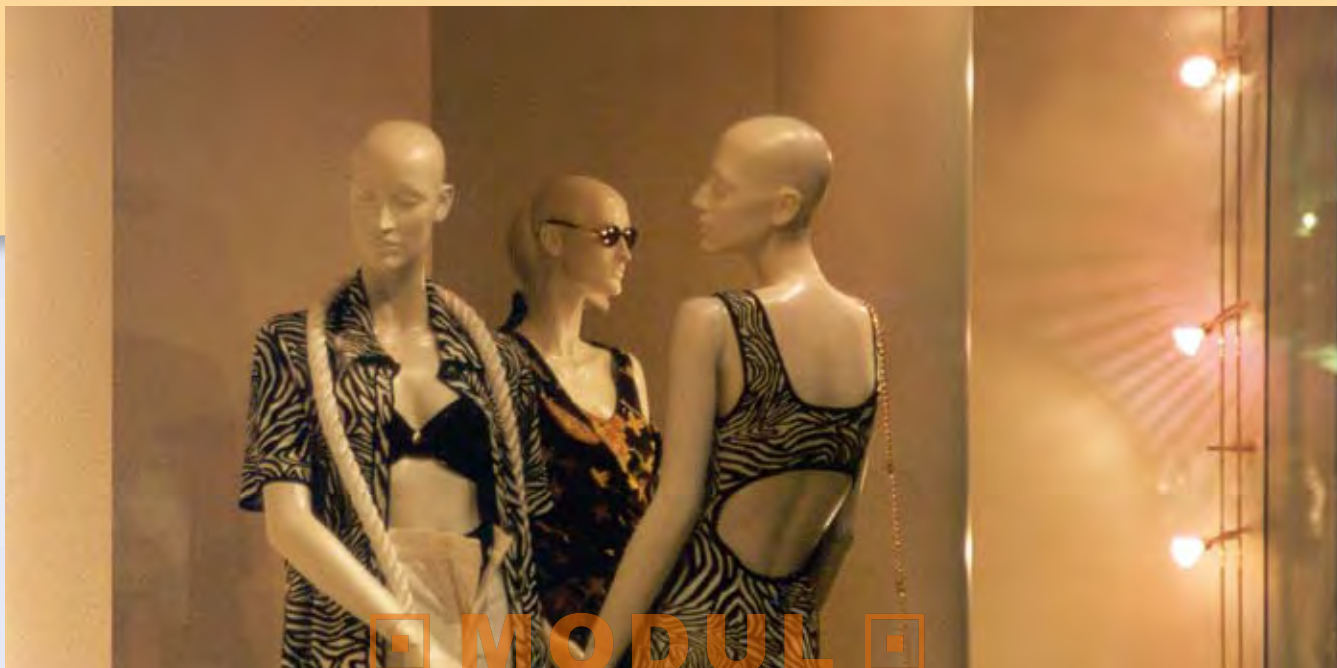
for special effects in:

- Health centres
- Museums and galleries
- Shop windows
- Private areas
- Restaurants



TUNGSTEN HALOGEN LAMPS

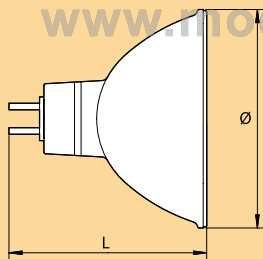
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| | |
|--------------------|-------|
| Voltage (V) | 12 |
| Average life (h) | 5000 |
| Ø (mm) | 50,7 |
| Length L (mm max.) | 44,9 |
| Base | GU5.3 |
| Burning position | u360 |
| Packing unit | 50 |

| Wattage (W) | Beam angle | Luminous intensity (cd) | Colour temperature (K) | Order no. |
|-------------|------------|-------------------------|------------------------|-----------|
| 20 | 30° | 400 | 2950 | 187881 |
| 35 | 30° | 700 | 2950 | 185381 |
| 50 | 30° | 1200 | 2950 | 189881 |

| Light planning | | | |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 1 m Distance Ø (m)/ E (lx) | 2 m Distance Ø (m)/ E (lx) | 3 m Distance Ø (m)/ E (lx) | 4 m Distance Ø (m)/ E (lx) |
| 0,54/400 | 1,07/100 | 1,61/44 | 2,14/25 |
| 0,54/700 | 1,07/175 | 1,61/78 | 2,14/44 |
| 0,54/1200 | 1,07/300 | 1,61/133 | 2,14/75 |

EUROSTAR

TITAN 35 mm

Compact low voltage
dichroic lamps



4000 hours

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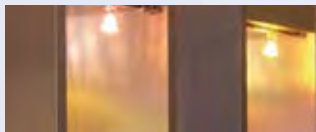
ADVANTAGES:

- Exact illumination through precise beam angles
- UV protect (UV-P)
- Integrated, flush fitting cover glass
- Dimmable

APPLICATIONS:

for space-saving accent
illumination, e. g.:

- Showcases
- Fairs and exhibitions
- Shops
- Compact fittings



TUNGSTEN HALOGEN LAMPS

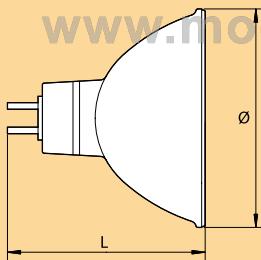
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| | |
|--------------------|------|
| Voltage (V) | 12 |
| Average life (h) | 4000 |
| Ø (mm) | 35,3 |
| Length L (mm max.) | 37,0 |
| Base | GU4 |
| Burning position | u360 |
| Packing unit | 50 |

| Wattage (W) | Beam angle | Luminous intensity (cd) | Colour temperature (K) | ANSI-Code | Order no. |
|-------------|------------|-------------------------|------------------------|-----------|-----------|
| 20 | 10° | 3200 | 3100 | FTB | 116583 |
| 20 | 38° | 500 | 3100 | FTD | 116581 |
| 35 | 10° | 5400 | 3100 | FTE | 115283 |
| 35 | 38° | 900 | 3100 | GAX | 115281 |

| Light planning | | | |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 1 m Distance Ø (m)/ E (lx) | 2 m Distance Ø (m)/ E (lx) | 3 m Distance Ø (m)/ E (lx) | 4 m Distance Ø (m)/ E (lx) |
| 0,17/3200 | 0,35/800 | 0,52/356 | 0,7/200 |
| 0,69/500 | 1,38/125 | 2,07/56 | 2,75/31 |
| 0,17/5400 | 0,35/1350 | 0,52/600 | 0,7/338 |
| 0,69/900 | 1,38/225 | 2,07/100 | 2,75/56 |

EUROSTAR POWERSAVER

Energy saving
low voltage dichroic lamps
of excellent quality



4000 hours
30% energy saving

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ADVANTAGES:

- Cost saving (30% energy saving)
- 4000 hours average life
- Less CO₂ emissions by energy saving
- Suited for the use in open fixtures
- UV filter
- Dimmable
- Colour temperatur of 3000 K

APPLICATIONS:

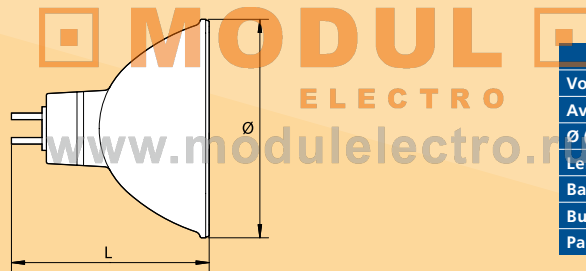
In areas with high maintenance costs,
e. g.:

- Shops
- Offices
- Hotels
- Museums



TUNGSTEN HALOGEN LAMPS

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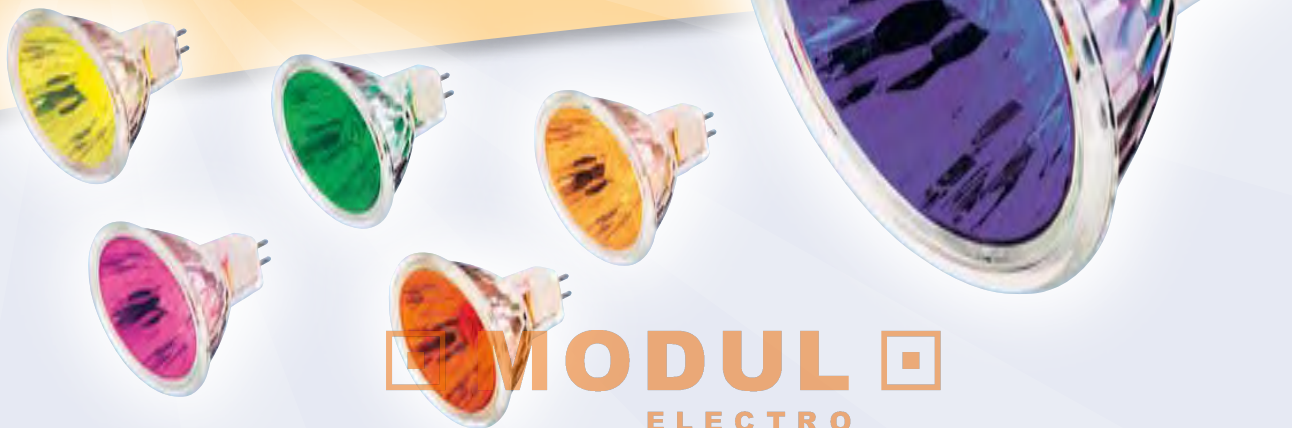
| | |
|--------------------|-------|
| Voltage (V) | 12 |
| Average life (h) | 4000 |
| Ø (mm) | 50,7 |
| Length L (mm max.) | 44,9 |
| Base | GU5.3 |
| Burning position | u360 |
| Packing unit | 50 |

| Wattage (W) | Beam angle | Luminous intensity (cd) | Colour temperature (K) | Order no. closed |
|-------------|------------|-------------------------|------------------------|------------------|
| 20 | Spot | 6000 | 3000 | 182353 |
| 20 | Medium | 2300 | 3000 | 182352 |
| 20 | Flood | 1300 | 3000 | 182351 |
| 20 | Superflood | 510 | 3000 | 182359 |
| 35 | Spot | 11000 | 3000 | 183353 |
| 35 | Medium | 3600 | 3000 | 183352 |
| 35 | Flood | 2000 | 3000 | 183351 |
| 35 | Superflood | 850 | 3000 | 183359 |
| 50 | Spot | 1300 | 3000 | 189353 |
| 50 | Medium | 4800 | 3000 | 189352 |
| 50 | Flood | 2700 | 3000 | 189351 |
| 50 | Superflood | 1220 | 3000 | 189359 |

Information about guarantees see page 118.

POPSTAR

Low voltage dichroic lamps
for creative applications



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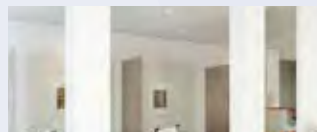
ADVANTAGES:

- High colour saturation
- Constant light colour
- Integrated dichroic filter in blue, yellow, green, magenta, orange and red
- UV protection (UV-P)
- Dimmable

APPLICATIONS:

special effects in:

- Objects of art
- Stages
- Facades
- Shop windows
- Discotheques and bars
- Health centres



TUNGSTEN HALOGEN LAMPS

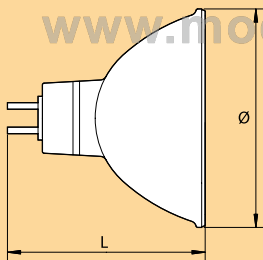
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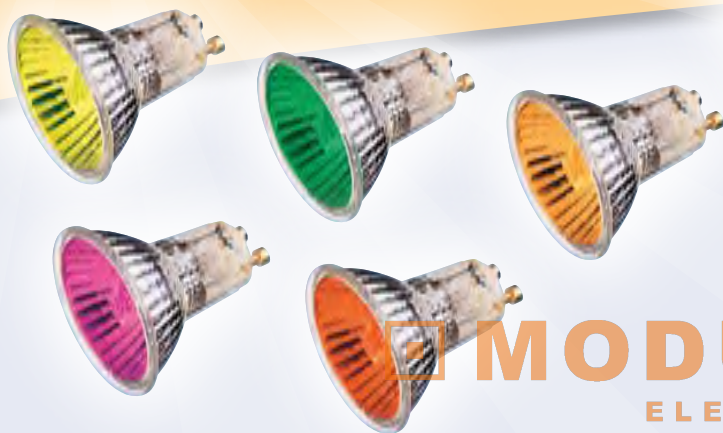
| | |
|--------------------|-------|
| Voltage (V) | 12 |
| Average life (h) | 4000 |
| Ø (mm) | 50,7 |
| Length L (mm max.) | 44,9 |
| Base | GU5.3 |
| Burning position | u360 |
| Packing unit | 50 |

| Colour | Wattage (W) | Beam angle | Luminous intensity (cd) | Colour saturation (%) | Dominating wavelength (nm) | Order no. |
|---------|-------------|------------|-------------------------|-----------------------|----------------------------|-----------|
| blue | 50 | 12° | 2200 | 78 | 475 | 186353 |
| yellow | 50 | 12° | 9000 | 98 | 580 | 186053 |
| green | 50 | 12° | 4400 | 74 | 550 | 186153 |
| magenta | 50 | 12° | 4400 | 67 | -495 | 186553 |
| orange | 50 | 12° | 5000 | 98 | 600 | 186453 |
| red | 50 | 12° | 2000 | 99 | 620 | 186253 |

| Light planning | | | |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| 1 m Distance Ø (m) / E (lx) | 2 m Distance Ø (m) / E (lx) | 3 m Distance Ø (m) / E (lx) | 4 m Distance Ø (m) / E (lx) |
| 0,21/2200 | 0,42/550 | 0,63/244 | 0,84/138 |
| 0,21/9000 | 0,42/2250 | 0,63/1000 | 0,84/563 |
| 0,21/4400 | 0,42/1100 | 0,63/489 | 0,84/275 |
| 0,21/4400 | 0,42/1100 | 0,63/489 | 0,84/275 |
| 0,21/5000 | 0,42/1250 | 0,63/556 | 0,84/313 |
| 0,21/2000 | 0,42/500 | 0,63/222 | 0,84/125 |

POPLINE

Mains voltage halogen reflector lamps
for creative applications



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ADVANTAGES:

- Integrated dichroic filter in blue, yellow, green, magenta, orange and red
- Aluminium coated reflector reduces heat to the rear
- Mains voltage operation without transformer
- GU10-base for secure hold in fixture
- Integrated, flush fitting cover glass
- UV protection (UV-P)
- Dimmable

APPLICATIONS:

- special effects in:
- Objects of art
 - Stages
 - Facades
 - Shop windows
 - Discotheques and bars
 - Health centres

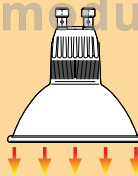
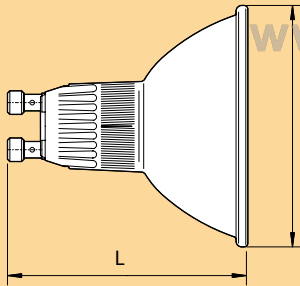


TUNGSTEN HALOGEN LAMPS

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The aluminium coated reflector ensures lower heat radiation to the rear.

| | |
|--------------------|------|
| Voltage (V) | 230 |
| Average life (h) | 2000 |
| Ø (mm) | 50,7 |
| Length L (mm max.) | 53,0 |
| Base | GU10 |
| Burning position | u360 |
| Packing unit | 10 |

| Colour | Wattage (W) | Beam angle | Luminous intensity (cd) | Colour saturation (%) | Dominating wavelength (nm) | Order no. |
|---------|-------------|------------|-------------------------|-----------------------|----------------------------|-----------|
| blue | 50 | 35° | 350 | 59 | 480 | 104051 |
| yellow | 50 | 35° | 1000 | 92 | 580 | 103751 |
| green | 50 | 35° | 450 | 68 | 560 | 103851 |
| magenta | 50 | 35° | 550 | 64 | -495 | 104251 |
| orange | 50 | 35° | 800 | 96 | 590 | 104151 |
| red | 50 | 35° | 700 | 97 | 605 | 103951 |

| Light planning | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|
| 1 m Distance Ø (m)/ E (lx) | 2 m Distance Ø (m)/ E (lx) | 3 m Distance Ø (m)/ E (lx) | 4 m Distance Ø (m)/ E (lx) |
| 0,63/350 | 1,26/88 | 1,89/39 | 2,52/22 |
| 0,63/1000 | 1,26/250 | 1,89/111 | 2,52/63 |
| 0,63/450 | 1,26/113 | 1,89/50 | 2,52/28 |
| 0,63/550 | 1,26/138 | 1,89/61 | 2,52/34 |
| 0,63/800 | 1,26/200 | 1,89/89 | 2,52/50 |
| 0,63/700 | 1,26/175 | 1,89/78 | 2,52/44 |

REFLEKTO CLEAR

Low voltage reflector lamps
for enclosed installation



4500 hours

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ADVANTAGES:

- Reflector with aluminium coating
- Ideally suited for enclosed installation because of reduced heat to the rear
- Hardly any stray light to the rear
- UV protect (UV-P)
- Integrated, flush fitting cover glass
- Dimmable

APPLICATIONS:

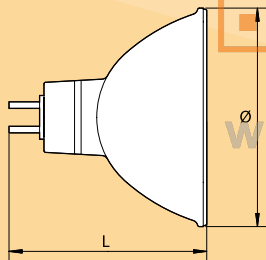
in thermally critical areas,
e. g.:

- Ceilings
- Furniture
- Extractor hoods
- Mirrors

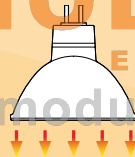


TUNGSTEN HALOGEN LAMPS

MADE IN GERMANY



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The aluminium coated reflector ensures lower heat radiation to the rear.

| | |
|--------------------|-------|
| Voltage (V) | 12 |
| Average life (h) | 4500 |
| Ø (mm) | 50,7 |
| Length L (mm max.) | 44,9 |
| Base | GU5.3 |
| Burning position | u360 |
| Packing unit | 50 |

| Wattage (W) | Beam angle | Luminous intensity (cd) | Colour temperature (K) | ANSI-Code | Order no. ² |
|-------------|------------|-------------------------|------------------------|-----------|------------------------|
| 20 | 12° | 3500 | 2900 | ESX | 182053 |
| 20 | 24° | 1200 | 2900 | BBF | 182052 |
| 20 | 36° | 600 | 2900 | BAB | 182051 |
| 20 | 60° | 270 | 2900 | | 182059 |
| 35 | 12° | 6000 | 2900 | FMT | 183053 |
| 35 | 24° | 2300 | 2900 | FMV | 183052 |
| 35 | 36° | 1300 | 2900 | FMW | 183051 |
| 35 | 60° | 510 | 2900 | | 183059 |
| 50 | 12° | 11000 | 2950 | EXT | 185053 |
| 50 | 24° | 3600 | 2950 | EXZ | 185052 |
| 50 | 36° | 2000 | 2950 | EXN | 185051 |
| 50 | 60° | 850 | 2950 | FNV | 185059 |

| Light planning | | | |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 1 m Distance Ø (m) / E (lx) | 2 m Distance Ø (m) / E (lx) | 3 m Distance Ø (m) / E (lx) | 4 m Distance Ø (m) / E (lx) |
| 0,21/3500 | 0,42/875 | 0,63/389 | 0,84/219 |
| 0,43/1200 | 0,85/300 | 1,28/133 | 1,7/75 |
| 0,65/600 | 1,3/150 | 1,95/67 | 2,6/38 |
| 1,15/270 | 2,31/68 | 3,46/30 | 4,62/17 |
| 0,21/6000 | 0,42/1500 | 0,63/667 | 0,84/375 |
| 0,43/2300 | 0,85/575 | 1,28/256 | 1,7/144 |
| 0,65/1300 | 1,3/325 | 1,95/144 | 2,6/81 |
| 1,15/510 | 2,31/128 | 3,46/57 | 4,62/32 |
| 0,21/11000 | 0,42/2750 | 0,63/1222 | 0,84/688 |
| 0,43/3600 | 0,85/900 | 1,28/400 | 1,7/225 |
| 0,65/2000 | 1,3/500 | 1,95/222 | 2,6/125 |
| 1,15/850 | 2,31/213 | 3,46/94 | 4,62/53 |

REFLEKTO COLOURED

Low voltage reflector lamps
for coloured accents



4500 hours

MODUL

ELECTRO

www.modulelectro.ru

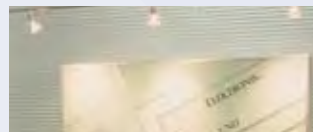
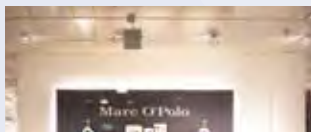
ADVANTAGES:

- Decorative accents through coloured coating (black and silver)
- SUPERLINE Designer Reflector
- Reflector with aluminium coating
- Reduced heat radiation to the rear of the lamp
- No rear stray light
- UV protection (UV-P)
- Integrated, flush fitting cover glass
- Dimmable

APPLICATIONS:

in design-oriented areas,
e. g.:

- Offices and business premises
- Restaurants
- Museums and galleries
- Shop windows
- Showcases
- Private areas

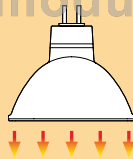
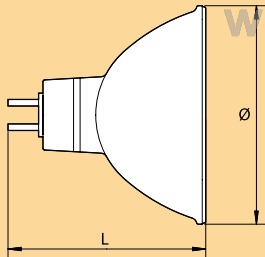


TUNGSTEN HALOGEN LAMPS

MADE IN GERMANY



ELECTRO

www.modulelectro.ru


The aluminium coated reflector ensures lower heat radiation to the rear.

| | |
|--------------------|-------|
| Voltage (V) | 12 |
| Average life (h) | 4500 |
| Ø (mm) | 50,7 |
| Length L (mm max.) | 44,9 |
| Base | GU5.3 |
| Burning position | u360 |
| Packing unit | 50 |

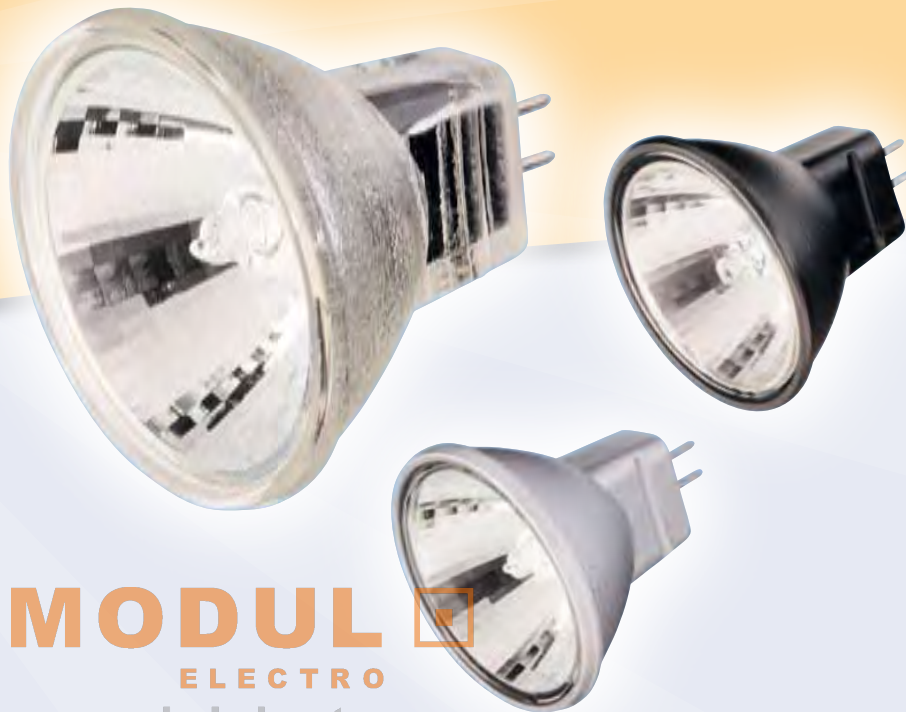
| Design | Wattage (W) | Beam angle | Luminous intensity (cd) | Colour temperature (K) | ANSI-Code | Order no. |
|--------|-------------|------------|-------------------------|------------------------|-----------|-----------|
| black | 20 | 36° | 510 | 2900 | BAB | 102151 |
| black | 35 | 36° | 1200 | 2950 | FMW | 103151 |
| black | 50 | 24° | 3000 | 3000 | EXZ | 105152 |
| black | 50 | 36° | 1580 | 3000 | EXN | 105151 |
| silver | 20 | 36° | 510 | 2900 | BAB | 102251 |
| silver | 35 | 36° | 1200 | 2950 | FMW | 103251 |
| silver | 50 | 24° | 3000 | 3000 | EXZ | 105252 |
| silver | 50 | 36° | 1580 | 3000 | EXN | 105251 |

| Light planning | | | |
|------------------------------|------------------------------|------------------------------|------------------------------|
| 1 m Distance Ø (m)/E (lx) | 2 m Distance Ø (m)/E (lx) | 3 m Distance Ø (m)/E (lx) | 4 m Distance Ø (m)/E (lx) |
| 0,65/510 | 1,3/128 | 1,95/57 | 2,6/32 |
| 0,65/1200 | 1,3/300 | 1,95/133 | 2,6/75 |
| 0,43/3000 | 0,85/750 | 1,28/333 | 1,7/188 |
| 0,65/1580 | 1,3/395 | 1,95/176 | 2,6/99 |
| 0,65/510 | 1,3/128 | 1,95/57 | 2,6/32 |
| 0,65/1200 | 1,3/300 | 1,95/133 | 2,6/75 |
| 0,43/3000 | 0,85/750 | 1,28/333 | 1,7/188 |
| 0,65/1580 | 1,3/395 | 1,95/176 | 2,6/99 |

