

A NEW  
ERA OF  
LIGHTING



Ceramic Metal Halide lamp for energy saving.

**EYE CERA ARC™ EX/PRO**

# ECO Choice

Advanced, ecologically conscious lighting technology - the values  
that Iwasaki's Eco Technology stands for

# ? YES.

## GREENER LIGHTING SOLUTIONS.

Faced with the issue of Global Warming, 'Energy-Saving' and 'CO<sub>2</sub> Reduction' have become core requirements in many areas of everyday life. In this drive towards a low-carbon society, consumers are all being encouraged to consider the environmental impact of their purchasing behaviour - a movement that we at Iwasaki refer to as ECO Choice. Through the promotion of energy efficient and environmentally conscious product development, we aim to provide ever more products that satisfy the ECO Choice requirements of customers.

### Keep up with the latest 'Green' Legislations

ErP, RoHS, WEEE,  
Energy Saving Act (Japan)

### Kinder to its Environment

Lower Emissions,  
Lower UV Output

### CO<sub>2</sub> Reductions

Less Lamps,  
Less Energy,  
More Light

Light sources such as Mercury Vapour lamps and High Pressure Sodium lamps which offer relatively low levels of efficiency and colour rendering will become obsolete in the near future.

In their place, we will see a requirement for light sources that offer a lower environment impact throughout the entire duration of its product life cycle.

**“Environment” should not be synonymous with “Expense”.**

Those who wish to make a positive contribution towards the preservation of the environment should not be impeded from doing so by excessive investment costs, when the same goal can be achieved via the implementation of simpler and more familiar measures.

This is the philosophy behind our new lighting developments.

As high-efficiency, long life lamps, the CERA ARC EX/PRO ranges not only offer the benefit of reduced energy consumption but also minimise their environmental impact by reducing the amount of waste produced – ECO Choice solutions towards the reduction of your carbon footprint.



MAIN FEATURES

## ● CERA ARC EX / Outdoor

## ● CERA ARC PRO / Indoor

### Long Life ●● up to 24000 hrs

#### Low maintenance

Lamps need to be changed less often, therefore saving on maintenance costs, reducing waste, and lessening their environmental impact.

### High-Efficiency ●● up to 132lm/W

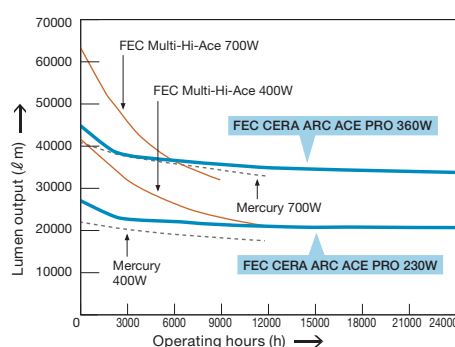
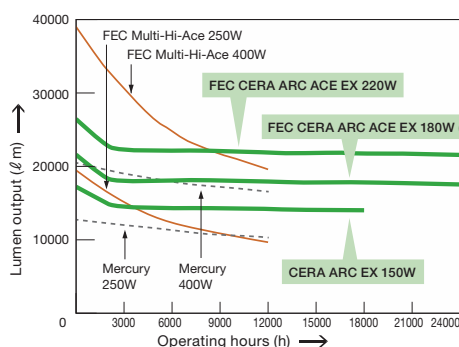
#### Reduced Carbon Footprint

The use of a more efficient light source leads to reduced energy consumption and CO<sub>2</sub> emissions.

### High Lumen Maintenance ●●

#### Bright light right to the end

Engineered to suppress the rate of lumen depreciation, the lamps will offer a high rate of lumen maintenance, providing a high level of output for as the lamp is in operation.



### Same Gear – Better Light ●●

#### A simple retrofit upgrade

Utilising the same outer bulbs as their Mercury Vapour / High-Pressure Sodium predecessors, the arc tube also remains in the same position, meaning that the same light distribution can be achieved.

### Built-in FEC Ignitor ●●

#### Can be used directly on your existing Mercury & High Pressure Sodium control gears

The built-in FEC ignitor means that the lamps are compatible for use with both types of control gear.

