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LEDs to the Rescue? Not So Fast

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There is an industry consensus that solid-state LED lights will play an increasingly important role in energy reduction programs. Light-emitting diodes use as little as one-tenth the power of an incandescent bulb, produce pleasing light and last for up to 20 years of normal use. So the prospects for light sources powered by LEDs looks to be, well, bright.

LED lights. (Credit: Jim R. Bounds/Bloomberg)

LED lamps are already used in street lights, office buildings and, less frequently, homes. The inventor Dean Kamen recently [lighted an island](#) and the structures on it solely with LED products.

But even as strong an LED booster as the Department of Energy, which maintains its own [Web site](#) on solid-state lighting, cautions that the road to the LED revolution will be rocky, littered with products that don't perform as advertised and delayed by an inability to surpass the output of today's conventional lighting sources.

Simply put, many of the LED products now available are not worth buying.

That's evident even to the most casual observer who can see off-brand and poorly assembled LED replacement bulbs for sale in the nation's largest home improvement chains.

As James Brodrick of the Energy Department put it in a recent e-mailed newsletter, "In the flurry of hype and excitement that comes with many new products, it's easy to get carried away by what's cool."

Mr. Brodrick was commenting on the department's latest test of LED replacement for standard fluorescent tubes. The DOE discovered that LED "fluorescents" were not ready for prime time. They don't produce enough light to be adequate substitutes for standard tubes, although they do use energy efficiently.

Similarly, despite all the hoopla, you can't light a warehouse by using LEDs; based on their current light output, you'd need so many LEDs, it would defeat the purpose of saving energy.

The DOE has a [program](#) to test LED products and report on the manufacturers' claims of light output. And there's even a [labeling scheme](#) that's been devised that spells out how much light a particular LED product produces, the color temperature of the light, the amount of power it uses and other facts.

The label will be familiar to consumers, because it has taken its design cues from the standard government nutrition label found on most foods. But this one won't be seen on LED products; it's aimed at professionals, who can use the information to decide which products to purchase.

Meanwhile, experts recommend that customers approach LED replacement products with caution. And consumers might want to consider Mr. Brodrick's advice when it comes to purchasing an LED product: "sit tight for now."