Australian Standard®

Lighting booths for visual assessment of colour and colour matching

This Australian Standard was prepared by Committee CH/3, Paints and Related Materials. It was approved on behalf of the Council of Standards Australia on 20 January 1992 and published on 15 June 1992.

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Australasian Corrosion Association
Australian Paint Manufacturers Federation
Austroads
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This Standard was issued in draft form for comment as DR 91079.

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First published as AS 4004—1992.

Incorporating:
Amdt 1—1995

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 7350 3

PREFACE

This Standard was prepared for the Standards Australia Committee on Paints and Related Materials by the Subcommittee on Methods of Colour Measurement, under the direction of the Multitechnics Standards Board, 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*.

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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 Publication No. 51, *The assessment of the quality of daylight simulators*. 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.

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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
1680	Interior lighting
1680.1	Part 1: General principles and recommendations
1852	International electrotechnical vocabulary
1852.845	Chapter 845: Lighting
2700	Colour standards for general purposes
3100	Approval and test specification—General requirements for electrical equipment
CIE	
51	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 1680, AS 1852.845, CIE 51 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) and the colorimetric method used, i.e.

Booth Category CD (CIE LAB)

(c) Warnings on or adjacent to the lamp housing access panel warning against removing a lamp while it is hot.

(d) The range of mains supply voltage within which the requirements of Clauses 2.3 and 2.3 are met.

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