

# Daylight and Productivity: Phase II (Ongoing Lab Study)

**B**asic research in circadian photobiology suggests that light has an important role in regulating human behavior. A previous pilot study conducted in the field (2001) showed that the presence of daylight positively affected worker productivity. For that field study, productivity was defined as time on task; workers in windowed offices spent 15% more time on task than their colleagues working in interior offices. A follow-up study was undertaken to objectively monitor productivity under controlled laboratory conditions. A replication of the original field study was also undertaken during June and July 2003.

## Hypothesis

Lighting Research Center (LRC) researchers hypothesized that during the winter months the absence of daylight in interior spaces might have a negative effect on worker productivity.

## Methodology

In January 2003, LRC hired 16 subjects from a temporary agency to perform simulated office tasks for nine hours per day. Subjects arrived before sunrise, and departed after sunset, thus controlling their exposure to daylight outside the lab. Subjects were asked to perform computer tasks in both interior and windowed offices. After four days, subjects took a three-day weekend, then returned to work in the opposite condition for four more days. LRC measured worker productivity using standardized performance tests, break time, and dietary intake, as well as ergonomic comfort and opinions about the luminous environment.

## Next steps

Data from the field and lab studies are being analyzed and results will be presented to sponsors and industry.

## Sponsor

New York State Energy Research and Development Authority (NYSERDA)

## Equipment loan and donation

GE Lighting  
IBM  
The Watt Stopper



Lighting  
Research Center



Above: Windowed office condition

Below: Interior office condition

