

# **Outdoor LED Lighting Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Source (LED Lights, Plasma Lamps, High-Intensity Discharge Lamps, Fluorescent Lights), By Distribution Channel (Offline, Online), By Application (Residential, Commercial), By Region & Competition, 2021-2031F**

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## **Abstracts**

The Global Outdoor LED Lighting Market is projected to expand from a valuation of USD 18.72 billion in 2025 to USD 31.03 billion by 2031, reflecting a compound annual growth rate of 8.79%. This sector covers the manufacturing and supply of Light Emitting Diode fixtures designed for external environments, such as building exteriors, public gathering areas, parking facilities, and roadways. Growth in this market is primarily underpinned by strict government regulations aimed at lowering carbon footprints, alongside the development of smart city infrastructures that use connected lighting systems to enhance operational efficiency. As reported by Energy Efficiency Services Limited in 2025, the Street Lighting National Programme achieved a milestone of installing more than 13.2 million LED streetlights to support national energy conservation initiatives.

Despite these positive growth indicators, the market confronts a substantial obstacle regarding the heavy upfront capital investment needed for large-scale infrastructure modernization. Although the long-term return on investment is clear due to reduced maintenance and energy costs, the significant funding required for retrofitting projects often overwhelms the restricted budgets of commercial entities and municipalities, which can delay widespread implementation. This financial barrier continues to retard the universal acceptance of efficient outdoor lighting solutions in regions that are sensitive to costs.

## Market Driver

The enforcement of supportive government policies and energy efficiency mandates serves as a primary catalyst for growth, pushing municipalities to replace obsolete high-pressure sodium fixtures with sustainable alternatives to satisfy rigorous environmental goals. Regulatory agencies are speeding up this transition by offering direct financial grants designed to reduce public sector carbon emissions and upgrade grid infrastructure. As reported by Forbes, the U.S. Department of Energy allocated \$11.5 million in December 2024 to state and local governments expressly for installing energy-efficient LED lighting in public spaces and facilities. These compulsory upgrades result in immediate resource preservation and cost savings for utility providers; for instance, Nashville Electric Service reported in February 2025 that its citywide retrofit program conserved roughly 900,000 kilowatt-hours of energy during December 2024 alone.

Furthermore, the incorporation of IoT and intelligent systems into smart city projects drives market momentum by converting passive lighting hardware into active, data-driven networks. Modern outdoor fixtures increasingly feature smart sensors and controllers that enable remote management, automated maintenance notifications, and adaptive dimming, thereby cutting labor costs and operational downtime. This connectivity supports broader urban modernization objectives, permitting utilities to monitor extensive lighting assets from a central interface instead of relying on manual inspections. Demonstrating this technological shift, PhillyVoice reported that in October 2025, the City of Philadelphia finalized a major infrastructure project that networked 130,000 streetlights into a centralized system to optimize citywide service delivery and response times.

## Market Challenge

The main hurdle obstructing the growth of the Global Outdoor LED Lighting Market is the significant initial capital expenditure necessary for infrastructure modernization. While LED technology offers documented long-term savings through enhanced energy efficiency and lower maintenance needs, the heavy upfront costs for purchasing advanced luminaires, poles, and integrated smart control systems place a severe strain on municipal and commercial budgets. This financial barrier is particularly prohibitive for private entities and local governments with limited capital resources, often forcing them to postpone or significantly scale back retrofitting projects. Consequently, market penetration slows as decision-makers frequently prioritize immediate operational expenses over capital-intensive upgrades that yield returns only over an extended

period.

These financial constraints are most pronounced in developing economies and cost-sensitive regions where economic instability further restricts purchasing power. According to the Global Off-Grid Lighting Association, the market for lighting solutions in West Africa experienced a severe contraction in May 2025, with sales volumes dropping by 33% throughout 2024 due to high inflation and currency devaluation that made initial acquisition costs unmanageable. This data highlights how economic volatility and high entry costs directly impede the universal adoption of efficient outdoor lighting technologies, creating a fragmented market landscape where growth is concentrated only in regions with robust public funding or flexible financing mechanisms.

## **Market Trends**

The adoption of Dark Sky compliant and wildlife-friendly spectral configurations is reshaping fixture design as municipalities place equal importance on ecological preservation and visibility. Manufacturers are engineering full cut-off luminaires with warmer color temperatures to minimize blue light emissions, which disturb human circadian rhythms and nocturnal ecosystems. This shift is enforced by ordinances requiring precise optical control to eliminate skyglow and prevent light trespass into residential zones. Reflecting this regulatory momentum, the Times of Malta reported in December 2025 that the Ministry for the Environment announced a ?13 million project to replace over 34,000 streetlights with fully shielded, dark-sky compliant LED fixtures aimed at eliminating light pollution while protecting biodiversity.