REFLEKTO

35 mm

Low voltage reflector lamps
for coloured accents



MODUL
ELECTRO

www.modulelectro.ru

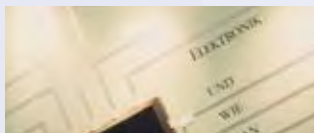
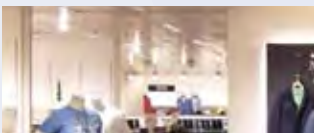
ADVANTAGES:

- Decorative accents through coloured coating (black and silver)
- Reflector with aluminium coating
- Reduced heat radiation to the rear of the lamp
- Hardly any stray light to the rear
- UV protection (UV-P)
- Integrated, flush fitting cover glass
- Dimmable

APPLICATIONS:

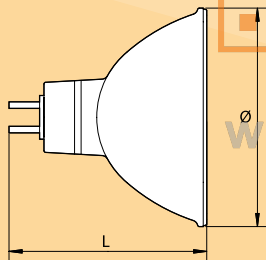
in design-oriented areas, e.g.:

- Showcases
- Shop windows
- Offices and business premises
- Restaurants
- Museums and galleries
- Ceilings
- Furniture

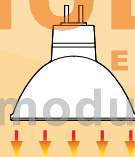


TUNGSTEN HALOGEN LAMPS

MADE IN GERMANY



MODUL
ELECTRO
www.modulelectro.ro



The aluminium coated reflector ensures lower heat radiation to the rear.

| | |
|--------------------|------|
| Voltage (V) | 12 |
| Average life (h) | 1500 |
| Ø (mm) | 35,3 |
| Length L (mm max.) | 37,0 |
| Base | GU4 |
| Burning position | u360 |
| Packing unit | 10 |

| Design | Wattage (W) | Beam angle | Luminous intensity (cd) | Colour temperature (K) | ANSI-Code | Order no. |
|--------|-------------|------------|-------------------------|------------------------|-----------|-----------|
| clear | 20 | 12° | 1600 | 2900 | FTB | 116053 |
| clear | 20 | 36° | 500 | 2900 | FTD | 116051 |
| clear | 35 | 12° | 2700 | 2900 | FTE | 115053 |
| clear | 35 | 36° | 1050 | 2900 | GAX | 115051 |
| black | 20 | 12° | 1600 | 2900 | FTB | 116153 |
| black | 20 | 36° | 500 | 2900 | FTD | 116151 |
| black | 35 | 12° | 2700 | 2900 | FTE | 115153 |
| black | 35 | 36° | 1050 | 2900 | GAX | 115151 |
| silver | 20 | 12° | 1600 | 2900 | FTB | 116453 |
| silver | 20 | 36° | 500 | 2900 | FTD | 116451 |
| silver | 35 | 12° | 2700 | 2900 | FTE | 115453 |
| silver | 35 | 36° | 1050 | 2900 | GAX | 115451 |

| Light planning | | | |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 1 m Distance Ø (m) / E (lx) | 2 m Distance Ø (m) / E (lx) | 3 m Distance Ø (m) / E (lx) | 4 m Distance Ø (m) / E (lx) |
| 0,21/1600 | 0,42/400 | 0,63/178 | 0,84/100 |
| 0,65/500 | 1,3/125 | 1,95/56 | 2,6/31 |
| 0,21/2700 | 0,42/675 | 0,63/300 | 0,84/169 |
| 0,65/1050 | 1,3/263 | 1,95/117 | 2,6/66 |
| 0,21/1600 | 0,42/400 | 0,63/178 | 0,84/100 |
| 0,65/500 | 1,3/125 | 1,95/56 | 2,6/31 |
| 0,21/2700 | 0,42/675 | 0,63/300 | 0,84/169 |
| 0,65/1050 | 1,3/263 | 1,95/117 | 2,6/66 |
| 0,21/1600 | 0,42/400 | 0,63/178 | 0,84/100 |
| 0,65/500 | 1,3/125 | 1,95/56 | 2,6/31 |
| 0,21/2700 | 0,42/675 | 0,63/300 | 0,84/169 |
| 0,65/1050 | 1,3/263 | 1,95/117 | 2,6/66 |

ULTRALIFE

Low voltage dichroic lamps
with very long life



15 000 hours
20 W: 10 000 hours

MODUL

ELECTRO

www.modulelectro.ru

ADVANTAGES:

- 15 000 hours average life
- Cost reduction because of longer maintenance intervals
- High-quality titanium oxide coating
- Integrated, flush fitting cover glass
- Dimmable
- UV protection (UV-P)

APPLICATIONS:

in areas with high maintenance costs,
e. g.:

- Shops
- Hotels and restaurants
- Open-plan offices
- Museums and galleries



TUNGSTEN HALOGEN LAMPS

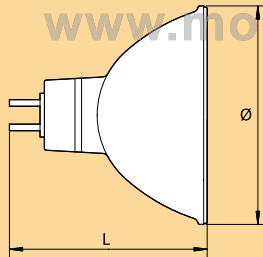
MADE IN GERMANY



MODUL

ELECTRO

www.modulelectro.ru



| | |
|--------------------|--------|
| Voltage (V) | 12 |
| Average life (h) | 15000* |
| Ø (mm) | 50,7 |
| Length L (mm max.) | 44,9 |
| Base | GU5.3 |
| Burning position | u360 |
| Packing unit | 50 |

| Wattage (W) | Beam angle | Luminous intensity (cd) | Colour temperature (K) | ANSI-Code | Order no. |
|-------------|------------|-------------------------|------------------------|-----------|-----------|
| 20 | 36° | 450 | 2950 | BAB | 187251 |
| 35 | 24° | 1700 | 3000 | FMV | 187352 |
| 35 | 36° | 950 | 3000 | FMW | 187351 |
| 50 | 12° | 6500 | 3100 | EXT | 187053 |
| 50 | 24° | 2700 | 3100 | EXZ | 187052 |
| 50 | 36° | 1500 | 3100 | EXN | 187051 |
| 50 | 60° | 600 | 3100 | FNV | 187059 |

| Light planning | | | |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 1 m Distance Ø (m) / E (lx) | 2 m Distance Ø (m) / E (lx) | 3 m Distance Ø (m) / E (lx) | 4 m Distance Ø (m) / E (lx) |
| 0,65/450 | 1,3/113 | 1,95/50 | 2,6/28 |
| 0,43/1700 | 0,85/425 | 1,28/189 | 1,7/106 |
| 0,65/950 | 1,3/238 | 1,95/106 | 2,6/59 |
| 0,21/6500 | 0,42/1625 | 0,63/722 | 0,84/406 |
| 0,43/2700 | 0,85/675 | 1,28/300 | 1,7/169 |
| 0,65/1500 | 1,3/375 | 1,95/167 | 2,6/94 |
| 1,15/600 | 2,31/150 | 3,46/67 | 4,62/38 |

Information about guarantees see page 118. • * Order no. 187251 (20 W): 10000 h

SUPERLINE

Low voltage dichroic lamps
in professional quality



5000 hours

MODUL

ELECTRO

www.modulelectro.ru

ADVANTAGES:

- Professional accent lighting through distributed illumination
- 5000 hours average life
- High-quality titanium oxide coating
- SUPERLINE Designer reflector
- Flawless geometry of reflector surface
- Dimmable
- UV protect (UV-P)

APPLICATIONS:

in presentable areas, e. g.:

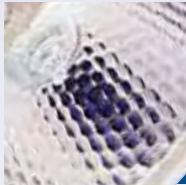
- Offices and commercial areas
- Restaurants
- Museums and galleries
- Shop design and interior decoration
- Private areas



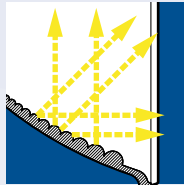
TUNGSTEN HALOGEN LAMPS

MADE IN GERMANY

Superline™ lamps use a unique multilense reflector design to eliminate hot spots and striations in the beam.



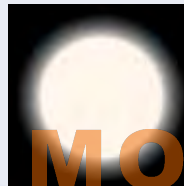
Reflector Surface:
Optimized reflector design with hexagonalshaped lenses.



Reflector Cross Section:
The hexagonal-shaped surface provides total uniformity of light distribution.



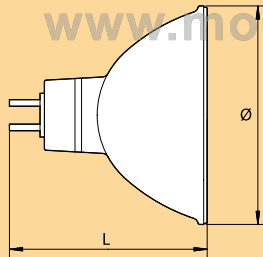
Standard Multimirror Reflector



Superline™ Multilens Reflector

MODUL
ELECTRO

www.modulelectro.ru



| | |
|--------------------|-------|
| Voltage (V) | 12 |
| Average life (h) | 5000 |
| Ø (mm) | 50,7 |
| Length L (mm max.) | 44,9 |
| Base | GU5.3 |
| Burning position | u360 |
| Packing unit | 50 |

| Wattage (W) | Beam angle | Luminous intensity (cd) | Colour temperature (K) | ANSI-Code | Order no. |
|-------------|------------|-------------------------|------------------------|-----------|-----------|
| 20 | 24° | 870 | 2950 | BBF | 107852 |
| 20 | 36° | 510 | 2950 | BAB | 107851 |
| 35 | 24° | 2000 | 2950 | FMV | 105352 |
| 35 | 36° | 1200 | 2950 | FMW | 105351 |
| 50 | 24° | 3000 | 3050 | EXZ | 119852 |
| 50 | 36° | 1580 | 3050 | EXN | 119851 |

| Light planning | | | |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 1 m Distance Ø (m) / E (lx) | 2 m Distance Ø (m) / E (lx) | 3 m Distance Ø (m) / E (lx) | 4 m Distance Ø (m) / E (lx) |
| 0,43/870 | 0,85/218 | 1,28/97 | 1,7/54 |
| 0,65/510 | 1,3/128 | 1,95/57 | 2,6/32 |
| 0,43/2000 | 0,85/500 | 1,28/222 | 1,7/125 |
| 0,65/1200 | 1,3/300 | 1,95/133 | 2,6/75 |
| 0,43/3000 | 0,85/750 | 1,28/333 | 1,7/188 |
| 0,65/1580 | 1,3/395 | 1,95/176 | 2,6/99 |

WHITESTAR

Low voltage dichroic lamps
with high colour temperature



up to 6500 K

MODUL

ELECTRO

www.modulelectro.ru

ADVANTAGES:

- High colour temperature (4200 K to 6500 K)
- Brilliant light for presentable illumination
- Integrated, flush fitting cover glass
- Cool beam dichroic effect
- Exact illumination through precise beam angles
- UV protection (UV-P)
- Dimmable

APPLICATIONS:

- Combination with neutral white fluorescent tubes (homogeneous colour effect 4200 K)
- Showcases
- Jeweller's shops
- Museums
- Shop lighting



TUNGSTEN HALOGEN LAMPS

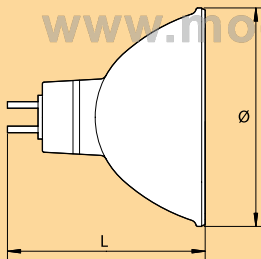
MADE IN GERMANY



MODUL

ELECTRO

www.modulelectro.ru



| | |
|--------------------|-------|
| Voltage (V) | 12 |
| Ø (mm) | 50,7 |
| Length L (mm max.) | 44,9 |
| Base | GU5.3 |
| Burning position | u360 |
| Packing unit | 50 |

| Wattage (W) | Beam angle | Luminous intensity (cd) | Colour temperature (K) | Average life (h) | Order no. |
|-------------|------------|-------------------------|------------------------|------------------|-----------|
| 10 | 36° | 200 | 4200 | 1200 | 181021 |
| 35 | 36° | 500 | 5300 | 4000 | 185324 |
| 50 | 12° | 5000 | 4700 | 4000 | 189823 |
| 50 | 12° | 3300 | 6500 | 4000 | 189826 |
| 50 | 24° | 2000 | 4200 | 4000 | 189822 |
| 50 | 24° | 1100 | 5300 | 4000 | 189825 |
| 50 | 36° | 1200 | 4200 | 4000 | 189821 |
| 50 | 36° | 600 | 5300 | 4000 | 189824 |

| Light planning | | | |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 1 m Distance Ø (m)/ E (lx) | 2 m Distance Ø (m)/ E (lx) | 3 m Distance Ø (m)/ E (lx) | 4 m Distance Ø (m)/ E (lx) |
| 0,65/200 | 1,3/50 | 1,95/22 | 2,6/13 |
| 0,65/500 | 1,3/125 | 1,95/56 | 2,6/31 |
| 0,21/5000 | 0,42/1250 | 0,63/556 | 0,84/313 |
| 0,21/3300 | 0,42/825 | 0,63/367 | 0,84/206 |
| 0,43/2000 | 0,85/500 | 1,28/222 | 1,7/125 |
| 0,43/1100 | 0,85/275 | 1,28/122 | 1,7/69 |
| 0,65/1200 | 1,3/300 | 1,95/133 | 2,6/75 |
| 0,65/600 | 1,3/150 | 1,95/67 | 2,6/38 |

Information about guarantees see page 118.

EUROSTAR NEODYMIUM

Low voltage dichroic lamps
for special applications



MODUL

ELECTRO

www.modulelectro.ru

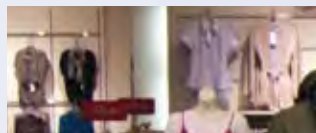
ADVANTAGES:

- Special dichroic coating, filters out green-yellow part of the light spectrum
- Attractive merchandise presentation
- UV protection (UV-P)

APPLICATIONS:

in shop windows and sales areas

- Bakeries
- Butcher's shops
- Florists



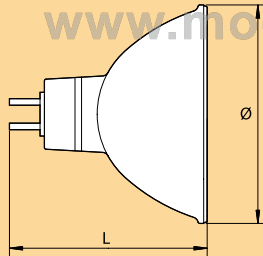
TUNGSTEN HALOGEN LAMPS

MADE IN GERMANY



ELECTRO

www.modulelectro.ru



| | |
|--------------------|-------|
| Voltage (V) | 12 |
| Average life (h) | 4000 |
| Ø (mm) | 50,7 |
| Length L (mm max.) | 44,9 |
| Base | GU5.3 |
| Burning position | u360 |
| Packing unit | 50 |

| Wattage (W) | Beam angle | Applications | Luminous intensity (cd) | Colour temperature (K) | Order no. |
|-------------|------------|----------------|-------------------------|------------------------|-----------|
| 50 | 36° | Bakeries | 1600 | 2400 | 189861 |
| 50 | 36° | Butcher's shop | 1400 | 2200 | 189871 |

| Light planning | | | |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 1 m Distance Ø (m)/ E (lx) | 2 m Distance Ø (m)/ E (lx) | 3 m Distance Ø (m)/ E (lx) | 4 m Distance Ø (m)/ E (lx) |
| 0,65/1600 | 1,3/400 | 1,95/178 | 2,6/100 |
| 0,65/1400 | 1,3/350 | 1,95/156 | 2,6/88 |

EUROSTAR

TITAN 24 V

Low voltage dichroic lamps
for special applications



MODUL

ELECTRO

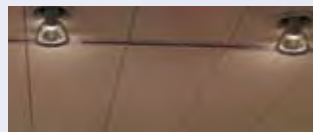
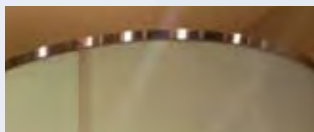
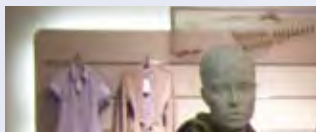
www.modulelectro.ru

ADVANTAGES:

- Smaller and therefore space saving cable cross-sections
- 24 Volt lamps are ideal for battery usage
- Lower lamp current
- Dimmable
- UV protection (UV-P)

APPLICATIONS:

- Ship- and marine lighting
- Machine engineering
- Commercial vehicles
- Mining



TUNGSTEN HALOGEN LAMPS

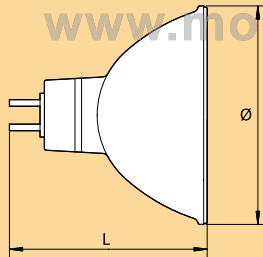
MADE IN GERMANY



MODUL

ELECTRO

www.modulelectro.ru



| | |
|--------------------|-------|
| Voltage (V) | 24 |
| Ø (mm) | 50,7 |
| Length L (mm max.) | 44,9 |
| Base | GU5.3 |
| Burning position | u360 |
| Packing unit | 50 |

| Wattage (W) | Beam angle | Luminous intensity (cd) | Colour temperature (K) | Average life (h) | Order no. |
|-------------|------------|-------------------------|------------------------|------------------|-----------|
| 35 | 12° | 4600 | 2900 | 3500 | 185753 |
| 35 | 24° | 1600 | 2900 | 3500 | 185752 |
| 35 | 36° | 900 | 2900 | 3500 | 185751 |
| 50 | 36° | 1600 | 2950 | 4000 | 189651 |

| Light planning | | | |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 1 m Distance Ø (m)/ E (lx) | 2 m Distance Ø (m)/ E (lx) | 3 m Distance Ø (m)/ E (lx) | 4 m Distance Ø (m)/ E (lx) |
| 0,21/4600 | 0,42/1150 | 0,63/511 | 0,84/288 |
| 0,43/1600 | 0,85/400 | 1,28/178 | 1,7/100 |
| 0,65/900 | 1,3/225 | 1,95/100 | 2,6/56 |
| 0,65/1600 | 1,3/400 | 1,95/178 | 2,6/100 |

HIGHLINE

Mains voltage halogen
reflector lamps



MODUL
ELECTRO

www.modulelectro.ru

ADVANTAGES:

- Aluminium coated reflector reduces heat to the rear (GU 10)
- Dichroic coated reflector gives off approx. 66% of the heat to the rear (GZ 10)
- Mains voltage operation without transformer
- GU 10- and GZ 10 base for secure hold in fixture
- Integrated, flush fitting cover glass
- UV protection(UV-P)
- Dimmable

APPLICATIONS:

ideally suited for special effects
e. g.:

- Hotels and restaurants
- Shops
- Office and commercial areas
- Shop windows
- Private areas



TUNGSTEN HALOGEN LAMPS

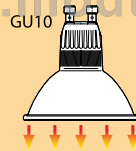
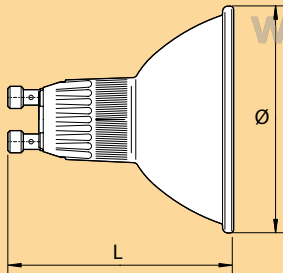
MADE IN GERMANY



MODUL

ELECTRO

www.modulelectro.ru



The aluminium coated reflector ensures lower heat radiation to the rear.

| | |
|--------------------|------|
| Voltage (V) | 240 |
| Average life (h) | 2000 |
| Ø (mm) | 50,7 |
| Length L (mm max.) | 53,0 |
| Burning position | u360 |
| Packing unit | 20 |

| Design | Wattage (W) | Beam angle | Luminous intensity (cd) | Colour temperature (K) | Base | Order no. |
|--------|-------------|------------|-------------------------|------------------------|------|-----------|
| clear | 35 | 35° | 600 | 2900 | GU10 | 103072 |
| clear | 50 | 35° | 950 | 2900 | GU10 | 103172 |
| black | 50 | 35° | 950 | 2900 | GU10 | 106151 |
| silver | 50 | 35° | 950 | 2900 | GU10 | 106451 |

| Light planning | | | |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 1 m Distance Ø (m) / E (lx) | 2 m Distance Ø (m) / E (lx) | 3 m Distance Ø (m) / E (lx) | 4 m Distance Ø (m) / E (lx) |
| 0,63/600 | 1,26/150 | 1,89/67 | 2,52/38 |
| 0,63/950 | 1,26/238 | 1,89/106 | 2,52/59 |
| 0,63/950 | 1,26/238 | 1,89/106 | 2,52/59 |
| 0,63/950 | 1,26/238 | 1,89/106 | 2,52/59 |

EUROSPOT

AR 111

Low voltage reflector lamps
for professional applications



MODUL

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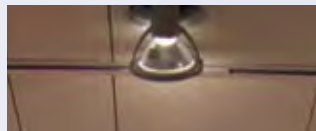
ADVANTAGES:

- Cost saving due to IRC-technology (energy saving)
- 4000 hours average life
- Suited for the use in open fixtures
- UV filter
- Glare shield cover
- Dimmable
- Colour temperatur of 3000 K

APPLICATIONS:

In areas with high maintenance costs,
e. g.:

- Shops
- Offices
- Hotels
- Museums



TUNGSTEN HALOGEN LAMPS

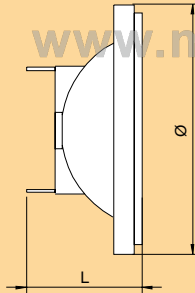
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| | |
|--------------------|-------|
| Voltage (V) | 12 |
| Average life (h) | 4000 |
| Ø (mm) | 111,0 |
| Length L (mm max.) | 67,0 |
| Base | G 53 |
| Burning position | u360 |
| Packing unit | 6 |

| Wattage (W) | Beam angle | Luminous intensity (cd) | Colour temperature (K) | Order no. |
|-------------|------------|-------------------------|------------------------|-----------|
| 35 | 24° | 4500 | 3000 | 163524 |
| 50 | 24° | 5850 | 3000 | 165024 |

| Light planning | | | |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 1 m Distance Ø (m)/ E (lx) | 2 m Distance Ø (m)/ E (lx) | 3 m Distance Ø (m)/ E (lx) | 4 m Distance Ø (m)/ E (lx) |
| 0,43/5800 | 0,85/1450 | 1,28/644 | 1,70/363 |
| 0,43/4500 | 0,85/1125 | 1,28/500 | 1,70/281 |

| Standard AR 111 | Eurospot |
|-----------------|-----------|
| 50 W | → 35 W ES |
| 75 W | → 50 W ES |

Information about guarantees see page 118.

