Bashas' was considering fluorescent T8 and CFL systems for the remodel of one of their Tempe grocery stores. But the lure of 47 percent energy savings and significant maintenance savings made a Cree® LED lighting system very appetizing.

- Anticipated 47 percent energy savings over previous design
- Cree LED lighting is now the specification standard going forward
- Payback in approximately 1.8 years
CREE® LED LIGHTING ADDS ENERGY SAVINGS AND SHINE TO THE SHOPPING CART

OPPORTUNITY
Welcome to Bashas’ — a family owned and operated grocery chain based in Arizona and known for its exceptional service, quality foods and community commitment. Born out of the perseverance and determination of Lebanese immigrants searching for the American dream, Bashas’ has grown over the past 80 years to more than 130 grocery stores serving diverse communities in Arizona, California and New Mexico.

As part of their commitment to being the best grocery chain in Arizona, Bashas’ extended their search for excellence to the fixtures lighting their aisles. As they were planning to remodel one of their Tempe stores, Bashas’ originally specified fluorescent T8s for general illumination and CFL downlights for the specialty areas. That is, until Sam Kramer at Wild West Lighting introduced them to the benefits of LED lighting and educated them on the options available.

When it came time to select an LED lighting solution, who better to turn to than Cree — another company paving the way in customer-driven innovation as they revolutionize the lighting industry by making high-quality, sustainable LED lighting affordable and available to all.

SOLUTION
Bashas’ newly-renovated store on E. Warner Road in Tempe opened in November 2012, featuring an expanded bakery, deli kitchen, wine/liquor/beer department and an ATM. And with the Cree CS18™ LED linear luminaires, CR24™ LED architectural troffers, and LE6™ and LR6™ LED downlights, the new store features a major upgrade in lighting as well. The installation was a one-for-one replacement against the original specification, but the benefits more than matched the offerings of the previous solution.

Shopping is a highly visual experience. It’s important to show items in their true — and most appetizing — colors. Powered by Cree TrueWhite® Technology, the Cree fixtures deliver 90+ CRI, providing exceptional color rendering. That means more colorful flowers, redder meats and more appetizing breads.

In lighting the sales floor aisles, it is also important to have a solution that, when mounted on the 14-foot ceiling at Bashas’, delivers strong vertical light levels down the entire gondola. Delivering up to 8200 lumens and offering broader color rendering, the CS18 LED linear luminaire delivers some of the best light levels in the industry, providing significant energy savings since less power is needed to illuminate the items on all levels of the shelves.

The Cree products are DLC rated and qualified for SRP (Salt River Project) rebates. And since the Cree LED luminaires are fully dimmable, Bashas’ installed a third-party 0-10V dimming system for additional energy management, allowing the store to benefit from even greater energy savings.

BENEFITS
In the grocery industry, it’s all about margins. Installing the Cree products helps add some green to the bottom line. Because Cree LED lighting is covered under a ten-year limited warranty and doesn’t need to be relamped like other solutions, replacing overhead fluorescent fixtures with efficient Cree LED lighting allowed Bashas’ to save not only on their energy costs, but their maintenance expenses as well. Gone are the days of frequently having to call in multiple contractors to change out lights.

“Bashas’ is very pleased with the decision to go with Cree,” says Scott Murphy, construction manager for Bashas’. “Cree was very responsive and professional, and the Cree solution offers very nice lighting that makes the colors pop. And it’s extremely energy-efficient.”

Bashas’ not only continually seeks to improve their stores, they also strive to give back to the neighborhoods that surround them. Since opening its doors in 1932, Bashas’ has given back more than $100 million to the communities it serves. In keeping with that spirit of community activism, Bashas’ wanted to adhere to environmentally-responsible practices as they undertake their renovations and expansion.

According to Scott Murphy, “Bashas’ has chosen to proactively reduce our carbon footprint. Cree supports that mission by making ultra-efficient lights.”

The E. Warner Road installation is the first use of LED lighting for Bashas’. And they are so pleased with the new system that Cree LED lighting is now the standard moving forward, with an additional two store installations already slated for 2013.

With energy consumption anticipated to be reduced by 47 percent, Bashas’ is projecting to see a payback of less than two years — confirmation that opting to make the socially and environmentally responsible choice results in a job well done.
Financial Analysis

Project Fixture Options

<table>
<thead>
<tr>
<th>Energy Comparison</th>
<th>Qty</th>
<th>Watts</th>
<th>Total Watts</th>
<th>Energy Savings</th>
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</thead>
<tbody>
<tr>
<td><strong>Original Lighting</strong></td>
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<tr>
<td>4-Lamp T8</td>
<td>127</td>
<td>118</td>
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<td>1-Lamp CFL</td>
<td>51</td>
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<td>1-Lamp CFL</td>
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<td>22,177</td>
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<tr>
<td><strong>Cree LED Lighting</strong></td>
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<tr>
<td>CS18™ HE linear</td>
<td>127</td>
<td>72</td>
<td>9,144</td>
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<tr>
<td>LR6-10L downlight</td>
<td>51</td>
<td>11</td>
<td>561</td>
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<td>CR24™ troffer</td>
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<tr>
<td>LE6™ downlight</td>
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<td>210</td>
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<td></td>
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<td>11,715</td>
<td>47%</td>
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</table>

Estimated Project Savings*

- $90,198  Total Lifetime Savings
- 669,150 Total Lifetime kWhs Saved
- $11,255 Avg. Annual Operating Savings
- 169 hrs. Saved Relamping (Lifetime)

Payback in 1.8 YEARS

Estimated Total Lifetime Costs*

<table>
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<tr>
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<th>(50,000 HOURS)</th>
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<th>$249,241</th>
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<tr>
<td>Labor</td>
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<tr>
<td>Purchase</td>
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</table>

* To see how these savings were achieved and to calculate your own, please visit www.cree.com/payback.

Savings and payback are representative of what users could expect operating in a typical grocery environment with comparable products.
IN THIS CASE STUDY

**LR6™ DOWNLIGHT**
- Minimum 90 CRI
- CCT: 2700K, 3000K, 3500K or 4000K
- 650 or 1000 lumens
- Utilizes Cree TrueWhite® Technology
- Shallow and deep recess options
- Dimmable with Triac dimmers at 120V

**CR Series TROFFERS**
- Minimum 90 CRI
- CCT: 3000K, 3500K, 4000K or 5000K
- 2000 to 5000 lumen options
- Utilizes Cree TrueWhite® Technology
- Step level to 50%, 0-10V dimming to 5% or Lutron EcoSystem® enabled to 5%

**CS Series LINEAR**
- Minimum 90 CRI
- CCT: 3500 or 4000K
- 4000, 7500, 8000 or 8200 lumens
- Utilizes Cree TrueWhite® Technology
- 0 - 10V dimming to 5%

**LE6™ DOWNLIGHT**
- Minimum 90 CRI
- CCT: 2700K or 3500K
- 500 lumens
- Utilizes Cree TrueWhite® Technology
- Dimming to 20%

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.

**PARTICIPANTS**

**End User:** Bashas’
**Engineering Architect:** Kraemer Engineering
**Lighting Distributor:** Arizona Electrical Supply
**Cree Rep Agency:** Wild West Lighting