

Product Information Bulletin
TRU-AIM® IR MR16
 Low Voltage Halogen Lamps



- All the technological advances of standard MR16s with significant reduction in energy consumption
- Bright, crisp light throughout lamp life
- A high efficacy directional lamp which combines IR technology with a hard coated dichroic reflector for consistent color throughout life
- UV-control capsule combined with IR coating eliminates UV-B and UV-C radiation
- 5000-hour average rated lamp life
- Axial filament for exceptionally smooth beam pattern
- GU 5.3 base for a solid socket connection
- Cover lens for use in unshielded fixtures

ECOLOGIC® is a comprehensive program of OSRAM SYLVANIA focused on addressing environmental issues at all stages of lamp life.



SYLVANIA TRU-AIM IR MR16 lamps were the first low-voltage infrared coated reflector lamps in the industry.

The high luminous efficacy of the TRU-AIM IR lamp is achieved via thermal recovery. The ellipsoidal tungsten halogen capsule and its special infrared reflective coating ensure that the radiated heat which otherwise would be wasted is reflected back to the lamp filament. Because the heat is recycled within the lamp capsule, less energy is required to bring the filament up to its optimal operating temperature.

Product Availability

| Product | Beam Angle |
|----------------|------------------|
| 20W TRU-AIM IR | Narrow Spot 10° |
| | Narrow Flood 25° |
| | Flood 35° |
| | Wide Flood 60° |
| 37W TRU-AIM IR | Narrow Spot 10° |
| | Narrow Flood 25° |
| | Flood 35° |
| | Wide Flood 60° |
| 50W TRU-AIM IR | Narrow Spot 10° |
| | Narrow Flood 25° |
| | Flood 35° |
| | Wide Flood 60° |

Application Information

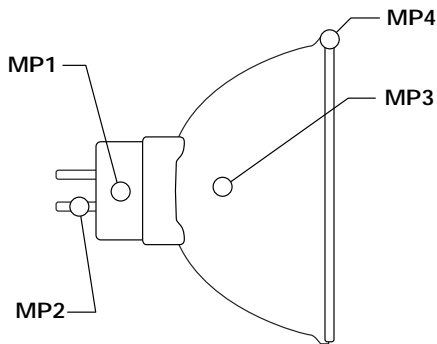
| Applications | Application Notes | Fixture Availability |
|--|---|---|
| Highlight merchandise Accent / display lighting Highlight heat sensitive merchandise Retail Art galleries Hotels, restaurants Decorative room lighting Ambient lighting | <ol style="list-style-type: none"> 1. Direct replacement for all higher wattage standard dichroic MR16s. <ul style="list-style-type: none"> • TRU-AIM IR MR16 lamps offer a reduction in energy consumption. 2. The best choice when constant crisp, white light and energy savings are required. 3. Hard dichroic coating eliminates color shift over the life of the lamp and makes these lamps ideal for heat sensitive merchandising. 4. The elimination of UV-B and UV-C reduces fading on UV-sensitive merchandise and artwork. | Track Strips for case lighting Adjustable downlight Landscape lighting |

Quartz IR Capsule



The ellipsoidal tungsten halogen capsule has been designed to allow optimal reflection of infrared energy back to the filament. The filament has been axially aligned between the focal points of the ellipsoidal capsule and features a return lead wire which runs back down the center of the filament to optimize infrared reflection and to avoid photometric interference. Xenon fill gas in the burner also contributes to the increase in luminous intensity and efficacy.

