



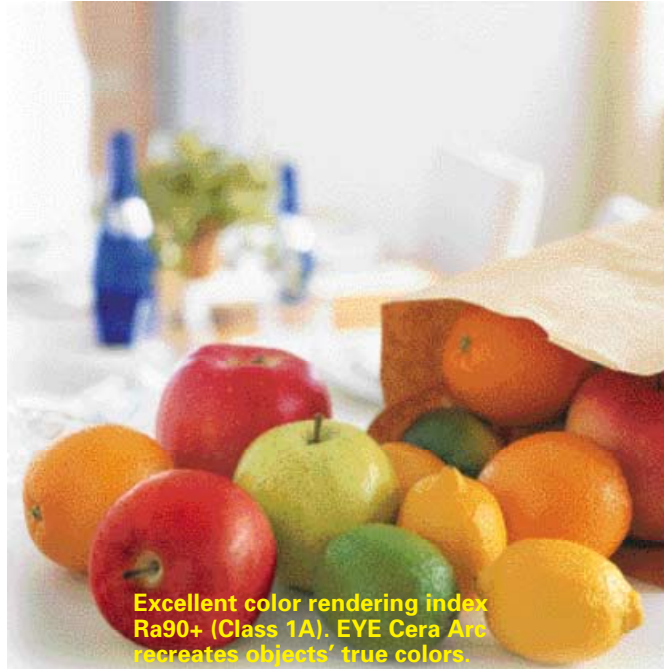
EYE Cera Arc[®]

250W/400W Ceramic Metal Halide



Red

Excellent color rendition of R9 (Red). EYE Cera Arc creates vivid red color.

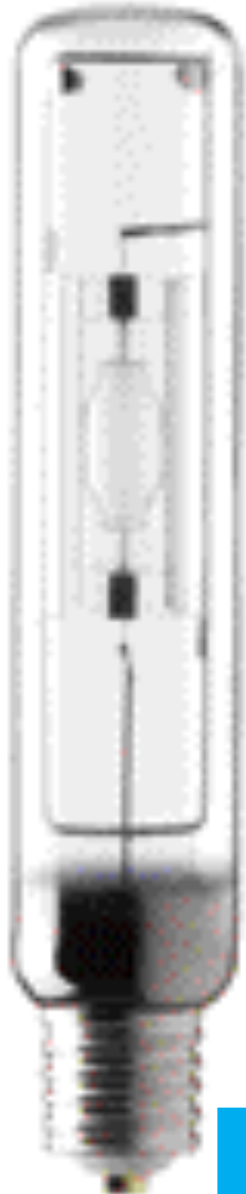
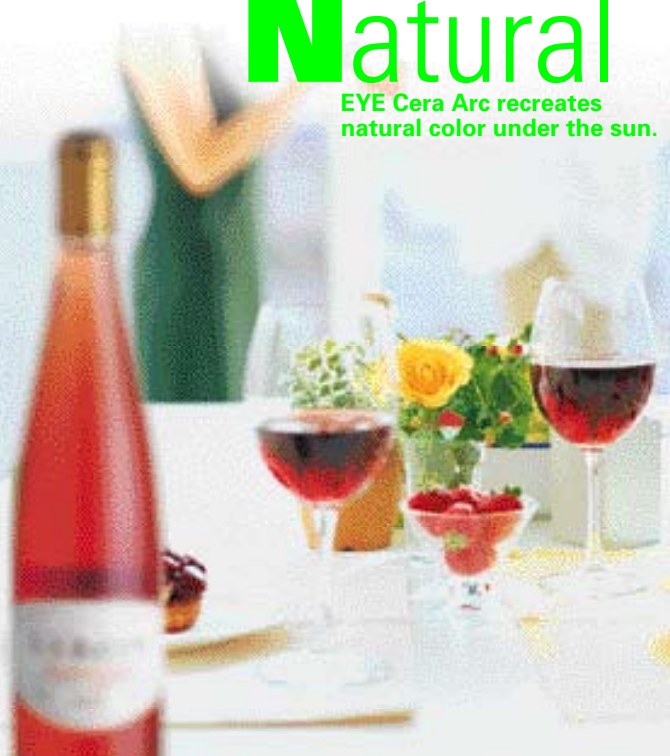


Excellent color rendering index Ra90+ (Class 1A). EYE Cera Arc recreates objects' true colors.

Real

Natural

EYE Cera Arc recreates natural color under the sun.



Protection

Over 90% of UV-A is blocked by bulb coating, reducing discoloration.



