

## COUNCIL DIRECTIVE

of 27 July 1976

on the approximation of the laws of the Member States relating to the end-outline marker lamps, front position (side) lamps, rear position (side) lamps and stop lamps for motor vehicles and their trailers

(76/758/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament <sup>(1)</sup>,

Having regard to the opinion of the Economic and Social Committee <sup>(2)</sup>,

Whereas the technical requirements which motor vehicles must satisfy pursuant to national laws relate *inter alia* to their end-outline marker lamps, front position (side) lamps, rear position (side) lamps and stop lamps;

Whereas those requirements differ from one Member State to another; whereas it is therefore necessary that all Member States adopt the same requirements either in addition to or in place of their existing rules, in order, in particular, to allow the EEC type-approval procedure which was the subject of Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers <sup>(3)</sup>, to be introduced in respect of each type of vehicle;

Whereas in Directive 76/756/EEC <sup>(4)</sup>, the Council laid down the common requirements for the installation of lighting and light-signalling devices on motor vehicles and their trailers;

Whereas a harmonized type-approval procedure for front position (side) lamps, rear position (side) lamps and stop lamps makes it possible for each Member State to check compliance with the common

construction and testing requirements and to inform the other Member States of its findings by sending a copy of the component type-approval certificate completed for each type of front position (side) lamp, rear position (side) lamp and stop lamp; whereas the placing of an EEC component type-approval mark on all lamps manufactured in conformity with the approved type obviates any need for technical checks on these front position (side) lamps, rear position (side) lamps and stop lamps in the other Member States;

Whereas it is desirable to take into account the technical requirements adopted by the UN Economic Commission for Europe in its Regulation No 7 ('Uniform provisions for the approval of position (side) lights, red rear lights and stop lights for motor vehicles (except motor cycles) and their trailers') <sup>(5)</sup>, which is annexed to the Agreement of 20 March 1958 concerning the adoption of uniform conditions for approval and reciprocal recognition of approval for motor vehicle equipment and parts;

Whereas the approximation of national laws relating to motor vehicles entails reciprocal recognition by Member States of the checks carried out by each of them on the basis of the common requirements,

HAS ADOPTED THIS DIRECTIVE:

*Article 1*

1. Member States shall grant EEC component type-approval in respect of any type of front position (side) lamp, rear position (side) lamp and stop lamp which satisfies the construction and testing requirements laid down in Annexes 0, I, III, IV and V.

2. The Member State which has granted EEC component type-approval shall take the measures required in order to verify that production models

<sup>(1)</sup> OJ No C 76, 7. 4. 1975, p. 37.

<sup>(2)</sup> OJ No C 255, 7. 11. 1975, p. 3.

<sup>(3)</sup> OJ No L 42, 23. 2. 1970, p. 1.

<sup>(4)</sup> See page 1 of this Official Journal.

<sup>(5)</sup> Economic Commission for Europe, Document E/ECE/324, Addendum 6 of 22 May 1967 plus Correction 1 of 9 February 1971.

conform to the approved type, in so far as this is necessary and if need be in cooperation with the competent authorities in the other Member States. Such verification shall be limited to spot checks.

#### *Article 2*

Member States shall for each type of front position (side) lamp, rear position (side) lamp and stop lamp which they approve pursuant to Article 1, issue to the manufacturer, or to his authorized representative, an EEC component type-approval mark conforming to the models shown in Annex III.

Member States shall take all appropriate measures to prevent the use of marks liable to create confusion between front position (side) lamps, rear position (side) lamps and stop lamps which have been type-approved pursuant to Article 1, and other devices.

#### *Article 3*

1. No Member State may prohibit the placing on the market of front position (side) lamps, rear position (side) lamps and stop lamps on grounds relating to their construction or method of functioning if they bear the EEC component type-approval mark.

2. Nevertheless, a Member State may prohibit the placing on the market of front position (side) lamps, rear position (side) lamps and stop lamps bearing the EEC component type-approval mark which consistently fail to conform to the approved type.

That State shall forthwith inform the other Member States and the Commission of the measures taken, specifying the reasons for its decision.

#### *Article 4*

The competent authorities of each Member State shall within one month send to the competent authorities of the other Member States a copy of the component type-approval certificates, an example of which is given in Annex II, completed for each type of front position (side) lamp, rear position (side) lamp and stop lamp which they approve or refuse to approve.

#### *Article 5*

1. If the Member State which has granted EEC component type-approval finds that a number of front position (side) lamps, rear position (side) lamps and stop lamps bearing the same EEC component type-approval mark do not conform to the type

which it has approved, it shall take the necessary measures to ensure that production models conform to the approved type. The competent authorities of that State shall advise those of the other Member States of the measures taken, which may, where there is consistent failure to conform, extend to withdrawal of EEC component type-approval. The said authorities shall take the same measures if they are informed by the competent authorities of another Member State of such failure to conform.

2. The competent authorities of Member States shall within one month inform each other of any withdrawal of EEC component type-approval, and of the reasons for such a measure.

