

GROCERY & FOOD RETAILERS

# LED 101

MODERN LIGHTING &  
ADVANCED CONTROLS



*Grocery stores aren't going anywhere, and the industry overall is thriving—especially compared with many other retail segments. However, it is a competitive market, and many stores could use a refresh to attract shoppers and appeal more to new audiences. Those that want a way to streamline operations while increasing profits should turn to a digital ceiling. Modern lighting and controls solutions that make up this foundational investment can have dramatic impact on the bottom line through energy savings, lower utility and maintenance costs, and increased sales.*



## THE OPPORTUNITY FOR GROCERS

The way people shop for goods may be changing, but brick-and-mortar grocery stores are poised to stand the test of time. Even amidst the 2020 pandemic, nearly two-thirds of U.S. grocery shoppers reported that they still prefer to shop for groceries in person.<sup>i</sup> Prior to the pandemic, this preference was shared by an overwhelming 87% of consumers (2019).<sup>ii</sup> Nearly half of these respondents (45%) cited the ability to personally choose food items as the main reason for shopping in person, and 43% said the freshness of products was a deciding factor in their buying decisions.

To meet the high standards of customers, grocers must go above and beyond to showcase the quality of their products in a comfortable, efficient environment. However, creating and maintaining that welcoming space is not without cost: The average supermarket in the U.S. uses approximately 50 kilowatt hours (kWh) of electricity per square foot annually, according to ENERGY STAR. For an average sized store, energy costs can surge upwards of \$200,000 per year.<sup>iii</sup>

Most of the energy use in grocery stores can be attributed to refrigeration and lighting. In fact, depending on the climate, these two uses could account for up to **77% of total energy consumption**.<sup>iv</sup> And while utility bills may only represent a small portion of operating expenses, reductions in this area can greatly impact profit margins and the bottom line.



ENERGY STAR estimates that \$1 in energy savings is the equivalent of \$59 in additional sales. LED lighting can reduce energy consumption by 50%, compared with conventional options, which translates to significant cost savings. LED lighting improvements represent an excellent starting point for a sustainability strategy or general operational improvements. Forward thinking businesses can also use a lighting retrofit to install a digital ceiling, which can act as the foundation for future technologies and applications.



However, outfitting a grocery store with new lighting and digital solutions is not without challenges. Retail spaces, particularly grocery stores, have a variety of different spaces and lighting needs within a single facility. Organizations need a partner capable of meeting all these requirements in various types of spaces, without sacrificing ROI. Experts in lighting and controls assist grocery stores in saving energy and improving the customer experience—even boosting sales by adding extra pops of illumination for key displays and other features that enhance the visual appeal of fresh foods.

*Let's examine how cutting-edge lighting and controls can be integrated into the different sections of a grocery store.*

## LIGHTING APPLICATION SPACES

- A** signage lighting
- B** outdoor lighting
- C** accent & feature display lighting
- D** refrigerated display lighting
- E** architectural lighting
- F** ambient lighting
- G** high bay lighting
- H** specialty lighting



## OUTSIDE THE STORE

The customer experience begins before an individual ever sets foot inside a grocery store, and savings begins outside the walls as well. It starts with signage: A bright, branded sign acts as a beacon for loyal and new customers alike. Powerful lighting with the right color also ensures your signage matches the rest of your branding and even other franchise locations, delivering a cohesive experience to customers regardless of store.



### OUTDOOR DISPLAYS

Why worry about the type of lights present in your outdoor displays? **LED signage is up to 79% more efficient than fluorescent tubes.** In addition to that lower energy consumption, **LED signage products such as the Tetra® Stick** can last up to four times longer than fluorescent tubes, eliminating much of the maintenance costs associated with signs and other branded displays. Industry leading loading minimizes the number of power supplies, further reducing maintenance and overall system expenses.



