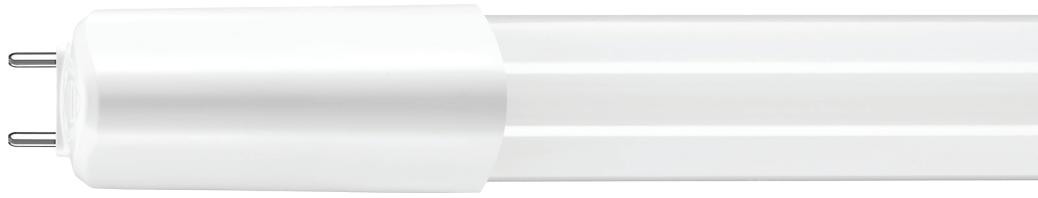


# Toggled iQ® Tube



Direct wire, dimmable, universal-voltage (120-277VAC) LED T8/T12 tube upgrades existing fluorescent tubes to a more energy-efficient smart lighting solution making it individually controllable as part of a connected Bluetooth® Low Energy (BLE) Mesh wireless network.

- Networked lighting controls features include: individual addressability, continuous dimming, control groups, personal control, control persistence, high-end trim, minimal light level, demand response ready, light output monitoring, and BACnet IP addressable. With the addition of a Toggled iQ sensor, the tubes are also capable of occupancy/vacancy control and daylight harvesting. Inclusion of a Toggled iQ switch enables scheduling and pre-set lighting scenes.
- As part of an upgradable networked lighting controls system, the tubes feature a Bluetooth Low Energy (BLE) Mesh wireless network capable of connecting up to 32,000 devices on a single network. Intelligently designed to implement lighting control capabilities such as large-scale wireless dimming and back-end analytics. Installation requires basic wiring around ballast systems.

## Features

- **Wireless Dimming**  
Control the brightness of each tube individually from the Toggled iQ app or groups of tubes with the Toggled iQ switch.
- **Eliminates Fluorescent Ballast**  
Safe, simple, direct-wire single-ended installation eliminates ballast related issues of compatibility, maintenance, and added power consumption.
- **Quality of Light**  
Patented triangular tube shape is engineered for broader and more uniform light distribution. Premium LEDs provide a minimum of 80CRI within a 3-Step MacAdam ellipse for excellent tube-to-tube color consistency.

- **Durable Construction**

Designed and engineered in the USA with a shatterproof polycarbonate enclosure and high-quality electronic components.

- **Life Rating**

Engineered for a rated life of 50,000 hours (L70).

- **Environmental Rating**

Rated for -25C to 45C (-13F to 113F), dry and damp locations, IC and non-IC fixtures.

- **Internal Light Sensor**

Enables remote functional status verification and the dissemination of data points to help predict remaining life expectancy.

## System Capabilities

- **Occupancy/Vacancy**

Enable occupancy/vacancy operation by adding one or more Toggled iQ sensors to your installation.

- **Daylight Harvesting**

Enable daylight harvesting by adding a Toggled iQ sensor to your installation. Tubes smoothly adjust to changes in natural light for an energy-saving, non-intrusive lighting experience.

- **Scenes**

Use the Toggled iQ app to customize scenes with brightness settings saved for individual or groups of tubes.

- **Scheduling**

Enable automated 7-day schedules by pairing with a Toggled iQ switch.

## Ordering Information

Series	Length and Power	Color	Lens	Generation	Options
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T = Toggled iQ

416 = 4 feet, 16W  
312 = 3 feet, 12W  
208 = 2 feet, 8W

40 = 4000K  
50 = 5000K

3 = Wide Angle

2 = 2nd Gen.

B = BLE MESH

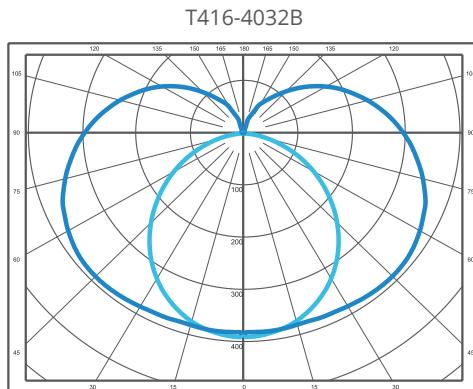


The Toggled iQ system is listed on the DesignLights Consortium-register mark- (DLC) Qualified Products List (QPLs) and qualifies for most applicable utility rebates requiring Title 24 and ASHRAE compliance.

