Hybrid Fiber Optic LED Lighting
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The Sunlight Collector
transmits the sun throughout the day and is located on a building’s roof or facade.

The Fiber Optic Cable
transmits the collected sunlight from the exterior into a building’s deep interior spaces.

The Luminaire
distributes the available sunlight and supplements it with LED lighting when necessary.

The Lighting Control System
- optimizes the lighting condition based on available sunlight.
- engages dynamic LED lighting if no sunlight is available
- wirelessly coordinates multiple light fixtures.
- allows a user to control everything from a web or phone app.

Light & Health
Natural full spectrum lighting regulates circadian rhythms, and decreases the likelihood of SAD.

When the sun is out, the interior luminaire emits natural light. In overcast weather and during the evenings, the luminaire’s efficient LEDs activate to mimic the brightness and quality of the sun.

Bringing the Outside In
The system boosts reduced energy consumption, high CRI, dynamic color temperature, long lamp-life, standard-sized parts, BMS integration, and an ROI due to energy savings of up to 60%.

The Lighting Exhibit
In a small room used to display the luminaire and to perform lighting quality and human factors tests.

Tradeoffs
- costs of fiber optic cable decreasing LED costs
- less diameter/fiber tolerance

Iris Luminaire
- tracks whether the LEDs are on or off
- Glare brightness in the center when the sun is out
- Dim brightness at the edges when the LEDs are on
- Can dim with iris aperture