

HORTICULTURE LIGHTING COMPONENTS - SYSTEMS - SOLUTIONS

Lighting concepts & solutions for professional horticulture



**MADE IN
EUROPE**



**GERMAN
ENGINEERING**

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



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More than light! We evaluate your specific needs to provide the best individual lighting solution for your crops. Just give us a call, we will be glad to become your partner: ☎ +49 8094 906 400.

BLV HORTURION

10 years of experience in horticulture business

HISTORY

BLV Licht- und Vakuumtechnik was founded in Steinhöring, Bavaria, in 1968. As a manufacturer of high quality lamps for both general lighting and niche markets, the company quickly made a name for itself. Nowadays the company enjoys a worldwide reputation as a manufacturer of lighting solutions for special applications.

GLOBAL SCALE

With the HORTURION series, BLV has been playing a key role in professional horticulture for more than a decade and is one of the largest producers of HPS lamps worldwide.

UNIQUENESS

As one of the very few players in the market, BLV is offering complete HPS, MH and LED assimilation systems – lamps, power supplies and luminaires. Quality, efficiency, high PAR stability as well as convincing colour rendering are the pillars of BLV's worldwide reputation. With this unique portfolio, almost all customer requirements can be fulfilled from one source.

EVERYTHING YOU NEED

BLV considers itself much more than just a lighting solution provider. Having retained its character as a mid-sized company, BLV is able to anticipate on individual customer demands. This includes spectrum selection, scenario comparison, light calculations, support with yield plans, project installations and sustained after-sales service.

BLV IS WHERE YOU ARE

Besides our development, production and sales sites in Germany and Poland, BLV has an office in Oude Meer, the Netherlands, and a global sales force.

STRONG BACKING

BLV is member of the USHIO Group, a world player for special lighting with a yearly revenue of about 1,5 billion Euro.

Mission statement

Our promise to you

“We listen to our clients and consult on the best possible lighting solutions for their individual needs.

With our R&D department and laboratory in Germany and all of our production in Europe, we offer outstanding quality and quick response time.

Our business mentality is driven by a true spirit of partnership with our clients.“



Whatever you grow, wherever you grow

We offer the entire portfolio of lighting solutions



Vegetables & fruits

Light acts in two ways, through photosynthesis and photomorphogenesis. These two factors determine everything from growth, shape, biomass any yield.



Active ingredients

Defining the right light sources and wavelengths is the decisive factor the success of your business.



Tissue culture



Floriculture



Nursery

Define your aims and priorities

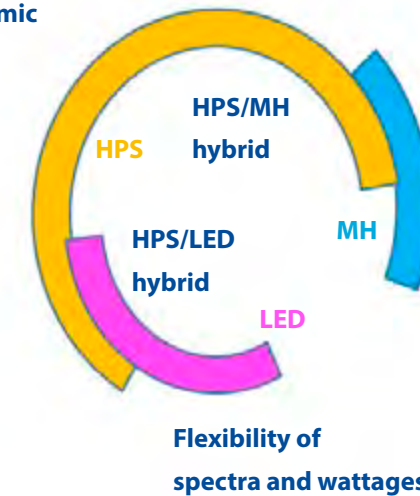
We consult on the system and spectrum that fits best

Start culture earlier and gain more yield

Maximise yield of vegetables and cut flowers

Economic invest

High output



Reduce stem elongation and promote anthocyanin production

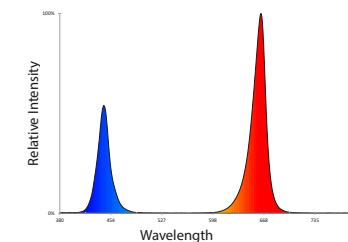
Control

Promote vegetative growth

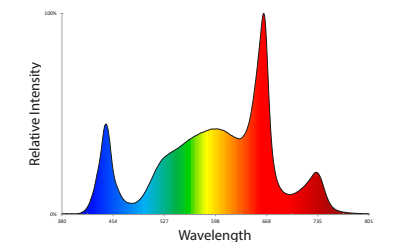
Choose from a variety of spectra for your in vitro culture and young plants

LED spectra variety

We offer LED solutions with different spectra optimised for various plants such as tomatoes, flowers, leaf vegetables etc. as well as for different growth phases. In addition, to the purple spectra, known for its high efficiency, we offer white spectra that combine assimilation lighting with high photosynthesis and excellent colour rendering. This is especially beneficial for processes such as phenotyping, selection, pest control and monitoring, where the earliest detection of small irregularities determines the success or failure of the cultivation.



BLV LED formula red 2.1 spectrum

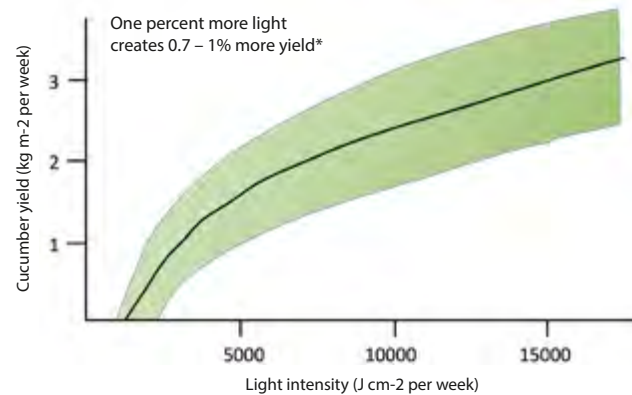
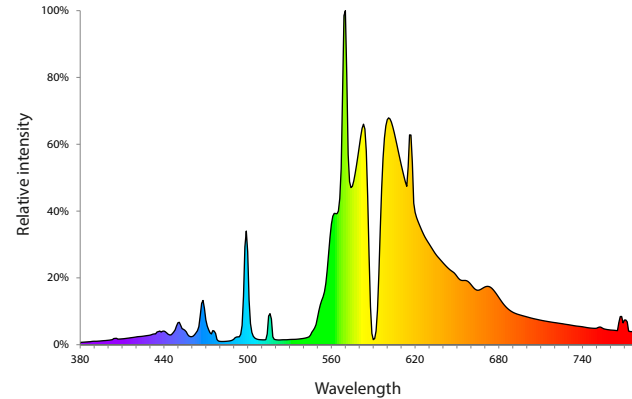


BLV LED formula white 1.2 spectrum

At a glance – HPS light

Stimulates production, yield and earlier harvest

HPS lamps have shown proven benefits in the last 30 years in horticulture. The colour spectrum is rich in red and far-red light that stimulates elongation growth and optimises fructification. Therefore, it is best suited to increase yield. Further, the heat emission of the lamps supports assimilation by slightly increasing the leaf temperature. This is especially an advantage during the colder months when low temperatures normally reduce plant growth. In other words: it helps to shorten the harvest cycle.

