



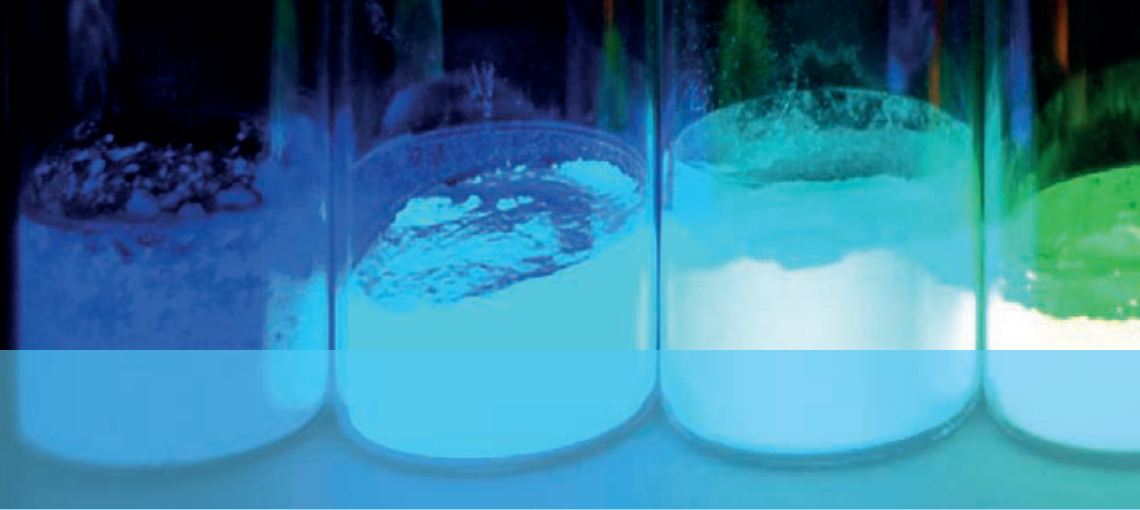
# GROW LAMPS

Light for profitable growth



Made in Germany  
Manufacturing since 1926  
Innovation and Quality

**AUVL**



# Light color and its effect on plants.

## Growth light in the most useful spectrum.

### Efficiency

Plant growth and development requires a full spectrum light that not only includes visible portion of the electromagnetic spectrum, photosynthetic active radiation, but also provides small partitions of ultraviolet (<400nm) and infra-red (far red; >700nm) wavelengths.

Lamps that provide a full spectrum of light simulate natural growing conditions that can lead to healthy plants. Grow Green lamps have been developed with this in mind; they efficiently convert electricity into full spectrum light output to provide an excellent lighting source for plant growth.

#### UV light

- promotes strength
- intensifies flower color
- less chlorophyll

#### Blue light

- stimulates photosynthesis
- promotes translocation of assimilates
- stimulates the formation of chloroplasts and chlorophyll
- opens the stomata
- compact plant structure
- small, thick leaf

