

# 另一个太阳 Another Sun

◎作为有60年制造特种灯和电子设备的一种推动力量, 江东电气以及他的合作公司以独有的革新技术, 不断挑战制造高性能, 值得信赖的产品。

◎江东制造的高技术小型电弧金属卤化灯和卤素灯,石英晶体的密封技术以及数位显示灯(飞机工业),不论在国内还是世界上都广泛享有盛誉。

◎江东电气在日本的舞台/摄影棚/电影市场被看作是制造高品质特种卤钨灯的先驱,并且是日本第一家开发小型日光色源金属卤化物灯泡的公司,由于拥有60年开发灯泡技术的历史,江东知道电影,电视及舞台对光源的使用需求,并且继续为世界市场研究和开发新的,高品质的产品。

© A driving force in the manufacture of speciality lamps and electronic devices for 60 years, Koto Electric and its partner companies continue to undertake the challenge of producing high-performance, reliable products with their unique and innovative technologies.

©Koto's technologically advanced compact arc metal halide and halogen lamps, hermetic seals for quartz crystals and digital display lamps (aircraft industry) have been widely acclaimed domestically and worldwide.

©Koto Electric is considered to be the pioneer of high-quality tungsten halogen speciality lamps within the Japanese stage/studio/film market and is the first to develop compact metal halide daylight color lamps in Japan. With its 60 year history of lamp technology development, Koto fully understands the requirements of the entertainment industry, which demands high-quality light sources for films, TV and stages, and also continues to conduct researches in the development of new, high-quality products for the worldwide markets.



# 灯的构造图 Structure of Lamps

1) Exhaust Tube

② Support Foil

1 Exhaust Tube

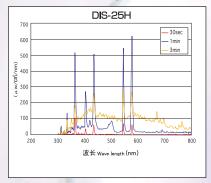
3 Arc Tube

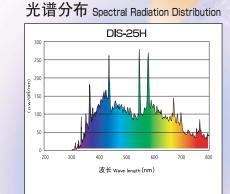
4 Electrode

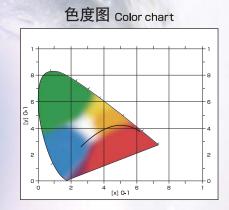
# 小型电弧金属卤化物灯泡

## Compact Arc Metal Halide Lamps

## 启动特性 Starting Characteristics







Di-Lite 每瓦特提供85-108流明, 亮度是卤钨的三倍, 产生的热量却比较少。

### 卓越的色泽

Di-Lite 金属卤化灯的演色性超过90(Ra), 它是高效的组合和对演色性用途要求严格的首选。

#### 经济高效

跟普通的卤钨灯相比, Di-Lite的电力消耗较少。还有, 由于相对每瓦的流明效率高, 可容许尺寸较小的灯具。

#### 演出效果的保证

Di-Lite 已经在许多严苛的灯光应用环境下有着完美的演出。所有新设计的产品在投入生产前, 都彻底地在典型的应用环境下完整的测试过。

#### SUPERB BRIGHTNESS AND COMPACT SIZE

Di-Lite lamps give off about 3 times the brightness of tungsten-halogen sources, with lumen efficiency of 85~108 lm per watt and generate considerablely less heat than tungsten-halogen lamps.

Di-Lite metal halide lamps have a Color Rendering Index (Ra) of more than 90. It's your best option for a combination of high efficiency and high color rendering for color-critical applications.

#### **ECONOMICAL AND EFFICIENT**

Compared to common tungsten-halogen lamps, Di-Lite metal halide lamps require less power consumption. Reduction of the fixture size is made possible due to the large lumen package per watt of power.

#### EN FIELD PERFORMANC

Di-Lite lamps perform flawlessly under many adverse conditions during lighting applications. All new designs are thoroughly tested under typical field conditions prior to mass production.

















