



# Only 1.7mg of mercury

Philips T8 Fluorescent Lamps featuring ALTO II™ Technology  
Better for your business, better for the environment

**PHILIPS**

sense and simplicity



# Better for the environment, same performance characteristics

“ALTO®” with green endcaps has become synonymous with environmental responsibility and low mercury. Since the launch of ALTO Lamp Technology in 1995, 1.5 billion Philips fluorescent lamps with ALTO Lamp Technology have been produced with 20 tons less mercury than previous non-ALTO lamps<sup>1</sup>.

Twelve years after introducing ALTO Lamp Technology, Philips launched ALTO II™ Technology in 2007. Lamps with this technology have 50% less mercury than prior ALTO T8 lamps, making these lamps the most sustainable linear fluorescents available. Best of all, these lamps offer the same performance levels as ALTO lamps (life, energy, and light output).

## Reduce

Philips ALTO II™ fluorescent lamps combine low mercury with long life and energy efficiency—which together help achieve sustainability.

- Philips leads the industry with the lowest level mercury technology. Reducing the mercury level (source reduction) during the manufacturing phase is essential to creating products that are less harmful to the environment.
- Philips has the longest life T8 lamp portfolio in the industry. Philips PLUS T8 Long Life lamps last 50% longer than industry standard T8s, and Philips T8 Extra Long Life lamps last 67% longer than industry standard T8s<sup>2</sup>.
- Energy-efficient lighting not only reduces operating costs; it also supports a clean and sustainable environment.

1) [1994 industry average (22.8mg) – PLC average (4.0mg)] × 1.3 billion lamps. Convert to pounds by dividing by 454. Convert to tons by dividing by 2000.

2) When compared to an industry standard T8 32W 4' lamp with 24,000 hours rated average life, (12 hours per start on an instant start ballast) with 2800 lumens and 75 CRI.

## Reuse

ALTO II™ lamps use 100% recycled mercury during the ALTO manufacturing process.

## Recycle

Philips encourages recycling of all spent mercury-containing lamps at end of life. For information on recycling regulations in your state go to [www.lamprecycle.org](http://www.lamprecycle.org).

### Did You Know?

- ALTO II™ T8 lamps have warranty periods ranging from 2½–4 years<sup>3</sup>
- ALTO II™ T8 lamps require no burn-in before dimming
- ALTO II™ T8 lamps can contribute to LEED-EB certification. For more information go to [www.usgbc.org](http://www.usgbc.org)

3) Warranties: Universal T8–30 months; Energy Advantage T8–36 months; PLUS T8–36 months; and Advantage T8–36 months; Extra Long Life T8–48 months; Energy Advantage Extra Long Life T8–48 months.

# Reduce energy costs

Philips has a wide array of products to help you save energy

## Retrofitting T12 lighting systems

You can save money by refitting older T12 lighting systems with new high performance T8 lamps and electronic ballasts. The more T12s you replace with T8s, the more energy you save. T8 lamps also offer improved life, quality of light and color rendering.

## Enhancing T8 lighting systems

You can also save money by refitting T8s with today's Energy Advantage T8 lamps—without changing a ballast. Philips Energy Advantage lamps are available in 25W and 28W. We also have a 25W Extra Long Life for additional TCOO savings. By replacing a standard T8 32W with a Philips Energy Advantage T8 25W, you save 7 watts per lamp instantly. This equals a \$25 energy savings over the rated average life of the lamp<sup>4</sup>.

<sup>4</sup> Based on wattage savings (7W) × rated average life (36,000 hours) × kWh rate (\$.10) ÷ 1000.

