

**USHIO**

 **UXR<sup>®</sup>**  
MADE IN JAPAN

UXR<sup>®</sup>-Series



# USHIO Compact Xenon Lamps



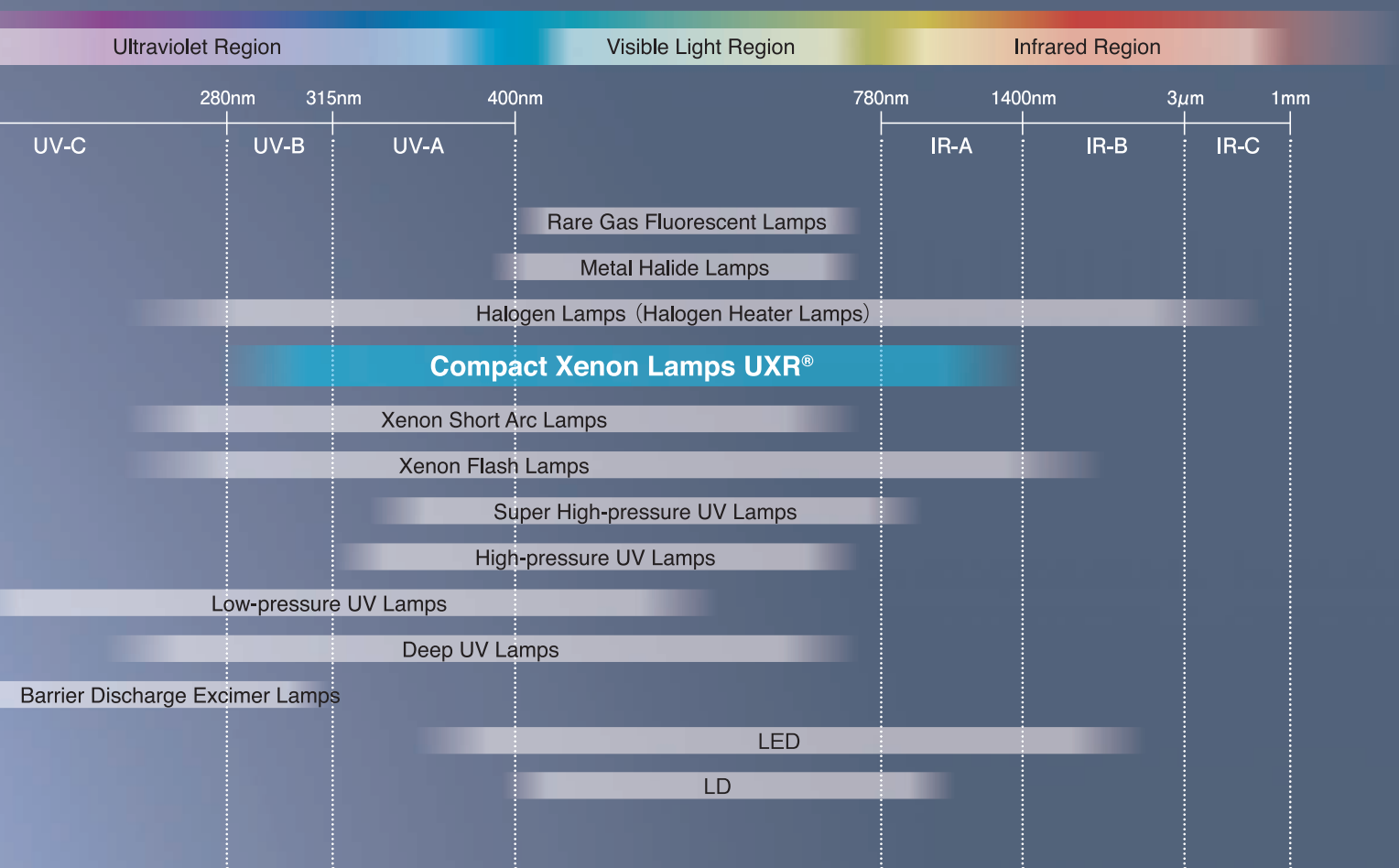
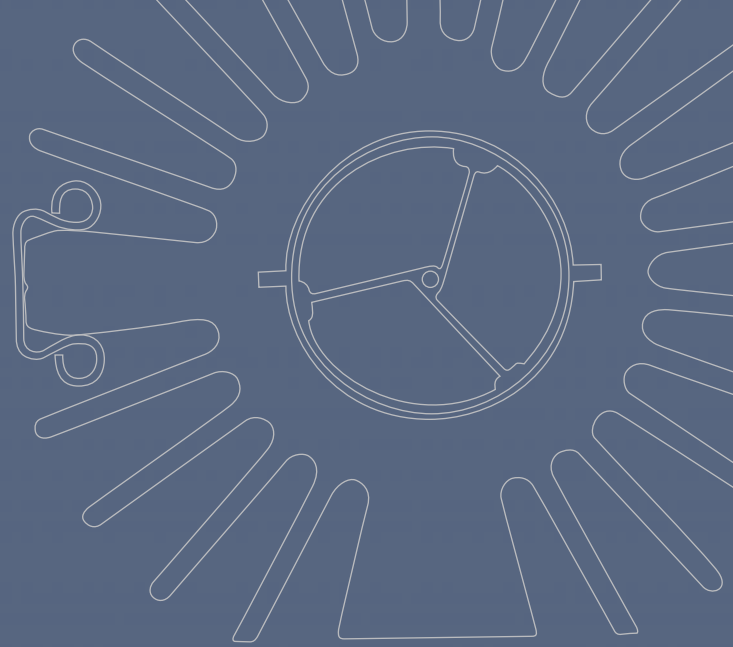
“UXR® Series” was originally designed and developed by USHIO using ceramics and sapphire as main component.

