

Sun Path

Architecture

Where the sun is, at your latitude, on the days that matter for design.

At solar noon the sun's altitude is 90 degrees minus your latitude, plus the day's declination.

$$\text{altitude} = 90 - \text{latitude} + \text{declination}$$

Lat 51, midsummer

high, easy to shade

$$90 - 51 + 23.4 = 62.4$$

Lat 51, equinox

the design mid case

$$90 - 51 + 0 = 39$$

Lat 51, midwinter

low, deep in the room

$$90 - 51 - 23.4 = 15.6$$

THE COMMON MISTAKE

✗ **Shading the west facade with an overhang**

✓ **Use vertical or movable shading**

Late sun hits a west facade almost horizontally, so a horizontal overhang barely intercepts it. West glazing is the usual cause of summer overheating.

Declination is plus or minus 23.4 degrees at the solstices and zero at the equinoxes. Southern latitudes mirror this.