

DESIGN OF THE ELECTRICAL  
INSTALLATION SERVICES  
OF A SHOPPING CENTRE

Project Report Submitted by

*ANTONIS A. LOIZIDES*

in part Satisfaction of the award of  
Diploma of Technician Engineer in  
Electrical Engineering of the  
Higher Technical Institute Cyprus.

Project Supervisor: Mr G. Kourtellis  
Lecturer in Electrical  
Engineering, H.T.I.

External Assessor:

Type of Project: Individual

Group

June, 1991

UNIVERSITY OF CYPRUS	PROJECT NO
TECHNICAL INSTITUTE	1855

## ABSTRACT

This project deals with the electrical services of a shopping centre constructed in NICOSIA.

This project includes the following :

- i) Lighting
- ii) Power.

Illumination design was also carried out so as to obtain the number of lighting fittings of the various areas.

The design was carried out in accordance to :

- 1) The IEE Wiring Regulations
- 2) Local EAC conditions of supply
- 3) The CIBS Code for Illumination

The shopping centre consist of:

- a) Basement 1
- b) Basement 2
- c) Ground Floor
- d) First Floor
- e) Second Floor

# Contents

Page

ACKNOWLEDGEMENTS

ABSTRACT

CONTENTS

INTRODUCTION

## CHAPTER 1

### EARTHING

1.1	The purpose of earthing .....	1
1.2	Earthing Systems .....	2
1.3	Residual Current Devices .....	4
1.4	Earth Fault Loop Impedance .....	5

## CHAPTER 2

### ILLUMINATION

2.1	Introduction .....	7
2.2	Definitions .....	8
2.3	Spacing of fittings .....	10
2.4	Light Sources .....	11
2.5	Choice of Lamp type .....	11
2.6	Luminaries .....	11
2.7	Methods of illumination .....	11
2.8	The Lumen Method of Design .....	11
2.9	Design of illumination .....	12

## CHAPTER 3

### LIGHTING AND POWER

3.1	Introduction .....	18
3.2	Socket Outlets .....	18
3.3	Control of Electrical Installation .....	21
3.4	Circuits design Procedure .....	21
3.5	Circuit design .....	25

CHAPTER 4

INSPECTION AND TESTING

4.1	Introduction .....	91
4.2	Visual Inspection .....	91
4.3	Testing .....	91
4.4	Continuity of ring final circuits conductors .....	92
4.5	Continuity of protective conductors .....	92
4.6	Insulation resistance .....	93
4.7	Polarity test .....	93
4.8	Operation of the Residual Current Operated Protective device .....	94

Conclusions

References

Legend

- Appendices:
- 1) Illumination
  - 2) Installation Accessories
  - 3) Switchgear

Drawings