Thermal Performance



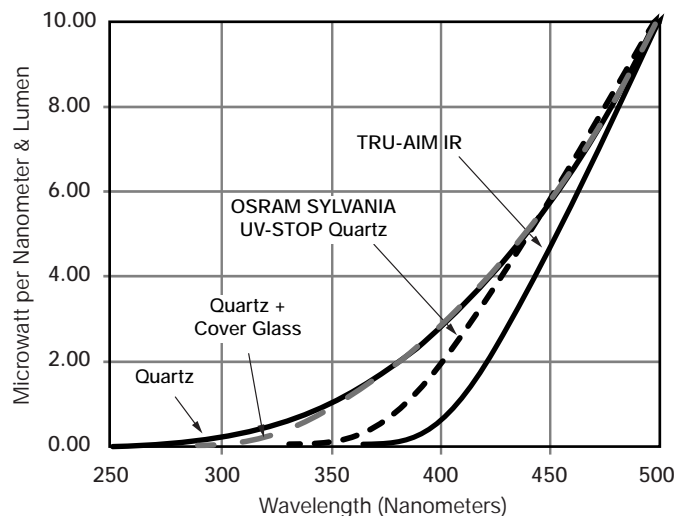
Temperature measurements were made in open air with an ambient temperature of 25°C (77°F) using a Bender & Worth 884 socket. Temperature measurements are provided for reference only.

| | Press | Pin | Reflector | Rim |
|--------------------------|-------|--------|-----------|-------|
| Measurement Point | MP1 | MP2 | MP3 | MP4 |
| Max Permitted | 370°C | 250°C* | — | 240°C |
| 20W | 170°C | 125°C | 125°C | 115°C |
| 37W | 270°C | 170°C | 160°C | 145°C |
| 50W | 325°C | 220°C | 200°C | 180°C |

*20W Max is 220°C

50 watt TRU-AIM® IR MR16 lamps should not be used in semi-enclosed or enclosed fixtures that will inhibit air flow in the neck area or in sockets that will inhibit air flow in this area (MP1 above). Infrared conserving halogen capsules recycle their heat by using a coating on the outside of the halogen capsule. Because of this, all the recycled heat must pass through the capsule glass twice, and the IR capsule will operate at a higher temperature than a standard halogen capsule of the same wattage would. Due to this additional heating, 50W TRU-AIM IR MR16 lamps may have short lamp life when the neck of the lamp is not well ventilated, and should not be used as a direct replacement for standard 50W MR16 lamps.

UV-Transmission Curves of Quartz Halogen Capsules



TRU-AIM IR lamps eliminate UV-B and UV-C radiation.

Footcandle

TRU-AIM® IR lamps are available in several beam angles to meet the demand of virtually any display or accent lighting application. For each TRU-AIM IR lamp, this table shows how lamp output — in candelas — varies as a function of distance.

20MR16/IR/NSP10/C

Wattage 20 CBCP 6000
Beam Angle 10 MR16

| Distance (feet) | FC* | Diameter (feet) |
|-----------------|-----|-----------------|
| 5 | 240 | 1.0 |
| 6.5 | 142 | 1.3 |
| 8 | 94 | 1.6 |
| 9.5 | 66 | 1.8 |
| 11 | 50 | 2.1 |

* Approximate footcandle values

20MR16/IR/NFL25/C

Wattage 20 CBCP 2300
Beam Angle 25 MR16

| Distance (feet) | FC* | Diameter (feet) |
|-----------------|-----|-----------------|
| 3 | 256 | 1.5 |
| 4 | 144 | 1.9 |
| 5 | 92 | 2.4 |
| 6 | 64 | 2.8 |
| 7 | 47 | 3.3 |

* Approximate footcandle values

20MR16/IR/FL35/C

Wattage 20 CBCP 1000
Beam Angle 35 MR16

| Distance (feet) | FC* | Diameter (feet) |
|-----------------|-----|-----------------|
| 2 | 250 | 1.4 |
| 2.5 | 160 | 1.7 |
| 3 | 111 | 2.1 |
| 3.5 | 82 | 2.4 |
| 4 | 63 | 2.7 |

* Approximate footcandle values

20MR16/IR/WFL60/C

Wattage 20 CBCP 450
Beam Angle 60 MR16

| Distance (feet) | FC* | Diameter (feet) |
|-----------------|-----|-----------------|
| 1.5 | 200 | 1.9 |
| 2 | 113 | 2.5 |
| 2.5 | 72 | 3.1 |
| 3 | 50 | 3.6 |
| 3.5 | 37 | 4.2 |