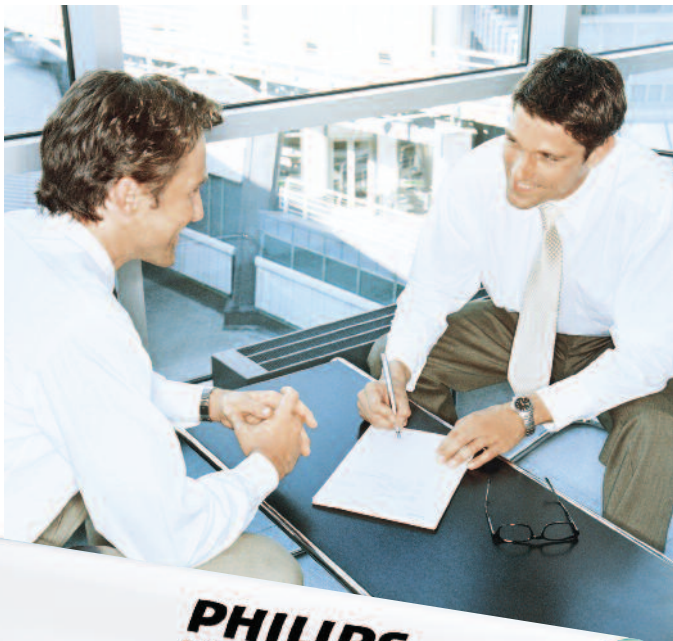


# Reduce maintenance costs



## Long life lamps mean improved total cost of ownership

Reduce your maintenance costs by adding long life lamps to your fixtures. Philips Lighting now has the longest life T8 portfolio in the industry. The T8 32W Extra Long Life and the Energy Advantage T8 25W Extra Long Life offers 67% longer life than an industry standard T8 32W 4' lamp and provides a cost-saving solution that is better for the environment. Additionally, our PLUS T8 Long Life lamps now last 50% longer than industry standard T8 32W 4' lamps. By extending the re-lamping cycle, customers reduce their maintenance, hassles, and inventory levels.



# Extra low mercury

Philips T8 lamps are environmentally responsible.

*Ideal for applications requiring maximum maintained light output*



\* Fluorescent lamps that are TCLP compliant reduce the amount of pollutants released into the environment.



## Extended life

- Reduce maintenance costs by extending the relamping cycle
- Warranty period: 30 months

## Outstanding lumen performance

- 95% lumen maintenance and reduced lamp-end blackening

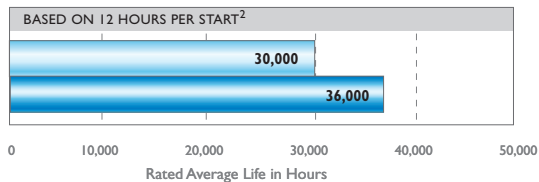
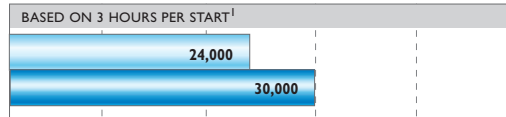
## Better for the environment

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

## Rated Average Life

Philips T8 Lamps

Instant Start Ballast    Programmed Start Ballast



1) 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.

2) Average life under engineering data with lamps turned off and restarted once every 12 operating hours.

See page 10 for ordering information.



# Long life, extra low mercury

Philips PLUS T8 lamps are environmentally responsible and offer long life.

*Ideal for applications where longer relamp cycles would be beneficial*



\* Fluorescent lamps that are TCLP compliant reduce the amount of pollutants released into the environment.



## Outstanding lumen performance

- 95% lumen maintenance and reduced lamp-end blackening

## Long life

- Reduce maintenance and recycling costs by extending the relamping cycle
- Up to 50% longer life than an industry standard T8 lamp<sup>1</sup>
- Warranty period: 36 months

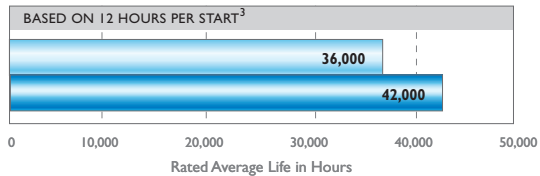
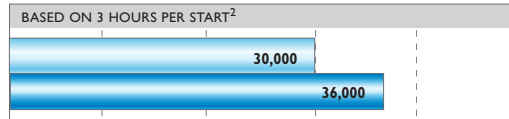
## Better for the environment

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

## Rated Average Life

Philips PLUS T8 Lamps

■ Instant Start Ballast ■ Programmed Start Ballast



1) When compared to an industry standard T8 32W 4' lamp with 24,000 hours rated average life (12 hours per start on an instant start ballast), with 2800 lumens and 75 CRI.

