



Advanced LED Lighting System

JH-LL90

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ADVANCED LED LIGHTING SYSTEM

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Quick Start Manual | JH-LL90



Read this manual before installation and use

1 Safety guidelines

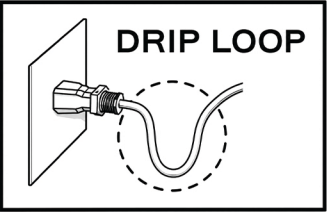
Read all instructions before installing or operating the light.

- **Eye and skin safety**

Never look directly at the LEDs. Visible, ultraviolet and infrared light may cause permanent eye or skin injury. Minimize exposure at all times.

- **Use a drip loop**

Create a section of cord below the electrical receptacle so water cannot travel along the cord into the outlet.



- **Inspect before use**

Check the power cord, plug, socket and power supply for damage. Discontinue use if any component is damaged.

- **Install securely**

Attach or hang the fixture securely. Follow applicable electrical requirements and use a compliant power adapter.

- **Keep dry and ventilated**

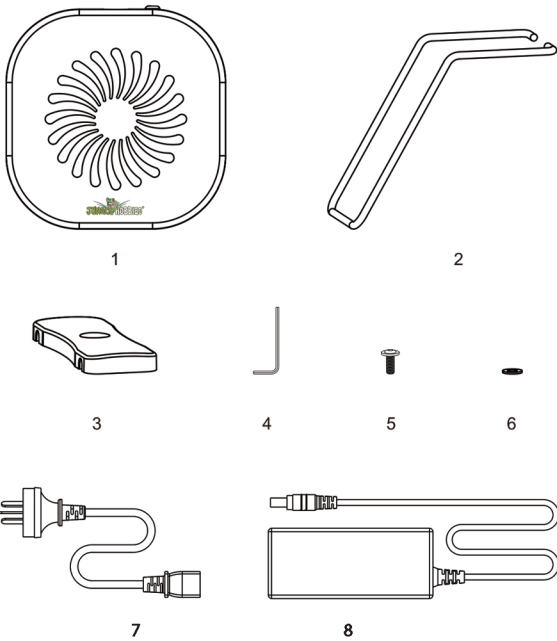
Do not splash or submerge the fixture. Keep ventilation openings clean and unobstructed. Do not place objects on the product.

Important

! Jungle Hobbies is not responsible for injury or equipment damage resulting from improper installation or use.

2 Check the package contents

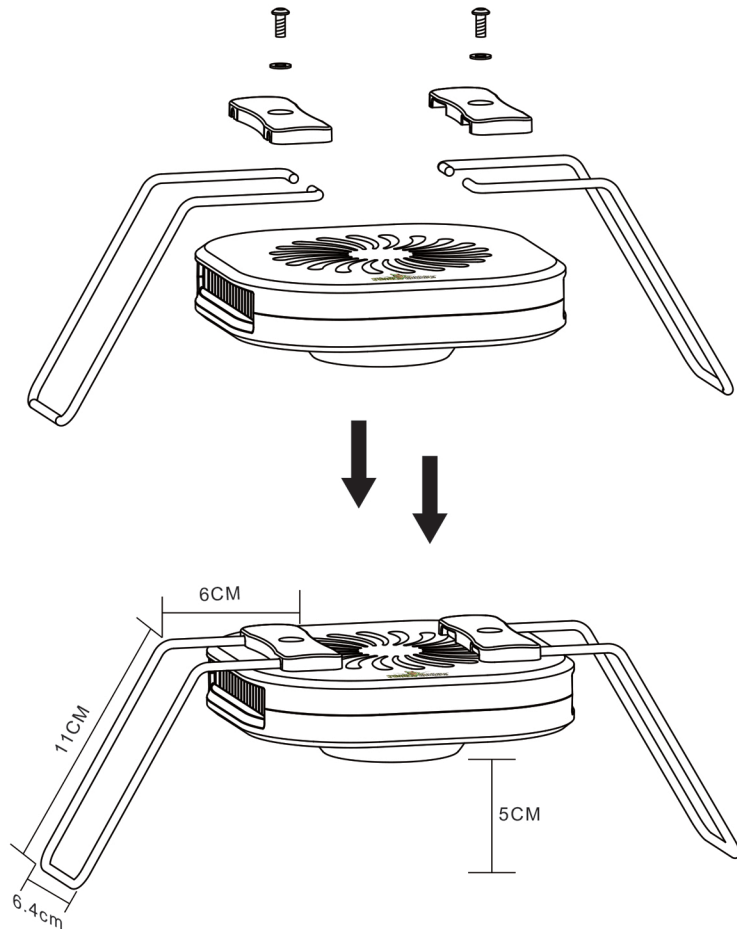
Verify that all components are present before installation.



