No. 4789. AGREEMENT CONCERNING THE ADOPTION OF UNIFORM CONDITIONS OF APPROVAL AND RECIPROCAL RECOGNITION OF APPROVAL FOR MOTOR VEHICLE EQUIPMENT AND PARTS. DONE AT GENEVA, ON 20 MARCH 1958 [1]

REGULATION No. 6 [2]: UNIFORM PROVISIONS FOR THE APPROVAL OF DIRECTION INDICATORS FOR MOTOR VEHICLES (EXCEPT MOTOR CYCLES) AND THEIR TRAILERS, ANNEXED TO THE ABOVE-MENTIONED AGREEMENT.

Official texts: English and French.

Registered ex officio *on 15 October 1967.*

1. *Definition*

By "direction indicator" (hereinafter called "device") is meant a device mounted on a motor vehicle or trailer which, when operated by the driver, signals the latter's intention to change the direction in which the vehicle is proceeding. The present Regulation applies solely to fixed-position flashing-light devices whose flashing is obtained by the intermittent supply of electric current to the light.

2. *Applications*

2.1. The application for approval shall be submitted by the holder of the trade name or mark or by his duly accredited representative. It shall specify:

2.1.1. whether the device is intended to emit amber, * red or uncoloured light;

2.1.2. to which of the categories 1, 2, 3, 4 or 5, whose minimum angles required for light distribution in space are indicated in Annex 1 hereto, the device belongs, and, if it belongs to category 2, whether it has one level of illumination (category 2[a]) or two levels of illumination (category 2[b]).

2.2. For each type of device the application shall be accompanied by the following:

2.2.1. drawings, in triplicate, sufficiently detailed to permit identification of the type and category and showing geometrically in what position the device is mounted on the vehicle; the axis of observation to be taken as the

[1] United Nations, *Treaty Series*, Vol. 335, p. 211; for subsequent actions relating to this Agreement, see references in Cumulative Indexes Nos. 4 to 7, as well as Annex A in volumes 551, 552, 557, 566, 601 and 606.

[2] In accordance with paragraph 5 of article of 1 the Agreement, Regulation No. 6 came into force on 15 October 1967 in respect of Belgium, the Federal Republic of Germany, France, the Netherlands (for its territory in Europe) and the United Kingdom of Great Britain and Northern Ireland.

* It is recalled that the Economic Commission for Europe has recommended that the colour amber should be prescribed for direction indicators.

axis of reference in the tests (horizontal angle H = O, vertical angle V = O); and the point to be taken as the centre of reference in the said tests;

2.2.2. a brief technical specification stating, in particular, the type of lamp or lamps prescribed; this type shall be one of those recommended, in connexion with the international standardization of motor-vehicle lamps other than headlight lamps, by the Inland Transport Committee of the Economic Commission for Europe or such other body as may replace it;

2.2.3. for a device of category 2[b], an arrangement diagram and a specification of the characteristics of the system ensuring the two levels of illumination;

2.2.4. two samples; if the device is not such that it can be mounted on either side of the vehicle indiscriminately, 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; for a device of category 2[b], the application shall also be accompanied by two samples of the parts constituting the system which ensures the two levels of illumination.

3. *Markings*

Devices submitted for approval:

3.1. must bear the trade name or mark of the applicant; this marking must be clearly legible and indelible;

3.2. must bear a clearly legible and indelible marking indicating the type or types of lamp recommended;

3.3. must comprise a space of sufficient size for the approval marking and the additional symbols prescribed in paragraph 4. below; this space shall be shown in the drawings mentioned in paragraph 2.2.1. above.

4. *Approval*

4.1. If the two samples of a type of device which are submitted in pursuance of paragraph 2.2.4. above satisfy the provisions of this Regulation, approval shall be granted.

4.2. An approval number shall be assigned to each type approved; the number so assigned may not be assigned by the same Contracting Party to another type of device covered by this Regulation. Notice of approval, or refusal of approval, of a type of device shall be communicated to the countries which are Parties to the Agreement and which apply this Regulation, by means of a form conforming to the model in Annex 2 to this Regulation, and of an attached drawing (supplied by the applicant for approval) of a format not exceeding A 4 (210 × 297 mm) and, if possible, to the scale of 1:1.

4.3. Every device conforming to a type approved under this Regulation must bear, in the space referred to in paragraph 3.3. above, and in addition to the markings prescribed in paragraphs 3.1. and 3.2.:

4.3.1. an international approval marking consisting of:

4.3.1.1. a circle surrounding the letter "E" followed by the distinguishing number of the country which has granted approval;* and

4.3.1.2. the approval number, below the circle;

4.3.2. the following additional symbol or symbols:

4.3.2.1. above the circle, one or more of the numbers 1, 2a, 2b, 3, 4 or 5, according to whether the device is of one or more of the categories 1, 2a, 2b, 3, 4 or 5 as referred to in paragraph 2.1.2. above;

4.3.2.2. on devices which cannot be mounted on either side of the vehicle indiscriminately, an arrow showing in what position the device is to be mounted (the arrow shall be directed outwards from the vehicle in the case of devices of categories 1, 2a and 2b and towards the front of the vehicle in the case of devices of categories 3, 4 and 5).

4.4. The mark and symbols mentioned in paragraphs 4.3.1. and 4.3.2. above shall be indelible and clearly visible even when the device is mounted on the vehicle.

4.5. Annex 3 gives examples of the arrangement of the approval mark and of the additional symbols mentioned above.

5. *General specifications*

5.1. Each sample shall conform to the specifications set forth in paragraphs 5. and 8. below.

5.2. The devices must be so designed and constructed that under normal conditions of use, and notwithstanding the vibrations to which they may be subjected in such use, their satisfactory operation remains assured and they retain the characteristics prescribed by this Regulation.

