

Australian/New Zealand Standard™

**Performance of electrical lighting
equipment—Ballasts for fluorescent
lamps**

**Part 1: Method of measurement to
determine energy consumption and
performance of ballast-lamp circuits**



S t a n d a r d s Australia



STANDARDS
NEW ZEALAND
Paeonua Aotearoa

AS/NZS 4783.1:2001

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The following interests are represented on Committee EL-041:

Australian Electrical and Electronic Manufacturers Association
Australian Chamber of Commerce and Industry
Consumers Federation of Australia
Electrical Compliance Testing Association of Australia
Electrical Regulatory Authorities Council (Aust)
Energy Efficiency and Conservation Authority of New Zealand
Illuminating Engineering Society of Australia and New Zealand
Ministry of Economic Development, New Zealand
Telarc (NZ)

Additional interests participating in the preparation of this Standard:

Australian Greenhouse Office
National Appliance and Equipment Energy Efficiency Committee

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-041, Lamps and Related Equipment with contributions from the Subcommittee EL-041-08, Lighting Equipment—Energy Performance.

The objective of this Standard is to provide the lighting industry with an acceptable method of test to determine the energy consumption and performance of fluorescent lamp ballasts available for sale in Australia and New Zealand.

This Standard is published with the approval of the combined state regulatory authorities and it is structured to be suitable as a reference for legislation by regulatory authorities.

The Standard is Part One of a series which, when complete, will consist of the following:

- 4783 Performance of electrical lighting equipment—Ballasts for fluorescent lamps
- 4783.1 Part 1: Method of measurement to determine energy consumption and performance of ballast-lamp circuits
- 4783.2 Part 2: Part 2: Energy labelling and minimum energy performance standards requirements

Statements expressed in mandatory terms in any part of this document are deemed to be requirements of this Standard.

It is hoped that this document, with suitable inputs from concerned users, can eventually form the basis for a new international test method for determination of ballast energy consumption and performance.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

CONTENTS

| | <i>Page</i> |
|---|-------------|
| 1 SCOPE | 5 |
| 2 APPLICATION..... | 5 |
| 3 REFERENCED DOCUMENTS | 5 |
| 4 DEFINITIONS..... | 5 |
| 5 MEASUREMENTS TO BE PERFORMED AND REQUIREMENTS FOR TESTING | 7 |
| APPENDICES | |
| A COMMON METHODS FOR MEASURING BALLAST ENERGY CONSUMPTION, EFFICIENCY AND PERFORMANCE | 8 |
| B TEST CONDITIONS, INSTRUMENTATION AND EQUIPMENT | 11 |
| C METHOD OF MEASUREMENT FOR DETERMINATION OF BALLAST ENERGY CONSUMPTION AND PERFORMANCE (ALL BALLAST TYPES)..... | 14 |
| D METHOD OF MEASUREMENT OF RELATIVE LIGHT OUTPUT | 16 |
| E METHOD OF MEASUREMENT FOR DETERMINATION OF BALLAST ENERGY CONSUMPTION AND PERFORMANCE (FERROMAGNETIC BALLASTS)..... | 19 |
| F CORRECTION OF LAMP POWER MEASUREMENTS | 21 |
| G DATA FOR TEST REPORT | 24 |

FOREWORD

The methods of measurement and performance criteria of ballast for fluorescent lamps in Australia and New Zealand are derived from the methods and procedures practiced in many parts of the world. Elements in this Standard are drawn from a wide range of sources including Europe, Korea, Japan and North America.

The cumulative contents of the Standards AS/NZS 4783.1 and AS/NZS 4783.2 respectively, are equivalent to European (CENELEC) Standard EN 50294. The methods of tests specified in this Standard are extracts from EN 50294 with significant restructuring undertaken to allow the measurement method to be used for other classification systems. This Standard also includes certain extracts from pending IEC draft publications.

The use of the Energy Efficiency Index (EEI) classification system and Minimum Energy Performance Standards (MEPS) levels for linear fluorescent lamp ballasts in Australia and New Zealand are set out in Standard AS/NZS 4783.2.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard

Performance of electrical lighting equipment—Ballasts for fluorescent lamps

Part 1: Method of measurement to determine energy consumption and performance of ballast-lamp circuits

1 SCOPE

This Standard provides methods of measurement of ballast energy consumption and performance when used with their associated fluorescent lamp(s).

NOTE: Requirements for testing individual ballasts during production are not included.

It specifies energy efficiency and performance measurement for ballasts used with fluorescent lamps that fall within the scope of IEC 60081 and IEC 60901.

This Standard does not specify safety requirements.

2 APPLICATION

This Standard applies to ballasts that are supplied as part of luminaires. This Standard shall be read in conjunction with AS/NZS 4783.2

This Standard does not apply to ballasts which form an integral part of the lamp (e.g. self ballasted lamps to IEC 60969).

3 REFERENCED DOCUMENTS

AS/NZS

- 4783 Performance of electrical lighting equipment — Ballasts for fluorescent lamps
4783.2 Energy labelling and minimum energy performance standards requirements

IEC

- 60081 Double-capped fluorescent lamps—Performance specifications
60901 Single-capped fluorescent lamps—Performance requirements
60921 Ballasts for tubular fluorescent lamps—Performance requirements
60929 A.C supplied electronic ballasts for tubular fluorescent lamps—Performance requirements
60969 Self-ballasted lamps for general lighting services—Performance requirements

CENELEC

- EN 50294 Measurement method of total input power of ballast lamp circuits

4 DEFINITIONS

For the purpose of this Standard the following definitions apply.

4.1 A.C. supplied electronic ballast

Mains supplied a.c. to a.c. inverter, including stabilising elements, for starting and operating one or more fluorescent lamps, generally at high frequency.