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Title: Balancing daylight, glare, and energy-efficiency goals:
An evaluation of exterior coplanar shading systems using
complex fenestration modeling tools

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Highlights

New Radiance and EnergyPlus simulation tools can model shades more accurately.

Exterior shades were characterized with bidirectional scattering distribution data.

Shade geometry, material finish, and solar cut-off angle affect system performance.

For some systems, additional indoor shades are needed to control discomfort glare.

With good design, exterior shades can significantly lower annual energy use.

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