



Philips Energy Advantage  
T5 HO 49W Lamps  
featuring ALTO  
Lamp Technology

Ideal for medium-bay  
and high-bay retail and  
industrial applications

Energy Advantage



TCLP  
Compliant\*

† 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.

\* 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.

# Maximize energy savings without sacrificing light output

Philips Energy Advantage T5 HO 49W lamps are environmentally-responsible, ultra-slim and have extraordinary light output with increased energy savings.

## Reduced maintenance and disposal costs

- Long life (40,000 hrs RAL<sup>1</sup>) for an extended relamping cycle
- Warranty period: 42 months

## Outstanding energy savings

- Save 5 watts when switching from a standard T5 HO 54W lamp, with no sacrifice to performance
- Save \$20.00 in energy costs over the rated average life<sup>§</sup> of the lamp
- Operates on any Programmed Start ballast

## Sustainable lighting solution

- Reduces the impact on the environment: low mercury, energy efficiency, long life, and less material
- Only 1.4 mg of mercury, the lowest in the industry
- With just 9.8 Picograms per lumen hour<sup>\*\*</sup>, these lamps allow for more design freedom and help exceed all LEED requirements<sup>‡</sup>

(1, §, \*\*, ‡ See back of page for footnotes)

# PHILIPS

# Philips Energy Advantage T5 HO 49W lamps featuring ALTO Lamp Technology

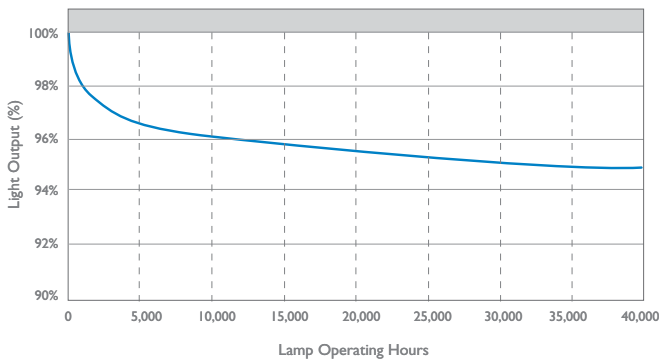
## Ordering, Electrical and Technical Data (Subject to change without notice)

Product Number	Ordering Code	Nom. Watts	Pkg. Qty.	Color Temp. (Kelvin)	Nom. Length (In.)	Rated Average Life (Hrs.) <sup>2</sup>			Initial Lumens <sup>4,5</sup>	Approx. Design Lumens <sup>6</sup>	CRI	Lumen Maint.
						3-hr Start <sup>3</sup>	12-hr Start <sup>1</sup>					
E 22049-1	F54T5/830/HO/EA/ALTO 49W	49	40	3000	46	35,000	40,000	5000	4750	85	95%	
E 22050-9	F54T5/835/HO/EA/ALTO 49W	49	40	3500	46	35,000	40,000	5000	4750	85	95%	
E 22052-5	F54T5/841/HO/EA/ALTO 49W	49	40	4100	46	35,000	40,000	4800	4600	85	95%	
E 40649-6	F54T5/850/HO/EA/ALTO 49W	49	40	5000	46	35,000	40,000	4850	4625	82	95%	

- 1) Average life under engineering data with lamps turned off and restarted once every 12 operating hours.
  - 2) Rated average life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.
  - 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) 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.
  - 5) 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.
  - 6) 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.
- E Lamp meets US Federal Minimum Efficiency Standards.

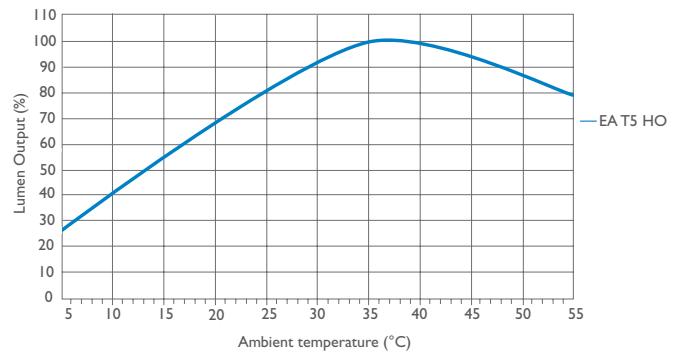
### 95% Lumen Maintenance

#### Energy Advantage T5 HO 49W



### Lumens vs. Ambient Temperature

#### Energy Advantage T5 HO 49W



#### Footnotes from front:

- § SW saved x 40,000 hrs (rated average life) / 1000 x .10  
 \*\* Picogram calculation: mercury content (mg) \* 1,000,000,000 / (RAL x design lumens) = picogram per lumen hour  
 ‡ For more information on LEED, please visit [www.usgbc.org](http://www.usgbc.org)



Do not place in trash - dispose according to local, state, or federal laws



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