



**Northbrook Division**  
333 Pfingsten Road  
Northbrook, IL 60062-2096 USA  
www.ul.com  
tel: 1 847 272 8800

September 06, 2006

Dura-Tite Systems  
Attn: Mr. Jim Karnes  
P.O. Box 942  
Erie, PA 16512

Our Reference: File R25339 / Project 06NK21310

Subject: UL Standard 2043, 2nd Edition "Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces".

Dear Jim:

This Report summarizes the data developed on the samples you provided which were subjected to the flame test described in UL Standard 2043, 2nd Edition. Testing was conducted on September 05, 2006 at our Northbrook testing facility.

**GENERAL:**

It should be understood that these results apply only to the particular sample submitted for testing.

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# TEST RECORD

## SAMPLES:

The trunkline takeoff evaluated is described in Table 1. Underwriters Laboratories Inc. did not witness the production of the test sample nor were we provided with information relative to the formulation or identification of component materials used in the manufacture of the test samples.

Table 1 - Sample Description

<b>Sample Reference</b>	<b>Description</b>
A	Trunkline Takeoff

## METHOD:

The tests were conducted in accordance with the test procedure described in UL Standard 2043, 2nd Edition ("Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces"), dated June 27, 2001. This test method is used to determine the heat release rate, smoke release and optical density of the samples. The test samples were positioned and installed in the test enclosure as described in Appendix A.

## CRITERIA:

Test samples fail to meet the requirements of UL 2043 if any of the following criteria are exceeded:

- 1) The peak heat release rate shall be 100 kW or less during the test.
- 2) The peak optical density shall be 0.50 or less during the test.
- 3) The average normalized optical density shall be 0.15 or less during the test.

Note: The above criteria do not include the contribution of the propane ignition burner.

**RESULTS:**

A summary of test results are tabulated in Table 2 below. Graphs of heat release rate, smoke release rate, and normalized optical density are given in Appendix B. Pre and post-test photographs for each test are given in Appendix A. In addition, a videotape of each test was made and provided.

Table 2 - Test Results

<b>Sample - Test Ref.</b>	<b>Peak Heat Release Rate (kW)</b>	<b>Peak Normalized Optical Density</b>	<b>Average Normalized Optical Density</b>	<b>Peak Smoke Release Rate (m<sup>2</sup>/s)</b>	<b>Total Smoke Released (m<sup>2</sup>)</b>
A-1	41	0.45	0.03	0.19	14.7
A-2	41	0.40	0.03	0.17	14.8

Please note that the values in Table 2 above as well as the graphs in Appendix B omit the heat and smoke contribution from the propane ignition burner.

If you have any questions, please do not hesitate to contact the undersigned.

Very truly yours

Reviewed by:



DOUGLAS MARCUM (ext. 42312)  
Associate Project Engineer  
3019A NBK FPD  
Douglas.Marcum@us.ul.com

RANDALL KENT LAYMON (ext. 42687)  
Senior Staff Engineer  
3019A NBK FPD  
Randall.K.Laymon@us.ul.com

