

# 2016 Historic District Outdoor LED Installation

## CASE STUDY

### Background

The historic Santa Fe Railyard in New Mexico is an exciting area for shopping, eating and events. The decorative fixtures in this historic area were becoming increasingly dim and troublesome, requiring an expensive and ongoing maintenance cycle.

### Project

As new LED fixtures were prohibitively expensive, the City of Santa Fe began searching for a more economical retrofit solution that would increase the illumination levels while eliminating the costly maintenance hours. The City contacted Crossroads LED to determine if their high-output LED retrofit solutions, similar to luminaires used in multiple installations across the City, could be applied in the Santa Fe Rail Yard. This project is part of an ongoing effort to convert the City's entire pedestrian and street lighting infrastructure to LED technology.

### Challenges

The sealed and unvented decorative 250-watt metal halide light fixtures were not designed to dissipate the heat generated by conventional LED luminaires and retrofit solutions. The high internal temperatures generated by traditional LED retrofit luminaires severely limited the light output and L-70 ratings of the converted decorative fixtures. As a result, the City contacted Crossroad LED seeking an economical and high output LED retrofit solution.

### Solution

Working with the City's engineers, Crossroads LED developed a simple and easy-to-install 9600 lumen, 70 watt retrofit luminaire solution utilizing Bridgelux Vero® Series 18 arrays for the eighty 250 watt fixtures. Their proprietary thermal management system significantly lowered both the LED die and internal fixture temperatures, ensuring high lumen output and long life. Independent In System Thermal Testing (ISTMT) has verified the L-70 rating of the retrofitted luminaire at 120,000 hours. The retrofit luminaires lowered the energy use by approximately 70%, doubled the foot candle measurements on the ground, and eliminated the maintenance cycle the metal halide components required.

### Benefits

- A 70 watt, 9600 lumen, 137lm/W system efficacy LED retrofit solution
- Lowered the decorative fixture energy use for the Santa Fe Rail Yard from 22,000 watts to just 5,600 watts
- Proprietary thermal management system lowered the LED die temperatures and provided an L-70 rating of 120,000 hours
- Increased the overall illumination levels and nighttime ambiance of the Santa Fe Rail Yard
- Eliminated the ongoing metal halide and HPS maintenance problems

The retrofit luminaires have been such a success the City of Santa Fe plans to convert their entire pedestrian and street lighting infrastructure to LED technology.

### Participating Companies



City of Santa Fe, New Mexico, USA

### Final Installation



### Bridgelux Array and Final Fixture



### Fast Facts

**Client:**  
[City of Santa Fe](#)

**Location:**  
Santa Fe, New Mexico

**Manufacturer:**  
[Crossroads LED](#)

**LED technology:** [Bridgelux](#)