### PARKING LOTS

But outdoor lighting goes beyond branding, and there's more money to be saved with **LED area lights.** Exterior lights like **Evolve® EALS/EALP** are ideal for parking lot applications, and stores are able to select the right color temperature, lumen output and more to ensure the resulting space is right for their parking lot. Installation of Evolve fixtures is easy thanks to their low weight and universal mounting arm. Designed to accommodate a wide variety of mounting requirements, Evolve LED lighting is ideal for retrofits in commercial lots where the disturbance to customers must be kept to a minimum. Improved dirt depreciation keeps the light shining brighter without excessive maintenance.



### SAFETY LIGHTING

A comprehensive lighting solution helps create a safer space for employees and visitors. Reflective optics focus the light to where it needs to be and reduces wasted light pollution. A complementary **Evolve LED Wall Pack**, which affixes to the side of the building, can also be equipped with controls such as motion sensing for appropriate safety lighting at side or rear exits.



### OUTDOOR LIGHTING

Well-lit parking lots, entrances and exits, along with welcoming signage and brand materials, create a welcoming, safe environment for customers and employees alike. That will help get them in the door—and then it's time to use lighting and digital solutions to increase sales.

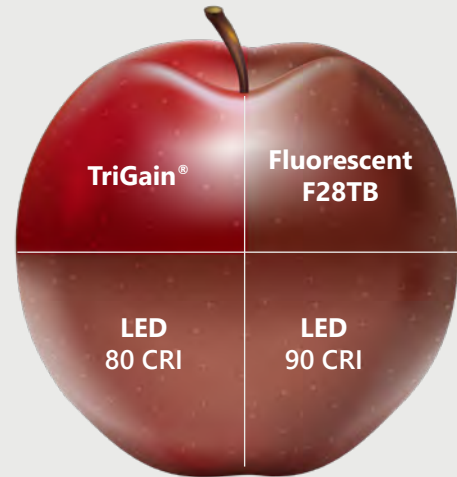


## THE PRODUCE SECTION

Health trends are pushing more consumers away from middle aisles toward the perimeter of the store. Growth in the sales of meat and produce has outpaced other food and beverage departments over the past four years.<sup>v</sup> As customers focus on filling their carts with fresh foods, they are willing to spend more to ensure they're getting high quality items. Overall dollar growth around the perimeter is more than double that of the rest of the store.<sup>vi</sup>

With such an emphasis on healthy and nutritious ingredients, it has never been more important to ensure and accentuate the freshness of stock. Lighting that increases the appeal of produce can lead to customers spending less time spent searching for the best option, and **9 in 10 retailers believe that superior color rendering in a store would increase sales.**<sup>vii</sup>

To further this aim, Current offers **TriGain® technology**, which provides optimum color without sacrificing energy efficiency. The secret is in the color red—engineers developed a narrow-band red phosphor that increases both color rendering index (CRI) and R9, a saturated solid red that is essential to displaying rich colors. In the past, increasing R9 decreased the efficiency of the light, sometimes as much as 20%. But engineers found a way to take advantage of high levels of R9 while maintaining the superior performance and long lifespan of traditional LEDs. The end result is TriGain technology that combines outstanding levels of CRI, R9 and lumens per watt (LPW) to deliver exceptional color rendering quality without sacrificing efficacy.



Enhanced LED lighting in the produce section can help grocers show off the quality of their goods. Think of fruits and vegetables that have saturated, vibrant colors that call to shoppers and leave them confident in the knowledge that the store is home to fresh, delicious produce. This could hook customers who value quality and encourage them to return to the store.



## THE MIDDLE AISLES

Although the middle aisles may not be the most popular section of a grocery, they are still essential to the success of the business. This is where the energy efficiency of LED lighting can make a big impact: Efficient lighting has the power to cut energy costs in half. Reducing the amount of money spent running the middle aisles increases profit margins while making the center of the store a more attractive spot for customers.

**Current's LUR Series** is an ideal choice for grocery store retrofits because it can be easily installed with minimal disruption to daily operations. This is true throughout the life of the LED: These lights require less maintenance than their less efficient counterparts, which equates to fewer replacements, less time spent working on fixtures and fewer man-hours devoted to the ceiling.

Customized lighting also helps feature endcaps and special product displays. Options such as **track lighting**, which can be adjusted strategically to meet store needs and customer preferences, helps bring attention to these displays.

