

The world first

Illumination closest to the sunlight

**MIRACLE BEAM®**







# Characteristics

## **MIRACLE BEAM®**

uses microwave energy completely different from the conventional emitting principle which uses electron energy. It is a new light source which radiates light that is the closest of all light sources to sunlight.

# Characteristics

## Illumination closest to the sunlight

- Ra:98 High color rendering properties
- The similar color conditions with sunlight [Color of complexion, food, plants, scenery]

## Comfortable lighting considering users

- Emit continuous light having an emission spectrum spread in the entire visible light wavelength
- Providing a comfortable lighting environment having a spectrum near to that of solar light
- Hardly emit ultraviolet rays which are bad for eyes. Little infrared radiation → Less heat generation

## Economical lighting with high efficiency and long life

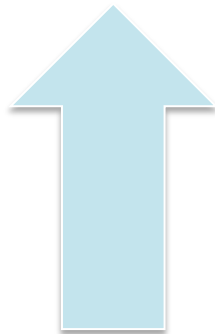
- Energy saving system with high luminous flux maintenance factor and high efficiency
- Epoch-making long-life
- (8 hours of operation per day, about 7 years (System life ...20,000 hours, lamp life ... 50,000 hours))
- Uniform light distribution and quick re-lighting

## Health and environment-conscious lighting system

- Environmentally friendly lighting with no mercury and no lead

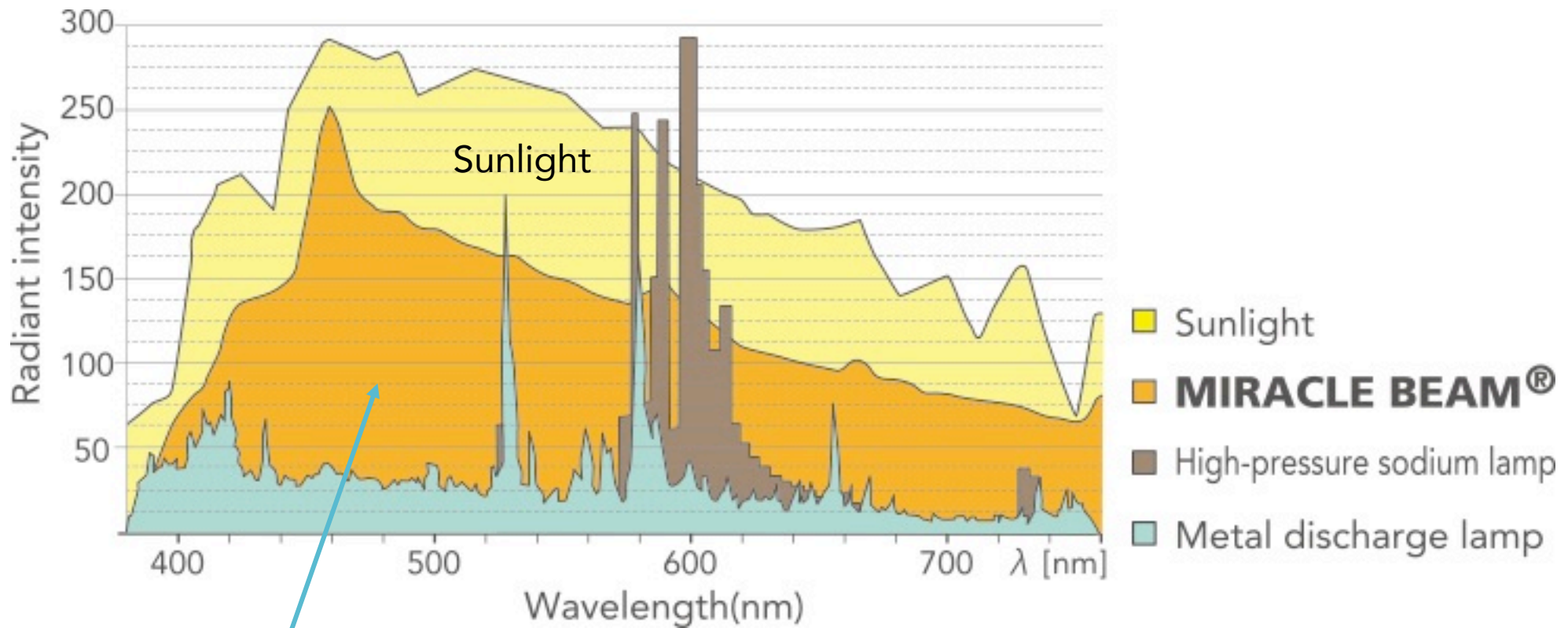
# Comparison table of properties by light source