#### Lighten the load on your control gear

Iwasaki's unique FEC ignitor ignites the lamp efficiently and effectively using a low-voltage pulse, thereby reducing the burden on the control gear when the product has reached the end of its lamp life.

The low voltage of the ignition pulse ensures that less strain is placed upon the control gear in the event of a power surge, making these a control gear-friendly range of lamps.

In the event of an arc tube or outer bulb leakage, the FEC ignitor cross-burns itself, thus terminating the ignition pulse; this in turn ensures no damage is done to the control gear.



### Protected From the Inside ●

#### No need for cover glass

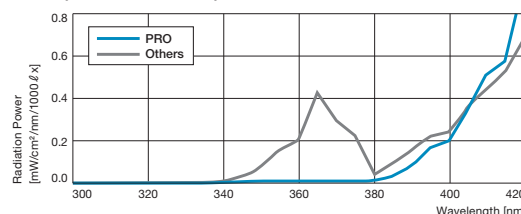
In the rare event of an arc tube rupture at the end of the product's lamp life, the protective shroud around the arc tube ensures that the damage is contained within, with no effect on the outer bulb.

### UV Block Coating ●

#### Yes to Light, No to insects

With its UV block coating on the outer bulb, the UV output of the lamp is reduced by 90%, making this light source a far less inviting one for insects.

#### Comparison on UV Output



\* CERA ARC EX T: 150W, FEC CERA ARC ACE EX T: 230W/375W, CERA ARC EX T: 230W/375W are also applicable.

**A CLEANER WHITE LIGHT**

# CERA ARC EX

The clean white light provided by the ceramic arc tube offers numerous advantages in comparison to the low colour rendering 'orange' light produced by conventional High-Pressure Sodium (HPS) lamps. As white light improves the visibility of objects to the human eye, the same - or better - levels of visibility can be achieved with a higher lumen output. Not only does this provide benefits on an energy-saving level - the resulting improvements in visibility and quality of light will make for a more pleasant and secure ambience.

**FOR OUTDOOR  
HPS INSTALLATIONS**



**70W Ignitron with built-in  
FEC ignitor is available**

Can be used directly on your existing  
HPS control gear.



## FEATURES

- Outstanding luminous efficacy: Up to 132lm/W
- Reliable long life: Up to 24000hrs at 80/70% lumen maintenance
- Burning Position: Universal or Horizontal  $\pm 45^\circ$

UNIVERSAL

HOR

- High colour rendering: Ra : 80/75
- Cleaner white light 3500K
- Watts: 70W/100W/150W/250W are currently available  
\*50W is a future product.

## APPLICATIONS

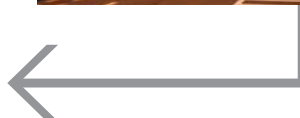
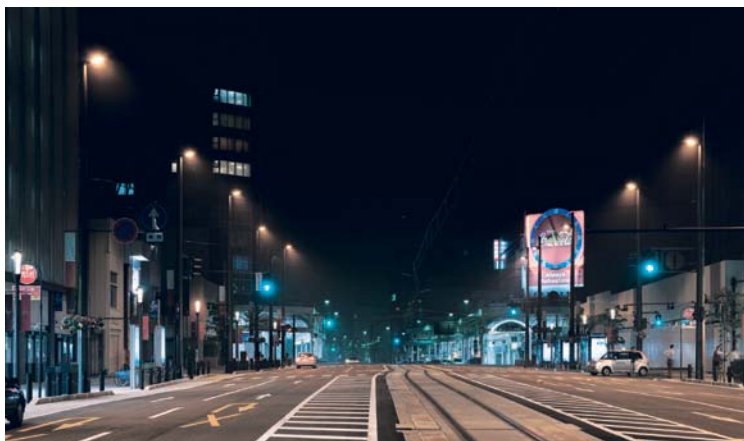
- Road lighting ■ Street lighting ■ Residential ■ Historical
- Retail ■ Any applications that currently use HPS lamps

