

ARES™ SERIES

ARCHITECTURAL SOLAR GARDEN & PATHWAY LIGHTING

HIGH-CAPACITY POST TOP PLATFORM



The ARES Series is an ultra-premium, integrated off-grid solar lighting system designed for parks, pathways, campuses, and pedestrian environments. Engineered as a utility-grade product platform, it merges 165 lm/W LED efficacy with deep-cycle LiFePO4 storage and advanced IoT-ready MPPT control for reliable year-round operation.

CORE ARCHITECTURE

- LED Luminaire (20W - 60W)
- HPBC Mono Panel (>35% Cell Eff.)
- Zero-Memory LiFePO4 Battery
- Smart MPPT Controller & Sensors

SYSTEM PARAMETERS

- 10ft – 25ft mounting height range
- 3-night strict minimum autonomy
- Sized by U.S. Winter Solar Zone
- 12-Hour continuous nightly operation

THE ARES ADVANTAGE



LIFEPO₄ VS. LEGACY LEAD/NIMH

Unlike competitors relying on heavy Lead-Acid or outdated NiMH chemistries, ARES utilizes modern Lithium Iron Phosphate (LiFePO₄) for 3,000+ cycles and flawless thermal stability (-22°F to 140°F).



365-DAY ANTI-BLACKOUT LOGIC

Guaranteed year-round illumination. Our integrated MPPT controller dynamically monitors weather patterns and battery health, automatically deploying adaptive dimming to prevent dark poles during extreme winter events.



RADICAL SIZING TRANSPARENCY

No "black-box" proprietary sizing software. We publish our exact mathematical sizing matrix. Engineers can independently verify that our massive panels guarantees 3-night autonomy based on actual winter solstice data.



165 LM/W OPTICAL SUPERIORITY

Achieve more light with less energy. By pairing premium LED chipsets with high-efficiency Type III and V distribution, ARES outperforms standard 150 lm/W competitors, ensuring maximum ground coverage for pathways.



ARCHITECTURAL ELEGANCE

Don't compromise park aesthetics with bulky NEMA battery boxes. ARES integrates the high-capacity battery directly into the sleek post-top luminaire housing, presenting a clean, modern profile suitable for high-end HOA's.



BAA COMPLIANT & PROVEN

Buy American Act compliant and designed for municipal infrastructure. ARES features IP65 / IK10 impact protection out of the box and is fully backed by industry-leading 10-year component warranties.

TECHNICAL SPECIFICATIONS

• LED LUMINAIRE & OPTICS

System Efficacy	150–170 lm/W
LED Chipset	Philips
Power Consumption	20W / 30W / 40W / 50W / 60W
Color Temp (CCT)	27K / 30K / 40K / 50K
Light Distribution	Type V
Color Rendering (CRI)	≥ 70 (80 opt.)
Lifespan (L70)	> 100,000 Hours

• BATTERY STORAGE

Battery Chemistry	LiFePO ₄
Cycle Life (80% DOD)	≥ 3,000 Cycles
Protection	Smart BMS Active Control
Battery Warranty	8 Years

• VERTICAL SOLAR PANEL

Technology	HPBC Monocrystalline Mono
Vertical Factor	35% Effective Yield
Orientation	360° Omnidirectional
Solar Warranty	20 Years

• MECHANICAL & MOUNTING

Housing Material	Aluminum 6063 / Q235
Finish Color	Black std. (Sliver or Custom opt.)
Hardware	Stainless Steel
Mounting Type	Slip Fitter (SF)
Wind Load Rating	127 mph
Ingress / Impact	IP65 / IK10
Operating Temp	-22°F to 140°F

• MPPT CONTROLLER

Tracking Efficiency	> 99%
Control System	MPPT std. (Wireless Zigbee opt.)
Dimming	4-Step Programmable
MPPT Warranty	8 Years

- Wireless Control Available: Monitoring, GPS tracking, Alerts
- Motion Sensor Available

Specifications represent standard configurations and are subject to final engineering and site-specific conditions. Custom configurations are available upon request.

SOLAR ENERGY PERFORMANCE

ENGINEERING SIZING EXAMPLE (ARES-40 @ 100% OUTPUT)

LED Power (Max)	40W
Smart Profile (3h 100% 3h 50% 6h 10%)	12 Hours
Integrated PIR Motion Sensor	Included / Active
Daily Energy Consumption	204 Wh
Required Battery Storage (3 Nights @ 80% DOD)	$(204 \text{ Wh} \times 3) / 0.8 = 765 \text{ Wh}$
Actual Battery Supplied (Optimized)	768 Wh (12.8V 60Ah)
Required Solar Generation (Zone C)	204 Wh / Day
Vertical Recovery Sizing ($204 \text{ Wh} \times 3 \div 4.45\text{h} \div 35\% \text{ eff}$)	388W Required
Standard Solar Module Selected	400W Panel

RESULT: CONFIGURED FOR 3-DAY AUTONOMY. BATTERY MATCHES MUNICIPAL SAFETY STANDARDS.

