

LD+A

The magazine of the Illuminating Engineering Society of North America

Local Hit

Target Field Station - Minneapolis

July 2016 www.ies.org

Courthouse
Revival

Glare Control
at O'Hare

LIGHTFAIR 2016
Review



A Salute To 16

Illuminated columns at this Kentucky courthouse pay tribute to one of our greatest presidents

BY PAUL TARRICONE

Old meets new in both a literal and symbolic sense at the Franklin County Courthouse in Frankfort, KY. The architecture of the original building, circa 1835, flows seamlessly into 95,000 sq ft of new space added in 2014, while the stately columns and flags are now graced by the most modern of light sources. The new and the historic are also tied together by the lighting of an outdoor plaza that honors Kentucky native Abraham Lincoln.

The \$23 million LEED Silver facility includes five new courtrooms, multiple judges' chambers and supporting office space, but the original courthouse remains at the heart of the project. CMTA



Photos: Ryan Harvey/Harvey Photography

Consulting Engineers, Louisville, KY, devised a lighting scheme to accentuate the exterior features of the building. First, a new stairway and handrails were added in front of the courthouse. LED lighting is integrated into the handrails, while the historic clock tower is illuminated with four LED floodlights located on the corners of the building roof. Previously, only lantern-like luminaires illuminated the courthouse, says CMTA's Brian Baumgartle, who along with the design team earned a 2015 IES Illumination Award of Merit for the lighting work.

In addition, in-grade LEDs now light the American flag, as well as state and local flags in front of the courthouse. The façade at the entrance

is washed with asymmetrical LED floodlights located behind the courthouse's column capitals.

PILLARS OF STRENGTH

Encompassing the 181-year-old building are 16 newly constructed limestone columns that surround the new plaza and frame the courthouse. Architect Rick Kremer of Louis & Henry Group Architects explains the importance of unifying old and new: "The Greek Revival architecture of the original courthouse was, in 1835, very progressive and forward-looking. Democracy had begun in Greece, and the style's popularity was natural for many civic buildings in the United States," he

In-grade LEDs light flags outside the building, while floodlights behind the courthouse's column capitals wash the façade.

Limestone illumination had to ensure that carvings on the wall would remain sharp.

Each column (inset) houses two continuous LED fixtures recessed into narrow channels.

says. “The new design accomplishes the same goal of progressiveness as the original. The elliptical plaza pays homage to the original’s historic past, yet consciously creates a bold contemporary direction for the future. The limestone [used in the new columns] is the same material used for the original columns, and portrays the similar effects of stability, strength and timeless durability.”

The ode to Greek Revival architecture isn’t the only nod to history. The number of columns around the plaza, in turn, pays homage to Lincoln, the 16th president of the U.S., who was born in Kentucky. To light the columns, Baumgartle specified 1,228 linear ft of LED fixtures from iLight. Each 20-ft-high column houses two thin LED fixtures running vertically down the length of the column. The luminaires are recessed into narrow channels within the columns, allowing the LEDs to wash the sides of the columns and provide backlight. The effect at night is to turn the limestone into pillars of light that illuminate the entire plaza area. During the day, however, the plaza appears as if it’s surrounded by simple limestone columns, since the fixtures are recessed and therefore not visible.

In terms of luminaire installation for the columns, Baumgartle notes that the most important issue was ensuring that they could be replaced in the future. “The limestone had to be cut a certain way to install the mounting clips for these fixtures.”

MATERIALS AND MOCK-UPS

The aesthetics of lighting the limestone also proved to be a challenge. “The new limestone was not an exact match for the existing limestone, so we mocked up both for color temperature,” says Baumgartle. Rather than specifying a single color temperature, the designers recommended a CCT range 3500K-4100K, with warmer temperatures for the old limestone and cooler temperatures for the new. The goal was to select color temperatures that would avoid washing out the details—for example, a carving of the



American flag being raised at Iwo Jima—and to emphasize the texture and richness of the natural stone used in the plaza.

Finally, the energy savings resulting from the all LED design helped the project achieve LEED Silver certification. Moreover, the longevity of LEDs should reduce maintenance, which is especially important for the 16 columns around the plaza. Says Baumgartle, “We knew maintaining these columns would be tricky because the fixtures are embedded in the limestone.” □

FAST FACTS

- The project honors both Greek Revival architecture and President Lincoln.
- New and old limestone required different color temperatures.
- The plaza columns take on a different appearance during the day.

THE DESIGNER



Brian Baumgartle, PE, LC, LEED AP, Member IES (2002), joined CMTA’s Louisville office in 2007. He has given seminars on lighting and daylighting design at numerous venues including LIGHTFAIR, and has authored several articles on lighting and commissioning.