## ADVANTAGES

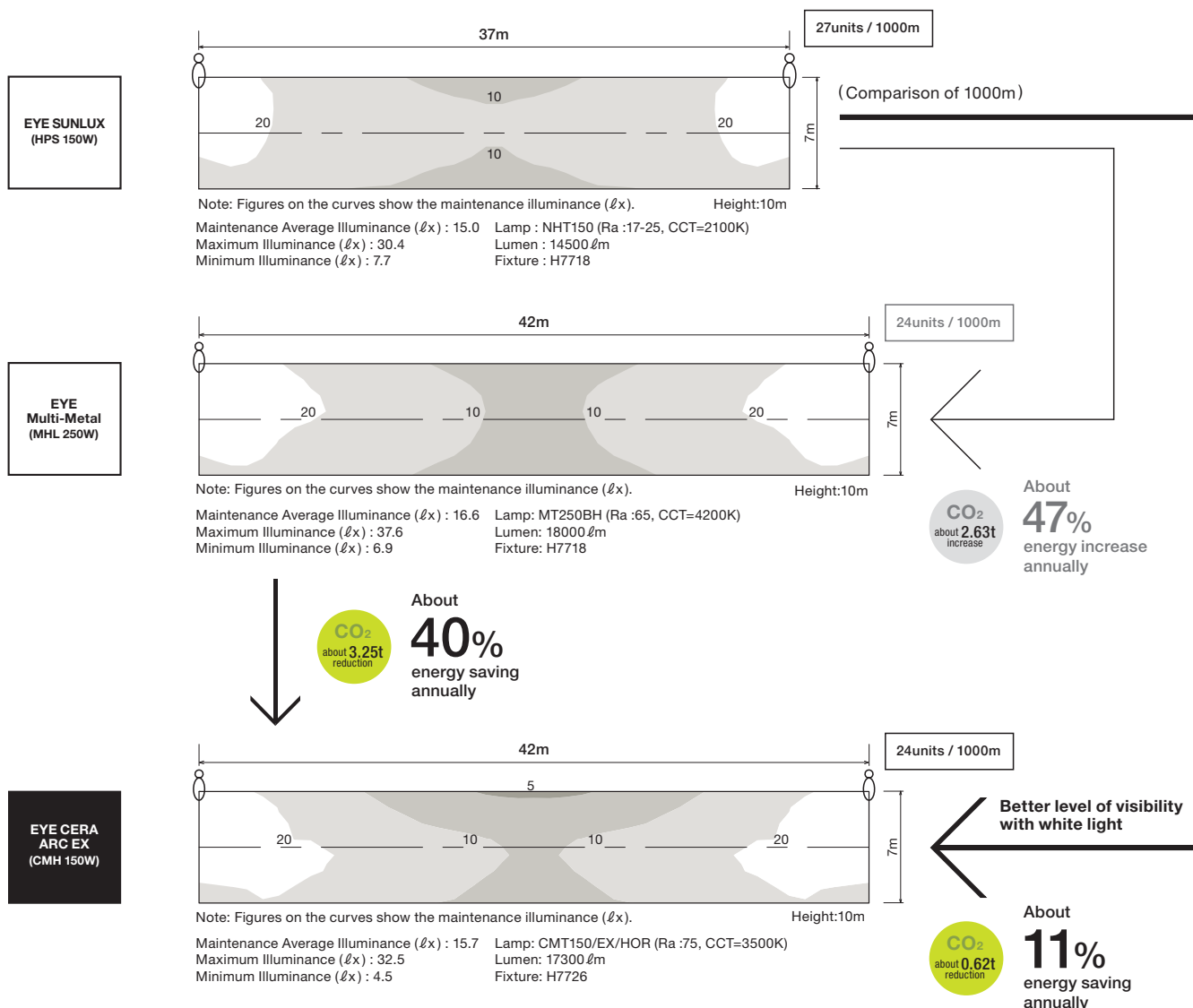
- No additional expenses: Can run as a direct retrofit on installations running HPS.
- Upgrade: Extremely straightforward upgrade from Orange to white light. Simply install in the existing socket as replacement for the HPS lamps.
- Security: Quality clean white light provides a safer, more natural environment, helping towards crime prevention.