6. *Intensity of light emitted*

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

		Minimum	*Maximum*
Indicator of category 1		175 cd	700 cd**
Indicator of category 2a		50	200
Indicator of category 2b	by day	175	700**
	by night	40	120**
Indicator of category 3	towards the front	175	700**
	towards the rear	50	200
Indicator of category 4	towards the front	175	700**
	towards the rear	0.3	200
Indicator of category 5		0.3	200

* 1 for the Federal Republic of Germany, 2 for France, 3 for Italy, 4 for the Netherlands, 5 for Sweden, 6 for Belgium, 7 for Hungary, 8 for Czechoslovakia, 9 for Spain, 10 for Yugoslavia and 11 for the United Kingdom; subsequent numbers shall be assigned to other countries in the chronological order in which they ratify the Agreement concerning the Adoption of Uniform Conditions of Approval and Reciprocal Recognition of Approval fort Motor Vehicle Equipment and Parts, or in which they accede to that Agreement, and the numbers thus assigned shall be communicated by the Secretary-General of the United Nations to the Contracting Parties to the Agreement.

** See, however, this Regulation, paragraph 6.2.3.2. and Annex 4.

6.2. Outside the reference axis, within the fields specified in the arrangement diagrams in Annex 1 to this Regulation, 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 4 to this Regulation, be not less than the minimum specified in paragraph 6.1. above multiplied by the percentage specified in the said table for the direction in question;

6.2.2. in no direction within the area from which the indicator light is visible, exceed the maximum specified in paragraph 6.1. above;

6.2.3. moreover,

6.2.3.1. throughout the fields defined in the diagrams in Annex 1, the intensity of the light emitted must be not less than 0.3 cd for devices of categories 1, 2[a], 3, 4 and 5, and for those of category 2[b] by day; it should not be less than 0.07 cd for devices of category 2[b] by night;

6.2.3.2. for devices of categories 1, and 2[b] by night, and towards the front for devices of categories 3 and 4, the intensity of the light emitted in the directions corresponding to the points of measurement in the distribution table other than 0° to 5° to the left and 0° to 5° to the right must not exceed:

— 100 cd for devices of category 2[b] by night,

— 400 cd for devices of categories 1, 3 and 4;

6.2.3.3. the provisions of paragraph 2.2. of Annex 4 to this Regulation on local variations of intensity must be observed.

6.3. The intensities shall be measured with the bulb (s) continuously alight and, in the case of devices emitting amber (or red) light, in coloured light.

6.4. Annex 4, referred to in paragraph 6.2.1. above, gives particulars of the measurement methods to be used.

7. *Test procedure*

7.1. All measurements shall be carried out with uncoloured standard lamps of the types recommended for the device, adjusted to produce the normal luminous flux prescribed for those types of lamps.

7.2. For indicators of category 2[b], measurements will have to be carried out for each of the two levels with the supplementary equipment intended for this purpose.

8. *Colour of light emitted*

The colour of the light emitted, measured by using a source of light with a colour temperature of 2,854°K,* must be within the limits of the co-ordinates prescribed for the colour in question in Annex 5 to this Regulation.

9. *Conformity of production*

Every device bearing an approval mark as provided for in this Regulation shall conform to the type approved and shall comply with the photometric

* Corresponding to illuminant A of the International Commission on Illumination (ICI).

conditions specified in paragraphs 6. and 8. above. 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 lamp as referred to in paragraph 7. above) shall be limited in each relevant direction to 80 per cent of the minimum values specified in paragraphs 6.1. and 6.2. above.

10. *Penalties for non-conformity of production*

10.1. The approval granted in respect of a device may be withdrawn if the foregoing conditions are not satisfied.

10.2. If a Contracting Party to the Agreement withdraws an approval it has previously granted it shall forthwith notify the other Contracting Parties applying this Regulation thereof by means of a copy of the approval form bearing at the end, in large letters, the signed and dated annotation "Approval withdrawn".

11. *Remark concerning colours and mountings*

Every approval under this Regulation is, by virtue of paragraph 4. above, granted for a type of device emitting light of a particular colour, or uncoloured light, and with a particular mounting; the Contracting Parties to the Agreement are accordingly not precluded by Article 3 of the Agreement to which this Regulation is annexed from prescribing mounting arrangements for vehicles registered by them, or from prohibiting certain categories of devices and certain colours provided for in this Regulation *.

12. *Names and addresses of test laboratories and administrative services*

The Contracting Parties to the Agreement which apply this Regulation shall communicate to the United Nations Secretariat the names and addresses of the test laboratories authorized to grant approval and of the administrative services to which the forms certifying approval or refusal or withdrawal of approval are to be sent.

* It should be pointed out that the Economic Commission for Europe has described a number of mounting arrangements and recommended that they should all be accepted.