PAR

Mains voltage halogen
reflector lamps



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ADVANTAGES:

- Professional alternative to GLS lamps (general service incandescent lamps)
- Mains voltage operation without transformer
- Compact shape
- Well suited for enclosed installation
- Aluminium coated reflector avoids heat congestion
- Dimmable

APPLICATIONS:

- in mains voltage luminaires with E27 base, e.g.:
- Business premises
 - Concert halls
 - Shop windows
 - Offices and private rooms



TUNGSTEN HALOGEN LAMPS

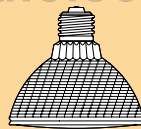
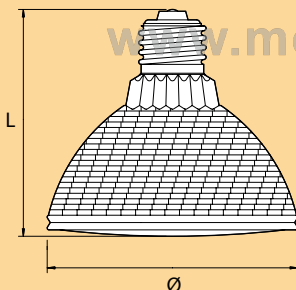
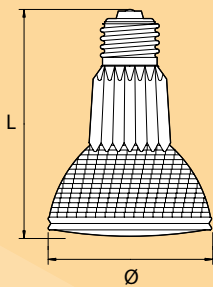
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Reduced heat radiation
to the rear.

| | |
|------------------|------|
| Voltage (V) | 240 |
| Base | E27 |
| Burning position | u360 |
| Packing unit | 15 |

| Design | Wattage (W) | Beam angle | Luminous intensity (cd) | Colour temperature (K) | Average life (h) | Ø (mm) | Length L (mm max.) | Order no. |
|--------|-------------|------------|-------------------------|------------------------|------------------|--------|--------------------|-----------|
| PAR 20 | 50 | 10° | 3000 | 2900 | 2000 | 65,0 | 91,0 | 103041 |
| PAR 20 | 50 | 25° | 1000 | 2900 | 2000 | 65,0 | 91,0 | 103042 |
| PAR 30 | 75 | 10° | 6900 | 2900 | 2500 | 97,0 | 91,0 | 103032 |
| PAR 30 | 75 | 30° | 2200 | 2900 | 2500 | 97,0 | 91,0 | 103034 |
| PAR 30 | 100 | 10° | 10000 | 2900 | 2500 | 97,0 | 91,0 | 103033 |
| PAR 30 | 100 | 30° | 3500 | 2900 | 2500 | 97,0 | 91,0 | 103031 |

| Light planning | | | |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 1 m Distance Ø (m) / E (lx) | 2 m Distance Ø (m) / E (lx) | 3 m Distance Ø (m) / E (lx) | 4 m Distance Ø (m) / E (lx) |
| 0,17/3000 | 0,35/750 | 0,52/333 | 0,7/188 |
| 0,44/1000 | 0,89/250 | 1,33/111 | 1,77/63 |
| 0,17/6900 | 0,35/1725 | 0,52/767 | 0,7/431 |
| 0,54/2200 | 1,07/550 | 1,61/244 | 2,14/138 |
| 0,17/10000 | 0,35/2500 | 0,52/1111 | 0,7/625 |
| 0,54/3500 | 1,07/875 | 1,61/389 | 2,14/219 |

HALOGEN PIN-TYPE BASE LAMPS

Low voltage halogen lamps
for high luminous efficacy



Special lamps
on request

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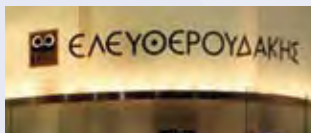
ADVANTAGES:

- Compact
- Dimmable
- Low pressure technology
- UV protect (UV-P)

APPLICATIONS:

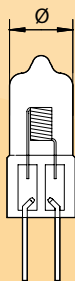
in small fixtures or
as light spots, e.g.:

- Private areas
- Shop windows
- Showcases
- Discotheques and bars
- Exhibitions
- Furniture

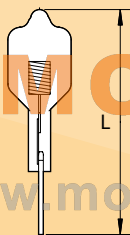


TUNGSTEN HALOGEN LAMPS

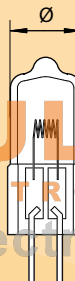
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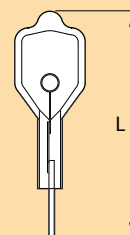
C-8



C-8



C-6



C-6

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www.modulelectro.ru

| Wattage (W) | Voltage (V) | Luminous flux (lm) | Colour temperature (K) | Average life (h) | Ø (mm) | Length L (mm max.) | Filament shapes | Base | Burning position | Packing unit | Order no. |
|-------------|-------------|--------------------|------------------------|------------------|--------|--------------------|-----------------|--------|------------------|--------------|-----------|
| 5 | 12 | 60 | 2800 | 4000 | 10,0 | 33,0 | c-8 | G4 | u360 | 40 | 104530 |
| 10 | 6 | 130 | 2800 | 4000 | 10,0 | 33,0 | c-8 | G4 | u360 | 40 | 116910 |
| 10 | 12 | 140 | 3000 | 4000 | 10,0 | 33,0 | c-8 | G4 | u360 | 40 | 104630 |
| 20 | 12 | 320 | 3000 | 4000 | 12,0 | 44,0 | c-8 | GY6.35 | u360 | 40 | 107130 |
| 20 | 12 | 320 | 3000 | 2000 | 10,0 | 33,0 | c-6 | G4 | u360 | 20 | 115320 |
| 20 | 12 | 320 | 3000 | 4000 | 10,0 | 33,0 | c-8 | G4 | u360 | 40 | 115330 |
| 20 | 6 | 350 | 2850 | 2000 | 10,0 | 33,0 | c-6 | G4 | u360 | 40 | 115910 |
| 35 | 12 | 600 | 3000 | 4000 | 12,0 | 44,0 | c-8 | GY6.35 | u360 | 50 | 104330 |
| 35 | 12 | 600 | 3000 | 3000 | 10,0 | 33,0 | c-8 | G4 | u360 | 50 | 107530 |
| 50 | 12 | 930 | 3000 | 2000 | 12,0 | 44,0 | c-6 | GY6.35 | u360 | 50 | 115520 |
| 50 | 12 | 910 | 3000 | 4000 | 12,0 | 44,0 | c-8 | GY6.35 | u360 | 40 | 115530 |
| 75 | 12 | 1450 | 3000 | 4000 | 12,0 | 44,0 | c-8 | GY6.35 | u360 | 40 | 104730 |
| 100 | 12 | 2150 | 3100 | 4000 | 11,0 | 44,0 | c-8 | GY6.35 | u360 | 50 | 116230 |
| 100 | 24 | 2200 | 3000 | 2000 | 12,0 | 44,0 | c-8 | GY6.35 | u360 | 50 | 115610 |

Information about guarantees see page 118.

HIGHPIN

Mains voltage pin-type base lamps
for high luminous efficacy



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ADVANTAGES:

- 100% dimmable
- UV protection (UV-P)
- For use in open fixtures
- Mains voltage operation without transformer
- Easy handling
- Compact design

APPLICATIONS:

- Perfect for every luminaire in living spaces
- Operation outside and wet locations is possible with suitable luminaires



TUNGSTEN HALOGEN LAMPS

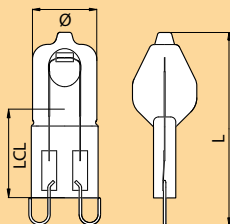
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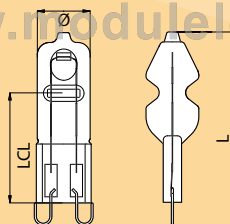
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40 W



60 W

| | |
|------------------|------|
| Voltage (V) | 230 |
| Average life (h) | 2000 |
| Base | G9 |
| Burning position | u360 |
| Packing unit | 20 |

| Design | Wattage (W) | Luminous flux (lm) | Colour temperature (K) | Ø (mm) | Length L (mm max.) | Order no. |
|--------|-------------|--------------------|------------------------|--------|--------------------|-----------|
| clear | 40 | 490 | 2800 | 14,0 | 43,0 | 124002 |
| clear | 60 | 820 | 2800 | 14,0 | 51,0 | 126002 |

HALOGEN FLOODLIGHT LAMPS

Lamps for floodlighting
with high luminous efficacy



Custom made lamps
on request

MODUL

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ADVANTAGES:

- Constant light output throughout life
- Available from 60–2000 W
- Mains voltage operation without a transformer
- Dimmable
- According the new efficiency requirements

APPLICATIONS:

in exterior and interior
areas, e. g.:

- Parks
- Sport grounds
- Construction sites
- Safety lighting
- Storage areas
- Industrial halls



TUNGSTEN HALOGEN LAMPS

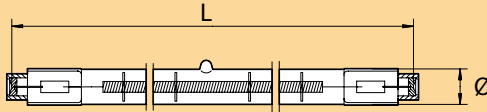
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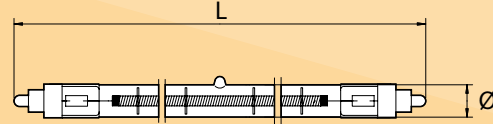
MODUL

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R7s



Fa4

| Wattage (W) | Voltage (V) | Luminous flux (lm) | Colour temperature (K) | Average life (h) | Ø (mm) | Contact distance (mm) | Base | Burning position | Packing unit | Order no. |
|-------------|-------------|--------------------|------------------------|------------------|--------|-----------------------|------|------------------|--------------|-----------|
| 60 | 240 | 800 | 2750 | 1500 | 12,0 | 74,9 | R7s | u360 | 50 | 112604 |
| 400 | 42 | 8150 | 2950 | 1500 | 10,0 | 114,2 | R7s | u360 | 50 | 114001 |
| 750 | 240 | 15000 | 2950 | 2000 | 12,0 | 185,7 | R7s | p15 | 100 | 111101 |
| 1000 | 240 | 22000 | 2800 | 2000 | 12,0 | 185,7 | R7s | p15 | 100 | 100001 |
| 1000 | 240 | 22000 | 3000 | 2000 | 12,0 | 250,7 | R7s | p15 | 100 | 112001 |
| 1500 | 240 | 33000 | 3000 | 2000 | 12,0 | 250,7 | R7s | p15 | 100 | 100201 |
| 2000 | 240 | 44000 | 3000 | 2000 | 12,0 | 327,4 | R7s | p15 | 100 | 111401 |
| 2000 | 240 | 44000 | 3000 | 2000 | 12,0 | 334,4 | Fa4 | p15 | 100 | 111501 |

Information about guarantees see page 118.

POWERSAVER FLOODLIGHT LAMPS



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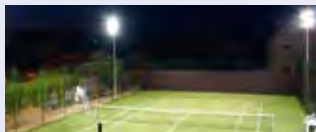
ADVANTAGES:

- Constant light output throughout lifetime
- Operation without transformer to mains voltage
- Dimmable
- Energy saving: 20%

APPLICATIONS:

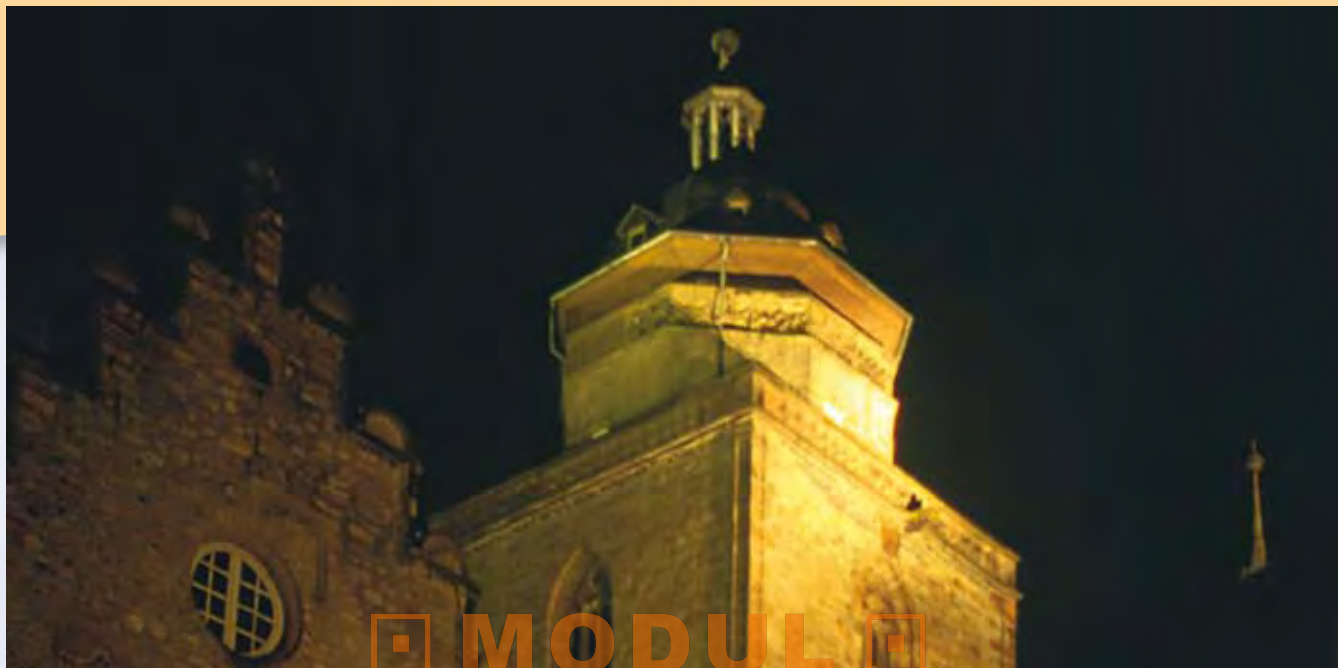
in exterior and interior areas,
e.g.:

- Parks
- Sport grounds
- Building sites
- Safety lighting
- Storage areas
- Industrial halls



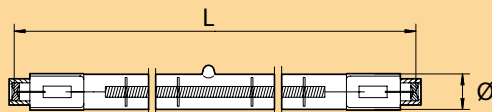
TUNGSTEN HALOGEN LAMPS

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R7s

| | |
|------------------|------|
| Voltage (V) | 240 |
| Average life (h) | 1000 |
| Base | R7s |
| Packing unit | 50 |

| Designation | Wattage (W) | Luminous flux (lm) | Colour temperature (K) | Ø (mm) | Contact distance (mm) | Burning position | Order no. |
|-------------|-------------|--------------------|------------------------|--------|-----------------------|------------------|-----------|
| dimpelt | 80 | 1450 | 2900 | 12 | 74,9 | u360 | 110004 |
| | 80 | 1450 | 2900 | 10 | 114,2 | u360 | 110104 |
| dimpelt | 120 | 2400 | 2950 | 12 | 74,9 | p15 | 110201 |
| | 160 | 3300 | 2950 | 10 | 114,2 | p15 | 110301 |
| | 200 | 4200 | 3000 | 12 | 74,9 | p15 | 110401 |
| | 230 | 4900 | 3000 | 10 | 114,2 | p15 | 110501 |
| | 400 | 9000 | 3000 | 10 | 114,2 | p15 | 110601 |

Information about guarantees see page 118.



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DISCHARGE LAMPS

| | |
|----------------------------|----|
| HITLITE | 52 |
| HIT-ULTRALIFE | 54 |
| C-HITLITE | 56 |
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| TOPSPOT G 8,5 | 62 |
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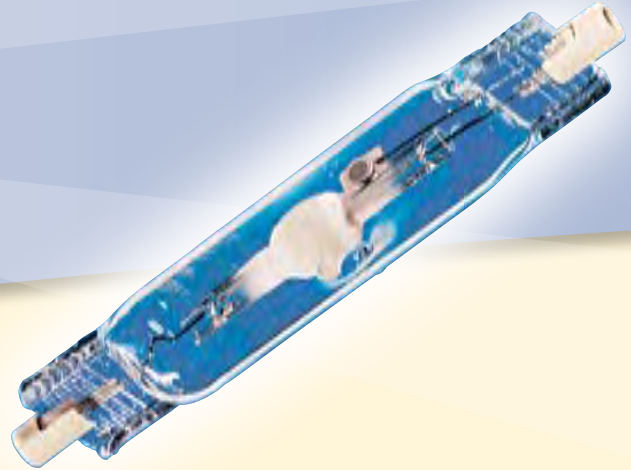
**DISCHARGE
LAMPS**
2010|11

www.modulelectro.ru

LONG LIFE • ECONOMIC • VERSATILE

HITLITE

Metal-halide lamps
in many colour temperatures



MODUL
ELECTRO

ADVANTAGES:

- Attractive lighting with light colours: warm white (ww), brilliant white (bw), daylight white (dw)
- Average life 10 000 hours
- Economic due to long life
- High colour stability over the entire life
- Less fade effect on textiles and embrittlement of plastics (UV-P)
- Good colour rendering and colour balance
- High luminous efficiency – 80 lm/W
- Hot re-ignition possible
- Relatively indifferent to temperature changes

APPLICATIONS:

for attractive interior and exterior lighting, e.g.:

- Open-plan offices
- Shop windows
- Museums and galleries
- Industrial halls and storage areas
- Sport halls and fields
- Streets and parks
- Swimming pools



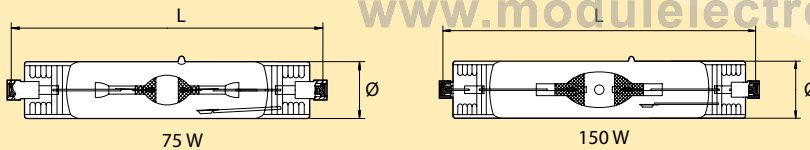
DISCHARGE LAMPS

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Use lamps only in suitable fixtures with corresponding cover glass.
Maximum base temperature 250 °C.

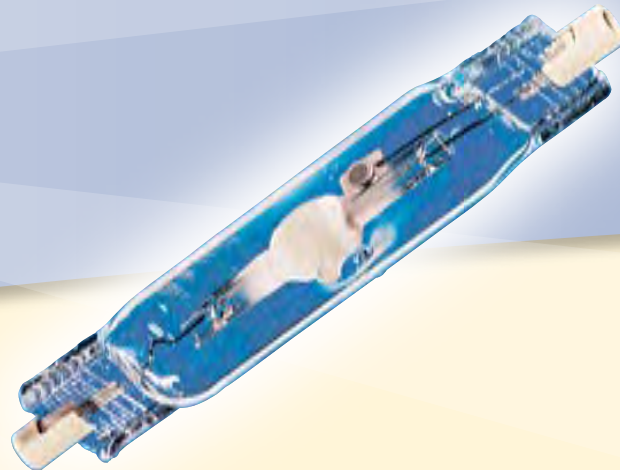
| | |
|-----------------------|-----|
| Ignition voltage (kV) | 4,0 |
| Burning position | p45 |
| Packing unit | 10 |

| Designation | Wattage (W) | Lamp current (A) | Luminous flux (lm) | Colour temperature (K) | Average life (h) ⁴ | Ø (mm) | Contact distance (mm) | Ra-Value | Base | Order no. |
|-------------------|-------------|------------------|--------------------|------------------------|-------------------------------|--------|-----------------------|----------|---------|-------------------|
| HIT-DE 70 pw | 75 | 0,90 | 6000 | 2750 | 10000 | 20,00 | 114,20 | 2B | RX7s | 220304 |
| HIT-DE 70 ww | 75 | 0,90 | 6000 | 3200 | 10000 | 20,00 | 114,20 | 2A | RX7s | 220704 |
| HIT-DE 70 dw | 75 | 0,90 | 5500 | 5200 | 10000 | 20,00 | 114,20 | 2A | RX7s | 220604 |
| HIT-DE 70 8800 K | 75 | 0,90 | 3100 | 8800 | 10000 | 20,00 | 114,20 | 1A | RX7s | 220204 |
| HIT-DE 150 pw | 150 | 1,80 | 12000 | 2750 | 10000 | 23,00 | 132,00 | 2A | RX7s-24 | 221101 NEW |
| HIT-DE 150 ww | 150 | 1,80 | 12000 | 3200 | 6000 | 23,00 | 132,00 | 2B | RX7s-24 | 221404 |
| HIT-DE 150 dw | 150 | 1,80 | 11000 | 5200 | 10000 | 23,00 | 132,00 | 1B | RX7s-24 | 221704 |
| HIT-DE 150 8800 K | 150 | 1,80 | 7000 | 8800 | 10000 | 23,00 | 132,00 | 1A | RX7s-24 | 221204 NEW |

Information about guarantees see page 120. • ⁴ (group) exchange is recommended after 8000 hours

HIT-ULTRALIFE

Metal-halide lamps
with extreme long life



15000 hours

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ADVANTAGES:

- Cost reduction due to long maintenance intervals
15 000 h average life means:
- Significant lower lamp costs
- Significant lower exchange costs
- High colour stability over the entire life
- Constant luminous efficacy combined with extreme long life
- Hot re-ignition possible
- Bright colours retain their intensity
- UV protection (UV-P)

APPLICATIONS:

for hard to reach interior and exterior fittings, e. g.:

- Open-plan offices
- Shop windows
- Museums and galleries
- Industrial halls
- Sports grounds
- Hotel lobbies and foyers
- Product displays



DISCHARGE LAMPS

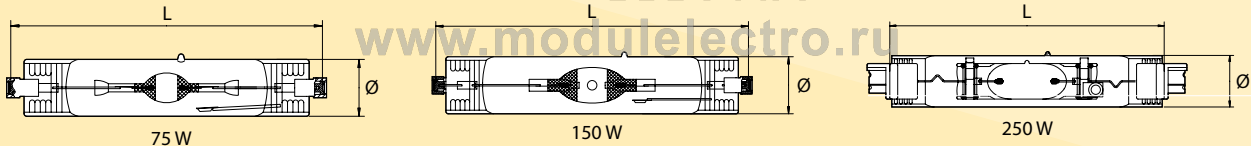
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Use lamps only in suitable fixtures with corresponding cover glass.
Maximum base temperature 250 °C.

| | |
|-------------------------------|--------|
| Ignition voltage (kV) | 4,0 |
| Average life (h) ⁶ | 15 000 |
| Burning position | p45 |
| Packing unit | 10 |

| Designation | Wattage (W) | Lamp current (A) | Luminous flux (lm) | Colour temperature (K) | Ø (mm) | Contact distance (mm) | Ra-Value | Base | Order no. |
|---------------|-------------|------------------|--------------------|------------------------|--------|-----------------------|----------|---------|-----------|
| HIT-DE 70 nw | 75 | 0,90 | 6000 | 4200 | 20,00 | 114,20 | 2A | RX7s | 220804 |
| HIT-DE 150 nw | 150 | 1,80 | 12000 | 4200 | 23,00 | 132,00 | 2A | RX7s-24 | 221504 |
| HIT-DE 250 nw | 250 | 3,00 | 20000 | 4200 | 25,00 | 139,00 | 2A | Fc2/18 | 222204 |

C-HITLITE

CERAMIC-metal-halide lamps



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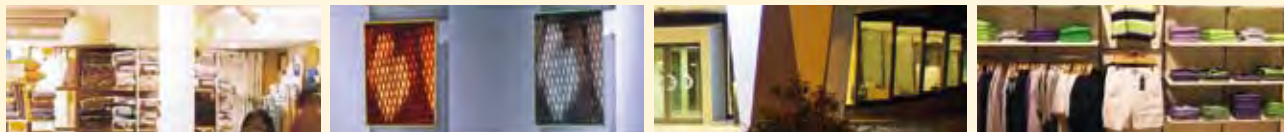
ADVANTAGES:

- Excellent colour rendering (Ra 80+)
- High colour stability over the entire life
- Reduced discolouration of textiles and less embrittlement of plastics (UV-P)
- Hot re-ignition possible
- High luminous efficacy
- Average life 15 000 hours

APPLICATIONS:

for attractive interior and exterior lighting, e.g.:

- Shop lighting
- Open-plan offices
- Museums and galleries
- Hotels and restaurants



DISCHARGE LAMPS

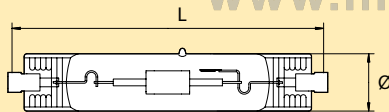
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MODULO

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| | |
|-----------------------|--------|
| Ignition voltage (kV) | 4,0 |
| Average life (h) | 15 000 |
| Burning position | p45 |
| Packing unit | 10 |

Use lamps only in suitable fixtures with corresponding cover glass.
Maximum base temperature 250 °C.

| Designation | Wattage (W) | Lamp current (A) | Luminous flux (lm) | Colour temperature (K) | Ø (mm) | Contact distance (mm) | Ra-Value | Base | Order no. |
|-----------------|-------------|------------------|--------------------|------------------------|--------|-----------------------|----------|---------|-----------|
| C-HIT-DE 70 ww | 72 | 0,9 | 6200 | 3000 | 20,0 | 114,2 | 1B | RX7s | 220714 |
| C-HIT-DE 70 nw | 72 | 0,9 | 7000 | 4200 | 20,0 | 114,2 | 1A | RX7s | 220814 |
| C-HIT-DE 150 ww | 145 | 1,8 | 14500 | 3000 | 23,0 | 132,0 | 1B | RX7s-24 | 221414 |
| C-HIT-DE 150 nw | 145 | 1,8 | 12500 | 4200 | 23,0 | 132,0 | 1A | RX7s-24 | 221514 |

TOPSPOT

G 12

Metal-halide lamps
for accent lighting



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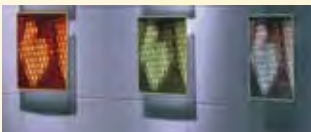
ADVANTAGES:

- Space saving design
- Economic due to long life
- High colour stability over the entire life
- Reduced discolouration on textiles and less embrittlement of plastics (UV-P)
- Average life 6000 hours
- Axial arc
- High colour rendering and colour balance
- UV protection (UV-P)

APPLICATIONS:

for interior and exterior
accent lighting, e. g.:

- Open-plan offices
- Shop windows
- Hotels and restaurants
- Museums and galleries
- Swimming pools



DISCHARGE LAMPS

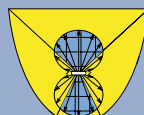
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Influence of burner arrangement on luminous efficiency



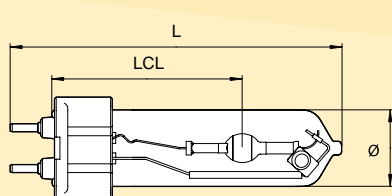
Axial:

- low stray light rate
- up to 30% higher fixture efficiency due to axial arrangement

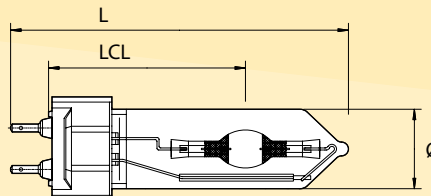


Transversal:

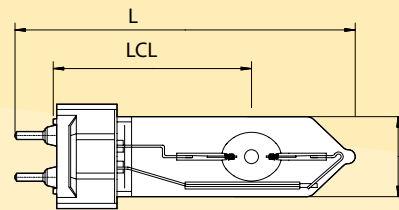
- high stray light rate
- light loss and dazzle



35 W



75 W



150 W

Use lamps only in suitable fixtures with corresponding cover glass.
Maximum base temperature 250 °C.

