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]

ENTRY INTO FORCE of Regulation No. 65 as an annex to the above-mentioned Agreement

The said Regulation came into force on 15 June 1986 in respect of France and the Netherlands, in accordance with article 1 (5) of the Agreement.

REGULATION No. 65 *(Uniform provisions concerning the approval of special warning lights for motor vehicles)*

1. DEFINITIONS

For the purposes of this Regulation,

1.1. "Special warning light" means a light emitting light intermittently all around on its vertical axis;

1.2. Special warning lights of different "types" mean special warning lights which differ intrinsically in such matters as:

1.2.1. The trade name or mark,

1.2.2. The size and form of the coloured cover,

1.2.3. The optical system,

1.2.4. The nature of the beam (rotating or stationary flashing),

1.2.5. The colour of the light emitted,

1.2.6. The light source,

1.2.7. Whether the light has one or two levels of intensity,

1.3. The "on" time t_H means the period of time within which the luminous intensity of the flashing light is superior to 1/10 of the maximum value (peak value) J_{max},

1.4. The "effective intensity" J_e in a fixed direction for both rotating and stationary flashing types is given by:

$$J_e = \frac{J_m}{1 + \frac{C}{F \cdot T}}$$

J_m: Peak intensity (cd)

C: Time constant, C = 0.2 sec

T: Time of period

F: "Form-factor" $F = \frac{\int_0^T J \cdot dt}{J_m \cdot T}$

J: Instantaneous intensity (cd)

[1] United Nations, *Treaty Series*, vol. 335, p. 211; for subsequent actions, see references in Cumulative Indexes Nos. 4 to 14, as well as annex A in volumes 915, 917, 926, 932, 940, 943, 945, 950, 951, 955, 958, 960, 961, 963, 966, 973, 974, 978, 981, 982, 985, 986, 993, 995, 997, 1003, 1006, 1010, 1015, 1019, 1020, 1021, 1024, 1026, 1031, 1035, 1037, 1038, 1039, 1040, 1046, 1048, 1050, 1051, 1055, 1059, 1060, 1065, 1066, 1073, 1078, 1079, 1088, 1092, 1095, 1097, 1098, 1106, 1110, 1111, 1112, 1122, 1126, 1130, 1135, 1136, 1138, 1139, 1143, 1144, 1145, 1146, 1147, 1150, 1153, 1156, 1157, 1162, 1177, 1181, 1196, 1197, 1198, 1199, 1205, 1211, 1213, 1214, 1216, 1218, 1222, 1223, 1224, 1225, 1235, 1237, 1240, 1242, 1247, 1248, 1249, 1252, 1253, 1254, 1255, 1256, 1259, 1261, 1271, 1273, 1275, 1276, 1277, 1279, 1284, 1286, 1287, 1291, 1293, 1294, 1295, 1299, 1300, 1301, 1302, 1308, 1310, 1312, 1314, 1316, 1317, 1321, 1323, 1324, 1327, 1328, 1330, 1331, 1333, 1335, 1336, 1342, 1347, 1348, 1349, 1350, 1352, 1355, 1358, 1361, 1363, 1364, 1367, 1374, 1379, 1389, 1390, 1392, 1394, 1398, 1401, 1402, 1404, 1405, 1406, 1408, 1409, 1410, 1412, 1413, 1417, 1419, 1421, 1422, 1423 and 1425.

1.5. "Reference centre of the light" means the centre of the light-emitting source;

1.6. "Reference axis of the light" means a vertical axis passing through the reference centre of the light. The manufacturer of the light shall indicate the position of the light in relation to the reference axis.

1.7. *Measuring directions*

The effective intensities shall be determined in directions within an angle of 360° around the reference axis of the lamp:

1.7.1. In a horizontal plane perpendicular to the reference axis and passing through the reference centre of the light;

1.7.2. In circular cones, the generating lines of which produce with the above-mentioned horizontal plane, angles the values of which are indicated in the table in annex 5 to this Regulation.

2. APPLICATION FOR APPROVAL

2.1. The application for approval of a special warning light shall be submitted by the holder of the trade name or mark or by his duly accredited representative. It shall specify whether the warning lamp is intended to emit amber or blue light, and whether it has one level of illumination (class A) or two levels of illumination (class B).

