

PopBloom RL90

PopBloom RL90 Full Spectrum LED Aquarium Light User Manual

Model: RL90

1. INTRODUCTION

The PopBloom RL90 Full Spectrum LED Aquarium Light is designed for marine aquariums, providing optimal lighting for hard and soft corals (SPS/LPS) and marine fish. This advanced lighting system features a balanced PAR and coverage, homogeneous light distribution, and smart APP control for customizable programming. It incorporates high-speed quiet fans and upgraded aluminum heat sinks for efficient heat dissipation.

2. PACKAGE CONTENTS

Please verify that all components are present in your package:

- 4 x RL90 LED Light Panels
- 4 x DC Power Adapters
- 4 x Hang Kits
- 4 x Power Cords
- 1 x User Manual

3. PRODUCT SPECIFICATIONS

The RL90 light system is engineered for performance and durability. Below are the key specifications:

Feature	Specification
LED Array Power	90W per panel
PAR @ Water Surface	500 PAR
PAR @ 60cm (24") Depth	150 PAR

Feature	Specification
Channels	4 independently programmable channels
Channel 1 (White)	10W 8000K White
Channel 2 (Moon UV&Blue)	5W Moon UV&Blue
Channel 3 (Reef Blue)	65W Reef Blue
Channel 4 (Cyan Blue)	10W Cyan Blue
Product Dimensions (each)	12L x 12W x 5.5H Centimetres (4.7" x 4.7" x 2.2")
Material	Aluminum
Mounting Type	Hanging
Cooling	PWM Smart Fan, Aluminum Heatsink
Fan Noise	32 dB
Control	Smart APP (WiFi & Bluetooth)

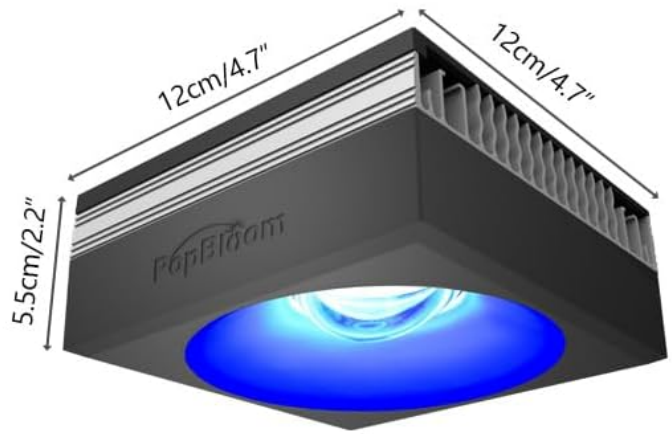
The RL90 is designed to provide a homogeneous light spread with consistent PAR values throughout the aquarium, minimizing hotspots.

Specification

90 W
LED Array

500 PAR
Water surface

150 PAR
60cm depth



4 Channels

10 W
8000K White

5 W
Moonlight

65 W
REEF GROW Blue

10 W
Cyan Blue

Recommendation

Size	1 Light	2 Light	3 Light	4 Light	5 Light	6 Light
recommended tank length	40-60cm 16-24inch	80-120cm 30-48inch	120-150cm 48-60inch	180-240cm 72-96inch	240-300cm 96-120cm	(300-360)x60 (120-150)x80
recommended tank width: 60cm						
max reach tank depth: 80cm						

Figure 1: RL90 Light Specifications and Physical Dimensions. Each light panel measures 12cm x 12cm x 5.5cm.

PAR Distribution

PAR* measured at a distance of 24 inch below the light in open air 24"x24" area.