ISO 9001:2000 Certified, ISO 14001:2004 Certified, OHSAS 18001: 1999 Certified, ISO 17025: 2005 Accredited

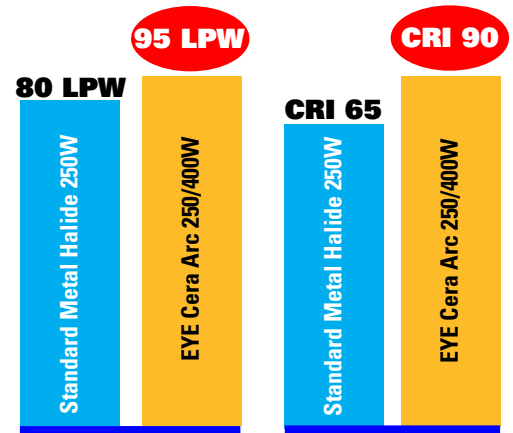


EYE LIGHTING INTERNATIONAL
OF NORTH AMERICA, INC.
A SUBSIDIARY OF IWASAKI ELECTRIC CO., LTD.

Excellent Color and High Performance



Superior Color Rendering – CRI 90 and High Efficacy – 95 LPW



Natural Color

High Intensity Discharge lamps have a tendency to render an object's color differently from the way colors appear under natural sunlight, even when the lamps are rated at the same color temperature. This is due to the lamp's deviation from the Black Body Locus. The color of objects illuminated with Cera Arc appear natural because the lamp's color temperature is close to the Black Body Locus.

Comparison of Color Rendering



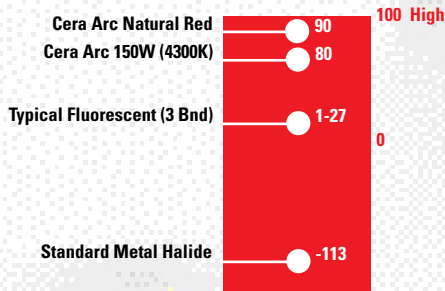
Standard Metal Halide

EYE Cera Arc

Excellent Red Color Rendering

An object's color is highly affected by the accuracy of the rendering of the color red. Cera Arc's ability to render red results in vivid colors of merchandising displays. Color-sensitive products such as clothing, footwear, flowers, toys, magazines, jewelry, sporting goods, automobiles, etc. appear striking with vibrant colors, and the surrounding space is comfortable, and inviting.

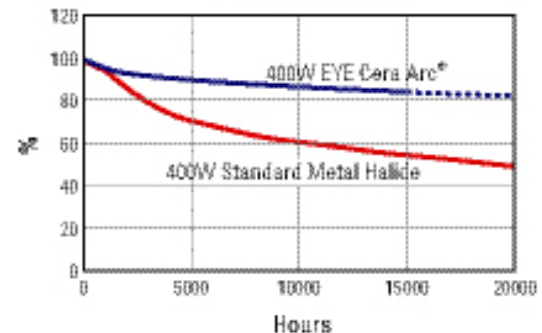
Comparison on Red (R9): Special Color Rendering Index for Red



Energy Saving Plus Fixture Reduction

At 95 LPW, Cera Arc is one of the most efficient 'high CRI' High Intensity Discharge lamps. The light output at the end of lamp life is an incredible 80-85% of initial lumens. A typical lighting layout with Cera Arc requires 20-30% less fixtures than a lighting layout that specifies conventional Metal Halide lamps.

Lumen Maintenance



Wide Compatibility and Fixture Availability

Operates on Standard HPS Ballasts

- 250W EYE Cera Arc operates on ballast for S50 lamps
- 400W EYE Cera Arc operates on ballast for S51 lamps

Horizontal and Vertical Burn Position Lamps Available

- BUD (Base up or down) +/- 60 degrees: Open Fixture Rated
- HOR +/- 30 degrees: Enclosed Fixture Rated

Wide Range of Fixtures for New Installations

Tubular bulb design will fit a large selection of fixtures in the market. Use HPS fixtures with Cera Arc to achieve 90 CRI, 4000K, and very consistent high performance lighting.

Direct Replacement for 250W and 400W High Pressure Sodium

Transform yellow light (20 CRI) into 4000K white light (90 CRI). In applications currently using HPS lamps, simply remove the HPS lamp and replace with EYE Cera Arc.

Significant Reduction in UV Radiation

UV-Cut coating on the bulb blocks 90% of UV-A radiation, an additional safeguard to prevent discoloration of displayed items.



Illuminated with HPS



Illuminated with EYE Cera Arc

Why "Ceramic Metal Halide" Advantages Over Conventional Metal Halide

High Efficacy, High CRI and White Light

Ceramic Arc Tubes are able to withstand much higher operating temperatures than the Quartz Arc Tubes used in conventional Metal Halide lamps. Operating at higher temperatures makes it possible to achieve better CRI and higher efficacy with EYE Cera Arc Metal Halide.