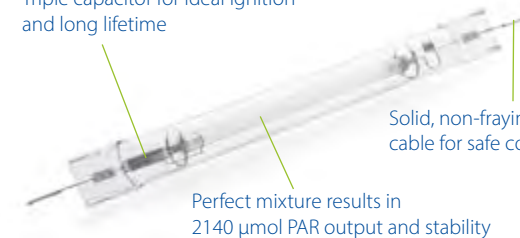


Average correlation between yield and light intensity (black line). The individual gain can vary. However, the yield gain usually lies within the green area.
*Growers survey, published by Marcellis (2006).

The 1% rule: Scientific findings* show that there is a linear relation between light intensity and yield: 1% more light means 0.7% – 1% more yield. If your main purpose is to increase your yield, you should focus on adding more light to your crops. This can be achieved by efficient HPS lamps.



Triple capacitor for ideal ignition and long lifetime



Solid, non-fraying lead cable for safe connection

Perfect mixture results in 2140 μmol PAR output and stability

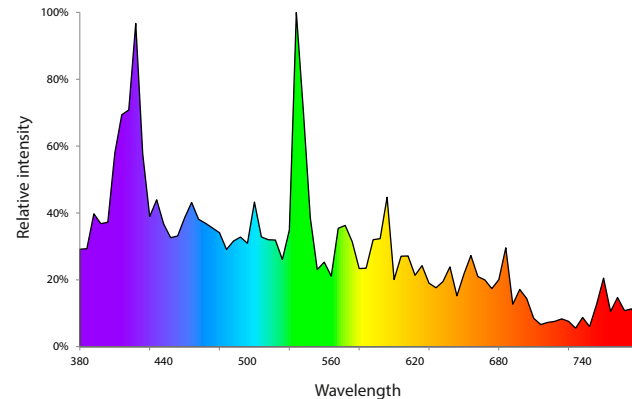
BLV HPS series

- Performance spectrum from 250 W to 1000 W
- Very long maintenance intervals
- 600 W DE, 750 W DE and 1000 W DE:
 - Unique in the market with improved efficiency
 - Compatible with most common DE luminaires
 - Perfect match with BLV luminaire and BLV power supply

At a glance – MH light

Stimulates pigments, secondary metabolites & compact growth

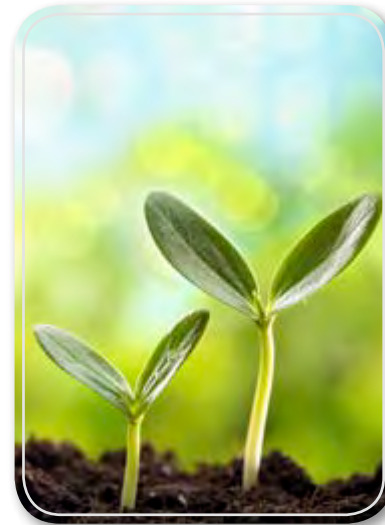
MH light has a high amount of violet and blue light, which suppresses stem elongation, increases beneficial compounds and promotes vegetative growth. It is therefore advantageous for encouraging compact growth in decorative plants, enhancing leaf pigments in coloured vegetables, enriching secondary metabolites in the pharmaceutical and cosmetic industry and making crops more stress resistant. As the spectrum is also much closer to that of sunlight, colour rendering is improved which eases taking inventory and harvesting.



Enhancing leaf pigments



Enriching secondary metabolites



Encouraging compact growth



Two centering rings ensuring burner stability

Daylight mixture with 1800 μmol PAR output

ANSI type M/O for open rated luminaires thanks to special glass design

BLV MH series

- Performance spectrum from 250 W to 1000 W
- High efficiency and high PAR value stability for entire service life
- World's first double-ended, extremely efficient (1.8 $\mu\text{mol}/\text{W}$) MH lamp
 - Ideal spectral distribution for healthy plant growth
 - Easy interchangeability with renowned double-ended open luminaires and BLV power supply

BLV HPS/MH top lighting system

Luminaire, lamp and power supply – all from one source!



BLV HORTURION luminaires

- Highly efficient and reliable luminaires with modern, compact and solid design for double ended HPS and MH lamps
- Providing best-in-class PAR values and spectra for optimum plant growth

BLV HORTURION HPS & MH lamps

- Superior PAR output and stability with highest efficiency at 1000 W
- 600 W and 750 W DE variations are unique in the market
- World's first MH DE lamp with extreme efficiency at 5500 K



BLV HORTURION electronic power supply

- Reliable and efficient power supply operating all BLV HPS and MH double ended lamps
- EMI compliant and equipped with all necessary safety features, including a wireless read-out system
- Engineered and produced in Germany according to the highest quality standards