“UXR® Series” has high shock / pressure resistance as standard model to satisfy the needs for variety customers.



100nm

Dielectric





## Features

Superior Performance

High Illuminance  
Maintenance Ratio

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Reliability and Usability

Japan Quality

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Compact

Small Size, Light Weight

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Wavelength Selectivity

Broad Spectrum Range

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Built-in Mirror Type

No Need for Optical  
Axis Adjustment

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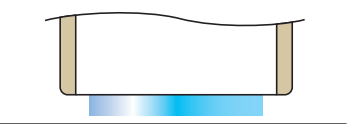
Adoption of Sapphire Window.

Burst-resistant



USHIO's original window construction enables to place the lamp vertically.  
(Window face-down)

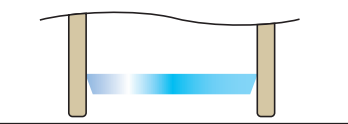
Ordinary Lamps



Contacts the window and causes surface damage <Damage risk: Scratch, contamination, etc>

UXR® Series

Anti-window Damage Construction



Protect window damage by non-contact method



Applications

|   | UXR-300ES | UXR-300BF | UXR-175BF | UXR-300UV |
|---|-----------|-----------|-----------|-----------|
| Industrial Endoscopes                             | ○         | ○         | ○         | —         |
| Fiber Light Sources for Headlights                | ○         | ○         | ○         | —         |
| High Brightness Projectors                        | ○         | ○         | ○         | —         |
| Optical Fiber Used in Image Processing Inspection | ○         | ○         | ○         | —         |
| Microscope Illumination                           | ○         | ○         | ○         | ○         |
| Visible / Infrared Searchlights                   | ○         | ○         | ○         | —         |
| Spectroscopic Analysis                            | ○         | ○         | ○         | —         |
| Solar Simulator                                   | —         | —         | —         | ○         |

