

Occupancy Sensor Savings Calculator

Estimate annual energy and cost savings from baseline hours, controlled hours, lighting load, operating days, and electricity rate.

Generated October 11, 2026

<https://www.elecatrix.com/lighting/occupancy-sensor-savings-calculator/>

Inputs

Input	Value	Unit
Baseline hours per day	12	h/day
Reduced hours per day	8	h/day
Lighting watts	800	W
Operating days per year	365	days/year
Electricity rate	0.15	\$/kWh

Results

Result	Value	Unit
Baseline annual energy	3504	kWh/year
Sensor-case annual energy	2336	kWh/year
Annual energy saved	1168	kWh/year
Annual cost saved	175.2	\$/year
Hours reduced per day	4	h/day

Calculation details

Detail	Value	Unit
Calculation basis	Baseline and sensor-controlled energy use the same entered lighting watts and operating days. The sensor case changes only daily hours.	
Screening boundary	Occupancy-hour savings arithmetic only; no sensor coverage, timeout behavior, commissioning, user override, code, tariff, rebate, or project approval result is made.	

Formulas

baseline annual kwh = lighting watts x baseline hours/day x days/year / 1000

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$\text{sensor-case annual kWh} = \text{lighting watts} \times \text{reduced hours/day} \times \text{days/year} / 1000$

$\text{annual kWh saved} = \text{baseline annual kWh} - \text{sensor-case annual kWh}$

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

Warnings and limitations

This occupancy-sensor savings estimate uses entered hours, watts, days, and electricity rate. It does not prove sensor coverage, commissioning, occupant comfort, code compliance, rebates, or project savings.