

DIGI-LUMEN

Ultraviolet + Far-Red Instruction Guide

Using the UV + Far-Red Channel on the Digi-Lumen 780 W or 888 W Extreme LED

The Digi-Lumen 780 W and 888 W Extreme fixtures feature an inbuilt driver and Dual Spectrum Ultraviolet (UV) + Far-Red (FR) technology. The UV and Far-Red diodes operate as a single supplemental channel—they cannot be controlled independently. Adjusting the channel applies the same percentage intensity to both UV and Far-Red simultaneously.

Key Features of the UV + Far-Red Channel

- **UV (~395–400 nm):** Triggers stress responses that boost secondary metabolites (resins, terpenes, flavonoids).
- **Far-Red (~730 nm):** Influences morphology, shade avoidance, stem elongation, and flowering responses.
- **Combined Operation:** One percentage setting controls both spectra. This simplifies use while delivering synergistic benefits.
- **Primary Use:** Supplemental to the main full-spectrum output for enhanced quality in flowering and fruiting stages.

Preferred Controller: Digi-Lumen Enviro Pro

The Digi-Lumen Enviro Pro is the recommended controller. It offers a 5-inch touchscreen, mobile app support, and comprehensive environmental and lighting control, including 0–10 V dimming signals for precise management of the 780 W or 888 W Extreme channels.

Advantages

- Independent or scheduled control of the UV + FR supplemental channel
- Integration with temperature, humidity, CO₂, VPD, and other sensors
- Programmable timers, ramps, and automation (for example, end-of-day FR boost)
- Ethernet and app connectivity for remote monitoring

Safety Precautions

- **UV light is invisible and can harm eyes and skin.** Avoid direct exposure and always use protective eyewear when the channel is active.
- Start low (10–20%) and monitor plants carefully for stress.
- Limit UV exposure durations, especially at higher percentages.

How to Operate the UV + Far-Red Channel

Manual Dimming (Basic Control)

- Use the onboard dimmer controls on the fixture for quick adjustments.
- Set the UV + FR knob to the desired percentage (0–100%). Both spectra activate at that level.

Preferred Method: Digi-Lumen Enviro Pro Controller

(Advanced & Recommended)

1. Installation & Connection

- Connect the 780 W or 888 W Extreme's control port (typically RJ12 or 0–10 V) to the Enviro Pro Controller using compatible cables. Daisy-chain multiple fixtures if needed.
- Power on the controller and fixture. The 5-inch touchscreen will display lighting controls.

2. Access Lighting Controls

- Navigate to the Lighting or LED Control section on the touchscreen or app.
- You will see separate sliders/channels for:
 - Main full-spectrum intensity
 - UV + Far-Red supplemental channel (single control)

3. Set UV + Far-Red Percentage

- Adjust the dedicated UV + FR slider or input field (0–100%).
- Example: Setting 40% runs both UV and Far-Red at 40% of maximum output.
- Save as a static setting or incorporate into automated schedules.

4. Programming Schedules (Best Practice)

- Create custom programs via the touchscreen or app.

Example Flowering Schedule:

Main lights: 12/12 cycle at 80–100%.

UV + FR: Ramp to 30–50% during the last 2–4 hours of the light period or run a short 15–30 minute End-of-Day (EOD) boost at 50% or higher to trigger Far-Red responses.

- Use VPD or temperature triggers for dynamic adjustments.
- Sunrise/sunset ramps are available for smooth transitions.

Recommended Usage Schedules

- **Vegetative:** 10–25% UV + FR for 1–2 hours per day (optional, for more compact growth).
- **Early Flower:** 20–40% during the full light cycle.
- **Mid–Late Flower:** 40–70% for metabolite enhancement.
- **EOD Far-Red:** 30–50% or higher for the final 15–30 minutes of lights-on.
- **Note:** Use 100% only with caution, strong monitoring, and for limited times.
- Monitor PPFD and plant response; adjust gradually.

Troubleshooting

- **No Response:** Verify 0–10 V cable connections and controller firmware. Ensure the fixture's dimming port is enabled.
- **UV Not Visible:** Confirm with a UV meter or fluorescent card.
- **Controller Issues:** Restart the Enviro Pro or check app connectivity. Refer to the Enviro Pro manual for sensor calibration and advanced settings.

The combination of the 780 W or 888 W Extreme hardware and the Enviro Pro controller delivers professional-level spectrum control for superior results.