Additionally, the emergence of multifunctional smart poles equipped with integrated EV charging is transforming passive vertical assets into critical hubs for urban mobility. Cities are utilizing existing streetlight columns to deploy electric vehicle supply equipment without extensive groundworks, effectively resolving curbside charging shortages for residents without private driveways. These modular units frequently combine power delivery with connectivity, maximizing infrastructure utility beyond simple illumination. Highlighting this shift, Ubitricity reported in October 2025 that the company completed the rollout of 2,000 public electric vehicle charge points integrated into streetlights across the London Borough of Tower Hamlets to accelerate zero-emission transport adoption.

## **Key Market Players**

Signify Holding

General Electric

OSRAM GmbH

Hubbell

ACUITY BRANDS, INC.

Zumtobel Group

Eaton

Cree LED

SYSKA

Virtual Extension

## **Report Scope**

In this report, the Global Outdoor LED Lighting Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

### Outdoor LED Lighting Market, By Source

LED Lights

Plasma Lamps

High-Intensity Discharge Lamps

Fluorescent Lights

### Outdoor LED Lighting Market, By Distribution Channel

Offline

Online

Outdoor LED Lighting Market, By Application

Residential

Commercial

Outdoor LED Lighting Market, By Region

North America

United States

Canada

Mexico

Europe

France

United Kingdom

Italy

Germany

Spain

Asia Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

## **Competitive Landscape**

Company Profiles: Detailed analysis of the major companies present in the Global Outdoor LED Lighting Market.

## **Available Customizations:**

Global Outdoor LED Lighting Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

## **Company Information**

Detailed analysis and profiling of additional market players (up to five).

## Contents

### **1. PRODUCT OVERVIEW**

- 1.1. Market Definition
- 1.2. Scope of the Market
  - 1.2.1. Markets Covered
  - 1.2.2. Years Considered for Study
  - 1.2.3. Key Market Segmentations

### **2. RESEARCH METHODOLOGY**

- 2.1. Objective of the Study
- 2.2. Baseline Methodology
- 2.3. Key Industry Partners
- 2.4. Major Association and Secondary Sources
- 2.5. Forecasting Methodology
- 2.6. Data Triangulation & Validation
- 2.7. Assumptions and Limitations

### **3. EXECUTIVE SUMMARY**

- 3.1. Overview of the Market
- 3.2. Overview of Key Market Segmentations
- 3.3. Overview of Key Market Players
- 3.4. Overview of Key Regions/Countries
- 3.5. Overview of Market Drivers, Challenges, Trends

### **4. VOICE OF CUSTOMER**

### **5. GLOBAL OUTDOOR LED LIGHTING MARKET OUTLOOK**

- 5.1. Market Size & Forecast
  - 5.1.1. By Value
- 5.2. Market Share & Forecast
  - 5.2.1. By Source (LED Lights, Plasma Lamps, High-Intensity Discharge Lamps, Fluorescent Lights)
  - 5.2.2. By Distribution Channel (Offline, Online)
  - 5.2.3. By Application (Residential, Commercial)

- 5.2.4. By Region
- 5.2.5. By Company (2025)
- 5.3. Market Map

## **6. NORTH AMERICA OUTDOOR LED LIGHTING MARKET OUTLOOK**

- 6.1. Market Size & Forecast
  - 6.1.1. By Value
- 6.2. Market Share & Forecast
  - 6.2.1. By Source
  - 6.2.2. By Distribution Channel
  - 6.2.3. By Application
  - 6.2.4. By Country
- 6.3. North America: Country Analysis
  - 6.3.1. United States Outdoor LED Lighting Market Outlook
    - 6.3.1.1. Market Size & Forecast
      - 6.3.1.1.1. By Value
    - 6.3.1.2. Market Share & Forecast
      - 6.3.1.2.1. By Source
      - 6.3.1.2.2. By Distribution Channel
      - 6.3.1.2.3. By Application
  - 6.3.2. Canada Outdoor LED Lighting Market Outlook
    - 6.3.2.1. Market Size & Forecast
      - 6.3.2.1.1. By Value
    - 6.3.2.2. Market Share & Forecast
      - 6.3.2.2.1. By Source
      - 6.3.2.2.2. By Distribution Channel
      - 6.3.2.2.3. By Application
  - 6.3.3. Mexico Outdoor LED Lighting Market Outlook
    - 6.3.3.1. Market Size & Forecast
      - 6.3.3.1.1. By Value
    - 6.3.3.2. Market Share & Forecast
      - 6.3.3.2.1. By Source
      - 6.3.3.2.2. By Distribution Channel
      - 6.3.3.2.3. By Application