	<b>MIRACLE BEAM®</b>	Metal discharge lamp	High-pressure sodium lamp
Lamp life(hrs)	<b>50,000</b>	8,000	12,000
CRI (Ra)	<b>98</b>	80	25
Color temperature(K)	<b>4,500~7,000</b>	4,500~6000	2,000
Lamp efficacy(lm/W)	<b>101</b>	90	130
Characteristics	<b>No Hg</b>	Hg Electrode	Hg Electrode



**MIRACLE BEAM® is environmentally friendly.**  
No Mercury, No Lead

# Spectral comparison by light source

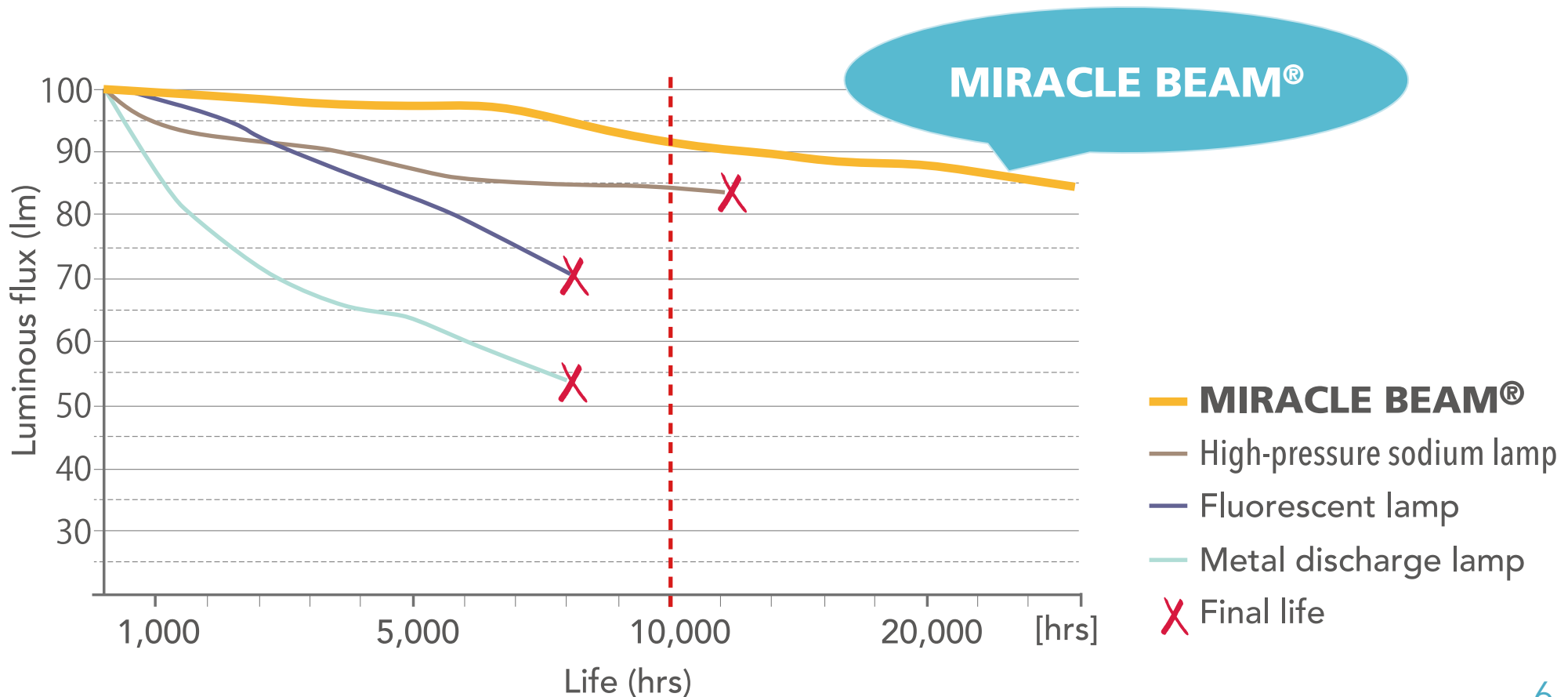


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# High lumen maintenance & long life

Very little decrease of luminous flux due to the lapse of its life. Lumen maintenance factor is about twice as much as that of metal discharge lamp.

