

Energy-Efficient Street Lighting Consumes 30% Less Energy

Out of the lab and onto the street



Our vision depends on surrounding lighting conditions. We see differently during daylight hours than at night, so the standard photometry system, which is based on daytime vision, is a poor predictor of how well we see at night.

To remedy this, the LRC has developed a new, unified photometry system that encompasses photopic (bright) through mesopic to scotopic (dark) light levels.

A demonstration of mesopic (low light conditions, but not completely dark) street lighting assessed the suitability of the unified photometry system.

The LRC replaced 70-watt (84 watts with magnetic ballast), high-pressure sodium lamps with 55-watt, 6500K, fluorescent lamps on eight streetlamps in the town of Easthampton, Mass. The new lamp offers high luminous efficacy in mesopic light levels.

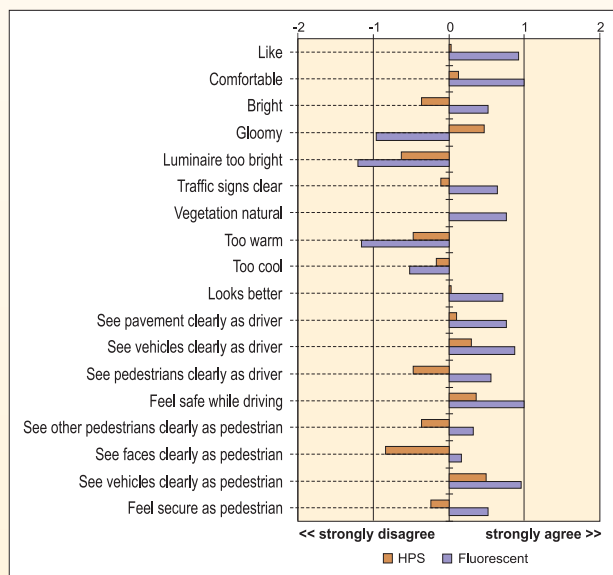
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This demonstration was made possible with the cooperation of the Western Massachusetts Electric Company (WMECO), the Town of Easthampton, Mass., Magnaray International, and Paclantic International.

Results

Area residents rated the fluorescent, mesopic lighting system higher than the high-pressure sodium lighting on all survey questions. The fluorescent system also consumed 30% less energy!



Results of a survey of neighborhood residents show more favorable ratings for the energy-efficient, fluorescent street lighting than for the typical high-pressure sodium lighting system.