

Developing Lighting Systems through the Study of Different Light Spectrum Effects on Humans

Prof. Rajab Abdel Rahman Omeish

Professor - Faculty of Applied Arts, Helwan University, ragabamish@yahoo.com

Prof. Wissam Onsi Ibrahim

Professor Doctor, Faculty of Applied Arts, Helwan University, wesam_mohamed01@a-arts.helwan.edu.eg

Heba Rabie Amir Muhammad Masoud

Assistant Lecturer, Products Department, College of Applied Arts, Badr University, hebarabie@a-arts.helwan.edu.eg

Abstract:

This research presents a group of different effects of lighting on a group of aspects of human life, which is known now as the term human-centered lighting. It addresses the effect of each of the different wavelength spectra of light that express different color shades of light on brain cells, and not only the visual effects and thus the biological effects. On the human body and human behavior, it emphasizes the necessity of taking advantage of these effects by integrating the different wavelength spectra of light into smart lighting devices, which today have become easy to control through mobile phone applications, in a preliminary step to develop a future vision for the design of lighting systems, by considering these factors. It is necessary to take advantage of the potential benefits of human-centered lighting to enhance public well-being and create an environment more compatible with human activities, thus opening new horizons for progress in lighting technology and its positive impact on every activity of the daily life of people with different physical and psychological requirements and needs, which promotes a better life. for people in the future.

Research problem: Does the difference in lighting colors have an impact on the functions of the human body and behavior, and can it be used in developing the design of lighting systems?

Research objective: to link studies on the biological sciences of light and the design of lighting systems.

The importance of the research: Integrating vital studies on the effects of different lighting colors on the vital functions of modern lighting design systems will develop lighting systems and achieve better people's well-being.

"This research aims to explore a variety of the effects of lighting on different aspects of human life, which is known as human-centered lighting. The research delves into the effect of different spectrums of light on brain cells, which subsequently affects the biological effects on the human body and human behavior." The research also emphasizes the importance of exploiting these effects by integrating different spectra of light into smart lighting devices, which can now be easily controlled through mobile phone applications and smart watches. This step paves the way for a future vision for the design of lighting systems. By considering these factors, it is necessary to take advantage of the potential benefits of human-centered lighting to enhance overall well-being and create an environment more conducive to human activities. In doing so, it opens new horizons for designers to advance lighting technology and its positive impact on both human life and well-being.

Keywords:

Lighting systems, light spectra effects

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