Open reflector for optimal lamp performance and minimum dirt particle deposit

Compact, solid design for minimum daylight interception and high durability

Easy and quick reflector positioning and removal

BLV HORTURION luminaires

Self-balancing, custom-made hook

Pre-installation possible thanks to separate, UV resistant cable

Reliable, intelligent, high performance power supply >70 logs wireless read-out



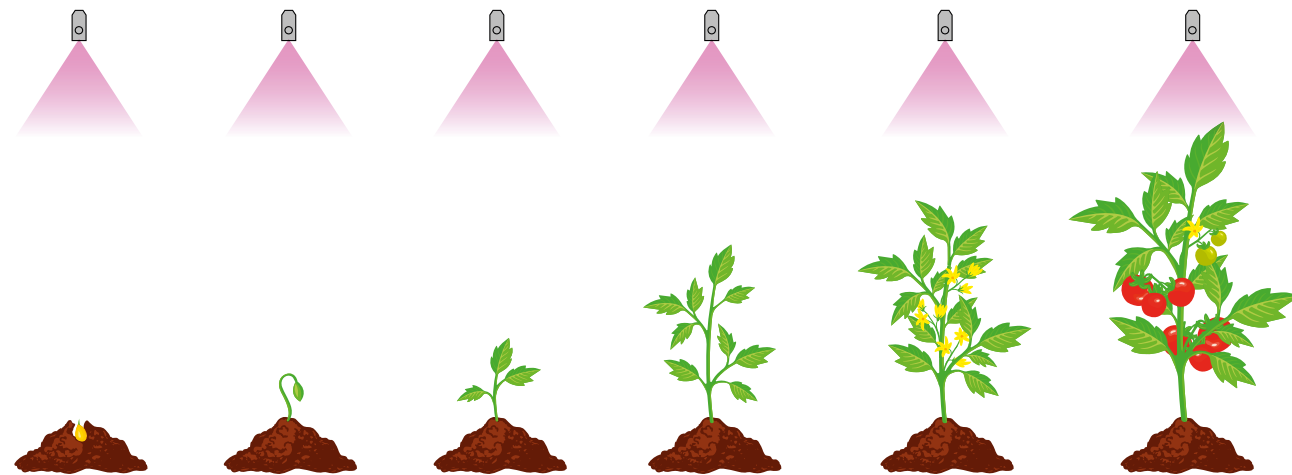
HORTURION LED TL-1 toplighting system

Efficient supplemental lighting for high-tech greenhouses

In addition to established conventional lighting solutions, BLV offers a product portfolio of LED systems that covers the entire spectrum of different horticultural applications.

The **HORTURION LED toplighting series** for professional greenhouses delivers very high light output with significantly lower heat dissipation compared to conventional toplighting systems. Since the heat radiation in the light beam is also very low, the HORTURION LED lighting is ideal for applications or in environments with smaller distances between the light source and the plants, e.g. in standard greenhouses or greenhouses with ebb and flow systems. The new HORTURION LED toplighting portfolio includes luminaires that have been optimised for a wide range of applications: Greenhouse operations can choose between a variety of different spectra, which are tailored to the needs of different plants such as tomatoes or leafy vegetables, as well as to different growth phases.

Last but not least, LED systems not only help to reduce energy costs, but also save maintenance costs due to their exceptionally long service life.



Tailored spectra for different plants and growth phases – from germination to production



HORTURION LED TL-1 toplight

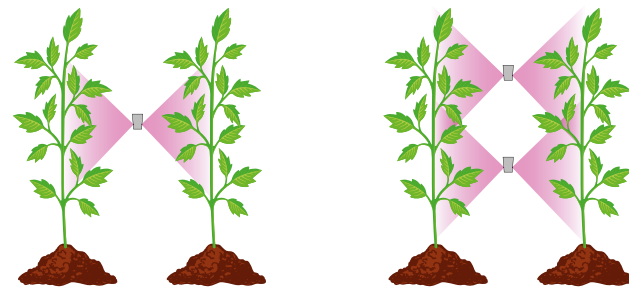
- Slim corrosion-resistant aluminium profile with clear cover, IP66
- Low shadowing
- Various spectra, adapted to the needs of different crops and stages of development
- High μmol output and efficacy
- With feed-through wiring (FTW) for easy continuous line installation

HORTURION LED IL interlighting system

Additional, yield-increasing light from the side

The new **HORTURION LED interlighting system** is particularly suitable in combination with LED, HPS or MH toplighting solutions. Its additional light leads to shorter growth cycles and higher yields. The system is ideal for use in high-wire greenhouses, but can also be used in growth chambers, vertical farming or research projects.

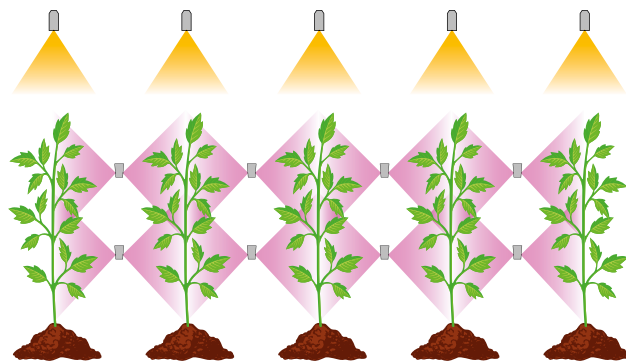
The high power LED luminaires are available in different spectra, which are adapted to the needs of different high wire crops. The particular tilted arrangement of the two lateral LED boards with 115° beam angle ensures a very effective illumination. Greatest efficiency is reached at a distance of 0.35-0.5 m from the crop.



Single line installation

Double line installation

HPS toplighting



LED interlighting

Hybrid solution

The new interlighting system is perfectly tailored to the HORTURION HPS system for creating an effective hybrid solution:

Light and heat can be controlled more independently, allowing more targeted intervention in the production process. This makes it easier to adapt the climate and lighting conditions to year-round production.




HORTURION LED IL interlight

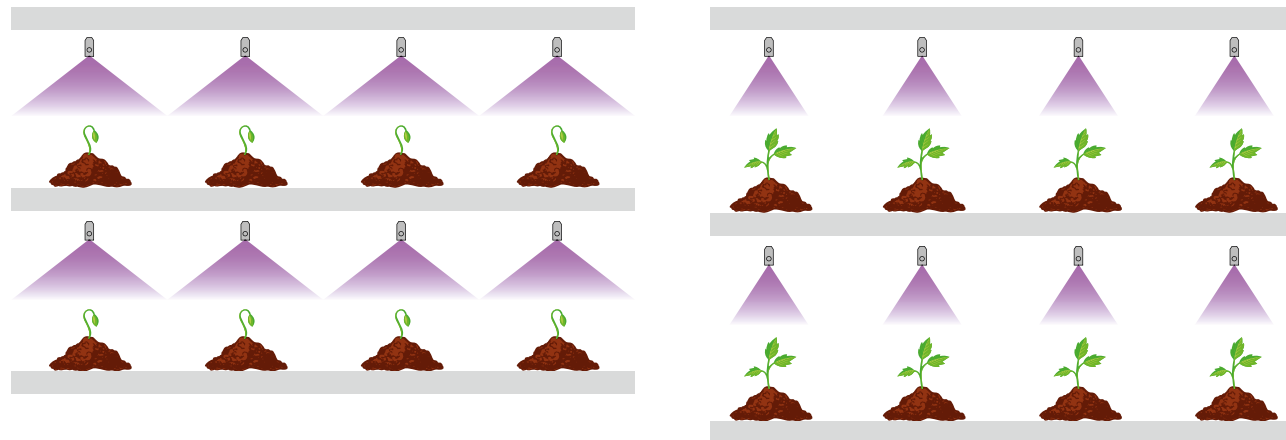
- Slim corrosion-resistant aluminium profile with clear cover, IP66
- Various spectra, adapted to the needs of different crops and stages of development
- High μmol output and efficacy
- With feed-through wiring (FTW) for easy continuous line installation