Component		Qty.
1	LED fixture	1
2	Bracket	2
3	Compression block	2
4	Allen key	1
5	Fixing screw	2
6	Screw washer	2
7	Power wire	1
8	AC/DC adapter	1

3 Install the mounting brackets

Assemble the fixture on a stable surface before positioning it.



Single side extendable bracket: 3CM

Before tightening

- i** Position both brackets evenly, then tighten the fasteners with the included Allen key.

4 Product specifications

Model	JH-LL90
Fixture size	15 x 15 x 4.5 cm / 5.9 x 5.9 x 1.8 in
Input voltage	100-240 V AC
Total LED power	90 W
White LEDs	28 pcs / 36.8 W
Blue LEDs	14 pcs / 19.4 W
Green LEDs	21 pcs / 28.8 W
Red LEDs	22 pcs / 21.8 W
White colour temperature	10,000-15,000 K
Luminous flux	3,610 lm
Bracket extension	3 cm per side

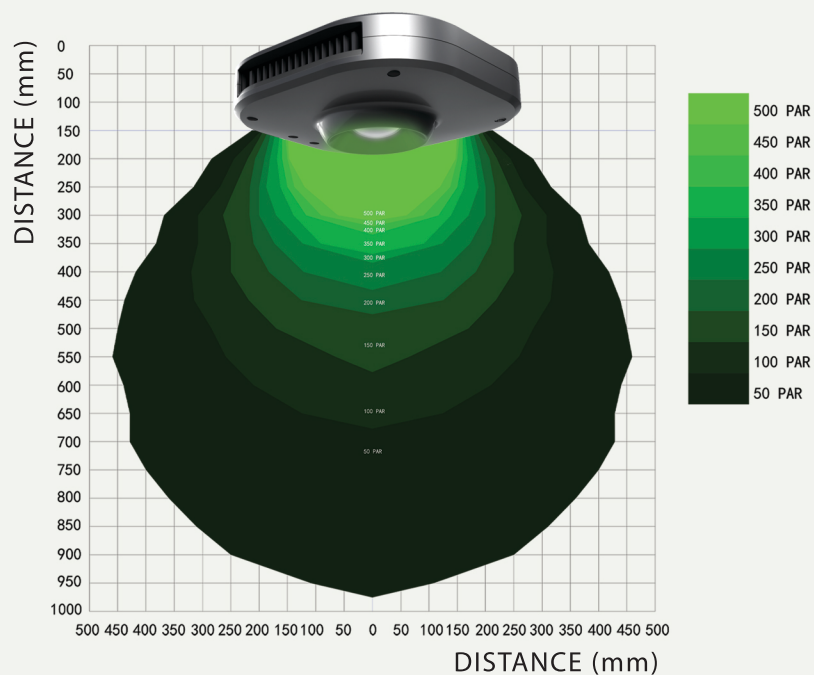
Installation clearance

- i** Allow ventilation around the fixture and keep all openings unobstructed.

5 PAR measurements

Photosynthetically active radiation measured for the JH-LL90.

Photosynthetically Active Radiation (PAR)



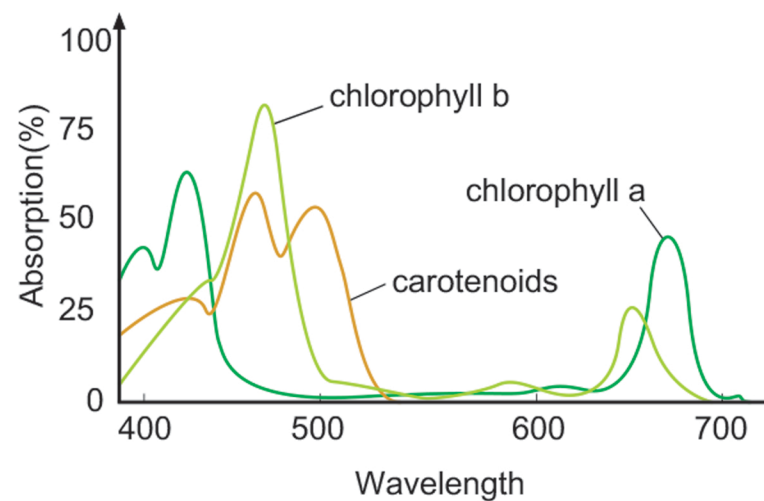
"Lightning" and "Cloud Movement" Simulation

Measurement units

i Values are shown in micromoles per square metre per second ($\mu\text{mol}/\text{m}^2/\text{s}$). Actual results vary with installation height and environment.

6 Photosynthesis

Photosynthesis is the process by which plants and other organisms capture light energy and use it to power essential chemical processes.



Chlorophyll a and chlorophyll b are two of the dominant pigments supporting healthy planted aquariums, terrariums and vivariums. The chart illustrates how their absorption changes across visible wavelengths.

