

How large an area can a 27-watt solar light illuminate





Overview

What is the Golden Rule for sizing a solar light?

Golden rule #1 for sizing a solar light: The amount of energy collected by the solar array during the day (commonly referred to as “energy in”) should always exceed the amount of energy spent by the fixture at night (“energy out”). This golden rule can be expressed as a ratio, which we refer to as the array-to-load ratio, or ALR.

How many lumens does a solar light have?

The highest lumens for solar lights can reach around 30,000 to 40,000 lumens in specialized projects. These are large-scale solar street or floodlights. For everyday residential or small commercial use, the top lumen range usually stays near 3,000 lumens, balancing brightness and battery life.

Are solar lights good for a large area?

In solar lighting, every watt saved extends battery life. Top-tier solar lights boast over 120 lumens per watt, which allows them to deliver powerful lighting without draining energy reserves. If you’re evaluating a solar light for a large area, check if the product provides photometric data or IES files.

How many lumens should a solar street light have?

These are large-scale solar street or floodlights. For everyday residential or small commercial use, the top lumen range usually stays near 3,000 lumens, balancing brightness and battery life. I have spent more than a decade working on outdoor solar lighting projects.



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