

Plant growth in the best light.

Lighting solutions for professional horticulture.



Would you like to optimise your plant growth with BLV, the specialist solutions provider for lighting applications?

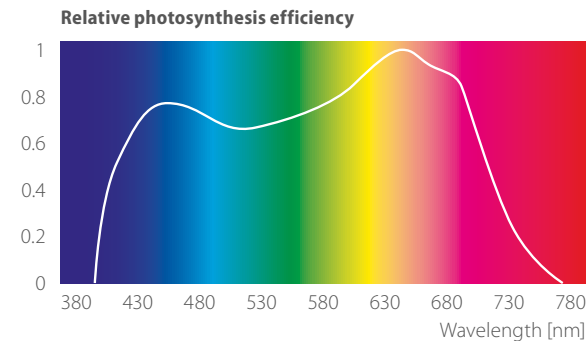
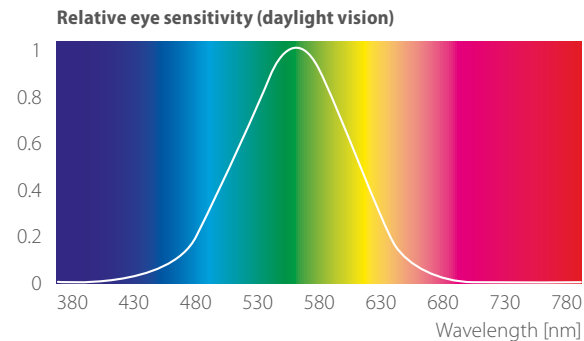
Just give us a call, we will be glad to help you: ☎ +49 8094 906 400!

Immer im besten Licht. **BLV**

Photosynthesis Active Radiation: What plants need.

Whereas for the human eye the intensity of the visible light is expressed in lux, the usable spectrum for plants is measured in PAR – Photosynthesis Active Radiation. The difference lies in the detail:

- The human eye is most sensitive to the yellow and green areas of the spectrum, whereas the photosynthesis of plants is much more oriented towards the colours blue and red.
- The spectral region of PAR is located between the wave bands of 400 to 700 nm.
- A sufficient Photosynthesis Photon Flux (PPF) within the PAR region, qualified as $\mu\text{mol/s}$, is crucial for optimal photosynthesis.



The perfect spectrum. Because colours make a difference.

Far red light

- Stimulates upward plant growth
- Forms larger, thinner leaves
- Optimises blossom and fruit production

Red light

- Stimulates photosynthesis
- Accelerates branching
- Promotes thick leaf formation

Blue light

- Stimulates photosynthesis
- Accelerates the physiological metabolism processes
- Intensifies the formation of chloroplast and chlorophyll
- Opens the stomata
- Generates a compact plant structure
- Forms small, thick leaves

UV light

- Gives strength
- Intensifies the flower colours

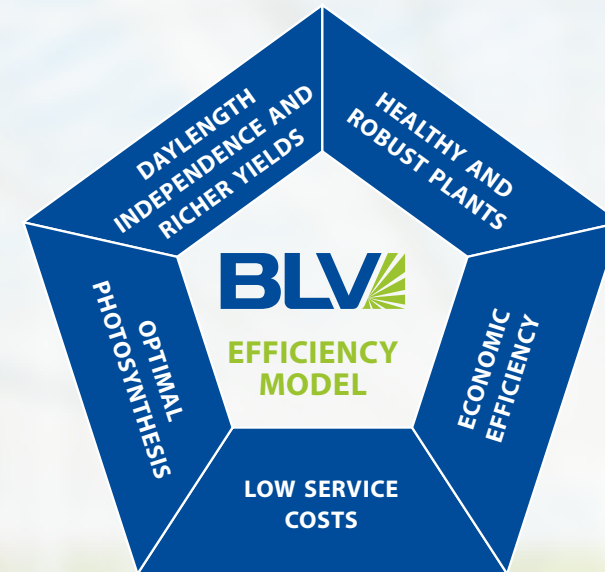
Healthy growth starts with optimal light.