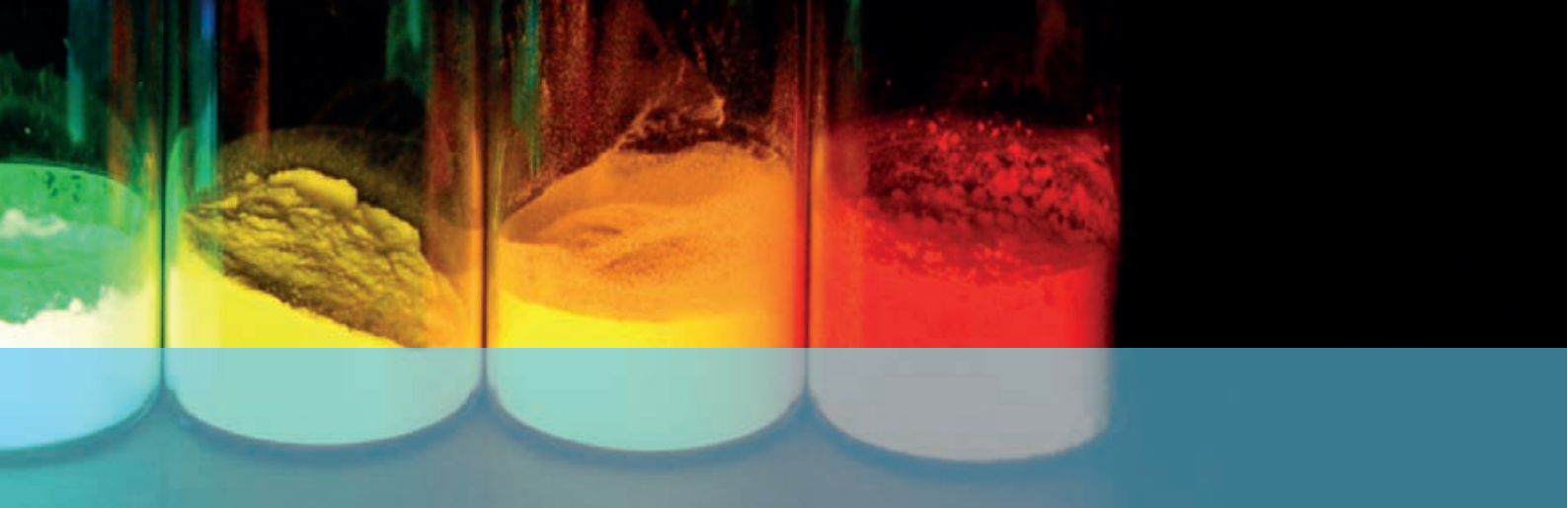
#### Red light

- stimulates photosynthesis
- slows upward plant growth
- stimulates branching
- gives a smaller leaf surface with a thicker leaf

#### Infrared light

- stimulates upward plant growth
- slows branching
- larger, thinner leaf
- promotes flowering and setting of fruit