MODUL

ELECTRO

| | |
|-----------------------|------|
| Ignition voltage (kV) | 4,0 |
| Base | G12 |
| Burning position | u360 |
| Packing unit | 10 |

Discharge lamps

| Designation | Wattage (W) | Lamp current (A) | Luminous flux (lm) | Colour temperature (K) | Average life (h) | Ø (mm) | Length L (mm) | LCL (mm) | Ra-Value | Order no. |
|---------------------|-------------|------------------|--------------------|------------------------|------------------|--------|---------------|----------|----------|---------------------|
| HIT35 pw G12 axial | 39 | 0,5 | 2800 | 2750 | 6000 | 23,0 | 99,0 | 56,0 | 2A | 226310 NEW |
| HIT35 dw G12 axial | 39 | 0,5 | 2700 | 5200 | 6000 | 23,0 | 99,0 | 56,0 | 1B | 226313 NEW |
| HIT35 nw G12 axial | 39 | 0,5 | 3200 | 4200 | 6000 | 23,0 | 99,0 | 56,0 | 1B | 226312 |
| HIT70 pw G12 axial | 75 | 0,9 | 7000 | 2750 | 6000 | 23,0 | 99,0 | 56,0 | 2A | 226020 |
| HIT70 ww G12 axial | 75 | 0,9 | 6000 | 3000 | 6000 | 23,0 | 99,0 | 56,0 | 2A | 226007 |
| HIT70 nw G12 axial | 75 | 0,9 | 5600 | 4200 | 6000 | 23,0 | 99,0 | 56,0 | 1B | 226008 |
| HIT70s ww G12 axial | 75 | 0,9 | 6000 | 3000 | 6000 | 23,0 | 88,0 | 46,0 | 2A | 226017 |
| HIT70s nw G12 axial | 75 | 0,9 | 5600 | 4200 | 6000 | 23,0 | 88,0 | 46,0 | 1B | 226018 |
| HIT70s dw G12 axial | 75 | 0,9 | 6500 | 5200 | 6000 | 23,0 | 88,0 | 46,0 | 1B | 226013 |
| HIT70 8800 K G12 | 75 | 0,9 | 3100 | 8800 | 6000 | 23,0 | 99,0 | 56,0 | 1A | 226004 NEW |
| HIT150 pw G12 axial | 150 | 1,8 | 12500 | 2750 | 6000 | 23,0 | 99,0 | 56,0 | 2A | 226220 ¹ |
| HIT150 ww G12 axial | 150 | 1,8 | 13000 | 3000 | 6000 | 23,0 | 99,0 | 56,0 | 2A | 226221 |
| HIT150 nw G12 axial | 150 | 1,8 | 13000 | 4200 | 6000 | 23,0 | 99,0 | 56,0 | 1B | 226222 |
| HIT150 dw G12 axial | 150 | 1,8 | 11000 | 5200 | 6000 | 23,0 | 99,0 | 56,0 | 1B | 226223 |
| HIT150 6500 K G12 | 150 | 1,8 | 11000 | 6500 | 6000 | 23,0 | 99,0 | 56,0 | 1B | 226904 |
| HIT150 8800 K G12 | 150 | 1,8 | 7500 | 8800 | 6000 | 23,0 | 99,0 | 56,0 | 1A | 226224 NEW |

Information about guarantees see page 120. • ¹ on request

TOPSPOT SHROUD

Metal-halide lamps
for open fixtures



ADVANTAGES:

- BLV patented built-in bursting protect
- For fixtures without cover glass
- Space saving design
- Economical due to long life
- High colour stability over the entire life
- Reduced discolouration on textiles and less embrittlement of plastics (UV-P)
- Average life 6000 hours
- UV protection (UV-P)
- Axial arc
- Good illumination uniformity
- High colour rendering and colour balance

APPLICATIONS:

for interior and exterior
accent lighting, e. g.:

- Open-plan offices
- Shop windows
- Product displays
- Hotels and restaurants
- Museums and galleries

MODUL
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www.modulelectro.ru



DISCHARGE LAMPS

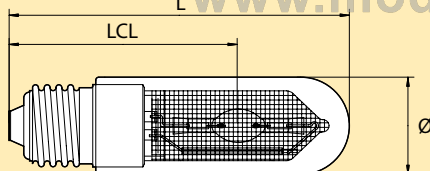
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MODUL

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www.modulelectro.ru



| | |
|-----------------------|------|
| Ignition voltage (kV) | 4,0 |
| Average life (h) | 6000 |
| Base | E27 |
| Burning position | u360 |
| Packing unit | 12 |

| Designation | Wattage (W) | Lamp current (A) | Luminous flux (lm) | Colour temperature (K) | Ø (mm) | Length L (mm) | LCL (mm) | Ra-Value | Order no. |
|---------------|-------------|------------------|--------------------|------------------------|--------|---------------|----------|----------|---------------------|
| HIT 70 ww E27 | 75 | 0,9 | 5000 | 3000 | 32,0 | 112,0 | 75,0 | 2A | 225005 ¹ |
| HIT 70 nw E27 | 75 | 0,9 | 5000 | 4200 | 32,0 | 112,0 | 75,0 | 1B | 225006 ¹ |

TOPSPOT

G 8,5

Metal-halide lamps
for accent lighting



MODUL

ELECTRO

www.modulelectro.ru

ADVANTAGES:

- Space saving design
- Economic due to long life
- High colour stability over the entire lifetime
- UV protection (UV-P)
- Reduced fade effect on textiles and less embrittlement of plastics (UV-P)
- Axial arc (ability to produce uniform light beam)
- High light efficiency
- Good focusing in lamps

APPLICATIONS:

for interior and exterior
accent lighting, e. g.:

- Open-plan offices
- Shop windows
- Hotels and restaurants
- Museums and galleries



DISCHARGE LAMPS

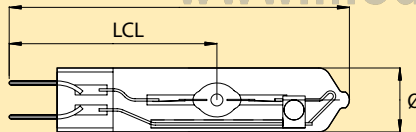
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MODULO

ELECTRO

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| | |
|-----------------------|------|
| Ignition voltage (kV) | 4,0 |
| Average life (h) | 6000 |
| Base | G8,5 |
| Burning position | u360 |
| Packing unit | 10 |

Use lamps only in suitable fixtures with corresponding cover glass.
Maximum base temperature 250 °C.

| Designation | Wattage (W) | Lamp current (A) | Luminous flux (lm) | Colour temperature (K) | Ø (mm) | Length L (mm) | LCL (mm) | Ra-Value | Order no. |
|----------------------|-------------|------------------|--------------------|------------------------|--------|---------------|----------|----------|-------------------|
| HIT 35 pw G8,5 axial | 39 | 0,5 | 2800 | 2750 | 16,0 | 84,0 | 52,0 | 1B | 226330 NEW |
| HIT 35 nw G8,5 axial | 39 | 0,5 | 3200 | 4200 | 16,0 | 84,0 | 52,0 | 1B | 226332 NEW |
| HIT 35 dw G8,5 axial | 39 | 0,5 | 2700 | 5200 | 16,0 | 84,0 | 52,0 | 1B | 226333 NEW |

C-TOPSPOT

CERAMIC-metal-halide lamps



MODUL

ELECTRO

www.modulelectro.ru

ADVANTAGES:

- Excellent colour rendering
- High colour stability over the entire life
- Reduced discolouration of textiles and less embrittlement of plastics (UV-P)
- High luminous efficacy
- Average life 12 000 hours

APPLICATIONS:

for attractive interior and exterior lighting, e.g.:

- Shop lighting
- Open-plan offices
- Museums and galleries
- Hotels and restaurants

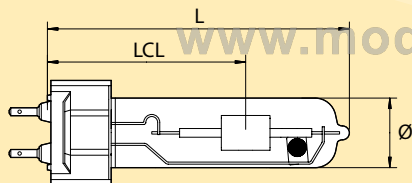


DISCHARGE LAMPS

MADE IN GERMANY



ELECTRO



www.modulelectro.ru

| | |
|-----------------------|------|
| Ignition voltage (kV) | 4,0 |
| Base | G12 |
| Burning position | u360 |
| Packing unit | 12 |

Use lamps only in suitable fixtures with corresponding cover glass.
Maximum base temperature 250 °C.

| Designation | Wattage (W) | Lamp current (A) | Luminous flux (lm) | Colour temperature (K) | Average life (h) | Ø (mm) | Length L (mm) | LCL (mm) | Ra-Value | Order no. |
|------------------|-------------|------------------|--------------------|------------------------|------------------|--------|---------------|----------|----------|-----------|
| C-HIT 35 ww G12 | 39 | 0,5 | 3400 | 3000 | 9000 | 14,5 | 90,0 | 56,0 | 1B | 226521 |
| C-HIT 70 ww G12 | 72 | 1,0 | 6200 | 3000 | 12000 | 19,0 | 90,0 | 56,0 | 1B | 226621 |
| C-HIT 70 nw G12 | 72 | 1,0 | 6000 | 4200 | 12000 | 19,0 | 90,0 | 56,0 | 1A | 226622 |
| C-HIT 150 ww G12 | 145 | 1,9 | 14000 | 3000 | 12000 | 19,0 | 100,0 | 56,0 | 1B | 226721 |
| C-HIT 150 nw G12 | 145 | 1,9 | 13000 | 4200 | 12000 | 19,0 | 100,0 | 56,0 | 1A | 226722 |

TOPLITE

Single-ended metal-halide lamps
for general lighting



up to 15000 hours

MODUL

ELECTRO

www.modulelectro.ru

ADVANTAGES:

- Low costs due to long maintenance intervals
- High fixture efficiency
- Good colour rendering
- High luminous efficiency
- suitable for high-pressure sodium ballasts
- Easy to change

APPLICATIONS:

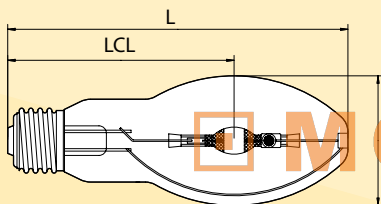
interior and exterior display lighting, e. g.:

- Open-plan offices
- Product displays
- Hotels and restaurants
- Museums and galleries
- Industrial halls
- Storage areas
- Parking lots
- Service stations
- Sport halls



DISCHARGE LAMPS

MADE IN GERMANY



| | |
|-----------------------|------|
| Ignition voltage (kV) | 4,0 |
| Burning position | u360 |
| Packing unit | 12 |

MODUL
ELECTRO

Use lamps only in suitable fixtures with corresponding cover glass.
Maximum base temperature 220 °C.

www.modulelectro.ru

| Designation | Design | Wattage (W) | Lamp current (A) | Luminous flux (lm) | Colour temperature (K) | Average life (h) | Ø (mm) | Length L (mm) | LCL (mm) | Ra-Value | Base ⁸ | Order no. |
|------------------|--------|-------------|------------------|--------------------|------------------------|------------------|--------|---------------|----------|----------|-------------------|---------------------|
| HIE70 ww E27 cl | clear | 70 | 0,9 | 6000 | 3200 | 15000 | 55,0 | 138,0 | 86,0 | 2A | E27 | 223110 |
| HIE70 ww E27 co | matte | 70 | 0,9 | 5700 | 3200 | 15000 | 55,0 | 138,0 | | 2A | E27 | 223160 |
| HIE70 nw E27 cl | clear | 70 | 0,9 | 6000 | 4200 | 15000 | 55,0 | 138,0 | 86,0 | 2A | E27 | 223100 |
| HIE70 nw E27 co | matte | 70 | 0,9 | 5700 | 4200 | 15000 | 55,0 | 138,0 | | 2A | E27 | 223150 |
| HIE100 ww E27 cl | clear | 100 | 1,2 | 8500 | 3200 | 15000 | 55,0 | 138,0 | 86,0 | 2A | E27 | 223210 ¹ |
| HIE100 ww E27 co | matte | 100 | 1,2 | 8000 | 3200 | 15000 | 55,0 | 138,0 | | 2A | E27 | 223260 ¹ |
| HIE100 nw E27 cl | clear | 100 | 1,2 | 8500 | 4000 | 15000 | 55,0 | 138,0 | 86,0 | 2A | E27 | 223200 |
| HIE100 nw E27 co | matte | 100 | 1,2 | 8000 | 4000 | 15000 | 55,0 | 138,0 | | 2A | E27 | 223250 |
| HIE150 ww E27 cl | clear | 150 | 1,8 | 14000 | 3200 | 15000 | 55,0 | 138,0 | 86,0 | 2A | E27 | 223310 |
| HIE150 ww E27 co | matte | 150 | 1,8 | 13500 | 3200 | 15000 | 55,0 | 138,0 | | 2A | E27 | 223360 |
| HIE150 nw E27 cl | clear | 150 | 1,8 | 14000 | 4200 | 15000 | 55,0 | 138,0 | 86,0 | 2A | E27 | 223300 |
| HIE150 nw E27 co | matte | 150 | 1,8 | 13500 | 4200 | 15000 | 55,0 | 138,0 | | 2A | E27 | 223350 |
| HIE250 nw E40 | matte | 250 | 3,0 | 22000 | 4200 | 8000 | 90,0 | 226,0 | | 2A | E40 | 223451 |
| HIE250 dw E40 | matte | 250 | 3,0 | 18000 | 5200 | 8000 | 90,0 | 226,0 | | 1B | E40 | 223471 |
| HIE400 nw E40 | matte | 400 | 4,0 | 40000 ⁹ | 4200 | 8000 | 120,0 | 290,0 | | 2A | E40 | 223551 |
| HIE400 dw E40 | matte | 400 | 4,0 | 32000 ⁹ | 5200 | 8000 | 120,0 | 290,0 | | 1B | E40 | 223571 |

Information about guarantees see page 120. • ¹ on request • ⁸ Base E26 on request • ⁹ When operated with HPS ballast

TOPLITE SHROUD

Single-ended metal-halide lamps
for open fixtures



up to 15000 hours

MODUL

ELECTRO

www.modulelectro.ru

ADVANTAGES:

- Low costs due to long maintenance intervals
- High fixture efficiency
- Average life 15000 hours
- Economic life 9000 hours
- Good colour rendering
- High luminous efficiency
- Clear and coated versions
- Lamps suitable for open fixtures

APPLICATIONS:

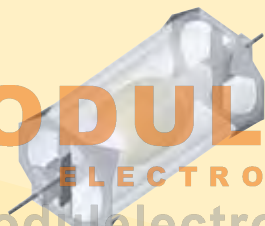
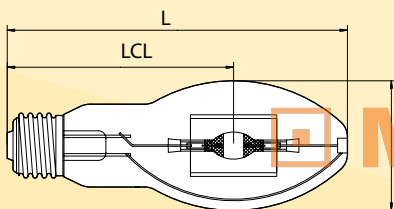
interior and exterior display lighting, e. g.:

- Open-plan offices
- Product displays
- Hotels and restaurants
- Museums and galleries
- Industrial halls
- Storage areas
- Parking lots
- Service stations



DISCHARGE LAMPS

MADE IN GERMANY



| | |
|-----------------------|------|
| Ignition voltage (kV) | 4,0 |
| Burning position | u360 |
| Packing unit | 12 |

The shroud offers additional protection for the envelope.

MODUL
ELECTRO
www.modulelectro.ru

| Designation | Design | Wattage (W) | Lamp current (A) | Luminous flux (lm) | Colour temperature (K) | Average life (h) | Ø (mm) | Length L (mm) | LCL (mm) | Ra-Value | Base ⁸ | Order no. |
|--------------------|--------|-------------|------------------|--------------------|------------------------|------------------|--------|---------------|----------|----------|-------------------|---------------------|
| HIE-P70 ww E27 cl | clear | 70 | 0,9 | 5500 | 3200 | 15000 | 55,0 | 138,0 | 86,0 | 2A | E27 | 223610 |
| HIE-P70 ww E27 co | matte | 70 | 0,9 | 5200 | 3200 | 15000 | 55,0 | 138,0 | | 2A | E27 | 223660 |
| HIE-P70 nw E27 cl | clear | 70 | 0,9 | 5500 | 4000 | 15000 | 55,0 | 138,0 | 86,0 | 2A | E27 | 223600 ¹ |
| HIE-P70 nw E27 co | matte | 70 | 0,9 | 5200 | 4000 | 15000 | 55,0 | 138,0 | | 2A | E27 | 223650 ¹ |
| HIE-P100 ww E27 cl | clear | 100 | 1,2 | 7600 | 3200 | 15000 | 55,0 | 138,0 | 86,0 | 2A | E27 | 223710 |
| HIE-P100 ww E27 co | matte | 100 | 1,2 | 7200 | 3200 | 15000 | 55,0 | 138,0 | | 2A | E27 | 223760 ¹ |
| HIE-P100 nw E27 cl | clear | 100 | 1,2 | 8100 | 4000 | 15000 | 55,0 | 138,0 | 86,0 | 2A | E27 | 223700 ¹ |
| HIE-P100 nw E27 co | matte | 100 | 1,2 | 7600 | 4000 | 15000 | 55,0 | 138,0 | | 2A | E27 | 223750 ¹ |
| HIE-P150 ww E27 cl | clear | 150 | 1,8 | 13300 | 3200 | 15000 | 55,0 | 138,0 | 86,0 | 2A | E27 | 223810 |
| HIE-P150 ww E27 co | matte | 150 | 1,8 | 12800 | 3200 | 15000 | 55,0 | 138,0 | | 2A | E27 | 223860 |
| HIE-P150 nw E27 cl | clear | 150 | 1,8 | 12300 | 4000 | 15000 | 55,0 | 138,0 | 86,0 | 2A | E27 | 223800 ¹ |
| HIE-P150 nw E27 co | matte | 150 | 1,8 | 11700 | 4000 | 15000 | 55,0 | 138,0 | | 2A | E27 | 223850 ¹ |
| HIE-P250 nw E40 co | matte | 250 | 3,0 | 22000 | 4200 | 8000 | 90,0 | 226,0 | | 2A | E40 | 223951 ¹ |
| HIE-P250 dw E40 co | matte | 250 | 3,0 | 18000 | 5200 | 8000 | 90,0 | 226,0 | | 1A | E40 | 223971 |
| HIE-P400 nw E40 co | matte | 400 | 4,0 | 37000 ⁹ | 4200 | 8000 | 120,0 | 290,0 | | 2A | E40 | 223051 |
| HIE-P400 dw E40 co | matte | 400 | 4,0 | 30000 ⁹ | 5200 | 8000 | 120,0 | 290,0 | | 1A | E40 | 223071 |

Information about guarantees see page 120. • ¹ on request • ⁸ Base E26 on request • ⁹ When operated with HPS ballast

TOPFLOOD

Metal-halide lamps
for floodlighting



MODUL

ELECTRO

www.modulelectro.ru

ADVANTAGES:

- Economic due to long life
- Average life
8000 hours (150 W/250 W/400 W);
6000 hours (1000 W)
- Good colour rendering
- High luminous flux throughout the entire life
- Pleasant light colours: neutral white (nw)
and daylight white (dw)
- Easy to change
- Compact design

APPLICATIONS:

interior und exterior floodlighting, e. g.:

- Manufacturing premises
- Storage areas
- Sports fields
- Streets and parks
- Exterior areas of factories
- Storage areas
- Stadiums



DISCHARGE LAMPS

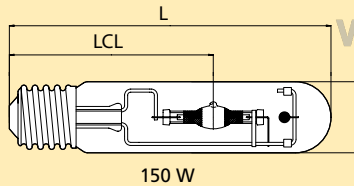
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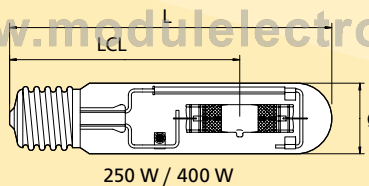
MODUL

ELECTRO

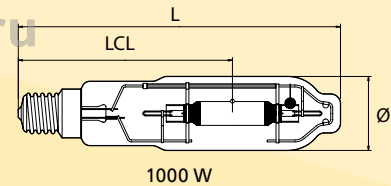
www.modulelectro.ru



150 W



250 W / 400 W



1000 W

Use lamps only in suitable fixtures with corresponding cover glass.
Maximum base temperature 220 °C.

| | |
|-----------------------|-----|
| Ignition voltage (kV) | 4,0 |
| Base | E40 |

| Designation | Wattage (W) | Lamp current (A) | Luminous flux (lm) | Colour temperature (K) | Average life (h) | Ø (mm) | Length L (mm) | LCL (mm) | Ra-Value | Burning position | Packing unit | Order no. |
|-----------------|-------------|------------------|--------------------|------------------------|------------------|--------|---------------|----------|----------|------------------|--------------|-----------|
| HIT 150 nw E40 | 150 | 1,8 | 13000 | 4200 | 8000 | 46,0 | 211,0 | 132,0 | 2A | u360 | 12 | 227901 |
| HIT 250 nw E40 | 250 | 3,0 | 20000 | 4200 | 8000 | 46,0 | 225,0 | 150,0 | 2A | u360 | 12 | 227001 |
| HIT 250 dw E40 | 250 | 3,0 | 20000 | 5200 | 8000 | 46,0 | 225,0 | 150,0 | 1A | u360 | 12 | 227011 |
| HIT 400 nw E40 | 400 | 4,0 | 42000 ⁹ | 4200 | 8000 | 46,0 | 275,0 | 175,0 | 2A | u360 | 12 | 227101 |
| HIT 400 dw E40 | 400 | 4,0 | 32000 ⁹ | 5200 | 8000 | 46,0 | 275,0 | 175,0 | 1A | u360 | 12 | 227111 |
| HIT 1000 dw E40 | 1000 | 9,5 | 80000 | 6000 | 6000 | 76,0 | 340,0 | 220,0 | 1A | p60 | 6 | 227311 |

HIT-PAR 20

35 W

Halogen metal-halide lamps
with reflector



MODUL
ELECTRO

ADVANTAGES:

- Optimal illumination through integrated reflector
- Easy lamp change with E27 Base
- For fixtures without cover glass
- UV Protection (UV-P)
- Reflector with aluminium coating
- Reduced heat radiation to the rear of the lamp
- Integrated dichroic filter, for coloured versions

APPLICATIONS:

- Shops
- Objects of Art
- Decorative illumination
- Stages
- Facades
- Outdoor illumination



DISCHARGE LAMPS

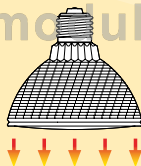
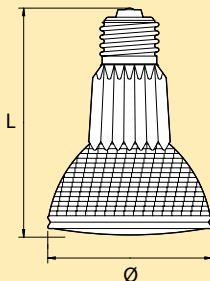
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The aluminium coated reflector ensures lower heat radiation to the rear.

| | |
|--------------------|------|
| Average life (h) | 6000 |
| Ø (mm) | 65 |
| Length L (mm max.) | 95 |
| Base | E27 |
| Burning position | u360 |
| Packing unit | 1 |

| Designation | Tc (K) respectively Colour | Wattage (W) | Lamp current (A) | Beam angle | Luminous intensity (cd) | Colour saturation (%) | Ra-Value | Order no. |
|-------------------|----------------------------|-------------|------------------|------------|-------------------------|-----------------------|----------|-----------|
| HIT-PAR20 35 W nw | E27 4000 | 39 | 0,5 | 10° | 21 000 | - | 1B | 132280 |
| HIT-PAR20 35 W bl | E27 blue | 39 | 0,5 | 10° | 3000 | 85 | - | 132210 |
| HIT-PAR20 35 W ye | E27 yellow | 39 | 0,5 | 10° | 9000 | 95 | - | 132230 |
| HIT-PAR20 35 W gr | E27 green | 39 | 0,5 | 10° | 6000 | 83 | - | 132220 |
| HIT-PAR20 35 W mg | E27 magenta | 39 | 0,5 | 10° | 6000 | 64 | - | 132240 |
| HIT-PAR20 35 W or | E27 orange | 39 | 0,5 | 10° | 6000 | 97 | - | 132250 |
| HIT-PAR20 35 W re | E27 red | 39 | 0,5 | 10° | 2000 | 97 | - | 132200 |

NEW
NEW
NEW
NEW
NEW
NEW

Information about guarantees see page 120.

