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LIGHTING SETTINGS DESIGN TAKING INTO ACCOUNT LIGHT&COLOR MAN ORGANISM AFFECTING

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Light has a complex influence on human biological functioning; beside of enabling vision a number of endocrine functions are influenced by light. Task of the present investigation is to establish a mathematical model how light and colour influences the human organism. Light controls circadian rhythms, mood, and accordingly men behavior, influences the psychoemotional status. At that rate lighting settings can not be examined as a simple summative of electric networks, lighting electro-receivers and protective-interconnect apparatus. It requires the development of a light&color influence model, methods and technical means for its realization.

A subject of psycho-physiological influence of coloured lighting was discussed at Lux Europe» [1] and at Licht 2002 [2]. The question of how coloured lighting environments influences human organism wss not discussed. In the present article man's emotional reaction on a colour stimulus is investigated, and the reaction of the psycho-physiological organism on colour according to dermic-galvanic resistance data is taken into consideration for the first time. A lot of works are devoted to electrophotherapy and its technical realization based on EEG [3], in a number of papers the change of electric activity of the brain under act of flashing light [4] and improvement of the psycho-emotional state is shown. In these investigations the light&colour loading has not been investigated.

To the knowledge of the author no publication is available that would have investigated the problem of quantitative estimation of light&color influence of lighting on a human organism.

The purpose of this work is development of a method and a model of complex quantitative estimation of influence of color-lighting surroundings on a human organism and registration of it's appropriateness when creating colored lighting surroundings.

Models of quantative estimation of light&colour influence on a man have been developed and will be presented at the poster, which allow to forecast light&colour influence of lighting options on man at the stage of planning, and also to create the special medical – biological lighting options with the purpose of the psychosomatic man state correction were developed.

References

1. Lichtkongress «Lux Europa 2001»: (Island 18-20 Juni, 2001) / «Licht». – Maastricht. – 2001. – №10. – pp. 930-931.
2. Kongress «Licht 2002» in Maastricht / «Licht». – Maastricht. – 2002. №11-12. – pp. 1298-2304.