# CERA ARC EX | UPGRADING FROM ORANGE TO CLEANER WHITE LIGHT

The improvements in visibility and quality of light make for a more pleasant and secure ambiance.



Note: A visual image being replaced by CERA ARC EX



\* CO<sub>2</sub> reduction is calculated on 0.43kg CO<sub>2</sub>/kWh.

**A CLEANER WHITE LIGHT**

# FEC CERA ARC ACE EX

By switching to the FEC CERA ARC ACE EX on existing Mercury Vapour Lamp (MVL) installations, both the number of fittings used and the amount of energy consumed can be greatly reduced, whilst still increasing brightness levels. Through staying faithful to the desired colour temperature and colour rendering, the high quality of light produced by the FEC CERA ARC ACE EX will allow for improved visibility levels within a pleasant lighting ambiance.

**FOR OUTDOOR  
MVL INSTALLATIONS**



## FEATURES

- Outstanding luminous efficacy: Up to 120lm/W
- Reliable long life: Up to 24000hrs at 80/70% lumen maintenance
- Burning Position: BUD  $\pm 30^\circ$  or Horizontal  $\pm 45^\circ$  or Horizontal  $\pm 60^\circ$

BUD

HOR

- High colour rendering: Ra : 75
- Cleaner white light 3500K
- Watts: E: 45W/72W, BT:115W, T:230W/375W
- Built-in FEC Ignitor: Can be used directly on your existing Mercury vapour control gear

## APPLICATIONS

- Road lighting
- Street lighting
- Residential
- Historical/Heritage
- Retail
- Any applications that currently use MVL lamps

## ADVANTAGES

- No additional expenses: Can run as a direct retrofit on installations running MVL.
- Upgrade: Offering a simple method of upgrading lumen output and colour rendering as compared to already installed MVL lamps. Simply install in the existing socket as replacement for the MVL lamps.
- Energy-saving solution: Achieving the required design lumens with a reduced number of fixtures.



**SMALLER CARBON FOOTPRINT, SMALLER ENERGY BILLS**

# FEC CERA ARC ACE PRO

Dramatically reduce the number of lamps - and the Carbon Footprint - of existing Mercury Vapour Lamp (MVL) installations in large spaces such as warehouses and sports facilities, without reducing the brightness. With a CRI rating of Ra80 (Group 1B), the colour rendering of the FEC CERA ARC ACE PRO surpasses that of Mercury Vapour Lamps and Standard Metal Halides, allowing it to better bring out the true colours of illuminated objects and create an enhanced visual environment.

**FOR INDOOR  
MVL INSTALLATIONS**



#### **CERA ARC PRO BT is also available for standard Metal Halide Lamps**

Direct replacement on standard metal halide lamps.  
Operates on MVL (MHL) ballast with 4.0-4.5kVp ignitor.



## FEATURES

- Outstanding luminous efficacy: Up to 125 lm/W
- Reliable long life: Up to 24000hrs at 75% lumen maintenance
- Burning Position: BUD  $\pm 45^\circ$  or BU  $\pm 60^\circ$

BUD

BU

- High colour rendering; Ra : 80 (Gp:1B)/70
- Energy saving white light 4100K
- Watts: BT: 235W/375W, Ref.: 115W/245W/375W
- Built-in FEC Ignitor: Can be used directly on your existing Mercury control gear
- Protected from the inside (shrouded): The protective shroud around the arc tube ensures that the damage is contained within, with no effect on the outer bulb. Low cost & low loss in fixture performance.



