

Line-Voltage Socket Design Competition for CFL Luminaires

Consumers will soon find it easier to purchase replacement parts for their energy-efficient home lighting. A new line-voltage socket design for compact fluorescent lamp (CFL) luminaires, developed through an LRC-organized competition, will become a design standard for ENERGY STAR® qualified luminaires.

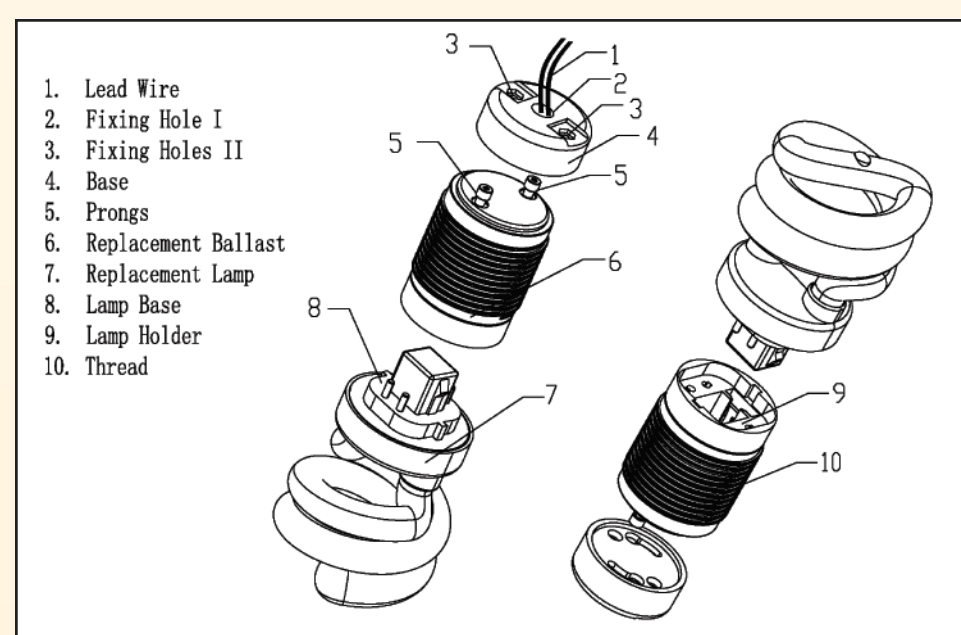
Why a design standard?

Most ENERGY STAR residential luminaires use pin-based CFLs. The ballast for the CFL is either built into the luminaire, or the consumer must purchase a replaceable ballast that plugs into the luminaire's line-voltage socket. No design standard exists for the socket, and therefore, no standard exists for the replaceable ballast base that connects with the socket. Without standards, replaceable ballast products for CFL-dedicated luminaires are not interchangeable.

