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MARS HYDRO FC4000 EVO with VG40-R 2FT

MARS HYDRO FC4000 EVO & VG40-R LED Grow Light System User Manual

Model: FC4000 EVO with VG40-R 2FT
Brand: MARS HYDRO

Introduction

This user manual provides comprehensive instructions for the installation, operation, and maintenance of your MARS HYDRO FC4000 EVO and VG40-R LED Grow Light System. This system is designed for indoor plant growing, offering advanced features for optimal plant development from germination to flowering.
The FC4000 EVO features high-efficiency Samsung LM301H EVO diodes and smart control capabilities via the Mars Hydro APP. The VG40-R is a supplemental red spectrum light bar designed to enhance flowering and overall plant yield.

Safety Information

- Always disconnect power before installation, cleaning, or maintenance.
- Do not look directly at the illuminated LEDs. This can cause eye damage.
- Ensure the light is installed in a well-ventilated area to prevent overheating.
- Keep the light away from water and high humidity environments, unless specified as waterproof for that component (e.g., VG40-R is IP65 rated).
- Do not modify the light or its components. Unauthorized modifications can lead to hazards and void the warranty.
- Use only the provided power cords and accessories.
- This product is intended for indoor use only.

Package Contents

Verify that all components are present and undamaged upon opening the package:

- 1 x MARS HYDRO FC4000 EVO LED Grow Light Fixture
- 2 x MARS HYDRO VG40-R 2FT Red Spectrum LED Light Bars
- 1 x Smart Controller (integrated with FC4000 EVO)
- 1 x Power Cord for FC4000 EVO

- 2 x Power Cords/Connectors for VG40-R
- Hanging Kits (Rope hangers, carabiners)
- User Manual (this document)



Image: The complete MARS HYDRO FC4000 EVO and VG40-R LED Grow Light System, showing both the main FC4000 EVO panel and the two VG40-R red light bars.

Setup

1. FC4000 EVO Installation

1. **Unpack:** Carefully remove the FC4000 EVO fixture from its packaging.
2. **Attach Hanging Kit:** Connect the provided hanging ropes and carabiners to the designated points on the FC4000 EVO fixture.

3. **Mount:** Hang the light securely from a sturdy support structure in your grow space. Ensure it is level and at the desired height above your plants.
4. **Connect Power:** Plug the power cord into the FC4000 EVO driver. The driver can be positioned outside the grow tent to reduce heat.



Image: Illustration demonstrating the uniform PPFD (Photosynthetic Photon Flux Density) distribution of the FC4000 EVO across a plant canopy, highlighting its ability to cover every plant corner evenly.

2. VG40-R Installation

1. **Unpack:** Remove the VG40-R light bars from their packaging.
2. **Positioning:** The VG40-R bars are designed to supplement the main grow light. They can be hung alongside the FC4000 EVO or positioned for under-canopy lighting.
3. **Connect Power:** Connect the VG40-R bars to their power source. They can be daisy-chained together for simplified wiring.



Image: Diagram illustrating the daisy chain design of the VG40-R red grow light bars, showing how multiple units can be linked in series for extended coverage.



Image: Close-up view of the VG40-R red grow light bar, highlighting its IP65 waterproof transparent lampshade and plug-and-play connectivity. Water droplets are shown to emphasize its water resistance.

Operating Instructions

1. Smart Control via Mars Hydro APP (FC4000 EVO)

The FC4000 EVO can be controlled remotely using the Mars Hydro APP. This allows for precise control over light intensity, scheduling, and special features.

1. **Download APP:** Search for "Mars Hydro" in your mobile device's app store and download the official application.
2. **Pair Device:** Follow the in-app instructions to pair your FC4000 EVO light with your mobile device via Wi-Fi.
3. **Control Features:**
    - **Dimming:** Adjust light intensity from 0-100%.
    - **Scheduling:** Set custom on/off times and dimming schedules.
    - **Sunrise & Sunset Simulation:** Program gradual light intensity changes to mimic natural light cycles.

