Abstract

The energy from UV lamps when it hits the surface of human skin can cause skin cancer formation. And if the Ultraviolet light from the light hits the eye it can cause cataracts in the eye. To find out the Ultraviolet dose from a sterile lamp, measurements using a radiometer are needed and to speed up the calibration process and avoid continuous exposure to calibration officers. Therefore the authors innovated to design a calibration tool using the UVM 30A sensor as a sensor that will be placed at 16 measurement points used to detect UV at an angle of 0 degrees (straight), 10 degrees, and 20 degrees and 30 degrees and ESP 32. as an intermediary so that it can be connected to the internet network through an account on the internet of things (IOT) service provider site, the effect on the sensor when the degree of change is that every step of the way rises, the value read by the sensor increases, especially on sensors that are facing straight to the lights. -Average 123.75 µW/ cm² -153.25 µW/ cm² this is because those who are directly facing the lamp get more UV rays and the sensor is on the left side of the lamp with an average of 127 µW/ cm² -156 µW/ cm², and the one on the right side of the lamp with an average of 110,75 µW/ cm² - 128.5 µW/ cm², sensors located on the right and left of the sensor readings are influenced by the lights next to them. whereas those on 2 lamps show results that tend to be smaller with an average of 33.5 µW/ cm²-43.25 µW/ cm², the measurement of 16 sensors in lamp 1 produces the smallest average is sensor 12 and with the largest average is sensor 15 with standard deviation 0.489898 - 0748331.

Keywords — UV, degrees, Radiometer tool.