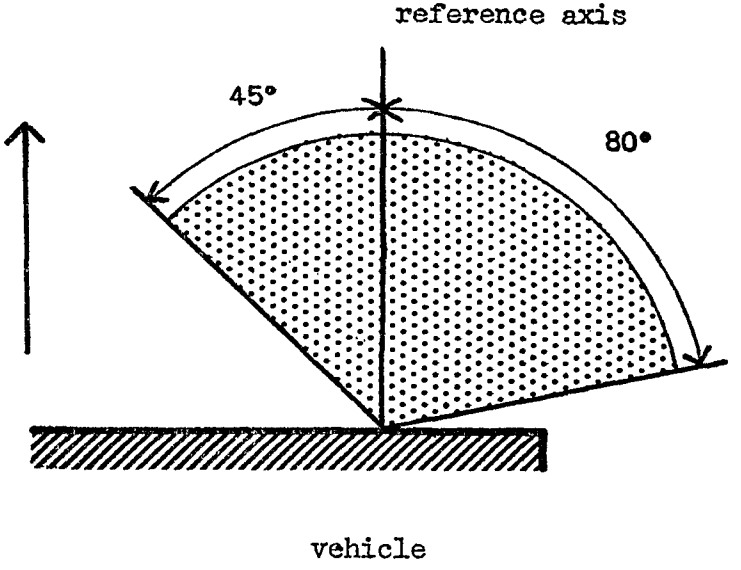
ANNEX 1

CATEGORIES OF DIRECTION INDICATORS : MINIMUM ANGLES REQUIRED FOR LIGHT DISTRIBUTION IN SPACE OF THESE CATEGORIES OF DIRECTION INDICATORS *

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

Minimum horizontal angles of light distribution in space

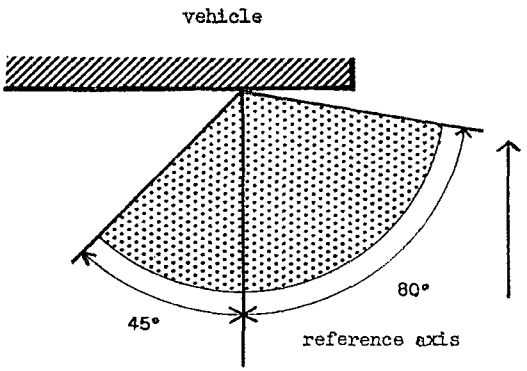
Category 1: Direction indicators for the front of the vehicle



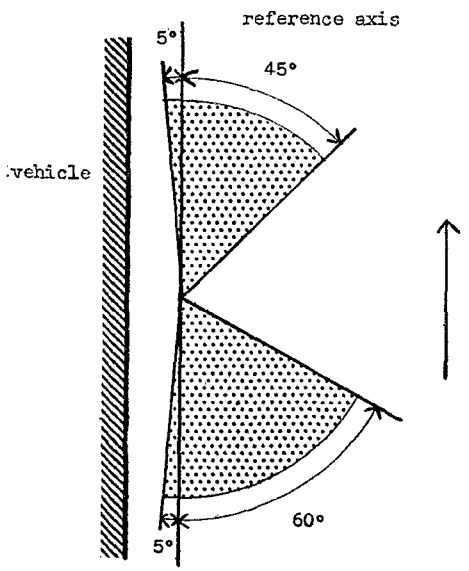
* The angles shown in these diagrams are correct for devices to be mounted on the right side of the vehicle. The arrows point towards the front of the vehicle.

Category 2[a]: Direction indicators with one level of illumination for the rear of the vehicle

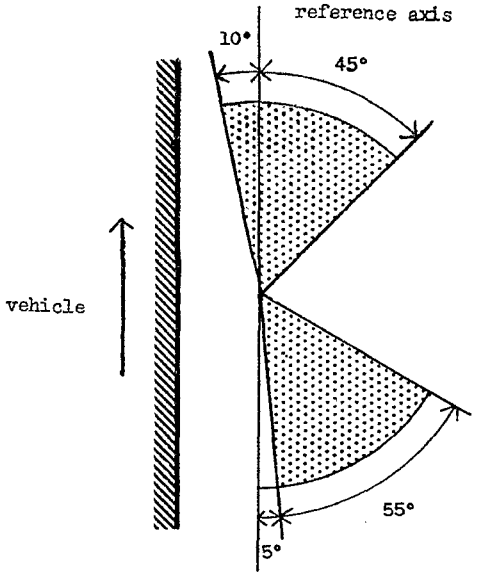
Category 2[b]: Direction indicators with two levels of illumination for the rear of the vehicle



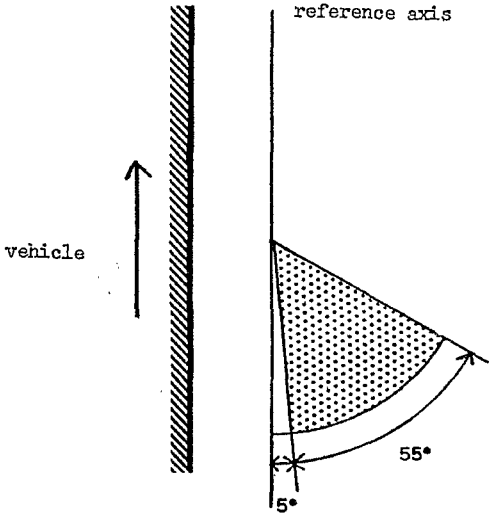
Category 3: Front-side direction indicators for use on a vehicle equipped with this category of direction indicator only



Category 4: Front-side direction indicators for use on a vehicle also equipped with category 2[a] or 2[b] direction indicators



Category 5: Supplementary side direction indicators for use on a vehicle also equipped with category 1 and 2[a] or 2[b] direction indicators



ANNEX 2

(Maximum format : A 4 (210 × 297 mm))

NAME
OF ADMINISTRATION

Communication concerning the approval (or refusal of approval) of a type of direction indicator in application of Regulation No. 6

Approval No. .....

1. Device *
   — of category 1
   — of category 2[a] (with one level of illumination)
   — of category 2[b] (with two levels of illumination)
   — of category 3
   — of category 4
   — of category 5
2. Type and number of lamps .....
3. Colour of light emitted : amber, red, uncoloured *
4. For category 2[b] indicators, indicate the system used to obtain reduced illumination at night (give the main characteristics) .....
   .....
5. Trade name or mark .....
6. Manufacturer's name .....
7. Name of his representative (if applicable) .....
8. Address .....
9. Submitted for approval on .....
10. Test laboratory .....
11. Date of laboratory report .....
12. Number of laboratory report .....
13. Approval granted/refused * .....
14. Place .....
15. Date .....
16. Signature .....
17. The attached drawing no. ..... shows the characteristics; in what position, geometrically, the device is to be mounted on the vehicle; and the axis of reference and centre of reference of the device.

