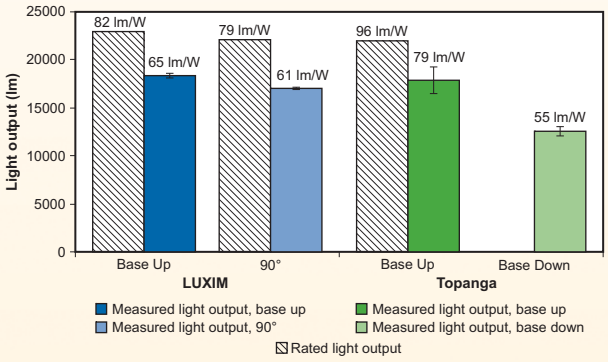
Lighting Answers: Plasma Lighting Systems

The National Lighting Product Information Program (NLPIP) conducted a study of plasma lighting systems. These systems, also known as electrodeless high-intensity discharge (HID), light-emitting plasma (LEP), high-efficiency plasma (HEP), or advanced plasma lighting (APL), are emerging in the marketplace primarily for high-bay and outdoor lighting applications. The report, *Lighting Answers: Plasma Lighting Systems*, helps lighting specifiers to understand their operation and performance characteristics, including light output; system efficacy; color characteristics; rated life; operating orientation; dimming, warm-up, and restrike times; electromagnetic interference and compatibility; and ultraviolet radiation. This report also provides survey results of lighting specifiers about current opinions on the application of plasma lighting.

NLPIP obtained and tested plasma lighting systems manufactured by Topanga (right) and LUXIM (below).



Rated light output vs. measured light output of tested lamps at different operating orientations. (Rated base-down light output was not published by Topanga.)

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Key findings include:

- Purchasing plasma lighting systems can be difficult.
- The tested plasma lighting systems have system efficacies comparable to conventional sources used for high-bay and outdoor lighting applications.
- The tested plasma lighting systems have color rendering characteristics comparable to conventional sources although they have a greenish-white tint.
- The tested plasma lighting systems could be dimmed, but dimming impacts color and system efficacy.

Lighting Answers: Plasma Lighting Systems is available free to the public, courtesy of the NLPIP sponsors, at: www.lrc.rpi.edu/nlpip/publicationDetails.asp?id=936&type=2

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