

EXTREME TEMPERATURE TEST REPORT

FOR THE

AVIATION LANTERNS A704-5

PART NUMBER A704R-0005

MANUFACTURED BY

**CARMANAH TECHNOLOGIES, INC.
BUILDING 4 – 203 HARBOUR ROAD
VICTORIA, B.C., CANADA V9A 3S2**

PREPARED BY

**ENVIRONMENT ASSOCIATES, INC.
2300 WEST CAPE COD WAY
SANTA ANA, CALIFORNIA 92703**

The results of the testing reported herein relate only to the actual items tested.

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Maintains Laboratory Accreditation to ISO/IEC 17025 and ISO 9001

A P P R O V A L S H E E T

Environment Associates hereby certifies that the information presented in this report is, to the best of our knowledge, true and correct in all respects.

ENVIRONMENT ASSOCIATES, INC.
Martin J. Povall Jr., Laboratory Manager

Date

Report Written by Gerald Flippen on March 31, 2006

R E V I S I O N S H E E T

<u>REVISION LETTER</u>	<u>DESCRIPTION OF REVISION</u>	<u>DATE</u>	<u>APPROVAL</u>
None	Original Issue	03/31/06	

A D M I N I S T R A T I V E D A T A

PURPOSE OF TEST: **To demonstrate compliance to the applicable requirements of the specifications cited below.**

ITEM SUBJECTED TO TEST: **Aviation Lanterns A704-5
Part Number A704R-0005**

TEST SPECIFICATIONS: **A704-5 Test Plan**

SUBMITTED BY: **Carmanah Technologies, Inc.
Building 4-203 Harbour Road
Victoria, B.C., Canada V9A 3S2**

TESTING AGENCY: **Environment Associates, Inc.
2300 West Cape Cod Way
Santa Ana, California 92703**

DATES TESTING CONDUCTED: **February 15 thru February 20, 2006**

AUTHORIZATION TO TEST: **Carmanah Technologies Purchase Order Number
240266**

T A B L E O F C O N T E N T S

Cover Page	1
Approval Sheet	2
Revision Sheet	3
Administrative Data	4
Table of Contents	5
Summary of Test Results	6
1.0 General Information	7
2.0 Extreme Temperature	9
2.1 Reference	9
2.2 Procedure	9
2.3 Results	10
Test Data	Appendix I
Test Equipment List	Appendix II

S U M M A R Y O F T E S T R E S U L T S

<u>TEST</u>	<u>SERIAL NO.</u>	<u>PASS/FAIL</u>
2.0 Extreme Temperature	JC08250002	X
	JC08250012	X
	JC08250035	X
	JC08250037	X

Note:

“Pass” in the column above indicates completion of the test.

GENERAL INFORMATION**1.0 GENERAL****1.1 TEST ITEM DESCRIPTION**

Aviation Lanterns A704-5
Part Number A704R-0005
Serial Number JC08250002, JC082500012, JC08250035& JC08250037

1.2 REFERENCE DOCUMENTSMilitary

MIL-STD-831 Preparation of Test Reports

Carmanah Technologies

Doc. No. 43912, Rev. A A-704 Test Plan for Aviation Lanterns A704-5

1.3 TOLERANCESTest Equipment

Test equipment utilized was calibrated to International Organization for Standards (ISO) 10012-1, "Quality Assurance Requirements for Measuring Equipment", Part 1: "Meteorological (sic) Confirmation System for Measuring Equipment"; American National Standards Institute (ANSI)/National conference of Standards Laboratories (NCSL) Z540-1, "General Requirements for Calibration Laboratories and Measuring and Test Equipment, latest revision and traceable to the National Institute for Standards and Technology.

1.3 TOLERANCES (Continued)

Unless otherwise described in this report, the environmental test equipment was capable of controlling the test equipment within the following tolerances:

Temperature at the control sensor:	± 2.0 degrees C
Sensor response time:	<20 seconds
Time:	$\pm 5\%$

Laboratory Ambient Conditions

All laboratory ambient conditions was maintained as follows:

Temperature:	25 ± 10 degrees C
Pressure:	30 ± 2 inches Hg
Relative Humidity:	90% maximum

2.0 EXTREME TEMPERATURE

2.1 REFERENCE

A704-5 Test Plan, Revision A, Paragraph 6.2

2.2 PROCEDURE

2.2.1

The Aviation Lanterns A704-5 listed below were placed in a temperature chamber. The Lanterns were operational during the temperature test.

Sample Number

JC08250002

JC08250012

JC08250035

JC08250037

2.2.2

The chamber temperature was decreased to -40°C.

2.2.3

The test samples were subjected to a twenty four (24) hour dwell at -40°C. No functional anomalies were noted.

2.2.4

Upon completion of the twenty four (24) hour exposure the chamber temperature was increased to +60°C over a period of two (2) hours (± 30 minutes).

2.2.5

The test sample was subjected to a four (4) hour dwell at +60°C. No functional anomalies were noted.

2.2.6

The chamber temperature was decreased to site ambient conditions.

2.2.7

The test samples were stabilized at site ambient conditions for a period of one (1) hour and then an operational check was performed. No functional anomalies were noted.

2.2.8

The test samples were removed from the chamber.

2.3 RESULTS

2.3.1

The extreme temperature test was performed at the facility of Environment Associates, Inc., Santa Ana, California during the period of February 15 through February 20, 2006.

2.3.2

All inspection and operation of the test samples were by Environment Associates personnel at the direction of Carmanah Technologies personnel.

2.3.3

The test log may be found in Appendix I. The list of equipment used during the test may be found in Appendix II.

A P P E N D I X I

T E S T D A T A

2 . 0 E X T R E M E T E M P E R A T U R E

**T h e t o t a l n u m b e r o f p a g e s i n
t h i s s u b s e c t i o n i s 4**

A P P E N D I X I I

T E S T E Q U I P M E N T L I S T

**T h e t o t a l n u m b e r o f p a g e s i n
t h i s A p p e n d i x i s 2**