Intensity: 100%

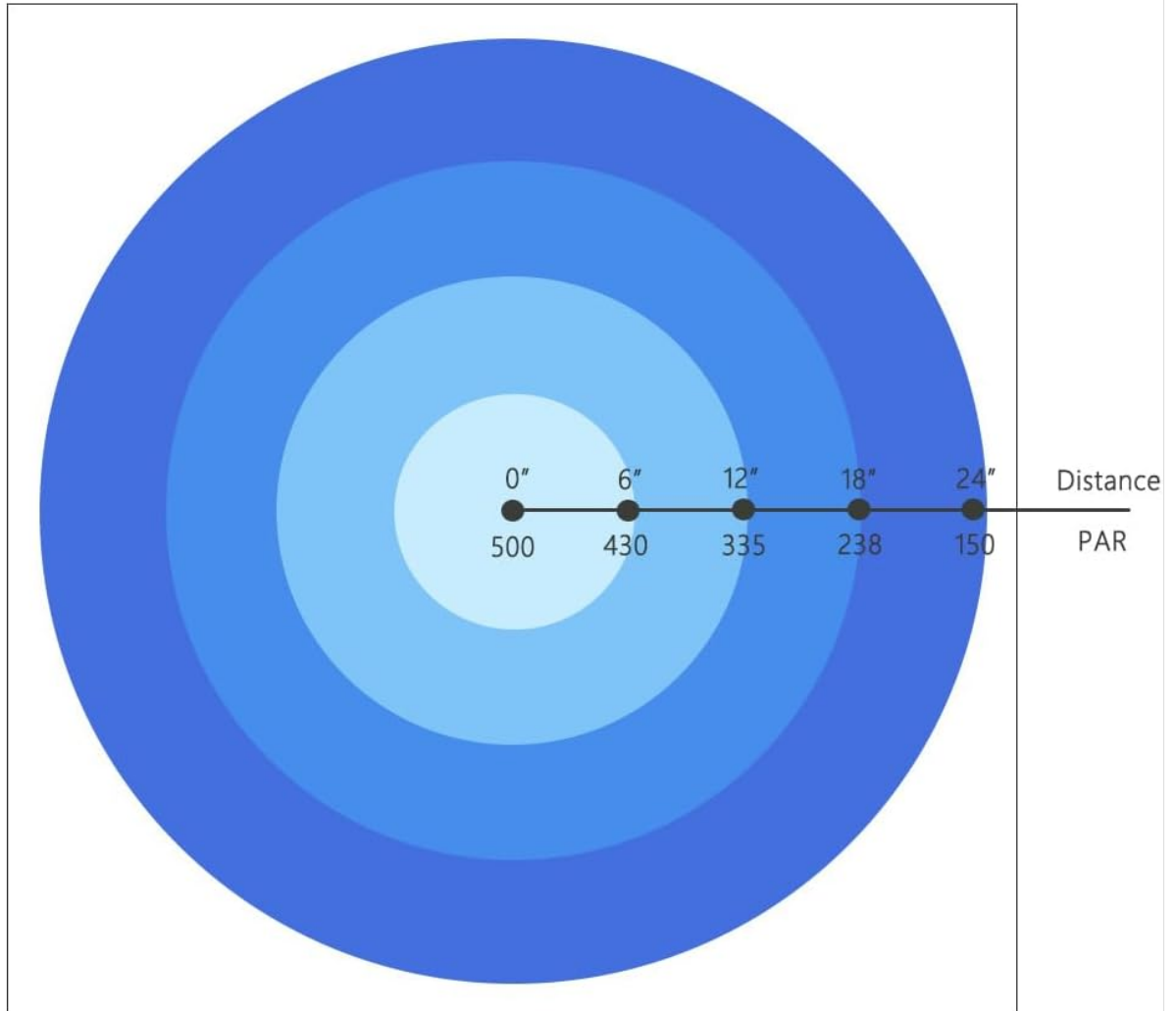


Figure 2: Full Spectrum Graph for the RL90 Light. This graph illustrates the relative intensity across different wavelengths (380nm to 780nm), highlighting the broad spectrum provided.

