

# LEDs: The Promise and Performance

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## LEDs: The Ultimate Sustainable Answer to Our Green Economic Initiatives

LEDs (or Light Emitting Diodes) dominate private and public sector interest in today's environmentally conscious mindset. Long life, low energy consumption, and no mercury make LEDs the ultimate sustainable answer for our green economic initiatives. Governments invest billions in their development, and manufacturers race to bring their products to market before competitors. In the opinion of the U.S. Department of Energy (DOE) and many lighting industry veterans, the only thing which can slow LED momentum is LED marketing. If that last statement seems odd, please keep reading.

## 78% of LED Products Failed Performance Claims

The DOE Commercially Available LED Product Evaluation and Reporting (CALiPER) program has tested 175 LED products to date (8/18/09).<sup>1</sup>

1. At one point, only 22% of the products tested (22 of 101) lived up to manufacturers' performance claims.<sup>2</sup>
2. In other words, 78% of the products tested failed to (for example) provide as much light or last as long as manufacturers' advertising suggested.

## 1000Bulbs.com Petitions Vendors as to the Quality of their LEDs

At 1000Bulbs.com, we want to ensure—to the best of our ability—your satisfaction with the LED products you purchase. Therefore, we have asked each of our 44 current or potential vendors to reply to our technical 1000Bulbs.com LED Vendor Questions.<sup>3</sup> If you are considering an LED product on the 1000Bulbs.com website and would like to review the manufacturer's responses to these questions, please let us know. Assuming we have received a response, we will be happy to forward their response to you and answer any supporting questions you may have.

## LED Questions You Need to Ask

We have also prepared a set of 1000Bulbs.com LED Customer Questions<sup>4</sup> which you may wish to consider before purchasing an LED product from 1000Bulbs.com or any other source. Once again, we will be happy to answer any supporting questions you may have.

## Special Note on LED MR16 Fixture Compatibility

Lighting Science also produces LED MR16 lamps or light bulbs. Their specification sheets contain the following compatibility notes which (in our opinion) also apply to this manufacturer's LED MR16 products. Please consider these notes BEFORE purchasing LED MR16 products.

- "The SôL MR16 GU5.3 LED Lamp is not compatible with all electronic transformers due to its low power consumption of less than 8W. Some electronic transformers require a minimum load greater than 8W in order to work properly. This is especially true of lighting fixtures that have an integral transformer for each. Symptoms of incompatibility include: no light output, flickering, strobing, or random shutdown.
- "The SôL MR16 GU5.3 LED Lamp requires adequate ventilation around the lamp housing (40°C maximum ambient) to ensure peak performance and lifetime expectancy.
- "[It] is not recommended for use in sealed fixtures.
- "[It] is not recommended for use with recessed fixtures or within small enclosures unless air exchange or cooling within the enclosed air space is provided."

## Conclusion

LEDs are some of the most sought after products on the 1000Bulbs.com website. It's our hope that these precautionary notes will add to their intelligent use. We are committed to our customers' satisfaction. Please let us know if we can help in any other way. (3/7/10)

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<sup>1</sup> <http://www1.eere.energy.gov/buildings/ssl/caliper.html>

<sup>2</sup> "LED Lighting... What you need to know! A webinar sponsored by GE Lighting and Architectural Lighting"; page 21, 7/15/09.

<sup>3</sup> <https://1000bulbs.com/pdf/led-vendor-questions.pdf>

<sup>4</sup> <https://1000bulbs.com/pdf/led-customer-questions.pdf>