Specifier Report: Photosensors

Photosensors are devices often used to integrate an electric lighting system with a daylighting system so lights operate only when daylighting is insufficient. A photosensor adjusts the output of a lighting system based on the amount of light it senses.

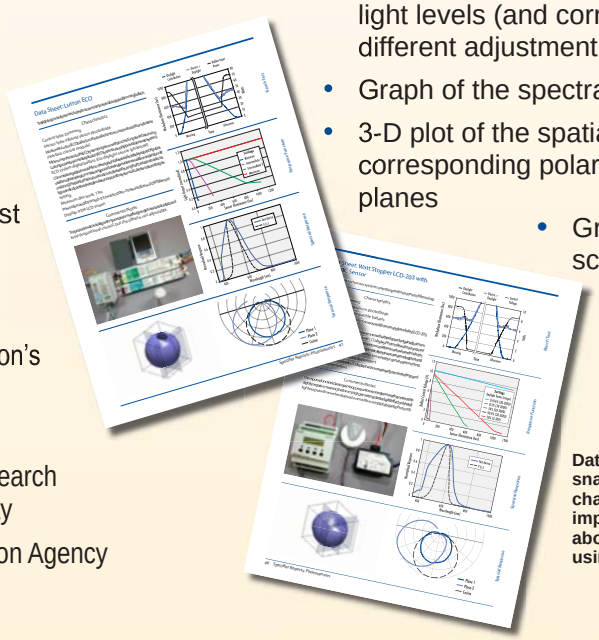
Photosensor technology has advanced dramatically, so the National Lighting Product Information Program (NLPIP) tested several newer photosensors, including those that have embedded digital processors, offering more control options than previous analog designs and assisting installers through the setup process.

Specifier Report: Photosensors replaces a similar report produced in 1998. The new report presents the findings of the NLPIP testing and provides information to help in the selection, installation, and setup of these types of photosensors.

Testing

NLPIP tests, conducted at the Lighting Research Center laboratory in Troy, New York, included 14 products from 10 different manufacturers. Of the 14 products tested, nine were dimming controls, four were on/off switching controls, and one both switched and dimmed.
The testing included:

- Spatial response
- Spectral response
- Response function
- Scale model bench test



Data sheets provide a snapshot of product characteristics and important information about selecting and using photosensors.

Sponsors

California Energy Commission's PIER Program

Iowa Energy Center

New York State Energy Research and Development Authority

U.S. Environmental Protection Agency

Scale model bench test apparatus

Results

This report summarized its test results in the form of data sheets for each product tested. These data sheets contain valuable information, including:

- Short product description
- Photograph of the photosensor and necessary control components
- Listing of characteristics, features, and notable observations from testing
- Graph of the open-loop response function for different setup adjustments. For switching systems, a bar chart shows the switching light levels (and corresponding deadband) for different adjustment settings.
- Graph of the spectral response function
- 3-D plot of the spatial response with corresponding polar plots of the two indicated planes
- Graph showing results of the scale model bench test

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Lighting Research Center

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