2) 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.

3) Average life under engineering data with lamps turned off and restarted once every 12 operating hours

See page 10 for ordering information.



# High performance, extra low mercury

Philips Advantage T8 lamps offer high lumen output in an environmentally responsible lamp.

*Ideal for applications requiring maximum light output*



\* Fluorescent lamps that are TCLP compliant reduce the amount of pollutants released into the environment.



## Ultimate system solution

- High lumens enable multiple system options to maximize energy savings and reduce lighting costs
- Fully dimmable without burn-in
- 97% lumen maintenance

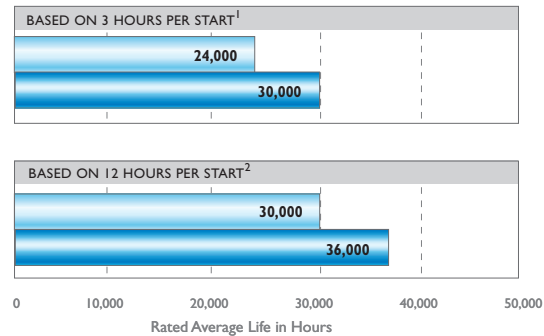
## Better for the environment

- Only 1.7mg of mercury with ALTO II™ Technology
- Reduced impact on the environment without sacrificing performance
- Warranty period: 36 months

## Rated Average Life

Philips Advantage T8 Lamps

■ Instant Start Ballast ■ Programmed Start Ballast



1) 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.

2) Average life under engineering data with lamps turned off and restarted once every 12 operating hours.

See page 10 for ordering information.



# Energy savings, extra low mercury

Philips Energy Advantage T8 lamps offer high energy savings in an environmentally responsible lamp.

*Ideal for applications requiring maximum energy savings*



\* Fluorescent lamps that are TCLP compliant reduce the amount of pollutants released into the environment.



## Outstanding energy savings

- Save 7 watts per lamp instantly when compared to a 32W T8 lamp
- Save \$25 in energy costs over the rated average life of the lamp<sup>1</sup>
- Operates on any Instant Start and Programmed Start Ballast<sup>2</sup>
- Dimmable
- 97% lumen maintenance

## Extended life

- Reduce maintenance costs by extending the relamping cycle
- Warranty period: 36 months

## Better for the environment

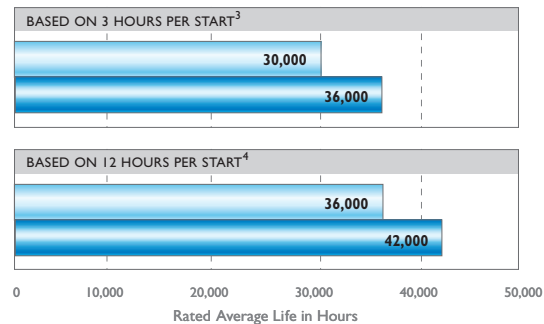
- Only 1.7mg of mercury with ALTO II™ Technology
- Reduced impact on the environment without sacrificing performance

1) Based on wattage savings (7W) × rated average life (36,000 hours) × kWh rate (\$.10) ÷ 1000.  
 2) 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.  
 3) 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.  
 4) Average life under engineering data with lamps turned off and restarted once every 12 operating hours.

## Rated Average Life

Philips Energy Advantage T8 Lamps

■ Instant Start Ballast    ■ Programmed Start Ballast



See page 11 for ordering information.



# Extra long life, extra low mercury

Philips T8 32W Extra Long Life lamps are environmentally responsible and offer extra long life.

*Ideal for applications where longer relamp cycles would be beneficial*



\* Fluorescent lamps that are TCLP compliant reduce the amount of pollutants released into the environment.