CONFIGURATION GROUP MATRIX

LED LOAD	SOLAR MODULE	BATTERY CAPACITY	ENERGY STORAGE	AUTONOMY DAYS	REC. POLE HEIGHT
20W	200W	12.8V 30Ah	383 Wh	3 Nights	10 - 15 ft
30W	300W	12.8V 45Ah	574 Wh	3 Nights	12 - 18 ft
40W	400W	12.8V 60Ah	765 Wh	3 Nights	15 - 20 ft
50W	500W	12.8V 75Ah	957 Wh	3 Nights	15 - 20 ft
60W	600W	25.6V 45Ah	1148 Wh	3 Nights	20 - 25 ft

MANDATORY NOTE:

The values above represent standard factory configurations designed to meet or exceed a minimum 3-night autonomy target. Autonomy calculations are based on a 12-hour nightly profile: 3h @ 100%, 3h @ 50%, 6h @ 10% (5.1 equivalent full-load hours). Solar sizing assumes 4.45 peak sun hours (PSH) and typical system losses. Battery capacities are nominal; actual performance varies with DoD, temperature, and site-specific conditions.

Motion sensor activates 100% during occupancy, then returns to preset level.

As a direct manufacturer, we provide full system customization to meet project-specific environmental requirements.

U.S. SOLAR DESIGN ZONES

ZONE A – NORTHERN / LOW SUN

2.4 sun hours. Conservative winter baseline for northern states.

Design approach: Largest panel and battery reserve.

ZONE B – CENTRAL / MODERATE SUN

3.3 sun hours. Balanced winter design basis for central U.S. applications.

Design approach: Balanced solar and battery sizing.

ZONE C – SOUTHERN / HIGHER SUN

4.4 sun hours. Reliable winter design basis for southern states.

Design approach: Optimized panel size with high recharge margin.

ZONE D – EXTREME CONDITIONS

1.5 sun hours. Project-specific baseline for Alaska, mountain regions, etc.

Design approach: Maximum custom engineering basis.

FACTORY-SET DIMMING SCHEDULE

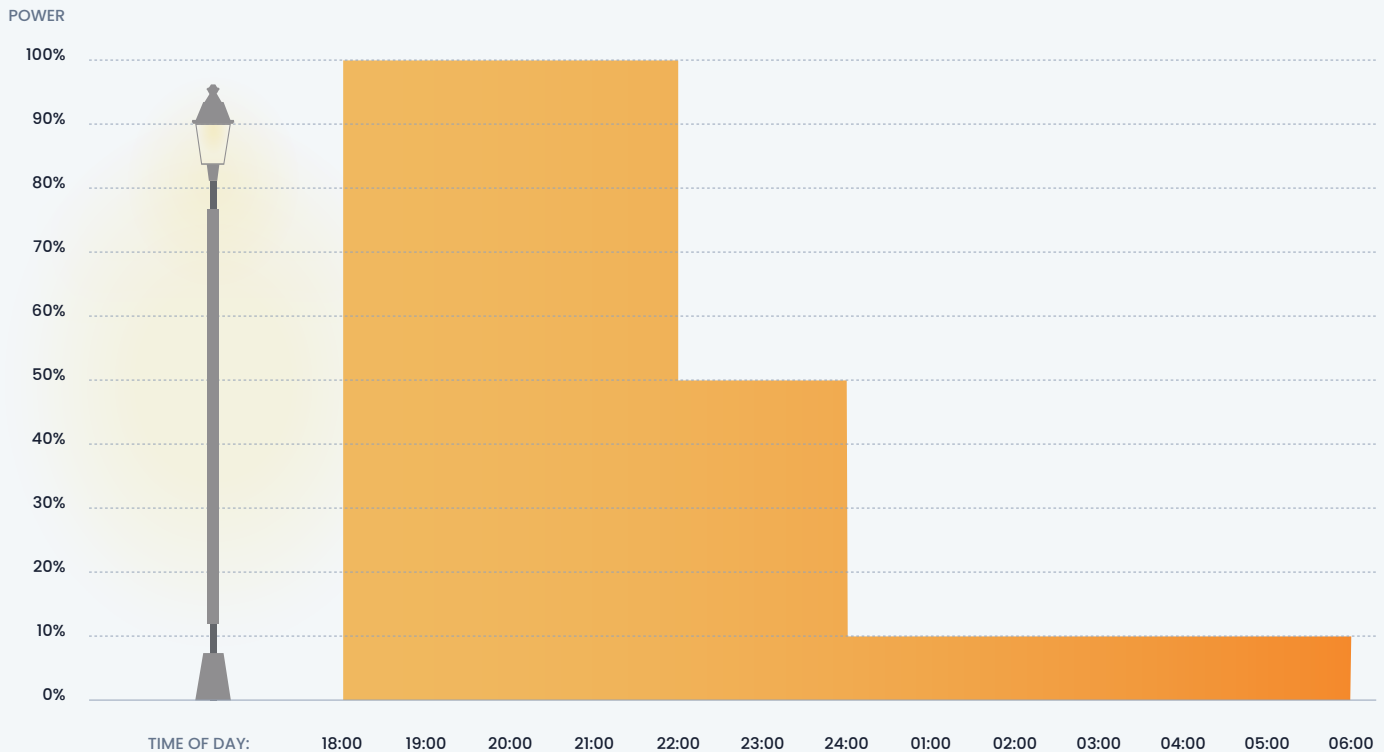
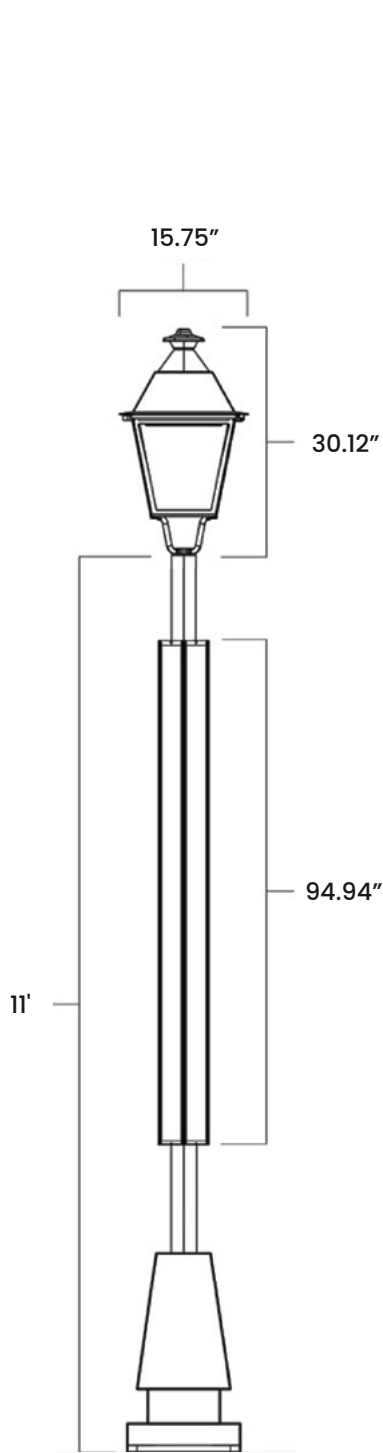