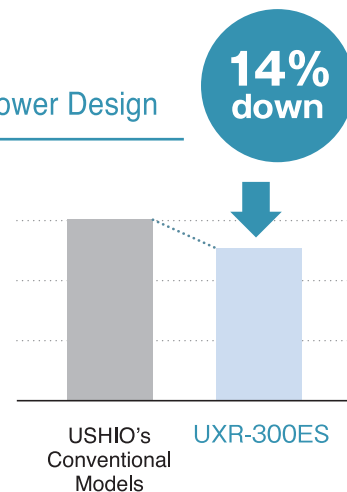


## UXR-300ES

### Power Conservation Through Low Power Design

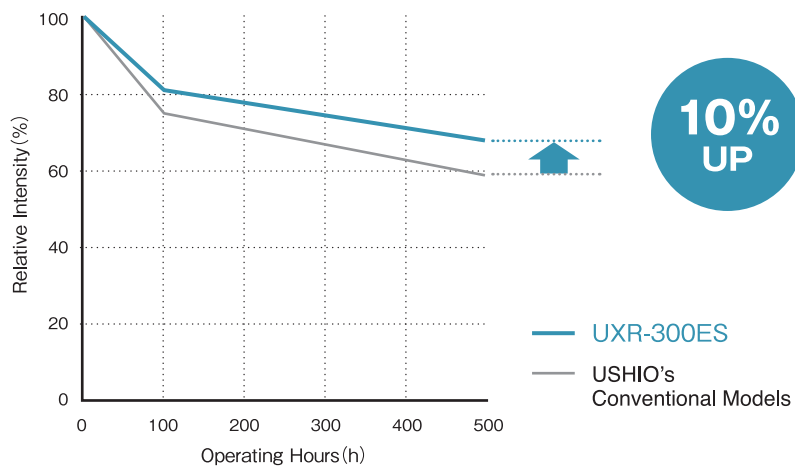
14% power reduction compared to USHIO's conventional models.

|                             | Power |
|-----------------------------|-------|
| USHIO's Conventional Models | 300W  |
| UXR-300ES                   | 260W  |



### High Illuminance Maintenance Ratio

Provides increased illuminance maintenance ratio compared to USHIO's Conventional Models



### Easy to Install Terminal Structure

Special lamp mounting structure reduces work load of lamp replacement  
Replace lamp without worrying about heat sink positioning.



USHIO's Conventional Models



UXR-300ES

### Electrical Characteristics (Initial)

|                                 |        |
|---------------------------------|--------|
| Lamp Power                      | 260W   |
| Operating Voltage <sup>※1</sup> | 13V    |
| Rated Lamp Current              | 20A    |
| Lamp Current Range              | 18~21A |

### Specifications

|                              |            |
|------------------------------|------------|
| Arc Gap (Non-operation)      | 1.0mm      |
| Wavelength                   | 390~1000nm |
| Window Diameter              | φ25.4mm    |
| Reflector                    | Parabola   |
| Rated Lifetime <sup>※2</sup> | 500hours   |

### Initial Output <sup>※3</sup> (Representative Values)

|                               |        |
|-------------------------------|--------|
| Radiant Output                | 43W    |
| Visible Output                | 3250lm |
| Visible Output (5mm Aperture) | 1400lm |
| Color Temperature             | 6100K  |

### Operating Condition (Power Supply)

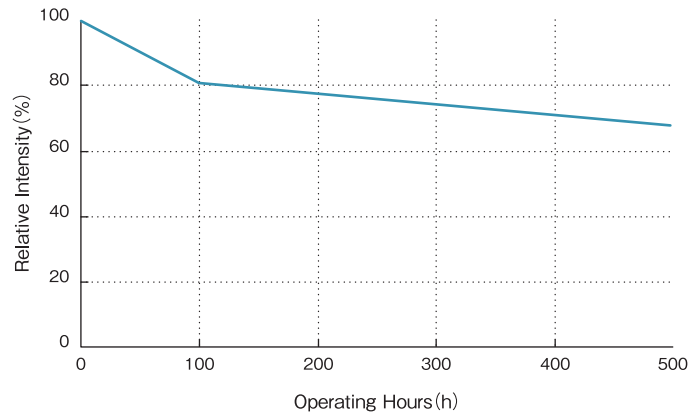
|                      |  |
|----------------------|--|
| Power Supply         | Constant Current Control<br>Constant Power Control |
| Current Ripple (P-P) | Max 5%   |
| Igniter Voltage      | Min AC23kV   |
| Supply Voltage       | Min 140V   |