A digital ceiling can assist grocers in fully optimizing the middle aisles for better sales and flow of people. The integration of LED, controls and a sensor mesh network offers real-time insights on what is happening within the store with customers, associates and merchandise. This can lead to layout improvements that maximize sales, remove bottlenecks and improve the customer experience within the space.








## REFRIGERATED AND FREEZER AISLES

No section of a grocery store holds as much potential—for sales and savings—as the refrigerated and freezer aisles. To start building cost savings, LEDs can be used in **refrigerated display lighting (RDL)** to lower energy consumption. These special fixtures take the latest in LED technology and pair it with the right color temperatures, lengths, reduced glare and more to fit seamlessly into display cases. But this is just the tip of the iceberg when it comes to opportunities. Grocers can save even more on energy, while also reducing food loss and operational costs, with a sensor-enabled IoT solution that connects cold storage with building management systems.

Current works with many API partners to provide retail Internet of Things (IoT) solutions that reduce energy consumption and maintenance while maintaining high standards of food quality. Joint solutions such as these provide unprecedented levels of connectivity, insight and asset management within food retail environments, reducing overall operational costs and improving the customer experience.



Brookshire Brothers, which owns more than 100 stores in Texas and Louisiana, enjoyed immediate cost savings as a result of their **facility wide upgrade to LED lighting**—and are receiving more compliments on their lighting than ever before. The first phase of their lighting upgrade focused on refrigeration:

“**The cases look amazing, and we’re actually saving as a result. When you add it up, we’ve cut our lighting energy requirement by about 2.4 million kilowatt hours, which saves us close to \$250,000 a year. On top of that, you have maintenance savings that are harder to quantify, but when I’m not sending trucks or service crews out, I know that’s money we can better spend elsewhere.**”

— ERIC JOHNSON,  
Director of Store Planning & Efficiency





## CHECKOUT AND SMART LIGHTING



Once customers have made their way around the store and filled their basket with goods, it's time to check out. A connected lighting system with advanced sensors and controls can communicate with networked devices throughout a store to enable exciting outcomes—from helpful wayfinding to high accuracy indoor positioning, to heat mapping analytics that help drive conversions. For example, occupancy and heat mapping data enabled by intelligent light fixtures can determine which aisles are the most trafficked, or when extra staffing is needed in checkout ahead of the long lines.

This enables retailers to improve operational efficiencies and the shopper experience. Smart light fixtures can identify repeat customers by their smartphone and provide incredible insights on shopping decisions, dwell time and the path to purchase. As automated checkout, personalized discounts and smart shelves become the norm, smart lighting can support a variety of IoT use cases and countless applications yet to come.



## DISINFECTION BEST PRACTICES

Americans have become increasingly aware of disinfection best practices—and they expect retailers to prioritize these by maintaining a clean, safe environment. For example, a resounding 78% of consumers surveyed in 2020 stated that they would be more likely to shop with a food retailer that sanitizes stores, carts and checkout.<sup>viii</sup> Sanitation has always been of high importance in food retail—but the increased focus on additional disinfection measures will likely continue for years to come.



Grocery and food retail establishment employers are advised to have a health and safety plan to protect employees and customers. In addition, retailers are recommended to adhere to [CDC cleaning and disinfecting guidelines](#) across all facilities, and to [FDA best practices for retail food stores and restaurants](#). These resources offer current best practices spanning education and awareness, training, cleaning and disinfection, traffic flow and operations.



Beyond traditional [liquid/chemical surface disinfectants](#) that require frequent reapplication, [Current's 365DisInFx™ Technology](#) leverages decades of ultraviolet (UV) and LED experience to provide solutions for continuous disinfection of occupied spaces. These air and surface UV LED solutions help reduce exposure to surface bacteria and airborne viruses, leveraging either UV-A or UV-C light to inactivate pathogens.