## APPENDIX A

### TEST NOTES:

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##### TEST A-1

09050609

**Sample Description:** Trunkline Takeoff

**Test Notes:** The sample was positioned face up on fine wire mesh and situated above the center of the test burner.

**Post Test Observations:** The sample melted, charred and was approximately 90% consumed at the conclusion of the test.

**TEST A-2**

09050610

**Sample Description:** Trunkline Takeoff

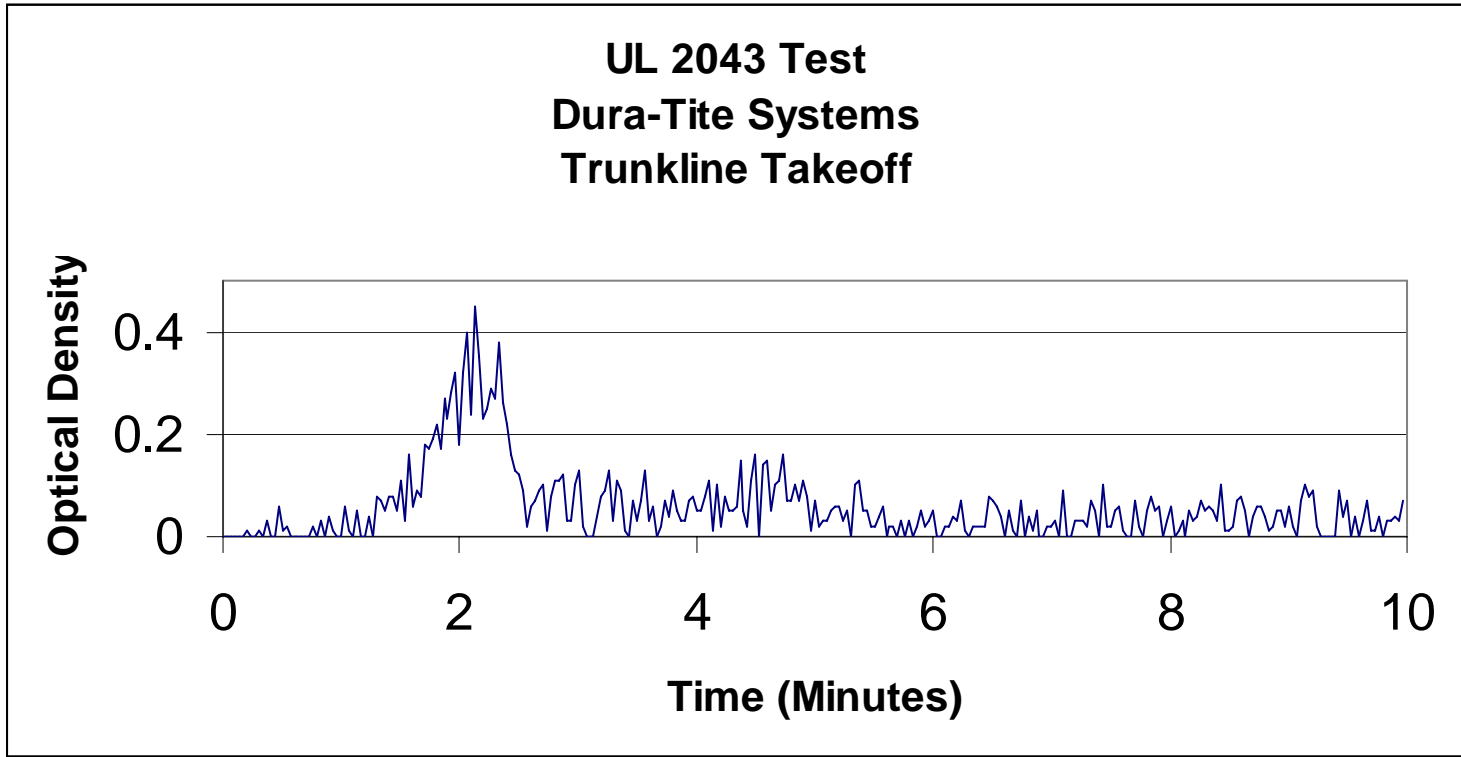
**Test Notes:** The sample was positioned face up on fine wire mesh and situated above the center of the test burner.