## APPLICATIONS

- High bay applications of Sports facilities (gymnastic hall), warehouse, and industrial plant.
- Large scale commercial facilities
- Any applications that currently use MVL lamps


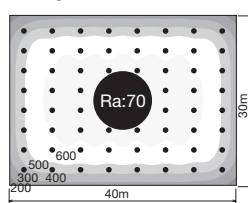
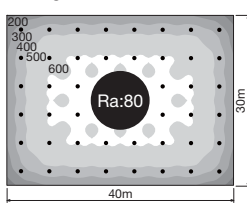

## ADVANTAGES

- No additional expenses: Can run as a direct retrofit on installations running MVL.
- Upgrade: Offering a simple method of upgrading lumen output and colour rendering as compared to MVL lamps currently being installed. Simply install in the existing socket as replacement for the MVL lamps.
- Energy-saving solution: Achieving the required design lumens with a reduced number of fixtures.
- No need for cover glass: Low cost & low loss in fixture performance.




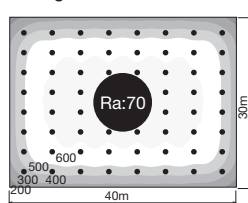
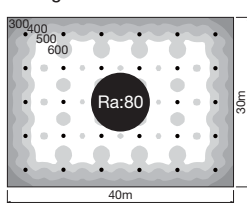

**56% energy saving and dramatic reduction of carbon footprint; 19.6t**

Lighting plan using 400W MHL and CERA ARC PRO 235W

 <p>EYE shade SAW413 Metal halide lamp 400W MF400/BUH</p>	<p>Average illuminance: 507 lx</p>  <p><b>64units</b> Power consumption: 27200W</p>	<p>About <b>56%</b> energy saving annually</p> <p>Reduction of 16 units with similar illuminance</p> <p><b>CO<sub>2</sub></b> about 19.6t reduction</p>	<p>Average illuminance: 503 lx</p>  <p><b>48units</b> Power consumption: 10000W</p>	 <p>EYE shade SAW415 CERA ARC PRO CM230F/PRO/BUD</p> <p>Lumens: 25900lm Maintenance factor 0.75 Ra: 80</p>
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**56% energy saving and dramatic reduction of carbon footprint; 19.7t**

Lighting plan using 400W MHL and CERA ARC PRO 375W

 <p>EYE shade SAW413 Metal halide lamp 400W MF400/BUH</p>	<p>Average illuminance: 507 lx</p>  <p><b>64units</b> Power consumption: 27200W</p>	<p>About <b>56%</b> energy saving annually</p> <p>Reduction of 34 units with similar illuminance</p> <p><b>CO<sub>2</sub></b> about 19.7t reduction</p>	<p>Average illuminance: 540 lx</p>  <p><b>30units</b> Power consumption: 11940W</p>	 <p>EYE shade SAW415 CERA ARC PRO CM360F/PRO/BUD</p> <p>Lumens: 45300lm Maintenance factor 0.69 Ra: 80</p>
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\* Energy saving is calculated on power consumption (W) x annual operation hours (3000h).  
\* CO<sub>2</sub> reduction is calculated on 0.43kg CO<sub>2</sub>/kWh.

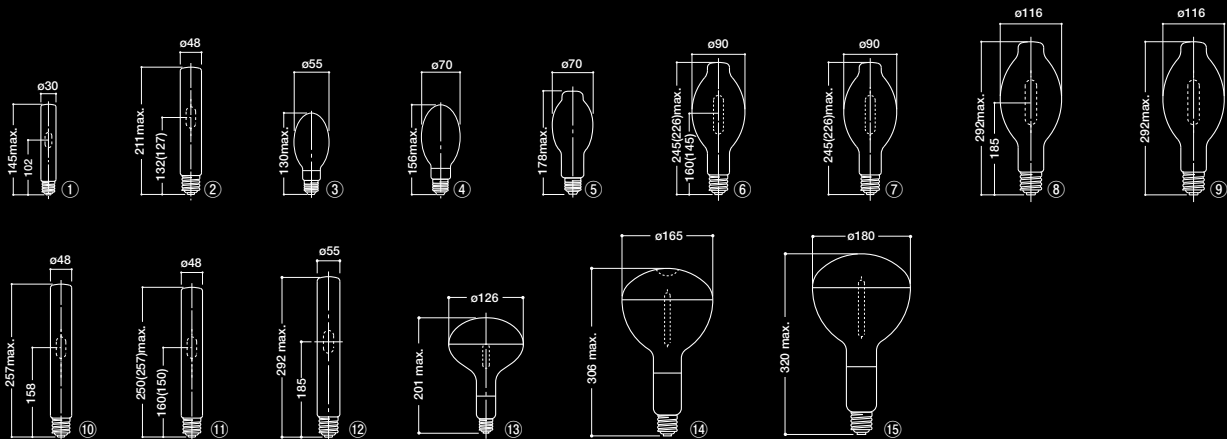
# PRODUCT SPECIFICATIONS

EYE CERA ARC EX/PRO

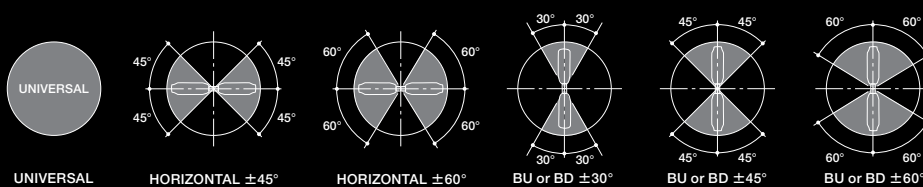
Rated Lamp Wattage(W)	Bulb Finish	Burning Position	Product Description	Lamp Voltage (V)	Lamp Current (A)	Initial Lumens (lm)	Colour Temperature (K)	Colour Rendering (Ra)	Lifetime (hrs)	Efficiency (lm/W)	Bulb Type			Cap	Fig. No.		
											dia.(mm)	MOL(mm)	LCL(mm)				
<b>● CERA ARC EX T for outdoor HPS luminaries</b>																	
50	Clear	Universal	CMT50/EX/U *	80	0.76	5000	3500	75	18000	100	T30	145	102	E27	①		
70			CMT70/EX/U	85	0.98	7700				110	T30	145	102	E27	①		
70			CMT70/EX/U-I (with built-in FEC ignitor)	85	0.98	7700				110	T30	145	102	E27	①		
100		CMT100/EX/U	95	1.20	11500	115				T48	211	132	E40	②			
150		HOR±45°	CMT150/EX/HOR	100	1.80	17300				115	T48	211	127	E40	②		
250			CMT250/EX/HOR	100	3.00	33000				132	T48	257	158	E40	⑩		
<b>● FEC CERA ARC ACE EX E, BT, T for outdoor MVL luminaries (with built-in FEC ignitor)</b>																	
45	Diffuse	HOR±60°	CM45FLS/EX/HOR	90	0.61	4100	3500	75	16000	91	E55	130	—	E27	③		
45		BU or BD±30°	CM45FLS/EX/BUD							91	E55	130	—	E27	③		
72		HOR±60°	CM70FLS/EX/HOR	105	0.80	7700				20000	107	E70	156	—	E27	④	
72		BU or BD±30°	CM70FLS/EX/BUD								107	E70	156	—	E27	④	
115		HOR±45°	CM115FLS/EX/HOR	115	1.15	13800					120	BT70	178	—	E27	⑤	
230		Clear	HOR±45°	CMT220LS/EX/HOR	130	2.13					27700	24000	120	T48	250	160	E40
375	HOR±45°		CMT360LS/EX/HOR	135	3.25	45000	120	T55	292		185		E40	⑫			
<b>● CERA ARC EX T for outdoor MVL (MHL) luminaries (without built-in FEC ignitor)</b>																	
230	Clear	HOR±45°	CMT220/EX/HOR	130	2.13	27700	3500	75	24000	120	T48	257	150	E40	⑪		
375			CMT360/EX/HOR	135	3.25	45000				120	T55	292	185		⑫		
<b>● FEC CERA ARC ACE PRO BT for indoor, R for outdoor MVL luminaries (with built-in FEC ignitor)</b>																	
235	Clear	BU or BD±45°	CM230LS/PRO/BUD	130	2.13	27900	4100	80	24000	119	BT90	245	160	E40	⑥		
375			CM360LS/PRO/BUD	135	3.25	47000				125	BT116	292	185		⑧		
235	Diffuse		CM230FLS/PRO/BUD	130	2.13	25900				110	BT90	245	—		⑦		
375			CM360FLS/PRO/BUD	135	3.25	45300				121	BT116	292	—		⑨		
115	Clear	BU±60°	CMR115LS/PRO/BU	115	1.15	9000				70	18000	78	R126	201	—	E27	⑬
245			CMR230LS/PRO/BU	130	2.16	18500				80	20000	76	R165	306	—	E40	⑭
375			CMR360LS/PRO/BU	135	3.30	31500	84	R180	320			—	E40	⑮			
<b>● CERA ARC PRO BT for indoor MVL (MHL) luminaries (without built-in FEC ignitor)</b>																	
235	Clear	BU or BD±45°	CM230/PRO/BUD	130	2.13	27900	4100	80	24000	119	BT90	226	145	E40	⑥		
375			CM360/PRO/BUD	135	3.25	47000				125	BT116	292	185		⑧		
235	Diffuse		CM230F/PRO/BUD	130	2.13	25900				110	BT90	226	—		⑦		
375			CM360F/PRO/BUD	135	3.25	45300				121	BT116	292	—		⑨		

