

**AIN SHAMS UNIVERSITY
UNIVERSITY COLLEGE FOR WOMEN
FOR ART, SCIENCE AND EDUCATION**



Some Studies on The Color Rendering Index and Luminance of Light Sources

Ph.D Thesis

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بِسْمِ اللَّهِ
الرَّحْمَنِ
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Summary

To realize the quality of the lighting system the following conditions must be satisfied:

- 1-To make sure that the lighting system provides the required levels of illuminance or luminance without any occurrence of glare, which means that good quality of lighting
- 2- The lighting sources used must have elevated color rendering index.

So the work carried out is concerned to study the factors determined the quality of the lighting system, i.e. the color rendering, visual sensitivity, the luminance and brightness and the relations between these factors to optimize their parameters. The thesis consists of summary (English and Arabic) general introduction and four chapters.

The first chapter includes the fundamental concepts which include the definitions of the photometric quantities and their units, the colorimetric parameters, the method used to determine the special and general color rendering indices and the characteristics of some different lamp types.

The second chapter includes the following (1) the method used to enhance the color rendering of the lighting system by integrating the light emitted from one type of lamp with that emitted from another i.e. using the mixed light method adopted