



ANSI C78.LL 3-2003 (R2008, R2015)

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American National  
Standard for Electric  
Lamps—Procedures for  
High Intensity  
Discharge Lamp  
Sample Preparation and  
the Toxicity  
Characteristic Leaching  
Procedure





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*American National Standard for Electric Lamps—  
Procedures for High Intensity Discharge Lamp Sample  
Preparation and the Toxicity Characteristic  
Leaching Procedure*

Secretariat:

**National Electrical Manufacturers Association**

Approved: November 19, 2015

**American National Standards Institute, Inc.**

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**Foreword** (This foreword is not part of American National Standard/NEMA C78.LL 3-2003)

Suggestions for improvement of this standard should be submitted to:

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This standard was processed and approved by Accredited Standards Committee (ASC) on Electric Lamps, C78. Committee approval of the standard does not necessarily imply that all committee members voted for that approval.

Much attention continues to be focused on the disposal of mercury containing lamps. The United States Environmental Protection Agency's Toxicity Characteristic Leaching Procedure is used at both the Federal level and by most states to determine whether or not spent high-intensity discharge lamps should be classified as hazardous waste. This NEMA Standards Publication was developed by technical experts in the lamp industry to establish a uniform method of sample preparation for high-intensity discharge lamps in order to minimize the inherent variability associated with TCLP testing of such lamps. This document also specifies other important aspects related to the leaching process that are not specifically defined for lamps by the EPA SW-846, "Test Methods for Evaluating Solid Waste (Physical/Chemical Methods)," but that have been shown in practice to contribute to test variability, if not properly controlled.

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## **1 Scope**

Procedures for preparation of high-intensity discharge (HID) lamps for the Toxicity Characteristic Leaching Procedure (TCLP) are presented below. These procedures are intended to supplement the TCLP by supplying specific instructions for size reduction and for other critical procedures specific to the testing of HID lamps.

This standard specifically covers high-intensity discharge lamp types. Additional standards are in preparation or have been prepared for fluorescent lamps and for other types that require specific sample preparation instructions because of their design or construction.

The protocol that follows is grouped to include general requirements, lamp preparation, leaching, filtration, storage, and leaching vessel reuse.

## **2 Normative references**

The following standards contain provisions which, through reference in this text, constitute provisions of this American National Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this American National Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

*Toxicity Characteristic Leaching Procedure (TCLP),* 55 FR 126, pp. 26987-26998, June 29, 1990

*United States Environmental Protection Agency—SW-846, Test Methods for Evaluating Solid Waste Physical/Chemical Methods*