

CONTENTS

CHAPTER I

MAINS-VOLTAGE TUBULAR FLUORESCENT LAMPS 9

Principles of operation; starting circuits; glow starter; thermal starter; instant-start circuit; series operation; D.C. operation; stroboscopic effect; twin-lamp circuit; filament lamp ballast; colour; the daylight, warm-white, natural, colour-matching and mellow lamps.

Operating characteristics; light output; effect of temperature variation; effect of switching; the choke; radio interference suppression; fault tracing.

CHAPTER II

ILLUMINATION DESIGN 40

General lighting; localised lighting; choice of fitting; illumination values; shadows; mounting height; design of a general lighting scheme; lamp spacing behind luminous panels.

CHAPTER III

FITTINGS AND THEIR PERFORMANCE 56

Enamelled reflectors; industrial trough fittings; open-top trough fittings; plastic trough fittings; multi-lamp fittings; distributing fittings; louvres; louvred ceilings; glare ratings.

CHAPTER IV

APPLICATIONS OF FLUORESCENT LAMPS 71

Factories—quantity of light required; quality of light; physiological effects of lighting faults; glare; glitter from curved surfaces; shadows; local lighting; temperature; psychological effects of lighting; colour in factories; the inspection department.

Shops—"impulse selling"; the shop window; open-backed windows; fading of coloured materials; the shop interior; general lighting; colour; localised lighting; show-cases.

Schools—quantity of light; prevention of glare; arrangement of fittings.

Offices—lighting requirements; contrast and glare; fittings.

Homes—fluorescent versus filament lighting; bathroom; kitchen; stairways; decorative lighting.

CONTENTS (continued)

CHAPTER V

FLUORESCENT VERSUS FILAMENT LIGHTING	121
Difference in annual cost ; initial cost ; lamp replacement.	

CHAPTER VI

COLD-CATHODE TUBES	125
Hot or cold cathodes? ; luminous efficiency ; life ; colours available ; standardisation and servicing ; fittings.	

CHAPTER VII

LIGHT, FLUORESCENCE AND THE ELECTRIC DISCHARGE	129
Nature of light ; incandescent filament lamp ; coloured light from filament lamps ; fluorescence ; fluorescent materials ; the electric discharge ; ionising process.	

APPENDIX I

ROOM INDEX	139
------------	-----

APPENDIX II

COEFFICIENT OF UTILISATION	142
----------------------------	-----

APPENDIX III

CHOKES AND CAPACITY DATA	149
--------------------------	-----

APPENDIX IV

RESISTORS FOR D.C. OPERATION	150
------------------------------	-----

APPENDIX V

LAMP DATA	151
-----------	-----

APPENDIX VI

COLOURED FLUORESCENT LAMPS	154
----------------------------	-----

INDEX	155
-------	-----