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*The L Prize Update is an electronic newsletter to share the latest information on the competition, entrants, and partner activities involved in this race to replace the common light bulb. More details on the competition can be found at the [L Prize website](#).*

## DOE Awards First L Prize

On August 3, DOE named Philips Lighting North America as the first L Prize winner, for its entry in the 60W replacement bulb category – which provides an energy-efficient alternative to a product that has remained largely unchanged for more than a century. The award was presented to Zia Eftekhari, CEO, Philips Professional Luminaires, by Dr. Arun Majumdar, DOE Senior Advisor to the Secretary and Director of DOE's Advanced Research Projects Agency-Energy (ARPA-E), at a Capitol Hill event this month. Among the other participants at the award ceremony, which was hosted by Senators Jeff Bingaman (D-New Mexico) and Lisa Murkowski (R-Alaska), were Ed Crawford, CEO, Philips Lighting North America, and Liesel Whitney-Schulte, Lighting Program Manager, Wisconsin Energy Conservation Corporation, representing the L Prize Partners.



*Dr. Arun Majumdar of DOE presents the L Prize award to Zia Eftekhari of Philips. Photo courtesy of Philips.*



*From left: Dr. Arun Majumdar, DOE; Zia Eftekhari, Philips; Senator Lisa Murkowski (R-AK); Senator Jeff Bingaman (D-NM); Liesel Whitney-Schulte, WECC; Ed Crawford, Philips. Photo courtesy of Philips.*

Philips' L Prize-winning LED bulb, slated to arrive in stores as soon as early 2012,

represents a significant leap forward for energy-saving lighting technology. A remarkable product in terms of its light quality and longevity as well as its environmental impact, it consumes less than 10 watts to produce more than 900 lumens. Replacing every 60W incandescent bulb in the country with the L Prize winner would not only avoid 20 million metric tons of carbon emissions each year, but would save approximately 35 terawatt-hours of electricity annually – enough to power the lights of nearly 18 million households, and worth almost \$4 billion annually to consumers.

## Final Testing Results

The L Prize winner has cleared an extraordinarily high bar, successfully completing 18 months of intensive field, lab, and product testing and expert evaluation to ensure that performance, quality, lifetime, cost, and availability meet expectations for widespread adoption and mass manufacturing. The 2,000 sample lamps Philips submitted to DOE in late 2009 for the L Prize competition underwent a public evaluation process more rigorous than any other light bulb in history.

First, photometric testing, conducted according to IES LM-79, was completed on 200 samples in March 2010:

	L Prize Requirement	Philips Result (average for 200 units)*
Luminous flux (lumens, lm)	> 900 lm	910 lm
Wattage (W)	≤ 10 W	9.7 W
Efficacy (lm/W)	> 90 lm/W	93.4 lm/W
Correlated color temperature (CCT)	2700-3000 K	2727 K
Color rendering index (CRI)	> 90	93

\* NOTE: Approval was based on a complete analysis of the distribution of values for each parameter, not just the average values.

Once photometric testing was completed, the same 200 samples were tested for 7,000 hours in a high-temperature environment (45°C/113°F). The minimum test period was completed in April 2011. The data, collected weekly, were used to predict lumen maintenance of the lamps at 25,000 hours:

	L Prize Requirement	Philips Result*
Lumen maintenance at 25,000 hours	70%	99.3%
Color maintenance (change in color point as measured on the CIE 1976 (u',v') diagram)	< 0.004	0.0006

\* NOTE: There is a 95% probability the lamps will perform at least as well as the values above.

Next, [field assessments](#) at 40 sites across North America were carried out in the summer and fall of 2010 by 14 L Prize Partners on more than 1,300 sample lamps, which were installed in a wide variety of fixture types, covering food sales and service, healthcare, lodging, office, public assembly, retail, and residential settings. Surveys were used to obtain user feedback:

Results	Survey Result
Would you recommend this type of lighting to others?	74% said "Yes"
Is the light too dim? Too bright? Just right?	67% said "Just right"
Is the light too cool (blue) or too warm (yellow)?	61% said "Just right"

Lamp samples, benchmarked against 60W replacement CFLs, were subjected to stress testing, in which a simultaneous combination of electrical, thermal, vibration, and humidity stresses were successively increased while photometric performance was conducted to assess any changes in performance. All of the CFLs failed at some point during this process, while all of the Philips lamps survived.

## L Prize Partners Poised to Promote Winning Product

As the first L Prize entrant in the 60W replacement category to meet the competition's requirements, Philips received a \$10 million cash prize. In addition, 31 L Prize Partners are working with DOE and Philips to promote and develop markets for the winning product. These partners – comprising utilities and energy efficiency organizations – provide access to more than 100 million potential customers. Product promotions could take many forms – including incentives paid directly to manufacturers or consumers; partnerships with retailers; collaborative marketing and promotion, such as advertisements, point-of-purchase information, or educational materials; and demonstrations and promotions with local homebuilders, commercial developers, hospitality chains, local government, schools, and universities. DOE also will facilitate discussions between Philips and the U.S. General Services Administration about potential government purchases of the L Prize-winning product.

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