



XtremeLUX GEN4 Lighting & Sensing Platform

Research-Grade Lighting & Sensing. Production-Ready Simplicity.

The leading platform for combined lighting & sensing: from precision R&D to data-driven scale-up with no surprises.

Designed for high-performance indoor farms and plant research environments, the **XtremeLUX GEN4** platform delivers precision lighting and integrated sensing in a fully digital, scalable system.



What Sets XtremeLUX Apart

Exclusive System Capability	Why It Matters
Modular Architecture	Begin with lighting only and add sensors when needed, without redesign or hardware replacement.
Digitally controlled 4-channel spectrum [Blue, Green, Red, Far Red]	Customize light recipes for species, growth phase, and morphology.
Emerson Effect activation	Red and far-red light together improve photosynthesis, speed growth, and support flowering.
Targeted spectrum efficiency	Avoid wasted wavelengths and reduce energy consumption by 10 percent or more.
Integrated, Research-Grade Sensor Suite	Measure hyperspectral reflectance, fluorescence, phosphorescence, bioluminescence, CO ₂ , temperature, humidity, and air flow.
Patented bidirectional data bus and DC power backbone	Enables automated lighting responses based on sensor input in a simple plug-and-play system that scales seamlessly.
Comprehensive plant response, system and environmental data collection	Reduce manual inspection and testing burden with continuous monitoring.
Developer-Friendly API Library for Custom Control	Connect to external control systems, automate recipes and measurements, integrate data, and streamline analysis.

Built for Teams Who Grow Smarter

Systems also include

- IP68-rated waterproof UL-certified light bars and cables for use in humid or wet environments
- Tempered flat glass lenses for durability and easy cleaning
- Low-voltage DC system for safe and reliable operation

Whether you're optimizing a production-scale facility or conducting scientific research, XtremeLUX provides the control, data, and efficiency to help you grow with confidence.