HORTURION LED CL circular light

Supplemental light for closed, climate-controlled environments

The new **HORTURION LED circular lights** have been especially developed for closed, climate-controlled multilayer cultivation, such as growth chambers, vertical farms, CC containers, propagation and research centers. There are various spectra available, optimised for e.g. in-vitro cultivation, germination, micro greens, leafy vegetables, herbs or ornamental plants. They are a perfect substitute for conventional fluorescent tubes.

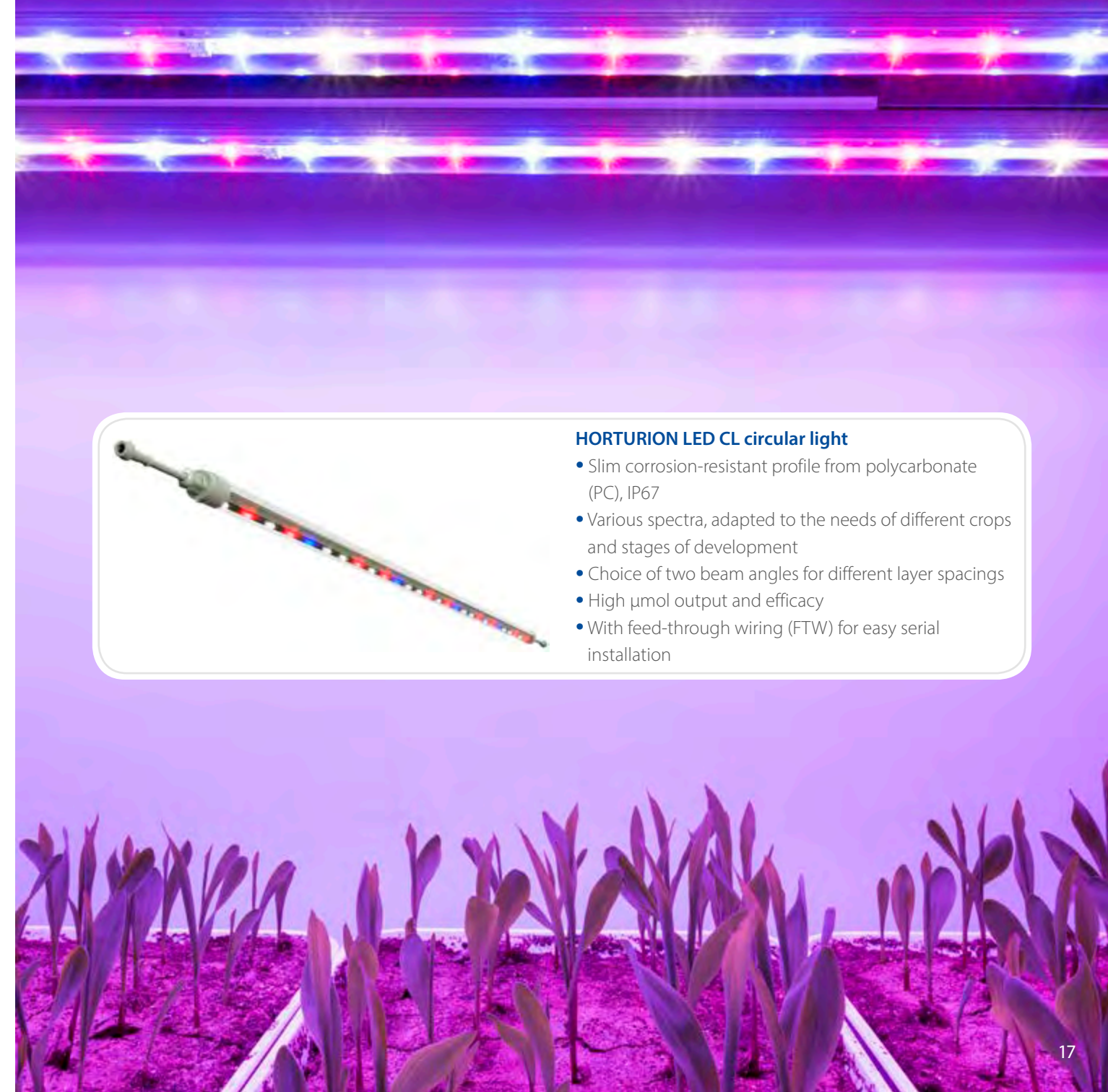
Depending on the distance between shelves, respectively the distance between plants and luminaires, you can choose between two light distributions for achieving optimum results: 115° beam angle versions for close distances between light and plant (25- 55 cm) and 80° beam angle versions for distances between light and plant > 55 cm.



Distances between light and plant 25- 55 cm

Distances between light and plant > 55 cm

The circular lights are lightweight and their installation or exchange is fairly easy. Mounting clips directly mounted on the underside of the shelves hold the luminaires in place and the wiring is basically plug-and-play thanks to feed-through-wiring (FTW) and pre-assembled cables with plugs.