#### *Article 6*

Any decision taken pursuant to the provisions adopted in implementation of this Directive, to refuse or withdraw EEC component type-approval for front position (side) lamps, rear position (side) lamps and stop lamps or prohibit their placing on the market or use shall set out in detail the reasons on which it is based. Such decisions shall be notified to the party concerned, who shall at the same time be informed of the remedies available to him under the laws in force in the Member States and of the time limits allowed for the exercise of such remedies.

#### *Article 7*

No Member State may refuse to grant EEC type-approval or national type-approval of any vehicle on grounds relating to its end-outline marker lamps, front position (side) lamps, rear position (side) lamps and stop lamps if these bear the EEC component type-approval mark and are fitted in accordance with the requirements laid down in Directive 76/756/EEC.

#### *Article 8*

No Member State may refuse or prohibit the sale, registration, entry into service or use of any vehicle on grounds relating to its end-outline marker lamps, front position (side) lamps, rear position (side) lamps and stop lamps if these bear the EEC component type-approval mark and are fitted in accordance with the requirements laid down in Directive 76/756/EEC.

#### *Article 9*

For the purposes of this Directive, 'vehicle' means any motor vehicle intended for use on the road, with or without bodywork, having at least four wheels and a maximum design speed exceeding 25 km/h, and its trailers, with the exception of vehicles which run on rails, agricultural tractors and machinery and public works vehicles.

*Article 10*

Any amendments necessary to adjust the requirements of the Annexes to take account of technical progress shall be adopted in accordance with the procedure laid down in Article 13 of Directive 70/156/EEC.

*Article 11*

1. Member States shall adopt and publish the provisions necessary in order to comply with this Directive before 1 July 1977 and shall forthwith inform the Commission thereof. They shall apply these provisions with effect from 1 October 1977 at the latest.

2. Once this Directive has been notified, the Member States shall also ensure that the Commission is

informed, in sufficient time for it to submit its comments, of any draft laws, regulations or administrative provisions which they propose to adopt in the field covered by this Directive.

*Article 12*

This Directive is addressed to the Member States.

Done at Brussels, 27 July 1976.

*For the Council*

*The President*

M. van der STOEL

### List of Annexes

- Annex 0 — Definitions, general specifications, intensity of light emitted, test procedure, colour of light emitted, conformity of production (\*), note concerning colour
- Annex I — Front position (side) lamps, rear position (side) lamps and stop lamps: minimum angles required for the light distribution in space (\*)
- Annex II — Model EEC component type-approval certificate
- Annex III — EEC component type-approval and marking requirements  
— Appendix: Examples of EEC component type-approval marks
- Annex IV — Photometric measurements (\*)
- Annex V — Colour of light emitted: trichromatic coordinates (\*)

(\*) The technical requirements of this Annex are similar to those of Regulation No 7 of the Economic Commission for Europe. In particular, the breakdown into sections is the same. For this reason, where a section of that Regulation has no counterpart in this Directive, its number is given in brackets for the record.

### ANNEX 0

#### DEFINITIONS, GENERAL SPECIFICATIONS, INTENSITY OF LIGHT EMITTED, TEST PROCEDURE, COLOUR OF LIGHT EMITTED, CONFORMITY OF PRODUCTION, NOTE CONCERNING COLOUR

##### 1. DEFINITIONS

For the purposes of this Directive:

##### 1.0. End-outline marker lamp

'End-outline marker lamp' means the lamps fitted to the extreme outer edge as close as possible to the top of the vehicle and intended clearly to indicate the vehicle's overall width. This signal is intended, for certain vehicles and trailers, to complement the vehicle's front and rear position (side) lamps by drawing particular attention to its bulk.

##### 1.1. Front position (side) lamp

'Front position (side) lamp' means the lamp used to indicate the presence and the width of the vehicle when the latter is viewed from the front.

##### 1.2. Rear position (side) lamp

'Rear position (side) lamp' means the lamp used to indicate the presence and the width of the vehicle when the latter is viewed from the rear.

##### 1.3. Stop lamp

'Stop lamp' means the lamp used to indicate to other road users to the rear of the vehicle that the latter's driver is applying the service brake.

**1.4. Device**

'Device' means a lighting or signalling device comprising a light source (and in certain cases, an optical system), a lens and a housing. A device may comprise one or more lamps; if it comprises several lamps, they may be grouped, combined or reciprocally incorporated.

**1.4.1. Grouped lamps**

'Grouped lamps' means devices having separate lenses and separate light sources, but a common lamp housing.

**1.4.2. Combined lamps**

'Combined lamps' means devices having separate lenses, but a common light source and a common lamp housing.

**1.4.3. Reciprocally incorporated lamps**

'Reciprocally incorporated lamps' means devices having separate light sources (or a single light source operating under different conditions), totally or partially common lenses and a common lamp housing.

**1.5. A single lamp**

'A single lamp' means any combination of two or more lamps, whether identical or not, having the same function and emitting light of the same colour, if it comprises devices, the projection of whose aggregate light-emitting surfaces in a given transverse plane occupies 60% or more of the area of the smallest rectangle circumscribing the projections of those light-emitting surfaces, provided that such combination is, where approval is required, approved as a single lamp.

