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KEY WORDS : DESIGN/CONSTRUCTION/ELECTRONIC CIRCUIT/  
LUXMETER CALIBRATION

NARIN BOONPROM : THE ILLUMINATION ENGINEERING  
DESIGN AND CONSTRUCTION OF LUXMETER CALIBRATION. THESIS  
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The objective of the study was to design and construct the luxmeter calibration. The study was divided into 2 main parts. The first part, was the luminous intensity control by means of controlling the voltage to the lamp. Therefore, it was necessary to design and construct an electronic circuit for which the power will be the alternating current at the voltage of 220 volts, which is normally used. This electronic circuit will transform 220 A.C. volt into 220 voltage of direct current and control the stability of voltage at 220 volt even when the voltage from the power source is decreasing. After the transformation of A.C. voltage into D.C., this circuit can adjust the voltage to either increase or decrease from 0 to 220 volt by the adjustment knob. This Knob can adjust the voltage 1-5 volt at a time and the resolution of the adjusted voltage will be shown digitally (a number). The Second part was the design and construction of a light conductor screen - bulb, which got the electric power from part 1 for lighting the lamp. The light conductor screen bulb was designed in a round hollow shape, and black coated inside. It had an open channel for installing the light conductor cell of the luxmeter calibration in order to measure the luminous intensity from the electric heating wire (light bulb) that was installed in this object. This experiments showed that the self-constructed luxmeter calibration could be used as a tool to measure luminous intensity. At 300 lux, it could give the maximum accuracy value with an error of only 0.4 percent and give the precision value with a coefficient variation of 0.357 percent.