HORTURION LED CL circular light

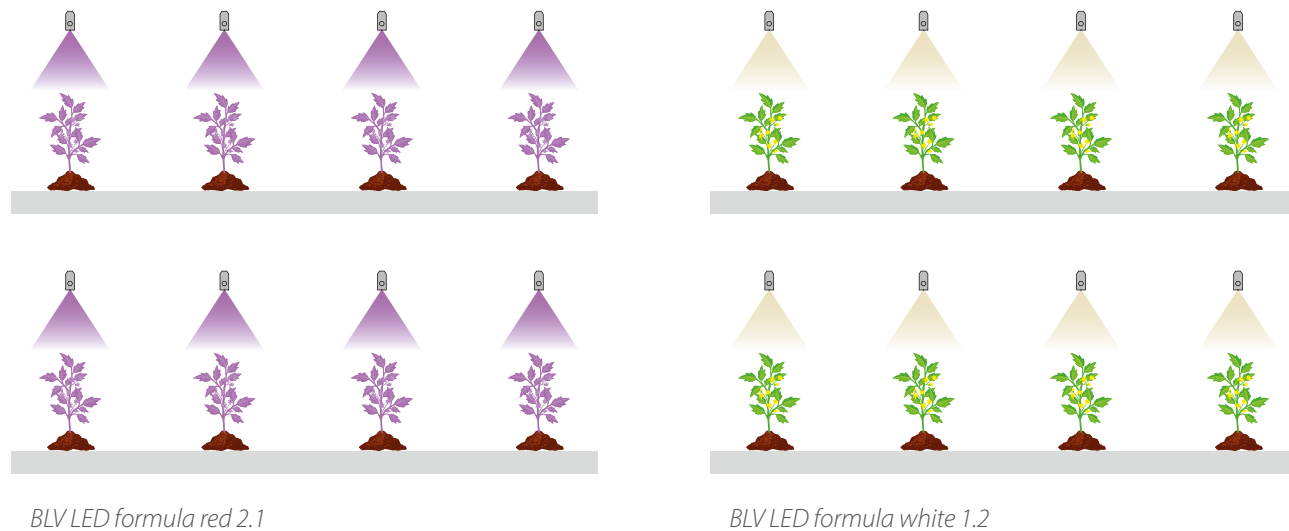
- Slim corrosion-resistant profile from polycarbonate (PC), IP67
- Various spectra, adapted to the needs of different crops and stages of development
- Choice of two beam angles for different layer spacings
- High μmol output and efficacy
- With feed-through wiring (FTW) for easy serial installation

HORTURION LED ML multilayer system

Innovative approach for vertical indoor farming

With its **HORTURION LED ML** series BLV presents another lighting system for professional horticulture. It has been optimised for the multilayer cultivation of seedlings and cuttings as well as for herbs for the food and pharmaceutical industry. The luminaires consist of a slim aluminium profile with an integrated LED driver and are available in two different lengths. Protection class IP66 and the possible use in environments with up to 95% humidity provide highest suitability for the use in a wide range of environments.

The **HORTURION ML** multilayer luminaires were actually the first ones to feature the innovative formula white 1.2 spectrum as an alternative to the usual red/blue spectra. The BLV formula white 1.2 with its unique combination of high efficiency and white light with a high colour rendering index of CRI 90 has later been adopted by all other BLV LED lights for horticulture application. With its PPF range between 98 and 135 $\mu\text{mol/s}$, the ML series supplements the HORTURION LED CL series when it comes to multilayer applications with higher demands for light or larger shelf distances.



BLV LED formula red 2.1 luminaire

BLV LED formula white 1.2 luminaire

LED multilayer luminaires

- Slim aluminium profile with an integrated LED driver
- Two different lengths (4 ft and 5 ft), each of them with or without feed-through wiring
- Protection class IP66 and possible use in environments with up to 95% humidity
- Remarkably high service life of 100 000 hrs (L80B10) or 50 000 hrs (L90B10)

Light and yield planning

Solid planning for sustainable success

What are the key factors for a successful lighting solution? Two things: First, a careful selection of lamps and luminaires best suited for the specific requirements of your crops. Secondly: perfect light planning based on the particular facility and, if requested, yield planning by specialists like tomato consultants, rose consultants etc.

As light planning is such a crucial factor to success, we offer this service to our clients. Our in-house planning team specialises in horticulture premises and works hand-in-hand with the sales force. Our clients appreciate quick response times and excellence in planning.

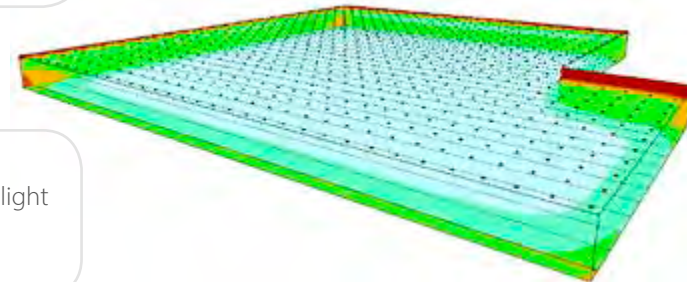
Careful light planning at an early stage helps you to:

- Compare different lighting solutions

- Ensure maximum return on investment

- Calculate expected light uniformity

- Optimise the investment



- Identify likely saving spots

- Optimise the planning and installation of your desired lighting solution

BLV HORTURION around the globe



Our milestones:

We started in the horticulture business more than 10 years ago and introduced our first double-ended 1000 W HPS lamp in 2009. Our engineers continuously optimised the individual components, invested intensively in ceramics research and even integrated parts normally used in space sciences. In 2013, we set a benchmark and introduced a 10% more efficient lamp with 2.1 $\mu\text{mol}/\text{W}$. For us, it was a technological quantum leap; for greenhouse owners, this figure meant substantial energy savings.

We also introduced the world's first double-ended, extremely efficient MH lamp (1.8 $\mu\text{mol}/\text{W}$) and belong today to one of the very few players in the market, offering the full portfolio from single components to entire systems for HPS, MH and LED solutions.