**1.6. Two lamps or an even number of lamps**

'Two lamps' or 'an even number of lamps' means a single light-emitting surface in the shape of a band if placed symmetrically in relation to the median longitudinal plane of the vehicle and extending on both sides to within not less than 400 mm of the extreme outer edge of the vehicle, and being not less than 800 mm long. The illumination of such a surface shall be provided by not less than two light sources placed as close as possible to its ends. The light-emitting surface may be constituted by a number of juxtaposed elements on condition that the projections of the several individual light-emitting surfaces on the same transverse plane occupy not less than 60% of the area of the smallest rectangle circumscribing the projections of those individual light-emitting surfaces.

(2.)

(3.)

(4.)

**5. GENERAL SPECIFICATIONS**

5.1. Each sample shall conform to the specifications set forth in sections 6 and 8.

5.2. The devices shall be so designed and constructed that under normal conditions of use, notwithstanding any vibration to which they may be subjected during such use, their satisfactory operation remains assured and they retain the characteristics prescribed by this Directive.

5.3. Lamps approved as front position (side) lamps shall also be regarded as end-outline marker lamps.

5.4. Lamps approved as rear position (side) lamps shall also be regarded as end-outline marker lamps.

5.5. Combinations of front and rear position (side) lamps housed in a common lamp housing may also be used as end-outline marker lamps.

## 6. INTENSITY OF LIGHT EMITTED

6.1. In the reference axis, the light emitted by each of the two samples shall be of not less than the minimum intensity and of not more than the maximum intensity specified below:

	<i>minimum</i> (cd)	<i>maximum</i> (cd)
6.1.1. Front position (side) lamps	4	60
6.1.2. Rear position (side) lamps	2	12
6.1.3. Stop lamps	40	100

6.2. Outside the reference axis and within the angular fields defined in the diagrams in Annex I, the intensity of the light emitted by each of the two samples must:

6.2.1. in each direction corresponding to the points in the luminous intensity distribution table reproduced in Annex IV be not less than the value shown in the said table for the direction in question, expressed as a percentage of the minimum specified in 6.1;

6.2.2. in any direction within the space from which the lamp in question is visible, not exceed the maximum specified in 6.1;

6.2.3. however, a luminous intensity of 60 cd shall be permitted for rear position (side) lamps incorporated with stop lamps (see 6.1.2) below a plane forming an angle of 5° with and downward from the horizontal plane;

6.2.4. moreover,

6.2.4.1. throughout the fields defined in Annex I, the intensity of the light emitted must be not less than 0.05 cd for front position (side) lamps and rear position (side) lamps, and 0.3 cd for stop lamps;

6.2.4.2. if a rear position (side) lamp is incorporated with a stop lamp, the ratio between the luminous intensities actually measured of the two lamps when turned on simultaneously and the intensity of the rear position (side) lamp when turned on alone must be at least 5:1 in the field delimited by the straight horizontal lines passing through + 5 and - 5° V and the straight vertical lines passing through + 10 and - 10° H of the light distribution table;

6.2.4.3. the requirements of 2.2 of Annex IV on local variations of intensity must be observed.

6.3. The intensities must be measured with the filament lamp(s) continuously alight and, in the case of devices emitting selective yellow, or red light, in coloured light.

6.4. Annex IV, to which reference is made in 6.2.1, gives particulars of the methods of measurement to be used.

## 7. TEST PROCEDURE

All measurements shall be carried out with colourless standard filament lamps of the types recommended for the device, and so regulated as to produce the normal luminous flux prescribed for those types of lamp.

## 8. COLOUR OF LIGHT EMITTED

The colour of the light emitted, measured by using a source of light with a colour temperature of 2854 K, corresponding to illuminant A of the International Commission on Illumination (CIE), must be within the limits of the coordinates prescribed for the colour in question in Annex V.

## 9. CONFORMITY OF PRODUCTION

Every device bearing an EEC component type-approval mark must conform to the approved type and comply with the photometric conditions specified in sections 6 and 8. Nevertheless, in the case of a device picked at random from series production,

the requirements as to minimum intensity of the light emitted (measured with a standard filament lamp as referred to in section 7) may be limited in each relevant direction to 80% of the minimum values specified in 6.1 and 6.2.

(10.)

11. NOTE CONCERNING COLOUR

EEC component type-approval shall be granted if the colour of the light emitted is that laid down in 3.13 of Annex I to Directive 76/756/EEC.

(12.)