## **7. EUROPE OUTDOOR LED LIGHTING MARKET OUTLOOK**

- 7.1. Market Size & Forecast

- 7.1.1. By Value
- 7.2. Market Share & Forecast
  - 7.2.1. By Source
  - 7.2.2. By Distribution Channel
  - 7.2.3. By Application
  - 7.2.4. By Country
- 7.3. Europe: Country Analysis
  - 7.3.1. Germany Outdoor LED Lighting Market Outlook
    - 7.3.1.1. Market Size & Forecast
      - 7.3.1.1.1. By Value
    - 7.3.1.2. Market Share & Forecast
      - 7.3.1.2.1. By Source
      - 7.3.1.2.2. By Distribution Channel
      - 7.3.1.2.3. By Application
  - 7.3.2. France Outdoor LED Lighting Market Outlook
    - 7.3.2.1. Market Size & Forecast
      - 7.3.2.1.1. By Value
    - 7.3.2.2. Market Share & Forecast
      - 7.3.2.2.1. By Source
      - 7.3.2.2.2. By Distribution Channel
      - 7.3.2.2.3. By Application
  - 7.3.3. United Kingdom Outdoor LED Lighting Market Outlook
    - 7.3.3.1. Market Size & Forecast
      - 7.3.3.1.1. By Value
    - 7.3.3.2. Market Share & Forecast
      - 7.3.3.2.1. By Source
      - 7.3.3.2.2. By Distribution Channel
      - 7.3.3.2.3. By Application
  - 7.3.4. Italy Outdoor LED Lighting Market Outlook
    - 7.3.4.1. Market Size & Forecast
      - 7.3.4.1.1. By Value
    - 7.3.4.2. Market Share & Forecast
      - 7.3.4.2.1. By Source
      - 7.3.4.2.2. By Distribution Channel
      - 7.3.4.2.3. By Application
  - 7.3.5. Spain Outdoor LED Lighting Market Outlook
    - 7.3.5.1. Market Size & Forecast
      - 7.3.5.1.1. By Value
    - 7.3.5.2. Market Share & Forecast

- 7.3.5.2.1. By Source
- 7.3.5.2.2. By Distribution Channel
- 7.3.5.2.3. By Application

## **8. ASIA PACIFIC OUTDOOR LED LIGHTING MARKET OUTLOOK**

- 8.1. Market Size & Forecast
  - 8.1.1. By Value
- 8.2. Market Share & Forecast
  - 8.2.1. By Source
  - 8.2.2. By Distribution Channel
  - 8.2.3. By Application
  - 8.2.4. By Country
- 8.3. Asia Pacific: Country Analysis
  - 8.3.1. China Outdoor LED Lighting Market Outlook
    - 8.3.1.1. Market Size & Forecast
      - 8.3.1.1.1. By Value
    - 8.3.1.2. Market Share & Forecast
      - 8.3.1.2.1. By Source
      - 8.3.1.2.2. By Distribution Channel
      - 8.3.1.2.3. By Application
  - 8.3.2. India Outdoor LED Lighting Market Outlook
    - 8.3.2.1. Market Size & Forecast
      - 8.3.2.1.1. By Value
    - 8.3.2.2. Market Share & Forecast
      - 8.3.2.2.1. By Source
      - 8.3.2.2.2. By Distribution Channel
      - 8.3.2.2.3. By Application
  - 8.3.3. Japan Outdoor LED Lighting Market Outlook
    - 8.3.3.1. Market Size & Forecast
      - 8.3.3.1.1. By Value
    - 8.3.3.2. Market Share & Forecast
      - 8.3.3.2.1. By Source
      - 8.3.3.2.2. By Distribution Channel
      - 8.3.3.2.3. By Application
  - 8.3.4. South Korea Outdoor LED Lighting Market Outlook
    - 8.3.4.1. Market Size & Forecast
      - 8.3.4.1.1. By Value
    - 8.3.4.2. Market Share & Forecast

- 8.3.4.2.1. By Source
- 8.3.4.2.2. By Distribution Channel
- 8.3.4.2.3. By Application
- 8.3.5. Australia Outdoor LED Lighting Market Outlook
  - 8.3.5.1. Market Size & Forecast
    - 8.3.5.1.1. By Value
  - 8.3.5.2. Market Share & Forecast
    - 8.3.5.2.1. By Source
    - 8.3.5.2.2. By Distribution Channel
    - 8.3.5.2.3. By Application