HORTURION HPS/MH product overview

HPS 600 W DE EL
HPS 750 W DE EL
HPS 1000 W DE EL 2.2
HPS 1000 W DE EL supra



MH 600 W DE EL
MH 750 W DE EL
MH 1000 W DE EL



HPS/MH TL luminaire



Power supply
600 W / 750 W / 1000 W



Range of single-ended HPS and MH lamps



HORTURION LED product overview



LED TL-1 toplight



LED IL interlight



LED CL circular light



LED ML multilayer

HORTURION HPS & MH discharge lamps

Article no.	Designation	Ignition voltage [kV]	Lamp current [A]	Nominal lamp power [W]	PAR [$\mu\text{mol/s}$]	Colour temperature [K]	Colour rendering index Ra / Colour rendering level	Nominal service life [h]
HORTURION HPS E40								
103379	HPS 250 W 230 V E40	2.3	3.0	250	410	n.a.	n.a.	12 000
103384	HPS 400 W 230 V E40	2.3	4.6	400	675	n.a.	n.a.	12 000
103393	HPS 600 W 230 V E40	4.0	6.3	600	1 000	n.a.	n.a.	12 000
103387	HPS 600 W 400 V E40	4.0	3.8	600	1 150	n.a.	n.a.	12 000
103396	HPS 600 W 400 V E40 EL*	4.0	3.2	600	1 150	n.a.	n.a.	10 000
103412	HPS 750 W 400 V E40 EL	4.0	3.6	750	1 360	n.a.	n.a.	12 000

HORTURION HPS K12x30S								
103399	HPS 600 W DE EL	3.2	3.2	600	1 150	n.a.	n.a.	10 000
103415	HPS 750 W DE EL	3.2	3.6	750	1 450	n.a.	n.a.	10 000
103403	HPS 1 000 W DE EL 2.2	3.2	4.8	1 000	2 100	n.a.	n.a.	10 000
107990	HPS 1 000 W DE EL supra	3.2	4.4	1 000	2 140	n.a.	n.a.	10 000

HORTURION MH E40 – for enclosed luminaires only								
107224	MH 250 W 230 V E40	4.0	3.0	250	320	4 200	Ra80-89/1B	8 000
107227	MH 400 W 230 V E40	4.0	4.0	400	520	4 200	Ra70-79/2A	8 000
107233	MH 600 W 230 V E40	4.0	5.7	600	710	4 200	Ra80-89/1B	8 000

HORTURION MH K12x30S – suitable for open luminaires								
107290	MH 600 W DE EL 3.8K	3.2	3.4	600	1 000	3 800	Ra70-79/2A	6 000
107291	MH 750 W DE EL 3.8K	3.2	3.6	750	1 200	3 800	Ra60-69/2B	6 000
107292	MH 1 000 W DE EL 3.8K	3.2	4.8	1 000	1 720	3 800	Ra70-79/2A	6 000
107293	MH 600 W DE EL 5.5K	3.2	3.4	600	1 040	5 500	Ra80-89/1B	6 000
107294	MH 750 W DE EL 5.5K	3.2	3.6	750	1 250	5 500	Ra80-89/1B	6 000
107241	MH 1 000 W DE EL 5.5K	3.2	4.8	1 000	1 800	5 500	Ra>90/1A	6 000

HORTURION TL toplighting luminaires with power supplies & lamps

Article no. (bulk packaging 32 pcs)	Designation	Supply voltage	Nominal system power [W]	Rated system power [W]	Dimensions L x W x H [mm]	Weight [kg]	Included lamp type
HORTURION HPS TL – luminaires complete with power supply, reflector, lamp and supply cable; bulk packaging 32 pcs							
110364	HORTURION HPS TL 600 W LRC	400 VAC, 50/60 Hz	600	621.0	544 x 232 x 303	4.5	HPS 600W DE EL
110365	HORTURION HPS TL 750 W LRC	400 VAC, 50/60 Hz	750	776.0	544 x 232 x 303	4.5	HPS 750W DE EL
110497	HORTURION HPS TL 1000 W LRC	400 VAC, 50/60 Hz	1 000	1 035.0	544 x 232 x 303	4.5	HPS 1000W DE EL 2.2
on request	HORTURION HPS TL 1000 W LRC supra	400 VAC, 50/60 Hz	1 000	1 035.0	544 x 232 x 303	4.5	HPS 1000 W DE EL supra

Ingress protection: IP23 for the reflector and IP65 for the power supply compartment

Single packed versions are available on request

Complete luminaires with MH lamps are available on request

Article no.	Designation

HORTURION HPS TL – accessories & replacement kits	
on request	HORTURION suspension hooks for various truss systems
104243	HORTURION connection box for electrical connection of the luminaire
on request	HORTURION PS 1000 W power supply + HPS 1000 W DE EL 2.2 lamp

HORTURION LED TL-1 toplighting luminaires

Article no.	Designation	Spectrum	Supply voltage [V]	Nominal system wattage [W]	PPF [$\mu\text{mol/s}$]	Photosynthesis efficiency [$\mu\text{mol/Ws}$] @ Ta 25°C	PPFD @ 1m [$\mu\text{mol/m}^2\text{s}$]
HORTURION LED TL-1 luminaires							
110372	HORTURION TL-1 230-100 2.1	Formula red 2.1 HORTIS	230	100	237	2.4	106
110373	HORTURION TL-1 230-150 2.1	Formula red 2.1 HORTIS	230	150	354	2.4	162
110374	HORTURION TL-1 400-150 2.1	Formula red 2.1 HORTIS	400	150	354	2.4	162
110375	HORTURION TL-1 230-100 2.3	Formula red 2.3 BLOOM	230	100	224	2.2	88
110202	HORTURION TL-1 230-150 2.3	Formula red 2.3 BLOOM	230	150	344	2.3	133
110376	HORTURION TL-1 400-150 2.3	Formula red 2.3 BLOOM	400	150	344	2.3	133
110377	HORTURION TL-1 230-150 2.4	Formula red 2.4 FRUITS	230	150	335	2.2	162
110378	HORTURION TL-1 400-150 2.4	Formula red 2.4 FRUITS	400	150	335	2.2	162
110379	HORTURION TL-1 230-150 2.5	Formula red 2.5 PURPLE	230	150	352	2.4	140
110380	HORTURION TL-1 400-150 2.5	Formula red 2.5 PURPLE	400	150	352	2.4	140
108242	HORTURION TL-1 230-150 2.6	Formula red 2.6 SUNLIGHT	230	150	262	1.8	130
110381	HORTURION TL-1 400-150 2.6	Formula red 2.6 SUNLIGHT	400	150	262	1.8	130
110382	HORTURION TL-1 230-150 2.7	Formula red 2.7 PURPLE EVO	230	150	320	2.1	160
110383	HORTURION TL-1 400-150 2.7	Formula red 2.7 PURPLE EVO	400	150	320	2.1	160
110384	HORTURION TL-1 230-100 2.8	Formula red 2.8 SUNLIGHT EVO	230	100	177	1.8	76
110385	HORTURION TL-1 230-150 2.8	Formula red 2.8 SUNLIGHT EVO	230	150	270	1.8	110
110386	HORTURION TL-1 400-150 2.8	Formula red 2.8 SUNLIGHT EVO	400	150	270	1.8	110
109573	HORTURION TL-1 230-150 1.1	Formula white 1.1	230	150	290	1.9	120
110387	HORTURION TL-1 400-150 1.1	Formula white 1.1	400	150	290	1.9	120
108245	HORTURION TL-1 230-150 1.2	Formula white 1.2	230	150	278	1.9	115
110388	HORTURION TL-1 400-150 1.2	Formula white 1.2	400	150	278	1.9	115
110389	HORTURION TL-1 230-100 1.4	Formula white 1.4 NATURAL	230	100	205	2.1	83
110390	HORTURION TL-1 230-150 1.4	Formula white 1.4 NATURAL	230	150	315	2.1	125
110391	HORTURION TL-1 400-150 1.4	Formula white 1.4 NATURAL	400	150	315	2.1	125
110392	HORTURION TL-1 230-100 1.5	Formula white 1.5 NATURAL EVO	230	100	225	2.3	94
110393	HORTURION TL-1 230-150 1.5	Formula white 1.5 NATURAL EVO	230	150	340	2.3	140
110394	HORTURION TL-1 400-150 1.6	Formula white 1.6 NATURAL GREEN	400	150	308	2.1	125

