

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

## AMENDMENT 5 AMENDEMENT 5

The sheets contained in this amendment are to be inserted in IEC 60809  
Les feuilles de cet amendement sont à insérer dans la CEI 60809

### Lamps for road vehicles – Dimensional, electrical and luminous requirements

Lampes pour véhicules routiers – Prescriptions dimensionnelles, électriques et lumineuse



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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:

FDIS	Report on voting
34A/1574/FDIS	34A/1592/RVD

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 publication will remain unchanged until the stability date indicated on the IEC web site 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- withdrawn,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.

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### 1.1 Scope

*Replace the fourth paragraph by the following:*

For most of the requirements given in this standard, reference is made to the “relevant lamp data sheet”. For all lamps listed in Clause 5, data sheets are contained in this standard or included by reference. For other lamps, the relevant data are supplied by the lamp manufacturer or responsible vendor. It could be based on national legislation.

### 1.2 Normative references

*Add the following:*

United Nations, *Agreement concerning the adoption of uniform technical prescription for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions, Addendum 36: Regulation No. 37, Uniform provisions concerning the approval of filament lamps for use in approved lamp units of power-driven vehicles and of their trailers* (in this standard referred to as UNECE Regulation 37 or R37; internet source: [www.unece.org/trans/main/wp29/wp29regs.html](http://www.unece.org/trans/main/wp29/wp29regs.html)) (website checked 2012-04-03)

United Nations, *Agreement concerning the adoption of uniform technical prescription for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions, Addendum 98: Regulation No. 99, Uniform provisions concerning the approval of gas-discharge light sources for use in approved gas-discharge lamp units of power-driven vehicles* (in this standard referred to as UNECE Regulation 99 or R99; internet source: [www.unece.org/trans/main/wp29/wp29regs.html](http://www.unece.org/trans/main/wp29/wp29regs.html)) (website checked 2012-04-03)

### **1.3.6 nominal voltage**

*Add the following note to entry to the definition:*

Note 1 to entry: The term used in the UNECE regulations is "rated voltage".

### **1.3.9 rated value**

*Add the following note to entry to the definition:*

Note 1 to entry: The term used in the UNECE regulations is "objective value".

### **1.3.17 production lamp**

*Add the following note to entry to the definition:*

Note 1 to entry: The term used in the UNECE regulations is "lamp of normal production".

*Add the following new Definitions 1.3.19 and 1.3.20:*

### **1.3.19 main beam**

No definition given.

Note 1 to entry: The term used in the UNECE regulations is "driving beam".

### **1.3.20 dipped beam**

No definition given.

Note 1 to entry: The term used in the UNECE regulations is "passing beam".

## **2.4.1 Colour of light**

*Replace the existing last paragraph by the following:*

For conformity of production purposes of amber and red colour only, at least 80 % of the measuring results shall lie within the required tolerance area.

## **2.4.2 Colour endurance**

*Replace the existing text of Subclause 2.4.2 by the following:*

Filament lamps, but for conformity of production purposes only colour coated lamps, for use in light signalling devices shall be operated under test conditions for colour endurance measurements as specified in Annex K.

Thereafter the colour of the light shall be measured by the method specified in Annex B, and all measuring results, but for amber and red colour at least 80 % of the measuring results for conformity of production purposes, shall be within the limits specified in 2.4.1.

In case of colour filter coatings, no cracks in these coatings shall be visible without specific optical tools.

Test samples that have been operated under conditions as specified in Annex K shall no longer be used in light signalling devices and are to be considered end of life for that purpose.

### 5.1 List of specific lamp types

Replace the list of specific lamp types with the following:

