

INTERNATIONAL STANDARD

NORME INTERNATIONALE



AMENDMENT 1
AMENDEMENT 1

Lamps for road vehicles – Performance requirements

Lampes pour véhicules routiers – Exigences de performances

IEC 60810:2014/AMD1:2017

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FOREWORD

This amendment has been prepared by subcommittee 34A: Lamps, of IEC technical committee 34: Lamps and related equipment.

The text of this amendment is based on the following documents:

CDV	Report on voting
34A/1888/CDV	34A/1927/RVC

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

Replace the existing Annex D with the following new Annex D:

Annex D (normative)

Life and luminous flux maintenance test conditions for discharge lamps

D.1 Ageing

No ageing period is required, but lamps which fail before starting the life test shall be omitted from the test results.

For lamps subject to the luminous flux maintenance test, the initial luminous flux shall be measured after 10 on/off switching cycles as specified in Clause D.4.

D.2 Test circuit and test voltage

Discharge lamps shall be tested with the ballast submitted by the lamp manufacturer and, preferably, designed to operate the lamp in a nominal 12 V system. The test voltage to the ballast shall be 13,5 V. The power supply to the ballast shall be sufficient to secure the high-current flow.

D.3 Burning position and operating conditions

Discharge lamps shall be operated in free air with an ambient temperature of $25\text{ °C} \pm 5\text{ °C}$. The burning position shall be horizontal within 10° , with the lead wire down. Precautions should be taken to avoid potential hazards due to high voltages, UV radiation and risk of bulb breakage during starting, run-up and operation of some discharge lamp types.

D.4 Switching cycle

One on/off switching cycle is built up of the following 10 on/off periods (see Table D.1):

Table D.1 – On/off switching cycle

Period	On min	Off min
1	20	0,2
2	8	5
3	5	3
4	3	3
5	2	3
6	1	3
7	0,5	3
8	0,3	0,3
9	20	4,7
10	20	15

The total duration of one on/off switching cycle is 120 min, during which the lamp is switched on for 79,8 min and switched off for 40,2 min. The time during which the lamp is switched off is not considered as part of the life.

For discharge lamps with two defined power modes, a power switching according to Table D.2 shall be applied in addition.

One power switching cycle has a total duration of 113 min. The power switching cycle is superimposed onto the on/off switching cycle of Table D.1.

Figure D.1 show the superposition of the two switching cycles.

NOTE The power switching cycle duration of 113 min is chosen to avoid synchronicity with the 120 min of the on/off cycle. Over the total test duration this results in a percentage of 71 % in low power operation (e. g. low beam) and 29 % high power operation (e. g. high beam).

Table D.2 – Power switching cycle

Period	Power mode	Time min
A	High power	3
B	Low power	20
C	High power	10
D	Low power	20
E	High power	10
F	Low power	20
G	High power	10
H	Low power	20

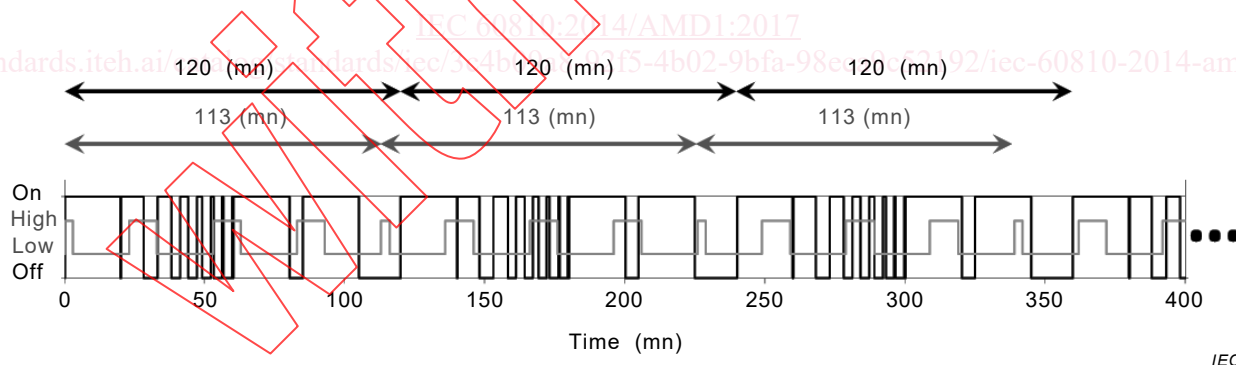


Figure D.1 – Superposition of on/off switching and power switching cycle

Life tests may be interrupted for the purpose of the luminous flux maintenance test.

For discharge lamps with two defined power modes, an additional fast power switching according to Table D.3 shall be performed on 10 lamps. The test consists of 10 steps “5 s low – 2 s high” and 10 steps “20 s low – 10 s high” These 20 steps are repeated until 50 000 operations are reached. A maximum of one lamp may fail the test (no light emitted).