

Energy efficiency problems solved




Building
Edison Plaza

Location
Detroit, Michigan

Film
E-1220 SR CDF Low-E

Type
Solar Control Film

SITUATION: Behind the beauty and drama created by the glass facade of the Edison Plaza office building lay a host of challenges for Jessica Sims, a property manager. “During the summer, we’d have to start our two 820-ton chillers at four in the morning to have the building cool enough by nine,” said Sims, “and then we’d have to run at capacity for most of the day. But the fact that one side of the building would be freezing while the other was hot told us that the sun was preventing us from maintaining a consistent temperature throughout the building, and that the factory tint in the glass was not sufficient to do the job.” Sims also mentioned an additional aesthetic problem created by some tenants drawing blinds to cut the heat or for privacy, which created an unappealing checkerboard effect from the street.

SOLUTION: After a lengthy investigation of available films and installers, Sims chose LLumar Low-E 1220 Window Film for all 80,000 square feet (7,432m²). “You could feel the difference when you stepped in front of one of the test panels and then back into an untreated area,” said Sims. “Since the LLumar Film was installed, the improvement in our ability to control and maintain temperature has been dramatic.”

RESULTS: Edison Plaza expects to reduce its annual energy use by at least 5%, partly due to a 70% reduction in heat gain and a lowering in its chiller capacity from 100% to 80%. Consistency in climate control has been achieved. With the reduced energy usages and a \$24,000 energy rebate, the entire installation will be paid back in less than three years!

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LLumar Architectural Window Film Performance Data

Low-E Series

E-1220 SR CDF (Silver)

% Total Solar Transmittance	% Total Solar Reflectance	% Total Solar Absorptance	% Visible Light Transmittance	% Visible Reflectance (exterior)	Winter Median U-value	Shading Coefficient	% UV Rejected	Emissivity	Solar Heat Gain Coefficient (SHGC)	% Total Solar Energy Rejected	Light-to-Solar Heat Gain Ratio (LSG)	% Summer Solar Heat Gain Reduction	% Glare Reduction
8	58	34	12	66	0.77	0.18	99	0.36	0.15	85	0.80	82	87