

Dana Butcher & Associates  
466 W. Fallbrook Wall Pack Retrofit & Upgrade

Fresno, CA  
December 7, 2012



# 466 W. FALLBROOK

## Building Wall Pack Lighting Retrofit Project

### Overview

On December 7<sup>th</sup> 2012, USIGT, in conjunction with D5 Enterprises, retrofitted and upgraded the existing Metal Halide (MH) building wall pack fixtures at 466 W. Fallbrook for Dana Butcher and Associates in Fresno, CA with CeramaTek (C-Tek) bulbs/ballasts.

The project consisted of retrofitting (4) 175 Watt MH wall pack fixtures to 210 Watt CeramaTek. The existing fixture housings were in bad condition and had to be replaced. After consulting with Dana Butcher and his team, the goal of the project was to provide the highest quality light and maximize energy savings. CeramaTek was selected as the preferred technology due to its performance, light output and energy efficient operating system wattage.

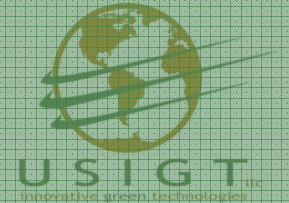
Retrofit time per fixture was less than one hour per fixture with standard hand tools and can be performed by any electrician or maintenance personnel. A ladder truck was needed for the wall pack fixtures that are mounted +/- 16' above finish grade. Existing circuits were 120 volt.

All comparative measurements and photographs were taken at identical times of day and from the same physical location.

### Results

- The original lighting load was 3.5 kW. This retrofit project increased the lighting load only 2.5%. The environmental impact of this lighting upgrade was neutral.
- With the outstanding color rendering index of Ceramatek, the quality of light in the parking lot is greatly improved.
- Retrofitting existing fixtures with eHID high efficiency technology allows facilities to maintain the same high quality of light intended in the original design. Additionally, utilizing existing fixtures, whenever possible, eliminates unnecessary waste to landfills.
- High efficiency CeramaTek kits produce an industry leading 120 Lumens per Watt (Lm/W) with 95% lumen maintenance at 50% of lamp life allowing for substantial reductions in wattage required per fixture..
- The outstanding color rendering CeramaTek technology increases the effective light and more closely resembles actual daylight conditions.

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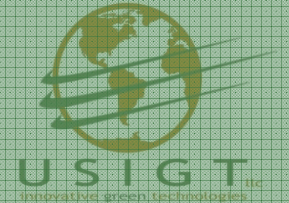


**Existing 175 Watt MH**

**Retrofit 210 Watt C-Tek**



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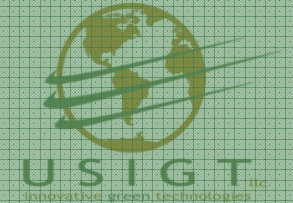
**Existing 175 Watt MH**



**Retrofit 210 Watt C-Tek**



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**Existing 175 Watt MH**

**Retrofit 210 Watt C-Tek**



# Why CeramaTek eHID Ballasts?

CeramaTek offers many benefits for business owners & municipalities

- CeramaTek ballasts are an industry leader in high performance, smart, eHID ballasts. Their patented anti-resonant technologies allow for high frequency operation, dramatically increasing lamp life while reducing lumen depreciation.
- CeramaTek ballasts allow for smooth dimming to 50% and accommodate most digital controllers by providing both DALI and 0-10V control inputs.
- CeramaTek ballasts are designed to work with, and enhance the performance of, the most efficient Ceramic Metal Halide bulbs on the market with efficiencies of 120 lumens per Watt (Lm/W) and higher. Additionally, all bulbs utilized in the Ceramatek family offer a 50,000 hour anticipated lamp life.
- Environmentally responsible improvements is one of our core business practices. Our goal is to reduce, reuse and recycle whenever possible, practical, and economical. This is accomplished through retrofitting, which limits the amount of landfill waste generated while ensuring that all recyclable materials removed are properly reused.
- 5 year manufacturer's warranty on the ballast.

# CeramaTek Product Specifications

## **Features & Benefits • Variable Dimming down to 50% power CeramaTek Ballast**

The CeramaTek™ range of electronic ballasts are designed to be used with Ceramic Metal Halide lamps, providing a white light with excellent color rendering. These ballasts are the most effective solutions for applications where color quality, fixture aesthetics and uniform lighting are important. Significant improvements are realized over traditional magnetic and electronic HID ballasts. A microprocessor finely controls all aspects of the lamp operation. A soft start ignition process, high frequency operation, anti-resonant arc circuit, and other proprietary technologies offer improvements in all lamp parameters. This includes lamp efficiency, lamp life, lumen maintenance, start and re-strike time, color consistency, and high-quality dimming, enabling significant energy savings and reduced maintenance costs.

## **Features & Benefits**

- Compact footprint delivering up to 65% energy savings
- More consistent lamp color and greater lumen maintenance over time (90% - 95% lumen maintenance)
- Variable Dimming down to 50% power
- Remote mounting options of up to 85 ft with existing luminaires (27 ft standard)

## **Thermal Management**

- Greater protection and thermal management
- Quick start-up and re-strike
- Longer lamp life - Up to 100% increase
- Innovative retrofit solutions
- External - mounted outside luminaire
- Internal - Compact size to fit with existing luminaires
- If the ballast temperature point rises above 85°C, the ballast above 90°C the ballast will shut down gradually reduces power to 50% to reduce ballast heat
- Once the temperature point falls to 85°C, the ballast will return to full output

## **Self Protection Mechanisms**

- In the event of a short circuit or open circuit
- Advanced surge protection between phase and neutral, and between ground and line
- Advanced output protection against arcing
- If the lamp fails to light
- At the end of lamp life

