

KUNI Radio Series “Unplugged”
Show #26: Tubular skylight

From the Center for Energy & Environmental Education at the University of Northern Iowa, this is Pat Higby with a series of programs on KUNI to help you save energy.

Natural lighting makes people happy, whether they are at school, at work, or at home. Studies of 21,00 students in three states showed improvements of 5 to 18% in test scores of children in schools with the most daylighting. Employees who work in daylit spaces are 6 to 16 percent more productive and have less absenteeism. In our home the addition of daylighting in a windowless bathroom and hallway made the areas much more appealing, but I have no way to measure this numerically!

We added tubular skylights when we re-shingled our house. These small skylights distribute light evenly and do not cause ultraviolet light damage to carpets or furniture. They fit between the rafters, so they are very easy to install. The air filled tube from the roof through the attic to the ceiling provides insulation, so they **reduce** heat loss in the winter and heat gain in the summer. Some tubular skylights include a light fixture. If you are building a new home, this combined system may be less expensive than two separate units.

On your roof a tubular skylight looks like a large bubble! Their small size and clear material minimize their appearance. Considering their small size, the amount of light they channel into your home is amazing. Tests in Alberta, Canada showed a **single** 13-inch tubular skylight was equivalent to the light from a 700-watt incandescent bulb in **December**, and a **1,200**-watt bulb in June! In our home, on a night with a bright full moon, I thought I had left the hallway light on, but it was the skylight that provided the warm glow!

To be most effective, tubular skylights should be mounted where they receive direct sunlight for large portions of the day. Shaded areas or a north sloping roof will provide less light, but are still beneficial. Transmitted light also decreases with tube length. I have not found information on the effectiveness of **wall**-mounted tubular skylights, but I would like to install one on the south side of our house with a tube into a very dark corner of our basement.

Tubular skylights are available at many local building centers. They range in price from 150 to 300 dollars. The amount of energy saved varies with the application, but the psychological effect is guaranteed. People are happier with natural light, and the glow of moonlight through your skylight is beautiful!

I'm Pat Higby, Energy Educator at the Center for Energy and Environmental Education at the University of Northern Iowa.