Source: Wageningen University and Research

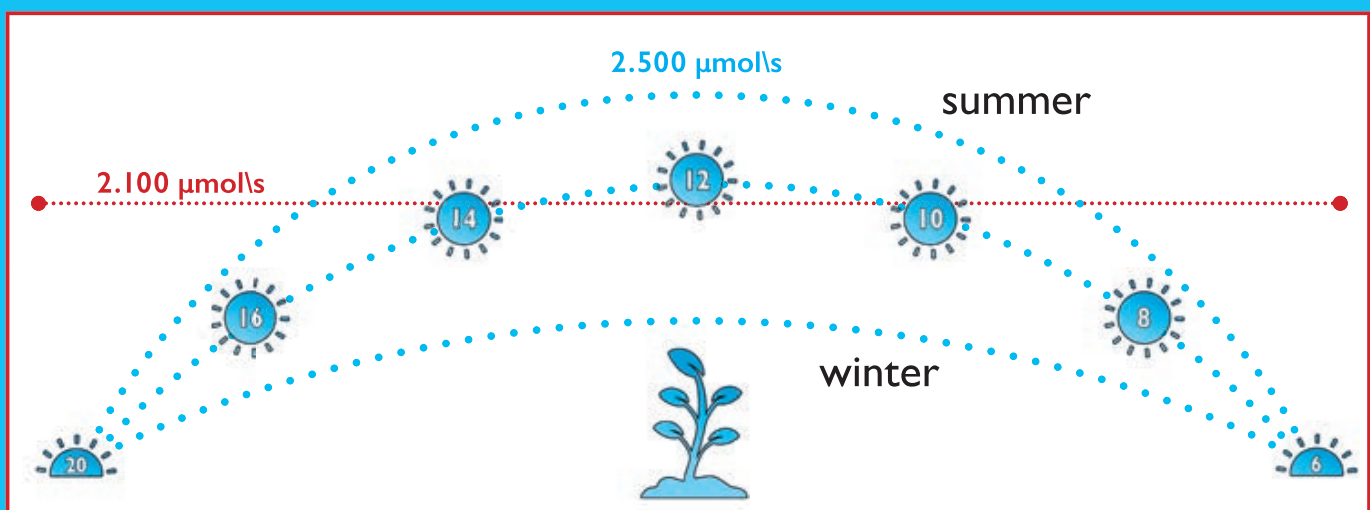


## Photosynthetic Active Radiation (PAR)

The visible portion of the electromagnetic spectrum used for photosynthesis is known as photosynthetic active radiation (PAR). PAR ranges from 400nm (violet) to 700nm (red) and encompasses all colors visible to the human eye. The intensity of PAR is measured by the number of photons (particles of light energy) that reach a surface per unit time, this is called the photosynthetic photon flux density (PPFD) measured in  $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$ .

To ensure proper plant growth and development it is important to maintain the correct and consistent average light distribution and light intensity.

This can be accomplished with supplemental lighting used to maintain the desired light levels.











# Our Path to the Customer. Local and International.

## **Efficient distribution structures.**

We think clear, transparent distribution structures are important. That means that we do not sell directly to the end customer or through a website of our own.



Our products are sold both by wholesalers as AUVL brand and as their private label and by fixture manufacturers. Our agreements cover everything from customer protection to regional sales exclusivity.

AUVL takes on the development and production for light manufacturers who are looking for a specific design of spectrum or of the complete radiation source.

Along with the two production sites in Germany and the AUVL Headquarters, which supports customers in Europe, Asia and South America, we also have our North American subsidiary in Boston, MA and a distribution center in Atlanta, GA to service our customers in the United States of America and Canada.

# Production Base Germany. Quality and Planning Security.





Production based in the capital of Germany, Berlin is important to AUVL. The location in Central Europe, with its excellent infrastructure, means we can supply our customers quickly – even for short-notice repeat orders.

The company is characterised by customer proximity and emphasis on service orientation. Our sales representatives go to the customer on location, and the production facilities are open to the customer.

The highest appreciation for quality and keeping to deadlines is also reflected in the area of environmental protection. Our products are certified to ISO 9001:2015 and are also developed and sold in such a way that the environment is affected as little as possible both in manufacture, in use and disposal.

Due to the good legal framework conditions in Germany, we can also focus on high innovation capacity and so invest in the development of new forward-thinking technologies.

In comparison with other manufacturing sites, production in Germany offers our customers and partners high levels of planning security in many areas.



The background of the page is a dark, industrial scene showing the manufacturing process of lamps. On the right side, there is a vertical strip showing a glowing lamp being worked on by machinery. The rest of the background is a blurred view of a factory floor with various mechanical parts and equipment.

# Quality made in Germany. Proven by international clients.

## **AUVL – Competence in Lamp Technology.**

For more than 90 years, the brand AUVL enjoys a worldwide reputation in lamp technology. AUVL is internationally regarded for quality, safety and flexibility.

As a manufacturer of light sources, we strategically rely on the manufacturing site in Germany and produce in Berlin and Brand-Erbisdorf (near Dresden).

Our products are used in conventional greenhouses and laboratories in both horticulture and legal hydroponics markets.

Made in Germany is regarded in the world as a guarantee of high-quality products manufactured with modern technology, traditional craftsmanship and long years of experience.

As a mid-sized manufacturer, our customers benefit from our ability to deliver high flexibility, high quality, and the value of working in an intimate partnership. Appreciation of our German production sites is confirmed by our customer loyalty and proven by our highly qualified and experienced employees.

For us, “Made in Germany” is more than just a label. Our continued tradition, high quality-consciousness and professionalism play an important role at AUVL.







**We create value for our customers.**  
Always doing the right thing for our clients.



### **Made In Germany**

For us, “Made in Germany” is more than just a label, and horticulture is more than just an area of business.

