

PRAKORN MAKJUMROEN : COMPUTER APPLICATION IN INTERIOR LIGHTING
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This thesis presents a microcomputer application in interior lighting calculation and design. The developed program consists of two consecutive parts. The first part of the program deals with the luminaire photometric data calculations using Illuminating Engineering Society of North America (IES) Zonal Cavity Method, British Zonal (BZ) Method and International Commission on Illumination (CIE) Applied Method. In the last part of the program, the IES Zonal Cavity and the CIE Applied Methods are used for calculating the Interior Lighting with respect to the illuminance level and glare rating. Besides, the Interior Lighting System Cost Evaluation Program and the Lamp Type Selection with Color Rendering Consideration Program are included. These programs may help the designer in lamp and luminaire selection to meet the lighting requirements. Moreover, this thesis presents a photometric data comparison study of the IES Zonal Cavity Method, BZ Method and CIE Applied Method. The results show that under the similar condition, the Coefficients of Utilization calculated by these three methods are very close eventhough each method has few different ways of calculation.