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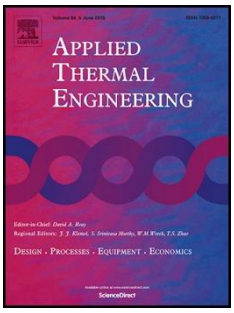

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EXPERIMENTAL INVESTIGATION OF RADIATION EFFECT ON HUMAN THERMAL COMFORT BY TAGUCHI METHOD

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Highlights

1- Radiation heat flux from lighting lamps on human thermal comfort is studied.

2- The effect of posture position on thermal comfort is investigated.

3- The effect of clothing color on thermal comfort is examined.

4- Radiation heat flux from halogen reflector lamp increase skin temperature more.

5- Posture position effect on thermal comfort is less than the other parameters.

Abstract

In this study, the effect of radiation heat flux of lighting lamps on human thermal comfort was investigated by using Taguchi method. In addition, at indoor conditions, clothing color and posture position under the radiation effect on thermal comfort were also investigated. For this purpose, experiments were performed in an air conditioned laboratory room in summer and autumn seasons. The amount of temperature rise in back was considered as performance parameter. An L8 orthogonal array was selected as an experimental plan for the third parameters mentioned above for summer and autumn seasons. The results were analyzed for the optimum conditions using signal-to-noise (S/N) ratio and ANOVA method.

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