IEC sheet no. <sup>1</sup>	UNECE sheet no. <sup>2</sup>	Category	Voltage	Wattage	Cap
			V	W	
60809-IEC-2110-	R37-R2	R2	6 12 24	45/40 45/40 55/50	P45t P45t P45t
60809-IEC-2120-	R37-H4	H4	12 24	60/55 75/70	P43t-38 P43t-38
60809-IEC-2125-	-	H6	12	65/55	PZ43t
60809-IEC-2130-	R37-HS1	HS1	6 12	35/35 35/35	PX43t PX43t
60809-IEC-2132-	R37-HS5	HS5	12	35/30	P23t
60809-IEC-2135-	-	HB1	12	65/45	P29t
60809-IEC-2140-	R37-S1/S2	S1	6 12	25/25 25/25	BA20d BA20d
60809-IEC-2150-	R37-S1/S2	S2	6 12	35/35 35/35	BA20d BA20d
60809-IEC-2160-	-	S4	6 12	15/15 15/15	BAX15d BAX15d
60809-IEC-2305-	-	H5	12	50	PY43d
60809-IEC-2310-	R37-H1	H1	6 12 24	55 55 70	P14.5s P14.5s P14.5s
60809-IEC-2315-	R37-H7	H7	12 24	55 70	PX26d PX26d
60809-IEC-2320-	-	H2	6 12 24	55 55 70	X511 X511 X511
60809-IEC-2325-	R37-HB3	HB3 HB3A	12 12	60 60	P20d P20d
60809-IEC-2330-	R37-H3	H3	6 12 24	55 55 70	PK22s PK22s PK22s
60809-IEC-2335-	R37-HB4	HB4 HB4A	12 12	51 51	P22d P22d
60809-IEC-2340-	R37-HS2	HS2	6 12	15 15	PX13.5s PX13.5s
60809-IEC-2350-	-	HS3	6	2,4	PX13.5s
60809-IEC-2360-	R37-S3	S3	6 12	15 15	P26s P26s
60809-IEC-2365-	R37-H8	H8	12	35	PGJ19-1
60809-IEC-2370-	R37-H9	H9	12	65	PGJ19-5
60809-IEC-2375-	R37-H10	H10	12	42	PY20d
60809-IEC-2380-	R37-H11	H11	12 24	55 70	PGJ19-2 PGJ19-2
60809-IEC-2385-	R37-H12	H12	12	53	PZ20d
60809-IEC-2410-	R37-HIR1	HIR1	12	65	PX20d

<sup>1</sup> If an UNECE sheet number is referenced in the second column, the IEC sheet number refers to a data sheet withdrawn with Amendment 5 of this standard and is given for information only.

<sup>2</sup> The number in front of the dash indicates the number of the UNECE regulation.

IEC sheet no. <sup>1</sup>	UNECE sheet no. <sup>2</sup>	Category	Voltage V	Wattage W	Cap
60809-IEC-2420-	R37-HIR2	HIR2	12	55	PX22d
60809-IEC-3110-	R37-P21/5W	P21/5W	6 12 24	21/5 21/5 21/5	BAY15d BAY15d BAY15d
60809-IEC-3120-	R37-P21/4W	P21/4W	6 12 24	21/4 21/4 21/4	BAZ15d BAZ15d BAZ15d
60809-IEC-3130-	R37-W21/5W	W21/5W	12	21/5	W3x16q
60809-IEC-3135-	R37-WR21/5W	WR21/5W	12	21/5	WY3x16q
60809-IEC-3140-	R37-P27/7W	P27/7W	12	27/7	W2.5x16q
60809-IEC-3141-	R37-PY27/7W	PY27/7W	12	27/7	WX2.5x16q
60809-IEC-3310-	R37-P21W	P21W	6 12 24	21 21 21	BA15s(BA15d) BA15s(BA15d) BA15s(BA15d)
60809-IEC-3311-	R37-PY21W	PY21W	12 24	21 21	BAU15s BAU15s
60809-IEC-3315-	R37-P27W	P27W	12	27	W2.5x16d
60809-IEC-3320-	R37-R5W	R5W	6 12 24	5 5 5	BA15s(BA15d) BA15s(BA15d) BA15s(BA15d)
60809-IEC-3330-	R37-R10W	R10W	6 12 24	10 10 10	BA15s(BA15d) BA15s(BA15d) BA15s(BA15d)
60809-IEC-3340-	R37-T4W	T4W	6 12 24	4 4 4	BA9s BA9s BA9s
60809-IEC-3410-	R37-H6W	H6W	12	6	BAX9s
60809-IEC-3420-	R37-H21W	H21W	12 24	21 21	BAY9s BAY9s
60809-IEC-3430	R37-H27W	H27W/1 H27W/2	12 12	27 27	PG13 PGJ13
60809-IEC-4110-	R37-C5W	C5W	6 12 24	5 5 5	SV8.5 SV8.5 SV8.5
60809-IEC-4120-	R37-C21W	C21W	12	21	SV8.5
60809-IEC-4305-	R37-W2.3W	W2.3W	12	2,3	W2x4.6d
60809-IEC-4310	R37-W3W	W3W	6 12 24	3 3 3	W2.1x9.5d W2.1x9.5d W2.1x9.5d
60809-IEC-4320-	R37-W5W	W5W	6 12 24	5 5 5	W2.1x9.5d W2.1x9.5d W2.1x9.5d
60809-IEC-4321-	R37-W5W	WY5W	6 12 24	5 5 5	W2.1x9.5d W2.1x9.5d W2.1x9.5d
60809-IEC-4330-	R37-W21W	W21W	12	21	W3x16d
60809-IEC-4335-	R37-WY21W	WY21W	12	21	WX3x16d
60809-IEC-4340-	R37-W16W	W16W	12	16	W2.1x9.5d
60809-IEC-5010-	R37-T1.4W	T1.4W	12	1,4	P11.5d
60809-IEC-7110-	R99-DxS	D1S D2S D3S D4S	12 12 12 12	35 35 35 35	PK32d-2 P32d-2 PK32d-5 P32d-5

