ISO 9241-333:2017-04 (E)

Ergonomics of human-system interaction - Part 333: Stereoscopic displays using glasses

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1
3.1 General terms 1
3.2 Human factors 3
3.3 Performance characteristics 4

4 Display technologies and their guiding principles 4

5 Ergonomic requirements 5
5.1 Viewing conditions 5
5.1.1 General 5
5.1.2 Design viewing distance 5
5.1.3 Design viewing direction 6
5.2 Luminance 6
5.2.1 General 6
5.2.2 Illuminance 6
5.2.3 Display luminance 6
5.3 Visual artefacts and fidelity 6
5.3.1 General 6
5.3.2 Luminance non-uniformity 7
5.3.3 Interocular luminance difference 7
5.3.4 Interocular crosstalk 7

6 Optical laboratory test methods 8
6.1 General 8
6.1.1 Basic measurements and derived procedures 8
6.1.2 Structure 8
6.2 Measurement conditions 9
6.2.1 Preparations and procedures 9
6.2.2 Test accessories 10
6.2.3 Test patterns 10
6.2.4 Alignment: measurement location and meter position 10
6.2.5 Light measuring device (LMD) 11
6.2.6 Measurement field 12
6.2.7 Angular aperture 12
6.2.8 Meter time response 12
6.2.9 Test illumination 12
6.2.10 Other ambient test conditions 12
6.3 Measurement methods 13
6.3.1 Basic light measurements 13
6.3.2 P 333.1: Luminance angular distribution 15
6.3.3 P 334.1: Luminance angular uniformity 15
6.3.4 Luminance analysis 16
6.3.5 P 337.1: Interocular luminance difference 18

6.3.6 P 338.1: Interocular crosstalk 18

7 Analysis and compliance test methods 20
7.1 Compliance routes 20
7.1.1 Intended context of use 20
7.1.2 Design viewing direction range (angle of inclination and azimuth) 21
7.1.3 Information about the technology 22
7.1.4 Compliance assessment 22
7.2 Conformance 27

Annex B (informative) Matrix of measurement procedures 29

Annex C (informative) Technical explanation of display technologies 30

Bibliography 32