

GRO-LUX® Aquarium and Aquarium Wide Spectrum

Fluorescent lamps for indoor growing

SYLVANIA's GRO-LUX Aquarium and GRO-LUX Aquarium Wide Spectrum fluorescent lamps provide the essential energy for use in indoor gardening applications. Light provides the energy that plants need to produce food and other substances required for growth and flowering. These lamps provide the types of light that are most beneficial for these essential processes.

GRO-LUX Aquarium lamps provide the right balance of red and blue wavelengths for low-energy plants such as house plants. High energy flowering plants require more energy in the red portion of the spectrum. The GRO-LUX Aquarium Wide Spectrum lamps or a 50/50 mix of the two types of GRO-LUX lamps may produce the best results for the high-energy plants. Photosynthetically Active Radiation (PAR) varies according to the cultivar grown.

In addition to providing essential energy for growth and maintenance, GRO-LUX lamps bring out the vibrant natural colors of the foliage, flowers and vegetables enhancing their appearance.

Benefits and Features

- Fluorescent lamps for indoor growing
- Provide essential energy for
 - Germination, propagation and growth
 - Photosynthesis
 - Chlorophyll synthesis
 - Enhancing vegetation
- Choice of Lamps
 - GRO-LUX Aquarium for plants requiring indirect sunlight
 - GRO-LUX Aquarium Wide Spectrum for plants requiring full sunlight
 - Combination of GRO-LUX Aquarium and GRO-LUX Aquarium Wide Spectrum where appropriate

Application Usage

For additional information, please call 1-800-LIGHTBULB or visit www.ledvanceUS.com to obtain a copy of the Technical Information Bulletin "Light and Plants".

Fixtures

Contact your local fixture agent for available fixtures.



Product Offering

| Wattage | Description |
|---------|----------------------|
| 15 | F15T8/GRO/AQ/RP |
| 20 | F20T12/GRO/AQ/RP |
| 20 | F20T12/GRO/AQ/WS/RP |
| 32 | F032/GRO/AQ/ECO/2/30 |
| 40 | F40T12/GRO/AQ/RP |
| 40 | F40T12/GRO/AQ/WS/RP |



Specification Data

| | |
|-------------|------|
| Catalog # | Type |
| Project | |
| Comments | |
| Prepared by | |

Ordering Guide

| | | | | | | | | | | |
|---------------------------------------|---------------------------------------|--|----------|------------|----------|-----------|----------|---------------|----------|--|
| F | 40 | T12 | / | GRO | / | AQ | / | WS | / | RP |
| Fluorescent FO= Fluorescent OCTRON | Wattage: 15, 20, 32 or 40 watts | Tubular glass 12/8" (1.5") diameter 8/8" (1") diameter for T8 & OCTRON | | GRO-LUX | | Aquarium | | Wide Spectrum | | Retail Package 2/30=2-pack SKU/30 lamps |

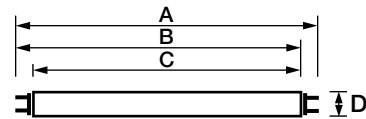
Ordering Information

| Item Number | Ordering Abbreviation | Watts | Bulb | Base | Length | Avg. Rated Life (hrs.) | Initial Lumens | CCT | CRI |
|-------------|-----------------------|-------|------|---------------|--------|------------------------|----------------|--------|------|
| 21657 | F15T8/GRO/AQ/RP | 15 | T8 | Medium Bi-Pin | 18" | 7500 | 325 | 5500K* | <30* |
| 22362 | F032/GRO/AQ/ECO/2/30 | 32 | T8 | Medium Bi-Pin | 48" | 30,000 | 700 | 5500K* | <30* |
| 22029 | F20T12/GRO/AQ/RP | 20 | T12 | Medium Bi-Pin | 24" | 9000 | 480 | 7000K* | <30* |
| 24660 | F40T12/GRO/AQ/RP | 40 | T12 | Medium Bi-Pin | 48" | 20,000 | 1200 | 7000K* | <30* |
| 22013 | F20T12/GRO/AQ/WS/RP | 20 | T12 | Medium Bi-Pin | 24" | 9000 | 750 | 3400K | 89 |
| 24671 | F40T12/GRO/AQ/WS/RP | 40 | T12 | Medium Bi-Pin | 48" | 20,000 | 1875 | 3400K | 89 |

*GRO-LUX Aquarium lamps are designed and manufactured for a specific red to blue wavelength ratio, therefore CCT and CRI are reference values only.

