Researchers at the University of South Florida have developed a novel adaptive device for precise passive lighting control.

Natural daylight is an important aspect in creating a more efficient and vibrantly appealing interior environment. It provides great illuminance. In addition, natural light stimulates many biological functions that are essential to human health. It is therefore ideal to develop a device to reflect the natural daylight onto a room effectively reducing the need for artificial light.

Our inventors have developed a periodic compliant mechanism for solar shading. The technology is a perforated panel that creates controlled, and diffused lighting conditions for interior and exterior spaces, while possessing an intensely saturated material quality. This novel technology is comprised of flat, bi-material sheets that are carefully attached at elongated tabs, but arranged to slide past one another just slightly when mechanically put into motion. As a result, this device allows light to pass through the panel at the same time, maintaining visual privacy and blocking direct light.

This technology is directly applicable to the architectural industries.

ADVANTAGES:
- Maintains visual privacy
- Blocks direct light
- Permits passage of diffused light
- Adjustable

Microloop Panel

Microloop Concept Rendering showing panel in partly-open conformation