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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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Terminology for horticulture lighting

植物照明术语

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document was proposed by China Light Industry Federation. This document is under the jurisdiction of the National Technical Committee for Standardization of Lighting Appliances (SAC/TC224). This document was drafted by: National Electric Light Source Quality Supervision and Inspection Center (Beijing), Shenzhen Longman Technology Industrial Co., Ltd., Foshan Electric Lighting Co., Ltd., Beijing Electric Lighting Research Institute Co., Ltd., Hangzhou Yuanfang Optoelectronic Information Co., Ltd., Guangdong Youming Semiconductor Co., Ltd. Co., Ltd., Shandong Guixiang Optoelectronics Co., Ltd., Zhejiang Mengtai Lighting Co., Ltd., National Energy Conservation Center, and Wuxi Lide Times Technology Co., Ltd. The main drafters of this document are. Li Yanfang, Chen Hongchuan, Miao Fei, Zhang Wei, Pan Jiangeng, Wu Xuejian, Yue Maoyong, Ke Jianfeng, Wang Chong, Hong Bing, Zhou Yanan and Zhou Mengbo. Horticulture Lighting Terminology

1 Scope

GB/T 44941-2024 is the Chinese vocabulary of horticultural lighting. Plant lighting is measured in quantities that ordinary lighting is not: the photon flux in the photosynthetically active band rather than the lumen, the daily light integral rather than the illuminance, and the spectral distribution in terms of what the plant's photoreceptors respond to rather than what the human eye does, so a vocabulary built on photometry is actively misleading here. China manufactures most of the world's horticultural LED and operates a very large greenhouse and vertical farm sector. The standard defines the terms: the radiometric and photon quantities and their units, the spectral terms including the photosynthetic and morphogenic wavebands, the lighting system and luminaire terms, the terms describing the

lighting strategy, supplemental, photoperiodic and sole-source, the plant response terms, and the measurement and performance terms by which a horticultural luminaire is rated. It took effect on 28 November 2024.

This document defines the application of light in plant lighting, radiation (band) and (radiation) amount, radiation sources and facility applications, and plant related light radiation. Terms and definitions related to plant physiology. This document applies to the field of plant lighting.

2 Normative references

This document has no normative references.

3.1 Plant lighting applications

3.1.1 Horticulture lighting Plant lighting An application of light radiation that stimulates biological responses in plants and their organs through the radiation of light.

3.1.2 tissue culture < Plants> In vitro cultivation of plant cells, tissues and organs under sterile and artificially controlled environmental conditions.

3.1.3 vertical farming< forhorticulture >< Plants> The cultivation of plants in vertically stacked structures or multi-layer structures. Note

1.Vertical planting can be used for indoor vertical cultivation and outdoor vertical cultivation. Note

2.Indoor vertical cultivation generally uses full artificial light. For outdoor vertical cultivation, artificial supplementary light can be used to compensate for the solar radiation in the highly stacked structure. Lack of shooting.

3.1.4 A plant cultivation production model that controls the environmental conditions for plant growth and development.

Note. Protected horticulture is based on specific facilities, equipment and cultivation and/or breeding management systems. Typical examples are based on plant factories, greenhouses and urban Agricultural and facility horticultural production models.

3.1.5 Plant Factory Agricultural facilities that achieve continuous production of plant cycles by artificially controlling the environmental conditions for plant growth and development.

3.1.6 Greenhouse A facility consisting of a translucent roof and an enclosure structure that uses protected gardening.