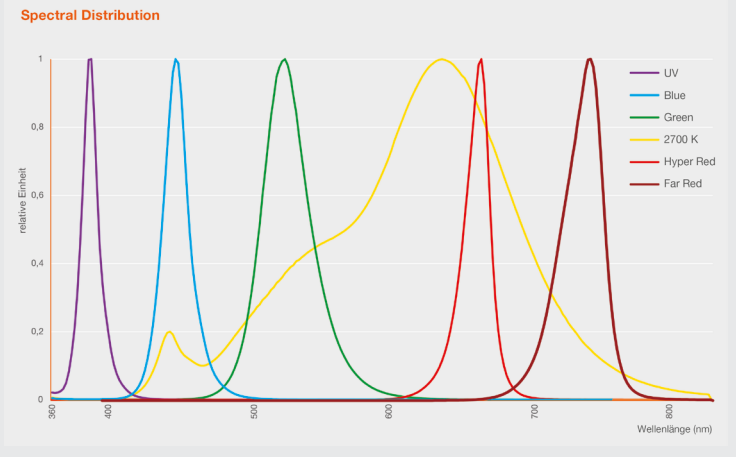
PHYTOFY® RL

Horticultural LED lighting for sustainable growth

Light is OSRAM

OSRAM

The essential role of light in plant growth



Along with water, nutrients, and environmental factors, light is an essential aspect of plant growth. Plants use light for photosynthesis; LEDs can mimic natural light to ensure the growth and development of photosynthetic organisms, and changes in intensity and wavelength can manipulate plants.

Research shows that not only photosynthetically active radiation (PAR) is relevant, but also wavelengths down to UV and up to far-red. These wavelengths have an effect on plant development, making them relevant for any controllable light option.

Light plays a major role as it influences the biomass, cycle time, secondary metabolites, and taste. By controlling the light, it is possible to increase yields, reduce production time, and influence the taste, appearance, and nutritional content of plants.

Research with tunable light sources in controlled environments will help to increase uniformity, productivity, and quality attributes of different crops.

PHYTOFY® RL: Tunable lighting for optimal growth

Indoor farming technology is evolving. In collaboration with plant biologists, OSRAM has designed software that schedules different light treatments from seed to harvest.

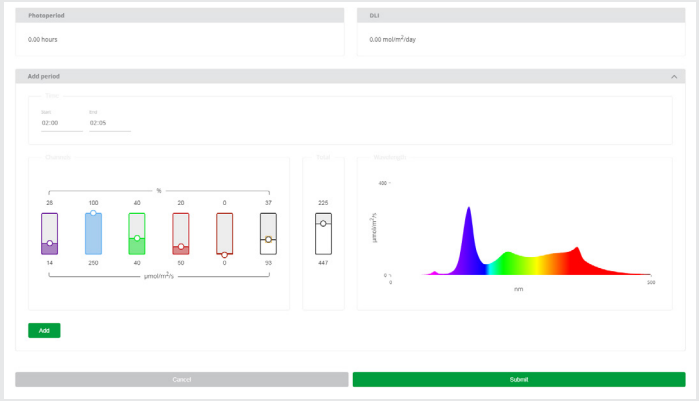
With PHYTOFY® RL, growers and researchers have the ability to create “light recipes” calibrated to plant and environmental conditions in real time.

OSRAM PHYTOFY® RL horticultural LED lighting offers:

- Tunable systems for research applications with scheduling features for each individual channel
- Calibration features delivering light treatments with varying spectra (wavelength and intensity)
- Advanced light performance through a precise irradiance map calculated by the software

OSRAM is at the forefront of product development and light research for the horticultural market as tunable light sources and smart controls become vital to improve growth and increase crop yields.

PHYTOFY® RL features and benefits



Are you interested in tuning lights to produce unique crops without genetic manipulation?

- Tunable LED system with six different channels
- The variable spectra can be used for far-red end-of-day light, UV light supplementation, night-interruption, etc.
- Advanced software, designed with plant biologists, to schedule different light treatments throughout the photoperiod and/or plant life cycle
- Precise irradiance map, calculated by the software—no quantum flux measurements required
- Thin and robust form factor, ideal for growth chambers, racks, and vertical farm operations
- Perfect choice for developing light recipes, allowing growers and researchers to improve flavor, nutritional profile, and overall production

POWER	VOLTAGE	DIMMING	SPECTRUM	LIFETIME	CERTIFICATION	DIMENSIONS	WEIGHT
max 150 W	100–240 VAC, 50/60 Hz	10–100% individually per LED channel	385 nm, 450 nm, 521 nm, 660 nm, 730 nm, 2700 K	25,000 hrs ($L_{70}B_{50}$)	CE, UL	667 x 299 x 44 mm	8.9 kg

Access and download plant-specific light recipes

LED lighting can influence the taste, appearance, and nutritional values of leafy greens and vegetables, as well as increase yields and shorten growth times. Tuning the light spectrum can, for example, increase the nutrient uptake of lettuce or control whether basil will taste mild or strong. Every plant has different lighting requirements. The optimal light recipes can ensure that basil, lettuce, and other leafy greens get their own, entirely personalized lighting treatment.

Register your PHYTOFY® RL lighting system at www.osram.com/phytofy and download five light recipes for the most commonly grown plants and herbs.

"We can literally deliver an infinite number of possible lighting scenarios, which creates fantastic opportunities for research. Nothing like it exists elsewhere."

Dr. Erik Runkle, Dept. of Horticulture,
Michigan State University

A recipe for growth

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Contact us for more information about our horticulture lighting solutions: horticulture@osram.com

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