Our many years of tradition, high quality-consciousness and professionalism play an important role for us. Our customers benefit from market proximity, high flexibility and from working in partnership with us.

### **Clear, transparent distribution structures**

Our products are sold both by wholesalers as AUVL brand and as their private label and by fixture manufacturers. That means that we do not sell directly to the end customer or through a website of our own.





## **Customer Service**

We offer a premium service to our global customers. Benefit from the direct customer contact via email, telephone or on site - competent, fast, individually and personally. Our multilingual staff in customer service is an extra benefit for our customers. One contact person for all your needs.

## **Customer-specific Design**

AUVL takes on the development and production for fixture manufacturers who are looking for a specific spectrum design or for a complete radiation source.

AUVL also designs our own brands and individual packaging in appropriate quantities.

# AUVL GROW GREEN

## Sodium Lamps Single Ended (NH SE)



### Highly effective HPS lamps.

AUVL GROW GREEN Sodium Lamps are first-class quality, high-pressure sodium lamps with ceramic discharge tubes for high efficiency and efficacy at great light output and a reliable service life.

High-pressure sodium lamps produce a broader spectrum of light than the low-pressure lamps and are commonly used as plant grow light. The AUVL Grow Green Sodium Lamps are designed for operating with choke ballast and ECG / electronic ballasts.

Article No.	Type	Wattage	Base*	PAR μmol/s	Lumen lm	Nominal Voltage	Nominal life time	Box
80100814	GROW GREEN 250W 230V E40 NH	250W	E40	406	33.200	230V	12.000 h	12
80101920	GROW GREEN 400W 230V E40 NH	400W	E40	725	56.500	230V	12.000 h	12
80101921	GROW GREEN 600W 230V E40 NH	600W	E40	1.100	93.000	230V	12.000 h	12
80100121	GROW GREEN 600W 400V E40 NH	600W	E40	1.150	87.000	400V	12.000 h	12
80101126	GROW GREEN 750W 400V E40 NH	750W	E40	1.400	110.000	400V	12.000 h	12
80104021	GROW GREEN 1000W 230V E40 NH	1000W	E40	1.650	142.000	230V	12.000 h	12
80100124	GROW GREEN 1000W 400V E40 NH	1000W	E40	2.100	155.000	400V	12.000 h	12

