

Global LEAP Awards Outstanding Off-Grid Appliances

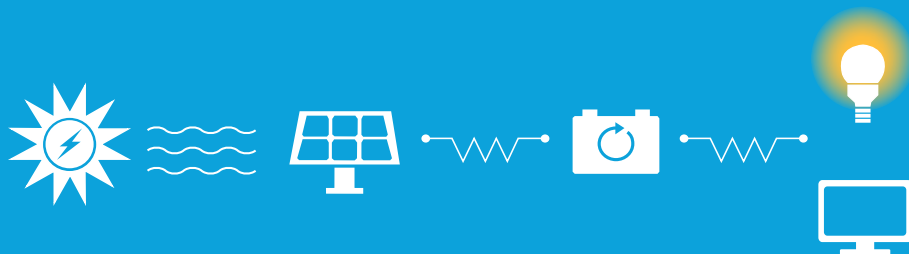


2014 Buyer's Guide



The Global LEAP Awards 2014 Outstanding Off-Grid Appliances competition is a Clean Energy Ministerial initiative to identify and promote **the world's best, most energy-efficient off-grid compatible televisions and LED room lighting appliances.**

All Global LEAP Awards Finalists were tested using internationally accepted laboratory test methodologies and were assessed by a panel of off-grid market experts. Winners were announced at the 5th Clean Energy Ministerial in Seoul, Korea, on 12 May 2014.



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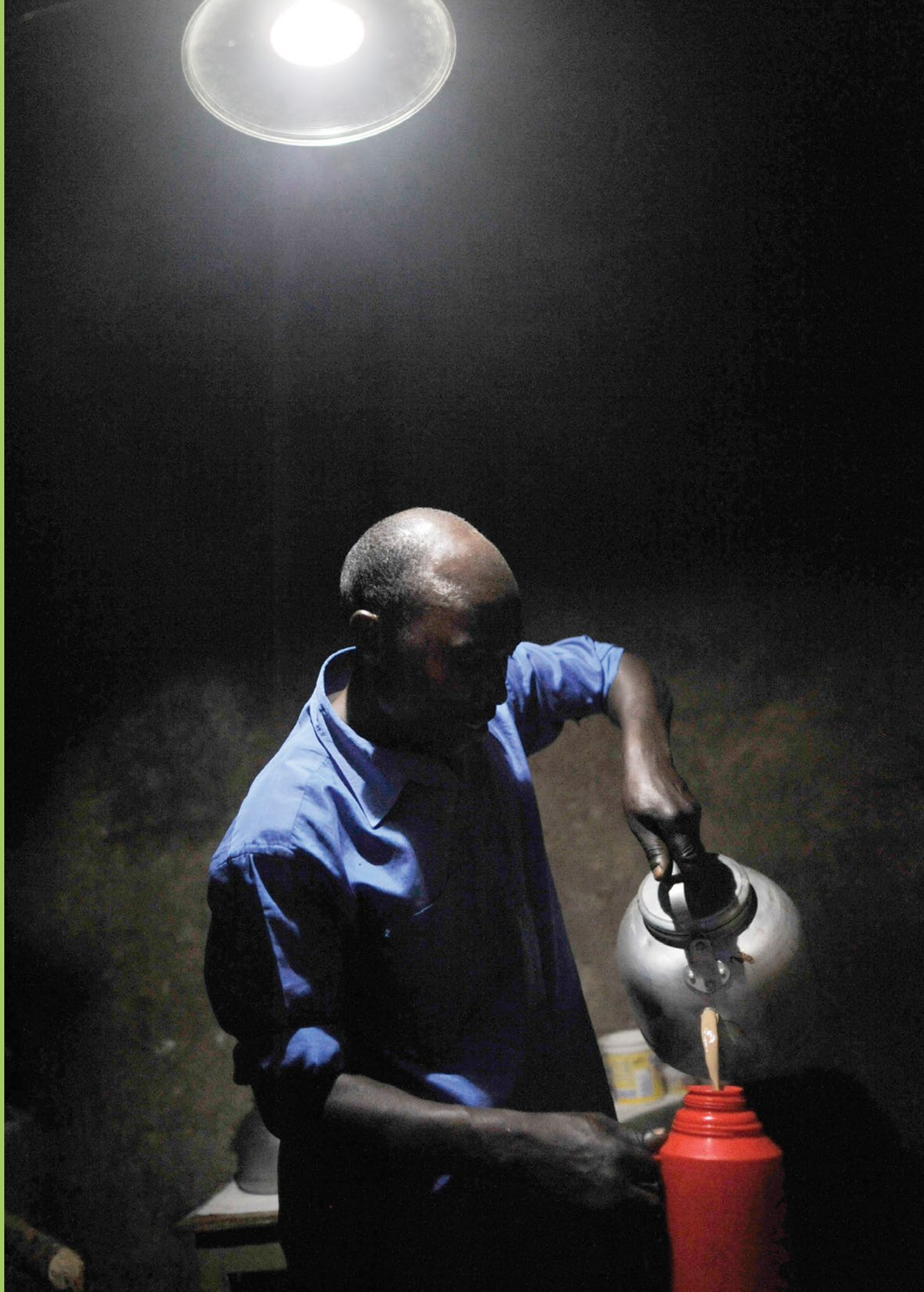
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A Message from the U.S. Department of Energy

