



Church - New Construction/Upgrade

# Christ Baptist Church

Raleigh, NC

Christ Baptist Church was considering placing halogen lights in the 30-foot ceiling of its new 1,200-seat sanctuary. The prospect of climbing up to change bulbs every year was daunting. A Cree® LED lighting system was the logical solution.

- Anticipated savings of more than 50 percent on utilities
- Tremendous savings in maintenance time and cost
- A lifetime of more than 50,000 hours

**CREE** 

# HIGH PRAISE FOR A LOW-MAINTENANCE SOLUTION

## OPPORTUNITY

On July 8, 2012, Christ Baptist Church held its first worship service in its beautiful new 1,200-seat sanctuary — the centerpiece of a 32,000-square-foot addition that also includes a bride's room, an usher's room, counseling rooms, an audio-visual editing room and a music rehearsal suite.

The original plan was to install halogen lights in the new facility, but Facilities Manager Jesse Knox determined that LEDs would provide a solution that would be both easier to manage and more energy-efficient.

Knox was certain he wanted recessed lights because the back of the sanctuary has a raked ceiling and pendant lighting would have obstructed the view. He also wanted lights that would provide the output of 250-watt halogens.

After shopping around, Knox found that only Cree had a solution that met his needs.

## SOLUTION

Christ Baptist Church now has installed 89 ESA LED downlights in the sanctuary and 20 more in the adjoining hall. In addition to providing high-quality light, the ESA Series recessed lights will supply the church with more than 50,000 hours of maintenance-free life.

With ESA LED interior lighting, Cree brings its renowned product benefits inside, combining a breakthrough in performance and control with new possibilities for optimized lighting performance and value. Spaces can now be brilliantly illuminated with a sustainable lighting solution offering significant reductions in operating and maintenance costs. ESA LED interior lighting solutions provide impressive lumen packages beyond 5,000 initial lumens delivered, allowing designers to meet strict interior lighting performance specifications while offering beautiful color consistency.

Also now installed are two Cree Edge™ LED flood lights on the church's steeple and seven Cree Edge™ LED pathway luminaires along the side of the new building. Knox originally thought he would have to erect two 30-foot poles along the sanctuary to light the exterior, but didn't care for that solution from an aesthetic perspective.

The Cree Edge pathway luminaires provide uniform, shadow-free illumination for building entries and walkways, enhancing the architectural style, while the Cree Edge low-profile flood luminaires provide specific distributions of light for showcasing architectural features.

Because the Cree Edge™ product family delivers optimum illumination and unobtrusive architectural blending, the Cree exterior lights are much more aesthetically pleasing.

## BENEFITS

Knox's primary driver was to find a maintenance-friendly solution with adequate output. Cree offers a bright future in that regard.

"Any kind of incandescent or halogen lights would last a year at the most," Knox says. "And with a 30-foot ceiling, it would be very expensive and dangerous to climb up there every year or so to change lights."

Fixed pews present a challenge to changing bulbs at such a height. "We could get a lift in to get to a lot of them," Knox says. "But with the raked ceiling in the choir area, I'd have to build scaffolding, change one light, then move it; change another light, and move it again. It would have been a nightmare."

With incandescents, he says, "if you have one or two bad bulbs and you have to go up that high, you might as well replace them all.

"From a maintenance standpoint, the Cree lights were just much more in our best interest. It'll be eight or 10 years or more before I have to replace lights."

Saving money was, of course, another consideration. Given that Knox had planned to install 250-watt halogens and the Cree® ESA® luminaire draws 108 watts, he figures he's saving more than half on utilities.

Yet another advantage of this solution is that Knox is using the house LEDs as emergency lighting as well.

"With the ability to dim, I was able to power the LEDs with an inverter and transfer switches, which eliminated the need for bug eye emergency light fixtures." The sanctuary was initially designed to have 22 of those bug eyes around the walls and in the ceiling. "Other than being unsightly, the fixtures in the ceiling would also be a maintenance issue with replacing batteries."

Knox is happy to tell all who ask that he's gone all LED. "We're really happy with it," he says of the Cree solution. "It's a very good distribution of light."



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**Jesse Knox**, Facilities Manager,  
Christ Baptist Church





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*Christ Baptist Church*

## IN THIS CASE STUDY

### ESA Series

#### ARCHITECTURAL RECESSED DOWNLIGHTS

- Over 5,000 initial delivered lumens
- Replaceable light source
- Upgradeable optics
- Multiple color temperatures
- Narrow, medium and wide distribution patterns
- Standard 0 to 10V dimming control
- 4-, 6- and 8-inch square and round apertures
- 45° cut-off
- Over 50,000 hours of operation
- Suitable for 120V or 277V, 60Hz applications



### Cree Edge™ Series

#### PATHWAY LIGHTING

- Rugged aluminum housing
- UL wet listed
- Two-level options
- International Dark Sky Association compliance
- Multiple height options
  - 3- and 18-inch landscape fixture
  - 36- and 42-inch pathway fixture
  - 8-foot pedestrian fixture
- Photometric testing to IESNA-79-08 standards



### Cree Edge™ Series

#### FLOOD LIGHTING

- Low-profile modular design
- Rugged aluminum housing
- UL wet listed
- Adjustable mounting bracket
- 45° cutoff baffle available
- 15-, 25- and 40-degree optics
- Photometric testing to IESNA-79-08 standards



Cree TrueWhite® Technology begins with the highest performing commercially available LEDs. Cree TrueWhite® Technology mixes the light from red and unsaturated yellow LEDs to create beautiful, warm, white light. This patented approach enables color management to preserve high color consistency over the life of the product. Cree TrueWhite® Technology also enables a CRI of at least 90 while maintaining high luminous efficacy - a no compromise solution.



Cree BetaLED® Technology uses a total systems approach combining the most advanced LED sources, driver technologies, optics and form into each product. The patented NanoOptic® technology, available in more than 20 distributions, provides a level of optical control and thermal management that traditional light source technology cannot provide. Combined with the DeltaGuard® Finish, the finest industrial-grade finish available, the result is outstanding target illumination, lasting performance and optimum energy efficiency.

#### PARTICIPANTS

**End User:** Christ Baptist Church

**Engineer:** Fluhrer Reed Structural Engineers

**Lighting Distributor:** Tarheel Lighting Sales

**Cree Rep Agency:** Tarheel Lighting Sales



## Cree IS LED Lighting

Learn more at: [www.cree.com/lighting](http://www.cree.com/lighting) | [info@cree.com](mailto:info@cree.com) | 800.236.6800