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Collective amendments - UN Regulations Nos. 98, 112 and 123

Proposal for Collective amendments to Regulations Nos. 98, 112 and 123

Submitted by the expert from the Working Party "Brussels 1952"*

The text reproduced below was prepared by the expert from the Working Party "Brussels 1952" (GTB) to introduce amendments that improve the accuracy of the test procedures to verify the stability of the photometric performance. The modifications to the existing text of the Regulation are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2010–2014 (ECE/TRANS/208, para. 106, ECE/TRANS/2010/8, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

I. Proposal

Regulation 98, Supplement 4 to the 01 series:

Annex 4, Paragraph 1.1.2.2., amend to read:

"1.1.2.2. Photometric test:

To comply with the requirements of this Regulation, the photometric values shall be verified in the following points:

Passing beam:

50 R - B 50 L – ~~HV~~ **25L** for headlamps designed for right-hand traffic
~~50 L - B 50 R - HV for headlamps designed for left-hand traffic.~~

Driving beam: Point I_{max}

Another aiming may be carried out to allow for any deformation of the headlamp base due to heat (the change of the position of the cut-off line is covered in paragraph 2. of this annex).

Except for point B50L, ~~A~~ **a** 10 per cent discrepancy between the photometric characteristics and the values measured prior to the test is permissible including the tolerances of the photometric procedure. **The value measured at point B50L shall not exceed the photometric value measured prior to the test by more than 170 cd.**"

Regulation 112, Supplement 4 to the 01 series:

Annex 4, Paragraph 1.1.2.2., amend to read:

"1.1.2.2. Photometric test:

To comply with the requirements of this Regulation, the photometric values shall be verified in the following points:

Passing beam:

50 R - B 50 L – ~~HV~~ **25L** for headlamps designed for right-hand traffic
~~50 L - B 50 R - HV for headlamps designed for left-hand traffic.~~

Driving beam: Point I_{max}

Another aiming may be carried out to allow for any deformation of the headlamp base due to heat (the change of the position of the cut-off line is covered in paragraph 2. of this annex).

Except for point B50L, ~~A~~ **a** 10 per cent discrepancy between the photometric characteristics and the values measured prior to the test is permissible including the tolerances of the photometric procedure. **The value**

measured at point B50L shall not exceed the photometric value measured prior to the test by more than 170 cd."

Annex 10, paragraph 4.3.1.1., amend to read:

"4.3.1.1. A photometric measurement of the headlamp shall be made after 1 minute of operation for the specific function at the test point specified below. For these measurements, the aim can be approximate but must be maintained for before and after ratio measurements.

Test points to be measured:

Passing beam ~~50 V~~ **25R**

Driving beam HV "

Regulation 123, Supplement 4 to the 01 series:

Annex 4, Paragraph 1.1.2.2., amend to read:

"1.1.2.2. Photometric test:

To comply with the requirements of this Regulation, the photometric values shall be verified in the following points:

Class C passing beam, and each specified other passing beam class: 50V, B50L ~~(or R)~~, and ~~HV~~ 2**5RR**, if applicable.

Driving beam, under neutral state conditions: point of I_{max}.

Another aiming may be carried out to allow for any deformation of the test sample base due to heat (the change of the position of the cut-off line is covered in paragraph 2. of this annex).

Except for points B50L, ~~A~~ **a** 10 per cent discrepancy between the photometric characteristics and the values measured prior to the test is permissible including the tolerances of the photometric procedure. **The value measured at point B50L shall not exceed the photometric value measured prior to the test by more than 170 cd.**"

Annex 11, paragraph 4.3.1.1, amend to read:

"4.3.1.1. For each existing class of passing beam and for the driving beam, a photometric measurement shall be carried out after one minute of operation of the respective lighting units and for the following test points:

Passing beam: ~~50V~~ **25RR**
Driving beam: HV "

II. Justification

The following amendments are proposed to improve the accuracy of the tests for verifying the stability of photometric performance:

(a) Replacement of the test point HV with 25L and the test point 50V with 25R (Regulations 98 and 112). Replacement of the test point HV with 25RR and the test point 50V with 25RR (Regulation 123):

The points HV and 50V are located close to, or within, the cut-off line. Due to the intensity gradient through the cutoff, a small vertical movement of the beam pattern within the allowed limits can easily lead to a change of more than 10 per cent, not caused by temperature variations, of the measured luminous intensity value. This means that the test is too severe for good headlamps having low glare and to avoid this problem it is proposed to use measuring points within an area of the low beam pattern that is expected to be more homogeneous.

(b) Amendment to the requirement for the maximum value at the B50L test point (Regulations Nos. 98, 112 and 123):

At the B50L test point very low initial values are found that are too sensitive for the heat test because a 10 per cent change of a small value will be a value below the specified maximum in any case. It is proposed to specify an absolute value of 170 cd instead of a percentage value for this test procedure.