



CASE STUDY: Government facility achieves 15% annual energy savings

Building

Carroll County Courthouse

Location

Mount Carroll, Illinois, USA

Window Film

N-1020B SR CDF (Bronze)

Type

Solar Control Film



SITUATION

The Carroll County Courthouse is a classic “town hall” building that stands in a square in the middle of the town of Mount Carroll. Built in the early 19th century, the courthouse has served the town and community for nearly 200 years. Its large courts and chambers were often too cold in the winter and hot in the summer. The government wanted a cost effective solution to improve energy savings.

SOLUTION

When the 12,000-square-foot building was remodeled, Johnson Controls, a global Energy Services Company (ESCO), was contracted to audit energy consumption and prepare a recommendation for improved efficiency. LLumar Neutral Series N-1020B was recommended to be installed on all windows and glass doors because of its superior heat control properties.

RESULT

Professionally installed by the local LLumar dealer, LLumar window film reduces excessive summer solar heat gain by 73% and contributed 15% annual savings in heating and air conditioning costs. The installation of LLumar neutral window film reduced glare and provided superior ultraviolet (UV) protection for interior furnishings and the occupants.

Performance Data

	% Total Solar Transmittance	% Total Solar Reflectance	% Total Solar Absorbance	% Visible Light Transmittance	% Visible Reflectance (exterior)	% Visible Reflectance (interior)	Winter U-value	Shading Coefficient	% Ultraviolet Ray Protection (wavelengths 280-380nm)	Emissivity	Solar Heat Gain Coefficient	% Total Solar Energy Rejected	Light-to-Solar Heat Gain Ratio (LSG)	% Summer Solar Heat Gain Reduction	% Winter Heat Loss Reduction	% Glare Reduction
Clear Glass	83	8	9	90	8	8	1.03	1.00	29	0.84	0.86	14	1.05	0	0	0
Neutral Series	Neutral films reduce glare, provide good heat rejection and are specified where a soft, neutral appearance is desired. These films are made with sputtered technology. Neutral films are scratch-resistant and shield 99% of UV rays.															
N-1020B SR CDF (Bronze)	12	49	39	20	37	35	0.93	0.27	99	0.69	0.23	77	0.87	73	10	78

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The solar performance data reported for LLumar architectural window films was captured using the National Fenestration Rating Council's (NFRC) standard guidelines for window film solar performance measurement as measured on single pane, 1/8 inch (3mm), clear glass. All values averaged from routinely accumulated quality control data.

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