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## Economic Commission for Europe

### Inland Transport Committee

### World Forum for Harmonization of Vehicle Regulations

#### Working Party on Lighting and Light-Signalling

#### Eighty-third session

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Item 4 (c) of the provisional agenda

#### Simplification of lighting and light-signalling UN Regulations:

**UN Regulation No. 149 (Road illumination devices)**

## **Revised proposal to correct and improve the text of UN Regulation No. 149**

### **Submitted by the Informal Working Group on Simplification of Lighting and Light-Signalling Regulations\***

The text reproduced below was prepared by Informal Working Group on Simplification of Lighting and Light-Signalling Regulations (IWG SLR) with the aim to insert missing text and to correct errors inadvertently introduced in the new UN Regulation No. 149. The modifications to the existing text of UN Regulation No. 149 are marked in bold for new or strikethrough for deleted characters.

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\* In accordance with the programme of work of the Inland Transport Committee for 2020 as outlined in proposed programme budget for 2020 (A/74/6 (part V sect. 20) para 20.37), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.



# I. Proposal

Table 8, part A, amend to read:

“Table 8

**Luminous intensities of passing-beam (all intensities expressed in cd)**

Headlamps for RH traffic***, Passing beam of					Class A		Class B		Class D	
		See beam pattern in Annex 4			Figure A4-V		Figure A4-V		Figure A4-VI	
		Position in degrees								
		horizontal		vertical						
No.	Element	at/from	to	at	min	max	min	max	min	max
1	B50L	3.43 L		0.57 U		350		350		350
2	BR	2.50 R		1.00 U		1,750		1,750		
3	Zone III (see Part C)					625		625		625
4	50R	1.72 R		0.86 D	5,100		10,100		12,500	
5	75R	1.15 R		0.57 D	5,100		10,100		12,500	
6	50V	V		0.86 D			5,100		7,500	
7	50L	3.43 L		0.86 D		13,200*		13,200*		18,480
8	75L	3.43 L		0.57 D		10,600		10,600		
9	25L1	3.43L		1.72 D						18,800
10	25L2	9.00 L		1.72 D	1,250		1,700		2,500	
11	25R1	9.00 R		1.72 D	1,250		1,700		2,500	
12	25L3	15.00 L		1.72 D					1,250	
13	25R2	15.00 R		1.72 D					1,250	
14	15L	20.00 L		2.86 D					625	
15	15R	20.00 R		2.86 D					625	
	Segment I A to B	5.15 L	5.15 R	0.86 D					3,750	
	<del>Segment I C to D C-D</del>	2.50 R		1.00 U						1,750
	Segment III and under	9.37 L	8.50 R	4.29 D						12,500
	Zone IV	5.15 L to 5.15 R – 0.86D to 1.72D			1,700		2,500			
	Zone I	9.00 L to 9.00 R – 1.72 D to 4.00 D				17,600		< 2I**		
	<b>E<sub>I</sub>max R</b>	Vertical above 1.72D, right of V-V line								43,800
	<b>E<sub>I</sub>max L</b>	Left of V-V line								31,300

...”

Table 9, part B, amend to read:

“Table 9

**Passing-beam photometric requirements in conjunction with Figure A4-VII**

...

Part B (bending mode): Table 9 applies, however with the lines Nos. 1, 7, 13 and 18 being replaced by those listed hereunder

Part B	1	B50L	L 3.43	-	U 0.57	50 <sup>4</sup>	530	<del>50</del>	<del>350</del>	<del>530</del>	<del>50</del>	<del>625</del>	<del>50</del>	<del>625</del>	<del>790</del>
	7	Zone III	As specified in Table 11			-	880	-	880	-	880	-	880		
	13	50 L	L 3.43	-	D 0.86	1,700	-	1,700	-	3,400	-	3,400	-		
	18	I <sub>max</sub>	-	-	-	10,100	44,100	5,100	44,100	10,100	79,300 <sup>7</sup>	20,300	70,500 <sup>2</sup>		

...”

Annex 7, paragraph 1. (a), amend to read:

- “(a) In the case of a headlamp with an asymmetrical passing-beam pattern:  
at the point for I<sub>max</sub> for driving-beam and in points 25L2, 50 R, B 50 L for passing-beam (or 25R2, 50 L, B 50 R for headlamps designed for left-hand traffic);”

Annex 7, paragraph 1. (d), amend to read:

- “(d) In the case of an AFS:  
at the point for I<sub>max</sub> for driving-beam and in points 25LL, 50V, B 50 L (or ~~R 25RR, 50V, B 50 R for AFS designed for left-hand traffic~~), ~~whichever applies~~ for passing-beam;”

Annex 7, paragraph 2.1.2.2.1. (a) and (b), amend to read:

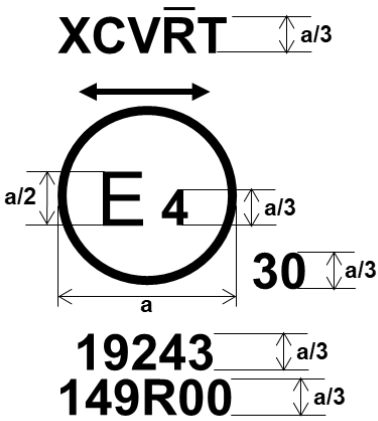

- “(a) Passing-beam, except for AFS system:  
- 50 R - B 50 L – 25L2 for headlamps designed for right-hand traffic;  
- 50 L - B 50 R – 25R2 for headlamps designed for left-hand traffic.
- (b) Passing-beam, for AFS system:  
Class C passing beam and each specified other passing beam class:  
50V, B50L<sub>r</sub> and 25RLL, if applicable”

Annex 13, amend to read:

## “Arrangement of approval marks

The following approval mark arrangements are given merely as examples and any other arrangement made in accordance with paragraph 3.3. of this Regulation is acceptable.

1. Approval mark of a single road illumination device

<p>Figure A13-I - Marking example 1</p>  <p>a = see para. 3.3.1.2.1. of this Regulation</p>	<p>The device bearing the approval mark shown on the left is an installation unit of an AFS approved in the Netherlands (E4) under approval number 19243 pursuant to this Regulation.</p> <p>The number after 149R indicates that approval was granted in accordance with the requirements of this Regulation in its original form (00).</p> <p>The functions identification symbols show that the approval was granted in respect of the driving-beam (R) and the Class C and Class V passing-beam. The double pointed arrow shows that the passing beam is suitable for both traffic systems by means of an appropriate adjustment of the setting of the optical element or the light source on the vehicle. Class C passing-beam, Class V passing-beam and driving-beam comply to bending lighting provisions, as indicated by the letter "T". The score above the letter "R" indicates that the driving-beam function is provided by more than one installation unit on that side of the system.</p> <p>Number 30 indicates that the maximum luminous intensity of the driving-beam is between 123,625 and 145,125 candelas.</p>
<p>Figure A13-II - Marking example 2</p> 	<p>The lamp bearing the approval mark shown on the left is a gas-discharge passing beam headlamp (DC) for left-hand traffic only (arrow) using a plastic lens (PL) approved in France (E2) pursuant to this Regulation 149R as set in the original series of amendments (00) combined with a front position lamp (A) as set in the original series of amendments (00) of the Regulation on Light Signalling Devices 148R. Both lamps (functions) are approved under approval number 3223.</p>

2. Approval mark of grouped, combined or reciprocally incorporated lamps

*Note:* The vertical and horizontal lines schematize the shape of the light-signalling lamp. These lines are not part of the approval mark.

Figure A13-III  
Marking example 3

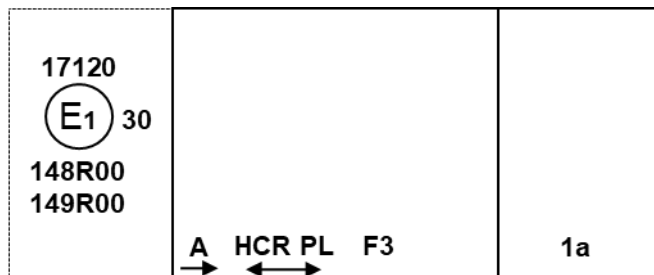
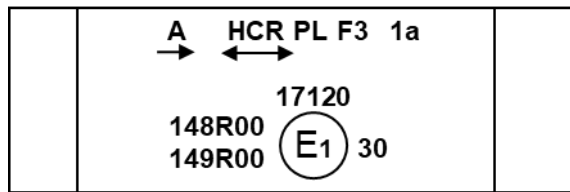