Dimensions L x W x H [mm]: 1266 x 72 x 119 • Beam angle 80° • IP66

Values apply to TL-1 und TL-1 HO

HORTURION LED TL-1 HO toplighting luminaires

Article no.	Designation	Spectrum	Supply voltage [V]	Nominal system wattage [W]	PPF [$\mu\text{mol/s}$]	Photosynthesis efficiency [$\mu\text{mol/Ws}$] @ Ta 25°C	PPFD @ 1m [$\mu\text{mol/m}^2\text{s}$]
HORTURION LED TL-1 HO luminaires							
110395	HORTURION TL-1 HO 230-150 2.1	Formula red 2.1 HORTIS	230	150	434	2.9	132
110396	HORTURION TL-1 HO 400-150 2.1	Formula red 2.1 HORTIS	400	150	434	2.9	132
110397	HORTURION TL-1 HO 230-150 2.2	Formula red 2.2 HORTIS EVO	230	150	450	3.0	135
110398	HORTURION TL-1 HO 400-150 2.2	Formula red 2.2 HORTIS EVO	400	150	450	3.0	135
110399	HORTURION TL-1 HO 230-150 2.4	Formula red 2.4 FRUITS	230	150	426	2.84	129
110400	HORTURION TL-1 HO 400-150 2.4	Formula red 2.4 FRUITS	400	150	426	2.84	129
110401	HORTURION TL-1 HO 230-150 2.5	Formula red 2.5 PURPLE	230	150	408	2.72	122
110402	HORTURION TL-1 HO 400-150 2.5	Formula red 2.5 PURPLE	400	150	408	2.72	122
110403	HORTURION TL-1 HO 230-150 2.6	Formula red 2.6 SUNLIGHT	230	150	361	2.41	111
110404	HORTURION TL-1 HO 400-150 2.6	Formula red 2.6 SUNLIGHT	400	150	361	2.41	111
110405	HORTURION TL-1 HO 230-150 1.1	Formula white 1.1	230	150	322	2.15	109
110406	HORTURION TL-1 HO 400-150 1.1	Formula white 1.1	400	150	322	2.15	109
110407	HORTURION TL-1 HO 230-150 1.2	Formula white 1.2	230	150	315	2.1	106
110408	HORTURION TL-1 HO 400-150 1.2	Formula white 1.2	400	150	315	2.1	106
110409	HORTURION TL-1 HO 230-150 1.4	Formula white 1.4 NATURAL	230	150	411	2.74	126
110410	HORTURION TL-1 HO 400-150 1.4	Formula white 1.4 NATURAL	400	150	411	2.74	126
110411	HORTURION TL-1 HO 230-150 1.7	Formula white 1.7 NATURAL INDOOR	230	150	411	2.74	126
110412	HORTURION TL-1 HO 400-150 1.7	Formula white 1.7 NATURAL INDOOR	400	150	411	2.74	126

Article no.	Designation

HORTURION LED TL-1 – accessories and connectors

108430	HORTURION TL-1 / IL HOOK	Suspension hook (1 pc)
105187	RST20i3 FCON gn	Connector female, 3 pole, for assembling supply and FTW cables
105184	RST20i3 MCON gn	Connector male, 3 pole, for assembling FTW cables
108404	RST20i3 FCON CAP	Cover cap for female connector

HORTURION LED IL interlighting luminaires

Article no.	Designation	Spectrum	Supply voltage [V]	Nominal system wattage [W]	PPF [$\mu\text{mol}/\text{s}$]	Photosynthesis efficiency [$\mu\text{mol}/\text{Ws}$] @ Ta 25°C	PPFD @ 1m [$\mu\text{mol}/\text{m}^2\text{s}$]
HORTURION LED IL luminaires							
110425	HORTURION IL 230-150 2.1	Formula red 2.1 HORTIS	230	150	415	2.8	290
110426	HORTURION IL 400-150 2.1	Formula red 2.1 HORTIS	400	150	415	2.8	290
110427	HORTURION IL 230-150 2.6	Formula red 2.6 SUNLIGHT	230	150	357	2.4	250
110428	HORTURION IL 400-150 2.6	Formula red 2.6 SUNLIGHT	400	150	357	2.4	250
108243	HORTURION IL 230-150 2.9	Formula red 2.9 TOMATO	230	150	400	2.7	280
110429	HORTURION IL 400-150 2.9	Formula red 2.9 TOMATO	400	150	400	2.7	280

Dimensions L x W x H [mm]: 2490 x 57 x 110 • Beam angle 2x 115° • IP66

Article no.	Designation
HORTURION LED IL – accessories and connectors	
108430	HORTURION TL-1 / IL HOOK Suspension hook (1 pc) for single luminaires or the beginning and end of a continuous line installation
108431	HORTURION IL HOOK Intermediate suspension hook (1 pc) for two connected luminaires
108432	HORTURION IL CONCLP Wire clamp to mechanically attach two connected luminaires
105187	RST20i3 FCON gn Connector female, 3 pole, for assembling supply cables
108404	RST20i3 FCON CAP Cover cap for female connector