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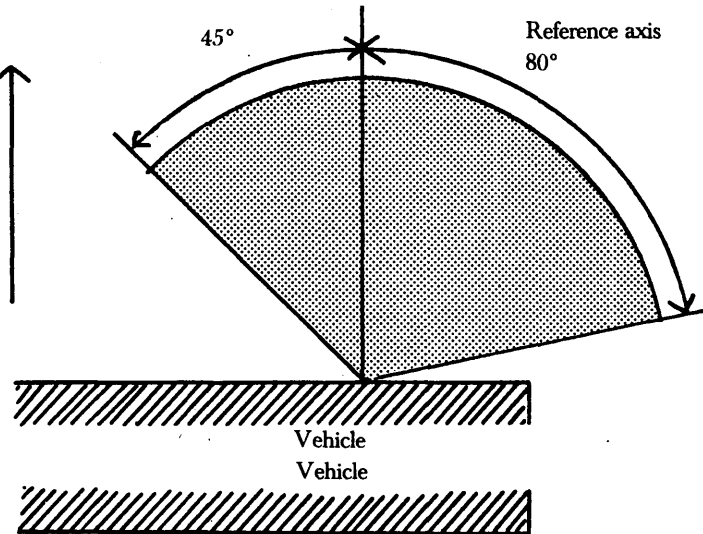
ANNEX I

FRONT POSITION (SIDE) LAMPS, REAR POSITION (SIDE) LAMPS AND STOP LAMPS  
 MINIMUM ANGLES REQUIRED FOR THE LIGHT DISTRIBUTION IN SPACE (\*)

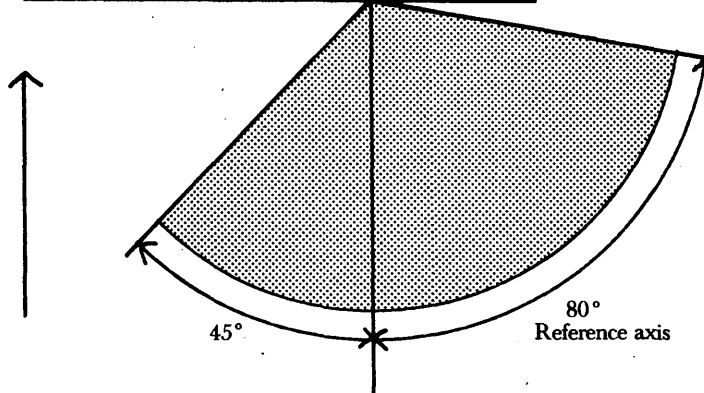
In all cases, the minimum vertical angles of light distribution in space are 15° above and 15° below the horizontal.

Minimum horizontal angles  
 of light distribution in space

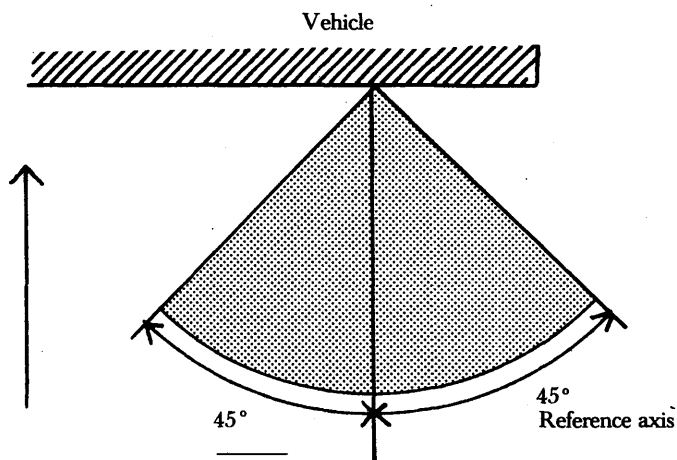
Front position (side) lamps



Rear position (side) lamps



Stop lamps



(\*) The angles shown in these diagrams are correct for devices to be mounted on the right side of the vehicle. The arrows point to the front of the vehicles.



ANNEX II

MODEL EEC COMPONENT TYPE-APPROVAL CERTIFICATE

(Maximum format: A4 (210 × 297 mm))

Name of administration
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Notification concerning the granting, refusal or withdrawal of EEC component type-approval, or the granting, refusal or withdrawal of an extension of EEC component type-approval for a type of end-outline marker lamp, front position (side) lamp, rear position (side) lamp or stop lamp

Component type-approval No .....

1. Device (\*)
  - end-outline marker lamp
  - front position (side) lamp
  - rear position (side) lamp
  - stop lamp
2. Type and number of filament lamps .....
3. Colour of light emitted: red/selective yellow/white (\*) .....
4. Trade name or mark .....
5. Name and address of manufacturer .....
6. If applicable, name and address of manufacturer's authorized representative .....
7. Submitted for EEC component type-approval on .....
8. Technical service conducting EEC component type-approval tests .....
9. Date of report issued by that service .....
10. Number of report issued by that service .....
11. Date of granting/refusal/withdrawal of EEC component type-approval (\*) .....
12. Extension of EEC component type-approval to devices emitting a red/selective yellow/white light (\*) .....
13. Date of granting/refusal/withdrawal of the extension of EEC component type-approval (\*) .....
14. Single EEC component type-approval granted on the basis of 3.3 of Annex III for a lighting and light-signalling device comprising several lamps, and in particular: .....
15. Date of refusal/withdrawal of single EEC component type-approval (\*) .....
16. Place .....
17. Date .....
18. Signature .....
19. The attached drawing No ..... shows the geometrical position in which the device is to be mounted on the vehicle and the axis of reference and centre of reference of the device.
20. Remarks .....

