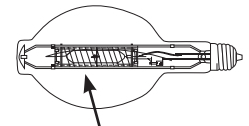




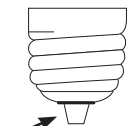
Philips Protected Metal Halide "O" Rated Lamps

Ideal for manufacturing facilities, retail establishments and warehouses

Metal Halide



Shrouded Arc Tube for "O" Open Fixture Rating



Extended Eyelet Mogul (EEM) Base (EX39 Exclusionary Mogul)

"O" rated for safe operation in open fixtures*

Philips Protected Metal Halide "O" Rated Lamps

Protective quartz shroud provides extra level of safety

- Shrouded arc tube for "O" open fixture rating

No shut-off required

- Ideal for 24-hour a day, 7-day a week operations (relamp fixtures at or before the end of rated life)

Extended eyelet mogul base will operate in both standard and exclusionary sockets

Satisfies the 2005 NEC for use in open luminaires†

* Relamp fixtures at or before end of rated average life.

† The 2005 NEC states that luminaires that use a metal halide lamp shall be provided with either a containment barrier that encloses the lamp (historically referred to as an enclosed luminaire) or shall be provided with a means, typically a special lampholder, that will only accept ANSI Type-O metal halide lamp. (Exception—this requirement will not apply to open luminaires with thick-glass parabolic reflector PAR lamps.) For more information regarding use of Type-O, S, and E metal halide systems, please refer to the NEMA white paper on this subject that is freely available at www.nema.org

PHILIPS

Philips Protected Metal Halide “O” Rated Lamps

Ordering Data (Subject to change without notice)

Color Product Number	Ordering Code	Nom. Watts	ANSI Code	Bulb Type	Bulb Finish	MOL (In.)	LCL (In.)	Avg. Life (Hrs.) ¹	Rated			
									Initial Lumens	Mean Lumens	CRI	Temp. (Kelvin)
28119-6	MP175/BU	175	M57/O	ED-28	CLEAR	8 3/8	5	10,000	15,000	12,000	65	3800
28124-6	MP250/BU	250	M58/O	ED-28	CLEAR	8 3/8	5	10,000	22,000	16,500	62	3800
13067-4	MP360/BU/EW	360	M165/M59/O	ED-37	CLEAR	11 1/2	7	20,000	34,200	23,940	65	4000
13068-2	MP360/C/BU/EW	360	M165/M59/O	ED-37	COATED	11 1/2	—	20,000	31,700	20,605	68	3600
13332-2	MP400/BU	400	M59/O	ED-37	CLEAR	11 1/2	7	20,000	38,000	26,600	65	4000
13333-0	MP400/C/BU	400	M59/O	ED-37	COATED	11 1/2	—	20,000	34,500	22,425	67	3700
28118-8	MP1000/BU	1000	M47/O	BT-56	CLEAR	15 3/8	9.5	12,000	107,000	75,000	65	3900

■ Nickel plated brass base

- 1) Rated average life is the life obtained, on the average, from large representative groups of lamps in laboratory tests under controlled conditions at 10 or more operating hours per start. It is based on survival of at least 50% of the lamps and allows for individual lamps or groups of lamps to vary considerably from the average. For lamps with a rated average life of 24,000 hours, life is based on survival of 67% of the lamps.
- 2) Approximate lumen values listed are for vertical operation of the lamp.
- 3) Approximate lumen output at 40% of lamp rated average life.

Electrical and Technical Data

RMS Lamp Operating Current (Amps) Nominal	_____	1.5 (175W)
	_____	2.1 (250W)
	_____	3.0 (360W)
	_____	3.25 (400W)
	_____	4.1 (1000W)
Lamp Current Crest Factor (Maximum)	_____	1.8
Warm-up to 80% Full Brightness	_____	3–5 minutes
Re-start Time for Hot Lamps	_____	10–20 minutes

Protected Metal Halide Lamps, Open or Enclosed Fixtures, Base Up Operation, ± 15° Unless Otherwise Noted

Recommended Warnings, Cautions and Operating Instructions

WARNING: These lamps can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available. This lamp complies with FDA radiation performance standard 21 CFR subchapter J, (USA:21CFR 1040.30 Canada:SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000°C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

These lamps are designed to retain all the glass particles should an arc tube rupture occur. The following operating instructions are recommended to minimize these occurrences.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

About Metal Halide Lamp Classifications

Every metal halide lamp is classified under one of the following three American National Standards Institute (ANSI) classifications:

E-Type are to be used in only suitably rated enclosed luminaries.

S-Type may be used in open luminaries, when operated in the near vertical position. This category of lamps is limited only to certain lamps in a 350 to 1000 watt range.

O-Type comply with ANSI Standard C78.387 for containment test and may be used in open luminaries.

For more information on “Best Practices for Metal Halide Lighting Systems,” please visit www.nema.org and search for document number LSD 25-2000.

Physical Characteristics

Bulb Temperature (Maximum)	_____	400°C (752°F)
Base Temperature (Maximum)	_____	210°C (410°F)
Base	_____	EX39 Excl. Mog.
Operating Position	_____	Base-up ± 15°
Luminaire	_____	Open or Enclosed
Standard Package Quantity	_____	12 (175W, 250W)
	_____	6 (360W, 400W, 1000W)

LAMP OPERATING INSTRUCTIONS:

1. **RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE.** Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
3. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
 - A. Operate lamp only within specified limits of operation.
 - B. For total supply load refer to ballast manufacturers electrical data.
4. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
5. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
6. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
7. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock, and color appearance may vary between individual lamps.
8. Lamps may require 10 to 20 minutes to re-light if there is a power interruption.
9. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
10. Do not use this lamp:
 - A. In a fixture that contains a Pulse Start metal halide ballast.
 - B. In a fixture that is specifically designed for use with Pulse Start metal halide lamps.

Operation of these lamps on Pulse Start Metal Halide systems may increase the chance of an outer bulb rupture and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.



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www.philips.com

Philips Lighting Company
 200 Franklin Square Drive
 P.O. Box 6800
 Somerset, NJ 08875-6800
 1-800-555-0050

A Division of Philips Electronics North America Corporation

Philips Lighting
 281 Hillmount Road
 Markham, Ontario
 Canada L6C 2S3
 1-800-555-0050

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