High Lumen Maintenance and minimal color shift during lamp life

A major cause of lumen depreciation in Metal Halide lamps is devitrification (loss of clarity) of the Quartz arc tube caused by high temperature chemical reactions between the Metal Halide dose and the Quartz during normal operation. The loss of clarity blocks some of the light from being emitted through the wall of the Quartz arc tube. A Ceramic arc tube is less reactive than a Quartz arc tube to dosing chemicals during operation. The chemical composition of

the Ceramic arc tube is very stable during lamp operation, resisting devitrification and maintaining high lumen output through lamp life.

Minimal color shift during lamp life

As Ceramic arc tubes are less reactive than Quartz Glass arc tubes to dosing chemical materials during operation, the chemical composition in the Ceramic arc tube is more stable, and provides a very stable light color during lamp life.

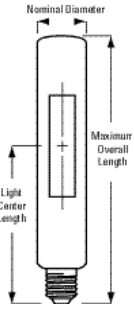
Minimal lamp to lamp color variation

Unlike Quartz Glass arc tubes, Ceramic arc tubes are manufactured in a mold through a sintering process. This method controls the shape of arc tubes very accurately and consistently, and maintains consistent temperature of coldest spot in the arc tube. The consistent temperature of coldest spot provides consistent lamp to lamp color.

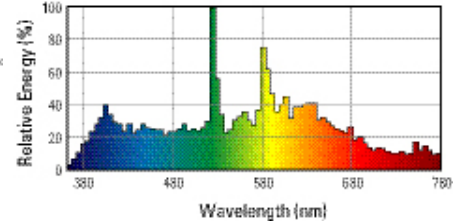
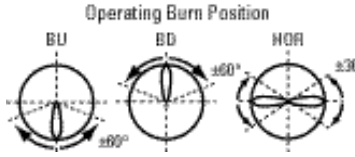


EYE Cera Arc®

250W/400W Ceramic Metal Halide



Bulb	Nominal Diameter (in./mm)	LCL (in./mm)	MOL (in./mm)
T15	1.890/48	5.748/146	8.504/216
T17	2.165/55	5.748/146	8.504/216



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.
250	T15	Mog	55100	CMT250/BUD/940/LU/MOG	S50	12	22500	18000	20000	4000	90	O	BU/BD
250	T15	Mog	55108	CMT250/HOR/940/LU/MOG	S50	12	22500	19400	15000	4000	90	E	HOR
400	T15	Mog	56308	CMT400/BUD/940/LU/MOG ¹	S51	12	38000	32800	15000	4000	90	O	BU/BD
400	T17	Mog	56315	CMT400/HOR/940/LU/MOG ¹	S51	12	38000	32800	15000	4000	90	E	HOR

Fixture Requirements: O = Open fixture permissible E=Enclosed fixture ¹ Call EYE Lighting for availability.

APPLICATIONS



- **Retail Stores and Automotive Showrooms**
 - CRI 90 Natural Looking Color establishes excellent shopping space
 - 90 to 95 LPW and High Lumen Maintenance save energy

- **Warehouses and Factories**
 - 90 to 95 LPW High Efficacy and High Lumen Maintenance save energy
 - 90 CRI provides accurate color rendering of products/packaging



- **Sign/Billboards**
 - CRI 90 Natural Looking Color creates an ideal advertising opportunity
 - High Lumen Maintenance creates consistency in look
 - Horizontal burning tubular shaped lamp fits in small fixtures

- **Streets**
 - Operates with existing HPS fixture sockets
 - Converts 2100K yellow color to 4000K crisp white color
 - 95 LPW High Efficacy and High Lumen Maintenance save energy



LAMP SPECIFICATIONS

BU or BD type: The lamp shall be open fixture rated and have T15 bulb with E39 Mogul base and have Ceramic arc tube. Lamp burning position shall be BU or BD $\pm 60^\circ$ and performance shall be 22,500 initial lumens (38,000 for 400W), and provide a minimum of 80 to 86% lumen maintenance at 40% of lamp life. Lamp Color Temperature shall be 4000 Kelvin. Color Rendering Index shall be 90. Lamp shall have UV cut coating on outer bulb and the coating shall reduce 90% of UV-A covering on a non-filtering metal halide lamp.

HOR type: The lamp shall be an enclosed fixture rated and have T15 (T17 for 400W) bulb with E39 Mogul base and have Ceramic arc tube. Lamp burning position shall be HOR $\pm 30^\circ$ and performance shall be 22,500 initial lumens (38,000 for 400W), and provide a minimum of 86% lumen maintenance at 40% of lamp life. Lamp Color Temperature shall be 4000 Kelvin. Color Rendering Index shall be 90. Lamp shall have UV cut coating on outer bulb and the coating shall reduce 90% of UV-A covering on a non-filtering metal halide lamp.

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

ISO 9001:2000 Certified, ISO 14001:2004 Certified, OHSAS 18001: 1999 Certified, ISO 17025: 2005 Accredited



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