(\*) Delete where inapplicable.

## ANNEX III

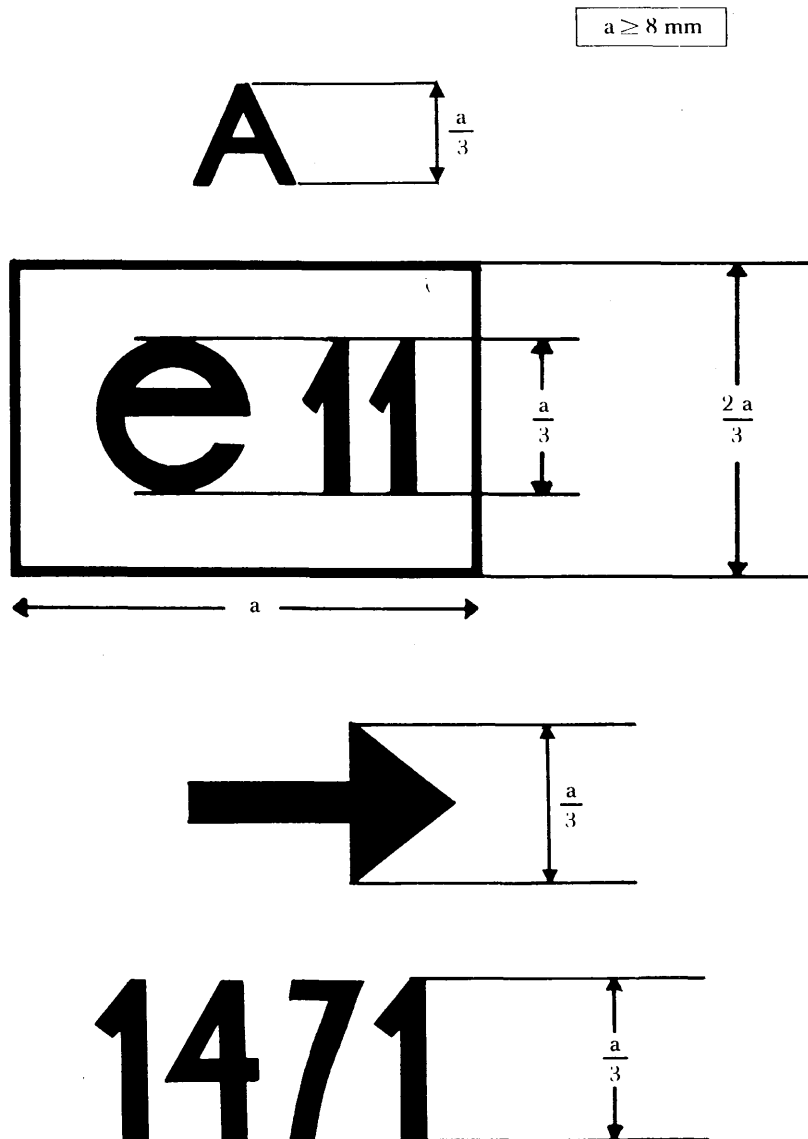
## EEC COMPONENT TYPE-APPROVAL AND MARKING REQUIREMENTS

1. APPLICATION FOR EEC COMPONENT TYPE-APPROVAL
  - 1.1. The application for EEC component type-approval shall be submitted by the holder of the trade name or mark by his authorized representative.
  - 1.2. In the case of a front position (side) lamp, the application for EEC component type-approval shall specify whether it is intended to emit white or selective yellow light.
  - 1.3. For each type of front or rear position (side) lamp and stop lamp, the application shall be accompanied by the following:
    - 1.3.1. a brief technical specification stating, in particular, the type of filament lamp or lamps prescribed;
    - 1.3.2. drawings, (three copies), in sufficient detail to permit identification of the type of the lamp and showing geometrically the position in which the lamp is to be mounted on the vehicle, the axis of observation to be taken as the axis of reference in the tests (horizontal angle  $H = 0^\circ$ , vertical angle  $V = 0^\circ$ ), and the point to be taken as the centre of reference in the said tests;
    - 1.3.3. two samples; if the lamps are such that they can be mounted only on one side of the vehicle, the two samples submitted may be identical and be suitable for mounting only on the right or only on the left side of the vehicle.
2. MARKINGS
  - 2.1. Devices submitted for EEC component type-approval must bear:
    - 2.1.1. the trade name or mark of the applicant, which must be clearly legible and indelible;
    - 2.1.2. a clearly legible and indelible marking indicating the type or types of filament lamp recommended;
    - 2.1.3. and incorporate a space large enough to contain the EEC component type-approval mark and the additional symbols prescribed in 4.3; this space shall be shown in the drawings mentioned in 1.3.2.
3. EEC COMPONENT TYPE-APPROVAL
  - 3.1. If all the samples submitted in accordance with section 1 meet the requirements of sections 5, 6, 7 and 8 of Annex 0, EEC component type-approval shall be granted and a type-approval number assigned.
  - 3.2. This number shall not be assigned to any other type of front position (side) lamp, rear position (side) lamp or stop lamp, except where EEC component type-approval is extended to another type of device differing only in the colour of the light emitted.
  - 3.3. Where EEC component type-approval is requested for a type of lighting and light-signalling device comprising a front position (side) lamp, rear position (side) lamp or a stop lamp and other lamps, a single EEC component type-approval mark may be issued provided that the lamp in question complies with the requirements of this Directive and that each of the other lamps forming part of the lighting and light-signalling device for which EEC component type-approval is requested, complies with the specific Directive applying to it.
4. MARKS
  - 4.1. Every front position (side) lamp, rear position (side) lamp or stop lamp conforming to a type approved under this Directive shall bear an EEC component type-approval mark.