Ideal PAR Distribution

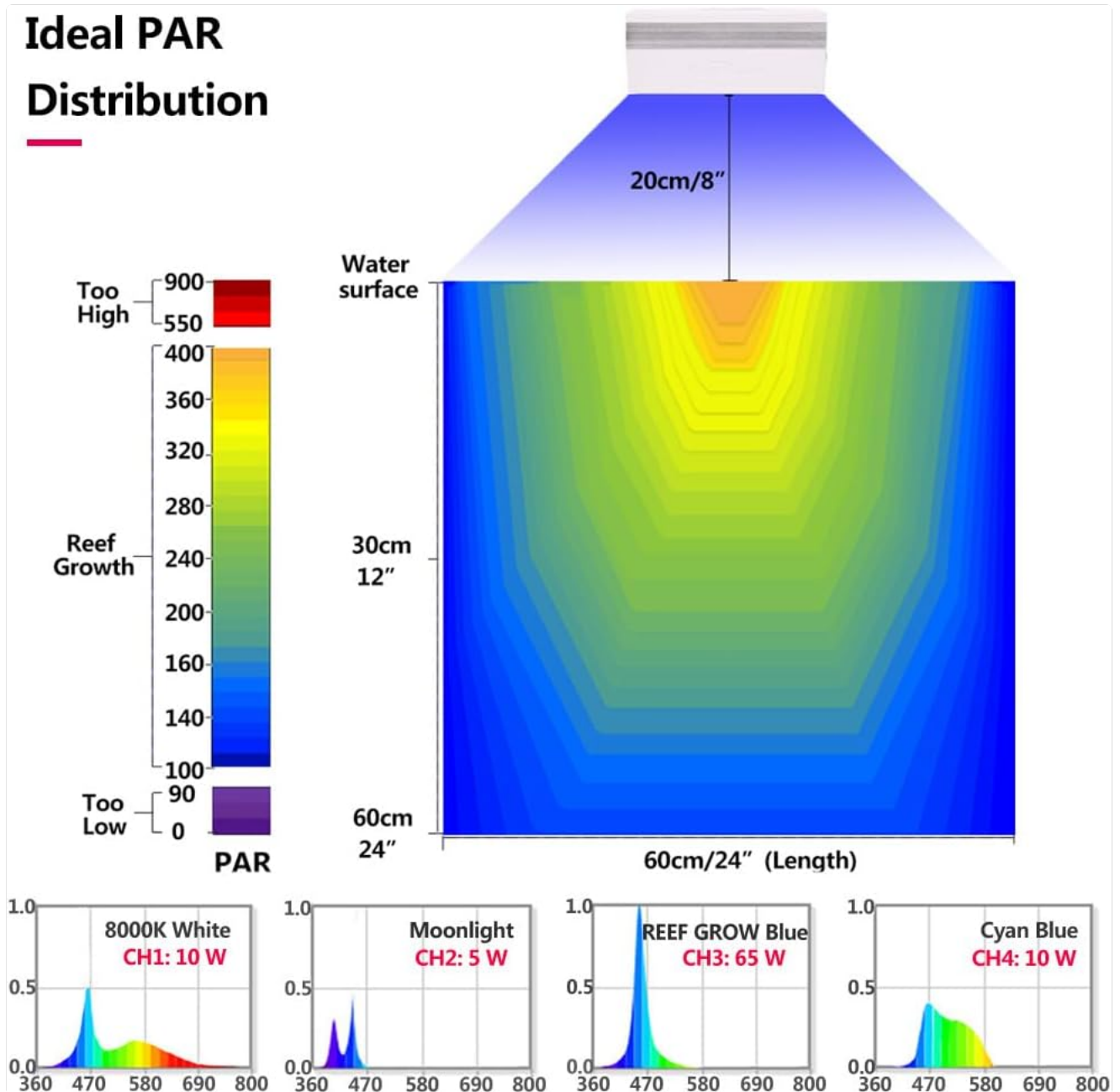


Figure 3: Ideal PAR Distribution and Individual Channel Spectrums. The top diagram shows PAR levels at various depths and lengths, while the bottom graphs display the spectral output for each of the four channels.