### Operating Condition (Lamp)

| Operating Direction |              | Horizontal Direction |
|---------------------|--------------|----------------------|
| Cooling             | Ceramic Body | Max 150°C            |
|                     | Base         | Max 200°C            |
| Forced Cooling      |              | Necessary            |

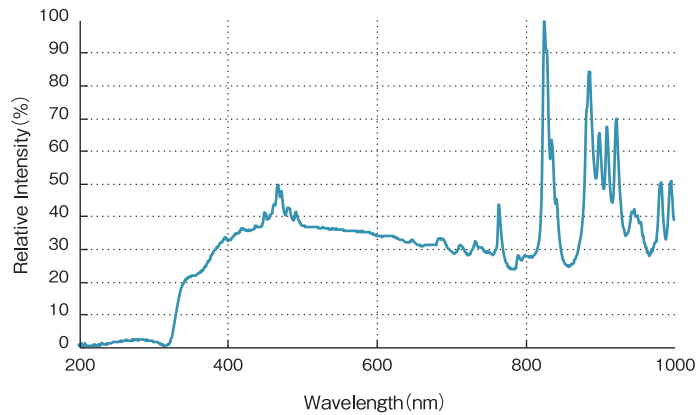
### Visible Output (5mm Aperture) Degradation

Reference value for operating at rated lamp current.

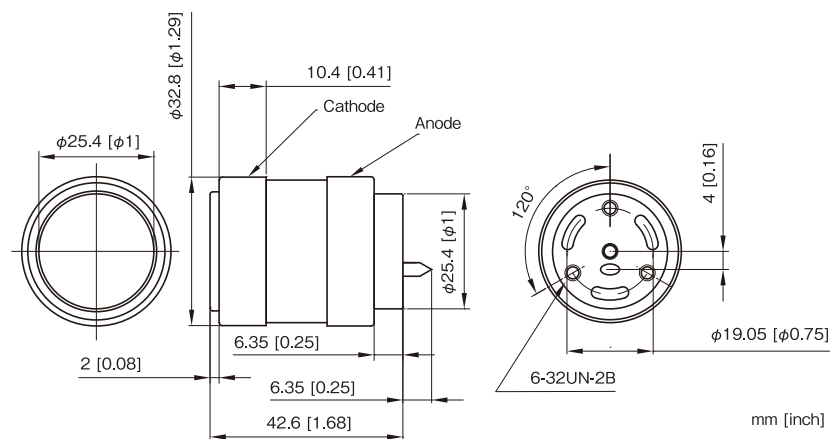


### Spectral Distribution

Reference value when lamp is lit at rated lamp current.



### Appearance



※1 Operating Current : 20A

※2 Visible output (5mm aperture) is reduced to 50% of the initial value.

※3 Operating Current : 20A



UXR-300BF  
UXR-175BF

### Electrical Characteristics (Initial)

|                                 | UXR-300BF | UXR-175BF |
|---------------------------------|-----------|-----------|
| Lamp Power                      | 300W      | 175W      |
| Operating Voltage <sup>※1</sup> | 15V       | 12.5V     |
| Rated Lamp Current              | 20A       | 14A       |
| Lamp Current Range              | 18~21A    | 12.5~16A  |

### Specifications

|                              |            |            |
|------------------------------|------------|------------|
| Arc Gap (Non-operation)      | 1.5mm      | 1.1mm      |
| Wavelength                   | 390~1000nm | 390~1000nm |
| Window Diameter              | φ25.4mm    | φ25.4mm    |
| Reflector                    | Parabola   | Parabola   |
| Rated Lifetime <sup>※2</sup> | 500hours   | 500hours   |