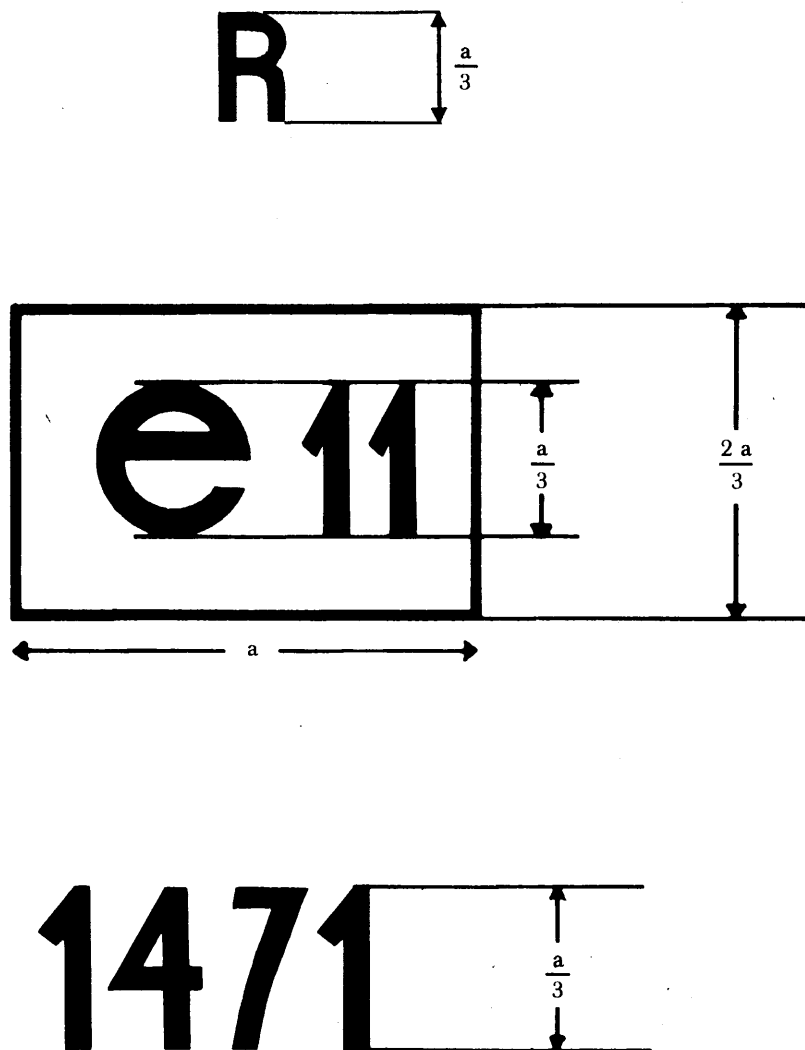
- 4.2. This mark shall consist of a rectangle surrounding the lower-case letter 'e' followed by the distinguishing letter(s) or number of the Member State which has granted the component type-approval:
- 1 for Germany,
  - 2 for France,
  - 3 for Italy,
  - 4 for the Netherlands,
  - 6 for Belgium,
  - 11 for the United Kingdom,
  - 13 for Luxembourg,
  - DK for Denmark,
  - IRL for Ireland.
- It must also include the EEC component type-approval number which corresponds to the number of the EEC component type-approval certificate issued for the type of illuminating device in question.
- 4.3. In the following cases the EEC component type-approval mark shall be supplemented by an additional symbol or symbols:
- 4.3.1. the letter 'A', on devices meeting the requirements relating to front position (side) lamps laid down by this Directive;
  - 4.3.2. the letter 'R', on devices meeting the requirements relating to rear position (side) lamps laid down by this Directive;
  - 4.3.3. the letter 'S', on devices meeting the requirements relating to stop lamps laid down by this Directive;
  - 4.3.4. the letters 'R' and 'S' separated by a horizontal dash, on devices comprising both a rear position (side) lamp and a stop lamp meeting the requirements relating to such lamps laid down by this Directive;
  - 4.3.5. an arrow pointing towards the side on which the photometric specifications are satisfied up to an angle of 80° H, on front position (side) lamps or rear position (side) lamps whose geometric angles of visibility are asymmetrical in relation to the reference axis in a horizontal direction.
- 4.4. The EEC component type-approval number must be placed in any convenient position near to the rectangle surrounding the letter 'e'.
- 4.5. The EEC component type-approval mark and the additional symbols must be affixed on the lens of the lamp or one of the lenses in such a way as to be indelible and clearly legible even when the lamps are fitted on the vehicle.
- 4.6. Examples of EEC component type-approval marks and additional symbols are shown in the Appendix.
- 4.7. Where a single EEC component type-approval number is issued, as under 3.3, for a type of lighting and light-signalling device comprising a front position (side) lamp, rear position (side) lamp or stop lamp and other lamps, a single EEC component type-approval mark may be affixed, consisting of:
- a rectangle surrounding the letter 'e' followed by the distinguishing letter(s) or number of the Member State which has granted the EEC component type-approval,
  - the EEC component type-approval number,
  - the additional symbols required by the various Directives under which EEC component type-approval was granted.
- 4.8. The dimensions of the various components of this mark must not be less than the largest of the minimum dimensions specified for individual markings by the various Directives under which the EEC component type-approval was granted.

