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A STUDY ON THE FUNCTION OF LANDSCAPE LIGHTING
IN COMMERCIAL AREA (PEDESTRIAN MALL)

By

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0010860

This thesis submit in partial fulfilment of the
Bachelor of Landscape Architecture

DEPARTMENT OF LANDSCAPE ARCHITECTURE
KULLIYAH OF ARCHITECTURE AND ENVIRONMENTAL DESIGN
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA
KUALA LUMPUR

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ABSTRACT

Landscape Lighting is an important element in commercial and residential development. Lighting cannot be separated from development because it has crucial function to the area. Commercial area is one of the focal in urban area; a lot of people visited the area from day to night. Undeniably, landscape lighting is really essential within commercial spaces especially around the pedestrian mall. Basically, pedestrian mall is a place, where many people occupy because the area has been provided with seating areas. Therefore, outdoors lighting plays an important role in providing safety and security to users. Safety and security are the main factor that can attract people to occupy the spaces within commercial area. The use of lighting can reduce the percentage of accident and criminal as it can highlight hazard area. Nowadays, in the area of technology there are many innovations of lighting design with high performance that is widely used in commercial area. However, lighting still has same function; to provide safety and security to user, to show direction and to make the circulation run smoothly. On the other hand, lighting creates a leisurely environment in commercial area and makes people feel comfortable while walking or strolling around the area. Moreover, the type of lighting also plays an important part in the installation of lighting fixtures. The best quality of lighting fixtures and components will produce good lighting effect to the area and it can minimize a waste in lighting installation. Finally, good commercial spaces need the quality landscape lighting fixtures to ensure it totally function to make people feel comfortable and safe.

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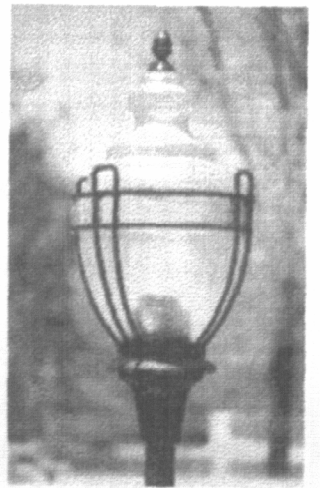
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INTRODUCTION

1.0 INTRODUCTION

Light is one of the most universal and all- pervasive elements in our world. Light can give different experience to our surroundings- without light we cannot appreciate colours, depth, space or volume. On the other side, light can determine our deepest emotions and moods. In scientific perspective, light is a flow of energy. Landscape lighting is the most important element during nighttime especially within plaza area in commercial spaces. The functions of lighting in commercial area usually concern safety and security, visual quality, cost efficiency and light pollution. Security and safety is the most vital aspect in lighting system, they help the users to feel safe and secure while using the space. The choice of lighting system including the material should be balanced with the size of the spaces and the status of the area. On the other hand, the installation of the lighting must be appropriate with the size of area to avoid light pollution and to make sure lighting can be function successfully.

1.1 Research Background

Lighting has evolved since a long times ago, the changes of the lighting design occurred every day and the process will continue to the future. Landscape lighting can be described as an outdoor lighting, which give significant impact to the landscape within the area. Landscape lighting offers an incredible expansion of the enjoyment of outdoor environment. Light makes the outdoor spaces usable at night and adds a magical view into the landscape. To produce effective landscape lighting requires skill and through planning. (Janet Lennox Moyer, 1992)

Nowadays, landscape lighting is a vital element that should be considered in any commercial development, because it creates night image to the area. Lighting has various functions and the most essential is the function to provide safety and security to the users. The role of landscape lighting is successful if users feel secure while walking or sitting in the area, where the lighting have been placed. It is important to determine the best position to install the lighting because lighting is a guide or reference to the users to show the direction and it helps to reduce crime during the night. Therefore, the study on the function of lighting is very important in term of the suitable amount it illuminaire, luminance and colour. A systematic planning system in installation of lighting helps the lighting to function successfully and make users feel comfortable to occupy the spaces around commercial area.

1.2 Goal

To discover whether the landscape lighting or outdoors lighting at the commercial area especially along the pedestrian mall in the site chosen at Bintang Walk and Central Market, Kuala Lumpur provide sense of security and safety to the users.