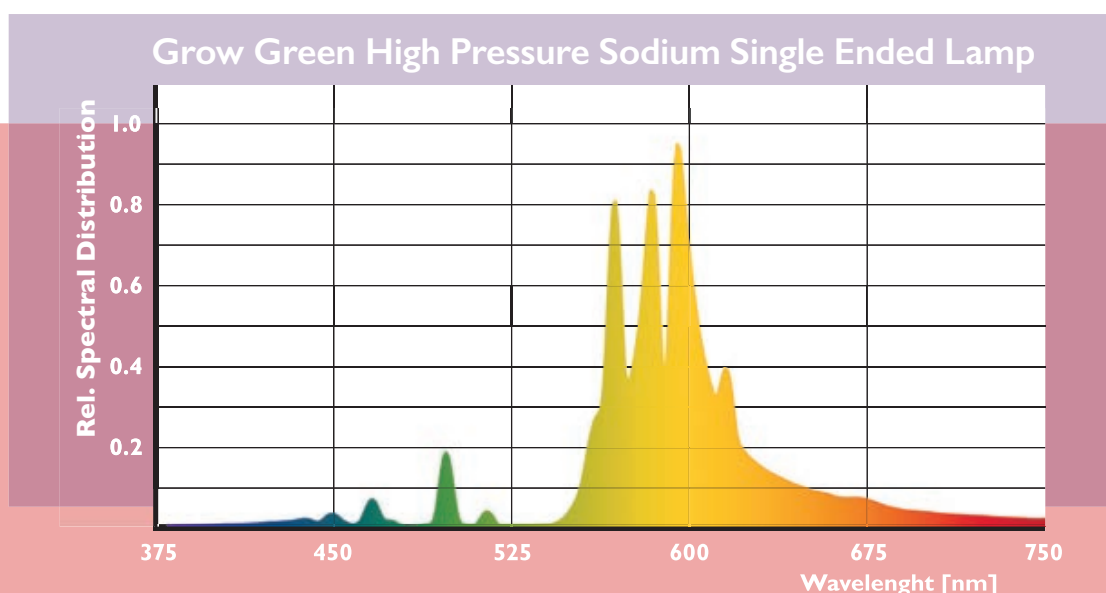




## Advantages

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- Highly effective PAR light output
  - Very high yield of light through AUVL technology
  - Optimum lifetime performance
- Stimulation of growth in all phases of development
  - Fast and qualitative growth
  - Abundant red light for more photosynthesis
- High energy efficiency
  - Savings through AUVL technology
  - Long service life with reduced maintenance
- Designed for operating with choke ballast and ECG / electronic ballasts
- Product quality “Made in Germany”



# AUVL GROW GREEN

## Sodium Lamps Double Ended (NH DE)



### **AUVL Double Ended Sodium lamps create an even spread of light.**

The construction design of AUVL Grow Green double-ended sodium lamps enable the lamp to spread light very evenly and allow for stable operation in Dim & Boost mode because of their high-quality components.

They have a higher light intensity and a longer lifetime in comparison to most conventional single-ended sodium vapour lamps.

AUVL Grow Green double-ended Sodium Lamps support the plants in crucial fruiting and flowering stages to receive up to 25% higher yield.

Article No.	Type	Wattage	Base	PAR $\mu\text{mol/s}$	Lumen lm	Nominal Voltage	Nominal life time	Box
76000311	GROW GREEN 1000W 400V DE NH	1000W	cable	2.100	147.000	400V	10.000 h	12
80102126	GROW GREEN 750W 400V DE NH	750W	cable	1.400	106.000	400V	10.000 h	12

