



ANSI C78.81-2014

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American National  
Standard for Electric  
Lamps - Double-Capped  
Fluorescent Lamps -  
Dimensional and  
Electrical Characteristics





**ANSI C78.81-2014**

*American National Standard for  
Electric Lamps—Double-Capped Fluorescent Lamps—  
Dimensional and Electrical Characteristics*

Secretariat:

**National Electrical Manufacturers Association**

Approved August 15, 2014

**American National Standards Institute**

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**Foreword** (This foreword is not part of American National Standard C78.81-2014.)

Suggestions for improvement of this standard should be submitted to the Secretariat, C78 Committee, National Electrical Manufacturers Association, 1300 North 17<sup>th</sup> Street, Suite 900, Rosslyn, Virginia 22209.

This revision supersedes ANSI C78.81-2013.

**This standard features the following revisions:**

1. 17-Watt, 24-Inch T8, Fluorescent Lamp [7881-ANSI-1001-2]
2. 25-Watt 36-Inch T8, Fluorescent Lamp [7881-ANSI-1002-2]
3. 25-Watt 48-Inch T8, Fluorescent Lamp [7881-ANSI-1028-2]
4. 32-Watt 48-Inch T8, Fluorescent Lamp [7881-ANSI-1005-3]
5. 28-Watt, 48-Inch T8, Fluorescent Lamp [7881-ANSI-1029-2]
6. 30-Watt, 48-Inch T8, Fluorescent Lamp [7881-ANSI-1030-2]
7. 40-Watt, 60-Inch T8, Fluorescent Lamp [7881-ANSI-1007-2]
8. 59-Watt, 96-Inch T8, Single Pin Instant Start Fluorescent Lamp [7881-ANSI-1505-2]

**This standard features the following [new] additions:**

1. 15-Watt, 18-Inch T8, Fluorescent Lamp [7881-ANSI-1031-1]
2. 15-Watt, 24-Inch T8, Fluorescent Lamp [7881-ANSI-1032-1]
3. 21-Watt, 36-Inch T8, Fluorescent Lamp [7881-ANSI-1033-1]
4. 54-Watt, 96-Inch T8, Single Pin Instant Start Fluorescent Lamp [7881-ANSI-3015-1]

## CONTENTS

	Page
Foreword.....	ii
<b>1 Scope .....</b>	<b>1</b>
1.1 Important Patent Disclaimer .....	1
<b>2 General.....</b>	<b>1</b>
<b>3 Normative References .....</b>	<b>1</b>
<b>4 Definitions .....</b>	<b>2</b>
<b>5 Lamp Abbreviations .....</b>	<b>2</b>
<b>6 Methods of Measurement .....</b>	<b>2</b>
<b>7 Reference Ballasts.....</b>	<b>2</b>
<b>8 Product Drawings .....</b>	<b>3</b>
<b>9 Application of Lamps on More Than One Type of Circuit .....</b>	<b>3</b>
<b>10 Lamp Physical and Dimensional Requirements .....</b>	<b>3</b>
10.1 Bulb Specifications .....	3
10.2 Base Specifications.....	3
10.3 Lamp Dimensions .....	3
10.3.1 Base Alignment of Finished Lamps.....	3
10.3.2 Base Alignment of Lamps with G5 Miniature Bipin Bases.....	3
10.3.3 Base Alignment of Lamps with G13 Medium Bipin Bases .....	3
10.3.4 Base Alignment of Lamps with R17d Recessed Double-Contact Bases .....	4
10.3.5 Base Alignment of Lamps with Fa8 Single Pin Bases.....	4
10.4 Color.....	5
<b>11 Lamp Electrical Characteristics.....</b>	<b>5</b>
11.1 Lamp Operating Characteristics .....	5
11.2 Lamp Starting Requirements .....	6
<b>12 Requirements for Ballast Design.....</b>	<b>6</b>
12.1 General .....	6
12.2 Lamp Starting Requirements .....	6
12.2.1 Voltage Between Lamp Terminals.....	7
12.2.2 Voltage from Lamp Terminal to Starting Aid .....	7
12.2.3 Wave Shape of Rapid-Start Starting Voltage .....	7
12.2.4 Starting Capacitor .....	7
12.3 Cathode Heating .....	7
12.4 Lamp Operating Current .....	8
12.4.1 Lamp Operating Current Limits .....	8
12.4.2 Operating Current Waveshape.....	8
12.5 Frequency to be Used for HF Operated Lamps.....	8

12.6	Lamp End Temperature Under Abnormal Conditions .....	8
<b>13</b>	<b>Requirements for Luminaire Design .....</b>	<b>9</b>
13.1	General .....	9
13.2	Starting aid .....	9
<b>Annex A</b>	<b>Guide for Establishing Fluorescent Lamp Abbreviations .....</b>	<b>11</b>
<b>Annex B</b>	<b>Guidelines for the Establishment of Nominal Wattage Values on Fluorescent Lamp Data Sheets .....</b>	<b>14</b>
<b>Annex C</b>	<b>Bibliography.....</b>	<b>16</b>
<b>Annex D</b>	<b>USA Deviations to Adopted IEC Sheets .....</b>	<b>17</b>

**Tables**

Table 1	Values of Dimension M and T .....	4
Table 2	Lamp Starting Requirements .....	6
Table 3	Ground Plane Distance.....	9
Table 4	Data Sheet List .....	19

# PART I—General Information and Requirements

## 1 Scope

This standard sets forth the physical and electrical characteristics of the principal types of fluorescent lamps intended for application on conventional line frequency circuits, and electronic high-frequency (HF) circuits. Some data sheets may specify more than one circuit application. Specifications for both the lamp itself and the interactive features of the lamp and ballast are given. Only double-based lamps of the regular linear shape are included. Single-based lamps, including compact, circular, square-shaped and U-shaped, are found in ANSI C78.901.

Lamps for conventional systems relying on auxiliary support from external ballasts are described. These lamps are those designed for 60 Hz and/or HF operation.

Lamp color is not specified herein.

Certain lamp types covered in this standard may be similar to those in IEC 60081. However, additional types are included that are used only in North America and are not specified in the IEC standard.

### 1.1 Important Patent Disclaimer

At the time of publication, it is possible that some of the elements of this document may be the subject of patent rights. When this Standard was approved for publication, the National Electrical Manufacturers Association (NEMA) did not know of any patent applications, patents pending, or existing patents. NEMA shall not be held responsible for identifying any or all such patent rights.

## 2 General

There are four parts to this standard:

- Part I** Contains requirements and general information. Detailed descriptions, references, and explanations of the terms used in the lamp data sheets are given. The principles of dimensioning lamps, both as finished lamps and for maximum outline purposes, are defined.
- Part II** Contains dimensioning principles and lamp outline drawings.
- Part III** Contains the annexes.
- Part IV** Contains the lamp data sheets for the lamp classes covered in this standard. Sheets adopted from IEC are not included, but a source reference is listed.

## 3 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.

ANSI C78.79-2014, *Nomenclature for Envelope Shapes Intended for Use with Electric Lamps*

ANSI C78.180-2003, *Specifications for Fluorescent Lamp Starters*