

Australian Standard™

**Lighting booths for visual assessment
of colour and colour matching**



This Australian Standard was prepared by Committee CH-003, Paints and Related Materials. It was approved on behalf of the Council of Standards Australia on 14 February 2006.

This Standard was published on 13 March 2006.

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Australian Paint Manufacturers' Federation

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Originated as AS 4004—1992.
Second edition 2006.

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Published by Standards Australia, GPO Box 476, Sydney, NSW 2001, Australia

ISBN 0 7337 7310 9

PREFACE

This Standard was prepared for the Joint Australia/New Zealand Standards Committee CH-003, Paints and Related Materials by the Subcommittee CH-003-09, Methods of Colour Measurement to supersede AS 4004—1992. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand.

The objective of this Standard is to specify the requirements for light booths intended for the assessment of colour in accordance with AS 1580.601.1, *Paints and related materials—Methods of test*, Method 601.1: *Colour—Visual comparison*.

The term ‘normative’ has been used in this Standard to define the application of the appendix to which it applies. A ‘normative’ appendix is an integral part of a Standard.

CONTENTS

	<i>Page</i>
FOREWORD.....	4
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE	5
1.2 REFERENCED DOCUMENTS	5
1.3 DEFINITIONS	5
1.4 MARKING	5
SECTION 2 DESIGN AND CONSTRUCTION	
2.1 VIEWING AREA	7
2.2 DAYLIGHT SIMULATOR.....	7
2.3 INCANDESCENT SOURCE.....	8
2.4 ADDITIONAL LIGHT SOURCE	8
2.5 INTERIOR COLOUR OF THE BOOTH.....	8
2.6 ELECTRICAL SAFETY	8
2.7 RECOMMENDED LIFE OF SOURCES.....	9
2.8 HEAT GENERATION AND DISSIPATION	9
SECTION 3 MAINTENANCE	
3.1 LIGHT BOOTH MAINTENANCE	10
APPENDIX A CLASSIFICATION OF DEGREES OF COLOUR MATCHING AND REQUIRED BOOTH CATEGORY	
	11

FOREWORD

The lighting booth category adopted in this Standard is based on the performance of a colour matching booth as a simulator of standard daylight.

The performance as a daylight simulator is measured using the technique described in CIE 51.2 *A method for assessing the quality of daylight simulators for colorimetry*.

This technique requires the measurement of the spectral power distribution inside the booth using a spectroradiometer. This data is then used with the reflectance factors of five metameric colour pairs which match exactly under D_{65} , to calculate the colour difference of each pair under the test illuminant. The nearer the colour differences approach zero, the more accurate is the test illuminant simulation of standard D_{65} daylight. The results provide a means of classifying the quality of simulation into one of four categories.

Such testing is performed using equipment not normally available to a booth user and it is expected that the booth manufacturer will supply the results of such tests. The remaining specifications can be assessed and monitored by the user with simple equipment which measures the intensity and uniformity of the light in the booth.

STANDARDS AUSTRALIA

Australian Standard

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out the colorimetric, photometric and physical requirements for lighting booths that provide an environment suitable for colour assessment and matching in accordance with AS 1580.601.1.

1.2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

1580 Paints and related materials—Methods of test
1580.601.1 Method 601.1: Colour—Visual comparison

1852 International electrotechnical vocabulary
1852.845 Chapter 845: Lighting

2700 Colour Standards for general purposes

AS/NZS

1680 Interior and workplace lighting
1680.1 Part 1: General principles and recommendations

3100 Approval and test specification—General requirements for electrical equipment

CIE

51.2 A method for assessing the quality of daylight simulators for colorimetry

1.3 DEFINITIONS

For the purpose of this Standard, the definitions contained in AS/NZS 1680.1, AS 1852.845, CIE 51.2 and those below apply.

1.3.1 Viewing area

The area within the booth which is intended for the assessment of colour and colour match requirements, the size and location of which is specified by the manufacturer of the booth.

1.3.2 Simulator

The combination of light source, diffuser and associated filters installed in the booth.

1.4 MARKING

The following information shall be legibly and permanently attached to the light booth.

- (a) The manufacturer's name, trade name or mark.
- (b) The words 'Booth Category', the appropriate booth category (see CIE 51.2) and the colorimetric method used, e.g., Booth Category CD (CIELAB).