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Proposal for Supplement 4 to the 01 Series of Regulation No. 113 (Headlamps emitting a symmetrical passing-beam)

Submitted by the expert from the International Automotive Lighting and Light Signalling Expert Group (GTB)*

The text reproduced below was prepared by the expert from the GTB to introduce amendments that improve the accuracy of the test procedures that 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.

I. Proposal

Annex 4, first paragraph, amend to read:

"Once the photometric values have been measured according to the prescriptions of this Regulation, in the point for I_{max} for driving beam and in points **0.50U/1.5L and 0.50U/1.5R** ~~HV~~, 50R, 50L for Class B passing beam and in points 0.86D-3.5R, 0.86D-3.5L, 0.50U-1.5L~~,~~ **and** 0.50U-1.5R ~~and HV~~ for Classes C, D and E, for passing beam a complete headlamp sample shall be tested for stability of photometric performance in operation. "Complete headlamp" shall be understood to mean the complete lamp itself, including

* 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.

those surrounding body parts, filament lamps, gas discharge light sources or LED module(s) which could influence its thermal dissipation.

The tests shall be carried out: ……..."

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:

For Class B headlamp:

Passing beam: 50R - 50L - ~~HV.~~ **0.50U/1.5L and 0.50U/1.5R.**

Driving beam: Point of I_{max}

For Classes C, D and E headlamp:

Passing beam: 0.86D/3.5R - 0.86D/3.5L - 0.50U/1.5L and 1.5R ~~HV~~.

Driving beam: Point of 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 points 0.50U/1.5L and 0.50U/1.5R ,~~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 points 0.50U/1.5L and 0.50U/1.5R shall not exceed the photometric value measured prior to the test by more than 255cd.** "

II. Justification

1. These proposed amendments, to improve the accuracy of the tests for verifying the stability of photometric performance to Regulation No. 113, follow the approach adopted by GRE at its sixty-seventh session based upon ECE/TRANS/WP.29/GRE/2012/10. They complete the collective amendment to the headlamp UN Regulations Nos. 98, 112, 113 and 123.

2. The reasons for the changes are as follows:

(a) Replacement of the test point HV with points 0.50U/1.5L and 0.50U/1.5R is proposed because the HV point is located close to the cut-off line and, due to the intensity gradient through the cut-off, 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) At the 0.50U/1.5L and 0.50U/1.5R test points, 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. An absolute value of 225cd is proposed instead of a percentage value for this test procedure.