

# Net Zero Energy Buildings: Lighting and Daylighting Design

## Companion to the video: Script and Illustrations

Getting smart about lighting is an important step to reducing your building's energy demands.

Good lighting design means using daylighting, efficient lights, and good controls.

Daylighting is a passive strategy that won't just cut your lighting load; it also makes people happier and more productive.

But the sun moves through the day and through the year, so sometimes it's too bright, and other times not bright enough.

And if you have a building with a deep footprint, you have to draw the sun's light deep inside.

The most important thing is that light be well-distributed. If it's too dark in some places and too bright in others, then it can cause glare.



You can get light deep into buildings by bouncing it around with light shelves, reflective surfaces, and high windows.



Or cutting holes like skylights or light wells.

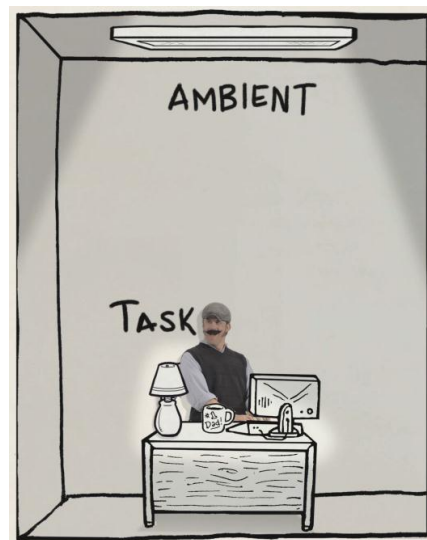


Whatever brightness you can't achieve passively with sunlight, you'll make up with electric lights.

Obviously you want energy-efficient ones. You measure lighting efficacy by how many Lumens of light it delivers per Watt of electricity.

This includes both the bulbs that generate the light and the fixtures that distribute it.

Task lighting has different requirements from ambient lighting, and it varies by task. Lighting designs that handle these separately allow users to use only the light they need.



You can get even more efficient with your lighting with smart combinations of automatic controls and user controls, again delivering just the light people need when they need it.

And remember, better lighting not only saves a lot of electricity, it means less waste heat, which also lowers cooling loads.

That takes us two steps along the path to Net Zero.