Light Bulbs Comparison from Different Brand and Working Principle

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Abstract Choosing the best light bulbs for energy saving purpose is common for consumers and mostly will prefer a low power rated bulb. However, some low power rated bulbs are false claimed. Therefore, this paper reports the comparison between light bulbs with different brands in local market. The comparison is carried out in term of light intensity, energy usage, circadian rhythm and price for a few low power rated bulbs. The method used to measure the light intensity was using a spectrometer. The energy usage for all bulbs are measured and eventually the results is tabulated and analyzed. From the experiment, it can be deduced that every light bulb had its own advantages and deficiencies in term of light intensity, energy usage and price. The result also shows that some light bulbs are over rated in term of power usage. The power measured are much higher (88- to 135%) compare to the power rated by the manufacturer. It is hoped that this paper can be used by the consumer as a reference to choose the best bulb for lighting purpose.

Keywords Optical sensor · Bulb intensity · Bulb energy comparison

1 Introduction

Nowadays in twentieth century, people are commonly using bulbs as their lighting source so that they can see at night or a place that sunlight cannot reach in day. Bulbs is a device that produce light from electricity. It has undergone a long time of innovation until various types of bulbs had been produced with lower costs and higher efficacy [1, 2]. Three basic types of light bulbs that are commonly uses by

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