CENTRE OF STUDIES FOR BUILDING SURVEYING
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UNIVERSITI TEKNOLOGI MARA

AN EVALUATION OF NATURAL LIGHTING IN RESIDENTIAL COLLEGES AT UNIVERSITI TEKNOLOGI MARA

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CHAPTER 1

INTRODUCTION

There are challenges of adapting daylighting design on a building. Firstly is responsibility of designer to consider the design of the building for the day lighting design adapted to every construction process and design stages. Next is obstacles of daylight to come deep inside of the building section. Obstacle of daylight shading can affect the building where terrain or trees is one of the obstacle for low to mid rise project. While obstruction for large building always comes from other adjacent large building. Heat loss during cold weather from windows and overheat during summer cause from larger opening reducing thermal comfort in the building. Lastly is glare and contrast problem cause by daylight that entering the building.

Kruegle (2007) stated that natural light sources comprises the sun, moon (mirrored sunlight), stars, and thermal (heat).The sun is the source of energy that lights the outside scene during the daylight time. It is more efficient usage of the sun, as a light natural source, it would save cost and electricity used for lighting (Görgülü & Ekren, 2013).

Edwards and Torcellini (2002) stated that before the 1940s, natural lighting was the key lighting source in buildings where artificial lights help the natural lighting usage. Natural lighting is usually assimilated into a building as an architectural statement and for energy savings. However, profits from natural lighting extend beyond architecture and power.

Li, Cheung, Cheung, and Lam (2010) also identified natural lighting reflected from its nearby and ground buildings play certain roles in natural lighting design. The natural lighting that is available in the interior building depends on the amount of natural light enter the window area.

The daylight used in the buildings is very important for the physical comfort especially on visual and also human health-efficiency. Human spend most of their time inside of the building (J.H. Choi, 2012).