## Appendix

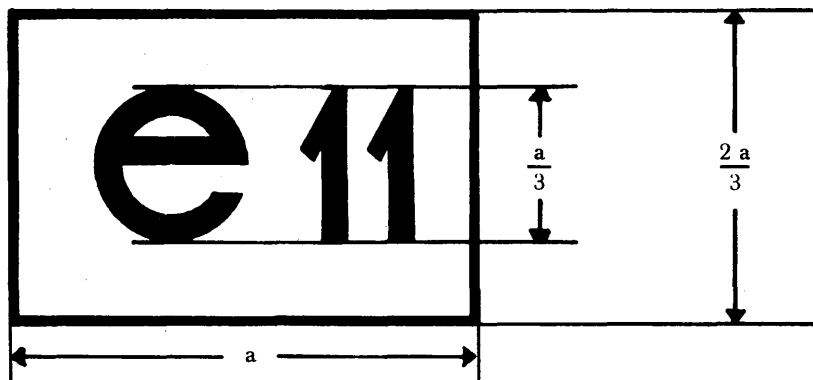
## EXAMPLES OF EEC COMPONENT TYPE-APPROVAL MARKS



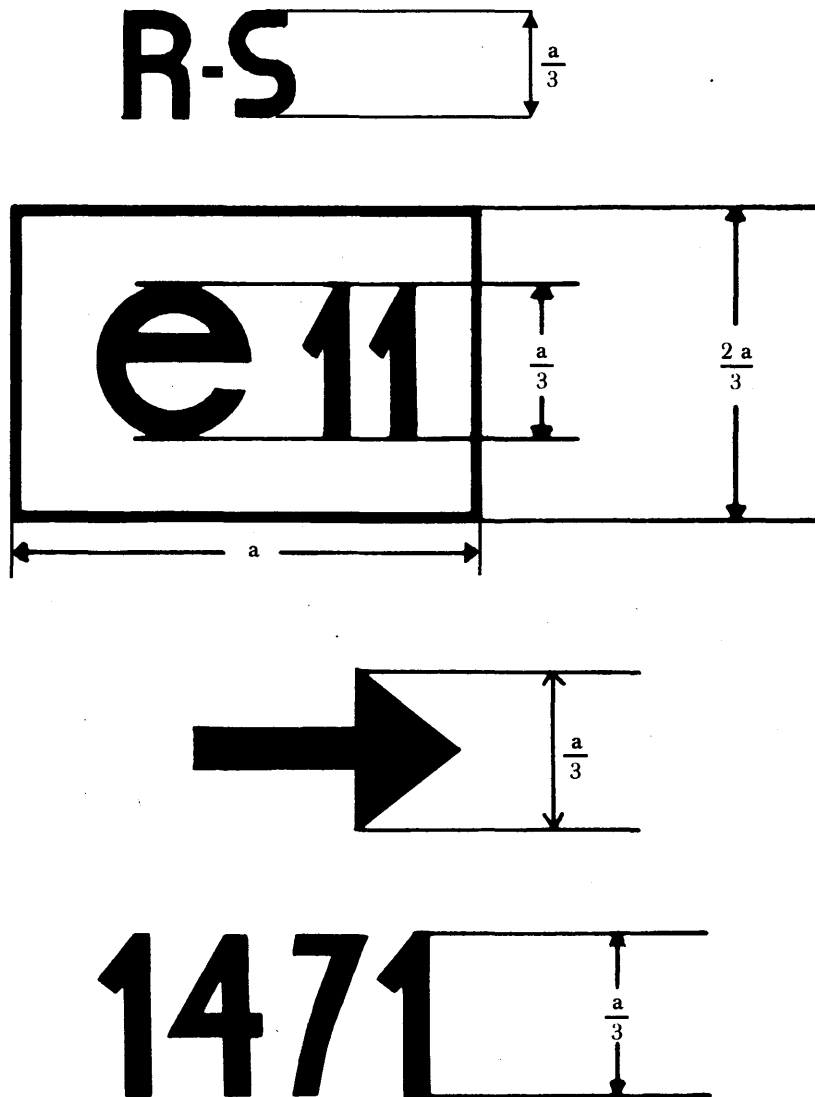
The device bearing the EEC component type-approval mark shown above is a front position (side) lamp, EEC type-approved in the United Kingdom (e 11) under the number 1471. The arrow indicates the side on which the photometric specifications are satisfied up to an angle of  $80^\circ$  H.