- **OTA Technology:** The app supports Over-The-Air updates for firmware and data transfer/storage.

2. Light Spectrum and Efficiency

The FC4000 EVO utilizes Samsung LM301H EVO diodes, providing a full spectrum optimized for all growth stages. The VG40-R supplements with a rich red spectrum.



Image: Close-up of a Samsung LM301H EVO chip, highlighting its high efficiency (3.14 µmol/J PPE) and plant-centric spectrum for horticultural applications.

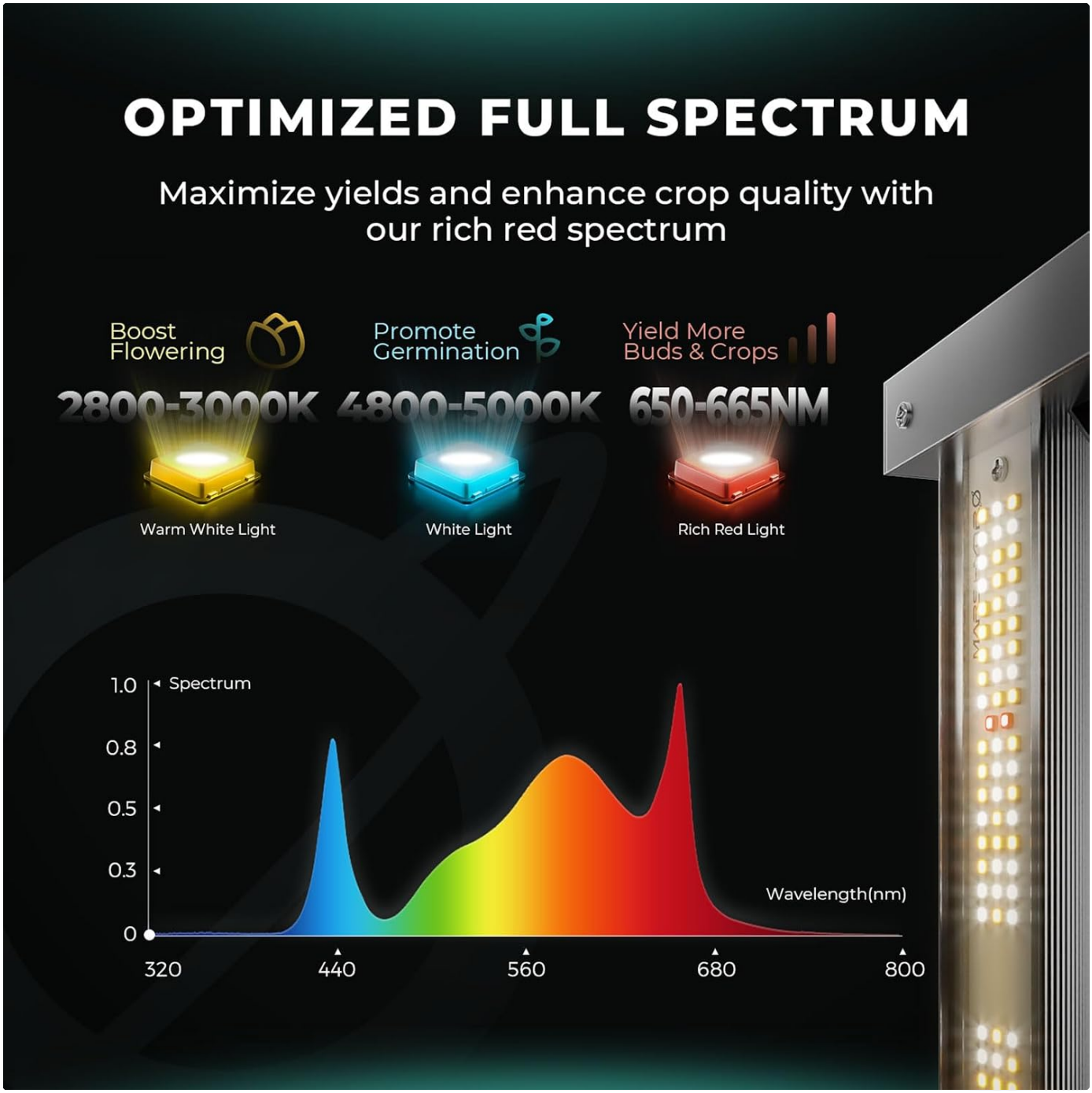


Image: Graph illustrating the optimized full spectrum provided by the grow light, showing peaks for warm white light (2800-3000K), white light (4800-5000K), and rich red light (650-665nm), indicating their roles in boosting flowering, promoting germination, and increasing yield.



Image: Visual representation of the 650-665nm red light spectrum provided by the VG40-R, with a graph showing the spectral distribution. Text explains its capacity to facilitate stem elongation, photosynthesis, extend flowering, and optimize crop quality.

Maintenance

- **Cleaning:** Periodically wipe the light fixture with a soft, dry cloth to remove dust and debris. Ensure the light is unplugged before cleaning. Do not use harsh chemicals or abrasive cleaners.
- **Inspection:** Regularly inspect power cords and connections for any signs of wear or damage. Replace damaged components immediately.
- **Heat Dissipation:** Ensure the wave-shaped heat sink of the FC4000 EVO remains clear of obstructions to allow for optimal heat dissipation.

Troubleshooting

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