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

2.2.1. Drawings, in triplicate, in sufficient detail to permit identification of the type of the warning lamp and showing in what geometrical position the warning lamp shall be mounted on the vehicle;

2.2.2. A brief technical description stating in particular the category of the lamp provided; this category shall be either one of those recommended in the list of internationally standardized motor vehicle lamps, according to Regulation No. 37[1] annexed to the 1958 Agreement,[2] or a discharge lamp recommended by the lamp manufacturer;

2.2.3. For a special warning light having two levels of illumination, an arrangement diagram and a specification of the characteristics of the system ensuring two levels of illumination;

2.2.4. Two samples, in principle for a rated voltage of 12 volts and for only one colour, and eventually two other samples for any other rated voltage in the case where an application is submitted simultaneously or subsequently for approval of lights of other rated voltages. In this case, it is sufficient to carry out tests according to paragraph 5.3 below;

2.2.5. Two samples only of the cover, where approval is to be extended simultaneously or subsequently for lights of another colour. In this case, it is sufficient to carry out the photometric and colorimetric tests. The same approval number shall be assigned for the different colours, provided that the other characteristics remain unchanged.

3. MARKINGS

3.1. The samples of a type of light submitted for approval must bear the trade name or mark of the applicant; this marking must be clearly legible and indelible.

3.2. Each base and each cover of a light shall include a space of sufficient size for the approval marking; these spaces shall be shown in the drawings mentioned in paragraph 2.2.1 above.

[1] United Nations, *Treaty Series*, vol. 1073, p. 337.
[2] *Ibid.*, vol. 335, p. 211.

3.3. Each base shall be provided with the indication, clearly legible and indelible, of the category of lamp to be used, as well as the rated voltage of the unit.

4. APPROVAL

4.1. If the samples of a type of light which are submitted in pursuance of paragraph 2 above, satisfy the provisions of paragraphs 5, 6 and 7 of this Regulation, approval shall be granted.

4.2. An approval number shall be assigned to each type approved. Its first two digits (at present 00 for the Regulation in its original form) shall indicate the series of amendments incorporating the most recent major technical amendments made to the Regulation at the time of issue of the approval. The same Contracting Party shall not assign the same number to another type of light, except in the cases provided for in paragraph 2.2.5 above.

4.3. Notice of approval or of extension or of refusal of approval of type of light pursuant to this Regulation shall be communicated to the Parties to the Agreement which apply this Regulation by means of a form conforming to the model in annex 1 to this Regulation.

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

4.4.1. An international approval mark consisting of:

4.4.1.1. A circle surrounding the letter "E" followed by the distinguishing number of the country which has granted the approval,[1]

4.4.1.2. An approval number;

4.4.1.3. "A" or "B" according to the class of the unit (see paragraph 2.1).

4.5. A cover may bear more than one approval number.

4.6. The approval mark and the markings referred to in paragraph 3 above shall be clearly legible and indelible even when the light is mounted on the vehicle.

4.7. Annex 2 to this Regulation gives an example of the approval mark.

5. GENERAL SPECIFICATIONS

5.1. 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.

5.2. The light shall be so designed that after it has been mounted correctly on the vehicle, no maladjustment is possible.

5.3. The flash rate f and the "on" time t_H shall correspond to the values indicated in the table in annex 5 to this Regulation. They shall be measured at an ambient temperature of $+23°C \pm 5°C$ and with voltages at the terminals of the device which are between 90 per cent and 115 per cent of the rated voltage. Moreover, starting and correct functioning of the light shall remain assured at temperatures

[1] 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, 11 for the United Kingdom, 12 for Austria, 13 for Luxembourg, 14 for Switzerland, 15 for the German Democratic Republic, 16 for Norway, 17 for Finland, 18 for Denmark, 19 for Romania, 20 for Poland and 21 for Portugal. 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.

between −20°C and +50°C or if the light is exposed to heavy rain, in accordance with the procedure described in annex 4 to this Regulation. Under those conditions, one minute after a voltage equal to 90 per cent of the rated voltage has been applied, the frequency shall remain between 2 and 4 Hz.

5.4. For lamps with rotating beam, the rotation sense, viewed from above, shall be clockwise.

6. PHOTOMETRIC SPECIFICATIONS

The lights shall comply with the conditions prescribed in annex 5 to this Regulation.