4. SETUP AND INSTALLATION

Follow these steps to properly install your PopBloom RL90 LED Aquarium Light system:

- 1. Unpack Components:** Carefully remove all items from the packaging and ensure all parts listed in Section 2 are present and undamaged.
- 2. Assemble Hang Kit:** Attach the hanging wires to the designated points on each RL90 light panel. Refer to the hang kit instructions for specific assembly details.
- 3. Position Lights:** Suspend the light panels above your aquarium using the hang kits. Ensure the lights are securely mounted and positioned to provide even coverage over your tank. For a 72-96 inch marine aquarium, 4 lights are recommended.
- 4. Connect Power:** Connect each RL90 light panel to its respective DC power adapter, then plug the power adapters into a suitable power outlet.
- 5. Daisy Chain Connection (Optional):** The RL90 supports real daisy chain functionality, allowing one system

to control up to 10 panels simultaneously. Connect the lights using appropriate daisy chain cables (sold separately if not included) if you wish to control multiple units from a single point.

Full Spectrum

Specification of Each Light

Power Consumption

100 watts

Maximum Spread

24"x24"

LED Channels

4

PAR@Water Surface

500

PAR@24" Depth

150

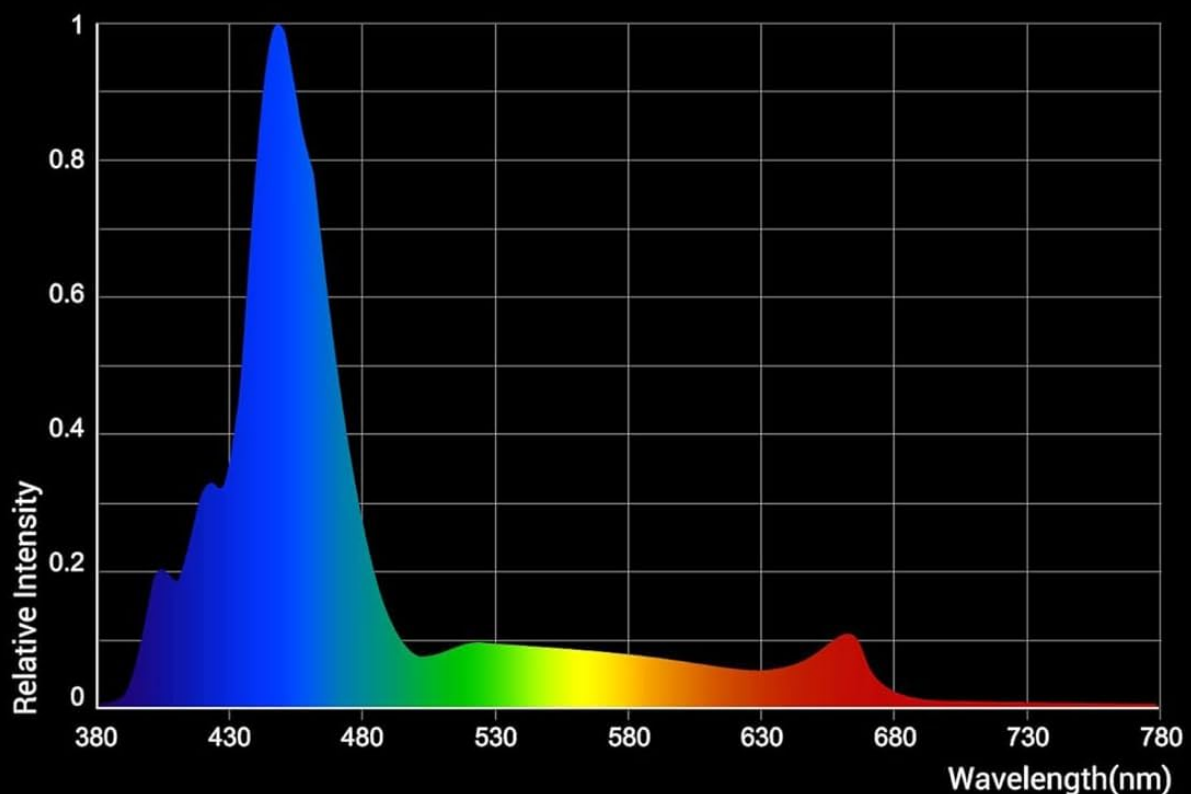


Figure 4: Example of PopBloom RL90 lights installed over various aquariums. This image demonstrates how the lights can be positioned for optimal coverage.

