



# Economic and Social Council

Distr.: General  
28 August 2012

English only

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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

#### Sixty-eighth session

Geneva, 16–18 October 2012

Item 5(g) of the provisional agenda

**Collective amendments: Regulation Nos. 48 and 119**

## **Proposal for collective amendments to Regulations Nos. 48 and 119**

### **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) deleting the 1 candela requirement for geometric visibility. The modifications to the existing text of the Regulation 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 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

### A. Proposal for Supplement 11 to the 04 series of amendments to Regulation No. 48

*Paragraph 6.2.5.*, amend to read:

"6.2.5. Geometric visibility

Defined by angles  $\alpha$  and  $\beta$  as specified in paragraph 2.13.:

$\alpha = 15^\circ$  upwards and  $10^\circ$  downwards,

$\beta = 45^\circ$  outwards and  $10^\circ$  inwards.

Since the photometric values required for dipped-beam headlamps do not cover the full geometric field of vision, a minimum value of 1 cd in the space remaining is required for type-approval purposes. The presence of partitions or other items of equipment near the headlamp shall not give rise to secondary effects causing discomfort to other road users."

*Paragraph 6.3.5.*, amend to read:

"6.3.5. Geometric visibility

Defined by angles  $\alpha$  and  $\beta$  as specified in paragraph 2.13.,

$\alpha = 5^\circ$  upwards and downwards,

$\beta = 45^\circ$  outwards and  $10^\circ$  inwards.

~~Since the photometric values required for front fog lamps do not cover the full geometric field of vision, a minimum value of one cd in the space remaining is required for type-approval purposes.~~ The presence of partitions or other items of equipment near the front fog lamp shall not give rise to secondary effects causing discomfort to other road users.<sup>1/</sup>"

### B. Proposal for Supplement 3 to the 01 series of amendments to Regulation No. 119

*Paragraph 6.4.*, should be deleted.

*Paragraph 6.5.*, renumber as paragraph 6.4.,

## II. Justification

1. Angular requirements relating to geometric visibility are specified in Regulation No. 48 because they are determined by the particular installation on the vehicle to be type approved. In the case of dipped beam headlamps and front fog lamps, a photometric requirement (1 cd minimum) was also introduced into Regulation No. 48 because the required angles of geometric visibility are larger than the photometric grid specified in the device regulation.

2. The introduction of a photometric requirement into Regulation No. 48 has created problems during a vehicle type approval because it is not possible to verify photometric performance. It is therefore necessary to verify the 1 cd geometric visibility requirement

during the photometric testing of the device but this requires the device to be measured taking account of any obstructions that may be present on the vehicle. This is difficult to achieve with a device that is dedicated to one vehicle installation but becomes more difficult and costly in the case where a device is installed on a multitude of different vehicles; implying that a device type approval is required for every possible vehicle installation.

3. Following a detailed discussion in the GTB Photometry and Installation Working Groups, it was concluded that the 1 cd requirement should be removed from Regulation No. 48 for the dipped beam and front fog lamp and from the Regulation No. 119 relating to the cornering lamp. These lamps are road illuminating devices and are fundamentally different to signalling functions for which the geometrical visibility is essential to assure the correct functioning of the device. Road illuminating devices are not necessarily required to be visible to other road users because:

- Dipped beams are always required to be activated with the other lamps, see paragraph 5.12. of Regulation No. 48.
- In the case that the headlamp is reciprocally incorporated or grouped with the position lamps, the geometrical visibility is automatically satisfied for the position lamp and the specification in Regulation No. 7 and in paragraph 6.9. of Regulation No. 48.
- In the case that the position lamps are substituted by the headlamps the relevant requirements are in paragraph 5.12. of Regulation No. 48 and the geometrical visibility is automatically satisfied for the position lamp specification in Regulation No. 7 and in paragraph 6.9. of Regulation No. 48.
- Front fog lamps are always required to be activated with the other lamps see paragraph 5.12. of Regulation No. 8.
- Cornering lamps are always used with other lamps e.g. direction indicator so a specific geometric visibility requirement is not required.

4. For these dipped beam headlamps, front fog lamps and cornering lamps it is important that the required light distribution is not disturbed or partly obscured and this will be checked by the measurements during the type approval tests of the devices. Further, in the case where grids or additional lenses or special installations will be used, the measurements will be repeated in the same way as for the approval. Therefore, it is concluded that the 1 cd requirement is redundant.