

Title: Kajian simulasi berbantuan komputer bagi menilai kesilauan cahaya siang melalui tingkap di dalam sebuah ruang pejabat di Malaysia Bagi menilai kesilauan cahaya siang melalui tingkap di dalam sebuah ruang pejabat di Malaysia

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Abstract:

The purpose of this study is to simulate the glare condition due to daylight through window opening in interior spaces. The measurement method chosen was adopted on the basis of previous literature study, The New Daylight Index (DGIN) method and computer simulation Radiance Desktop 2.0 were used. The glare phenomena was measured on several different-size windows to determine the most appropriate window area that is capable of preventing the effect in room interior space. Sizes of windows are taken according to Window to Wall Ratio (WWR). The study was conducted on six different shading devices and four different window glasses. Furthermore, the performance of aluminum as shading device material is also studied to find out the effectiveness of the specular material in increasing the amount of lighting inside the room. The Glare index results are obtained through subjective measurements conducted during pilot study. It is found that the entire cross-sectional area of the window is experiencing glare condition, and the most critical window size opening is 20% WWR. Meanwhile, the observed findings show that no specific shading device is recommended as it depends on the particular window size itself. However, the use of window glasses is favorable to prevent the occurrence of glare for each window size and shading device. The outcomes of the current study suggest that the use of suitable shading devices and window glasses for each particular window size to avoid the occurrence of daylight glare in interior space.