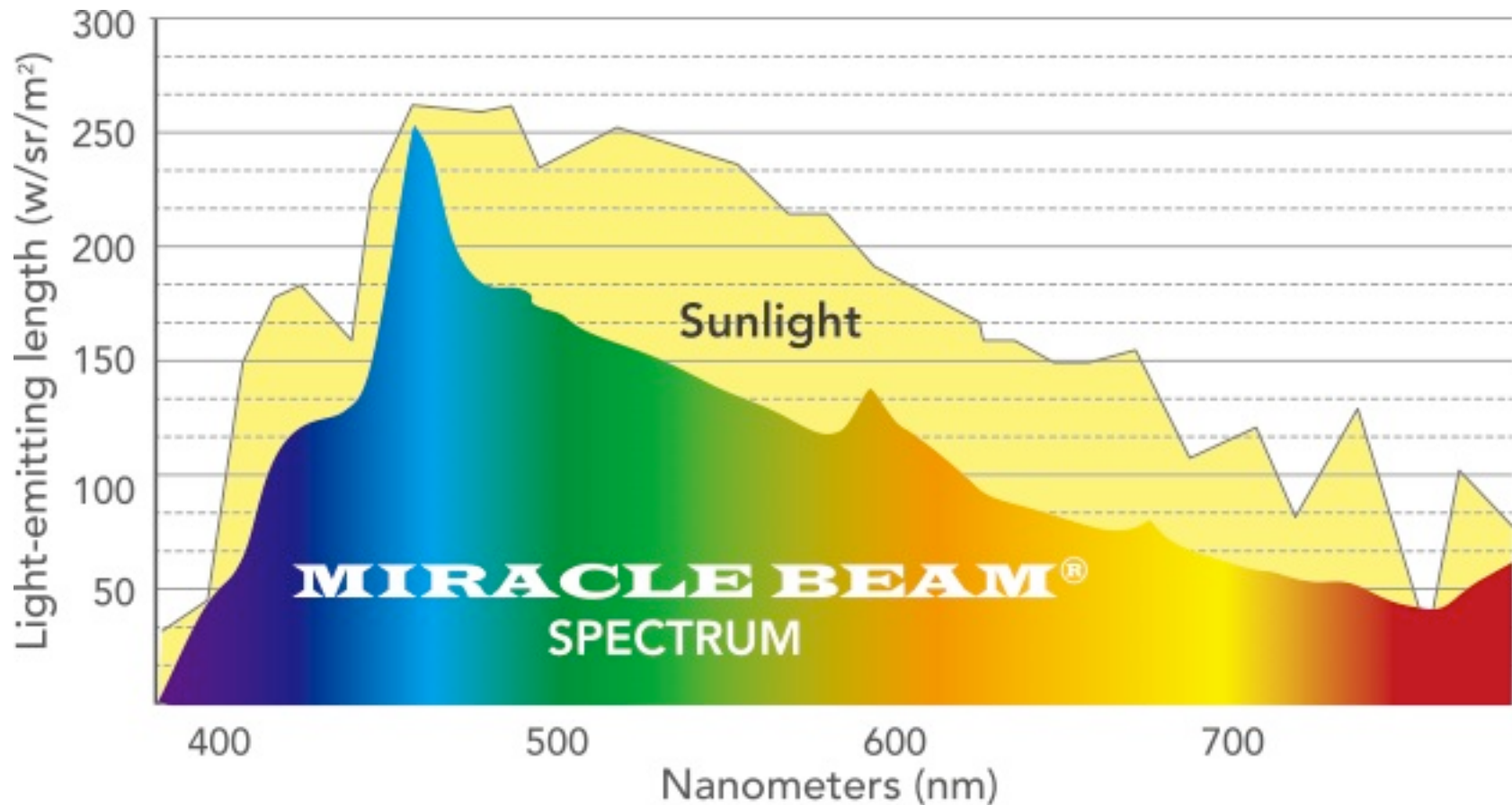
No tungsten electrodes. **Lamp life is more than 50,000 hours.**