## **9. MIDDLE EAST & AFRICA OUTDOOR LED LIGHTING MARKET OUTLOOK**

- 9.1. Market Size & Forecast
  - 9.1.1. By Value
- 9.2. Market Share & Forecast
  - 9.2.1. By Source
  - 9.2.2. By Distribution Channel
  - 9.2.3. By Application
  - 9.2.4. By Country
- 9.3. Middle East & Africa: Country Analysis
  - 9.3.1. Saudi Arabia Outdoor LED Lighting Market Outlook
    - 9.3.1.1. Market Size & Forecast
      - 9.3.1.1.1. By Value
    - 9.3.1.2. Market Share & Forecast
      - 9.3.1.2.1. By Source
      - 9.3.1.2.2. By Distribution Channel
      - 9.3.1.2.3. By Application
  - 9.3.2. UAE Outdoor LED Lighting Market Outlook
    - 9.3.2.1. Market Size & Forecast
      - 9.3.2.1.1. By Value
    - 9.3.2.2. Market Share & Forecast
      - 9.3.2.2.1. By Source
      - 9.3.2.2.2. By Distribution Channel
      - 9.3.2.2.3. By Application
  - 9.3.3. South Africa Outdoor LED Lighting Market Outlook
    - 9.3.3.1. Market Size & Forecast
      - 9.3.3.1.1. By Value
    - 9.3.3.2. Market Share & Forecast

- 9.3.3.2.1. By Source
- 9.3.3.2.2. By Distribution Channel
- 9.3.3.2.3. By Application

## **10. SOUTH AMERICA OUTDOOR LED LIGHTING MARKET OUTLOOK**

- 10.1. Market Size & Forecast
  - 10.1.1. By Value
- 10.2. Market Share & Forecast
  - 10.2.1. By Source
  - 10.2.2. By Distribution Channel
  - 10.2.3. By Application
  - 10.2.4. By Country
- 10.3. South America: Country Analysis
  - 10.3.1. Brazil Outdoor LED Lighting Market Outlook
    - 10.3.1.1. Market Size & Forecast
      - 10.3.1.1.1. By Value
    - 10.3.1.2. Market Share & Forecast
      - 10.3.1.2.1. By Source
      - 10.3.1.2.2. By Distribution Channel
      - 10.3.1.2.3. By Application
  - 10.3.2. Colombia Outdoor LED Lighting Market Outlook
    - 10.3.2.1. Market Size & Forecast
      - 10.3.2.1.1. By Value
    - 10.3.2.2. Market Share & Forecast
      - 10.3.2.2.1. By Source
      - 10.3.2.2.2. By Distribution Channel
      - 10.3.2.2.3. By Application
  - 10.3.3. Argentina Outdoor LED Lighting Market Outlook
    - 10.3.3.1. Market Size & Forecast
      - 10.3.3.1.1. By Value
    - 10.3.3.2. Market Share & Forecast
      - 10.3.3.2.1. By Source
      - 10.3.3.2.2. By Distribution Channel
      - 10.3.3.2.3. By Application

## **11. MARKET DYNAMICS**

### **11.1. Drivers**

## 11.2. Challenges

## **12. MARKET TRENDS & DEVELOPMENTS**

### 12.1. Merger & Acquisition (If Any)

### 12.2. Product Launches (If Any)

### 12.3. Recent Developments

## **13. GLOBAL OUTDOOR LED LIGHTING MARKET: SWOT ANALYSIS**

## **14. PORTER'S FIVE FORCES ANALYSIS**

### 14.1. Competition in the Industry

### 14.2. Potential of New Entrants

### 14.3. Power of Suppliers

### 14.4. Power of Customers

### 14.5. Threat of Substitute Products

## **15. COMPETITIVE LANDSCAPE**

### 15.1. Signify Holding

#### 15.1.1. Business Overview

#### 15.1.2. Products & Services

#### 15.1.3. Recent Developments

#### 15.1.4. Key Personnel

#### 15.1.5. SWOT Analysis

### 15.2. General Electric

### 15.3. OSRAM GmbH

### 15.4. Hubbell

### 15.5. ACUITY BRANDS, INC.

### 15.6. Zumtobel Group

### 15.7. Eaton

### 15.8. Cree LED

### 15.9. SYSKA

### 15.10. Virtual Extension

## **16. STRATEGIC RECOMMENDATIONS**

## **17. ABOUT US & DISCLAIMER**



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