

Lighting Research Center

T5 Fluorescent Lamps and Luminaires



Demonstration of a T5 High Output Fluorescent Lighting in High Ceiling Locations

Lighting indoor spaces with high ceilings is typically accomplished with the use of High-Intensity Discharge (HID) light sources. However, T5 fluorescent lamps and luminaires have many advantages over HID systems, including better color rendering, longer life, better lumen maintenance, instant restrike capability, dimming capabilities, and shorter warm up times than HID systems. Compared to HID, T5 systems can more easily take advantage of energy-saving control systems such as daylight harvesting, occupancy sensing, and load shedding. The Lighting Research Center (LRC) of Rensselaer Polytechnic Institute is working with manufacturing partners to demonstrate a T5 high output (HO) luminaire design with automatic control features for high bay applications in a warehouse. If successful, the T5 luminaire could also be used in factories and large retail outlets.

The optimized T5 HO lighting system will likely provide improved efficiency both optically and, in terms of energy, over metal halide lamps (a HID light source). This project is expected to demonstrate at least a 30% energy reduction compared to an existing HID high bay lighting system. The results of this evaluation will be published by the LRC on the DELTA program website: <http://www.lrc.rpi.edu/programs/DELTA>.

Luminaire design: Lamar Lighting
Lighting Controls: WattStopper/LeGrand

Benefits Include:

- 30% energy reduction compared to the existing HID high bay lighting system
- Raise awareness and increase acceptance of T5 fluorescent lighting for high bay applications among lighting specifiers, building owners, end users, and other lighting decision makers in New York State

Contact: Greg Pedrick, ext. 3378
Buildings Research – Advanced Buildings

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New York State
Energy Research and
Development Authority

For more information about these services, contact NYSERDA
toll free 1-866-NYSERDA, locally (518) 862-1090,
or e-mail: info@nyserda.org
www.nyserda.org