* Approximate footcandle values

37MR16/IR/NSP10/C

Wattage 37 CBCP 12,500
Beam Angle 10 MR16

| Distance (feet) | FC* | Diameter (feet) |
|-----------------|-----|-----------------|
| 7 | 255 | 1.4 |
| 9 | 154 | 1.7 |
| 11 | 103 | 2.1 |
| 13 | 74 | 2.4 |
| 15 | 56 | 2.8 |

* Approximate footcandle values

37MR16/IR/NFL25/C

Wattage 37 CBCP 4400
Beam Angle 25 MR16

| Distance (feet) | FC* | Diameter (feet) |
|-----------------|-----|-----------------|
| 4 | 275 | 1.9 |
| 5.5 | 145 | 2.6 |
| 7 | 90 | 3.3 |
| 8.5 | 61 | 3.9 |
| 10 | 44 | 4.6 |

* Approximate footcandle values

37MR16/IR/FL35/C

Wattage 37 CBCP 2200
Beam Angle 35 MR16

| Distance (feet) | FC* | Diameter (feet) |
|-----------------|-----|-----------------|
| 3 | 244 | 2.1 |
| 4 | 138 | 2.7 |
| 5 | 88 | 3.3 |
| 6 | 61 | 4.0 |
| 7 | 45 | 4.6 |

* Approximate footcandle values

37MR16/IR/WFL60/C

Wattage 37 CBCP 1100
Beam Angle 60 MR16

| Distance (feet) | FC* | Diameter (feet) |
|-----------------|-----|-----------------|
| 2 | 275 | 2.5 |
| 2.5 | 176 | 3.1 |
| 3 | 122 | 3.6 |
| 3.5 | 90 | 4.2 |
| 4 | 69 | 4.6 |

* Approximate footcandle values

50MR16/IR/NSP10/C

Wattage 50 CBCP 15,000
Beam Angle 10 MR16

| Distance (feet) | FC* | Diameter (feet) |
|-----------------|-----|-----------------|
| 8 | 234 | 1.6 |
| 10 | 150 | 1.9 |
| 12 | 104 | 2.3 |
| 14 | 77 | 2.6 |
| 16 | 59 | 3.0 |

* Approximate footcandle values

50MR16/IR/NFL25/C

Wattage 50 CBCP 5700
Beam Angle 25 MR16

| Distance (feet) | FC* | Diameter (feet) |
|-----------------|-----|-----------------|
| 5 | 228 | 2.4 |
| 6.5 | 135 | 3.0 |
| 8 | 89 | 3.7 |
| 9.5 | 63 | 4.4 |
| 11 | 47 | 5.0 |

* Approximate footcandle values

50MR16/IR/FL35/C

Wattage 50 CBCP 2850
Beam Angle 35 MR16

| Distance (feet) | FC* | Diameter (feet) |
|-----------------|-----|-----------------|
| 4 | 178 | 2.7 |
| 5 | 114 | 3.3 |
| 6 | 79 | 4.0 |
| 7 | 58 | 4.6 |
| 8 | 45 | 5.2 |

* Approximate footcandle values

50MR16/IR/WFL60/C

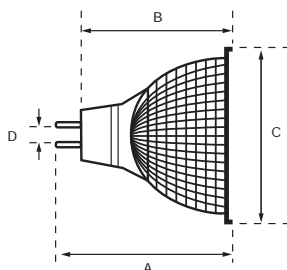
Wattage 50 CBCP 1430
Beam Angle 60 MR16

| Distance (feet) | FC* | Diameter (feet) |
|-----------------|-----|-----------------|
| 2.5 | 229 | 3.1 |
| 3 | 159 | 3.6 |
| 3.5 | 117 | 4.2 |
| 4 | 89 | 4.6 |
| 4.5 | 71 | 5.4 |

* Approximate footcandle values

Distance and diameter are measured in feet.

Dimensions



Uncovered

| | Maximum Overall Length (A) | Max. Length w/Pins (B) | Maximum Diameter (C) | Max. Pin Spacing (D) |
|------------|----------------------------|------------------------|----------------------|----------------------|
| TRU-AIM IR | 1-3/4" | 1-1/2" | 2" | 1/4" |

Sample Specification

TRU-AIM® IR Lamp(s) shall be (a) 12V TRU-AIM IR halogen lamp(s) with a UV-control capsule, an axial filament, a consistent color, hard dichroic reflector coating, and an infrared reflective coating on the lamp capsule. Lamp(s) shall be (20, 37 or 50) watts with a ___ beam spread (NSP, NFL, FL or WFL).