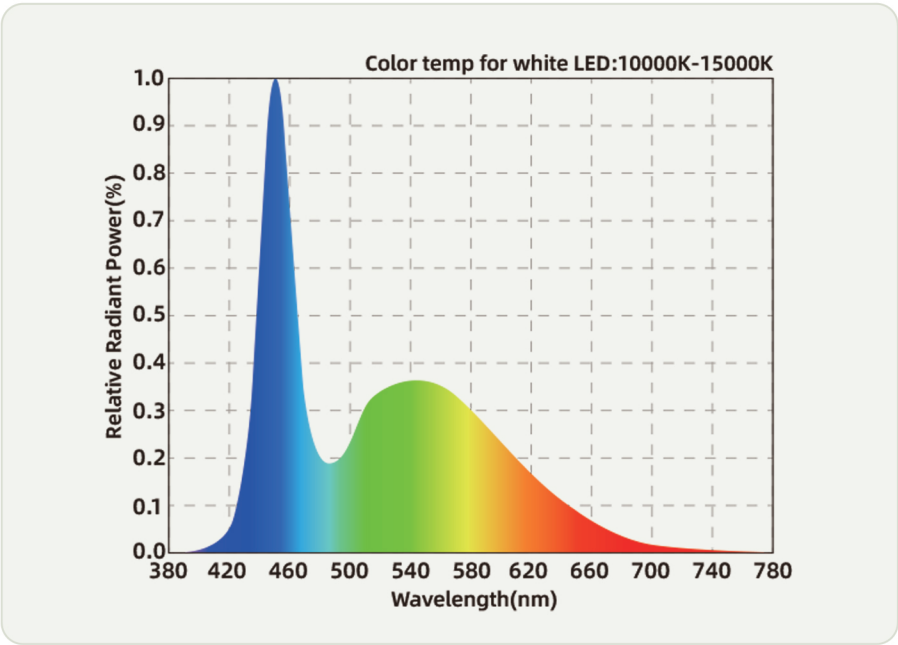
Lighting matters

i A suitable spectrum supports plant growth while improving the natural appearance of the habitat.

7 Colour spectrum

Designed for terrariums and freshwater planted aquariums.

The JH-LL90 provides wavelengths selected to support photosynthesis and present animals and plants with natural-looking illumination. Its 10,000-15,000 K white-light range closely resembles the appearance of daylight.



Adjust for the habitat

i Set brightness and timing to suit the species, enclosure and natural day/night cycle.

8 Troubleshooting

Check these items before requesting service.

Problem	Check	Solution
Light does not turn on	Is the fixture connected to the power supply?	Connect and switch on the power supply.
	Is brightness set to 0%?	Increase brightness in the mobile app.
	Is the fixture switched off, or within a scheduled off period?	Switch it on or correct the schedule.
Light stays on	Does the configured schedule exceed 24 hours?	Correct the schedule or restore factory settings.

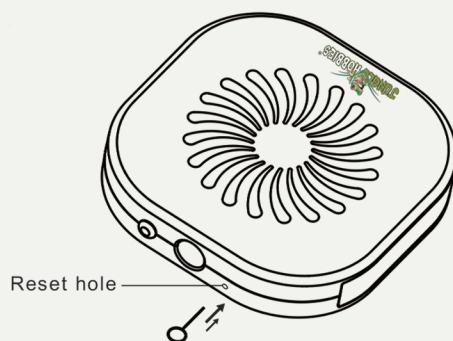
Still not working?

i Restore factory settings, then reconnect the light and review the timer configuration.

9 Restore factory settings

Reset the fixture when it behaves unexpectedly or cannot connect.

- 1 Disconnect and reconnect power if the fixture is unresponsive.
- 2 Insert a thin pin into the reset opening on the fixture head.
- 3 Press until the lamp flashes. The factory reset is complete.



After resetting

- i** Reconnect the fixture in the mobile app and recreate the brightness and timing schedule.

10 Limited warranty

One-year limited warranty

This warranty applies to a new JH-LL90 purchased directly from Jungle Hobbies Ltd. or an authorized dealer by the original purchaser for normal use and not for resale. Jungle Hobbies Ltd. warrants the product against defects in materials and workmanship for one year from the purchase date, subject to the exclusions below.

What is not covered?

Damage resulting from commercial use, misuse, accident, unauthorized modification, tampering, operation outside product specifications, improper maintenance, or failure caused by another product. The warranty does not guarantee uninterrupted or error-free operation and does not cover products with removed labels.

Other limitations

Jungle Hobbies Ltd. provides no other warranties, including implied warranties or conditions of merchantability and fitness for a particular purpose. Jungle Hobbies Ltd. is not responsible for the cost of returning a defective product; when covered, it pays the shipping cost of the replacement product.

Before requesting service

Follow the troubleshooting and reset procedures in this guide. Retain your dated proof of purchase and contact Jungle Hobbies or your authorized dealer for assistance.

Keep your receipt

- i** Proof of purchase may be required for warranty service.