

## **Results of Experimental Research on Computerized Intellectual Monitoring Means of Effective Greenhouse Illumination**

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### **Abstract**

Industrial greenhouses are complex technological facilities where control and managing of the cultivation regimes affecting the efficiency of evapotranspiration and photosynthesis should be provided. The paper solves the relevant scientific and applied problem of evaluating and analyzing the metrological and functional characteristics of effective illumination sensors. The subject of the research is the metrological characteristics of means of metrical monitoring of effective illumination in the visible optical range for protected horticulture. The object of the study is the processes and factors which affect the metrological characteristics of the serial low-cost sensors of effective illumination in the visible optical range. The findings presented in this paper focus on solving the relevant scientific and applied problem of limited results of experiments on serial low-cost sensors of effective illumination in the visible optical range and their subsequent mathematical analysis to evaluate metrological characteristics. Promising areas of the research on the metrological provision of modern computerized systems for monitoring and controlling the effective illumination of industrial greenhouses are justified. The research results can be integrated into modern methods and means of computerized metrical monitoring and automatic control of technological regimes of greenhouse cultivation.

**Keywords:** *Effective illumination, Greenhouse, Error, Conversion characteristics, Computerized meter.*