



CASE STUDY

LED Lighting

SNAPSHOT

Who: University Architect

What: LED lighting

Why: Save energy, money, and labor

When: Spring 2010

RESOURCES

Products:

- ▶ Infilux's Solid State Low Bay Lights
- ▶ Spring City Electrical's Washington globe LEDs

GREEN CRED

These projects earn credit in LEED & STARS.

LEED: SS CR8, EA CR1

STARS: OP TIER2-3

ACTIONS

MANDATE

In 2008, American University (AU) signed the American College and University President's Climate Commitment. In 2010, AU adopted a Green Building policy, requiring LEED standards for new construction and major renovations. Together, these mandates underpin AU's commitment to carbon neutrality and sustainable building practices.

BUY LESS

AU installed LED (light-emitting diode) lights in the School of International Service (SIS) parking garage and in lamps along outdoor campus walkways. The garage LEDs last 50,000-70,000 hours, compared to metal halide lights, 50% of which fail after just 15,000 hours. As a result, the LEDs reduce replacement purchases by about three times.

BUY BETTER

Infilux Solid State Low Bay Lights were chosen for the garage because of "the low glare, robust design and incredibly low power consumption," said Architect Michael R. Purcell, AIA, LEED AP. Spring City Electrical's Washington-style lights were selected for the lampposts.

BREAK BARRIERS

The SIS installation is the first of its kind in the Washington D.C. area and is becoming a demonstration site for the U.S. Department of Energy.

KEEP GETTING BETTER

AU is researching opportunities to retrofit other lighting fixtures on campus with LEDs.

BENEFITS

SOCIETY

The Spring City Electrical LED walkway lamps are enclosed with globes that are opaque on top and transparent on the sides so light reflects downward where people walk instead of some of the light being emitted upward into the sky, disrupting adjacent neighborhood activities. This prevents light pollution and supports the Night Sky Initiative. Additionally, the longer-lasting LEDs reduce the frequency of burn outs, thus enhancing safety in the parking lot and walkways.

ENVIRONMENT

Environmental benefits from the parking garage installation alone include:

- ▶ 20.2 kW of power saved
- ▶ 635,000 tons of CO₂e avoided
- ▶ Equal to permanently taking 194 cars off the road

ECONOMY

Due to their high efficiency, the parking garage LED installation alone (not including the walkway LEDs) is expected to save \$135,000 in electricity costs over the first five and a half years, and an additional savings of \$23,000 in labor costs by avoiding bulb and parts replacements.



Far Left

Washington globe LEDs, from Spring City Electrical, brighten the patio outside 3201 New Mexico Avenue – home of the Office of Sustainability.

Near Left

Infilux Solid State Low Bay LED lights in the School of International Service parking garage.