

GE  
Lighting

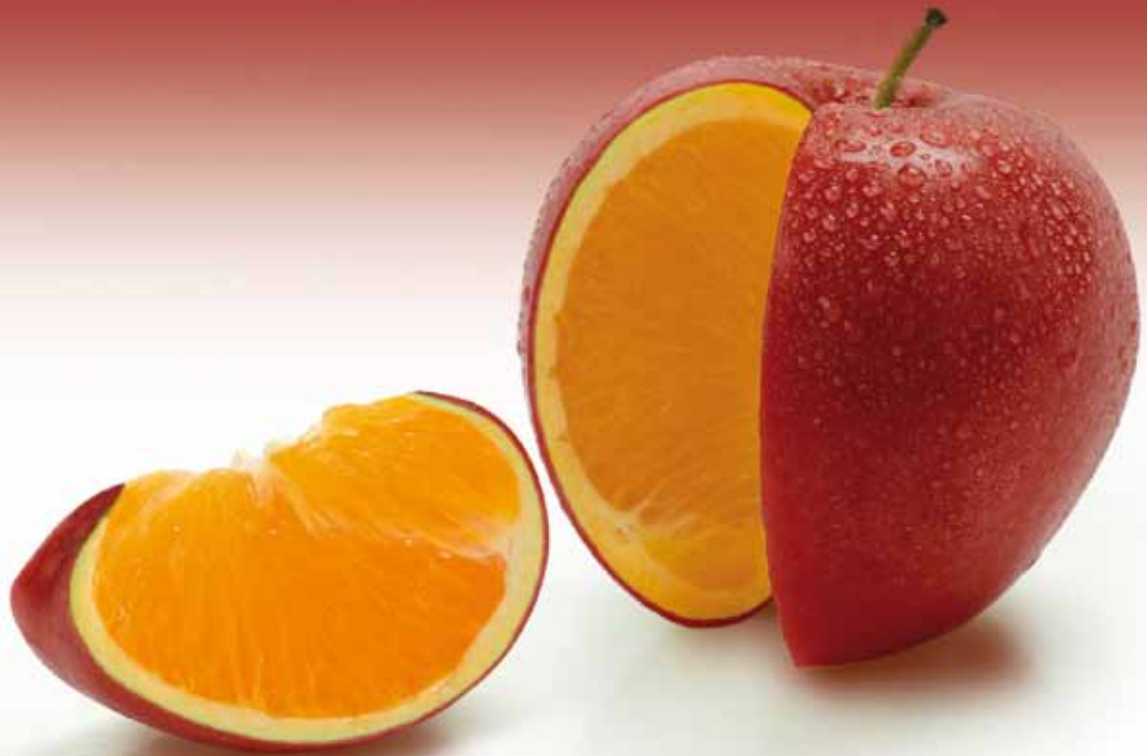
# All LED Systems are Not The Same

An Apples-to-Oranges Comparison



imagination at work

# GE LED Systems Set The Standard for Quality and Reliability



In today's confusing marketplace, finding the best LED system is a lot like comparing **apples** and **oranges**.

How can you be sure that one LED system is better than another? What is your assurance that a given product will last as long as its manufacturer claims? How can you trust such an important long-term investment to a

supplier without a proven record of experience? These questions and many more are answered here as we level the playing field, clear up the confusion and help you achieve a genuine apples-to-apples comparison of LED systems.

## Setting the standard.

Making an informed decision on an LED system is unlike any other lighting purchase. Comparing fluorescent, incandescent or HID products to each other is easier because there are long established industry standards you can rely on...but that's not the case with LEDs. That's why GE has been promoting efforts to define a universal set of performance measures designed to put comparison claims on equal footing. We're actively working with NEMA, DOE/Energy Star, ANSI, Intertek and IESNA to develop measurement, efficiency and performance guidelines that add clarity, not confusion to the process.



Hundreds of unproven companies have recently entered the lighting market, some making questionable performance claims. It's hard for customers to know whom or what to believe. Rest assured, every GE LED system is backed by the expertise of our 100-plus years in the lighting business. Every performance claim we make is supported by stringent, comprehensive testing. We've earned your trust over the long haul and we'll be here to back up our product claims years from now.