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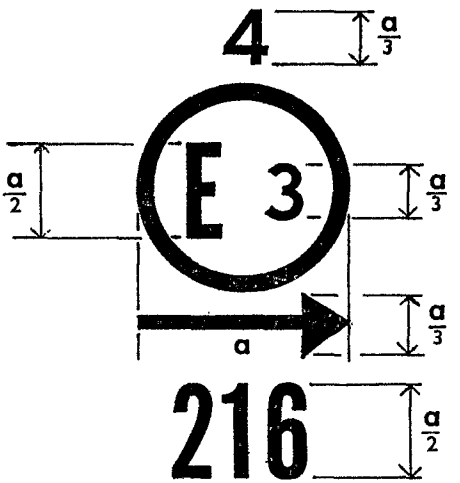
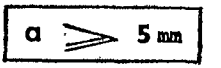
* Delete as necessary.

ANNEX 3

APPROVAL MARK

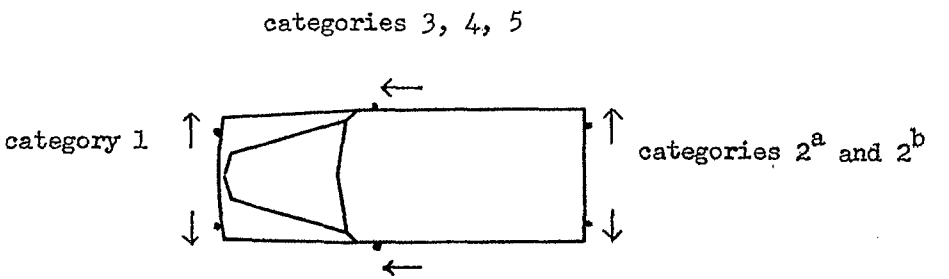




1. *Key*

The device bearing the approval marking shown above is a category-4 device (front-side direction indicator) approved in Italy (E3) under No. 216. The arrow shows in what position this device, which cannot be mounted on either side of the vehicle indiscriminately, is to be mounted. The arrow points towards the front of the vehicle.

2. *Direction in which the arrows on the approval mark point, according to the category of device*



ANNEX 4

PHOTOMETRIC MEASUREMENTS

1. *Measurement methods*

1.1. During photometric measurements, stray reflexions shall be avoided by appropriate masking.

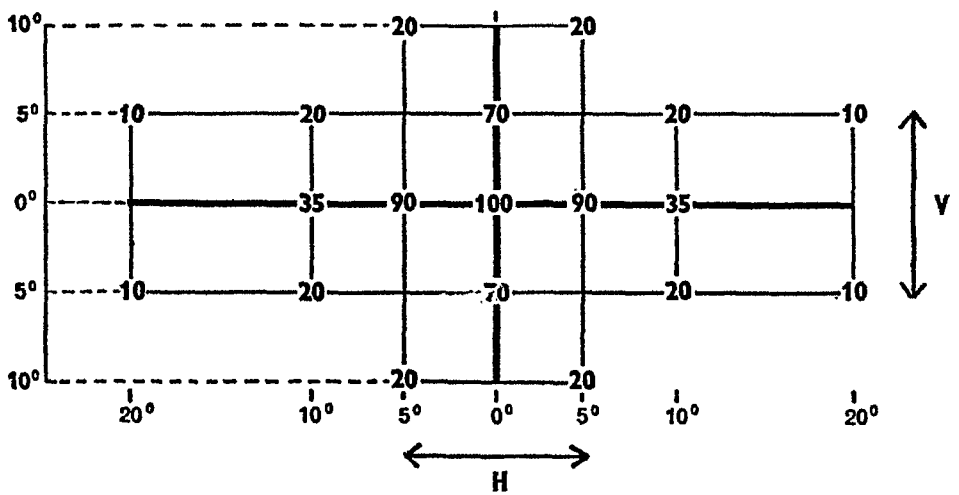
1.2. In case the results of measurements should be challenged, measurements shall be carried out in such a way as to meet the following requirements:

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 comprised between 10' and 1 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 one-quarter of a degree from the direction of observation

2. *Table of standard light distribution in space*



2.1. The direction H = 0° and V = 0° 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 light (in the direction H = 0° and V = 0°).

2.2. If visual examination of a light 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 above is:

2.2.1. for a minimum specification, below 50 per cent of the lower of the two minimum intensities prescribed for these directions of measurement;

2.2.2. for a maximum specification, above the lower of the two maximum intensities prescribed for the reference directions, increased by a fraction of the difference between the intensities prescribed for the said directions of measurement, this fraction being a linear function of the difference.

ANNEX 5

COLOURS OF LIGHTS
TRICHROMATIC CO-ORDINATES

RED:	Limit towards yellow	y	$\leqslant 0.335$
	Limit towards purple	z	$\leqslant 0.008$
WHITE:	Limit towards blue	x	$\geqslant 0.310$
	Limit towards yellow	x	$\leqslant 0.500$
	Limit towards green	y	$\leqslant 0.150 + 0.640x$
	Limit towards green	y	$\leqslant 0.440$
	Limit towards purple	y	$\geqslant 0.050 + 0.750x$
	Limit towards red	y	$\geqslant 0.382$
AMBER:	Limit towards yellow	y	$\leqslant 0.429$
	Limit towards red	y	$\geqslant 0.398$
	Limit towards white	z	$\leqslant 0.007$
SELECTIVE YELLOW*:	Limit towards red	y	$\geqslant 0.138 + 0.580x$
	Limit towards green	y	$\leqslant 1.29x - 0.100$
	Limit towards white	y	$\geqslant -x + 0.966$
	Limit towards the spectral value	y	$\leqslant -x + 0.992$

For checking these colorimetric characteristics, a source of light at a colour temperature of 2,854 °K corresponding to illuminant A of the International Commission on Illumination (ICI) shall be used.