# Superior color-rendering property

**MIRACLE BEAM**<sup>®</sup> has a spectrum closest to that of solar light and express the natural color. (Ra>98)



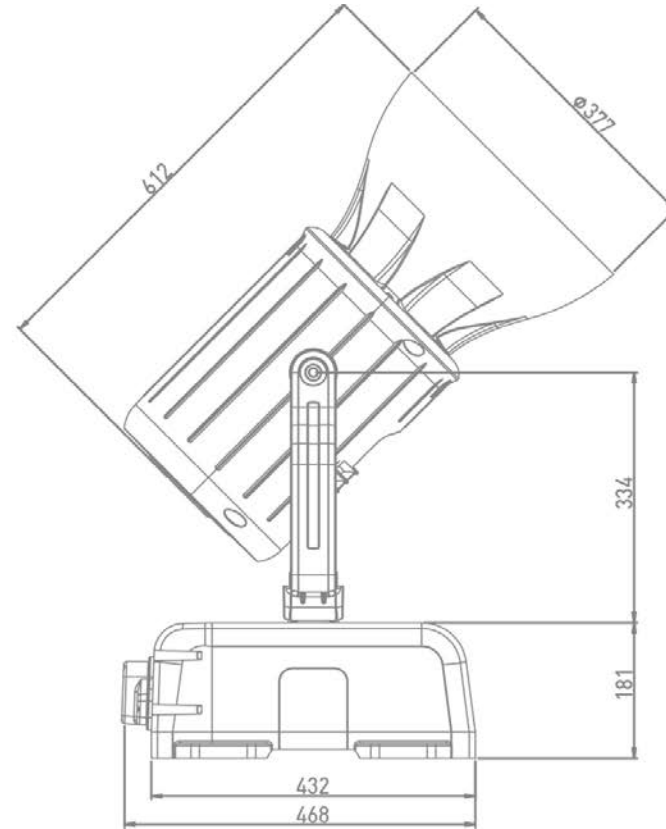
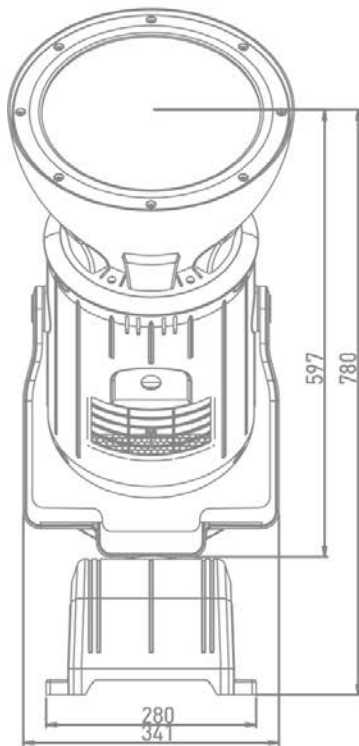
# Specifications

<b>Input Power (W)</b>	1,100
<b>Voltage (V)</b>	200 (60/50Hz)
<b>Total Luminous flux (lm)</b>	60,000MIN.
<b>CCT (K)</b>	6,000
<b>CRI (Ra)</b>	98
<b>Lumen ,maintenance (%)</b>	>90
<b>System life (hr)</b>	>20,000 (Lamp life...50,000hrs)
<b>Startup time (s)</b>	<60
<b>RoHS(Hg, Pb, etc.)</b>	Free
<b>Beam angle</b>	20°, 60°



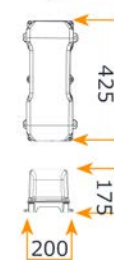
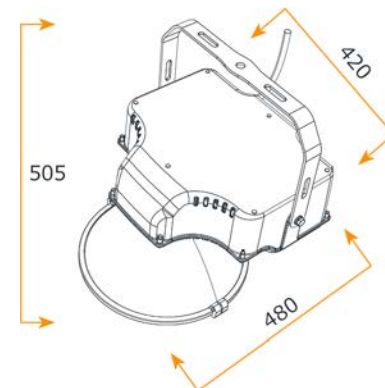
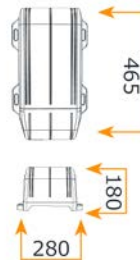
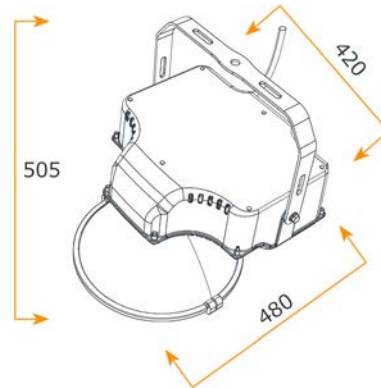
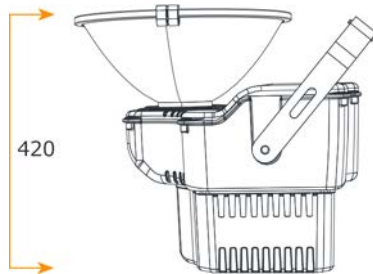
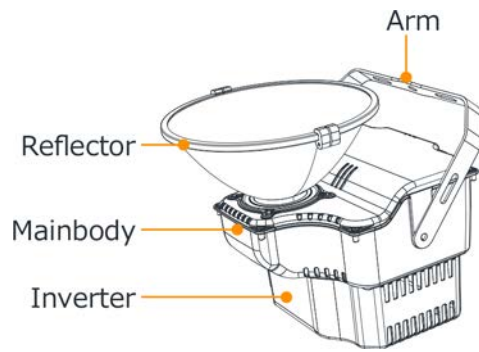
# Dimensional drawing