\* Future product

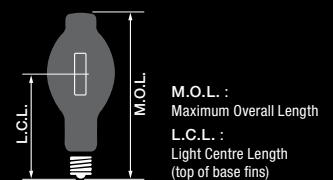
## DIMENSIONS



## BURNING POSITION



## EXPLANATIONS





## IWASAKI ELECTRIC CO., LTD.

Bakurocho-daiichi Building, 1-4-16, Nihonbashi-bakurocho,  
Chuo-ku, Tokyo 103-0002, Japan  
Tel: +81-3-5847-8630 Fax: +81-3-5847-8647  
www.eyecol.jp

### Overseas sales offices

#### Australia:

EYE Lighting Australia Pty Ltd.  
15 Industrial Avenue  
Wacol QLD 4076, Australia  
PO Box 306, Carole Park QLD 4300, Australia  
Tel: +61-7-3335-3588  
Fax: +61-7-3335-3533  
E-mail: info@eli.com.au  
www.eyelighting.com.au

#### Hong Kong:

EYE Lighting (Hong Kong) Ltd.  
Room 609, Silvercord Tower 2  
30 Canton Road, Tst, Kowloon  
Hong Kong  
Tel: +852-2368-8782  
Fax: +852-2481-2661  
E-mail: contact@eyelighting.com.hk  
www.eyelighting.com.hk

#### New Zealand:

EYE Lighting New Zealand Ltd.  
18 Levene Place, Mt. Wellington,  
Auckland, New Zealand  
Tel: +64-9-276-8099  
Fax: +64-9-276-3474

#### Shanghai, China:

Shanghai Iwasaki Electric Co., Ltd.  
Room 2512 Bldg. "B" Far International Plaza  
No.317 Xianxia Road, Shanghai, China  
Tel: +86 21-62351352 62351623  
Fax: +86 21-62351353  
E-mail: sales2@shiwasaki.com.cn  
www.shiwasaki.com.cn

#### Singapore:

EYE Lighting Asia Pacific Pte Ltd.  
21, Kaki Bukit Place, Eunos Techpark  
Singapore 416199  
Tel: +65-6742-3611  
Fax: +65-6743-5202  
E-mail: support@eyelighting.com.sg

#### UK:

EYE Lighting Europe Ltd.  
Unit 2, Eskdale Road, Uxbridge  
Middlesex UB8 2RT, UK  
Tel: +44-1895-814418  
Fax: +44-1895-814666  
E-mail: sales@eyelighting.co.uk  
www.eyelighting.co.uk

#### USA:

EYE Lighting International  
of North America, Inc.  
9150 Hendricks Rd.  
Mentor, OH 44060-2146, USA  
Tel: +1-440-350-7000  
Fax: +1-440-350-7001  
E-mail: sales@eyelighting.com  
www.eyelighting.com

