



EYE LIGHTING INTERNATIONAL OF NORTH AMERICA, INC.

A SUBSIDIARY OF IWASAKI ELECTRIC CO., LTD.

Address: 9150 Hendricks Rd., Mentor, OH 44060

Phone: 888-66-LAMPS **Fax:** 800-811-7395 **E-Mail:** sales@eyelighting.com

Phone: (440) 350-7000 **Fax:** (440) 350-7001 **Web:** www.eyelighting.com

Precedence Through Technology

The accumulation of wisdom in the pursuit of creativity has lead to the technology for which Iwasaki is renowned. Ranging from Japan's first incandescent reflector lamps, to superior HID light sources and halogen lamps patented across 10 countries worldwide, Iwasaki enters the new millennium with state-of-the-art light applications utilizing UV, electron beam and LED technologies. Inspired by the limitless potential that light has to create a more beautiful, safe, and enjoyable world, a wealth of know-how drawn from years of experience and dedication has confirmed Iwasaki's position as a pioneer in the creation and development of light.

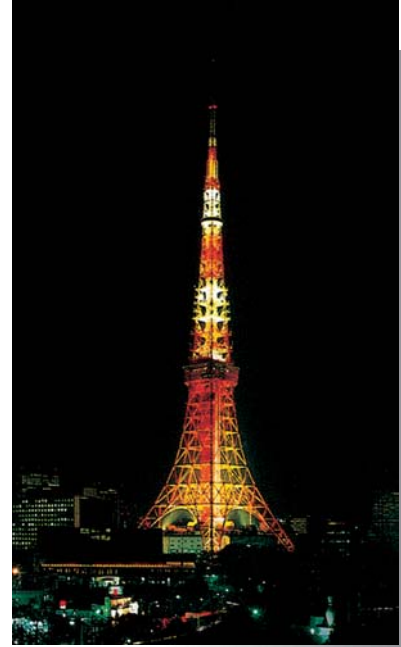




EYE Lighting / IWASAKI Installations



PLACE VENDOME, PARIS, FRANCE



TOKYO TOWER, JAPAN



KOBE HARBOR LAND, JAPAN



GARLAND, TEXAS



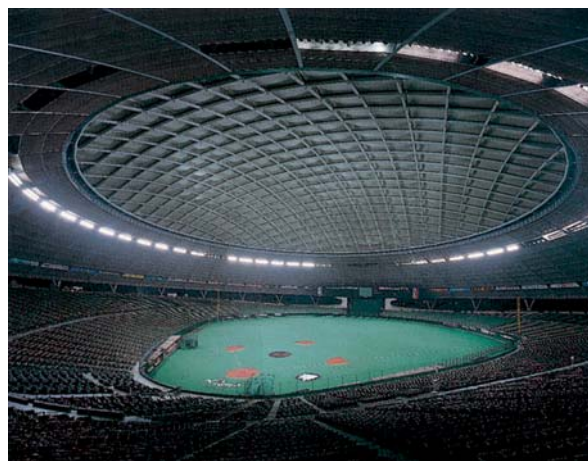
KIYOMIZU TEMPLE, KYOTO, JAPAN



KANMONKYO, YAMAGUCHI AND FUKUOKA, JAPAN



SEAGAUIA OCEAN DOME, MIYAZAKI, JAPAN



SEIBU DOME, JAPAN



LOWER SOUTH EAST HOCKEY ASSOCIATION FIELD
SOUTH AUSTRALIA



NOZAWA KANDAHA SKIING AREA, JAPAN



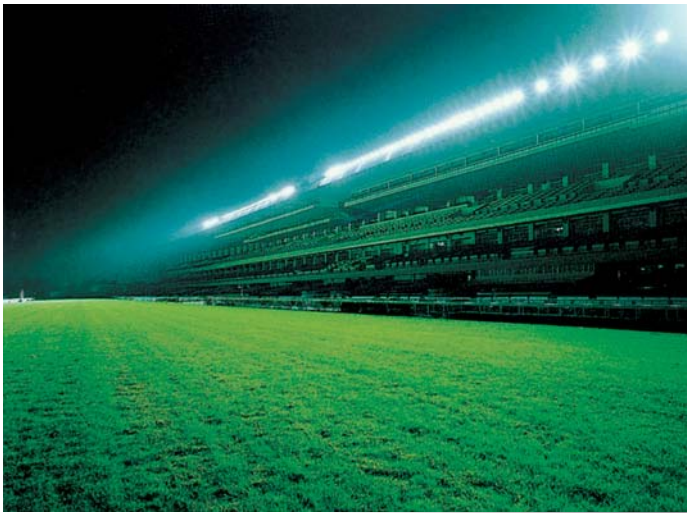
PANYA INDRA GOLF COURSE, THAILAND



EYE Lighting / IWASAKI Installations



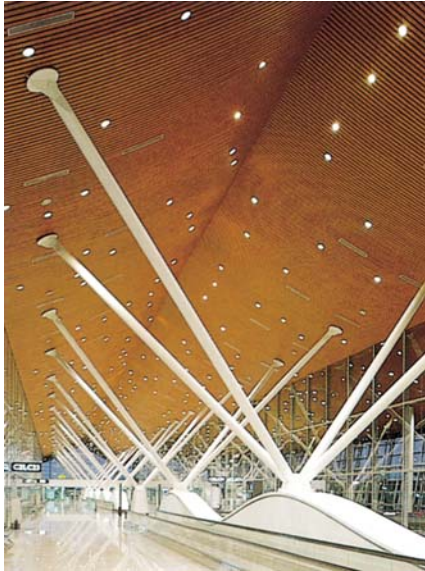
BALLYMORE STADIUM, BRISBANE, AUSTRALIA



TOKYO RACE TRACK, TOKYO



M-WAVE, NAGANO, JAPAN



**KUALA LUMPUR INTERNATIONAL
AIRPORT (KLIA)
KUALA LUMPUR, MALAYSIA**



KANSAI INTERNATIONAL AIRPORT CONNECTION BRIDGE, JAPAN



ALLEN, TEXAS



INTERSTATE FREEWAY



OKAYAMA SHOPPING MALL, JAPAN



SHINJYUKU TECHNO CAMPUS AREA, TOKYO, JAPAN



HID Spectral Distribution

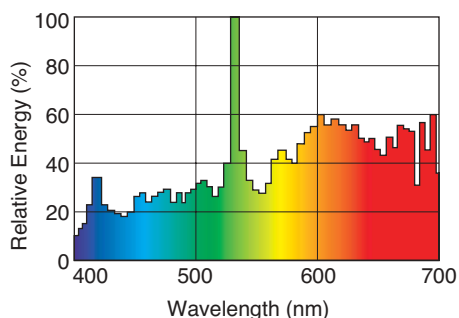
Lamp Type

Spectral Distribution

Characteristics

Applications

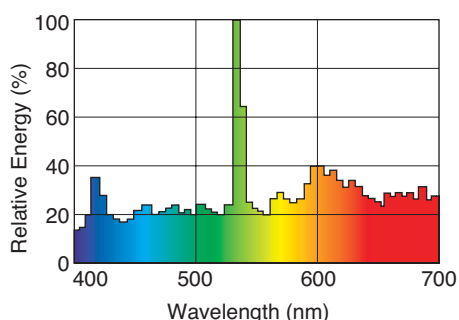
EYE Color Arc 3500K Tubular-- [Page 31](#), PAR-- [Page 32](#)



EYE Color Arc® 3500 is a compact Metal Halide lamp rated for use in open fixtures. It produces a warm, natural light similar to incandescent with excellent color rendering.
CRI = 96
Color Temp. = 3500K

- Retail shopping malls
- Merchandise displays
- Landscape lighting
- Showrooms
- Department stores
- Entrance foyers
- Feature spotlighting
- Hotel public areas

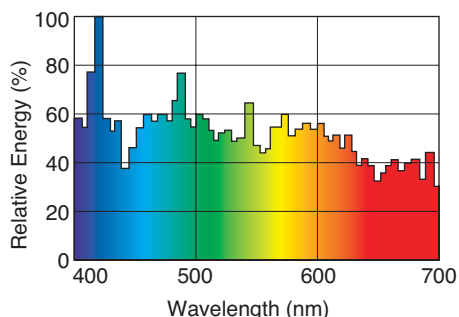
EYE Color Arc 4500K Tubular-- [Page 31](#), PAR-- [Page 32](#)



EYE Color Arc® 4500 is a compact Metal Halide lamp rated for use in open fixtures. It produces a natural white light with excellent color rendering that excels in illumination of red colors.
CRI = 96
Color Temp. = 4500K

- Retail shopping malls
- Merchandise displays
- Landscape lighting
- Showrooms
- Department stores
- Entrance foyers
- Spot lighting
- Hotel public areas
- Printing Industry
- Where outside color quality is critical

EYE Color Arc 6500K Tubular-- [Page 31](#), PAR-- [Page 32](#)



EYE Color Arc® 6500 is a compact Metal Halide lamp rated for use in open fixtures. It produces a light that closely resembles natural sunlight with excellent color rendering.
CRI = 96
Color Temp. = 6500K

- Marine aquarium lighting
- Greenhouse illumination
- Painting factories
- Printing Industry
- Where outside color quality is critical

HID Spectral Distribution



Lamp Type

Spectral Distribution

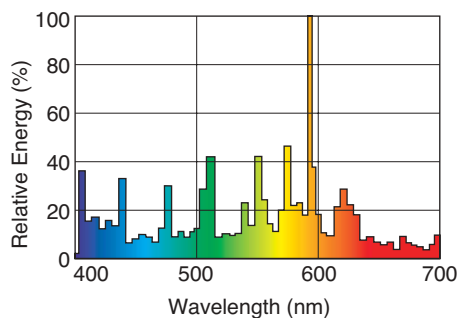
Characteristics

Applications

EYE Ignitek **Page 22**

EYE Multi-Metal **Page 23**

EYE Multi-Metal Ace **Page 30**



EYE Multi-Metal™, Metal Halide lamp's overall performance is a cut above standard Metal Halide when comparing lumen output and color uniformity.

EYE Ignitek™ is a long-life Metal Halide lamp using FEC technology with excellent lumen maintenance that results in pulse start performance on existing ballast system.

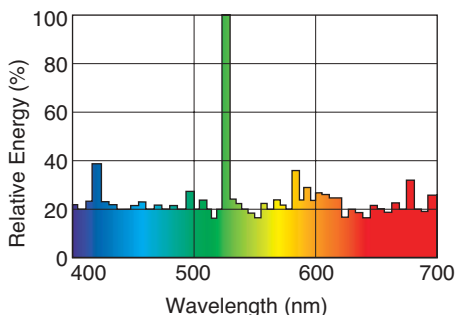
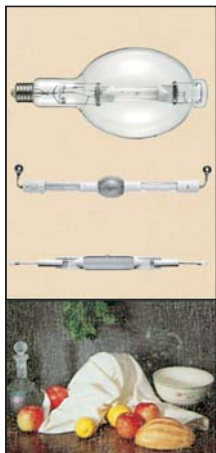
Multi-Metal Ace™ is a retrofit Metal Halide lamp that operates on an HPS lighting system.

Clear bulb:
CRI = 65
Color Temp. = 4200K

Coated bulb:
CRI = 70
Color Temp. = 3800K

- High-bay lighting in plants
- Bank, office bldgs. and airport lobbies
- Assembly halls and auditoriums
- Indoor gymnasiums, pools and other sports facilities
- Lighted wells in dept. stores, supermarkets, shopping centers, malls, underground shopping centers, etc.
- Parks, streets

EYE Quartz Arc **Page 38**



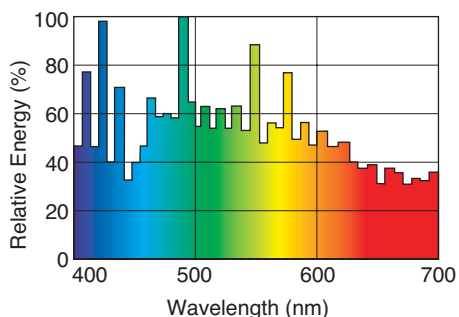
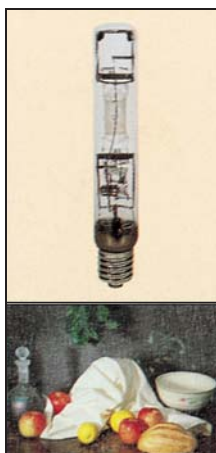
EYE Quartz Arc™ is a family of single and double-end, high wattage Metal Halide lamps with excellent color rendering and high color temperature output. These high powered lamps deliver a precisely focused, controlled beam with minimal stray light.

CRI = 92
Color Temp. = 5500

- Large and medium sized sports complexes.
- Entertainment complexes
- Public parks and area lighting
- Industrial facilities
- Auditoriums and facade lighting
- HDTV applications
- Horticulture

EYE Clean-Arc **Page 36**

EYE Clean-Ace **Page 37**



Clean Ace™ is a retrofit Metal Halide lamp that operates on a reactor Mercury ballast with excellent color rendering and provides a high color temperature light which is close to natural daylight.

Clean Arc™ is a Metal Halide lamp that operates on a CWA Metal Halide ballast with excellent color rendering and provides a high color temperature light which is close to natural daylight.

CRI = 90
Color Temp. = 6500K

- Store
- Building
- Public, production facility
- Sports facility
- Greenhouse
- Landscape
- Printing Industry
- Aquarium



HID Spectral Distribution

Lamp Type

Spectral Distribution

Characteristics

Applications

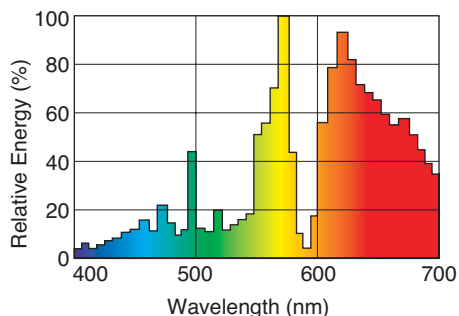
EYE DAYLUX

Tubular

Page 46

PAR

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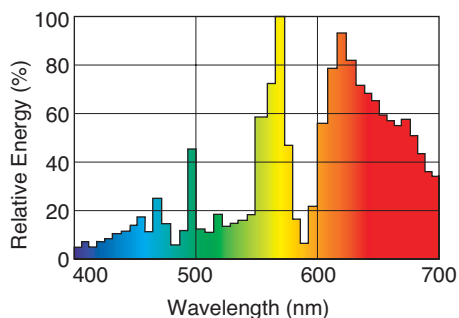


EYE DAYLUX® is a family of compact, medium base, very high color rendering, low wattage High Pressure Sodium lamps that produce a warm color light similar to incandescent.
CRI = 82 - 85
Color Temp. = 2500K

- Department stores
- Hotels
- Convention centers
- Shopping centers
- Showrooms
- Entrance foyers
- Display areas
- Feature spot lighting

EYE Specialux

Page 48



EYE Specialux™ is a family of mogul base, very high color rendering, medium wattage High Pressure Sodium lamps that produce a warm color light similar to incandescent. Operates on a standard HPS ballast.
CRI = 85
Color Temp. = 2500K

Use in place of incandescent lighting in the following applications when HPS color is important.

- Medium-height bay indoor lighting
- Store lighting
- Small to medium-scale indoor sports facility lighting
- Large chandeliers
- Floodlighting requiring accurate color rendering properties

EYE Sunlux Ultra Ace

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EYE Ignitron ES / EN

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EYE Sunlux

Page 49

EYE Power Ace

Page 42

EYE Ignitron EN

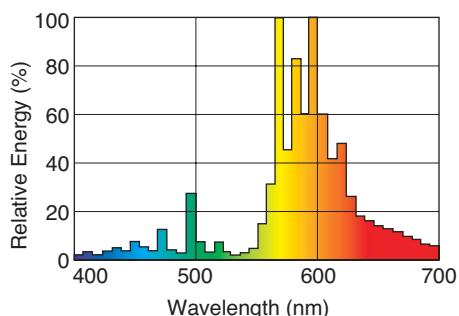
Page 44

EYE Sunlux Super Ace

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EYE Ignitron Super

Page 45



EYE Ignitron™ is a High Pressure Sodium lamp with a built-in ignitor.

EYE Sunlux Ultra Ace is a retrofit High Pressure Sodium lamp that operates on most Mercury and Metal Halide lighting systems.

EYE Sunlux Super Ace® is a retrofit High Pressure Sodium lamp in a reflector bulb that operates on a Mercury or Metal lighting system.

CRI = 25
Color Temp. = 2100K

- Roads, parking lot, intersections, plant yards and other outdoor facilities

- Baseball fields, tennis courts, soccer fields and other outdoor sports facilities

- Lighting of plants having high or medium-height bays

- **EYE Sunlux Ace** low cost illumination improvement projects utilizing standard mercury lamp ballast fixture system.

HID Spectral Distribution



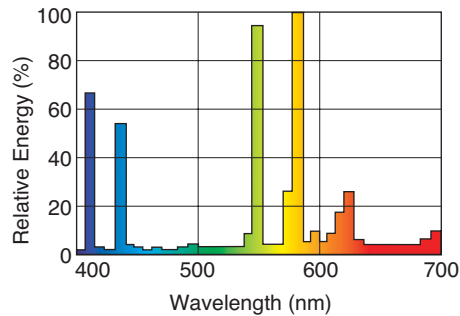
Lamp Type

Spectral Distribution

Characteristics

Applications

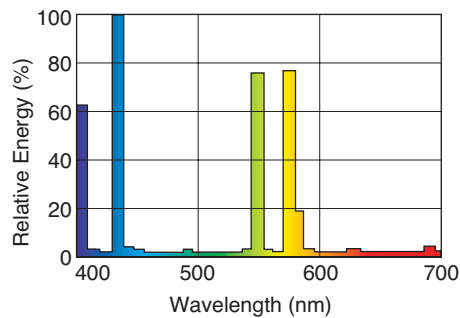
EYE Mercury Lamps (Phosphor Coated) Page 53



EYE Phosphor Coating on the interior of the outer bulb in the Mercury discharge lamp diffuses and warms the light output. The color rendering, (CRI) is nearly three times better than that of a clear Mercury lamp.
CRI = 40
Color Temp. = 4100K

- Lobby, elevator hall, factory, gymnasium and other indoor high-bay lighting
- Roadway, parking lot, intersection, shopping area, factory and other outdoor illumination

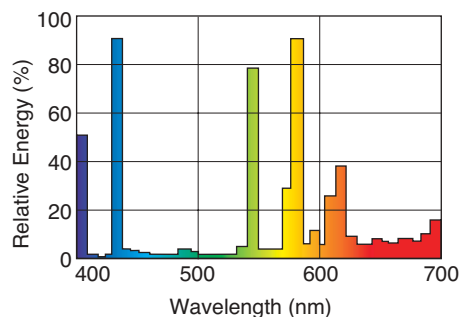
EYE Mercury Lamps (Clear) Page 53



EYE Clear Jacketed Mercury lamps produce a bluish-white light.
CRI = 25
Color Temp. = 5700K

- Floodlighting for recreational facilities such as baseball fields, golf courses, etc.
- Park & garden lighting
- Security lighting
- Street lighting
- Landscape lighting
- Inexpensive dusk/dawn fixture applications
- Special effects outdoor building/bridge

EYE Self-Ballasted Mercury Lamps Page 55



EYE Self-Ballasted Mercury lamps feature a built-in ballast allowing for long life operation in existing incandescent sockets. The lamp produces a warm color temperature and high CRI when compared to standard Mercury lamps.

Clear bulb:
CRI = 38
Color Temp. = 5500K
Coated bulb:
CRI = 58
Color Temp. = 3700K

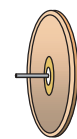
- Small scale floodlighting applications, construction sites, advertising towers, billboards and steel facilities
- High-bay lighting, plants, gymnasiums
- Upgrading of lighting formerly using incandescent lights
- Crane/transport applications at high elevations



EYE/Iwasaki's commitment to product innovation

EYE Lighting International of North America is a subsidiary of Iwasaki Electric Co., Ltd. in Japan. Our foundation is deep-rooted in technology and quality. Iwasaki's continuing advancements in technology and quality have resulted in the development of more than 3000 superior High Intensity Discharge and Halogen lighting products. Iwasaki's advancements in leading edge technology include the EYE patented Ferro-Electric Capacitor (FEC). The FEC is the first (and only) high temperature, *ceramic* starting device capable of operating inside High Intensity Discharge lamps where temperatures approach 800°F during manufacturing and 600°F during operation. The unique patented FEC technology is utilized in a number of HID lamp families that have dependable long-life, built-in starting devices.

Ferro Electric Capacitor

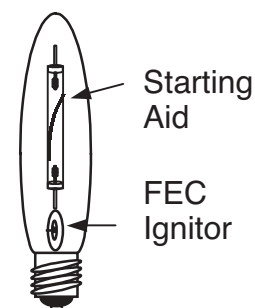


FEC

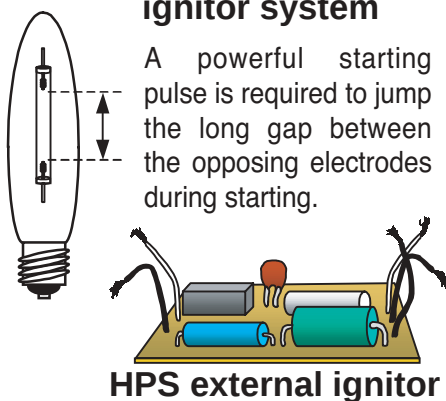
EYE Ignitron with starting aid and FEC ignitor

The Ignitron ignition system includes a starting aid filament wire that runs along the side of the arc tube. When the power is turned on, the starting aid creates an electric field around the arc tube minimizing the amount of electrical energy required to start the lamp. The FEC generates a starting pulse to gently ignite the Ignitron lamp. The Ignitron starting pulse generated by the FEC, automatically shuts down when the lamp reaches end-of-life, protecting the ballast from high voltage pulsing and premature ballast failure.

EYE Ignitron starting



Standard HPS ignitor system



A powerful starting pulse is required to jump the long gap between the opposing electrodes during starting.

Standard HPS starting compared to EYE's FEC ignitor

High pressure sodium lamps require a high voltage pulse to jump the long gap between the opposing electrodes to ignite the lamp. (2500 volts for low wattage lamps and 4000 volts for high wattage lamps) In a typical lighting system the high voltage pulse is created by an external starting-device located in the light fixture. At the end of lamp life the system ignitor continues to generate the high voltage starting pulse to the failed lamp at a rate of 120 times per second until the lamp is replaced. If the lamp is not replaced soon after failure, the continued high voltage pulse may result in the breakdown of the insulation in the windings of the ballast resulting in a failure.

Advantages of FEC technology and low pulse starting:

- The soft starting reduces electrode deterioration and darkening of the arc tube which results in higher light levels throughout lamp life compared to Standard HPS lamps.
- The soft start pulse reduces the damage to the arc tube seals, which enhances the life of the lamp.
- The FEC's lower voltage starting pulse extends ballast life over conventional ignitors.
- The FEC starting pulse is terminated at the end of lamp life, which protects the ballast from high voltage pulsing and premature failure.

EYE Lamp Families using FEC Technology:

- **Ignitek™** a new long life metal halide product line that offers the features of pulse start technology without the additional system costs. EYE/Iwasaki provides the entire pulse start system *inside the lamp*...eliminating the cost of a pulse start fixture, ballast, installation time and labor costs.
- **Sunlux Ultra Ace™ EN** (SUA) is an energy saving high pressure sodium retrofit lamp that converts a mercury or metal halide lighting system to HPS by simply changing the lamp. **SUA** lamps deliver nearly twice the light and meet the **EPA's** (Environmental Protection Agency) **TCLP** test requirements for non-hazardous waste.
- **Sunlux Power Ace™ EN** is an energy saving high pressure sodium lamp that converts most CWA mercury or metal halide lighting systems to HPS by simply changing the lamp and is EPA compliant.
- **Ignitron™ EN** is a high pressure sodium lamp with a built in ignitor that eliminates the need for a costly external ignitor, reduces system maintenance costs and is EPA compliant.
- **Ignitron Super™ EN** is a high lumen output, high pressure sodium lamp with a built in ignitor that eliminates the need for a costly external ignitor, reduces system maintenance costs and is EPA compliant.
- **Sunlux Super Ace®** is a high lumen output HPS lamp that converts a mercury or metal halide system to HPS by simply changing the lamp.

EYE commitment to long life products

EYE has developed technologies that are focused on extending lamp life and improving overall performance. EYE's leadership in electrode design and ceramic to metal sealing technologies has resulted in solutions to HPS short life problems as well as better lumen maintenance characteristics.

The solution to High Pressure Sodium electrode instability in low wattage lamps

Electrodes require emission material to provide a stable discharge throughout lamp life. In addition, electrode operating temperature is directly related to the amount of emission material present in the electrode. Electrode dimensions and shape also influence the operating performance of a lamp. Competitive low wattage electrodes, because of their small size, and limited emission material may also contribute to premature failure.

Sintered Electrodes

EYE's solution to the low wattage emission material electrode problem was the development of the sintered electrode. A sintered electrode is made by press-forming tungsten powder and emission material together into the optimum shape and dimensions required for peak lamp performance. EYE/Iwasaki is the first lamp manufacturer to use sintered electrodes in low wattage High Pressure Sodium lamps.



Typical High
Wattage Coiled
Design Electrode



EYE Sintered
Low Wattage
Design Electrode

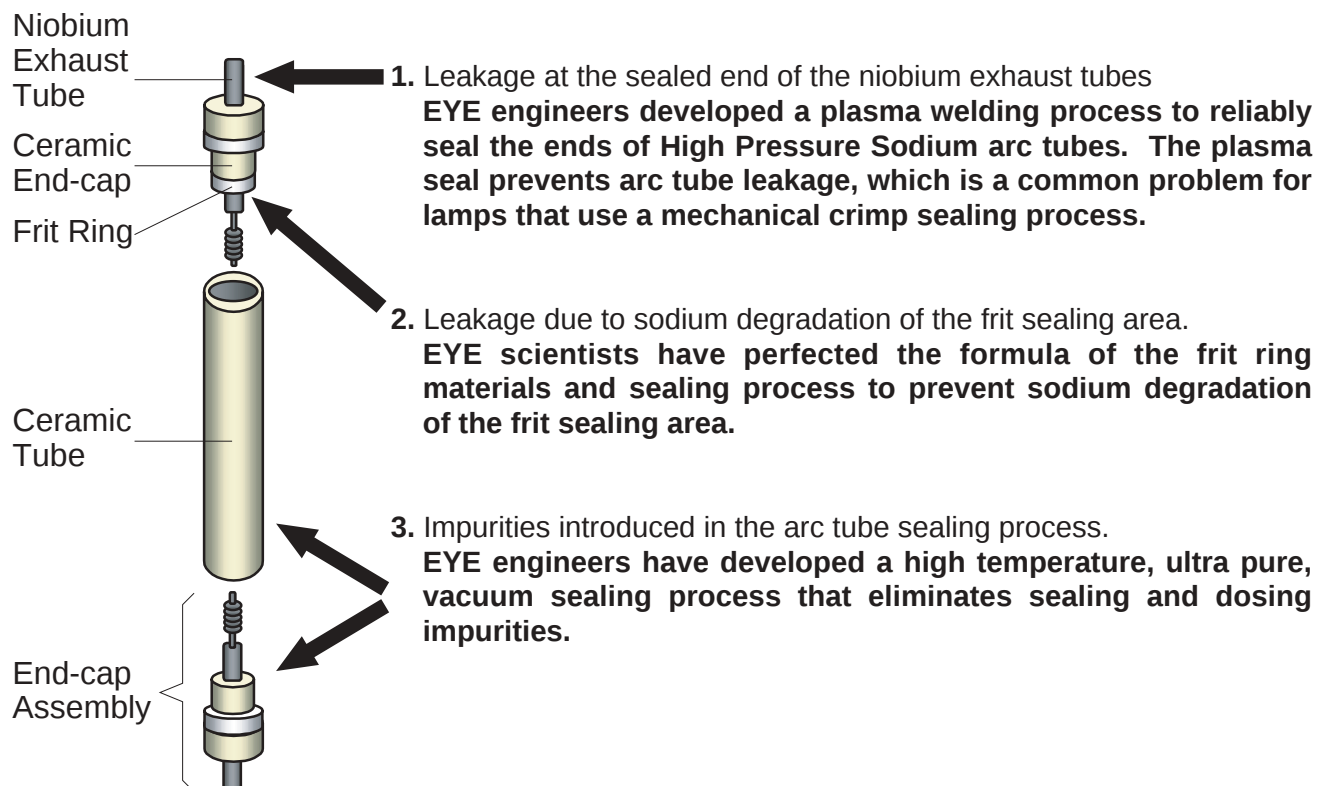


EYE Technology and Quality

EYE ceramic technology and plasma welding to reduce arc tube failures.

High Pressure Sodium lamps common failure mode:

1. Leakage at the sealed area of the metal exhaust tube.
2. Leakage developed by sodium degradation of the sealing area.
3. Impurities introduced in the arc tube sealing process.



EYE advanced technologies deliver unique high performance products.

EYE Color Arc®

Compared to existing H.I.D. lamps, EYE Color Arc's 96 CRI (ability to accurately render color) rating is the highest in the world making it ideal for retail displays, landscape and aquarium lighting where there is a need for accurate, vibrant color. The compact size and construction is ideal for the design of compact, open fixtures. Four color temperatures are available, ranging from the warm white temperature of 3500K, (ideal for interior illumination) to 4500K, 6500K, and 50000K. The warm white color temperature of the 3500K lamp produces a well-balanced, natural light, ideal for interior illumination. The 4500K lamp provides a slightly cooler white light, creating a bright, active atmosphere. The 6500K lamp produces light that closely resembles natural sunlight. The outer bulb is treated with special thin film coatings to block damaging UV, (Ultra Violet), radiation. The 50000K lamp produces a color ideally suited for aquarium and marine applications.

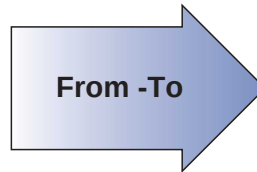


MT150AQUA
50000K

EYE Retrofit lamps

EYE is the world leader in retrofit HID lighting products by offering the widest selection of choices to upgrade an existing HID lighting system to another lighting system by simply changing the lamp. There is no need to change the ballast because EYE retrofit lamps were designed to work on the existing ballast system. The following table shows the EYE retrofit family names and the retrofit applications:

EYE Retrofit Family Name	Existing Lighting System	Desired Lighting System
Clean Ace	Mercury	Metal Halide
Multi-Metal Ace	High Pressure Sodium	Metal Halide
Multi-Super Ace	Mercury	Metal Halide
Power Ace	Most Mercury or Metal Halide	High Pressure Sodium
Self Ballasted Mercury	Incandescent	Mercury
Sunlux Ace	Mercury or Metal Halide	High Pressure Sodium
Sunlux Super Ace	Mercury or Metal Halide	High Pressure Sodium
Sunlux Ultra Ace	Mercury or Metal Halide	High Pressure Sodium



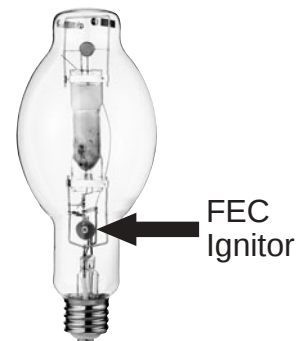
Protect the Environment

EYE offers ENVIRONMENTALLY friendly High Pressure Sodium lamps that pass the Federal EPA, TCLP tests as non-hazardous waste. EYE "EN" lamps have a reduced amount of mercury compared to standard product and lead has been removed from the glass bulb and the lamp base. Choose EYE...**Ignitron EN, Ignitron ES/EN, Ignitron Super EN, Sunlux Ultra Ace EN, or Power Ace EN** for the environment!



EYE Ignitek™...Pulse Start Technology without the system expense

EYE Ignitek is a high lumen output Metal Halide lamp that operates on a standard MH ballast designed for M59 lamps. The Ignitek lamp delivers up to 44,000 initial lumens and 35,200 maintained lumens with a 30,000 hour life rating. An existing lighting system with a standard ballast, using Ignitek lamps will be a lower cost system when compared to the more complicated new pulse start lighting systems. Combine the energy saving design with the higher maintained lumens and get reduced energy costs without sacrificing light! The "Pulse Start" Technology is supplied by the proven EYE, FEC ignitor used in Ignitron and Sunlux Ultra Ace lamps for over 15 years across the USA. Open fixture designs are available making Ignitek the premier retail application Metal Halide lamp.



M400SX/BU/I



EYE Technology and Quality

Energy Saving Technology

Energy saving products continue to drive investment decision making. EYE continues to expand the line of energy saving products in response to the recent energy shortages and high cost of energy. The following EYE product families include many energy saving choices:

- Sunlux ES
- Ignitron ES
- Ignitek ES
- Pulse Start
- Sunlux Ultra Ace
- Sunlux Power Ace
- Sunlux Super Ace

Energy Savings Formula:

$$\text{Energy Cost Savings} = \frac{\text{Watts Saved} \times \text{Hours of Operation} \times \text{Cost per KWH}}{1000}$$

EYE MR8 Reflector Halogen lamps

EYE was the first lamp manufacturer to develop the MR8 halogen lamp. The EYE MR8 is the world's smallest reflector halogen lamp with a cover glass. The multi-faceted reflector produces a precise beam pattern with excellent uniformity. The cover glass effectively eliminates Ultra Violet (UV) radiation. The MR8 is ideal for down lighting and accent lighting applications due to its small size, precise beam control, high efficiency, excellent white light and cool beam characteristics.

The MR8 is only one of a large offering of Halogen products that include: General Lighting Halogen, Entertainment Lighting, Projection, and Specialty Lighting. EYE Halogen technologies offer heat reflective dichroic coatings, extreme UV-cut, long life, and CRI enhancing lamps.

EYE's Reputation is Built on Quality

EYE Lighting has maintained an industry leadership position in lamp quality over the last 50 years. Numerous lamp quality checkpoints and a meticulous quest for perfection is demonstrated by our outstanding "out of the box" quality and industry leading warranties.

**MR8
Halogen Lamp**
Actual Size



Types and Characteristics

HID stands for "High Intensity Discharge", a general term for Mercury (H), Metal Halide (MH), and High-Pressure Sodium (HPS) lamps.

Main Features of HID Lamps

- High lamp Efficacy low power expense
- High lamp Lumens minimal investment
- Long life inexpensive maintenance

Types of HID Lamps

There are three basic types of HID Lamps.

- High Pressure Sodium (HPS)
- Metal Halide (MH)
- Mercury (H)

Recent developments have produced new lamp designs which have brought about improvements in life, color, color rendering, and lumen maintenance. This catalog introduces numerous HID lamps for a wide range of applications.

HID Lamp Characteristics

HID lamps provide extremely efficient illumination in a large area. Lamp characteristics, however, vary according to use. Figure 1 shows the characteristics of the three basic HID lamp types according to the following variables:

- Lamp Efficacy (Lumens Per Watt)
- Color Rendering Index (CRI)
- Correlated Color Temperature (CCT)

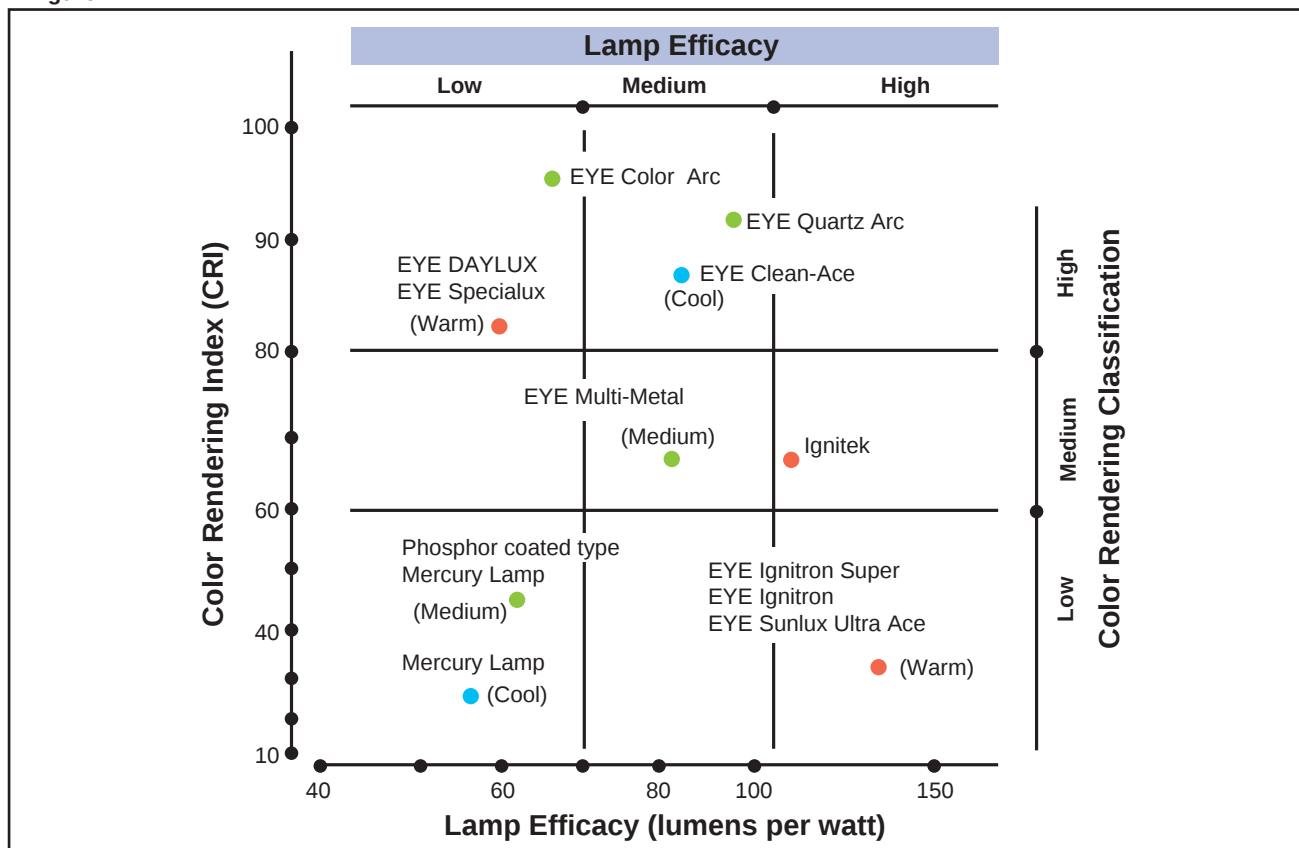
Table 1 shows the various light source color classifications.

Light Color Classification

Table 1

Class	Color Temp. Range	Appearance
Cool	Over 5000 K	Bluish white
Medium	3300~5000 K	White
Warm	Below 3300 K	Yellow white

Figure 1





HID Lamp Information

Product Heading & Description Guide

Heading Description Guide for HID Section

Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI	Fix. Req.	Burn Pos.
Premium Universal Metal Halide Mogul Base														
1	175	BT28 Clear	Mog	50151	M175X/U	M57	12	15000 V 12000 H	12000 V 9400 H	10000 V 6000 H	4200	65	E	U
2		BT28 Coated	Mog	50494	MF175X/U	M57	12	14000 V 11000 H	10500 V 9000 H	10000 V 6000 H	3800	70	E	U
3	250	BT28 Clear	Mog	50200	M250X/U	M58	12	21500 V 19700 H	17250 V 15850 H	10000 V 6000 H	4200	65	E	U
4		BT28 Coated	Mog	50543	MF250X/U	M58	12	20750 V 19650 H	17200 V 13800 H	10000 V 6000 H	3800	70	E	U
5	400	BT37 Clear	Mog	50249	M400X/U	M59	12	38000 V 34000 H	30000 V 26800 H	20000 V 15000 H	4200	65	S	BU/BD*

Product Description Guide

Metal Halide Lamps

Identifies type of lamp
M: Metal Halide Lamp

M F 400 X / U

Identifies type of bulb
F: Coated bulb
P: Shrouded arc tube
T: Tubular bulb
R: Reflector bulb
SD: Double-ended short arc
LD: Double-ended long arc

Identifies lamp wattage

Identifies feature of lamp
X: Premium performance
SX: High output
D: Daylight 6500K

Identifies burning position
U: Universal
BU: Base up
BD: Base down
HOR: Horizontal
BUH: Base up to Horizontal

HID Lamp Information



Product Description Guide

High Pressure Sodium Lamps

Identifies type of lamp — **LU 400 / I / EN** — Identifies feature of lamp

LU: High Pressure Sodium Lamp
NH: High Pressure Sodium Lamp with special features
NHT: High Pressure Sodium Lamp with special features with tubular bulb
NHR: High Pressure Sodium Lamp with special features with reflector bulb

Identifies lamp wattage

Identifies that the lamp does not require an external ignitor

EN: Environmental friendly
CE: Sunlux Ultra Ace Lamp
SDX: High CRI and high color temperature
DX/PN: High CRI and high color temperature
S: High efficacy
F: Coated bulb
Diffused

Mercury Lamps

Identifies type of lamp — **H F 250 PD** — Identifies type of bulb coating or type of beam angle

H: Mercury Lamp

Identifies type of bulb

F: Coated bulb
R: Reflector bulb
T: Tubular bulb
RF: Phosphor coating on aluminum reflector
RFF: Phosphor coating on face of lamp (Diffused)

Identifies lamp wattage

PD: Phosphor coating
N: Narrow beam
W: Wide beam
S: Reduced outer jacket
B: High voltage arc tube 265V

Self-Ballasted / Mercury Lamps

220/230V 160W SB / E24 W

Identifies supply voltage

Identifies lamp wattage

Identifies glass type of bulb

SB: Self ballasted
HSB: Low Wattage Self ballasted with hard glass bulb

Identifies bulb shape followed by size

Identifies bulb coating and type

W: Phosphor coated
RF: Phosphor coating on aluminum reflector
RFF: Phosphor coating on face of lamp (Diffused)
FL: Flood type-silica coated aluminum reflector



HID Lamp Information

Introduction to HID Lamps

High Intensity Discharge Lamp Life versus Operating Cycle

The starting process of HID lamps place the highest level of stress on the lamp electrodes. Shortly after the arc tube fill gasses breakdown, the tungsten electrodes undergo a condition called sputtering. The sputtering condition vaporizes a small amount of the electrode, which is deposited on the arc tube inner wall. Tungsten deposited from the electrode on the arc tube wall builds up as a black deposit resulting in reduced lamp lumens, higher arc tube wall temperatures and possible premature rupture of the arc tube.

Normally, the electrodes of a HID lamp are designed to withstand operating cycles of 1 start every 10 hours to achieve the life rating of the lamp. Operating cycles less than 10 hours will result in shorter lamp life.

There are other factors that can impact HID lamp life, such as the type of ballast used, the age and condition of the capacitor, the lamp luminaire temperatures, and the operating position of the lamp. HID lamps should only be operated in the position specified in the lamp literature or catalog. The following guidelines apply to the expected Average Rated Life when the lamp is operated with the recommended ballasts.

- The published Average Rated Life of an HID lamp is based on a 50% mortality, that is operated on a 10-hour cycle.
- A five-hour operating cycle may result in achieving only 75% of the published Average Rated Life.
- A two and one-half hour operating cycle may result in achieving only 50% of the published Average Rated Life.

WARNING!

In applications where Metal Halide lamps are on a 24 hour operating cycle, 7 days a week, they are to be turned off once per week, for at least 1 hour. This is to prevent the remote possibility of a lamp rupturing and the heated components separating from the lamp, causing personal injury and, or property damage.

Metal Halide Lamps Operated on Dimming Ballasts

All EYE Metal Halide lamps, except, Multi-Metal Ace™ family, can be dimmed up to 65% of the lamp nominal wattage on EYE Lighting approved dimming ballast systems. Lamps must be operated at least 5 minutes at full power prior to dimming. Dimming systems that reduce the input line voltage to the ballast are NOT RECOMMENDED. Lamps operated on dimming systems may exhibit extreme color shift and low lumen output. Contact your local EYE Lighting representative for a list of approved dimming systems.

Product Code

The 5 digit Product Code found on the product catalog pages must be used when ordering EYE lamps, ballasts and lampholders.

HID Lamp Information



BULB SHAPES

Blown Tubular (BT)	Elliptical (E), (ED)	Elliptical Tubular (ET)	Tubular (T)	Reflector (R)

NOTE: Bulb size or diameter (maximum) is expressed in an eighth of an inch (1/8") for one unit.
For instance, a BT56 bulb is 56 eighths of an inch in diameter, or 7 inches in diameter.
See ANSI C79.1 for a complete details on bulb shapes.

EXPLANATIONS

Maximum Overall Length (M. O. L.):

The largest outside dimension of a lamp. Typically MOL is measured from the end of the lamp base to the top of the outer jacket.

Light Center Length (L. C. L.):

The distance from the light center to a specified reference point on the lamp.

Diameter:

The Diameter is the maximum diameter of the glass bulb.

Maximum Overall Length (M. O. L.):

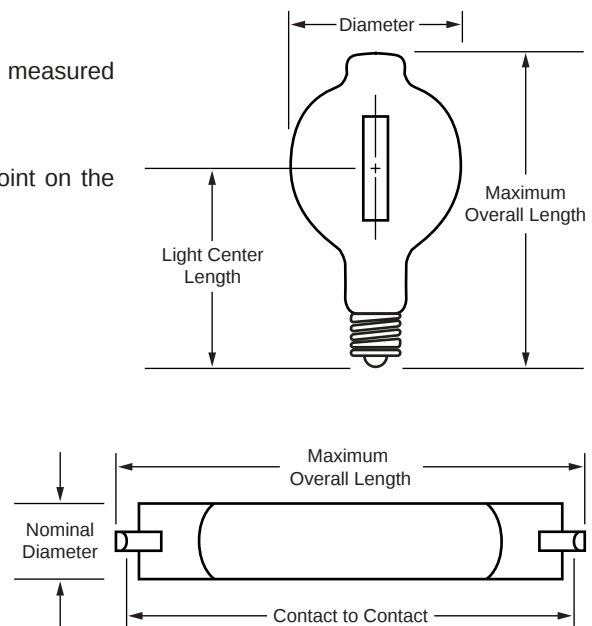
The Maximum Overall Length for double ended lamps is the distance between the ends of the bases.

Contact to Contact:

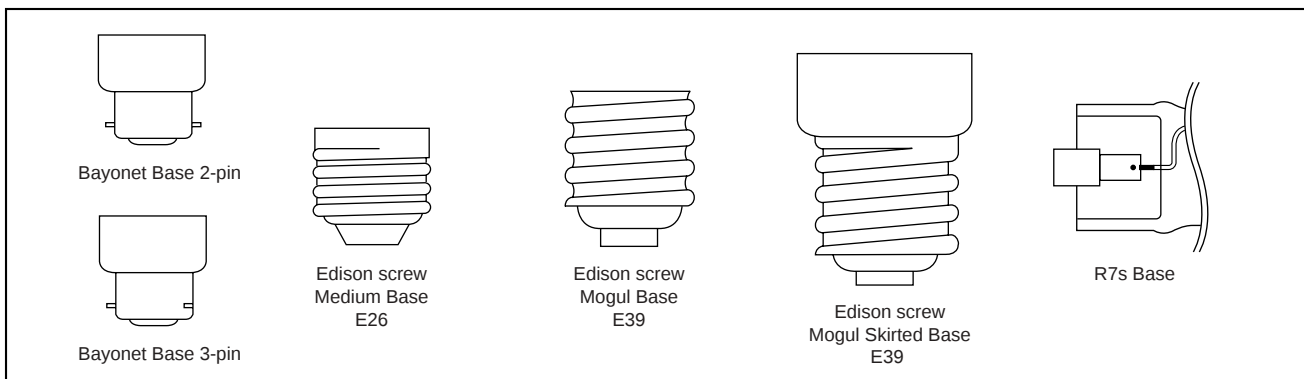
Length Between Contacts is the distance between the metal contacts which are recessed inside the ends of the bases.

Nominal Diameter:

Nominal Diameter is the approximate diameter of the tube.



BASE TYPES





HID Lamp Information

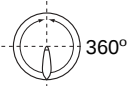
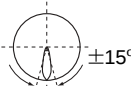
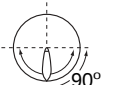
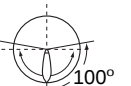
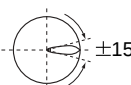
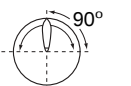
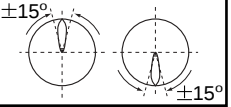
Lamp Operating Positions:

Lamps must be operated in their specified operating positions in order to maximize lamp performance and life. Incorrect operating positions may also create the possibility of a lamp rupture. Because of these factors it is imperative that users adhere to the specified operating positions and fixture requirements. The following chart shows the correct lamp operating positions based on the Position Code Letters which are contained in the lamp description.

Fixture Requirement Codes:

- O** = Open fixture permissible. Lamps can be operated in an open fixture within the lamp's specified operating position limits.
- S** = Open fixture permissible with operating position restrictions.
- E** = Enclosed fixture required. Lamps must be operated in an enclosed fixture.

Lamp Operating Position Symbols

Position Code Letters	Description	Symbol
(No code letters) or U	Universal (No Limitation)	
BU	Base UP +/- 15°	
BUH	Base Up to Horizontal	
BU100	Base UP +/- 100°	
HOR	Horizontal +/- 15°	
BDH	Base Down to Horizontal	
BU/BD	Vertical +/- 15° Base UP or Base Down	

Lamp Family & Application Guide

Lamp Family	Lamp Features	Watts	Application	Page
Ignitek™	Long life Metal Halide with FEC technology. Excellent lumen maintenance in existing Metal Halide lighting system. Operates on standard ballast.	360 watt and 400 watt	Manufacturing / Retail Auto dealership Roadway	22
High Output Pos. Oriented	High lumen output, position specific, excellent lamp-to-lamp color uniformity.	175 watt through 1500 watt	Manufacturing Auto dealership Sports	23
High Output Horizontal	High lumen output with long life does <u>not</u> require Position Oriented Mogul lampholder.	360 watt and 400 watt	Roadway Gas station Auto dealership	24
Premium Universal	Higher Lumens and Improved color consistency compared to standard Universal Metal Halide.	175 watt through 1000 watt	Manufacturing / Retail Parking lots Roadway	25
Pulse Start	Standard long-life Metal Halide, with improved lumen maintenance and reduced power cost. Requires lamp and ballast system.	360 watt and 400 watt	Retail Manufacturing Gas station	26
Standard Universal	Basic Metal Halide in all commonly used wattages.	50 watt through 1000 watt	Manufacturing Warehouse Parking lots	27
Low Watt Medium Base	Compact medium base Metal Halide for use in open or enclosed fixtures.	50 watt through 175 watt	Retail / Office Low bay manufacturing Parking garage	28
Multi-Metal Tubular	Tubular type standard Metal Halide lamp.	250 watt and 400 watt	High-bay Sports facilities	29
Multi-Metal Ace™	Retrofit Metal Halide lamps that operate on HPS ballasts. Convert HPS 25 CRI fixtures to Metal Halide 65 CRI fixtures by changing the lamp.	250 watt through 1000 watt	Manufacturing Parking lots Roadway	30
Color Arc®	Compact medium base Metal Halide rated for use in open fixtures. 3500K, 4500K, 6500K color temp at 96 CRI. Plus aqua and blue colors.	70 watt through 150 watt	Retail / Office Aquarium Landscape	31
Clean Arc™	Metal Halide lamps that operate on Metal Halide CWA ballasts providing 6500K color temperature at 90 CRI.	250 watt and 400 watt	Retail / Office / Manufacturing Auto dealership Aquarium	36
Clean Ace™	Retrofit Metal Halide lamps that operate on Mercury Reactor ballasts. Converts Mercury 40 CRI fixtures to Metal Halide 90 CRI fixtures by changing the lamp.	250 watt and 400 watt	Manufacturing Auto dealership Parking lots	37
Quartz Arc™	Single and double-end high wattage Metal Halide lamps up to 5500K color temperature from 90 to 92 CRI.	1500 watt and 2000 watt	High definition TV Sports TV broadcast	38

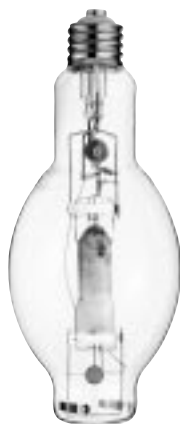


Metal Halide Lamps

High Output / Long-Life EYE Multi-Metal Ignitek™

Features:

- EYE patented FEC ignitor
- Shrouded and energy saving types available
- Long Life (up to 30,000 hours)
- Very high lumen maintenance (approx. 80%)
- Highest Lumen output Metal Halide lamp operating on standard ballast
- Operates on Standard M59 Metal Halide system
- Pulse start technology



Applications:

- Retail stores
- Sports facilities
- Industrial high/low bay
- Parking
- Auto sales

Physical Data and Characteristics

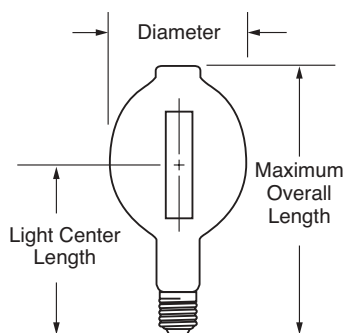
Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI	Fix. Req.	Burn Pos.
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Energy Saving Long-life High Output Metal Halide Mogul Base

1	360 ²	BT37 Clear	Mog	52527	M360SX/BU/I (\$S-NP)	M59	12	37800	30200	30000 ¹ 20000	4200	65	S	BU
2		BT37 Coated	Mog	52520	MF360SX/BU/I (\$S-NP)	M59	12	35900	28700	30000 ¹ 20000	3800	70	S	BU
3		BT37 Clear	Mog	52712	MP360SX/BU/I (\$S-NP)	M59	12	35900	28700	30000 ¹ 20000	4200	65	O	BU
4		BT37 Coated	Mog	52514	MPF360SX/BU/I (\$S-NP)	M59	12	34100	27200	30000 ¹ 20000	3800	70	O	BU

Long-life High Output Metal Halide Mogul Base

5	400	BT37 Clear	Mog	52529	M400SX/BU/I (NP)	M59	12	44000	35200	30000 ¹ 20000	4200	65	S	BU
6		BT37 Coated	Mog	52525	MF400SX/BU/I (NP)	M59	12	41800	33400	30000 ¹ 20000	3800	70	S	BU
7		BT37 Clear	Mog	57974	MP400SX/BU/I (NP)	M59	12	41800	33400	30000 ¹ 20000	4200	65	O	BU
8		BT37 Coated	Mog	52530	MPF400SX/BU/I (NP)	M59	12	39700	31700	30000 ¹ 20000	3800	70	O	BU



Lamp Dimensions	
	BT37
Nominal Diameter	4.625 in. 117 mm
Maximum Overall Length	11.451 in. 291 mm
Light Center Length	7.0 in. 178 mm

Lamp Burn Position	
S-rated lamps are restricted to base up/down +/- 15° for operation in open fixtures.	

Notes:

1. Rated avg. life at 120 hrs per start
2. Nominal lamp watts may differ by 5% for some ballast models
3. Warning/Caution notices, see page # 39
4. Operating Instructions, see page # 39
5. All information subject to change without notice
6. Contact EYE Lighting International for further information and availability.

\$\$: Energy saving products
NP: New products

Fixture Requirements:

E = Enclosed Fixture Required
S = Open Fixture if the operating position is base up or down +/- 15°
O = Open Fixture Permissible

Metal Halide Lamps



High Output, Position-Oriented EYE Multi-Metal™



Features:

- Up to 32% higher maintained lumens compared to Standard Universal Metal Halide
- Superior lamp-to-lamp color uniformity through lamp life
- Higher maintained lumens extends usable lamp life
- Nickel plated base will not lock in the socket
- Heavy duty construction, superior quality

Applications:

- Retail stores
- Manufacturing
- Sports lighting
- Industrial
- Roadway

Physical Data and Characteristics

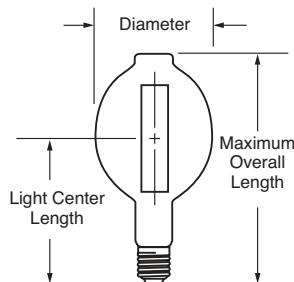
Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI	Fix. Req.	Burn Pos.
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Open/Enclosed Fixture Series Mogul Base

1	400	BT37 Clear	Mog	52533	M400SX/BU	M59	12	42000	33000	20000	4200	65	S	BU
2		BT37 Coated	Mog	52729	MF400SX/BU	M59	12	40000	31000	20000	3800	70	S	BU

Enclosed Fixture Series Mogul Base

3	400	BT28	Mog	52582	M400SX/BU/BT28	M59	12	42000	33000	20000	4200	65	E	BU
4		BT28	Mog	52778	MF400SX/BU/BT28	M59	12	40000	31000	20000	3800	70	E	BU
5	1000	BT56 Clear	Mog	53925	M1000BSX/BU	M47	6	120000	96000	12000	4200	65	E	BU
6		BT56 Coated	Mog	54121	MF1000BSX/BU	M47	6	118000	94800	12000	3800	70	E	BU
7		BT56 Clear	Mog	53905	M1000BSX/BD	M47	6	120000	96000	12000	4200	65	E	BD
8	1500	BT56 Clear	Mog	53974	M1500B/BD	M48	6	155000	140000	3000	4000	65	E	BD
9		BT56 Clear	Mog	54023	M1500B/BUH	M48	6	155000	140000	3000	4000	65	E	BUH



Lamp Dimensions			
	BT28	BT37	BT56
Nominal Diameter	3.50 In. 89 mm	4.625 In. 117 mm	7.0 In. 178 mm
Maximum Overall Length	8.31 In. 211 mm	11.451 In. 291 mm	15.375 In. 386 mm
Light Center Length	5.0 In. 127 mm	7.0 In. 178 mm	9.484 In. 241 mm

Lamp Burn Position		
BUH	BU	BD

Notes:

1. Warning/Caution notices, see page # 39
2. Operating Instructions, see page # 39
3. All information subject to change without notice

Fixture Requirements:

- E = Enclosed Fixture Required
 S = Open Fixture if the operating position is base up or down +/-15°
 O = Open Fixture Permissible



Metal Halide Lamps

High Output, Horizontal Operation EYE Multi-Metal™

Features:

- Available in Energy-Saving designs
- Long life, horizontal operating Metal Halide lamp
- Designed to operate in standard, or pin-oriented sockets
- High lumen output



Applications:

- Gas Station Canopies
- Parking
- Sports lighting
- Automobile Dealers/Showrooms
- Area lighting

Physical Data and Characteristics

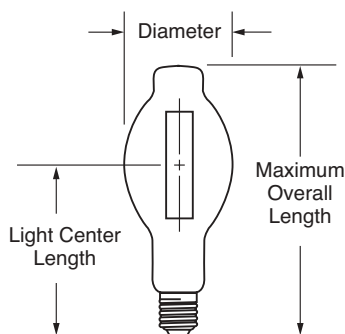
Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI	Fix. Req.	Burn Pos.
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Energy Saving High Output Horizontal Operation Mogul Base

1	360	BT37 Clear	Mog	52625	M360SX/HOR (\$\$-NP)	M59	12	33000	26000	20000	4200	65	E	HOR
2		BT37 Coated	Mog	52822	MF360SX/HOR (\$\$-NP)	M59	12	31350	24700	20000	3800	70	E	HOR
3		BT28 Clear	Mog	52633	M360SX/HOR/BT28 (\$\$-NP)	M59	12	33000	26000	20000	4200	65	E	HOR
4		BT28 Coated	Mog	52833	MF360SX/HOR/BT28 (\$\$-NP)	M59	12	31350	24700	20000	3800	70	E	HOR

High Output Horizontal Operation Mogul Base

5	400	BT37 Clear	Mog	52631	M400SX/HOR	M59	12	39000	30800	20000	4200	65	E	HOR
6		BT37 Coated	Mog	52827	MF400SX/HOR	M59	12	37000	28800	20000	3800	70	E	HOR
7		BT28 Clear	Mog	52680	M400SX/HOR/BT28	M59	12	39000	30800	20000	4200	65	E	HOR
8		BT28 Coated	Mog	52876	MF400SX/HOR/BT28	M59	12	37000	28800	20000	3800	70	E	HOR



Lamp Dimensions		
	BT28	BT37
Nominal Diameter	3.50 in. 89 mm	4.625 in. 117 mm
Maximum Overall Length	8.31 in. 211 mm	11.451 in. 291 mm
Light Center Length	5.0 in. 127 mm	7.0 in. 178 mm

Lamp Burn Position	
Horizontal +/-15°	

Notes:

1. Warning/Caution notices, see page # 39
2. Operating Instructions, see page # 39
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.