5. OPERATION

The PopBloom RL90 light system is controlled via a smart application, offering extensive customization options.

5.1 Smart APP Control

The RL90 features both WiFi and Bluetooth dual-control capabilities, ensuring operability even in offline WiFi conditions. Use the smart app to manage and adjust your aquarium's lighting settings.

1. **Download the App:** Scan the QR code below or search for "Smart Life" in your device's app store (available on Apple App Store and Google Play Store).
[Download Smart Life App](#)
2. **Connect to Device:** Follow the in-app instructions to connect your RL90 lights via WiFi or Bluetooth.

3. **Access Controls:** Once connected, you can access the various programming and control features.



Figure 5: Screenshots of the Smart Life App interface, demonstrating various programming options for the RL90 light.

5.2 Channel Programming

The RL90 has 4 independently programmable channels, adjustable from 1% to 100% intensity.

- **Channel 1 (White):** 10W 8000K White, designed for deep penetration.
- **Channel 2 (Moon UV&Blue):** 5W Moon UV&Blue, for simulating natural moonlighting.
- **Channel 3 (Reef Blue):** 65W Reef Blue, for deep penetration and optimal growth of SPS/LPS corals.
- **Channel 4 (Cyan Blue):** 10W Cyan Blue, for enhanced coloration.

5.3 Programming Modes

The app offers flexible programming options:

- **Program Mode:** Set up to 8 time-points with automatic ramp-up and ramp-down for each channel, simulating natural day-night cycles.

- **DIY Mode:** Customize moon settings, time offsets, and limit output for advanced control.

6. LIGHT DISTRIBUTION AND LENS DESIGN

The RL90 is engineered for optimal light delivery and visual comfort.