4电极





9钼支柱











14中间导线 15钼棒

16端子



17支撑玻璃 18灯壳



20钩 21灯丝







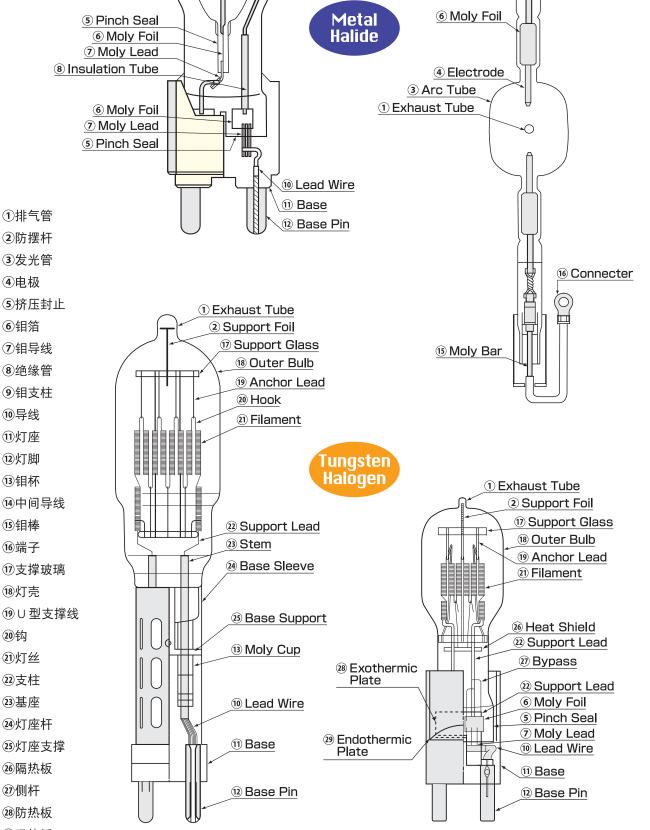
24灯座杆 25灯座支撑

26隔热板



27侧杆

28防热板 29吸热板



9 Support Wire

11 Base

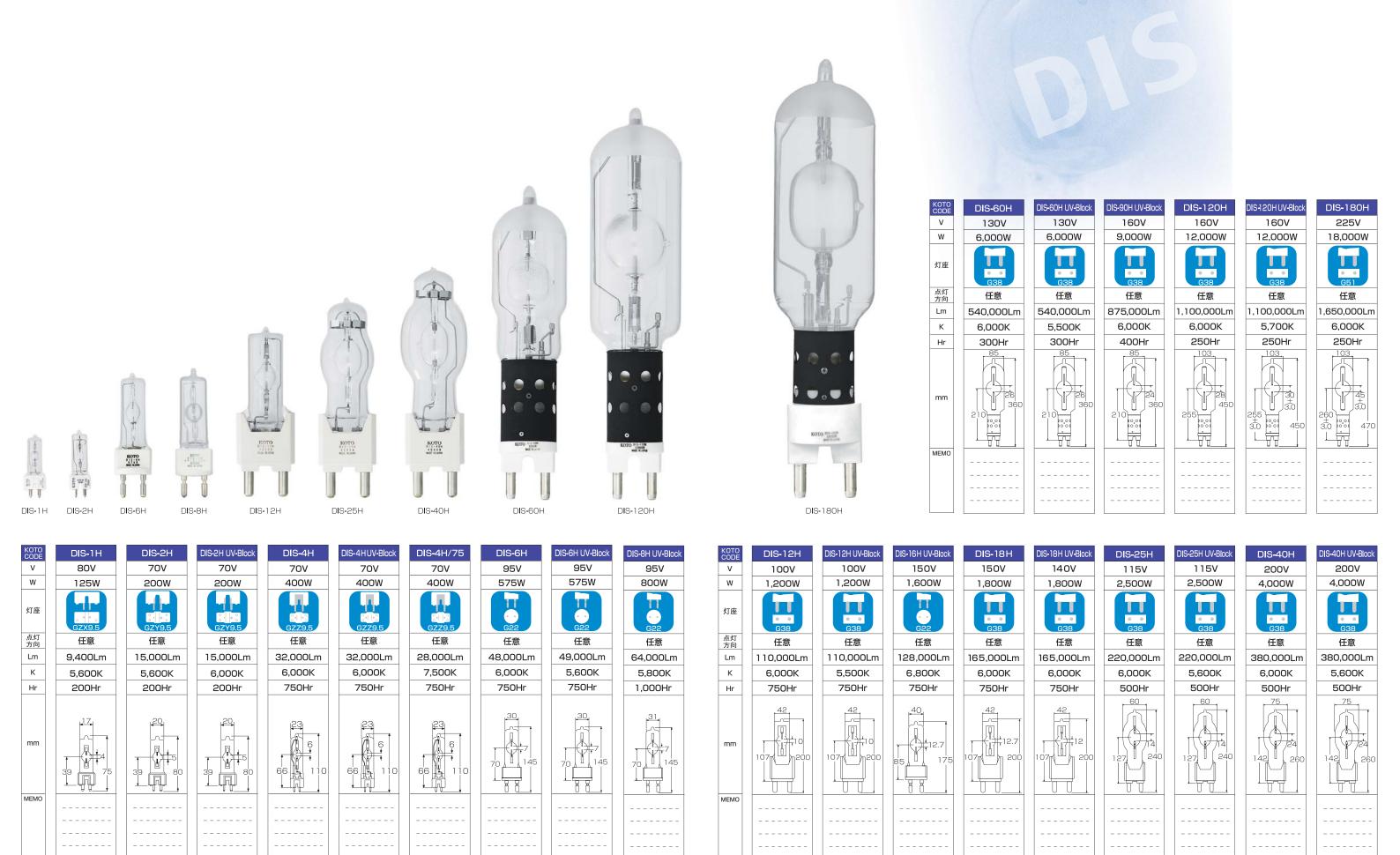
<sup>13</sup> Moly Cup

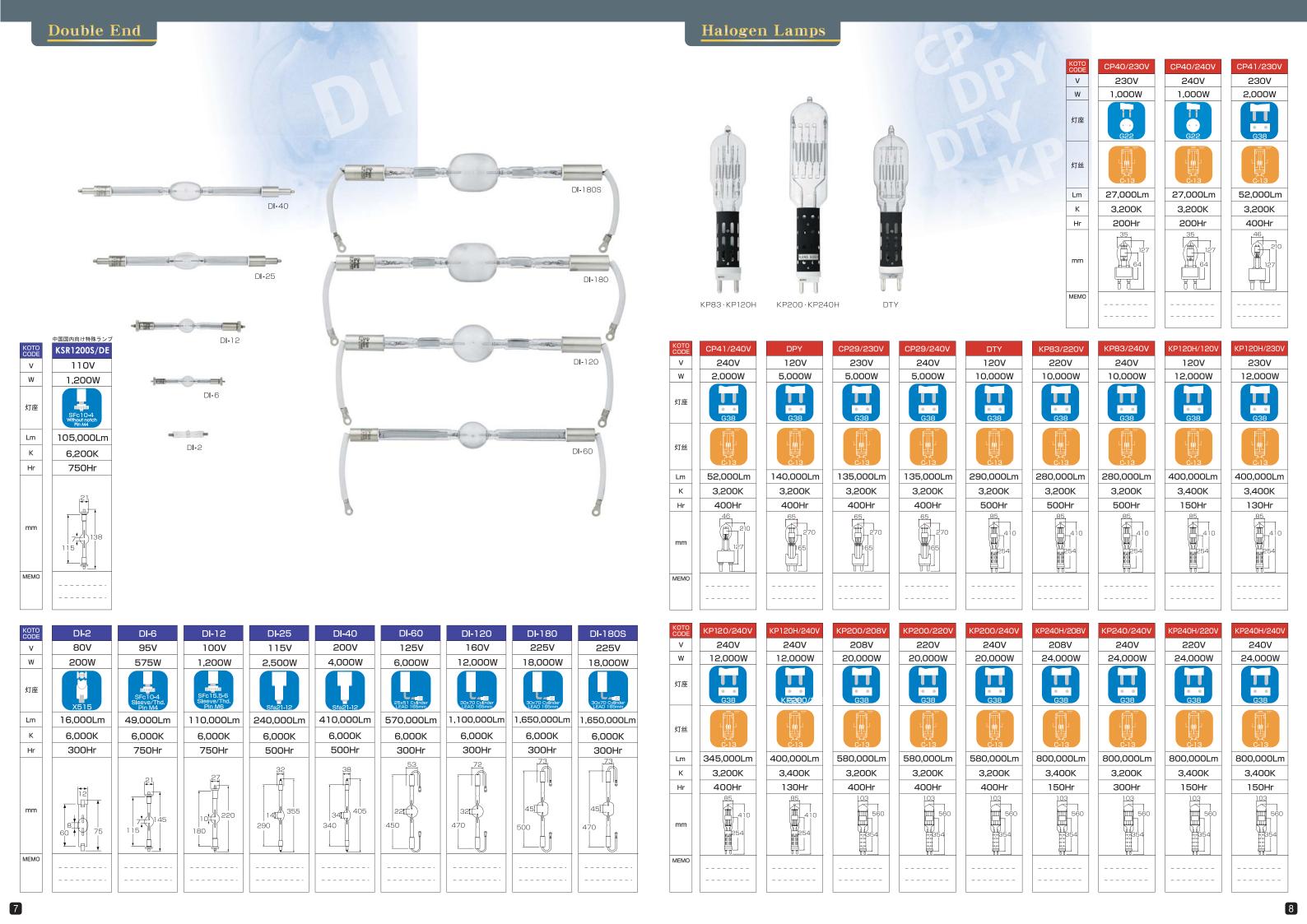
15 Moly Bar

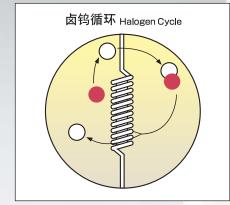
14 Middle Lead Wire

3

Single End
Single End

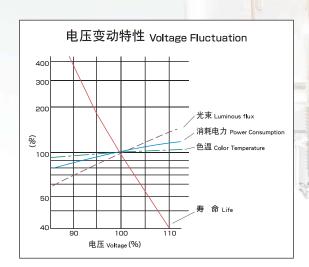


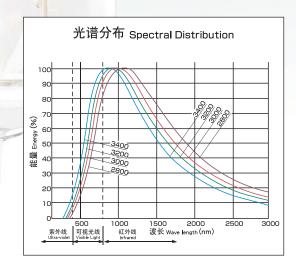




当灯丝的温度上升到一定高度,灯泡里的钨被蒸发,拡散到温度较低的灯壁。钨,氧和卤素原子在灯壁或接近灯壁的地方混合,形成钨卤氧化分子。钨卤氧化分子在灯壁温度之下保持蒸气状,而这些蒸气慢慢向热的钨丝方向移动。灯丝附近的高温使得钨卤氧化分子分离。分离后的氧和钨原子返回灯壁,而钨原子则重新在灯丝上沉积,然后重复循环。这个过程叫"卤钨循环"。通过这个过程有效地防止了灯壁黑化,并且延长了灯的使用寿命。