The device bearing the EEC type-approval mark shown above is a rear position (side) lamp, EEC type-approved in the United Kingdom (e 11) under the number 1471. The absence of an arrow means that, both right and left, the photometric specifications are satisfied up to an angle of 80° H.



The device bearing the EEC type-approval mark shown above is a stop lamp, EEC type-approved in the United Kingdom (e 11) under the number 1471.



The device bearing the EEC type-approval mark shown above is a device comprising both a rear position (side) lamp and a stop lamp, EEC type-approved in the United Kingdom (e 11) under the number 1471. The arrow means that, on the side to which it points, the photometric specifications are satisfied up to an angle of 80° H.

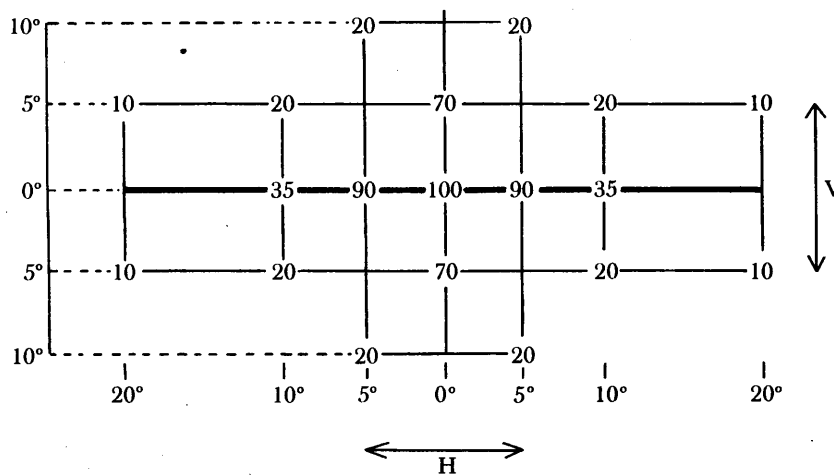
ANNEX IV

PHOTOMETRIC MEASUREMENTS

1. MEASUREMENT METHODS

- 1.1. During photometric measurements, stray reflections shall be prevented by appropriate masking.
- 1.2. Should the results of measurements be challenged, measurements shall be carried out in such a way as to meet the following requirements:
  - 1.2.1. the distance of measurement shall be such that the law of the inverse of the square of the distance is applicable;
  - 1.2.2. the measuring equipment shall be such that the angular aperture of the receiver viewed from the reference centre of the light is between 10' and one degree;
  - 1.2.3. the intensity requirement for a particular direction of observation shall be deemed to be satisfied if that requirement is met in a direction deviating by not more than 15' from the direction of observation.

2. STANDARD LUMINOUS INTENSITY DISTRIBUTION TABLE



- 2.1. The direction  $H = 0^\circ$  and  $V = 0^\circ$  corresponds to the reference axis. (On the vehicle it is horizontal, parallel to the median longitudinal plane of the vehicle and oriented in the required direction of visibility). It passes through the centre of reference. The values shown in the table give, for the various directions of measurement, the minimum intensities as a percentage of the minimum required in the axis for each lamp (in the direction  $H = 0^\circ$  and  $V = 0^\circ$ ).
- 2.2. If visual examination of a lamp appears to reveal substantial local variations of intensity, a check shall be made to ensure that no intensity measured between two of the directions of measurement referred to in 2.1 is:
  - 2.2.1. for a minimum specification, below 50% of the lower of the two minimum intensities prescribed for these directions of measurements;
  - 2.2.2. for a maximum specification, above the lower of the two maximum intensities prescribed for these directions of measurement, increased by a fraction, expressed as a linear function, of the difference between the intensities prescribed for the said directions of measurement.



## ANNEX V

COLOUR OF LIGHT EMITTED  
TRICHROMATIC COORDINATES

RED:	limit towards yellow:	$y \leq 0.335$
	limit towards purple:	$z \leq 0.008$
WHITE:	limit towards blue:	$x \geq 0.310$
	limit towards yellow:	$x \leq 0.500$
	limit towards green:	$y \leq 0.150 + 0.640x$
	limit towards green:	$y \leq 0.440$
	limit towards purple:	$y \geq 0.050 + 0.750x$
	limit towards red:	$y \geq 0.382$
SELECTIEV YELLOW:	limit towards red:	$y \geq 0.138 + 0.580x$
	limit towards green:	$y \leq 1.29x - 0.100$
	limit towards white:	$y \geq -x + 0.966$
	limit towards the spectral value:	$y \leq -x + 0.992$

For checking those colorimetric characteristics, a source of light at a colour temperature of 2854 K corresponding to illuminant A of the International Commission on Illumination (CIE) shall be used.

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