\$\$: Energy saving products
NP: New products

Fixture Requirements:

E = Enclosed Fixture Required
S = Open Fixture if the operating position is base up or down +/-15°
O = Open Fixture Permissible

Metal Halide Lamps



Premium Universal EYE Multi-Metal™



Features:

- Operates in all positions
- Higher initial and maintained lumens than Standard Universal Metal Halide
- Superior lamp-to-lamp color uniformity through life compared to Standard Universal Metal Halide
- Also available in reduced outer jacket

Applications:

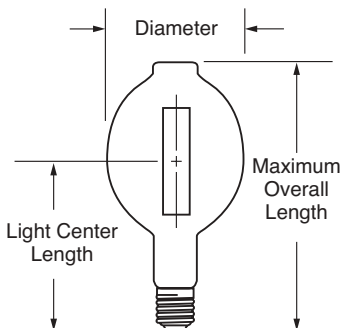
- Warehouse
- Parking
- Industrial
- Security
- Retail
- Manufacturing

Physical Data and Characteristics

Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI	Fix. Req.	Burn Pos.
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Premium Universal Metal Halide Mogul Base

1	175	BT28 Clear	Mog	50151	M175X/U	M57	12	15000 V 12000 H	12000 V 9400 H	10000 V 6000 H	4200	65	E	U
2		BT28 Coated	Mog	50494	MF175X/U	M57	12	14000 V 11000 H	10500 V 9000 H	10000 V 6000 H	3800	70	E	U
3	250	BT28 Clear	Mog	50200	M250X/U	M58	12	21500 V 19700 H	17250 V 15850 H	10000 V 6000 H	4200	65	E	U
4		BT28 Coated	Mog	50543	MF250X/U	M58	12	20750 V 19650 H	17200 V 13800 H	10000 V 6000 H	3800	70	E	U
5	400	BT37 Clear	Mog	50249	M400X/U	M59	12	38000 V 34000 H	30000 V 26800 H	20000 V 15000 H	4200	65	S	BU/BD
6		BT37 Coated	Mog	50592	MF400X/U	M59	12	36000 V 32000 H	28000 V 24800 H	20000 V 15000 H	3800	70	E	U ²
7		BT28 Clear	Mog	50298	M400X/U/BT28	M59	12	38000 V 34000 H	30000 V 26800 H	20000 V 15000 H	4200	65	E	U
8		BT28 Coated	Mog	50641	MF400X/U/BT28	M59	12	36000 V 32000 H	28000 V 24800 H	20000 V 15000 H	3800	70	E	U
9	1000	BT56 Clear	Mog	50053	M1000BX/U	M47	6	115000 V 110000 H	90000 V 86300 H	12000 V 9000 H	4200	65	S	BU/BD
10		BT56 Coated	Mog	50396	MF1000BX/U	M47	6	110000 V 105000 H	86000 V 82000 H	12000 V 9000 H	3800	70	E	U ²
11		BT37 Clear	Mog	50102	M1000BX/U/BT37	M47	12	115000 V 110000 H	90000 V 86300 H	12000 V 9000 H	4200	65	E	U
12		BT37 Coated	Mog	50445	MF1000BX/U/BT37	M47	12	110000 V 105000 H	86000 V 82000 H	12000 V 9000 H	3800	70	E	U



Lamp Dimensions			
	BT28	BT37	BT56
Nominal Diameter	3.50 in. 89 mm	4.625 in. 117 mm	7.0 in. 178 mm
Maximum Overall Length	8.312 in. 211 mm	11.451 in. 291 mm	15.375 in. 386 mm
Light Center Length	5.0 in. 127 mm	7.0 in. 178 mm	9.484 in. 241 mm

Lamp Burn Positions	
S-rated lamps are restricted to base up/down $\pm 15^\circ$ for operation in open fixtures.	Universal

Notes:

1. V = Vertical, H = Horizontal Operation
2. Dual rated lamp. Universal Burning Position requires Enclosed Fixture BU/BD is acceptable in open "S" rated fixtures
3. Warning/Caution notices, see page # 39
4. Operating Instructions, see page # 39
5. All information subject to change without notice

Fixture Requirements:

- E = Enclosed Fixture Required
 S = Open Fixture if the operating position is base up or down $\pm 15^\circ$
 O = Open Fixture Permissible



Metal Halide Lamps

Pulse Start EYE Multi-Metal™



Features:

- Available in Energy Saving designs
- High lumen output
- Reduced color shift
- Long life

Applications:

- Sports lighting
- Retail
- Manufacturing
- Architectural
- Industrial
- Roadway

Physical Data and Characteristics

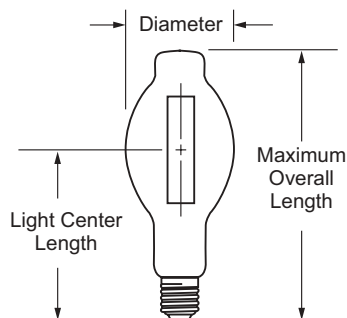
Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI	Fix. Req.	Burn Pos.
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Energy Saving Pulse Start Metal Halide Mogul Base

1	360	BT37 Clear	Mog	57975	M360SX/BU/PS (\$\$-NP)	M135	12	37800	30200	30000 ¹ 20000	4200	65	S	BU
2		BT37 Coated	Mog	57976	MF360SX/BU/PS (\$\$-NP)	M135	12	35900	28700	30000 ¹ 20000	3800	70	S	BU
3		BT37 Clear	Mog	54272	MP360SX/BU/PS (\$\$-NP)	M135	12	35900	28700	30000 ¹ 20000	4200	65	O	BU
4		BT37 Coated	Mog	54279	MPF360SX/BU/PS (\$\$-NP)	M135	12	34100	27200	30000 ¹ 20000	3800	70	O	BU

Pulse Start Metal Halide Mogul Base

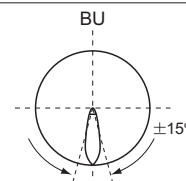
5	400	BT28 Clear	Mog	57980	M400SX/BU/PS/BT28 (NP)	M135	12	44000	35200	30000 ¹ 20000	4200	65	E	BU
6		BT28 Coated	Mog	57981	MF400SX/BU/PS/BT28 (NP)	M135	12	41800	33400	30000 ¹ 20000	3800	70	E	BU
7		BT37 Clear	Mog	54277	M400SX/BU/PS (NP)	M135	12	44000	35200	30000 ¹ 20000	4200	65	S	BU
8		BT37 Coated	Mog	54283	MF400SX/BU/PS (NP)	M135	12	41800	33400	30000 ¹ 20000	3800	70	S	BU
9		BT37 Clear	Mog	54289	MP400SX/BU/PS (NP)	M135	12	41800	33400	30000 ¹ 20000	4200	65	O	BU
10		BT37 Coated	Mog	54296	MPF400SX/BU/PS (NP)	M135	12	39700	31700	30000 ¹ 20000	3800	70	O	BU



Lamp Dimensions		
	BT28	BT37
Nominal Diameter	3.50 in. 89 mm	4.62 in. 117 mm
Maximum Overall Length	8.31 in. 211 mm	11.45 in. 291 mm
Light Center Length	5.0 in. 127 mm	7.0 in. 178 mm

Lamp Burn Position

S-rated lamps are restricted to base up/down $\pm 15^\circ$ for operation in open fixtures.



Notes:

1. Rated avg. life at 120 hrs per start
2. Nominal lamp watts may differ by 5% for some ballast models
3. Warning/Caution notices, see page # 39
4. Operating Instructions, see page # 39
5. All information subject to change without notice
6. Contact EYE Lighting International for further information and availability.

\$\$: Energy saving products
NP: New products

Fixture Requirements:

E = Enclosed Fixture Required
S = Open Fixture if the operating position is base up or down $\pm 15^\circ$
O = Open Fixture Permissible

Metal Halide Lamps



Standard Universal EYE Multi-Metal™

Features:

- Operates in all positions
- Economical general lighting replacement lamp

Applications:

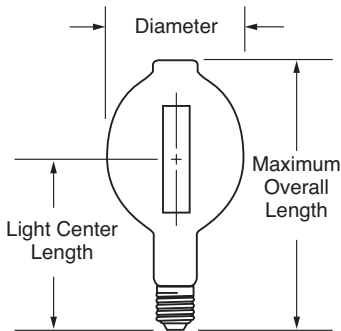
- Warehouse
- Industrial
- Parking
- Retail Stores
- Manufacturing
- Security

Physical Data and Characteristics

Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI	Fix. Req.	Burn Pos.
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Standard Universal Metal Halide Mogul Base

1	175	ED28 Clear	Mog	58100	M175/U	M57	12	13600 V 11700 H	8800 V 7400 H	10000 V 6000 H	4200	65	E	U
2		ED28 Coated	Mog	58120	MF175/U	M57	12	12900 V 11900 H	8400 V 7900 H	10000 V 6000 H	3800	70	E	U
3	250	ED28 Clear	Mog	58105	M250/U	M58	12	20800 V 19100 H	13500 V 12400 H	10000 V 6000 H	4200	65	E	U
4		ED28 Coated	Mog	58125	MF250/U	M58	12	19800 V 18200 H	13000 V 11600 H	10000 V 6000 H	3800	70	E	U
5	400	ED37 Clear	Mog	58110	M400/U	M59	6	36000 V 33100 H	23500 V 22100 H	20000 V 15000 H	4000	65	S	BU/BD
6		ED37 Coated	Mog	58130	MF400/U	M59	6	35000 V 32200 H	23000 V 19300 H	20000 V 15000 H	3700	70	E	U ⁵
7	1000	BT56 Clear	Mog	58115	M1000/U	M47	6	108000 V 100280 H	86000 V 79000 H	15000 V 11000 H	4000	65	S	BU/BD
8		BT56 Coated	Mog	58135	MF1000/U	M47	6	105000 V 96600 H	80000 V 73000 H	15000 V 11000 H	3400	70	E	U ⁵



Lamp Dimensions			
	ED28	ED37	BT56
Nominal Diameter	3.50 in. 89 mm	4.625 in. 117 mm	7.0 in. 178 mm
Maximum Overall Length	8.312 in. 211 mm	11.451 in. 291 mm	15.375 in. 386 mm
Light Center Length	5.0 in. 127 mm	7.0 in. 178 mm	9.484 in. 241 mm

Lamp Burn Positions	
S-rated lamps are restricted to base up/down $\pm 15^\circ$ for operation in open fixtures.	Universal

Notes:

1. V = Vertical, H = Horizontal Operation
2. Universal Burning Position requires Enclosed Fixture BU/BD is acceptable in open "S" rated fixtures
3. Warning/Caution notices, see page # 39
4. Operating Instructions, see page # 39
5. Dual rated lamp. Universal Burning Position requires Enclosed Fixture. BU/BD is acceptable in open "S" rated fixtures
6. All information subject to change without notice

Fixture Requirements:

- E = Enclosed Fixture Required
 S = Open Fixture if the operating position is base up or down $\pm 15^\circ$
 O = Open Fixture Permissible



Metal Halide Lamps

Low Watt Medium Base

EYE Multi-Metal™



Features:

- Compact ED17 bulb
- Full range of wattages
- Low Watt types for open or enclosed fixture applications

Applications:

- Retail stores • Low bay manufacturing • Schools/Universities
- General lighting • Landscape lighting

Physical Data and Characteristics

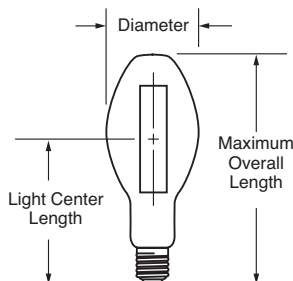
Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI	Fix. Req.	Burn Pos.
--------	-------	------	------	--------------	---------------------	-----------	-----------	----------------	-------------	--------------------	-----------------	-----	-----------	-----------

Enclosed Fixture Series Medium Base

1	100	ED17 Clear	Med	54768	M100X/U/MED	M90	12	9000 V 8100 H	6800 V 6075 H	15000 V 11250 H	4000	65	E	U
2		ED17 Coated	Med	54915	MF100X/U/MED	M90	12	8500 V 7650 H	6200 V 5500 H	15000 V 11250 H	3700	70	E	U
3	175	ED17 Clear	Med	54866	M175X/U/MED	M57	12	14400 V 12800 H	10800 V 9500 H	10000 V 7500 H	4000	65	E	U
4		ED17 Coated	Med	55013	MF175X/U/MED	M57	12	13000 V 11080 H	10000 V 8400 H	10000 V 7500 H	3600	70	E	U

Open/Enclosed Fixture Series Medium Base (Shrouded Arc Tube)

5	50	E17 Clear	Med	56748	MP50/U/3K	M110	20	3450	1900	10000 V 7500 H	3000	70	O	U
6		E17 Coated	Med	56944	MPF50/U/3K	M110	20	3000	1820	10000 V 7500 H	2900	70	O	U
7	70	E17 Clear	Med	56797	MP70/U/3K	M98	20	5200	3900	15000 V 10000 H	3000	75	O	U
8		E17 Coated	Med	56993	MPF70/U/3K	M98	20	4800	3600	15000 V 10000 H	2900	75	O	U
9	100	E17 Clear	Med	56650	MP100/U/3K	M90	20	8500	6400	15000 V 10000 H	3000	75	O	U
10		E17 Coated	Med	56846	MPF100/U/3K	M90	20	7900	5800	15000 V 10000 H	2900	75	O	U
11	150	E17 Clear	Med	56699	MP150/U/3K	M102	20	13300	10000	15000 V 10000 H	3000	75	O	U
12		E17 Coated	Med	56895	MPF150/U/3K	M102	20	12000	9000	15000 V 10000 H	2900	75	O	U



Lamp Dimensions	
	ED17
Nominal Diameter	2.125 in. 54 mm
Maximum Overall Length	5.468 in. 139 mm
Light Center Length	3.390 in. 86 mm

Lamp Burn Position	
Universal	
No Limitations	360°

Notes:

1. Warning/Caution notices, see page # 39
2. Operating Instructions, see page # 39
3. All information subject to change without notice
4. V=Vertical, H=Horizontal Operation

Fixture Requirements:

- E = Enclosed Fixture Required
 S = Open Fixture if the operating position is base up or down +/-15°
 O = Open Fixture Permissible

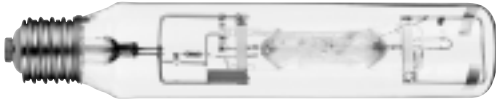
Metal Halide Lamps



Tubular Design EYE Multi-Metal™

Features:

- Tubular type metal halide lamps
- High efficacy
- Good color rendition
- Clear type bulb only
- Horizontal operation

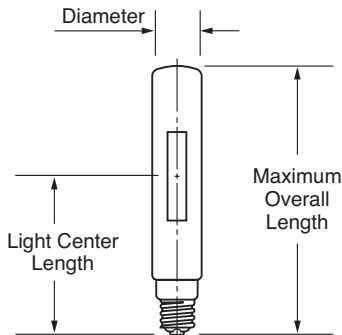


Applications:

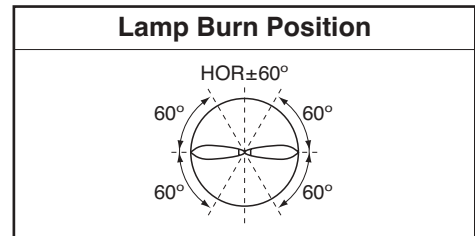
- High-bay lighting
- Gymnasiums, pools and other sports facilities
- Parks

Physical Data and Characteristics

Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Ballast	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI	Fix. Req.	Burn Pos.
1	250	T17 Clear	Mog	57738	MT250/BH	M58	12	18000	14000	10000	4200	65	E	HOR±60°
2	400	T17 Clear	Mog	57836	MT400/BH	M59	12	32000	25000	10000	4200	65	E	HOR±60°



Lamp Dimensions	
	T17
Nominal Diameter	2.17 in. 55 mm
Maximum Overall Length	9.724 in. 247 mm
Light Center Length	5.748 in. 146 mm



Notes:

1. Warning/Caution notices, see page # 39
2. Operating Instructions, see page # 39
3. All information subject to change without notice



Metal Halide Lamps

Metal Halide Retrofit from HPS EYE Multi-Metal Ace™



Features:

- Metal Halide retrofit in HPS lighting systems
- Works in all HPS lighting systems with an ignitor
- Improves color rendering index from 20 CRI to 65 CRI

Applications:

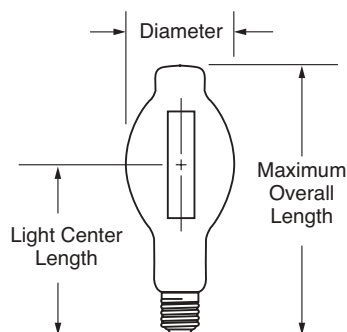
- Parking lots
- Manufacturing
- Warehouse

Physical Data and Characteristics

Line #	Watts ⁴	Bulb	Base	Product Code	Product Description	ANSI ² Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI	Fix. Req.	Burn Pos.
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Metal Halide Retrofit from HPS Mogul Base

1	250	BT28 Clear	Mog	51788	M250X/U/LU	S50	12	19100V 16700H	14300V 12400H	10000V 7500H	4500	65	E	U
2		BT28 Coated	Mog	51935	MF250X/U/LU	S50	12	18100V 16600H	13600V 11800H	10000V 7500H	4000	70	E	U
3	400	BT37 Clear	Mog	51837	M400X/U/LU	S51	12	36600V 32700H	27300V 24400H	20000V 15000H	4500	65	S	BU/BD
4		BT37 Coated	Mog	51984	MF400X/U/LU	S51	12	34800V 31800H	25900V 23200H	20000V 15000H	4000	70	S	BU/BD
5		BT28 Clear	Mog	51886	M400X/U/LU/BT28	S51	12	36600V 32700H	27300V 24400H	20000V 15000H	4500	65	E	U
6		BT28 Coated	Mog	52033	MF400X/U/LU/BT28	S51	12	34800V 31800H	25900V 25200H	20000V 15000H	4000	70	E	U
7	1000	BT56 Clear	Mog	51605	M1000BX/U/LU	S52	6	110200V 105500H	85500V 81700H	12000V 9000H	4200	65	E	U
8		BT56 Coated	Mog	51920	MF1000BX/U/LU	S52	6	104700V 100200H	81200V 77600H	12000V 9000H	3800	70	E	U



Lamp Dimensions			
	BT28	BT37	BT56
Nominal Diameter	3.50 in. 89 mm	4.625 in. 117 mm	7.0 in. 178 mm
Maximum Overall Length	8.312 in. 211 mm	11.451 in. 291 mm	15.375 in. 386 mm
Light Center Length	5.0 in. 127 mm	7.0 in. 178 mm	9.484 in. 241 mm

Lamp Burn Positions	
S-rated lamps are restricted to base up/down $\pm 15^\circ$ for operation in open fixtures.	Universal

Notes:

1. V=Vertical, H=Horizontal Operation
2. Compatible with ballasts for the ANSI lamp code shown.
3. Dual rated lamp. Universal Burning Position requires Enclosed Fixture
BU/BD is acceptable in "S" rated fixtures
4. Nominal lamp watts may differ by 5% for some ballast models
5. Warning/Caution notices, see page # 39
6. Operating Instructions, see page # 39
7. All information subject to change without notice

Fixture Requirements:

- E = Enclosed Fixture Required
 S = Open Fixture if the operating position is base up or down $\pm 15^\circ$
 O = Open Fixture Permissible

Metal Halide Lamps



Compact High Color Rendering

EYE Color Arc®

Features:

- High color rendition, most types CRI=96
- Open fixture rated
- For applications that require natural, well-balanced light from a high efficiency light source
- Compact tubular bulb and medium base
- UV-block coating on the outer bulb
- Excellent life

Applications:

- Retail shopping malls
- Hotel public areas
- Landscape
- Aquariums
- Entrance foyers
- Merchandise displays
- Greenhouse
- Department stores
- Paint booths
- Showrooms



Physical Data and Characteristics

Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI	Fix. Req.	Burn Pos.
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3500K Color Temp. Series Medium Base

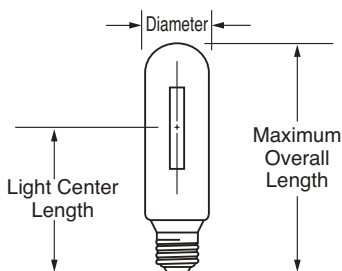
1	70	T11 Clear	Med	56101	MT70SDW	M98 ⁴	12	4500	3600	9000	3500	96	O	U
2		T11 Frosted	Med	56003	MT70FSDW	M98 ⁴	12	4300	3400	9000	3500	96	O	U
3	100	T11 Clear	Med	55315	MT100SDW	-	12	6500	5200	9000	3500	96	O	U
4		T11 Frosted	Med	55323	MT100FSDW	-	12	6000	4800	9000	3500	96	O	U
5	150	T13 Clear	Med	55807	MT150SDW	M102 ⁴	12	10000	8000	12000	3500	96	O	U
6		T13 Frosted	Med	55709	MT150FSDW	M102 ⁴	12	9600	7700	12000	3500	96	O	U

4500K Color Temp. Series Medium Base

7	70	T11 Clear	Med	56150	MT70SW	M98 ⁴	12	5000	4000	9000	4500	96	O	U
8		T11 Frosted	Med	56052	MT70FSW	M98 ⁴	12	4800	3800	9000	4500	96	O	U
9	100	T11 Clear	Med	55331	MT100SW	-	12	7000	5600	9000	4500	96	O	U
10		T11 Frosted	Med	55338	MT100FSW	-	12	6500	5200	9000	4500	96	O	U
11	150	T13 Clear	Med	55856	MT150SW	M102 ⁴	12	11000	9000	12000	4500	96	O	U
12		T13 Frosted	Med	55758	MT150FSW	M102 ⁴	12	10500	8600	12000	4500	96	O	U

6500K Color Temp. Series Medium Base

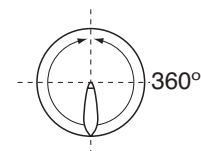
13	70	T11 Clear	Med	55905	MT70D	M98 ⁴	12	5000	4000	9000	6500	92	O	U
14		T11 Frosted	Med	55954	MT70FD	M98 ⁴	12	4800	3800	9000	6500	92	O	U
15	100	T11 Clear	Med	55343	MT100D	-	12	7000	5600	9000	6500	96	O	U
16		T11 Frosted	Med	55351	MT100FD	-	12	6500	5200	9000	6500	96	O	U
17	150	T13 Clear	Med	55611	MT150D	M102 ⁴	12	11000	9000	12000	6500	96	O	U
18		T13 Frosted	Med	55660	MT150FD	M102 ⁴	12	10500	8600	12000	6500	96	O	U



Lamp Dimensions		
	T11	T13
Nominal Diameter	1.378 in. 35 mm	1.575 in. 40 mm
Maximum Overall Length	5.433 in. 138 mm	6.024 in. 153 mm
Light Center Length	3.425 in. 87 mm	3.74 in. 95 mm

Lamp Burn Position

Universal No Limitations



Notes:

1. Warning/Caution notices, see page # 39
2. Operating Instructions, see page # 39
3. All information subject to change without notice
4. Specified core & coil or Electronic ballasts are required core & coil with specified ignitor.

Fixture Requirements:

- E = Enclosed Fixture Required
 S = Open Fixture if the operating position is base up or down +/-15°
 O = Open Fixture Permissible



Metal Halide Lamps

Compact PAR High Color Rendering

EYE Color Arc PAR™

PAR 36



PAR 38



Features:

- PAR36 & PAR38 designs
- Wide color temperature offering ; 3500K, 4500K, 6500K, Mediterranean Blue and Enhanced Fresh Pink colors are available
- Compared to the PAR halogen lamps, these lamps have a higher luminous flux and the same high color rendition
- Medium and wide beam patterns are available
- Excellent beam control offers a high luminous efficacy and related energy savings
- UV-block coating
- Indoor use only. For outdoor use, specific fixtures are required
- Approved for use in open fixtures

Applications:

- Retail shopping malls
- Foyers
- Merchandise displays
- Hotel public areas
- Department stores
- Showrooms
- Greenhouse
- Landscape

Physical Data and Characteristics

Line #	Watts	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Beam Lumens	Beam Angle(°)	Peak Intensity(cd)	Average Life Hours	Color Temp. (K)	CRI	Fix. Req.	Burn Pos.
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Aluminum Reflector Type PAR 36 Medium Base (3500K, 4500K, and 6500K Color Temp. Series) Fig.1

1	70	Med	55452	M70P36SSDW	M98 ⁴	10	3000	720	26	7020	6000	3500	96	O	U
2		Med	55473	M70P36FSDW	M98 ⁴	10	2700	1000	65	1600	6000	3500	96	O	U
3		Med	55459	M70P36SSW	M98 ⁴	10	3300	800	26	7800	6000	4500	96	O	U
4		Med	55424	M70P36FSW	M98 ⁴	10	3000	1100	65	2000	6000	4500	96	O	U
5		Med	55438	M70P36SD	M98 ⁴	10	3300	800	26	7800	6000	6500	92	O	U
6		Med	55403	M70P36FD	M98 ⁴	10	3000	1100	65	2000	6000	6500	92	O	U
7	150	Med	55361	M150P36SSDW	M102 ⁴	10	8100	1800	23 x 29	11700	6000	3500	96	O	U
8		Med	55326	M150P36FSDW	M102 ⁴	10	7650	2700	62 x 67	4320	6000	3500	96	O	U
9		Med	55368	M150P36SSW	M102 ⁴	10	9000	2000	23 x 29	13000	6000	4500	96	O	U
10		Med	55333	M150P36FSW	M102 ⁴	10	8500	3000	62 x 67	4800	6000	4500	96	O	U
11		Med	55347	M150P36SD	M102 ⁴	10	9000	2000	23 x 29	13000	6000	6500	96	O	U
12		Med	55312	M150P36FD	M102 ⁴	10	8500	3000	62 x 67	4800	6000	6500	96	O	U

Dichroic Reflector Type PAR 36 Medium Base (Color Series) Fig.1

Mediterranean blue*															
13	70	Med	55431	M70P36S-B	M98 ⁴	10	4100	300	25	3000	6000	21000*	85	O	U
14		Med	55396	M70P36F-B	M98 ⁴	10	4000	750	77	800	6000	21000*	85	O	U
15	150	Med	55340	M150P36S-B	M102 ⁴	10	9500	1100	28 x 34	7000	6000	21000*	85	O	U
16		Med	55305	M150P36F-B	M102 ⁴	10	9400	2700	72 x 77	2800	6000	21000*	85	O	U

Enhanced fresh pink*

17	70	Med	55445	M70P36S-P	M98 ⁴	10	3400	400	25	4800	6000	2500*	85	O	U
18		Med	55410	M70P36F-P	M98 ⁴	10	3000	650	70	840	6000	2500*	85	O	U
19	150	Med	55354	M150P36S-P	M102 ⁴	10	8200	1400	28 x 34	9000	6000	2500*	85	O	U
20		Med	55319	M150P36F-P	M102 ⁴	10	7800	2400	67 x 72	3100	6000	2500*	85	O	U

Dichroic Reflector Type PAR 38 Medium Base (3500K, 4500K, and 6500K Color Temp. Series) Fig.2

21	70	Med	55417	M70P38FSDW	M98 ⁴	10	2610	1350	45	4050	6000	3500	96	O	U
22		Med	55480	M70P38FSW	M98 ⁴	10	2900	1500	45	4500	6000	4500	96	O	U
23		Med	55466	M70P38FD	M98 ⁴	10	2900	1500	45	4500	6000	6500	92	O	U
24	150	Med	55382	M150P38FSDW	M102 ⁴	10	5400	2700	60	4500	6000	3500	96	O	U
25		Med	55389	M150P38FSW	M102 ⁴	10	6000	3000	60	5000	6000	4500	96	O	U
26		Med	55375	M150P38FD	M102 ⁴	10	6000	3000	60	5000	6000	6500	96	O	U

* The photometric values are not color corrected.

(unit: mm)

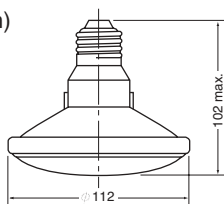


Fig.1

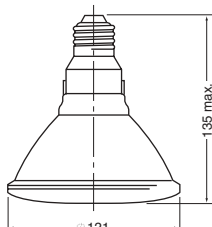


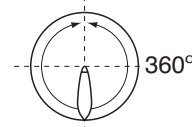
Fig.2

Notes:

1. Warning/Caution notices, see page # 39
2. Operating Instructions, see page # 39
3. All information subject to change without notice
4. Specified core & coil or Electronic ballasts are required core & coil with specified ignitor.

Lamp Burn Position

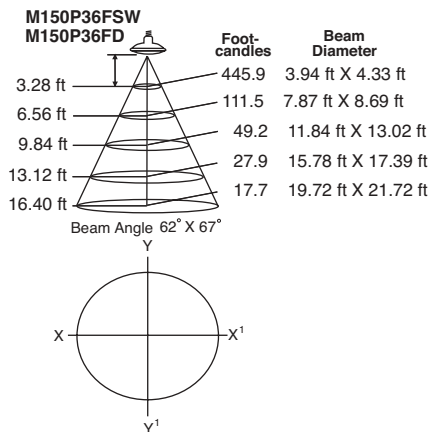
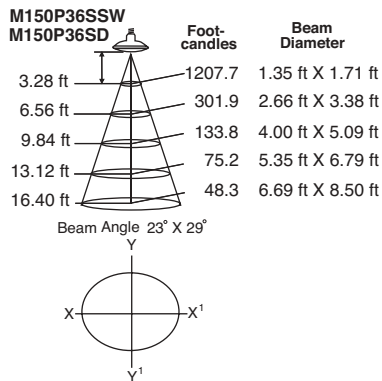
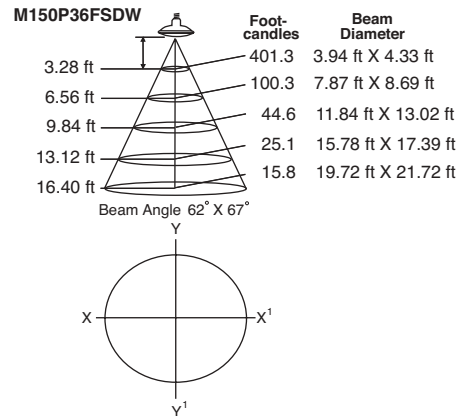
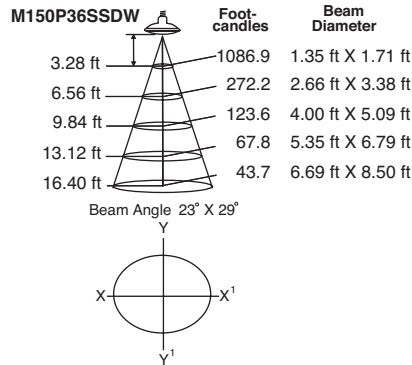
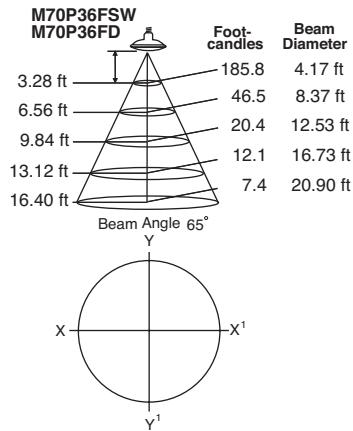
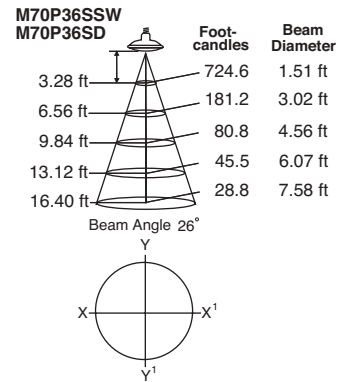
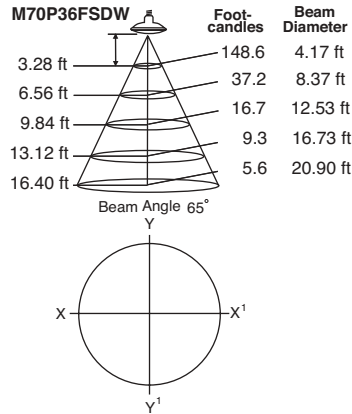
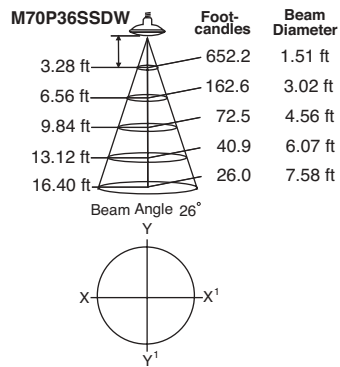
Universal No Limitations



Fixture Requirements:

- E = Enclosed Fixture Required
- S = Open Fixture if the operating position is base up or down +/-15°
- O = Open Fixture Permissible

Compact PAR Beam Diameter and Illuminance



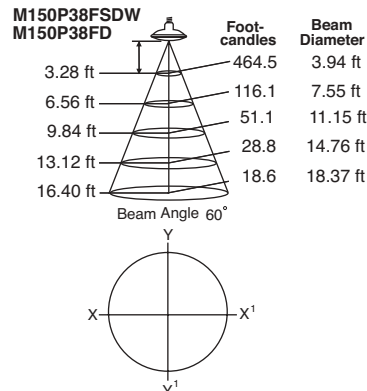
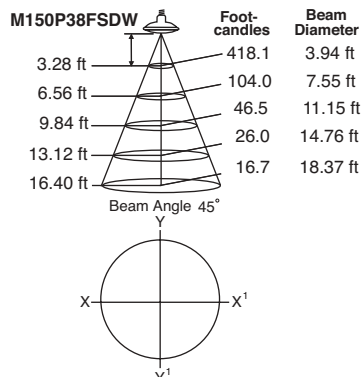
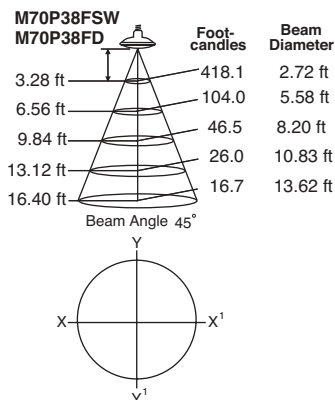
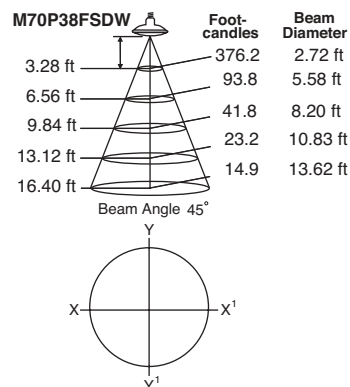
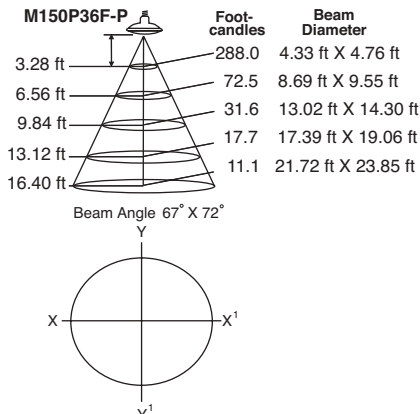
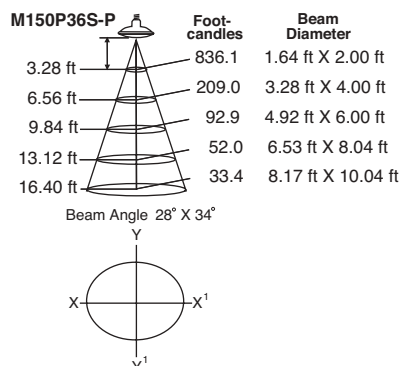
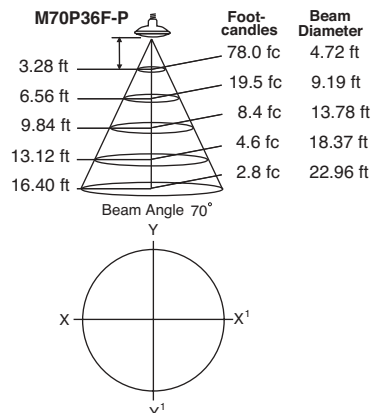
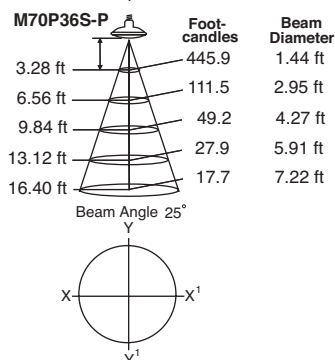
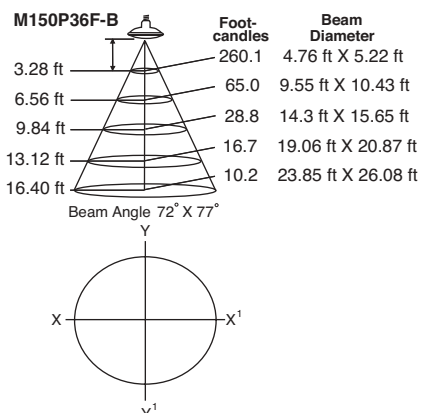
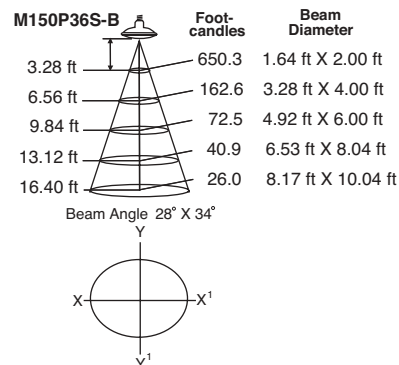
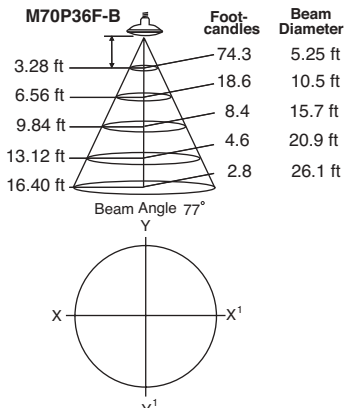
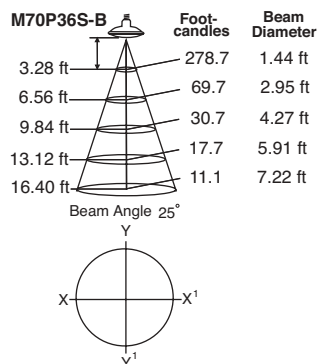
Notes:

1. The illuminance level at the center of the beam is shown in footcandles.
2. The illuminance level at the outer edge of the beam diameter is 50% of the footcandle reading.
3. Conversion factors: lux (lx)= footcandles / 0.0929 Meters (m)= Feet / 3.2808



Metal Halide Lamps

Compact PAR Beam Diameter and Illuminance



Notes:

1. The illuminance level at the center of the beam is shown in footcandles.
2. The illuminance level at the outer edge of the beam diameter is 50% of the footcandle reading.
3. Conversion factors: lux (lx)= footcandles / 0.0929 Meters (m)= Feet / 3.2808

Metal Halide Lamps



Double Ended High Color Rendering EYE Color Arc Renaissance™

Features:

- Excellent color rendition, virtually equivalent to daylight, CRI = 96
- Available in 3500K, 4500K and 6500K color temperatures
- Operates on common Metal Halide and HQI ballast and ignitor
- UV-cut coating

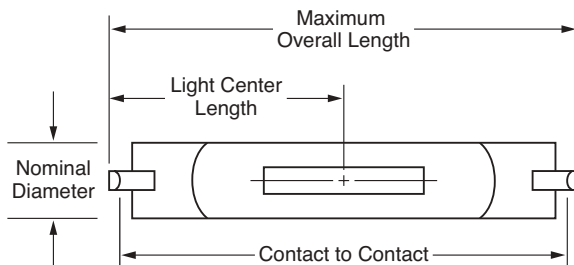


Applications:

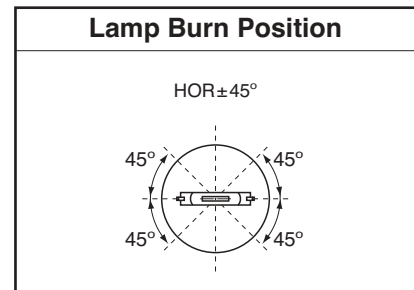
- Architectural • Office • Landscape • Retail
- Critical commercial and industrial color applications
- Aquariums

Physical Data and Characteristics

Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI	Fix. Req.	Burn Pos.
1	150	Clear	R7s	55328	MTD150SDW (NP)	M81/M102	24	10000	8000	9000	3500	96	E	HOR±45°
2		Clear	R7s	55335	MTD150SW (NP)	M81/M102	24	11000	9000	9000	4500	96	E	HOR±45°
3		Clear	R7s	55345	MTD150D (NP)	M81/M102	24	11000	9000	9000	6500	96	E	HOR±45°



Lamp Dimensions	
	150W
Nominal Diameter	0.945 in. 24 mm
Maximum Overall Length	5.365 in. 136 mm
Light Center Length	2.678 in. 68 mm
Contact to Contact	5.2 in. 132 mm



Notes:

1. Warning/Caution notices, see page # 39
2. Operating Instructions, see page # 39
3. All information subject to change without notice

NP: New products

Fixture Requirements:

E = Enclosed Fixture Required
S = Open Fixture if the operating position is base up or down +/-15°
O = Open Fixture Permissible



Metal Halide Lamps

High Color Rendering (Daylight) Clean Arc™



Features:

- High color temperature 6500K and very high color rendering CRI 90
- Operates on standard Metal Halide CWA ballast
- Open Fixture Rated available

Applications:

- Retail stores • Manufacturing • Sports lighting
- Critical commercial and industrial color applications
- Painting/Printing industry • Horticulture
- Commercial aquariums

Physical Data and Characteristics

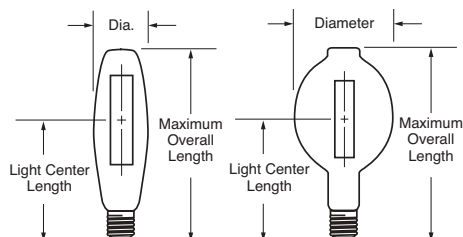
Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI	Fix. Req.	Burn Pos.
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Enclosed Fixture Series Mogul Base

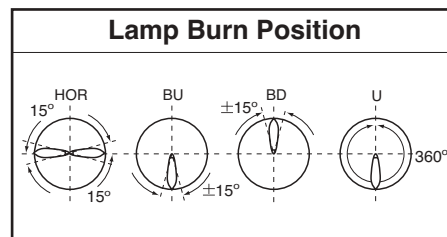
1	250	ET18 Clear	Mog	57791	MT250D (NP)	M58	12	18000	13500	10000	6500	90	E	U
2	400	ET18 Clear	Mog	57881	MT400D/HOR (NP)	M59	12	29000	22000	12000	6500	90	E	HOR

Open Fixture Series Mogul Base

3	250	BT28 Clear	Mog	57983	MP250D (NP)	M58	12	17100	12800	10000	6500	90	O	U
4	400	BT37 Clear	Mog	57895	MP400D/BUD (NP)	M59	12	30000	22500	12000	6500	90	O	BU/BD



Lamp Dimensions			
	ET18	BT28	BT37
Nominal Diameter	2.250 in. 57 mm	3.50 in. 89 mm	4.625 in. 117 mm
Maximum Overall Length	9.75 in. 248 mm	8.312 in. 211 mm	11.451 in. 291 mm
Light Center Length	5.75 in. 146 mm	5.0 in. 127 mm	7.0 in. 178 mm



Notes:

1. Warning/Caution notices, see page # 39
2. Operating Instructions, see page # 39
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.

NP: New products

Fixture Requirements:

E = Enclosed Fixture Required
S = Open Fixture if the operating position is base up or down +/-15°
O = Open Fixture Permissible

Metal Halide Lamps



High Color Rendering (Daylight) Metal Halide Retrofit from Mercury EYE Clean Ace™



Features:

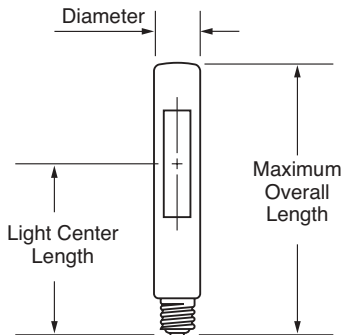
- Metal Halide retrofit in Mercury lighting system
- Excellent color rendition (90 CRI) virtually equivalent to daylight (6500K)
- Brightness approximately 1.5 times that of Mercury lamp of equal wattage (400W)
- Operates on Mercury reactor ballast only

Applications:

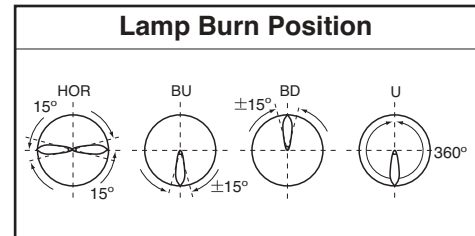
- Store
- Retail
- Building
- Manufacturing
- Sports facility
- Greenhouse
- Aquarium

Physical Data and Characteristics

Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI	Fix. Req.	Burn Pos.
1	250	T15 Clear	Mog	57787	MT250DL	H37 ⁴	12	18000	13500	10000	6500	90	E	U
2	400	T17 Clear	Mog	57885	MT400DL/BH	H33 ⁴	12	29000	22000	12000	6500	90	E	HOR
3		T15 Clear	Mog	57934	MT400DL/BUD	H33 ⁴	12	32000	24000	12000	6500	90	E	BU BD



Lamp Dimensions			
	250W T15	400W T15	400W T17
Nominal Diameter	1.890 in. 48 mm	1.890 in. 48 mm	2.165 in. 55 mm
Maximum Overall Length	9.685 in. 246 mm	11.614 in. 295 mm	11.496 in. 292 mm
Light Center Length	6.142 in. 156 mm	7.283 in. 185 mm	7.126 in. 181 mm



Notes:

1. Warning/Caution notices, see page #39
2. Operating Instructions, see page #39
3. All information subject to change without notice
4. Compatible with ballasts for the ANSI lamp code shown.

Fixture Requirements:

- E = Enclosed Fixture Required
S = Open Fixture if the operating position is base up or down +/-15°
O = Open Fixture Permissible



Metal Halide Lamps

High Wattage High Color Rendering EYE Quartz Arc™



M1500B-D/HOR



MSD 2000BED-I



MLD 2000BED-I-90

Features:

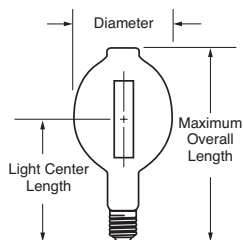
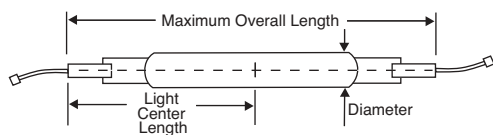
- Excellent color rendering (CRI = 92) and high color temperature produces superb color for High Definition Television
- Color temperature : 5500K
- Double ended and BT bulb types are available
- High power lamp fits in a compact fixture with precision beam control (double ended type)

Applications:

- Sports lighting
- Large and medium size stadiums
- Entertainment complexes
- Public parks and area lighting
- Industrial facilities
- Auditoriums and facade lighting
- Horticulture
- Commercial aquariums

Physical Data and Characteristics

Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI	Fix. Req.	Burn Pos.
1	1500	BT56 Clear	Mog	57950	M1500B-D/HOR ⁴	M48	6	125000	95000	6000	5500	92	E	HOR±60°
2	2000	-	Special	57970	MLD2000BED ⁴ -I-90 ⁵	M134	12	200000	160000	3000	5500	90	E	HOR±15°
3		-	Special	57965	MSD2000BED ⁴ -I ⁵	-	12	200000	-	3000	5500	92	E	HOR±15°



Lamp Dimensions			
	1500W BT56	MLD2000	MSD2000
Nominal Diameter	7.087 In 180 mm	1.181 In 30 mm	1.575 In 40 mm
Maximum Overall Length	15.354 In 390 mm	11.102 In 282 mm	12.165 In 309 mm
Light Center Length	9.646 In 245 mm	5.512 In 140 mm	6.102 In 155 mm

Lamp Burn Position	
HOR±15°	HOR±60°

Notes:

1. Warning/Caution notices, see page # 39
2. Operating Instructions, see page # 39
3. All information subject to change without notice
4. Please contact EYE Lighting customer service for availability.
5. Please contact EYE Lighting technical marketing for application information.

Fixture Requirements:

- E = Enclosed Fixture Required
 S = Open Fixture if the operating position is base up or down +/-15°
 O = Open Fixture Permissible

Warning & Operating Instructions

Warning

This lamp 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. Lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available.

This lamp complies with U.S. Federal Standard 21 CFR 1040.30

1. Metal Halide lamps are constructed of an outer glass jacket and an internal arc tube made of quartz. The arc tube operates under high pressure and temperatures as high as 1000° C (1832°F). The arc tube and outer jacket may unexpectedly rupture due to internal causes or external factors such as system malfunction or misapplication, creating a risk of personal injury, property damage, burns and fire. To reduce this risk the following instructions must be adhered to.
2. Do not operate lamps in excess of rated voltages of the ballast as this will increase lamp pressure and the possibility of shattering.
3. This lamp must be used only with proper circuit and auxiliary equipment and a suitable ballast.
4. This lamp must be operated with a suitable fixture, ballast and ignitor which has an ANSI designation identical to the ANSI designation in this catalog.
5. Do not use this lamp in a fixture designed for less than the rated lamp wattage.
6. Failure to comply may result in poor lamp performance and possible personal injury or property damages for which the manufacturer will not be held responsible.
7. Do not scratch glass of bulb or subject this lamp to undue pressure as either may cause lamp to break. Replace scratched, cracked, broken or damaged bulbs immediately.
8. The lamp should be screwed firmly, but not forcibly, into the socket to reduce the possibility of loosening due to vibration. Use of excessive force may result in lamp breakage.
9. Do not touch hot lamps with fingers, skin or any flammable material. Lamps may remain hot after being turned OFF.
10. This lamp must be shielded from direct contact with rain, sleet, snow and other liquids to reduce the possibility of breakage. This lamp may implode if broken. Use eye protection and gloves when handling this lamp.
11. The fixture for Metal Halide lamps must be enclosed. Enclosures must be made of suitable materials capable of withstanding the discharge of hot quartz, arc tube or glass particles up to 1000° C (1832° F). The manufacturer has identified only tempered glass as suitable lens or diffuser material. End users should contact the fixture manufacturer to determine if a particular enclosure is suitable.

12. In continuously operating systems (24 hours/day, 7 days/week), turn lamps off once per week for at least 1 hour. Failure to comply increases the risk of rupture.
13. When operating this lamp, the base temperature should not exceed 210° C (410° F) for Mogul base and 190° C (374° F) for Medium base, the outer envelope should not exceed 400° C (752° F). The recommended ambient temperature limit for this lamp is -5° C (23° F) minimum; 40° C (104° F) maximum.
14. Do not use this lamp in a location subject to vibration or shock, unless an adequate vibration-proof fixture is used.
15. Do not use this lamp in a corrosive atmosphere unless an adequate corrosion resistant-fixture is used.
16. Replace lamp at or before the end of its rated life. Allowing lamps to burn until they fail may increase the risk of inner arc tube rupture.
17. Electrically insulate any metal support in contact with glass to reduce the possibility of decomposition of the glass.
18. Do not look directly at the lamp during operation to avoid eye inflammation from short wave ultraviolet radiation.
19. Do not paint the lamp to prevent its overheating or breakage.
20. Do not use this lamp in an ignitable atmosphere (for example gasoline, inflammable spray, thinner, lacquer, dust, etc.) to prevent a fire or explosion unless an adequate fixture is used.
21. Do not use this lamp in a powdery or dusty atmosphere in order to eliminate the overheating of the lamp unless an adequate fixture is used.
22. The radiation from this lamp may cause colored objects to fade unless an adequate fixture is used.
23. Follow all instructions in the manufacturer's catalog or on the individual box or instruction sheet.

Operating Instructions

1. To install or replace bulb, disconnect power to reduce the risk of electrical shock and allow lamp to cool before replacing.
2. Check the operating position of the lamps marked on the outer envelope. Lamps must only be utilized in the correct operating position.
U or X/U = Universal burning position
BU or SXBU = Base up +/- 15°
HOR or SXHOR = Horizontal +/- 15°
BD = Base down +/- 15°
BUH = Base up +/- 105° (Base up +/- 90° for 1500W)
See positions on each page in this catalog.
For EYE Color Arc®, EYE Color Arc PAR™, EYE Quartz Arc™, see each lamp page in this catalog.

Operating Instructions continued on page 40.



Metal Halide Lamps

Operating Instructions (continued)

3. When the lamp does not operate normally, turn off the power and replace the lamp with a new one.
4. Lamp should operate with appropriate ballast and ignitor for Metal Halide lamps.
5. **Seasoning Time:** The time required for a new operating lamp to reach a state of equilibrium where the electrical, light level and color parameters stabilize. Typically, HID lamps obtain their rated performance after 100 hours of seasoning.

For EYE Multi-Metal Ace™ Lamps

If a power interruption should occur and the lamp extinguishes, turn off the power for at least 15 minutes. Turn the power back on to restart the lamp.

EYE LIGHTING INTERNATIONAL OF NORTH AMERICA INC. and IWASAKI ELECTRIC Co., Ltd. will not be responsible for property damage, personal injury or poor lamp performance due to failure to follow the above instructions. The statements contained herein do not create, and shall not be construed as creating, any warranties. For more information regarding instructions or the above warnings, contact IWASAKI / EYE LIGHTING INTERNATIONAL OF NORTH AMERICA INC., a Subsidiary of IWASAKI ELECTRIC Co., Ltd. at 9150 Hendricks Rd., Mentor, Ohio 44060, 888-665-2677. with the information request sheet located on the last page of this catalog or IWASAKI ELECTRIC Co., Ltd.

Note : Unless otherwise noted in this catalog, EYE Metal Halide lamps can be operated with ballasts made in accordance with I.E.C. recommendations allowing for voltage fluctuations of +/- 10 percent.

Lamp Family & Application Guide

Lamp Family	Lamp Features	Watts	Application	Page
Sunlux Ultra Ace™/EN	Retrofit HPS lamp operates on a Mercury or Metal Halide ballast by simply changing the lamp. Meets Federal EPA TCLP requirements for non-hazardous waste.	150 watt through 940 watt	Streets/Highway Lighting, Warehouses, Parking,	42
Sunlux Power ACE™/EN	Retrofits most CWA Mercury and Metal Halide systems to HPS by simply changing the lamp. Is TCLP compliant for non-hazardous waste and saves energy.	300 watt through 750 watt	Streets/Highway Lighting, Warehouses, Parking, Manufacturing	42
Sunlux Super Ace®	Retrofit high lumen output HPS lamp that converts a Mercury or Metal Halide system to reflector bulb type HPS by simply changing the lamp.	220 watt and 360 watt	Street/Highway, Parking, Warehouses, Industrial	43
Ignitron™EN	HPS lamp with a built-in ignitor that meets Federal EPA TCLP requirements for non-hazardous waste.	50 watt through 1000 watt	Street/Highway, Parking, Warehouses	44
Ignitron™ES/EN	Energy saving High Pressure Sodium lamp with an internal ignitor.	225 watt and 360 watt	Street/Highway, Parking, Warehouses	44
Ignitron Super™EN	High lumen output HPS lamp with a built-in ignitor that meets Federal EPA TCLP requirements for non-hazardous waste.	250 watt and 400 watt	Street/Highway, Parking Warehouses	45
DAYLUX®	Compact medium base HPS lamps with high CRI that produces a warm color light similar to incandescent.	50 watt through 150 watt	Mall concourse, Showrooms	46
DAYLUX PAR™	Reflector bulb, medium base HPS lamps with high CRI that produce a warm color light similar to incandescent.	100 watt through 150 watt	Display areas	47
Specialux™	Medium wattage mogul base HPS lamps with high CRI that produce a warm color light similar to incandescent.	150 watt through 400 watt	Indoor commercial and industrial Large Chandeliers	48
Sunlux®	Basic High Pressure Sodium in all commonly used wattages.	35 watt through 1000 watt	Warehouses, Parking, Roadway	49
Sunlux®ES/EN	Energy saving High Pressure Sodium lamp. EPA, TCLP compliant for non-hazardous waste.	225 watt and 360 watt	Street/Highway, Parking, Warehouses	49



High Pressure Sodium Lamps

HPS Retrofit from Mercury/Metal Halide

EYE Sunlux Ultra Ace™ EN



Features:

- Converts Mercury / Metal Halide to HPS by simply changing the lamp
- Requires no fixture/ballast changes
- Double the light output of Mercury Lamps
- EPA TCLP compliant for non-hazardous waste
- Includes Extra Power Savings lamps
- FEC protects lighting system components from continuous high voltage pulsing at the end of lamp life
- Universal operating position

Applications:

- Roadway • Industrial
- Warehouse/Manufacturing • Parking

Physical Data and Characteristics

Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code ⁴	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI
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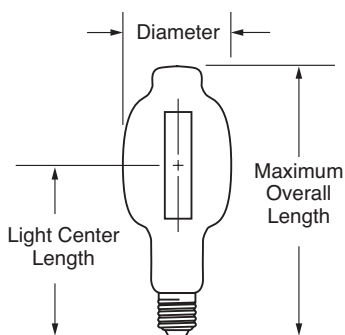
Energy Saving Retrofit from Mercury/Metal Halide Mogul Base

1	150	BT28 Clear	Mog	62345	NH150CE/EN (\$\$)	M57 / H39 ⁴	12	15000	13500	24000	1900	25
2		BT28 Coated	Mog	62394	NH150FCE/EN (\$\$)	M57 / H39 ⁴	12	14500	13000	24000	1900	25
3	220	BT28 Clear	Mog	62443	NH220CE/EN (\$\$)	M58 / H37 ⁴	12	25000	22500	24000	2100	25
4		BT28 Coated	Mog	62492	NH220FCE/EN (\$\$)	M58 / H37 ⁴	12	24000	21600	24000	2100	25
5	360	BT37 Clear	Mog	62541	NH360CE/EN (\$\$)	M59 / H33 ⁴	12	45000	40500	24000	2100	25
6		BT37 Coated	Mog	62590	NH360FCE/EN (\$\$)	M59 / H33 ⁴	12	43000	38700	24000	2100	25
7	940	BT56 Clear	Mog	62639	NH940BCE/EN (\$\$)	M47 / H36 ⁴	6	130000	117000	24000	2100	25
8		BT56 Coated	Mog	62688	NH940BFCE/EN (\$\$)	M47 / H36 ⁴	6	123000	110700	24000	2100	25

Sunlux Power Ace™ EN

Extra Energy Savings HPS Retrofit from Mercury/Metal Halide Mogul Base

9	300	BT37 Clear	Mog	62517	NH300CE/EN (\$\$-NP)	M59 / H33*	12	38000	33000	24000	2100	25
10	750	BT56 Clear	Mog	62625	NH750BCE/EN (\$\$-NP)	M47 / H36*	6	100000	88000	24000	2100	25



- * Metal Halide and Mercury dual rated ballast is required (CWA ballast only)
- * H33 rated only CWA with 280V capacitor
- * Not for use with HX ballasts

Lamp Dimensions				
	BT28	BT37	BT46	BT56
Nominal Diameter	3.50 in. 89 mm	4.625 in. 117 mm	5.75 in. 121 mm	7.0 in. 178 mm
Maximum Overall Length	8.312 in. 211 mm	11.451 in. 291 mm	13.15 in. 334 mm	15.375 in. 386 mm
Light Center Length	5.0 in. 127 mm	7.0 in. 178 mm	8.443 in. 214 mm	9.484 in. 241 mm

Notes:

1. Warning/Caution notices, see page # 50
2. Operating Instructions, see page # 50
3. All information subject to change without notice
4. Compatible with ballasts for the ANSI lamp code shown
5. Contact EYE Lighting International for further information and availability.