Light is an important key for healthy plant growth.
Artificial light designed for horticulture ensures:

1. An independence on seasonal daylengths and richer cultivation yields
2. Optimal photosynthesis efficiency thanks to an optimised spectral distribution within the PAR spectral range
3. Healthy plant growth and plant robustness thanks to light with high red ratio and blue output
4. Economic efficiency thanks to a superior μmol output and low energy consumption
5. Low service costs thanks to long lifetime, great PAR maintenance and easy exchange

For these reasons, BLV has developed the HORTURION lighting series – with the result of an optimised plant development and thus sustainable profit for horticulturists.

The BLV Efficiency Model – all advantages at a glance:



BLV offers more than high quality products. Our goal is to develop a holistic concept to your wishes and ideas, so that by the best use of all the options provided, the maximum efficiency will be achieved for you.

BLV HORTURION

for professional horticulture lighting.

Being the light specialist, BLV has developed technologies that optimally supplement sunlight for plants. Photosynthesis is the main process leading to plant growth and light is the most essential part of that process. Our focus thus remains to develop solutions that help the plants to evolve under the best quality of light.

BLV HORTURION LAMPS OFFER:

- Stimulation of CO₂ uptake
- Improvement of the photosynthesis process
- Healthy plants with more fructification
- Stronger plant growth
- Cultivation without daylight, e.g. in growth chambers
- The emission of light in the most useful spectrum
- Very good PAR maintenance over the lamp lifetime
- Optimisation of blossom and fruit production

HORTURION HPS

1000W / 400V DE EL 2.2

- Ideal for high greenhouses and crops with high light necessities
- Highest efficiency in $\mu\text{mol/W}$
- Optimised for operation on an electronic control gear
- Superior output of 2100 $\mu\text{mol/s}$
- Extremely long lifetime with outstanding PAR maintenance



HORTURION HPS

750W / 400V DE EL

- Unique double-ended solution for high efficiency
- A service lifetime of 10000 hrs
- The perfect spectral distribution of optimal photosynthesis
- Optimised for electronic control gear operation



HORTURION ECG

600W / 750W / 1000W

- Optimised for HORTURION lamps
- High efficiency (-97%) and excellent heat dissipation
- Multiple control and data logging function, including early EOL detection



HORTURION HPS

750 W / 400 V E40 EL

- Ideal for plants with high light necessity
- Designed for operation on both conventional ballast and electronic control gear
- High output of 1360 $\mu\text{mol/s}$ at 750 W, with very stable lamp voltage over lifetime
- Long service lifetime of 12 000 hrs and excellent PAR maintenance



HORTURION HPS

600 W / 400 V E40 EL

(magnetic ballast version and 230V version also available)

- Ideal for crops in greenhouses with lower light necessities
- For operation on electronic control gear
- Long service lifetime
- Stable lamp voltage
- Excellent PAR maintenance



HORTURION MH

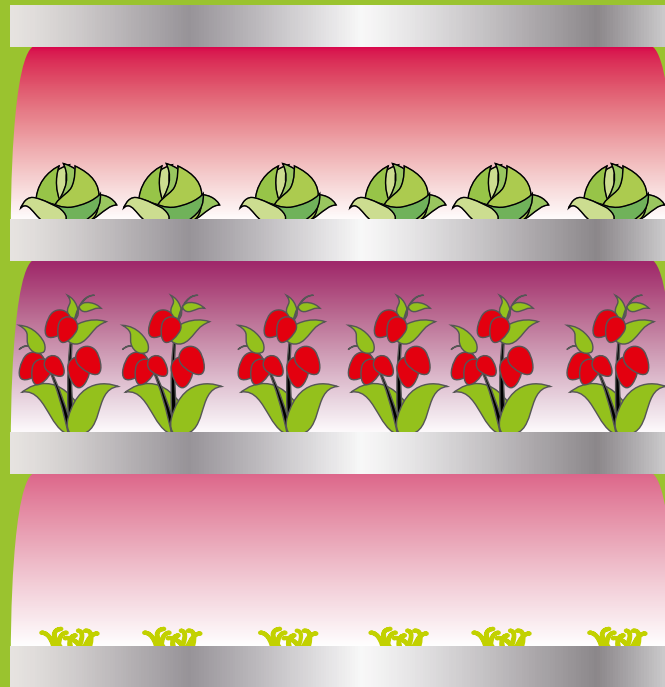
600 W / 230 V E40

- Ideal light spectrum for crops cultivated with very limited availability of daylight
- Higher blue ratio compared to HPS technology, stimulating plant robustness
- Good colour rendition for the control of your plants' colours



The HORTURION LED system offers flexibility in terms of tuning the spectral distribution into the perfect light recipe for the plants and your needs.