**Post Test Observations:** The sample melted, charred and was approximately 90% consumed at the conclusion of the test.

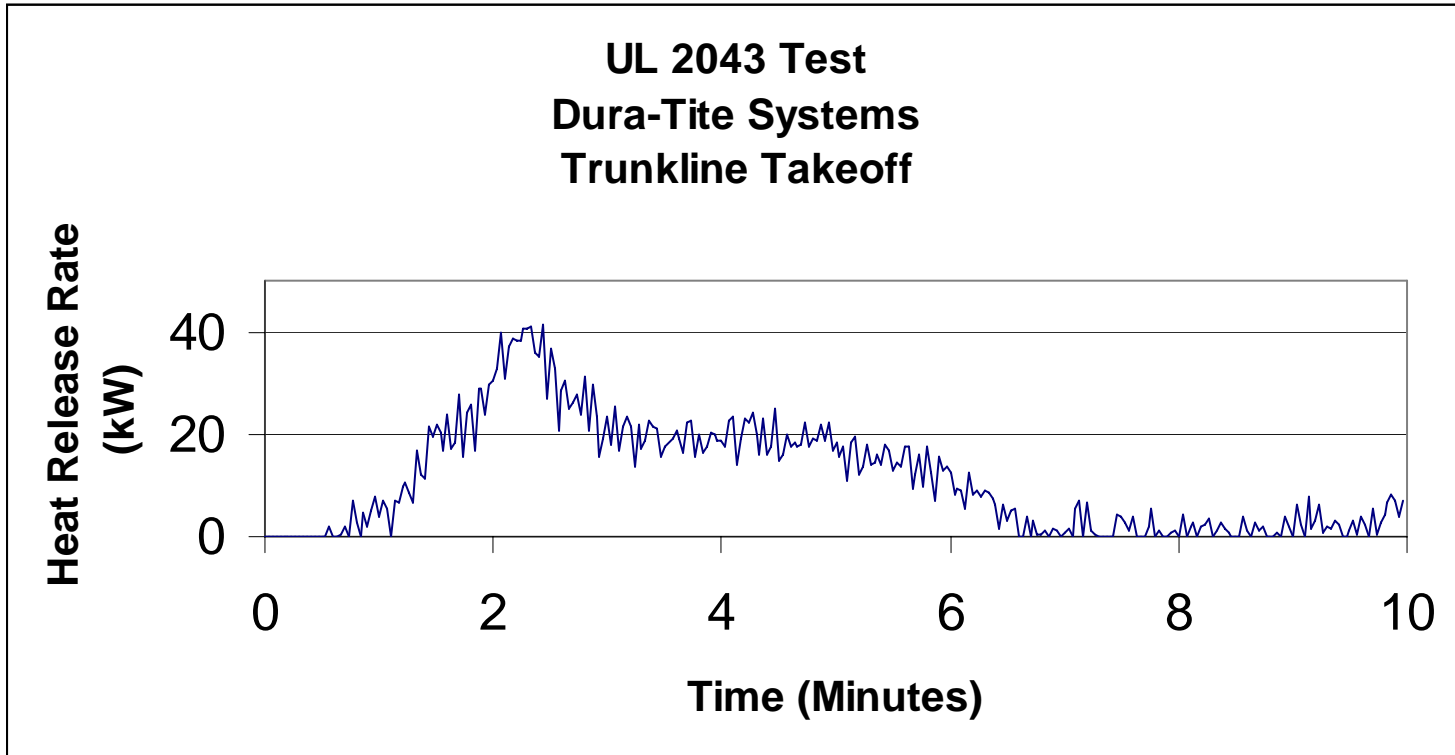