\$\$: Energy saving products

NP: New products

High Pressure Sodium Lamps



HPS Reflector Bulb Retrofit from Mercury / Metal Halide EYE Sunlux Super Ace®



Features:

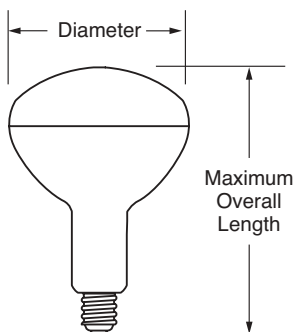
- High efficacy
- New installations or illumination improvement utilizing standard mercury lamp ballast
- Reflector shape produces ideal light distribution

Applications:

- Factory, indoor facilities
- High or medium bay lighting

Physical Data and Characteristics

Line #	Watts	Bulb Type	Base	Product Code	Product Description	ANSI Code	Case Qty.	Beam Angle(°) Lumens	Peak Intensity (cd)	Average Life Hours	Color Temp. (K)	CRI
1	220	R57	Mog	64477	NHR220LC (\$\$)	M58 / H37 ⁴	6	0 ~ 67.5 15300 0 ~ 135 17800	4150	20000	2100	25
2	360	R57	Mog	64575	NHR360LC (\$\$)	M59 / H33 ⁴	6	0 ~ 67.5 24800 0 ~ 135 32400	6700	20000	2100	25



Lamp Dimensions	
	R57
Nominal Diameter	7.087 in. 180 mm
Maximum Overall Length	12.441 in. 316 mm

Notes:

1. Warning/Caution notices, see page # 50
2. Operating Instructions, see page # 50
3. All information subject to change without notice
4. Compatible with ballasts for the ANSI lamp code shown

\$\$: Energy saving products



High Pressure Sodium Lamps



HPS with Internal Ignitor EYE Ignitron™ EN / Energy Savers

Features:

- Energy saving lamps available
- Eliminate the need for replacement ignitor
- EPA TCLP compliant for non-hazardous waste
- FEC Protects lighting system components
- Dependable long life
- Universal burning position
- Eliminates possible damage to ballast

Applications:

- Roadway
- Parking
- Warehouse/Manufacturing
- Security

Physical Data and Characteristics

Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code ⁴	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI
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High Pressure Sodium lamp with Internal Ignitor Mogul Base

1	50	ED23.5 Clear	Mog	59674	LU50/I/EN	S68	12	4000	3600	28500	1900	17
2	70	ED23.5 Clear	Mog	59685	LU70/I/EN	S62	12	6000	5400	28500	1900	17
3	100	ED23.5 Clear	Mog	59696	LU100/I/EN	S54	12	9500	8550	28500	1900	17
4	150	ED23.5 Clear	Mog	59707	LU150/55/I/EN	S55	12	16000	14400	28500	1900	17
5	200	ET18 Clear	Mog	59914	LU200/I/EN	S66	12	22000	19800	28500	2100	25
6	250	ET18 Clear	Mog	60012	LU250/I/EN	S50	12	28500	25600	28500	2100	25
7	310	ET18 Clear	Mog	60050	LU310/I/EN	S67	12	37000	33300	28500	2100	22
8	400	ET18 Clear	Mog	60110	LU400/I/EN	S51	12	50000	45000	28500	2100	25
9	1000	E25 Clear	Mog	59718	LU1000B/I/EN	S52	6	140000	126000	24000	2100	25

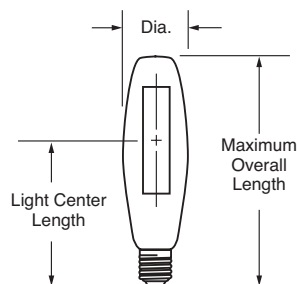
Ignitron™ ES / EN

Energy Saving High Pressure Sodium lamp with Internal Ignitor Mogul Base

10	225	ET18 Clear	Mog	59919	LU225/I/EN ⁵ (\$\$-NP)	S50	12	27000	24300	24000	2100	15
11	360	ET18 Clear	Mog	60105	LU360/I/EN ⁵ (\$\$-NP)	S51	12	47000	42300	24000	2100	15

Click below to order

Interlight Specialty Bulbs
1-800-743-0005
www.interlight.biz



Lamp Dimensions

	ET18	ED23.5	E25
Nominal Diameter	2.250 in. 57 mm	2.937 in. 75 mm	3.125 in. 79 mm
Maximum Overall Length	9.75 in. 248 mm	7.328 in. 186 mm	15.062 in. 383 mm
Light Center Length	5.75 in. 146 mm	5.0 in. 127 mm	8.75 in. 222 mm

Notes:

1. Warning/Caution notices, see page # 50
2. Operating Instructions, see page # 50
3. All information subject to change without notice
4. Compatible with ballast for the ANSI lamp code shown. Lamp does not require an external starting pulse.
5. Contact EYE Lighting International for further information and availability.

\$\$: Energy saving products NP: New products

High Pressure Sodium Lamps



High Output HPS with Internal Ignitor EYE Ignitron Super™ EN



Features:

- High Lumen Output lamp with internal ignitor using FEC technology
- Passes EPA TCLP test for non-hazardous waste
- FEC protects lighting system components from continuous high voltage pulsing at the end of lamp life
- Universal operating position

Applications:

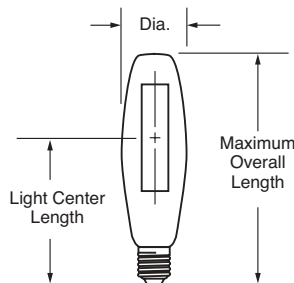
- Street/Highway Lighting
- Warehouses
- Parking
- Security

Physical Data and Characteristics

Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI ⁴ Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI
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High Lumen Output HPS Lamp with Internal Ignitor⁵ Mogul Base

1	250	ET18 Clear	Mog	58820	LU250/IS/EN (NP)	S50	12	33000	29700	24000	2100	25
2	400	ET18 Clear	Mog	60104	LU400/IS/EN (NP)	S51	12	56000	50400	24000	2100	25



Lamp Dimensions	
	ET18
Nominal Diameter	2.25 in. 57 mm
Maximum Overall Length	9.75 in. 248 mm
Light Center Length	5.75 in. 146 mm

Notes:

1. Warning/Caution notices, see page # 50
2. Operating Instructions, see page # 50
3. All information subject to change without notice
4. Compatible with ballast for the ANSI lamp code shown.
Lamp does not require an external starting pulse.
5. Contact EYE Lighting International for further information and availability.

NP: New products



High Pressure Sodium Lamps

Compact High Color Rendering (Incandescent Color) EYE DAYLUX®

Features:

- Warm white light virtually identical to incandescent color
- Very high color rendition, CRI=82 ~ 85
Color temperature = 2500K
- Approximately 3 to 5 times more efficient than incandescent lamps
- Compact construction - medium base
- Open fixture rated
- Dependable long life

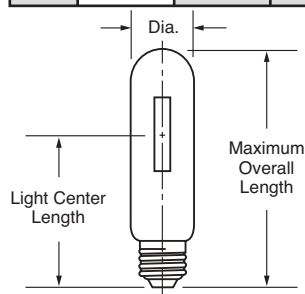


Applications:

- Department stores • Hotels • Convention centers
- Shopping centers • Showrooms • Entrance foyers
- Display areas

Physical Data and Characteristics

Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI
1	50	T9	Med	67398	NHT50SDX	-	12	2500	2100	6000	2500	82
2		T9	Med	67447	NHT50FSDX	-	12	2400	2000	6000	2500	82
3	70	T11	Med	67461	NHT70SDX	-	12	3500	2970	6000	2500	83
4		T11	Med	67400	NHT70FSDX	-	12	3350	2840	6000	2500	83
5	100	T11	Med	67300	NHT100SDX	-	12	5000	4250	6000	2500	83
6		T11	Med	67251	NHT100FSDX	-	12	4800	4080	6000	2500	83
7	150	T13	Med	67349	NHT150SDX	-	12	7800	6600	9000	2500	85
8		T13	Med	67343	NHT150FSDX	-	12	7300	6170	9000	2500	85



Lamp Dimensions			
	T9	T11	T13
Nominal Diameter	1.181 in 30 mm	1.378 in 35 mm	1.575 in 40 mm
Maximum Overall Length	4.252 in 108 mm	5.433 in 138 mm	6.024 in 153 mm
Light Center Length	2.874 in 73 mm	3.425 in 87 mm	3.740 in 95 mm

Notes:

1. Warning/Caution notices, see page # 50
2. Operating Instructions, see page # 50
3. All information subject to change without notice

High Pressure Sodium Lamps



Compact PAR High Color Rendering (Incandescent Color)

EYE DAYLUX PAR™ Dichroic Reflector Type PAR 36

Features:



- Compact PAR 36 Dichroic reflector design
- Warm white light, color temperature = 2500K
- Very high color rendition CRI = 83 ~ 85
- DAYLUX PAR lamps have a higher luminous flux and the similar high color rendition compared to PAR halogen lamps
- Medium beam and wide beam patterns are available
- Excellent beam control offers a high luminous efficacy and related energy savings
- Rated for use in open fixtures
- Indoor use only

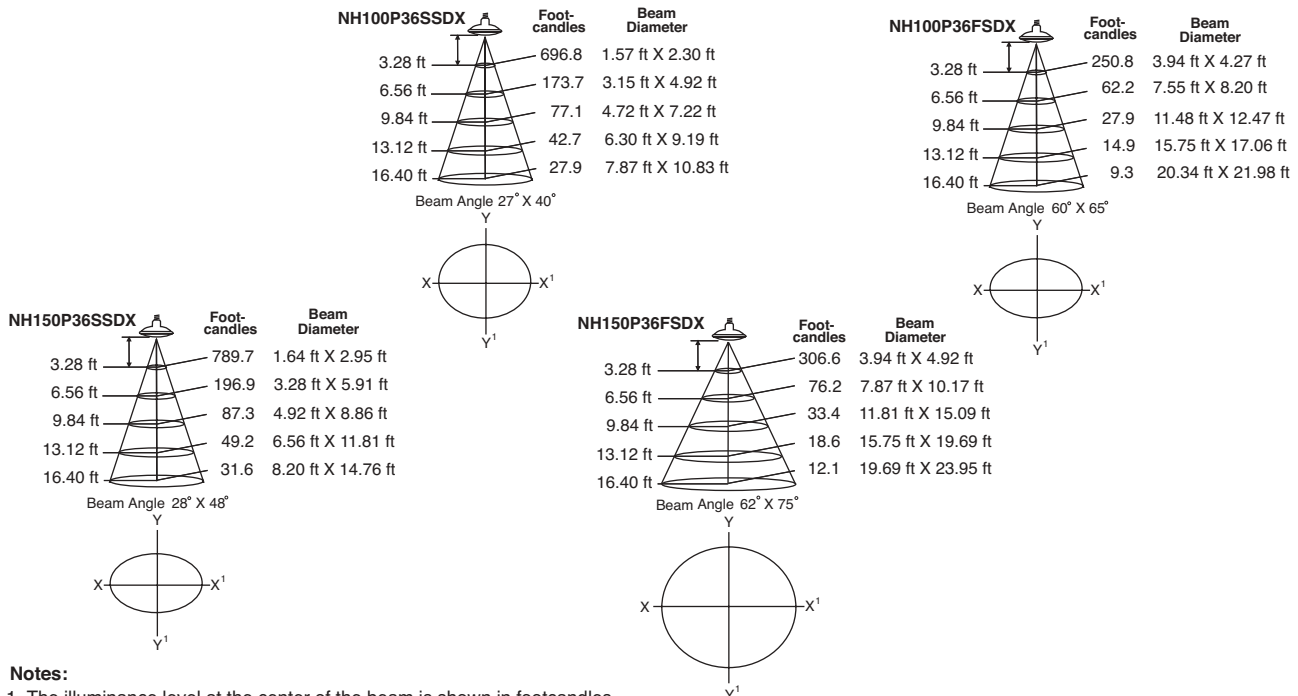
Applications:

- Department stores • Display areas • Convention centers
- Shopping centers • Showrooms • Entrance foyers

Physical Data and Characteristics

Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Beam lumens	Beam Angle (°)	Peak Intensity (cd)	Average Life Hours	Color Temp. (K)	CRI
1	100	PAR36	Med	67257	NH100P36SSDX	-	10	5000	1200	27 x 40	7500	6000	2500	83
2		PAR36	Med	67268	NH100P36FSDX	-	10	4800	1600	60 x 65	2700	6000	2500	83
3	150	PAR36	Med	67275	NH150P36SSDX	-	10	7000	3200	28 x 48	8500	6000	2500	85
4		PAR36	Med	67281	NH150P36FSDX	-	10	6000	2600	62 x 75	3300	6000	2500	85

CONICAL DIAGRAM OF ILLUMINANCE



Notes:

1. The illuminance level at the center of the beam is shown in footcandles.
2. The illuminance level at the outer edge of the beam diameter is 50% of the footcandle reading.
3. Conversion factors: lux (lx)= footcandles / 0.0929 Meters (m)= Feet / 3.2808



High Pressure Sodium Lamps

High Color Rendition on Standard HPS Ballast (Incandescent Color) EYE Specialux™



Features:

- Warm white light virtually identical to incandescent lamps
High color rendition, CRI = 85, Color temperature = 2500K
- Universal burning position provided by BT, Tubular and Reflector type bulb
- Approximately 3 to 5 times more efficient than incandescent lamps
- Open fixture rated
- Operates on standard HPS ballasts

Applications:

- Medium-high bay indoor lighting
- Small to medium scale indoor sports facility lighting
- Building flood lighting
- Store lighting

Physical Data and Characteristics

Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI
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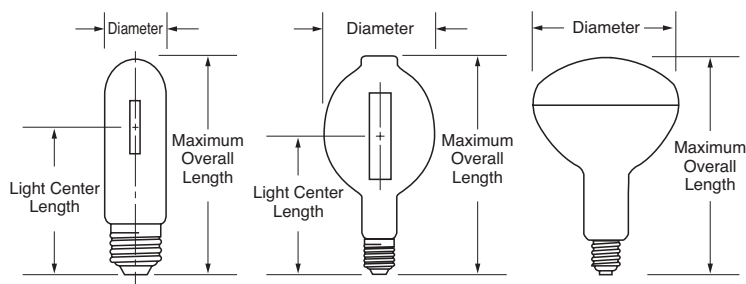
BT & T Bulb Series

1	150	T15 Clear	Mog	67332	NHT150DX/PN	S56	12	7800	7000	9000	2500	85
2		BT28 Diffused	Mog	67331	NH150FDX/PN	S56	12	7300	6500	9000	2500	85
3	250	T15 Clear	Mog	67356	NHT250DX/PN	S50	12	13500	12000	9000	2500	85
4		BT28 Diffused	Mog	67361	NH250FDX/PN	S50	12	12800	11500	9000	2500	85
5	400	T15 Clear	Mog	67365	NHT400DX/PN	S51	12	24000	21600	9000	2500	85
6		BT37 Diffused	Mog	67371	NH400FDX/PN	S51	12	23000	20000	9000	2500	85

Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Beam Angle(°) Lumens	Peak Intensity (cd)	Average Life Hours	Color Temp. (K)	CRI
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Reflector Bulb Series

7	150	R52	Mog	64401	NHR150DX/PN	S56	6	0 ~ 65 0 ~ 90 4800 5900	1400	9000	2500	85
8	250	R52	Mog	64408	NHR250DX/PN	S50	6	0 ~ 65 0 ~ 90 8000 9500	2200	9000	2500	85
9	400	R57	Mog	64576	NHR400DX/PN	S51	6	0 ~ 65 0 ~ 90 15500 18000	4200	9000	2500	85



Tubular Lamp Dimensions			
	150W	250W	400W
Nominal Diameter	1 7/8 in. 48 mm	1 7/8 in. 48 mm	1 7/8 in. 48 mm
Maximum Overall Length	8 5/32 in. 207 mm	9 31/32 in. 253 mm	11 3/16 in. 284 mm
Light Center Length	5 1/32 in. 128 mm	5 3/4 in. 146 mm	6 23/32 in. 171 mm

Lamp Dimensions				
	BT28	BT37	R52	R57
Nominal Diameter	3 9/16 in. 90 mm	4 9/16 in. 116 mm	6 1/2 in. 165 mm	7 3/32 in. 180 mm
Maximum Overall Length	8 3/4 in. 222 mm	11 7/16 in. 291 mm	12 1/16 in. 306 mm	12 7/16 in. 316 mm

Notes:

1. Warning/Caution notices, see page # 50
2. Operating Instructions, see page # 50
3. All information subject to change without notice

High Pressure Sodium Lamps



Standard HPS EYE SUNLUX®

Features:

- Low cost efficient lighting
- Universal burn position
- Long life
- **Energy Saving designs available**

Applications:

- Warehouses
- Parking Lots
- Industrial
- Security
- Roadway

Physical Data and Characteristics

Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI
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Standard High Pressure Sodium Medium Base

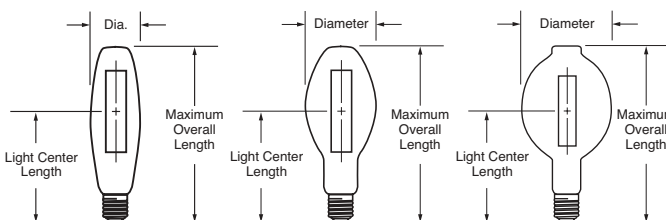
1	35	ED17 Clear	Med	65712	LU35/MED	S76	12	2250	2025	24000	2100	21
2	50	ED17 Clear	Med	66006	LU50/MED	S68	12	4000	3600	24000	2100	21
3	70	ED17 Clear	Med	66202	LU70/MED	S62	12	6000	5400	24000	2100	21
4	100	ED17 Clear	Med	65222	LU100/MED	S54	12	9500	8550	24000	2100	21
5	150	ED17 Clear	Med	65467	LU150/MED	S55	12	16000	14400	24000	2100	21

Standard High Pressure Sodium Mogul Base

6	50	ED23.5 Clear	Mog	65859	LU50	S68	12	4000	3600	24000	2100	21
7		ED23.5 Coated	Mog	65908	LU50/D ⁴	S68	12	3800	3420	24000	2100	21
8	70	ED23.5 Clear	Mog	66055	LU70	S62	12	6000	5400	24000	2100	21
9		ED23.5 Coated	Mog	66104	LU70/D ⁴	S62	12	5800	5220	24000	2100	21
10	100	ED23.5 Clear	Mog	65075	LU100	S54	12	9500	8550	24000	2100	21
11		ED23.5 Coated	Mog	65124	LU100/D ⁴	S54	12	8800	7920	24000	2100	21
12	150	ED23.5 Clear	Mog	65320	LU150/55	S55	12	16000	14400	24000	2100	21
13		ED23.5 Coated	Mog	65369	LU150/55/D ⁴	S55	12	15000	13500	24000	2100	21
14	200	ET18 Clear	Mog	65516	LU200	S66	12	22000	19800	24000	2100	21
15	250	ET18 Clear	Mog	65565	LU250	S50	12	28500	25600	24000	2100	21
16		BT28 Coated	Mog	65614	LU250/D ⁴	S50	12	26000	23400	24000	2100	21
17	400	ET18 Clear	Mog	65761	LU400	S51	12	50000	45000	24000	2100	21
18		BT37 Coated	Mog	65810	LU400/D ⁴	S51	6	47500	42750	24000	2100	21
19	1000	E25 Clear	Mog	66727	LU1000B/EN	S52	6	140000	126000	24000	2100	25

EYE SUNLUX® ES/EN Energy Saving High Pressure Sodium Lamp Mogul Base

20	225	ET18 Clear	Mog	66630	LU225/EN (\$\$-NP)	S50	12	27000	24300	24000	2100	15
21	360	ET18 Clear	Mog	66651	LU360/EN (\$\$-NP)	S51	12	47000	42300	24000	2100	15



Notes:

1. Warning/Caution notices, see page # 50
2. Operating Instructions, see page # 50
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability. **\$\$:** Energy saving products **NP:** New products

Lamp Dimensions						
	ED17	ET18	ED23.5	BT28	BT37	E25
Nominal Diameter	2.125 in 54 mm	2.250 in 57 mm	2.937 in 75 mm	3.50 in 89 mm	4.625 in 117 mm	3.125 in 79 mm
Maximum Overall Length	5.468 in 139 mm	9.75 in 248 mm	7.328 in 186 mm	8.312 in 211 mm	11.451 in 291 mm	15.062 in 383 mm
Light Center Length	3.390 in 86 mm	5.75 in 146 mm	5.0 in 127 mm	5.0 in 127 mm	7.0 in 178 mm	8.75 in 222 mm



High Pressure Sodium Lamps

Warning & Operating Instructions

Warning

1. This high intensity electric discharge lamp must be used only with proper circuit and auxiliary equipment and a suitable ballast. This lamp must be operated with a suitable fixture, ballast and ignitor which has an ANSI designation identical to the ANSI designation in this catalog or specified ballast as required, detailed information is contained in each page of this catalog. Failure to comply may result in poor lamp performance and possible personal injury or property damages for which the lamp manufacturer will not be held responsible.
2. Do not scratch glass of bulb or subject this lamp to undue pressure as either may cause lamp to break. Replace scratched, cracked, broken or damaged bulbs immediately.
3. Do not touch hot lamps with fingers, skin or any flammable material. Lamps will remain hot for some time after being turned OFF.
4. This vacuum jacket lamp may implode if broken. Use eye protection and gloves when handling this lamp. Replace lamp at or before end of its rated life.
5. This lamp must be shielded from direct contact with rain, sleet, snow, and other liquids to reduce the possibility of bulb breakage.
6. When operating this lamp, the base temperature should not exceed 210° C (410° F) for Mogul base and 190° C (374° F) for Medium base, the outer envelope should not exceed 400° C (752° F). The recommended ambient temperature limit for this lamp is -60° C (-76° F) minimum; 50° C (122° F) maximum.
7. Do not use this lamp in a location subject to vibration or shock, unless an adequate vibration-proof fixture is used.
8. Do not use this lamp in a corrosive atmosphere unless an adequate corrosion resistant-fixture is used.
9. Electrically insulate any metal support in contact with glass in order to reduce the risk of decomposition of the glass.
10. Do not look directly at lamp during operation.
11. When the lamp does not operate normally, turn off the power and replace the lamp with a new one.
12. Do not paint the lamp to prevent its overheating or breakage.
13. Do not use this lamp in an ignitable atmosphere (for example gasoline, inflammable spray, thinner, lacquer, dust, etc.) to prevent a fire or explosion unless an adequate fixture is used.
14. Do not use this lamp in a powdery or dusty atmosphere in order to eliminate the overheating of the lamp unless an adequate fixture is used.
15. Follow all instructions in the manufacturer's catalog or on the individual box or instruction sheet.

Operating Instructions

1. To install or replace bulb, disconnect power to reduce the risk of electrical shock and allow lamp to cool before replacing.
2. The lamp should be screwed firmly, but not forcibly, into the socket to reduce the possibility of loosening due to vibration. Use of excessive force may result in lamp breakage.
3. This lamp is suitable for operation in any position.
4. Replace lamp at or before the end of its rated life. Allowing lamps to burn until they fail may increase the risk of inner arc tube rupture.

For EYE Sunlux Ultra Ace™, EYE Sunlux Super Ace®

1. EYE Sunlux Ultra Ace™ and EYE Sunlux Super Ace® are high pressure sodium lamps that operate on Mercury and Metal halide ballasts without an external ignitor and peaking capacitor.
2. See application chart for appropriate ballast for each lamp wattage in this catalog.
3. Eliminate the peaking capacitor in the ballast circuit for the correct operation of the lamp.
4. For remote applications, the cable from lamp to ballast should be limited to 25m (80 feet) maximum length because of a reduction of pulse volts.
5. Ballast circuit: On twin lamp ballast, a series circuit will not be suitable for the lamp. Parallel circuit and series circuit of regulator type ballast will not be suitable for operation of the lamp.
6. Do not use this lamp with a conventional type high pressure sodium ballast.

For Ignitron™

1. EYE IGNITRON is a high pressure sodium lamp that operates on a standard high pressure sodium lamp ballast without an external ignitor.
2. Disconnect the external ignitor in the operating circuit.
3. For remote applications, the cable from lamp to ballast should be limited to 15m (50 feet) maximum length for lamps less than 150W and up to 25m (80 feet) for all lamps rated 200W and above, because of reduction of pulse volts.

For EYE Daylux® and EYE Daylux PAR™

1. The recommended ambient temperature limit for EYE Daylux lamps is -10° C (14° F) minimum; 40° C (104° F) maximum.
2. The cable, from lamp to ballast, should be limited to 15m (50 feet) maximum length.



EYE LIGHTING INTERNATIONAL OF NORTH AMERICA INC. and IWASAKI ELECTRIC Co., Ltd. will not be responsible for property damage, personal injury or poor lamp performance due to failure to follow the above instructions. The statements contained herein do not create, and shall not be construed as creating, any warranties. For more information regarding instructions or the above warnings, contact EYE LIGHTING INTERNATIONAL OF NORTH AMERICA INC., a Subsidiary of IWASAKI ELECTRIC Co., Ltd. at 9150 Hendricks Rd., Mentor, Ohio 44060, 888-665-2677. with the information request sheet located on the last page of this catalog or IWASAKI ELECTRIC Co., Ltd.

Note : Unless otherwise noted in this catalog, EYE High Pressure Sodium lamps can be operated with ballasts made in accordance with I.E.C. recommendations allowing for voltage fluctuations of +/-10 percent.



Mercury Lamps

Lamp Family & Application Guide

Lamp Family	Lamp Features	Watts	Application	Page
Standard	Long life Nickel plated base	50 watt through 1000 watt	Roadway, Security Manufacturing Parking, Landscape	53
Reflector	Long life Nickel plated base Reflector type	50 watt through 1000 watt	Landscape Sports Security lighting	54
Self-Ballasted	Long life Nickel plated base Self-Ballasted	100 watt through 750 watt	Warehouse, Post top Residential garage & decks Park & garden lighting	55
Self-Ballasted Reflector	Long life Nickel plated base Reflector type Self-Ballasted	160 watt through 750 watt	Small scale floodlighting Outdoor illumination Stairwells, Landscape Specialty	55

Mercury Lamps



EYE Mercury E and BT Bulb Series



Features:

- Full line product offering
- Long life
- Nickel plated base
- Rugged construction

Applications:

- Roadway
- Factory
- Parking
- Landscape
- Sports
- Security

Physical Data and Characteristics

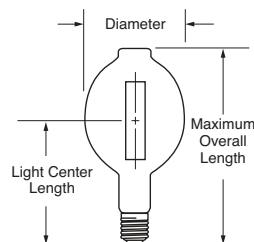
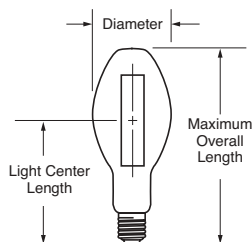
Line #	Watts	Bulb	Base	Product Code	Product Description	M.O.L. In./mm	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI
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E and BT Bulb Series

1	50	E17 Clear	Med	69966	H50	5.118 in.	H46	24	1650	1320	8000	5700	25
2		E17 Coated	Med	70407	HF50PD	130 mm	H46	24	1900	1520	8000	4100	40
3	75	E17 Clear	Med	70015	H75	5.433 in.	H43	24	2700	2160	16000	5700	25
4		E17 Coated	Med	70554	HF75PD	138 mm	H43	24	3000	2400	16000	4100	40
5	80	E21 Coated	Med	70603	HF80PD	6.142 in. 156 mm	-	24	3600	2880	16000	4100	40
6	100	E17 Clear	Med	69623	H100/MED	5.748 in.	H38	24	4000	3200	24000	5700	25
7		E17 Coated	Med	70113	HF100PD/MED	146 mm	H38	24	4500	3600	24000	4100	40
8		E24 Clear	Mog	69672	H100	7.283 in.	H38	24	4000	3200	24000	5700	25
9		E24 Coated	Mog	70162	HF100PD	185 mm	H38	24	4500	3600	24000	4100	40
10	125	E24 Coated	Med	70211	HF125PD	6.969 in. 177 mm	-	24	6250	5000	24000	4100	40
11	175	BT28 Clear	Mog	69770	H175	8.307 in.	H39	12	7800	6240	24000	5700	25
12		BT28 Coated	Mog	70260	HF175PD	211 mm	H39	12	8900	7120	24000	4100	40
13		E17 Clear	Med	71510	H175/MED ⁴	5.748 in. 146 mm	H39	24	7800	6240	10000	5700	25
14	250	BT28 Clear	Mog	69819	H250	8.701 in.	H37	12	12000	9600	24000	5700	25
15		BT28 Coated	Mog	70309	HF250PD	221 mm	H37	12	13700	10960	24000	4100	40
16	400	BT37 Clear	Mog	69868	H400	11.457 in.	H33	12	21000	16800	24000	5700	25
17		BT37 Coated	Mog	70358	HF400PD	291 mm	H33	12	24000	19200	24000	4100	40
18	700	BT46 Coated	Mog	70456	HF700PD	14.606 in. 371 mm	H35	6	44000	35200	24000	4100	40
19	1000	BT56 Clear	Mog	69721	H1000B	15.394 in.	H36	6	58000	46400	24000	5700	25
20		BT56 Coated	Mog	70064	HF1000BPD	391 mm	H36	6	64000	51200	24000	4100	40

Lamp Dimensions

	E21	E24	E17	BT28	BT37	BT46	BT56
Nominal Diameter	2.756 in. 70 mm	2.953 in. 75 mm	21.654 in. 55 mm	3.543 in. 90 mm	4.567 in. 116 mm	5.906 in. 150 mm	7.087 in. 180 mm
Maximum Overall Length	6.142 in. 156 mm	6.969, 7.283 in. 177, 185 mm	5.118, 5.433, 5.748 in. 130, 138, 146 mm	8.307, 8.701 in. 211, 221 mm	11.457 in. 291 mm	14.606 in. 371 mm	15.394 in. 391 mm
Light Center Length	-	-	3.150, 3.504, 3.740 in. 80, 89, 95 mm	5, 5.512, 5.039 in. 127, 140, 128 mm	7.283 in. 185 mm	-	9.488 in. 241 mm



Notes:

1. Warning/Caution notices, see page # 56
2. Operating Instructions, see page # 56
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.



Mercury Lamps

EYE Mercury Reflector Lamps



Features:

- Complete reflector line product offering
- Medium, Mogul designs available
- Long life
- Nickel plated base
- Rugged construction

Applications:

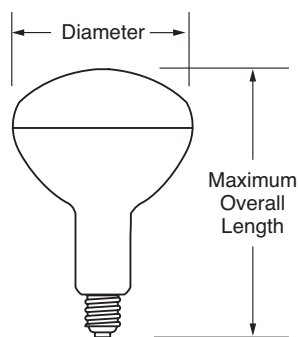
- Manufacturing/Industrial
- Parking
- Landscape
- Floodlighting for sports
- Security
- Specialty

Physical Data and Characteristics

Line #	Watts	Bulb	Base	Product Code	Product Description	M.O.L.	ANSI Code	Case Qty.	Initial Lumens	Beam Lumens	Beam Angle (°)	Peak Intensity (cd)	Average Life Hours	Color Temp. (K)	CRI
Reflector Bulb Series															
1	50	R20	Med	70995	HR50W/S	4.252 in	H46	24	1150	1050	160	130	8000	5700	25
2		R30	Med	70946	HR50W	5.433 in	H46	12	1050	750	110	400	8000	5700	25
3		R30	Med	71342	HRFF50PD/R30/E26R	5.433 in	H46	12	1100	650	125	238	8000	4100	40
4	100	R30	Med	70701	HR100W/R30	5.433 in	H38	12	2900	2000	115	950	24000	5700	25
5		RD40	Med	70750	HR100W	7.008 in	H38	6	3100	2000	100	1250	24000	5700	25
6		RD40	Med	71289	HRFF100PD	7.008 in	H38orH44	6	2800	2100	110	850	24000	4100	40
7		R30	Med	71250	HRFF100PD/R30/E26R	5.433 in	H38	12	2800	1600	125	620	24000	4100	40
8	125	RD40	Med	71093	HRF125PD	7.795 in	-	6	4300	3700	130	1200	24000	4100	40
9	175	RD40	Med	70799	HR175W	7.008 in	H39	6	5800	3700	100	2200	24000	5700	25
10		RD40	Med	71338	HRFF175PD	7.008 in	H39	6	5300	3700	110	1500	24000	4100	40
11	250	R63	Mog	70848	HR250N	12.047 in	H37	6	9000	3000	30	58000	24000	5700	25
12		R52	Mog	71142	HRF250PD	12.047 in	H37	6	8800	7500	130	2500	24000	4100	40
13	400	R63	Mog	70897	HR400N	12.047 in	H33	6	15000	5300	30	90000	24000	5700	25
14		R57	Mog	71191	HRF400PD	12.441 in	H33	6	15500	14000	130	4000	24000	4100	40
15	1000	R88	Mog	70652	HR1000BN	16.339 in	H36	1	45000	13000	30	200000	24000	5700	25
16		R88	Mog	71044	HRF1000BPD	16.339 in	H36	1	46000	39000	130	24000	24000	4100	40

Bulb Dimensions

	R20	R30	RD40	R63	R52	R57	R88
Nominal Diameter	2.480 in. 63 mm	3.740 in. 95 mm	4.961 in. 126 mm	7.874 in. 200 mm	6.496 in. 165 mm	7.087 in. 180 mm	11.024 in. 280 mm
Maximum Overall Length	4.252 in. 108 mm	5.433 in. 138 mm	7.008, 7.795 in. 178 198 mm	12.047 in. 306 mm	12.047 in. 306 mm	12.441 in. 316 mm	16.339 in. 415 mm



Notes:

1. Warning/Caution notices, see page # 56
2. Operating Instructions, see page # 56
3. All information subject to change without notice

Mercury Lamps



EYE Self Ballasted Mercury



Features:

- 1.5 times brighter, life that is 1.6 times longer than incandescent
- Screws into existing incandescent socket
- No ballast needed
- Nickel plated mogul base
- Mixed light provides more natural and improved light color

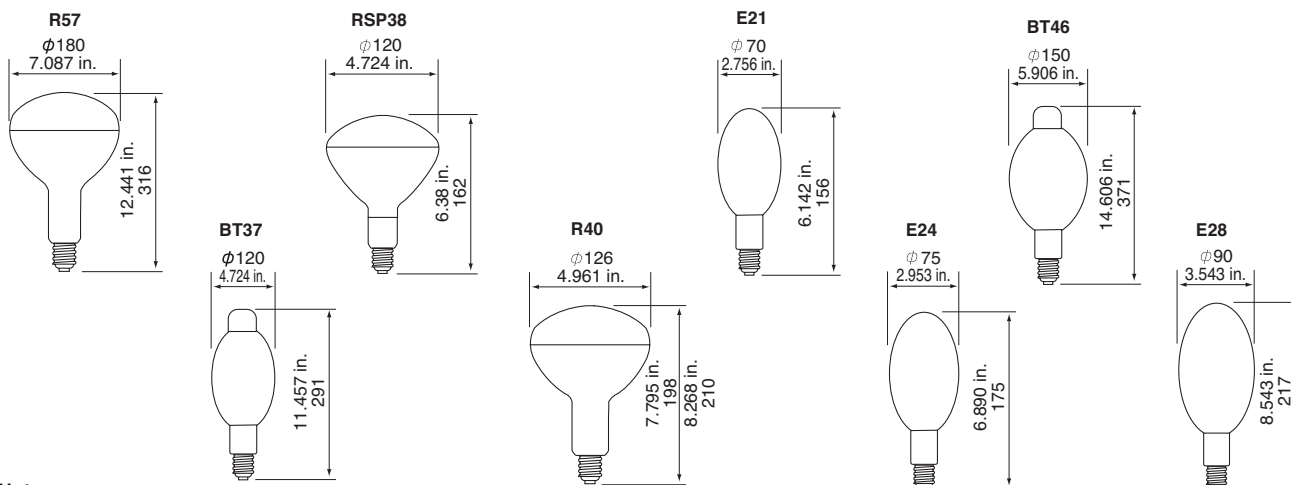
Applications:

- Warehouse
- Small scale floodlighting
- Home garages & decks
- Post top
- Security
- Park & garden lighting
- Stairwells
- Special effects

Physical Data and Characteristics

Line #	Watts	Bulb	Base	Product Code	Product Description	Line Voltage	ANSI Code	Case Qty.	Initial Lumens	Mean Lumens	Average Life Hours	Color Temp. (K)	CRI
E and BT Bulb Series													
1	100	E21 Coated	Med	67947	100WSB/E21W	120	-	24	1100	830	6000	3200K	60
2	160	E24 Coated	Med	67996	160WSB/E24W	120	B87	24	2550	1910	12000	3200K	60
3		E24 Coated	Med	68780	220/230V160W/E24W	220/230	-	24	3000	2250	8000	3300K	60
4	250	E28 Coated	Med	68290	250WSB/E28-MED	120	B94	20	5000	3750	12000	3200K	50
5		E28 Coated	Med	68829	220/230V250W/E28W(MED)	220/230	-	20	5700	4280	12000	3300K	50
6		E28 Coated	Mog	68339	250WSB/E28-MOG	120/	B94	20	5000	3750	12000	3200K	50
7		E28 Coated	Mog	68878	220/230V250W/E28W(MOG)	220/230	-	20	5700	4280	12000	3300K	50
8	450	BT37 Coated	Mog	68584	450WSB/BT37W	120	-	12	10000	7500	16000	3200K	50
9		BT37 Coated	Mog	68976	230/240V450W/BT37W	230/240	-	12	11500	8830	16000	3300K	50
10	750	BT46 Coated	Mog	68682	750WSB/BT46W	120	-	6	19000	14250	16000	3200K	45
11		BT46 Coated	Mog	68927	230/240V750W/BT46W	230/240	-	6	22000	16500	16000	4000K	40

Line #	Watts	Bulb	Base	Product Code	Product Description	Line Voltage	ANSI Code	Case Qty.	Initial Lumens	Beam Lumens	Beam Angle (°)	Peak Intensity (cd)	Average Life Hours	Color Temp. (K)	CRI
Reflector Bulb Series															
12	160	RSP38	Med	68192	160WSB/RSP38RF	120	-	12	1520	1140	120	500	10000	3200K	60
13		RSP38	Med	68241	160WSB/RSP38FF	120	-	12	1220	1140	120	480	10000	3200K	60
14		R40	Med	68143	160WSB/R40FL	120	B87	12	1680	1420	130	500	10000	4500K	40
15	250	R40	Med	68388	250WSB/R40FL(MED)	120	B94	12	3200	2700	130	800	12000	4500K	40
16		R40	Mog	68437	250WSB/R40FL	120	B94	12	3200	2700	130	800	12000	4500K	40
17	300	R40	Med	68486	300WSB/R40FL(MED)	120	-	12	3800	3200	130	1000	12000	4500K	40
18		R40	Mog	68535	300WSB/R40FL	120	-	12	3800	3200	130	1000	12000	4500K	40
19	450	R57	Mog	68633	450WSB/R57FL	120	-	6	7600	6500	130	1800	16000	4500K	40
20		R57	Mog	69025	230/240V450W/R57FL	230/240	-	6	8700	7400	130	2100	16000	5000K	40
21	750	R57	Mog	68731	750WSB/R57FL	120	B78	6	12600	10700	130	3300	16000	5000K	40
22		R57	Mog	69074	230/240V750W/R57FL	230/240	-	6	14000	12000	130	3900	16000	5500K	30
23		R57	Mog	69123	240/250V750W/R57RF	240/250	-	6	14000	12000	130	3900	16000	4000K	40



Notes:

1. Warning/Caution notices, see page # 56
2. Operating Instructions, see page # 56
3. All information subject to change without notice



Warning & Operating Instructions

Warning

This lamp 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. Lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available.

This lamp complies with U.S. Federal Standard 21 CFR1040.30

1. EYE Mercury lamp must be used only with proper circuit and auxiliary equipment and a suitable ballast. This lamp must be operated with a suitable fixture and ballast which has an ANSI designation identical to the ANSI designation in this catalog. Do not operate in excess of rated voltages as this will increase lamp pressure and the possibility of shattering. Failure to comply with this may result in poor lamp performance and possible personal injury or property damage for which the manufacturer will not be held responsible.
2. Do not scratch bulb or subject this lamp to undue pressure as either may cause lamp to break. Replace scratched, cracked, broken or damaged bulbs immediately.
3. Do not touch hot lamps with fingers, skin, or any flammable material. Lamps may remain hot after being turned OFF.
4. This lamp must be shielded from direct contact with rain, sleet, snow, and other liquids to reduce the possibility of bulb breakage.
5. When operating the hard glass bulb lamp, the base temperature should not exceed 210° C (410° F), and the outer envelope should not exceed 400° C (752° F). When operating the soft glass bulb lamp, the base temperature should not exceed 190° C (374° F), and the outer envelope should not exceed 250° C (482° F). The recommended ambient temperature limit for this lamp is -5° C (23° F) minimum; 50° C (122° F) maximum. For EYE Black Light, when operating this lamp, the base temperature should not exceed 190° C (374° F) for E26 and E27 base, and 210° C (410° F) for E39 and E40 base. The outer envelope should not exceed 350° C (662° F). Do not use this lamp in a fixture that fails to meet these temperature specifications.
6. Do not use this lamp in a location subject to vibration or shock, unless an adequate vibration-proof fixture is used.
7. Do not use this lamp in a corrosive atmosphere unless an adequate corrosion resistant fixture is used.
8. Replace lamp at or before end of rated life. Allowing lamps to burn until they fail may increase the risk of rupture.

9. Electrically insulate any metal support in contact with glass in order to reduce the risk of decomposition of the glass.
10. Do not look directly at lamp during operation to avoid eye inflammation from short wave ultraviolet radiation.
11. When the lamp does not operate normally, turn off the power and replace the lamp with a new one.
12. Do not paint the lamp to prevent its overheating or breakage.
13. Do not use this lamp in an ignitable atmosphere (for example gasoline, inflammable spray, thinner, lacquer, dust, etc.) to prevent a fire or explosion unless an adequate fixture is used.
14. Do not use this lamp in a powdery or dusty atmosphere in order to eliminate the overheating of the lamp unless an adequate fixture is used.
15. The radiation from this lamp may cause colored objects to fade unless an adequate fixture is used.
16. Follow all instructions in the manufacturer's catalog or on the individual box or instruction sheet.

Operating Instructions

1. To install or replace bulb, disconnect power to reduce the risk of electrical shock and allow lamp to cool before replacing.
2. The lamp should be firmly but not forcibly screwed into the socket to reduce the possibility of loosening due to vibration. Use of excessive force or pressure may result in lamp breakage.
3. This mercury lamp is suitable for operation in any position.
4. This mercury lamp should operate with appropriate ballast.
5. Fixture requirements: The black light should be used with a larger sized fixture than what is standard for general lighting. For instance: A 400 Watt black light should be operated in a fixture designed for 700 Watt or 1000 Watt general lighting lamps.

For EYE Self-Ballasted Mercury Lamps

1. Variation of AC line volts should be kept to within +/- 5% of the rated voltage of the lamps. There is a chance the Self-Ballasted Mercury lamp will extinguish when the line volts drops suddenly to less than 95% of the rated voltage.
2. EYE Self-Ballasted Mercury Lamps do not require a ballast. The ballast is built in the lamp.



EYE LIGHTING INTERNATIONAL OF NORTH AMERICA INC. and IWASAKI ELECTRIC Co., Ltd. will not be responsible for property damage, personal injury or poor lamp performance due to failure to follow the above instructions. The statements contained herein do not create, and shall not be construed as creating, any warranties. For more information regarding instructions or the above warnings, contact EYE LIGHTING INTERNATIONAL OF NORTH AMERICA INC., a Subsidiary of IWASAKI ELECTRIC Co., Ltd. at 9150 Hendricks Rd., Mentor, Ohio 44060, 888-665-2677. with the information request sheet located on the last page of this catalog or IWASAKI ELECTRIC Co., Ltd.

Note : Unless otherwise noted in this catalog, EYE Mercury lamps can be operated with ballast made in accordance with ANSI recommendations allowing for voltage fluctuations of +/- 10 percent.



HID Cross Reference

EYE LIGHTING				GE	OSRAM / SYLVANIA	PHILIPS	VENTURE
Product Code	Product Description	ANSI Ref.	Page No.	Description	Description	Description	Description

METAL HALIDE LAMPS

Ignitek™ Long-life High Output Metal Halide operates on standard Ballast

52527	M360SX/BU/I	M59	22				
52520	MF360SX/BU/I	M59	22				
52712	MP360SX/BU/I	M59	22				
52514	MPF360SX/BU/I	M59	22				
52529	M400SX/BU/I	M59	22	MVR400/VBU/STB			
52525	MF400SX/BU/I	M59	22	MVR400/C/VBU/STB			
57974	MP400SX/BU/I	M59	22				
52530	MPF400SX/BU/I	M59	22				

EYE Multi-Metal™ - High Output, Position-Oriented Metal Halide

52533	M400SX/BU	M59	23	MVR400/VBU	MS400/BU-ONLY	MS400/BU	MS400/BU
52729	MF400SX/BU	M59	23	MVR400/C/VBU	MS400/C/BU-ONLY	MS400/S/BU	MS400/C/BU
53925	M1000BSX/BU	M47	23	MVR1000/VBU	MS1000/BU-ONLY	MS1000/BU	MS1000/BU
54121	MF1000BSX/BU	M47	23	MVR1000/C/VBU	MS1000/C/BU-ONLY	MS1000/C/BU	MS1000/C/BU
53974	M1500B/BD	M48	23	MVR1500/HBD	M1500/BD	MH1500BD	MH1500/HBD
54023	M1500B/BUH	M48	23	MVR1500/HBU	M1500/BU-HOR	MH1500/BU	MH1500W/HBU

EYE Multi-Metal™ - High Output, Horizontal Operation Metal Halide

52625	M360SX/HOR	M59	24		MS360/SS/BU-HOR		
52822	MF360SX/HOR	M59	24		MS360/C/SS/BU-HOR		
52633	M360SX/HOR/BT28	M59	24				
52833	MF360SX/HOR/BT28	M59	24				
52631	M400SX/HOR	M59	24	MVR400/HOR/MOG	MS400/HOR	MS400/HOR	MS400/HOR
52827	MF400SX/HOR	M59	24	MVR400/C/HOR/MOG	MS400/C/HOR	MS400/C/HOR	MS400/C/HOR
52680	M400SX/HOR/BT28	M59	24	MVR400/HOR/BT28	MS400/HOR/BT28		MS400/HOR/ED28
52876	MF400SX/HOR/BT28	M59	24		MS400/C/HOR/BT28		MS400/C/HOR/ED28

EYE Multi-Metal™ - Premium Universal Metal Halide

50151	M175X/U	M57	25				
50494	MF175X/U	M57	25				
50200	M250X/U	M58	25				
50543	MF250X/U	M58	25				
50249	M400X/U	M59	25				
50592	MF400X/U	M59	25				
50298	M400X/U/BT28	M59	25				
50641	MF400X/U/BT28	M59	25				
50053	M1000BX/U	M47	25				
50396	MF1000BX/U	M47	25				
50102	M1000BX/U/BT37	M47	25				
50445	MF1000BX/U/BT37	M47	25				

EYE Multi-Metal™ - Pulse Start Metal Halide

57975	M360SX/BU/PS	M135	26				
57976	MF360SX/BU/PS	M135	26				
54272	MP360SX/BU/PS	M135	26				
54279	MPF360SX/BU/PS	M135	26				
54277	M400SX/BU/PS	M135	26	MVR400/VBU/PA	MS400/PS/BU-ONLY	MS400/BU/PS	MS400W/BU/PS
54283	MF400SX/BU/PS	M135	26	MVR400/C/VBU/PA	MS400/C/PS/BU-ONLY	MS400/C/BU/PS	MS400W/C/BU/PS
57980	M400SX/BU/PS/BT28	M135	26				MH400W/HBU/ED28/PS
57891	MF400SX/BU/PS/BT28	M135	26				
54289	MP400SX/BU/PS	M135	26				MP400W/BU/PS
54296	MPF400SX/BU/PS	M135	26				MP400W/C/BU/PS

EYE Multi-Metal™ - Standard Universal Metal Halide

58100	M175U	M57	27	MVR175/U	M175/U	MH175/U	MH175/U
58120	MF175U	M57	27	MVR175/C/U	M175/C/U	MH175/C/U	MH175/CU
58105	M250U	M58	27	MVR250/U	M250/U	MH250/U	MH250/U
58125	MF250U	M58	27	MVR250/C/U	M250/C/U	MH250/C/U	MH250/CU
58110	M400U	M59	27	MVR400/U	M400/U	MH400/U	MH400/U
58130	MF400U	M59	27	MVR400/C/U	M400/C/U	MH400/C/U	MH400/CU
58115	M1000U	M47	27	MVR1000/U	M1000/U	MH1000/U	MH1000/U
58135	MF1000U	M47	27	MVR1000/C/U	M1000/C/U	MH1000/C/U	MH1000/CU

EYE Multi-Metal™ - Low Watt Medium Base, Enclosed Fixture Series Metal Halide

54768	M100X/U/MED	M90	28	MVR100/U/MED	M100/U/MED	MH100/U/M	MH100/U
54915	MF100X/U/MED	M90	28	MVR100/C/U/MED	M100/C/U/MED	MH100/C/U/M	MH100/C/U
54866	M175X/U/MED	M57	28	MVR175/U/MED	M175/U/MED	MH175/U/M	MH175/U/MED
55013	MF175X/U/MED	M57	28	MVR175/C/U/MED	M175/C/U/MED	MH175/C/U/M	MH175/C/U/MED

HID Cross Reference



EYE LIGHTING				GE	OSRAM / SYLVANIA	PHILIPS	VENTURE
Product Code	Product Description	ANSI Ref.	Page No.	Description	Description	Description	Description

METAL HALIDE LAMPS

EYE Multi-Metal™ - Low Watt Medium Base, Open Fixture Series Metal Halide

56748	MP50/U/3K	M110	28		MP50/U/MED		MP50/U/3K
56944	MPF50/U/3K	M110	28		MP50/C/U/MED		MP50/C/U/3K
56797	MP70/U/3K	M98	28	MXR70/U/MED/O	MP70/U/MED		MP70/U/3K
56993	MPF70/U/3K	M98	28	MXR70/C/U/MED/O	MP70/C/U/MED		MP70/C/U/3K
56650	MP100/U/3K	M90	28	MXR100/U/MED/O	MP100/U/MED		MP100/U/3K
56846	MPF100/U/3K	M90	28	MXR100/C/U/MED/O	MP100/C/U/MED		MP100/C/U/3K
56699	MP150/U/3K	M102	28		MP150/U/MED		MP150/U/3K
56895	MPF150/U/3K	M102	28		MP150/C/U/MED		MP150/C/U/3K

EYE Multi-Metal™ - Tubular Metal Halide

57738	MT250/BH	M58	29			MH250/T15	MH250/U/T15
57836	MT400/BH	M59	29			MH400/T15	MH400/HBU/T15

EYE Multi-Metal Ace™ - Metal Halide Retrofit from HPS

51788	M250X/U/LU	S50	30	MVR250VBU/R			MS250W/BU/LU
51935	MF250X/U/LU	S50	30	MVR250/C/VBU/R			MS250W/C/BU/LU
51837	M400X/U/LU	S51	30	MVR400/VBU/R			MS400W/BU/LU
51984	MF400X/U/LU	S51	30	MVR400/C/VBU/R			MS400W/C/BU/LU
51886	M400X/U/LU/BT28	S51	30	MVR400U/ED28/R			MH400/U/LU/ED28
52033	MF400X/U/LU/BT28	S51	30				MH400/C/U/LU/ED28
51605	M1000BX/U/LU	S52	30				
51920	MF1000BX/U/LU	S52	30				

EYE Color Arc® - Compact High Color Rendering Metal Halide

56101	MT70SDW 3500K		31				
56003	MT70FSDW 3500K		31				
55315	MT100SDW 3500K		31				
55323	MT100FSDW 3500K		31				
55807	MT150SDW 3500K		31				
55709	MT150FSDW 3500K		31				
56150	MT70SW 4500K		31				
56052	MT70FSW 4500K		31				
55331	MT100SW 4500K		31				
55338	MT100FSW 4500K		31				
55856	MT150SW 4500K		31				
55758	MT150FSW 4500K		31				
55905	MT70D 6500K		31				
55954	MT70FD 6500K		31				
55343	MT100D 6500K		31				
55351	MT100FD 6500K		31				
55611	MT150D 6500K		31				
55660	MT150FD 6500K		31				

EYE Color Arc® - PAR36 High Color Rendering Metal Halide

EYE Color Arc® - PAR36 High Color Rendering Metal Halide Color Series

EYE Color Arc® - PAR38 High Color Rendering Metal Halide

EYE Color Arc® - Double Ended High Color Rendering Metal Halide

55328	MTD150SDW 3500K	M81	35				
55335	MTD150SW 4500K	M81	35				
55345	MTD150D 6500K	M81	35				

EYE Clean Arc™ - High Color Rendering (Daylight) Metal Halide

57791	MT250D	M58	36				
57881	MT400D/HOR	M59	36				
57983	MP250D	M58	36				
57895	MP400D/BUD	M59	36				

EYE Clean Ace™ High Color Rendering (Daylight) Metal Halide Retrofit from Mercury

57787	MT250DL	H37	37				
57885	MT400DL/BH	H33	37				
57934	MT400DL/BUD	H33	37				

EYE Quartz Arc™ - High Wattage High Color Rendering Metal Halide

57950	M1500B-D/HOR	M48	38				
57970	MLD2000BED-I-90	M134	38				
57965	MSD2000BED-I	-	38				



HID Cross Reference

EYE LIGHTING				GE	OSRAM / SYLVANIA	PHILIPS	VENTURE
Product Code	Product Description	ANSI Ref.	Page No.	Description	Description	Description	Description

HIGH PRESSURE SODIUM LAMPS

EYE Sunlux Ultra Ace™ HPS Retrofit from Mercury/Metal Halide

62345	NH150CE/EN	M57/H39	42	LUH150/EZ	ULX150	C150S63/Retrolux	
62394	NH150FCE/EN	M57/H39	42				
62443	NH220CE/EN	M58/H37	42	LUH215/EZ	ULX215	C215S65/Retrolux	
62492	NH220FCE/EN	M58/H37	42				
62541	NH360CE/EN	M59/H33	42	LUH360/EZ	ULX360	C360S64/Retrolux	
62590	NH360FCE/EN	M59/H33	42				
62639	NH940BCE/EN	M47/H36	42		ULX880		
62688	NH940BFCE/EN	M47/H36	42				

EYE Sunlux Power Ace™ - HPS Retrofit from Mercury/Metal Halide Extra Energy Saving

62517	NH300CE/EN	M59/H33	42				
62625	NH750CE/EN	M47/H36	42				

EYE Sunlux Super Ace® - HPS Retrofit from Mercury/Metal Halide, Reflector Series

64477	NHR220LC	M58/H37	43				
64575	NHR360LC	M59/H33	43				

EYE Ignitron™ ES/EN - Internal Ignitor, Energy Saving HPS

59919	LU225/I/EN	S50	44				
60105	LU360/I/EN	S51	44				

EYE Ignitron™ EN - Internal Ignitor HPS

59674	LU50/I/EN	S68	44				
59685	LU70/I/EN	S62	44				
59696	LU100/I/EN	S54	44				
59707	LU150/55/I/EN	S55	44				
59914	LU200/I/EN	S66	44				
60012	LU250/I/EN	S50	44				
60050	LU310/I/EN	S67	44				
60110	LU400/I/EN	S51	44				
59718	LU1000B/I/EN	S52	44				

EYE Ignitron Super™ EN - Internal Ignitor, High Output HPS

58820	LU250/I/S/EN	S50	45				
60104	LU400/I/S/EN	S51	45				

EYE DAYLUX® - Compact High Color Rendering HPS

67398	NHT50SDX		46				
67447	NHT50FSDX		46				
67461	NHT70SDX		46				
67400	NHT70FSDX		46				
67300	NHT100SDX		46				
67251	NHT100FSDX		46				
67349	NHT150SDX		46				
67343	NHT150FSDX		46				

EYE DAYLUX PAR™ - PAR36 High Color Rendering HPS

EYE Specialux™ - High Color Rendering HPS on standard HPS Ballast

64134	NH150DX/PN	S56	48				
67331	NH150DFDX/PN	S56	48				
64232	NH250DX/PN	S50	48				
67359	NH250FDX/PN	S50	48				
64330	NH400DX/PN	S51	48				
67371	NH400FDX/PN	S51	48				

EYE Specialux™ - Reflector type High Color Rendering HPS on standard HPS Ballast

64401	NHR150DX/PN	S56	48				
64408	NHR250DX/PN	S50	48				
64576	NHR400DX/PN	S51	48				

EYE SUNLUX® - Standard HPS, Medium Base HPS

65712	LU35/MED	S76	49	LU35/MED	LU35/MED	C35S76/M	
66006	LU50/MED	S68	49	LU50/MED	LU50/MED	C50S68/M	
66202	LU70/MED	S62	49	LU70/MED	LU70/MED	C70S62/M	
65222	LU100/MED	S54	49	LU100/MED	LU100/MED	C100S54/M	
65467	LU150/MED	S55	49	LU150/MED	LU150/MED	C150S55/M	

EYE SUNLUX® - Standard HPS, Mogul Base HPS

65859	LU50	S68	49	LU50	LU50	C50S68	
65908	LU50/D	S68	49	LU50/D	LU50/D	C50S68/D	
66055	LU70	S62	49	LU70	LU70	C70S62	
66104	LU70/D	S62	49	LU70/D	LU70/D	C70S62/D	
65075	LU100	S54	49	LU100	LU100	C100S54	
65124	LU100/D	S54	49	LU100/D	LU100/D	C100S54/D	
65320	LU150/55	S55	49	LU150/55	LU150/55	C150S55	
65369	LU150/55/D	S55	49	LU150/55/D	LU150/55/D	C150S55/D	
65516	LU200	S66	49	LU200	LU200	C200S66	
65565	LU250	S50	49	LU250	LU250	C250S50	
65614	LU250/D	S50	49	LU250/D	LU250/D	C250S50/D	
65761	LU400	S51	49	LU400	LU400	C400S51	
65810	LU400/D	S51	49	LU400/D	LU400/D	C400S51/D	
65271	LU1000B	S52	(49)	LU1000	LU1000	C1000S52	

HID Cross Reference



EYE LIGHTING				GE	OSRAM / SYLVANIA	PHILIPS	VENTURE
Product Code	Product Description	ANSI Ref.	Page No.	Description	Description	Description	Description

MERCURY LAMPS

EYE Mercury

69966	H50	H46	53				
70407	HF50PD	H46	53	HR40/50DX45-46	H45/46DL-40/50/DX	H46DL-40-50/DX	
70015	H75	H43	53				
70554	HF75PD	H43	53	HR75DX43	H43AV-75/DX	H43AV-75/DX	
70603	HF80PD		53				
69623	H100/MED	H38	53	HR100A38/A23			
70113	HF100PD/MED	H38	53	HR100DX38/MED	H38AV-100/DX	H38MP-100/DX	
69672	H100	H38	53	HR100A38	H38HT-100	H38HT-100	
70162	HF100PD	H38	53	HR100DX38	H38JA-100/DX	H38JA-100/DX	
70211	HF125PD		53				
69770	H175	H39	53	HR175A39	H39KB-175	H39KB-175	
70260	HF175PD	H39	53	HR175DX39	H39KC-175/DX	H39KC-175/DX	
69819	H250	H37	53	HR250A37	H37KB-250	H37KB-250	
70309	HF250PD	H37	53	HR250DX37	H37KC-250/DX	H37KC-250/DX	
69868	H400	H33	53	HR400A33	H33CD-400	H33CD-400	
70358	HF400PD	H33	53	HR400DX33	H33GL-400/DX	H33GL-400/DX	
69721	H1000B	H36	53	HR1000A36	H36GV-1000	H36GV-1000	
70064	HF1000BPD	H36	53	HR1000DX36	H36GW-1000/DX	H36GW-1000/DX	