You can tune it into a bluer spectrum to stimulate the chlorophyll B, resulting in a more robust plant structure as well as in smaller, thicker leaves. Tune it into a redder spectrum to stimulate the chlorophyll A for accelerated branching and upward growth with bigger and thinner leaves.



BLV HORTICULTURE LED system in different wave band regions

BLV HORTURION LED systems for multi-layer cultivation.

The new **BLV HORTURION LED solutions** have been designed for maximum plant growth, for example in multi-layer cultivation. They are rated among the most efficient light sources in horticulture and available in different radiation angles, suitable to your specific needs.

THE NEW BLV HORTURION LED SYSTEM OFFERS:

- Uniform light distribution
- Equal light intensity and quality for each plant
- High luminosity at small energy consumption
- Low heat emission, thus a closer distance between light source and plant, resulting in more layers and a higher yield
- Accurately tuned spectrum for the perfect light recipe answering your needs
- More economical use of energy and space resulting in profit increase

BRAND-NEW SYSTEM WHICH WILL BE INTRODUCED TO THE MARKET SOON.

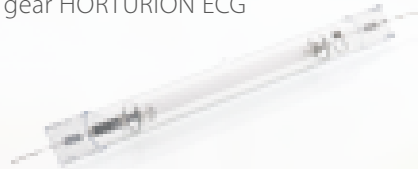
Please contact us
for further information.

BLV – your specialist solutions provider **for professional horticulture:**

HIGH LIGHT NECESSITIES

HORTURION HPS

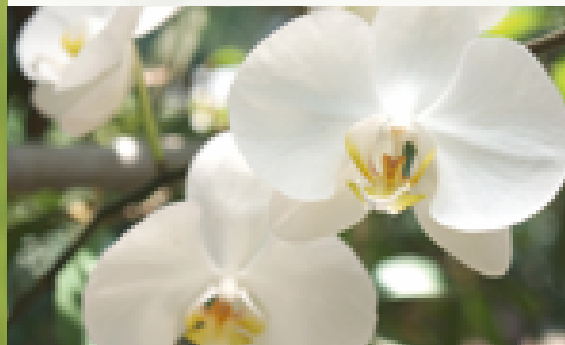
- For great growth and rich yields of, for instance, roses and tomatoes
- Ideal for high greenhouses
- Long life and extremely good PAR maintenance
- High efficiency in $\mu\text{mol}/\text{W}$
- Most energy efficient when operated with the BLV electronic control gear HORTURION ECG



LOW LIGHT NECESSITIES

HORTURION HPS

- For great growth of, for example, orchids, peppers and chrysanthemum
- Extremely long lifetime
- Stable PAR maintenance
- High μmol output
- Most energy efficient when operated with the BLV electronic control gear HORTURION ECG



SUNLIGHT NECESSITIES

HORTURION MH

- Ideal light spectrum for crops cultivated with very limited availability of daylight
- Higher blue ratio compared to HPS technology, stimulating plant robustness
- Good colour rendition for the control of your plants' colours



MULTI-LAYER CULTIVATION

HORTURION LED

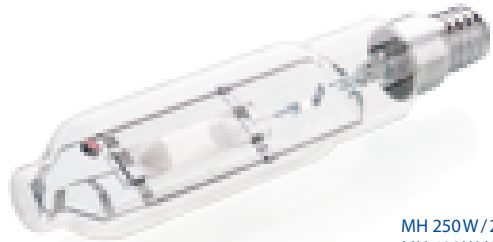
- Highly efficient innovation for multi-layer cultivation
- For production and research processes
- Control unit regulating the colour intensity in research applications

Brand-new system which will be introduced to the market soon.

Please contact us for further information.



