

# Study: lighting and how it affects health

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Rensselaer Polytechnic Institute scientists in Troy, N.Y., say they've discovered a way of testing architectural lighting and how it affects human health.

Researchers at the institute's Lighting Research Center have developed a model that postulates the mechanisms by which humans process light for the circadian system -- the body's system that regulates rhythms, such as body temperature, hormone production, alertness, and sleep patterns.

"The model is important in two ways," said Mark Rea, director of the LRC and lead researcher on the project. "It is theoretically important for generating hypotheses about neural mechanisms; and it is practically important for predicting the relative effectiveness of different light sources for impacting the human circadian system.

"The model takes into account the high sensitivity of the human circadian system to short-wavelength (blue) light," explained Rea. "But it also considers evidence for a phenomenon known as spectral opponency. When middle-wavelength (yellow) light is added to short-wavelength light, the resulting white light is actually less effective at regulating the circadian system."

The research is summarized in the Brain Research Reviews online journal and will be published in an upcoming print edition of the journal.

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