

# Mack Technologies



## LIGHTING ENERGY EFFICIENCY TREATMENT

Mack Technologies, a provider of complex contract manufacturing services, was experiencing very low light levels from the existing lighting in its 108,000 sq. ft. facility. ENGIE Services U.S. (ENGIE) replaced 2,600 T8 fluorescent bulbs with 250 LED fixtures with wireless controls. The advanced controls maximize savings, lengthen the life of the fixtures, and provide Mack Technologies with an unprecedented level of control over the lighting system at this facility.

## THE PARTNERSHIP

Prior to the upgrades, the existing lighting design did not allow for flexibility in the layout of the manufacturing floor, and lights could not be dimmed or turned off when the facility was not in use. Additionally, Mack Technologies' existing fluorescent lighting required extensive maintenance costs. ENGIE also installed and commissioned an advanced wireless control system that allows Mack to seamlessly control each fixture in the facility via scheduling, task tuning, and dimming.

## 3 DIMENSIONS OF IMPACT

ENGIE is committed to building three dimensions of impact in every customer's future:



### Supporting People

- Improving light levels was a major concern for Mack Technologies. Through ENGIE's retrofit design, the light levels in the facility were increased dramatically, from 20 to 60 foot-candles to a remarkable 90 foot-candles on average. Due to the drastic reduction in the number of fixtures and the significantly longer life of the LED fixtures, Mack Technologies will benefit from reduced maintenance costs along with the already impressive kWh savings.

### Program Summary

- Annual Electricity Savings: 420,871 kWh
- Installation Cost: \$320,546
- National Grid Incentive: \$111,507
- Simple Payback: 3.46 Years

### Energy Efficiency Measures

- Lighting
- Controls



### **Saving Money**

- This retrofit, designed and implemented by ENGIE, qualified for over \$110,000 in incentives from National Grid and reduced Mack Technologies' annual energy costs by over \$50,000.



### **Protecting the Environment**

- ENGIE replaced several hundred inefficient lamps in Mack's office space with T8 technology. This measure, combined with controls, saves over 420,800 kWh annually.



*Manufacturing area and hallway before (left) and after (right) lighting retrofit.*