

## **ENERGY MANAGEMENT AND SUSTAINABILITY**

What can be challenging is predicting energy savings, as control savings are typically variable based on application characteristics. The Lawrence Berkeley National Laboratory (LBNL) analyzed 240 energy savings estimates from 88 papers and case studies. Using filtering to focus on light energy savings only produced by lighting controls only an actual field installation only (as field simulations were found to overestimate savings), LBNL produced best estimate of average lighting energy savings for these strategies which are shown below. Other sections of education express cite other studies applicable to various strategies as subjective.

<b>Strategy</b>	<b>Definition</b>	<b>Examples</b>	<b>Average Savings</b>
Occupancy	Lighting Status changes automatically based on presence of people	Occupancy sensors, timeclocks, energy management system	24%
Personal Tuning	Occupant control of light levels	Dimmers, wireless switches, workstation-specific control, preset scene control	31%
Daylight Harvesting	Lighting Status changes automatically based daylight levels	Photosensors	28%
Institutional Tuning	Light levels tuned to space needs by application, ballast tuning (reduction of ballast factor), task tuning, lumen maintenance, group controls	Dimmable ballasts, and dimmers and switches used to control group lighting	36%
Multiple Strategies	Any combination of the above		38%