

Cycles —

Part 3: Specification for photometric and physical requirements of lighting equipment

ICS 43.150

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee GME/25, Cycles, upon which the following bodies were represented:

- Association of Cycle Traders
- Association of Consulting Scientists
- Bicycle Association of Great Britain
- British Cycling Federation
- British Retail Consortium
- British Rubber Manufacturers' Association Ltd
- Consumer Policy Committee of BSI
- Cyclists Touring Club
- DfT — (DTLR — Central Transport Group)
- Royal Society for the Prevention of Accidents
- Co-opted

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Foreword

This Part of BS 6102 has been prepared by Technical Committee GME/25, Cycles. This standard follows the presentation and, to a large extent, the technical content of the corresponding international standard ISO 6742-1, *Cycles — Lighting and retro-reflective devices — Photometric and physical requirements — Part 1: Lighting equipment*, published by the International Organization for Standardization (ISO). The differences are as follows.

a) *Luminous intensity of the headlamp*. The luminous intensity requirements of ISO 6742-1 have been adopted, but additional test points have been specified above the horizontal plane in compliance with the marker light requirements of the Department of Transport.

b) *Colour of light from headlamp*. The selective yellow light, permitted by ISO 6742-1 as an alternative to a white light, has not been included.

c) *Luminous intensity of the rear lamp*. Higher luminous intensity requirements than those given in ISO 6742-1 have been specified over the whole range of test points, and additional test points at 5° from the vertical and horizontal planes have been included.

The vertical cone of light from the rear lamp has been restricted to the forward sector of the cone.

d) *Instructions*. Instructions are required to be supplied with all types of lamp.

This standard supersedes British Standard AU 155 which is withdrawn.

This standard also replaces BS 3648 as the current British Standard for cycle rear lamps, but because BS 3648 is referred to in UK legislation, it will not be withdrawn until such time as the Department of Transport indicates that it no longer applies to cycle rear lamps for regulatory purposes.

BS 6102-1 specifies safety requirements for bicycles.

BS 6102-2 specifies requirements for reflective devices for cycles.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 11 and a back cover.

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Sidelining in this document indicates the most recent changes by amendment.

Introduction

This Part of BS 6102 has been prepared in order to specify photometric and physical requirements for lighting equipment for cycles intended for use on public roads.

The provision of such equipment is intended to make other road users aware of the presence of cyclists, especially under conditions of poor visibility or at night. In addition, headlamps made in conformity with the requirements of this British Standard will provide sufficient lighting to enable cyclists at night to detect road conditions immediately ahead and, if necessary, to take action to avoid potential hazards.

It has been assumed, for the purposes of this standard, that the headlamp is mounted in the usual position on the headtube of a cycle, and that the beam centre will strike the road at a distance of about 16 m in front of the lamp, hence the positioning of point A in Figure 2 at 3.5° below the horizontal plane. This distance equates with the braking distance under wet conditions specified in BS 6102-1, plus an allowance for the rider's perception and reaction time.

Appendix A describes a suitable vibration test machine.

1 Scope

This Part of BS 6102 specifies photometric and physical requirements, methods of test, and marking requirements for lighting equipment for cycles.

2 Field of application

This Part of BS 6102 applies to lighting equipment for use on cycles intended to be used on public roads and, in particular, for use on bicycles complying with BS 6102-1.

3 References

BS 397, *Primary batteries*.

BS 5101, *Lamp caps and holders together with gauges for the control of interchangeability and safety*.

BS 5466, *Methods for corrosion testing of metallic coatings*.

BS 5466-1, *Neutral salt spray test (NSS test)*.

BS 5932, *Specification for sealed nickel-cadmium cylindrical rechargeable single cells*.

BS 6102, *Cycles*.

BS 6102-1, *Specification for safety requirements for bicycles*.

Reference deleted

CIE Publication No. 15 Colorimetry: Official recommendations of the International Commission on Illumination (CIE) 1971¹⁾.

4 Definitions

For the purposes of this Part of BS 6102, the following definitions apply.

4.1

cycle

any vehicle that has at least two wheels and is propelled solely by the muscular energy of the person on that vehicle, in particular by means of pedals

4.2

bicycle

a two-wheeled cycle

¹⁾ Available from the National Illumination Committee of Great Britain, The Library, Thorn EMI Lighting Co Ltd., Great Cambridge Road, Enfield, Middx EN1 1UL.