Top 10 Questions to Ask Your LED Supplier

In today’s confusing marketplace, finding the best LED system is a lot like comparing apples and oranges. Making an informed decision means knowing what questions to ask. To help you get started, we’ve put together a list of the top 10 questions you should ask your LED supplier.

Question 1:
Is your company registered as a Department of Energy (DOE) Quality Advocate? And, have you taken the Quality Pledge for Solid State Lighting (SSL) Products?

GE is registered as a SSL Quality Advocate. Our pledge is a commitment to customers that our LED products perform as claimed and that we will support continuous improvement in SSL product quality. The CEO of our LED systems business has taken the quality pledge and you can find our company listing at http://www.lighting-facts.com/

Question 2:
Whose LEDs do you use in your products? Have your products gone through an Intellectual Property (IP) clearance?

At GE, we respect the valid IP rights of others. That’s why GE’s products go through a rigorous patent clearing process.

Question 3:
What is the LED manufacturer’s LED performance rating and what is the rating of your LED system or final product?

GE does not base product performance ratings solely on data from the LED manufacturer. Instead, we conduct both in-house and independent laboratory tests of the LED, sub-system and complete LED system to determine actual product performance that takes into account thermal, optical and LED driver losses. We are happy to share with our customers test data relative to product performance claims.
Question 4:
What precautions do you take to ensure that the LED selected for your product will meet the performance requirements for which it's rated? Can you share your data showing the LED selection/testing process?

Prior to selecting a LED for our product, we perform long-term qualification testing at multiple temperatures and operating currents where we look for trends in color shift, light output depreciation and power consumption. We then compare our test data against the LED manufacturer’s claims to validate performance. If the LED test data meets our minimum standards for performance, the LED may be approved for product use.

Yes. Upon request, we can share our test data with customers.

Question 5:
Does your product use LEDs that have been LM80 tested to demonstrate L70 life after 6000 hours of test? If yes, can you share your LM80 data and life model that was used to demonstrate the L70 life?

At GE, we strive to use LEDs that are tested to the LM80 requirements if available. Having the LM80 life data complements our comprehensive in-house testing of the LEDs. The combination of the two tests significantly increases the confidence level in providing a rated life claim for our LED systems.

Yes. Upon request, we can share LM80 test data with customers if available. Please note, not all LED manufacturers currently provide LM80 tested LEDs or are willing to share their test data.

Question 6:
Does your LED product meet the LM79 requirements? If yes, can you provide the LM79 test report from an accredited NVLAP test lab?

When required, GE will test our LED products to LM79 standards and provide the NVLAP report upon request.

Question 7:
Do you “design in reliability” or do you just “test for reliability” to demonstrate the long-term performance of your product? Can you share your product development reliability process?

We follow the GE Six Sigma methodology and use the 10-step Design For Reliability (DFR) process. This allows us to “design in” a specified level of reliability into our products that takes into account various stress conditions the product will see over its lifetime in a real world application. Our rigorous testing protocol helps us validate that the product will perform as designed over its rated life.

Testing is a useful tool to help validate product robustness, but “design for reliability” helps ensure that the product will perform as expected over time.

Yes. Upon request, we can share with customers our Design for Reliability process.
Question 8:
What type of testing do you perform to validate your product life and safe operation? Can you share the test results?

To help validate product life, all new GE LED systems must undergo high-temp testing at 140°F for at least 10% of its rated life to show that the product meets or exceeds its life claim. That means a product with a rated life of 50,000 hours will be subjected to a minimum 5,000 hours of continuous testing. In addition, we also conduct high-temp, high-humidity accelerated life testing for up to 1,000 hours at 140°F / 90%RH. We also perform robustness testing to identify the weakest links and to ensure the product will fail in a safe manner.

Yes. Upon request, we can share our test data with customers.

Question 9:
What actions take place in the factory to ensure your product will work properly when installed by the customer?

All GE products are manufactured in strict accordance to a detailed set of assembly instructions that includes incoming component inspection/testing and multiple production line quality checks to help ensure the final product is built to our exacting standards.

Question 10:
How do you ensure the product will continue to meet the specification?

To help ensure long-term performance, we continue to test GE LED products for years after initial launch. At predefined intervals, we pull samples out of production and send to our NVLAP certified facility for LM79 testing.