**APPENDIX B**

**GRAPHICAL DATA**

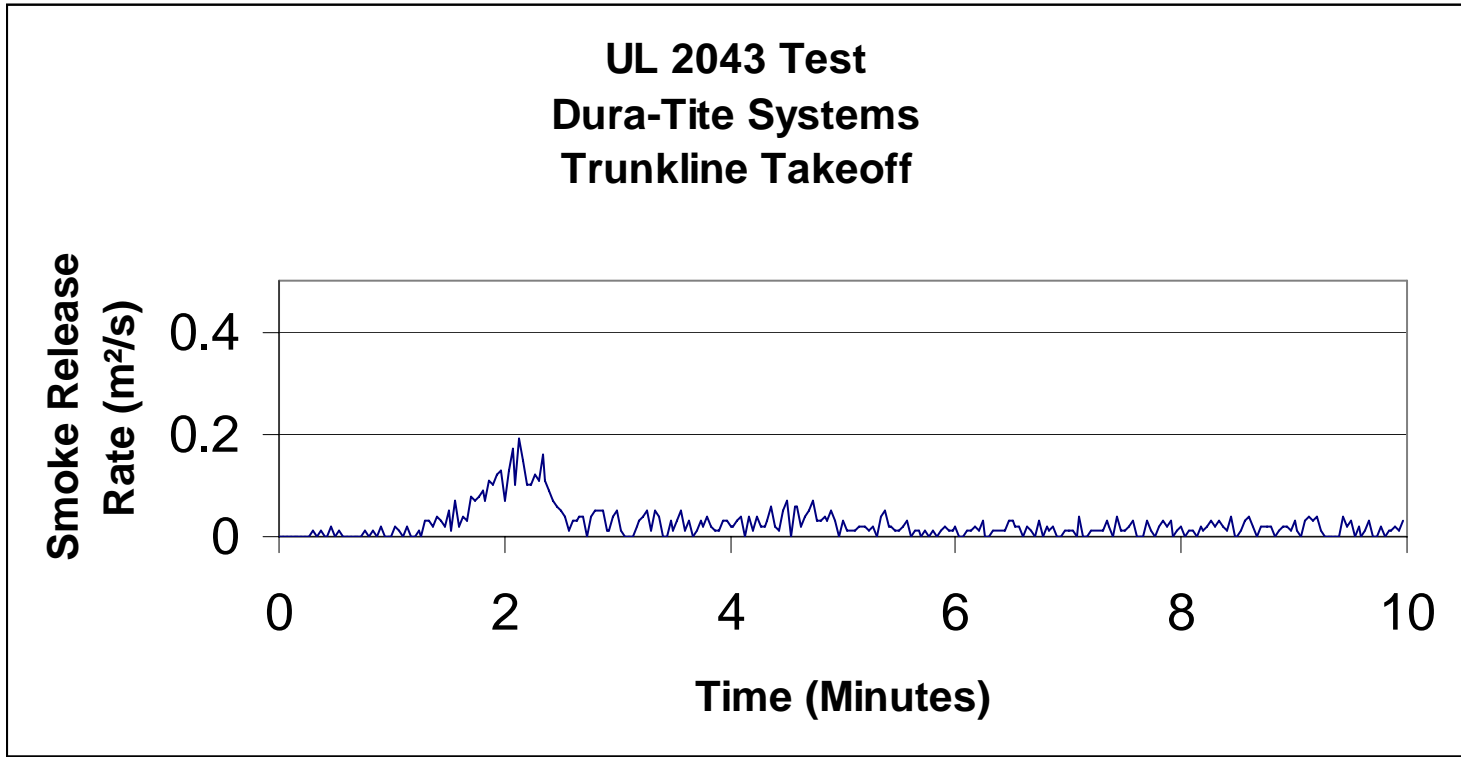
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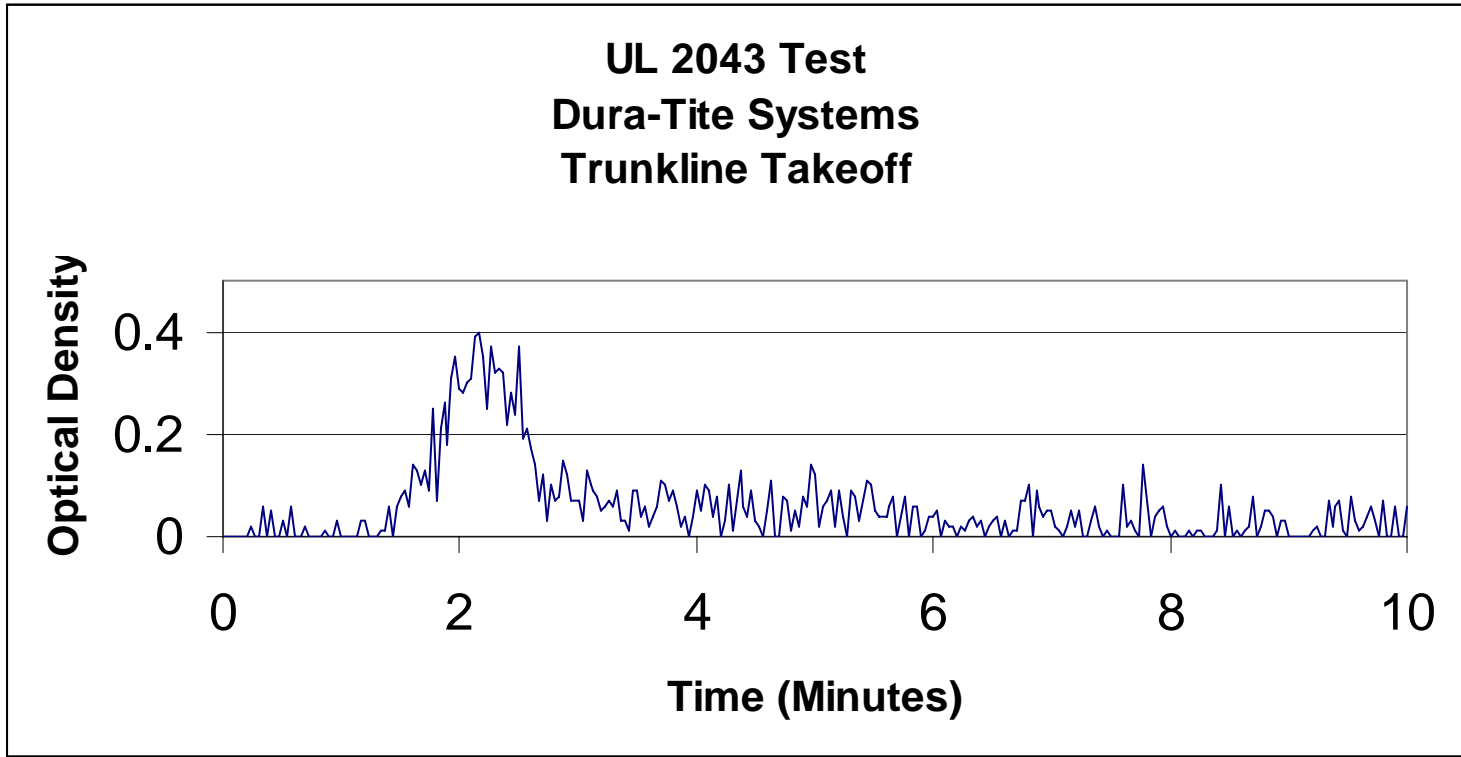
<b>Test Number</b>	<b>Test Code</b>	<b>Description</b>	<b>Peak Normalized Optical Density</b>	<b>Average Normalized Optical Density</b>
A-1	09050609	Trunkline Takeoff	0.45	0.03



