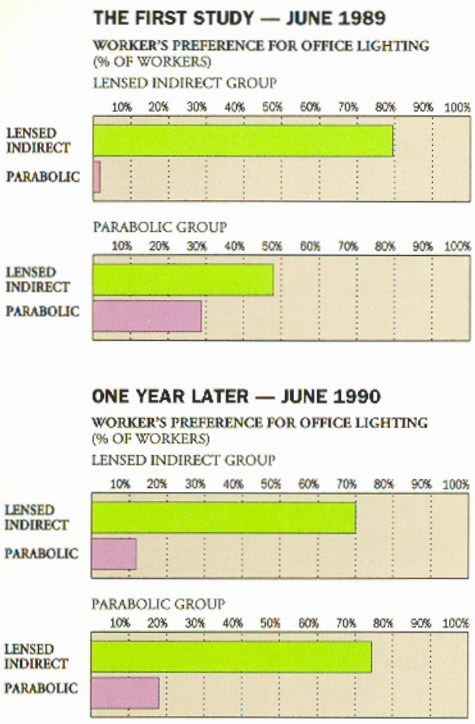
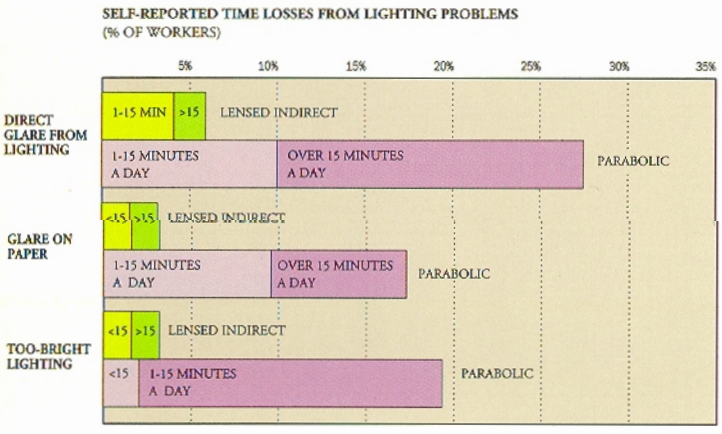
Cornell University

"Lighting the Computerized Office"

Principal investigators: Alan Hedge, Ph.D, Associate Professor; William R. Sims Jr., Ph.D, Professor and Chairman and Franklin D. Becker, Ph.D, Professor, Department of Design and Environmental Analysis, New York State College of Human Ecology, Cornell University, Ithaca, New York. Extracts and conclusions presented to the Human Factors Society October 1989. Supplementary study report completed September 1990.





In 1989, researchers at Cornell University made arrangements with Xerox Corporation to conduct a two-year real-world study. Xerox had offices in Rochester, New York that had obsolete lighting and were scheduled for renovation. After renovation, half the building had the finest-quality parabolic downlighting then available, while the other half had the finest-quality lensed indirect uplighting then available. Otherwise, color scheme, furniture, carpeting and fluorescent lamp types were standardized. After two years under the two types of lighting, the workers reported dramatic differences between the systems, in preference and in work-related health complaints. The study also found another remarkable fact. In the parabolic section of the building, workers had modified 79 of the 164 fixtures and had completely disconnected ten of them.

Problems under parabolics cut into worker productivity.

Daily complaints of tired eyes and eye focusing problems were twice as frequent among the parabolic group.

Open plan partitioned area with parabolic downlighting

10'x15' enclosed office

Open plan partitioned area with lensed indirect lighting

10'x15' enclosed office