

# Aquarium Light Fixture Overview

Drs. Foster & Smith Educational Staff



## choose the right light

Aquarium lighting has experienced dynamic changes to keep up with the aquarium hobby. The availability of countless different types of aquarium light fixtures is a testament to this evolution.

As hobbyists pursue new and exciting setups such as planted aquariums or coral reef aquariums, the role of aquarium lighting shifts from an aesthetic one to a crucial, life-supporting role. Employing the right light fixture is the key to a successful aquarium hobby.

### (NO) Fluorescent Fixtures

[Standard or normal output \(NO\) fluorescent light systems](#) are extremely popular due to their low operating cost, lower heat emission, and a wide selection of lamps with color temperatures ideal for both freshwater and marine applications. The wide selection of bulbs/lamps available for these easy-to-use, affordable, and energy-efficient light fixtures allows hobbyists to customize aquarium lighting. Bulbs with different color temperature can be used to provide the right light conditions for different aquarium inhabitants.

**Notable Features:** Extremely versatile aquarium light fixture. Available in [single](#) standard fluorescent light fixtures offer hobbyists an extremely wide range of choices. Lamp options include [Actinic](#), [50/50](#) or [Actinic White](#), [Full Spectrum Daylight](#), [High K-Rating](#), [Color-Enhancing](#), and [Plant Bulbs](#).

**Limitations:** Multiple units will be necessary to satisfy aquariums with high light needs.

[Fluorescent Light Fixtures >](#)

### T-5 Fluorescent Fixtures

[T-5 fluorescent light systems](#) are often touted as the most advanced fluorescent lighting system available. Only 5/8" in diameter, the thin [T-5 fluorescent lamps/bulbs](#) produce light almost twice as bright as standard fluorescent lamps/bulbs. Furthermore, due to their compact size, more of these slim bulbs can fit into the same amount of space than standard fluorescent lamps. In other words, more light from a single light fixture.

**Notable Features:** T-5 lamps boast high lumen-per-watt output ratio. T-5 fluorescent fixtures take up less space than other high output light fixtures. The combination of these unique features makes T-5 fluorescent light fixtures a smart, space-saving choice when bright light is required in a limited space. Lamp options include [Actinic](#), [Actinic White](#), [Daylight](#), [High K-Rating](#), and [Plant Bulbs](#).

How do I know which light fixture is right for my aquarium setup?

A. The first step in selecting the appropriate light fixture is to identify use. Aquarium lighting has two main uses: a general aesthetic one and a functional one. Narrow down your selection by identifying your needs as well as the needs of your aquarium inhabitants.

**Limitations:** May not be suitable for larger aquariums deeper than 24 inches.

[T-5 Fluorescent Fixtures >](#)

## Compact Fluorescent Fixtures

[Compact fluorescent systems](#) incorporate modified fluorescent lamps. By employing [dual or quad tube lamps](#), compact fluorescent lamps emit significantly more light from a single lamp. A single compact fluorescent light fixture easily does the job of two standard fluorescent fixtures. This space-saving feature makes compact fluorescent systems a great choice when upgrading from standard fluorescent systems. They are also less expensive to purchase, operate, and maintain compared to other high light output fixtures.

**Notable Features:** Compact fluorescent light systems are no more difficult to operate and maintain than standard fluorescent light systems. These lighting systems are easy to operate and have all the benefits of fluorescent lighting, including low operating cost, lower heat emission and a wide lamp selection. Lamp options include [Actinic, 50/50, and Daylight lamps](#).

**Limitations:** May not be suitable for larger aquariums deeper than 24 inches.

[Compact Fluorescent Fixtures >](#)

## Metal Halide Fixtures

[Metal halide systems](#) are high intensity discharge (HID) lighting systems popular among many aquarium hobbyists. The main benefit of metal halide systems is the intense illumination they provide. This primary characteristic also has a secondary, space-saving benefit as well. A single metal halide fixture is capable of providing several hundred watts of light energy while other lighting systems require multiple units to provide the same light output. Metal halide systems are excellent for larger aquariums deeper than 24".

**Notable Features:** Metal halide systems offer a unique aesthetic benefit that cannot be reproduced by fluorescent lighting systems. The concentrated light emission of halide bulbs creates a beautiful shimmering effect. These "glitter lines" are produced when ripples or movement on the water surface catch and reflect the light. This breathtaking display of light gives the aquarium a more natural appearance. Lamp options include [5500°K to 20000°K lamps](#).

**Limitations:** Tend to generate a large amount of heat. The generated heat needs to be [exhausted efficiently](#) or the heat can increase aquarium water temperature.

[Metal Halide Fixtures >](#)

## Combination Fixtures

These advanced aquarium light fixtures combine different lighting platforms in a single high output unit. Typically, a central metal halide lighting system is flanked by either compact fluorescent or T-5 fluorescent lamps. The result is an incredible amount of light from a single fixture. Some combination light fixtures boast an incredible light output of over 1,000 watts! These units tend to have independent ON/OFF switches and power cords for convenient timer operation and custom 24-hour lighting.

**Notable Features:** Combination light fixtures are a convenient choice for reef hobbyists. It is often difficult to satisfy the specific 24-hour light requirement of reef aquariums. A single combination light fixture does the job of several different light fixtures to provide proper lighting conditions. Lamp options include Actinic, 50/50 or Actinic White, Full Spectrum Daylight, High K-Rating, Color-Enhancing, and Plant Bulbs.

**Limitations:** Combination light fixtures are on the highest end of the price range.

	Fish-only aquarium (F)	Fish-only aquarium (S)	Fish-only with live rock aquarium (S)	Planted aquariums (F)	Reef aquariums (S)
<b>(NO) Fluorescent Light Fixtures</b> <b>Lamp:</b> T-8, T-12 Fluorescent <b>Light Output:</b> Moderate	✓	✓	✓	✓	
<b>T-5 Fluorescent Light Fixtures</b> <b>Lamp:</b> T-5 Fluorescent <b>Light Output:</b> High	✓	✓	✓	✓	✓
<b>Compact Fluorescent Light Fixtures</b> <b>Lamp:</b> Straight Pin/Square Pin <b>Light Output:</b> High	✓	✓	✓	✓	✓
<b>Metal Halide Fixtures</b> <b>Lamp:</b> Screw-In or HQI Double Ended <b>Light Output:</b> Intense				✓	✓

<b>Combination Light Fixtures</b> <b>Lamp:</b> T-5 Fluorescent, CF, Metal Halide <b>Light Output:</b> Intense				✓	✓
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F= Freshwater S= Saltwater