EYE Mercury - Reflector lamps

70995	HR50WS	H46	54				
70946	HR50W/R30	H46	54				
70701	HR100W/R30	H38	54				
70750	HR100W	H38	54	HR100RFL38*			
71289	HRFF100PD	H38	54	HR100RDXFL38*	H38BP-100/DX*	H38BP-100/DX*	
70799	HR175W	H39	54	HR175RFL39	H39BM-175	H39BM-175	
71338	HRFF175PD	H39	54	HR175RDXFL39	H39BP-175/DX	H39BP-175/DX	
70848	HR250N	H37	54				
71142	HRF250PD	H37	54				
70897	HR400N	H33	54				
71191	HRF400PD	H33	54	HR400RDXFL33*		H33FS-400/DX*	
70652	HR1000BN	H36	54				
71044	HRF1000BPD	H36	54				

SELF-BALLASTED MERCURY LAMPS

EYE Self-Ballasted Mercury

67947	120V100WSB/E21W-E26		55				
67996	120V160WSB/E24W-E26	B87	55	HSB160/M		S160E23/DX	
68094	120V160WSB/E24BL-E26		55				
68290	120V250WSB/E28W-E26	B94	55	HSB250/M		S250E28/DX/M	
68339	120V250WSB/E28W-E39/41	B94	55	HSB250/M		S250E28/DX/M	
68584	120V450WSB/BT37W-E39/41		55	HSB450		S450BT37/C	
68682	120V750WSB/BT46W-E39/41		55				

EYE Self-Ballasted Mercury - Reflector lamps

68192	120V160WSB/RSP38RF-E26		55				
68241	120V160WSB/RSP38RFF-E26	B87	55				
68143	120V160WSB/R40FL-E26	B87	55				
68388	120V250WSB/R40FL-E26	B94	55				
68437	120V250WSB/R40FL-E39/41	B94	55				
68486	120V300WSB/R40FL-E26		55				
68535	120V300WSB/R40FL-E39/41		55				
68633	120V450WSB/R57FL-E39/41		55				
68731	120V750WSB/R57FL-E39/41	B78	55	HSB750R/120		S750R57120V	

EYE Self-Ballasted Mercury - Over 200V

68780	220/230V160WSB/E24W-E26		55				
68829	220/230V250WSB/E28W-E26		55				
68878	220/230V250WSB/E28W-E39		55				
68976	230/240V450WSB/BT37W-E39		55			S450BT37/C230V	
68927	230/240V750WSB/BT46W-E39		55				
69074	230/240V750WSB/R57FL-E39		55	HSB750R/240V			
68918	240/250V750WSB/R57RF-E39		55	HSB750R/240V			

* slight variation in physical characteristics



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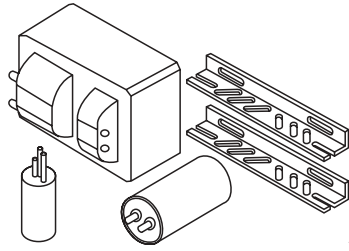
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Ballast Kits



Metal Halide and Ignitron™ Ballast Kits



Features:

- Changes one lighting system to another without a fixture replacement
- Replacement of failed lighting system components

Applications:

- Warehouse
- Security
- Manufacturing
- Parking
- Retail

Physical Data and Characteristics

Line #	Watts	Product Code	Product Description	Type Voltage	ANSI Code	Type	Case Qty
--------	-------	--------------	---------------------	--------------	-----------	------	----------

Metal Halide (Includes: Core and Coil, Capacitor and Mount Bracket)

1	70	91355	BK M98/70W/Q	Quad	M98	HX	1*
2	100	91350	BK M90/100W/Q	Quad	M90		1*
3	150	91358	BK M102/150W/Q	Quad	M102		1*
4	175	91136	BK M57/H39/175W/Q	Quad	M57/H39	CWA	1
5	250	91185	BK M58/H37/250W/Q	Quad	M58/H37		1
6		91362	BK M58/H37/250W/480V	480V			1
7	400	91234	BK M59/H33/400W/Q	Quad	M59/H33		1
8		91365	BK M59/H33/400W/480V	480V			1
9	1000	91283	BK M47/H36/1000W/Q	Quad	M47/H36		1
10		91370	BK M47/H36/1000W/480V	480V			1
11	1500	91332	BK M48/1500W/Q	Quad	M48		1

Ignitron™ (Includes: Core and Coil, Capacitor, and Mount Bracket)

12	50	91720	BK S68I /50W/Q	Quad	S68	HX	1
13	70	91724	BK S62I /70W/Q	Quad	S62		1
14	100	91773	BK S54I /100W/Q	Quad	S54		1
15	150	91822	BK S55I /150W/Q	Quad	S55		1
16	200	91871	BK S66I /200W/Q	Quad	S66	CWA	1
17	250	91920	BK S50I /250W/Q	Quad	S50		1
18	400	91969	BK S51I /400W/Q	Quad	S51		1
19	1000	92018	BK S52I /1000W/Q	Quad	S52		1

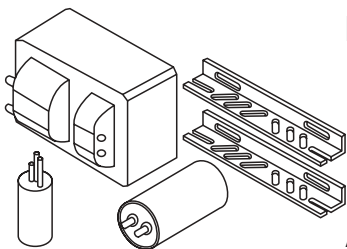
Notes:

1. QUAD is a multi-tap ballast, 120, 208, 240, and 277 volts
 2. 480 is a single voltage ballast
 3. Ballasts are high power factor (HPF) type
- * Also includes Ignitor



Ballast Kits

High Pressure Sodium and Mercury Ballast Kits



Features:

- Changes one lighting system to another without a fixture replacement
- Replacement of failed lighting system components

Applications:

- Street Lighting
- Parking
- Warehouse
- Manufacturing
- Landscape
- Security

Physical Data and Characteristics

Line #	Watts	Product Code	Product Description	Type Voltage	ANSI Code	Type	Case Qty
High Pressure Sodium (Includes: Core and Coil, Ignitor, Capacitor, and Mount Bracket)							
1	50	91379	BK S68 /50W/Q	Quad	S68	HX	1
2	70	91381	BK S62 /70W/Q	Quad	S62		1
3	100	91430	BK S54 /100W/Q	Quad	S54		1
4	150	91479	BK S55 /150W/Q	Quad	S55		1
5	200	91528	BK S66 /200W/Q	Quad	S66	CWA	1
6	250	91577	BK S50 /250W/Q	Quad	S50		1
7	400	91626	BK S51 /400W/Q	Quad	S51		1
8	1000	91675	BK S52 /1000W/Q	Quad	S52		1
Mercury Vapor (Includes: Core and Coil, Capacitor, and Mount Bracket)							
9	175	91136	BK M57/H39/175W/Q	Quad	M57/H39	CWA	1
10	250	91185	BK M58/H37/250W/Q	Quad	M58/H37		1
11		91362	BK M58/H37/250W/480V	480V			1
12	400	91234	BK M59/H33/400W/Q	Quad	M59/H33		1
13		91365	BK M59/H33/400W/480V	480V			1
14	1000	91283	BK M47/H36/1000W/Q	Quad	M47/H36		1
15		91370	BK M47/H361000W/480V	480V			1

Notes:

1. QUAD is a multi-tap ballast, 120, 208, 240, and 277 volts
2. 480 is a single voltage ballast
3. Ballasts are high power factor (HPF) type

Ballast Kits



Ballast Cross-Reference

Ballast Kits Metal Halide, High Pressure Sodium and Mercury

Physical Data and Characteristics

Watts	Type Voltage	EYE		Advance Catalog No.	Magnetek Catalog No.	ANSI Code	Circuit
		Product Description	Product Code				

Metal Halide

70W	Quad	BK M98/70W/Q	91355	71A5292	11310-510	M98	HX
100W		BK M90/100W/Q	91350	71A5390	11310-90	M90	
150W		BK M102/150W/Q	91358	71A5492	11310-543	M102	
175W		BK M57/H39/175W/Q	91136	71A5590	1130-91R	M57/H39	CWA
250W		BK M58/H37/250W/Q	91185	71A5790	1130-92	M58/H37	
	480V	BK M58/H37/250W/480V	91362	71A5740	1130-32		
400W	Quad	BK M59/H33/400W/Q	91234	71A6091	1130-93R	M59/H33	
	480V	BK M59/H33/400W/480V	91365	71A6041	1130-33R		
1000W	Quad	BK M47/H36/1000W/Q	91283	71A6592	1130-97	M57/H36	
	480V	BK M47/H36/1000W/480V	91370	71A6542	1130-57		
1500W	Quad	BK M48/1500W/Q	91332	71A6792	1130-99R	M48	

Mercury

175W	Quad	BK M57/H39/175W/Q	91136	71A5590	1130-91R	M57/H39	CWA
250W	Quad	BK M58/H37/250W/Q	91185	71A5790	1130-92	M58/H37	
	480V	BK M58/H37/250W/480V	91362	71A5740	1130-32		
400W	Quad	BK M59/H33/400W/Q	91234	71A6091	1130-93R	M59/H33	
	480V	BK M59/H33/400W/480V	91365	71A6041	1130-33R		
1000W	Quad	BK M47/H36/1000W/Q	91283	71A6592	1130-97	M57/H36	
	480V	BK M47/H36/1000W/480V	91370	71A6542	1130-57		

Standard HPS

50W	Quad	BK S68/50W/Q	91379	71A7801	12310-95	S68	HX
70W		BK S62/70W/Q	91381	71A7991	12310-153	S62	
100W		BK S54/100W/Q	91430	71A8091	12310-90	S54	
150W		BK S55/150W/Q	91479	71A8192	12310-165	S55	
200W	Quad	BK S66/200W/Q	91528	71A8991	1230-190	S66	CWA
250W		BK S50/250W/Q	91577	71A8291	1230-92S	S50	
400W		BK S51/400W/Q	91626	71A8493	1230-93U*	S51	
1000W		BK S52/1000W/Q	91675	71A8793	1230-97S	S52	

Notes:

1. QUAD is a multi-tap ballast, 120, 208, 240, and 277 volts. 2. 480 is a single voltage ballast. 3. Ballasts are high power factor (HPF) type.

USE EYE IGNITRON LAMP + BALLAST KIT TO ELIMINATE IGNITOR.

* 4 3/4" frame size ("U")



Ballast Kits

Dimensions and Weight

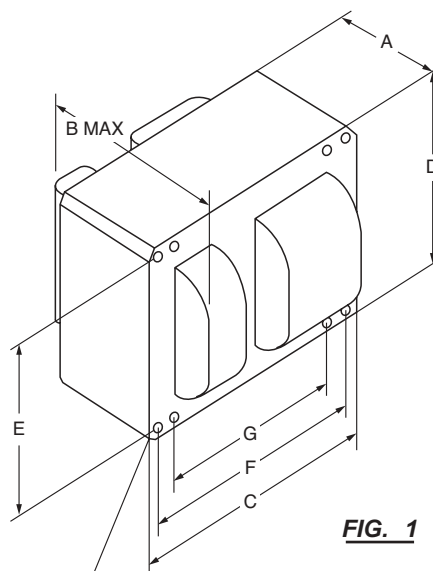


FIG. 1

Dia. 0.218 HOLES FOR
#10 THRU-BOLTS THRU 400 WATT
Dia. 0.25 FOR 1000 WATT

Metal Halide and Mercury Physical Data and Characteristics

BALLAST WATTS	DIMENSIONS ARE IN INCHES (FIG 1)							WEIGHT * (lbs)
	A	B	C	D	E	F	G	
70	1 3/8	2 11/16	3 15/16	2 13/16	2 7/16	3 1/2	N/A	5.9
100	1 11/16	3						
150	2 1/2	3 7/8						9.2
175	2 3/4	4 1/16						9.6
250	3	4 7/16	4 3/4	4 1/4	3 7/8	4 3/8	4 3/8	10.1
400	2 5/16	3 15/16				5 3/8		13.7
1000	3 1/2	5 1/4						25.7

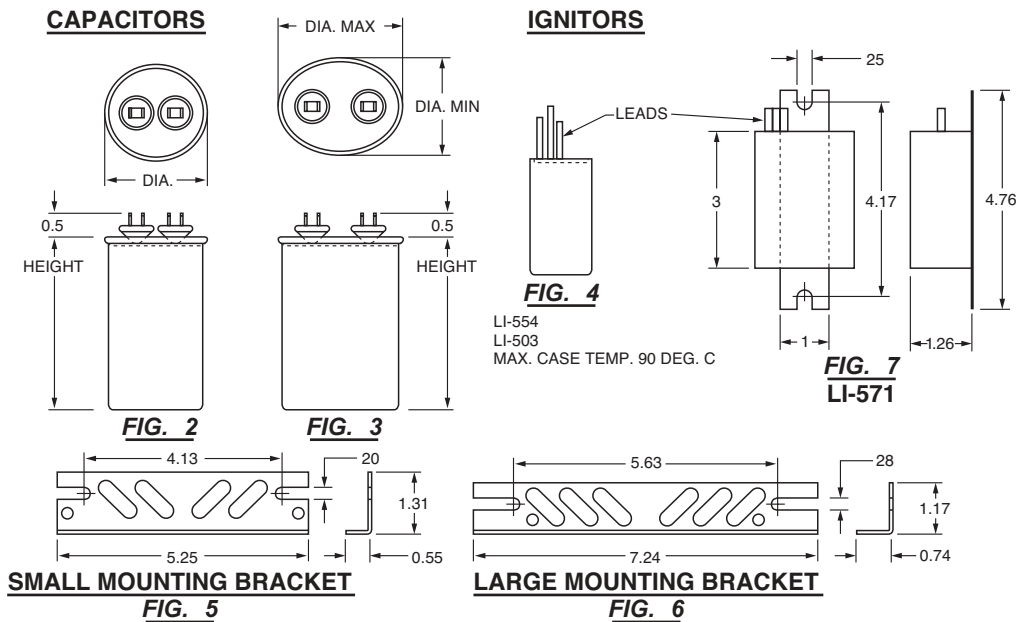
High Pressure Sodium Physical Data and Characteristics

BALLAST WATTS	DIMENSIONS ARE IN INCHES (FIG 1)							WEIGHT * (lbs)
	A	B	C	D	E	F	G	
50	1 3/8	2 3/4	3 15/16	2 13/16	2 7/16	3 1/2	N/A	5.9
70	1 7/8	3						
100	2 1/4	3 11/16						7.5
150	3	4 1/16						9.1
200	1 1/4	3	4 3/4	4 1/4	3 7/8	4 3/8	4 3/8	9.5
250	1 13/16	3 1/2				5 3/8		12.4
400	2 1/2	4 3/16						19.3
1000	4	5 7/8	5 3/4					29.1

Notes:

* Total Ballast Kit Weight

Accessories



For use with METAL HALIDE and MERCURY BALLASTS (Quad or 480V)
Physical Data and Characteristics Note: Mercury lamps do not require an ignitor

BALLAST WATTS	CAPACITOR (NON PCB)					IGNITOR	MOUNTING BRACKET
	MICRO FARADS	VOLTS	DIMENSIONS (INCHES)				
			FIG.#	DIAMETER	HEIGHT		
70	8	280	2	1 3/4	2 3/8	LI-503	FIG. 5
100	12						
150	16						
175	9.4	400	3	Oval 1 5/8 2 5/8	2 7/8	Not Required	
250	15						
400	24						
1000							

For use with HIGH PRESSURE SODIUM BALLASTS (Quad or 480V)
Physical Data and Characteristics

BALLAST WATTS	CAPACITOR (NON PCB)					IGNITOR	MOUNTING BRACKET
	MICRO FARADS	VOLTS	DIMENSIONS (INCHES)				
			FIG.#	DIAMETER	HEIGHT		
50	5	280	2	1 3/4	2 3/8	FIG.4	FIG. 5
70	7						
100 QUAD	8						
100 (480V)	10						
150	14	300					
200	24	280					
250	35						
400 (QUAD)	48	240		2	3 7/8		
400 (480V)	55						
1000	26	500	3	Oval 1 7/8 2 7/8	4 3/4	FIG.7	FIG. 6



Halogen Lamps

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Halogen Lamps

Excellent Characteristics of EYE Halogen Lamps

High Efficacy and Constant Lumen Maintenance

EYE Halogen lamps utilize a patented exclusive halogen gas and design to eliminate filament evaporation and bulb blackening. As a result, the initial lumens and color temperature are kept stable throughout the lamp life. Bromine, a transparent gas, is used to achieve lamp efficacy of up to 33lm/W

Miniature and High Color Temperature

EYE's miniature size lamps use a reactive bromine gas that produces a high color temperature fresh white light.

Excellent Energy Distribution

EYE's precision mirror reflector design distributes a crisp high quality light for excellent color rendering.

EYE Dichro-Cool®

EYE's family of reflectorized Halogen lamps with a durable Dichroic coating that reflects light into the beam and transmits heat back through the reflector.

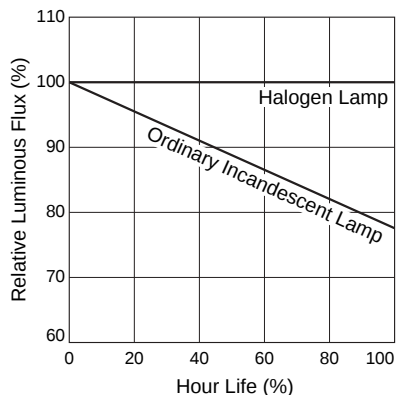


Technical Information

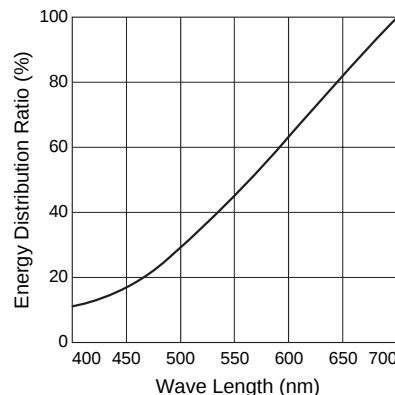
Principle of tungsten halogen regenerative cycle process

1. When the lamp is turned on, tungsten particles evaporate from the filament and attach to the bulb wall. Simultaneously, halogen around the high temperature filament decomposes to atomic halogen.
2. Atomic halogen is then diffused on the bulb wall and combines with free tungsten particles to become transparent and volatile tungsten halide.
3. Due to the high temperature (Over 500 Degrees F) on the bulb wall, tungsten halide is vaporized and circulates back to the filament.
4. After tungsten halide decomposes, halogen gas is released, ready to combine again, and tungsten is redeposited on the filament, whereby the process is ready to begin again.

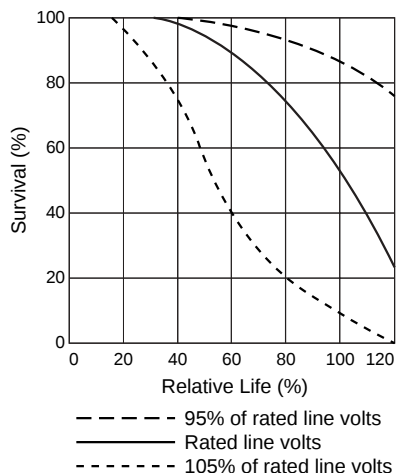
Lumen Maintenance Curve



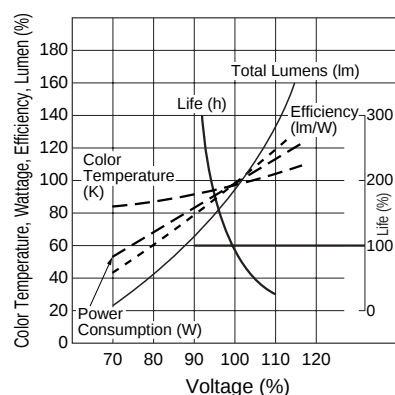
Spectral Energy Distribution



Expected Life v.s. Line voltage



Voltage Fluctuation Characteristics of Halogen Lamps



This diagram shows average figures of common characteristics of halogen lamps. Figures may vary according to type of halogen lamp.

Base Type and Filament Designation

Base Type (Unit: mm)

G6.35 (G1) GY6.35 (G2) 	G4 	GZ4 	G5.3 (A1) 	GU5.3
GX5.3 (G2) 	GY5.3 	G6.35-1.5 (A2) 	GZ6.35 (G1) 	G9.5
GX9.5 	GY9.5 (B) 	GY9.5 (C3) 	GY16 	G22
Mini Screw - M1 (E10) 	Mini-Candelabra - MC (M2) (E11) 	European Mini-Can - M7 (E14) 	Intermediate (E17) 	Medium - E26/25
Medium - E27 (E27/30), E2 	Mogul (E39/41) 	M5 (Special E11) 	Double Contact Bayonet DC-Bay (BD, BA15d) 	Recessed Single Contact (R7S)
R7s Lead Wire 	Lead Wire 			

Filament Designation

C-Bar-6 	C-8 CC-8 	C-6 CC-6 	CC-2V 	C-8 CC-8
C-6 CC-6 	C-8 CC-8 	C-13D 	2CC-8 	

Explanation of the prefix "C" and "CC" is as follows;
 C: Single Coil Filament Wire
 CC: Coiled Coil Filament Wire

Lamp Family & Application Guide

Lamp Family	Lamp Features	Watts	Application	Page
EYE Dichro-Cool® Reflector Halogen				
JM (MR8)	25mm diameter reflector Halogen with cover glass Miniature 2-Pin base (GZ4), Dichro coating, Precise optical design, dimming capability, 6 Volt and 12 Volt	10 watt 20 watt 35 watt	Display Case, Museums, Retail Stores, Office, Homes, Restaurants, Landscape	76
JM (MR11)	35mm diameter reflector Halogen with/without cover glass, Miniature 2-Pin base (GZ4), and Double Contact Bayonet base (BA15d), Accurate beam control, dimming capability, 12 Volt and 24 Volt	12 watt 20 watt 35 watt	Display Case, Museums, Retail Stores, Office, Homes, Restaurants, Landscape	77 through 79
JR (MR16)	50mm diameter reflector Halogen with/without cover glass Miniature 2-Pin base (GU5.3), and Double Contact Bayonet base (BA15d), UV-cut coating, long life, dimming capability, 12 Volt, 24 Volt	20 watt through 75 watt	Display Case, Museums, Retail Stores, Office, Homes, Restaurants, Landscape	80 through 88
JX (MR16)	50mm diameter reflector Halogen with/without cover glass Intermediate base (E17), Medium base (E26), white color, long life, dimming capability, 120 volt	55 watt 75 watt 100 watt	Display Case, Museums, Retail Stores, Office, Homes, Restaurants, Landscape	89 90
Single-Ended Halogen				
JD	Single-Ended Quartz Halogen, Mini-Candelabra base (E11), Double Contact Bayonet base (BA15d), European Mini-Candelabra base (E14), Medium base (E26) Miniature base (E10), Dimming capability, 120/130 Volt, 220/230 Volt, 240/250 Volt	50 watt through 500 watt	Display Case, Museums, Retail Stores, Boat	92 through 96
JT	Double Envelope Halogen, Medium base (E26), Mogul Base (E39), Reduced UV, Crisp white light, glass bulb jacket, Dimming capability, 120 Volt, 125/130 Volt, 230/240 Volt, 240/250 Volt	50 watt through 1000 watt	Display Case, Museums, Retail Stores, Boat	97
JC	Two pin capsule Halogen, Crisp white light, Compact size, Dimming capability, 6 Volt, 12 Volt, 24 Volt	10 watt through 300 watt	Homes, Retail Stores, Museums, Restaurants, Displays	98 99
Double-Ended Halogen				
J	Double-Ended Halogen, Recessed Single Contact base (R7s) Crisp white light, large variation of wattage types, Dimming capability, 120 Volt, 130 Volt, 220/230 Volt, 240/250 Volt	100 watt through 1500 watt	Display Case, Museums, Retail Stores, Landscape	100 through 102



Halogen Lamps

Product Heading & Description Guide

Line No. Line No. of the table	Watts Lamp Wattage	Volts Rated lamp voltage	Base Lamp Base type	Product Code Five-digit code used for identifying ordering product	Product Description Coded lamp description	Product Comparison Guide Typical Industry Lamp Designation	Case Quantity Number of products in a case	Center Beam Intensity Light Intensity at a beam center point	Average Life Hours	Color Temperature Degrees Kelvin	Filament type	Lamp Drawing Number	Beam Diagram Number
Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Ctr. Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #	Beam Spread Data

12V Dichroic Reflector 2-Pin Base -GU5.3 without Cover Glass

1	20	12	GU5.3	71838	JR1201	20MR16/12°/ESX	12	4300	4000	2950	C-6	Fig.1	P81-1
2		12	GU5.3	71887	JR1202	20MR16/23°/BBF	12	950	4000	2950	C-6	Fig.1	P81-2
3		12	GU5.3	71936	JR1203	20MR16/40°/BAB	12	525	4000	2950	C-6	Fig.1	P81-3

Product Comparison Guide

Reflector Halogen Lamps (MR8/MR11/MR16)

Lamp Wattage — **50 MR16 / 40° / EXN** — ANSI reference code

Identifies lamp type

MR16: MR16 without cover glass
MR16CG: MR16 with cover glass
MR11: MR11 without cover glass
MR11CG: MR11 with cover glass
MR8CG: MR8 with cover glass

Identifies beam spread angle

Single-ended Halogen Lamps

Lamp Wattage — **150 Q / CL / MC / 130V** — Identifies features of the lamp or ANSI reference code

Identifies lamp type

Q: Screw or DC base lamp
QT3: T3 bulb lamp
QT4: T4 bulb lamp
JT: Double-envelope lamp

Identifies bulb finish

CL: Clear bulb
F: Frosted bulb

Identifies base type

MC: Mini-Candelabra E11 screw base
DC: Double Contact Bayonet BA15d base
MED: Medium base
MOG: Mogul base
E17: Intermediate E17 base
E14: European E14 base
E27: European E27 base
G4: Miniature 2-pin G4 base
G6.35: Glass 2-pin G6.35 base
GY6.35: Glass 2-pin GY6.35 base

Double-ended Halogen lamps

Lamp Wattage — **300 QT3 / CL / 130V / 80MM** — Identifies lamp MOL

Identifies lamp type

QT3: T3 bulb lamp
QT4: T4 bulb lamp

Identifies bulb finish

CL: Clear bulb
F: Frosted bulb

Lamp Voltage

80MM: 3-1/8" MOL
119MM: 4-11/16" MOL
190MM: 7-1/2"
254MM: 10-1/6" MOL

Product Heading & Description Guide

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	ANSI Ref.	Case Qty.	Working Distance (in.)	Working Distance (mm)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #
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MR11 Dichroic Reflector - JCR GZ4 Base without Cover Glass

1	35	12	GZ4	84343	JCR12V35W2H/GZ4	-	50	1.5	37.9	200	3100	C-6	Fig.5
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MR16 Dichroic Reflector - JCR 12V GZ6.35 Base and GX5.3 Base without Cover Glass

2	20	12	GZ6.35	84341	JCR12V20W20H/G1	-	50	1.3	32	2000	2950	C-6	Fig.1
3	30	12	GZ6.35	84324	JCR12V30W20H/G1	-	50	1.3	32	2000	3000	C-6	Fig.1
4	50	6	GZ6.35	84057	JCR6V50W20H/G1	-	50	2.0	50	2000	3000	C-8	Fig.1

Product Description Guide

Projection/Optical Instruments Reflector Halogen Lamps

Identifies lamp type — **JCR 12V 100W 10H / G1** — Identifies base type

JCR: Projection/Optical instrument reflector halogen lamp

Lamp voltage: 12V, Lamp wattage: 100W, Identifies average life hours (hundred hours): 10H

G1: Glass 2-pin GZ6 .35
G2: 2-pin GX5.3
GZ4: Miniature 2-pin GZ4
2GZ: Miniature 2-pin GZ4 for MR8
GY: Oval 2-pin GY5.3

Projection/Stage/Studio Single-Ended Halogen Lamps

Identifies lamp type — **JCD 120V 650W C / B** — Identifies base type

JCD: Coiled coil halogen lamp for projection, optical instruments
JP: Single coil halogen lamp for stage/studio use
JPD: Coiled coil halogen lamp for stage/studio use
JF: Airfield halogen lamp

Lamp Voltage: 120V, Lamp Wattage: 650W, Identifies type of color temperature: C

C: 3200K
S: >3200K
B: <3200K

A1: Miniature 2-pin G5.3
A2: Glass 2-pin G6.35-1.5
B: Medium Prefocus 2-pin GY9.5
G1: Glass 2-pin G6.35
G2: Glass 2-pin GY6.35
G4: Miniature 2-pin
G9.5: Medium 2-pin G9.5
GX9.5F: Integral Heatsink 2-pin GX9.5F
P28S: Medium Prefocus P28s
G22: Medium Bipost G22
M1: Miniature Screw E10
M2: Mini-candelabra E11 screw base
DC: Double Contact Bayonet BA15d

Stage/Studio/Photo Double-Ended Halogen Lamps

Identifies lamp type — **JPD 120V 1000W S / DXN** — ANSI code

JP: Single coil halogen lamp
JPD: Coiled coil halogen lamp

Lamp Voltage: 120V, Lamp Wattage: 1000W, Identifies color temperature: S

C: 3200K
S: >3200K



General Lighting Halogen Lamps

MR8 - 25mm Reflector

EYE Dichro-Cool®



Features:

- Approx. 1 inch (25mm) compact size reflector enables installation in small fixtures
- Precise optical design
- Long lasting Dichroic coating
- Consistent light color and brightness

Applications:

- Display case
- Museums
- Restaurants
- Homes
- Lounges
- Offices
- Retail stores

Physical Data and Characteristics

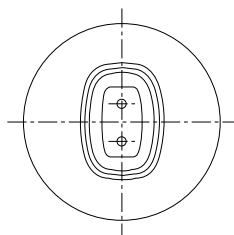
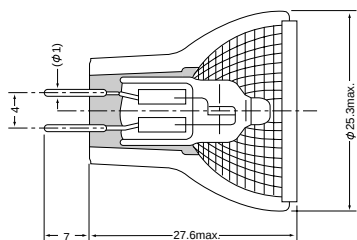
Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Ctr. Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #	Beam Spread Data
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6 - 12V Dichroic Reflector Miniature 2-Pin Base - GZ4 with Cover Glass

1	10	6	GZ4	79690	JM8051	10MR8CG/GZ4/9°/6V	50	750	2000	2950	C-8	Fig.1	Dia.1
2	20	12	GZ4	79700	JM8251	20MR8CG/GZ4/10°	50	1700	2000	3050	C-8	Fig.1	Dia.2
3		12	GZ4	79705	JM8252	20MR8CG/GZ4/23°	50	800	2000	3050	C-8	Fig.1	Dia.3
4		12	GZ4	79708	JM8252F	20MR8FCG/GZ4/42°	50	230	2000	3050	C-8	Fig.1	Dia.4
5	35	12	GZ4	79710	JM8351	35MR8CG/GZ4/13°	50	2300	2000	3050	C-8	Fig.1	Dia.5
6		12	GZ4	79715	JM8352	35MR8CG/GZ4/26°	50	1400	2000	3050	C-8	Fig.1	Dia.6
7		12	GZ4	79720	JM8352F	35MR8FCG/GZ4/45°	50	360	2000	3050	C-8	Fig.1	Dia.7

Burning Position: Universal

Lamp Drawings unit: mm



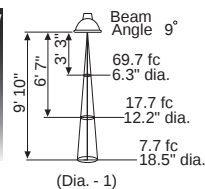
(Fig.-1)

Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice

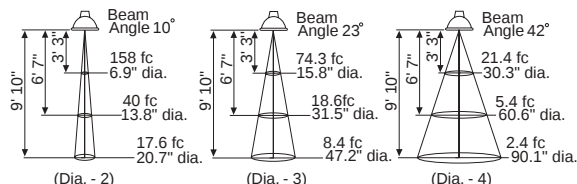
- The intensity level at the center of the beam is shown in footcandles.
- Beam diameter in inches is shown at a distance of 3 ft. 3 in., 6 ft. 7 in., and 9 ft. 10 in.
- The intensity level at the outer edge of the beam diameter is 50% of the center beam footcandle reading.

10 W



(Dia. - 1)

20 W

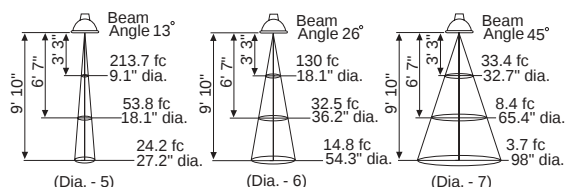


(Dia. - 2)

(Dia. - 3)

(Dia. - 4)

35 W



(Dia. - 5)

(Dia. - 6)

(Dia. - 7)

MR11 - without Cover Glass

EYE Dichro-Cool®

Features:

- Accurate beam control
- Long lasting Dichroic coating
- Consistent light color and brightness
- Crisp, white light

Applications:

- Display case
- Museums
- Restaurants
- Homes
- Lounges
- Offices
- Retail stores



Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Ctr. Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #	Beam Spread Data
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12V Dichroic Reflector Miniature 2-Pin Base - GZ4 without Cover Glass

1	12	12	GZ4	77679	JM1111	12MR11/8°/FTA	50	1500	2000	2900	C-6	Fig.1	P78-1
2		12	GZ4	77728	JM1112	12MR11/19°	50	500	2000	2900	C-6	Fig.1	P78-2
3		12	GZ4	77777	JM1113	12MR11/25°	50	350	2000	2900	C-6	Fig.1	P78-3
4	20	12	GZ4	78267	JM1211	20MR11/8°/FTB	50	4200	2000	2950	C-6	Fig.1	P78-4
5		12	GZ4	78316	JM1212	20MR11/19°/FTC	50	1450	2000	2950	C-6	Fig.1	P78-5
6		12	GZ4	78365	JM1213	20MR11/28°/FTD	50	700	2000	2950	C-6	Fig.1	P78-6
7	35	12	GZ4	78855	JM1311	35MR11/10°/FTE	50	6000	3000	3050	C-6	Fig.1	P78-7
8		12	GZ4	78904	JM1312	35MR11/20°/FTF	50	2500	3000	3050	C-6	Fig.1	P78-8
9		12	GZ4	78953	JM1313	35MR11/29°/FTH	50	1350	3000	3050	C-6	Fig.1	P78-9

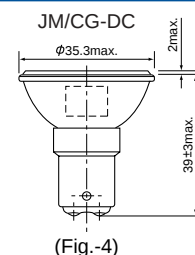
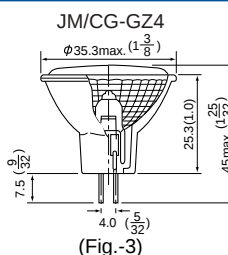
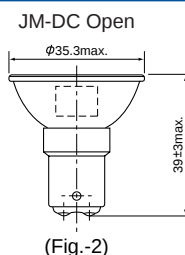
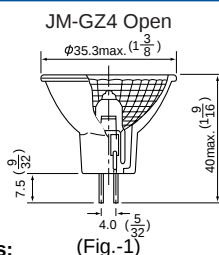
Burning Position: Universal

12V Dichroic Reflector DC Bayonet Base without Cover Glass

10	12	12	DC-Bay	77826	JM1141	12MR11/DC/8°	50	1500	2000	2900	C-6	Fig.2	P78-1
11		12	DC-Bay	77875	JM1142	12MR11/DC/19°	50	500	2000	2900	C-6	Fig.2	P78-2
12		12	DC-Bay	77924	JM1143	12MR11/DC/25°	50	350	2000	2900	C-6	Fig.2	P78-3
13	20	12	DC-Bay	78414	JM1241	20MR11/DC/8°/FSS	50	4200	2000	2950	C-6	Fig.2	P78-4
14		12	DC-Bay	78463	JM1242	20MR11/DC/19°/FST	50	1450	2000	2950	C-6	Fig.2	P78-5
15		12	DC-Bay	78512	JM1243	20MR11/DC/28°/FSV	50	700	2000	2950	C-6	Fig.2	P78-6
16	35	12	DC-Bay	79002	JM1341	35MR11/DC/10°/GDY	50	6000	3000	3050	C-6	Fig.2	P78-7
17		12	DC-Bay	79051	JM1342	35MR11/DC/20°/GDY	50	2500	3000	3050	C-6	Fig.2	P78-8
18		12	DC-Bay	79100	JM1343	35MR11/DC/29°/GDZ	50	1350	3000	3050	C-6	Fig.2	P78-9

Burning Position: Universal

Lamp Drawings unit: mm (inches)



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice



General Lighting Halogen Lamps

MR11 - with Cover Glass

EYE Dichro-Cool®

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Ctr. Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #	Beam Spread Data
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12V Dichroic Reflector Miniature 2-Pin Base - GZ4 with Cover Glass

1	12	12	GZ4	77973	JM1161	12MR11CG/8°(FTA)	50	1300	2000	2900	C-6	P77-Fig.3	Dia.1
2		12	GZ4	78022	JM1162	12MR11CG/19°	50	470	2000	2900	C-6	P77-Fig.3	Dia.2
3		12	GZ4	78071	JM1163	12MR11CG/25°	50	330	2000	2900	C-6	P77-Fig.3	Dia.3
4	20	12	GZ4	78561	JM1261	20MR11CG/8°(FTB)	50	3750	2000	2950	C-6	P77-Fig.3	Dia.4
5		12	GZ4	78610	JM1262	20MR11CG/19°(FTC)	50	1360	2000	2950	C-6	P77-Fig.3	Dia.5
6		12	GZ4	78659	JM1263	20MR11CG/28°(FTD)	50	670	2000	2950	C-6	P77-Fig.3	Dia.6
7	35	12	GZ4	79149	JM1361	35MR11CG/10°(FTE)	50	4200	3000	3050	C-6	P77-Fig.3	Dia.7
8		12	GZ4	79198	JM1362	35MR11CG/20°(FTF)	50	2350	3000	3050	C-6	P77-Fig.3	Dia.8
9		12	GZ4	79247	JM1363	35MR11CG/29°(FTH)	50	1280	3000	3050	C-6	P77-Fig.3	Dia.9

Burning Position: Universal

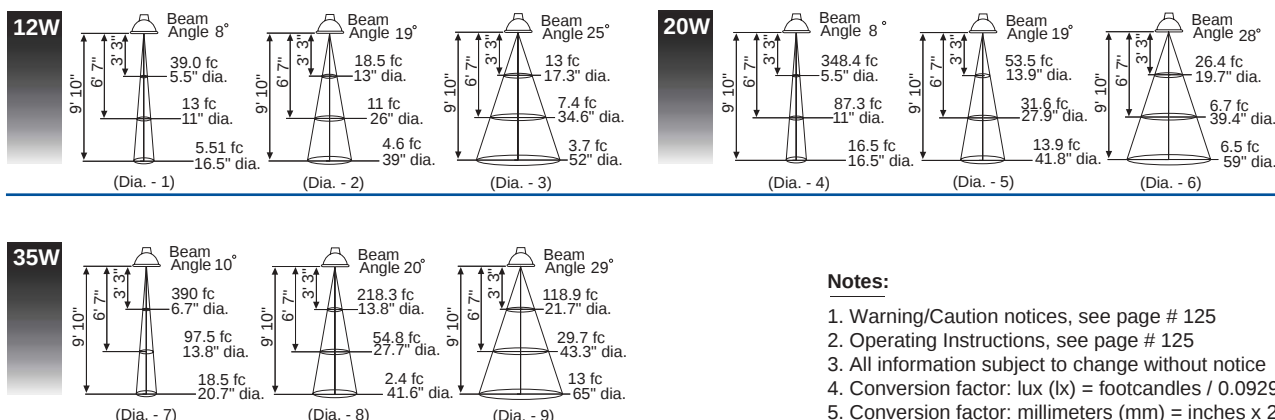
12V Dichroic Reflector DC Bayonet Base with Cover Glass

10	12	12	DC-Bay	78120	JM1181	12MR11CG/DC/8°	50	1300	2000	2900	C-6	P77-Fig.4	Dia.1
11		12	DC-Bay	78169	JM1182	12MR11CG/DC/19°	50	470	2000	2900	C-6	P77-Fig.4	Dia.2
12		12	DC-Bay	78218	JM1183	12MR11CG/DC/25°	50	330	2000	2900	C-6	P77-Fig.4	Dia.3
13	20	12	DC-Bay	78708	JM1281	20MR11CG/DC/8°(FSS)	50	3750	2000	2950	C-6	P77-Fig.4	Dia.4
14		12	DC-Bay	78757	JM1282	20MR11CG/DC/19°(FST)	50	1360	2000	2950	C-6	P77-Fig.4	Dia.5
15		12	DC-Bay	78806	JM1283	20MR11CG/DC/28°(FSV)	50	670	2000	2950	C-6	P77-Fig.4	Dia.6
16	35	12	DC-Bay	79296	JM1381	35MR11CG/DC/10°(GDY)	50	4200	3000	3050	C-6	P77-Fig.4	Dia.7
17		12	DC-Bay	79345	JM1382	35MR11CG/DC/20°(GDY)	50	2350	3000	3050	C-6	P77-Fig.4	Dia.8
18		12	DC-Bay	79394	JM1383	35MR11CG/DC/29°/GDZ	50	1280	3000	3050	C-6	P77-Fig.4	Dia.9

Burning Position: Universal

- The intensity level at the center of the beam is shown in footcandles.
- Beam diameter in inches is shown at a distance of 3 ft. 3 in., 6 ft. 7 in., and 9 ft. 10 in.

- The intensity level at the outer edge of the beam diameter is 50% of the center beam footcandle reading.



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Conversion factor: lux (lx) = footcandles / 0.0929
5. Conversion factor: millimeters (mm) = inches x 25.4

General Lighting Halogen Lamps



MR11 - 24V EYE Dichro-Cool®



Features:

- 24V operation
- Crisp, white light
- Long lasting Dichroic coating
- Consistent light color and brightness

Applications:

- 24V operation lighting system
- Aircraft • Boat Cabins • Automotive

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Ctr. Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #	Beam Spread Data
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24V Dichroic Reflector Miniature 2-Pin Base - GZ4 with Cover Glass

1	20	24	GZ4	79443	JM7261	20MR11CG/10°/24V/(FTB)	50	3000	2000	2950	CC-6	Fig.1	Dia.1
2		24	GZ4	79492	JM7262	20MR11CG/19°/24V/(FTC)	50	1100	2000	2950	CC-6	Fig.1	Dia.2
3		24	GZ4	79541	JM7263	20MR11CG/29°/24V/(FTD)	50	580	2000	2950	CC-6	Fig.1	Dia.3
4	35	24	GZ4	79590	JM7361	35MR11CG/12°/24V/(FTE)	50	4100	3000	3050	CC-6	Fig.1	Dia.4
5		24	GZ4	79639	JM7362	35MR11CG/22°/24V/(FTF)	50	1900	3000	3050	CC-6	Fig.1	Dia.5
6		24	GZ4	79688	JM7363	35MR11CG/30°/24V/(FTH)	50	1100	3000	3050	CC-6	Fig.1	Dia.6

Burning Position: Universal

Lamp Drawing unit: mm (inches)

COVER GLASS TYPE

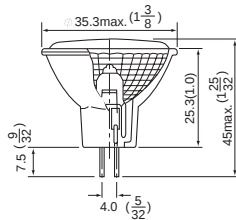
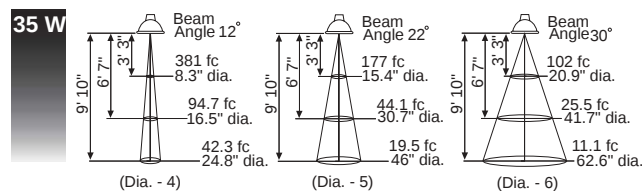
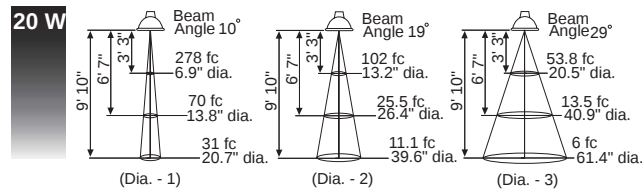


Fig.-1

- The intensity level at the center of the beam is shown in footcandles.
- Beam diameter in inches is shown at a distance of 3 ft. 3 in., 6 ft. 7 in., and 9 ft. 10 in.
- The intensity level at the outer edge of the beam diameter is 50% of the center beam footcandle reading.



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Conversion factor: lux (lx) = footcandles / 0.0929
5. Conversion factor: millimeters (mm) = inches x 25.4

MR11 24V

HALOGEN



General Lighting Halogen Lamps

MR16 - without Cover Glass

EYE Dichro-Cool®



Features:

- Long Life; 5000 hrs for 35W, 50W and 65W / 4000 hrs for 20W and 75W
- Long lasting Dichroic coating
- Consistent light color and brightness

Applications:

- Display case • Museums • Restaurants • Homes
- Lounges • Offices • Retail stores

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Ctr. Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #	Beam Spread Data
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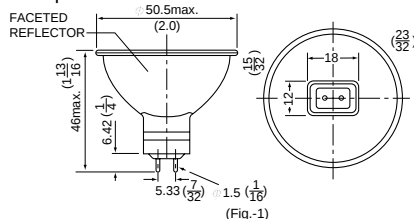
12V Dichroic Reflector 2-Pin Base - GU5.3 without Cover Glass

1	20	12	GU5.3	71838	JR1201	20MR16/12°/ESX	12	4300	4000	2950	C-6	Fig.1	P82-1
2		12	GU5.3	71887	JR1202	20MR16/23°/BBF	12	950	4000	2950	C-6	Fig.1	P82-2
3		12	GU5.3	71936	JR1203	20MR16/40°/BAB	12	525	4000	2950	C-6	Fig.1	P82-3
4	35	12	GU5.3	72426	JR1301	35MR16/12°/FRB	12	8000	5000	3050	C-6	Fig.1	P82-4
5		12	GU5.3	72475	JR1302	35MR16/23°/FRA	12	2500	5000	3050	C-6	Fig.1	P82-5
6		12	GU5.3	72524	JR1303	35MR16/40°/FMW	12	1200	5000	3050	C-6	Fig.1	P82-6
7	42	12	GU5.3	72965	JR1401	42MR16/12°/EYR	12	8200	5000	3050	C-6	Fig.1	P82-7
8		12	GU5.3	73014	JR1402	42MR16/25°/EYS	12	2850	5000	3050	C-6	Fig.1	P82-8
9		12	GU5.3	73063	JR1403	42MR16/40°/EYP	12	1200	5000	3050	C-6	Fig.1	P82-9
10	50	12	GU5.3	73112	JR1501	50MR16/13°/EXT	12	10500	5000	3050	C-6	Fig.1	P82-10
11		12	GU5.3	73161	JR1502	50MR16/26°/EXZ	12	3400	5000	3050	C-6	Fig.1	P82-11
12		12	GU5.3	73210	JR1503	50MR16/32°/ENL	12	2450	5000	3050	C-6	Fig.1	P82-12
13		12	GU5.3	73259	JR1504	50MR16/40°/EXN	12	1750	5000	3050	C-6	Fig.1	P82-13
14		12	GU5.3	73357	JR1516	50MR16/60°/FNV	12	750	5000	3050	C-6	Fig.1	P82-14
15		13.8	GU5.3	73308	JR1505	50MR16/12°/EPZ	12	9000	5000	3050	C-6	Fig.1	P82-15
16	75	12	GU5.3	74680	JR2701	75MR16/13°/EYF	12	13500	4000	3050	C-6	Fig.1	P82-16
17		12	GU5.3	74729	JR2702	75MR16/26°/EYJ	12	4600	4000	3050	C-6	Fig.1	P82-17
18		12	GU5.3	74778	JR2703	75MR16/44°/EYC	12	2450	4000	3050	C-6	Fig.1	P82-18

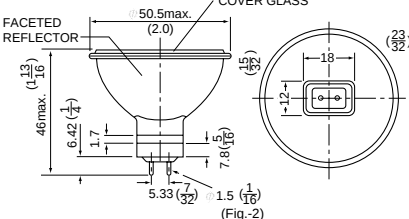
Burning Position: Universal

Lamp Drawings unit: mm (inches)

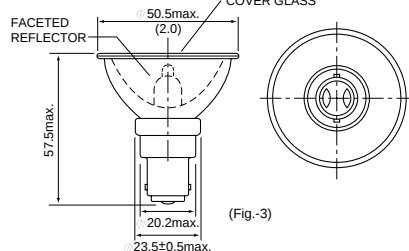
JR Open



JR/CG



JR/CG-DC



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice

MR16 - with Cover Glass

EYE Dichro-Cool®

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Ctr. Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #	Beam Spread Data
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12V Dichroic Reflector 2-Pin Base - GU5.3 with Cover Glass

1	20	12	GU5.3	71985	JR1251	20MR16CG/9°(ESX)	12	4000	4000	2950	C-6	P80-Fig.2	P82-19
2		12	GU5.3	72034	JR1252	20MR16CG/23°(BBF)	12	880	4000	2950	C-6	P80-Fig.2	P82-20
3		12	GU5.3	72083	JR1253	20MR16CG/38°(BAB)	12	500	4000	2950	C-6	P80-Fig.2	P82-21
4	35	12	GU5.3	72573	JR1351	35MR16CG/12°(FRB)	12	7800	5000	3050	C-6	P80-Fig.2	P82-22
5		12	GU5.3	72622	JR1352	35MR16CG/23°(FRA)	12	2300	5000	3050	C-6	P80-Fig.2	P82-23
6		12	GU5.3	72671	JR1353	35MR16CG/38°(FMW)	12	1100	5000	3050	C-6	P80-Fig.2	P82-24
7	50	12	GU5.3	73406	JR1551	50MR16CG/13°(EXT)	12	9800	5000	3050	C-6	P80-Fig.2	P82-25
8		12	GU5.3	73455	JR1552	50MR16CG/26°(EXZ)	12	3200	5000	3050	C-6	P80-Fig.2	P82-26
9		12	GU5.3	73504	JR1553	50MR16CG/32°(ENL)	12	2250	5000	3050	C-6	P80-Fig.2	P82-27
10		12	GU5.3	73553	JR1554	50MR16CG/38°(EXN)	12	1600	5000	3050	C-6	P80-Fig.2	P82-28
11		12	GU5.3	73994	JR1566	50MR16CG/56°(FNV)	12	700	5000	3050	C-6	P80-Fig.2	P82-29
12	65	12	GU5.3	74435	JR2651	65MR16CG/13°(FPA)	12	12000	5000	3050	C-6	P80-Fig.2	P82-31
13		12	GU5.3	74484	JR2652	65MR16CG/26°(FPC)	12	4100	5000	3050	C-6	P80-Fig.2	P82-32
14		12	GU5.3	74533	JR2653	65MR16CG/38°(FPB)	12	2100	5000	3050	C-6	P80-Fig.2	P82-33

12V Dichroic Reflector DC Bayonet Base with Cover Glass

15	20	12	DC-Bay	72230	JR1271	20MR16CG/DC/9°(ESX)	12	4000	4000	2950	C-6	P80-Fig.3	P82-19
16		12	DC-Bay	72279	JR1272	20MR16CG/DC/23°(BBF)	12	880	4000	2950	C-6	P80-Fig.3	P82-20
17		12	DC-Bay	72328	JR1273	20MR16CG/DC/38°(BAB)	12	500	4000	2950	C-6	P80-Fig.3	P82-21
18	35	12	DC-Bay	72818	JR1371	35MR16CG/DC/12°(FRB)	12	7800	5000	3050	C-6	P80-Fig.3	P82-22
19		12	DC-Bay	72867	JR1372	35MR16CG/DC/23°(FRA)	12	2300	5000	3050	C-6	P80-Fig.3	P82-23
20		12	DC-Bay	72916	JR1373	35MR16CG/DC/38°(FMW)	12	1100	5000	3050	C-6	P80-Fig.3	P82-24
21	50	12	DC-Bay	74141	JR1571	50MR16CG/DC/13°(EXT)	12	9800	5000	3050	C-6	P80-Fig.3	P82-25
22		12	DC-Bay	74190	JR1572	50MR16CG/DC/26°(EXZ)	12	3200	5000	3050	C-6	P80-Fig.3	P82-26
23		12	DC-Bay	74239	JR1573	50MR16CG/DC/32°(ENL)	12	2250	5000	3050	C-6	P80-Fig.3	P82-27
24		12	DC-Bay	74288	JR1574	50MR16CG/DC/38°(EXN)	12	1600	5000	3050	C-6	P80-Fig.3	P82-28
25		12	DC-Bay	74337	JR1575	50MR16CG/DC/56°(FNV)	12	700	5000	3050	C-6	P80-Fig.3	P82-29
26		12	DC-Bay	74386	JR1576	50MR16CG/DC/56°(MSW)	12	900	5000	3050	C-6	P80-Fig.3	P82-30

Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice



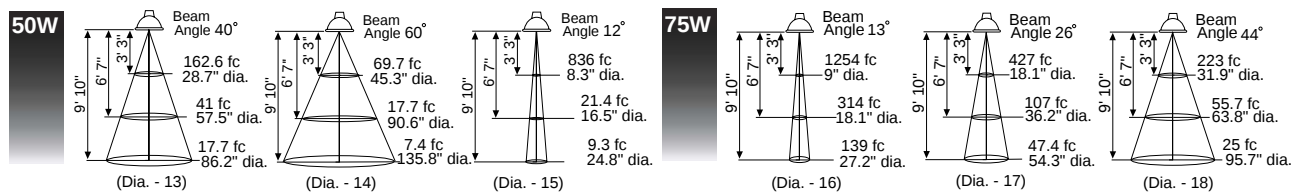
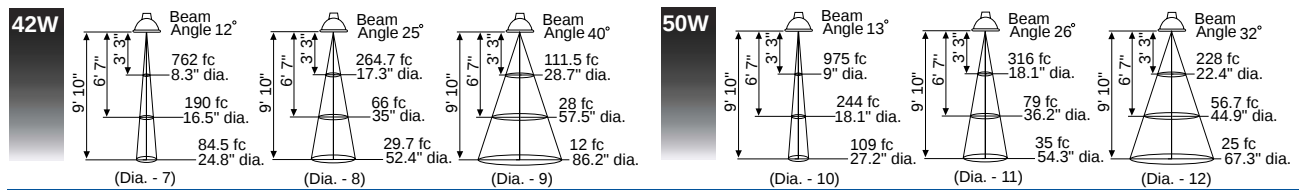
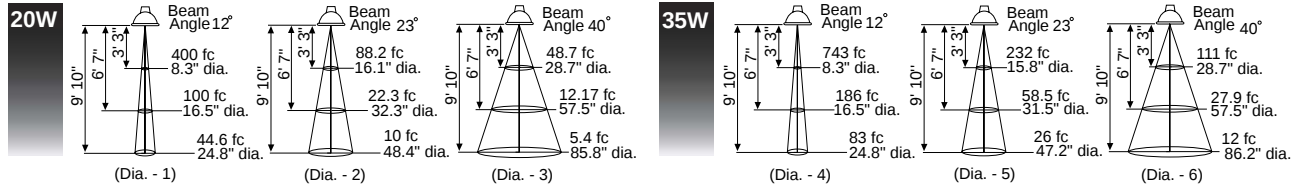
General Lighting Halogen Lamps

MR16 EYE Dichro-Cool®

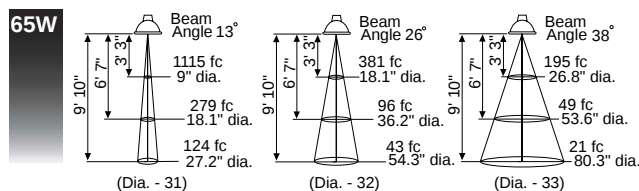
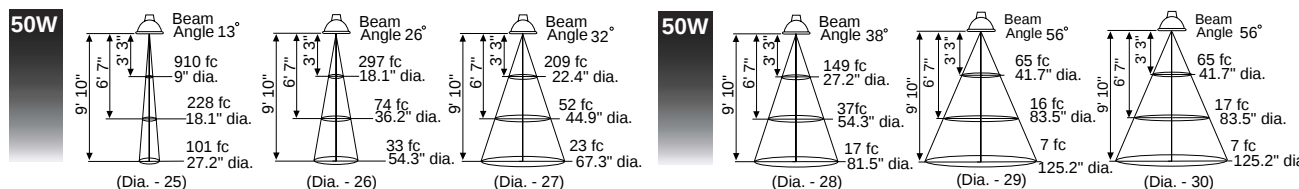
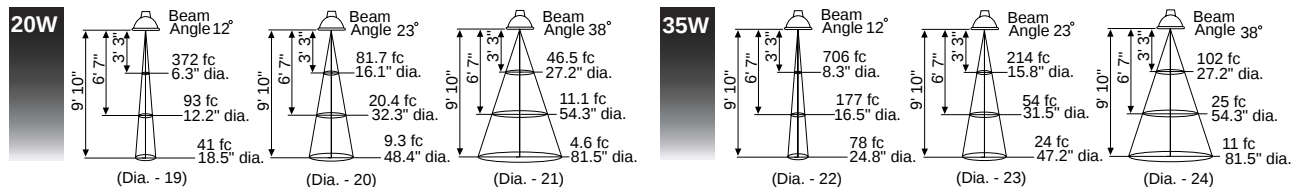
Beam Spread Information

- The intensity level at the center of the beam is shown in footcandles.
- The intensity level at the outer edge of the beam diameter is 50% of the center beam footcandle reading.