UV-A solutions are ideal in areas with high-touch surfaces and can help inactivate surface pathogens, including many bacteria and fungi. UV-A LED solutions are integrated into light fixtures to provide surface disinfection while lighting the space, and are available with wired or wireless controls. UV-C solutions can help reduce viruses in air, delivering low-dose UV-C via a small, easy-to-apply device that is similar in appearance to a standard smoke detector. Current predicts that 365DisInFx technology will provide 99% inactivation of seasonal coronaviruses with less than six hours of exposure when used as directed.



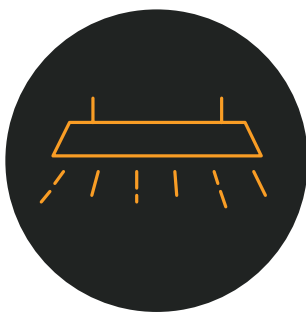
## HOW GROCERS CAN WIN: PROJECT SPOTLIGHTS

Current is one of the only retail solutions providers that can offer **savings, safety and a better customer experience in all aspects of store operations**. Our lighting solutions address all applications inside and outside the retail store, providing tremendous operational cost savings and an improved shopping experience.



Current's solutions are installed in many grocery locations around the world. Sainsbury's, the second largest supermarket chain in the U.K., **furthered its company wide sustainability goals with the addition of LEDs and was the first grocer in the country to make the switch to all LED lighting**. The complete installation encompasses 250,000 fixtures in more than 450 stores, which will help Sainsbury's cut energy consumption by almost 60%.

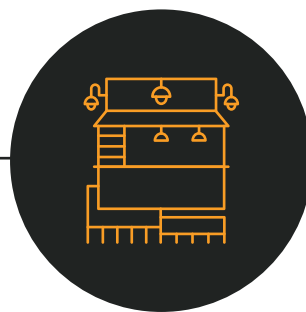
### THE SOLUTION INCLUDES UPGRADING



**250K**

LED FIXTURES

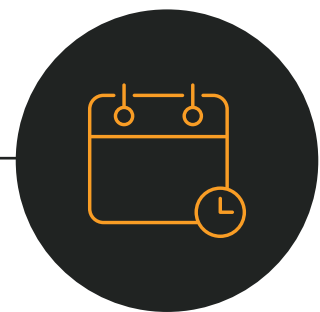
ACROSS  
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**450**

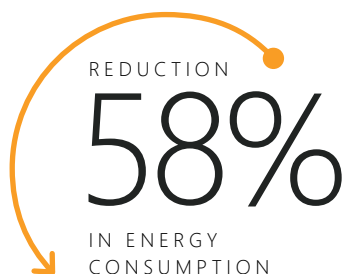
STORES

OVER  
THE  
NEXT



**3**

YEARS



These upgrades cut Sainsbury's energy consumption by 58% and reduced greenhouse gas emissions by more than 3% annually.





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“We’re always looking for new ways of achieving our sustainability goals, and switching to LED lighting is a big step in the right direction. We’ve almost halved the carbon emissions of our stores since 2005, and in the last 12 months reduced our electricity use by 11.6% despite growing our operation by 54.2%. This step will enable us to make significant reductions in carbon emissions. Our customers expect us to do the right thing on their behalf, and they can be reassured that, day or night, when they visit a Sainsbury’s supermarket, we’ve made a significant inroad into creating a greener supermarket for them.”

— PAUL CREW

Sainsbury’s Head of Sustainability, Energy, Engineering & Environment



Stop & Shop, a brand under Ahold Delhaize, made similar strides when it **installed LED lighting and controls in hundreds of stores throughout the U.S.** Just replacing older fluorescent lighting with energy efficient LEDs reduced annual energy use by 30%, and the brand continued to find more opportunities with controls such as task tuning, daylight harvesting and occupancy detection. In total, annual energy savings is estimated to be

439,300 kWh, which is a **66% savings over the baseline energy use.** And because Daintree controls and the digital infrastructure are already installed, stores can begin collecting data from sensors and other edge devices to gain insight into operations and the customer journey. This intelligent infrastructure provides the foundation to deliver location-based offers, artificial intelligence (AI) to personalize the customer experience, temperature automation and refrigeration management.

