

EXTERIA LIGHTING

Solar-Powered Exterior LED Luminaires

PRODUCT GUIDE SPECIFICATION

CSI SECTION 26 56 00	SECTION TITLE Exterior Lighting	MANUFACTURER Exteria Lighting LLC	REVISION 08 · 19 · 2026
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SECTION 26 56 00 – EXTERIOR LIGHTING

SOLAR-POWERED EXTERIOR LED LUMINAIRES

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Self-contained solar-powered exterior LED luminaires.
- B. Solar-powered bollards.
- C. Solar-powered paver luminaires.
- D. Solar-powered ground lights.
- E. Integral photovoltaic modules, energy-storage systems, automatic controls, mounting components, and accessories associated with solar-powered luminaires.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM B117 – Standard Practice for Operating Salt Spray (Fog) Apparatus.
- B. Applicable electrical safety, electromagnetic compatibility, environmental, and product standards associated with specified listings and certifications.

1.3 SUBMITTALS

- A. **Product Data:** Submit manufacturer’s published product data for each luminaire type specified, including, as applicable:
 - 1. Product dimensions.
 - 2. Housing and construction materials.
 - 3. Finish selections.
 - 4. Lumen output.
 - 5. Photometric performance.
 - 6. Correlated color temperature.
 - 7. Color rendering index.
 - 8. Optical distribution.
 - 9. Photovoltaic system.
 - 10. Energy-storage technology.
 - 11. Control system and sequence of operation.
 - 12. Ingress-protection rating.
 - 13. Operating-temperature range.
 - 14. Mounting and anchorage requirements.
 - 15. Listings and certifications.
- B. **Shop Drawings:** Submit manufacturer’s installation details, mounting information, dimensions, and project-specific installation requirements where applicable.
- C. **Photometric Data:** Submit manufacturer’s published photometric information for specified luminaires.
- D. **Samples:** Submit manufacturer’s standard finish samples where requested by Architect.
- E. **Warranty:** Submit manufacturer’s standard warranty documentation.

1.4 QUALITY ASSURANCE

- A. Manufacturer shall regularly manufacture architectural exterior lighting equipment and solar-powered LED luminaires.
- B. Solar-powered luminaires shall be engineered as integrated systems incorporating LED source, photovoltaic generation, energy storage, charging electronics, automatic controls, optical system, housing, and mounting components.
- C. Products shall comply with applicable ETL, FCC, and RoHS requirements.

SPECIFIER NOTE

Wildlife Lighting and Dark Sky certifications apply only to specific Exteria Lighting products and configurations. Consult Exteria Lighting to verify current certification status where these requirements apply to the project.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in manufacturer's original packaging with product identification intact.
- B. Store products in a clean, dry location in accordance with manufacturer's recommendations.
- C. Protect luminaires from physical damage before and during installation.
- D. Handle products to prevent damage to housing, photovoltaic surfaces, optical components, sensors, seals, mounting components, and finishes.

1.6 WARRANTY

- A. Provide manufacturer's 3-year limited warranty covering the complete solar-powered luminaire assembly.
- B. Warranty shall include, subject to manufacturer's published warranty terms and conditions:
 - 1. LED components.
 - 2. Photovoltaic components.
 - 3. Energy-storage components.
 - 4. Charging and control components.
 - 5. Luminaire housing and associated components.

PART 2 – PRODUCTS

2.1 MANUFACTURER

A. Basis-of-Design Manufacturer:

EXTERIA LIGHTING

1860 S Carlos Ave
Ontario, California 91761

PHONE 213-992-9992
EMAIL info@externalighting.com
WEBSITE externalighting.com

B. Products: Solar-powered exterior LED luminaires as indicated on Drawings and Luminaire Schedule.

SPECIFIER NOTE

Select specific Exteria Lighting products, configurations, output, CCT, distribution, finish, mounting, and other options from the applicable product specification sheet and Luminaire Schedule.

2.2 SOLAR-POWERED EXTERIOR LED LUMINAIRES

- A. Provide self-contained solar-powered exterior LED luminaires incorporating:
 - 1. Integral photovoltaic generation system.
 - 2. Integral energy-storage system.
 - 3. Solid-state LED light source.
 - 4. Optical system.
 - 5. Automatic control system.
 - 6. Exterior-rated aluminum housing.
 - 7. Required mounting and anchorage components.
- B. Luminaires shall operate independently without external line-voltage wiring, remote transformers, remote drivers, or external power supplies for normal operation.
- C. Luminaires shall charge exclusively from solar energy.
- D. Product dimensions, lumen output, CCT, optical distribution, photovoltaic capacity, energy-storage capacity, and mounting configuration shall be as indicated on the manufacturer's published product data and project Luminaire Schedule.

