Emerging Market

Horticulture

Horticulture lighting technology utilizes artificial light sources to provide the energy needed for plant growth, either supplementing or replacing natural light to optimize plant development. These light sources deliver the specific spectrum required for photosynthesis, promoting growth, flowering, and fruiting. With the global population increasing, food demand rising, and sustainable agricultural technologies advancing, the horticulture lighting market is growing rapidly. It is widely used in vertical farming, greenhouse cultivation, home gardening, and the production of high-value crops, such as medicinal plants.

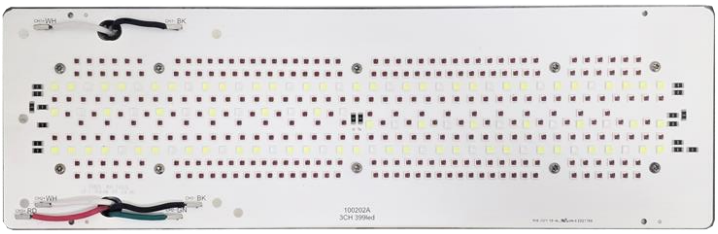
Three Major Application Areas of Horticulture Lighting

Greenhouse Agriculture: Used for supplemental lighting or illumination to enhance crop yield.

Vertical Farms: Combine hydroponics and multi-layer structures to achieve high-density crop cultivation.

Plant Factories: Create completely artificial environments for year-round cultivation of high-value crops.

Horticulture Lighting



Wavelength (nm)	660、450、white 5700K
Power (W)	200~312
Voltage (Vac)	277 - 480

Market Trends and Potential

The horticulture market is growing rapidly, primarily driven by global population growth and rising food demand. With the increasing adoption of vertical farming and indoor cultivation technologies, horticulture lighting has become an essential tool for optimizing crop growth. According to market analysis reports, the compound annual growth rate (CAGR) from 2024 to 2032 is projected to exceed 25%. LED technology dominates the market due to its high efficiency and energy-saving characteristics, and it is widely used.

Technical Highlights

- **Three-Channel Independent Dimming**：Featuring three independently adjustable spectral channels—hyper red light, blue light, and white light—this system allows flexible adjustments based on crop needs to optimize plant growth.
- **Energy-Saving**：By independently controlling each spectral channel, this technology enhances energy efficiency, effectively reducing operating costs.

Sustainable Development Goals (SDGs)