HIGH-PRESSURE SODIUM LAMPS

For highly economic floodlighting



up to 28 000 hours

MODUL

ELECTRO

www.modulelectro.ru

ADVANTAGES:

- Economic due to long average life up to 28 000 hours
- Energy efficient
- High luminous efficiency

APPLICATIONS:

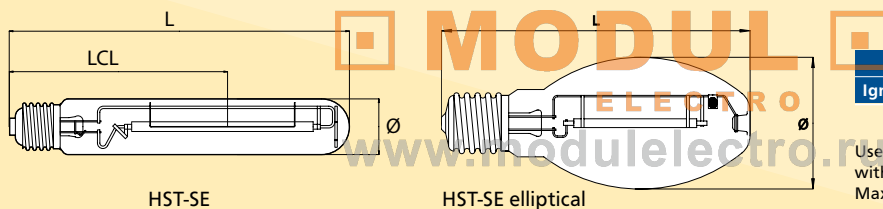
for large interior and exterior areas, e. g.:

- Historical buildings
- Streets and parks
- Railway tracks
- Manufacturing premises
- Storage areas



DISCHARGE LAMPS

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| | |
|-----------------------|-----|
| Ignition voltage (kV) | 2,8 |
|-----------------------|-----|

Use lamps only in suitable fixtures with corresponding cover glass.
Maximum base temperature 220°C.

| Designation | Wattage (W) | Lamp current (A) | Luminous flux (lm) | Colour temperature (K) | Average life (h) | Ø (mm) | Length L (mm) | LCL (mm) | Base | Burning position | Packing unit | Order no. |
|--------------------------|-------------|------------------|--------------------|------------------------|------------------|--------|---------------|----------|------|------------------|--------------|-----------|
| HST-SE 70 | 70 | 1,00 | 6000 | 2000 | 20000 | 39,0 | 156,0 | 102,0 | E27 | u360 | 24 | 210701 |
| HST-SE 100 | 100 | 1,20 | 9000 | 2000 | 20000 | 46,0 | 211,0 | 132,0 | E40 | u360 | 12 | 211001 |
| HST-SE 150 | 150 | 1,80 | 14500 | 2000 | 20000 | 46,0 | 211,0 | 132,0 | E40 | u360 | 12 | 211502 |
| HST-SE 250 | 250 | 3,00 | 27000 | 2000 | 20000 | 46,0 | 260,0 | 158,0 | E40 | u360 | 12 | 212502 |
| HST-SE 400 | 400 | 4,40 | 47000 | 2000 | 20000 | 46,0 | 292,0 | 175,0 | E40 | u360 | 12 | 214001 |
| HST-SE 70 elliptical co | 70 | 0,98 | 5600 | 2000 | 24000 | 71,0 | 155,0 | - | E27 | u360 | 24 | 210751 |
| HST-SE 100 elliptical co | 100 | 1,20 | 8500 | 2000 | 28000 | 76,0 | 186,0 | - | E40 | u360 | 24 | 211051 |
| HST-SE 150 elliptical co | 150 | 1,80 | 14500 | 2000 | 28000 | 91,0 | 227,0 | - | E40 | u360 | 12 | 211551 |
| HST-SE 250 elliptical co | 250 | 3,00 | 27000 | 2000 | 28000 | 91,0 | 227,0 | - | E40 | u360 | 12 | 212551 |
| HST-SE 400 elliptical co | 400 | 4,45 | 47000 | 2000 | 28000 | 122,0 | 292,0 | - | E40 | u360 | 6 | 214051 |
| HST-SE 70 elliptical cl | 70 | 0,98 | 6000 | 2000 | 24000 | 71,0 | 155,0 | - | E27 | u360 | 24 | 210761 |
| HST-SE 100 elliptical cl | 100 | 1,20 | 9000 | 2000 | 28000 | 76,0 | 186,0 | - | E40 | u360 | 24 | 211061 |
| HST-SE 150 elliptical cl | 150 | 1,80 | 15000 | 2000 | 28000 | 91,0 | 227,0 | - | E40 | u360 | 12 | 211561 |
| HST-SE 250 elliptical cl | 250 | 3,00 | 28000 | 2000 | 28000 | 91,0 | 227,0 | - | E40 | u360 | 12 | 212561 |
| HST-SE 400 elliptical cl | 400 | 4,45 | 48000 | 2000 | 28000 | 122,0 | 292,0 | - | E40 | u360 | 6 | 214061 |

NEW
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NEW
NEW
NEW
NEW

NAH POWER

For efficient lighting –
up to 15% energy saving

up to 32 000 hours



MODUL

ELECTRO

www.modulelectro.ru

ADVANTAGES:

- Economic due to long average life up to 32000 hours
- Energy efficient
- High luminous efficiency

APPLICATIONS:

for large interior and exterior areas,
e. g.:

- Historical buildings
- Streets and parks
- Railway tracks
- Manufacturing premises
- Storage areas



DISCHARGE LAMPS

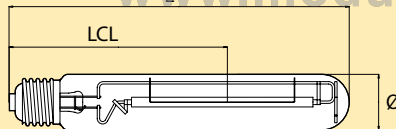
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MODULO

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HST-SE

Ignition voltage (kV)

2,8

Use lamps only in suitable fixtures
with corresponding cover glass.
Maximum base temperature 220°C.

| Designation | Wattage (W) | Lamp current (A) | Luminous flux (lm) | Colour temperature (K) | Average life (h) | Ø (mm) | Length L (mm) | LCL (mm) | Base | Burning position | Packing unit | Order no. |
|------------------|-------------|------------------|--------------------|------------------------|------------------|--------|---------------|----------|------|------------------|--------------|-------------------|
| HST-SE 70 POWER | 70 | 0,98 | 6500 | 2000 | 28000 | 39,0 | 156,0 | 98,0 | E27 | u360 | 24 | 210703 NEW |
| HST-SE 100 POWER | 100 | 1,20 | 10400 | 2000 | 32000 | 47,0 | 161,0 | 100,0 | E40 | u360 | 12 | 211003 NEW |
| HST-SE 150 POWER | 150 | 1,80 | 16800 | 2000 | 32000 | 47,0 | 210,0 | 132,0 | E40 | u360 | 12 | 211503 NEW |
| HST-SE 250 POWER | 250 | 3,00 | 32000 | 2000 | 32000 | 47,0 | 255,0 | 158,0 | E40 | u360 | 12 | 212503 NEW |
| HST-SE 400 POWER | 400 | 4,60 | 55000 | 2000 | 32000 | 47,0 | 285,0 | 175,0 | E40 | u360 | 12 | 214003 NEW |



MODUL
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www.modulelight.com

SPECIAL LAMPS / LED's

| | |
|--------------------|-----|
| HIT-COLORLITE | 80 |
| COLORLITE TOPSPOT | 82 |
| COLORLITE TOPLITE | 84 |
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| FIBREOPTIC MR 16 | 88 |
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| NEPTURION® | 92 |
| STATURION® | 94 |
| SYNERGY® LED MR 16 | 96 |
| SYNERGY® FILAMENT | 98 |
| LUXIA® MR16 LED | 100 |



SPECIAL LAMPS

LED

MODULO
ELECTRO

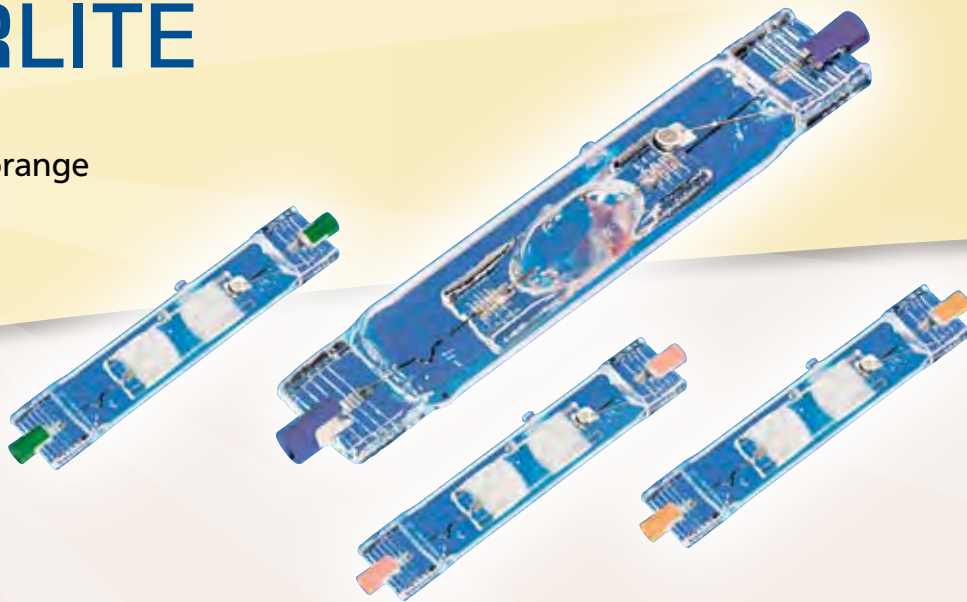
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www.modulelectro.ru

LONG LIFE • ECONOMIC • VERSATILE

HIT-COLORLITE

Metal-halide lamps
in blue, green, magenta and orange



MODUL

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ADVANTAGES:

- High colour saturation
- Constant light colour
- No colour filter required for fixture – Energy saving
- Average life 6000 hours
- UV protect (UV-P)

APPLICATIONS:

coloured accents for interior and exterior lighting, e.g.:

- Objects of art
- Stages
- Facades
- Fountains
- Shop windows
- Gardens and parks



SPECIAL LAMPS

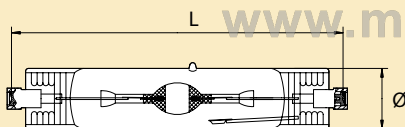
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| | |
|------------------|------|
| Voltage (V) | 4,0 |
| Average life (h) | 6000 |
| Burning position | p45 |
| Packing unit | 10 |

Use lamps only in suitable fixtures with corresponding cover glass.
Maximum base temperature 250 °C.

| Designation | Colour | Wattage (W) | Lamp current (A) | Luminous flux (lm) | Colour saturation (%) | Dominating wavelength (nm) | Ø (mm) | Length L (mm) | Base | Order no. |
|---------------|---------|-------------|------------------|--------------------|-----------------------|----------------------------|--------|---------------|---------|-----------|
| HIT-DE 70 bl | blue | 75 | 0,9 | 1700 | 60 | 475 | 20,0 | 114,2 | RX7s | 224124 |
| HIT-DE 150 bl | blue | 150 | 1,8 | 3000 | 56 | 465 | 23,0 | 132,0 | RX7s-24 | 224321 |
| HIT-DE 70 gr | green | 75 | 0,9 | 3600 | 35 | 545 | 20,0 | 114,2 | RX7s | 224114 |
| HIT-DE 150 gr | green | 150 | 1,8 | 9500 | 50 | 530 | 23,0 | 132,0 | RX7s-24 | 224311 |
| HIT-DE 70 mg | magenta | 75 | 0,9 | 3500 | 18 | -500 | 20,0 | 114,2 | RX7s | 224134 |
| HIT-DE 150 mg | magenta | 150 | 1,8 | 8000 | 33 | -515 | 23,0 | 132,0 | RX7s-24 | 224331 |
| HIT-DE 70 or | orange | 75 | 0,9 | 5000 | 51 | 595 | 20,0 | 114,2 | RX7s | 224144 |
| HIT-DE 150 or | orange | 150 | 1,8 | 10000 | 60 | 595 | 23,0 | 132,0 | RX7s-24 | 224341 |

Information about guarantees see page 120.

COLORLITE TOPSPOT

Metal-halide lamps
in blue, green, magenta and orange



MODUL

ELECTRO

www.modulelectro.ru

ADVANTAGES:

- High colour saturation
- Narrow focused light beam possible
- Constant light colour
- No colour filter required for fixture – Energy saving
- Average life 6000 hours
- UV protection (UV-P)

APPLICATIONS:

coloured accents for interior and exterior lighting, e. g.:

- Objects of art
- Stages
- Facades
- Fountains
- Shop windows
- Gardens and parks



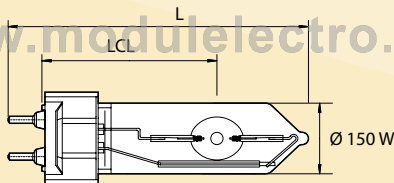
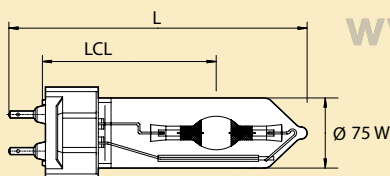
SPECIAL LAMPS

MADE IN GERMANY



ELECTRO

www.modulelectro.ru



| | |
|-----------------------|------|
| Ignition voltage (kV) | 4,0 |
| Average life (h) | 6000 |
| Base | G12 |
| Burning position | u360 |
| Packing unit | 10 |

Use lamps only in suitable fixtures with corresponding cover glass.
Maximum base temperature 250 °C.

| Designation | Colour | Wattage (W) | Lamp current (A) | Luminous flux (lm) | Colour saturation (%) | Dominating wavelength (nm) | Ø (mm) | Length L (mm) | LCL (mm) | Order no. |
|----------------|---------|-------------|------------------|--------------------|-----------------------|----------------------------|--------|---------------|----------|---------------------|
| HIT 70 bl G12 | blue | 75 | 0,9 | 1900 | 49 | 470 | 23,0 | 99,0 | 56,0 | 224122 |
| HIT 150 bl G12 | blue | 150 | 1,8 | 3200 | 44 | 470 | 23,0 | 99,0 | 56,0 | 224322 |
| HIT 70 gr G12 | green | 75 | 0,9 | 3700 | 54 | 560 | 23,0 | 99,0 | 56,0 | 224112 |
| HIT 150 gr G12 | green | 150 | 1,8 | 8200 | 54 | 560 | 23,0 | 99,0 | 56,0 | 224312 ¹ |
| HIT 70 mg G12 | magenta | 75 | 0,9 | 4000 | 18 | -500 | 23,0 | 99,0 | 56,0 | 224132 |
| HIT 150 mg G12 | magenta | 150 | 1,8 | 10000 | 24 | -500 | 23,0 | 99,0 | 56,0 | 224332 |
| HIT 70 or G12 | orange | 75 | 0,9 | 5700 | 64 | 600 | 23,0 | 99,0 | 56,0 | 224142 |
| HIT 150 or G12 | orange | 150 | 1,8 | 9500 | 69 | 600 | 23,0 | 99,0 | 56,0 | 224342 |

Information about guarantees see page 120. • ¹ on request

COLORLITE TOPLITE

Metal-halide lamps
in blue, green, magenta and orange



MODUL

ELECTRO

www.modulelectro.ru

ADVANTAGES:

- High colour saturation
- Constant light colour over the entire life
- No colour filter required for fixture – Energy saving
- Suitable for standard metal-halide fixtures

APPLICATIONS:

colourful accents in lighting, e. g.:

- Objects of art
- Stages
- Industrial premises
- Gardens and parks
- Decorative illumination and promenades
- Impressive illumination of streets and bridges
- Emphasis of key town buildings and landmarks



SPECIAL LAMPS

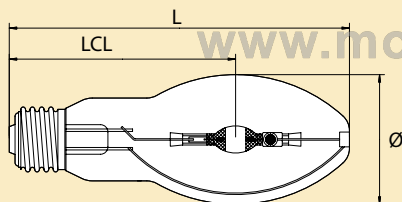
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MODULO

ELECTRO

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| | |
|-----------------------|------|
| Ignition voltage (kV) | 4,0 |
| Average life (h) | 6000 |
| Base | E27 |
| Burning position | u360 |
| Packing unit | 12 |

Use lamps only in suitable fixtures with corresponding cover glass.
Maximum base temperature 220 °C.

| Designation | Colour | Wattage (W) | Lamp current (A) | Luminous flux (lm) | Colour saturation (%) | Dominating wavelength (nm) | Ø (mm) | Length L (mm) | LCL (mm) | Order no. |
|-------------------|---------|-------------|------------------|--------------------|-----------------------|----------------------------|--------|---------------|----------|---------------------|
| HIE 70 bl E27 cl | blue | 70 | 0,9 | 2000 | 57 | 470 | 54,0 | 138,0 | 86,0 | 224128 |
| HIE 150 bl E27 cl | blue | 150 | 1,8 | 3900 | 70 | 470 | 54,0 | 138,0 | 86,0 | 224328 ¹ |
| HIE 70 gr E27 cl | green | 70 | 0,9 | 4000 | 46 | 550 | 54,0 | 138,0 | 86,0 | 224118 |
| HIE 150 gr E27 cl | green | 150 | 1,8 | 10000 | 46 | 530 | 54,0 | 138,0 | 86,0 | 224318 ¹ |
| HIE 150 mg E27 cl | magenta | 150 | 1,8 | 7500 | 43 | -530 | 54,0 | 138,0 | 86,0 | 224338 ¹ |
| HIE 150 or E27 cl | orange | 150 | 1,8 | 11200 | 54 | 600 | 54,0 | 138,0 | 86,0 | 224348 ¹ |

Information about guarantees see page 120. • ¹ on request

COLORLITE TOPFLOOD

Metal-halide lamps in blue, yellow, green, magenta and orange



MODUL

ELECTRO

www.modulelectro.ru

ADVANTAGES:

- High colour saturation
- Constant light colour over entire life
- Average life 8000 hours
- No colour filter required for fixture – Energy saving
- Suitable for standard metal-halide fixtures

APPLICATIONS:

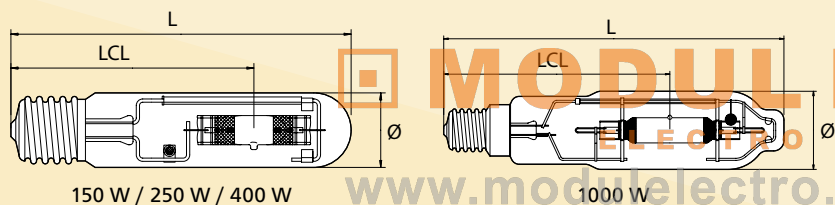
Colourful accents in exterior lighting, e. g.:

- Gardens and parks
- Building façades
- Museums and galleries
- Shop windows
- Objects of art
- Theatre stages and open air events
- Amusement parks and recreation centres
- Industrial monuments
- Optical support of corporate identity



SPECIAL LAMPS

MADE IN GERMANY



| | |
|-----------------------|------|
| Ignition voltage (kV) | 4,0 |
| Average life (h) | 8000 |
| Base | E40 |
| Burning position | u360 |

Use lamps only in suitable fixtures with corresponding cover glass.
Maximum base temperature 220 °C.

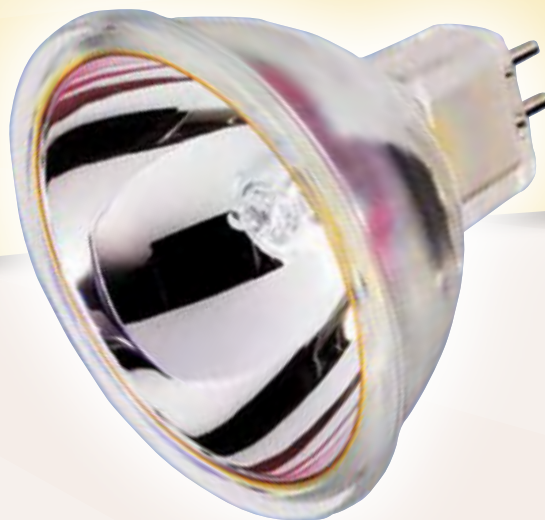
| Designation | Colour | Wattage (W) | Lamp current (A) | Luminous flux (lm) | Colour saturation (%) | Dominating wavelength (nm) | Ø (mm) | Länge L (mm) | LCL (mm) | Packing unit | Order no. |
|-----------------|---------|-------------|------------------|--------------------|-----------------------|----------------------------|--------|--------------|----------|--------------|---------------------|
| HIT 150 bl E40 | blue | 150 | 1,8 | 3200 | 66 | 465 | 47,0 | 211,0 | 132,0 | 12 | 224326 ¹ |
| HIT 250 bl E40 | blue | 250 | 3,0 | 5400 | 66 | 465 | 46,0 | 225,0 | 150,0 | 12 | 224426 |
| HIT 400 bl E40 | blue | 400 | 4,0 | 8000 | 66 | 465 | 46,0 | 275,0 | 175,0 | 12 | 224526 |
| HIT 1000 bl E40 | blue | 1000 | 9,5 | 22000 | 61 | 455 | 76,0 | 340,0 | 220,0 | 6 | 224626 |
| HIT 400 ye E40 | yellow | 400 | 4,0 | 36000 | 67 | 575 | 46,0 | 275,0 | 175,0 | 12 | 224566 |
| HIT 150 gr E40 | green | 150 | 1,8 | 12000 | 43 | 560 | 47,0 | 211,0 | 132,0 | 12 | 224316 ¹ |
| HIT 250 gr E40 | green | 250 | 3,0 | 21000 | 50 | 530 | 46,0 | 225,0 | 150,0 | 12 | 224416 ¹ |
| HIT 400 gr E40 | green | 400 | 4,0 | 35000 | 57 | 535 | 46,0 | 275,0 | 175,0 | 12 | 224516 |
| HIT 1000 gr E40 | green | 1000 | 9,5 | 85000 | 60 | 535 | 76,0 | 340,0 | 220,0 | 6 | 224616 |
| HIT 250 mg E40 | magenta | 250 | 3,0 | 11000 | 29 | -560 | 46,0 | 225,0 | 150,0 | 12 | 224436 ¹ |
| HIT 400 mg E40 | magenta | 400 | 4,0 | 21000 | 32 | -540 | 46,0 | 275,0 | 175,0 | 12 | 224536 |
| HIT 250 or E40 | orange | 250 | 3,0 | 17000 | 54 | 595 | 46,0 | 225,0 | 150,0 | 12 | 224446 ¹ |
| HIT 400 or E40 | orange | 400 | 4,0 | 29000 | 60 | 590 | 46,0 | 275,0 | 175,0 | 12 | 224546 ¹ |

Information about guarantees see page 120. • ¹ on request

FIBREOPTIC

MR 16

Low voltage dichroic lamps
for fibre optic applications



MODUL

ELECTRO

www.modulelectro.ru

ADVANTAGES:

- High luminous flux
- Easy lamp exchange
- Specially adjusted for optimal light input
- Dimmable
- UV protection (UV-P)

APPLICATIONS:

for fibre optic lighting e.g:

- "Starlight"-effects
- Fountains
- Swimming pools
- Cinemas



SPECIAL LAMPS

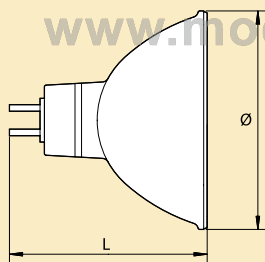
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MODULE

ELECTRO

www.modulelectro.ru



| | |
|------------------|-------|
| Voltage (V) | 12 |
| Ø (mm) | 50,7 |
| Length L (mm) | 44,9 |
| Base | GU5.3 |
| Burning position | u360 |
| Packing unit | 50 |

| Wattage (W) | Luminous flux (lm) | Colour temperature (K) | Average life (h) | Mounting distance (mm) | Order no. |
|-------------|--------------------|------------------------|------------------|------------------------|-----------|
| 20 | 130 ¹⁰ | 3000 | 4000 | 40,0 | 187892 |
| 35 | 260 ¹⁰ | 3000 | 4000 | 40,0 | 185392 |
| 50 | 360 ¹⁰ | 3000 | 4000 | 40,0 | 189892 |
| 75 | 500 ¹⁰ | 3000 | 3500 | 40,0 | 188192 |
| 100 | 800 ¹⁰ | 3100 | 3500 | 40,0 | 189992 |

FIBREOPTIC MHR

Metal-halide lamps
for fibre optic application



MODUL

ELECTRO

www.modulelectro.ru

ADVANTAGES:

- Simple lamp exchange without readjustment
- Cool beam effect
- High efficiency because of a short axial arc and optimal lamp adjustment
- Ideal for use with plastic fibres with small fibre diameters
- Can be used with standard metal-halide ballasts and ignitors
- Hot re-ignition possible (MHR 100 D/HR and MHR 150 N)
- Lamps with thermo-couple available on request