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* Yellow within the meaning of article 15, paragraph 2, of the 1949 Convention on Road Traffic.

REGULATION No. 7 [1]: UNIFORM PROVISIONS FOR THE APPROVAL OF POSITION (SIDE) LIGHTS, RED REAR LIGHTS AND STOP LIGHTS FOR MOTOR VEHICLES (EXCEPT MOTOR CYCLES) AND THEIR TRAILERS, ANNEXED TO THE AGREEMENT OF 20 MARCH 1958 [2]

Official texts: English and French.

Registered ex officio *on 15 October 1967.*

1. *Definitions*

1.1. By "position (side) light" is meant a device which, being mounted on a motor vehicle or trailer, is designed to signal the presence of the vehicle in the forward direction.

1.2. By "red rear light" is meant a device which, being mounted on a motor vehicle or trailer, is designed to signal the presence of the vehicle in the rearward direction.

1.3. By "stop light" is meant a device which, being mounted on a motor vehicle or trailer, is designed to signal in the rearward direction that a braking device, usually the service braking device, is being actuated.

1.4. By "device" is meant a lighting or signalling device comprising a light source (and, in certain cases, an optical system), an illuminated area and a housing. A device may comprise one or more lights; if it comprises several lights, they may be:

1.4.1. grouped (separate illuminated areas, separate sources of light, same housing);

1.4.2. combined (separate illuminated areas, same source of light, same housing);

1.4.3. incorporated with each other (same illuminated area, separate sources of light or one single source of light operating under different conditions, same housing).

2. *Applications*

2.1. The application for approval shall be submitted by the holder of the trade name or mark or by his duly accredited representative. It shall specify:

2.1.1. the purpose or purposes for which the device submitted for approval is intended;

2.1.2. in the case of a position (side) light, whether it is intended to emit uncoloured, selective-yellow or amber light;

2.1.3. in the case of a stop light, whether it is intended to emit red (or amber) light. *

[1] In accordance with paragraph 5 of article 1 of the Agreement, Regulation No. 7 came into force on 15 October 1967 in respect of Belgium, the Federal Republic of Germany, France, the Netherlands (for its territory in Europe) and the United Kingdom of Great Britain and Northern Ireland.

[2] See footnote 1, p. 282 of this volume.

* It is recalled that the Economic Commission for Europe has recommended that the colour red should be prescribed for stop lights.

2.2. For each type of device, the application shall be accompanied by:

2.2.1. drawings, in triplicate, in sufficient detail to permit identification of the type of the device and showing in what geometrical position the device 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, vertical angle V = 0); and the point to be taken as the centre of reference in the said tests;

2.2.2. a brief technical specification stating, in particular, the type of the lamp or lamps prescribed; this type shall be one of those recommended, in connexion with the international standardization of motor-vehicle lamps other than headlight lamps, by the Inland Transport Committee of the Economic Commission for Europe or such other body as may replace it;

2.2.3. in the case of a stop-light device with two levels of illumination, an arrangement diagram and a specification of the characteristics of the system ensuring the two levels of illumination;

2.2.4. two samples; if the device is not such that it can be mounted on either side of the vehicle indiscriminately, the two samples submitted may be identical and be suitable for mouting only on the right or only on the left side of the vehicle; in the case of a stop-light device with two levels of illumination, the application shall also be accompanied by two samples of the parts constituting the system which ensures two levels of illumination.

3. *Markings*

Devices submitted for approval:

3.1. must bear the trade name or mark of the applicant; this marking must be clearly legible and indelible;

3.2. must bear a clearly legible and indelible marking indicating the type or types of lamp recommended;

3.3. must comprise a space of sufficient size for the approval marking and the additional symbols prescribed in paragraph 4.4. below; this space shall be shown in the drawings mentioned in paragraph 2.2.1. above.

4. *Approval*

4.1. If the two samples of a type of device which are submitted in pursuance of paragraph 2.2.4. above satisfy the provisions of this Regulation, approval shall be granted.

4.2. When two lights to which this Regulation applies are part of the same device, approval may be granted only if each of these two lights satisfies the provisions applicable to it.

4.3. An approval number shall be assigned to each type approved; the number so assigned may not subsequently be assigned by the same Contracting

Party to another type of device covered by this Regulation. Notice of approval, or refusal of approval, of a type of device shall be communicated to the Parties to the Agreement applying this Regulation by means of a form conforming to the model in Annex 2 to this Regulation and of an attached drawing (supplied by the applicant for approval) of a format not exceeding A 4 (210 × 297 mm) and, if possible, to the scale of 1:1.