## Outstanding lumen performance

- 95% lumen maintenance and reduced lamp-end blackening

## Extra long life

- Significantly reduce maintenance and recycling costs by extending the relamping cycle
- Up to 67% longer life than an industry standard T8 lamp<sup>1</sup>
- Warranty period: 48 months

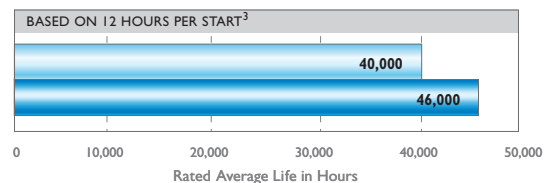
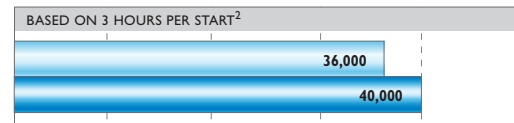
## Better for the environment

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

## Rated Average Life

Philips T8 32W XLL Lamps

Instant Start Ballast    Programmed Start Ballast



1) When compared to an industry standard T8 32W 4' lamp with 24,000 hours rated average life (12 hours per start on an instant start ballast), with 2800 lumens and 75 CRI.

2) 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.

3) Average life under engineering data with lamps turned off and restarted once every 12 operating hours.

See page 11 for ordering information.



# Energy savings, extra long life, extra low mercury

Philips Energy Advantage T8 25W and 28W Extra Long Life lamps offer increased energy savings, are environmentally responsible and have extra long life.

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



\* Fluorescent lamps that are TCLP compliant reduce the amount of pollutants released into the environment.

## Outstanding energy savings

- Save 4–7 watts per lamp instantly when compared to a T8 32W lamp
- Save \$28 in energy costs over the rated average life of the lamp<sup>1</sup> with a 25W XLL lamp
- Save \$16 in energy costs over the rated average life of the lamp<sup>2</sup> with a 28W XLL lamp
- Operates on any Instant Start and Programmed Start Ballast<sup>3</sup>
- Dimmable
- 97% lumen maintenance

## Extra long life

- Significantly reduce maintenance and recycling costs by extending the relamping cycle
- Up to 67% longer life than an industry standard T8 lamp<sup>4</sup>
- Warranty period: 48 months

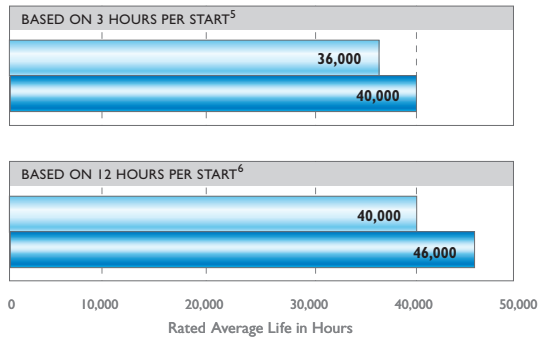
## Better for the environment

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

## Rated Average Life

Philips Energy Advantage T8 XLL Lamps

Instant Start Ballast    Programmed Start Ballast



1) Based on wattage savings (7W) × rated average life (40,000 hours) × kWh rate (\$.10) ÷ 1000.  
 2) Based on wattage savings (4W) × rated average life (40,000 hours) × kWh rate (\$.10) ÷ 1000.  
 3) 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.  
 4) When compared to an industry standard T8 32W 4' lamp with 24,000 hours rated average life (12 hours per start on an instant start ballast), with 2800 lumens and 75 CRI.  
 5) 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.  
 6) Average life under engineering data with lamps turned off and restarted once every 12 operating hours.

See page 11 for ordering information.