APPLICATIONS:

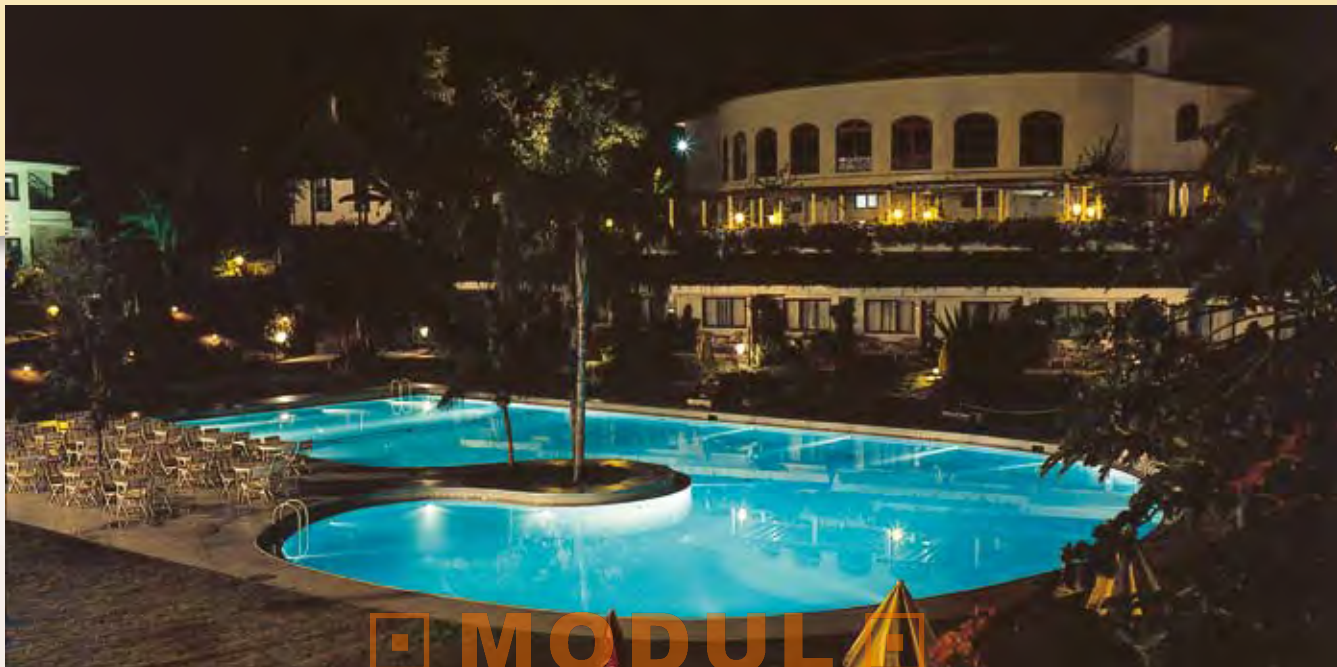
in decorative areas, e. g.:

- Architecture
- Interior lighting
- Fountains and swimming pools

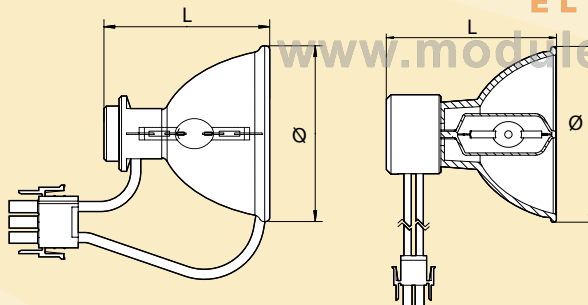


SPECIAL LAMPS

MADE IN GERMANY



ELECTRO



| Designation | Order no. |
|-------------------------|-----------|
| Infrared filter | 450000 03 |
| Lamp holder MHR 100/150 | 450000 04 |
| Holder for IR-filter | 450000 05 |

| | |
|-----------------------|-----|
| Ignition voltage (kV) | 4,0 |
| Burning position | p10 |
| Packing unit | 1 |

| Designation | Wattage (W) | Lamp current (A) | Luminous flux (lm) ¹¹ | Colour temperature (K) | Average life (h) | Ø (mm) | Length L (mm) | Focal distance (mm) ¹² | Base | Order no. |
|--------------|-------------|------------------|----------------------------------|------------------------|------------------|--------|---------------|-----------------------------------|----------------|-----------|
| MHR 100 D | 100 | 1,2 | 4400 | 5200 | 6000 | 71,0 | 70,0 | 53,0 | 3-channel plug | 270220 |
| MHR 100 D/HR | 100 | 1,2 | 4400 | 5200 | 6000 | 71,0 | 70,0 | 53,0 | 5-channel plug | 270221 |
| MHR 150 N | 150 | 1,8 | 5400 | 4200 | 4000 | 71,0 | 70,0 | 53,0 | 5-channel plug | 270311 |
| MHR 250 N | 250 | 3,0 | 9300 | 4200 | 5000 | 89,0 | 82,0 | 64,0 | 5-channel plug | 270411 |
| MHR 150 N/B | 150 | 1,8 | 6800 | 4200 | 6000 | 95,0 | 94,0 | 61,0 | 2-channel plug | 272312 |

Information about guarantees see page 120. • ¹¹ Diaphragm: ø 25 mm; optimal distance • ¹² Optimal distance lamp-fibre depends on diameter of fibre

NEPTURION®

Metal-halide lamps
for aquariums



MODUL
ELECTRO

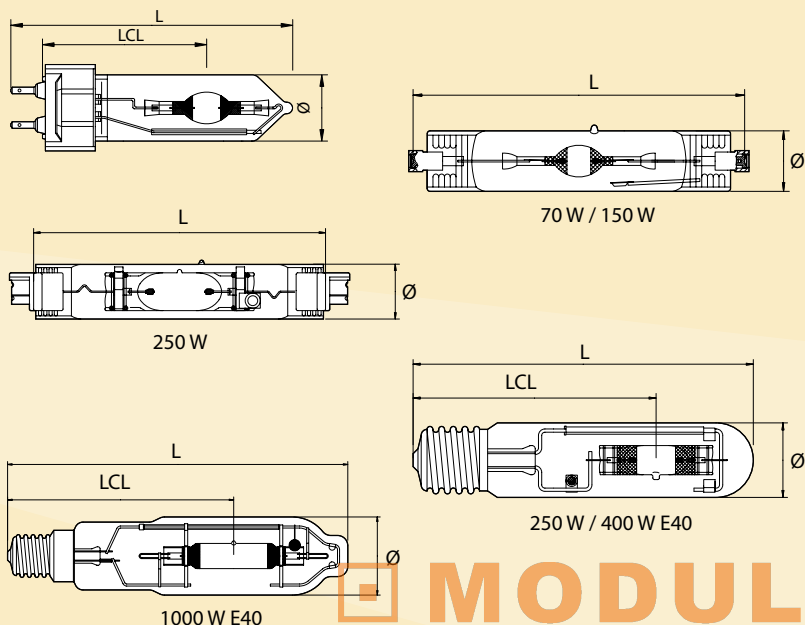
www.modulelectro.ru

ADVANTAGES:

- Very high colour temperature
- High colour stability over the entire life
- Optimum light spectrum
- Very good colour rendering

APPLICATIONS:

- Aquariums: Light conditions simulated, correspond to those found in ocean conditions (in waterdepths of approximately 5 m).
The higher the colour temperature, the greater the simulated depth of water. Coral growth is strongly stimulated.
- Food lighting of fish and seafood



MODUL
ELECTRO



| Designation | Wattage (W) | Lamp current (A) | Ignition voltage (kV) | Colour temperature (K) | Average life (h) | Ø (mm) | Length L (mm) | LCL (mm) | Contact distance (mm) | Ra-Value | Base | Burning position | Packing unit | Order no. |
|-----------------|-------------|------------------|-----------------------|------------------------|------------------|--------|---------------|----------|-----------------------|----------|---------|------------------|--------------|---------------------|
| HIT-DE 70 cw | 75 | 0,9 | 4,0 | 10000 | 6000 | 20,0 | | | 114,2 | 1A | RX7s | p45 | 10 | 220501 |
| HIT-DE 150 cw | 150 | 1,8 | 4,0 | 10000 | 6000 | 23,0 | | | 132,0 | 1A | RX7s-24 | p45 | 10 | 221301 |
| HIT-DE 250 cw | 250 | 3,0 | 4,0 | 10000 | 6000 | 25,0 | | | 139,0 | 1A | Fc2/18 | p45 | 10 | 222403 |
| HIT 70 cw G12 | 75 | 0,9 | 4,0 | 10000 | 6000 | 23,0 | 99,0 | 56,0 | | 1B | G12 | u360 | 10 | 225004 |
| HIT 150 cw G12 | 150 | 1,8 | 4,0 | 10000 | 6000 | 23,0 | 99,0 | 56,0 | | 1A | G12 | u360 | 10 | 225204 |
| HIT 250 cw E40 | 250 | 3,0 | 4,0 | 10000 | 8000 | 46,0 | 225,0 | 150,0 | | 1A | E40 | u360 | 12 | 227021 |
| HIT 400 cw E40 | 400 | 4,0 | 4,0 | 10000 | 8000 | 46,0 | 275,0 | 175,0 | | 1B | E40 | u360 | 12 | 227121 |
| HIT 1000 cw E40 | 1000 | 9,5 | 4,0 | 10000 | 3000 | 76,0 | 340,0 | 220,0 | | 1B | E40 | p60 | 6 | 227321 |
| HIT-DE 70 aw | 75 | 0,9 | 4,0 | 14000 | 6000 | 20,0 | | | 114,2 | | RX7s | p45 | 10 | 220104 ¹ |
| HIT-DE 150 aw | 150 | 1,8 | 4,0 | 14000 | 6000 | 23,0 | | | 132,0 | | RX7s-24 | p45 | 10 | 221801 |
| HIT-DE 250 aw | 250 | 3,0 | 4,0 | 14000 | 6000 | 25,0 | | | 139,0 | | Fc2/18 | p45 | 10 | 222603 |
| HIT 250 aw E40 | 250 | 3,0 | 4,0 | 14000 | 8000 | 46,0 | 225,0 | 150,0 | | | E40 | u360 | 12 | 227041 |
| HIT 400 aw E40 | 400 | 4,0 | 4,0 | 14000 | 8000 | 46,0 | 275,0 | 175,0 | | | E40 | u360 | 12 | 227141 |
| HIT 1000 aw E40 | 1000 | 9,5 | 4,0 | 14000 | 3000 | 76,0 | 340,0 | 220,0 | | | E40 | p60 | 6 | 227341 ¹ |
| HIT-DE 70 ab | 75 | 0,9 | 4,0 | 20000+ | 6000 | 20,0 | | | 114,2 | | RX7s | p45 | 10 | 220001 ¹ |
| HIT-DE 150 ab | 150 | 1,8 | 4,0 | 20000+ | 6000 | 23,0 | | | 132,0 | | RX7s-24 | p45 | 10 | 221901 |
| HIT-DE 250 ab | 250 | 3,0 | 4,0 | 20000+ | 6000 | 25,0 | | | 139,0 | | Fc2/18 | p45 | 10 | 222703 |
| HIT 250 ab E40 | 250 | 3,0 | 4,0 | 20000+ | 8000 | 46,0 | 225,0 | 150,0 | | | E40 | u360 | 12 | 227051 |
| HIT 400 ab E40 | 400 | 4,0 | 4,0 | 20000+ | 8000 | 46,0 | 275,0 | 175,0 | | | E40 | u360 | 12 | 227151 |
| HIT 1000 ab E40 | 1000 | 9,5 | 4,0 | 20000+ | 4000 | 76,0 | 340,0 | 220,0 | | | E40 | p60 | 6 | 227351 ¹ |

Information about guarantees see page 120. • ¹ on request

Special lamps

STATURION®

Short arc metall-halide lamps
for sport field illumination



MODUL
ELECTRO

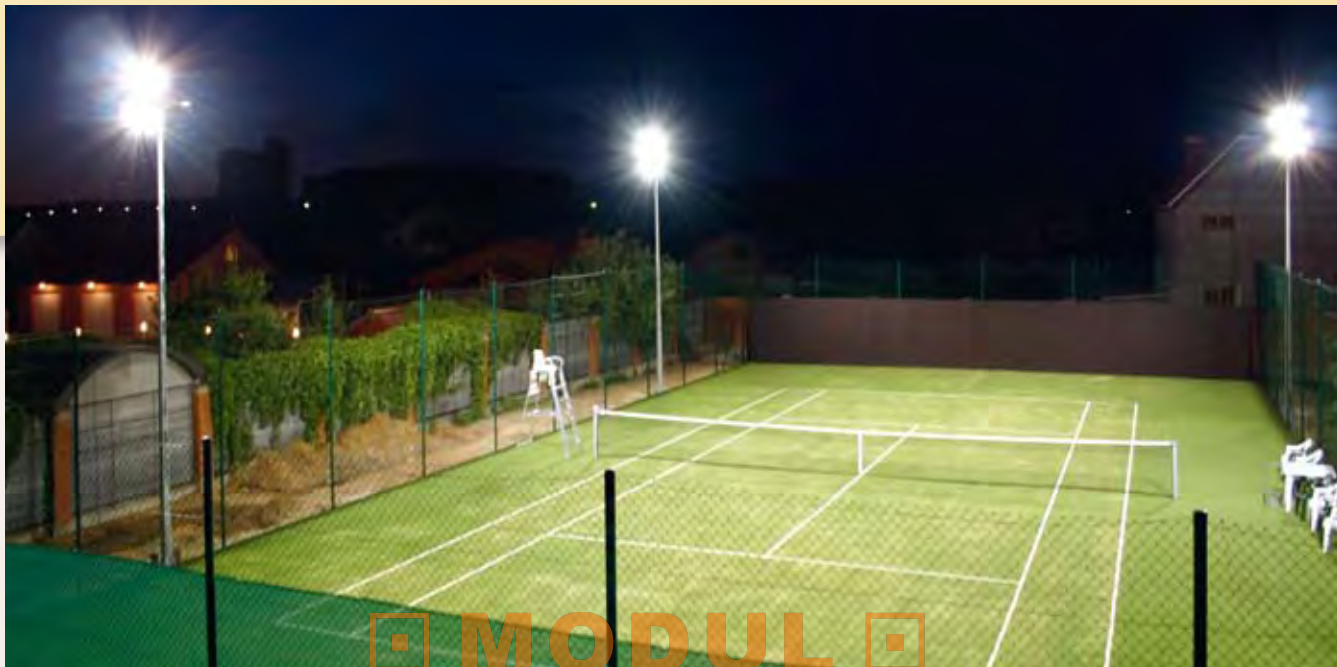
www.modulelectro.ru

ADVANTAGES:

- High luminous efficiency
- Excellent colour rendering
- Hot re-ignition possible
- Compact design for small spot lights with less wind load
- Extrem short arc for very good light control with few light scatter

APPLICATIONS:

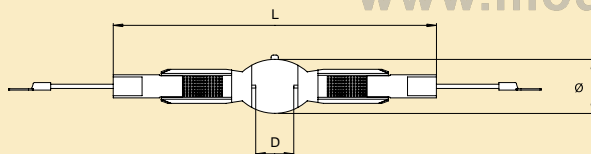
- Sport facilities
- Flood lighting



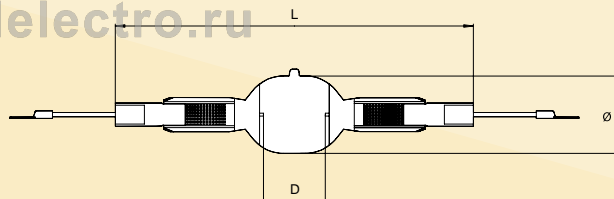
MODUL

ELECTRO

www.modulelectro.ru



1000 W



2000 W

| Designation | Wattage (W) | Lamp current (A) | Ignition voltage (kV) | Luminous flux (lm) | Colour temperature (K) | Average life (h) | Ø (mm) | Length L (mm) | Electrode distance D (mm) | Ra-Value | Base | Burning position | Packing unit | Order no. |
|----------------|-------------|------------------|-----------------------|--------------------|------------------------|------------------|--------|---------------|---------------------------|----------|-------|------------------|--------------|-----------|
| HIT-DE 1000 dw | 1000 | 10,3 | 4,0 | 90 000 | 6300 | 6000 | 28,0 | 187,0 | 24,0 | 1A | Kabel | p15 | 1 | 131100 |
| HIT-DE 2000 dw | 2000 | 10,3 | 4,0 | 200 000 | 6300 | 3000 | 40,0 | 187,0 | 32,0 | 1A | Kabel | p15 | 1 | 131200 |

Special lamps

NEW

SYNERGY®

LED MR 16 RETROFIT LAMP



50000 hours

ADVANTAGES:

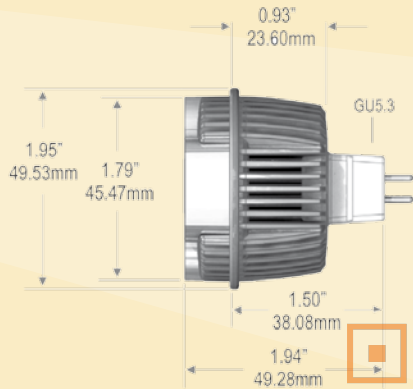
- Up to 80% Energy Savings vs. 20 – 25 W Halogen MR 16
- 50 000 hours lifetime
- Luminous flux stability over lifetime 80%
- Fully dimmable (Lamp ceases at 7 Volt)
- RoHs compliant
- Mercury Free, Lead Free
- No emission of UV and IR-Radiation
- First LED MR 16 to meet the efficiency requirements of California's stringent Title 24 regulations

MODUL
ELECTRO

APPLICATIONS:

- Track Lighting
- Recessed Lighting
- Accent Lighting
- Landscape and Pathway Lighting
- Display Case and Cabinet Lighting
- Art gallery and Museum Lighting

www.modulelectro.ru



| | |
|-----------------------------|-------------------|
| Voltage (V) | 10,5 – 13,5 AC/DC |
| Average life (h) | 50000 |
| Base | GU5.3 |
| Typical lamp current | 416 mA |
| Protection class | IP 30 |
| Packing unit | 24 |



Röntgengerät Kieferorthopädische Praxis Dr. Christine Hieronymus, Kehlheim

MODUL
ELECTRO
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| Wattage (W) | Beam angle | Luminous flux (lm) | Luminous intensity (cd) | Colour temperature (K) | Order no. |
|-------------|------------|--------------------|-------------------------|------------------------|-----------|
| 4 | 12° | 171 | 3275 | 3100 | 120513 |
| 4 | 24° | 188 | 1028 | 3100 | 120512 |
| 4 | 34° | 191 | 435 | 3100 | 120511 |
| 4 | 50° | 199 | 265 | 3100 | 120519 |
| 4 | 12° | 196 | 3646 | 4200 | 120523 |
| 4 | 24° | 203 | 1113 | 4200 | 120522 |
| 4 | 34° | 207 | 519 | 4200 | 120521 |
| 4 | 50° | 215 | 297 | 4200 | 120529 |
| 4 | 12° | 243 | 4229 | 6500 | 120533 |
| 4 | 24° | 273 | 1442 | 6500 | 120532 |
| 4 | 34° | 267 | 657 | 6500 | 120531 |
| 4 | 50° | 280 | 424 | 6500 | 120539 |

MADE IN GERMANY

SYNERGY® FILAMENT

LED lamps for
decorative lighting



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ADVANTAGES:

- Innovative LED-technology for optimal decorative illumination due to a special Chip-Filament-Design
- Warm colour for a comfortable atmosphere
- Efficient environmetally friendly light source
- Anti-glare
- Easy retrofit of E 14-based lamps
- Extremely long life of 20 000 hours

APPLICATIONS:

- Modern and classical chandelier
- Decorative lighting

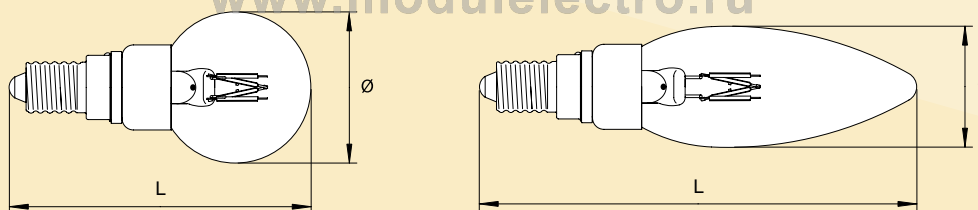
LED



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| Designation | Wattage (W) | Voltage (V) | Luminous flux (lm) | Colour temperature (K) | Average life (h) | Ø (mm) | Length L (mm) | Base | Burning position | Packing unit | Order no. |
|-------------|-------------|--------------|--------------------|------------------------|------------------|--------|---------------|------|------------------|--------------|-----------|
| Candle | 0,6 | 230V AC 50Hz | 30 | 2700 | 20000 | 32 | 116,5 | E 14 | u360 | - | 124117 |
| Candle | 0,6 | 230V AC 50Hz | 15 | 2500 | 20000 | 32 | 116,5 | E 14 | u360 | - | 124107 |
| Bulb | 0,6 | 230V AC 50Hz | 30 | 2700 | 20000 | 40 | 81,0 | E 14 | u360 | - | 124118 |
| Bulb | 0,6 | 230V AC 50Hz | 15 | 2500 | 20000 | 40 | 81,0 | E 14 | u360 | - | 124108 |

LED

NEW
NEW
NEW
NEW

MADE IN GERMANY

LUXIA®

MR16 LED GU 5,3

LED lamps for low maintenance lighting



ADVANTAGES:

- Easy retrofit with MR16 halogen lamps
- Available in warm white and cool white and 2 beam angles for individual lighting requirements
- Dimmable
- RoHS compliant
- Lead and Mercury free
- No UV or IR radiation
- Ready for us on 12 V AC/DC

APPLICATIONS:

- Track lighting
- Recessed fittings and downlighters
- Spotlighting
- Outdoor lighting
- Display cases and shop windows
- Galleries and museums
- Hotels

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DRIVER

ELECTRONIC TRANSFORMER

ADVANTAGES:

- Ideal for use with BLV SYNERGY MR16 LED and LUXIA LED's
- Small, compact and light weight
- No minimum load – Load range from 0W – 60W
- Can also be used with 12 V halogen lamps
- Dimmable with leading-edge phase dimmers
- Output cable length 30 cm to 2 m



Order
no.

