## **CONTENTS**

## **PART 1: FUNDAMENTALS**

Chapter 1: Light		
1.1 The nature of light		1
1.2 The CIE standard observers		1
	urement of light — photometry	3
	Luminous flux	3
1.3.2	Luminous intensity	3
1.3.3	Illuminance	4
	Luminance	4
	Reflectance	4
1.3.6	Obsolete units	6
1.3.7	Typical values	6
1.4 The measurement of light — colourimetry		7
	The CIE chromaticity diagrams	7
	The CIE colour spaces	10
	Correlated colour temperature	11
	CIE colour rendering index	12
	Colour gamut	13
	Scotopic/photopic ratio	14
1.4.7		14
	,	
Chapter 2:	Vision	
2.1 The struc	ture of the visual system	16
	The visual field	16
2.1.2	Eye movements	16
	Optics of the eye	17
	The structure of the retina	19
2.1.5	The functioning of the retina	22
2.1.6	The central visual pathways	23
2.1.7	Colour vision	23
2.2 Continuous adjustments of the visual system		24
2.2.1	Adaptation	24
2.2.2	Photopic, scotopic and mesopic vision	25
2.2.3	Accommodation	26
2.3 Capabilitie	es of the visual system	26
	Threshold measures	26
	Factors determining visual threshold	28
2.3.3	Spatial thresholds	28
2.3.4	Temporal thresholds	30
2.3.5	Colour thresholds	31
2.3.6	Light spectrum and movement	32
2.4 Suprathreshold performance		32
2.5 Visual search		34
2.6 Visual dise	comfort	37
2.6.1	Insufficient light	37
2.6.2	,	37
2.6.3	Glare	38
2.6.4	Veiling reflections	39
2.6.5	Shadows	40
2.6.6	Flicker	41