

CONTENTS

Abstract (Chinese).....	I
Abstract (English).....	II
Acknowledgment.....	III
Contents.....	IV
List of Tables.....	VI
List of Figures.....	VII
Nomenclature.....	XI
Chapter 1 INTRODUCTION	1
1.1 Background.....	1
1.2 Literature Review.....	3
1.3 Scope of the Present.....	7
Chapter 2 EXPERIMENTAL APPARATUS	9
2.1 Test compartment	9
2.1.1 Fire Source.....	9
2.2 Fire Extinguishment Agents.....	10
2.2.1 Conventional Sprinkler System.....	10
2.2.2 Water Mist Systems.....	11
2.3 Measurement Instrumentations.....	12
2.3.1 Gas Analyzer.....	12
2.3.2 Temperature Measurement.....	12
2.3.3 Opacity Monitor.....	13
2.3.4 Digital Video.....	15
Chapter 3 UNCERTAINTY ANALYSIS.....	16

3.1 Analysis of the Propagation of Uncertainty in Calculations	17
3.2 Uncertainty Level Analysis in the Experiment.....	19
3.3 the Asysmentric Uncertainties of Thermocouple.....	19
3.4 Correction in Response Time of Gas Concentration.....	21
Chapter 4 Results and Discussion	22
4.1 Non-protection Condition.....	23
4.2 Conventional Sprinkler System.....	26
4.3 Water Mist System.....	28
4.3.1 Shielded Pool Fire	29
4.3.2 Unshielded Pool Fire.....	31
Chapter 5 CONCULSIONS	33
REFFERENCE	34
TABLE.....	38
FIGURES.....	41