JR GU5.3 Base



JR/CG GU5.3 Base, DC-Bay Base, UV-Cut



Notes:

1. Conversion factor: lux (lx) = footcandles / 0.0929
2. Conversion factor: millimeters (mm) = inches x 25.4

MR16 - UV Cut EYE Dichro-Cool®



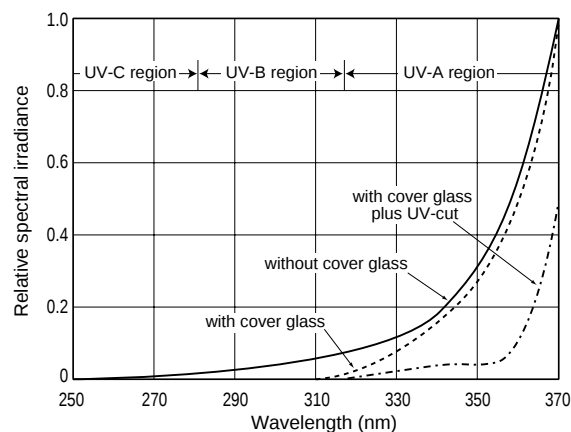
Features:

- UV-cut coating on cover glass
- Prevents objects from discoloration

Applications:

- UV-sensitive objects & materials
- Museums/Fine Art
- Fabrics

UV Spectral Irradiance of MR16 Lamps



Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Ctr. Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #	Beam Spread Data
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12V Dichroic Reflector 2-Pin Base - GU5.3 with Cover Glass

1	20	12	GU5.3	74827	JR5251	20MR16CG/12°UVC/(ESX)	12	4300	4000	2950	C-6	P80-Fig.2	P82-19
2		12	GU5.3	74876	JR5253	20MR16CG/38°UVC/(BAB)	12	500	4000	2950	C-6	P80-Fig.2	P82-21
3	35	12	GU5.3	74925	JR5351	35MR16CG/12°UVC/(FRB)	12	7600	5000	3050	C-6	P80-Fig.2	P82-22
4		12	GU5.3	74974	JR5352	35MR16CG/23°UVC/(FRA)	12	2300	5000	3050	C-6	P80-Fig.2	P82-23
5		12	GU5.3	75023	JR5353	35MR16CG/38°UVC/(FMW)	12	1100	5000	3050	C-6	P80-Fig.2	P82-24
6	50	12	GU5.3	75072	JR5551	50MR16CG/13°UVC/(EXT)	12	9800	5000	3050	C-6	P80-Fig.2	P82-25
7		12	GU5.3	75121	JR5552	50MR16CG/26°UVC/(EXZ)	12	3200	5000	3050	C-6	P80-Fig.2	P82-26
8		12	GU5.3	75170	JR5553	50MR16CG/32°UVC/(ENL)	12	2250	5000	3050	C-6	P80-Fig.2	P82-27
9		12	GU5.3	75219	JR5554	50MR16CG/38°UVC/(EXN)	12	1600	5000	3050	C-6	P80-Fig.2	P82-28
10		12	GU5.3	75268	JR5556	50MR16CG/56°UVC/(ENV)	12	700	5000	3050	C-6	P80-Fig.2	P82-29
11	65	12	GU5.3	75317	JR6651	65MR16CG/13°UVC/(FPA)	12	12000	5000	3050	C-6	P80-Fig.2	P82-31
12		12	GU5.3	75366	JR6652	65MR16CG/26°UVC/(FPC)	12	4100	5000	3050	C-6	P80-Fig.2	P82-32
13		12	GU5.3	75415	JR6653	65MR16CG/38°UVC/(FPB)	12	2100	5000	3050	C-6	P80-Fig.2	P82-33

Notes:

1. Warning/Caution notices, see page # 125 2. Operating Instructions, see page # 125 3. All information subject to change without notice



General Lighting Halogen Lamps

MR16 - 24V EYE Dichro-Cool®



Features:

- 24V operation
- Crisp, white light
- Long lasting Dichroic coating
- Consistent light color and brightness

Applications:

- 24V lighting system
- Aircrafts • Boat Cabins • Automotive

Physical Data and Characteristics

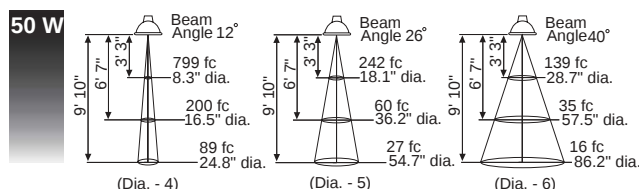
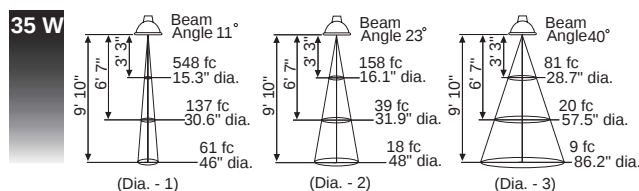
Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Ctr. Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #	Beam Spread Data
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24V Dichroic Reflector 2-Pin Base - GU5.3 with Cover Glass

1	35	24	GU5.3	75464	JR7351	35MR16CG/11°/24V/(FRB)	12	5900	5000	3050	CC-6	P80-Fig.2	Dia.1
2		24	GU5.3	75513	JR7352	35MR16CG/23°/24V/(FRA)	12	1700	5000	3050	CC-6	P80-Fig.2	Dia.2
3		24	GU5.3	75562	JR7353	35MR16CG/40°/24V/(FMW)	12	870	5000	3050	CC-6	P80-Fig.2	Dia.3
4	50	24	GU5.3	75611	JR7551	50MR16CG/12°/24V/(EXT)	12	8600	5000	3050	CC-6	P80-Fig.2	Dia.4
5		24	GU5.3	75660	JR7552	50MR16CG/26°/24V/(EXZ)	12	2600	5000	3050	CC-6	P80-Fig.2	Dia.5
6		24	GU5.3	75709	JR7553	50MR16CG/40°/24V/(EXN)	12	1500	5000	3050	CC-6	P80-Fig.2	Dia.6

- The intensity level at the center of the beam is shown in footcandles.
- Beam diameter in inches is shown at a distance of 3 ft. 3 in., 6 ft. 7 in., and 9 ft. 10 in.

- The intensity level at the outer edge of the beam diameter is 50% of the center beam footcandle reading.



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Conversion factor: lux (lx) = footcandles / 0.0929
5. Conversion factor: millimeters (mm) = inches x 25.4

MR16 - 10,000 Hour Life EYE Dichro-Cool®



Features:

- Super long life
- Long lasting Dichroic coating
- Consistent light color and brightness

Applications:

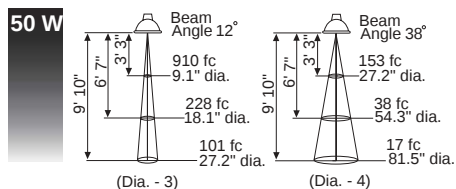
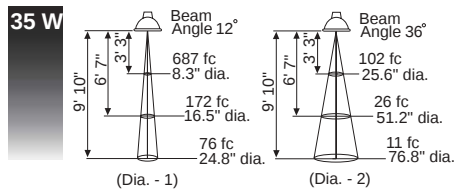
- Display case • Museums • Restaurants • Homes
- Lounges • Offices • Retail stores • Landscape

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Ctr. Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #	Beam Spread Data
12V Dichroic Reflector 2-Pin Base - GU5.3 with Cover Glass													
1	35	12	GU5.3	72367	JR8351	35MR16CG/12°/10000H/(FRB)	12	7400	10000	3050	C-6	P80-Fig.2	Dia.1
2		12	GU5.3	75723	JR8353	35MR16CG/36°/10000H/(FMW)	12	1100	10000	3050	C-6	P80-Fig.2	Dia.2
3	50	12	GU5.3	67890	JR8551	50MR16CG/12°/10000H/(EXT)	12	9500	10000	3050	C-6	P80-Fig.2	Dia.3
4		12	GU5.3	75720	JR8553	50MR16CG/38°/10000H/(EXN)	12	1650	10000	3050	C-6	P80-Fig.2	Dia.4

- The intensity level at the center of the beam is shown in footcandles.
- Beam diameter in inches is shown at a distance of 3 ft. 3 in., 6 ft. 7 in., and 9 ft. 10 in.

- The intensity level at the outer edge of the beam diameter is 50% of the center beam footcandle reading.



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Conversion factor: lux (lx) = footcandles / 0.0929
5. Conversion factor: millimeters (mm) = inches x 25.4



General Lighting Halogen Lamps

MR16 - Neodymium EYE Dichro-Cool®

Features:

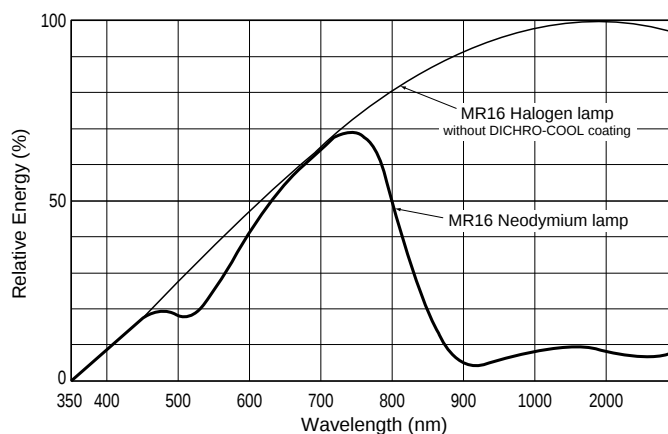
- MR16 dichroic neodymium halogen lamps operate on the same fixtures as equivalent wattage MR16 dichroic halogen lamps
- Displayed goods appear bright and vivid
- Conserve energy and have high candle power (power consumption 1/2 or less of incandescent neodymium lamps under the same beam angle and illuminance)
- Less temperature rise on the irradiated surface (about 1/3 of incandescent neodymium lamp under same illuminance)

Page 89 Intermediate base 120V neodymium type.

Applications:

- Displays • Showrooms • Restaurants • Lounges
- Supermarkets • Beauty Salons • Retail

Spectral Distribution of EYE Dichroic Neodymium Lamps



Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Ctr. Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #	Beam Spread Data
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12V Dichroic Reflector 2-Pin Base - GU5.3 with Cover Glass

1	20	12	GU5.3	72132	JR1254	20MR16CG/20%/NEOD	12	750	4000	Natural	C-6	P80-Fig.2	1
2		12	GU5.3	72181	JR1255	20MR16CG/25%/NEOD	12	600	4000	Natural	C-6	P80-Fig.2	2
3	35	12	GU5.3	72720	JR1354	35MR16CG/21%/NEOD	12	1700	5000	Natural	C-6	P80-Fig.2	3
4		12	GU5.3	72769	JR1355	35MR16CG/32%/NEOD	12	1100	5000	Natural	C-6	P80-Fig.2	4
5	50	12	GU5.3	74043	JR1568	50MR16CG/21%/NEOD	12	2700	5000	Natural	C-6	P80-Fig.2	5
6		12	GU5.3	74092	JR1569	50MR16CG/32%/NEOD	12	1800	5000	Natural	C-6	P80-Fig.2	6
7	65	12	GU5.3	74582	JR2654	65MR16CG/20%/NEOD	12	3500	5000	Natural	C-6	P80-Fig.2	7
8		12	GU5.3	74631	JR2655	65MR16CG/29%/NEOD	12	2500	5000	Natural	C-6	P80-Fig.2	8

Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice

General Lighting Halogen Lamps



MR16 - 3400K EYE Dichro-Cool®



Features:

- White light - color temperature 3450K

Applications:

- Displays • Showrooms • Lounges
- Beauty Salons • Retail stores

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Ctr. Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #	Beam Spread Data
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12V Dichroic Reflector 2-Pin Base - GU5.3 without Cover Glass

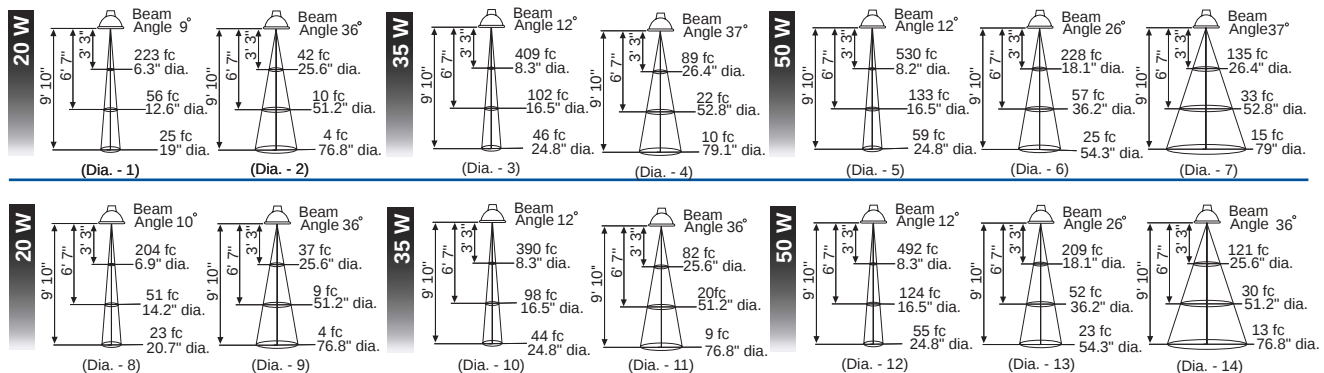
1	20	12	GU5.3	71841	JR1201D	20MR16/9°/3450K/(ESX)	12	2400	4000	3350	C-6	P80-Fig.1	Dia.1
2		12	GU5.3	71942	JR1203D	20MR16/36°/3450K/(BAB)	12	450	4000	3350	C-6	P80-Fig.1	Dia.2
3	35	12	GU5.3	72432	JR1301D	35MR16/12°/3450K/(FRB)	12	4400	5000	3450	C-6	P80-Fig.1	Dia.3
4		12	GU5.3	72530	JR1303D	35MR16/37°/3450K/(FMW)	12	960	5000	3450	C-6	P80-Fig.1	Dia.4
5	50	12	GU5.3	73116	JR1501D	50MR16/12°/3450K/(EXT)	12	5700	5000	3450	C-6	P80-Fig.1	Dia.5
6		12	GU5.3	73167	JR1502D	50MR16/26°/3450K/(EXZ)	12	2450	5000	3450	C-6	P80-Fig.1	Dia.6
7		12	GU5.3	73263	JR1504D	50MR16/37°/3450K/(EXN)	12	1450	5000	3450	C-6	P80-Fig.1	Dia.7

12V Dichroic Reflector 2-Pin Base - GU5.3 with Cover Glass

8	20	12	GU5.3	71989	JR1251D	20MR16CG/10°/3450K/(ESX)	12	2200	4000	3350	C-6	P80-Fig.2	Dia.8
9		12	GU5.3	72089	JR1253D	20MR16CG/36°/3450K/(BAB)	12	400	4000	3350	C-6	P80-Fig.2	Dia.9
10	35	12	GU5.3	72577	JR1351D	35MR16CG/12°/3450K/(FRB)	12	4200	5000	3450	C-6	P80-Fig.2	Dia.10
11		12	GU5.3	72675	JR1353D	35MR16CG/36°/3450K/(FMW)	12	880	5000	3450	C-6	P80-Fig.2	Dia.11
12	50	12	GU5.3	73412	JR1551D	50MR16CG/12°/3450K/(EXT)	12	5300	5000	3450	C-6	P80-Fig.2	Dia.12
13		12	GU5.3	73460	JR1552D	50MR16CG/26°/3450K/(EXZ)	12	2250	5000	3450	C-6	P80-Fig.2	Dia.13
14		12	GU5.3	73558	JR1554D	50MR16CG/36°/3450K/(EXN)	12	1300	5000	3450	C-6	P80-Fig.2	Dia.14

- The intensity level at the center of the beam is shown in footcandles.
- Beam diameter in inches is shown at a distance of 3 ft. 3 in., 6 ft. 7 in., and 9 ft. 10 in.

- The intensity level at the outer edge of the beam diameter is 50% of the center beam footcandle reading.



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Conversion factor: lux (lx) = footcandles / 0.0929
5. Conversion factor: millimeters (mm) = inches x 25.4

MR16 3400K

HALOGEN



General Lighting Halogen Lamps



MR16 - 4200K EYE Dichro-Cool®

Features:

- White light - color temperature 4200K

Applications:

- Jewelry • Displays • Museums • Landscape
- Florists • Beauty Salons • Retail Stores

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Ctr. Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #	Beam Spread Data
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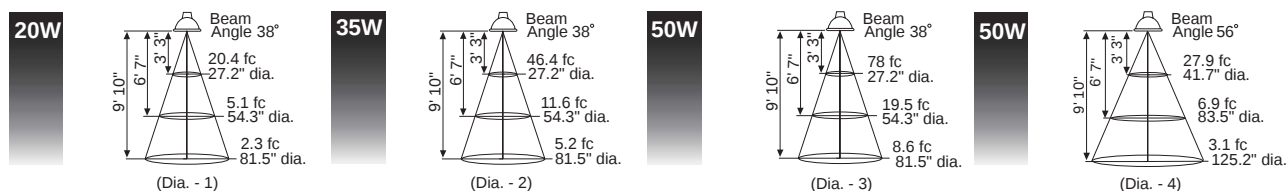
MR16 4200K 12V Dichroic Reflector 2-Pin Base - GU5.3 with Cover Glass

1	20	12	GU5.3	72188	JR1256	20MR16CG/38°/4200K/(BAB)	12	220	4000	4200	C-6	P80-Fig.2	Dia.1
2	35	12	GU5.3	72771	JR1356	35MR16CG/38°/4200K/(FMW)	12	500	5000	4200	C-6	P80-Fig.2	Dia.2
3	50	12	GU5.3	74392	JR1580	50MR16CG/38°/4200K/(EXN)	12	840	5000	4200	C-6	P80-Fig.2	Dia.3
4		12	GU5.3	74420	JR1581	50MR16CG/56°/4200K/(FNV)	12	300	5000	4200	C-6	P80-Fig.2	Dia.4

• The intensity level at the center of the beam is shown in footcandles.

• Beam diameter in inches is shown at a distance of 3 ft. 3 in., 6 ft. 7 in., and 9 ft. 10 in.

• The intensity level at the outer edge of the beam diameter is 50% of the center beam footcandle reading.



MR16 - Super Soft EYE Dichro-Cool®

Features:

- Frosted Cover Glass
- Soft diffused light

Applications:

- Displays • Retail stores • Restaurants
- Dining Rooms/Kitchens
- Anywhere soft light is required

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Ctr. Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #	Beam Spread Data
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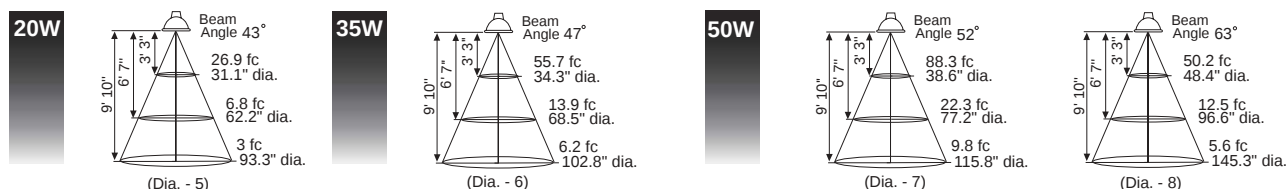
MR16 Super Soft 12V Dichroic Reflector 2-Pin Base - GU5.3 Frosted with Cover Glass

5	20	12	GU5.3	72086	JR1253F	20MR16FCG/43°/(BAB)	12	290	4000	2950	C-6	P80-Fig.2	Dia.5
6	35	12	GU5.3	72678	JR1353F	35MR16FCG/47°/(FMW)	12	600	5000	3000	C-6	P80-Fig.2	Dia.6
7	50	12	GU5.3	73559	JR1554F	50MR16FCG/52°/(EXN)	12	950	5000	3050	C-6	P80-Fig.2	Dia.7
8		12	GU5.3	73998	JR1566F	50MR16FCG/63°/(FNV)	12	540	5000	3050	C-6	P80-Fig.2	Dia.8

• The intensity level at the center of the beam is shown in footcandles.

• Beam diameter in inches is shown at a distance of 3 ft. 3 in., 6 ft. 7 in., and 9 ft. 10 in.

• The intensity level at the outer edge of the beam diameter is 50% of the center beam footcandle reading.



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Conversion factor: lux (lx) = footcandles / 0.0929
5. Conversion factor: millimeters (mm) = inches x 25.4

General Lighting Halogen Lamps



MR16 - 120V Intermediate Base EYE Dichro-Cool®



Features:

- 120V operation
- Long Life
- 3000K, 3600K and neodymium types
- Wide range of beam spreads

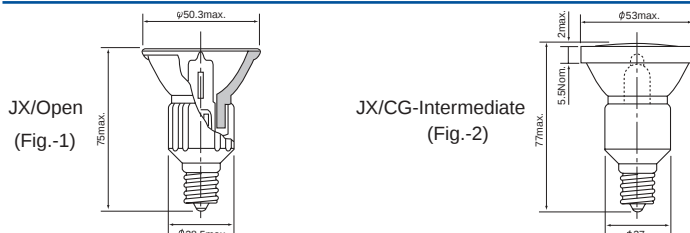
Applications:

- Homes
- Retail Stores
- Displays
- Museums
- Offices
- Restaurants
- Lounges

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Ctr. Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #	Beam Spread Data
3000K 120V Dichroic Reflector Intermediate Base without Cover Glass													
1	75	120	Intermediate E17	75954	JX1016	75MR16/E17/10°/120V/FSA	12	6300	3000	3000	CC-8	Fig.1	P90-Dia.4
2		120	Intermediate E17	76003	JX1017	75MR16/E17/18°/120V/FSB	12	3500	3000	3000	CC-8	Fig.1	P90-Dia.5
3		120	Intermediate E17	76052	JX1018	75MR16/E17/28°/120V/FSD	12	2100	3000	3000	CC-8	Fig.1	P90-Dia.6
4	100	120	Intermediate E17	76297	JX1044	100MR16/E17/10°/120V/FSC	12	8500	3000	3000	CC-8	Fig.1	P90-Dia.7
5		120	Intermediate E17	76346	JX1045	100MR16/E17/18°/120V/FSE	12	4500	3000	3000	CC-8	Fig.1	P90-Dia.8
6		120	Intermediate E17	76395	JX1046	100MR16/E17/28°/120V/FSF	12	3000	3000	3000	CC-8	Fig.1	P90-Dia.9
3000K 120V Dichroic Reflector Intermediate Base with Cover Glass													
7	75	120	Intermediate E17	76640	JX1061	75MR16CG/E17/10°/120V	12	6300	3000	3000	CC-8	Fig. 2	P90-Dia.4
8		120	Intermediate E17	76689	JX1062	75MR16CG/E17/18°/120V	12	3500	3000	3000	CC-8	Fig. 2	P90-Dia.5
9		120	Intermediate E17	76738	JX1063	75MR16CG/E17/28°/120V	12	2100	3000	3000	CC-8	Fig. 2	P90-Dia.6
10	100	120	Intermediate E17	76934	JX1084	100MR16CG/E17/10°/120V	12	8500	3000	3000	CC-8	Fig. 2	P90-Dia.7
11		120	Intermediate E17	76983	JX1085	100MR16CG/E17/18°/120V	12	4500	3000	3000	CC-8	Fig. 2	P90-Dia.8
12		120	Intermediate E17	77032	JX1086	100MR16CG/E17/28°/120V	12	3000	3000	3000	CC-8	Fig. 2	P90-Dia.9
3600K 120V Dichroic Reflector Intermediate Base without Cover Glass													
13	75	120	Intermediate E17	75807	JX1013	75MR16/E17/10°/120V/3600K	12	3800	3000	3600	CC-8	Fig. 1	P90-Dia.10
14		120	Intermediate E17	75856	JX1014	75MR16/E17/18°/120V/3600K	12	2500	3000	3600	CC-8	Fig. 1	P90-Dia.11
15		120	Intermediate E17	75905	JX1015	75MR16/E17/28°/120V/3600K	12	1500	3000	3600	CC-8	Fig. 1	P90-Dia.12
16	100	120	Intermediate E17	76150	JX1041	100MR16/E17/10°/120V/3600K	12	5700	3000	3600	CC-8	Fig. 1	P90-Dia.13
17		120	Intermediate E17	76199	JX1042	100MR16/E17/18°/120V/3600K	12	3000	3000	3600	CC-8	Fig. 1	P90-Dia.14
18		120	Intermediate E17	76248	JX1043	100MR16/E17/28°/120V/3600K	12	1800	3000	3600	CC-8	Fig. 1	P90-Dia.15
3600K 120V Dichroic Reflector Intermediate Base with Cover Glass													
19	75	120	Intermediate E17	76493	JX1058	75MR16CG/E17/10°/120V/3600K	12	3800	3000	3600	CC-8	Fig. 2	P90-Dia.10
20		120	Intermediate E17	76542	JX1059	75MR16CG/E17/18°/120V/3600K	12	2500	3000	3600	CC-8	Fig. 2	P90-Dia.11
21		120	Intermediate E17	76591	JX1060	75MR16CG/E17/28°/120V/3600K	12	1500	3000	3600	CC-8	Fig. 2	P90-Dia.12
22	100	120	Intermediate E17	76787	JX1081	100MR16CG/E17/10°/120V/3600K	12	5700	3000	3600	CC-8	Fig. 2	P90-Dia.13
23		120	Intermediate E17	76836	JX1082	100MR16CG/E17/18°/120V/3600K	12	3000	3000	3600	CC-8	Fig. 2	P90-Dia.14
24		120	Intermediate E17	76885	JX1083	100MR16CG/E17/28°/120V/3600K	12	1800	3000	3600	CC-8	Fig. 2	P90-Dia.15
Neodymium Coated 120V Dichroic Reflector Intermediate Base without Cover Glass													
25	75	120	Intermediate E17	76101	JX1019	75MR16/E17/28°/120V/NEOD	12	1200	3000	Natural	CC-8	Fig. 1	P90-Dia.16
26	100	120	Intermediate E17	76444	JX1047	100MR16/E17/28°/120V/NEOD	12	1800	3000	Natural	CC-8	Fig. 1	P90-Dia.17

Lamp Drawings unit: mm



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Conversion factor: lux (lx) = footcandles / 0.0929
5. Conversion factor: millimeters (mm) = inches x 25.4

MR16 120V

HALOGEN



General Lighting Halogen Lamps



MR16 - 120V Medium Base

EYE Dichro-Cool®

Features:

- 120V operation
- Long Life

Applications:

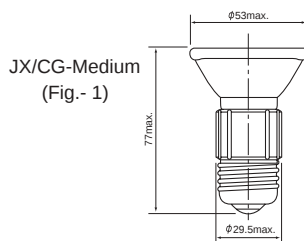
- Homes
- Retail Stores
- Displays
- Museums
- Offices
- Restaurants
- Lounges

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Ctr. Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #	Beam Spread Data
27	55	120	Medium E26	77081	JX1240	55MR16CG/MED/10°/120V	12	4500	2000	3000	CC-8	Fig. 1	Dia.1
28		120	Medium E26	77130	JX1241	55MR16CG/MED/17°/120V	12	2400	2000	3000	CC-8	Fig. 1	Dia.2
29		120	Medium E26	77179	JX1242	55MR16CG/MED/24°/120V	12	1500	2000	3000	CC-8	Fig. 1	Dia.3

120V Dichroic Reflector Medium Base with Cover Glass

Lamp Drawings unit: mm

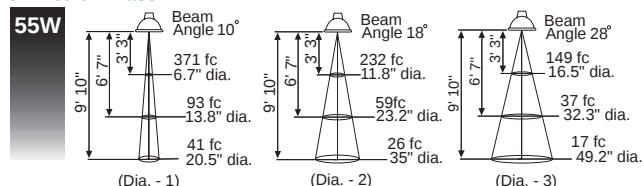


- The intensity level at the center of the beam is shown in footcandles.

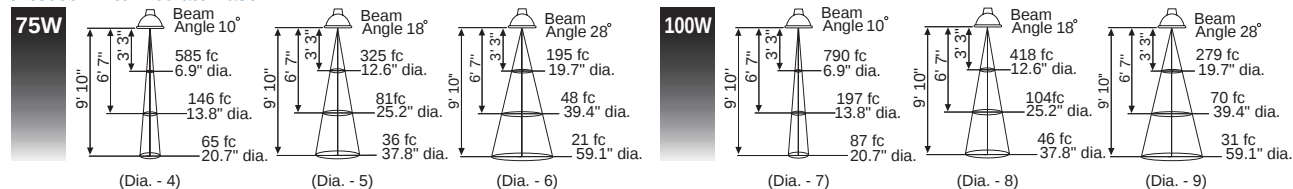
- Beam diameter in inches is shown at a distance of 3 ft. 3 in., 6 ft. 7 in., and 9 ft. 10 in.

- The intensity level at the outer edge of the beam diameter is 50% of the center beam footcandle reading.

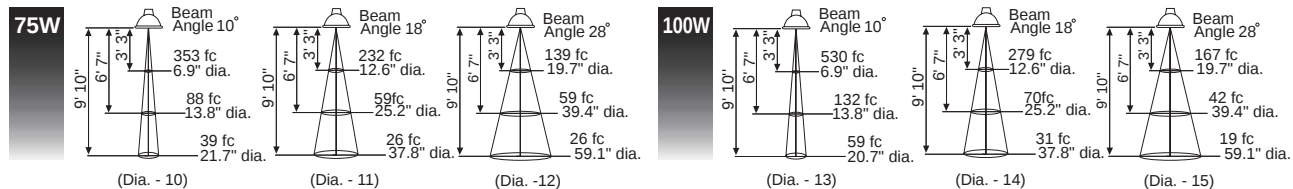
JX Medium Base



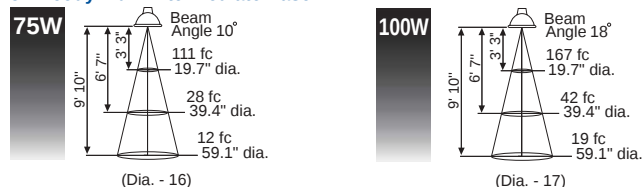
JX/3000K Intermediate Base



JX/3600K Intermediate Base



JX Neodymium Intermediate Base



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Conversion factor: lux (lx) = footcandles / 0.0929
5. Conversion factor: millimeters (mm) = inches x 25.4

General Lighting Halogen Lamps



MR8 / MR11 / MR16 - Special Colors EYE Dichro-Cool®

Features:

- Red, Yellow, Green and Blue

Applications:

- Displays • Showrooms • Restaurants
- Lounges • Special Effects

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Ctr. Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg. #
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MR8 12V Dichroic Reflector Miniature 2-Pin Base - GZ4 with Cover Glass

1	20	12	GZ4	79726	JM8253	20MR8CG/GZ4/23°/R	50	240	2000	Red	C-8	Fig.1
2		12	GZ4	79732	JM8254	20MR8CG/GZ4/23°/G	50	480	2000	Green	C-8	Fig.1
3		12	GZ4	79738	JM8255	20MR8CG/GZ4/23°/B	50	80	2000	Blue	C-8	Fig.1
4	35	12	GZ4	79744	JM8353	35MR8CG/GZ4/23°/R	50	420	2000	Red	C-8	Fig.1
5		12	GZ4	79750	JM8354	35MR8CG/GZ4/23°/G	50	840	2000	Green	C-8	Fig.1
6		12	GZ4	79756	JM8355	35MR8CG/GZ4/23°/B	50	140	2000	Blue	C-8	Fig.1

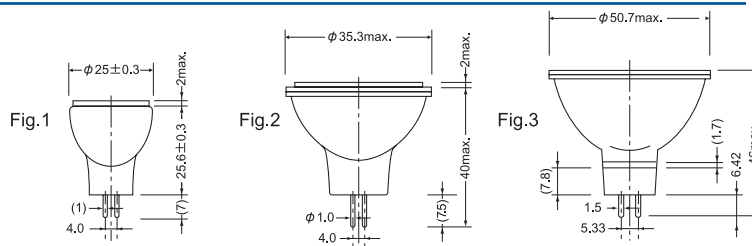
MR11 12V Dichroic Reflector Miniature 2-Pin Base - GZ4 with Cover Glass

7	20	12	GZ4	78665	JM1264	20MR11CG/30°/R	50	300	2000	Red	C-6	Fig.2
8		12	GZ4	78671	JM1265	20MR11CG/30°/G	50	540	2000	Green	C-6	Fig.2
9		12	GZ4	78676	JM1266	20MR11CG/30°/B	50	90	2000	Blue	C-6	Fig.2
10	35	12	GZ4	79252	JM1364	35MR11CG/30°/R	50	390	2000	Red	C-6	Fig.2
11		12	GZ4	79256	JM1365	35MR11CG/30°/G	50	780	2000	Green	C-6	Fig.2
12		12	GZ4	79262	JM1366	35MR11CG/30°/B	50	130	2000	Blue	C-6	Fig.2

MR16 12V Dichroic Reflector 2-Pin Base - GU5.3 with Cover Glass

13	50	12	GU5.3	73602	JR1558	50MR16CG/13°/R	12	2100	5000	Red	C-6	Fig.3
14		12	GU5.3	73651	JR1559	50MR16CG/32°/R	12	500	5000	Red	C-6	Fig.3
15		12	GU5.3	73700	JR1560	50MR16CG/13°/Y	12	7500	5000	Yellow	C-6	Fig.3
16		12	GU5.3	73749	JR1561	50MR16CG/32°/Y	12	1800	5000	Yellow	C-6	Fig.3
17		12	GU5.3	73798	JR1562	50MR16CG/13°/G	12	3900	5000	Green	C-6	Fig.3
18		12	GU5.3	73847	JR1563	50MR16CG/32°/G	12	900	5000	Green	C-6	Fig.3
19		12	GU5.3	73896	JR1564	50MR16CG/13°/B	12	500	5000	Blue	C-6	Fig.3
20		12	GU5.3	73945	JR1565	50MR16CG/32°/B	12	150	5000	Blue	C-6	Fig.3

Lamp Drawings unit: mm



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.



General Lighting Halogen Lamps

Single-Ended JD Series



Features:

- Crisp, white light
- Mini-Candelabra, DC Bayonet, Medium and European Bases
- 28V, 30V, 110V, 120V, 130V, 220-230V and 240-250V types
- From 50W to 500W

Applications:

- Homes • Retail Stores • Museums • Supermarkets
- Offices • Restaurants • Lounge • Displays • Furniture

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	JD #	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	M.O.L. (in) (mm)	L.C.L. (in) (mm)	Filament	Lamp Dwg. #
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Mini Candelabra Base

1	50	120	Mini-Can	81903	50Q/CL	50Q/CL/MC	JD1273	50	725	1500	2850	2.76 70	1.81 46	CC-8	P93-Fig.1
2		120	Mini-Can	82050	50Q	50Q/F/MC	JD1279	50	690	1500	2850	2.76 70	-	CC-8	P93-Fig.1
3		130	Mini-Can	81952	50Q/CL	50Q/CL/MC/130V	JD1285	50	725	1500	2850	2.76 70	1.81 46	CC-8	P93-Fig.1
4		130	Mini-Can	82075	50Q	50Q/F/MC/130V	JD1291	50	690	1500	2850	2.76 70	-	CC-8	P93-Fig.1
5	75	120	Mini-Can	82197	75Q/CL	75Q/CL/MC	JD1030	50	1150	1500	2850	2.76 70	1.81 46	CC-8	P93-Fig.1
6		120	Mini-Can	82295	75Q	75Q/F/MC	JD1216	50	1050	1500	2850	2.76 70	-	CC-8	P93-Fig.1
7		130	Mini-Can	82308	75Q/CL	75Q/CL/MC/130V	JD1088	50	1150	1500	2850	2.76 70	1.81 46	CC-8	P93-Fig.1
8		130	Mini-Can	82215	75Q	75Q/F/MC/130V	JD1230	50	1050	1500	2850	2.76 70	-	CC-8	P93-Fig.1
9	100	120	Mini-Can	80286	100Q/CL	100Q/CL/MC	JD1040	50	1600	2000	2850	2.76 70	1.93 49	CC-8	P93-Fig.2
10		120	Mini-Can	80391	100Q	100Q/F/MC	JD1233	50	1520	2000	2850	2.76 70	-	CC-8	P93-Fig.2
11		130	Mini-Can	80335	100Q/CL	100Q/CL/MC/130V	JD1046	50	1600	2000	2850	2.76 70	1.93 49	CC-8	P93-Fig.2
12		130	Mini-Can	80433	100Q	100Q/F/MC/130V	JD1072	50	1520	2000	2850	2.76 70	-	CC-8	P93-Fig.2
13	150	120	Mini-Can	80580	150Q/CL	150Q/CL/MC/ETG	JD1067	50	2800	2000	2850	2.76 70	1.93 49	CC-8	P93-Fig.2
14		120	Mini-Can	80776	150Q	150Q/F/MC/ETH	JD1213	50	2660	2000	2850	2.76 70	-	CC-8	P93-Fig.2
15		130	Mini-Can	80629	150Q/CL	150Q/CL/MC/130V	JD1071	50	2800	2000	2850	2.76 70	1.93 49	CC-8	P93-Fig.2
16		130	Mini-Can	80825	150Q	150Q/F/MC/130V	JD1194	50	2660	2000	2850	2.76 70	-	CC-8	P93-Fig.2
17	250	120	Mini-Can	80972	250Q/CL	250Q/CL/MC/EHT	JD2007	50	5000	2000	2900	3.19 81	2.40 61	CC-8	P93-Fig.3
18		120	Mini-Can	81168	250Q	250Q/F/MC/ESM	JD2115	50	4750	2000	2900	3.19 81	-	CC-8	P93-Fig.3
19		130	Mini-Can	81021	250Q/CL	250Q/CL/MC/130V	JD2012	50	5000	2000	2900	3.19 81	2.40 61	CC-8	P93-Fig.3
20		130	Mini-Can	81217	250Q	250Q/F/MC/130V	JD2116	50	4750	2000	2900	3.19 81	-	CC-8	P93-Fig.3
21	400	120	Mini-Can	81315	400Q/CL	400Q/CL/MC	JD2125	50	8250	2000	2900	3.74 95	2.60 66	CC-8	P93-Fig.4
22		120	Mini-Can	81413	400Q	400Q/F/MC	JD2127	50	7840	2000	2900	3.74 95	-	CC-8	P93-Fig.4
23		130	Mini-Can	81325	400Q/CL	400Q/CL/MC/130V	JD2141	50	8250	2000	2900	3.74 95	2.60 66	CC-8	P93-Fig.4
24		130	Mini-Can	81420	400Q	400Q/F/MC/130V	JD2152	50	7840	2000	2900	3.74 95	-	CC-8	P93-Fig.4
25	500	120	Mini-Can	81511	500Q/CL	500Q/CL/MC/EVR	JD2044	50	10450	2000	2950	3.74 95	2.60 66	CC-8	P93-Fig.4
26		120	Mini-Can	81756	500Q	500Q/F/MC/EYX	JD2118	50	9930	2000	2950	3.74 95	-	CC-8	P93-Fig.4
27		130	Mini-Can	81560	500Q/CL	500Q/CL/MC/130V/EYV	JD2049	50	10450	2000	2950	3.74 95	2.60 66	CC-8	P93-Fig.4
28		130	Mini-Can	81707	500Q	500Q/F/MC/130V/EYV	JD2119	50	9930	2000	2950	3.74 95	-	CC-8	P93-Fig.4

Notes:

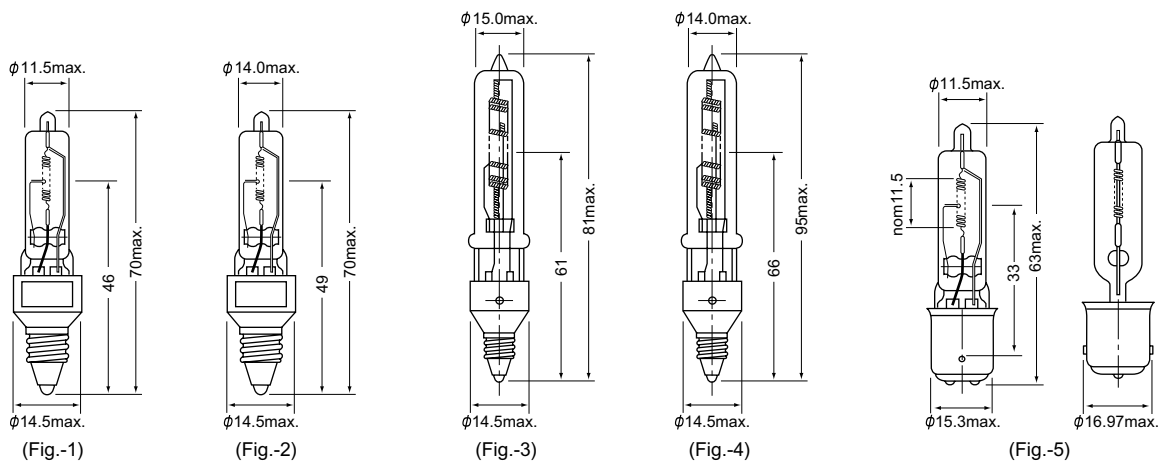
1. Warning/Caution notices, see page # 125 2. Operating Instructions, see page # 125 3. All information subject to change without notice

Single-Ended JD Series

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	JD #	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	M.O.L. (in) (mm)	L.C.L. (in) (mm)	Filament	Lamp Dwg. #
DC Bayonet Base															
1	50	120	DC-Bay	81805	50Q/CL/DC	50Q/CL/DC	JD1274	50	725	1500	2850	2.48 63	1.30 33	CC-8	Fig.5
2		120	DC-Bay	82001	50Q/DC	50Q/F/DC	JD1280	50	690	1500	2850	2.48 63	-	CC-8	Fig.5
3		130	DC-Bay	81854	50Q/CL/DC	50Q/CL/DC/130V	JD1286	50	725	1500	2850	2.48 63	1.30 33	CC-8	Fig.5
4		130	DC-Bay	82013	50Q/DC	50Q/F/DC/130V	JD1292	50	1150	1500	2850	2.48 63	-	CC-8	Fig.5
5	75	28	DC-Bay	82148	75Q/CL/DC/28V	75Q/CL/DC/28V	-	50	1350	2000	2950	2.36 60	1.46 37	CC-8	Fig.3
6		120	DC-Bay	82099	75Q/CL/DC	75Q/CL/DC	JD1113	50	1050	1500	2850	2.48 63	1.30 33	CC-8	Fig.5
7		120	DC-Bay	82246	75Q/DC	75Q/F/DC	JD1188	50	1150	1500	2850	2.48 63	-	CC-8	Fig.5
8		130	DC-Bay	82081	75Q/CL/DC	75Q/CL/DC/130V	JD1122	50	1050	1500	2850	2.48 63	1.30 33	CC-8	Fig.5
9		130	DC-Bay	82253	75Q/DC	75Q/F/DC/130V	JD1242	50	1150	1500	2850	2.48 63	-	CC-8	Fig.5
10	100	120	DC-Bay	80188	100Q/CL/DC	100Q/CL/DC/ESN	JD1042	50	1600	2000	2850	2.48 63	1.30 33	CC-8	Fig.5
11		120	DC-Bay	80343	100Q/DC	100Q/F/DC	JD1208	50	1520	2000	2850	2.48 63	-	CC-8	Fig.5
12		130	DC-Bay	80237	100Q/CL/DC	100Q/CL/DC/130V	JD1048	50	1600	2000	2850	2.48 63	1.30 33	CC-8	Fig.5
13		130	DC-Bay	80384	100Q/CD	100Q/F/DC/130V	JD1166	50	1520	2000	2850	2.48 63	-	CC-8	Fig.5
14	150	120	DC-Bay	80482	150Q/CL/DC	150Q/CL/DC/ETC	JD1069	50	2800	2000	2850	2.48 63	1.30 33	CC-8	Fig.5
15		120	DC-Bay	80678	150Q/DC	150Q/F/DC/ETF	JD1209	50	2660	2000	2850	2.48 63	-	CC-8	Fig.5
16		130	DC-Bay	80531	150Q/CL/DC	150Q/CL/DC/130V	JD1073	50	2800	2000	2850	2.48 63	1.30 33	CC-8	Fig.5
17		130	DC-Bay	80727	150Q/DC	150Q/F/DC/130V	JD1200	50	2660	2000	2850	2.48 63	-	CC-8	Fig.5

Lamp Drawings unit: mm



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice



General Lighting Halogen Lamps

Single-Ended JD Series

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	JD #	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	M.O.L. (in) (mm)	L.C.L. (in) (mm)	Filament	Lamp Dwg. #
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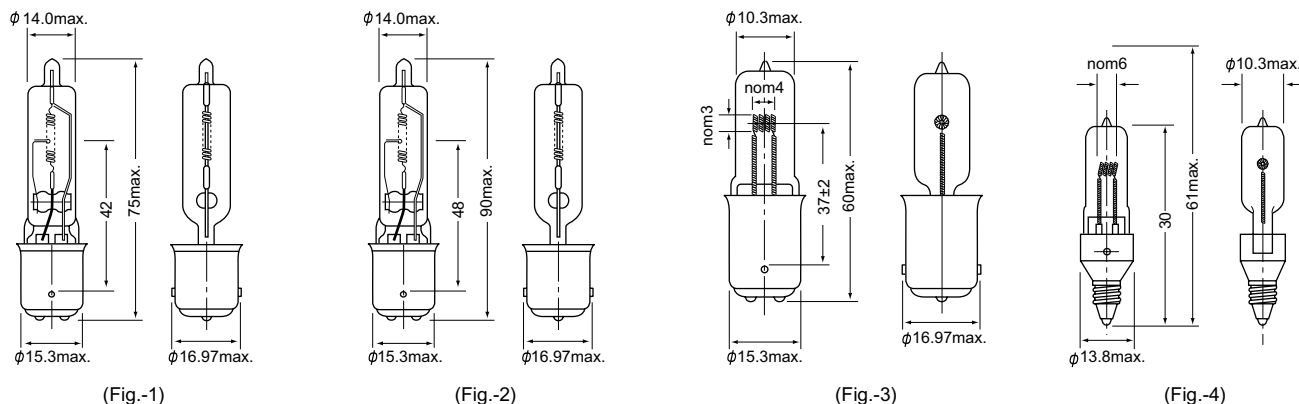
DC Bayonet Base

1	250	120	DC-Bay	80874	250Q/CL/DC	250Q/CL/DC/ESS	JD2010	50	5000	2000	2900	2.96 75	1.65 42	CC-8	Fig.1
2		120	DC-Bay	81070	250Q/DC	250Q/F/DC/ETB	JD2140	50	4750	2000	2900	2.96 75	-	CC-8	Fig.1
3		130	DC-Bay	80923	250Q/CL/DC	250Q/CL/130V	JD2014	50	5000	2000	2900	2.96 75	1.65 42	CC-8	Fig.1
4		130	DC-Bay	81119	250Q/DC	250Q/F/DC/130V	JD2117	50	4750	2000	2900	2.96 75	-	CC-8	Fig.1
5	400	120	DC-Bay	81266	400Q/CL/DC	400Q/CL/DC	JD2126	50	8250	2000	2900	3.54 90	1.89 48	CC-8	Fig.2
6		120	DC-Bay	81364	400Q/DC	400Q/F/DC	JD2161	50	7840	2000	2900	3.54 90	-	CC-8	Fig.2
7		130	DC-Bay	81275	400Q/CL/DC	400Q/CL/DC/130V	JD2146	50	8250	2000	2900	3.54 90	1.89 48	CC-8	Fig.2
8		130	DC-Bay	81370	400Q/DC	400Q/F/DC/130V	JD2174	50	7840	2000	2900	3.54 90	-	CC-8	Fig.2
9	500	120	DC-Bay	81438	500Q/CL/DC	500Q/CL/DC	JD2046	50	10450	2000	2950	3.54 90	1.89 48	CC-8	Fig.2
10		120	DC-Bay	81609	500Q/DC	500Q/F/DC	JD2165	50	9930	2000	2950	3.54 90	-	CC-8	Fig.2
11		130	DC-Bay	81462	500Q/CL/DC	500Q/CL/DC/130V	JD2051	50	10450	2000	2950	3.54 90	1.89 48	CC-8	Fig.2
12		130	DC-Bay	81658	500Q/DC	500Q/F/DC/130V	JD2128	50	9930	2000	2950	3.54 90	-	CC-8	Fig.2

Miniature Screw Base - E10

13	75	28	Mini-Screw E10	85706	JD28V75W/M1	75Q/CL/E10/28V	JD1024	50	1350	2000	2950	2.40 61	1.16 29.5	CC-8	Fig.4
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Lamp Drawings unit: mm



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice

General Lighting Halogen Lamps



Single-Ended JD Series - European Screw Base Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	JD #	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	M.O.L. (in) (mm)	L.C.L. (in) (mm)	Filament	Lamp Dwg. #
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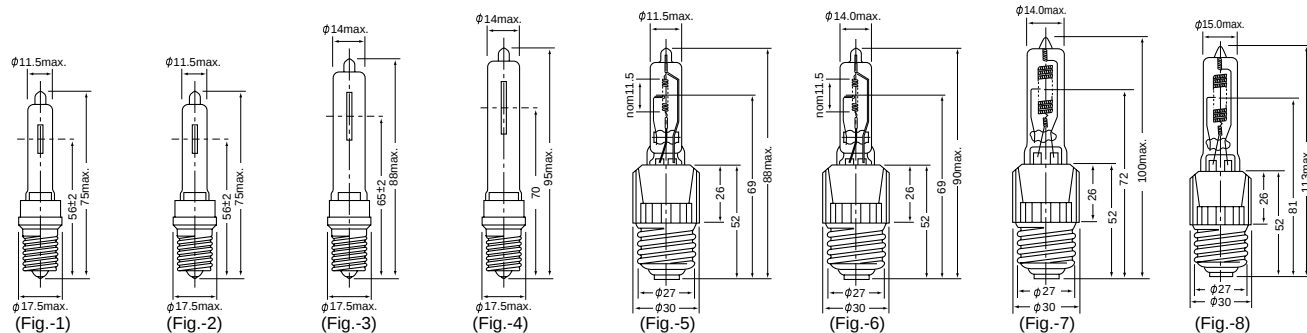
E14 Screw Base

1	75	120	E. Mini-Can E14	84873	JD75W/M7	75Q/CL/E14	JD1112	50	1150	1500	2850	2.76 70	1.81 46	CC-8	Fig.1
2		130	E. Mini-Can E14	85479	JD75W/M7	75Q/CL/E14/130V	JD1121	50	1150	1500	2850	2.76 70	1.81 46	CC-8	Fig.1
3	100	120	E. Mini-Can E14	84614	JD100W/M7	100Q/CL/E14	JD1146	50	1600	1500	2850	2.76 70	1.93 49	CC-8	Fig.2
4		130	E. Mini-Can E14	84971	JD100W/M7	100Q/CL/E14/130V	JD1152	50	1600	1500	2850	2.76 70	1.93 49	CC-8	Fig.2
5	150	120	E. Mini-Can E14	84653	JD150W/M7	150Q/CL/E14	JD1177	50	2800	2000	2850	2.76 70	1.93 49	CC-8	Fig.2
6		130	E. Mini-Can E14	85118	JD150W/M7	150Q/CL/E14/130V	JD1183	50	7840	2000	2850	2.76 70	1.93 49	CC-8	Fig.2
7	250	120	E. Mini-Can E14	84692	JD250W/M7	250Q/CL/E14	JD2084	50	5000	2000	2900	3.19 81	2.40 61	CC-8	Fig.3
8		130	E. Mini-Can E14	85265	JD250W/M7	250Q/CL/E14/130V	JD2087	50	5000	2000	2900	3.19 81	2.40 61	CC-8	Fig.3
9	500	120	E. Mini-Can E14	84731	JD500W/M7	500Q/CL/E14	JD2107	50	10450	2000	2950	3.74 95	2.60 66	CC-8	Fig.4
10		130	E. Mini-Can E14	85412	JD500W/M7	500Q/CL/E14/130V	JD2110	50	10450	2000	2950	3.74 95	2.60 66	CC-8	Fig.4

E27 Screw Base

11	75	120	Medium E27	84824	JD75W/E2	75Q/CL/MED	JD1115	20	1150	1500	2850	3.46 88	2.72 69	CC-8	Fig.5
12		130	Medium E27	85470	JD75W/E2	75Q/CL/MED/130V	JD1124	20	1150	1500	2850	3.46 88	2.27 69	CC-8	Fig.5
13		120	Medium E27	84882	JD75WF/E2	75Q/F/MED	JD1201	20	1050	1500	2850	3.46 88	-	CC-8	Fig.5
14		130	Medium E27	85488	JD75WF/E2	75Q/F/MED/130V	JD1202	20	1050	1500	2850	3.46 88	-	CC-8	Fig.5
15	100	120	Medium E27	84601	JD100W/E2	100Q/CL/MED	JD1148	20	1600	2000	2850	3.46 88	2.72 69	CC-8	Fig.5
16		130	Medium E27	84922	JD100W/E2	100Q/CL/MED/130V	JD1090	20	1600	2000	2850	3.46 88	2.27 69	CC-8	Fig.5
17		120	Medium E27	84627	JD100WF/E2	100Q/F/MED	JD1236	20	1520	2000	2850	3.46 88	-	CC-8	Fig.5
18		130	Medium E27	85020	JD100WF/E2	100Q/F/MED/130V	JD1193	20	1520	2000	2850	3.46 88	-	CC-8	Fig.5
19	150	120	Medium E27	84640	JD150W/E2	150Q/CL/MED	JD1179	20	2800	2000	2850	3.54 90	2.72 69	CC-8	Fig.6
20		130	Medium E27	85069	JD150W/E2	150Q/CL/MED/130V	JD1185	20	2800	2000	2850	3.54 90	2.27 69	CC-8	Fig.6
21		120	Medium E27	84666	JD150WF/E2	150Q/F/MED	JD1239	20	2660	2000	2850	3.54 90	-	CC-8	Fig.6
22		130	Medium E27	85167	JD150WF/E2	150Q/F/MED/130V	JD1195	20	2660	2000	2850	3.54 90	-	CC-8	Fig.6
23	250	120	Medium E27	84679	JD250W/E2	250Q/CL/MED	JD2085	20	5000	2000	2900	3.94 100	2.84 72	CC-8	Fig.7
24		130	Medium E27	85216	JD250W/E2	250Q/CL/MED/130V	JD2088	20	5000	2000	2900	3.94 100	2.84 72	CC-8	Fig.7
25		120	Medium E27	84705	JD250WF/E2	250Q/F/MED	JD2155	20	4750	2000	2900	3.94 100	-	CC-8	Fig.7
26		130	Medium E27	85314	JD250WF/E2	250Q/F/MED/130V	JD2124	20	4750	2000	2900	3.94 100	-	CC-8	Fig.7
27	500	120	Medium E27	84718	JD500W/E2	500Q/CL/MED	JD2108	20	10450	2000	2950	4.45 113	3.19 81	CC-8	Fig.8
28		130	Medium E27	85363	JD500W/E2	500Q/CL/MED/130V	JD2166	20	10450	2000	2950	4.45 113	3.19 81	CC-8	Fig.8
29		120	Medium E27	84744	JD500WF/E2	500Q/F/MED	JD2111	20	9930	2000	2950	4.45 113	-	CC-8	Fig.8
30		130	Medium E27	85461	JD500WF/E2	500Q/F/MED/130V	JD2131	20	9930	2000	2950	4.45 113	-	CC-8	Fig.8

Lamp Drawings unit: mm



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice



General Lighting Halogen Lamps

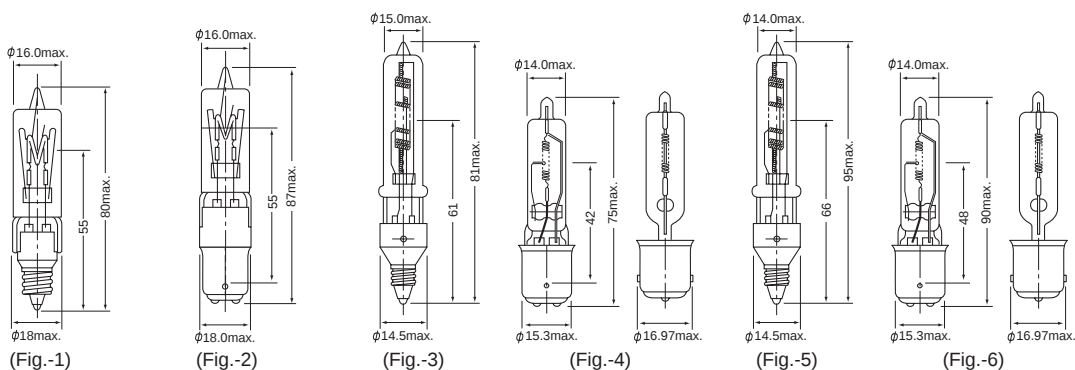
Single-Ended JD Series

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	JD #	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	M.O.L. (in) (mm)	L.C.L. (in) (mm)	Filament	Lamp Dwg. #
220-250V Mini-Candelabra Base & DC Bayonet Base															
1	100	220	Mini-Can	85490	JD220/230V 100W/M2	100Q/CL/MC/220-230V	JD1049	50	1400	1500	2850	3.15 80	2.16 55	CC-13	Fig.1
2		230	DC-Bay	85487	JD220/230V 100W/BD	100Q/CL/DC/220-230V	JD1053	50	1400	1500	2850	3.43 87	2.16 55	CC-13	Fig.2
3		240	DC-Bay	85669	JD240/250V 100W/BD	100Q/CL/DC/240-250V	JD1059	50	1400	1500	2850	3.43 87	2.16 55	CC-13	Fig.2
4	150	220	Mini-Can	85559	JD220/230V 150W/M2	150Q/CL/MC/220-230V	JD1075	50	2250	1500	2900	3.15 80	2.16 55	CC-13	Fig.1
5		230	DC-Bay	85510	JD220/230V 150W/BD	150Q/CL/DC/220-230V	JD1079	50	2250	1500	2900	3.43 87	2.16 55	CC-13	Fig.2
6		240	Mini-Can	85693	JD240/250V 150W/M2	150Q/CL/MC/240-250V	JD1081	50	2250	1500	2900	3.15 80	2.16 55	CC-13	Fig.1
7	250	240	DC-Bay	85681	JD240/250V 150W/BD	150Q/CL/DC/240-250V	JD1085	50	2250	1500	2900	3.43 87	2.16 55	CC-13	Fig.2
8		220	Mini-Can	85608	JD220/230V 250W/M2	250Q/CL/MC/220-230V	JD2018	50	4500	2000	2900	3.19 81	2.40 61	CC-8	Fig.3
9		230	DC-Bay	85567	JD220/230V 250W/BD	250Q/CL/DC/220-230V	JD2024	50	4500	2000	2900	2.95 75	1.65 42	CC-8	Fig.4
10	500	240	Mini-Can	85610	JD240/250V 250W/M2	250Q/CL/MC/240-250V	JD2026	50	4500	2000	2900	3.19 81	2.40 61	CC-8	Fig.3
11		250	DC-Bay	85705	JD240/250V 250W/BD	250Q/CL/DC/240-250V	JD2032	50	4500	2000	2900	2.95 75	1.65 42	CC-8	Fig.4
12		220	Mini-Can	85657	JD220/230V 500W/M2	500Q/CL/MC/220-230V	JD2056	50	9500	2000	2950	3.74 95	2.60 66	CC-8	Fig.5
13	500	240	Mini-Can	85630	JD240/250V 500W/M2	500Q/CL/MC/240-250V	JD2062	50	9500	2000	2950	3.74 95	2.50 66	CC-8	Fig.5
14		250	DC-Bay	85622	JD240/250V 500W/BD	500Q/CL/DC/240-250V	JD2067	50	9500	2000	2950	3.54 90	1.90 48	CC-8	Fig.6

Burning Position: Universal

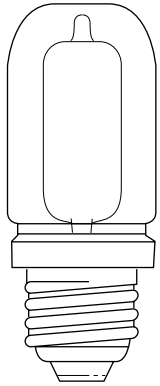
Lamp Drawings unit: mm



Notes:

1. Warning/Caution notices, see page # 125 2. Operating Instructions, see page # 125 3. All information subject to change without notice

General Lighting Halogen Lamps



Single Ended

JT Series Double Envelope

Features:

- Crisp, white light
- Compact design
- Hard glass outer jacket surrounds quartz capsule
- Easy handling without gloves
- Outer jacket reduces UV emissions

Applications:

- Home • Retail Stores • Museums • Supermarkets
- Offices • Restaurants • Lounges • Displays • Furniture

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	M.O.L. (in) (mm)	L.C.L. (in) (mm)	Filament	Lamp Dwg. #
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Medium Base - E26

1	50	120	Medium E26	86304	JT1055	50JT10/CL/MED/120V	20	725	1500	2800	3.39 86	2.28 55.8	CC-8	Fig.1
2		120	Medium E26	86451	JT3051	50JT10/F/MED/120V	20	690	1500	2800	3.39 86	-	CC-8	Fig.1
3	75	120	Medium E26	86206	JT1043	75JT10/CL/MED/120V	20	1150	1500	2850	3.39 86	2.28 55.8	CC-8	Fig.1
4		120	Medium E26	86353	JT3043	75JT10/F/MED/120V	20	1050	1500	2850	3.39 86	-	CC-8	Fig.1
5	100	120	Medium E26	86255	JT1047	100JT10/CL/MED/120V	20	1600	1500	2900	3.39 86	2.28 55.8	CC-8	Fig.1
6		120	Medium E26	86402	JT3047	100JT10/F/MED/120V	20	1520	1500	2900	3.39 86	-	CC-8	Fig.1
7	150	120	Medium E26	86311	JT120V 150W/L	150JT10/CL/MED/120V	20	2800	1500	2900	4.13 105	3.07 78	CC-8	Fig.2
8		120	Medium E26	86318	JT120V 150WF/L	150JT10/F/MED/120V	20	2660	1500	2900	4.13 105	-	CC-8	Fig.2
9	250	120	Medium E26	86325	JT120V 250W/L	250JT10/CL/MED/120V	20	5000	1500	2900	4.13 105	3.19 81	CC-8	Fig.2
10		120	Medium E26	86332	JT120V 250WF/L	250JT10/F/MED/120V	20	4750	1500	2900	4.13 105	-	CC-8	Fig.2

