

THE STUDY OF THE IMPROVEMENT OF ELECTRICAL CHARGE EFFICIENCY ON PUBLIC STREET LIGHTING IN THE DISTRICT OF PRAMBANAN-BERBAH

Agung Nugroho Priyo Hutomo

*Electrical Engineering Study Program, Faculty of Information Technology and Electro
Universitas Teknologi Yogyakarta*

Jl. Ringroad Utara Jombor Sleman Yogyakarta

E-mail : anph6962@gmail.com

Abstract

As one of the efforts of social services that are very strategic and provide services to the community is by using Public Street Lighting (PJU), one of them is the planning of public street lighting which is done at the same time replacing existing street lights on Jalan Berbah-Prambanan and Jalan Pereng-Candisari to improve the efficiency of electric power from existing lamps. The Berbah-Prambanan Road and the Pereng-Candisari Highway have a road width of 6m with a length of the Berbah-Prambanan road 4.1 km and the Pereng-Candisari Highway 2.4 km. Layout of street lights on the right / left of the road, with an average distance between the poles of 45-48m. The maintenance of the type of lamp used is to consider between a SON 100W lamp that has a light intensity of 6.9 Lux with a 90W LED lamp with a light intensity of 7.5 Lux, based on SNI 7391: 2008 standard according to Lux's requirements for a 6m wide road that is 6-9 Lux. Considering that in terms of materialisation the price of the SON 100W lamp is cheaper than the 90W LED lamp then the SON 100W lamp was chosen. In the planning carried out, it was found that the value of power efficiency was 650 Watt and the monthly electricity bill cost savings was Rp.343,278 compared to the existing lights.

Keywords: Road Lamp Planning, LPJU, Power Efficiency