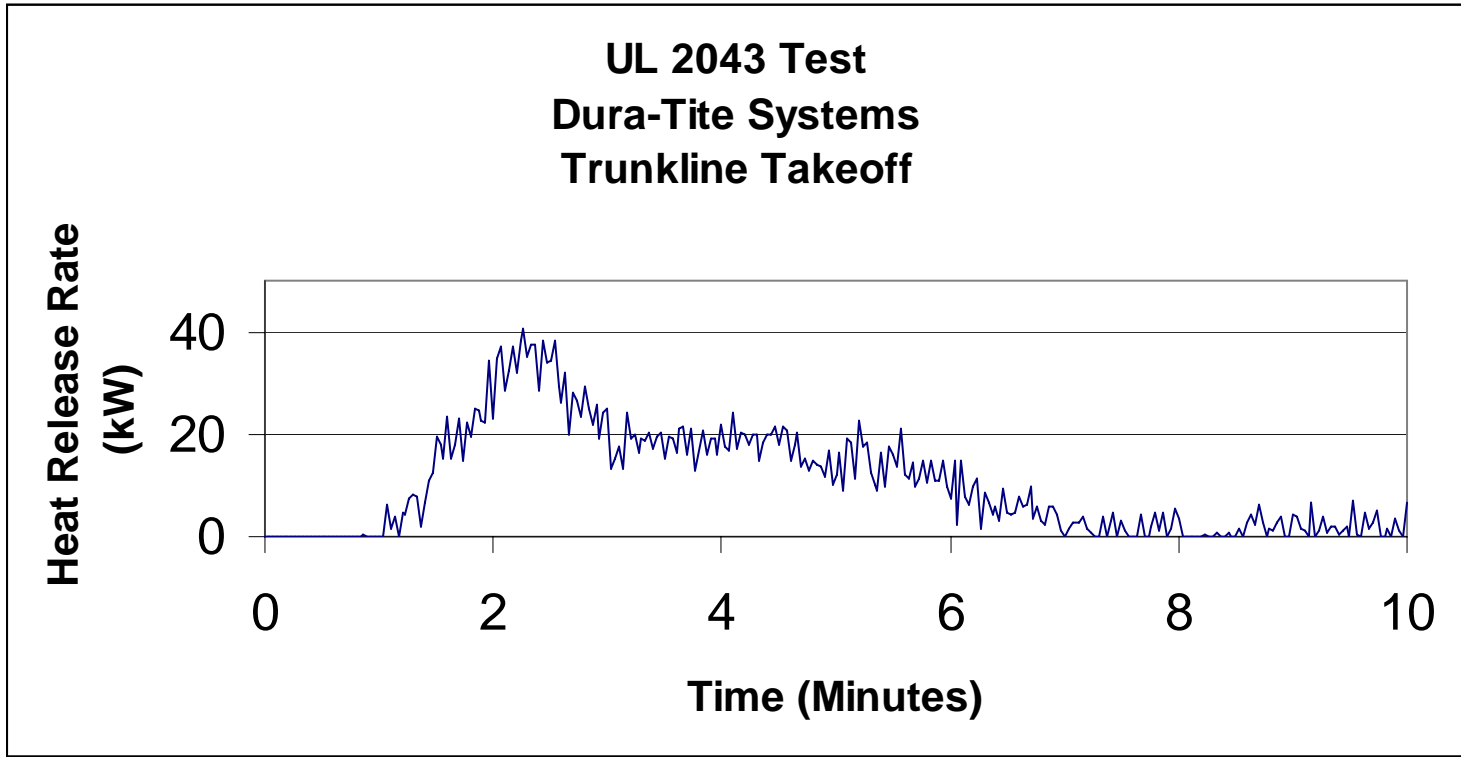
Test Number	Test Code	Description	Peak Heat Release Rate (kW)
A-1	09050609	Trunkline Takeoff	41



