

Case Study: Streetworks Preserves the Town of Pepperell's Night Sky, While Providing Energy and Maintenance Savings

Pepperell, Massachusetts



Background

Pepperell is a town located about 45 miles northwest of Boston, Massachusetts on the border of New Hampshire. The Town of Pepperell, as part of their Master Plan adopted in 2020, was exploring the possibility of converting their High-Pressure Sodium (HPS) streetlights to Light-Emitting Diodes (LEDs) to help reduce energy consumption and maintenance costs, while also installing Dark Sky-friendly luminaires to help preserve the environment.



- Energy Savings
- Maintenance Savings



Opportunity

A growing number of cities and communities around the globe are looking for ways to reduce their impact on the environment through lighting. Like many communities, Pepperell, Massachusetts, was still using high-pressure sodium lighting throughout the town. The Town of Pepperell began looking for a solution that could help reduce its energy consumption, while keeping its citizens safe after sunset. While most people are familiar with air and water pollution, light can also be a pollutant. As a Dark Sky-friendly community, Pepperell was looking for lighting that minimizes light pollution, reducing effects known as 'glare', 'skyglow' and 'trespass'. Typical LED fixtures provide cooler color temperatures (CCTs), which can contribute more to skyglow compared to warmer CCTs. As a result, warmer CCTs are necessary for Dark Sky compliance.

Solution

Cooper Lighting Solutions provided a Dark Sky certified solution that met all of Pepperell's desires, replacing all the town's 409 high-pressure sodium light fixtures with LED light fixtures from the Streetworks Archeon Series. These Archeon LED luminaires reduce the town's total system wattage by over 80%; with greater than \$80,000 in estimated maintenance savings and more than \$800,000 in total savings estimated over a 10-year period.⁽¹⁾ Also, because the LED light fixtures of the Streetworks Archeon Series can deliver a lower color temperature than other LED light fixtures, they reduce glare, skyglow and light trespass. This makes them perfect for the Town of Pepperell to achieve its Dark Sky-friendly goals.



⁽¹⁾ Assumptions: 10 hour daily run rate, 0.2223 KWH average rate

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Customer Testimonial

"Pepperell is strongly committed to climate change issues and considered converting to LEDs as an opportunity to reduce energy consumption. We have also declared ourselves a Dark Sky friendly community and strive to eliminate unneeded nighttime lighting. This conversion reduces nighttime lighting and glare without compromising the public safety benefits of street lighting."

Andrew MacLean

Town Administrator, Town of Pepperell

Streetworks Archeon Series

The Streetworks Archeon series delivers all the performance benefits of the latest LED platforms and technologies with a modern yet familiar cobrahead form factor. With a U0 upright rating and a CCT offering of 2200K – 6000K, the Archeon series is designed to meet any Dark Sky specification, positively impacting both humans and wildlife.

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