

PHILIPS

Fluorescent

TuffGuard
High CRI T8 lamps



Help protect your customers, employees, and reputation

Philips TuffGuard T8 lamps are designed to contain shattered glass particles in case of accidental breakage. Coated lighting is essential to help ensure the welfare of your customers, employees, and operation.

Outstanding lamp performance

- 95% lumen maintenance³ and reduced lamp-end blackening
- 90 color rendering index
- Limited warranty period based on usage[†]
- Protective coating may reduce initial lumens by 5-7%

Better for the environment

- ALTO II Technology is TCLP compliant*
- Only 1.7mg of mercury with ALTO II technology
- Reduced impact on the environment with 50% less mercury than the original ALTO T8 lamps[†]

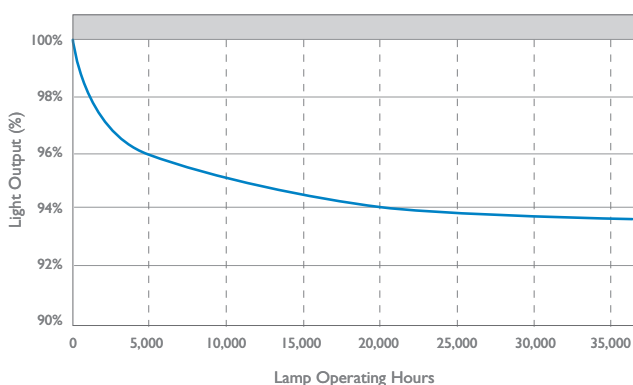
Philips TuffGuard high CRI T8 lamps

Ordering, electrical and technical data (Subject to change without notice)

Product Number	Ordering Code	Watts	Pack Qty	Color Temp (Kelvin)	Nom Length (in)	Rated Average Life (hrs) ¹		Approx Initial Lumens ²	Design Lumens ³	CRI	Lumen Maint
						12-hr on Instant Start	12-hr on Prog Start				
53649-0	F32T8/TL935/ALTO TG	32	30	3500K	48	30,000	36,000	2625	2500	90	95%
53650-8	F32T8/TL941/ALTO TG	32	30	4100K	48	30,000	36,000	2600	2470	90	95%
53651-6	F32T8/TL950/ALTO TG	32	30	5000K	48	30,000	36,000	2600	2470	90	95%
53648-2	F32T8/TL965/ALTO TG	32	30	6500K	48	30,000	36,000	2600	2470	90	95%

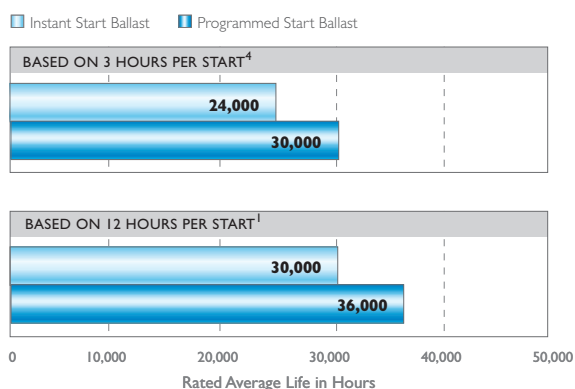
95% lumen maintenance

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Rated average life

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WARNING: Coating will not yellow, crack, or otherwise fail, subject to the following conditions:

- The lamps must be installed and operating in ambient temperatures below 120°F.
- The lamps cannot be used in fixtures employing defective ballasts, ballasts that have been used longer than their rated life or ballasts that are improperly wired.
- The lamps cannot be used in fixtures where poor pin contact occurs.
- Lamp types and ballast types must be compatible (rapid start lamps with rapid start ballast, etc.).
- Lamps are recommended for open fixtures.

1. Rated average life under engineering data with lamps turned off and restarted once every 12 operating hours.
 2. Approximate initial lumens. The lamp lumen output is based upon lamp performance after 100 hours of operating life, when the output is measured during operation on a reference ballast under standard laboratory conditions. For expected lamp lumen output, commercial ballast manufacturers can advise the appropriate ballast factor for each of their ballasts when they are informed of the designated lamp. The ballast factor is a multiplier applied to the designated lamp lumen output. Protective TuffGuard coating may reduce initial lumens by 5-7%.
 3. Design lumens are the approximate lamp lumen output at 40% of the lamp's rated average life. This output is based upon measurements obtained during lamp operation on a reference ballast under standard laboratory conditions.
 4. Rated average life under specified test conditions with lamps turned off and restarted no more frequently than once every 3 operating hours. Lamp life is appreciably longer if lamps are started less frequently.
- * See your Philips Lighting sales representative for details.
- * The EPA's TCLP test is used to determine if an item can be managed as hazardous or non-hazardous waste. Philips ALTO and ALTO II lamps are TCLP Compliant and can be managed as non-hazardous waste.
- † This lamp is better for the environment because of its reduced mercury content, as compared to the original ALTO T8 lamps. All Philips ALTO II lamps give you end-of-life options which can simplify and reduce your lamp disposal costs depending on your state and local regulations. ALTO II lamps have only 1.7mg of mercury.

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