

عنوان مقاله:

Classroom Lighting Control Systems and Level of Energy Consumption, Tehran, Iran

محل انتشار:

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خلاصه مقاله:

Buildings play an important role in the energy demand sector. Due to the increase of environmental concerns and renewable energy sources restriction, lighting control systems will play an important role in the reduction of energy consumption of the lighting without impeding comfort goals. Lighting control systems can control lighting consumption according to the type of building, adequate luminance, occupation time, scheduled time etc. Better lighting not only can reduce the energy consumption of a room, it can improve the quality of work from its occupants. The main aim of the project is to determine the energy saved by using different artificial lighting control systems and find the best one. Honeybee plug-in for grasshopper in a space as a classroom simulated six different systems in this article and electricity, cooling and heating energy consumption for these systems were compared. Results show that Autodimming with switch off occupancy sensor has the best annual operation and it saves eight times more electricity energy than the worst system which is the traditional Always on during active occupancy sensor. Considering thermal energy consumption also proves the priority of occupancy and daylight dimming system. Selecting a suitable lighting control system in initial steps of design or after construction is very affordable and increases environment quality.

کلمات کلیدی:

Lighting Control System, energy saving, Sensor, Dimmer, Honeybee

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