

Peesadej Yutibun 2014: The Use of Daylighting in Hotel in Samui Island for Energy Conservation. Master of Architecture (Building Innovation), Major Field: Building Innovation, Department of Building Innovation. Thesis Advisor: Assistant Professor Chanikarn Yimprayoon, Ph.D. 122 pages.

Koh Samui is a tourist destination which is ranked very high in consuming electricity because of its hotel business activities. This research aimed to investigate the appropriate building facade for hotel energy conservation in Koh Samui, Surat Thani province. The main objective is to compare the energy consumption of hotel buildings in terms of electricity from lighting and cooling load affecting the overall energy consumption in the hotel building throughout the year according to various building facade combination between glass types and installed light shelf. Then, the study offers guidelines for appropriate building facade considerations for hotel in Koh Samui. There are two factors were explored in this study, which are 1) the glazing materials and 2) the characteristics of the light shelf, which could effect the overall energy consumption in the hotel building. The investigation was carried out in one-bedroom type facing North and South by using two simulation computer programs which are Dialux 4.12 and EDSL Tas. Results suggests that the appropriate solution of building glazing and light shelf for hotel in Koh Samui is Low-E glazing with zero degree tilt light shelf which has the highest electricity reduction potential, 719,001.01 kWh/year. The implication of the results could be used as guidelines for appropriated facade for hotels in Koh Samui and other buildings having similar characteristics.

---

Student's signature

---

Thesis Advisor's signature