4.4. Every device conforming to a type approved under this Regulation shall bear, in the space referred to in paragraph 3.3. above, and in addition to the markings prescribed in paragraphs 3.1. and 3.2:

4.4.1. an international approval marking consisting of:

4.4.1.1. a circle enclosing the letter "E" followed by the distinguishing number of the country which has granted the approval; * and

4.4.1.2. the approval number placed below the circle;

4.4.2. the following additional symbol or symbols:

4.4.2.1. on devices satisfying the provisions of this Regulation relating to position (side) lights, a square above the circle, enclosing the letter "A";

4.4.2.2. on devices satisfying the provisions of this Regulation relating to red rear lights, a square above the circle, enclosing the letter "R";

4.4.2.3. on devices satisfying the provisions of this Regulation relating to stop-lights, a square above the circle, enclosing the letter "S" followed by the figure "1" if the device has one level of illumination and by the figure "2" if it has two levels of illumination;

4.4.2.4. on devices comprising both a red rear light and a stop-light satisfying the provisions of this Regulation relating to such lights, a rectangle above the circle, enclosing the letter "R" and the symbol "S1" or "S2", as the case may be, separated by a horizontal dash;

4.4.2.5. on position (side) light devices or red rear light devices whose angles of visibility are asymmetrical in relation to the reference axis in a horizontal direction, an arrow pointing towards the side on which the photometric specifications are satisfied up to an angle of 80° H.

4.5. The marks and symbols referred to in paragraphs 4.4.1.1. and 4.4.2.1. to 4.4.2.5. must be indelible and clearly legible even when the device is mounted on the vehicle.

* 1 for the Federal Republic of Germany, 2 for France, 3 for Italy, 4 for the Netherlands, 5 for Sweden, 6 for Belgium, 7 for Hungary, 8 for Czechoslovakia, 9 for Spain, 10 for Yugoslavia and 11 for the United Kingdom; subsequent numbers shall be assigned to other countries in the chronological order in which they ratify the Agreement concerning the Adoption of Uniform Conditions of Approval and Reciprocal Recognition of Approval for Motor Vehicle Equipment and Parts, or in which they accede to that Agreement, and the numbers thus assigned shall be communicated by the Secretary-General of the United Nations to the Contracting Parties to the Agreement.

4.6. Annex 3 gives examples of arrangements of the approval mark and the additional symbols mentioned above.

5. *General specifications*

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

5.2. The devices must be so designed and constructed that in normal conditions of use, and notwithstanding the vibrations to which they may be subjected in such use, their satisfactory operation remains assured and they retain the characteristics prescribed by this Regulation.

6. *Intensity of light emitted*

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

		Minimum (*cd*)	*Maximum* (*cd*)
6.1.1.	Position (side) lights	4	60
6.1.2.	Red rear lights	2	12
6.1.3.	Stop-lights:		
6.1.3.1.	with one level of illumination	40	100
6.1.3.2.	with two levels of illumination:		
6.1.3.2.1.	by day	130	520
6.1.3.2.2.	by night	30	80

6.2. Outside the reference axis and within the angular fields defined in the diagrams in Annex 1 to this Regulation, 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 light distribution table reproduced in Annex 4 to this Regulation, be not less than the product of the minimum specified in paragraph 6.1. above by the percentage specified in the said table for the direction in question;

6.2.2. in no direction within the space from which the indicator light is visible, exceed the maximum specified in paragraph 6.1. above;

6.2.3. however, a luminous intensity of 60 cd shall be permitted for red rear lights incorporated with stop-lights (see paragraph 6.1.2. above) 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 1, the intensity of the light emitted must be not less than 0.05 cd for position (side) lights and red rear lights, 0.3 cd for stop-lights with one level of illumination, and for stoplights with two levels of illumination 0.3 cd by day and 0,07 cd by night;

6.2.4.2. if a red rear light is incorporated with a stop light, the ratio between the luminous intensities actually measured of the two lights when turned

on simultaneously and the intensity of the red rear light when turned on alone should be at least 5 : 1 in the field delimited by the straight horizontal lines passing through ± 10° H and the straight vertical lines passing through ± 5° V of the light distribution table. If the stop light has two levels of illumination, this requirement must be satisfied when it is switched on at night;

6.2.4.3. the provisions of paragraph 2.2. of Annex 4 to this Regulation on local variations of intensity must be observed.

6.3. The intensities shall be measured with the bulb(s) continuously alight and, in the case of devices emitting selective-yellow, amber or red light, in coloured light.

6.4. Annex 4, to which reference is made in paragraph 6.2.1. above, gives particulars of the methods of measurement to be used.

7. *Test procedure*

All measurements shall be carried out with uncoloured standard lamps of the types prescribed for the device, adjusted 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 2,854 °K, * must be within the limits of the co-ordinates prescribed for the colour in question in Annex 5 to this Regulation.

9. *Conformity of production*

Every device bearing an approval mark as provided for in this Regulation shall conform to the type approved and shall comply with the photometric conditions specified in paragraph 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 lamp as referred to in paragraph 7. above) shall be limited in each relevant direction to 80 per cent of the minimum values specified in paragraphs 6.1. and 6.2. above.

10. *Penalties for non-conformity of production*

10.1. The approval granted in respect of a device may be withdrawn if the foregoing conditions are not observed.

10.2. If a Contracting Party to the Agreement withdraws an approval it has previously granted, it shall forthwith notify the other Contracting Parties applying the present Regulation thereof by means of a copy of the approval form bearing at the end, in large letters, the signed and dated annotation "Approval withdrawn".

* Corresponding to illuminant A of the International Commission on Illumination (ICI).

11. *Remarks concerning colours*

Every approval under this Regulation is, by virtue of paragraph 4. above, granted for a type of device emitting light of a particular colour or uncoloured light; the Contracting Parties to the Agreement to which this Regulation is annexed are accordingly not precluded by Article 3 of that Agreement from prohibiting, for devices fitted on the vehicles registered by them, certain colours provided for in this Regulation.

