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Information technology — Office equipment — Test method of colour gamut mapping algorithm for office colour softcopy and hardcopy

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National foreword

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TECHNICAL REPORT

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Information technology — Office equipment — Test method of colour gamut mapping algorithm for office colour softcopy and hardcopy

Technologies de l'information — Équipement de bureau — Méthode d'essai des algorithmes de mappage des gammes de couleurs pour images à l'écran et copies papier

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Contents

Page

Foreword 4

Introduction 5

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Requirements 2
4.1 General 2
4.2 Reference viewing environments for softcopy and hardcopy 2
4.3 Test chart Image processing 4
4.4 Format of test charts 5
4.5 Experiments 5

5 Indicating the Use of Test Method of Colour Gamut Mapping Algorithm for Office Colour Printer 5
5.1 General 5
5.2 Preparation of samples 5
5.3 Presentation of the result 6

Annex A (informative) **Test Chart — Weather** 8

Annex B (informative) **Test Chart — OFFICE GAMUT MAPPING** 9

Annex C (informative) **Test Chart — False contour chart** 10

Annex D (normative) **Test chart Image Processing Workflow** 11

Bibliography 12

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Foreword

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The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

In exceptional circumstances, when the joint technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide to publish a Technical Report. A Technical Report is entirely informative in nature and shall be subject to review every five years in the same manner as an International Standard.

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ISO/IEC TR 29186 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 28, *Office equipment*.

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Introduction

Gamut mapping is a mapping of the colour-space coordinates of the elements of a source image to the colour-space coordinates of the elements of a reproduction to compensate for differences in the source and reproduction medium colour gamut capability. A test guideline for evaluating cross-device and cross-media colour image reproduction gamut mapping algorithms (GMAs), desirable for colour scientists and colour equipment manufacturers, has already been published as CIE 156:2004. CIE 156:2004 has been applied and evaluated in various fields. This Technical Report is intended as a supplement to CIE 156:2004 for use with office colour softcopy and hardcopy equipment.

Members of the colour management study group in JBMIA applied CIE 156:2004 to office colour printers and found it necessary to specify additional information to ensure consistency in colour gamut mapping algorithm evaluation. The information required for use with office colour equipment, in addition to CIE 156:2004, pertains to the output medium, viewing environments, test charts, test chart image processing parameters and workflow, etc. This experience led to the development of this Technical Report.

CIE 156:2004 specifies general principles to be applied when evaluating colour gamut mapping algorithms of various colour imaging equipment. In addition to these general principles, equipment-specific detailed descriptions and exceptions are essential. CIE 156:2004 also specifies colour imaging equipment colour gamut mapping algorithm evaluation methods pertinent to photography and graphic arts. Specification of details pertinent to office colour equipment colour gamut mapping algorithm evaluation is desirable.

Without additional information for the office colour equipment application, users of CIE 156:2004 would have to choose details of the evaluation test method by trial and error and would be unlikely to achieve the same result as one another. With the use of this Technical Report, users not only save time and effort, but also obtain test data that is useful for comparison across different test instances. Consistent test methods will facilitate technological improvements in the area of colour gamut mapping algorithms.

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