When a filament is heated to a high temperature, tungsten atoms evaporate from the hot filament and diffuse toward the cooler bulb wall. Tungsten, oxygen and halogen atoms combine on or near the bulb-wall to form tungsten oxyhalide molecules. Tungsten oxyhalides remain in a vapour phase at the bulb-wall temperature, and this vapour moves toward the hot filament. High temperatures near the filament break the tungsten oxyhalide molecules apart. The oxygen and halogen atoms move back toward the bulb wall and the tungsten atoms are re-deposited on the filament. The cycle then repeats. This process is called the "Halogen Cycle". The halogen cycle prevents lamp blackening and extends the service life of the bulb.





卤钨灯代表高效率(每瓦特23流明)和长寿命的白炽灯。 寿命长,光白和小型使它成为在许多应用场所最好的选择。

江东的卤钨灯是舞台,影视照明最有效的选择。在整个寿命中,卤钨灯提供持续有效的色温和光输出。由于各灯泡的光色稳定一致,即使替换后,也能确保光色的稳定性,避免出现光度和光色下降的现象。 小型重卷灯丝的构造能有效控制光源的特性并且和灯具作出极好的配合。

Tungsten halogen lamps represent an improved version of incandescent lamps, offering both higher efficiency (23 lumens per watt) and increased life. The longer life, whiter light and compact size of tungsten halogen lamps makes them an excellent choice for a large variety of applications.

