Energy 50
Niwa-Next Energy Products Ltd.

Results based on test procedures detailed in Lighting Global Solar Home System Test Method, Ed. 2.0
Valid Until: September 30, 2020

Available Daily Electrical Energy (Wh/day)

Valid Until: September 30, 2020

Meets Lighting Global Quality Standards

Mobile Charging

Pay-As-You-Go Option Available

Warranty Information
A 2-year warranty covering manufacturing defects in the system

Performance Details

<table>
<thead>
<tr>
<th>Appliance(^b)</th>
<th>Description</th>
<th>Included with kit?</th>
<th>Power(^b) (W)</th>
<th>Used Alone(^c)</th>
<th>Used In Combination(^d)</th>
<th>Run Time Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main lighting</td>
<td>Two 100 lm and One 300 lm light point on High</td>
<td>included</td>
<td>6</td>
<td>41</td>
<td>6.0</td>
<td>hours</td>
</tr>
<tr>
<td>Television</td>
<td>32” diagonal</td>
<td>sold separately</td>
<td>14</td>
<td>11</td>
<td>3.0</td>
<td>hours</td>
</tr>
<tr>
<td>Fan</td>
<td>16” stand fan</td>
<td>sold separately</td>
<td>9</td>
<td>16</td>
<td>7</td>
<td>hours</td>
</tr>
<tr>
<td>Mobile Phone</td>
<td>Smart Phone (5.7 Wh battery)</td>
<td>advertised</td>
<td>--</td>
<td>20</td>
<td>1.5</td>
<td>number of full charges</td>
</tr>
</tbody>
</table>

Available daily electrical energy\(^e\) (Wh/day): 161

Performance Measure

<table>
<thead>
<tr>
<th>Lighting full battery run time(^a) (hours)</th>
<th>Brightness Setting: All lights on high</th>
</tr>
</thead>
<tbody>
<tr>
<td>460</td>
<td>41</td>
</tr>
</tbody>
</table>

| Total light output in lumens\(^f\) | 460 |

\(^a\) A typical day of solar charging assumes 5 kWh/m²/day
\(^b\) Only included appliances were tested. Run times and power ratings for appliances sold separately come from manufacturer ratings or standard estimates.
\(^c\) Without any other loads used during the run time
\(^d\) Based on an example use profile with all of the appliances listed above used in combination
\(^e\) Lighting full battery run time estimates do not account for mobile phone charging or other auxiliary loads; the run time is defined as the time until the output is 70% of the initial, stabilized output.
\(^f\) 1 candle or kerosene wick lamp = approximately 10 lumens
### Lighting Details

<table>
<thead>
<tr>
<th>Lamp Name</th>
<th>Type</th>
<th>Number of Settings</th>
<th>Light Output (lm)</th>
<th>Lumen Efficacy (lm/W)</th>
<th>CRI&lt;sup&gt;9&lt;/sup&gt;</th>
<th>CCT&lt;sup&gt;h&lt;/sup&gt;</th>
<th>Distribution Type</th>
<th>Lumen Maintenance&lt;sup&gt;i&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home 100 (2 in kit)</td>
<td>LED</td>
<td>3</td>
<td>92</td>
<td>150</td>
<td>82</td>
<td>Cool (3000-5000 K)</td>
<td>Omnidirectional</td>
<td>&gt;99%</td>
</tr>
<tr>
<td>Home 300 (1 in kit)</td>
<td>LED</td>
<td>3</td>
<td>290</td>
<td>150</td>
<td>82</td>
<td>Cool (3000-5000 K)</td>
<td>Omnidirectional</td>
<td>&gt;98%</td>
</tr>
</tbody>
</table>

<sup>9</sup> Color Rendering Index. An index of 100 is equivalent to viewing objects in daylight; above 80 is considered good.

<sup>h</sup> Correlated Color Temperature in degrees Kelvin. Describes color appearance as warm, cool, or daylight.

<sup>i</sup> Percent of the original light output that remains after 2,000 hours of run time

### Special Features

- **Mobile charging and appliances**: USB and 12 V ports available to charge devices and power appliances
- **Alternate Combination Run Time Option:**

<table>
<thead>
<tr>
<th>Appliance</th>
<th>Description</th>
<th>Used in Combination</th>
<th>Run Time Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main lighting</td>
<td>Two 100 lm and One 300 lm light point on High</td>
<td>10</td>
<td>hours</td>
</tr>
<tr>
<td>Television</td>
<td>32&quot; diagonal</td>
<td>5.2</td>
<td>hours</td>
</tr>
<tr>
<td>Mobile Phone</td>
<td>Smart Phone (5.7 Wh battery)</td>
<td>2.6</td>
<td>number of full charges</td>
</tr>
</tbody>
</table>

### Durability

- Overall Durability and workmanship: Pass
- Durability tests passed: Switch and connector cycling, strain relief test, physical ingress protection test. Water ingress protection not tested; meant for indoor use only.

### Solar Details

- **PV module type**: Polycrystalline silicon
- **PV maximum power**: 48 watts

### Battery Details

- **Battery replaceability**: Easily replaceable with common tools
- **Battery chemistry**: Lithium iron phosphate
- **Battery capacity**: 10 Ah
- **Battery nominal voltage**: 12.8 V
- **Battery Status Indication**: One display shows the charging battery level, charging rate and credit remaining.

### Product Details

- **Manufacturer name**: Niwa-Next Energy Products Ltd.
- **Product name**: Energy 50
- **Product model / ID number**: 3356
- **Contact information**: sales@niwasolar.com
- **Website**: www.niwasolar.com
- **Dimensions (entire product in package)**: Components packaged separately
- **Weight**: 4405 g

### SSS Information

- **Specs sheet expiration date**: September 30, 2020
- **Quality Standards Framework Version**: 2018
- **Revision**: 2018.09