12 May 2014

WE LIVE ON A PLANET where more than one billion people live without access to electricity. Another billion have only spotty, unreliable access. The fact that more than one-fifth of the global population is unable to rely on the productivity, comfort, and sense of safety enabled by modern energy services is one of the most pressing challenges of our time. Energy is a powerful development tool, and energy poverty greatly limits the ability of a large swath of the global population to participate and compete in the modern economy.

Small-scale renewable energy technologies, such as solar home systems and mini-grids, offer these populations significantly improved productivity and quality of life, eliminating the need for polluting, unhealthy, pre-modern fuels like kerosene. Though the costs of such systems have come down dramatically, they are still high for off-grid populations, who are all too often among the world's poorest people.

Given the large investment that these systems represent for so many, ensuring their quality and reliability is essential to build consumer confidence and drive demand. At the same time, super-efficient off-grid appliances allow the energy supplied to go further by reducing the size—and cost—of the energy systems needed to run them. Quality-assured, super-efficient appliances are a key element of support for off-grid renewable energy markets.

I am proud that the U.S. Department of Energy joined the ClimateWorks Foundation in co-sponsoring the first round of the Global LEAP Awards, a program within the framework of the Clean Energy Ministerial, to identify and promote the world's best, most energy-efficient off-grid LED lighting appliances and televisions. The Global LEAP Awards winners and finalists featured here will help off-grid renewable energy markets grow. In turn, those markets will help the people most in need of access to clean energy.

We extend our thanks to the appliance manufacturers who participated in the program and made it a success, as well as to the off-grid renewable energy system companies who will partner with Global LEAP Awards winners and finalists. Your efforts will bring us closer to a world where there is universal energy access for all.

Sincerely,



GRAHAM PUGH

Director, Climate Change Policy & Technology
U.S. Department of Energy



U.S. DEPARTMENT OF
ENERGY

The Global LEAP Awards Outstanding Off-Grid Appliances 2014 Buyer's Guide

MILLIONS OF SMALL-SCALE DIRECT CURRENT (DC) RENEWABLE ENERGY SYSTEMS have been sold in un- and under-electrified (“off-grid”) parts of the developing world, in countries like Bangladesh, Kenya, India and Haiti. Commercial markets for clean off-grid energy systems like solar home systems (SHSs) and renewable mini-grids will continue to grow in coming years, providing access to clean, reliable modern energy services to populations in desperate need of them.

The Clean Energy Ministerial's (CEM) Global Lighting and Energy Access Partnership (Global LEAP) contributes to global clean energy access efforts by supporting the development of these markets.

The Global LEAP Awards is a CEM initiative to identify and promote high-quality, energy-efficient low-voltage appliances. *The Global LEAP Awards Outstanding Off-Grid Appliances Buyer's Guide* provides high-level information about the Awards Winners and Finalists—and its purpose is to help SHS companies and mini-grid developers make smarter, faster off-grid appliance procurement decisions.

The Importance of Off-Grid Appliance Quality Assurance

Product quality is essential to the development of the off-grid market. Experiences with inferior products are quickly spread by word of mouth in villages and peri-urban areas, leading off-grid consumers to distrust the products. This decreased consumer confidence undermines efforts to build self-sustaining, robust commercial markets.

More importantly, off-grid populations are typically among the world's poorest people. A small off-grid energy system and the appliances it powers represent big improvements in an off-grid household's quality of life, but require a large investment of very limited income. It's important that the products work as promised.

The Importance of Off-Grid Appliance Super-Efficiency

By enhancing and enabling off-grid consumer demand for energy services, off-grid appliance super-efficiency is also essential to the growth of clean energy access markets.

Super-efficient off-grid appliances offer greater service. A 40Wp solar module and a 100Ah battery can power a 60W incandescent bulb for 4 hours each day, but the same system can power a super-efficient 21" flat panel TV, 12W of high-quality LED lights, and a super-efficient fan, mobile phone charger, and radio. This enhanced service greatly enhances consumer demand.

Super-efficiency can also enable sales by reducing system cost. Super-efficient appliances allow the same level of service to be provided by much smaller, and much less expensive, solar PV and battery arrays. This reduction in price expands the market of off-grid consumers that can afford the systems.