Figure A13-IV  
Marking example 4-a

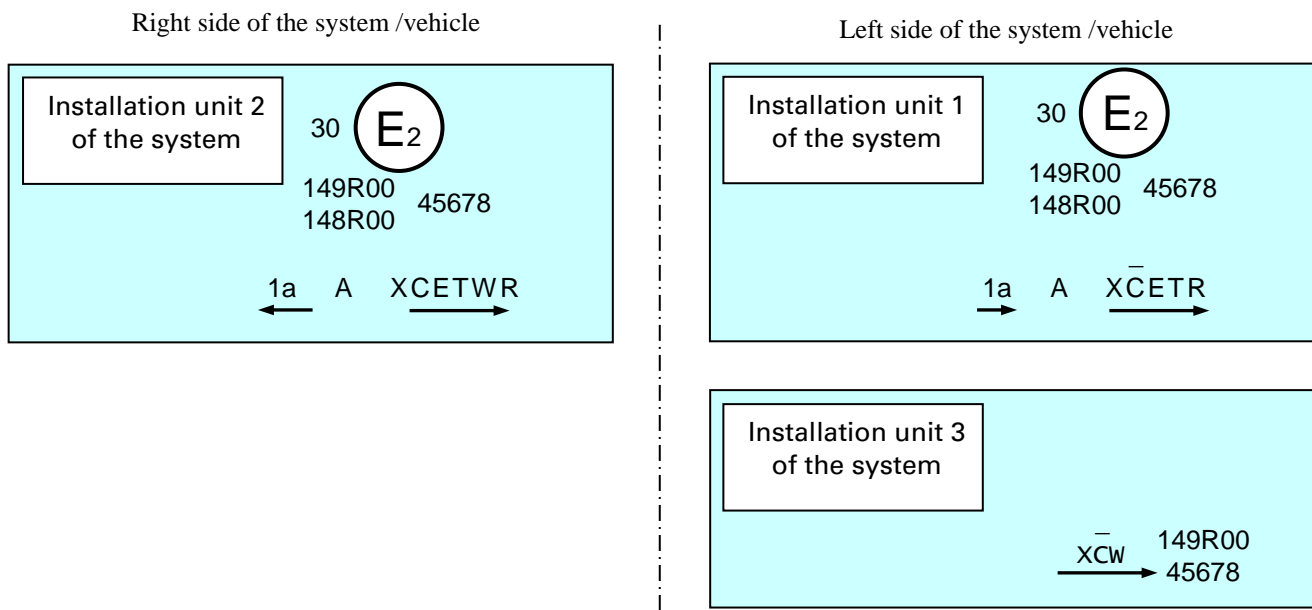


*Note:* The examples in Figures A13-III and A13-IV correspond to a lighting device bearing an approval mark comprising:

- (a) A front position lamp approved in accordance with the 00 series of amendments to UN Regulation No. 148. The horizontal arrow indicates the side on which the required photometric specifications are met up to an angle of 80° H;
- (b) A headlamp, Class B, with a passing-beam designed for right-hand traffic only and a driving-beam with a maximum intensity comprised between 123,625 and 145,125 candelas (as indicated by the number 30), approved in accordance with the requirements of this Regulation, as amended by the 00 series of amendments and incorporating a lens of plastic material;
- (c) A front fog lamp approved in accordance with the 00 series of amendments of this Regulation and incorporating a lens of plastic material;
- (d) A front direction indicator lamp of category 1a approved in accordance with the 00 series of amendments to UN Regulation No. 148.

Figure A13-V  
Marking example 4-b

This example corresponds to an adaptive front-lighting system composed of two installation units for the left side of the vehicle and one installation unit for the right side.



The system bearing the above approval marks meets the requirements of this Regulation (original version of the Regulation) in respect of both a passing-beam for left-hand traffic and a driving-beam with a maximum intensity comprised between 123,625 and 145,125 candelas (as indicated by the number 30) grouped with a front direction indicator lamp of

category 1a and a front position lamp approved in accordance with the 00 series of amendments of UN Regulation No. 148.

The installation unit 1 of the system (left side) is designed to contribute to the Class C passing-beam and the Class E passing-beam. The score above the letter "C" indicates that on that side more than one installation unit contributes to the Class C passing-beam. The letter "T" to the right following the listed symbols indicates that each, the Class C passing-beam and the Class E passing-beam are providing a bending mode.

The installation unit 3 of the system (left side) is designed to provide the second part of the Class C passing-beam of that side (as indicated by the score above the letter "C") and a Class W passing-beam. For this additional lighting unit, a circle surrounding the letter "E" followed by the distinguishing number of the country is not necessary.

The installation unit 2 of the system (right side) is designed to contribute to the Class C passing-beam, a Class E passing-beam, both with bending mode and a Class W passing-beam.

*Note:* In the above example, the different installation units of the system shall bear the same approval number.

### 3. Identification code of light source modules

Figure A13-VI

#### **Light source module marking**

**MD E3 17325**

The light source module bearing the identification code shown in Figure A13-VI has been approved together with a lamp approved in Italy (E3) under approval number 17325.

### 4. Additional lighting units designed to provide bend lighting

Figure A13-VII

#### **Lighting unit marking**

**ALU E43 1234**

The additional lighting unit bearing the identification code shown in Figure A13-VII has been approved together with a headlamp initially approved in Japan (E43) under approval number 1234.

...”

## **II. Justification**

1. The proposals to rename the element “Segment I C to D” in Table 8, to amend the luminous intensity requirements in Table 9, Part B and to correct Annex 7, paragraph 2.1.2.2.1. (a), are alignments with UN Regulations Nos. 98, 112 and 123.

2. The proposal to rename “E<sub>max</sub> R/L” in Table 8 as well as to change Annex 7, paragraph 1. d) is a correction of mistakes already contained in the frozen UN Regulations Nos. 98 and 123 that had been copied into the current UN Regulation No. 149. For this reason, a parallel proposal to correct UN Regulations Nos. 98 and 123 has been prepared by IWG SLR (see ECE/TRANS/WP.29/GRE/2020/11/Rev.1).

3. Annex 13 has been editorially improved without changing its contents. An additional marking example 4-b (Figure A13-V) has been inserted to clarify the required markings for an additional lighting unit of an adaptive front-lighting system. This additional example was copied from example 8 (Figure 13) of UN Regulation No. 123.