



**CASE STUDY:** School cuts energy costs 15%

**Building**

Erie School System

**Location**

Erie, Illinois, USA

**Window Film**

N-1020B SR CDF (Bronze)

**Type**

Solar Control Film



**SITUATION**

The Erie School System, a combination of the high school, elementary and pre-schools on one campus, had serious budget concerns led by high heating and air conditioning costs. To address the issue, school authorities contacted Johnson Controls, a global Energy Services Company (ESCO) to audit their campus and to recommend energy conservation measures.

**SOLUTION**

LLumar Neutral Series N-1020B film was recommended for the project because of its superior heat control properties. Professionally installed by the local LLumar dealer, this window film reduces excessive summer solar heat gain by 73%. The film further contributes to the learning environment by reducing glare 77%. As part of the project, exterior series film was fitted to the outside of 70 panes of skylight glass to successfully curb heat and glare by 83%.

**RESULT**

LLumar contributed energy savings of 15% across the campus. In addition, these films created a clean contemporary appearance, provided added comfort for building occupants, and significantly reduced glare.

**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	-	-	-
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)	13	49	38	21	37	35	0.90	0.27	>99	0.59	0.23	77	0.91	73	13	77

**EASTMAN**

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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 (3 mm), clear glass. Reported values are taken from representative product samples and are subject to normal manufacturing variances. Actual performance will vary based on a number of factors, including glass type and properties. Films do not eliminate fading - they reduce it. UV rays and heat are contributing factors to fading, but other factors exist. For further information, see LLumar.com/download-library. © 2016 Eastman Chemical Company. LLumar® and the LLumar® logo are trademarks of Eastman Chemical Company or one of its wholly owned subsidiaries. As used herein, ® denotes registered trademark status in the U.S. only. (06/16) L1626