Light does not turn on.	No power, loose connection, faulty power supply.	Check power outlet, ensure all connections are secure. Verify power supply is functioning.
App cannot connect to light.	Wi-Fi issue, incorrect pairing procedure, light not in pairing mode.	Ensure Wi-Fi is active and stable. Re-attempt pairing process as per app instructions. Restart light and router.
Light flickering or dimming unexpectedly.	Unstable power, loose wiring, internal component issue.	Check power source stability. Inspect all wiring. If problem persists, contact customer support.
VG40-R bars not lighting up in daisy chain.	Incorrect connection in the chain, faulty bar.	Ensure each bar is correctly connected in the series. Test individual bars if possible.

Specifications

MARS HYDRO FC4000 EVO

- **Diodes:** Samsung LM301H EVO
- **PPE:** 2.85 µmol/j (overall), 3.14 µmol/j (per diode)
- **PPFD:** Up to 871 µmol/m²/s
- **Control:** Smart Control via Mars Hydro APP (Wi-Fi, Remote)
- **Spectrum:** Full Spectrum (2800-3000K Warm White, 4800-5000K White, 650-665nm Rich Red)
- **Heat Dissipation:** Wave-shaped heat sink
- **Power Cord Length:** 3.28 ft (for driver placement outside tent)
- **Special Features:** Energy Efficient, Full Spectrum, OTA Technology, Sunrise & Sunset Simulation

MARS HYDRO VG40-R

- **Output:** 40W
- **Spectrum:** Deep Red (650-665nm)
- **Diodes:** 72pcs high efficiency LED diodes
- **Coverage:** 2x4 ft (supplemental)
- **Waterproof Rating:** IP65
- **Connectivity:** Linkable (Daisy Chain up to 20 lights)
- **Length:** 2FT