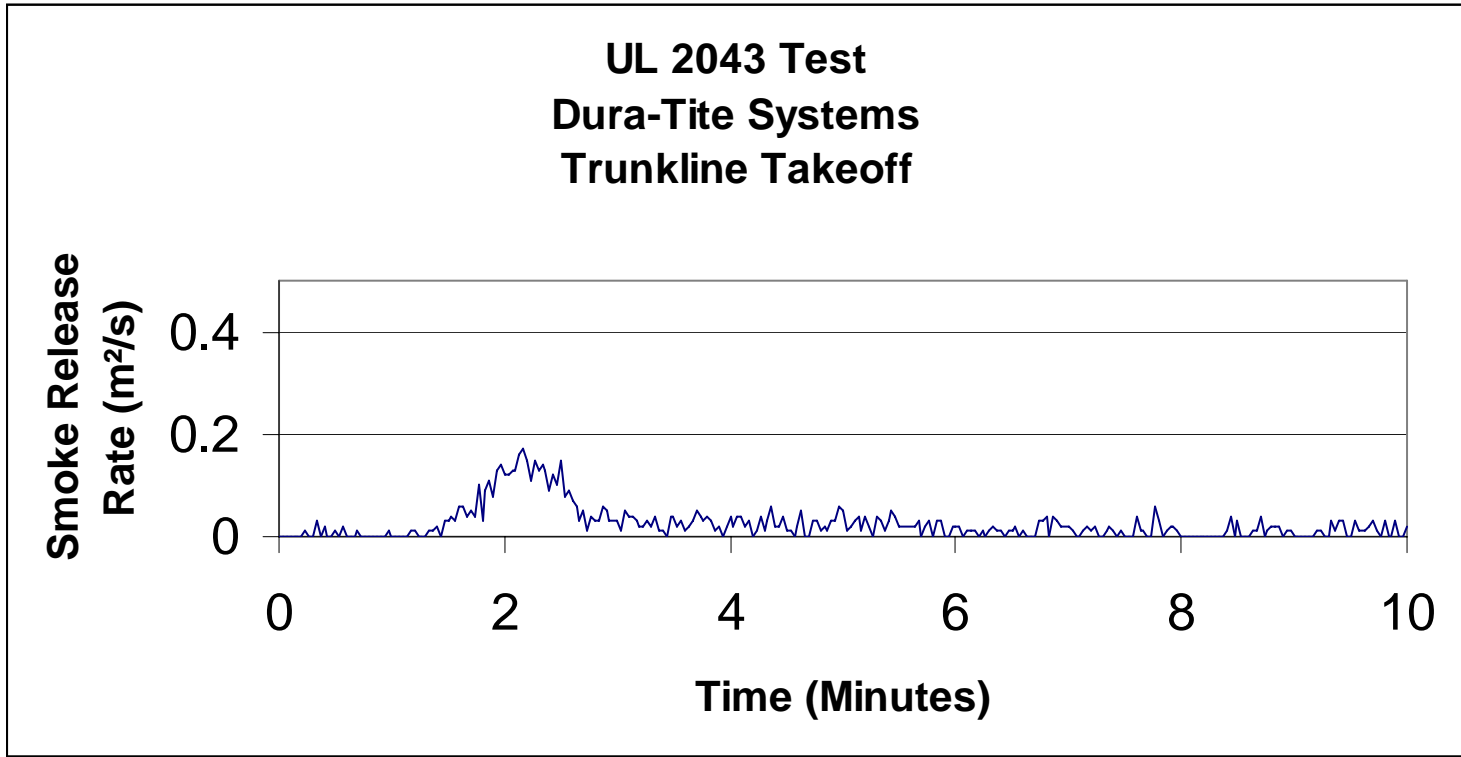
Test Number	Test Code	Description	Peak Smoke Release Rate (m <sup>2</sup> /s)	Total Smoke Released (m <sup>2</sup> )
A-1	09050609	Trunkline Takeoff	0.19	14.7



<b>Test Number</b>	<b>Test Code</b>	<b>Description</b>	<b>Peak Normalized Optical Density</b>	<b>Average Normalized Optical Density</b>
A-2	09050610	Trunkline Takeoff	0.40	0.03



Test Number	Test Code	Description	Peak Heat Release Rate (kW)
A-2	09050610	Trunkline Takeoff	41



<b>Test Number</b>	<b>Test Code</b>	<b>Description</b>	<b>Peak Smoke Release Rate (m²/s)</b>	<b>Total Smoke Released (m²)</b>
A-2	09050610	Trunkline Takeoff	0.17	14.8