2.3 CONSTRUCTION

- A. Luminaire housings shall be constructed of aluminum.
- B. Materials and assemblies shall utilize corrosion-resistant construction suitable for continuous exterior service.
- C. Exposed fasteners, where provided, shall generally be stainless steel or other corrosion-resistant material appropriate to the application.
- D. Housing, seals, optical components, mounting hardware, and accessories shall be designed to resist deterioration resulting from normal exposure to moisture, ultraviolet radiation, and exterior environmental conditions.

2.4 FINISHES

- A. Exterior aluminum housings shall receive a durable exterior-grade powder-coated finish unless otherwise indicated by product design.
- B. Selected aluminum accessories and components may utilize anodized finishes where indicated.
- C. Finish systems shall be formulated for resistance to:
 - 1. Corrosion.
 - 2. Ultraviolet exposure.
 - 3. Chipping.
 - 4. Fading.
 - 5. Exterior weathering.
- D. Powder-coated finish system shall demonstrate a minimum 3,000-hour salt-spray corrosion resistance when tested in accordance with ASTM B117.
- E. Finish color shall be selected from manufacturer's available standard or optional colors as indicated in the Luminaire Schedule.

SPECIFIER NOTE

Available finishes vary by product. Refer to applicable Exteria Lighting product specification sheet.

2.5 LED AND OPTICAL PERFORMANCE

- A. **Light Source:** Solid-state LED.
- B. **Color Rendering Index:** Minimum 85 CRI, except where specialty light sources or wildlife-specific configurations require otherwise.
- C. **Correlated Color Temperature:** As selected from manufacturer's available options for specified luminaire.
- D. **Optical Distribution:**
 - 1. Narrow.
 - 2. Wide.

SPECIFIER NOTE

Available optical distributions vary by product. Refer to applicable product specification sheet.

- E. Lumen Maintenance:** Minimum 60,000 hours at L70.
- F.** Luminaire output and optical performance shall be as indicated in manufacturer's published photometric data.

2.6 SOLAR ENERGY SYSTEM

- A. Photovoltaic Module:** High-efficiency monocrystalline photovoltaic panel integrally incorporated into luminaire assembly.
- B.** Photovoltaic system shall be sized by manufacturer according to:
 - 1. Connected LED load.
 - 2. Energy-storage capacity.
 - 3. Specified control sequence.
 - 4. Intended nighttime operating duration.
- C.** Photovoltaic panel shall form an integral part of the luminaire assembly.
- D.** Solar-powered luminaires shall require no external electrical supply for normal charging and operation.
- E.** Integral charging electronics shall automatically regulate photovoltaic charging and stored-energy utilization.
- F.** System shall be designed for dusk-to-dawn operation, providing a minimum of 12 hours of nighttime operation under normal solar-charging conditions.
- G.** Fully charged system shall provide a minimum of three consecutive nights of operation without additional solar charging, based on the specified normal operating profile.

2.7 ENERGY-STORAGE SYSTEM

- A. Solar Bollards:**
 - 1. Energy storage shall utilize rechargeable Panasonic Eneloop nickel-metal hydride (NiMH) battery technology.
 - 2. Battery capacity shall be sized by manufacturer according to luminaire power and operating requirements.
 - 3. Battery system shall be integrated with the luminaire charging and control system.
- B. Solar Pavers and Ground Lights:**
 - 1. Energy storage shall utilize ultracapacitor technology.
 - 2. Ultracapacitor capacity shall be sized by manufacturer according to luminaire power and operating requirements.
 - 3. Ultracapacitor system shall be integrated with the luminaire charging and control system.
- C.** Energy-storage system shall automatically manage stored energy to support nighttime operation and required reserve capacity.

2.8 CONTROLS AND OPERATION

- A.** All solar-powered luminaires shall incorporate an integral photocell for automatic dusk-to-dawn operation.
- B.** Solar bollards shall incorporate an integral passive infrared PIR motion sensor.
- C.** Unless otherwise specified, solar bollards shall operate as follows:
 - 1. Approximately 33 percent light output during standby.
 - 2. Automatically increase to 100 percent light output upon detection of motion.
 - 3. Maintain full output for approximately one minute following motion detection.
 - 4. Automatically return to standby output after the full-output period.
- D.** Alternative operating profiles may be factory programmed when required by project conditions.

SPECIFIER NOTE

Alternative operating profiles are factory configured. Consult Exteria Lighting during specification to determine available sequences and project-specific programming requirements.

