### **PowerFilm, Inc. Limited Product Warranty**

PowerFilm, Inc. warrants that this PowerFilm® Solar product is free from defects in materials and workmanship that impact performance for a period of two (2) years. The duration of the Limited Warranty is from the date of initial purchase. To obtain warranty from purchases made from our dealer/distributor network a purchase receipt must be provided with the product. The foregoing warranty does not apply to any defect, failure or damage caused by improper use, unauthorized modifications, neglect, improper testing, attempt to repair, inadequate maintenance, or damage from accident, fire, abuse or other hazard.

PowerFilm's sole obligation and liability for a product failing to comply with this warranty shall be, at PowerFilm's choice, either to repair the product or replace the defective product with a new or re-manufactured equivalent at no charge provided that the warranty procedures have been followed.

To obtain service under this warranty, customers must return a failed unit to PowerFilm with the return authorization number, original proof of purchase, description of the failure, contact information, and a return shipping address. PowerFilm will return a repaired or replacement product at PowerFilm's cost.

Need more information about your LightSaver?

For frequently asked questions and other resources visit: www.powerfilmsolar.com

Mailing Address: 1287 XE Place, Ames, Iowa 50014

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### LightSaver Technology

The LightSaver is made with amorphous silicon solar material which is incredibly thin, flexible, lightweight and durable. Our thin film solar technology is also extremely sensitive to light. This means it works better in cloudy or shaded environments than traditional solar panels, turning on earlier and staying on later each day.

### Operation

The LightSaver collects energy from the sun when available, storing it in the internal battery. That energy is then available to charge a USB device anytime, eliminating the need to leave your device out in the sun plugged into the LightSaver. Charge your LightSaver in the sun, charge your device anytime. The LightSaver can also be charged from the wall or other USB sources using it's micro USB input.

When a device is plugged in, the LightSaver will charge the device until fully charged, or the LightSaver is fully discharged. The LightSaver turns on automatically with no button push required. If the LightSaver is fully discharged, the output will remain off until its battery has been charged to at least 10%. This protects against draining a device's battery by turning it on and off, which is common in many other solar chargers.

The LightSaver is not designed to directly charge a device from the solar panel. Rather, the solar panel charges the internal lithium battery which, once charged, is available to provide power to other devices.

### **Specifications**

Battery: 3200mAh Input: Micro USB (1A) Output: USB-A (1A) Weight: 4.9 ounces

**Size:** Rolled: 7.8" x 1.5" Unrolled: 7.8" x 18.5"

## **Caring For Your LightSaver**

## **Avoid Physical Damage**

The LightSaver's solar material is thin, light and durable, but creasing or puncturing the solar panel will reduce efficiency. Reasonable care in handling will assure a long life.

## **Charging Temperatures**

Avoid leaving the LightSaver on the dash of a hot car or in other similarly hot environments as the heat may damage the battery.

The LightSaver charges most effectively between 35 and 115 degrees Fahrenheit.

#### **Avoid Excessive Water**

A little water on the LightSaver is not a problem, but allowing significant water inside the unit may corrode components. Saltwater is particularly corrosive and should be kept out of the device.

# **Battery Care**

If your LightSaver's battery is completely drained, it may need to charge for a few minutes before the indicator light illuminates.

Always store your LightSaver with a battery charged over 50% in a cool environment.

The LightSaver will give you many years of excellent service with proper battery care.

# Mounting

The LightSaver features four attachment points allowing it to be mounted securely on a backpack, tent, etc. Keep in mind the expected direction of the sun when choosing where to mount the LightSaver. The easiest and most effective approach is usually to mount horizontally. (Example: mounting on the top of a backpack rather than the back is better). The LightSaver's solar panel is far more tolerant to shading than most solar devices, but any shade will reduce the amount of energy collected. If you are mounting the LightSaver on the top of a tent, choose a location which will face the sun for the longest portion of the day.

## **Maximizing Use of the Sun**

Facing the unrolled LightSaver directly toward the sun results in the maximum amount of energy collection. A day's worth of exposure, 6-8 hours, on a mostly sunny day while laying horizontaly should give you a full charge.

Clouds and haze reduce the sunlight that reaches the LightSaver. Windows reflect a portion of the sunlight, so a LightSaver sitting on a windowsill will take longer to charge than if it were sitting outside at the same angle. Car windows, particularly windshields, block a significant amount of light.

# **Charge Indicator**

The LightSaver's charge indicator turns on when there is electrical current flowing from either the solar panel or the micro USB input to the battery and turns off at all other times to conserve battery.

# **Battery Status**