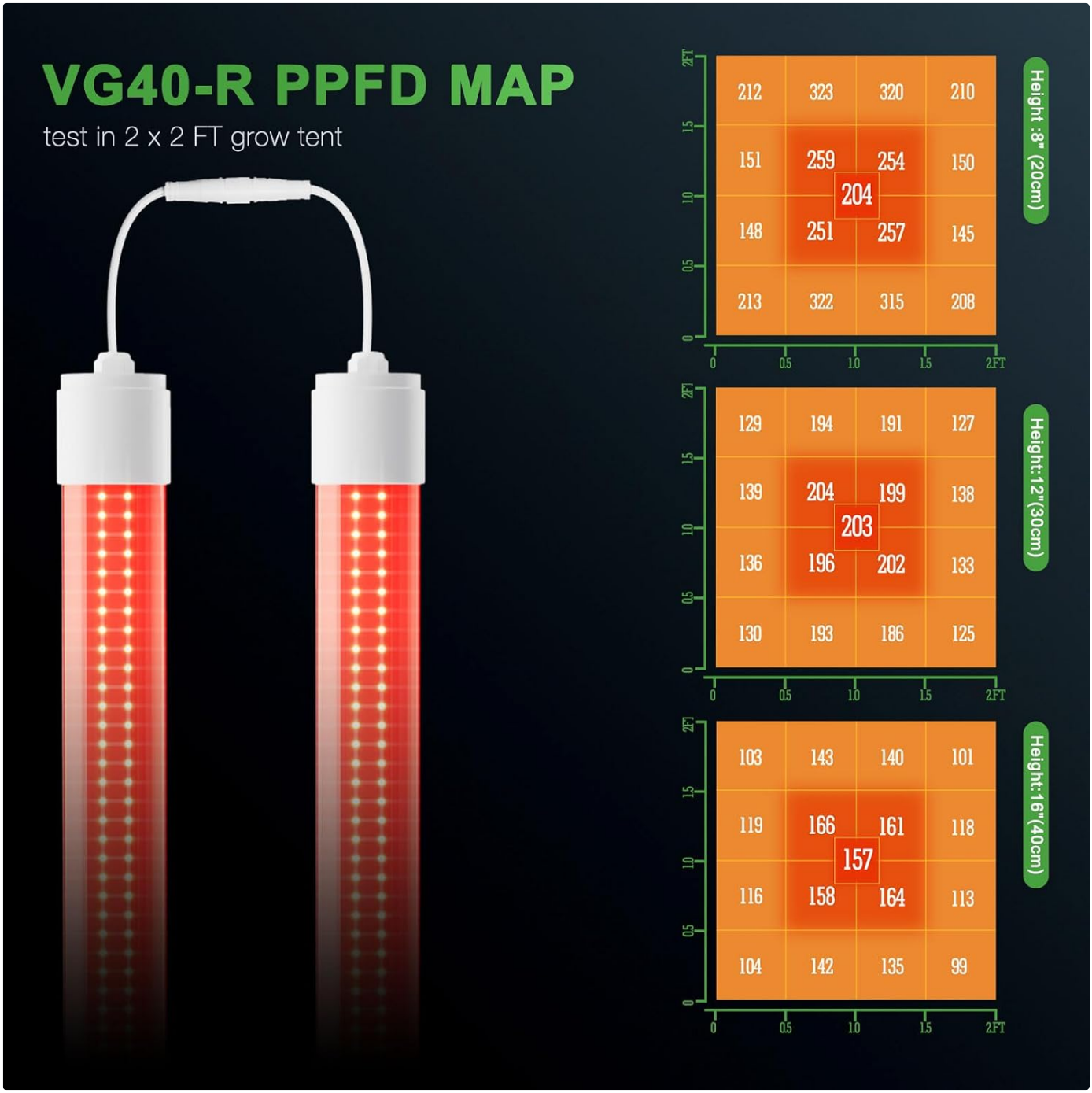


Image: PPFD map for the VG40-R red grow light bar, showing light intensity distribution at various heights (8", 12", 16") within a 2x2 ft grow tent, indicating its supplemental lighting capabilities.

Warranty and Support

MARS HYDRO products come with a manufacturer's warranty. Please refer to the official MARS HYDRO website or your purchase documentation for specific warranty terms and conditions.
For technical support, troubleshooting assistance, or warranty claims, please contact MARS HYDRO customer service through their official website or the contact information provided with your purchase.
Website: www.marshydro.com

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