IEC sheet no. <sup>1</sup>	UNECE sheet no. <sup>2</sup>	Category	Voltage V	Wattage W	Cap
60809-IEC-7120-	R99-DxR	D1R D2R D3R D4R	12 12 12 12	35 35 35 35	PK32d-3 P32d-3 PK32d-6 P32d-6
60809-IEC-9310-	-	B1.13W	2,7	1,13	PX13.5s
60809-IEC-9610-	-	B0.6W	6	0,6	E10
60809-IEC-9620-	-	B2.4W	6	2,4	EP10/14x11
-	R37-H10W	H10W/1 HY10W	12 12	10 10	BAU9s BAUZ9s
-	R37-H11	H11B	12 24	55 70	PGJY19-2 PGJY19-2
-	R37-H13	H13 H13A	12 12	55/60 55/60	P26.4t PJ26.4t
-	R37-H14	H14	12	55/60	P38t
-	R37-H15	H15	12 24	15/55 20/60	PGJ23t-1 PGJ23t-1
-	R37-H16	H16 H16B	12 12	19 19	PGJ19-3 PGJY19-3
-	R37-H21W	HY21W	12 24	21 21	BAW9s BAW9s
-	R37-H6W	HY6W	12	6	BAZ9s
-	R37-H8	H8B	12	35	PGJY19-1
-	R37-H9	H9B	12	65	PGJY19-5
-	R37-HS5A	HS5A	12	45/40	PX23t
-	R37-P13W	P13W PW13W	12 12	13 13	PG18.5d-1 WP3.3x14.5-7
-	R37-P19W	P19W PY19W PR19W PS19W PSY19W PSR19W PW19W PWR19W PWY19W	12 12 12 12 12 12 12 12 12	19 19 19 19 19 19 19 19 19	PGU20-1 PGU20-2 PGU20-5 PG20-1 PG20-2 PG20-5 WP3.3x14.5-1 WP3.3x14.5-2 WP3.3x14.5-5
-	R37-P24W	P24W PX24W PY24W PR24W PS24W PSX24W PSY24W PSR24W PW24W PWR24W PWY24W	12 12 12 12 12 12 12 12 12 12 12	24 24 24 24 24 24 24 24 24 24 24	PGU20-3 PGU20-7 PGU20-4 PGU20-6 PG20-3 PG20-7 PG20-4 PG20-6 WP3.3x14.5-3 WP3.3x14.5-4 WP3.3x14.5-6
-	R37-P27/7W	P27/7W	12	27/7	WU2.5x16
-	R37-PC16W	PC16W PCY16W PCR16W PW16W PWR16W PWY16W	12 12 12 12 12 12	16 16 16 16 16 16	PU20d-1 PU20d-2 PU20d-7 WP3.3x14.5-8 WP3.3x14.5-9 WP3.3x14.5-10
-	R37-PR21/4W	PR21/4W	12 24	21/4 21/4	BAU15d BAU15d
-	R37-PR21/5W	PR21/5W	12 24	21/5 21/5	BAW15d BAW15d



IEC sheet no. <sup>1</sup>	UNECE sheet no. <sup>2</sup>	Category	Voltage V	Wattage W	Cap
-	R37-PR21W	PR21W	12 24	21 21	BAW15s BAW15s
-	R37-PSX26W	PSX26W	12	26	PG18.5d-3
-	R37-R10W	RR10W RR10W RR10W RY10W RY10W RY10W	6 12 24 6 12 24	10 10 10 10 10 10	BAW15s BAW15s BAW15s BAU15s BAU15s BAU15s
-	R37-R5W	RR5W	6 12 24	5 5 5	BAW15s BAW15s BAW15s
-	R37-W10W	W10W W10W WY10W WY10W	6 12 6 12	10 10 10 10	W2.1x9.5d W2.1x9.5d W2.1x9.5d W2.1x9.5d
-	R37-W15/5W	W15/5W	12	15/5	WZ3x16q
-	R37-W16W	WY16W	12	16	W2.1x9.5d
-	R37-W5W	WR5W	6 12 24	5 5 5	W2.1x9.5d W2.1x9.5d W2.1x9.5d
-	R37-WP21W	WP21W WPY21W	12 12	21 21	WY2.5x16d WZ2.5x16d
-	R37-WR21/5W	WR21/5W	12	21/5	WY3x16q
-	R37-WY2.3W	WY2.3W	12	2,3	W2x4.6d
-	R37-WY21W	WY21W	12	21	WX3x16d