- E. Solar paver luminaires and ground lights shall operate automatically by photocell without PIR motion sensing.
- F. Controls shall be integral to the luminaire and shall not require external control wiring or separate remote-control equipment for normal operation.

2.9 ENVIRONMENTAL PERFORMANCE

A. Solar Bollards:

- 1. Minimum Ingress Protection: IP65.

B. Solar Pavers and Ground Lights:

- 1. Minimum Ingress Protection: IP68.

C. Operating Ambient Temperature: 32°F to 122°F (0°C to 50°C).

D. Luminaires shall be suitable for continuous exterior exposure within manufacturer's published environmental limitations.

SPECIFIER NOTE

Solar bollards do not carry a general family-wide IK impact rating. Where an IK rating is required by the project, consult Exteria Lighting for product-specific suitability.

2.10 LISTINGS AND CERTIFICATIONS

A. Solar-powered bollards, pavers, and ground lights shall be:

- 1. ETL certified/listed as applicable.
- 2. FCC compliant.
- 3. RoHS compliant.

B. Wildlife Lighting Certification: Available only for specifically certified products and configurations.

SPECIFIER NOTE

Wildlife Lighting Certification currently applies to applicable configurations of the Exteria Lighting SP-7 Solar LED Bollard. Verify selected CCT, light source, and current certification status with manufacturer.

C. Dark Sky certification or qualification: Available only for specifically qualified products and configurations.

SPECIFIER NOTE

Dark Sky qualification currently applies to applicable configurations of the Exteria Lighting SP-7 Solar LED Bollard. Consult Exteria Lighting to verify current product configuration and certification status.

2.11 MOUNTING AND ANCHORAGE

- A. Mounting configuration shall be as indicated by specified product and Drawings.
- B. Provide manufacturer-recommended mounting and anchorage components.
- C. Mounting components exposed to exterior conditions shall utilize corrosion-resistant materials suitable for intended installation.
- D. Coordinate embedded, surface-mounted, recessed, paver-integrated, ground-mounted, or other installation conditions with manufacturer's published installation requirements.

SPECIFIER NOTE

Available mounting configurations vary by product. Refer to applicable product specification sheet and installation instructions.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine installation locations and substrates before installation.
- B. Verify that mounting surfaces, foundations, openings, paving systems, and other site conditions are suitable for installation of specified luminaires.
- C. Verify that intended luminaire locations provide sufficient solar exposure for proper charging and operation.
- D. Do not begin installation until unacceptable conditions have been corrected.

3.2 INSTALLATION

- A. Install luminaires in accordance with manufacturer's published installation instructions and at locations indicated on Drawings.
- B. Install solar bollards plumb, level, securely anchored, and aligned as indicated.
- C. Install pavers and ground lights level, securely supported, and in accordance with manufacturer's requirements for intended application.
- D. Position luminaires to minimize avoidable shading of photovoltaic surfaces from:
 - 1. Buildings.
 - 2. Structures.
 - 3. Vegetation.
 - 4. Site furnishings.
 - 5. Other obstructions.
- E. Protect photovoltaic surfaces, optical components, controls, sensors, seals, housings, and finishes from damage during installation.

3.3 SOLAR EXPOSURE AND SITING

- A. Locate solar-powered luminaires to provide adequate daylight and direct solar exposure in accordance with manufacturer's recommendations.
- B. Avoid locations subject to persistent shading that may impair charging performance.
- C. Coordinate luminaire placement with landscaping and anticipated vegetation growth.
- D. Consult Exteria Lighting where project conditions may substantially limit available solar exposure.

3.4 ADJUSTING AND COMMISSIONING

- A. Verify proper luminaire operation following installation.
- B. Verify photocell-controlled dusk-to-dawn operation.
- C. For solar bollards, verify PIR motion-sensor operation and programmed output sequence.
- D. Verify that factory-programmed operating profile corresponds with approved project requirements.
- E. Correct or replace components that do not operate as intended in accordance with manufacturer's recommendations.

3.5 CLEANING

- A. Clean luminaires promptly following installation in accordance with manufacturer's recommendations.

B. Remove dirt, construction debris, fingerprints, and other contaminants from:

- | | |
|---------------------------|------------------------|
| 1. Photovoltaic surfaces. | 4. Sensors. |
| 2. Optical surfaces. | 5. Exposed components. |
| 3. Housings. | |

C. Do not use cleaning materials or methods that may damage finishes, seals, lenses, sensors, or photovoltaic surfaces.

3.6 PROTECTION

A. Protect installed luminaires from damage during remaining construction activities.

B. At Substantial Completion, provide installed luminaires clean, operational, properly adjusted, and free from damage other than normal exterior exposure.

END OF SECTION