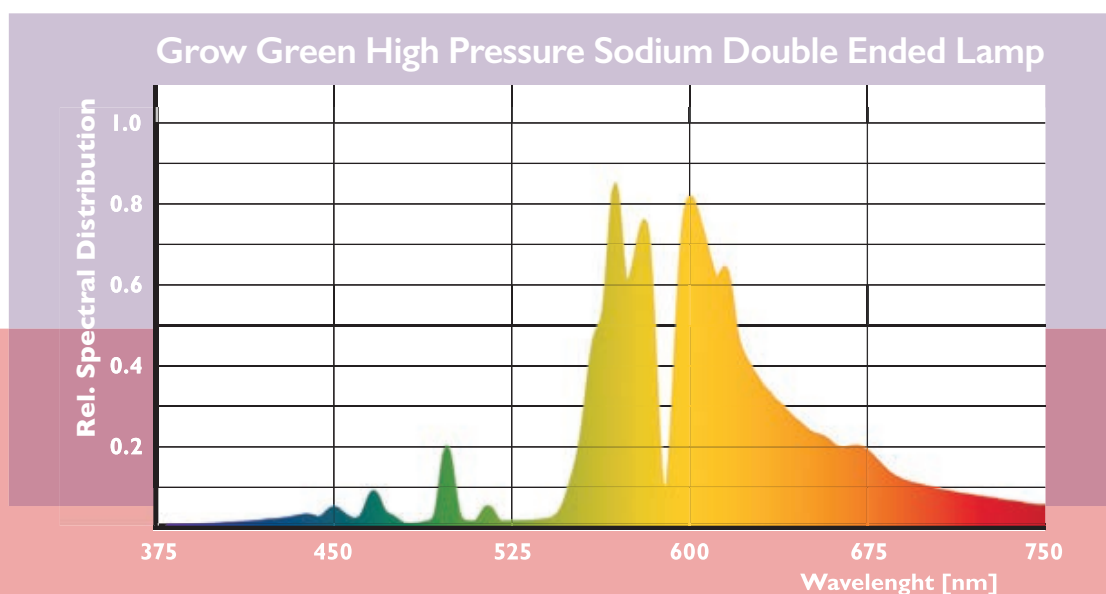




## Advantages

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- Long life of 10,000 hours (I2B10)
- Stable photon flow  $\geq 90\%$  over the lifetime
- 10-20% higher light intensity than conventional sodium vapour lamps
- First choice for the flowering stage due to the high proportion of red light
- More stable mounting due to 2-sided connection K12x30s – advantages in illumination
- High photon flow of 2,100  $\mu\text{mol/s}$
- Designed for operating with all major ECG's / electronic ballasts
- Stable operation in Dim & Boost mode possible



# AUVL GROW GREEN

## Metal Halide Lamps (MH SE)



**AUVL sets standards in lamp technology and is always compatible.**

AUVL lamps have been tested with all common electronic and magnetic ballasts, meaning that they are guaranteed to be compatible with your system!

Excellent radiation over the service life, not to mention the significant light yield, provides the greenhouse owner or hobby gardener with optimum economic viability and an improved harvest yield across a multitude of areas of use.

Article No.	Type	Wattage	Base*	PAR μmol/s	Lumen lm	Nominal Voltage	Nominal life time	Box
80103136	GROW GREEN 250W 230V E40 MH	250W	E40	290	19.000	230V	16.000 h	12
80101225	GROW GREEN 400W 230V E40 MH	400W	E40	490	32.000	230V	16.000 h	12
80101226	GROW GREEN 600W 230V E40 MH	600W	E40	730	47.000	230V	16.000 h	6
20100322	GROW GREEN 1000W 230V E40 MH	1000W	E40	1.250	82.000	230V	12.000 h	6
80102014	GROW GREEN 1000W 400V E40 MH	1000W	E40	1.350	85.000	400V	12.000 h	6

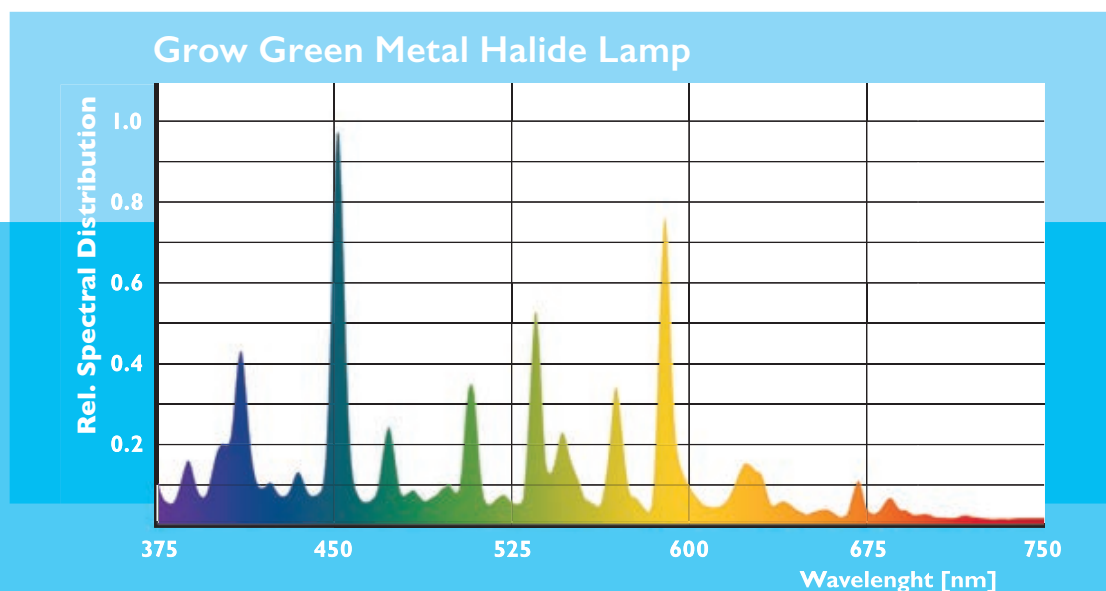


AUVL GROW GREEN Metal Halide Lamps have a quartz arc tube with additional metal halide compounds to improve efficiency and color rendition of the light.

### Advantages

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- Promotes fast growth of compact, strong plants
  - Produces a compact plant structure
  - Forms small, thick leaf
  - Opens the flower
- Effective light output across service life
- Exchangeable with sodium lamps
- Designed for operating with choke ballast and ECG / electronic ballasts
- Product quality "Made in Germany"





# AUVL GROW GREEN

## Ceramic Metal Halide (CMH)



### **AUVL CMH lamps - Innovation Made in Germany.**

Our AUVL Grow Green Ceramic Metal Halide Lamps are used if the highest demands in plant illumination are required.

Higher vaporisation temperatures are achieved with the ceramic tube used, which leads to high efficiency and a proportion of blue light close to daylight.

Due to its full light spectrum and high colour stability over the entire lifetime, the AUVL Grow Green CMH can support the plants in all growth phases and achieve higher yields.

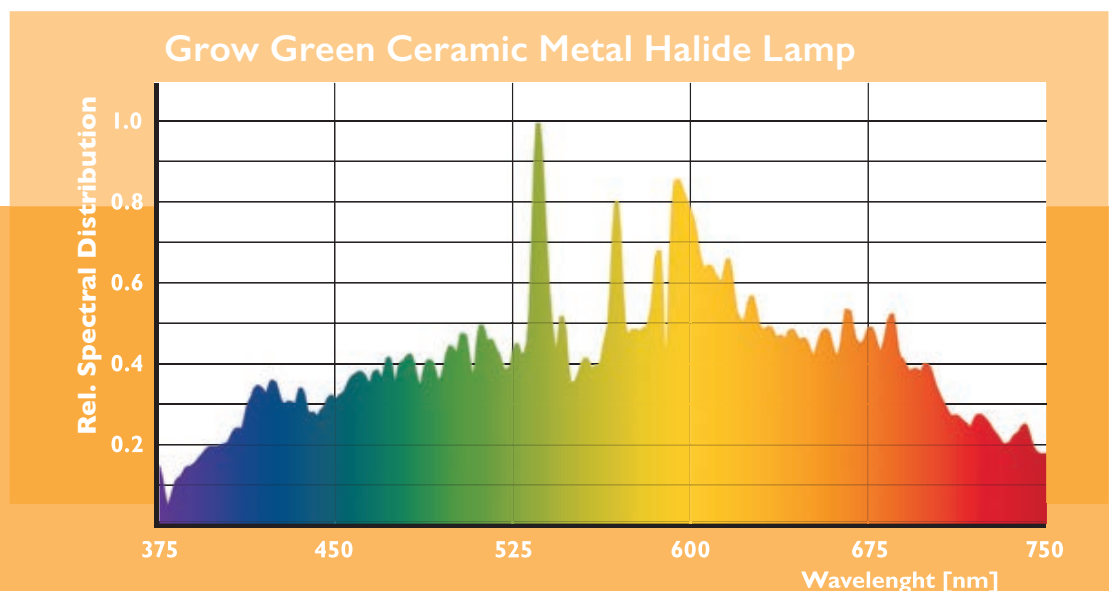
Article No.	Type	Wattage	Base	PAR $\mu\text{mol/s}$	Lumen lm	Nominal Voltage	Average life time (12B50)	Box
80105221	GROW GREEN CMH 630W/3100K 400V DE	630W	K12X30s	1.100	63.000	400V	20.000 h	12
80105222	GROW GREEN CMH 630W/4200K 400V DE	630W	K12X30s	1.100	63.000	400V	20.000 h	12
80105030	GROW GREEN CMH 315W/3100K 230V	315W	PGZX18	525	37.000	230V	20.000 h	12
80105032	GROW GREEN CMH 315W/4200K 230V	315W	PGZX18	525	32.000	230V	20.000 h	12
16000691	GROW GREEN Socket Adapter PGZ18 to E39							