Lamp Comparison

| Item No. | Lamp Type | Beam Angle | Color Temperature (K) | CBCP (cd) |
|----------|------------------------|------------|-----------------------|-----------|
| 58533 | 20MR16/IR/FL35/C | 35 | 3000 | 1000 |
| | Brand X Q35MR16/C/FL40 | 40 | 3000 | 1000 |
| 58633 | 37MR16/IR/FL35/C | 35 | 3000 | 2200 |
| | Brand X Q50MR16/C/FL40 | 40 | 3050 | 1700 |
| 54173 | 50MR16/IR/FL35/C | 35 | 3000 | 2850 |
| | Brand X Q71MR16/C/FL40 | 40 | 3050 | 2200 |

Ordering and Specification Information

| Item Number | Ordering Abbreviation | Watts | Volts | Base | Avg. Rated Life | CBCP (cd) | Beam Angle |
|-------------|-----------------------|-------|-------|-------|-----------------|-----------|------------|
| 58531 | 20MR16/IR/SP10/C | 20 | 12 | GU5.3 | 5000 | 6000 | 10 |
| 58532 | 20MR16/IR/NFL25/C | 20 | 12 | GU5.3 | 5000 | 2300 | 25 |
| 58533 | 20MR16/IR/FL35/C | 20 | 12 | GU5.3 | 5000 | 1000 | 35 |
| 58838 | 20MR16/IR/FL60/C | 20 | 12 | GU5.3 | 5000 | 450 | 60 |
| 58641 | 37MR16/IR/NSP10 | 37 | 12 | GU5.3 | 5000 | 12,500 | 10 |
| 58634 | 37MR16/IR/NFL25 | 37 | 12 | GU5.3 | 5000 | 4400 | 25 |
| 58633 | 37MR16/IR/FL35/C | 37 | 12 | GU5.3 | 5000 | 2200 | 35 |
| 58837 | 37MR16/IR/WFL60/C | 37 | 12 | GU5.3 | 5000 | 1100 | 60 |
| 54175 | 50MR16/IR/NSP10/C | 50 | 12 | GU5.3 | 5000 | 15,000 | 10 |
| 54174 | 50MR16/IR/NFL25/C | 50 | 12 | GU5.3 | 5000 | 5700 | 25 |
| 54173 | 50MR16/IR/FL35/C | 50 | 12 | GU5.3 | 5000 | 2850 | 35 |
| 54237 | 50MR16/IR/WFL60/C | 50 | 12 | GU5.3 | 5000 | 1430 | 60 |

OSRAM SYLVANIA
National Customer
Service and Sales Center
18725 N. Union Street
Westfield, IN 46074

Industrial Commercial

Phone: 1-800-255-5042
Fax: 1-800-255-5043

National Accounts

Phone: 1-800-562-4671
Fax: 1-800-562-4674

OEM/Specialty Markets

Phone: 1-800-762-7191
Fax: 1-800-762-7192

Display/Optic

Phone: 1-888-677-2627
Fax: 1-800-762-7192

In Canada
OSRAM SYLVANIA LTD.
Headquarters
2001 Drew Road
Mississauga, ON L5S 1S4

Industrial Commercial

Phone: 1-800-263-2852
Fax: 1-800-667-6772

Special Markets

Phone: 1-800-265-2852
Fax: 1-800-667-6772

Ordering Guide

| 37 | MR | 16 | / | IR | / | SP | 10 | / | C |
|-----------------|--------------|-----------|---|----------|---|---|--------------------------|---|---------|
| Wattage | Multifaceted | Diameter | | Type | | Beam Spread | Beam Angle | | Covered |
| 20W/ 37W/50W | Reflector | 16 = 16/8 | | Infrared | | NSP = Narrow Spot NFL = Narrow Flood FL = Flood WFL = Wide Flood | 10° 25° 35° 60° | | |