By providing greater service and greater cost-effectiveness, super-efficient appliances help off-grid clean energy companies reach more customers.



By providing greater service and cost-effectiveness, super-efficient, quality-assured low-voltage appliances help off-grid clean energy companies reach more customers.

Global LEAP Awards Winners & Finalists

The products featured in *The Global LEAP Awards Outstanding Off-Grid Appliances Buyer's Guide* are among the best off-grid LED room lighting appliances and TVs in the world.

Each Global LEAP Awards Winner and Finalist has had its quality, durability, and energy performance verified according to internationally accepted test methodologies—and each has been evaluated by a panel of off-grid market and technology experts

on the basis of its test results, price, and off-grid appropriate design and functionality. As a result, the products featured here all positively contribute to the clean energy access marketplace: they each offer a strong balance of price, super-efficiency, performance, and reliability.

SHS companies, renewable mini-grid developers, and other bulk purchasers of low-voltage off-grid appliances are **strongly encouraged** to contact the manufacturers of Global LEAP Awards Winners and Finalists about the products listed here.

DISCLAIMER

CEM, Global LEAP, and associated operating agents and contractors make no claims about the quality, energy performance, or off-grid appropriateness of *any* product not listed in this *Guide*. The inclusion in this *Guide* of a manufacturer's product should not be construed as an endorsement of that manufacturer or of its entire product line.

Bulk purchasers considering appliance products not featured here are strongly encouraged to request from their manufacturers third party test results accounting for product quality and energy performance, and undertaken according to internationally accepted test methodologies.



LED-DC12V-5W

WINNER: LED Bulb



SPECIFICATIONS

Rated Luminance	425 lm
Rated Color Rendering Index (CRI)	82
Operating Voltage	12V DC
Rated Correlated Color Temperature	6412K



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SLL-L2003D

FINALIST: LED Bulb

SPECIFICATIONS

Rated Luminance	300 ± 10 lm
Rated Color Rendering Index (CRI)	≥ 70
Operating Voltage	8–18V DC
Rated Correlated Color Temperature	5700–6500K



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SLL-L1903D

WINNER: LED Ambient Indoor Fixture



SPECIFICATIONS

Rated Luminance	310 ± 10 lm
Rated Color Rendering Index (CRI)	≥ 70
Operating Voltage	8–18V DC
Rated Correlated Color Temperature	5700–6500K



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AEH-LB02-U25W

FINALIST: LED Ambient Indoor Fixture

SPECIFICATIONS

Rated Luminance	220 lm
Rated Color Rendering Index (CRI)	72
Operating Voltage	10.8–20V DC
Rated Correlated Color Temperature	5043K



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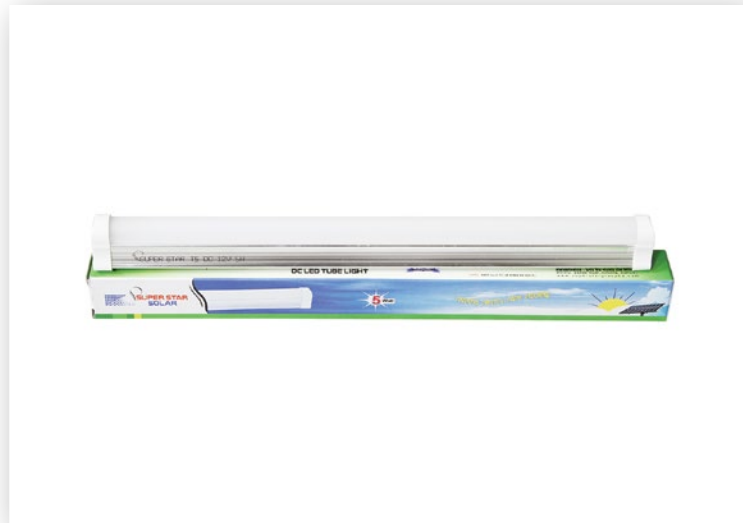
T5 Tube LED-DC12V-5W

WINNER: LED Higher-Output Ambient Indoor Fixture



SPECIFICATIONS

Rated Luminance	400 lm
Rated Color Rendering Index (CRI)	82
Operating Voltage	12V DC
Rated Correlated Color Temperature	6287K



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Home 300 Lamp

FINALIST: LED Higher-Output Ambient Indoor Fixture

SPECIFICATIONS

Rated Luminance	Four settings ≤ 300 lm
Rated Color Rendering Index (CRI)	85
Operating Voltage	5V
Rated Correlated Color Temperature	4700–5300K



