

ABSTRACT

In Indonesia, the use of phototherapy lamps, especially the types of fluorescent or neon blue tube lights for the treatment of hyperbilirubinemia babies is still widely used. This type of lamp is easy to get and the price is affordable, but its lifetime is short. In the standardized phototherapy journal by Faccini in 2015, phototherapy lights must be replaced when the intensity is only 80% of the initial intensity or when the irradiation value is less than $176 \mu W / cm^2$. The absence of a radiometer in hospitals makes the replacement of phototherapy lights generally done by looking at the lifetime of the lamp. This will result in waste if the replaced lamp actually still has enough energy for phototherapy. On the basis of this, a simple Radiometer Phototherapy device is made at an affordable price using the BH1750 light intensity sensor. The output of this sensor is in units of lux which are then converted into $\mu W / cm^2$ units. By adding SDcard it is expected that the measurement data can be stored and processed later. Based on the results of testing and measurement with comparison of Phototherapy Radiometer Dale-40, the average value that is not much different from the comparison is obtained, with a maximum error of 0.60% and the largest standard deviation of 1.86. Whereas at the age of lamp usage above 2000 hours there was a decrease in intensity of 17.4-22.3%.

Keyword : Phototherapy radiometer, phototherapy, intensity, SDcard