



American National Standard/
American Dental Association
Specification No. 89

Dental Operating Lights

Modified adoption of ISO 9680:1993, Dental operating
light

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**AMERICAN NATIONAL STANDARD/AMERICAN DENTAL ASSOCIATION
SPECIFICATION NO. 89 FOR DENTAL OPERATING LIGHTS**

American Dental Association Specification No. 89 for Dental Operating Lights has been approved by the Council on Scientific Affairs of the American Dental Association. This and other specifications for dental materials, instruments and equipment are being formulated by working groups of the Accredited Standards Committee MD 156 for Dental Materials, Instruments and Equipment. The Council acts as administrative sponsor of that committee, which has representation from all interests in the United States in the standardization of materials, instruments and equipment in dentistry. The Council has adopted the specifications, showing professional recognition of their usefulness in dentistry, and has forwarded them to the American National Standards Institute with a recommendation that the specifications be approved as American National Standards. Approval of ADA Specification No. 89 as an American National Standard was granted by the American National Standards Institute on September 13, 1999. This standard becomes effective September 13, 2000.

The Council thanks the working group members and the organizations with which they were affiliated at the time the specification was developed: Wayne T. Wozniak (Chairman), American Dental Association, Chicago, IL; Stephen F. Bergen, West Orange, NJ; Richard Lindquist, Marus Dental, Bend, OR; Bruce A. Matis, Indiana University, Indianapolis; B. Keith Moore, Indiana University, Indianapolis; Patrick Ridenour, A-DEC, Inc., Newberg, OR; Charles M. Schoenfeld, Chicago, IL; and John Young, University of Texas, San Antonio.

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FOREWORD

(This foreword does not form a part of the ANSI/ADA Specification 89 for Dental Operating Lights)

This ANSI/ADA Specification No. 89 was developed by the Accredited Standards Committee MD156 Subcommittee on Dental Operating Lights. It applies to all dental operating lights used for illuminating the oral cavity.

This specification is basically an adoption of ISO Standard 9680:1993, Dental Operating Light with some minor changes. These include:

1. requiring that the light be constructed so that patients and operators are shielded from any radiated ultraviolet light;
2. modifying the requirements and testing procedures so that fiber-optic light sources will be covered by this standard; and
3. clarifying the requirements concerning the illumination pattern to indicate that the maximum area of illuminance shall be within a specific area.

In addition, requirements such as Section 5.2.1 should not be interpreted to exclude lights with a level of illuminance that can exceed 15,000 lux.

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1. SCOPE

This standard applies to dental operating lights, however constructed, used for illuminating the oral cavity. It specifies requirements and test methods. It also contains specifications on manufacturer's instructions, marking and packaging.

2. NORMATIVE REFERENCES

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid.

ISO 1942-4:1989, Dental Vocabulary—Part 4: Dental Equipment

ISO 4211-4:1979, Furniture—Assessment of Surface Resistance to Cold Liquids

ISO 9687:1993, Dental Equipment—Graphical Symbols

IEC 598-1:1986, Luminaires—Part 1: General Requirements and Tests

IEC 601-1:1988, Medical Electrical Equipment—Part 1: General Requirements for Safety

CIE 15.2:1986, Colorimetry

CIE 69:1987, Methods of Characterizing Illuminance Meters and Luminance Meters; Performance, Characteristics and Specifications

3. DEFINITIONS

For the purposes of this standard, the following definitions apply:

3.1 Luminaire

apparatus that distributes, filters or transforms the light transmitted from one or more lamps and that includes all parts necessary for supporting, fixing and protecting the lamps, but not the lamps themselves, and where necessary, circuit auxiliaries together with the means of connecting them to the supply [IEC 598-1:1986]

3.2 Lamp

light source

3.3 Dental Luminaire

luminaire specially designed and/or presented for use in dental surgery

3.4 Dental Operating Light

item of equipment specially designed for use by a dentist for illuminating the oral cavity, consisting of a dental luminaire and one or more lamps