

## CASE STUDY: National treasures no longer exposed

### Building

National Gallery of Art

### Location

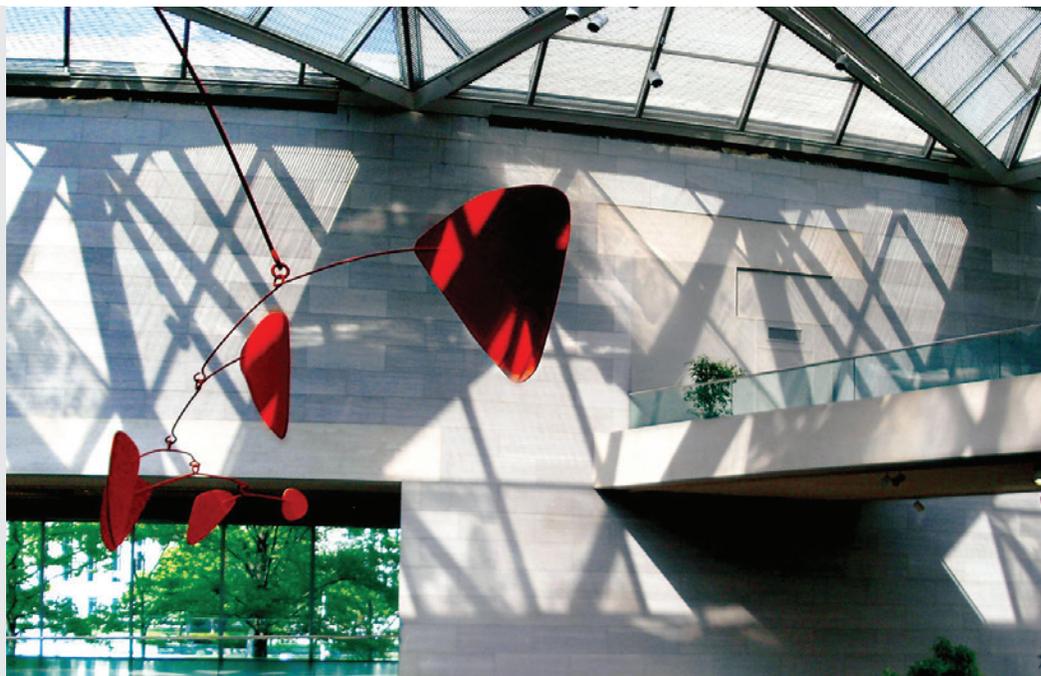
Washington, D.C., USA

### Window Film

N-1050 SR CDF (Neutral)

### Type

Solar Control Film



## SITUATION

A gift to the nation from the famous financier and art collector, Andrew Mellon, the National Gallery of Art was built in 1937. Today, the Gallery houses over 100,000 pieces of art, offering one of the finest collections in the world. With paintings, sculptures, and graphic arts dating from the Middle Ages to the present, too many of its exhibits were exposed to damaging ultraviolet sunlight.

## SOLUTION

In an effort to protect its priceless treasures from the harmful effects of the sun, the National Gallery made the decision to install 10,000 square feet (929.03 square meters) of LLumar® N-1050 Neutral window film on its exterior windows. The film, the Gallery's management was told, would filter out the vast majority of harmful ultraviolet light that threatened to fade and discolor the irreplaceable art inside the building.

## RESULT

The LLumar N-1050 Neutral window film delivered just as promised. The nation's art now enjoys 99% protection against harmful ultraviolet light. Additionally, the film rejects 41% of all solar energy, helping lower the museum's cooling costs.

## 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-1050 SR CDF (Neutral)	46	12	42	50	14	11	1.07	0.68	99	0.89	0.59	41	0.85	31	-3	44

## 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) L1368