

---

---

**Cycles — Lighting and retro-  
reflective devices —**

**Part 4:  
Lighting systems powered by the  
cycle's movement**

*Cycles — Dispositifs d'éclairage et dispositifs rétroréfléchissants —*

*Partie 4: Systèmes d'éclairage alimentés par dynamo*



This document is a preview generated by EBS



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2015, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Ch. de Blandonnet 8 • CP 401  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
copyright@iso.org  
www.iso.org

# Contents

Page

<b>Foreword</b>	<b>iv</b>
<b>1 Scope</b>	<b>1</b>
<b>2 Normative references</b>	<b>1</b>
<b>3 Terms and definitions</b>	<b>1</b>
<b>4 Lamps and interchangeable generators</b>	<b>2</b>
4.1 General	2
4.2 Requirements	2
4.2.1 Dynamo-operated front lights	2
4.2.2 Dynamo-operated rear lights	2
4.2.3 Dynamos	3
4.3 Test Methods	4
4.3.1 Dynamo-operated front lights	4
4.3.2 Dynamo-operated rear lights	4
4.3.3 Dynamos	4
<b>5 Lamps and dedicated generators</b>	<b>5</b>
5.1 General	5
5.2 Requirements	5
5.2.1 Principle of lighting system	5
5.2.2 Speed ranges	5
5.3 Safety requirements	5
5.3.1 Environmental behaviour	5
5.3.2 Test method	6
<b>6 Common requirements and test methods for lighting systems and the loading</b>	<b>6</b>
6.1 Requirements	6
6.1.1 Corrosion resistance	6
6.1.2 Water resistance	6
6.1.3 Loading requirements	6
6.2 Test methods	6
6.2.1 Corrosion testing	6
6.2.2 Water resistance	6
6.2.3 Test of electronic load	6
<b>7 Instructions</b>	<b>7</b>
<b>8 Marking</b>	<b>7</b>
8.1 Requirement	7
8.2 Durability test	7
8.2.1 Requirement	7
8.2.2 Test method	7
<b>Annex A (informative) Electronic load for power-measurement of 6 V/1,5 W LED dynamos</b>	<b>8</b>
<b>Annex B (informative) Efficiency calculation</b>	<b>10</b>
<b>Annex C (informative) Verification of the electronic load</b>	<b>11</b>
<b>Bibliography</b>	<b>13</b>

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary information](#).

The committee responsible for this document is ISO/TC 149, *Cycles*, SC 1, *Cycles and major sub-assemblies*.

ISO 6742 consists of the following parts, under the general title *Cycles — Lighting and retro-reflective devices*:

- *Part 1: Lighting and light signalling devices*
- *Part 2: Retro reflective devices*
- *Part 3: Installation and use of lighting and retro-reflective devices*
- *Part 4: Lighting systems powered by the cycle's movement*
- *Part 5: Lighting systems not powered by the cycle's movement*

# Cycles — Lighting and retro-reflective devices —

## Part 4:

## Lighting systems powered by the cycle's movement

### 1 Scope

This part of ISO 6742 is applicable to lighting systems used on cycles intended to be used on public roads and, especially, bicycles complying with ISO 4210 and ISO 8098.

This part of ISO 6742 specifies requirements and test methods for the performance of lighting systems powered by the cycle's movement. It applies to light devices complying with ISO 6742-1. Lighting systems include lighting devices and power supplied by cycle's movement such as generator.

### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6742-1:2015, *Cycles — Lighting and retro-reflective devices — Part 1: Lighting and light signalling devices*

ISO 6742-3:2015, *Cycles — Lighting and retro-reflective devices — Part 3: Installation and use of lighting and retro-reflective devices*

ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6742-1 and the following apply.

#### 3.1

##### **frictional drive generator**

generator for which the rotor or stator is linked to a pulley which press against the driving wheel over a swivel bearing through force

#### 3.2

##### **positive drive generator**

generators which are not concerned by the definition of *frictional drive generator* (3.1)

#### 3.3

##### **integrated lamp and power source**

system including power source and at least one type of light designed to be used together, closed system

Note 1 to entry: Power generator characteristics are depending of vehicle movement.

Note 2 to entry: Light output performances are depending of the speed of the vehicle, or the time during which bicycle has been stopped.