## MIRACLEBEAM® (Type G)



# Dimensional drawing

## MIRACLEBEAM® (Type A)



# Models

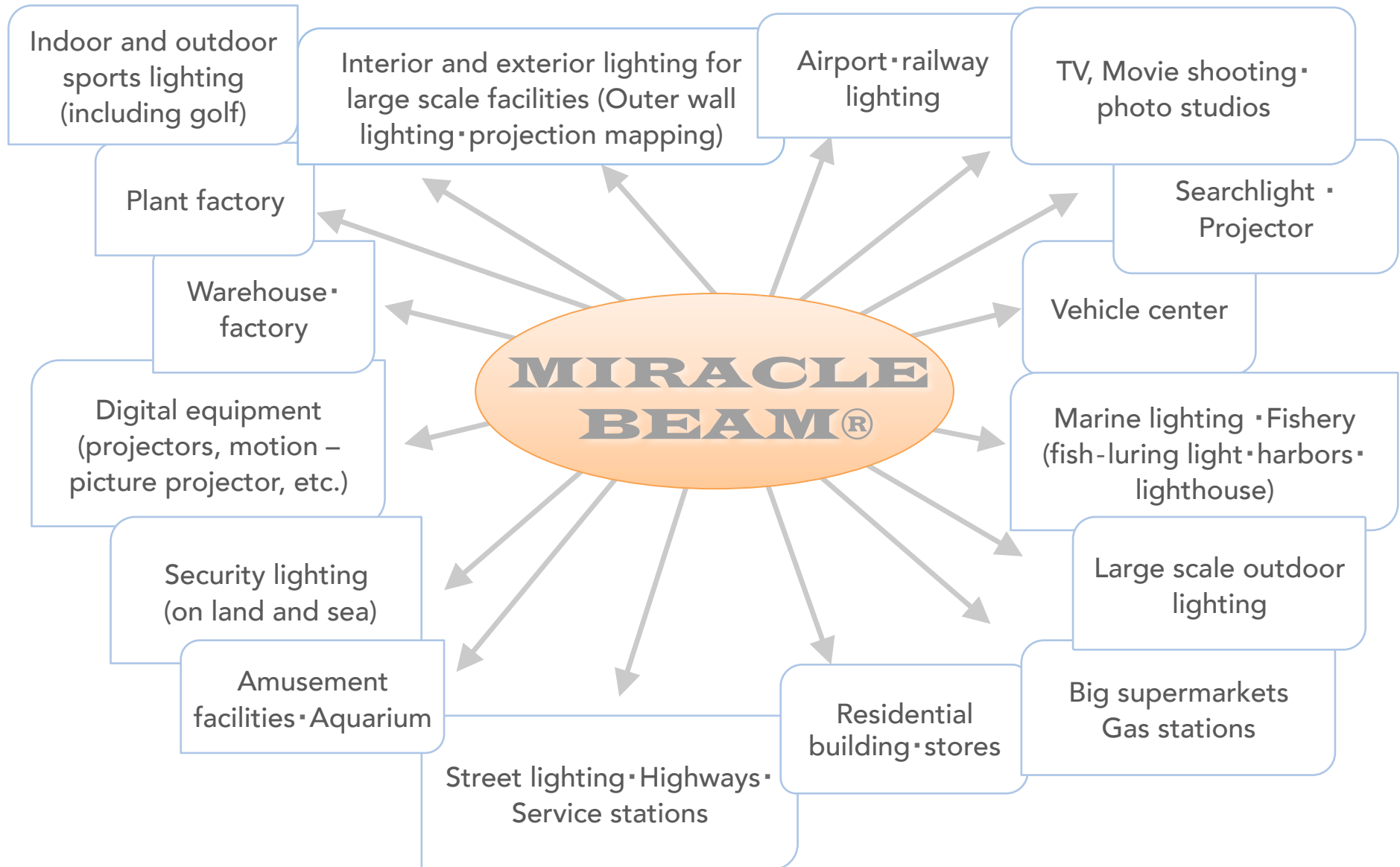
**MIRACLE BEAM® (Type G)**



**MIRACLE BEAM® (Type A)**



# Potential applications





# Potential markets

Plant lighting



Marine lighting  
Searchlight  
Harbor  
Lighthouse  
Fishery



Scenery  
illumination



Aquarium  
lighting ▪  
Amusement  
facility



Warehouse ▪  
factory  
(interior &  
exterior)



Movie ▪  
Photographic  
lighting



# Potential markets

Sports facility lighting  
Gymnasiums, stadiums



Golf course





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