Panel

Leds Array

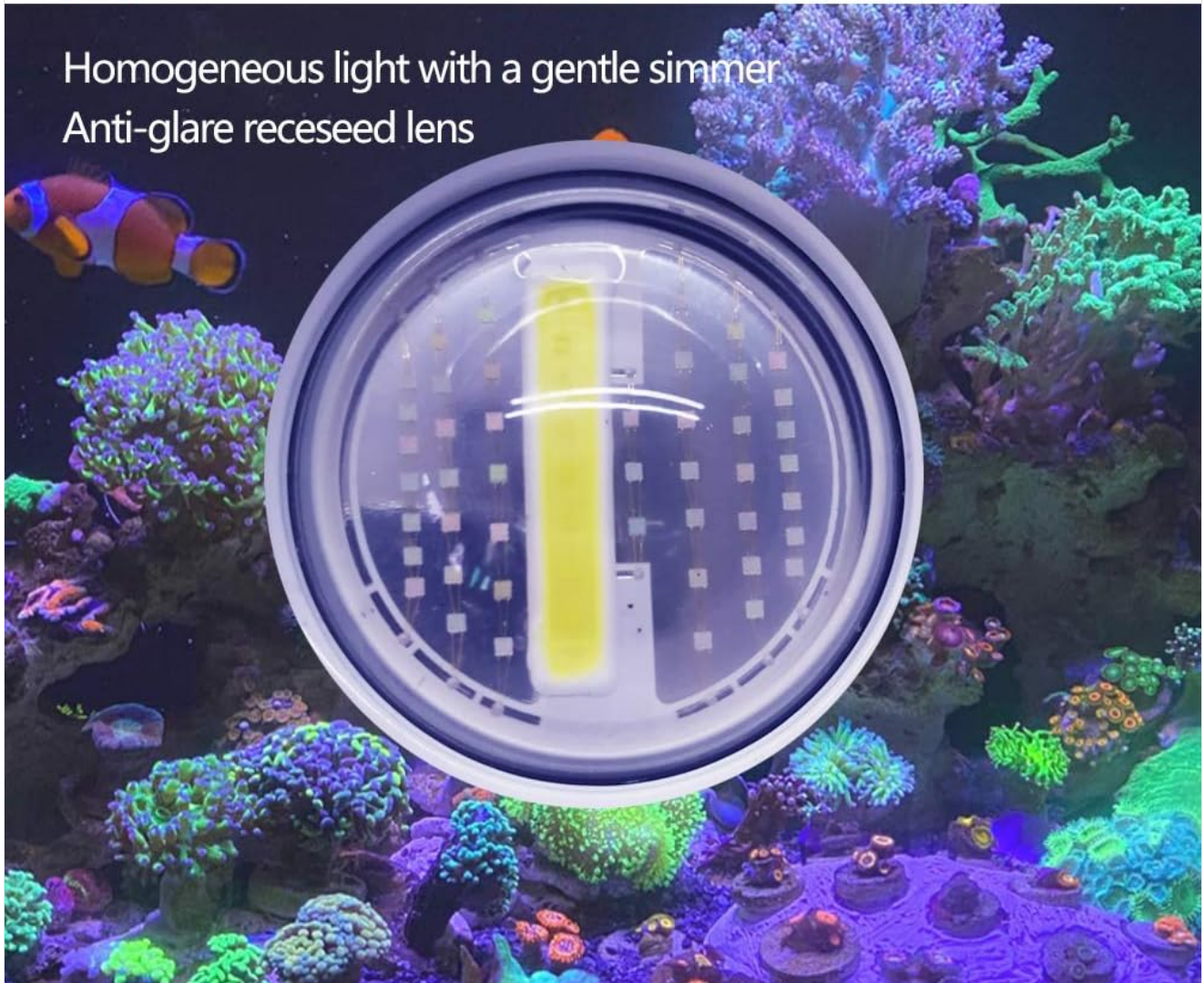


Figure 6: Close-up of the RL90 Panel LED Array. This image highlights the homogeneous light output and the anti-glare recessed lens design.

Glare-proof Recessed Lens

Homogeneous light with gentle shimmer, giving you the best balance of power & spread, reach 80cm deep + high uniformity



much closer to natural sunlight



Individual lenses,
non-uniform illumination

Figure 7: Illustration of the Glare-Proof Recessed Lens. This design ensures homogeneous light with a gentle shimmer, providing a balanced power and spread, and reaching depths of up to 80cm with high uniformity, unlike individual lenses that can cause non-uniform illumination.

7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your RL90 LED Aquarium Light.

- **Cleaning:** Periodically wipe the light panels and lenses with a soft, dry cloth to remove dust and salt creep. Ensure the light is unplugged before cleaning. Do not use abrasive cleaners or solvents.
- **Fan Inspection:** Check the cooling fans for any obstructions or excessive dust buildup. Clean gently with compressed air if necessary to maintain efficient heat dissipation.
- **Cable Check:** Inspect power cords and daisy chain cables for any signs of wear or damage. Replace damaged cables immediately.

8. TROUBLESHOOTING

If you encounter issues with your RL90 light, refer to the following common solutions:

- **Light Not Turning On:**

- Ensure the power cord is securely plugged into both the light and the power outlet.
- Verify the power outlet is functional.
- Check the power adapter for any visible damage.

- **App Connectivity Issues:**

- Ensure your mobile device's WiFi or Bluetooth is enabled.
- Restart the Smart Life app.
- Restart the RL90 light by unplugging and re-plugging the power.
- Ensure your router is within range and functioning correctly if using WiFi.

- **Inconsistent Light Output:**

- Check your app programming schedule for any unintended settings.
- Ensure all daisy chain connections are secure if multiple units are linked.

- **Excessive Noise from Fans:**

- Inspect fans for dust or obstructions and clean as per maintenance instructions.
- If noise persists, contact customer support.

9. WARRANTY AND SUPPORT

The PopBloom RL90 Full Spectrum LED Aquarium Light comes with a **1-Year Manufacturer Warranty**.

For technical support, warranty claims, or any other inquiries, please contact PopBloom customer service through your retailer or the official PopBloom website.