Koto Tungsten Halogen lamps are your best choice for stage, studio, film and television lighting. These lamps provide virtually constant color temperature and light output throughout their life span. Lamp to lamp color consistency makes lamp replacement possible without degradation in light output or color. Compact and double-coiled filaments provide outstanding optical control and combine excellently with the fixtures.

#### 警台

- ◎请确保灯泡和专用的灯具配合使用(使用合适的灯头,功率,电压等)。否则可能导致灯泡的定格寿命缩短,或因破裂,设备过热受伤,还也可能导致灯泡受损,并且还会产生其他别的问题。
- ◎由于灯泡内部有很高的压力, 请避免落下, 碰撞, 或施加强力, 划伤。(清洁器具时要特别小心)如果灯泡破裂了的话, 将会散成碎片, 可能会引起受伤。
- ◎请不要用纸或其他物件罩住灯,也不要把灯接近易燃物体,否则可能会引起火灾。
- ◎请确保按照指定的点灯方向使用灯泡。尽管在短时间内允许任意的点灯方向, 但即使在这段短时间里, 也要保持灯头在灯泡的下方。否则可能会因破裂而受伤。
- ◎请确保在装卸, 清洁电器之前切断电源。否则可能会导致触电。
- ◎决不要在点灯时触摸灯泡。即使关灯后,也不要触摸它,直到温度下降到安全范围内。否则可能会导致烧伤。
- ◎决对不要在可能燃烧或点火的环境下使用灯泡(或把灯暴露在有汽油,稀释剂,漆,粉剂等的地方)。否则可能会导致火灾或爆炸。
- ◎请不要长时间直视点着的灯泡。因为可能会引起眼睛不适甚至损害视觉。
- ◎如果专用设备前方的玻璃被移走或破损,或者外壳(灯壳)破损,决不要尝试点着灯泡。否则紫外线将会从设备破损处散发出来,会使眼睛/皮肤受损害。
- ◎至于摄影棚用的金属卤化物灯泡, 请确保选择强化玻璃或有金属保护的密封型。因为如果破损发生, 可能会造成身体的伤害。

#### 注意事项

- ◎请不要用手直接接触灯泡。如果在不清洁的状态下点灯,会让灯泡成分发生变化,导致破裂或寿命的短缩。
- ◎请避免在有雨,水滴或湿度高的状态下使用。否则可能会引起破损。
- ◎请不要涂涂料。因为会使灯过热, 引起破损。
- ◎不要在灯体的设定照射范围内使用。否则会引起被照射体的变色,破损或火灾。更严重的,可能会引起烧伤。
- ◎请确保灯泡与灯座紧密结合。安装不好会引起灯泡脱落,由于接触不良会引起的过热和产品冒烟。
- ◎请在定格电压下使用灯泡。高电压会引起寿命缩短甚至破损。
- ◎请避免灯泡搭配一般灯具在酸性或腐蚀性环境下使用。否则可能会引起漏电或在腐蚀环境里脱落。
- ◎请避免灯泡搭配一般灯具在灰尘多的地方使用,这可能会引起装置过热。
- ◎请避免用一般的卤素灯去引鱼。这可能会引起破损或缩短使用寿命。
- ◎请不要把两个或更多的灯泡连起来使用。这会引起破损或缩短使用寿命。
- ◎检查插头有没有任何破坏。任何的破坏可能引起无法点亮或过热。
- ◎请更换超过使用寿命的灯泡。否则会引起破损。
- ◎装卸时,确定用正确的灯座(螺丝插座,卡口插座)。不要用强力或摇晃的方式安装灯泡。
- ◎不要因废物处理而打破使用过的灯。打破时, 散落的碎片可能会造成伤害。关于废物处理, 一定要遵循相关法律规定。
- ◎当发生不正常点灯,比如频闪,请迅速切断电源并更换灯泡,否则可能会引起过热或冒烟。
- ◎请不要震动或撞击灯泡。还有,请不要在有震动和撞击的环境中使用。否则可能会引起破损和脱落。
- ◎更换到达平均寿命的灯泡。延长使用可能会引起石英玻璃结晶化(不透明),严重增加爆炸的潜在危险。