### Initial Output <sup>※3</sup> (Representative Values)

|                               |        |        |
|-------------------------------|--------|--------|
| Radiant Output                | 50W    | 30W    |
| Visible Output                | 4500lm | 1900lm |
| Visible Output (5mm Aperture) | 1830lm | 950lm  |
| Color Temperature             | 6100K  | 6100K  |

### Operating Condition (Power Supply)

| Power Supply         | Constant Current Control<br>Constant Power Control | Constant Current Control<br>Constant Power Control |
|----------------------|--|--|
| Current Ripple (P-P) | Max 5%   | Max 5%   |
| Igniter Voltage      | Min AC23kV   | Min AC23kV   |
| Supply Voltage       | Min 140V   | Min 140V   |

### Operating Condition (Lamp)

| Operating Direction |              | Horizontal Direction | Horizontal Direction |
|---------------------|--------------|----------------------|----------------------|
| Cooling             | Ceramic Body | Max 150°C            | Max 150°C            |
|                     | Base         | Max 200°C            | Max 200°C            |
| Forced Cooling      |              | Necessary            | Necessary            |

※1 UXR-300BF : Operating Current : 20A UXR-175BF : Operating Current : 14A

※2 Visible output (5mm aperture) is reduced to 50% of the initial value.

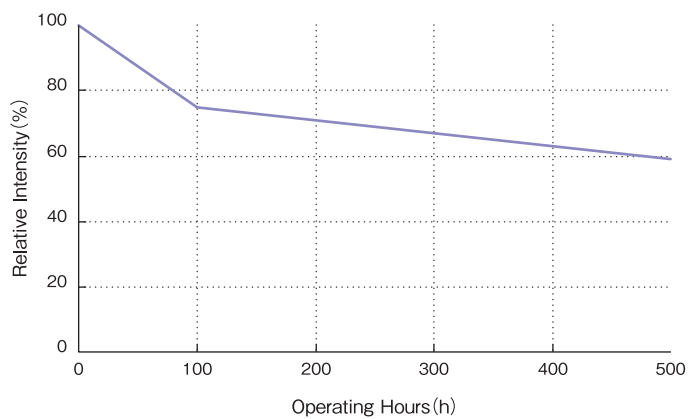
※3 UXR-300BF : Operating Current : 20A UXR-175BF : Operating Current : 14A



UXR-300BF    UXR-175BF

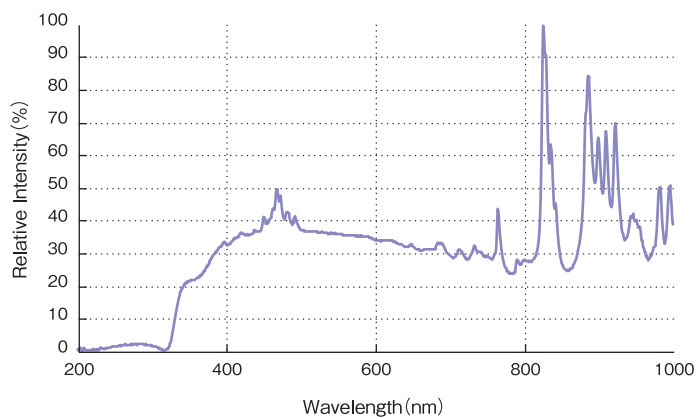
### Visible Output (5mm Aperture) Degradation

Reference value for operating at rated lamp current.

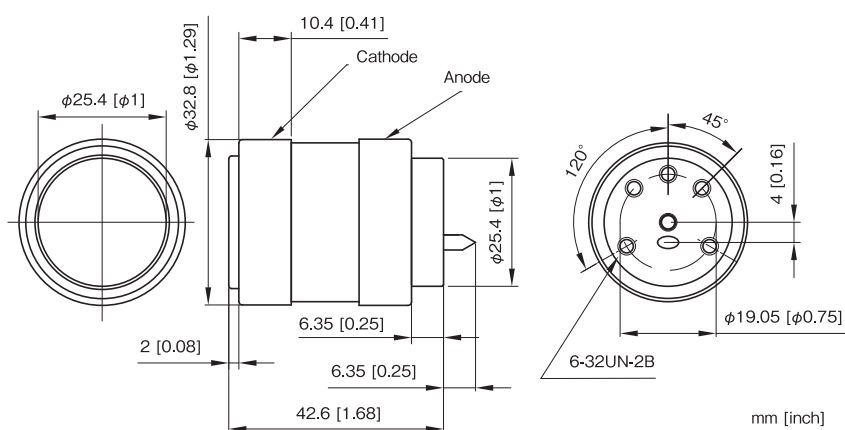


## Spectral Distribution

Reference value when lamp is lit at rated lamp current.