Enclosed Fixture Only

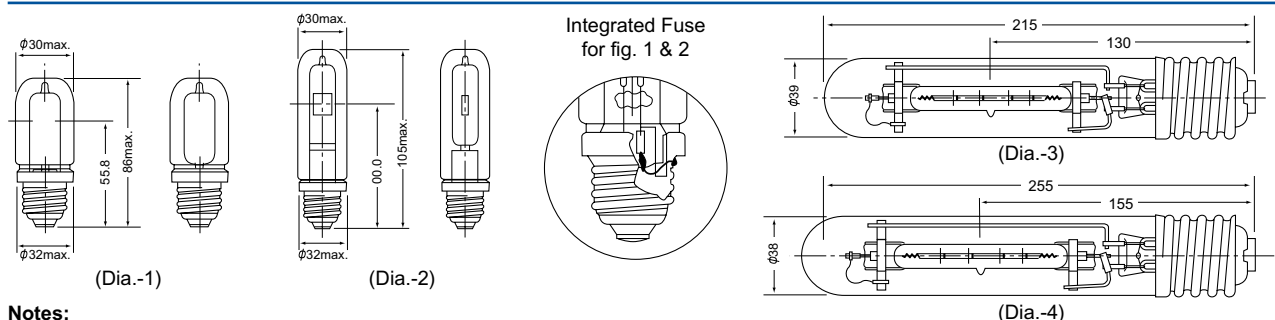
Mogul Base - E39/45

11	500	125/130	Mogul E39	86456	JT125/130V 500W	500JT12/CL/MOG/125-130V	10	12000	2000	3000	8.46 215	5.12 130	C-8	Fig.3
12		230/240	Mogul E39	86461	JT230/240V 500W	500JT12/CL/MOG/230-240V	10	10000	2000	3000	8.46 215	5.12 130	CC-8	Fig.3
13		240/250	Mogul E39	86467	JT240/250V 500W	500JT12/CL/MOG/240-250V	10	10000	2000	3000	8.46 215	5.12 130	CC-8	Fig.3
14	1000	230/240	Mogul E39	86473	JT230/240V 1000W	1000JT12/CL/MOG/230-240V	10	24000	2000	3000	10.04 255	6.10 155	C-8	Fig.4
15		240/250	Mogul E39	86479	JT240/250V 1000W	1000JT12/CL/MOG/240-250V	10	24000	2000	3000	10.04 255	6.10 155	C-8	Fig.4

Burning Position: Horizontal +/- 15°

Enclosed Fixture Only

Lamp Drawings unit: mm



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice



General Lighting Halogen Lamps



Single Ended JC Series 2 Pin Capsule

Features:

- Crisp, white light
- Compact size

Applications:

- Home • Retail Stores • Museums • Supermarkets
- Offices • Restaurants • Lounges • Displays • Furniture

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	M.O.L. (in) (mm)	L.C.L. (in) (mm)	Filament	Lamp Dwg. #
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Miniature 2-Pin Base - G4

1	10	6	G4	83628	JC6V10W 20HG4	10QT3/CL/G4/6V	40	120	2000	2800	1.30 33	0.78 19.5	C-6	P99-Fig.1
2	20	6	G4	83677	JC6V20W 20HG4	20QT3/CL/G4/6V	40	280	2000	2850	1.30 33	0.78 19.5	C-6	P99-Fig.1
3		12	G4	82991	JC12V20W 20HG4	20QT3/CL/G4/12V	40	330	2000	2850	1.30 33	0.78 19.5	C-6	P99-Fig.1

2-Pin Base - G6.35

4	20	12	G6.35	82942	JC12V20W 20HG1	20QT3/CL/G6.35/12V	20	280	2000	2850	1.73 44	1.18 30	C-6	P99-Fig.2
5	30	12	G6.35	83040	JC12V30W 20HG1	30QT3/CL/G6.35/12V	20	470	2000	2900	1.73 44	1.18 30	C-6	P99-Fig.2
6	35	12	G6.35	83089	JC12V35W 20HG1	35QT3/CL/G6.35/12V	20	530	2000	2900	1.73 44	1.18 30	C-6	P99-Fig.2
7	50	12	G6.35	83187	JC12V50W 20HG1	50QT3/CL/G6.35/12V	20	900	2000	2900	1.73 44	1.18 30	C-6	P99-Fig.2
8	55	24	G6.35	83775	JCD24V55W 10HG1	55QT3/CL/G6.35/24V	20	990	1000	3000	1.57 40	1.09 27.8	CC-8	P99-Fig.3
9	75	12	G6.35	83285	JC12V75W 20HG1	75QT3/CL/G6.35/12V	20	1420	2000	3000	1.73 44	1.18 30	C-6	P99-Fig.2
10	100	12	G6.35	82795	JC12V100W 20HG1	100QT3/CL/G6.35/12V	20	1900	2000	3000	1.73 44	1.18 30	C-Bar-6	P99-Fig.4
11		24	G6.35	83726	JCD24V100W 20HG1	100QT3/CL/G6.35/24V	20	1800	2000	3000	1.73 44	1.18 30	CC-6	P99-Fig.5
12	150	24	G6.35	83383	JC24V150W 10HG1	150QT4/CL/G6.35/24V/1000HR	20	3450	1000	3100	1.97 50	1.18 30	C-Bar-6	P99-Fig.6
13		24	G6.35	83432	JC24V150W 20HG1	150QT4/CL/G6.35/24V/2000HR	20	3000	2000	3000	1.97 50	1.18 30	C-Bar-6	P99-Fig.6
14	200	24	G6.35	83481	JC24V200W 20HG1	200QT4/CL/G6.35/24V	20	4400	2000	3000	1.97 50	1.18 30	C-Bar-6	P99-Fig.6

2-Pin Base - GY6.35

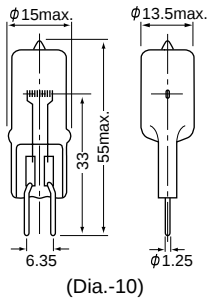
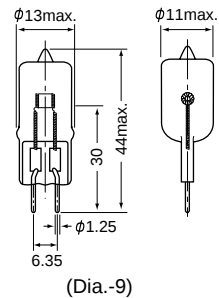
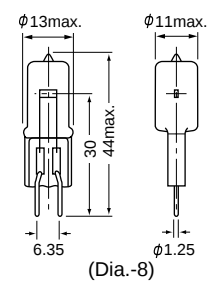
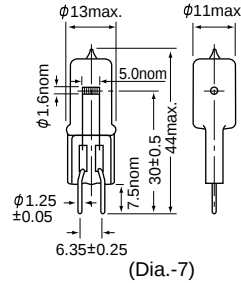
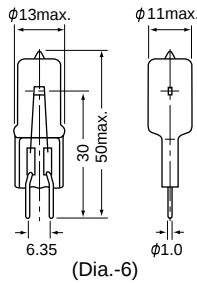
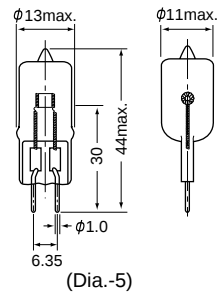
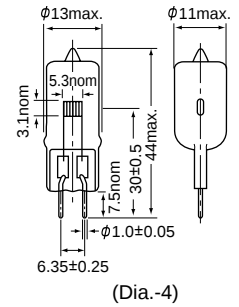
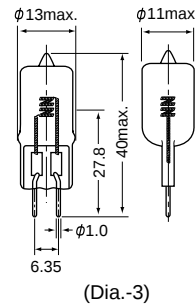
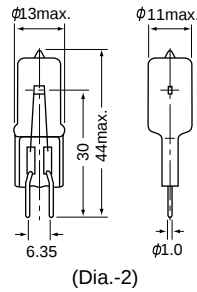
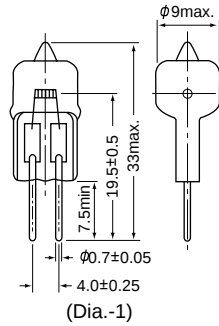
15	35	12	GY6.35	83138	JC12V35W 20HG2	35QT3/CL/GY6.35/12V	20	530	2000	2900	1.73 44	1.18 30	C-6	P99-Fig.7
16	50	12	GY6.35	83236	JC12V50W 20HG2	50QT3/CL/GY6.35/12V	20	900	2000	3000	1.73 44	1.18 30	C-6	P99-Fig.7
17		24	GY6.35	83585	JC24V50W 20HG2	50QT3/CL/GY6.35/24V	20	850	2000	2950	1.73 44	1.18 30	C-Bar-6	P99-Fig.8
18	75	12	GY6.35	83334	JC12V75W 20HG2	75QT3/CL/GY6.35/12V	20	1420	2000	3000	1.73 44	1.18 30	C-6	P99-Fig.7
19		24	GY6.35	83824	JCD24V75W 20HG2	75QT3/CL/GY6.35/24V	20	1350	2000	3000	1.73 44	1.18 30	CC-6	P99-Fig.9
20	100	12	GY6.35	82844	JC12V100W 20HG2	100QT3/CL/GY6.35/12V	20	2000	2000	3000	1.73 44	1.18 30	C-Bar-6	P99-Fig.8
21		12	GY6.35	82897	JC12V100W 20HG2	100QT3/CL/GY6.35/12V/M28	20	2000	2000	3000	1.73 44	1.18 30	C-Bar-6	P99-Fig.8
22		24	GY6.35	82893	JCD24V100W 20HG2	100QT3/CL/GY6.35/12V	20	1800	2000	3000	1.73 44	1.18 30	CC-6	P99-Fig.9
23	250	24	GY6.35	83530	JC24V250W 20HG2	250QT4/CL/GY6.35/24V/M36	20	5750	2000	3000	2.16 55	1.18 30	C-Bar-6	P99-Fig.10
24	300	24	GY6.35	83579	JC24V300W G2	300QT4/CL/GY6.35/24V	20	9900	50	3400	2.16 55	1.18 30	C-Bar-6	P99-Fig.10

Notes:

1. Warning/Caution notices, see page # 125 2. Operating Instructions, see page # 125 3. All information subject to change without notice

Single Ended JC Series 2 Pin Capsule

Lamp Drawings unit: mm



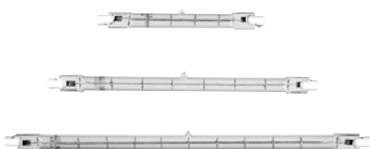


General Lighting Halogen Lamps

Double-Ended J Series

Features:

- Crisp, white light
- Wide variation of lamps from 100W to 1500W
- 120V to 277V



Applications:

- Home • Retail Stores • Museums
- Supermarkets • Sports Lighting • Security

Physical Data and Characteristics

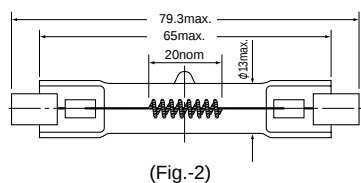
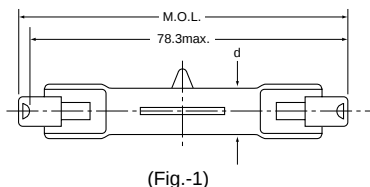
Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	M.O.L. (in) (mm)	Filament	Lamp Dwg. #
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Recessed Single Contact R7s Base - M. O. L. 3-1/8"

1	100	120	R7s	87049	J100W/S	100QT3/CL/80MM	12	1500	2000	2800	3.16 80.3	C-8	Fig.1
2		130	R7s	87539	J100W/S	100QT3/CL/130V/80MM	12	1500	2000	2800	3.16 80.3	C-8	Fig.1
3	150	120	R7s	87054	J150W/S	150QT3/CL/80MM	12	2400	2000	2900	3.16 80.3	C-8	Fig.1
4		130	R7s	87637	J150W/S	150QT3/CL/130V/80MM	12	2400	2000	2900	3.16 80.3	C-8	Fig.1
5	200	120	R7s	87196	J200W/S	200QT3/CL/80MM	12	3200	2000	2900	3.16 80.3	C-8	Fig.1
6		130	R7s	87735	J200W/S	200QT3/CL/130V/80MM	12	3200	2000	2900	3.16 80.3	C-8	Fig.1
7	250	120	R7s	87210	J250W/S	250QT3/CL/80MM	12	4000	2000	2900	3.16 80.3	C-8	Fig.1
8		130	R7s	87217	J250W/S	250QT3/CL/130V/80MM	12	4000	2000	2900	3.16 80.3	C-8	Fig.1
9	300	120	R7s	87250	J300W/S	300QT3/CL/80MM/EHP	12	5400	2000	2900	3.16 80.3	C-8	Fig.1
10		130	R7s	87833	J300W/S	300QT3/CL/130V/80MM	12	5400	2000	2900	3.16 80.3	C-8	Fig.1
11	400	120	R7s	88715	JPD400W20H	400QT4/CL/80MM/EHR	10	7500	2000	3100	3.12 79.3	CC-8	Fig.2

Burning Position: Horizontal +/- 15°

Lamp Drawings unit: mm



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice

Double-Ended J Series

Physical Data and Characteristics

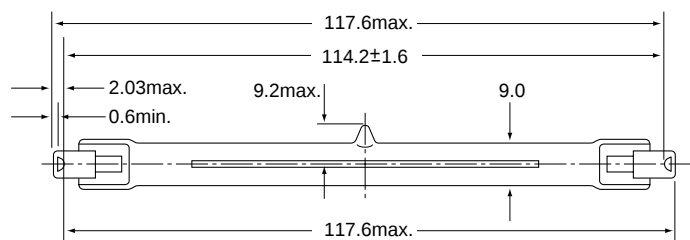
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M. O. L. 4-11/16"

1	100	120	R7s	87018	J100W	100QT3/CL/119MM	12	1400	2000	2800	4.69 119	C-8	Fig.1
2		130	R7s	87498	J100W	100QT3/CL/130V/119MM	12	1400	2000	2800	4.69 119	C-8	Fig.1
3	150	120	R7s	87051	J150W	150QT3/CL/119MM	12	2250	2000	2850	4.69 119	C-8	Fig.1
4		130	R7s	87588	J150W	150QT3/CL/130V/119MM	12	2250	2000	2850	4.69 119	C-8	Fig.1
5	200	120	R7s	87147	J200W	200QT3/CL/119MM	12	3200	2000	2900	4.69 119	C-8	Fig.1
6		130	R7s	87686	J200W	200QT3/CL/130V/119MM	12	3200	2000	2900	4.69 119	C-8	Fig.1
7	250	120	R7s	87206	J250W	250QT3/CL/119MM	12	4500	2000	2900	4.69 119	C-8	Fig.1
8		130	R7s	87219	J250W	250QT3/CL/130V/119MM	12	4500	2000	2900	4.69 119	C-8	Fig.1
9	300	120	R7s	87245	J300W	300QT3/CL/119MM/EHM	12	5700	2000	2900	4.69 119	C-8	Fig.1
10		120	R7s	87294	J300W/F	300QT3/F/119MM/EHZ	10	5400	2000	2900	4.69 119	C-8	Fig.1
11		130	R7s	87784	J300W	300QT3/CL/130V/119MM	12	5700	2000	2900	4.69 119	C-8	Fig.1
12		130	R7s	87882	J300W/F	300QT3/F/130V/119MM	10	5400	2000	2900	4.69 119	C-8	Fig.1
13		220	R7s	88281	J300W	300QT3/CL/220V/119MM	12	5000	2000	2850	4.69 119	C-8	Fig.1
14		220/230	R7s	88176	J300W	300QT3/CL/220-230V/119MM	12	5000	2000	2850	4.69 119	C-8	Fig.1
15		240/250	R7s	88372	J300W	300QT3/CL/240-250V/119MM	12	5000	2000	2850	4.69 119	C-8	Fig.1
16	500	120	R7s	87343	J500W	500QT3/CL/119MM/FCL	12	10000	2000	3000	4.69 119	C-8	Fig.1
17		120	R7s	87441	J500W/F	500QT3/F/119MM/FCZ	10	9500	2000	3000	4.69 119	C-8	Fig.1
18		130	R7s	87931	J500W	500QT3/CL/130V/119MM/DVS	12	10000	2000	3000	4.69 119	C-8	Fig.1
19		130	R7s	88029	J500W/F	500QT3/F/130V/119MM	10	9500	2000	3000	4.69 119	C-8	Fig.1
20		220	R7s	88293	J500W	500QT3/CL/220V/119MM	12	9500	2000	2900	4.69 119	C-8	Fig.1
21		220/230	R7s	88225	J500W	500QT3/CL/220-230V/119MM	12	9500	2000	2900	4.69 119	C-8	Fig.1
22		240	R7s	88641	J500W	500QT3/CL/240V/119MM	12	9500	2000	2900	4.69 119	C-8	Fig.1
23		240/250	R7s	88421	J500W	500QT3/CL/240-250V/119MM	12	9500	2000	2900	4.69 119	C-8	Fig.1

Burning Position: Horizontal +/- 15°

Lamp Drawings unit: mm



(Fig.-1)

Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, See page # 125
3. All information subject to change without notice



General Lighting Halogen Lamps

Double-Ended J Series

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	M.O.L. (in) (mm)	Filament	Lamp Dwg. #
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M. O. L. 7-1/2"

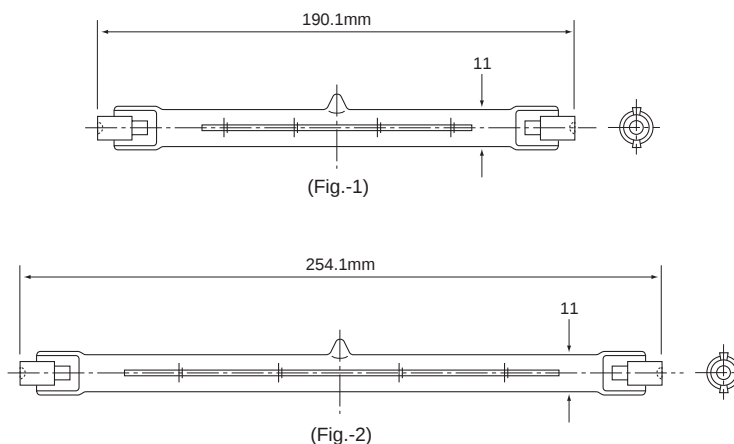
1	500	120	R7s	87392	J500W/L	500QT3/CL/120V/190MM	12	9000	2000	3000	7.48 190.1	C-8	Fig.1
2		130	R7s	87980	J500W/L	500QT3/CL/130V/190MM	12	9000	2000	3000	7.48 190.1	C-8	Fig.1
3	750	120	R7s	87490	J750W	750QT3/CL/190MM	12	15000	2000	3000	7.48 190.1	C-8	Fig.1
4		220/230	R7s	88274	J750W	750QT3/CL/220-230V/190MM	12	15000	2000	3000	7.48 190.1	C-8	Fig.1
5		240	R7s	88653	J750W	750QT3/CL/240V/190MM	10	15000	2000	3000	7.48 190.1	C-8	Fig.1
6		240/250	R7s	88470	J750W	750QT3/CL/240-250V/190MM	12	15000	2000	3000	7.48 190.1	C-8	Fig.1
7	1000	120	R7s	86951	J1000W	1000QT3/CL/190MM	10	21000	2000	3000	7.48 190.1	C-8	Fig.1
8		220/230	R7s	88127	J1000W	1000QT3/CL/220-230V/190MM	12	21000	2000	3000	7.48 190.1	C-8	Fig.1
9		240	R7s	88519	J1000W	1000QT3/CL/240V/190MM	10	21000	2000	3000	7.48 190.1	C-8	Fig.1

M. O. L. 10-1/16"

10	1000	120	R7s	87000	J1000W/L	1000QT3/CL/254MM	12	21000	2000	3000	10.01 254.1	C-8	Fig.2
11		240	R7s	88568	J1000W/L	1000QT3/CL/240V/254MM	12	21000	2000	3000	10.01 254.1	C-8	Fig.2
12	1500	120	R7s	87098	J1500W	1500QT3/CL/254MM	12	33000	2000	3000	10.01 254.1	C-8	Fig.2
13		208	R7s	88078	J1500W	1500QT3/CL/208V/254MM	12	33000	2000	3000	10.01 254.1	C-8	Fig.2
14		220	R7s	88323	J1500W	1500QT3/CL/220V/254MM	12	33000	2000	3000	10.01 254.1	C-8	Fig.2
15		240	R7s	88617	J1500W	1500QT3/CL/240V/254MM	12	33000	2000	3000	10.01 254.1	C-8	Fig.2
16		277	R7s	88666	J1500W	1500QT3/CL/277V/254MM	12	33000	2000	3000	10.01 254.1	C-8	Fig.2

Burning Position: Horizontal +/- 15°

Lamp Drawings unit: mm



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice

Projection / Optical

EYE Dichro-Cool® MR8 - 25mm Reflector Miniature 2-Pin Base - GZ4

25mm (approx. 1 inch) dichroic coating reflector halogen lamps specially designed for optical instruments.

FEATURES

- Extremely compact size
- Precise optical design
- Precision glass reflector

APPLICATIONS

- Fiber optics systems
- Projectors



Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Product Code	Product Description	ANSI Ref.	Case Qty.	Working Distance		Beam Spread (°)	Ctr.Beam Intensity (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg.#
							(in.)	(mm)						

MR8 Dichroic Reflector JCR-GZ4 Base without Cover Glass

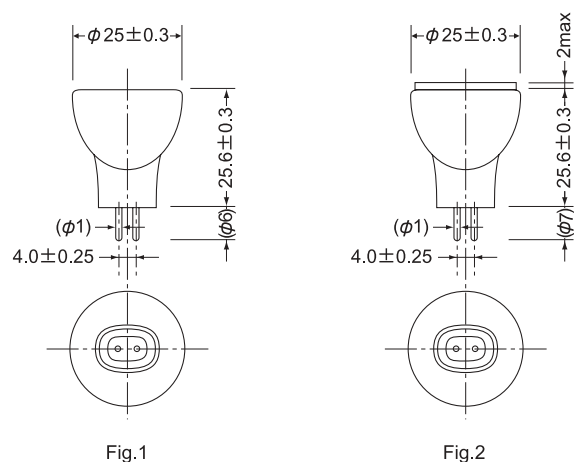
1	10	6	84050	JCR6V10W20H/2GZ	-	50	0.6	14.5	-	-	2000	2900	C-8	Fig.1
2	20	12	84318	JCR12V20W20H/2GZ	-	50	0.6	14.5	-	-	2000	2950	C-8	Fig.1
3	30	12	84337	JCR12V30W20H/2GZ	-	50	0.6	14.5	-	-	2000	3000	C-8	Fig.1
4	35	12	84346	JCR12V35W20H/2GZ	-	50	0.6	14.5	-	-	2000	3000	C-8	Fig.1

MR8 Dichroic Faceted Reflector JCR-GZ4 Base with Cover Glass

5	10	6	79690	JM8051	-	50	-	-	9	750	2000	2950	C-8	Fig.2
6	20	12	79700	JM8251	-	50	-	-	10	1700	2000	3050	C-8	Fig.2
7		12	79705	JM8252	-	50	-	-	23	800	2000	3050	C-8	Fig.2
8	35	12	79710	JM8351	-	50	-	-	13	2300	2000	3050	C-8	Fig.2
9		12	79715	JM8352	-	50	-	-	26	1400	2000	3050	C-8	Fig.2

Burning Position: Universal

Lamp Drawings unit: mm



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice



Specialty/Entertainment Halogen Lamps

Projection / Optical EYE Dichro-Cool® MR11 Reflector Miniature 2-Pin Base - GZ4

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	ANSI Ref.	Case Qty.	Working Distance		Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg.#
								(in.)	(mm)				

MR11 Dichroic Reflector JCR-GZ4 Base without Cover Glass

1	35	12	GZ4	84343	JCR 12V35W2H/GZ4	-	50	1.5	37.9	200	3100	C-8	Fig.1
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EYE Dichro-Cool® MR16 50mm Reflector Glass 2-Pin Base- GZ6.35 / 2-Pin Base - GX5.3 Series

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	ANSI Ref.	Case Qty.	Working Distance		Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg.#
								(in.)	(mm)				

MR16 Dichroic Reflector JCR GZ6.35/GX5.3 Bases without Cover Glass

2	20	12	GZ6.35	84341	JCR12V20W20H/G1	-	50	1.3	32.0	2000	2950	C-6	Fig.2
3	30	12	GZ6.35	84324	JCR12V30W20H/G1	-	50	1.3	32.0	2000	3000	C-6	Fig.2
4	50	6	GZ6.35	84057	JCR6V50W20H/G1	-	50	2.0	50.0	2000	3000	C-8	Fig.2
5		12	GZ6.35	84349	JCR12V50W20H/G1	-	50	1.3	32.0	2000	3000	C-8	Fig.2
6		12	GZ6.35	84350	JCR12V50W20H/G1UV	-	50	1.3	32.0	2000	3000	C-8	Fig.2
7	55	9.5	GZ6.35	84100	JCR9.5V55W15H/G1	-	50	-	-	1500	3000	C-8	Fig.2
8	75	12	GZ6.35	84362	JCR12V75W/G1	EFN	50	1.3	32.0	50	3400	C-8	Fig.2
9		12	GZ6.35	84375	JCR12V75W15H/G1	-	50	1.3	32.0	1500	3000	C-8	Fig.2
10	100	12	GZ6.35	84091	JCR12V100W/G1	EFP	50	1.3	32.0	50	3400	C-8	Fig.2
11		12	GZ6.35	84299	JCR12V100W10H/G1	-	50	1.3	32.0	1000	3100	C-8	Fig.2
12	150	19.5	GX5.3	84497	JCR19.5V150W/G2	-	50	-	-	150	3250	CC-6	Fig.3
13		15	GZ6.35	84388	JCR15V150W/G1	EFR	50	1.3	32.0	50	3400	C-8	Fig.3
14		15	GZ6.35	84392	JCR15V150W5H/G1	-	50	1.3	32.0	500	3200	C-8	Fig.3
15		24	GX5.3	84406	JCR24V150W10H/G2/H50 ⁴	-	50	-	-	1000	3200	CC-6	Fig.3
16	200	24	GX5.3	84408	JCR24V200W10H/G2/H50-D ⁴	-	50	-	-	1000	3200	CC-6	Fig.3

Lamp Drawings unit: mm

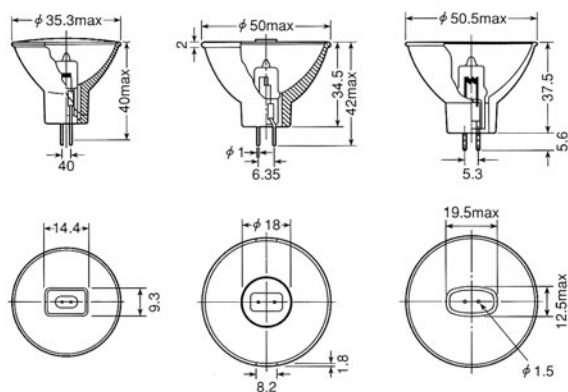


Fig.1

Fig.2

Fig.3

Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.

Projection/Optical

EYE Dichro Cool® MR16 Reflector 100 Volt

Glass 2-Pin Base- GZ6.35 / 2-Pin Base - GX5.3 / Oval 2-Pin Base - GY5.3

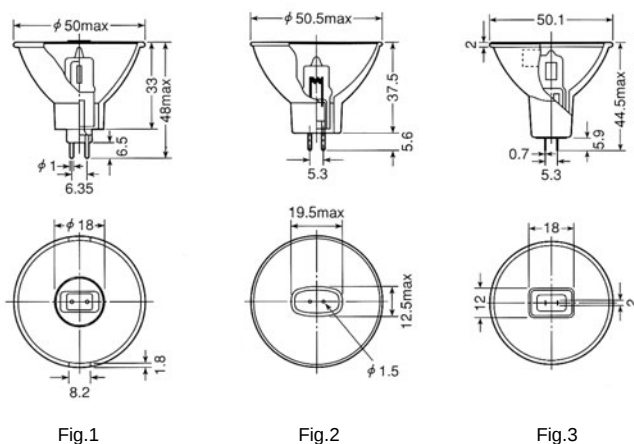
Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	ANSI Ref.	Case Qty.	Working Distance		Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg.#
								(in.)	(mm)				

MR16 Dichroic Reflector JCR GZ6.35/GX5.3/GY5.3 Bases

1	150	100	GZ6.35	84071	JCR100V150W/G1	-	50	1.3	32.0	50	3200	CC-8	Fig.1
2		100	GZ6.35	84079	JCR100V150WL/G1	-	50	1.3	32.0	150	3050	CC-8	Fig.1
3		100	GX5.3	84076	JCR100V150W/G2	-	50	1.3	32.0	50	3200	CC-8	Fig.2
4		100	GX5.3	84086	JCR100V150WL/G2	-	50	1.3	32.0	150	3050	CC-8	Fig.2
5	300	100	GY5.3	84095	JCR100V300W/GY	-	50	-	-	50	3400	CC-2V	Fig.3

Lamp Drawings unit: mm



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice



Specialty/Entertainment Halogen Lamps

Projection / Optical Single-Ended High Output Glass 2-Pin Base - G6.35 / GY6.35 Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Product Code	Product Description	ANSI Ref.	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	Filament	M. D.		M. O. L.		L. C. L.		Lamp Dwg.#
											(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	

Glass 2-Pin Base - G6.35

1	40	12	83140	JC12V40W/G1	-	20	1040	50	3300	C-6	0.4	11.0	1.7	44.0	1.2	30.0	Fig.1
2	50	12	83145	JC12V50W/G1	BRL	20	1400	50	3300	C-Bar-6	0.4	11.0	1.7	44.0	1.2	30.0	Fig.1
3	150	15	83342	JC15V150W/G1	BRJ	20	4700	70	3400	C-Bar-6	0.4	11.0	1.7	44.0	1.2	30.0	Fig.1
4		24	83351	JC24V150W/G1	-	20	4700	70	3400	C-Bar-6	0.5	13.5	2.0	50.0	1.3	32.0	Fig.3
5		24	83376	JC24V150W1H/G1	FDV	20	4300	100	3250	C-Bar-6	0.5	13.5	2.0	50.0	1.2	30.0	Fig.4
6		24	83426	JC24V150W2H/G1	-	20	4350	200	3300	C-Bar-6	0.5	13.5	2.0	50.0	1.2	30.0	Fig.4
7		24	83357	FCS24V150W	FCS	20	4700	70	3400	C-Bar-6	0.5	13.5	2.0	50.0	1.2	30.0	Fig.4
8		24	83387	FDW24V150W	FDW	20	4700	70	3400	C-Bar-6	0.5	13.5	2.0	50.0	1.2	30.0	Fig.(8)
9	250	24	83521	JC24V250W/G1	EHJ	20	8250	70	3400	C-Bar-6	0.5	13.5	2.2	55.0	1.3	33.0	Fig.5
10		24	83542	JC24V250W3H/G1	EVC	20	6500	300	3250	C-Bar-6	0.5	13.5	2.2	55.0	1.3	33.0	Fig.5
11		24	83546	JC24V250WR/G1	-	20	8250	50	3400	C-Bar-6	0.5	13.5	2.2	55.0	1.3	33.0	Fig.5
12	400	36	83587	JC36V400W/G1	-	20	14000	50	3400	C-Bar-6	0.6	16.0	2.4	60.0	1.4	36.0	Fig.7

Glass 2-Pin Base - GY6.35

13	100	12	82602	JC12V100W/G2	FCR	20	2800	70	3350	C-Bar-6	0.4	11.0	1.7	44.0	1.2	30.0	Fig.2
14		12	83391	FDX12V100W	FDX	20	2800	70	3350	C-Bar-6	0.4	11.0	1.7	44.0	1.2	30.0	Fig.8
15	300	24	83579	JC24V300W/G2	-	20	9900	50	3400	C-Bar-6	0.5	13.5	2.2	55.0	1.3	33.0	Fig.6

Lamp Drawings unit: mm

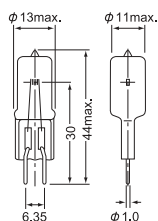


Fig.1

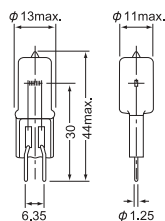


Fig.2

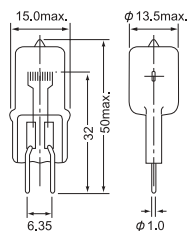


Fig.3

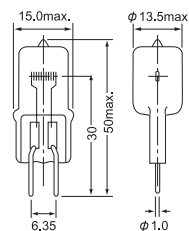


Fig.4

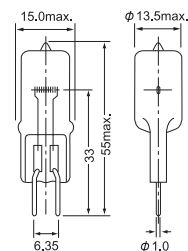


Fig.5

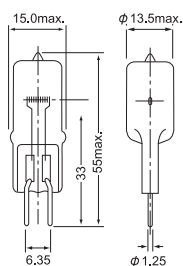


Fig.6

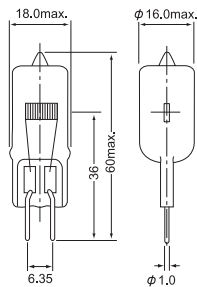


Fig.7

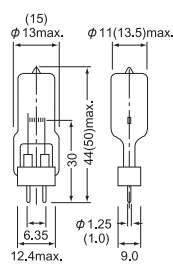
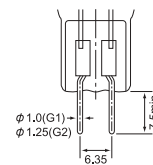


Fig.8

Base Type Unit:mm



G6.35 (G1)
GY6.35 (G2)

Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.

Specialty/Entertainment Halogen Lamps



Projection / Optical Single-Ended Miniature 2-Pin Base - G4 / Glass 2-Pin Base - G6.35 / GY6.35

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Product Code	Product Description	ANSI Ref.	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	Filament	M. D.		M. O. L.		L. C. L.		Lamp Dwg.#
											(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	

Miniature 2-Pin Base - G4

1	10	6	83628	JC6V10W20H/G4	-	40	140	2000	2850	C-6	0.4	9.0	1.3	33.0	0.8	19.5	P108-Fig.1
2	20	6	83677	JC6V20W20H/G4	-	40	280	2000	2850	C-6	0.4	9.0	1.3	33.0	0.8	19.5	P108-Fig.1
3		12	82991	JC12V20W20H/G4	-	40	350	2000	2850	C-6	0.4	9.0	1.3	33.0	0.8	19.5	P108-Fig.2

Burning Position: Universal

Glass 2-Pin Base - G6.35

4	20	12	82942	JC12V20W20H/G1	-	20	350	2000	2850	C-6	0.4	11.0	1.8	44.0	1.2	30.0	P108-Fig.3
5	35	12	83089	JC12V35W20H/G1	-	20	560	2000	2900	C-6	0.4	11.0	1.8	44.0	1.2	30.0	P108-Fig.3
6	50	12	83187	JC12V50W20H/G1	-	20	950	2000	3000	C-6	0.4	11.0	1.8	44.0	1.2	30.0	P108-Fig.3
7	55	24	83775	JCD24V55W/10H/G1	-	20	990	1000	3000	CC-8	0.4	11.0	1.8	40.0	1.1	27.8	P108-Fig.7
8	75	24	83821	JCD24V75W20H/G1	-	20	1350	2000	3000	CC-6	0.4	11.0	1.8	44.0	1.2	30.0	P108-Fig.8
9	100	12	82795	JC12V100W20H/G1	-	20	2000	2000	3000	C-Bar-6	0.4	11.0	1.8	44.0	1.2	30.0	P108-Fig.6
10		24	83726	JCD24V100W20H/G1	-	20	1800	2000	3000	CC-6	0.4	11.0	1.8	44.0	1.2	30.0	P108-Fig.8
11	150	24	83383	JC24V150W10H/G1	-	20	3450	1000	3100	C-Bar-6	0.6	13.5	2.0	50.0	1.2	30.0	P108-Fig.10
12		24	83432	JC24V150W20H/G1	-	20	3150	2000	3000	C-Bar-6	0.6	13.5	2.0	50.0	1.2	30.0	P108-Fig.10
13	200	24	83481	JC24V200W20H/G1	-	20	4400	2000	3000	C-Bar-6	0.6	13.5	2.0	50.0	1.2	30.0	P108-Fig.10
14	250	24	83536	JC24V250W3H/G1	M33	20	6750	300	3300	C-Bar-6	0.6	13.5	2.2	55.0	1.3	33.0	P108-Fig.11
15		24	83530	JC24V250W20H/G1	M36	20	5500	2000	3000	C-Bar-6	0.6	13.5	2.2	55.0	1.3	33.0	P108-Fig.11

Glass 2-Pin Base - GY6.35

16	20	12	82948	JC12V20W20H/G2	-	20	350	2000	2850	C-6	0.4	11.0	1.8	44.0	1.2	30.0	P108-Fig.4
17	35	12	83138	JC12V35W20H/G2	-	20	560	2000	2900	C-6	0.4	11.0	1.8	44.0	1.2	30.0	P108-Fig.4
18	50	12	83236	JC12V50W20H/G2	-	20	950	2000	3000	C-6	0.4	11.0	1.8	44.0	1.2	30.0	P108-Fig.4
19		12	83242	JC12V50W20H/G2	M32	20	850	2000	3000	C-Bar-6	0.4	11.0	1.8	44.0	1.2	30.0	P108-Fig.5
20	75	24	83824	JCD24V75W20H/G2	-	20	1350	2000	3000	CC-6	0.4	11.0	1.8	44.0	1.2	30.0	P108-Fig.8
21	100	12	82840	JC12V100W10H/G2	-	20	2200	1000	3100	C-Bar-6	0.4	11.0	1.8	44.0	1.2	30.0	P108-Fig.9
22		12	82897	JC12V100W20H/G2	M28	20	2000	2000	3000	C-Bar-6	0.4	11.0	1.8	44.0	1.2	30.0	P108-Fig.9

Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.



Projection / Optical

Lamp Drawings unit: mm

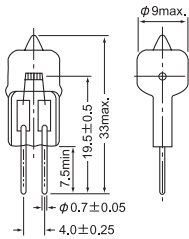


Fig.1

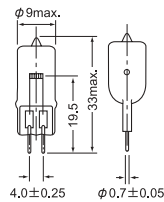


Fig.2

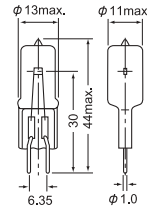


Fig.3

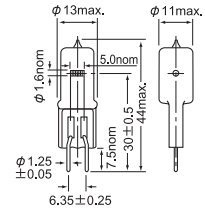


Fig.4

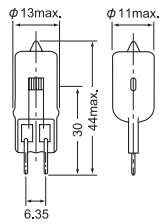


Fig.5

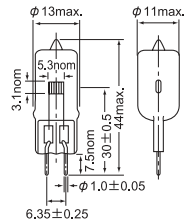


Fig.6

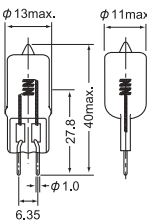


Fig.7

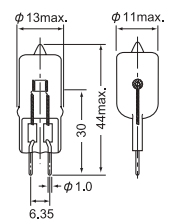


Fig.8

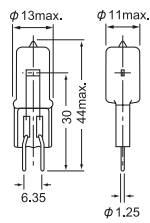


Fig.9

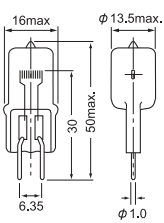


Fig.10

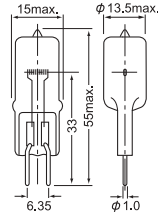
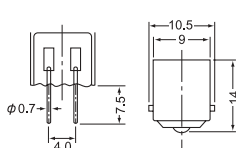


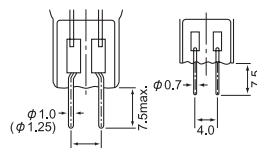
Fig.11

Base Type unit: mm



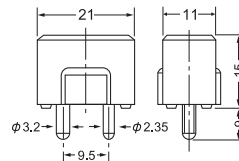
G4

Ba9S

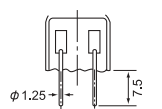


G6.35 (G1)
GY6.35 (G2)

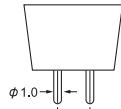
G4 (G4)



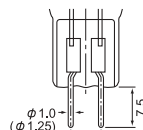
GY9.5 (B)



GY6.35S (G2S)



GZ6.35 (G1)



G6.35 (G1)

Projection / Optical Single-Ended Line Voltage Glass 2-Pin Base - G6.35 / G6.35-1.5

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Product Code	Product Description	ANSI Ref.	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	Filament	M. D.		M. O. L.		L. C. L.		Lamp Dwg.#
											(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	

Line Voltage Glass 2-Pin Base - G6.35

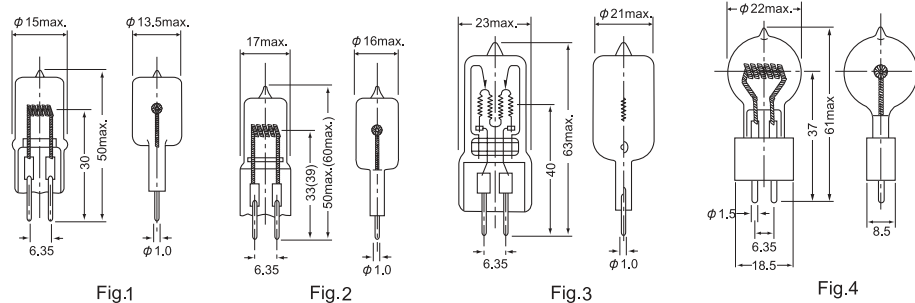
1	150	120	83699	JCD150WL/G1	-	20	3300	300	3100	CC-6	0.5	13.5	2.0	50.0	1.2	30.0	Fig.1
2		120	83710	JCD150W-S/G1	-	20	4050	50	3250	CC-6	0.5	13.5	2.0	50.0	1.2	30.0	Fig.1
3	200	120	83721	JCD200WL/G1	-	20	4400	300	3100	CC-6	0.6	15.5	2.4	60.0	1.54	39.0	Fig.(2)
4		220/230	83768	JCD200WL/G1	-	20	4000	150	3000	CC-13	0.6	15.5	2.5	63.0	1.6	40.0	Fig.3
5		240/250	83829	JCD200WL/G1	-	20	4000	150	3000	CC-13	0.6	15.5	2.5	63.0	1.6	40.0	Fig.3
6		220/230	83773	JCD200W-S/G1	-	20	4700	50	3100	CC-13	0.8	21.0	2.5	63.0	1.6	40.0	Fig.3
7		240/250	83836	JCD200W-S/G1	-	20	4700	50	3100	CC-13	0.8	21.0	2.5	63.0	1.6	40.0	Fig.3
8	250	120	83732	JCD250WL/G1	-	20	5750	300	3100	CC-6	0.6	15.5	2.0	50.0	1.3	33.0	Fig.2
9		220/230	83779	JCD250WL/G1	-	20	5000	200	3100	CC-13	0.6	15.5	2.5	63.0	1.6	40.0	Fig.3
10		240/250	83838	JCD250WL/G1	-	20	5000	200	3100	CC-13	0.6	15.5	2.5	63.0	1.6	40.0	Fig.3
11		120	83737	JCD250W-S/G1	-	20	7000	50	3300	CC-6	0.6	16.0	2.0	50.0	1.3	33.0	Fig.2
12		220/230	83783	JCD250W-S/G1	-	20	6250	50	3200	CC-13	0.8	21.0	2.5	63.0	1.6	40.0	Fig.3
13		240/250	83843	JCD250W-S/G1	-	20	6250	50	3200	CC-13	0.8	21.0	2.5	63.0	1.6	40.0	Fig.3
14	300	120	83743	JCD300WL/G1	DRA	20	6900	300	3100	CC-6	0.6	15.3	2.0	50.0	1.3	33.0	Fig.2
15		220/230	83786	JCD300WL/G1	A1/249	20	6600	300	3100	CC-13	0.8	21.0	2.5	63.0	1.6	40.0	Fig.2
16		240/250	83847	JCD300WL/G1	A1/249	20	6600	300	3100	CC-13	0.8	21.0	2.5	63.0	1.6	40.0	Fig.2
17		120	83748	JCD300W-S/G1	-	20	8400	50	3250	CC-6	0.6	16.0	2.0	50.0	1.3	33.0	Fig.2
18		220/230	83789	JCD300W-S/G1	-	20	7500	50	3200	CC-13	0.8	21.0	2.5	63.0	1.6	40.0	Fig.3
19		240/250	83852	JCD300W-S/G1	-	20	7500	50	3200	CC-13	0.8	21.0	2.5	63.0	1.6	40.0	Fig.3

Line Voltage Glass 2-Pin Base - G6.35-1.5

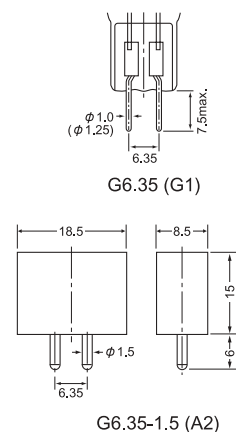
20	500	120	83771	JCD500WS/A2	-	20	15500	25	3400	CC-6	0.9	22.0	2.4	61.0	1.5	37.0	Fig.4
21		120	83760	JCD500WC/A2	-	20	14000	75	3200	CC-6	0.9	22.0	2.4	61.0	1.5	37.0	Fig.4

Burning Position: Base down to Horizontal (BD/HOR)

Lamp Drawings unit: mm



Base Type unit: mm



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.



Specialty/Entertainment Halogen Lamps

Projection / Optical Single-Ended Miniature 2-Pin Base - G5.3

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Product Code	Product Description	ANSI Ref.	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	Filament	M. D.		M. O. L.		L. C. L.		Lamp Dwg.#
											(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	

Miniature 2-Pin Base - G5.3

1	360	82	83851	JCD360W/A1	EYB	20	11000	75	3250	CC-8	0.4	11.0	2.2	57.0	1.3	32.8	P111-Fig.1
2	500	120	83766	JCD500WS/A1	-	20	15500	25	3400	CC-6	0.9	22.0	2.4	61.0	1.5	37.0	P111-Fig.2
3		120	83751	JCD500WC/A1	-	20	14000	75	3200	CC-6	0.9	22.0	2.4	61.0	1.5	37.0	P111-Fig.2
4	600	120	83777	JCD600WS/A1	-	20	18600	25	3400	CC-6	0.9	22.0	2.4	61.0	1.5	37.0	P111-Fig.2
5		120	89211	JCD600WC/A1	DYH	20	17000	75	3200	CC-6	0.9	22.0	2.4	61.0	1.5	37.0	P111-Fig.2

Single-Ended Medium Prefocus 2-Pin Base - GY9.5

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Product Code	Product Description	ANSI Ref.	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	Filament	M. D.		M. O. L.		L. C. L.		Lamp Dwg.#
											(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	

Medium Prefocus 2-Pin Base - GY9.5

6	100	12	82790	JC12V100W10H/B	DZZ	20	2200	1000	3000	C-Bar-6	0.4	11.0	1.8	44.0	1.2	30.0	P111-Fig.3
7		12	82591	FDT12V100W	FDT	20	2800	70	3350	C-Bar-6	0.4	11.0	2.0	52.0	1.1	27.0	P111-Fig.4
8	150	24	83869	FDS24V150W	FDS	20	4700	70	3400	C-Bar-6	0.5	13.5	2.4	60.0	1.3	33.0	P111-Fig.5
9		24	83360	DZE24V150W	DZE	20	4300	100	3250	C-Bar-6	0.5	13.5	2.4	60.0	1.3	33.0	P111-Fig.5
10	530	220/230	83790	JCD530WC/B	-	20	14500	50	3200	2CC-8	0.9	22.0	2.6	66.0	1.4	36.5	P111-Fig.6
11		240/250	83856	JCD530WD/B	-	20	14500	50	3200	2CC-8	0.9	22.0	2.6	66.0	1.4	36.5	P111-Fig.6
12	650	120	89231	JCD650WS/B	EKD	20	20000	25	3400	CC-6	0.9	22.0	2.5	63.0	1.4	36.5	P111-Fig.7
13		120	89223	JCD650WC/B	-	20	18200	50	3200	CC-6	0.9	22.0	2.6	66.0	1.4	36.5	P111-Fig.7
14		220/230	83765	JCD650WC/B	DYR	20	16500	50	3200	2CC-8	0.9	24.0	2.6	66.0	1.4	36.5	P111-Fig.8
15		240/250	83859	JCD650WC/B	DYR	20	16500	50	3200	2CC-8	0.9	24.0	2.6	66.0	1.4	36.5	P111-Fig.8

Burning Position: Universal

Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.

Projection / Optical

Lamp Drawings unit: mm

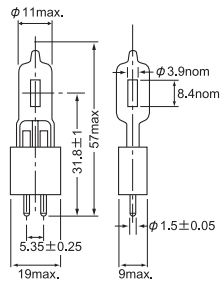


Fig.1

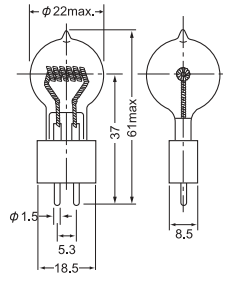


Fig.2

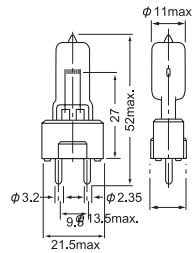


Fig.3

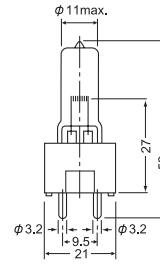


Fig.4

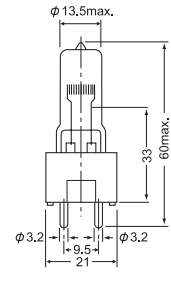


Fig.5

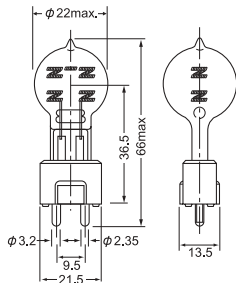


Fig.6

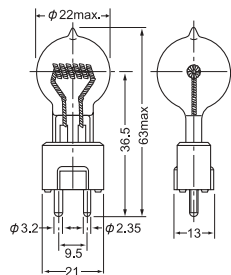


Fig.7

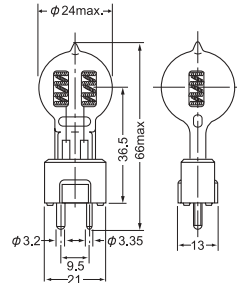
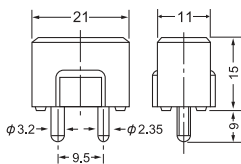
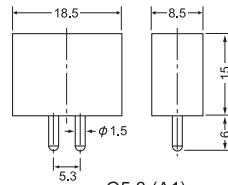


Fig.8

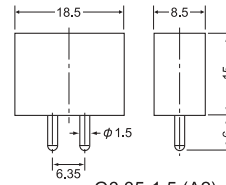
Base Type unit: mm



GY9.5 (B)



G5.3 (A1)



G6.35-1.5 (A2)



Specialty/Entertainment Halogen Lamps

Stage / Studio

Double-Ended

Recessed Single Contact R7s Base, CC-8 Filament

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Product Code	Product Description	ANSI Ref.	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	M. D. (in.)	M. D. (mm)	L. L. (in.)	L. L. (mm)	M. O. L. (in.)	M. O. L. (mm)	C to B (in.)	C to B (mm)	Lamp Dwg.#
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R7s Base, CC-8 Filament, Clear Bulb

1	250	30	83995	JPD250W/DXM	DXM	10	8400	12	3400	0.6	14.0	0.3	8.0	2.3	59.6	2.2	56.6	Fig.1
2	375	30	89625	JPD375W/DWZ	DWZ	10	7200	1000	3000	0.6	14.0	0.4	10.0	3.1	79.3	3.0	76.3	Fig.1
3	400	120	89493	JPD400WC/FDA	FDA	10	10400	200	3100	0.6	14.0	1.0	25.0	3.1	79.3	3.0	76.3	Fig.1
4		120	88715	JPD400W20H/EHR	EHR	10	7500	2000	3000	0.6	14.0	0.8	20.0	3.1	79.3	3.0	76.3	Fig.1
5	420	120	83914	JPD420WC/FAL	FAL	10	11000	75	3200	0.6	14.0	0.7	19.0	2.6	66.9	2.5	63.6	Fig.1
6	500	120	89504	JPD500WC/FGD ⁴	FGD	10	13000	100	3200	0.6	14.0	0.7	19.0	3.1	79.3	3.0	76.3	Fig.1
7	600	120	83932	JPD600WC/FFJ	FFJ	10	17000	75	3200	0.6	14.0	0.7	19.0	2.6	66.9	2.5	63.6	Fig.1
8		120	83923	JPD600WC/FCB	FCB	10	16250	75	3200	0.6	14.0	0.7	19.0	3.7	93.6	3.6	90.2	Fig.1
9		220/230	83959	JPD600WC/FEB	FEB, A1/228	10	15000	75	3200	0.6	14.0	0.7	19.0	3.7	93.6	3.6	90.2	Fig.1
10		240	83977	JPD600WC/FEA	FEA, A1/228	10	15000	75	3200	0.6	14.0	0.7	19.0	3.7	93.6	3.6	90.2	Fig.1
11	650	120	83941	JPD650WC/FAD	FAD	10	16500	100	3200	0.6	14.0	1.0	25.0	3.1	79.3	3.0	76.3	Fig.1
12		220/230	83968	JPD650WC	-	10	16250	100	3200	0.6	14.0	1.0	26.0	3.1	79.3	3.0	76.3	Fig.1
13		240/250	89589	JPD650WC	-	10	16250	100	3200	0.6	14.0	1.0	26.0	3.1	79.3	3.0	76.3	Fig.1
14		240	89607	JPD650WC ⁴	-	10	16250	100	3200	0.6	14.0	1.0	26.0	3.1	79.3	3.0	76.3	Fig.1
15		220/230	89558	JPD650WS ⁴	-	10	19500	25	3400	0.6	14.0	1.0	26.0	3.1	79.3	3.0	76.3	Fig.1
16		240	89601	JPD650WS ⁴	-	10	19500	25	3400	0.6	14.0	1.0	26.0	3.1	79.3	3.0	76.3	Fig.1
17		115/120	89428	JPD650WS/DWY	DWY, P1/9	10	19500	25	3400	0.6	14.0	1.0	25.0	3.1	79.3	3.0	76.3	Fig.1
18	750	120	89522	JPD750WC/FGB ⁴	FGB	10	19500	125	3200	0.6	16.0	1.0	26.0	3.7	95.1	3.6	92.1	Fig.1
19	800	220/230	89571	JPD800WC/DXX	DXX	10	20000	75	3200	0.6	14.0	1.1	29.0	3.1	79.3	3.0	76.3	Fig.1
20		240	89619	JPD800WC/DXX ⁴	DXX	10	20000	75	3200	0.6	14.0	1.1	29.0	3.1	79.3	3.0	76.3	Fig.1
21	1000	120	89482	JPD1000WS/DXN	DXN	10	30000	30	3400	0.6	16.0	1.0	25.0	3.7	95.1	3.6	92.1	Fig.1
22		120	89444	JPD1000WC/DXW ⁴	DXW	10	25000	150	3200	0.6	16.0	1.0	25.0	3.7	95.1	3.6	92.1	Fig.1
23		120	89456	JPD1000WC/DYN ⁴	DYN	10	24500	150	3100	0.6	16.0	1.1	28.0	4.4	111.1	4.3	108.1	Fig.1
24		120	89450	JPD1000WC/DYA ⁴	DYA	10	28000	200	3200	0.6	16.0	1.1	28.0	4.4	111.1	4.3	108.1	Fig.1
25		120	89439	JPD1000WC/DWT ⁴	DWT	10	23400	2000	3000	0.7	19.0	0.8	20.0	5.6	142.9	5.5	138.8	Fig.1
26		120	89461	JPD1000WC/FER ⁴	FER	10	27500	500	3200	0.7	19.0	0.8	20.0	5.6	142.9	5.5	138.8	Fig.1
27	2000	120	89488	JPD2000WC/FEY ⁴	FEY	10	57000	400	3200	1.0	25.0	1.0	25.0	5.6	142.9	5.5	138.8	Fig.1
28		220/230	89553	JPD2000WC/FEX ⁴	FEX	10	50000	200	3200	1.0	26.0	1.4	35.0	5.6	142.9	5.5	138.8	Fig.1
29		240	89594	JPD2000WC/FEX ⁴	FEX	10	50000	200	3200	1.0	26.0	1.4	35.0	5.6	142.9	5.5	138.9	Fig.1

Lamp Drawings unit: mm

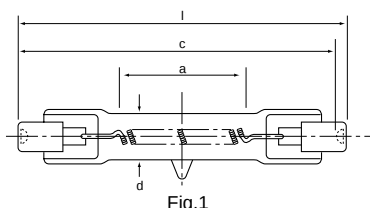


Fig.1

M.D.(d)=Maximum Diameter
L.L.(a)=Light Length
M.O.L.(l)=Maximum Overall Length
C to B(C)=Contact to Base End

Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.

Stage / Studio Double-Ended Recessed Single Contact R7s Base, Fa4 Base, C-8 Filament

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Product Code	Product Description	ANSI Ref.	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	L. L. a.		M. Q. L.		C to B.		Lamp Dwg.#
										(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	
R7s Base, C-8 Filament, Clear Bulb, T3-1/2, M.D. .433"(11mm)																
1	425	115/120	89302	JP425WC1	-	10	10600	300	3200	2.4	62.0	4.7	119.0	4.6	117.6	Fig.1
2	500	120	89347	JP500WC1/FDF	FDF	10	13000	400	3200	3.0	75.0	4.7	119.0	4.6	117.6	Fig.1
3		115/120	89307	JP500WC1	-	10	13250	400	3200	2.7	68.0	4.7	119.0	4.6	117.6	Fig.1
4	625	115/120	89314	JP625WC1	P2/15	10	16250	75	3200	2.7	68.0	4.7	119.0	4.6	117.6	Fig.1
5		220/230	89385	JP625WC1 ⁴	P2/15	10	16250	150	3200	2.7	68.0	4.7	119.0	4.6	117.6	Fig.1
6		240	89422	JP625WC1 ⁴	P2/15	10	16250	150	3200	2.7	68.0	4.7	119.0	4.6	117.6	Fig.1
7	800	220/230	89390	JP800WC1 ⁴	P2/11	10	21600	150	3200	2.7	68.0	4.7	119.0	4.6	117.6	Fig.1
8	1000	115/120	89276	JP1000WC1	-	10	26000	300	3200	3.0	75.0	4.7	119.0	4.6	117.6	Fig.1
9		120	83905	JP1000WC1/FCM	FCM	10	27000	400	3200	2.6	65.0	4.7	119.0	4.6	117.6	Fig.1
10		220/230	89351	JP1000WC1	-	10	26000	300	3200	3.0	75.0	4.7	119.0	4.6	117.6	Fig.1
11		115/120	89282	JP1000WC2	-	10	25000	200	3200	3.0	75.0	5.0	127.0	4.9	125.6	Fig.1
12		220/230	83887	JP1000WC2	-	10	25000	200	3200	3.0	75.0	5.0	127.0	4.9	125.6	Fig.1
13		240	89396	JP1000WC2 ⁴	-	10	25000	200	3200	3.0	75.0	5.0	127.0	4.9	125.6	Fig.1
14		220/230	89363	JP1000WS ⁴	P1/12	10	32000	15	3400	3.1	80.0	5.0	127.0	4.9	124.0	Fig.1
15		115/120	89288	JP1000WC3 ⁴	P2/7	10	26000	200	3200	4.5	115.0	7.5	190.5	7.4	189.1	Fig.1
16		220/230	89357	JP1000WC3	P2/7	10	26000	200	3200	5.2	133.0	7.5	190.5	7.4	189.1	Fig.1
17		240	89401	JP1000WC3	P2/7	10	26000	200	3200	5.2	133.0	7.5	190.5	7.4	189.1	Fig.1
18	1250	115/120	89295	JP1250WC3	P2/12	10	33500	200	3200	4.7	120.0	7.5	190.5	7.4	189.1	Fig.1
19		220/230	89368	JP1250WC3 ⁴	P2/12	10	33500	200	3200	5.4	138.0	7.5	190.5	7.4	189.1	Fig.1
20		240	89406	JP1250WC3 ⁴	P2/12	10	33500	200	3200	5.4	138.0	7.5	190.5	7.4	189.1	Fig.1
21	2000	220/230	89379	JP2000WC ⁴	-	10	54000	200	3200	10.2	260.0	13.1	333.5	13.1	331.9	Fig.1
22		240	89417	JP2000WC ⁴	-	10	54000	200	3200	10.2	260.0	13.1	333.5	13.1	331.9	Fig.1

Burning Position: Horizontal +/-4°

R7s Base, C-8 Filament, Frosted Bulb, T3-1/2, M.D. .433"(11mm)

23	1000	120	89342	JP1000WC1/FHM	FHM	10	26000	400	3200	2.6	65.0	4.7	119.0	4.6	117.6	Fig.1
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Burning Position: Horizontal +/-4°

Fa4 Base, C-8 Filament, Clear Bulb, T3-1/2, M.D. .433"(11mm)

24	2000	220/230	89374	JP2000W10H/Fa4	-	10	47000	1000	3050	9.8	250.0	13.2	334.4	-	-	Fig.2
25		240	89411	JP2000W10H/Fa4 ⁴	-	10	47000	1000	3050	9.8	250.0	13.2	334.4	-	-	Fig.2

Burning Position: Horizontal +/-4°

Lamp Drawings unit: mm

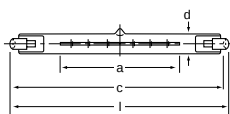


Fig.1

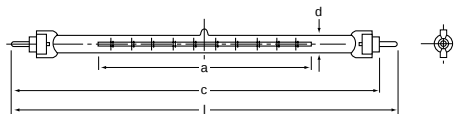


Fig.2

M.D.(d)=Maximum Diameter
L.L.(a)=Light Length
M.O.L.(l)=Maximum Overall Length
C to B(C)=Contact to Base End

Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.



