



CASE STUDY:

Parans Fiber Optic Skylight Installation at a Private Residence Montgomery County, Maryland

Installation Date: March 11, 2008

Location: A private residence in Montgomery County, Maryland

Issue: The stairway area did not have any natural light. Due to the roof design and the finished attic space, a traditional skylight installation was not possible.

Result: The Parans Fiber Optic Skylight System was installed to bring natural light deep into interior spaces. Lighting the stairway and the artwork located in the second floor hallway was achieved with healthy, pure, natural light with no UV and no IR. 100 CRI creates beautiful colors.



Left:
Exterior view of a private residence with the Parans SP2 sunlight harvesting panel (see orange circle) just barely visible above the roof line.

Bottom:
Close up of SP2 sunlight harvesting panel, mounted at 39 degree angle to match latitude. Each lens has a 120 degree range of motion on two axis to track and concentrate the sunlight



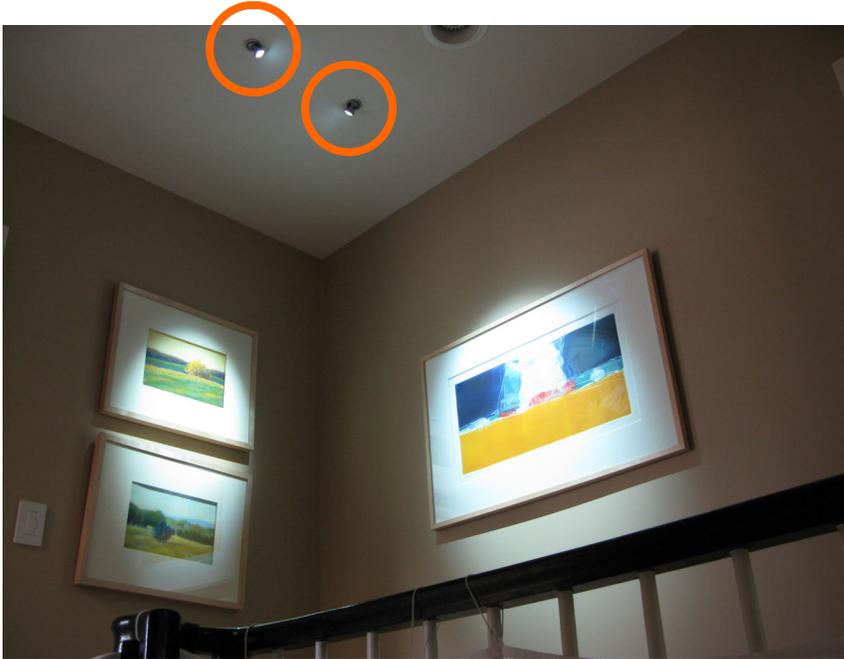
Left:
Close up of Parans sun tracking lenses. The lower focusing element glows as the upper Fresnel lens directs the sun light to it





CASE STUDY:

Parans Fiber Optic Skylight Installation at a Private Residence



Left:

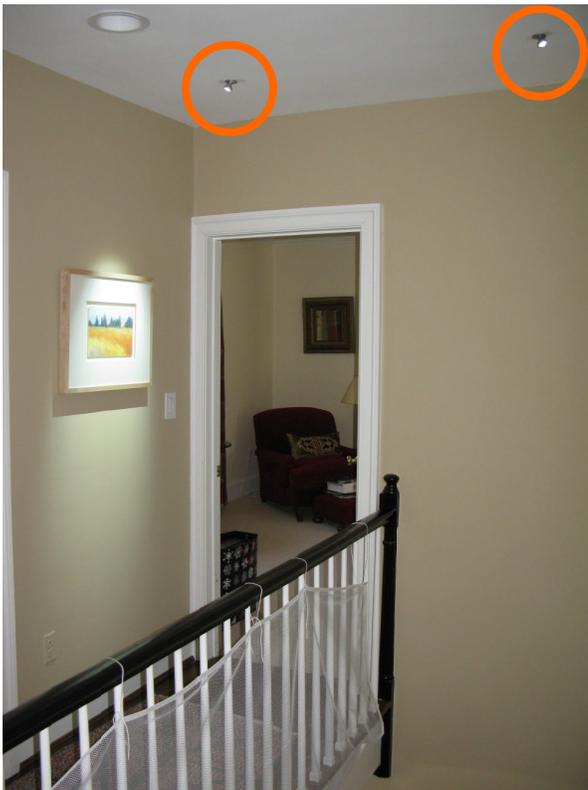
Two L3 spotlight luminaires mounted in the ceiling focus the sunlight from the SP2 onto the artwork.

3/13/08 at 2:05 PM, light meter reading on the artwork was 74 foot-candles from 20 meter long fiber optic cables



Right:

A pre-installation view of an L3 spotlight luminaires. The fiber optic cable is attached and ready to be installed into the ceiling



Left:

In the hallway and above the stairway two Parans L3 luminaires are installed. This is a small spotlight type fixture. (see the orange circle around each fixture) Each L3 has a fiber optic cable, 12 meters long.

3/13/08 at 2:15 PM, light meter reading on the artwork was 137 foot-candles