## Appearance





UXR-300UV

### Electrical Characteristics (Initial)

|                                 |        |
|---------------------------------|--------|
| Lamp Power                      | 300W   |
| Operating Voltage <sup>※1</sup> | 15V    |
| Rated Lamp Current              | 20A    |
| Lamp Current Range              | 18~21A |

### Specifications

|                              |            |
|------------------------------|------------|
| Arc Gap (Non-operation)      | 1.5mm      |
| Wavelength                   | 250~1000nm |
| Window Diameter              | φ25.4mm    |
| Reflector                    | Parabola   |
| Rated Lifetime <sup>※2</sup> | 500hours   |

### Initial Output <sup>※3</sup> (Representative Values)

|                   |   |
|-------------------|---|
| Radiant Output    | (250nm~1000nm) 46W<br>UV (250nm~390nm) 6W |
| Visible Output    | Vis (390nm~770nm) 4000lm                  |
| Color Temperature | 5800K                                     |

### Operating Condition (Power Supply)

|                      |  |
|----------------------|--|
| Power Supply         | Constant Current Control<br>Constant Power Control |
| Current Ripple (P-P) | Max 5%   |
| Igniter Voltage      | Min AC23kV   |
| Supply Voltage       | Min 140V   |

### Operating Condition (Lamp)

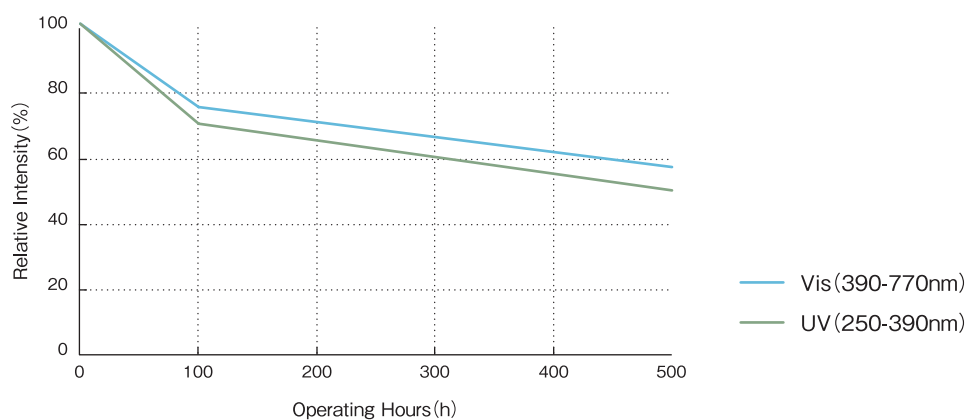
| Operating Direction |              | Horizontal Direction |
|---------------------|--------------|----------------------|
| Cooling             | Ceramic Body | Max 150°C            |
|                     | Base         | Max 200°C            |
| Forced Cooling      |              | Necessary            |

※1 Operating Current : 20A

※2 50% of the initial value. (Visible Output/390-770nm)