## INTELLIGENT INFRASTRUCTURE ALLOWS FOR:



**TEMPERATURE  
AUTOMATION**



**AI  
PERSONALIZATION**



**REFRIGERATION  
MANAGEMENT**



**LOCATION-BASED  
OFFERS**



Throughout more than 130 stores in the Eastern U.S., The Fresh Market offers shoppers an oldworld, open-air layout, with friendly staff and quality fresh foods displayed daily. Given the importance of aesthetic appeal for a fresh foods focus, the retailer wanted an energy saving LED replacement lamp that delivered a high CRI and long life.

“We didn’t just replace 10 or 15 lights in one area of the store—we actually asked suppliers to provide us with 300 lamps for a complete store retrofit so our executives could properly evaluate the light levels, quality and spread,” says Paul Poole, Energy and Engineering Manager for The Fresh Market.



**“While saving energy is important to us, an essential element of The Fresh Market’s concept is the visual appeal of different foods and unique environments for our customers throughout.”**

The Fresh Market **installed nearly 17,000 PAR38 LED replacement lamps in its stores**, which helped maintain the retail atmosphere—enhancing the color quality of goods while reducing glare, consuming less energy and generating less heat than the traditional halogen lamps they replaced.

The Fresh Market’s comprehensive lighting update translates to a total annual energy reduction of more than 10 million kWh, along with reduced maintenance. Most stores cited about a two year payback period for their investment, and some locations also benefited from energy efficient lighting rebates, helping to further drive down project costs.





## INTELLIGENT SOLUTIONS FOR FOOD RETAILERS

More than ever, food retailers need to find solutions that maximize efficiencies while also offering the best possible customer experience. By leveraging **LED lighting solutions** and **an IoT platform comprising HVAC, lighting and more**, Current enables chain-wide visibility and management of energy usage—allowing food retailers to reduce operating costs while delivering fresh and frozen products with complete confidence.

## REFERENCES

<sup>i</sup> <https://www.supermarketnews.com/consumer-trends/survey-most-grocery-shoppers-favor-store-purchases-amid-pandemic>

<sup>ii</sup> <https://www.supermarketnews.com/consumer-trends/americans-prefer-shopping-grocery-stores-buying-online>

<sup>iii</sup> <https://www.energystar.gov/sites/default/files/buildings/tools/SPP%20Sales%20Flyer%20for%20Supermarkets%20and%20Grocery%20Stores.pdf>

<sup>iv</sup> [https://www9.nationalgridus.com/non\\_html/shared\\_energyeff\\_groceries.pdf](https://www9.nationalgridus.com/non_html/shared_energyeff_groceries.pdf)

<sup>v</sup> <https://www.newhope.com/market-data-and-analysis/food-transparency-drives-growth-fresh-departments>

<sup>vi</sup> [https://www.fmi.org/docs/default-source/default-document-library/top-trends-in-fresh\\_pov-iri2017.pdf?sfvrsn=4ad97c6e\\_2](https://www.fmi.org/docs/default-source/default-document-library/top-trends-in-fresh_pov-iri2017.pdf?sfvrsn=4ad97c6e_2)

<sup>vii</sup> <https://images.salsify.com/images/ki6itck4t8clbjmr3fjn/IND552-TriGain-Technology-Brochure.pdf>

<sup>viii</sup> <https://www.supermarketnews.com/consumer-trends/it-s-new-scene-grocery-shopping-pandemic-changes-behaviors>



## WHAT MIGHT THESE SAVINGS LOOK LIKE FOR YOUR BUSINESS?

Current offers a **complementary energy assessment for food retailers** ready to transform their energy usage. We'll gather data and understand your success metrics to deliver a pilot plan customized to your specific goals.

Current can act as your trusted advisor as you embark on the journey toward IoT implementation. We offer intelligent lighting solutions & advanced controls for food retailers that provide a wide variety of outcomes in any type of space. These state-of-the-art technologies are backed by a legacy of excellence and years of experience in the industry, ensuring you are partnering with an expert company that can meet every need before, during and after an investment. Let's build a smarter supermarket together.

To request an energy assessment, please complete the following contact form:

[www.gecurrent.com/contact-us](http://www.gecurrent.com/contact-us)