BD ELECTRICAL & SOLAR

WELDING SHOP LED LIGHTING RETROFIT

Commercial LED Lighting Upgrade for an Advanced Research & Fabrication Facility

Scope:

- Removal of existing high bay lighting
- Installation of new commercial LED high bay fixtures
- Electrical modifications and rewiring as required
- Fixture aiming and lighting layout optimization
- Testing and commissioning of the completed lighting system

Project Challenges

The WHOI welding shop is an active fabrication space where precision matters. Poor lighting can reduce productivity, make detailed fabrication more difficult, and create unnecessary safety hazards.

The existing lighting system had become less efficient over time, producing uneven illumination and increasing maintenance costs due to aging fixtures.

The objective was to modernize the facility with an energy-efficient lighting solution that would provide:

- Brighter, more uniform illumination
- Lower electrical demand
- Reduced maintenance
- Improved visibility for welding and fabrication
- Long-term reliability

Project Overview

BD Electrical & Solar completed a commercial LED lighting retrofit for the welding shop at the Woods Hole Oceanographic Institution (WHOI). The project replaced aging industrial lighting with modern high-efficiency LED high bay fixtures, improving visibility, reducing maintenance requirements, and lowering energy consumption in a demanding fabrication environment.

Industrial welding shops require lighting that delivers consistent illumination, excellent color rendering, and long service life while standing up to dust, heat, vibration, and daily production activities. Our team completed the retrofit while minimizing disruption to facility operations.

Results

BD Electrical designed and installed a complete LED high bay lighting retrofit tailored to the facility's ceiling height and work environment. The new LED fixtures provide significantly improved light output with instant-on performance and far greater efficiency than the previous lighting system.

The upgraded lighting delivers:

- Uniform light distribution throughout the shop
- Higher light levels over fabrication workstations
- Improved visibility and worker safety
- Reduced energy consumption
- Longer fixture life with minimal maintenance

The result is a brighter, cleaner workspace that better supports the precision work performed every day at WHOI.

508-617-0800 info@bdesc.net bdelectrical.services