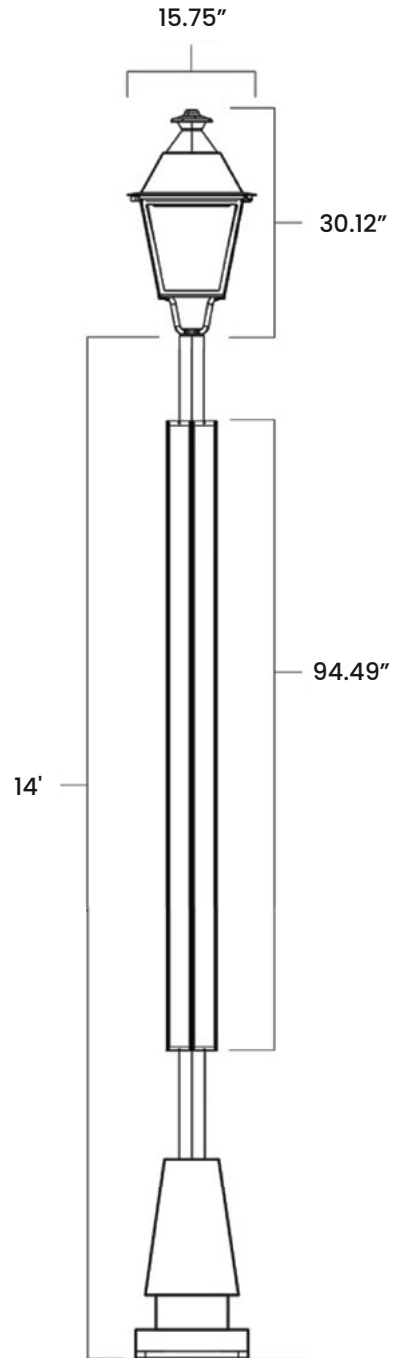
Chart metrics for reference only, custom schedule set as required.

DIMENSIONS

ARES- 20W / 30W (11 FT POLE)



ARES- 40W / 50W / 60W (14 FT POLE)



Standard pole heights are 11 ft and 14 ft. Other heights available upon request. Standard poles are straight aluminum with anchor bolts and base cover included. Fluted poles and decorative covers available as options.

ORDERING INFORMATION

SERIES	WATTAGE	CCT	OPTICS	FINISH	MOUNTING	OPTIONS
ARES	20W	27K	T5 (Type V)	BLK (Black)	SF (Slip Fitter)	NONE (Standard)
	30W	30K				MOT (Motion Sensor)
	40W	40K (Standard)				SMC (Smart Control)
	50W	50K				MON (Monitor)
	60W					

Note: Recommended 30W/40W standard configurations.

EXAMPLE PART NUMBER ARES - 40W - 40K - T5 - BLK - SF - SMC | QTY: 25

FIXTURE SCHEDULE

TYPE	PART NUMBER	QTY

Final configuration shall be verified against project-specific electrical and photometric requirements.
 Custom configurations are available upon request.

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ARES™ SERIES
 SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE