LIMELIGHT VOL. 6

Plaza of the Americas – Dallas, TX

The Plaza of the Americas started construction in 1978 and was completed in 1980 and was one of the first mixed-use developments in downtown Dallas designed around an enclosed atrium.

The complex's main feature is an enclosed 120,000 sq ft skylighted atrium which rises 13 stories above the ground level.

Interior View

Plaza of the Americas – Dallas, TX

For decades, the atrium had been illuminated by (26) 250W and (12) 1000W MH trust mounted directional and high bay fixtures. The fixtures are mounted at 180' above the ground floor illuminating the entire atrium open circulation area as the primary lighting at night.

The 38 MH fixtures were converted to 22 of Clarté Lighting's 3 lamp surface mounted PAR38 scale 3500K LED 12-degree narrow spot optic directional fixtures.

The previous MH fixtures were mounted to I-beam bolt brackets that where mounted to the I-beams. To streamline the cost and time to install the new Clarté Lighting system the same I-beam brackets were used to mount the Clarté Lighting fixtures.

Clarté PAR38 Scale Fixtures

I-Beam Bracket Mounted to Clarté Fixture Backplate

Plaza of the Americas – Dallas, TX

A single LED driver was utilized to operate each of the 3 lamp PAR38 scale fixtures. The LED driver was mounted in a utility closet remotely to facilitate easy maintenance of the LED drivers in the future. Depending on the location of each of the new fixtures the distance between the LED driver and Clarte fixtures was 75' to 150' away from the 3 lamp PAR38 scale Clarté Lighting LED fixture.

Total of 22 New Clarté Fixtures

Remote Drivers in Utility Closet

Plaza of the Americas – Dallas, TX

Clarté Lighting's giant erector set allows any of Clarté Lighting fixtures to be specified and installed with a remote LED driver option creating 12V DC power from the LED driver to the Clarté Lighting LED fixture.

Remote LED drivers can be remoted up to 200' away with 12-gauge solid core wire, like was utilized in the Plaza of Americas remote LED driver installation. At 50' away light loss is less than -5%, at 100' away light light loss is less than -10% and at 200' away light loss is less than -20%.

The uniqueness of Clarté Lighting's system is that the optics were designed using Photopia Optical Design Software with the main goal of matching or exceeding the center beam candle power and beam shape of a halogen light source, allowing for best in class delivered lumens through distance to a surface, to create the highest foot-candle levels.

Clarté Lighting's 12-degree optic has 60,000 center beam candle power (CBCP) distribution with the 3 lamp PAR38 12-degree optic delivering 180,0000 CBCP with only 180 watts of power.

The 84 CRI TM-30-18 color metrics was Rf 84 Rg 102 Duv -0048 of the Clarté lighting LED fixtures installed. So the lighting upgrade improved both the quantity and quality of light, with greatly improved color metrics over the magnetically ballasted 250W and 1000W MH fixtures.

Before Clarté Fixture Installation

After Clarté Fixture Installation

Plaza of the Americas – Dallas, TX

The previous design was 38 fixtures, and the lighting upgrade reduced the number of fixtures from 38 down to 22 due to Clarté Lighting fixture ability to subtly adjust each of the 3 optics to create improved uniformity of light with fewer fixtures.

Old MH Fixtures

Plaza of the Americas – Dallas, TX

There was 81% total system energy saving converting from 38 of the previous fixtures (20,630 watts) to 22 of the 180-watt Clarté Lighting 12-degree fixtures (3,960 watts).
Based on 12 hours a day, 365 days a year at .12 a KWH the annual savings is $8,804 in energy cost savings with another -15% in HVAC savings and a final -10% in lamp maintenance cost savings, creating a total savings of $10,000+ per year.

The Plaza of the Americas lighting upgrade was a win financially with -81% cost savings, a win operationally with the elimination of on going lamp maintenance cost, and a win visually with an improved quantity and quality of light to help give the space a refreshed updated look visually.