## Ordering, Electrical, and Technical Data

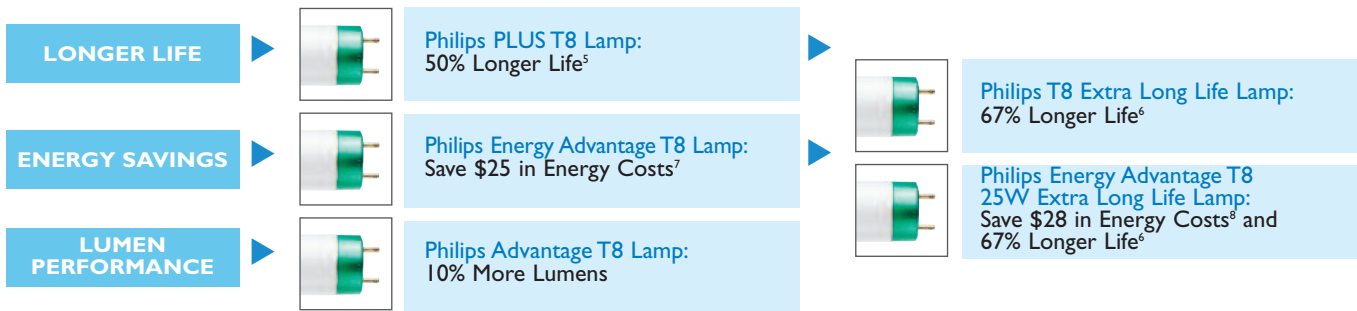
Product Number	Ordering Code	Watts	Pack. Qty.	Color Temp. (Kelvin)	Nom. Length (In.)	Rated Average Life (Hrs.) <sup>1</sup>		Approx. Initial Lumens <sup>2</sup>	Design Lumens <sup>2</sup>	CRI	Lumen Maint.
						12-hr on Ins. Start	12-hr on Prog. Start				
<b>Philips T8 Lamps featuring ALTO II™ Technology</b>											
36791-2	F17T8/TL835/ALTO	17	25	3500	24	30,000	36,000	1400	1330	85	95%
36793-8	F17T8/TL841/ALTO	17	25	4100	24	30,000	36,000	1400	1330	85	95%
14123-4	F17T8/TL850/ALTO	17	25	5000	24	30,000	36,000	1325	1260	82	95%
36814-2	F25T8/TL835/ALTO	25	25	3500	36	30,000	36,000	2225	2115	85	95%
36825-8	F25T8/TL841/ALTO	25	25	4100	36	30,000	36,000	2225	2115	85	95%
14124-2	F25T8/TL850/ALTO	25	25	5000	36	30,000	36,000	2150	2040	82	95%
24667-8	F32T8/TL830/ALTO	32	25	3000	48	30,000	36,000	2950	2800	85	95%
24670-2	F32T8/TL835/ALTO	32	25	3500	48	30,000	36,000	2950	2800	85	95%
24671-0	F32T8/TL841/ALTO	32	25	4100	48	30,000	36,000	2950	2800	85	95%
27229-4	F32T8/TL850/ALTO	32	25	5000	48	30,000	36,000	2850	2710	82	95%
27252-6	F32T8/TL730 ALTO	32	25	3000	48	30,000	36,000	2800	2660	78	95%
27249-2	F32T8/TL735/ALTO	32	25	3500	48	30,000	36,000	2800	2660	78	95%
27248-4	F32T8/TL741/ALTO	32	25	4100	48	30,000	36,000	2800	2660	78	95%
38351-3	F32T8/TL741/ALTO	32	10	4100	48	30,000	36,000	2800	2660	78	95%
27268-2	F32T8/TL750/ALTO	32	25	5000	48	30,000	36,000	2700	2565	78	95%
<b>Philips PLUS T8 Lamps featuring ALTO II™ Technology</b>											
14552-4	F17T8/TL830/PLUS/ALTO	17	25	3000	24	36,000	42,000	1400	1330	85	95%
14553-2	F17T8/TL835/PLUS/ALTO	17	25	3500	24	36,000	42,000	1400	1330	85	95%
14554-0	F17T8/TL841/PLUS/ALTO	17	25	4100	24	36,000	42,000	1400	1330	85	95%
14555-7	F17T8/TL850/PLUS/ALTO	17	25	5000	24	36,000	42,000	1300	1235	82	95%
38215-0	F17T8/TL865/PLUS/ALTO	17	25	6500	24	36,000	42,000	1275	1210	85	95%
14556-5	F25T8/TL830/PLUS/ALTO	25	25	3000	36	36,000	42,000	2225	2115	85	95%