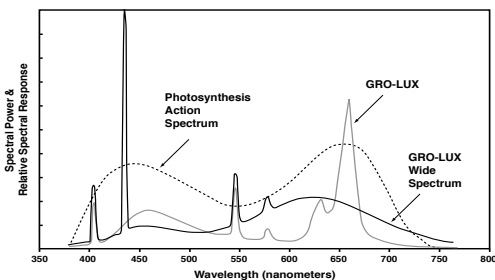
Lamp Dimensions

| | (A) Max. Overall Length (in.) | (B) Base Face to Opposite Pin (in.) | (C) Max. Base Face to Base Face (in.) | (D) Max. Outside Diameter (in.) |
|--------|-------------------------------|-------------------------------------|---------------------------------------|---------------------------------|
| F15T8 | 17.91" | 17.50" | 17.22" | 1.10" |
| F017 | 23.78" | 23.50" | 23.22" | 1.10" |
| F20T12 | 23.78" | 23.50" | 23.22" | 1.59" |
| F032 | 47.78" | 47.50" | 47.22" | 1.10" |
| F40T12 | 47.78" | 47.50" | 47.22" | 1.59" |

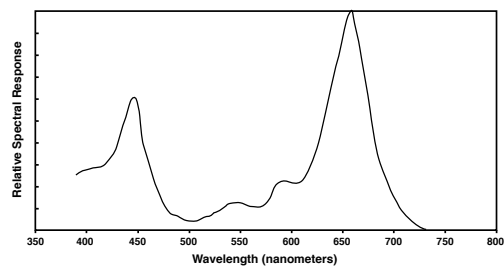


Technical Information

Photosynthesis and GRO-LUX Lamps



Action Spectrum for Chlorophyll Synthesis



Sample Specification

Lamp(s) shall be (GRO-LUX/Aquarium or GRO-LUX/Aquarium/Wide Spectrum) lamp(s). Lamps shall provide the red and blue wavelengths of energy needed for photosynthesis, and chlorophyll synthesis in plants and in general, provide the light needed for plants to flourish and look their best.

Application Notes

1. The F15T8 and F20T12 lamps are preheat lamps and operate on the same ballasts and require the same starters as other preheat lamps of the same wattages. The lamps may also be operated on the appropriate trigger start ballasts.
2. The F40T12 lamps are rapid start lamps and operate on the same ballasts as other F40 rapid start lamps.
3. F032 lamps operate on the same instart start or programmed rapid start ballasts as other F32T8 rapid start lamps.
4. Low-energy plants require about 15 fluorescent lamp watts per square foot about 12-15 inches above the plants.
5. High-energy plants require at least 20 fluorescent lamp watts per square foot about 12-15 inches above the plants.
6. Germinating seeds or cuttings being rooted requires about 10 lamp watts per square foot with the lamps about 6-8 inches above the plants.
7. For photosynthesis, if using incandescent lamps, you would need 2.5 to 3 times the fluorescent wattage to provide PAR values equal to GRO-LUX Aquarium or GRO-LUX Aquarium Wide Spectrum lamps.
8. For equal light, if using incandescent lamps, you would need 1.5 to 2 times the fluorescent wattage to provide light equal to the GRO-LUX Aquarium lamps and 2 to 2.5 times the fluorescent wattage to provide light equal to the GRO-LUX Aquarium Wide Spectrum lamps.

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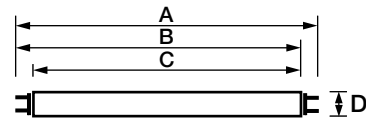
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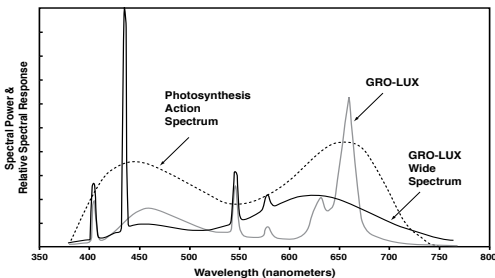
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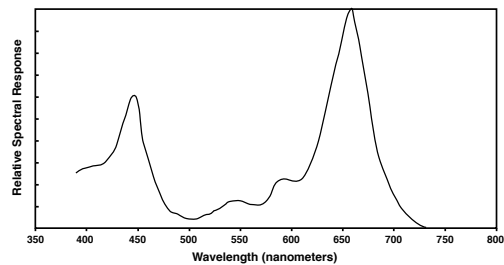


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