7. CHECKING THE COLOUR OF THE COVER

The visual test of the colour of the cover shall be effected by comparing the light emitted when a luminous source having a colour temperature of 3,000 K is used, with the lights obtained by means of appropriate filters in combination with a luminous source of a specific colour temperature and reproducing acceptable limits with satisfactory precision. In the case of warning lights using discharge lamps, the luminous source used inside the Cover shall have a colour temperature of 6,774 K (CIE Standard Source "C"). In the case of doubt, the trichromatic co-ordinates shall be determined; these shall be deduced from the curve of spectral transmission of the cover and shall be calculated for a source having a colour temperature of 3,000 K in the case of a warning light employing a filament lamp, or of 6,774 K in the case of a warning light employing a discharge lamp. The curve of spectral transmission shall be taken in the directions corresponding to the smallest and greatest values of the cover wall thickness, and in a horizontal plane passing through the reference centre.

8. MODIFICATION OF A TYPE OF SPECIAL WARNING LIGHT FOR MOTOR VEHICLES AND EXTENSION OF APPROVAL

8.1. Every modification of a type of special warning light shall be notified to the administrative department which granted the type approval. The department may then either:

8.1.1. Consider that the modifications made are unlikely to have appreciable adverse effects and that in any event the special warning light still complies with the requirements; or

8.1.2. Require a further test report from the technical service responsible for conducting the tests.

8.2. Confirmation or refusal of approval, specifying the alterations, shall be notified by the procedure specified in paragraph 4.3 above to the Parties to the Agreement applying this Regulation.

8.3. The competent authority issuing the extension of approval shall assign a series number to each communication form drawn up for such an extension.

9. CONFORMITY OF PRODUCTION

Every light bearing an approval mark as provided for in this Regulation shall conform to the type approved and shall comply with the conditions specified in paragraphs 5, 6, and 7. A tolerance of 20 per cent is allowed for the minimum values of the luminous intensities.

10. PENALTIES FOR NON-CONFORMITY OF PRODUCTION

10.1 The approval granted for a type of light pursuant to this Regulation may be withdrawn if the foregoing conditions are not observed.

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

11. PRODUCTION DEFINITELY DISCONTINUED

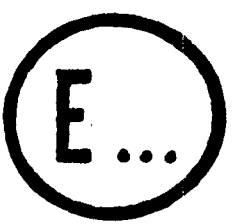
If the holder of the approval completely ceases to manufacture a light approved in accordance with this Regulation, he shall so inform the authority which granted the approval. Upon receiving the relevant communication that authority shall inform thereof the other Parties to the Agreement applying this Regulation by means of a copy of the approval form bearing at the end, in large letters, the signed and dated annotation "PRODUCTION DISCONTINUED".

12. NAMES AND ADDRESSES OF TECHNICAL SERVICES RESPONSIBLE FOR CONDUCTING APPROVAL TESTS, AND OF ADMINISTRATIVE DEPARTMENTS

The Parties to the Agreement which apply this Regulation shall communicate to the United Nations Secretariat the names and addresses of the technical services responsible for conducting approval tests and of the administrative departments which grant approval and to which forms certifying approval or extension or refusal or withdrawal of approval, issued in other countries, are to be sent.

ANNEX 1

(Maximum format: A4 (210 × 297 mm))



(1)

Communication concerning the approval, the refusal of approval, the extension of approval, the withdrawal of approval, the production definitely continued of a type of special warning light for motor vehicles, pursuant to Regulation No. 65

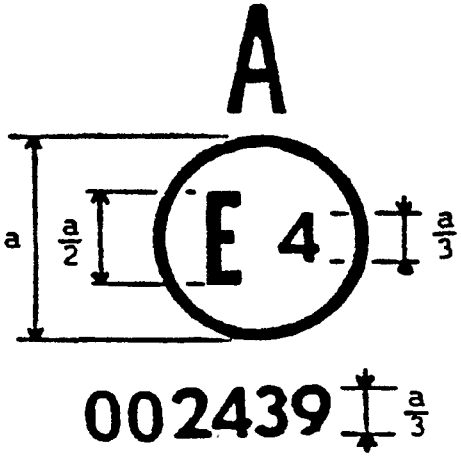
Approval No. ..... Extension No. .....

