How to Find East-West Orientation for Solar Panels, Room Layout, or Sunrise Photography

Whether you're installing solar panels, staging a room for natural light, or hunting the perfect sunrise shot, knowing your true east-west orientation makes all the difference. Here's how to get it right.

Author: Lubor Šimůnek · Published: September 3, 2026 · Travel

Online version: https://appstoryo.com/en/blog/east-west-orientation-solar-panels-sunrise



Why Orientation Matters More Than You Think

The direction your home, roof, garden, or camera faces is one of those invisible details that shapes daily life in profound ways. A south-facing living room in the northern hemisphere floods with warmth all afternoon; an east-facing bedroom greets you with soft morning light. Solar panels installed on the wrong roof slope can lose 20–30% of their annual output. And a landscape photographer who shows up on the wrong side of a hill at 6 a.m. knows exactly how costly a compass error can be.

The problem is that most smartphone compasses point to *magnetic* north, not *true* geographic north. Depending on where you live, the difference — called **magnetic declination** — can be 10°, 20°, or even more. For casual navigation that error is tolerable; for solar panel alignment or precise bearing work, it is not.

Solar Panel Installation

In the northern hemisphere, maximum annual energy yield comes from panels that face true south (180°). In the southern hemisphere, the optimum is true north (0° / 360°). Even a 15°

deviation from the ideal azimuth can reduce output noticeably, and on a rooftop system producing thousands of kilowatt-hours per year, that reduction has real monetary value.

Before you call an installer, walk your roof or yard with a compass app that applies declination correction. Open NorthPin on iOS (or grab it on Android), enable **True North mode**, and the app automatically compensates for your local magnetic declination. You'll see the real geographic bearing, not the magnetically shifted one. Use the **Pin Direction** feature to lock in 180° (south), then physically walk or scan the roofline to see exactly which sections align. No mental arithmetic, no declination tables.

Interior Design and Natural Light

Architects and interior designers have long known that window orientation is one of the most powerful tools in their kit. East-facing windows deliver cool, bright morning light — ideal for kitchens and home offices where you want to start the day energized. West-facing rooms catch the warm golden afternoon sun, making them great for living rooms and dining spaces. South-facing rooms (northern hemisphere) stay consistently bright throughout the day, while north-facing rooms offer even, glare-free light preferred by artists and photographers working indoors.

If you're assessing a flat or house before signing a lease or purchase agreement, a five-minute tour with NorthPin tells you the true bearing of every window. You'll know before you move in whether your bedroom faces the morning sun or a shadowed wall.

Sunrise and Sunset Photography

The golden hour — the 20–40 minutes after sunrise and before sunset — produces the warm, low-angle light that transforms ordinary scenes into compelling photographs. Finding the exact spot where the sun will rise or set on a specific date requires knowing the solar azimuth for that date and matching it to your shooting location.

Once you have the target bearing (from a sun-tracking app or website), use NorthPin's **Pin Direction** to lock that bearing and walk the landscape until your foreground and background elements align perfectly. Because True North mode is always on, the bearing you lock is geographically accurate — you won't be chasing a ghost azimuth caused by declination drift.

Garden and Plant Planning

Vegetables like tomatoes and peppers want at least six hours of direct sun; ferns and hostas thrive in partial shade. Knowing which parts of your garden face south, east, or west lets you place plants where they will genuinely flourish rather than merely survive. Walk the garden beds with a compass and note the bearing of each section — a task that takes minutes but pays dividends for the entire growing season.

Satellite and TV Antenna Rough Positioning

Geostationary satellites sit above the equator, so dishes in the northern hemisphere point roughly south and dishes in the southern hemisphere point roughly north. Knowing your true south bearing before a technician arrives means you can pre-clear obstructions —

overhanging branches, a garden shed, a neighbour's roofline — saving installation time and avoiding a second visit.

Property Assessment Before Buying or Renting

Sun exposure affects heating costs, air-conditioning loads, resale value, and simple quality of life. A quick walk-around with NorthPin before signing anything gives you a permanent record of every facade's bearing. Screenshot it, note the time of year, and you have a surprisingly useful piece of due-diligence data.

Getting Started with NorthPin

NorthPin is free, contains no ads, and works entirely offline — your location data never leaves your device. The two features that matter most for orientation work are **True North mode** (declination-corrected heading, always active) and **Pin Direction** (tap to lock any bearing so you can walk a straight line or compare angles hands-free). Download it for iOS or Android and spend five minutes learning the interface — that investment will pay back every time you need to know which way is really south.

Cite as: Lubor Šimůnek (2026). *How to Find East-West Orientation for Solar Panels, Room Layout, or Sunrise Photography*. AppStoryo, lapnito.cz s.r.o..
https://appstoryo.com/en/blog/east-west-orientation-solar-panels-sunrise
© 2026 lapnito.cz s.r.o.