1.3 Objectives

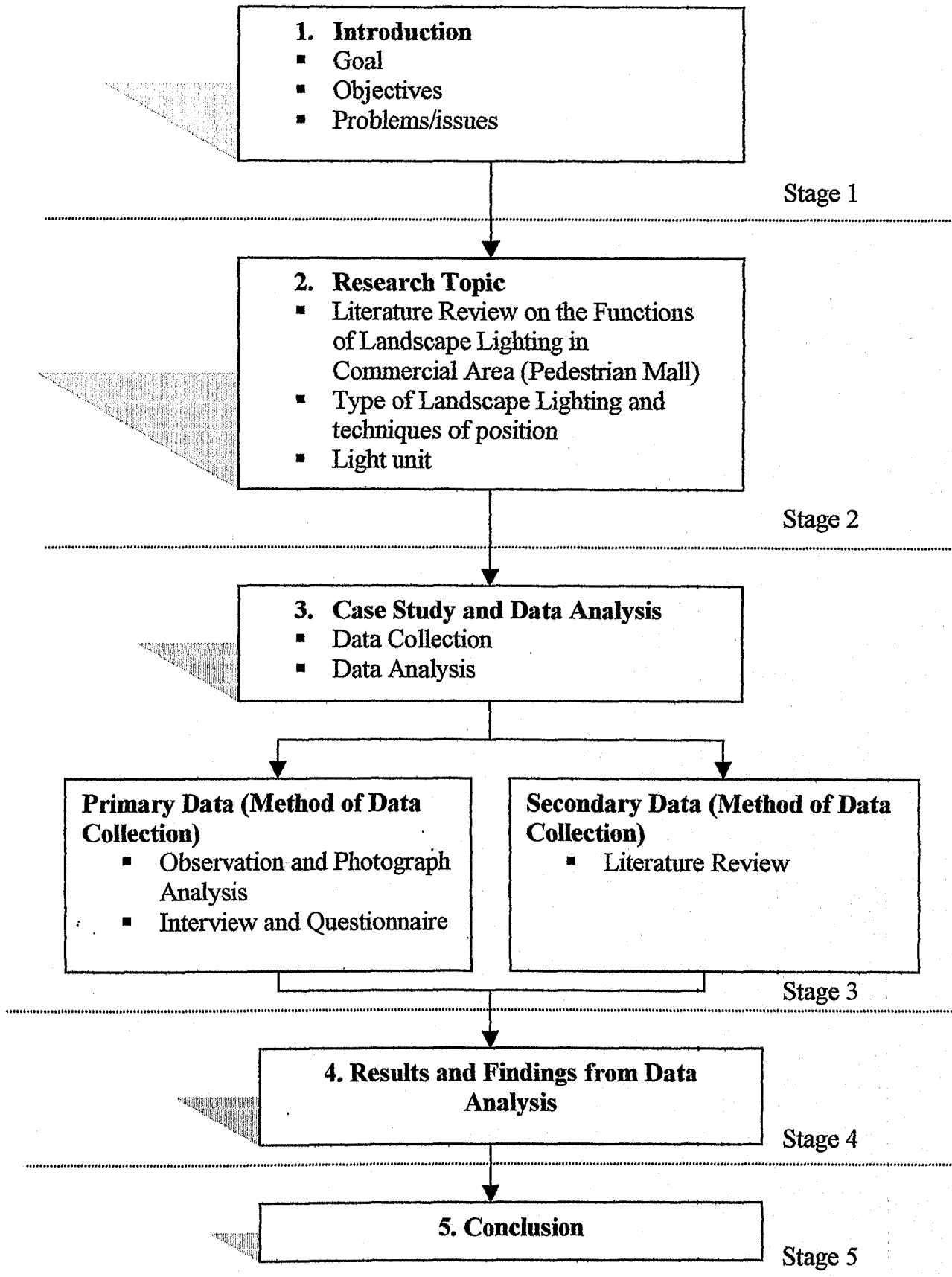
1. To understand the functions of landscape lighting in commercial area.
2. To explore how existing landscape lighting gives effect to landscape elements (softscape and hardscape) and provide sense of safety and security to user.
3. To see how users react to the landscape lighting during nighttimes.