14557-3	F25T8/TL835/PLUS/ALTO	25	25	3500	36	36,000	42,000	2225	2115	85	95%
14558-1	F25T8/TL841/PLUS/ALTO	25	25	4100	36	36,000	42,000	2225	2115	85	95%
14559-9	F25T8/TL850/PLUS/ALTO	25	25	5000	36	36,000	42,000	2150	2040	82	95%
38258-0	F25T8/TL865/PLUS/ALTO	25	25	6500	36	36,000	42,000	2125	2020	85	95%
36000-8	F32T8/TL830/PLUS/ALTO	32	25	3000	48	36,000	42,000	2950	2800	85	95%
36001-6	F32T8/TL835/PLUS/ALTO	32	25	3500	48	36,000	42,000	2950	2800	85	95%
36002-4	F32T8/TL841/PLUS/ALTO	32	25	4100	48	36,000	42,000	2950	2800	85	95%
36003-2	F32T8/TL850/PLUS/ALTO	32	25	5000	48	36,000	42,000	2850	2710	82	95%
38261-4	F32T8/TL865/PLUS/ALTO	32	25	6500	48	36,000	42,000	2750	2610	85	95%
36004-0	F32T8/TL730/PLUS/ALTO	32	25	3000	48	36,000	42,000	2800	2660	78	95%
36005-7	F32T8/TL735/PLUS/ALTO	32	25	3500	48	36,000	42,000	2800	2660	78	95%
36013-1	F32T8/TL741/PLUS/ALTO	32	25	4100	48	36,000	42,000	2800	2660	78	95%
36014-9	F32T8/TL750/PLUS/ALTO	32	25	5000	48	36,000	42,000	2700	2565	78	95%
<b>Philips Advantage T8 Lamps featuring ALTO II™ Technology</b>											
20483-4	F17T8/ADV830/ALTO	17	25	3000	24	30,000	36,000	1500	1450	85	97%
20484-2	F17T8/ADV835/ALTO	17	25	3500	24	30,000	36,000	1500	1450	85	97%
20485-9	F17T8/ADV841/ALTO	17	25	4100	24	30,000	36,000	1500	1450	85	97%
20487-5	F17T8/ADV850/ALTO	17	25	5000	24	30,000	36,000	1425	1380	82	97%
20488-3	F25T8/ADV830/ALTO	25	25	3000	36	30,000	36,000	2380	2300	85	97%
20490-9	F25T8/ADV835/ALTO	25	25	3500	36	30,000	36,000	2380	2300	85	97%
20495-8	F25T8/ADV841/ALTO	25	25	4100	36	30,000	36,000	2380	2300	85	97%
20498-2	F25T8/ADV850/ALTO	25	25	5000	36	30,000	36,000	2275	2210	82	97%
13987-3	F32T8/ADV830/ALTO	32	25	3000	48	30,000	36,000	3100	3000	85	97%
13988-1	F32T8/ADV835/ALTO	32	25	3500	48	30,000	36,000	3100	3000	85	97%
13989-9	F32T8/ADV841/ALTO	32	25	4100	48	30,000	36,000	3100	3000	85	97%
13990-7	F32T8/ADV850/ALTO	32	25	5000	48	30,000	36,000	3025	2875	82	97%



