

# Experimental Study on Daylighting and Visual Glare in an Educational Building: A Case Study of Lai Sue Thai Building, Ramkhamhaeng University

## Abstract

Solar energy can be an important alternative as a primary source of light and heat for commercial and residential buildings. Daylighting can help reduce electric lighting requirement in buildings, such as offices, educational buildings, and factories. Moreover, daylighting provides more pleasant atmosphere and also allows people to have visual contact with the exterior view. This paper presents an experimental study on the potential of daylighting and visual glare in an education building namely Lai Sue Thai under tropical climate conditions of Bangkok. Interior illuminance measurement module was developed to collect the 15-minutes interval data for analysis of daylight availability. From study, it can be observed that daylighting can be effectively adopted to reduce electric lighting. Interior illuminance was found exceeding the illuminance standard level by up to 90% of experimental period while visual glare should be well controlled. For Lai Sue Thai Building, the visual glare index was acceptable. These experimental results agreed well to the simulation results from previous study. Therefore, daylighting in this building would be available and suitable not only for energy conservation but also for educational activities.

**Keyword:** Experimental study, Energy, Daylighting, Visual glare, Building