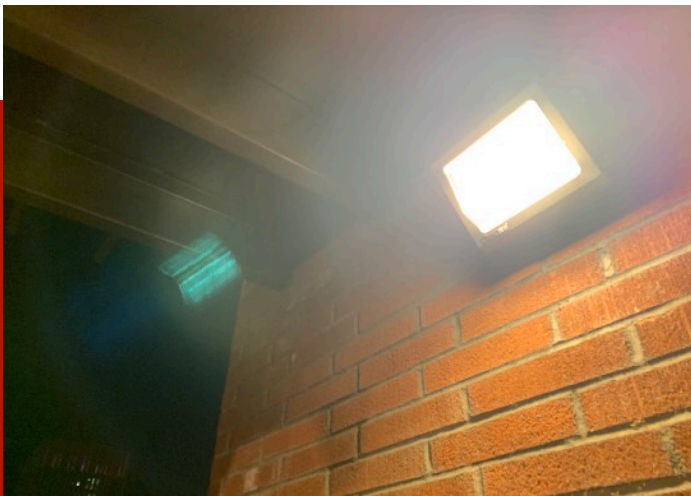


USC Installation Report

Conducted at:

UPC Parking Exterior Light Retrofit



Location(s):

Jefferson PSD
McClintock PSB
Downey PSA
McCarthy PSX

Project Started 7/1/19

Project Finished 7/31/19

Project Scope

1) Retrofit existing HPS wall packs to LED wall packs.
2) Retrofit Area Lights to LED Area Lights with Sensors and Dimming

Report Prepared By
Peter Ha

USC PARKING EXTERIOR FIXTURES

Overview:

- **Retrofit Locations: PSA, PSB, PSX, PSD**
- **Energy Reduction of 72%-86%** (for fixtures that were on 24/7)
- **Total Rebate Captured: \$25,896.95**
- **Total Expense: \$38,519.77**
- **Overall Payback: 2.39 yr**

WALL PACK FIXTURES

Description: Several parking lots at USC (PSA, PSB, and PSX) had several wall pack fixtures that were on 24/7 without any controls or sensors. Vincent hired Optima Energy Inc to develop 2200K colored wall packs in early 2018, and FMS was able to retrofit the 100w HPS wall packs to 28w LED wall packs, reducing the energy consumption by 72%-86% to while increasing the foot candle level (12 fc to 26 fc).

AREA LIGHT FIXTURES

Description: Along with the wall pack fixtures, Vincent hired Optima Energy Inc to develop 2200K color area light fixtures with built-in photo sensor. FMS was able to retrofit the 250w HPS area lights to 165w LED area lights, reducing the energy consumption to 36%. The fixture also has motion sensor with dimming capability where the fixture out is at 50% when there is no motion for 5 minutes to maximize the energy savings.

PSA

Estimated Energy Reduction: 70%
Estimated Yr Savings: \$3,468.35
Project Cost: \$15770.16
Rebate: \$6,959.15
Total Cost: \$8,811.01
Payback: 2.54 years

PSB

Estimated Energy Reduction: 83%
Estimated Yr Savings: \$4,562.91
Project Cost: \$14922.14
Rebate: \$5,083.50
Total Cost: \$9,840.64
Payback: 2.16 years

PSD

Estimated Energy Reduction: 56%
Estimated Yr Savings: \$2,007.44
Project Cost: \$14328.69
Rebate: \$4,454.57
Total Cost: \$9,874.12
Payback: 2.54 years

PSX

Estimated Energy Reduction: 61%
Estimated Yr Savings: \$6,059.55
Project Cost: \$19393.73
Rebate: \$9,399.73
Total Cost: \$9994
Payback: 1.65 years

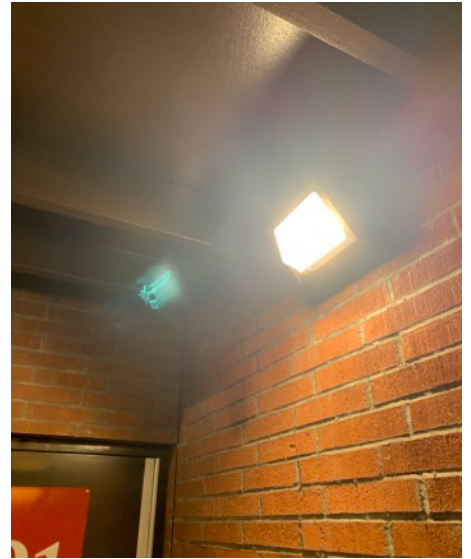


WALL PACKS (BEFORE)

Location: Parking Exterior Stairs

Existing Measure: 100w HPS

Foot Candle: 12.00 fc



LED WALL PACKS (AFTER)

Location: Parking Exterior Stairs

Proposed Measure: MaxLite Wallpack (28w - Photo Sensors)

Foot Candle: 26.3 fc



HPS AREA LIGHTS (BEFORE)

Location: Parking Exterior Roof

Existing Measure: 250w HPS

Foot Candle: 11.78 fc



LED AREA LIGHTS (AFTER)

Location: Parking Exterior Roof

Proposed Measure: MaxLite Area Light (165w - Photo/Motion Sensors)

Foot Candle: 8.66 fc