

Outdoor Solar Lighting for Pathways and Landscaping – How does it work?

Light up your landscaping with the power of the sun, all night long, with outdoor solar lights

Yard need a little brightening? Thought about going green? Whether just starting landscaping plans for that brand new home or making a few changes to an existing yard, outdoor lighting can really make a difference - with natural solar energy as its source. Solar lighting is becoming increasingly common in landscaping across the country. With **217 sunny days a year in the Raleigh area** of North Carolina, there's no reason not to take advantage of natural solar energy when lighting pathways, gardens, driveways, decks, porches, and pool areas.



Outdoor solar lighting vs. traditional electrical lighting

The differences between solar and traditional outside lighting are readily apparent, even as a system is put together.

What it takes to install traditional electric lighting

Traditional electric outside lighting requires more than a light fixture. An outdoor electric circuit is needed, as well as enough 12 or 14 gauge cable to connect the lights to each other and the transformer. Wire strippers, screwdrivers, and other hand tools are needed to connect the cable to the transformer and each of the individual lights. Then the cable must be buried or otherwise disguised with landscaping

material. If running lights on both sides of a concrete path, it may be difficult to hide the cable that must cross the pathway or driveway to connect the lights on the other side. Or more than one transformer may be needed. The project **may even require an electrical contractor** to install the lighting, depending on the complexity. In any case, care must be taken that water and other materials cannot come in contact with any live wires, either during the installation process or at any time afterwards.

What is a solar light?

Solar lights or lanterns can be very basic, and are quick and easy to install. Most consist of a light on a stake, with a solar panel of varying sizes, either built into the design of the light or extending over the light. These lights can be placed wherever desired. They are easily pulled up and moved if landscape plans change. No tools are required. There are no carbon dioxide emissions. And, best of all, they don't require electricity, which means there's no meter reading and no electric bill every month!

How do solar lights work?

Just like a satellite, solar lights collect energy when the sun is shining, then use that energy when the sky is dark. **Solar cells, or panels, on the top of the light are angled to receive maximum exposure to sunlight.** The solar cells are wired to a AA Nicad battery. During the day, the sun shines onto the solar panels, which charge the attached battery.

At night, power stops being produced. A **photoresistor senses the lack of light**, then switches on an LED light. LED lights are not extremely bright, but improvements in technology are being made all the time. The light produced by a solar LED light is used for accents and minimal lighting, but is not enough to read by. A single LED provides less light than a candle, so if a brighter light is required, look for outdoor solar lights with multiple LED bulbs or a combination of LED and small halogen flashlight bulbs.

At full charge, most solar LED lights can provide **up to 15 hours of power**, depending on the quality of the battery and the power of the light bulb. Of course, as the number and quality of bulbs increases, the cost of the light also increases.

Another option is a combination LED/Halogen model. These solar lights work the same way as typical LED based lights, but also **include a motion sensor and a separate halogen light.** When motion is detected, a bright halogen light turns on for about three minutes.

What kind of solar lights should we purchase, and where can we find them in the Raleigh/Triangle area?

Progress Energy of the Carolinas encourages the use of Energy Star Certified lighting, to reduce overall demand for electricity throughout the Raleigh area. And **any solar powered light qualifies for Energy Star certification**, because absolutely no electricity is required. Six different solar powered lighting products can be ordered directly through the [Progress Energy site](#), including tabletop lamps and solar lighted address numbers.

One of the outdoor solar lanterns featured by Progress Energy is the **Intermatic Malibu Solar Lantern Light, Model LZ14001H.** This is a black metal, caged accent lantern, which is suitable for use around walkways, in gardens, against driveways, and more. Small photovoltaic panels on the top of the solar light charge an internal battery using available sunlight. The light automatically turns on at dusk. Mounted on a ground stake, the light is 20" high, or mount on the included shepherd's hook for 28" of height. Cost is \$26.00 each, ordered online. This light is advertised as one of the **longest lasting, brightest lights available** - partly due to the use of a white LED bulb instead of the more typical yellow bulb.



If you're looking for something with the same style, but for a smaller budget, try the **Malibu Hanging Carriage Solar Lantern, Model LZ4H-2.** Lowe's Hardware offers this light in a 2

pack, online only, for \$24.98. This light is very similar in style to the first model, but is made of black plastic instead of metal, and has a more typical yellow LED bulb. Lowe's customers rate this particular light at 4.3 out of 5 stars.

Is there something I can purchase here in Raleigh and install today?

There are a wide variety of solar lights available in Triangle area hardware stores, starting at about \$3 each for a very basic light on a stake, when purchased in larger sets. Check for the **type of light** emitted, the **strength of the light**, whether or not **multiple forms of light** are included, the **average time the light lasts**, and **how close together** the lights should be placed. Solar light users have recommended adding reflective tape or replacing the manufacturers batteries with higher quality rechargeable batteries to increase the brightness. Remember, there are no installation costs or time required, no energy costs, and no carbon dioxide emissions.

Solar Lights can add illumination to more than just landscaping

And if you're interested in solar lighting, don't stop at path lights. There are also solar lights on the market for **sheds and other outbuildings**. They include a solar collector to be placed on the roof of the shed, and a pull string light for the interior of the shed. Light output is still low for most brands, but it's an option for areas that have no available electricity.

Purchasing a new home soon? Ask your local builder what is included in the landscaping package, and whether solar lighting is available to accent the walkways of that new home.

Pricing and availability current as of 1/08. Although the information in this post is presented in good faith and believed to be correct, Stanton Homes makes no representations or warranties as to the completeness or accuracy of the information.



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