\* Fluorescent lamps that are TCLP compliant reduce the amount of pollutants released into the environment.

Product Number	Ordering Code	Watts	Pack. Qty.	Color Temp. (Kelvin)	Nom. Length (In.)	Rated Average Life (Hrs.) <sup>1</sup>		Approx. Initial Lumens <sup>2</sup>	Design Lumens <sup>3</sup>	CRI	Lumen Maint.
						12-hr on Ins. Start	12-hr on Prog. Start				
<b>Philips Energy Advantage T8 Lamps featuring ALTO II™ Technology</b>											
I3781-0	F32T8/ADV830/XEW/ALTO	25	25	3000	48	36,000	42,000	2500	2425	85	97%
I3782-8	F32T8/ADV835/XEW/ALTO	25	25	3500	48	36,000	42,000	2500	2425	85	97%
I3783-6	F32T8/ADV841/XEW/ALTO	25	25	4100	48	36,000	42,000	2500	2425	85	97%
I3784-4	F32T8/ADV850/XEW/ALTO	25	25	5000	48	36,000	42,000	2400	2330	82	97%
I4732-2	F32T8/ADV830/EW/ALTO	28	25	3000	48	36,000	42,000	2725	2645	85	97%
I4733-0	F32T8/ADV835/EW/ALTO	28	25	3500	48	36,000	42,000	2725	2645	85	97%
I4734-8	F32T8/ADV841/EW/ALTO	28	25	4100	48	36,000	42,000	2725	2645	85	97%
I4735-5	F32T8/ADV850/EW/ALTO	28	25	5000	48	36,000	42,000	2675	2595	82	97%
<b>Philips T8 32W Extra Long Life Lamps featuring ALTO II™ Technology</b>											
I5202-5	F32T8/TL830/XLL/ALTO	32	25	3000	48	40,000	46,000	2950	2800	85	95%
I5203-3	F32T8/TL835/XLL/ALTO	32	25	3500	48	40,000	46,000	2950	2800	85	95%
I5204-1	F32T8/TL841/XLL/ALTO	32	25	4100	48	40,000	46,000	2950	2800	85	95%
I5205-8	F32T8/TL850/XLL/ALTO	32	25	5000	48	40,000	46,000	2850	2700	82	95%
<b>Philips Energy Advantage T8 25W Extra Long Life Lamps featuring ALTO II™ Technology</b>											
I5206-6	F32T8/ADV830/XLL/ALTO 25W	25	25	3000	48	40,000	46,000	2400	2330	85	97%
I5207-4	F32T8/ADV835/XLL/ALTO 25W	25	25	3500	48	40,000	46,000	2400	2330	85	97%
I5208-2	F32T8/ADV841/XLL/ALTO 25W	25	25	4100	48	40,000	46,000	2400	2330	85	97%
I5209-0	F32T8/ADV850/XLL/ALTO 25W	25	25	5000	48	40,000	46,000	2350	2280	82	97%
<b>Philips Energy Advantage T8 28W Extra Long Life Lamps featuring ALTO II™ Technology</b>											
23454-2	F32T8/ADV830/XLL/ALTO 28W	28	25	3000	48	40,000	46,000	2675	2595	85	97%
23726-3	F32T8/ADV835/XLL/ALTO 28W	28	25	3500	48	40,000	46,000	2675	2595	85	97%
I6933-4	F32T8/ADV841/XLL/ALTO 28W	28	25	4100	48	40,000	46,000	2675	2595	85	97%
I6938-3	F32T8/ADV850/XLL/ALTO 28W	28	25	5000	48	40,000	46,000	2625	2545	85	97%

## Upgrade from a Standard 32W T8 4' for:



- 1) Average life under engineering data on programmed start ballast 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) Industry standard T8 32W 4' lamp with 24,000 hour rated average life (12 hours per start on instant start ballast), with 2800 lumens and 75 CRI.
- 5) 36,000 rated average life compared to industry standard 24,000 rated average life.
- 6) 40,000 rated average life compared to industry standard 24,000 rated average life.
- 7) Based on wattage savings (7W) × rated average life (36,000 hours) × kWh rate (\$.10) ÷ 1000.
- 8) Based on wattage savings (7W) × rated average life (40,000 hours) × kWh rate (\$.10) ÷ 1000.

Philips Lighting Company  
200 Franklin Square Drive  
Somerset, NJ 08873  
1-800-555-0050  
A Division of Philips Electronics North America Corporation

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

[www.philips.com](http://www.philips.com)



**©2010 Philips Lighting Company, A Division of Philips Electronics North America Corporation**

All rights reserved. Reproduction in whole or part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent or other industrial or intellectual property rights.