456001

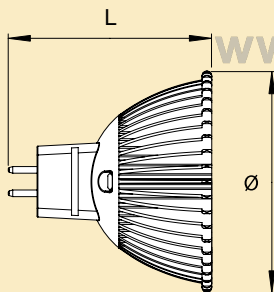
LED



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| Base | Wattage (W) | Voltage (V) | Beam angle | Luminous intensity (cd) | Luminous flux (lm) | Colour temperature (K) | Average life (h) | Ø (mm) | Length L (mm) | Packing unit | Order no. |
|--------|-------------|-------------|------------|-------------------------|--------------------|------------------------|------------------|--------|---------------|--------------|-----------|
| GU 5,3 | 3,6 | 12V AC/DC | 20° | 1000 | 190 | 3000 | 50000 | 50,0 | 46,0 | 24/ 192 | 120312 |
| GU 5,3 | 3,0 | 12V AC/DC | 30° | 550 | 190 | 3000 | 50000 | 50,0 | 46,0 | 24/ 192 | 120311 |
| GU 5,3 | 3,0 | 12V AC/DC | 20° | 1300 | 240 | 5300 | 50000 | 50,0 | 46,0 | 24/ 192 | 120332 |
| GU 5,3 | 3,0 | 12V AC/DC | 30° | 670 | 240 | 5300 | 50000 | 50,0 | 46,0 | 24/ 192 | 120331 |

MADE IN GERMANY

LUXIA®

MR 16 LED

GU 10 und E 27

LED lamps for low maintenance lighting



ADVANTAGES:

- Professional LED line voltage lamp – 100V – 240V
- Simple retrofit into any GU10 lamp holder
- 50 000 hour lifetime – 25 times longer lifetime than normal line voltage halogen lamps
- Available in warm white and cool white and 2 beam angles for individual lighting requirements

APPLICATIONS:

- Spotlighting
- Ideal for lighting heat and UV sensitive objects e.g. food, paintings, artwork etc.
- Office and Home use
- Hotels

LIGHT BULB E 27

APPLICATIONS:

- Decorative lighting
- Energy saving alternative to a A-line or GLS bulb
- Permanent lighting in halls and corridors
- LED lamp for historical lighting e.g. chandeliers
- Chain of lights



APPLICATIONS:

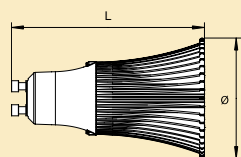
- Ball shaped light through patented light distribution
- Energy saving
- 50 000 hour lamp life
- Outdoor use possible – IP65

LED

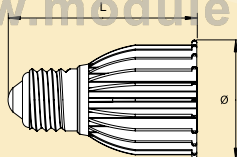


ELECTRO

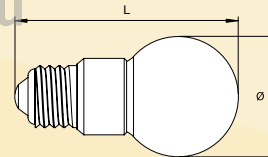
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MR 16 GU 10



MR 16 E 27



Light Bulb E 27

LED

| Base | Wattage (W) | Voltage (V) | Beam angle | Luminous intensity (cd) | Luminous flux (lm) | Colour temperature (K) | Average life (h) | Ø (mm) | Length L (mm) | Packing unit | Order no. |
|-----------|-------------|-------------|------------|-------------------------|--------------------|------------------------|------------------|--------|---------------|--------------|-------------------|
| GU 10 | 4,8 | 100–240 VAC | 20° | 1000 | 190 | 3000 | 50000 | 50,0 | 80,3 | 108 | 121312 NEW |
| GU 10 | 4,0 | 100–240 VAC | 30° | 550 | 190 | 3000 | 50000 | 50,0 | 80,3 | 108 | 121311 NEW |
| GU 10 | 4,0 | 100–240 VAC | 20° | 1300 | 240 | 5300 | 50000 | 50,0 | 80,3 | 108 | 121332 NEW |
| GU 10 | 4,0 | 100–240 VAC | 30° | 670 | 240 | 5300 | 50000 | 50,0 | 80,3 | 108 | 121331 NEW |
| E 27 | 4,8 | 100–240 VAC | 20° | 1000 | 190 | 3000 | 50000 | 50,0 | 78,5 | 108 | 123312 NEW |
| E 27 | 4,0 | 100–240 VAC | 30° | 550 | 190 | 3000 | 50000 | 50,0 | 78,5 | 108 | 123311 NEW |
| E 27 | 4,0 | 100–240 VAC | 20° | 1300 | 240 | 5300 | 50000 | 50,0 | 78,5 | 108 | 123332 NEW |
| E 27 | 4,0 | 100–240 VAC | 30° | 670 | 240 | 5300 | 50000 | 50,0 | 78,5 | 108 | 123331 NEW |
| E 27 Bulb | 1,6 | 90–264 VAC | – | – | 50 | 3000 | 50000 | 50,0 | 93,0 | 108 | 123118 NEW |
| E 27 Bulb | 1,6 | 90–264 VAC | – | – | 70 | 5300 | 50000 | 50,0 | 93,0 | 108 | 123138 NEW |

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GENERAL INFORMATION

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**GENERAL
INFORMATION
2010|11**

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The source of LIGHT. 105

LIGHT ENGINEERING BASICS

LIGHT

Light is a component of electromagnetic radiation causing a perception of brightness in the human eye. The wavelengths of visible light range between 380 and 780 nm. (1 nanometer [nm] = 1/1000000000 m). Blue is the light of the shortest, red of the longest wavelength. Electromagnetic waves with short wavelengths are e.g. X-rays; radio waves or infrared radiation have longer wavelengths than visible radiation.

See Fig. 1 on Page 108.

LUMINOUS FLUX Φ

The luminous flux Φ (unit lumen, lm) is the light output of a source measured in all directions and weighted with the spectral sensitivity of the human eye. See Fig. 2 on Page 108. The specified nominal luminous flux of a lamp is the luminous flux measured at defined conditions of the lamp (burning position, electrical data). Lamp is independent of the luminaires.

LUMINOUS INTENSITY I

The luminous intensity I (unit candela, cd) is the radiant power of a lamp emitted in a certain direction or angle. The luminous intensity is a characteristic feature for both lamps and luminaires or reflectors. In the case of a BLV EUROSTAR, the highest luminous intensity can be found around the centre axis. See Fig. 3 on Page 108.

ILLUMINANCE

The illuminance E (unit lux, lx) is the luminous flux impinging a certain unit of area. For artificial lighting there are standards of requested illuminances in different situations. If for example a lamp emitting 1000 lm impinges a table of 1m² area with half of its light, the illuminance on this table is 500 lx. See Fig. 4 on Page 108.

LUMINOUS EFFICACY η

The luminous efficacy η (unit lumen/Watt, lm/W) is a measure for the economic efficiency of a lamp. It measures the relationship between emitted luminous flux and consumption of power.

Typical values for luminous efficacies:

| Designation | lm/W |
|----------------------------------|-----------|
| Incandescent Lamps (GLS lamps) | 5 – 15 |
| Low Voltage Halogen Lamps | 15 – 30 |
| High pressure mercury lamps | 40 – 55 |
| Compact fluorescent lamps | 45 – 70 |
| Metal-halide lamps | 60 – 100 |
| Fluorescent lamps | 60 – 100 |
| High pressure sodium lamps (HPS) | 100 – 140 |

COLOUR TEMPERATURE AND LIGHT COLOUR

The light colour of a lamp can mostly be characterised by the colour temperature (unit Kelvin, K). It is defined by a comparison to the so called black body radiation. The designated colour temperature of a lamp is the most similar temperature in K which a black body would have when heated up to this temperature. The higher the colour temperature, the more "blueish" or cold the light appears to be. The clear classification of a colour temperature of a lamp is not always possible. Therefore for COLORLITE there is no correlated colour temperature. The light colour is designated by chromaticity coordinates or dominating wavelengths.

SPECTRAL DISTRIBUTION OF A LAMP

The spectrum of a lamp is the amount of the different wavelengths/colours which a lamp emits. A halogen incandescent lamp has a so called continuous spectrum i.e. there are equal units of light of every wavelength. The spectrum of a discharge lamp consists of many discrete lines. The mixture of these lines makes the light colour of the lamp. See Fig. 5–7 on Page 109.

COLOUR RENDERING

The colour rendering properties of a lamp are defined by the colour rendering index Ra. The colours of our environment are seen as natural when the illuminating artificial light sources contain all spectral colours. The value of best colour rendering is 100 or 1A. It defines the measure of congruence of the colour of an object with its occurrence under the lamp defined as standard. Because of their spectral composition, lamps can have very different colour rendering properties despite having the same light colour. For example, a high pressure sodium lamp and a warm white metal halide lamp both emit warm white light, but the sodium lamp has inferior colour rendering. See Fig. 8–10 on Page 109.

| Colour rendering index | Ra |
|------------------------|-------|
| 1A | >90 |
| 1B | 80–89 |
| 2A | 70–79 |
| 2B | 60–69 |
| 3 | 40–59 |
| 4 | 20–39 |

| Colour temperature | Shortname | Name of the colour | Applications |
|--------------------|-----------|--------------------|--|
| 2500–2750 K | pw | pink white | Illumination of food, meat, flowers |
| 2750–2900 K | sw | super warm white | Food, cosy rooms |
| 2900–3300 K | ww | warm white | Cosy rooms, restaurants |
| 3300–3600 K | bw | brilliant white | Offices, high-class shop lighting, textiles |
| 3600–4700 K | nw | neutral white | Business premises, high class shop lighting, lighting of outdoor sales areas, service stations |
| 4200 K | gw | grow white | Special spectrum for plant growth |
| 4700–7000 K | dw | daylight white | Business premises, jeweller's stores, photography, mixing with natural daylight |
| 7000–12000 K | cw | cool white | Plant lighting, aquariums |
| 12000–16000 K | aw | aqua white | Aquariums, pool-lighting |
| 20000 K+ | ab | aqua blue | Aquariums, pool-lighting |

IMPORTANT LIGHT ENGINEERING FORMULA AND PICTURES

$$\text{Luminous intensity } I \text{ [cd]} = \frac{\text{Luminous flux } \Phi \text{ [lm]}}{\text{solid angle } \Omega \text{ [sr]}}$$

$$\text{Illuminance } E \text{ [lx]} = \frac{\text{Impinging luminous flux } \Phi \text{ [lm]}}{\text{illuminated area } A \text{ [m}^2\text{]}} = \frac{\Phi}{A}$$

$$\text{Luminous efficacy } \eta \text{ [lm/W]} = \frac{\text{emitted luminous flux } \Phi \text{ [lm]}}{\text{consumed electrical power } P_{\text{Lampe}} \text{ [W]}} = \frac{\Phi}{P_{\text{Lampe}}}$$

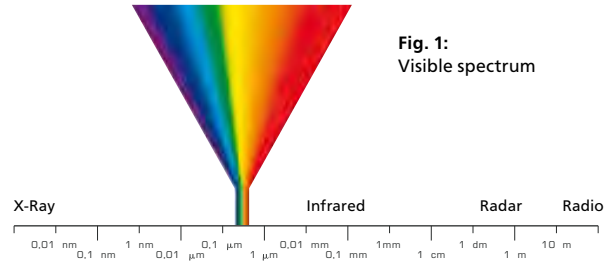


Fig. 1:
Visible spectrum

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Fig. 2: Spectral sensitivity of the eye

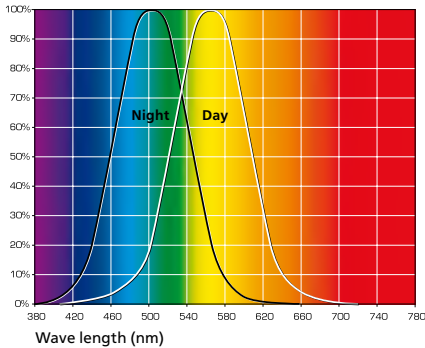


Fig. 3: Luminous intensity

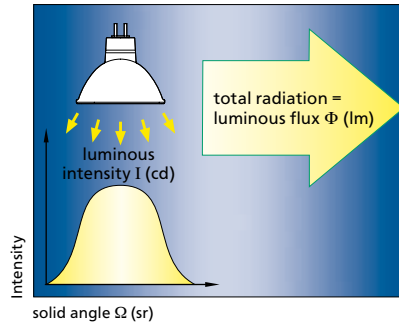
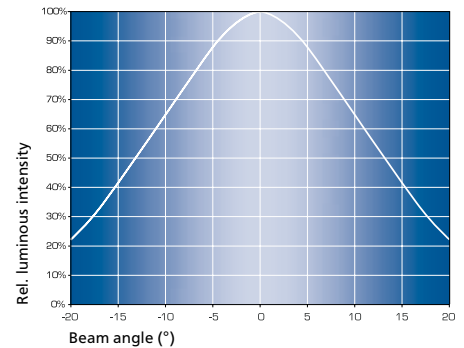


Fig. 4: Light distribution



GENERAL INFORMATION

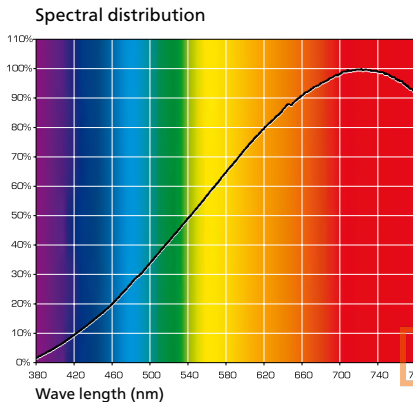


Fig. 5: Spectrum of a low voltage halogen lamp: All light colours are present.

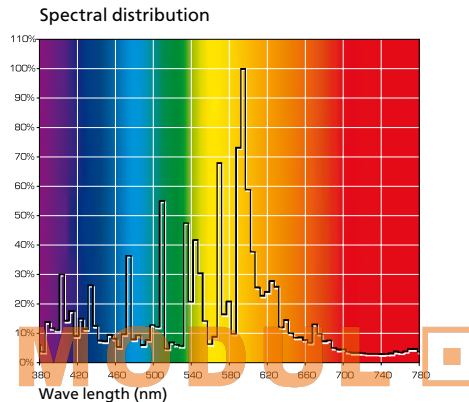


Fig. 6: Spectrum of a discharge lamp, colour ww (warm white): The mixture of many discrete lines gives white light with good colour rendering.

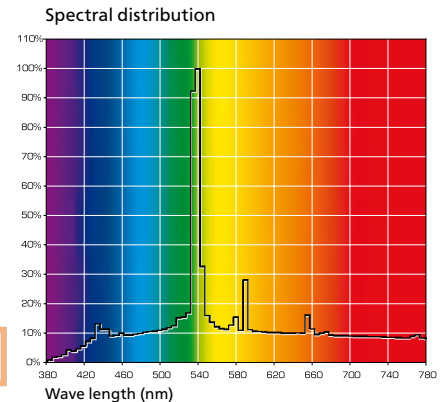


Fig. 7: Spectrum of a COLORLITE green: Mostly only green light is the present.

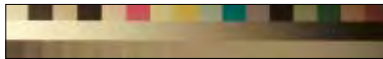


Fig. 8: Illumination with high-pressure sodium lamp.

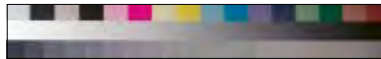


Fig. 9: Illumination with metal-halide lamp ww (warmwhite).

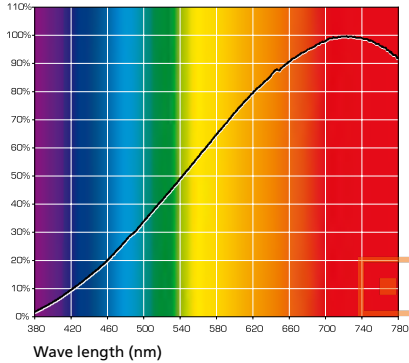


Fig. 10: Illumination with metal-halide lamp cw (coolwhite).

Example: Illumination of an object with a high-pressure sodium lamp and metal halide lamps: the lower the colour rendering index, the worse the colours of the illuminated object can be observed.

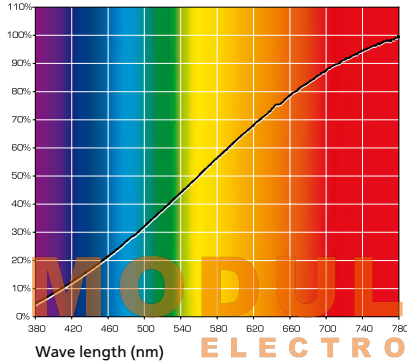
SPECTRAL DISTRIBUTION

Dichroic Lamps



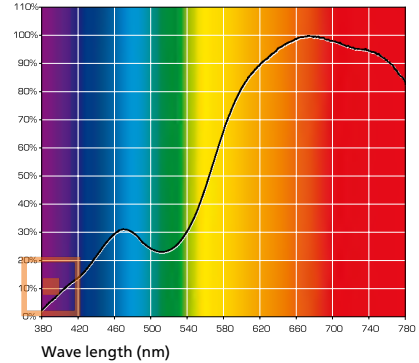
EUROSTAR/SUPERLINE/ULTRALIFE/
HIGHLINE GU 10/Fibreoptic lamp MR 16

Aluminium coated Lamps



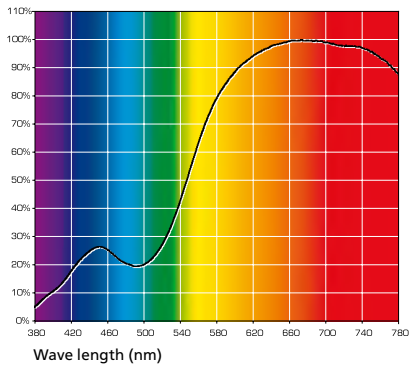
REFLEKTO/HIGHLINE GU 10/PAR/
Halogen-floodlight lamps/
Halogen-pin-type lamps

EUROSTAR Neodymium



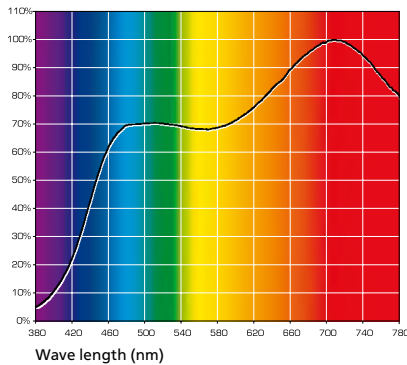
EUROSTAR Neodymium Butcher's

EUROSTAR Neodymium



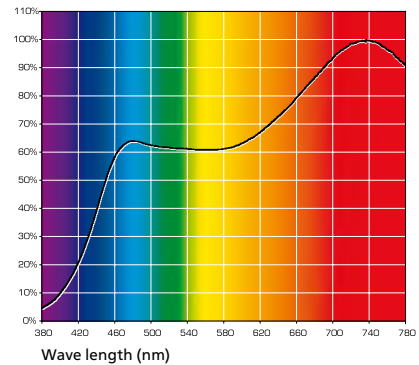
EUROSTAR Neodymium Bread

WHITESTAR



WHITESTAR 4200 K

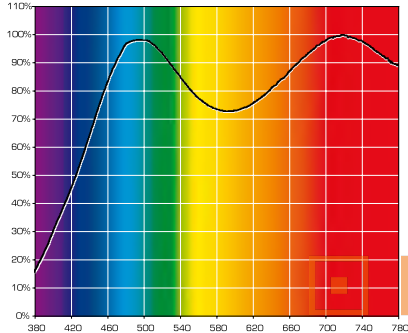
WHITESTAR



WHITESTAR 4700 K

GENERAL INFORMATION

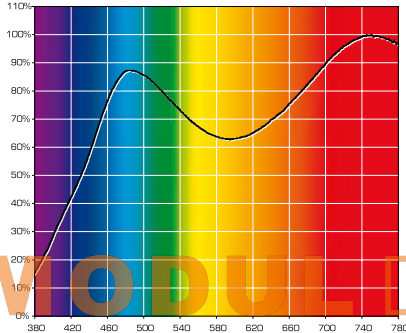
WHITESTAR



Wave length (nm)

WHITESTAR 5300 K

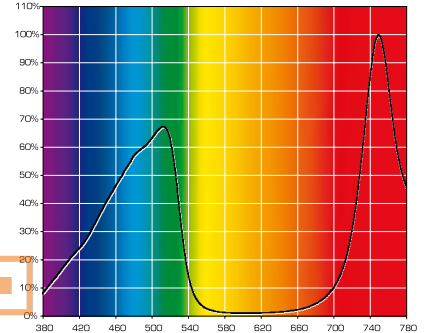
WHITESTAR



Wave length (nm)

WHITESTAR 6500 K

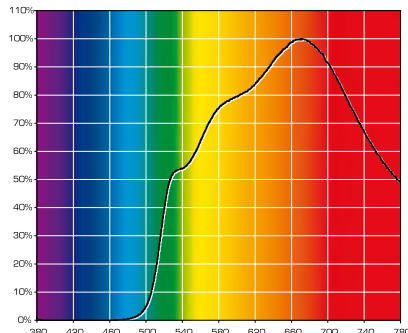
POPSTAR/ POPLINE



Wave length (nm)

POPSTAR/ POPLINE blue

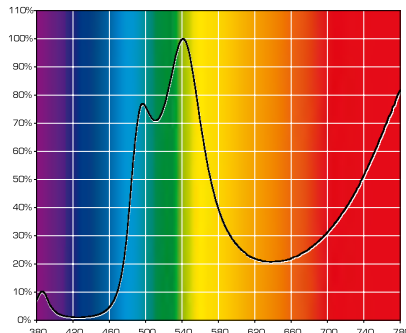
POPSTAR/ POPLINE



Wave length (nm)

POPSTAR/ POPLINE yellow

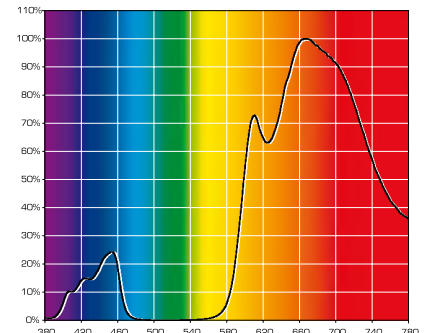
POPSTAR/ POPLINE



Wave length (nm)

POPSTAR/ POPLINE green

POPSTAR/ POPLINE

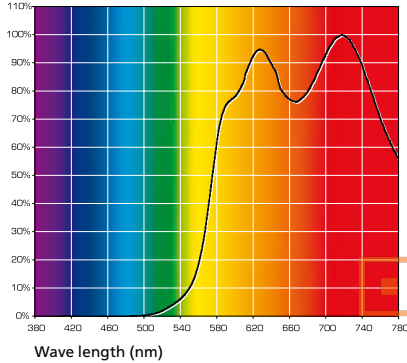


Wave length (nm)

POPSTAR/ POPLINE magenta

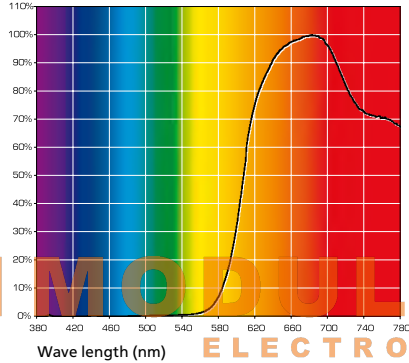
SPECTRAL DISTRIBUTION

POPSTAR/POPLINE



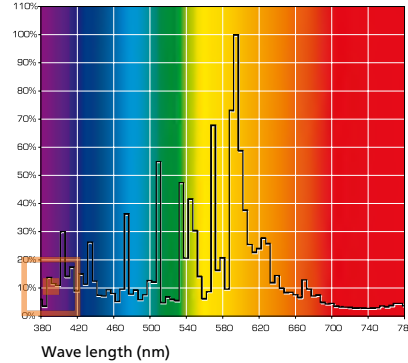
POPSTAR/POPLINE orange

POPSTAR/POPLINE



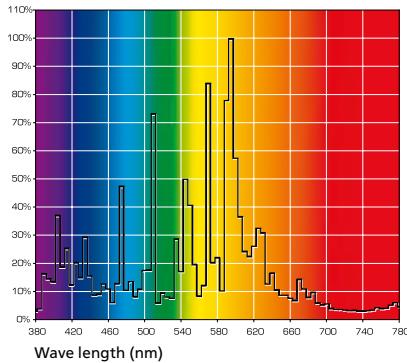
POPSTAR/POPLINE red

Metal-halide lamps



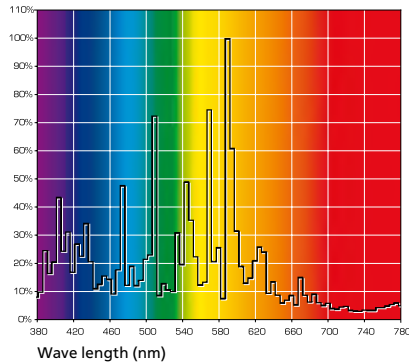
Light colour, warm white, ww,
2900 – 3300K

Metal-halide lamps



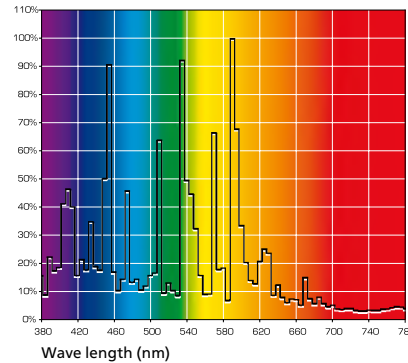
Light colour, brilliant white, bw,
3300 – 3600K

Metal-halide lamps



Light colour, neutral white, nw,
3600 – 4700K

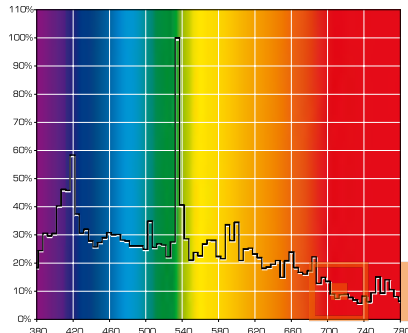
Metal-halide lamps



Light colour, daylight white, dw,
4700 – 7000K, 70 – 150W

GENERAL INFORMATION

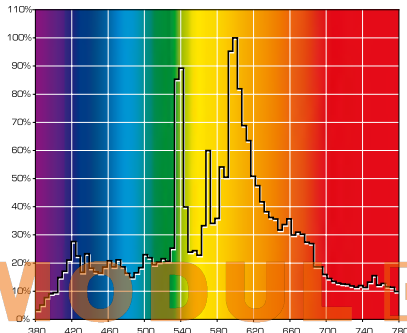
Metal-halide lamps



Wave length (nm)