1. Light provided for emitting blue or amber light .....
2. Light has one/two levels of illumination[2] .....
3. For lights having two levels of illumination, indicate the system used to obtain increased illumination at day-time .....
4. Light using a lamp of the type .....
5. Rated voltage of warning light .....
6. Trade name or mark .....
7. Manufacturer's name and address .....
8. If applicable, name and address of manufacturer's representative .....

(1) Name of administration.
(2) Strike out what does not apply.

9. Submitted for approval on .....
10. Technical service responsible for approval tests .....
11. Date of report issued by that service .....
12. Number of report issued by that service .....
13. Approval granted/refused/extended/withdrawn[2] .....
14. Reason(s) of extension (if applicable) .....
15. Place .....
16. Date .....
17. Signature .....
18. A drawing showing the device in cross-section, and indicating the reference axis and reference centre of the lights is annexed to this communication together with a list of the documents filed with the administration service which has granted the approval .....

ANNEX 2. ARRANGEMENT OF THE APPROVAL MARK



The above approval mark affixed to a special warning light indicates that it has been approved in the Netherlands (E 4), under approval number 002439. The approval number shows that approval was granted in accordance with the requirements of the Regulation in its original form and is a class "A" light.

NOTE. The approval number must be placed close to the circle and must be in a position either above or below the letter "E" or to the left or the right of the letter "E". The digits of the approval number must be on the same side of the letter "E" and face the same way. The use of Roman numerals as approval numbers should be avoided so as to prevent any confusion with other symbols.

[2] Strike out what does not apply.

ANNEX 3. TRICHROMATIC CO-ORDINATES FOR THE LIGHT EMITTED THROUGH THE AMBER OR BLUE FILTERS CONSTITUTING THE COVERS OF SPECIAL WARNING LIGHTS

Under the conditions of paragraph 7 of this Regulation, the trichromatic co-ordinates of light emitted through the filters used for special warning lights shall lie within the following boundaries:

1. *Amber*(*)

   Limit towards yellow: $y = 0.429$

   Limit towards red: $y = 0.398$

   Limit towards white: $z = 0.007$

2. *Blue*

   Limit towards green: $y = 0.065 + 0.805\ x$

   Limit towards white: $y = 0.400 - x$

   Limit towards purple: $x = 0.133 + 0.600\ y$

ANNEX 4. PROCEDURE FOR THE RAIN TEST

A sample of the light, fitted in its normal operating position, with all the drainage apertures open if they exist, shall be subjected to a precipitation of 2.5 mm of water per minute, the water being directed at an angle of 45° and from a nozzle producing a full conical jet.

During the test, the device shall turn on its vertical axis at a rate of 4 turns per minute.

In the case of turning lights, this rotation shall be independent of that provided for in paragraph 1.2.4 of this Regulation.

The test shall last for 12 hours continuously after which the water jet shall be stopped.

One hour later, the sample shall be examined and shall be regarded as having passed the test if the accumulated volume of water does not exceed 2 cc.

ANNEX 5. PHOTOMETRIC SPECIFICATIONS

1. Measurements of the photometric characteristics shall be taken at a distance of at least 25 m.
2. For warning lights having two levels of illumination, measurements shall be carried out for each of the two levels.
3. The lamp used shall be a standard lamp as provided for in Regulation No. 37 corresponding to a lamp of the category specified for the light.
4. For filament lamps the voltage shall be regulated so that the standard lamp provides the required luminous flux. For discharge lamps, the device shall be operated at its rated voltage.
5. For warning lamps having two levels of illumination the effective intensities in various directions shall be as specified in the table below. For warning lamps having one level of illumination the "by night" levels shall apply.

(*) Corresponds to a specific part of the "yellow" zone of the triangle of CIE colours.

6. The effective luminous intensities, the flash rate and the "on" time shall be as specified in the table below:

			Colour	
			Blue	*Amber*
Flash rate F (Hz)	max.		4	
	min.		2	
"On" time t_H (sec)	max.		0.6	
			f	
Minimum value of the effective luminous intensity J_e, within an angle of 360° around the reference axis, (cd)	0°	By day	105	230
		By night	42	100
	±4°	By day	55	—
		By night	22	—
	±8°	By day	—	168
		By night	—	67
Maximum value of the effective luminous intensity J_e, (cd)		By day	1 680	
		By night	670	

Authentic texts of the Regulation: English and French.

Registered ex officio *on 15 June 1986.*