12. *Names and addresses of test laboratories and administrative services*

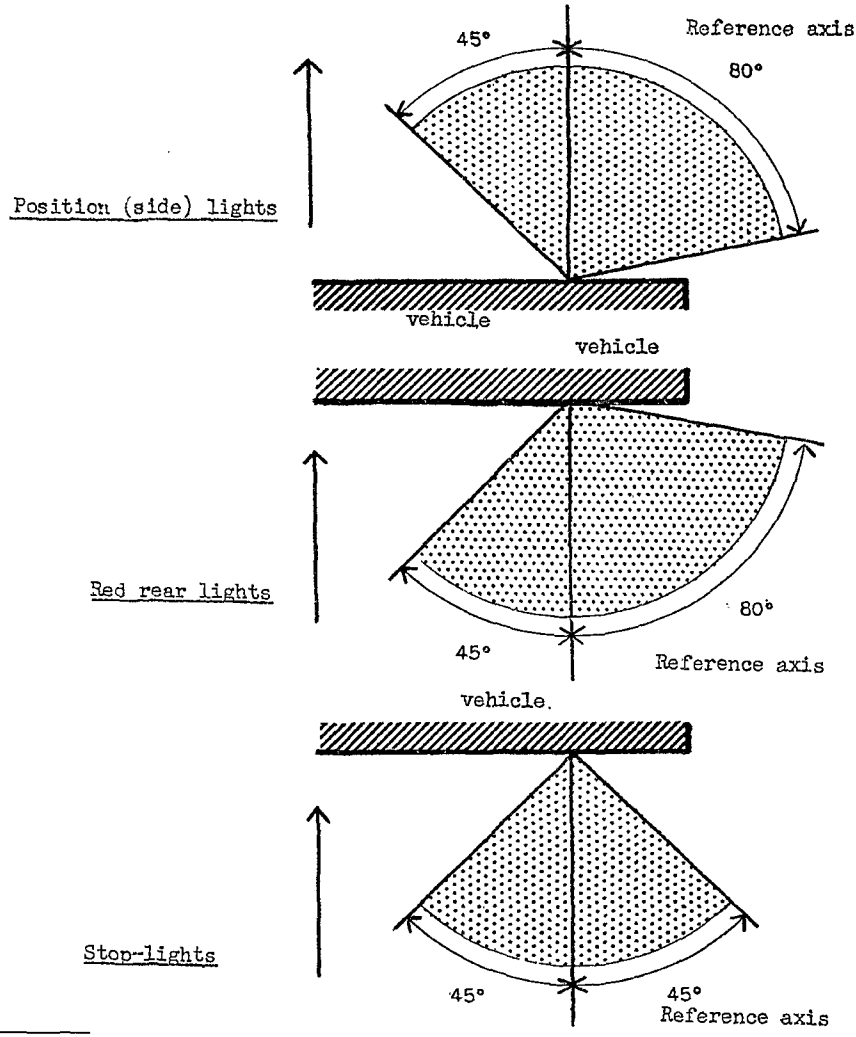
The Contracting Parties to the Agreement which apply this Regulation shall communicate to the Secretariat of the United Nations the names and addresses of the test laboratories authorized to grant approval and of the administrative services to which the forms certifying approval or refusal or withdrawal of approval are to be sent.

ANNEX 1

POSITION (SIDE) LIGHTS, RED REAR LIGHTS AND STOP LIGHTS: MINIMUM ANGLES REQUIRED FOR LIGHT DISTRIBUTION IN SPACE OF THESE LIGHTS *

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



* 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 vehicle.

ANNEX 2

(Maximum format : A 4 (210 × 297 mm))

NAME
OF ADMINISTRATION

Communication concerning the approval (or refusal of approval) of a type of device pursuant to Regulation No. 7

Approval No. .....

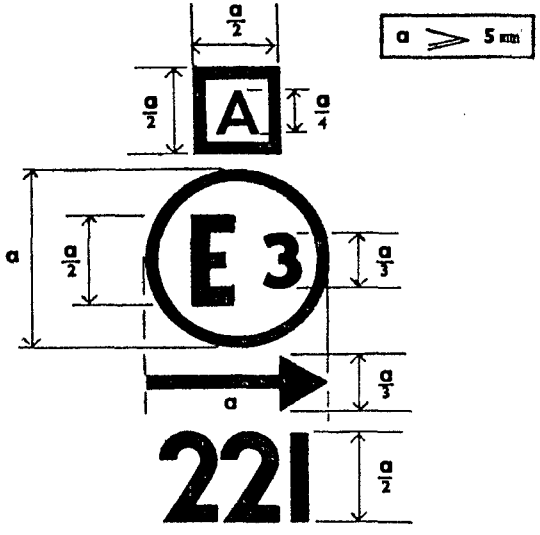
1. Device *
   — position (side) light
   — red rear light
   — stop-light with one/two level(s) * of illumination
2. Type and number of lamps .....
3. Colour of light emitted : red, selective yellow, amber, uncoloured *
4. For stop-light devices with two levels of illumination, indicate the system used to reduce illumination by night (indication of main characteristics) .....
5. Trade name or mark .....
6. Manufacturer's name .....
7. Name of his representative (if applicable) .....
8. Address .....
9. Submitted for approval on .....
10. Test laboratory .....
11. Date of laboratory report .....
12. Number of laboratory report .....
13. Approval granted/refused * .....
14. Place .....
15. Date .....
16. Signature .....
17. The attached drawing No. ..... shows the characteristics; in what position, geometrically, the device is to be mounted on the vehicle; and the axis of reference and centre of reference of the device.

* Delete as necessary.

