

# Toggled Gro Ultra High Output Direct Wire LED Tubes

## T8/T12 Replacement



- Universal voltage (120-277 VAC)
- Low operating temperature helps plants retain moisture
- Single-ended power, direct wire ballast bypass
- 50,000 hour lifetime
- Full spectrum
- 2ft and 4ft models

Toggled® Gro LED tubes are engineered to provide improved growing performance using selected LED output wavelengths.

Toggled® direct wire LED tubes connect to building line power, eliminating fluorescent ballast systems and external drivers. Standard T8 and T12 fluorescent tube fixtures can be easily rewired to accommodate Toggled tubes, providing mercury-free, energy efficient, and zero-maintenance lighting.

### Outstanding Product Performance

- Up to 60% energy savings over traditional fluorescent systems
- Eliminates ballasts and maintenance costs
- Designed for direct connection to building AC power, voltage 120-277 VAC
- Tube operating temperature = -20 to 45° C

### Superior Quality of Light

- Triangular tube shape delivers broader, more uniform light distribution
- Limited\* 6-year commercial warranty
- UL 1598C
- IES LM79 tested

### Commercial-grade

- Designed and engineered in U.S.A.
- Shatterproof polycarbonate construction
- Suitable for damp locations - UL rated
- No mercury
- Built-in surge protection. ANSI/IEEE C62.41.1991

\*Details at [toggled.com/warranty](http://toggled.com/warranty)

## Ordering Information

| Series                       | Length                                 | Power  | CCT                       | Lens                  | Output               | Options              |
|------------------------------|--|--|---------------------------|-----------------------|----------------------|----------------------|
| <input type="text"/>         | <input type="text"/>                   | <input type="text"/>                         | <input type="text"/>      | <input type="text"/>  | <input type="text"/> | <input type="text"/> |
| <b>E</b> = Universal Voltage | <b>4</b> = 4 feet<br><b>2</b> = 2 feet | <b>25</b> = 25 Watts<br><b>13</b> = 13 Watts | <b>G3</b> = Full Spectrum | <b>3</b> = Wide Angle | <b>2</b> = Premium   | <b>0</b> = None      |



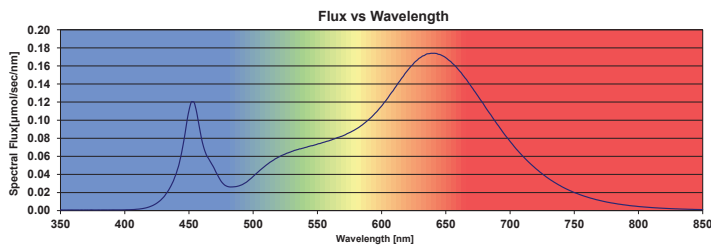
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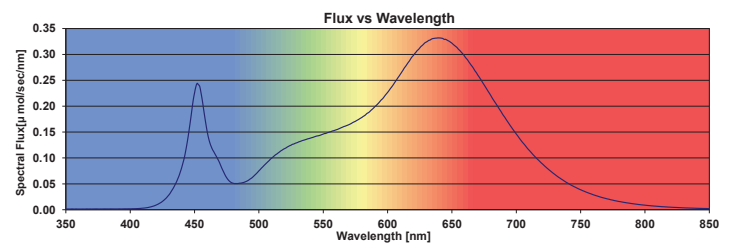
T8/T12 Replacement

| Model No.                    | Length | Input Voltage | Power (Watts) | PPF (400-700nm) | PBAR (350-800nm) | PPF Efficacy (400-700nm) | PBAR Efficacy (350-800nm) |
|------------------------------|--------|---------------|---------------|-----------------|------------------|--------------------------|---------------------------|
| E425-G3320-1 - Full Spectrum | 4 ft   | 120-277VAC    | 25            | 48 umol/s       | 53 umol/s        | 1.92 umol/J              | 2.12 umol/J               |
| E213-G3320-1 - Full Spectrum | 2 ft   | 120-277VAC    | 12.5          | 25 umol/s       | 28 umol/s        | 2.00 umol/J              | 2.24 umol/J               |

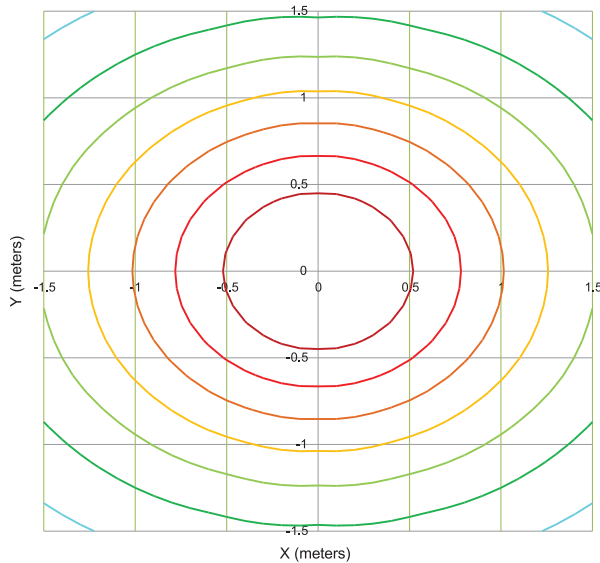
2 ft



4 ft

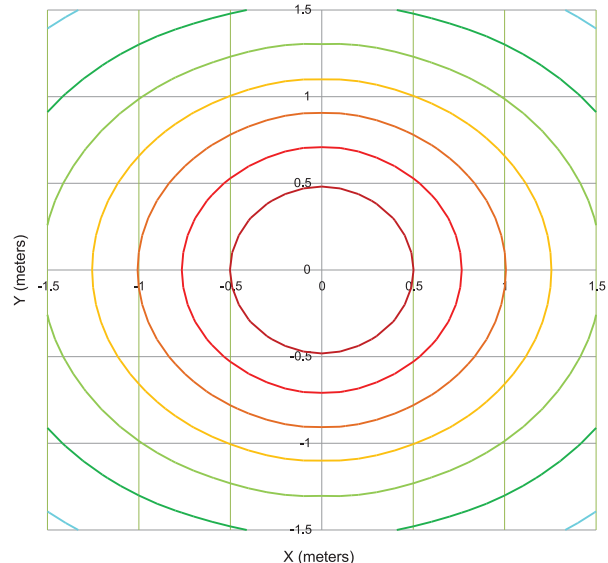


Photosynthetic Photon Flux Density  
percent of maximum PPFD



— 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10%  
Calculation plane 2 meters below luminaire. Flux density values are in units of  $\mu\text{mol}/\text{sec}/\text{m}^2$

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