

Dimming Energy Savings Calculator

Calculate annual energy and cost savings from baseline wattage, average dimmed power, operating schedule, and electricity rate.

Generated October 10, 2026

<https://www.elecatrix.com/lighting/dimming-energy-savings-calculator/>

Inputs

Input	Value	Unit
Baseline lighting watts	1000	W
Operating hours per day	10	h/day
Operating days per year	250	days/year
Average dimmed power	60	%
Electricity rate	0.14	\$/kWh

Results

Result	Value	Unit
Baseline annual energy	2500	kWh/year
Dimmed annual energy	1500	kWh/year
Annual energy saved	1000	kWh/year
Annual cost saved	140	\$/year
Energy savings	40	%

Calculation details

Detail	Value	Unit
Calculation basis	Baseline energy uses watts, hours per day, and days per year. Dimmed energy applies the entered average power percentage to the same schedule.	
Screening boundary	Dimming energy arithmetic only; no dimming curve, control commissioning, tariff, rebate, demand, visual-quality, or approval result is made.	

Formulas

Dimming Energy Savings Calculator

Calculate annual energy and cost savings from baseline wattage, average dimmed power, operating schedule, and electricity rate.

Generated October 10, 2026

<https://www.elecatrix.com/lighting/dimming-energy-savings-calculator/>

$$\text{baseline annual kWh} = \text{baseline watts} \times \text{hours/day} \times \text{days/year} / 1000$$

$$\text{dimmed annual kWh} = \text{baseline annual kWh} \times \text{average power percent} / 100$$

$$\text{annual kWh saved} = \text{baseline annual kWh} - \text{dimmed annual kWh}$$

$$\text{annual cost saved} = \text{annual kWh saved} \times \text{electricity rate}$$

$$\text{savings percent} = \text{annual kWh saved} / \text{baseline annual kWh} \times 100$$

Warnings and limitations

The result uses the entered average dimming power percentage only. It does not model dimming curves, occupancy behavior, commissioning, tariff terms, rebates, demand charges, or project approval.