



Axlen Lighting

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Excellence in LED Lighting

Case Study: Washington Metro Area Transit Authority (WMATA)

Project Overview: WMATA has developed a comprehensive Sustainability Agenda addressing energy consumption, ridership, water use, greenhouse gas emissions, and waste and supply chain issues. Aggressive reduction targets have been established in all categories to be achieved over the next decade. As part of their 15% reduction in energy (per vehicle mile) goal, an immediate initiative was launched to conduct energy audits and expand energy management systems across all facilities.



WMATA Headquarters, Washington DC

WMATA headquarters is located at 600 5th Street NW, Washington DC and is home to over 3000 employees with approximately 4500 sq ft of floor space. Randy Robinson, managing industrial engineer, performed a thorough energy audit of the facility and recognized that an upgrade of the existing fluorescent lighting fixtures represented a significant energy savings opportunity. He selected Axlen e-Solis DLC-certified panels as the best overall solution for upgrading the 2' x 2' U-tube (Sylvania Octron) troffers throughout the building.

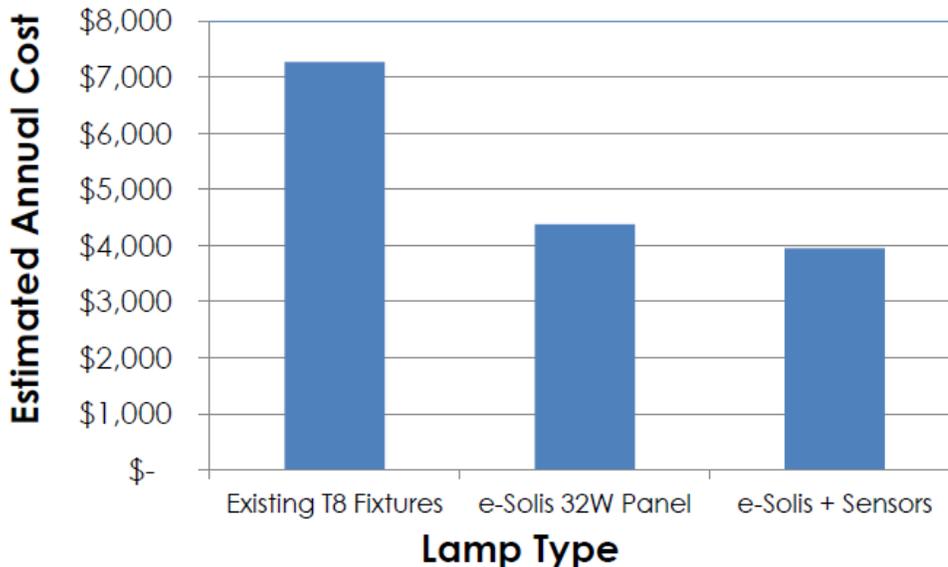
WMATA launched an exhaustive survey of LED product options and suppliers to meet their lighting upgrade goals, which included:

- Energy savings of 50%
- Improved quality of lighting
- Reduced heat and no UV
- Updated look and feel to the office space
- Optional smart lighting controls- daylight harvesting, occupancy, and remote control
- Return on investment of < 3 years
- Reputable supplier with a 5 year warranty

While a LED T8 tube retrofit offered the lowest initial cost, a number of issues ruled out this upgrade path: many of the troffers were aging with low light efficiency output, all the existing tombstones required upgrade, and higher long term operational costs.

The e-Solis panel from Axlen provided the most compelling return on investment and was also the preferred luminaire from aesthetic considerations. Axlen's unique edge lit LED architecture and efficient micro-lens waveguide design delivers an industry-leading efficacy (> 110lm/W) with a smooth lighting distribution that makes for an unsurpassed visual experience. Since each panel also has a 0-10V dimming capability, further energy savings were achieved by connecting some of the panels to occupancy and ambient lighting sensors.

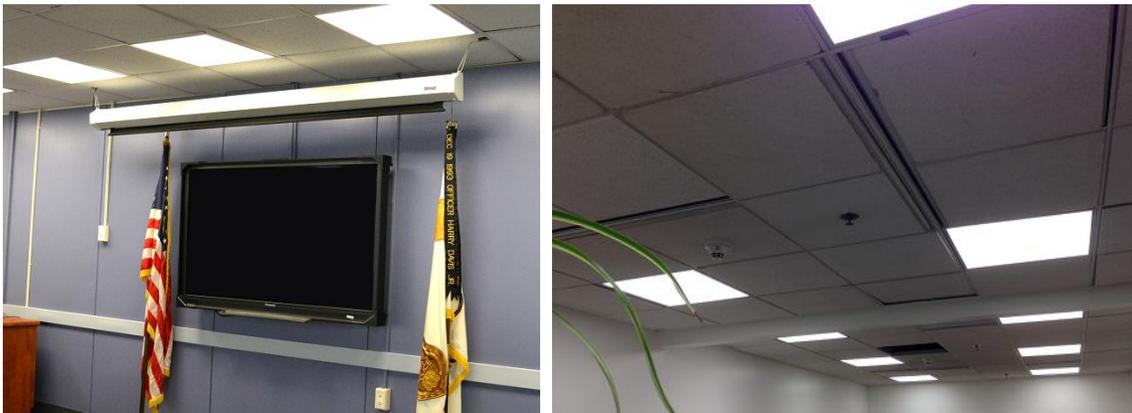
Average Annual Operational Costs- 100 2' x 2' Fixture @ 0.095 kW/hr



•Assuming 2 T8 U -FL tubes in a fixture is replaced by a 2' x 2' 32W e-Solis panel, and based upon 5 days/wk, 12hrs daily lighting operation (260 days) over 10 years of operation

Randy commented that, "The Axlen panel lights have met all our expectations in terms of energy savings, ease of installation, product quality, and appearance. Even more impressive has been the response of the Metro personnel- they really like the lighting quality and the ability to adjust the output levels according to their personal needs. Those in the basement offices have also noted their areas are running several degrees cooler. It's very rewarding to be meeting our energy savings goals while also improving the work environment."

The upgrade of the entire facility will be completed in phases over the next year but the program has been so successful that WMATA has already upgraded their off-site Data Center facility.



e-Solis at WMATA, Washington DC

About Axlen

Axlen Inc, headquartered in Saratoga, CA, and founded in 2011, is leading the global challenge of reducing energy consumption in commercial, office, and industrial facilities by providing efficient LED lighting solutions with an industry-leading return-on-investment. Our LED products replace conventional fluorescent, high intensity discharge, and incandescent light sources offering an enhanced lighting experience with improved energy efficiency and a reduced cost of ownership. From retrofit kits to next generation panels and control systems, Axlen offers the most innovative range of LED luminaires, fully compatible with advanced smart lighting networks. For more information about Axlen Inc, see www.axleninc.com.