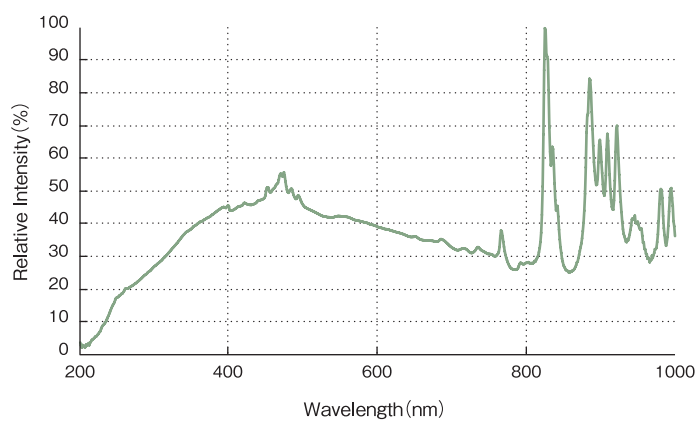
※3 Operating Current : 20A

## Visible Output (5mm Aperture) Degradation

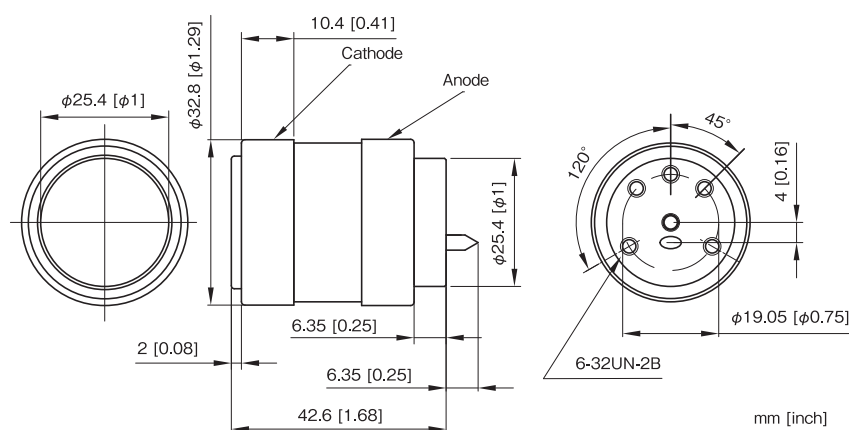


## Spectral Distribution


















Reference value when lamp is lit at rated lamp current.



## Appearance



## Safety Instructions

|   |  |
|---|--|
| <br><b>WARNING</b> | <ul style="list-style-type: none"> <li> High internal pressure exists in the lamp. Do not apply any excessive shock, stress, or scratch to the lamp while handling. Otherwise the lamp may burst resulting in catastrophic failure.</li> <li> Lamp should not be operated within 45° of vertical with the window up. Otherwise thermal stress can cause window failure.</li> <li> Turn off the power before inserting, removing or cleaning the lamp, otherwise it could cause electrical shock.</li> <li> High voltage is required for ignition. Do not touch the lamp nor heat sinks during operation, especially in the instant of ignition.</li> <li> Do not look directly at the operating lamp. Intense infrared and ultraviolet radiation generated by the lamp can cause skin burns and severe eye damage.</li> </ul> |
| <br><b>CAUTION</b> | <ul style="list-style-type: none"> <li> High temperature is built up during operation. Do not touch the lamp during operation and for 10 minutes, at least, after turning off.</li> <li> Do not operate the lamp near flammable gas or chemicals.</li> <li> Attach heat sinks on both bases and apply forced air cooling. Apply heat conductive grease on both bases sufficiently to obtain appropriate cooling condition.</li> <li> Lamp must be fixed at the anode base only, leaving cathode base free. Otherwise mechanical and thermal stress may cause explosion. Read all equipment instructions as well.</li> <li> The filling tip on the anode base of a replaced lamp should be cut off in order to reduce the internal pressure of the lamp.</li> </ul>  |
| <b>Important Operation Notes</b>  | <ul style="list-style-type: none"> <li> Correct polarity and burning position are critical.</li> <li> Lamp must be operated less than rated current.</li> <li> Window of the lamp should be free from bare hands or dust. In order to remove grease stains or dust, use alcohol soaked clothes.</li> <li> Replace the lamp at its life end, or when blackening becomes thicker or flickering of the output becomes severe.</li> <li> Remove the vinyl tube on the filling tip before installation.</li> </ul>  |



### Notice

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