1.4 Problem Statements

There are lots of problems or issues raised concerning the use of landscape lighting in commercial area:

1. First issue is how lighting can give sense of safety and security to users that occupied every space around commercial area. It is important to provide users with the sense of safety and security, when they occupy the area around commercial area. It helps users to become comfortableness especially during nighttimes with their friends or families. Also, lighting allows users to feel or utilise the spaces and they feel safe and secure when utilizing and occupying an area.
2. Suitability of lighting location should be also considered in lighting plan. The main purpose of outdoors lighting is to create light effect, so the fixtures of lighting should be hidden from human eyes. It will give the sense of mysterious to the space and users that occupying the area. Moreover, lighting should offer comfortability. Users should feel safe and secure when use a space.

1.5 Methodology Flow Chart



The research on **A Study on the Functions of Landscape Lighting in Commercial area (Pedestrian Mall)** is qualitative research, which means to explain how users interact with landscape lighting during nighttime, function and lighting effect including the location of lighting suitable within that area. The following are the methodology of this research topic:

1.5.1 Case Study

Bintang Walk and Central Market pedestrian mall have been chosen as the case study area for this research, to study on the function of landscape lighting or outdoor lighting in commercial area especially along the pedestrian mall.

1.5.2 Data Collection

The study of the function of the landscape Lighting in commercial area (pedestrian mall) is qualitative research. Qualitative research is to explain how human interact with their surroundings. In order to gain data and information for this research, there are four methods of data collection have been applied. They are through observation, collective interview from the public, and distribution of questionnaire, observation and photograph analysis. Observation method use in order to evaluate users reaction of the existing landscape lighting and it influence on user's behaviour, the design concept of lighting within Bintang Walk as commercial area, the function of lighting to the area, the effect of lighting and the type of lighting in case study area. Collective interview hand out to the public at the case study site to gain their opinion and response towards

the function of existing outdoors lighting or landscape lighting. The distribution of questionnaire to respondent is to know their opinion whether they agree or disagree with the condition of lighting around the Bintang Walk in terms of its colours, design, location, function, type and numbers. Photograph analysis is to assist the research to further analyse the function of landscape lighting or outdoors lighting throughout the research process.

1.6.4 Data Analysis

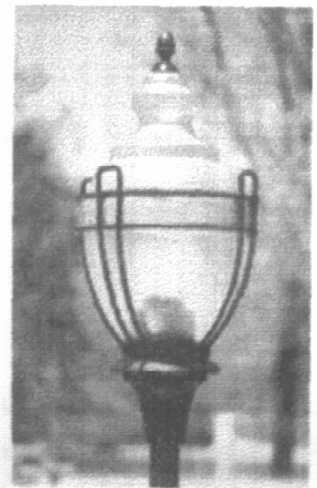
Data analysis is the conclusion from the methods of data collections that have been chosen, which area questionnaire, observation, photograph analysis and photograph analysis. The questionnaire analysis used SPSS system to evaluate and analyse the data that have been answered by respondents.

1.7 Conclusion

This chapter has discussed the background of the research as the introduction of the topic. In this chapter also, explains the problems that have been identified from the selected topic and describes the aim and objectives of the research topic. Finally, it explains the methodologies to conduct the topic research that has been selected.

CHAPTER TWO

RESEARCH TOPIC



2.0 Research Topic - A study on the Functions of Landscape Lighting in Commercial area.

There are many function of landscape lighting or outdoors lighting in commercial area (pedestrian mall/plaza) especially in term of security and safety. Landscape lighting is the creation of a lighting effect, not the display of lighting fixtures. Landscape lighting has many purposes ranging from aesthetics to safety and security.

The word function can be illustrated as the role, the purpose and task of thing or item. Every single thing that has been invented has it own role or purpose to help man in this world. On the other hand, function is a special activity or purpose of a person or thing. (Oxford Student's Dictionary, 259)

Land become landscape when it is described with both its physiographic and environmental character. Landscape also can be described as picture of inland scenery (Oxford Student's Dictionary, 355)

Lighting can be defined as things that or which make things visible (Oxford Student's Dictionary, 369). Light from scientific perspective is a flow of an energy, which is described in terms of wavelength and power and it, is defined uniquely by the response of the human eye (The Design of Lighting, 3).

