

# IMARK NOW

## CAPTURING YOUR CUSTOMERS

### PLUS

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Preparing the Sales  
Execs of Tomorrow

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Advances In Wiring Devices

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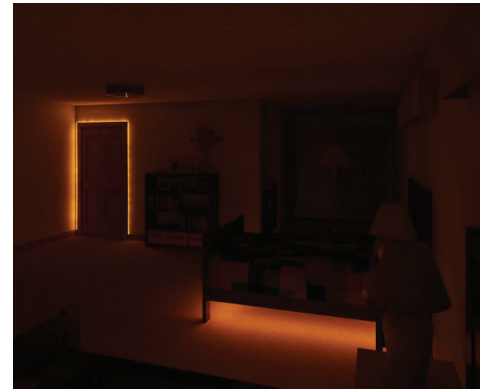
Co-op Marketing Yields  
Results with Proper Planning

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Bring Back Old-School Service



# CIRCADIAN LIGHTING PATTERNS MAKE HEALTHY BUILDINGS



*The Lighting Research Center has created a website to assist in luminaire selection and placement for “healthy” buildings.*

Circadian lighting is an increasingly popular topic in the lighting design community. Science has shown the correlation between light exposure and the human circadian cycle, but what does it take to implement a circadian lighting solution in a built environment?

Lighting characteristics affecting the circadian system are different than those affecting visibility. When specifying lighting for the circadian system, it is important to consider light level, spectrum (color), timing and duration of exposure, and photic history (previous light exposures).

A team of researchers at the Lighting Research Center (LRC) at Rensselaer Polytechnic Institute in Troy, New York have created a portfolio of lighting patterns, available via the interactive website, “Lighting Patterns for Healthy Buildings,” to help lighting professionals select and place luminaires that will support circadian health and wellbeing.

Each pattern includes lighting plans, renderings and general luminaire information that can be used to create a healthy lighting atmosphere throughout the 24-hour day.

The Light and Health Alliance, including IMARK suppliers Acuity Brands, GE Lighting, Sylvania (LED-VANCE) and Philips Lighting, sponsored the project.

For more information, visit [lightingpatternsforhealthy-buildings.org](http://lightingpatternsforhealthy-buildings.org).

## **Circadian Alzheimer’s Care at Cypress Cove**

Lighting tailored to the needs of an individual can improve sleep and reduce depression and agitation in persons with Alzheimer’s disease, according to a series of studies led by Dr. Mariana Figueiro, Light and Health Program Director at the LRC.

The constant, unvarying dim light found in many long-term care facilities means that older adults are not experiencing the daily patterns of light and dark that synchronize the body’s circadian clock to local sunrise and sunset. Disruption of this 24-hour rhythm of light and dark affects biological systems, including DNA repair in single cells to melatonin production by the pineal gland in the brain. Circadian disruption is most obviously linked with disruption of the sleep-wake cycle—feeling sleepy during the day and experiencing



*Cypress Cove Memory Care Center will benefit from high circadian stimulus (CS) values for daytime activities and low CS values for evening hours.*

sleep problems such as insomnia at night—but is also linked with increased risk for diabetes, obesity, cardiovascular disease and cancer.

When Figueiro was asked to make lighting recommendations for the new Cypress Cove Memory Care Center in Fort Myers, Florida, her project team designed and specified the lighting, using the circadian stimulus (CS) metric. The CS metric, developed by LRC researchers, is a measure of the effectiveness of optical radiation on the retina for stimulating the human circadian system. Currently under construction, the new facility

will house 24-hour cycled electric lighting that will provide high CS values for daytime activities and low CS values for evening hours.

To help lighting professionals select light sources and targeted photopic light levels that will increase the potential for circadian light exposure in buildings, the LRC developed a CS calculator to determine CS for any combination of source type and light level in photopic lux. The calculator is available at <http://www.lrc.rpi.edu/programs/lightHealth/index.asp>.