Specialty/Entertainment Halogen Lamps

Stage / Studio Single-Ended

Miniature 2-Pin Base - G5.3 / Medium Pre-focus 2-Pin Base - GY9.5 / Medium 2-Pin Base - G9.5 Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Product Code	Product Description	ANSI Ref.	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	Filament	M. D.		M. O. L.		L. C. L.		Lamp Dwg.#
											(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	

Miniature 2-Pin Base - G5.3

1	250	120	89205	JCD250WC/A1	-	20	6250	75	3200	CC-6	0.9	22.0	2.4	61.0	1.5	37.0	Fig.1
2	600	120	89211	JCD600WC/A1	DYH	20	17000	75	3200	CC-6	0.9	22.0	2.4	61.0	1.5	37.0	Fig.1
3	650	120	89217	JCD650WC/A1	DVY	20	20000	25	3400	CC-6	0.9	22.0	2.4	61.0	1.5	37.0	Fig.1

Medium Prefocus 2-Pin Base - GY9.5

4	250	30	89267	JCD30V250WSB/B ⁴	DYG	20	7500	30	3300	CC-6	0.9	22.0	2.4	60.0	1.4	36.5	Fig.2
5	600	120	83754	JCD600WC/B	DYS	20	17000	75	3200	CC-6	0.9	22.0	2.5	63.0	1.4	36.5	Fig.2
6	650	120	89223	JCD650WC/B	-	20	18200	75	3200	CC-6	0.9	22.0	2.5	63.0	1.4	36.5	Fig.2
7		120	89231	JCD650WS/B	EKD	20	20000	25	3400	CC-6	0.9	22.0	2.5	63.0	1.4	36.5	Fig.2
8		220/230	83765	JCD650WC/B	DYR	20	16500	50	3200	2CC-8	0.9	24.0	2.6	66.0	1.4	36.5	Fig.3
9		240/250	89249	JCD650WC/B	DYR	20	16500	50	3200	2CC-8	0.9	24.0	2.6	66.0	1.4	36.5	Fig.3
10	1000	120	83688	JCD1000WC/C3	-	20	28000	75	3200	2CC-8	1.0	26.0	3.0	75.0	1.8	46.0	Fig.4
11		220/230	89236	JCD1000WC/C3	-	20	26000	75	3100	2CC-8	1.0	26.0	3.1	80.0	1.8	46.0	Fig.4
12		240/250	89242	JCD1000WC/C3 ⁴	-	20	26000	75	3100	2CC-8	1.0	26.0	3.1	80.0	1.8	46.0	Fig.4

Medium 2-Pin Base - G9.5

13	500	120	89499	JPD500WB/G9.5	EHD	10	10600	2000	3000	CC-8	0.5	13.0	4.0	102.0	2.4	60.3	Fig.5
14	575	115	89433	JPD575WC/G9.5 ⁴	FLK	10	16500	300	3200	CC-8	0.7	18.0	4.0	101.0	2.4	60.5	Fig.5
15	750	120	89511	JPD750WB/G9.5	EHG	10	15400	2000	3000	CC-8	0.7	19.0	4.1	105.0	2.4	60.5	Fig.5
16		220/230	89565	JPD750WB/G9.5 ⁴	-	10	16500	750	3000	CC-8	0.6	15.0	4.1	105.0	2.4	60.5	Fig.5
17		240	89612	JPD750WB/G9.5 ⁴	-	10	16500	750	3000	CC-8	0.6	15.0	4.1	105.0	2.4	60.5	Fig.5
18	1000	120	89471	JPD1000WC/G9.5	FEL	10	28000	300	3200	CC-8	0.7	19.0	4.1	105.0	2.4	60.5	Fig.5
19		220/230	89547	JPD1000WC/G9.5 ⁴	FEP	10	25000	300	3200	CC-8	0.7	19.0	4.1	105.0	2.4	60.5	Fig.5
20		240/250	89583	JPD1000WC/G9.5 ⁴	FEP	10	25000	300	3200	CC-8	0.7	19.0	4.1	105.0	2.4	60.5	Fig.5
21		220/230	89540	JPD1000WB/G9.5 ⁴	-	10	22000	500	3050	CC-8	0.7	19.0	4.1	105.0	2.4	60.5	Fig.5
22		240/250	89576	JPD1000WB/G9.5 ⁴	-	10	22000	500	3050	CC-8	0.7	19.0	4.1	105.0	2.4	60.5	Fig.5

Lamp Drawings unit: mm

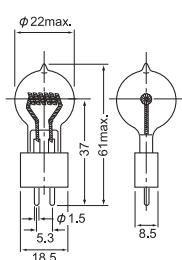


Fig.1

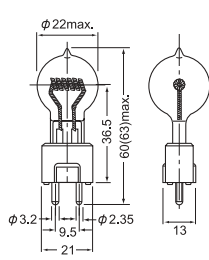


Fig.2

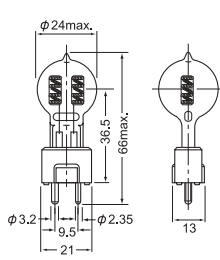


Fig.3

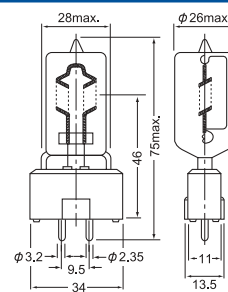


Fig.4

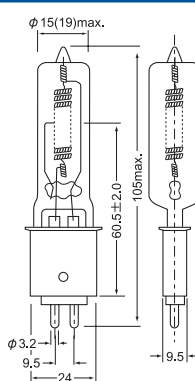
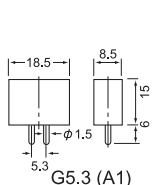
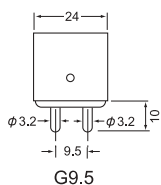


Fig.5

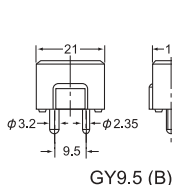
Base Type unit: mm



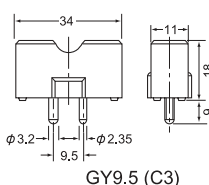
G5.3 (A1)



G9.5



GY9.5 (B)



GY9.5 (C3)

Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.

Stage / Studio Single-Ended Integral Heat Sink 2-Pin Base - GX9.5F

FEATURES

- Superb performance and life
- Extensive range of HPL lamps
- Integral Heat Sink reduces seal temperature for maximum life

Physical Data and Characteristics

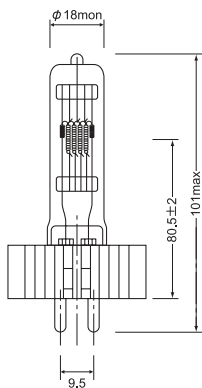
Line #	Watts (W)	Volts (V)	Product Code	Product Description	ANSI Ref.	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	M. D.		M. O. L.		L. C. L.		Lamp Dwg.#
										(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	

Integral Heat Sink 2-Pin Base - GX9.5F, Filament C-13D

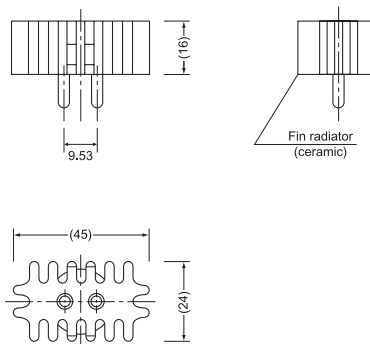
1	575	115	89320	JP575WC/GX9.5F ⁴	-	10	15700	300	3200	0.71	18.0	3.98	101.0	2.38	60.5	Fig.1
2		115	89326	JP575WL/GX9.5F ⁴	-	10	13600	1500	3000	0.71	18.0	3.98	101.0	2.38	60.5	Fig.1
3	750	115	89331	JP750WC/GX9.5F ⁴	-	10	20500	300	3200	0.71	18.0	3.98	101.0	2.38	60.5	Fig.1
4		115	89338	JP750WL/GX9.5F ⁴	-	10	17800	1500	3000	0.71	18.0	3.98	101.0	2.38	60.5	Fig.1

Burning Position: Base down to Horizontal (BD/HOR)

Lamp Drawings unit: mm



Base Type unit: mm



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.



Specialty/Entertainment Halogen Lamps

Stage / Studio

Single-Ended

Medium Prefocus Base - P28s & Medium Bi-Post Base - G22

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Product Code	Product Description	ANSI Ref.	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	M. D.		M. O. L.		L. C. L.		Lamp Dwg.#
										(In.)	(mm)	(In.)	(mm)	(In.)	(mm)	

Medium Prefocus Base - P28s, Filament CC-8

1	750	120	89517	JPD750WB/P28S EGG	EGG	10	15000	2000	3000	0.7	19.0	6.0	152.0	3.5	88.9	Fig.1
2		120	89535	JPD750WC/P28S EGF	EGF	10	20000	500	3200	0.7	19.0	6.0	152.0	3.5	88.9	Fig.1
3	1000	120	89477	JPD1000WCF/P28S EGK	EGK	10	26500	400	3200	0.7	19.0	6.0	152.0	3.5	88.9	Fig.1

Burning Position: Base down to Horizontal (BD/HOR)

Medium Bi-Post Base - G22, Filament C-13D

4	750	120	89529	JPD750WC/G22 ¹	EGR	10	21000	200	3200	0.9	23.0	5.0	127.0	2.5	63.5	Fig.2
5	1000	120	89466	JPD1000WC/G22 ⁴	EGT	10	27500	200	3200	0.9	23.0	5.0	127.0	2.5	63.5	Fig.2

Burning Position: Base down to Horizontal (BD/HOR)

Lamp Drawings unit: mm

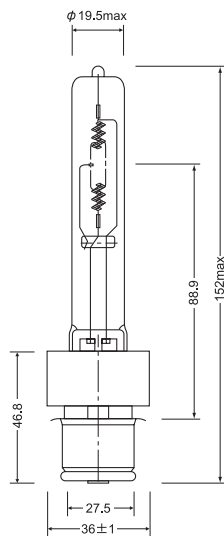


Fig.1

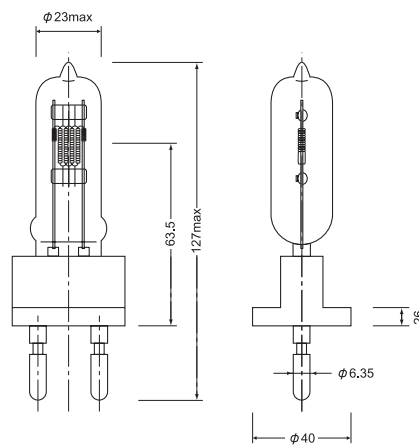
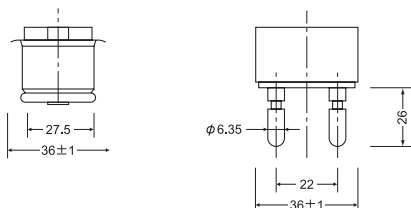


Fig.2

Base Type unit: mm



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.

Stage / Studio Single-Ended Miniature Screw Base - E10 & Mini Candelabra Screw Base - E11

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Product Code	Product Description	Bulb Finish	ANSI Ref.	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	Filament	M. D.		M. O. L.		L. C. L.		Lamp Dwg.#
												(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	

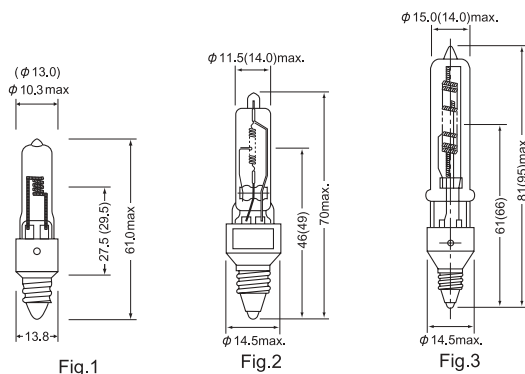
Miniature Screw Base - E10

1	75	28	85706	JD28V75W/M1	Clear	-	50	1350	2000	2950	CC-8	0.5	13.0	2.4	61.0	1.2	29.5	Fig.(1)
2	150	30	89255	JCD30V150W/M1 ⁴	Clear	FBT	50	5000	30	3400	CC-8	0.4	10.3	2.4	61.0	1.1	27.5	Fig.1
3	250	30	89261	JCD30V250W/M1 ⁴	Clear	FBV	50	7000	30	3400	CC-8	0.4	10.3	2.4	61.0	1.1	27.5	Fig.1
4	350	30	89271	JCD30V350W/M1 ⁴	Clear	FBW	50	10500	30	3400	CC-8	0.4	10.3	2.4	61.0	1.1	27.5	Fig.1

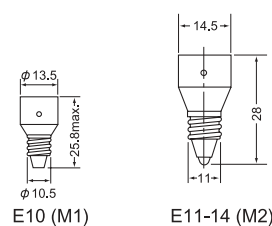
Mini Candelabra Base - E11

5	75	120	82197	75Q/CL	Clear	-	50	1200	1500	2850	CC-8	0.5	11.5	2.8	70.0	1.8	46.0	Fig.2
6		130	82215	75Q/CL	Clear	-	50	1200	1500	2850	CC-8	0.5	11.5	2.8	70.0	1.8	46.0	Fig.2
7	100	120	80286	100Q/CL	Clear	-	50	1600	1500	2850	CC-8	0.5	11.5	2.8	70.0	1.9	49.0	Fig.(2)
8		120	80391	100Q	Frosted	-	50	1520	1500	2850	CC-8	0.5	11.5	2.8	70.0	1.9	49.0	Fig.(2)
9		130	80335	100Q/CL	Clear	-	50	1600	1500	2850	CC-8	0.5	11.5	2.8	70.0	1.9	49.0	Fig.(2)
10		130	80433	100Q	Frosted	-	50	1520	1500	2850	CC-8	0.5	11.5	2.8	70.0	1.9	49.0	Fig.(2)
11	150	120	80580	150Q/CL	Clear	ETG	50	2800	2000	2850	CC-8	0.6	14.0	2.8	70.0	1.9	49.0	Fig.(2)
12		120	80776	150Q	Frosted	ETH	50	2660	2000	2850	CC-8	0.6	14.0	2.8	70.0	1.9	49.0	Fig.(2)
13		130	80629	150Q/CL	Clear	ETG (130V)	50	2800	2000	2850	CC-8	0.6	14.0	2.8	70.0	1.9	49.0	Fig.(2)
14		130	80825	150Q	Frosted	ETH (130V)	50	2660	2000	2850	CC-8	0.6	14.0	2.8	70.0	1.9	49.0	Fig.(2)
15	250	120	80972	250Q/CL	Clear	EHT	50	5000	2000	2900	CC-8	0.6	14.0	3.2	81.0	2.4	61.0	Fig.3
16		120	81168	250Q	Frosted	ESM	50	4700	2000	2900	CC-8	0.6	14.0	3.2	81.0	2.4	61.0	Fig.3
17		130	81021	250Q/CL	Clear	EHT(130V)	50	5000	2000	2900	CC-8	0.6	14.0	3.2	81.0	2.4	61.0	Fig.3
18		130	81217	250Q	Frosted	ESM(130V)	50	4700	2000	2900	CC-8	0.6	14.0	3.2	81.0	2.4	61.0	Fig.3
19	400	120	81315	400Q/CL	Clear	-	50	8250	2000	2900	CC-8	0.6	14.0	3.7	95.0	2.6	66.0	Fig.(3)
20		120	81413	400Q	Frosted	-	50	7840	2000	2900	CC-8	0.6	14.0	3.7	95.0	2.6	66.0	Fig.(3)
21		130	81325	400Q/CL	Clear	-	50	8250	2000	2900	CC-8	0.6	14.0	3.7	95.0	2.6	66.0	Fig.(3)
22		130	81420	400Q	Frosted	-	50	7840	2000	2900	CC-8	0.6	14.0	3.7	95.0	2.6	66.0	Fig.(3)
23	500	120	81511	500Q/CL	Clear	EVR	50	10450	2000	2900	CC-8	0.6	14.0	3.7	95.0	2.6	66.0	Fig.(3)
24		120	81756	500Q	Frosted	EYX	50	9930	2000	2900	CC-8	0.6	14.0	3.7	95.0	2.6	66.0	Fig.(3)
25		130	81560	500Q/CL	Clear	EYW	50	10450	2000	2900	CC-8	0.6	14.0	3.7	95.0	2.6	66.0	Fig.(3)
26		130	81707	500Q	Frosted	EYV	50	9930	2000	2900	CC-8	0.6	14.0	3.7	95.0	2.6	66.0	Fig.(3)

Lamp Drawings unit: mm



Base Type unit: mm



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.



Specialty/Entertainment Halogen Lamps

Stage / Studio Single-Ended Double Contact Bayonet Base - BA15d Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Product Code	Product Description	Bulb Finish	ANSI Ref.	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	Filament	M. D.		M. O. L.		L. C. L.		Lamp Dwg.#
												(In.)	(mm)	(In.)	(mm)	(In.)	(mm)	

Double Contact Bayonet Base - BA15d

1	75	28	82148	75Q/CL/DC (28V)	Clear	-	50	1350	2000	2950	CC-8	0.4	10.3	2.4	60.0	1.5	37.0	Fig.4
2		120	82099	75Q/CL/DC	Clear	-	50	1200	1500	2850	CC-8	0.5	11.5	2.5	63.0	1.3	33.0	Fig.5
3		130	82081	75Q/CL/DC	Clear	-	50	1200	1500	2850	CC-8	0.5	11.5	2.5	63.0	1.3	33.0	Fig.5
4	100	120	80188	100Q/CL/DC	Clear	ESN	50	1600	1500	2850	CC-8	0.5	11.5	2.5	63.0	1.3	33.0	Fig.5
5		120	80343	100Q/DC	Frosted	-	50	1520	1500	2850	CC-8	0.5	11.5	2.5	63.0	1.3	33.0	Fig.5
6		130	80237	100Q/CL/DC	Clear	-	50	1600	1500	2850	CC-8	0.5	11.5	2.5	63.0	1.3	33.0	Fig.5
7		130	80384	100Q/DC	Frosted	-	50	1520	1500	2850	CC-8	0.5	11.5	2.5	63.0	1.3	33.0	Fig.5
8	150	120	80482	150Q/CL/DC	Clear	ETC	50	2800	2000	2850	CC-8	0.6	14.0	2.5	63.0	1.3	33.0	Fig.5
9		120	80678	150Q/DC	Frosted	ETF	50	2660	2000	2850	CC-8	0.6	14.0	2.5	63.0	1.3	33.0	Fig.5
10		130	80531	150Q/CL/DC	Clear	-	50	2800	2000	2850	CC-8	0.6	14.0	2.5	63.0	1.3	33.0	Fig.5
11		130	80727	150Q/DC	Frosted	-	50	2660	2000	2850	CC-8	0.6	14.0	2.5	63.0	1.3	33.0	Fig.5
12	250	120	80874	250Q/CL/DC	Clear	ESS	50	5000	2000	2900	CC-8	0.6	14.0	3.0	75.0	1.7	42.0	Fig.6
13		120	81070	250Q/DC	Frosted	ETB	50	4700	2000	2900	CC-8	0.6	14.0	3.0	75.0	1.7	42.0	Fig.6
14		130	80923	250Q/CL/DC	Clear	-	50	5000	2000	2900	CC-8	0.6	14.0	3.0	75.0	1.7	42.0	Fig.6
15		130	81119	250Q/DC	Frosted	-	50	4700	2000	2900	CC-8	0.6	14.0	3.0	75.0	1.7	42.0	Fig.6
16	400	120	81266	400Q/CL/DC	Clear	-	50	8250	2000	2900	CC-8	0.6	14.0	3.5	90.0	1.9	48.0	Fig.7
17		120	81364	400Q/DC	Frosted	-	50	7840	2000	2900	CC-8	0.6	14.0	3.5	90.0	1.9	48.0	Fig.7
18		130	81275	400Q/CL/DC	Clear	-	50	8250	2000	2900	CC-8	0.6	14.0	3.5	90.0	1.9	48.0	Fig.7
19		130	81370	400Q/DC	Frosted	-	50	7840	2000	2900	CC-8	0.6	14.0	3.5	90.0	1.9	48.0	Fig.7
20	500	120	81438	500Q/CL/DC	Clear	-	50	10450	2000	2900	CC-8	0.6	14.0	3.5	90.0	1.9	48.0	Fig.7
21		120	81609	500Q/DC	Frosted	-	50	9930	2000	2900	CC-8	0.6	14.0	3.5	90.0	1.9	48.0	Fig.7
22		130	81462	500Q/CL/DC	Clear	-	50	10450	2000	2900	CC-8	0.6	14.0	3.5	90.0	1.9	48.0	Fig.7
23		130	81658	500Q/DC	Frosted	-	50	9930	2000	2900	CC-8	0.6	14.0	3.5	90.0	1.9	48.0	Fig.7

Stage / Studio

HALOGEN

Lamp Drawings unit: mm

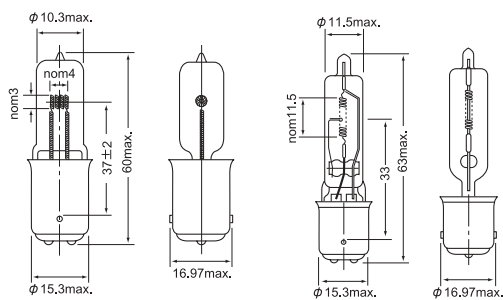


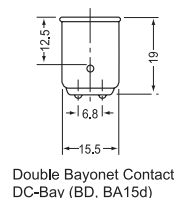
Fig.4

Fig.5

Fig.6

Fig.7

Base Type unit: mm



Double Bayonet Contact
DC-Bay (BD, BA15d)

Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.

EYE Dichro-Cool®

MR8/MR11/MR16 Colors

Features:

- Red, Yellow, Green and Blue

Applications:

- Displays • Showrooms • Restaurants
- Lounges • Special Effects
- Holiday Presentations

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Product Comparison Guide	Case Qty.	Axis Candela (cd)	Average Life Hours	Color Temp. (K)	Filament	Lamp Dwg.#
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MR8 12V Dichroic Reflector Miniature 2-Pin Base GZ4 with Cover Glass

1	20	12	GZ4	79726	JM8253	20MR8CG/GZ4/23°/R	50	240	2000	Red	C-8	Fig.1
2		12	GZ4	79732	JM8254	20MR8CG/GZ4/23°/G	50	480	2000	Green	C-8	Fig.1
3		12	GZ4	79738	JM8255	20MR8CG/GZ4/23°/B	50	80	2000	Blue	C-8	Fig.1
4	35	12	GZ4	79744	JM8353	35MR8CG/GZ4/23°/R	50	420	2000	Red	C-8	Fig.1
5		12	GZ4	79750	JM8354	35MR8CG/GZ4/23°/G	50	840	2000	Green	C-8	Fig.1
6		12	GZ4	79756	JM8355	35MR8CG/GZ4/23°/B	50	140	2000	Blue	C-8	Fig.1

MR11 12V Dichroic Reflector Miniature 2-Pin Base GZ4 with Cover Glass

7	20	12	GZ4	78665	JM1264	20MR11CG/30°/R	50	300	2000	Red	C-6	Fig.2
8		12	GZ4	78671	JM1265	20MR11CG/30°/G	50	540	2000	Green	C-6	Fig.2
9		12	GZ4	78676	JM1266	20MR11CG/30°/B	50	90	2000	Blue	C-6	Fig.2
10	35	12	GZ4	79252	JM1364	35MR11CG/30°/R	50	390	2000	Red	C-6	Fig.2
11		12	GZ4	79256	JM1365	35MR11CG/30°/G	50	780	2000	Green	C-6	Fig.2
12		12	GZ4	79262	JM1366	35MR11CG/30°/B	50	130	2000	Blue	C-6	Fig.2

MR16 12V Dichroic Reflector 2-Pin Base - GU5.3 with Cover Glass

13	50	12	GU5.3	73602	JR1558	50MR16CG/13°/R	12	2100	5000	Red	C-6	Fig.3
14		12	GU5.3	73651	JR1559	50MR16CG/32°/R	12	500	5000	Red	C-6	Fig.3
15		12	GU5.3	73700	JR1560	50MR16CG/13°/Y	12	7500	5000	Yellow	C-6	Fig.3
16		12	GU5.3	73749	JR1561	50MR16CG/32°/Y	12	1800	5000	Yellow	C-6	Fig.3
17		12	GU5.3	73798	JR1562	50MR16CG/13°/G	12	3900	5000	Green	C-6	Fig.3
18		12	GU5.3	73847	JR1563	50MR16CG/32°/G	12	900	5000	Green	C-6	Fig.3
19		12	GU5.3	73896	JR1564	50MR16CG/13°/B	12	500	5000	Blue	C-6	Fig.3
20		12	GU5.3	73945	JR1565	50MR16CG/32°/B	12	150	5000	Blue	C-6	Fig.3

Lamp Drawings unit: mm

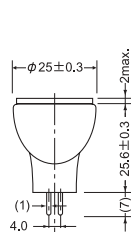


Fig.1

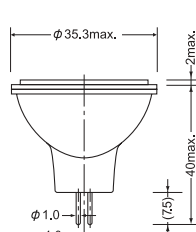


Fig.2

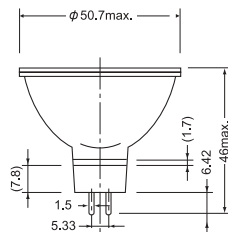


Fig.3

Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.



Specialty/Entertainment Halogen Lamps

Aircraft / Airfield

Single-Ended

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Product Code	Product Description	ANSI Ref.	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	Filament	M. D.		M. O. L.		L. C. L.		Lamp Dwg.#
											(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	

Aircraft Use Halogen Lamps Glass 2-Pin Base - G6.35

1	150	24	86712	JCD24V150W10H/G1	-	20	2700	1000	3000	CC-6	0.59	15.0	2.48	63.0	1.5	38.5	P121-Fig.1
2		26	86724	JCD26V150W10H/G1	-	20	2700	1000	3000	CC-8	0.59	15.0	2.48	63.0	1.5	38.5	P121-Fig.1

Aircraft Use Halogen Lamps Double Contact Bayonet Base DC-Bay

3	125	12	86706	JC12V125W10H/BD	-	20	2400	500	3000	C-8	0.44	11.0	2.05	52.0	1.1	28.8	P121-Fig.2
4	150	24	86719	JCD24V150W5H/BD	-	20	3630	500	3150	CC-8	0.55	14.0	1.93	49.0	1.1	28.8	P121-Fig.3
5		26	83833	JCD26V150W5H/BD	-	20	3630	500	3150	CC-8	0.55	14.0	1.93	49.0	1.1	28.0	P121-Fig.3

Airfield Use Halogen Lamps Medium Prefocus 2-Pin Base - GY9.5

6	30	6.6	86796	JF6.6A30W02/B	-	20	375	1000	2800	C-8	0.44	11.0	1.74	44.0	1.00	25.4	P121-Fig.6
7	45	6.6	86809	JF6.6A45W/B	-	20	740	500	2900	C-Bar-6	0.44	11.0	2.56	65.0	1.54	39.0	P121-Fig.5
8		6.6	86814	JF6.6A45W02/B	EXM	20	750	1000	2900	C-8	0.44	11.0	1.74	44.0	1.00	25.4	P121-Fig.6
9	150	6.6	86774	JF6.6A150W/B	EWR	20	3600	500	3100	C-Bar-6	0.54	13.5	2.56	65.0	1.54	39.0	P121-Fig.5
10	200	6.6	86791	JF6.6A200W/B	-	20	4300	500	3000	CC-6	0.54	13.5	2.56	65.0	1.54	39.0	P121-Fig.7

Double-Ended

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Product Code	Product Description	ANSI Ref.	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	Filament	M. D.		M. O. L.		L. C. L.		Lamp Dwg.#
											(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	

Aircraft Use Halogen Lamps Metal Sleeve Base

11	100	10	86701	J10V100W	-	20	1800	2000	2950	C-8	0.44	11.0	2.05	52.0	-	-	P123-Fig.4
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Airfield Use Halogen Lamps R7s Base

12	45	6.6	86802	JF6.6A45W	-	20	630	1000	2850	C-8	0.32	8.0	2.05	52.0	-	-	P123-Fig.8
13	100	6.6	86755	JF6.6A100W	-	20	2120	1000	3000	CC-8	0.44	11.0	2.51	63.6	-	-	P123-Fig.9
14		6.6	86766	JF6.6A100W-2	-	20	2120	1000	3000	CC-8	0.44	11.0	2.29	58.0	-	-	P123-Fig.9
15	200	6.6	86778	JF6.6A200W	-	20	4240	1000	3000	CC-8	0.44	11.0	2.51	63.6	-	-	P123-Fig.9

Airfield Use Halogen Lamps Wire Lead

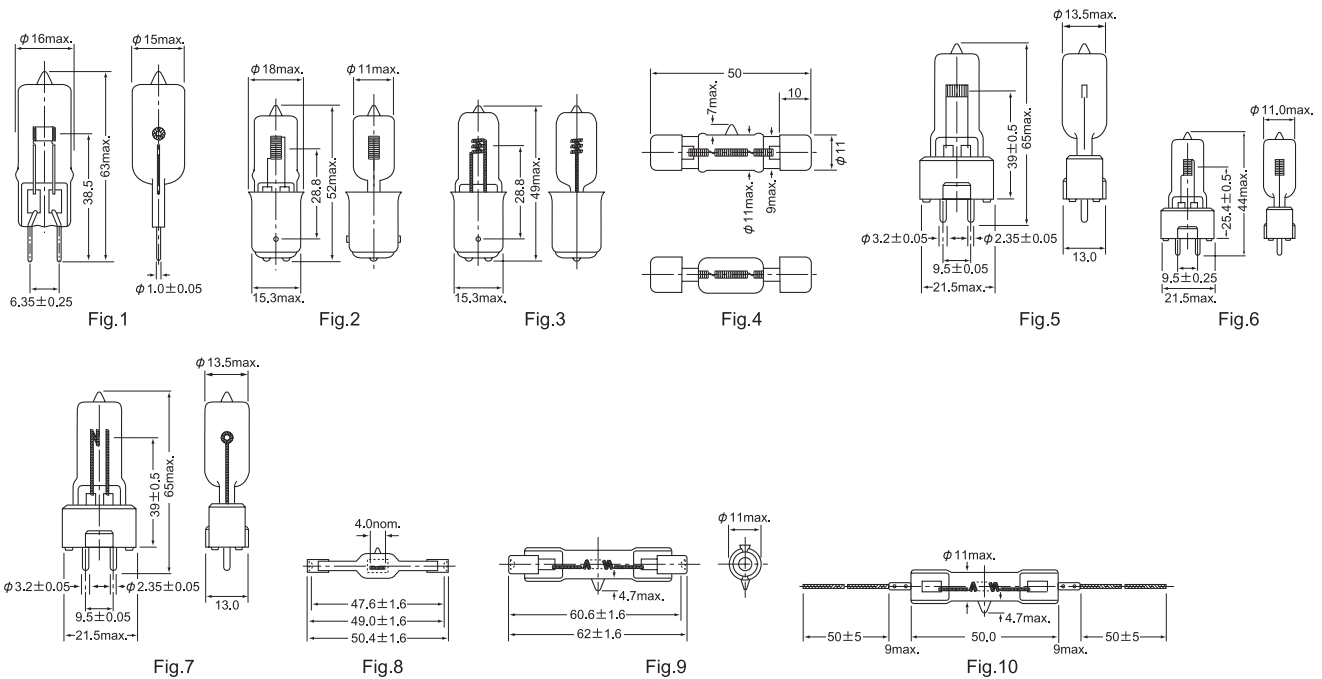
16	100	6.6	86760	JF6.6A100W Wire Lead	-	20	2120	1000	3000	CC-8	0.44	11.0	-	50.0	-	-	P123-Fig.10
17	200	6.6	86784	JF6.6A200W Wire Lead	-	20	4240	1000	3000	CC-8	0.44	11.0	-	50.0	-	-	P123-Fig.10

Notes:

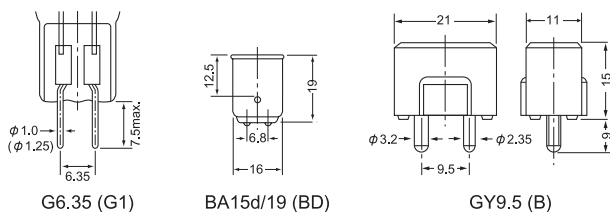
1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.

Aircraft / Airfield

Lamp Drawings unit: mm



Base Type unit: mm





Specialty/Entertainment Halogen Lamps

Marine / Boat

Single-Ended

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Product Code	Product Description	ANSI Ref.	Case Qty.	Initial Lumens (lm)	Average Life Hours	Color Temp. (K)	Filament	M. D.		M. O. L.		L. C. L.		Lamp Dwg.#
											(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	

Double Contact Bayonet Base - BA15d, Clear Bulb

1	150	24	86719	JCD24V150W5H/BD	-	20	3650	500	3150	CC-8	0.6	14.0	1.9	49.0	1.1	28.8	Fig.1
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E11-24 Base, Clear Bulb

2	250	120	84690	JD250W/M5	-	50	4500	2000	2900	CC-8	0.6	15.0	3.2	81.0	2.4	61.0	Fig.2
3		220/230	85614	JD250W/M5	-	50	4500	2000	2900	CC-8	0.6	15.0	3.2	81.0	2.4	61.0	Fig.2
4		240/250	85613	JD250W/M5	-	50	4500	2000	2900	CC-8	0.6	15.0	3.2	81.0	2.4	61.0	Fig.2
5	500	120	84728	JD500W/M5	-	50	9500	2000	2950	CC-8	0.6	15.0	3.7	95.0	2.6	66.0	Fig.2
6		220/230	85661	JD500W/M5	-	50	9500	2000	2950	CC-8	0.6	15.0	3.7	95.0	2.6	66.0	Fig.2
7		240/250	85632	JD500W/M5	-	50	9500	2000	2950	CC-8	0.6	15.0	3.7	95.0	2.6	66.0	Fig.2

European E27-30 Base, Clear Bulb

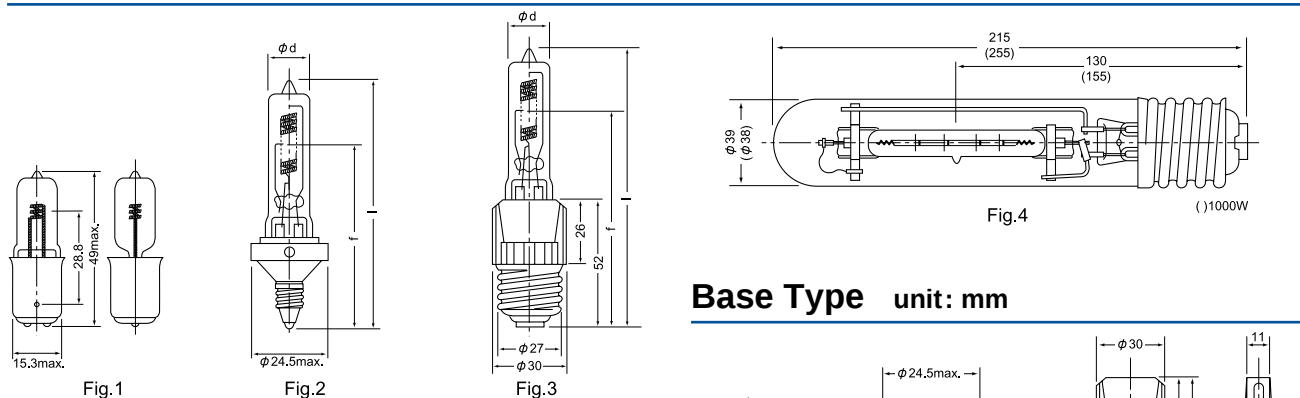
8	250	120	84679	JD250W/E2	-	20	4500	2000	2900	CC-8	0.6	15.0	4.0	102.0	2.9	73.0	Fig.3
9		220/230	85603	JD250W/E2	-	20	4500	2000	2900	CC-8	0.6	15.0	4.0	102.0	2.9	73.0	Fig.3
10		240/250	85703	JD250W/E2	-	20	4500	2000	2900	CC-8	0.6	15.0	4.0	102.0	2.9	73.0	Fig.3
11	500	120	84718	JD500W/E2	-	20	9500	2000	2950	CC-8	0.6	14.0	4.4	113.0	3.2	81.0	Fig.3
12		220/230	85653	JD500W/E2	-	20	9500	2000	2950	CC-8	0.6	15.0	4.4	113.0	3.2	81.0	Fig.3
13		240/250	85617	JD500W/E2	-	20	9500	2000	2950	CC-8	0.6	15.0	4.4	113.0	3.2	81.0	Fig.3

European E40 Base, Clear Bulb

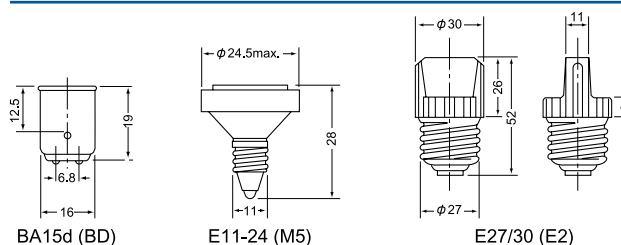
14	500	125/130	86456	JT500W	-	10	12000	2000	3000	C-8	1.5	39.0	8.5	215.0	5.1	130.0	Fig.4
15		230/240	86461	JT500W	-	10	10000	2000	3000	CC-8	1.5	39.0	8.5	215.0	5.1	130.0	Fig.4
16		240/250	86467	JT500W	-	10	10000	2000	3000	CC-8	1.5	39.0	8.5	215.0	5.1	130.0	Fig.4
17	1000	230/240	86473	JT1000	-	10	24000	2000	3000	C-8	1.5	38.0	10.0	255.0	6.1	155.0	Fig.(4)
18		240/250	86479	JT1000	-	10	24000	2000	3000	C-8	1.5	38.0	10.0	255.0	6.1	155.0	Fig.(4)

Enclosed Fixture Only

Lamp Drawings unit: mm



Base Type unit: mm



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.

Quartz Heat - Infrared Lamps

Double-Ended

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Bulb Finish	ANSI Ref.	Case Qty.	Average Life Hours	Color Temp. (K)	Filament	M. O. L.		Lamp Dwg.#
												(in.)	(mm)	

Double-Ended Lead Wire & R7s Lead Wire

1	300	115/125	Lead Wire	86820	QIR115/125V300W	Clear	-	10	5000	2500	C-8	8.7	222.0	Fig.1
2	375	115/125	Lead Wire	86827	QIR115/125V375W	Clear	-	10	5000	2500	C-8	8.7	222.0	Fig.1
3	500	120	Lead Wire	86832	QIR120V500W	Clear	-	10	5000	2500	C-8	8.7	222.0	Fig.1
4		200/220	Lead Wire	86856	QIR200/220V500W/G	Refl. Coat.*	-	10	5000	2500	C-8	8.8	224.0	Fig.2
5	600	240	Lead Wire	86910	QIR240V600W	Clear	-	10	3000	2500	C-8	11.0	280.0	Fig.1
6	700	240	Lead Wire	86917	QIR240V700W	Clear	-	10	3000	2500	C-8	11.4	290.0	Fig.1
7		240	Lead Wire	86922	QIR240V700W/L	Clear	-	10	3000	2500	C-8	20.9	530.0	Fig.1
8		120	R7s Lead Wire	86838	QIR120V900W	Clear	-	10	5000	2500	C-8	16.6	422.0	Fig.2
9	1000	200/220	R7s Lead Wire	86845	QIR200/220V1000W	Clear	-	10	5000	2500	C-8	13.8	350.0	Fig.2
10		200/220	R7s Lead Wire	86850	QIR200/220V1000W/G	Refl. Coat.*	-	10	5000	2500	C-8	13.8	350.0	Fig.2
11		220	Lead Wire	86863	QIR220V1000W	Clear	-	10	5000	2500	C-8	20.2	512.0	Fig.1
12		240	Lead Wire	86868	QIR240V1000W	Clear	-	10	5000	2500	C-8	11.9	303.0	Fig.1
13		240	R7s Lead Wire	86881	QIR240V1000W/R7s	Clear	-	10	5000	2500	C-8	11.9	303.0	Fig.2
14		240	Lead Wire	86874	QIR240V1000W/L	Clear	-	10	5000	2500	C-8	13.7	348.0	Fig.1
15	1500	240	Lead Wire	86886	QIR240V1500W	Clear	-	10	3000	2500	C-8	20.9	530.0	Fig.1
16	1600	240	R7s Lead Wire	86892	QIR240V1600W	Clear	-	10	5000	2500	C-8	19.7	501.0	Fig.2
17	2000	240	Lead Wire	86899	QIR240V2000W	Clear	-	10	5000	2500	C-8	13.8	350.0	Fig.1
18		240	Lead Wire	86904	QIR240V2000W/L	Clear	-	10	3000	2500	C-8	25.6	650.0	Fig.1
19	2500	480	R7s Lead Wire	86928	QIR480V2500W	Clear	-	10	5000	2500	C-8	28.7	730.0	Fig.2
20	3650	480	R7s Lead Wire	86935	QIR480V3650W	Clear	-	10	5000	2500	C-8	41.5	1055.0	Fig.2
21	6000	480	Lead Wire	86940	QIR480V6000W	Clear	-	10	150	2500	C-8	11.7	298.0	Fig.1

* Gold reflective coating covers half the lamp envelope
Burn Position: Horizontal +/-4°

Lamp Drawings unit: mm

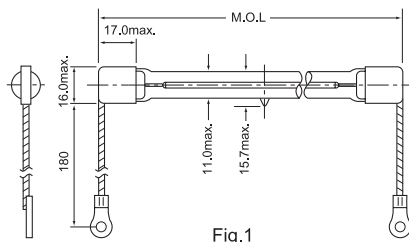


Fig.1

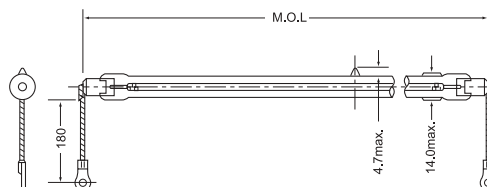


Fig.2

Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.



Specialty/Entertainment Halogen Lamps

Quartz Heat - Infrared Lamps

MR16

Physical Data and Characteristics

Line #	Watts (W)	Volts (V)	Base	Product Code	Product Description	Reflector Coating	ANSI Ref.	Case Qty.	Working Distance (mm)	Average Life Hours	Color Temp. (K)	Filament	M. O. L.		Lamp Dwg.#
													(in.)	(mm)	
MR16 Glass 2-Pin Base - GZ6.3, GX5.3															
22	100	12	GZ6.35	86730	JCR12V100W10H/G/AL	Aluminum	-	50	32	1000	3000	C-8	1.7	42.0	Fig.1
23		12	GZ6.35	86737	JCR12V100W10HG/G1	Gold	-	50	32	1000	3000	C-8	1.7	42.0	Fig.1
24	150	15	GZ6.35	86742	JCR15V150WG/G1	Gold	-	50	32	50	3350	C-8	1.7	42.0	Fig.1
25	200	24	GX5.3	86748	JCR24V200W10HAL/G2/H50	Aluminum	-	50	100	1000	3000	CC-6	1.8	44.5	Fig.2

Operating condition : Lamp cooling is required.

Quartz Heat

HALOGEN

Lamp Drawings unit: mm

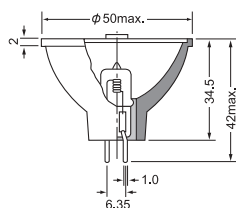


Fig.1

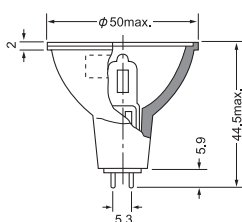
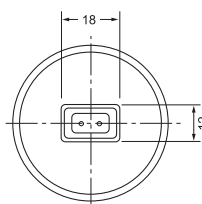
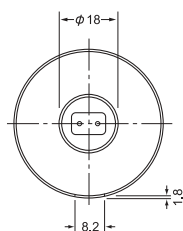


Fig.2



Notes:

1. Warning/Caution notices, see page # 125
2. Operating Instructions, see page # 125
3. All information subject to change without notice
4. Contact EYE Lighting International for further information and availability.

Warning & Operating Instructions

Warning

1. Do not operate lamps in excess of rated voltages as this will increase lamp pressure and the possibility of shattering. This lamp must be used only with proper circuit and auxiliary equipment. This lamp must be operated with a suitable fixture and the rated voltage must not be exceeded. Only use lighting fixtures designed for the proper operation of these lamps, with approved safety standards on electrical and thermal points and which offer protection in case of bulb shattering. Failure to comply may result in poor lamp performance and possible personal injury or property damages for which the manufacturer will not be held responsible.
2. Tungsten halogen lamps are pressurized and may shatter. Use eye protection and gloves when handling this lamp.
3. A suitable protective shield, screening technique or both must be used to protect people and surroundings from the possibility of a lamp shattering and from possible ultraviolet radiation.
4. Use a suitably enclosed fixture consisting of lens or diffuser material able to contain fragments of quartz or glass having temperatures up to 1000° C (1832°F).
5. The fixture must be rated for the wattage of the lamp being installed. Contact the fixture manufacturer if you have any questions.
6. Do not scratch glass of bulb or subject this lamp to undue pressure as either may cause lamp to break. Replace scratched, cracked, broken or damaged bulbs immediately.
7. To install or replace bulb, disconnect power to reduce the risk of electrical shock and allow lamp to cool before replacing.
8. Do not touch hot lamps with fingers, skin or any flammable material. Lamps may remain hot after being turned OFF.
9. When handling lamp, use clean cotton gloves and only touch the reflector portion of the lamp. Do not touch the lamp with bare hands in any case, as oil, grease or other substances on the lamp may cause lamp to shatter.
10. Protect the lamp from direct contact with rain, sleet, snow and other liquids to reduce the possibility of breakage.
11. Substantial heat is generated in all halogen lamps, so equipment design should make allowance for the dissipation of excessive heat. Certain lamps and extremely confined fixtures may require additional ventilation or heat sinking to ensure proper operation of the halogen cycle and to prevent damage to the fixture. It is a good practice to test the lamp in the operating environment early in the design cycle to ensure adequate performance.
12. Precautions must be taken in the selection of materials for lamp holders, reflectors, and lamp housings because the bulb wall temperature is greater than the kindling temperature of many materials. Temperature of lamp sealing point should not exceed 350° C (622°F) because, above that point, lead wires may deteriorate, causing premature lamp failure.
13. Do not operate in close proximity to persons, combustible or flammable materials, or substances that are adversely affected by heat or drying. Tungsten halogen lamps get very hot up to 1000°C (1832°F) during operation. Allow lamp to cool before removing.
14. Do not touch or look directly at lamp during operation to reduce the possibility of burning or other injury.
15. Do not cause any mechanical shock or disturbance to lamp or lighting fixture as such shock or disturbance can shatter lamp.
16. Dispose of lamp with care, as it is breakable.
17. Dimming condition: Dimming at above 50% of the rated volts can be done. Dimming at below 50% of the rated volts will cause the lamp short life.
18. If the temperature at the bulb wall is less than 250°C (482°F), the halogen cycle does not function properly. Install in a location where air conditioning does not affect the wall temperature adversely.
19. Do not paint the lamp to prevent its overheating or breakage.
20. Do not use this lamp in an ignitable atmosphere (for example gasoline, inflammable spray, thinner, lacquer, dust, etc.) to prevent a fire or explosion unless an adequate fixture is used.
21. Do not use this lamp in a corrosive atmosphere, unless an adequate corrosion resistant fixture is used.
22. Do not use this lamp in a powdery or dusty atmosphere in order to eliminate the overheating of the lamp unless an adequate fixture is used.
23. The radiation from this lamp may cause colored objects to fade unless an adequate fixture is used.
24. When the lamp does not operate normally, turn off the power and replace the lamp with new one.
25. Follow all instructions in the manufacturer's catalog or on the individual box or instruction sheet.

Operating Instructions

1. The lamp should be installed firmly, but not forcibly, into the socket to reduce the possibility of loosening due to vibration. Use of excessive force may result in lamp breakage.
2. This lamp is suitable for operation in any position except for double ended halogen lamps and the lamps specified the burning position.
3. If a fuse is specified, be sure to use the specified type.



Halogen Lamps

EYE LIGHTING INTERNATIONAL OF NORTH AMERICA INC. and IWASAKI ELECTRIC Co., Ltd. will not be responsible for property damage, personal injury or poor lamp performance due to failure to follow the above instructions. The statements contained herein do not create, and shall not be construed as creating, any warranties. For more information regarding instructions or the above warnings, contact EYE LIGHTING INTERNATIONAL OF NORTH AMERICA INC., a Subsidiary of IWASAKI ELECTRIC Co., Ltd. at 9150 Hendricks Rd., Mentor, Ohio 44060, 888-665-2677 with the information request sheet located on the last page of this catalog or IWASAKI ELECTRIC Co., Ltd..

Halogen Lamp Cross Reference



EYE LIGHTING					GE	OSRAM/SYLVANIA	PHILIPS	USHIO
Product Code	Ordering Code	Product Comparison Guide	ANSI REFERENCE	Page No.	Description	Description	Description	Description

MR8 - Miniature 2-Pin Base - GZ4 with Cover Glass.....There are no competitive products. Turn to page 76 in this catalog.

MR11 - 12V Miniature 2-Pin Base - GZ4 without Cover Glass

77679	JM1111	12MR11/8°/FTA	FTA	77	-	-	-	FTA
77728	JM1112	12MR11/19°	-	77	-	-	-	-
77777	JM1113	12MR11/25°	-	77	-	-	-	-
78267	JM1211	20MR11/8°/FTB	FTB	77	-	20MR11/SP10(FTB)	-	FTB
78316	JM1212	20MR11/19°/FTC	FTC	77	Q20MR11/SP15°-FTC	-	-	FTC
78365	JM1213	20MR11/28°/FTD	FTD	77	Q20MR11/NFL30°-FTD	20MR11/FL35(FTD)	-	FTD
78855	JM1311	35MR11/10°/FTE	FTE	77	-	35MR11/SP10 (FTE)	-	FTE
78904	JM1312	35MR11/20°/FTF	FTF	77	Q35MR11/NSP20°-FTF	-	-	FTF
78953	JM1313	35MR11/29°/FTH	FTH	77	Q35MR11/NFL30°-FTH	35MR11/FL40 (FTH)	-	FTH

MR11 - 12V Double Contact Bayonet Base without Cover Glass

77826	JM1141	12MR11/DC/8°	-	77	-	-	-	-
77875	JM1142	12MR11/DC/19°	-	77	-	-	-	-
77924	JM1143	12MR11/DC/25°	-	77	-	-	-	-
78414	JM1241	20MR11/DC/8°/FSS	FSS	77	-	-	-	FSS
78463	JM1242	20MR11/DC/19°/FST	FST	77	-	-	-	FST
78512	JM1243	20MR11/DC/28°/FSV	FSV	77	-	-	-	FSV
79002	JM1341	35MR11/DC/10°/GDY	GDY	77	-	-	-	GDY
79051	JM1342	35MR11/DC/20°/GDY	GDY	77	-	-	-	GDY
79100	JM1343	35MR11/DC/29°/GDZ	GDZ	77	-	-	-	GDZ

MR11 - 12V Miniature 2-Pin Base - GZ4 with Cover Glass

77973	JM1161	12MR11CG/8°/(FTA)	FTA/C	78	-	-	-	FTA/CG
78022	JM1162	12MR11CG/19°	-	78	-	-	-	-
78071	JM1163	12MR11CG/25°	-	78	-	-	-	-
78561	JM1261	20MR11CG/8°/(FTB)	FTB/C	78	-	-	20MRC11/SP10	FTB/FG
78610	JM1262	20MR11CG/19°/(FTC)	FTC/C	78	-	-	-	FTC/FG
78659	JM1263	20MR11CG/28°/(FTD)	FTD/C	78	-	20MR11/FL35/C (FTD)	20MRC11/FL30	FTD/FG
79149	JM1361	35MR11CG/10°/(FTE)	FTE/C	78	-	35MR11/SP10/C (FTE)	-	FTE/FG
79198	JM1362	35MR11CG/20°/(FTF)	FTF/C	78	-	-	-	FTF/FG
79247	JM1363	35MR11CG/29°/(FTH)	FTH/C	78	-	-	-	FTH/FG

MR11 - 12V Double Contact Bayonet Base with Cover Glass

78120	JM1181	12MR11CG/DC/8°	-	78	-	-	-	-
78169	JM1182	12MR11CG/DC/19°	-	78	-	-	-	-
78218	JM1183	12MR11CG/DC/25°	-	78	-	-	-	-
78708	JM1281	20MR11CG/DC/8°/(FSS)	FSS/C	78	-	-	-	FSS/FG
78757	JM1282	20MR11CG/DC/19°/(FST)	FST/C	78	-	-	-	FST/FG
78806	JM1283	20MR11CG/DC/28°/(FSV)	FSV/C	78	-	-	-	FSV/FG
79296	JM1381	35MR11CG/DC/10°/(GDY)	GDY/C	78	-	-	-	GDY/FG
79345	JM1382	35MR11CG/DC/20°/(GDY)	GDY/C	78	-	-	-	GDY/FG
79394	JM1383	35MR11CG/DC/29°/(GDZ)	GDZ/C	78	-	-	-	GDZ/FG

MR11 - 24V Miniature 2-Pin Base with Cover Glass

79443	JM7261	20MR11CG/10°/24V/(FTB)	FTB/C 24V	79	-	-	-	-
79492	JM7262	20MR11CG/19°/24V/(FTC)	FTC/C 24V	79	-	-	-	-
79541	JM7263	20MR11CG/29°/24V/(FTD)	FTD/C 24V	79	-	-	-	-
79590	JM7361	35MR11CG/12°/24V/(FTE)	FTE/C 24V	79	Q35MR11/CCG10 24V	-	-	-
79639	JM7362	35MR11CG/22°/24V/(FTF)	FTF/C 24V	79	-	-	-	-
79688	JM7363	35MR11CG/30°/24V/(FTH)	FTH/C 24V	79	Q35MR11/CCG30 24V	-	-	-

MR11 - Colors 12V Miniature 2-Pin Base - GZ4 with Cover Glass.....There are no competitive products. Turn to page 91 in this catalog.



Halogen Lamp Cross Reference

EYE LIGHTING					GE	OSRAM/SYLVANIA	PHILIPS	USHIO
Product Code	Ordering Code	Product Comparison Guide	ANSI REFERENCE	Page No.	Description	Description	Description	Description

MR16 - 12V Dichroic Reflector 2-Pin Base - GU5.3 without Cover Glass

71838	JR1201	20MR16/12i/ESX	ESX	80	Q20MR16/SP	20MR16/NSP8 (ESX)	20MR16/SP10 -ESX	ESX
71887	JR1202	20MR16/23i/BBF	BBF	80	-	-	-	BBF
71936	JR1203	20MR16/40i/BAB	BAB	80	Q20MR16/FL	20MR16/FL40 (BAB)	20MR16/FL36 -BAB	BAB
72426	JR1301	35MR16/12i/FRB	FRB	80	-	35MR16/NSP8 (FRB)	-	(FMT)
72475	JR1302	35MR16/23i/FRA	FRA	80	-	35MR16/SP20 (FRA)	-	(FMV)
72524	JR1303	35MR16/40i/FMW	FMW	80	Q35MR16/C/FL40i/FMW	35MR16/FL40 (FMW)	-	FMW
72965	JR1401	42MR16/12i/EYR	EYR	80	-	-	-	-
73014	JR1402	42MR16/25i/EYS	EYS	80	-	-	-	-
73063	JR1403	42MR16/40i/EYP	EYP	80	-	-	-	-
73112	JR1501	50MR16/13i/EXT	EXT	80	Q50MR16/SP	50MR16/NSP12 (EXT)	50MR16/SP10 -EXT	EXT
73161	JR1502	50MR16/26i/EXZ	EXZ	80	Q50MR16/C/NFL25i/EXZ	50MR16/NFL25 (EXZ)	50MR16/FL24 -EXZ	EXZ
73210	JR1503	50MR16/32i/ENL	ENL	80	-	-	-	-
73259	JR1504	50MR16/40i/EXN	EXN	80	Q50MR16/FL	50MR16/FL40 (EXN)	50MR16/FL38 -EXN	EXN
73357	JR1516	50MR16/12i/EPZ	EPZ	80	-	-	-	-
73308	JR1505	50MR16/60i/FNV	FNV	80	Q50MR16/C/WF55i/FNV	50MR16/VWFL60 (FNV)	-	FNV
74680	JR2701	75MR16/13i/EYF	EYF	80	Q71MR16/C/NSP15i/EYF	-	75MR16/SP14 -EYF	EYF
74729	JR2702	75MR16/26i/EYJ	EYJ	80	Q71MR16/C/NFL25i/EYJ	-	-	EYJ
74778	JR2703	75MR16/44i/EYC	EYC	80	Q71MR16/C/FL40i/EYC	-	75MR16/FL36 -EYC	EYC

* Consult technical marketing for application

MR16 - 12V 2-Pin Base - GU5.3 with Cover Glass

71985	JR1251	20MR16CG/9i/(ESX)	ESX/C	81	Q20MR16/C/CG15i/ESX	-	20MRC16/SP10	ESX/FG
72034	JR1252	20MR16CG/23i/(BBF)	BBF/C	81	-	-	-	BBF/FG
72083	JR1253	20MR16CG/38i/(BAB)	BAB/C	81	Q20MR16/C/CG40i/BAB	-	20MRC16/FL36	BAB/FG
72573	JR1351	35MR16CG/12i/(FRB)	FRB/C	81	Q35MR16/C/CG12i/FRB	-	-	(FMT/FG)
72622	JR1352	35MR16CG/23i/(FRA)	FRA/C	81	Q35MR16/C/CG20i/FRA	-	-	(FMV/FG)
72671	JR1353	35MR16CG/38i/(FMW)	FMW/C	81	Q35MR16/C/CG40i/FMW	-	-	FMW/FG
73406	JR1551	50MR16CG/13i/(EXT)	EXT/C	81	Q50MR16/C/CG15i/EXT	-	50MRC16/SP10	EXT/FG
73455	JR1552	50MR16CG/26i/(EXZ)	EXZ/C	81	Q50MR16/C/CG25i/EXZ	-	50MRC16/NFL24	EXZ/FG
73504	JR1553	50MR16CG/32i/(ENL)	ENL/C	81	-	-	-	-
73553	JR1554	50MR16CG/38i/(EXN)	EXN/C	81	Q50MR16/C/CG40i/EXN	-	50MRC16/FL36	EXN/FG
73994	JR1566	50MR16CG/56i/(FNV)	FNV/C	81	Q50MR16/C/CG55i/FNV	-	-	FNV/FG
74435	JR2651	65MR16CG/13i/(FPA)	FPA/C	81	-	-	-	-
74484	JR2652	65MR16CG/26i/(FPC)	FPC/C	81	-	-	-	-
74533	JR2653	65MR16CG/38i/(FPB)	FPB/C	81	-	-	-	-

* Consult technical marketing for application

MR16 - 12V DC Bayonet Base with Cover Glass

72230	JR1271	20MR16CG/DC/9i/(ESX)	ESX/C-DC	81	-	-	-	GEV/FG
72279	JR1272	20MR16CG/DC/23i/(BBF)	BBF/C-DC	81	-	-	-	-
72328	JR1273	20MR16CG/DC/38i/(BAB)	BAB/C-DC	81	-	-	-	GES/FG
72818	JR1371	35MR16CG/DC/12i/(FRB)	FRB/C-DC	81	-	-	-	-
72867	JR1372	35MR16CG/DC/23i/(FRA)	FRA/C-DC	81	-	-	-	-
72916	JR1373	35MR16CG/DC/38i/(FMW)	FMW/C-DC	81	-	-	-	-
74141	JR1571	50MR16CG/DC/13i/(EXT)	EXT/C-DC	81	-	-	-	GBT/FG
74190	JR1572	50MR16CG/DC/26i/(EXZ)	EXZ/C-DC	81	-	-	-	GBV/FG
74239	JR1573	50MR16CG/DC/32i/(ENL)	ENL/C-DC	81	-	-	-	-
74288	JR1574	50MR16CG/DC/38i/(EXN)	EXN/C-DC	81	-	-	-	GBW/FG
74337	JR1575	50MR16CG/DC/56i/(FNV)	FNV/C-DC	81	-	-	-	FNV/FG
74386	JR1576	50MR16CG/DC/56i/(MSW)	*MSW/C-DC	81	-	-	-	-

*Medium Super Wide

* Consult technical marketing for application

MR16 - UV-cut 12V 2-Pin Base - GU5.3 with Cover Glass.....There are no competitive products. Turn to page 83 in this catalog.

