

# Visionaire Lighting's Solar Vision Pole: shedding light on off-grid lampposts

Despite the high light efficacy of HB LEDs (high-brightness light-emitting diodes), their cost for commodity applications is still too high for them to compete head-on with older forms of lighting, such as incandescent and HID (high-intensity-discharge) lights. However, certain applications can justify paying a premium for high efficiency, long life, ruggedness, and light-color-temperature control, and these applications represent the sweet spot for HB LEDs.

One such application is solar-powered outdoor lighting for off-grid applications. Visionaire Lighting's Solar Vision Pole lamppost is especially novel because it does not use a standard rigid solar panel that requires additional bracing for wind shear and can attract the attention of scavenging thieves. Instead, a flexible solar panel encases the post and charges four gel batteries in its base. The size of the panel and the number of batteries limit the lighting to 50W, which is a weak traditional light source but makes for a strong, white-LED light. Six hours of charging is enough to run the light all night.

The amorphous-silicon flexible Solar Flex cells produce uniform power even as the sun's rays hit the round column of cells at an angle, easing the power-management task for the post. For lighting applications requiring 100 to 125W of power, the post is available in a version with a flat-mount polycrystalline panel that is both larger and more efficient than the other version.

The Aria-model light fixture has 48 Philips Lumiled HB LEDs. Visionaire chose these devices because they provide 100 lumens/W over a wide color-temperature range. Some HB LEDs can provide 100 lumens/W but only at a blue shade of white, typically a blue-white 6500K. Blue-white-colored lights can contribute to night-sky light pollution, which is the bane of observatories and dark-sky protectors.

The four gel-type battery packs in the lamp base can provide as much as 50W to the LEDs. The 12V-dc batteries each offer 30.5 Ahr. A full charge supports 40 hours of continuous illumination. The light operates at ambient temperatures as low as -76°F.