Light colour, daylight white, dw,
4700 – 7000K, 250 – 1000 W

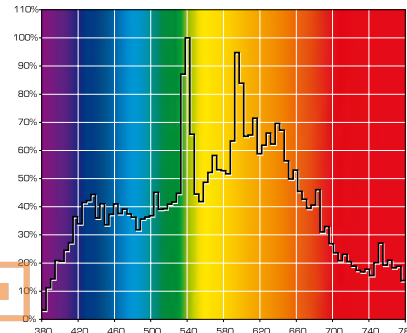
CERAMIC-Metal-halide lamps



Wave length (nm)

Light colour, warm white, ww,
2900 – 3300K

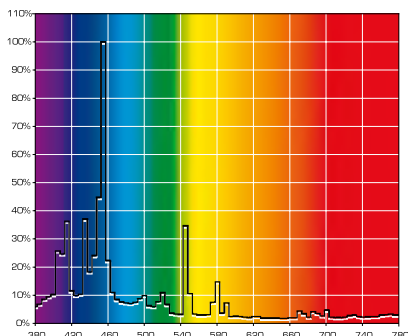
CERAMIC-Metal-halide lamps



Wave length (nm)

Light colour, neutral white, nw,
3600 – 4700K

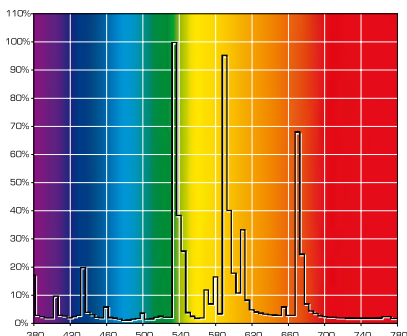
COLORLITE



Wave length (nm)

HIT-COLORLITE / COLORLITE-TOPSPOT,
-TOPLITE, TOPFLOOD blue

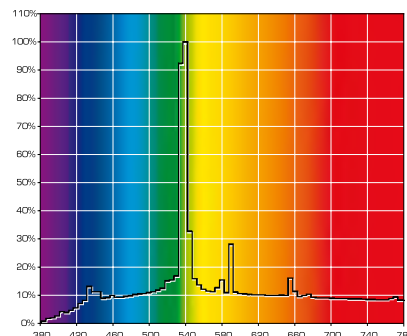
COLORLITE



Wave length (nm)

HIT-COLORLITE / COLORLITE-TOPSPOT,
-TOPLITE, TOPFLOOD yellow

COLORLITE

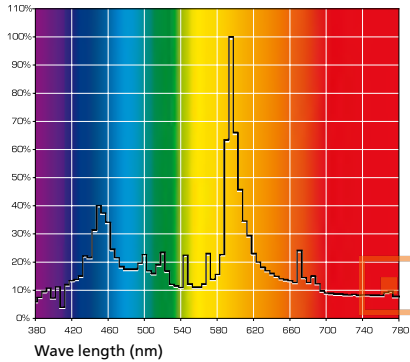


Wave length (nm)

HIT-COLORLITE / COLORLITE-TOPSPOT,
-TOPLITE, TOPFLOOD green

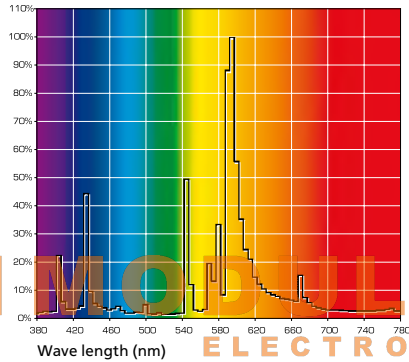
SPECTRAL DISTRIBUTION

COLORLITE



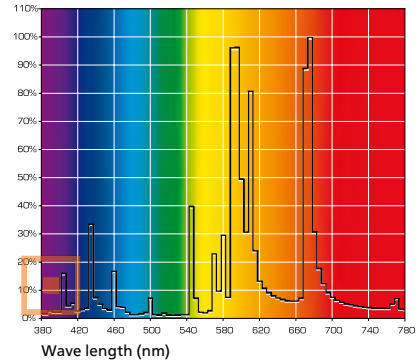
HIT-COLORLITE / COLORLITE-TOPSPOT,
-TOPLITE, TOPFLOOD magenta

COLORLITE



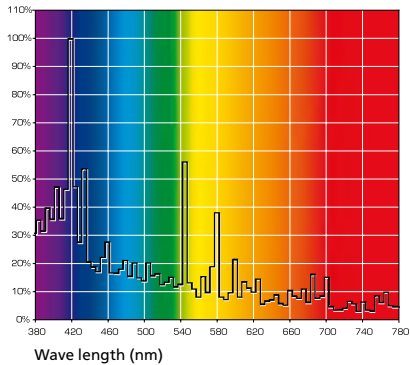
HIT-COLORLITE / COLORLITE-TOPSPOT,
-TOPLITE, TOPFLOOD orange 70W

COLORLITE



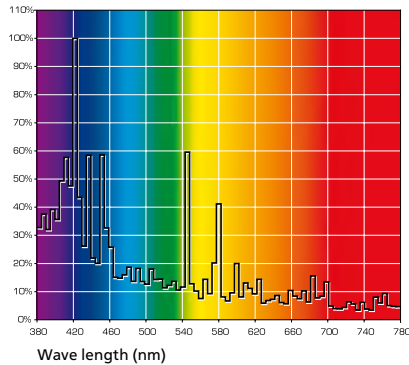
HIT-COLORLITE / COLORLITE-TOPSPOT,
-TOPLITE, TOPFLOOD orange 150 – 400W

NEPTURION



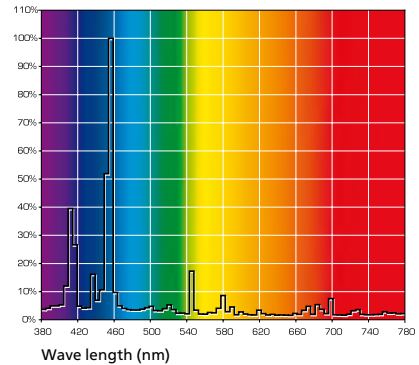
Light colour, cool white, cw,
7000 – 12000 K

NEPTURION



Light colour, aqua white, aw,
12000 – 16000 K

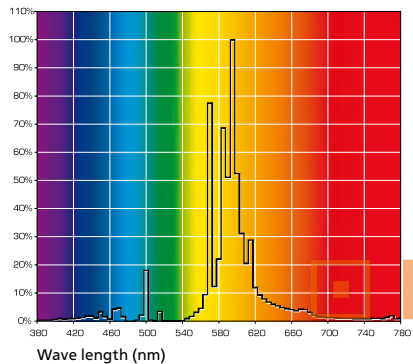
NEPTURION



Light colour, aqua blue, ab,
20000 K+

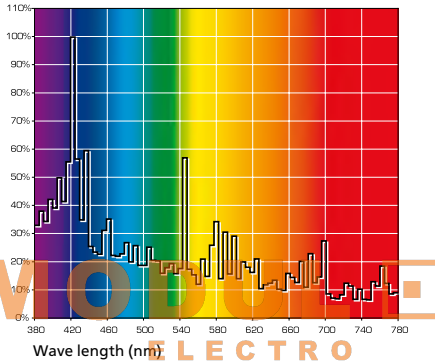
GENERAL INFORMATION

NaH



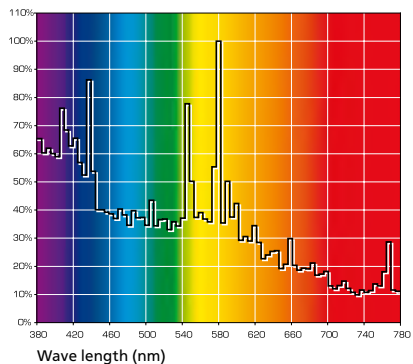
High pressure sodium lamps

HIT-DE 8800 K

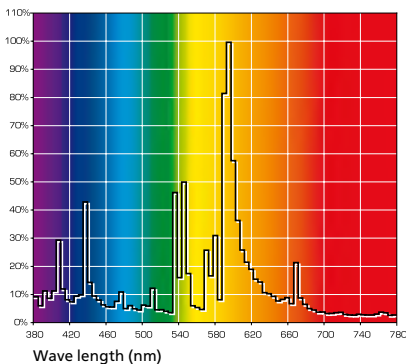


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STATURION



HITLITE



2750 K

SURVEY BURNING POSITIONS, FILAMENT SHAPES AND BASES

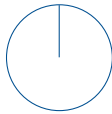
Burning positions

u = universal

p = horizontal, base at side

White background = allowed burning position

CAUTION! Failure to conform with the given burning position may shorten the life of the lamp!



u360



p10



p15



p20



p45

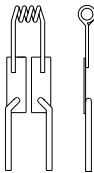


p60

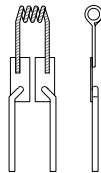
MODULO
ELECTRO
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Filament shapes

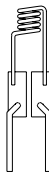
- C = Single-coil filament
- CC = Double-coil filament
- C-BAR = Flat core
- 8 = Axial
- 6 = Transversal



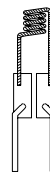
C-6



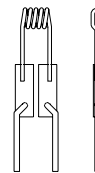
CC-6



C-8

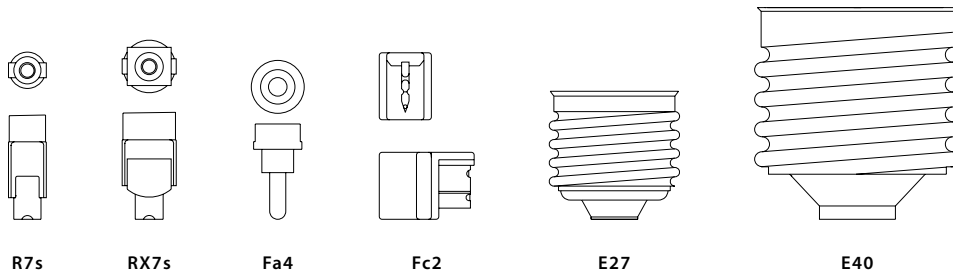
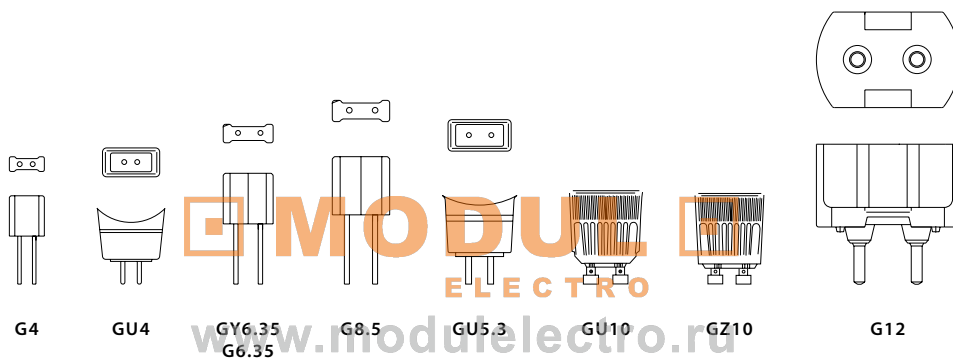


CC-8



C-BAR-6

Base types



OPERATING INSTRUCTIONS FOR TUNGSTEN-HALOGEN LAMPS

LUMINOUS FLUX

The luminous flux, i.e. the amount of light emitted by the lamp per unit of time, is given in lumen (lm) and is determined by using the nominal voltage and current, precisely regulated, after preliminary ageing. This value is mainly determined by the wattage of the lamp and the desired colour temperature or life. While burning, the lamp's wattage consumption drops by up to 3%, causing only a very slight reduction in the luminous flux. The halogen cycle prevents any further severe drop in the luminous flux caused by evaporated tungsten. The luminous flux (lm), in relation to the wattage (W) consumption of the lamp gives the luminous efficacy (lm/W), from which the expected colour temperature and life can be calculated.

VOLTAGE DROP

With low-voltage tungsten-halogen lamps and because of the high lamp currents that prevail, the voltage drop in the lead wire between transformer and lamp must especially be taken into account. The voltage drop increases in direct proportion to the length of the lead and the current. To avoid overheating of the lead, insufficient lamp wattage and ultimately a drop in the luminous flux, the cross-section of the lead wire must always be correctly adapted to its length and to the current consumption.

TRANSFORMERS

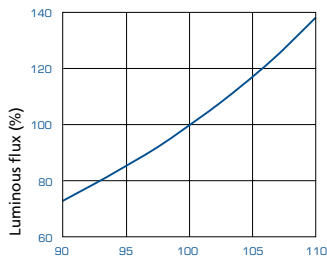
Low-voltage tungsten-halogen lamps must be operated with a transformer to convert the mains voltage into the voltage actually required.

When installing, please note the following points:

- Install the transformer as closely as possible to the light source (voltage drop!), but pay attention to the operating temperatures.
- Only use safety transformers according to VDE 0551 with thermal fuse.
- Transformers should be operated at nominal load to avoid overvoltage at the lamp as this may shorten the life.
- Ensure easy access, so that any integrated fuse can be exchanged easily if necessary.

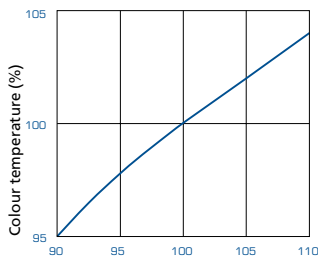
MODUL
ELEKTRO
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Dependence of luminous flux on operating voltage



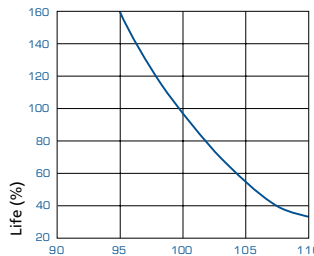
Operating voltage (%)

Dependence of colour temperature on operating voltage



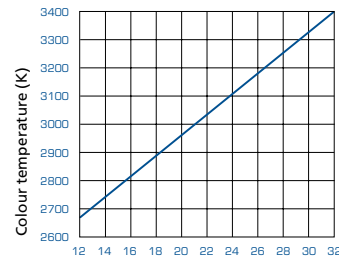
Operating voltage (%)

Dependence of life on operating voltage



Operating voltage (%)

Correlation of luminous efficacy and colour temperature



Luminous efficacy (lm/W)

GENERAL INFORMATION

DIMMING

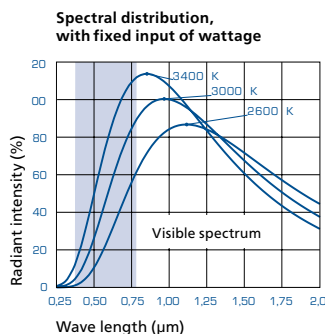
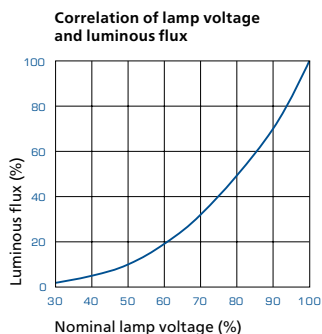
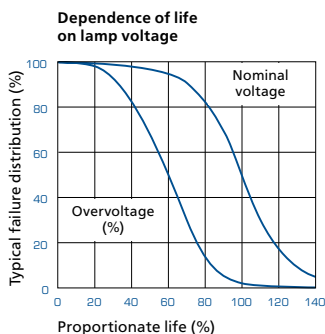
All BLV tungsten-halogen lamps are dimmable. It is not possible, however, to endlessly extend the life through operation at undervoltage.

AVERAGE LIFE AND GUARANTEE

The life of a tungsten-halogen lamp depends strongly on the voltage present at the base of the lamp. The life listed in the catalogue is always an average value determined in large-scale tests under laboratory conditions with regulated nominal voltage and a mains frequency of 50 Hz. In some cases, operation with overvoltage can considerably reduce the life (e.g. by approx. 50% at 6% overvoltage). BLV guarantees that at least 50% of lamps out of an individual packing unit and of an individual lamp type reaches the average life for that given lamp; provided the lamps are operated at the specified voltage, with a normal switch-cycle (once on and off per day) and thus subject to customary burning time. This guarantee is only applicable for a duration of 12 month after delivery, according to § 310, article 1 BGB, German law. Our current delivery and payment conditions apply.

SAFETY

- BLV tungsten-halogen lamps are subjected to continuous quality controls and are designed not to burst if used in accordance with the instructions. However, this can never be totally excluded.
- Safety requirements for fixtures are given in standard EN 60598 (IEC 598).
- These lamps may only be used with suitable sockets. Please observe manufacturer's directions for maximum operating temperatures of the sockets. Damaged sockets must be replaced.
- When tungsten-halogen lamps are operated, high temperatures can arise. When installing lamps, always maintain an adequate clearance between the lamp and the surface to be illuminated in order to avoid heat damage. Please also take into account the mounting distances specified by the fixture manufacturer.
- Do not touch the light bulbs with bare hands when handling halogen pin-type base lamps and halogen floodlight lamps. Halogen reflector lamps may be touched on the outside of the reflector only.



OPERATING INSTRUCTIONS FOR DISCHARGE LAMPS

LAMP OPERATION AND SAFETY

Standard metal-halide lamps emit UV-radiation and show over-pressure during operation. Therefore they may only be operated in suitable fixtures that are completely closed. These fixtures must be equipped with a tight fitting, UV absorbing cover lens which is resistant to thermal shock and fracture. TOPSPOT SHROUD and TOPLITE SHROUD, however, may on account of its integrated burst protection, be operated in fixtures without cover lens. The current must be turned off prior to changing lamps. When changing lamps, check sockets for scorching and replace if necessary. If the ballast is equipped with a starter, the starter must also be changed together with the lamp. Do not touch the outer quartz glass bulb with bare hands. Remove stains with alcohol and a clean cloth, as they may otherwise burn into the glass. The operation of lamps with faulty outer bulbs is not permissible. For doubleended lamps, the inner exhaust tip must not point downwards. Recommendation: Lamps operating continuously should be switched off for approx. 30 minutes at least once a week.

SUPPLY VOLTAGE

Supply voltage of metal-halide lamps and high-pressure sodium lamps. These lamps operate with a ballast which must be designed for mains voltage. The permissible mains voltage must not deviate more than $\pm 3\%$ from the nominal voltage of the ballast or $\pm 5\%$ for short periods of time only. If necessary, a ballast with different tapping points must be used. Big variations in the mains voltage may shorten the life and undesirable colour variations may occur.

BALLASTS

The ballast must be suitable for the lamp wattage and available mains voltage. If necessary, tap accordingly. In case of doubt, contact BLV for approval. An excess temperature protection should be integrated into the ballast. Hazards because of unusual operating conditions may occur at the end of life which can cause an overload to the ballast. Therefore, an appropriate fuse has to be integrated in the ballast. The operation of this lamp with an electronic ballast, whose operation frequency exceeds 300 Hz, could cause harmonic resonance, resulting in early lamp failures. For metal-halide lamps, only use standard ignitors generating a minimum igniting voltage of 4.0 kV at the lamp with sufficient pulse width. Good high-voltage insulation is essential. The same applies to high pressure sodium lamps, which require a minimum ignition voltage of 2.8 kV for DE and 2.8 kV for SE lamps. Install superimposed ignitors in the fixture as close to the lamp as possible. The cable length must not exceed 1.5 m.

INITIAL BEHAVIOUR

of metal-halide lamps and high-pressure sodium lamps. Colour variations and brief flickering may occur when the lamps are switched on for the first time. The lamps will however stabilize after a short time. If the burning position is changed, it may take several hours before the same operating conditions are re-established as the metal-halides inside the lamp need some time for reorientation.

RE-IGNITION

of metal-halide lamps and high-pressure sodium lamps. These lamps must cool down for a few minutes after being turned off, before they can be turned on again. Double-ended metal-halide lamps and high-pressure sodium lamps can be re-ignited when hot through the use of a suitable 25 or 35 kV ignition device.

LUMINOUS EFFICACY

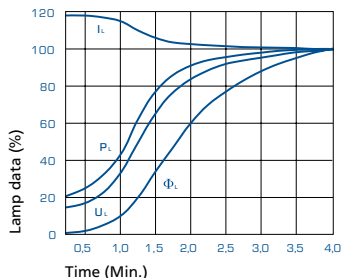
Most BLV metal-halide lamps are filled with scandium and sodium. This technology offers high colour stability. Generally, the lamps have an initial luminous flux of up to 20% above the standard value. This adjusts to the standard level in the first 1000 hours. After 5000 hours of operation (or 5000 hours at HIT-ULTRALIFE), the typical drop in luminous flux with respect to the initial standard value is approx. 30%.

AVERAGE LIFE, GUARANTEE AND GROUP REPLACEMENT

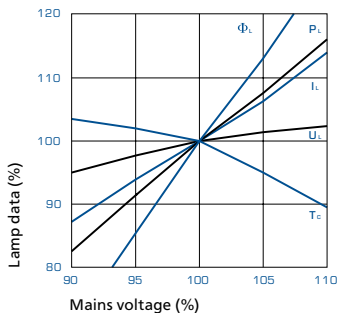
The average life is very long (for definition of life and guarantee see page 119). For economical reasons and to ensure a homogeneous light appearance, we recommend a group lamp exchange after approx. 5000 h. BLV guarantees that at least 50% of lamps out of an individual packing unit and of an individual lamp type reaches the average life for that given lamp; provided the lamps are operated at the specified lamp current, with a normal switch-cycle (once on and off per day) and thus subject to customary burning time. For entrepreneurs the guarantee is applicable, according to § 310 subparagraph 1 BGB – German law, for a duration of 12 months after delivery only. Our current delivery and payment conditions apply.

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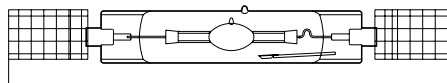
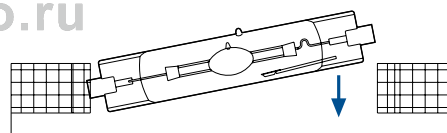
Starting curves of metal-halide lamps



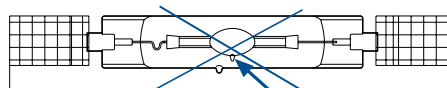
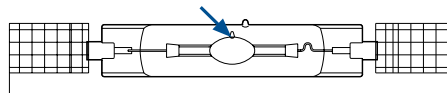
Effect of change in mains voltage on the lamp data for metal-halide lamps



I_L = Lamp current
P_L = Lamp wattage
U_L = Lamp voltage
Φ_L = Luminous flux
T_c = Colour temperature



The exhaust tip of the inner burner must not point downwards.



Press the base against the spring force into the socket until the other base can be put into the second socket.

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














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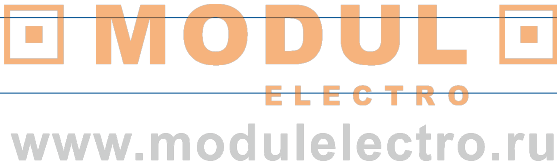
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PICTOGRAMS SAFETY AND HANDLING

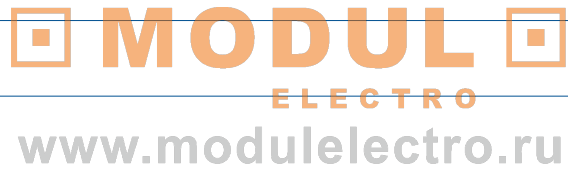
| | | | | | |
|---|---|---|---|--|---|
|  | For indoor use only |  | Operate only in fixtures with protective shield |  | Do not touch lamp with bare fingers |
|  | Unplug from mains before changing lamp |  | Lamp suitable for open fixtures |  | Only operate lamp with ballast |
|  | Protect against direct water contact |  | Lamp is dimmable |  | Do not dispose of lamp into household waste |
|  | Please note the operating instructions |  | Lamp is not dimmable |  | Caution hot |
|  | Open box and read the instructions |  | Do not look directly into the lamp | | |
|  | Cool beam reflector lamp |  | Attention, lamp emits dangerous UV-C radiation | | |
|  | Lamp with limited operating positions |  | Attention, lamp emits dangerous UV radiation | | |
|  | Do not operate lamp when outer envelope is broken |  | Lamp does not emit UV radiation | | |

GENERAL INFORMATION

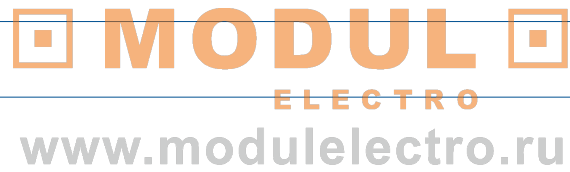
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NOTES



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