#### Warning

- OBE sure to use the lamp with a suitable lighting appliance (with appropriate socket, wattage, voltage, etc). Failure to comply with this can result in shortened service life, injury caused by breakage, overheating of appliances or other problems.
- ©Due to the high internal pressure of the glass bulb, avoid dropping, hitting, applying excessive force or scratching the lamp (particularly be careful when cleaning the lighting appliances). Glass fragments will be scattered if the bulb is broken, causing injury.
- ©Do not cover the lamp with papers or other objects and do not bring it close to flammable objects of any kind due to the danger of causing a fire. ©Be sure to use the lamp in the assigned direction. Lighting in a direction other than the assigned one is possible only for a short period of time. However,
- even during this short period of time, make sure to keep the lamp-socket below the light bulb. Failure to do this can cause injury or breaktage of lamp.

  OBE sure to disconnect the power supply before fitting, detaching, or cleaning the appliance. Failure to comply with this can result in electric shock.
- ONE on the lamp while it is burning. Even after the light is put out, do not touch it until the temperature drops to a safe level. Failure to
- comply with this can result in burns and injuries.

  Never use in an environment where combustion or ignition may occur (exposure to gasoline, thinner, lacquer, dust etc.). Failure to comply with
- this can result in a fire or explosion.
- ©Do not look directly at the lighted lamp for an extended period of time as it can cause eye discomfort, or in the worse case, impairment of eyesight.
  ©Never try to burn the lamp if the front glass of the lighting appliance is removed or broken, or if the outer tube (glass bulb) is broken. Failure to comply with this can cause eye/skin trouble due to ultraviolet rays emitted from the breakage of the appliance.
- OWith studio-use metal halide lamps, be sure to choose an encapsulated type that provides tempered glass or a metal guard. Breakage, if it occurs, can cause bodily injury.

#### Cautio

- Never touch the lamp directly with your bare hands. If the lamp is stained and then burned, the glass bulb's performance will deteriorate, resulting in breakage or a shortened service life.
- OAvoid exposure to rain, water drops, or a high humidity environment as it can result in breakage of the lamps.
- ©Do not apply paints to the lamps. It can cause overheating of the lamp, resulting in breakage.
- Avoid light utilization within close proximity (the designated irradiated area) of the fixture, as it can result in discoloration or damage of the irradiated subject or even fire. More seriously, it can result in burns or injuries.
- ©Be sure to fit the lamp tightly into the socket. Inappropriate fitting can result in the lamp falling out of the lighting device, overheating due to contact failure, or fuming.
- OAdhere to the specified voltage. Use at a voltage higher than the specified one can result in a shorter service life and even breakage.
- OAvoid using the lamp with an ordinary lighting device in an acidic or corrosive environment. This can result in electrical leakage or falling in a corrosive environment.
- OAvoid using the lamp with an ordinary lighting device in a dusty place. This can result in overheating of the device.
- $\bigcirc$  Avoid using a standard halogen lamp to attract fish. This can cause breakage or a shortened service life.
- ONEVER USE two or more lamps connected in series. This can cause breakage or a shortened service life.

  Others the socket contacts for any damage. Presence of any damage can cause non-lighting or overheating.
- © Replace a lamp that has exceeded the rated service life; otherwise it may result in breakage of the lamp.
- When fitting and detaching the lamp, be sure to use the correct base type (screw socket, bayonet socket). Do not apply excessive force or shock to the lamp.
  Do not break used lamps for waste disposal, as glass fragments will be scattered, causing injury. For waste disposal, be sure to obey the
- relevant laws and regulations.

  On case of abnormal behavior, such as repeated blinking, immediately cut off the power supply and change the electric bulb. Failure to do this
- can cause overheating or fuming.

  ©Do not apply vibration or shock to the bulb. Also, do not use in environments that are exposed to vibration or shock. Failure to observe this can cause breakage or lamps falling down from the lighting devices.
- ©Replace the electric bulb when the burning hours reach the average service life. Excessive use of a bulb can cause recrystallization (opaqueness) of the quartz glass, sharply increasing the potential risk of bursting.