

Commercial Office Building
Rockford, Illinois

C A S E S T U D Y

ENERGY SAVINGS SCIENTIFICALLY VERIFIED



In order to scientifically and precisely verify the energy-saving properties of energy-control window film, CPFilms Energy Solutions Division joined forces with Johnson Controls, a leading national Energy Service Company (ESCO), to a mount controlled research trial.

The location and duration (twelve months) of the trial were deliberately chosen to demonstrate energy savings in both cooling and heating seasons in a cool climate. This trial also clearly demonstrated that energy-control window films are not a 'warm-climate only' product. In early 2002, LLumar® E-1220 Low-E solar control and insulating film was installed on an eight-story commercial office building near Chicago (Rockford, Illinois). The building has a conditioned space of 59,000 square feet and its windows are single-pane bronze tinted glass. Heating and cooling is provided through all-electric room unit ventilators.

Prior to film installation, CPFilms created a computer-driven model which simulated energy savings, using the U.S. Department of Energy analysis method (DOE-2) to serve as a benchmark.

The independent ESCO test made use of a methodology fashioned by IPMVP Inc. (International Performance Measurement and Verification Protocol), a worldwide non-profit organization which develops products and services to aid in the measurement and verification of energy savings from energy efficiency projects. During the twelve months following film installation, IPMVP measured energy savings of 8.8% were noted, yielding a 3-year payback. This compared favorably with the simulated DOE-2 analysis which had shown 8.4% energy savings and a return of the initial investment within three years.

The analytical experiment unquestionably demonstrated that substantial energy savings can be obtained through the installation of energy-control window film with the reasonable expectation that initial installation investment can be cost-effectively retrieved. Moreover, energy savings can be accurately predicted using DOE-2 computer simulation methods. For more detailed information concerning this case study, please send an email to EnergySolutions@CPFilms.com

