

# **Global LED Grow Light Market Size Study & Forecast, by Product (300 Watt), by Installation Type (Retrofit and New Installation), by Application (Indoor Farming, Commercial Greenhouse, Vertical Farming, Turf and Landscaping, and Research), and Regional Forecasts 2025–2035**

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## **Abstracts**

The Global LED Grow Light Market is valued at approximately USD 3 billion in 2024 and is projected to expand at a compound annual growth rate (CAGR) of around 8.30% during the forecast period 2025–2035. LED Grow Lights are artificial lighting systems designed to stimulate plant growth by emitting light appropriate for photosynthesis, particularly in controlled environments such as indoor farms and greenhouses. They are engineered to replicate natural sunlight while providing optimized wavelength combinations that accelerate growth cycles and improve crop yield. The rising global focus on sustainable agricultural practices, coupled with the increasing demand for year-round cultivation of fruits, vegetables, and herbs, is significantly driving market expansion. Moreover, the surge in urban population and the adoption of vertical farming techniques to overcome limited arable land are encouraging growers to deploy LED grow lighting systems that deliver energy efficiency and precision control.

The market is also benefiting from technological innovations and the growing integration of smart farming technologies. Continuous improvements in LED chip design, spectral optimization, and energy efficiency have substantially reduced operational costs while increasing productivity per square meter. Governments across North America, Europe, and Asia are introducing supportive policies that promote controlled-environment agriculture (CEA) to enhance food security and reduce the carbon footprint associated with traditional farming. According to the United Nations, the global population is

expected to reach nearly 9.7 billion by 2050, demanding a 70% increase in food production. Consequently, the adoption of LED grow lights in vertical farms, hydroponic systems, and greenhouses is set to rise sharply as they provide consistent illumination with minimal heat generation and superior lifespan compared to traditional high-intensity discharge (HID) and fluorescent systems.

The detailed segments and sub-segments included in the report are:

By Product:

300 Watt

By Installation Type:

Retrofit

New Installation

By Application:

Indoor Farming

Commercial Greenhouse

Vertical Farming

Turf and Landscaping

Research

By Region:

North America

U.S.

Canada

## Europe

UK

Germany

France

Spain

Italy

Rest of Europe

## Asia Pacific

China

India

Japan

Australia

South Korea

Rest of Asia Pacific

## Latin America

Brazil

Mexico

## Middle East & Africa

UAE

Saudi Arabia

South Africa

Rest of Middle East & Africa

## >300 Watt Segment is Expected to Dominate the Market

The >300 Watt LED grow light segment is projected to hold the largest market share throughout the forecast period. These high-wattage systems are particularly suitable for large-scale commercial greenhouses and vertical farming facilities, where robust light penetration and uniform distribution are vital for consistent crop growth. Their efficiency in covering broader cultivation areas while maintaining energy savings makes them indispensable in industrial-scale horticulture. Furthermore, technological improvements in heat management and spectral tuning have enhanced their appeal among growers seeking maximum yield per watt consumed. The segment's dominance is further reinforced by the expanding number of large commercial installations focusing on high-value crops, medicinal plants, and research-driven cultivation.

## Commercial Greenhouse Applications Lead in Revenue Contribution

Commercial greenhouse applications account for the highest revenue share in the global LED grow light market and are anticipated to maintain this lead during the forecast period. Greenhouses equipped with advanced LED grow lights ensure precise control over plant growth cycles, enabling farmers to produce crops throughout the year regardless of external weather conditions. The efficiency, durability, and customizable wavelength output of LEDs have made them the preferred lighting solution for greenhouse operators aiming to boost yield and quality while reducing energy expenses. Additionally, as consumer demand for fresh, locally grown produce continues to rise, greenhouse operators are investing heavily in LED systems to meet sustainability and productivity targets. Meanwhile, vertical farming is emerging as the fastest-growing application segment due to its ability to maximize output in compact urban environments through multi-layered cultivation systems powered by advanced lighting control.

The key regions considered for the Global LED Grow Light Market study include North America, Europe, Asia Pacific, Latin America, and the Middle East & Africa. North America currently dominates the market owing to the widespread adoption of indoor farming technologies, strong investment in agritech startups, and favorable government incentives for sustainable agriculture. Europe follows closely, supported by robust greenhouse infrastructure and environmental regulations encouraging energy-efficient farming practices, particularly in countries such as the Netherlands and Germany. Asia Pacific is projected to witness the fastest growth due to rapid urbanization, limited farmland availability, and the increasing establishment of vertical farms in densely populated countries such as China, Japan, and Singapore. Latin America and the Middle East & Africa are expected to show steady adoption driven by the modernization of agricultural systems and growing awareness of resource-efficient cultivation practices in arid and semi-arid regions.

Major market players included in this report are:

Signify Holding (Philips Lighting)

OSRAM Licht AG

Heliospectra AB

Cree, Inc.

Valoya Ltd.

Gavita International B.V.

Lumileds Holding B.V.

Evergrow International

Illumitex Inc.

California LightWorks

HydroGrow

Bridgelux, Inc.

GE Lighting (Savant Systems Inc.)

Samsung Electronics Co., Ltd.

Fluence Bioengineering, Inc.

#### Global LED Grow Light Market Report Scope:

Historical Data – 2023, 2024

Base Year for Estimation – 2024

Forecast period – 2025–2035

Report Coverage – Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Regional Scope – North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope – Free report customization (equivalent to up to 8 analysts' working hours) with purchase. Addition or alteration to country, regional & segment scope\*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values for the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within the countries involved in the study. The report also provides detailed information about crucial aspects, such as driving factors and challenges, which will define the future growth of the market. Additionally, it incorporates potential opportunities in micro-markets for stakeholders to invest, along with a detailed analysis of the competitive landscape and product offerings of key players. The detailed segments and sub-segments of the market are explained above.

#### Key Takeaways:

*Global LED Grow Light Market Size Study & Forecast, by Product (<300 Watt and >300 Watt), by Installation Type...*

Market Estimates & Forecast for 10 years from 2025 to 2035.

Annualized revenues and regional-level analysis for each market segment.

Detailed analysis of the geographical landscape with country-level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of the competitive structure of the market.

Demand side and supply side analysis of the market.

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