



Philips Energy Advantage
T8 28W Extra Long
Life Lamps featuring
ALTO II Technology

*Ideal for applications
where energy savings
and longer relamp cycles
would be beneficial*

T8 Collection

ALTO II TCLP
Compliant*

**ALTO II means 50%
less mercury than the
original ALTO T8 lamps†**

* 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. All Philips ALTO 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.

Reduce maintenance costs

Philips Energy Advantage T8 28W Extra Long Life Lamps featuring ALTO II Technology offer energy savings with extra long life that extends the relamping cycle.

Outstanding energy savings

- Save 4 watts and nearly \$18 in energy costs over the life of the lamp when compared to a standard 32W T8 lamp**
- Operates on any instant start and programmed start ballast***

Extra long life

- Significantly reduce maintenance and recycling costs by extending the relamping cycle
- Up to 53% longer life than an industry standard T8 32W lamp[◊]
- Limited warranty period based on usage⁺

Better for the environment

- Only 1.7mg of mercury with ALTO II Technology
- Reduced impact on the environment without sacrificing performance

PHILIPS

Philips Energy Advantage T8 28W Extra Long Life Lamps featuring ALTO II Technology

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 Ins. Start	12-hr on Prog. Start				
28146-9	F32T8/ADV830/XLL/ALTO 28W	28	30	3000	48	46,000	52,000	2675	2595	85	97%
28148-5	F32T8/ADV835/XLL/ALTO 28W	28	30	3500	48	46,000	52,000	2675	2595	84	97%
28127-9	F32T8/ADV841/XLL/ALTO 28W	28	30	4100	48	46,000	52,000	2675	2595	82	97%
28128-7	F32T8/ADV850/XLL/ALTO 28W	28	30	5000	48	46,000	52,000	2625	2545	82	97%

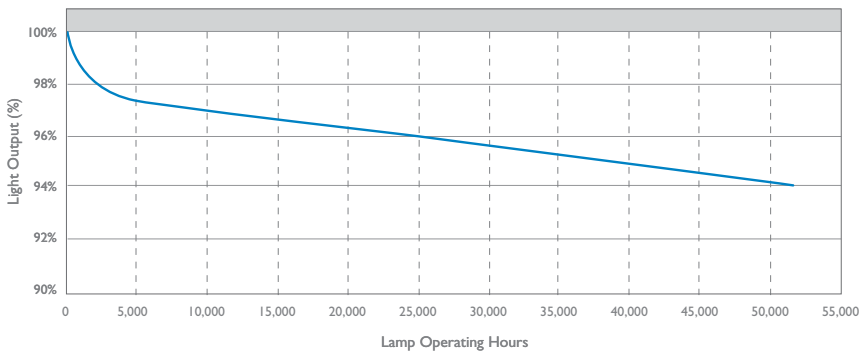
- 1) Average life under engineering data with lamps turned off and restarted once every 12 operating hours.
 - 2) Approximate initial lumens. The lamp lumen output is based upon lamp performance after 100 hours of operating life, when the output is measured during operation on a reference ballast under 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.
 - 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. Design lumens rated at 3 hours per start on instant start ballast.
 - 4) 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.
- Ⓢ Lamp meets US Federal Minimum Efficiency Standards.
 - This lamp is better for the environment because of its reduced mercury content. 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.

Footnotes from front page:

- ** When comparing Philips Energy Advantage T8 32W with 2675 lumens to a 4' industry standard 32W lamp with 2850 lumens. Based on wattage savings (4W) x rated average life (46,000 hours) x kWh rate (\$.10).
- *** Starting voltage should be equal to or greater than 550V. These lamps are not recommended for use where the temperature in fixture is below 70°F. Striations may occur where air movement is present in fixture. For best operation, use ballast with anti-striation circuitry.
- ⌚ When replacing a standard 4' T8 32W lamp with 30,000 hours rated average life and 2850 lumens with a Philips Energy Advantage T8 32W with 46,000 hours rated average life and 2675 lumens. RAL based on 12 hours per start on an instant start ballast.
- + See your sales representative for details

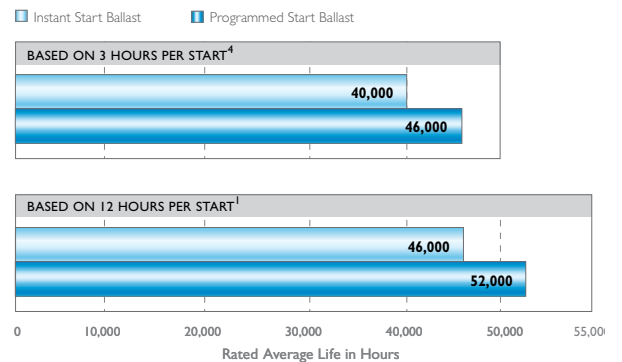
97% Lumen Maintenance

Philips Energy Advantage T8 28W XLL Lamps



Rated Average Life

Philips Energy Advantage T8 28W XLL Lamps



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Philips Lighting Company
 200 Franklin Square Drive
 Somerset, NJ 08873
 1-800-555-0050

Philips Lighting
 281 Hillmount Road
 Markham, Ontario
 Canada L6C 2S3
 1-800-555-0050
 A Division of Philips Electronics Ltd.