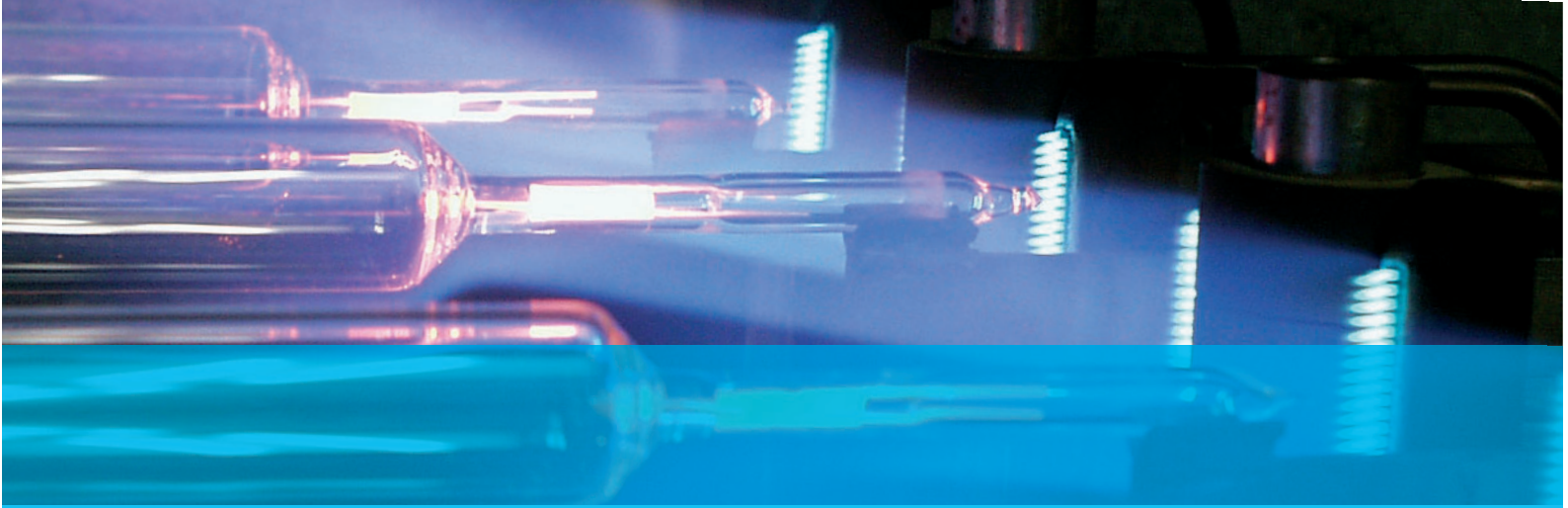


## Advantages

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- Reliable and efficient ceramic-metal-halogen technology
- Up to 40 % more light – significantly more efficient than conventional quartz-metal vapour lamps
- Spectrum delivers more UV-A light
- Very good color reproduction (advantage when assessing bloom color quality)
- Longer lifetime than quartz-metal halogen lamps
- Stable PAR-performance
- High colour stability





# The Company.

## Dedicated to business, close to the clients.

Advanced UV Light is a German manufacturer of technical light sources. For many years we have been delivering high quality lamps for the horticulture market that have been developed and manufactured in Germany.

Our lamps are highly efficient, durable and provide high yields. Established in 1926 as Dr. Müller quartz lamp factory, the company was acquired by JW Holding in 2006 and belongs to G.L.E. – Gesellschaft für lichttechnische Erzeugnisse mbH.

AUVL is part of the international JW Holding Group and benefits from having access to the highest competence in the field of science and technology.

This also includes an international network in the lighting industry, first class service, quality and state-of-the-art logistic solutions as well as multilingual customer service.

### Headquarters

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