## Performance you can trust.

Impressive long-life technology makes LED systems a long-term investment. While lasting significantly longer than fluorescent products and up to 50 times longer than traditional incandescent lighting, LED products offer tremendous energy and maintenance savings that easily justify their higher upfront cost. But not all LED systems perform equally over their years of operation. Inferior quality products can prematurely fail or degrade in light output far below initial claims—so much so that they fail to provide the value originally promised. GE LED systems have proven performance you can trust. We prove it with extensive testing, a comprehensive limited warranty and the reputation of one of the world's most respected companies.



At the end of use, LED systems don't fail the way traditional lighting technologies do. You know that with incandescent, the bulb simply burns out and a fluorescent tube can flicker, or strobe before finally burning out. But LEDs don't typically do any of these things; they simply degrade in light output over time, getting dimmer and dimmer. It's called lumen degradation. And that's what some companies don't tell you when they claim their system lasts 10 or more years...that the light output may drop by 50% or more during that time. Every GE LED system comes with a product life rating that recognizes acceptable light output for its intended application, ensuring that you won't be left in the dark.



## Reliability is in our DNA.

Every GE product is designed with our Six Sigma methodology, a highly detailed, intensive process that defines specific product performance upfront—and then creates a solution to meet or exceed that goal.

**At GE, reliability is in our DNA.** It's a basic building block of every product. The same intensive, integrated Six Sigma process we use to create reliable jet engines is applied to every GE LED lighting system. That's how we deliver superior solutions designed to meet highly specific applications.

Our commitment to reliability starts at the top and extends to every member of our team. We put our money where our mouth is by investing millions of dollars annually in facilities, equipment, people and processes that allow us to consistently deliver on our reliability promise.

In addition to our sourcing relationship with the top LED manufacturers in the world, our own in-depth knowledge of semiconductor material science gives us strategic insight into LED functionality and limits, enabling us to produce higher quality, more reliable products.



## GE takes reliability testing to the extreme.

Rather than rely solely on test data from LED suppliers, we test the LED, sub-system and complete system at our in-house and independent laboratories around the world. Validation of our designs, components, products and processes include high-temperature, high-humidity and accelerated life testing.

For example, all of our new LED systems must undergo high-temperature testing at 140°F for at least 10% of its rated life to help validate performance. That's 5,000 hours (or 7 months) of continuous testing under extreme temperatures for a product with a rated life of 50,000 hours. It's all about identifying and stressing the weakest links to make sure the overall LED system will perform for years.



To help ensure long-term performance, we continue to test our products even after initial launch. For example, the Evolve™ LED Area Light, which launched in mid-2009, has already amassed more than 10,000 hours of reliability test data to further support our 50,000 hour life rating. As additional evidence of our reliability commitment, we're still testing an original GE Tetra® LED product that has been in our high-temp chamber at 140°F for more than 7 years (70,000 hours). Even under extreme temperatures, this product still delivers more than 53% of its original light output and has exceeded both rated life and performance claims (50,000 hrs life with 50% lumen maintenance).

We will continue to invest in our reliability testing capabilities and are pleased that our depth of testing expertise has made GE the first lighting manufacturer to be CALiPER certified as an independent photometric measurement laboratory for solid state lighting (SSL) under the DOE CALiPER program.

# 25,000,000

...and counting

## Concrete results speak for themselves.

GE is one of the largest LED systems companies in the world. Our expansive installed base includes more than 25 million feet of LED linear lighting with a warranty return rate of less than 0.05%. In addition, as a trusted partner in the transportation segment, GE has more than 6 million LED signals in 24/7 operation around the globe.

Further proof of our success: the Next Generation Luminaires™ Solid State Lighting Design Competition gave us the “best in class” award for the Immersion® LED Display Case Lighting and a “special recognition” for GE LED Cove Lighting as a market-ready luminaire.



The world's leading retailers trust GE for LED solutions. Visit [www.gelighting.com/apples-to-oranges](http://www.gelighting.com/apples-to-oranges) for a list of companies...and while you're there, check out our informative "Top 10 Questions to Ask Your LED Supplier".

Remember, all LED systems are not the same. Beware of misleading claims and choose a solution backed by one of the most respected brands in the world today. Because, when you take the time to make sure you're not comparing apples to oranges, you'll quickly see that GE LED systems provide the excellent quality and reliability that you deserve.

For additional product and application information, please consult GE's Website: [www.gelighting.com](http://www.gelighting.com)

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