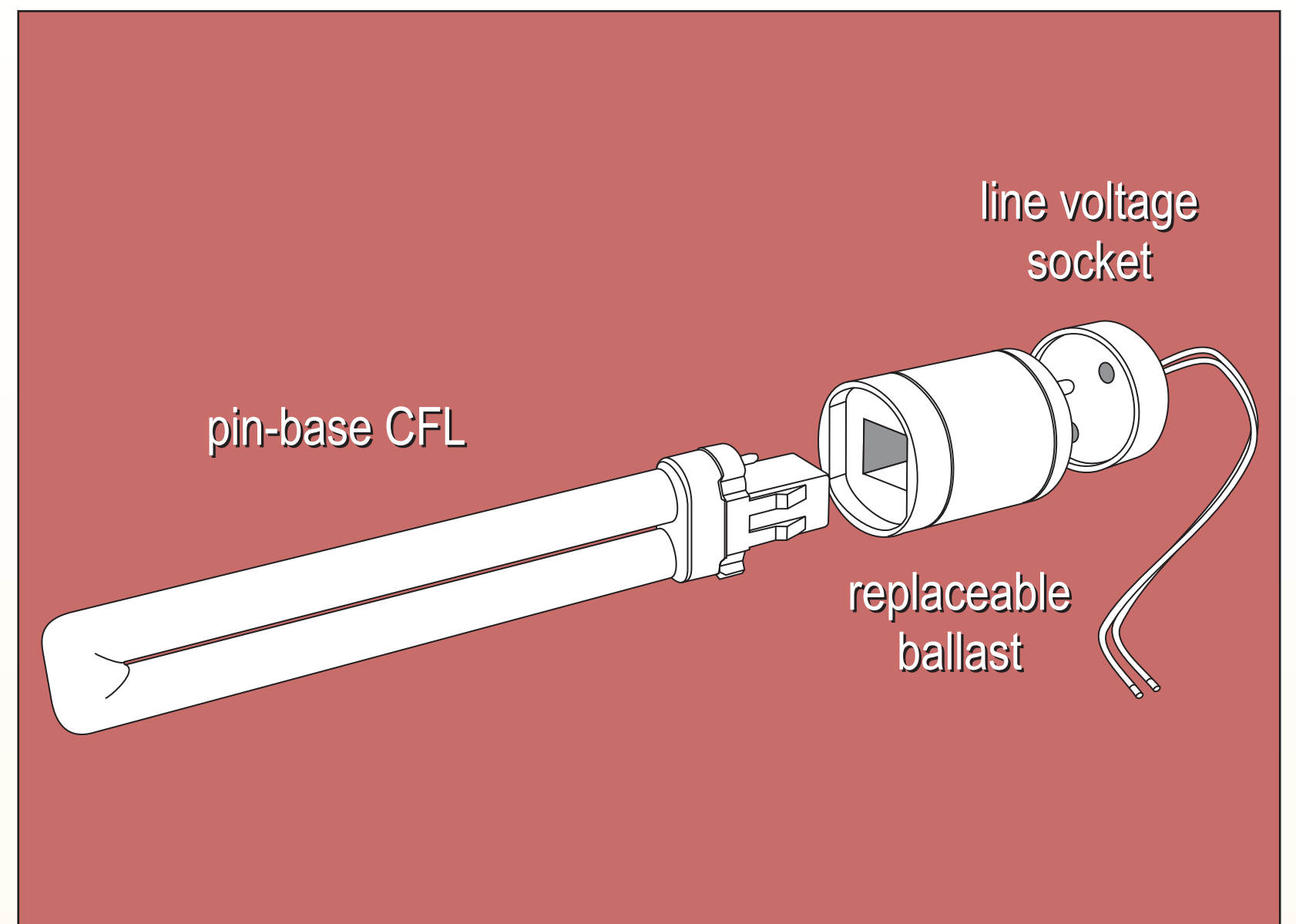
Design competition

The LRC, with support from the U.S. Environmental Protection Agency (EPA), invited manufacturers to submit line-voltage socket designs suitable for residential luminaires of 26 watts or less, including floor and table lamps, wall sconces, chandeliers, and ceiling fans.

Entries were reviewed by a panel of representatives from luminaire, ballast, and lamp manufacturers, energy-efficiency organizations, the American Lighting Association, and the LRC. The winning socket design was submitted by Viva Lighting. The design maintains an open protocol and is available to competitors without any royalties.



Viva Lighting's winning design is available through the LRC Web site.



Replaceable electronic ballasts for ENERGY STAR residential luminaires are becoming more popular. Currently, no design standard exists for line-voltage sockets (i.e., what the replaceable ballast plugs into). The lack of a standard socket means that when the replaceable ballast dies, consumers must find the correct replacement that fits their luminaire's particular socket. Difficulties with buying replacement parts can limit product acceptance.

Next steps

The EPA is formalizing the design and working with its manufacturing partners to include it in ENERGY STAR specifications. In addition, the EPA and LRC are collaborating with manufacturers to write an ANSI standard for the line-voltage socket and the ballast base, including pin dimensions that fit with the new socket.

For more information

Line-Voltage Socket Competition Web site:
www.lrc.rpi.edu/programs/lightingTransformations/lineVoltage

Sponsor

U.S. Environmental Protection Agency