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## Data sheets

Remove the following data sheets:

60809-IEC-2110, 60809-IEC-2120, 60809-IEC-2130, 60809-IEC-2132, 60809-IEC-2140, 60809-IEC-2150,  
60809-IEC-2310, 60809-IEC-2315, 60809-IEC-2325, 60809-IEC-2330, 60809-IEC-2335, 60809-IEC-2340,  
60809-IEC-2360, 60809-IEC-2365, 60809-IEC-2370, 60809-IEC-2375, 60809-IEC-2380, 60809-IEC-2385,  
60809-IEC-2410, 60809-IEC-2420, 60809-IEC-3110, 60809-IEC-3120, 60809-IEC-3130, 60809-IEC-3135,  
60809-IEC-3140, 60809-IEC-3141, 60809-IEC-3310, 60809-IEC-3311, 60809-IEC-3315, 60809-IEC-3320,  
60809-IEC-3330, 60809-IEC-3340, 60809-IEC-3410, 60809-IEC-3420, 60809-IEC-3430, 60809-IEC-4110,  
60809-IEC-4120, 60809-IEC-4305, 60809-IEC-4310, 60809-IEC-4320, 60809-IEC-4321, 60809-IEC-4330,  
60809-IEC-4335, 60809-IEC-4340, 60809-IEC-5010, 60809-IEC-7110 and 60809-IEC-7120.

## **Annex B – Measurement method of the colour of filament lamps**

*Replace the existing Clause B.1 by the following:*

### **B.1 General**

Measurements shall be made on finished lamps. Filament lamps with secondary (outer) bulb acting as colour filter shall be handled as filament lamp with primary bulb.

Tests shall be made at an ambient temperature of  $23\text{ °C} \pm 5\text{ °C}$ .

Tests shall be made at test voltage as specified in the relevant filament lamp data sheet.

Filament lamps shall be measured preferably in the normal operating position. In case of dual filament lamps, the high wattage (major or driving-beam) filament shall be operated only.

Before starting a test, the stabilisation of the temperature of the filament lamp shall be obtained by operating at test voltage for 10 min.

*Replace the existing Clause B.3 by the following (Figure B.1 and Figure B.2 remain unchanged):*

### **B.3 Measuring directions**

#### **B.3.1 General**

Initially, the receiver shall be positioned perpendicular to the lamp axis and to the filament axis (or plane in case of a curved filament). After measurement, the receiver shall be moved around the filament lamp in bi-directional steps of about  $30^\circ$  until the area specified in B.3.2 or B.3.3 is covered. In each position, a measurement shall be made. However, no measurement shall be made when:

- the centreline of the receiver coincides with the filament axis; or
- the line of sight between the receiver and the filament is blocked by opaque (non-transmit tent) parts of the light source, such as lead wires or a second filament, if any.

#### **B.3.2 Filament lamps used in headlamps**

Measurements shall be made in directions around the filament lamp with the centreline of the receiver aperture located within an angle  $\pm 30^\circ$  from the plane perpendicular to the lamp axis and with the origin in the centre of the filament (see Figure B.1). In case of filament lamps with two filaments, the centre of the driving-beam filament shall be taken.

#### **B.3.3 Filament lamps used in light signalling devices**

Measurements shall be made around the filament lamp (see Figure B.2), with exception of:

- the area claimed or covered by the cap of the filament lamp; or
- the immediate transition area along the cap.

In case of filament lamps with two filaments, the centre of the major filament shall be taken.

## Annex K – Test conditions for colour endurance measurements

### K.1 General

Replace the first sentence by the following:

The test conditions for colour endurance measurements shall apply to filament lamps for use in light signalling devices.

Replace the existing Table K.1.b by the following:

**Table K.1.b – Applicable boxes of the test racks**

Filament lamps' maximum wattage <sup>a</sup>				Applicable box in Table K.2
>	0 W	and	≤ 10 W	A
>	10 W	and	≤ 20 W	B
>	20 W	and	≤ 30 W	C
>	30 W	and	≤ 45 W	D
<sup>a</sup> Wattage – at test voltage; – of the higher wattage (major) filament in case of dual filament lamps. (IEC 60809: rated wattage; ECE/R37: objective value of wattage)				

### K.2 Ageing

Replace the existing Clause K.2 by the following:

#### K.2 Calibration and ageing

The climate chamber shall be calibrated while empty and before filament lamps on test racks are placed in the climate chamber.

Filament lamps shall be aged at their test voltage for 60 min ± 5 min. For dual filament lamps, only the major filament shall be aged. Filament lamps which fail during the ageing period shall be replaced and the ageing process re-applied.