ANNEX 3

APPROVAL MARK

1. *Position (side) light*

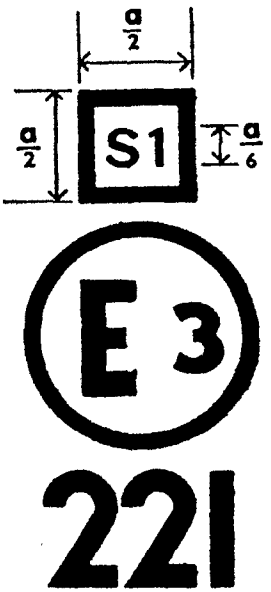


The device bearing the approval marking shown above is a position (side) light approved in Italy (E3) under the number 221. The arrow indicates the side on which the photometric specifications are satisfied up to an angle of 80° H.

2. *Red rear light*

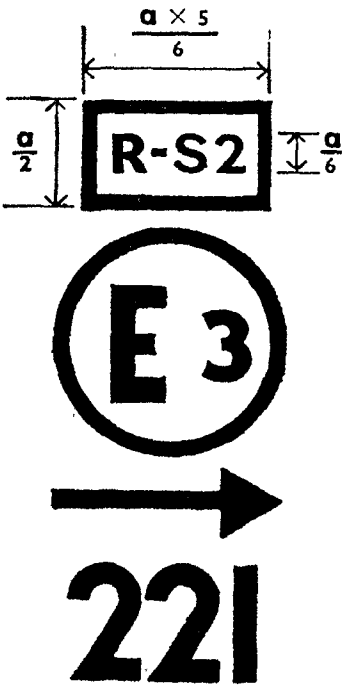
The device bearing the approved marking shown above is a red rear light approved in Italy (E3) under the number 221. The absence of an arrow means that, both right and left, the photometric specifications are satisfied up to an angle of 80° H.

3. *Stop-light*



The device bearing the approval marking shown above is a stop-light device, with one level of illumination, approved in Italy (E3) under the number 221.

4. *Device comprising both a red rear light and a stop light*



The device bearing the approval marking shown above is a device comprising both a red rear light and a stop-light, with two levels of illumination approved in Italy (E3) under the number 221. The arrow means that, on the side to which it points, the photometric specifications are satisfied up to an angle of 80° H.

ANNEX 4

PHOTOMETRIC MEASUREMENTS

1. *Measurement methods*

1.1. During photometric measurements, stray reflexions shall be avoided by appropriate masking.

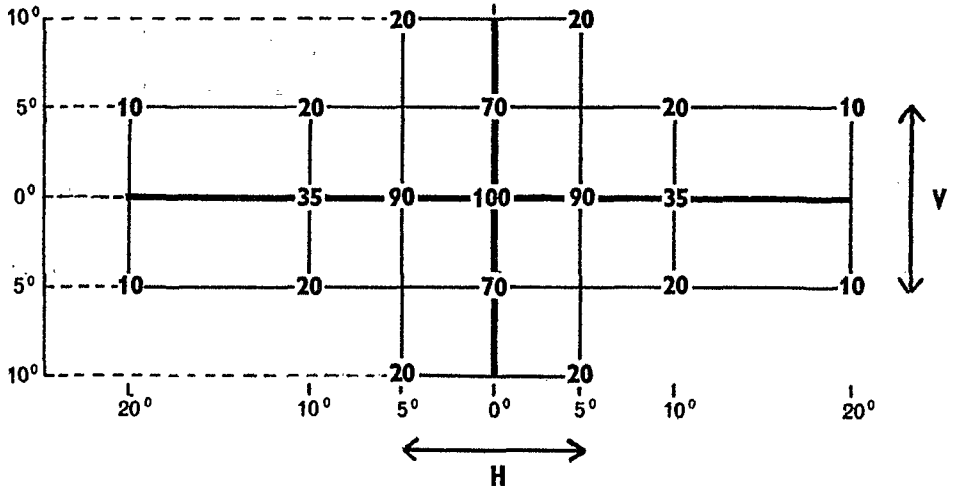
1.2. In case the results of measurements should be challenged, measurements shall be carried out in such a way as to meet the following requirements:

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 comprised 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 one-quarter of a degree from the direction of observation.

2. *Table of standard light distribution*



2.1. The direction H = 0° and V = 0° 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 light (in the direction H = 0° and V = 0°).

2.2. If visual examination of a light 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 above is:

2.2.1. for a minimum specification, below 50 per cent of the lower minimum intensity of the two prescribed for these directions of measurement;

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 of the difference between the intensities prescribed for the said directions of measurement, this fraction being a linear function of the difference.

ANNEX 5

COLOURS OF LIGHTS
TRICHROMATIC CO-ORDINATES

RED :	Limit towards yellow	y	$\leqslant 0.335$
	Limit towards purple	z	$\leqslant 0.008$
WHITE :	Limit towards blue	x	$\geqslant 0.310$
	Limit towards yellow	x	$\leqslant 0.500$
	Limit towards green	y	$\leqslant 0.150 + 0.640\ x$
	Limit towards green	y	$\leqslant 0.440$
	Limit towards purple	y	$\geqslant 0.050 + 0.750\ x$
	Limit towards red	y	$\geqslant 0.382$
AMBER :	Limit towards yellow	y	$\leqslant 0.429$
	Limit towards red	y	$\geqslant 0.398$
	Limit towards white.	z	$\leqslant 0.007$
SELECTIVE YELLOW * :	Limit towards red	y	$\geqslant 0.138 + 0.580\ x$
	Limit towards green.	y	$\leqslant 1.29\ x - 0.100$
	Limit towards white.	y	$\geqslant -x + 0.966$
	Limit towards the spectral value. .	y	$\leqslant -x + 0.992$

For checking these colorimetric characteristics, a source of light at a colour temperature of 2,854° K corresponding to illuminant A of the International Commission on Illumination (ICI) shall be used.

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* Yellow within the meaning of article 15, paragraph 2 of the 1949 Convention on Road Traffic.