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T8 Tube LED-DC12V-3W

FINALIST: LED Higher-Output Ambient Indoor Fixture



SPECIFICATIONS

Rated Luminance	300 lm
Rated Color Rendering Index (CRI)	82
Operating Voltage	12V DC
Rated Correlated Color Temperature	6338K



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SO16M



WINNER: Small TV



SPECIFICATIONS

Viewable Screen Size	671 cm ²
Aspect Ratio	16:9
Input/Outputs	<i>INPUTS:</i> Cable/Antenna input, AV Input, YPbPr Input, USB Input, HDMI, VGA Input/VGA Audio input <i>OUTPUTS:</i> Headphone jack
Functional Voltage Range (Rated)	12–18V DC
Key Features	Includes large button remote control, child lock, sleep timer, 50 mile antenna, and multi-language on-screen display (English, French, Spanish, Portuguese). Includes ingress-protected ventilation. Allows streaming of media from smart phones. Available with its own solar array and a power pack of 160Wh. Optional 50 mile antenna.



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TWB-TVE1603A

FINALIST: Small TV



SPECIFICATIONS

Viewable Screen Size	648 cm ²
Aspect Ratio	16:9
Input/Outputs	<i>INPUTS:</i> RF Tuner, PC Video (VGA)/Audio, YPbPr, AV IN, HDMI (1.3), USB 2.0 <i>OUTPUTS:</i> Headphone
Functional Voltage Range (Rated)	9–15V DC
Key Features	Includes remote control, AC power adaptor, and off timer. Multi-language on-screen display. Slot in DVD optional. Optional AC Power Adaptor.



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SO19M

WINNER: Medium TV



SPECIFICATIONS

Viewable Screen Size	995 cm ²
Aspect Ratio	16:9
Input/Outputs	<i>INPUTS:</i> Cable/Antenna input, AV Input, YPbPr Input, USB Input, HDMI, VGA Input/VGA Audio input <i>OUTPUTS:</i> Headphone jack
Functional Voltage Range (Rated)	12–20V DC
Key Features	Includes large button remote control, child lock, sleep timer, 50 mile antenna, and multi-language on-screen display (English, French, Spanish, Portuguese). Includes ingress-protected ventilation. Allows streaming of media from smart phones. Available with its own solar array and a power pack of 160Wh. Optional 50 mile antenna.



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UA23HG4060AR

WINNER: Large TV



SPECIFICATIONS

Viewable Screen Size	1458 cm ²
Aspect Ratio	16:9
Input/Outputs	<i>INPUTS:</i> USB 2.0, YPbPr In, Composite In, RF in, HDMI 1.3 <i>OUTPUTS:</i> Audio out
Functional Voltage Range (Rated)	10.5–14.6V DC
Key Features	Includes remote control, Dolby Digital Plus/Dolby AAC sound, off-timer, Kensington lock, and auto channel search. On screen display with local language.



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DC TV 15.6" 12V

WINNER: Emerging Technology—Small TV



SPECIFICATIONS

Viewable Screen Size	671 cm ²
Aspect Ratio	16:9
Input/Outputs	<i>INPUTS:</i> RF Tuner, PC Video (VGA)/Audio, YPbPr(mini), AV IN, SCART, HDMI 1.3, USB 2.0 <i>OUTPUTS:</i> Headphone, Coaxial Out, CI Slot
Functional Voltage Range (Rated)	10–12V DC
Key Features	Includes remote control, AC power adaptor, and “off timer.” Energy consumption as low as 5.5W. Available with its own pico solar system. On-screen display in English, French, German, Italian, Spanish & Portuguese. Slot in DVD optional.



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L15RN01

FINALIST: Emerging Technology—Small TV



SPECIFICATIONS

Viewable Screen Size	620 cm ²
Aspect Ratio	16:9
Input/Outputs	<i>INPUTS:</i> VHF/UHF in 75 ohm coaxial, Video: (RCA) 1 Vp-p/750 ohm, Audio: (RCA)-8 dBm/50Kohm <i>OUTPUTS:</i> Video: (RCA) 1 Vp-p/750 ohm, Audio: (RCA)-12 dBm/1Kohm
Functional Voltage Range (Rated)	8–20V DC
Key Features	Includes remote control, AC power adaptor, and telescopic antenna. Available with 10Wp pico solar system.



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UA32****



WINNER: Emerging Technology—Large TV



SPECIFICATIONS

Viewable Screen Size	1458 cm ²
Aspect Ratio	16:9
Input/Outputs	<i>INPUTS:</i> USB 2.0, YPbPr In, Composite In, RF in, HDMI 1.3 <i>OUTPUTS:</i> Audio out
Functional Voltage Range (Rated)	10.5–14.6V DC
Key Features	Includes remote control, Dolby Digital Plus/Dolby AAC sound, off-timer, Kensington lock, and auto channel search. On screen display with local language.



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