DEVELOPMENT OF INTEGRATING SPHERE (LABORATORY- SCALE) FOR MEASURING LUMINOUS FLUX OF VISIBLE LIGHT SOURCES

Name: Ni Luh Putu Restu W
NRP: 2406100032
Department: Teknik Fisika FTI-ITS
Supervisor: Dr.rer.nat.Ir. Aulia MTN,M.Sc

Abstract

Luminous flux is an important parameter in determining the quality of a light source that indicates the number of total light emitted by light sources. In this final design of integrating spheres are discussed on a laboratory scale to measure the luminous flux from a visible light source. Stndarisasi ISA (Integrating sphere assemblies) 8-3 type is used to manufacture of integrating spheres which required of a perfect diffuse reflectance sphere on a wall, the light source absorbed in the walls can be minimized. The design system has a characteristic of reflectance 87.48 % and has been compared with similar equipment owned by Lab.Fisika Building ITB. Comparative measurements using a sample of the light source are Phillips Essential and Classictone in order to obtain the comparison factor for \( y = 1.188 x - 0.271 \) with a correlation coefficient of 0.998 for Eessential light and \( y = 1.30 x - 43.27 \) with a correlation coefficient of 0.9978 for Classictone lights.

Keyword: luminous flux, integrating sphere, diffuse reflectance, comparison factor
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