



S D E R C

Daylighting

San Diego
**REGIONAL
ENERGY
OFFICE**

 **Technology Description:**

Daylighting fixtures (skylights) provide natural light so that lamps can be turned off during most daylight hours.


 **Application:**

Natural lighting fixtures can be installed in almost any area that requires illumination during the day. Homes, office buildings, supermarkets, hospitals, warehouses, manufacturing floors, gymnasiums, and schools are just a few of the building types that can take advantage of daylighting.

 **Potential Energy Savings:**

Daylighting provides increased lighting levels, improved visual acuity, and 100% color rendition. Studies have shown that daylighting is associated with higher test scores in schools, increased productivity in industry, and higher sales in retail.

Not only are there savings from reduced lighting costs, but also from reduced heat gain (A/C savings), extended ballast and lamp life, and reduced maintenance cost. According to research, for every 5.8 million sq. ft. (10% of San Diego's building square footage) illuminated by daylighting technologies, the region would save approximately 11,500,000 kWh of electricity annually. This equates to a savings of about \$1.4 million per year.





Case Study:

A 25,000 sq. ft supermarket operating 24/7 installed daylighting fixtures. Taking advantage of natural light, the facility saves \$10,904 per year in lighting electricity costs. The simple payback was calculated at 3.7 years. Along with energy savings, customers are said to enjoy the brighter, more pleasant shopping environment.



Additional Information:

Department of Energy

www.eren.doe.gov/consumerinfo/refbriefs/cb4.html



Lawrence Berkeley National Laboratory

<http://eande.lbl.gov/btp/pub/designguide/download.html>



Considerations:

Consider automatic controls in conjunction with daylighting fixtures. Photocells can be used to automatically turn on/off lights based on the availability of natural light. Dimmable or stepped ballasts can also be used to increase the efficiency of the lighting system.



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