MR16 - 24V 2-Pin Base - GU5.3 with Cover Glass

75464	JR7351	35MR16CG/11i/24V/(FRB)	FRB/C 24V	84	Q35MR16/CCG12 24V	-	-	JR24V35W/N
75513	JR7352	35MR16CG/23i/24V/(FRA)	FRA/C 24V	84	-	-	-	JR24V35W/M
75562	JR7353	35MR16CG/40i/24V/(FMW)	FMW/C 24V	84	Q35MR16/CCG40 24V	-	-	JR24V35W/W
75611	JR7551	50MR16CG/12i/24V/(EXT)	EXT/C 24V	84	Q50MR16/CCG15 24V	-	-	JR24V50W/N
75660	JR7552	50MR16CG/26i/24V/(EXZ)	EXZ/C 24V	84	-	-	-	JR24V50W/M
75709	JR7553	50MR16CG/40i/24V/(EXN)	EXN/C 24V	84	Q50MR16/CCG40 24V	-	-	JR24V50W/W

MR16 - 10,000 hrs 12V 2-Pin Base - GU5.3 with Cover Glass

72637	JR8351	35MR16CG/12i/10000H/(FRB)	FRB/C 10000h	85	-	-	-	-
75723	JR8353	35MR16CG/36i/10000H/(FMW)	FMW/C 10000h	85	-	-	-	FMW/FG/ULTRA
67890	JR8551	50MR16CG/12i/10000H/(EXT)	EXT/C 10000h	85	-	-	-	EXT/FG/ULTRA
75720	JR8553	50MR16CG/38i/10000H/(EXN)	EXN/C 10000h	85	-	-	-	EXN/FG/ULTRA

* Consult technical marketing for application

Halogen Lamp Cross Reference



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Product Code	Ordering Code	Product Comparison Guide	ANSI REFERENCE	Page No.	Description	Description	Description	Description

MR16 - Neodymium 12V 2-Pin Base - GU5.3 with Cover Glass

72132	JR1254	20MR16CG/20i/NEOD	-	86	-	-	-	-
72181	JR1255	20MR16CG/25i/NEOD	-	86	-	-	-	-
72720	JR1354	35MR16CG/21i/NEOD	-	86	-	-	-	-
72769	JR1355	35MR16CG/32i/NEOD	-	86	-	-	-	-
74043	JR1568	50MR16CG/21i/NEOD	-	86	-	-	-	EXZ/N/FG
74092	JR1569	50MR16CG/32i/NEOD	-	86	-	-	-	-
74582	JR2654	65MR16CG/20i/NEOD	-	86	-	-	-	-
74631	JR2655	65MR16CG/29i/NEOD	-	86	-	-	-	-

MR16 - 3450K 12V 2-Pin Base - GU5.3 with Cover Glass

71841	JR1201D	20MR16/9i/3450K/(ESX)	ESX/3450K	87	-	-	-	-
71942	JR1203D	20MR16/36i/3450K/(BAB)	BAB/3450K	87	-	-	-	-
72432	JR1301D	35MR16/12i/3450K/(FRB)	FRB/3450K	87	-	-	-	-
72530	JR1303D	35MR16/37i/3450K/(FMW)	FMW/3450K	87	-	-	-	-
73116	JR1501D	50MR16/12i/3450K/(EXT)	EXT/3450K	87	-	-	-	-
73167	JR1502D	50MR16/26i/3450K/(EXZ)	EXZ/3450K	87	-	-	-	-
73263	JR1504D	50MR16/37i/3450K/(EXN)	EXN/3450K	87	-	-	-	-

MR16 - 4200K 12V 2-Pin Base - GU5.3 with Cover Glass

72188	JR1256	20MR16CG/38i/4200K/(BAB)	BAB/C/4200K	88	-	-	-	-
72771	JR1356	35MR16CG/38i/4200K/(FMW)	FMW/C/4200K	88	-	-	-	-
74392	JR1580	50MR16CG/38i/4200K/(EXN)	EXN/C/4200K	88	-	-	-	EXN/FG/WS
74420	JR1581	50MR16CG/56i/4200K/(FNV)	FNV/C/4200K	88	-	-	-	-

MR16 - Colors 12V 2-Pin Base - GU5.3 with Cover Glass

73602	JR1558	50MR16CG/13i/R	-	91	-	-	-	FND/FG
73651	JR1559	50MR16CG/32i/R	-	91	-	-	-	-
73700	JR1560	50MR16CG/13i/Y	-	91	-	-	-	FNC/FG
73749	JR1561	50MR16CG/32i/Y	-	91	-	-	-	-
73798	JR1562	50MR16CG/13i/G	-	91	-	-	-	FNE/FG
73847	JR1563	50MR16CG/32i/G	-	91	-	-	-	-
73896	JR1564	50MR16CG/13i/B	-	91	-	-	-	FNF/FG
73945	JR1565	50MR16CG/32i/B	-	91	-	-	-	-

MR16 - Super Soft (diffused light) 12V 2-Pin Base - GU5.3 with Cover Glass.....There are no competitive products. Turn to page 88 in this catalog.

MR16 - 120V 3000K Intermediate Base - E17 without Cover Glass

75954	JX1016	75MR16/E17/10i/120V/FSA	FSA	89	-	-	-	JDR120V75WL/N/E17
76003	JX1017	75MR16/E17/18i/120V/FSB	FSB	89	-	-	-	JDR120V75WL/M/E17
76052	JX1018	75MR16/E17/28i/120V/FSD	FSD	89	-	-	-	JDR120V75WL/W/E17
76297	JX1044	100MR16/E17/10i/120V/FSC	FSC	89	-	-	-	JDR120V100WL/N/E17
76346	JX1045	100MR16/E17/18i/120V/FSE	FSE	89	-	-	-	JDR120V100WL/M/E17
76395	JX1046	100MR16/E17/28i/120V/FSF	FSF	89	-	-	-	JDR120V100WL/W/E17

MR16 - 120V 3000K Intermediate Base - E17 with Cover Glass.....There are no competitive products. Turn to page 89 in this catalog.

MR16 - 120V 3600K Intermediate Base - E17 without Cover Glass.....There are no competitive products. Turn to page 89 in this catalog.

MR16 - 120V 3600K Intermediate Base - E17 with Cover Glass.....There are no competitive products. Turn to page 89 in this catalog.

MR16 - 120V Neodymium Intermediate Base - E17 with Cover Glass.....There are no competitive products. Turn to page 89 in this catalog.

MR16 - 120V Medium Base with Cover Glass.....There are no competitive products. Turn to page 90 in this catalog.



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Single-Ended - Mini Candelabra Base

81903	50Q/CL	50Q/CL/MC	-	92	-	-	-	-
82050	50Q	50Q/F/MC	-	92	-	-	-	-
81952	50Q/CL	50Q/CL/MC/130V	-	92	-	-	-	-
82075	50Q	50Q/F/MC/130V	-	92	-	-	-	-
82197	75Q/CL	75Q/CL/MC	-	92	Q75/CL/MC	75Q/CL/MC	75Q/CL	JCV120V-75WGSNF
82295	75Q	75Q/F/MC	-	92	-	-	-	JCV120V-75WGSNF
82215	75Q/CL	75Q/CL/MC/130V	-	92	-	-	-	-
82308	75Q	75Q/F/MC/130V	-	92	-	-	-	-
80286	100Q/CL	100Q/CL/MC	-	92	Q100/CL/MC	100Q/CL/MC 120V	100Q/CL	JCV120V-100WGSN
80391	100Q	100Q/F/MC	-	92	Q100MC	-	-	JCV120V-100WGSNF
80335	100Q/CL	100Q/CL/MC/130V	-	92	-	100Q/CL/MC 130V	-	-
80433	100Q	100Q/F/MC/130V	-	92	-	-	-	-
80580	150Q/CL/ETG	150Q/CL/MC/ETG	ETG	92	Q150CL/MC-ETG	150Q/CL/MC (ETG) 120V	150Q/CL ETG	ETG
80776	150Q/ETH	150Q/F/MC/ETH	ETH	92	Q150MC-ETH	150Q/MC (ETH) 120V	150Q ETH	ETH
80629	150Q/CL	150Q/CL/MC/130V	-	92	-	-	150Q/CL 130V	-
80825	150Q	150Q/F/MC/130V	-	92	-	-	-	-
80972	250Q/CL/EHT	250Q/CL/MC/EHT	EHT	92	Q250CL/MC- EHT	250Q/CL/MC (EHT) 120V	250Q/CL EHT	EHT
81168	250Q/ESM	250Q/F/MC/ESM	ESM	92	Q250MC- ESM	250Q/MC (ESM) 120V	-	ESM
81021	250Q/CL	250Q/CL/MC/130V	-	92	Q250CL/MC	250Q/CL/MC 130V	250Q/CL 130V	JCV130V-250WGSN
81217	250Q	250Q/F/MC/130V	-	92	Q250MC	250Q/MC 130V	-	-
81315	400Q/CL	400Q/CL/MC	-	92	Q400CL/MC	-	-	JCV120V-400WGSN
81413	400Q	400Q/F/MC	-	92	Q400MC	-	-	JCV120V-400WGSNF
81325	400Q/CL	400Q/CL/MC/130V	-	92	-	-	-	-
81420	400Q	400Q/F/MC/130V	-	92	-	-	-	-
81511	500Q/CL/EVR	500Q/CL/MC/EVR	EVR	92	Q500CL/MC/EVR	500Q/CL/MC (EVR) 120V	500Q/CL EVR	EVR
81756	500Q/EYX	500Q/F/MC/EYX	EYX	92	-	500Q/MC (EYX) 120V	-	EYX
81560	500Q/CL/EYW	500Q/CL/MC/130V/EYW	EYW	92	-	500Q/CL/MC (EYW) 130V	-	EYW
81707	500Q/EYV	500Q/F/MC/130V/EYV	EYV	92	-	500Q/MC (EYV) 130V	-	EYV

Single-Ended - Double Contact Bayonet Base

81805	50Q/CL/DC	50Q/CL/DC	-	93	-	-	-	-
82001	50Q/DC	50Q/F/DC	-	93	-	-	-	-
81854	50Q/CL/DC	50Q/CL/DC/130V	-	93	-	-	-	-
82013	50Q/DC	50Q/F/DC/130V	-	93	-	-	-	-
82148	75Q/CL/DC	75Q/CL/DC/28V	-	93	-	-	-	-
82099	75Q/CL/DC	75Q/CL/DC	-	93	-	-	-	JCV120V-75WGB
82246	75Q/DC	75Q/F/DC	-	93	-	-	-	JCV120V-75WGBF
82081	75Q/CL/DC	75Q/CL/DC/130V	-	93	-	-	-	-
82253	75Q/DC	75Q/F/DC/130V	-	93	-	-	-	-
80188	100Q/CL/DC	100Q/CL/DC	-	93	Q100CL/DC	-	-	JCV120V-100WGB
80343	100Q/DC	100Q/F/DC	-	93	Q100DC	-	-	JCV120V-100WGBF
80237	100Q/CL/DC	100Q/CL/DC/130V	-	93	-	-	-	-
80384	100Q/DC	100Q/F/DC/130V	-	93	-	-	-	-
80482	150Q/CL/DC/ETC	150Q/CL/DC/ETC	ETC	93	Q150CL/DC-ETC	150Q/CL/DC (ETC) 120V	150Q/CL/DC ETC	ETC
80678	150Q/DC/ETF	150Q/F/DC/ETF	ETF	93	Q150DC-ETF	150Q/DC (ETF) 120V	150Q/DC ETF	ETF
80531	150Q/CL/DC	150Q/CL/DC/130V	-	93	-	-	-	-
80727	150Q/DC	150Q/F/DC/130V	-	93	-	-	-	-
80874	250Q/CL/DC/ESS	250Q/CL/DC/ESS	ESS	94	Q250CL/DC-ESS	250Q/CL/DC (ESS) 120V	250Q/CL/DC ESS	ESS
81070	250Q/DC/ETB	250Q/F/DC/ETB	ETB	94	Q250DC-ETB	250Q/DC (ETB) 120V	-	ETB
80923	250Q/CL/DC	250Q/CL/130V	-	94	Q250CL/DC	250Q/CL/DC 130V	250Q/CL/DC 130V	-
81119	250Q/DC	250Q/F/DC/130V	-	94	Q250DC	250Q/DC 130V	-	-
81266	400Q/CL/DC	400Q/CL/DC	-	94	-	-	-	-
81364	400Q/DC	400Q/F/DC	-	94	-	-	-	-
81275	400Q/CL/DC	400Q/CL/DC/130V	-	94	-	-	-	-
81370	400Q/DC	400Q/F/DC/130V	-	94	-	-	-	-
81438	500Q/CL/DC	500Q/CL/DC	-	94	Q500CL/DC	-	-	JCV120V-500WGB
81609	500Q/DC	500Q/F/DC	-	94	Q500DC	-	-	JCV120V-500WGBF
81462	500Q/CL/DC	500Q/CL/DC/130V	-	94	-	-	-	-
81658	500Q/DC	500Q/F/DC/130V	-	94	-	-	-	-

Single-Ended - Miniature Screw Base - E10

85706	JD28V75W/M1	75Q/CL/E10/28V	-	94	Q75CL 28V	75Q/CL/MS 28V	-	-
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Product Code	Ordering Code	Product Comparison Guide	ANSI REFERENCE	Page No.	Description	Description	Description	Description

Single-Ended - European Screw Base - E14

84873	JD120V75W/M7	75Q/CL/E14	-	95	-	-	-	-
85479	JD130V75W/M7	75Q/CL/E14/130V	-	95	-	-	-	-
84614	JD120V100W/M7	100Q/CL/E14	-	95	-	-	-	-
84971	JD130V100W/M7	100Q/CL/E14/130V	-	95	-	-	-	-
84653	JD120V150W/M7	150Q/CL/E14	-	95	-	-	-	-
85118	JD130V150W/M7	150Q/CL/E14/130V	-	95	-	-	-	-
84692	JD120V250W/M7	250Q/CL/E14	-	95	-	-	-	-
85265	JD130V250W/M7	250Q/CL/E14/130V	-	95	-	-	-	-
84731	JD120V500W/M7	500Q/CL/E14	-	95	-	-	-	-
85412	JD130V500W/M7	500Q/CL/E14/130V	-	95	-	-	-	-

Single-Ended - Medium Screw Base - E27 There are no competitive products. Turn to page 95 in this catalog.

Single-Ended - High Voltage Mini Candelabra Base & DC Bayonet Base There are no competitive products. Turn to page 96 in this catalog.

Double Enveloped Halogen Lamps - Medium Base

86304	JT1055	50JT10/CL/MED/120V	-	97	-	-	-	-
86451	JT3051	50JT10/F/MED/120V	-	97	-	-	-	-
86206	JT1043	75JT10/CL/MED/120V	-	97	-	75T10/HAL/CL	-	JT120V-75WG T
86353	JT3043	75JT10/F/MED/120V	-	97	-	75T10/HAL/F	-	JT120V-75WGF T
86255	JT1047	100JT10/CL/MED/120V	-	97	-	100T10/HAL	-	JT120V-100WG T
86402	JT3047	100JT10/F/MED/120V	-	97	-	100T10/HAL/CF	-	JT120V-100WGF T
86311	JT120V150WL	150JT10/CL/MED/120V	-	97	-	150T10HAL/CL	-	JT120V-150WG T
86318	JT120V150WFL	150JT10/F/MED/120V	-	97	-	150T10HAL/F	-	JT120V-150WGF T
86325	JT120V250W/L	250JT10/CL/MED/120V	-	97	-	250T10HAL/CL	-	JT120V-250WG T
86332	JT120V250WFL	250JT10/F/MED/120V	-	97	-	250T10HAL/F	-	JT120V-250WGF T

Double Enveloped Halogen Lamps - Mogul Base - E39/45

86456	JT125/130V500W	500JT12/CL/MOG/125-130V	-	97	-	-	-	JT120V500WB T
86461	JT230/240V500W	500JT12/CL/MOG/230-240V	-	97	-	-	-	-
86467	JT240/250V500W	500JT12/CL/MOG/240-250V	-	97	-	-	-	-
86473	JT230/240V1000W	1000JT12/CL/MOG/230-240V	-	97	-	-	-	-
86479	JT240/250V1000W	1000JT12/CL/MOG/240-250V	-	97	-	-	-	-

2 Pin Capsule Halogen Lamps - Miniature 2 pin Base - G4

83628	JC6V10W20H/G4	10QT3/CL/G4/6V	-	98	-	10T3Q/CL/AX/6V	-	JC6V-10W/G4
83677	JC6V20W20G/G4	20QT3/CL/G4/6V	-	98	-	-	-	JC6V-20W/G4
82991	JC12V20W20H/G4	20QT3/CL/G4/12V	-	98	Q20T2.5/12V/CL	20T3Q/CL/AX	20W/12V/Capsule	JC12V-20W/G4

2 Pin Capsule Halogen Lamps - 2-Pin Base - G6.35

82942	JC12V20W20H/G1	20QT3/G6.35/CL/12V	-	98	-	-	-	JC12V-20W/G6.35
83040	JC12V30W20H/G1	30QT3/G6.35/CL/12V	-	98	-	-	-	-
83089	JC12V35W20H/G1	35QT3/G6.35/CL/12V	-	98	-	-	-	JC12V-35W/G6.35
83187	JC12V50W20H/G1	50QT3/G6.35/CL/12V	-	98	-	-	-	-
83775	JCD24V55W10H/G1	55QT3/G6.35/CL/24V	-	98	-	-	-	-
83285	JC12V75W20H/G1	75QT3/G6.35/CL/12V	-	98	-	-	-	-
82795	JC12V100W20H/G1	100QT3/G6.35/CL/12V	-	98	-	-	-	-
83726	JCD24V100W20H/G1	100QT3/G6.35/CL/24V	-	98	-	-	-	-
83383	JC24V150W10H/G1	150QT4/G6.35/CL/24V/10H	-	98	-	-	-	-
83432	JC24V150W20H/G1	150QT4/G6.35/CL/24V/20H	-	98	-	-	-	-
83481	JC24V200W20H/G1	200QT4/G6.35/CL/24V	-	98	-	-	-	-

2 Pin Capsule Halogen Lamps - 2-Pin Base - GY6.35

83138	JC12V35W20H/G2	35QT3/GY6.35/CL/12V	-	98	Q35T3/12V/CL	35T4Q/CL/AX	35W/12V/Capsule	-
83236	JC12V50W20H/G2	50QT3/GY6.35/CL/12V	-	98	Q50T3/12V/CL	50T4Q/CL/AX	50W/12V/Capsule	JC12V-50W/GY6.35
83585	JC24V50W20H/G2	50QT3/GY6.35/CL/24V	-	98	-	50T4Q/CL/AX/24V	-	-
83334	JC12V75W20H/G2	75QT3/GY6.35/CL/12V	-	98	Q75T4/12V/CL	75T4Q/CL/AX	-	JC12V-75W/GY6.35
83824	JCD24V75W20H/G2	75QT3/GY6.35/CL/24V	-	98	-	-	-	-
82844	JC12V100W20H/G2	100QT3/GY6.35/CL/12V	-	98	Q100T3/12V/CL	-	-	JC12V-100WB/GY6.35
82893	JC12V100W20H/G2	100QT3/GY6.35/CL/12V/M28	M28	98	-	-	-	-
82893	JC24V100W20H/G2	100QT3/GY6.35/CL/24V	-	98	Q100T4/24V/CL	100T4Q/CL/AX/24V	-	-
83530	JC24V250W20H/G2	250QT4/GY6.35/CL/24V/M36	M36	98	-	-	-	-
83579	JC24V300W/G2	300QT4/GY6.35/CL/24V	-	98	-	-	-	-



Halogen Lamp Cross Reference

EYE LIGHTING					GE	OSRAM/SYLVANIA	PHILIPS	USHIO
Product Code	Ordering Code	Product Comparison Guide	ANSI REFERENCE	Page No.	Description	Description	Description	Description

Double-Ended - R7s Base

87049	J120V100W/S	100QT3/CL/80MM	-	100	Q100T3/CL	100T3Q/CL	100T3Q/CL	J120V-100W/79
87539	J130V100W/S	100QT3/CL/130V/80MM	-	100	-	-	-	J130V-100W/79
87054	J120V150W/S	150QT3/CL/80MM	-	100	Q150T3/CL	150T4Q/CL	150T3Q/CL	J120V-150W/79
87637	J130V150W/S	150QT3/CL/130V/80MM	-	100	-	-	-	J130V-150W/79
87196	J120V200W/S	200QT3/CL/80MM	-	100	Q200T3/CL	-	-	J120V-200W/79
87735	J130V200W/S	200QT3/CL/130V/80MM	-	100	-	-	-	J130V-200W/79
87210	J120V250W/S	250QT3/CL/80MM	-	100	Q250T3/CL	-	-	J120V-250W/79
87217	J130V250W/S	250QT3/CL/130V/80MM	-	100	-	-	-	-
87250	J120V300W/S	300QT3/CL/80MM/EHP	EHP	100	Q300T4/CL-EHP	300T4Q/CL (EHP)	-	J120V-300W/79
87833	J130V300W/S	300QT3/CL/130V/80MM	-	100	-	-	-	-
88715	JPD120V400W20H/EHR	400QT4/CL/80MM/EHR	EHR	100	Q400T4/CL-EHR	400T4Q/CL (EHR)	-	EHR
87018	J120V100W	100QT3/CL/119MM	-	101	-	-	-	J120V-100W/119
87498	J130V100W	100QT3/CL/130V/119MM	-	101	-	-	-	J130V-100W/119
87051	J120V150W	150QT3/CL/119MM	-	101	-	-	-	J120V-150W/119
87588	J130V150W	150QT3/CL/130V/119MM	-	101	-	-	-	J130V-150W/119
87147	J120V200W	200QT3/CL/119MM	-	101	-	200T3Q/CL	-	J120V-200W/119
87686	J130V200W	200QT3/CL/130V/119MM	-	101	-	-	-	J130V-200W/119
87206	J120V250W	250QT3/CL/119MM	-	101	-	-	-	J120V-250W/119
87219	J130V250W	250QT3/CL/130V/119MM	-	101	-	-	-	-
87245	J120V300W	300QT3/CL/119MM/EHM	EHM	101	Q300T3/CL-EHM	300T3Q/CL (EHM)	300T3Q/CL EHM	EHM
87294	J120V300W/F	300QT3/F/119MM/EHZ	EHZ	101	Q300T3-EHZ	-	-	EHZ
87784	J130V300W	300QT3/CL/130V/119MM	-	101	-	300T3Q/CL	-	J130V-300W/119
87882	J130V300W/F	300QT3/F/130V/119MM	-	101	-	-	-	-
88281	J220V300W	300QT3/CL/220V/119MM	-	101	-	-	-	-
88176	J220/230V300W	300QT3/CL/220-230V/119MM	-	101	-	-	-	-
88372	J240/250V300W	300QT3/CL/240-250V/119MM	-	101	-	-	-	-
87343	J120V500W	500QT3/CL/119MM/FCL	FCL	101	Q500T3/CL-FCL	500T3Q/CL (FCL)	500T3Q/CL FCL	FCL
87441	J120V500W/F	500QT3/F/119MM/FCZ	FCZ	101	Q500T3-FCZ	500T3Q/CL (FCZ)	-	FCZ
87931	J130V500W	500QT3/CL/130V/119MM/DVS	DVS	101	Q500T3/CL-DVS	500T3Q/CL	-	DVS
88029	J130V500W/F	500QT3/F/130V/119MM	-	101	Q500T3	-	-	-
88293	J220V500W	500QT3/CL/220V/119MM	-	101	-	-	-	-
88225	J220/230V500W	500QT3/CL/220-230V/119MM	-	101	-	-	-	-
88421	J240/250V500W	500QT3/CL/240-250V/119MM	-	101	-	-	-	-
87980	J130V500W/L	500QT3/CL/130V/190MM	-	102	-	-	-	-
87490	J120V750W	750QT3/CL/190MM	-	102	-	-	-	-
88274	J220/230V750W	750QT3/CL/220-230V/190MM	-	102	-	-	-	-
88653	J240V750W	750QT3/CL/240V/190MM	-	102	-	-	-	-
88470	J240/250V750W	750QT3/CL/240-250V/190MM	-	102	-	-	-	-
86951	J120V1000W	1000QT3/CL/190MM	-	102	-	-	-	-
88127	J220/230V1000W	1000QT3/CL/220-230V/190MM	-	102	-	-	-	-
88519	J240V1000W	1000QT3/CL/240V/190MM	-	102	-	-	-	-
87000	J120V1000W/L	1000QT3/CL/254MM	-	102	-	-	-	-
88568	J240V1000W/L	1000QT3/CL/240V/254MM	-	102	Q1000T3/CL 240V	1000T3Q/CL 240V	1000T3/P/CL	-
87098	J120V1500W	1500QT3/CL/254MM	-	102	-	-	-	J120V-1500WB
88078	J208V1500W	1500QT3/CL/208V/254MM	-	102	Q1500T3/CL 208V	1500T3Q/CL/208V	1500T3Q/CL 208V	J208V-1500WB
88323	J220V1500W	1500QT3/CL/220V/254MM	-	102	Q1500T3/CL 220V	-	1500T3Q/CL 220V	-
88617	J240V1500W	1500QT3/CL/240V/254MM	-	102	Q1500T3/CL 240V	1500T3Q/CL 240V	1500T3Q/CL 240V	DYD
88666	J277V1500W	1500QT3/CL/277V/254MM	-	102	Q1500T3/CL 277V	1500T3Q/CL 277V	1500T3Q/CL 277V	J277V-1500WB

Halogen Lamp ANSI Reference



ANSI Reference	Product Description	Product Code	Page #
BAB	JR1203	71936	80
BAB/3450K	JR1203D	71942	87
BAB/C	JR1253	72083	81
BAB/C/3450K	JR1253D	72089	87
BAB/C/4200K	JR1256	72188	88
BAB/C-DC	JR1273	72328	81
BAB/C/UV-Cut	JR5253	74876	83
BAB/FCG	JR1253F	72086	88
BBF	JR1202	71887	80
BBF/C	JR1252	72034	81
BBF/C-DC	JR1272	72279	81
BRJ	JC15V150W/G1	83342	106
BRL	JC12V50W/G1	83145	106
DRA	JCD120V300WL/G1	83743	109
DVS	J130V500W	87931	101
DVY	JCD120V650WC/A1	89217	114
DWT	JPD120V1000WC/DWT	89439	112
DWY	JPD115/120V650WS/DWY	89428	112
DWZ	JPD30V375W/DWZ	89625	112
DXM	JPD30V250W/DXM	83995	112
DXN	JPD120V1000WS/DXN	89482	112
DXW	JPD120V1000WC/DXW	89444	112
DXX	JPD220/230V800WC/DXX	89571	112
DXX	JPD240V800WC/DXX	89619	112
DYA	JPD120V1000WC/DYA	89450	112
DYG	JCD30V250WSB/B	89267	114
DYH	JCD120V600WC/A1	89211	110
DYN	JPD120V1000WC/DYN	89456	112
DYR	JCD220/230V650WC/B	83765	110
DYR	JCD240/250V650WC/B	89249	110
DYS	JCD120V600WC/B	83754	114
DZE	DZE24V150W	83360	110
DZZ	JC12V100W10H/B	82790	110
EFN	JCR12V75W/G1	84362	104
EFP	JCR12V100W/G1	84091	104
EFR	JCR15V150W/G1	84388	104
EGF	JPD120V750WC/P28S EGF	89535	116
EGG	JPD120V750WB/P28S EGG	89517	116
EGK	JPD120V1000WCF/P28S EGK	89477	116
EGR	JPD120V750WC/G22	89529	116
EGT	JPD120V1000WC/G22	89466	116
EHD	JPD120V500WB/G9.5	89499	114
EHG	JPD120V750WB/G9.5	89511	114
EHJ	JC24V250W/G1	83521	106
EHM	J120V300W	87245	101
EHP	J120V300W/S	87250	100
EHR	JPD120V400W20H/EHR	88715	100, 112
EHT	250Q/CL120V250W	80972	92, 117
EHZ	J120V300WF	87294	101
EKD	JCD120V650WS/B	89231	110
ENL	JR1503	73210	80
ENL/C	JR1553	73504	81
ENL/C-DC	JR1573	74239	81
ENL/C/UV-Cut	JR5553	75170	83
EPZ	JR1505	73308	80
ESM	250Q120V250W	81168	92, 117
ESS	250Q/CL/DC120V250W	80874	94
ESX	JR1201	71838	80
ESX/3450K	JR1201D	71841	87

ANSI Reference	Product Description	Product Code	Page #
ESX/C	JR1251	71985	81
ESX/C/3450K	JR1251D	71989	87
ESX/C-DC	JR1271	72230	81
ESX/C/UV-Cut	JR5251	74827	83
ETB	250Q/DC120V250W	81070	94, 118
ETC	150Q/CL/DC120V150W	80482	93, 118
ETF	150Q/DC120V150W	80678	93, 118
ETG	150Q/CL120V150W	80580	92, 117
ETH	150Q120V150W	80776	92, 117
EVC	JC24V250W3H/G1 EVC	83542	106
EVR	500Q/CL120V500W	81511	92, 117
EWR	JF6.6A150W/B	86774	120
EXM	JF6.6A45W02/B	86814	120
EXN	JR1504	73259	80
EXN/3450K	JR1504D	73263	87
EXN/C	JR1554	73553	81
EXN/C 10000h	JR8553	75720	85
EXN/C 24V	JR7553	75709	84
EXN/C/3450K	JR1554D	73558	87
EXN/C/4200K	JR1580	74392	88
EXN/C-DC	JR1574	74288	81
EXN/C/UV-Cut	JR5554	75219	83
EXN/FCG	JR1554F	73559	88
EXT	JR1501	73112	80
EXT/3450K	JR1501D	73116	87
EXT/C	JR1551	73406	81
EXT/C 10000h	JR8551	67890	85
EXT/C 24V	JR7551	75611	84
EXT/C/3450K	JR1551D	73412	87
EXT/C-DC	JR1571	74141	81
EXT/C/UV-Cut	JR5551	75072	83
EXZ	JR1502	73161	80
EXZ/3450K	JR1502D	73167	87
EXZ/C	JR1552	73455	81
EXZ/C 24V	JR7552	75660	84
EXZ/C/3450K	JR1552D	73460	87
EXZ/C-DC	JR1572	74190	81
EXZ/C/UV-Cut	JR5552	75121	83
EYB	JCD82V360W/A1	83851	110
EYC	JR2703	74778	80
EYF	JR2701	74680	80
EYJ	JR2702	74729	80
EYP	JR1403	73063	80
EYR	JR1401	72965	80
EYS	JR1402	73014	80
EYV	500Q130V500W	81707	92, 117
EYW	500Q/CL130V500W	81560	92, 117
EYX	500Q120V500W	81756	92, 117
FAD	JPD120V650WC/FAD	83941	112
FAL	JPD120V420WC/FAL	83914	112
FBT	JCD30V150W/M1	89255	117
FBV	JCD30V250W/M1	89261	117
FBW	JCD30V350W/M1	89271	117
FCB	JPD120V600WC/FCB	83923	112
FCL	J120V500W	87343	101
FCM	JP120V1000WC1/FCM	83905	113
FCR	JC12V100W/G2	82602	106
FCS	FCS24V150W	83357	106
FCZ	J120V500WF	87441	101



Halogen Lamp ANSI Reference

ANSI Reference	Product Description	Product Code	Page #
FDA	JPD120V400WC/FDA	89493	112
FDF	JP120V500WC1/FDF	89347	113
FDS	FDS24V150W	83869	110
FDT	FDT12V100W	82591	110
FDV	JC24V150W1H/G1	83376	106
FDW	FDW24V150W	83387	106
FDX	FDX12V100W	83391	106
FEA	JPD240V600WC/FEA	83977	112
FEB	JPD220/230V600WC/FEB	83959	112
FEL	JPD120V1000WC/G9.5	89471	114
FEP	JPD220/230V1000WC/G9.5	89547	114
FEP	JPD240/250V1000WC/G9.5	89583	114
FER	JPD120V1000WC/FER	89461	112
FEX	JPD220/230V2000WC/FEX	89553	112
FEX	JPD240V2000WC/FEX	89594	112
FEY	JPD120V2000WC/FEY	89488	112
FFJ	JPD120V600WC/FFJ	83932	112
FGB	JPD120V750WC/FGB	89522	112
FGD	JPD120V500WC/FGD	89504	112
FHM	JP120V1000WC1/FHM	89342	113
FLK	JPD115V575WC/G9.5	89433	114
FMW	JR1303	72524	80
FMW/3450K	JR1303D	72530	87
FMW/C	JR1353	72671	81
FMW/C 10000h	JR8353	75723	85
FMW/C 24V	JR7353	75562	84
FMW/C/3450K	JR1353D	72675	87
FMW/C/4200K	JR1356	72771	88
FMW/C-DC	JR1373	72916	81
FMW/C/UV-Cut	JR5353	75023	83
FMW/FCG	JR1353F	72678	88
FNV	JR1516	73357	80
FNV/C	JR1566	73994	81
FNV/C/4200K	JR1581	74420	88
FNV/C-DC	JR1575	74337	81
FNV/C/UV-Cut	JR5566	75268	83
FNV/FCG	JR1566F	73998	88
FPA/C	JR2651	74435	81
FPA/C/UV-Cut	JR6651	75317	83
FPB/C	JR2653	74533	81
FPB/C/UV-Cut	JR6653	75415	83
FPC/C/UV-Cut	JR6652	75366	83
FRA	JR1302	72475	80
FRA/C	JR1352	72622	81
FRA/C 24V	JR7352	75513	84
FRA/C-DC	JR1372	72867	81
FRA/C/UV-Cut	JR5352	74974	83
FRB	JR1301	72426	80
FRB/3450K	JR1301D	72432	87
FRB/C	JR1351	72573	81
FRB/C 10000h	JR8351	72367	85
FRB/C 24V	JR7351	75464	84
FRB/C/3450K	JR1351D	72577	87
FRB/C-DC	JR1371	72818	81
FRB/C/UC-Cut	JR5351	74925	83
FPC/C	JR2652	74484	81
FSA	JX1016	75954	89
FSB	JX1017	76003	89
FSC	JX1044	76297	89

ANSI Reference	Product Description	Product Code	Page #
FSD	JX1018	76052	89
FSE	JX1045	76346	89
FSF	JX1046	76395	89
FSS	JM1241	78414	77
FSS/C	JM1281	78708	78
FST	JM1242	78463	77
FST/C	JM1282	78757	78
FSV	JM1243	78512	77
FSV/C	JM1283	78806	78
FTA	JM1111	77679	77
FTA/C	JM1161	77973	78
FTB	JM1211	78267	77
FTB/C	JM1261	78561	78
FTB/C 24V	JM7261	79443	79
FTC	JM1212	78316	77
FTC/C	JM1262	78610	78
FTC/C 24V	JM7262	79492	79
FTD	JM1213	78365	77
FTD/C	JM1263	78659	78
FTD/C 24V	JM7263	79541	79
FTE	JM1311	78855	77
FTE/C	JM1361	79149	78
FTE/C 24V	JM7361	79590	79
FTF	JM1312	78904	77
FTF/C	JM1362	79198	78
FTF/C 24V	JM7362	79639	79
FTH	JM1313	78953	77
FTH/C	JM1363	79247	78
FTH/C 24V	JM7363	79688	79
GDX	JM1341	79002	77
GDX/C	JM1381	79296	78
GDY	JM1342	79051	77
GDY/C	JM1382	79345	78

Mercury Black Light Lamps & Self-Ballasted Mercury Black Light Lamps



Features:

- Designed to effectively absorb visible light and emit ultraviolet radiation through a dark bulb having a unique filter coating.
- Uses a near ultraviolet phosphor similar to that used in fluorescent lamps producing highly efficient ultraviolet radiation without a loss of visible light.
- Available in a Self-Ballasted design for use in standard incandescent sockets.

Applications:

- Food Industries • Textile Industries • Inspection • Insecticidal
- Metal and Mining Industries • Petro-Chemical Reaction

Physical Data and Characteristics

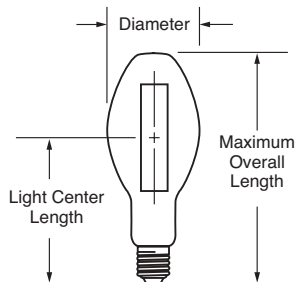
Line #	Watts	Bulb	Base	Product Code	Product Description	ANSI Code	Case Qty.	Average Life Hours	Fix. Req.
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Mercury Black Light Lamps

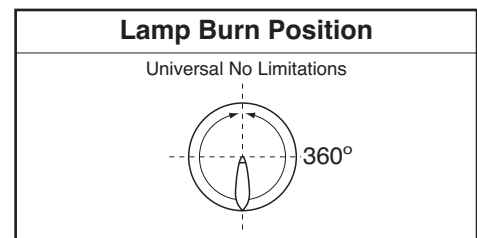
1	100	E24 Black Coating	Med	89630	H100-BL	H38	12	3000	E
2	125	E24 Black Coating	Med	89634	H125-BL	-	12	3000	E
3	250	BT32 Black Coating	Mog	69800	H250-BL	H37	12	3000	E
4	400	BT37 Black Coating	Mog	69917	H400-BL	H33	12	3000	E

Self-Ballasted Mercury Black Light Lamps

5	160	E24 Black Coating	Med	68094	160WSB/E24-BL	NA	12	3000	E
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Lamp Dimensions			
	E24	BT32	BT37
Nominal Diameter	2.968 in. 75 mm	3.937 in. 100 mm	4.625 in. 117 mm
Maximum Overall Length	6.968 in. 177 mm	9.843 in. 250 mm	11.451 in. 291 mm
Light Center Length	NA	NA	NA



Notes:

1. Warning/Caution notices, see page # 56
2. Operating Instructions, see page # 56
3. All information subject to change without notice
4. Refer to safety instructions in a lamp package.
Black light lamps require special fixtures and operating conditions.
5. Contact EYE Lighting International for further information and availability.



Special Application Lamps

Fluorescent Black Light Lamps

Features:

- EYE Black light is designed to effectively absorb visible light and emit ultraviolet rays through a special dark filter glass bulb.
- Using a near ultraviolet phosphor similar to fluorescent chemical lamps, lamps produce highly efficient ultraviolet rays without a loss of visible light.



Applications:

- Food industries • Metal and Mining industries • Textile industries
- Reproduction • Insecticidal • Promotion of Photo-Chemical Reaction
- Inspection

Physical Data and Characteristics

Line #	Watts	Product Code	Product Description	Case Qty.	Dimension		Lamp		Average Life Hours
					Length (in./mm)	Diameter (in./mm)	Voltage (V)	Current (A)	
1	4	89638	FL4BLB	50	5 9/32 in./134 mm	19/32 in./15 mm	100	0.125	3000
2	6	89642	FL6BLB	50	8 9/32 in./210 mm	19/32 in./15 mm	100	0.147	3000
3	8	89646	FL8BLB	50	11 9/32 in./287 mm	19/32 in./15 mm	100	0.170	3000
4	10	89650	FL10BLB	20	13 in./330 mm	1 in./25 mm	100	0.230	4000
5	15	89654	FL15BLB	20	17 5/32 in./436 mm	1 in./25 mm	100	0.300	4000
6	20	89658	FL20BLB	10	23 3/16 in./588.5 mm	1 1/4 in./32 mm	100	0.350	4000
7	40	89662	FL40BLB	10	47 5/32 in./1198 mm	1 1/4 in./32 mm	200	0.415	5000

EYE Ultraviolet Germicidal Lamps

Features:

- EYE low cost germicidal lamps are designed and manufactured to produce the highest ultraviolet ray of 2537 angstroms for effective germicidal action.



Applications:

- Air germicidal application • Water germicidal application

Physical Data and Characteristics

Line #	Watts	Bulb	Base	Product Code	Product Description	Case Qty.	Dimension		Lamp Current (A)	Average Life Hours	Ballast information
							Length (in./mm)	Diameter (in./mm)			
1	4	T-5	Medium Bipin	89146	G4T5	50	5 9/32 in. / 134 mm	5/8 in. / 15.5 mm	0.162	6000	4W Fluorescent ballast
2	6	T-5	Medium Bipin	89151	G6T5	50	8 9/32 in. / 210 mm	5/8 in. / 15.5 mm	0.147	6000	6W Fluorescent ballast
3	8	T-5	Medium Bipin	89172	G8T5	50	11 9/32 in. / 287 mm	5/8 in. / 15.5 mm	0.170	6000	8W Fluorescent ballast
4	10	T-8	Medium Bipin	89107	G10T8	20	12 in. / 330 mm	1 in. / 25.5 mm	0.230	6000	10W Fluorescent ballast
5	15	T-8	Medium Bipin	89120	G15T8	20	17 5/32 in. / 436 mm	1 in. / 25.5 mm	0.300	8000	15W Fluorescent ballast
6	30	T-8	Medium Bipin	89133	G30T8	20	35 5/32 in. / 893 mm	1 in. / 25.5 mm	0.355	8000	30W Fluorescent ballast

Notes:

1. These lamps require special fixtures and operating conditions.
2. All information subject to change without notice.
3. Contact EYE Lighting International for further information and availability.



Ace: The EYE trade name that identifies the product family as a retrofit or conversion lamp.

Ampere: A unit to quantify the intensity of electric current flow. Commonly referred to as Amps (A) or current (I).

$$\text{Amperes} = \frac{\text{Watts}}{\text{Volts}}$$

ANSI (American National Standards Institute): A non-profit accredited standards organization established to administer a voluntary industry standards process in the United States.

Arctube: The inner tube of a high intensity discharge (HID) lamp, that contains an electric arc which produces light when an electric current passed through the tube.

Average Rated Life: The life value assigned to a particular lamp type. Statistically, Average Rated Life is a numeric value in hours of the median, (50% point), of a population of lamps that remain operating. For Example, if a lamp had an Average Rated Life of 10,000 hours and 100 new lamps were installed in the same location, approximately 50 lamps would still be operating after 10,000 hours.

Axis Candelas: (See *Center Beam Intensity*)

Ballast Factor (BF): A ratio of the luminous output of a commercial lamp / ballast system operated at its rated input voltage as compared to the luminous output of the same lamp operated on a reference ballast.

$$BF = \frac{\text{Lumens(Commercial Ballast)}}{\text{Lumens(Reference Ballast)}}$$

Ballast Losses: The power consumed by the ballast when it is operating a lamp. The ballast loss is calculated by subtracting the input power from the lamp power.

Ballast: A device that, by means of resistance, inductance, capacitance, or electronic elements, singly or in combination, controls the current, voltage and waveform to the required values for proper lamp starting and operation. Capacitors for power factor correction and capacitor discharge resistors may form part of such ballast.

Base: A mechanical device that supports the lamp and may provide an electrical connection to operate the lamp.

Beam Angle: The angle between two directions within a plane, which contain the points of 50% center beam intensity.

Beam Axis: The axis that the distribution of light flux is substantially symmetrical.

Beam Lumens: The total flux in that region of space where the intensity exceeds 50 percent of the maximum intensity.

Beam Pattern: The pattern of light on a surface perpendicular to the beam axis.

Bimetallic Switch: A temperature sensitive electrical switch inside a HID lamp that opens and closes at the appropriate temperatures. One common use of a bimetallic switch in a HID is to de-activate the starting aid once the lamp has warmed up to extend the lamp life.

C&I (Commercial and Industrial) : Market segments that exclude residential applications.

Candela (cd): The international (SI) unit of luminous intensity equal to one lumen per unit area (steradian). The candela was formerly called a candle.

Candlepower (cp): The luminous intensity expressed in candelas.

Candlepower Distribution Curve: A photometric curve showing the luminous intensity of a lamp or luminaire at various angles from the lamp or luminaire axis, which shows how the light will be spread.

CCF (Current Crest Factor, Lamp): The peak lamp current divided by the RMS lamp current (See RMS Lamp Current). Low crest factors are important for achieving rated lamp life.

$$CCF = \frac{\text{Peak Lamp Current (Amps)}}{\text{RMS Lamp Current (Amps)}}$$

CCT (Correlated Color Temperature): The color appearance of light, usually expressed in Kelvin. For example, 6500K is the approximate CCT of sunlight at high noon.



Glossary of Terms

Center Beam Intensity (Ic): The value of light intensity, measured on the beam axis. The unit of measurement for Center Beam Intensity is the Candela.

Chromaticity: The dominant or complimentary wavelengths (colors) and purity aspects of the colors taken together.

Color shift: The change in a lamp's color appearance, over life, measured in Kelvin compared to the initial color temperature rating.

Cost of Light: The total cost of owning a lighting system, which includes fixture, lamp, installation, maintenance labor, and electrical power costs.

CRI (Color Rendering Index): An international system used to rate a lamp's ability to render object colors. The higher the CRI (based upon a 0-100 scale), the better colors appear. CRI ratings of various lamps may be compared, but a numerical comparison is only valid if the lamps are also rated for the same chromaticity. CRI differences among lamps are not usually significant (visible to the eye) unless the difference is more than 3-5 points.

CSA (Canadian Standards Association): An independent Canadian private accredited safety, and performance standards organization.

CWA (Constant Wattage Autotransformer): A lamp power regulating type ballast that has many similar features of the Constant-Wattage Isolated (Isolated CWI) ballast, including a capacitor in series with a lamp. The CWA ballast uses an autotransformer circuit that combines the primary and secondary on the same winding.

CWI Ballast (Constant-wattage Isolated): A lamp power regulating type ballast incorporating fully isolated secondary windings in series with a capacitor and lamp. CWI ballasts tend to regulate the lamp wattage with small changes in line input voltage.

Efficacy: The measure of a lamp or lighting system to convert electrical energy to radiant luminous energy. Lighting efficacy is expressed in Lumens Per Watt. (LPW)

Electromagnetic Ballast: An inductive type ballast consisting of a coil or coils wound on an iron or steel core and operated at a line frequency of either 50 or 60Hz.

Electronic Ballast: A type of ballast that uses electronic components to provide the open circuit voltage and current regulation to start and sustain a discharge a lamp.

FEC (Ferro-Electric Capacitor): Iwasaki's exclusive patented switching capacitor contained within the outer jacket of special EYE HID lamp designs, (Ignitron & Ignitek), that controls starting voltage pulse height, width and phase.

Fixture Requirement: An ANSI containment classification of luminaires for specific HID lamp types. The classification code consists of the letters "O" for open, "E" for enclosed and "S" for open luminaires with lamp operating position restrictions.

Fluorescent Lamp: An electric discharge lamp, which transforms some of the ultraviolet energy from the arc stream into visible light by exciting the phosphor coating inside the lamp.

Footcandle (fc): A unit of illuminance equal to 1 lumen per square foot or 10.76 lux.

Getter: Chemicals added to a lamp that neutralizes contaminants such as hydrogen and oxygen, which negatively affect lamp starting and life.

Group Re-lamping: Replacing a group of lamps in the same area at the same time at a predetermined interval, rather than changing them individually as they fail. This is the most cost-effective method of re-lamping because it maximizes the lighting system performance and labor efficiency.

Halogen Lamp: An incandescent tungsten filament lamp, which operates at a high pressure and temperature and uses halogen gasses (either bromine or iodine) to keep the bulb wall free of tungsten oxide blackening.

Hard Glass: Heat resistant glass that prevents breaking from thermal shock when struck by water. Borosilicate is one type of hard glass used for lamp outer jackets.

Hertz (Hz): Unit used to measure frequency of alteration of electric current or voltage per unit time. Formerly CPS (Cycles Per Second) 1CPS = 1 Hz.



HID (High Intensity Discharge): An electric discharge lamp in which the light-producing arc is stabilized by the bulb wall temperature and the bulb wall loading is in excess of three watts per square centimeter. High intensity discharge lamp includes groups of lamps commonly known as mercury, metal halide, and high-pressure sodium.

HPS Lamp (High Pressure Sodium Lamp): A high intensity discharge lamp (HID) in which the light is produced by radiation from sodium vapor operating at a partial pressure of 100 Torr. Includes clear and diffuse coated lamps.

HX (High Reactance Ballast): A ballast that consists of a step up voltage autotransformer on the input and a single inductive element wound on the same steel or iron core.

IEC (International Electro-technical Committee): An international independent standards organization. IEC standards are almost exclusively used in Europe and are adopted by many countries as their national standards for product safety and performance.

Input Watts: Total power consumed by lamp and ballast when the lamp is operated at rated wattage.

Kelvin: The unit of measure used to designate the color temperature of a light source.

Lag Ballast: A ballast exhibiting primarily inductive electrical characteristics, including a lagging lamp current with respect to line voltage and lagging or corrected line power factor. This includes reactors and high reactance transformers.

LCL (Light Center Length): The distance from the light center to a specified reference point on the lamp.

LPW (Lumens Per Watt): *See Efficacy*

Lumen (lm): SI unit of luminous flux emitted within a unit solid angle (1 steradian) by a point source of having a uniform luminous intensity of 1 candela.

Luminaire: A complete lighting unit consisting of a lamp or lamps together with the parts designed to distribute the light, to position and protect the lamps and to connect the lamps to the power supply.

Lux (lx): The SI unit of illuminance. One lux equals one lumen per square meter.

Mean Lumens: The average light output of a lamp over its life, usually determined by the light output at 40% of rated life.

Mercury Lamp: A High Intensity Discharge (HID) lamp in which the major portion of the light is produced by radiation from mercury vapor operating at a partial pressure in excess of an atmosphere. Includes clear, phosphor coated and self-ballasted lamps.

Metal Halide Lamp: A High Intensity Discharge (HID) lamp in which the major portion of light is produced by radiation of metal halides and their products of dissociation in combination with metallic vapors such as mercury. Includes clear and phosphor coated lamps.

Mogul Base: A large Edison Screw base whose diameter is approximately 1.5 inches.

MOL (Maximum Overall Length): The largest outside dimension of a lamp. Typically MOL is measured from the end of the lamp base to the top of the outer jacket.

NEC (National Electric Code®): A collection of electrical wiring specifications and standards developed by the National Fire Protection Association (NFPA), and adopted and used in all 50 states in the USA. This standard is accredited by ANSI and CSA.

Nominal Beam Angle: That beam angle which is established as being representative of a manufacturers production.

Operating Position: The specific physical orientation in which lamps are designed to operate. (for example, Base Up — BU, Base Down — BD, Horizontal — HOR etc.)

Peak Intensity (Ip): The highest value of light flux intensity regardless of whether or not it occurs on the beam axis. The unit of measure of Peak Intensity is the Candela.

Peak-lead Ballast: A ballast that produces a highly peaked open circuit voltage wave shape and has a capacitor in series with the lamp. CWA and CWI ballasts are typically Peak-lead ballasts.



Glossary of Terms

Potting: A material used to completely surround and encapsulate components of electrical devices such as ballasts and lamp ignitors, providing thermal and structural integrity while protecting the ballast against adverse environmental conditions.

Power Factor (PF): The ratio of real power (watts) to apparent power VA (volts x amps). HID ballast power factor is classified in two categories, High ($Pf \geq 0.90$), and Normal or Low, ($Pf < 0.90$).

Quartz: A high heat resistant glass-like material manufactured from pure silica sand. Quartz is used in for the arc tube in mercury and many metal halide lamp types.

Rated Life: See *Average Rated Life*

Reduced Jacket: A reduction in lamp bulb outer jacket size from the traditional standard size. Reduced jacket lamps are designed for special fixture applications and have generally shorter rated life.

Reflector Lamp: An incandescent filament or electric discharge lamp in which the outer blown glass is coated with a reflecting material so as to direct the light (such as R, MR, PAR or ER type lamps). The light-transmitting region can be clear, frosted, patterned, or phosphor coated.

RMS Lamp Current: The effective lamp current. The lamp current of an HID lamp is normally measured as the RMS lamp current since the lamp current is frequently non-sinusoidal.

Seasoning Time: The time required for a new operating lamp to reach a state of equilibrium where the electrical, light level and color parameters stabilize. Typically, HID lamps obtain their rated performance after 100 hours of seasoning.

Self-Ballasted: An electric discharge or HID lamp that contains integral ballast as part of the lighting device.

Shroud: The quartz enclosure around the arc tube designed to prevent bulb breakage of the outer jacket if the arc tube ruptures. Shrouded lamps are typically used in place of an enclosed fixture.

SI Unit: The International System of Units universally abbreviated SI (from the French *Le Systeme d'Unites*).

Soft Glass: Soft Glass or soda lime glass is easily melted and formed with relatively low melting temperatures as compared to heat resistant glass. Soft glass lamps may fracture when water hits a hot bulb.

Spectrum: A linear representation of the different radiant electromagnetic wavelengths ranging from cosmic rays to radio waves.

Steridian: The steridian is the solid angle which, having its vertex in the center of a sphere, cuts off an area of the sphere equal to that of a square with sides of equal length equal to the radius of the sphere.

UL (Underwriters Laboratories): Underwriters Laboratories Inc. is an independent, not-for-profit product safety testing and certification organization. UL has tested products for public safety for more than a century.

Universal Operating Base Position: Lamps that can be installed and operated in any position. The letter U commonly designates universal position operating lamps.

UV (Ultraviolet): Radiant energy within the wavelengths of 100-400nm. UV energy is classified by IEC in three categories: UVA - 315 to 400 nm ("Black Light"), UVB - 280 to 315 nm (Bacterial Sterilization) and UVC - 100 to 280 nm (Ozone Producing).

Warm Up Time: The time from the initial establishment of an arc to 90% of the steady state full light output of the lamp.

Watt (W): A unit of power used to quantify the rate of doing work. In electrical calculations, one watt is the power produced by a current of 1 ampere across a potential difference of one volt. In addition, the radiant luminous flux of a lamp is also expressed in watts.



EYE LIGHTING PRODUCT FAMILY DEFINITIONS

Clean Ace	Retrofit Metal Halide lamps that operate on Mercury CWA ballasts. Converts Mercury 40 CRI fixtures to Metal Halide 90CRI fixtures by changing the lamp.
Clean Arc	Metal Halide lamps that operate on CWA ballasts providing 6500K color temperature at 90 CRI.
Color Arc	Compact, medium base tubular and PAR Metal Halide lamps rated for use in open fixtures. 3500K, 4500K, 6500K color temp. Plus aqua and blue colors, all at 96 CRI
DAYLUX	Compact medium base HPS lamps with high CRI that produces a warm color light similar to incandescent.
DAYLUX PAR	Reflector bulb, medium base HPS lamps with high CRI that produce a warm color light similar to incandescent.
Dichro-Cool	A Multi Mirror halogen lamp family that reflects the light into the beam and transmits heat back through the Dichroic reflector.
Halogen	Complete line of halogen lamps including Dichro-cool, single and double-ended lamps.
High Output Horizontal Operation	High lumen output with long life does not require Position Oriented lampholder. (Pin design socket)
High Output Position Oriented	High lumen output, position specific, excellent lamp-to-lamp color uniformity.
Hortilux	Lamps for plant growth; includes Metal Halide, HPS and retrofit/ conversion lamps
Ignitek	Long life Metal Halide with FEC technology. Excellent lumen maintenance in standard Metal Halide lighting system. Operates on standard ballast
Ignitek ES	Energy Saving long life Metal Halide with FEC technology. Excellent lumen maintenance in standard Metal Halide lighting system. Operates on standard ballast
Ignitron EN	HPS lamp with a built-in ignitor that meets Federal EPA TCLP requirements for non-hazardous waste.
Ignitron ES	Energy saving high pressure sodium lamp with an internal ignitor
Ignitron Super	High lumen output HPS lamp with a built-in ignitor that meets Federal EPA TCLP requirements for non-hazardous waste
Mercury	Complete lamp line of standard E, BT and R bulbs plus self-ballasted E types.
Multi-Metal Ace	Retrofit Metal Halide lamps that operate on HPS ballasts. Converts HPS 25 CRI fixtures to Metal Halide 65 CRI fixtures by changing the lamp.



Glossary of Terms

Multi-Metal	Metal halide lamps including U-line, X-line, Super-X and reduced jacket
Power Ace	Converts a Mercury or Metal Halide system to HPS by simply changing the lamp. Meets Federal EPA TCLP requirements for non-hazardous waste and saves energy.
Premium Multi-Metal	Higher Lumens and Improved color consistency compared to Universal Metal Halide.
Premium Universal	Higher Lumens and Improved color consistency compared to Universal Metal Halide.
Pulse Start	Standard long-life Metal Halide, with improved lumen maintenance and reduce power cost. Requires special lamp and ballast system.
Quartz Arc	Single and double-end high wattage Metal Halide lamps up to 5500K color temperature from 85 to 92 CRI.
Specialux	Medium wattage mogul base HPS lamps with high CRI that produce a warm color light similar to incandescent.
Standard Universal	Basic Metal Halide in all commonly used wattages.
Sunlux	Basic High Pressure Sodium in all commonly used wattages
Sunlux ES/EN	Energy Saving High Pressure Sodium designs. EPA, TCLP compliant for non-hazardous waste.
Sunlux Power Ace /EN	Converts a Mercury or Metal Halide system to HPS by simply changing the lamp. Is TCLP compliant for non-hazardous waste and saves energy.
Sunlux Super Ace	High lumen output HPS lamp that converts a Mercury or Metal Halide system to HPS by simply changing the lamp.
Sunlux Ultra Ace /EN	Converts a Mercury or Metal Halide system to HPS by simply changing the lamp. Meets Federal EPA TCLP requirements for non-hazardous waste.

Overseas Sales Offices/Manufacturing Facilities:



Australia

EYE LIGHTING AUSTRALIA PTY LTD.



China

DALIAN IWASAKI ELECTRIC CO., LTD.



Hong Kong

EYE LIGHTING (HONG KONG) LTD.



New Zealand

EYE LIGHTING NEW ZEALAND LTD.



Singapore

EYE LIGHTING ASIA PACIFIC PTE LTD.



United Kingdom

IWASAKI EYE LIGHTING EUROPE B.V. UK Branch



United States of America

EYE LIGHTING INTERNATIONAL OF NORTH AMERICA, INC.



IWASAKI ELECTRIC CO., LTD.

Head Office: 12-4, Shiba 3-chome, Minato-ku, Tokyo 105-0014, Japan

Tel: 03 (3452) 5351, **Fax:** 03 (3769) 8446

International Business Division: **Tel:** +81 3 3454 1841 **Fax:** +81 3 3454 1974

E-mail: iwasaki-ibd@eye.co.jp