

## Experimental Observation on Air-Conditioning Using Radiant Chilled Ceiling in Hot Humid Climate

**Authors :** Ashmin Aryal, Pipat Chaiwiwatworakul, Surapong Chirarattananon

**Abstract :** Radiant chilled ceiling (RCC) has been perceived to save more energy and provide better thermal comfort than the traditional air conditioning system. However, its application has been rather limited by some reasons e.g., the scarce information about the thermal characteristic in the radiant room and the local climate influence on the system performance, etc. To bridge such gap, an office-like experiment room with a RCC was constructed in the hot and humid climate of Thailand. This paper presents exemplarily results from the RCC experiments to give an insight into the thermal environment in a radiant room and the cooling load associated to maintain the room's comfort condition. It gave a demonstration of the RCC system operation for its application to achieve thermal comfort in offices in a hot humid climate, as well.

**Keywords :** radiant chilled ceiling, thermal comfort, cooling load, outdoor air unit

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