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Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations**Working Party on Lighting and Light-Signalling****Eighty-ninth session**

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Item 6 (a) of the provisional agenda

Installation UN Regulations:**UN Regulation No. 48 (Installation of Lighting and Light-Signalling Devices)****Proposal for a Supplement to the 08 [and 09] series of amendments to UN Regulation No. 48 and to the 01 series of amendments to UN Regulation No. 148****Submitted by the experts from the International Automotive Lighting and Light-Signalling Expert Group ***

The text reproduced below was prepared by the experts from the International Automotive Lighting and Light-Signalling Expert Group (GTB) with the aim to improve the definition of photometric stability. The proposed modifications to the current text of the UN Regulations are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2023 as outlined in proposed programme budget for 2023 (A/77/6 (Sect. 20), table 20.6), 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

A. Proposal for a Supplement to the 08 [and 09] series of amendments to UN Regulation No. 48

Paragraph 2.10.8., amend to read:

“2.10.8. *"Photometric stability has occurred"* means the variation of the luminous intensity for the specified test point is less than 3 per cent within any 15 minute period **or, alternatively less than 1 per cent within any 5 minute period.**”

B. Proposal for a Supplement to the 01 series of amendments to UN Regulation No. 148

Annex 8, paragraph 1.2.2., amend to read:

“1.2.2. For all other lamps, the luminous intensities measured after 1 min and **either**
- after 30 minutes of operation, **or**
- **after photometric stability has occurred**

shall comply with the minimum and maximum requirements.

Operation of direction indicator lamps shall be done in flashing mode ($f = 1.5$ Hz, duty factor 50 per cent).

The luminous intensity distribution after 1 min of operation may be calculated from the luminous intensity distribution **either** after 30 min of operation **or after photometric stabilization**, by applying at each test point the ratio of luminous intensities measured at HV after 1 min and **either** after 30 min of operation **or after photometric stabilization.**”

II. Justification

For UN Regulation No. 48 amendments

1. Depending on the light source technology, the luminous intensity varies at the beginning until it reaches a more stable phase. Therefore, the time to start the measurement may often be longer than 15 min.
2. The light emitted by some lamps reaches a quite stable phase after a short period. In such cases, the measurement can be started after a shorter period of time. However, the existing requirements do not allow this, because at least 15 minutes shall always be waited.
3. With the proposed improvements to the definition of photometric stability, the measurement time can be reduced without any loss of measurement accuracy, since a variation of 1 per cent can be easily identified.

For UN Regulation No. 148 amendments

4. Depending on thermodynamic characteristics of the lamp, the stabilization may occur in less than 30 minutes. In such a case there would be no need to wait for more time.
5. The proposed solution is intended to align the start of measurements between UN Regulations Nos. 148 and 149 (where a reference to “photometric stability” is already present, e.g. in paragraphs 1.2.1. and 1.2.2. of Annex 10) and, further to the parallel amendment to UN Regulation No. 48, it will also allow a measurement after a defined time which is at least 5 minutes.