HORTURION LED CL circular lights

Article no.	Designation	Spectrum	Supply voltage [V]	Nominal system power [W]	PPF [$\mu\text{mol}/\text{s}$]	Photosynthesis efficiency [$\mu\text{mol}/\text{Ws}$] @ Ta 25°C	PPFD @ 1m [$\mu\text{mol}/\text{m}^2\text{s}$]	Beam angle [°]
HORTURION LED CL luminaires								
110213	HORTURION CL 230-24 80 1.1	Formula white 1.1	230	24	48	2.00	133	80
110413	HORTURION CL 230-24 115 1.1	Formula white 1.1	230	24	46	1.92	96	115
109574	HORTURION CL 230-24 80 1.2	Formula white 1.2	230	24	47	1.96	131	80
110414	HORTURION CL 230-24 115 1.2	Formula white 1.2	230	24	45	1.92	94	115
110415	HORTURION CL 230-24 80 1.7	Formula white 1.7 NATURAL INDOOR	230	24	51	2.16	141	80
109522	HORTURION CL 230-24 115 1.7	Formula white 1.7 NATURAL INDOOR	230	24	48	2.00	100	115
110416	HORTURION CL 230-24 80 1.8	Formula white 1.8 NATURAL	230	24	51	2.16	141	80
110417	HORTURION CL 230-24 115 1.8	Formula white 1.8 NATURAL	230	24	48	2.00	100	115
110418	HORTURION CL 230-18 80 2.2	Formula red 2.2	230	18	51	2.83	141	80
110211	HORTURION CL 230-18 115 2.2	Formula red 2.2	230	18	47	2.61	98	115
110419	HORTURION CL 230-21 80 2.4	Formula red 2.4 FRUITS	230	21	51	2.42	141	80
110420	HORTURION CL 230-21 115 2.4	Formula red 2.4 FRUITS	230	21	50	2.38	114	115
110421	HORTURION CL 230-23 80 2.10	Formula red 2.10 PURPLE INDOOR	230	23	52	2.26	152	80
110422	HORTURION CL 230-23 115 2.10	Formula red 2.10 PURPLE INDOOR	230	23	48	2.09	110	115

Dimensions: L x Ø [mm]: 1280 x 28 • IP67

Article no.	Designation
HORTURION LED CL – accessories and connectors	
108241	HORTURION CL CLIP Mounting clip for direct shelf mounting (1 pc); 2 pcs required per luminaire
109523	HORTURION CL SUPCBL 2.5M Power cable 2.5 m with connector female on one end and stripped wires on the other end
110424	HORTURION CL SUPCBL 1.5M-PLG Power cable 1.5 m with connector female on one end and EU plug on the other end
109524	HORTURION CL CONCBL-F/M 1M Pre-assembled FTW cable 1.0 m with connector male on one end and connector female on the other end
109578	HORTURION CL CONCBL-F 0.2M 0.2 m cable with connector female on one end and stripped wires on the other end (for assembling customised FTW cables)
110423	HORTURION CL CONCBL-M 0.2M 0.2 m cable with connector male on one end and stripped wires on the other end (for assembling customised FTW cables)
109521	HORTURION CL FCON CAP Cover cap for female connector

HORTURION LED ML multilayer luminaires

Article no.	Designation	Spectrum	Nominal system power [W]	PPF [$\mu\text{mol/s}$]	Photosynthesis efficiency [$\mu\text{mol/Ws}$] @ Ta 25°C	Colour temperature [K]	Colour rendering index CRI	Dimensions L x W x H [mm]	Feed-through wiring
HORTURION LED ML luminaires									
110430	HORTURION ML5F3C-1.2-80	Formula white 1.2	75	122	1.6	3 500	90	1431 x 66 x 55	no
110431	HORTURION ML4F3C-1.2-80	Formula white 1.2	60	98	1.6	3 500	90	1150 x 66 x 55	no
104128	HORTURION ML5F3C-1.2-80-FTW	Formula white 1.2	75	122	1.6	3 500	90	1431 x 66 x 55	3x1.5mm ²
104129	HORTURION ML4F3C-1.2-80-FTW	Formula white 1.2	60	98	1.6	3 500	90	1150 x 66 x 55	3x1.5mm ²
110432	HORTURION ML5F3C-2.1-80	Formula red 2.1	50	135	2.5	n.a.	n.a.	1431 x 66 x 55	no
110433	HORTURION ML4F3C-2.1-80	Formula red 2.1	40	108	2.5	n.a.	n.a.	1150 x 66 x 55	no
104131	HORTURION ML5F3C-2.1-80-FTW	Formula red 2.1	50	135	2.5	n.a.	n.a.	1431 x 66 x 55	3x1.5mm ²
104132	HORTURION ML4F3C-2.1-80-FTW	Formula red 2.1	40	108	2.5	n.a.	n.a.	1150 x 66 x 55	3x1.5mm ²

Beam angle 80° • Weight max. 3.5 kg • IP66

Article no.	Designation	
HORTURION LED ML – accessories		
103847	HORTURION ML S-Cable 3pol	Supply cable 0.5 m, 3-pole, for luminaires with feed-through wiring (FTW)
108216	HORTURION ML S-Cable 5pol	Supply cable 0.5 m, 5-pole, for luminaires with feed-through wiring (FTW)
110434	HORTURION ML FTW-Cable 0,5m	Connecting cable 0.5 m for luminaires with feed-through wiring (FTW)
103848	HORTURION ML FTW-Cable 1m	Connecting cable 1.0 m for luminaires with feed-through wiring (FTW)
110435	HORTURION ML HOOK SET 1x	Mounting set for 1 HORTURION LED ML luminaire (2x M4 suspension hooks, 2x M4 nuts)
110436	HORTURION ML HOOK SET 10x	Mounting set for 10 HORTURION LED ML luminaires (20x M4 suspension hooks, 20x M4 nuts)
109477	HORTURION ML CLAMP SET 1x	Mounting set for 1 HORTURION LED ML luminaire (2x mounting clamps)
103849	HORTURION ML CLAMP SET 10x	Mounting set for 10 HORTURION LED ML luminaires (20x mounting clamps)