

ISBN 978-0-626-29894-4

ARP 032:2014

Edition 1

SABS STANDARDS DIVISION

Recommended practice

Guidelines for the modification of luminaires for tubular fluorescent lamps to retro-fit LED tubular lamps or T5 semi-luminaires

WARNING

**This document references other
documents normatively.**

This document does not have the status of a South African National Standard.

Published by SABS Standards Division
1 Dr Lategan Road Groenkloof ☒ Private Bag X191 Pretoria 0001
Tel: +27 12 428 7911 Fax: +27 12 344 1568
www.sabs.co.za
© SABS

SABS

ARP 032:2014

Edition 1

Table of changes

Change No.	Date	Scope

Foreword

This recommended practice was approved by National Committee SABS/TC 064/SC 02, *Lighting and optics – Luminaires*, in accordance with procedures of the SABS Standards Division, in compliance with annex 3 of the WTO/TBT agreement.

This document was approved for publication in December 2014.

Reference is made in 3.1, 3.1.2 (two references) and 3.3 (c) to “relevant national legislation”. In South Africa this means the Occupational and Health Safety Act, 1993 (Act No. 83 of 1993).

Introduction

T5 semi-luminaires and LED tubular lamps are extensively marketed in South Africa. These are intended to be replacements (retro-fit) for traditional type T8 or T12 tubular fluorescent lamps either in existing luminaires or in modified luminaires.

The South African lighting industry has expressed serious concerns with the T5 semi-luminaires and with modifications carried out to existing luminaires. These concerns are in respect to their safety and may present an unacceptable risk to consumers and professionals.

Contents

	Page
Introduction	
Foreword	
1 Scope	3
2 Normative references	3
3 Design parameters	3
3.1 Lighting level considerations	3
3.2 Light distribution	4
3.3 Assessment of the installation	4
3.4 Luminaire warranty	5
3.5 Compatibility with existing maintained emergency luminaires	5
3.6 Component requirements	5
4 Method of modification	5
5 Safety and compliance	7
6 Marking	7
Bibliography	7

ARP 032:2014
Edition 1

This page is intentionally left blank

Guidelines for the modification of luminaires for tubular fluorescent lamps to retro-fit LED tubular lamps or T5 semi-luminaires

1 Scope

This recommended practice covers the methods to be applied and the precautions to be taken when existing luminaires for types T8 or T12 tubular fluorescent lamps are modified to accommodate T5 semi-luminaires or LED tubular lamps, of the types specified in SANS 1662 and SANS 1664 respectively.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. Information on currently valid national and international standards can be obtained from the SABS Standards Division.

SANS 475, *Luminaires for interior lighting, streetlighting and floodlighting – Performance requirements.*

SANS 1662, *Self-ballasted LED tubular lamps for general lighting services for voltage > 50 V – Safety specification.*

SANS 1664, *Semi-luminaires for T5 fluorescent lamps – Safety requirements.*

SANS 10114-1, *Interior lighting – Part 1: Artificial lighting of interiors.*

SANS 60598-1/IEC 60598-1, *Luminaires – Part 1: General requirements and tests.*

3 Design parameters

3.1 Lighting level considerations

3.1.1 The light output of a modified fluorescent luminaire fitted with a new LED tubular lamp or a T5 semi-luminaire and associated adaptors will be significantly different in respect of its photometric characteristics to the original luminaire. Where a lighting installation is modified, the user is responsible for ensuring that the modified installation is safe under the requirements of the relevant national legislation (see foreword) and should ensure that the criteria used in the original lighting design, including the illumination levels and the glare control for any task specific lighting requirements, are maintained.