Product overview **HORTURION**



MH 250W / 230V E40
MH 400W / 230V E40
MH 600W / 230V E40



HPS 250W / 230V E40
HPS 400W / 230V E40
HPS 600W / 230V E40



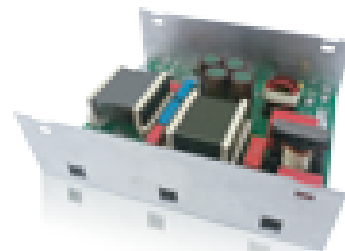
HPS 600W / 400V E40
HPS 600W / 400V E40 EL



HPS 750W / 400V E40 EL
HPS 1000W / 400V E40 (in development)



HPS 750W / 400V DE EL (in development)
HPS 1000W / 400V DE EL 2.2



HORTURION ECG
600W / 750W / 1000W

About BLV. Your partner in lighting solutions.

BLV is your competent partner for both general and special lighting applications. With over 40 years of experience, we provide high-quality lighting solutions. BLV researches, develops and manufactures directly in Germany and can therefore respond quickly and flexibly to your individual needs. Under the umbrella of the world-renowned specialty manufacturer USHIO with an annual turnover of 1.5 billion euros, we are a company you can rely on. We were the first lamp manufacturer worldwide to be certified by ISO 9001 for our quality management. This certification guarantees best quality and products which are oriented to your needs.

Immer im besten Licht. **BLV**

Article no.	Designation	Base	Ø [mm]	Length [mm]	LCL [mm]	Burning position	Ignition voltage [kV]	Lamp current [A]		Nominal lamp power [W]	Rated lamp power [W]	PAR [µmol/s]	Mercury content [mg]	Colour temperature [K]	Colour temperature [descr.]	Colour rendering index Ra / Colour rendering level	Nominal service life [h]	Weighted energy consumption [kWh/1 000 h]	Energy efficiency class
HORTURION MH E40																			
227061	MH 250W 230V E40	E40	47.0	225.0	150.0	u360	4	3.0		250	250	320	24.5	4200	neutral white	Ra80-89/1B	8000	275	A
227161	MH 400W 230V E40	E40	47.0	275.0	175	u360	4	4.0		400	400	520	36.0	4200	neutral white	Ra70-79/2A	8000	440	A+
227401	MH 600W 230V E40	E40	76.0	340.0	220	u360	4	5.7		600	600	710	36.0	4200	neutral white	Ra80-89/1B	8000	660	A
HORTURION HPS E40																			
212504	HPS 250W 230V E40	E40	47.0	257.0	n.a.	u360	2.3	3.0		250	250	410	12.0	n.a.	n.a.	n.a.	12000	275	A+
214004	HPS 400W 230V E40	E40	47.0	285.0	n.a.	u360	2.3	4.6		400	400	675	40.0	n.a.	n.a.	n.a.	12000	440	A++
216104	HPS 600W 230V E40	E40	46.0	290.0	n.a.	u360	4	6.3		600	600	1000	40.0	n.a.	n.a.	n.a.	12000	660	A++
216004	HPS 600W 400V E40	E40	46.0	290.0	n.a.	u360	4	3.8		600	600	1150	40.0	n.a.	n.a.	n.a.	12000	660	A++
216204	HPS 600W 400V E40 EL	E40	46.0	290.0	n.a.	u360	4	3.6		600	600	1150	40.0	n.a.	n.a.	n.a.	12000	660	A++
217504	HPS 750W 400V E40 EL	E40	52.0	300.0	n.a.	p15	4	4.2		750	750	1360	34.0	n.a.	n.a.	n.a.	12000	825	A+
HORTURION HPS Cable																			
217510	HPS 750W 400V DE EL	cable	30.0	323.0	n.a.	p4	3.2	3.6		750	750	1500	32.0	n.a.	n.a.	n.a.	10000	825	A++
216310	HPS 1000W 400V DE EL 2.2	cable	30.0	323.0	n.a.	p4	3.2	4.8		1000	1000	2100	32.0	n.a.	n.a.	n.a.	10000	1100	A++

We proudly introduce to you our approaches to professional LED lighting in the field of horticulture. Please contact us.



BLV Licht- und Vakuumtechnik GmbH

Muenchener Strasse 10

85643 Steinhoering/Germany

CSC Europe +49 8094 906-400

CSC Overseas +49 8094 906-410

Fax +49 8094 906-164

sales@blv-licht.de

www.blv-licht.com

Immer im besten Licht.