Commercial area is an area, which can be classified as the focal point area or node area, where a lot of people will come to the area from morning until night

Commercial area serves various kind of function to the users such cafes/restaurants, shopping mall and pedestrian mall/plaza. Usually, pedestrian mall/ plaza is the focal point area, where could find lots of users sitting along the area and where sometimes the street artists (street basking) would show their talented to the public.

Pedestrian mall can be explained as the place where people can walk freely on it without being disturbed by vehicles. Basically, the paving material such as brick or stone covers the surface of the area. It function as the pedestrian network from one place to another. Pedestrian mall areas are usually beautified with hardscape elements especially outdoors lighting and softscape elements.

Landscape lighting in commercial area especially along the pedestrian mall is important to the surrounding environment and users during night times. Lighting can make the area visible during the night and it will create visual effect to the area and become the night landscape to the spaces. Landscape lighting is an integral and important aspect of any landscape project. The concept of landscape lighting has been around for many years and has come a long way from its early days of crude fixture and basic techniques.

2.1 Introduction

This chapter of literature review will discuss about the functions of landscape lighting in commercial areas especially along pedestrian malls, which focuses on the safety and security that are provided by landscape lighting. Pedestrian malls in commercial area are one of important space within commercial area, which are usually full with visitors. Therefore, it is important to install the quality landscape lighting for users comfort. This chapter also will explain about the different kinds of lighting fixture positions that can be implemented in commercial area spaces. The discussion also includes the lighting units, which explain how amount of light can be measured by its own formula.

2.2 Functions of Landscape Lighting.

Commercial places are areas, which can be classified as the focal points or node areas, where a lot of people will come to the area everyday. The use of landscape lighting will help users to occupy the area that has been provided by the building's owner within the commercial area particularly along the pedestrian malls or plazas.

Pedestrian malls are one of the public spaces within commercial area, which a lot of people use with different purposes. The landscape lighting within this area needs versatility, but the versatility refers to simple fixture layout that provides lasting effects with minimum attention.

“It’s important not to over-light, what you should see is the landscape, so that the outdoor lighting tell the visual story at night”(G, Cater, www.americalightingasso.com).

Landscape lighting has three basic objectives, which are safety, security and aesthetics. Safety is avoiding injury; landscape lighting should provide clear views of any potential obstacles in the environment such as steps, intersections of land and water or children’s toys left out on the patio. Security is avoiding intrusion by trespassers; light can also be deterrent to intruder and it adds psychologically to an inhabitant’s feeling of protection. Security lighting can be a separate system. Aesthetics is allowing enjoyment of the environment; lighting the exterior can provide a view from the interior out into the landscape. (Janet Lennox Moyer, 1992)

Landscape lighting is an important fixture in public spaces especially to the commercial areas. Lighting cannot be separated from commercial areas, because lighting is really important to create spectacular images to the area. It is important to have a brightness transitions from one area to another within the commercial area. It is because it can help the users to walk along that area. Landscape lighting has various functions for commercial areas. The functions of lighting can help users to explore the area during the night and it will attract them to visit the area. The following are some function of landscape lighting within commercial areas:

2.2.1. Safety and security

Public spaces such as commercial areas are used by large numbers of users from day until night. It is crucial to provide safety and security to the users of the area. Landscape lighting is a vital element that can give out a sense of safety and security to the space. Lighting should be placed along pedestrian paths, which are used as links from one area to another. Lighting can help users to know their direction clearly and give them safety while walking along the pathway. Lighting designers should plan how to design lights fall through landscapes and it can avoid creating dark areas that compromise the psychological feeling of safety. The reason why they should study about how light falls throughout a landscape is because along pedestrian paths, some of the places have been designed as resting areas or transition areas from one place to another. It is important to place suitable lighting to that area because it can attract users to occupy it and users feel safe and secure within that area. If the lighting is placed at wrong area or cannot fulfil the function for security and safety to users, the function of the lighting is a failure and completely wastes.

2.2.2 Visual Appearance

Visual appearance is an aesthetic value of lighting effect. Aesthetic is one of the landscape lighting's objectives, which is allowing enjoyment of the environment. Lighting effect creates a different view of space during