

LIGHT SOURCE ANALYSIS FOR LOW-LIGHT STREET LIGHTING

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ABSTRACT

This paper presents the analysis of light sources that suitable for low-Light Street lighting. The word low-light means the street lighting placed above the ground and to the side of the road without pole. This is the new ideas to improve the technology of street lighting. The analysis was done to improve the performance of street lighting and at the same time can help to reduce the installation or maintenance cost. There are four types of light sources that used in this analysis which is light emitting diode (LED) Spotlight, Halogen spotlight, Metal halide and High pressure sodium vapour. These analysis only covers the type of light source that think comply for low-light street lighting. It have not analyzed the casing design, how to put the light on the road, the glare and others. The comparison between each type of light source was based on the characteristic of lamp and the amount of illuminance radiated by the light source for each different position on the road. According to the experimental result, the LED very suitable for low-light street lighting compare with the others.

TABLE OF CONTENT

CHAPTER	Title	PAGE
	TITLE APPROVAL DECLARATION ACKNOWLEDGEMENT ABSTRACT TABLE OF CONTENT LIST OF FIGURES LIST OF TABLES LIST OF SYMBOLS AND ABBREVIATIONS	i ii iii iv v vi vii ix x
1	INTRODUCTION 1.1 OVERVIEW 1.2 PROBLEM STATEMENT 1.3 OBJECTIVES 1.4 SIGNIFICANCE OF PROJECT 1.5 SCOPE OF PROJECT 1.6 THESIS ORGANIZATION	 1 3 4 5 6 7
2	LITERATURE REVIEW 2.1 DEFINITION AND RELATIONSHIP 2.2 UNITS CONVERSION	 8 11

CHAPTER 1

INTRODUCTION

1.1 OVERVIEW

Light is very important to our live. Light is a kind of energy that called electromagnetic radiation which is visible to human eye. Light is fastest known substance in the universe. In daylight, the light comes from the sun for us can sight all object everywhere but at the night the other light source needed to sight. Street light is one of equipment that will help us to sight clearly at the night on the road.

Street lighting is a part of our everyday lives. It is one of equipment that will help us to sight clearly at the night on the road. The function of street lighting is to the creation of a safety situation on the road in which people and driver of vehicle feel confident to travel around, especially during the hour of darkness. The problem like vandalism, robbery, road traffic accident and others things can be reduced by applying the street light. The structure of street light built from stainless steel for their pole and use fiber for their lamp cover at the top. The street light usually will operate with automatically by using sensor (photocells) or electronic switch and sometimes use time switch. The maintenance procedure for street light a little bit complicated because it will depend on the places and environment. The maintenance cost for street light very high because it must maintenance often and dangerous to the worker.