AS/NZS 4847.1:2010

Australian/New Zealand Standard™

Selfballasted lamps for general lighting services

Part 1: Test methods—Energy performance

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-041, Lamps and Related Equipment. It was approved on behalf of the Council of Standards Australia on 21 August 2009 and on behalf of the Council of Standards New Zealand on 20 November 2009.
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The following are represented on Committee EL-041:

Consumers' Federation of Australia
Department of the Environment, Water, Heritage and the Arts
Electrical Compliance Testing Association
Energy Efficiency and Conservation Authority of New Zealand
Equipment Energy Efficiency Committee
Institution of Professional Engineers New Zealand
Lighting Council New Zealand
Lighting Council of Australia

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Australian/New Zealand Standard™

Selfballasted lamps for general lighting services

Part 1: Test methods—Energy performance

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand constituted Subcommittee EL-041-08, Lamps and Lighting Equipment—Energy Performance, to complement the testing requirements specified in AS/NZS 60969.

The objective of this Standard is to specify test methods for key performance attributes of self ballasted compact fluorescent lamps (CFLs) that have integrated means for starting, controlling and stable operation. AS/NZS 4847.2 specifies Minimum Energy Performance Standards requirements for compact fluorescent lamps sold in Australia and New Zealand.

This Standard is structured to be suitable for reference in minimum performance standards legislation.

The Standard consists of the following parts:

AS/NZS	
4847	Self-ballasted fluorescent lamps for general lighting services
4847.1	Part 1: Test methods—Energy performance (this Standard)
4847.2	Part 2: Minimum Energy Performance Standards requirements

This series of Standards is published with the approval of the combined state and territory energy regulatory authorities in Australia and the New Zealand energy efficiency regulatory authority who approve the Standard prior to its publication.

It is hoped that this part of the Standard will help in the formation of a new international Standard for test methods. The feedback will be incorporated into this Standard based on international review.

The terms ‘normative’ and ‘informative’ are 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 for information and guidance.

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FOREWORD

The development of this Standard was based on the need for an improved set of international test methods for self ballasted compact fluorescent lamps (CFLs) that was highlighted in 2005 at the Right Light 6 conference in Shanghai. At this meeting of government and industry representatives, members agreed to work towards the harmonization of test methods and performance requirements for self ballasted CFLs.

A comparison of existing test methods used by a number of countries in the Asia-Pacific Economic Cooperation (APEC) region—the comparison is also believed to be valid worldwide—has clearly shown that for many performance criteria these test methods are very similar and there is great potential for harmonization based around the existing IEC protocol. However, discussions with a variety of test laboratories demonstrate that the existing test methods may be subject to different interpretations and this may also introduce variations in results, depending upon the assumptions made by individual laboratories. As a consequence, there is a need not only for a single test method, but one that is sufficiently clear and robust so that it can be easily followed, and the results replicated, by different laboratories.

In addition, the existing test methods do not all specify the full range of tests relating to the performance criteria of most CFL programs. Having all potential tests contained within the single test method will also clarify the requirements for manufacturers and laboratories and improve the potential for products to conform to program requirements.

This Standard specifies a new test procedure for electronic self-ballasted CFLs and is largely based on the existing test methods, such as AS/NZS 60969. However, unlike AS/NZS 60969 it contains no performance requirements and only describes relevant test methodologies. Initial drafts of this document drew on work done by the Joint Standards Australia/Standards New Zealand constituted subcommittee EL-041-08, and by the National Lighting Test Centre (NLTC) in Beijing. However, later developments from the combined views of a wide range of market actors are incorporated into this Standard.

This Standard is structured to allow common requirements in Australia and New Zealand.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard
Selfballasted lamps for general lighting services

Part 1: Test methods—Energy performance

1 SCOPE

This Standard specifies the test methods and conditions for self-ballasted compact fluorescent lamps (CFLs) and other gas-discharge lamps with integrated means for controlling, starting and stable operation that are intended for domestic and similar general lighting purposes.

This Standard applies to self-ballasted lamps of all voltages and wattages irrespective of the type of lamp cap.

The requirements in this Standard relate only to type testing and exist in addition to the safety requirements that are specified in AS/NZS 60968.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS/NZS

4782 Double-capped fluorescent lamps—Performance specifications

4782.3 Part 3: Procedure for quantitative analysis of mercury present in fluorescent lamps

60968 Self ballasted lamps for general lighting services—Safety requirements (IEC 60968:1988, MOD)

60969 Self ballasted lamps for general lighting services—Performance requirements

61000 Electromagnetic compatibility (EMC)

61000.3.2 Part 3.2: Limits—Limits for harmonic current emissions (equipment input current ≤16 A per phase) (IEC 61000-3-2, Ed 3.0 (2005) MOD)

CISPR 15 Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment

IEC

61547 Equipment for general lighting purposes—EMC immunity requirements

62321 Electrotechnical products—Determination of levels of six regulated substances (lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, polybrominated diphenyl ethers)

CIE

13.3 Method of measuring and specifying colour rendering properties of light sources

15 Colorimetry

63 The spectroradiometric measurement of light sources

84:1989 Measurement of luminous flux

121:1996 The photometry and goniophotometry of luminaires