

High Performance T8 (HPT8) Fluorescent Lighting

What is a HIGH PERFORMANCE T8 (HPT8) Fluorescent System?

If you have not retrofitted your fluorescent lighting system for the last 10 years or more, you may be surprised at the multiple combinations available to you. If you go online and look through the lighting catalogue of a major lamp manufacturer, you will find a variety of T8 lamps, which can be combined with a variety of ballast options. It can be confusing to know the right combination of lamps and ballast to purchase and be confident you are getting a lighting system that will save you the most money over your old system, but not lower your light levels.

The *Energy Savers Program* can help you understand the best approach to take for your business. This energy efficiency program with incentives available for replacing existing inefficient lighting systems with high performance T8 lamps and ballasts. To qualify for these incentives, you will first need to understand what a high performance T8 system is.



made this easy for you as they frequently update a table of qualifying lamps and ballasts by manufacturer. This table can be accessed at cee1.org/com/com-IT/lamps-ballasts.xls.

The savings you can expect from this retrofit are dramatic. For instance, if your commercial or industrial facility operates at least 3,000 hours per year and has an electric rate of \$0.10 per kWh, your savings would be a little over \$125 for the first 10 three-lamp fixtures you retrofit from T12 technology. On top of that savings, you will be eligible to receive an incentive of \$12 per fixture – or \$120 for 10 fixtures – that can come right off the top of the project cost. Listed below are the incentives available from the Energy Savers program for retrofitting T12 or standard T8 fluorescent systems.

To participate in the Energy Smart program, contact us at 877-NRG-SAV1 (877-674-7281).



The Consortium for Energy Efficiency (CEE) – a non-profit organization with its goal of advancing energy efficiency technologies – has developed a specification to determine the definition of a HPT8 system. Simply stated, you will need to install a lighting system that has a mean lumen per watt (lm/w) of 90 or greater for instant start ballasts and 88 or greater for programmed-start ballasts. So, how do you achieve those mean lumen per watt levels? The CEE has

Glossary of Terms

Lumens - a unit of measure used to describe the amount of light that a light source produces or emits

Mean Lumens – the amount of lumens emitted from a lamp at 40% of its rated life

Watt (W) – the power to produce one ampere (amp) of current under an electromotive force of one volt. That is,
 $1\text{ watt} = 1\text{ amp} \times 1\text{ volt}$

Kilowatt (kW) – 1,000 watts

Kilowatt-hour (kWh) – one kW over time.

Ballast - an electrical device used with fluorescent lamps to supply sufficient voltage to start and operate the lamp but then to limit the current during operation

Instant-Start Ballasts – Instant-start ballasts do not warm the cathodes of the fluorescent lamps upon start-up but rather they bring the lamps up to full power immediately. Instant start ballasts can save up to 2 extra watts of energy over ballast types, but can also reduce the lamp life if lamps are frequently cycled.

Programmed-Start Ballasts – Programmed-start ballasts use a custom integrated circuit, which monitors lamp and ballast conditions to ensure optimal system lighting performance. These ballasts also precisely heat the lamp cathodes upon start-up. Though programmed-start ballasts are typically more expensive than instant-start ballast, they can save lamp life for applications of lamps being cycled frequently.

