Australian Standard®

Traffic signal lamps

Part 1: Lamps for 240 V a.c. operation

This Australian Standard was prepared by Committee LG/6, Road Traffic Signals. It was approved on behalf of the Council of Standards Australia on 11 February 1993 and published on 17 May 1993.

The following interests are represented on Committee LG/6:

Australian Chamber of Manufactures
Australian Electrical and Electronic Manufacturers Association
Australian Road Research Board
Austroads
Brisbane City Council
Department of Urban Services, A.C.T.
Metal Trades Industry Association of Australia
Roads and Traffic Authority, N.S.W.
VicRoads

Additional interests participating in preparation of Standard:

Suppliers of traffic signal lamps
Photometric testing laboratories

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Part 1: Lamps for 240 V a.c. operation

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PREFACE

This Standard was prepared by the Standards Australia Committee on Road Traffic Signals. It is one of a number of Standards which set out requirements for the equipment associated with traffic signal installations, namely—

AS 2144	*Traffic signal lanterns*
AS 2339	*Traffic signal posts and attachments*
AS 2353	*Pedestrian push-button assemblies*
AS 2578	*Traffic signal controllers*
AS 2578.1	Part 1: *Physical and electrical compatibility*
AS 2703	*Vehicle loop detector sensors*
AS 2979	*Traffic signal mast arms*
AS 4113	*Traffic signal lamps*
AS 4113.1	Part 1: *Lamps for 240 V a.c. operation* (this Standard)
AS 4113.2	Part 2: *Lamps for a.c. operation at extra-low voltage*

The photometric performance of a traffic signal lantern is a function of the lantern/lamp combination used. Until recently, the lamps used have universally been of the tungsten filament type designed for operation on a 240 V a.c. supply. With the emphasis now given to reducing energy usage in traffic signalling systems, traffic authorities are actively introducing or considering the introduction of lanterns with optical systems based on lamps operated at 10 V a.c.(see AS 4113.2).

This Standard applies to tungsten filament lamps for 240 V a.c. operation. Such lamps will be required for many years for replacement purposes because of the numbers of lanterns in service which utilize lamps of this type.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies requirements for tungsten filament lamps designed for operation on a 240 V, 50 Hz a.c. electric supply for use in road traffic signal systems. It covers requirements for the mechanical and physical characteristics of such lamps, and their electrical and photometric performance and testing. Safety requirements are dealt with by reference to IEC 432 (see Clause 1.5).

NOTES:

1 The lamps are intended for use in traffic signal lanterns complying with AS 2144. It should be noted that the use of a lamp complying with this Standard may not ensure that the selected lamp/lantern combination will satisfy the photometric performance requirements of AS 2144.

2 Appendix A gives guidance on the information which should be provided to facilitate the purchase of traffic signal lamps complying with this Standard.

3 Alternative methods for determining compliance with this Standard are given in Appendix B.

1.2 APPLICATION The lamps specified in this Standard are intended for use in traffic signal lanterns conforming to AS 2144, as follows:

(a) 67 W lamps—200 mm diameter general purpose lanterns.

(b) 100 W lamps—300 mm diameter general purpose lanterns.

(c) 150 W lamps—300 mm diameter extended range lanterns.

The above lamp wattages are maximum rated values; the rated wattage of a particular lamp may be less than these maximum values (see Clause 3.2).

1.3 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

1199 Sampling procedures and tables for inspection by attributes

1299 Guide to AS 1199—Sampling procedures and tables for inspection by attributes

2144 Traffic signal lanterns

2490 Sampling procedures and charts for inspection by variables for percent defective

3140 Approval and test specification—Edison-type screw lampholders

3900 Quality management and quality assurance standards