## Specifications (Toggled iQ Tube)

Model	Length	Input	Power	PF	THD	Lumens	Efficacy	Color	CRI	Life (L70)	Standby	DLC Listed
T416-4032B	48"	120-277VAC	16W	≥0.9	≤20%	2400	150lm/W	4000K	≥80	50,000hr	0.5W at 120VAC	✓
T416-5032B	48"	120-277VAC	16W	≥0.9	≤20%	2400	150lm/W	5000K	≥80	50,000hr	0.5W at 120VAC	✓
T312-4032B	36"	120-277VAC	12W	≥0.9	≤20%	1800	150lm/W	4000K	≥80	50,000hr	0.5W at 120VAC	✓
T312-5032B	36"	120-277VAC	12W	≥0.9	≤20%	1800	150lm/W	5000K	≥80	50,000hr	0.5W at 120VAC	✓
T208-4032B	24"	120-277VAC	8W	≥0.9	≤20%	1200	150lm/W	4000K	≥80	50,000hr	0.5W at 120VAC	✓
T208-5032B	24"	120-277VAC	8W	≥0.9	≤20%	1200	150lm/W	5000K	≥80	50,000hr	0.5W at 120VAC	✓

## Light Distribution (Polar Plot)



Light distribution typical for all products listed in this specification.

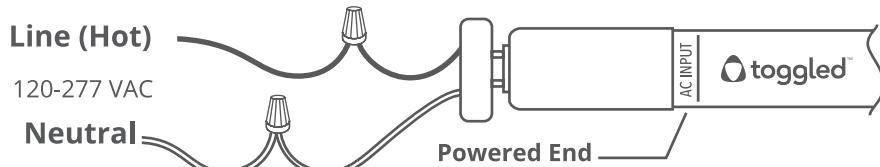
90-270 Degree Plane (Looking at end of lamp)

Beam Angle: 240 Degrees  
Field Angle: 355 Degrees

0-180 Degree Plane (Looking at side of lamp)

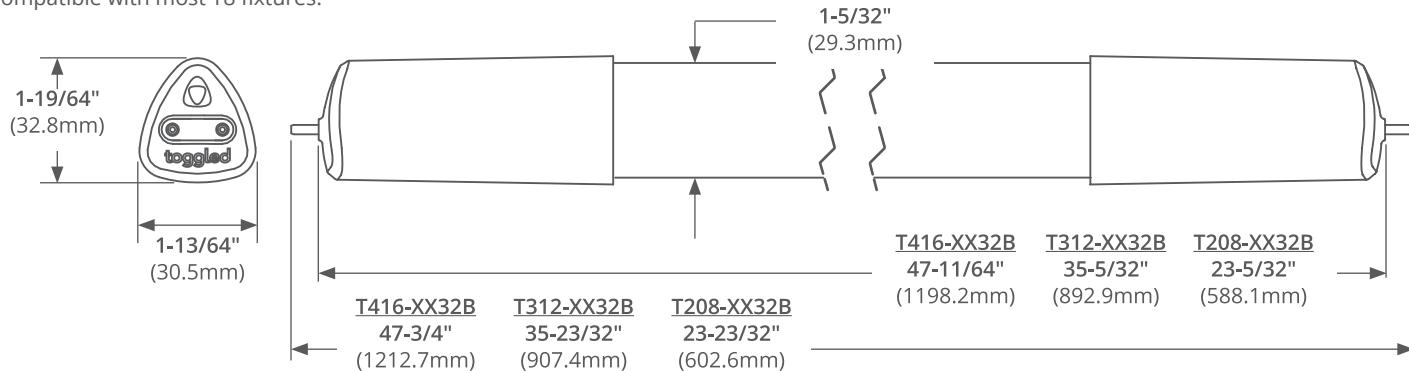
Beam Angle: 105 Degrees  
Field Angle: 156 Degrees

## Wiring Diagram



## Dimensions

Toggled iQ tubes meet or exceed ANSI C78.81 dimensional requirements with regards to length. The diameter is larger than T8 lamps, but is compatible with most T8 fixtures.



**Disclaimer:** Toggled reserves the right to make changes to specific items and/or to discontinue any product at any time without notice or obligation and will not be liable for any consequences resulting from the use of this publication.