

## **Abstract**

The purposed of this study was to assess the lights and ventilation of the College of Tourism and Hospitality Management Building in order to prevent health issues of the occupants and to improve the facility to become sustainable building. The researchers conducted a survey to know the sentient of the occupants of the building and to give the solutions to it. This study shows found out that the required lux did not attain the intended law of P.D 856 and the Philippine Electrical Code which is 250 – 500 lux. This study aimed to present a new design material and system when it comes to light. The proposed lighting material is to change the fluorescent light into LED light and make a schedule in light transition using day lighting. It is more eco-friendly and it has higher lux in same watts than fluorescent light bulb has.

The diffuser that is presently used in the building also affects the intensity of light. So, the solution is to remove and change the diffuser into high frequency ballast. It will help to increase the lumens coming from the light and to distribute it to the area of the room.

The researcher also found out that natural air is not available. The solution is to convert the present mechanical ventilation into an inverter type air-conditioner. Inverter type can adjust automatically the temperature needed of the occupants. Also, it has bigger EER (Energy Efficiency Ratio). It means it is more efficient than any other type of air conditioner.

The said material and proposed system will help the building to reduce up to 50% of energy consumption and will also prevent illness that the occupants can get from the low lumens of light and it can be improved thru the right intensity that gives the light.