

**Economic and Social Council**Distr.: General  
11 August 2014

Original: English

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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****Seventy-second session**

Geneva, 20–22 October 2014

Item 4 (b) (i) of the provisional agenda

**1958 Agreement - Regulations****Regulation No. 48 (Installation of lighting and light-signalling devices) –****Proposal for amendments to the 04, 05 and 06 series of amendments****Proposal for Supplements to the 04, 05 and 06 series of amendments to Regulations No. 48 (Installation of lighting and light-signaling devices)****Submitted by the experts from France\***

The text reproduced below was prepared by the experts from France to delete a design restrictive requirement on the basis of recent studies done by the International Automotive Lighting and Light Signalling Expert Group (GTB). 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 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, 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

Paragraph 6.2.9., amend to read:

"6.2.9. Other requirements

The requirements of paragraph 5.5.2. shall not apply to dipped-beam headlamps.

Dipped-beam headlamps with a light source or LED module( s) producing the principal dipped beam and having a total objective luminous flux which exceeds 2,000 lumens shall only be installed in conjunction with the installation of headlamp cleaning device( s) according to Regulation No. 45.<sup>11</sup>

With respect to vertical inclination the provisions of paragraph 6.2.6.2.2. above shall not be applied for dipped-beam headlamps:

~~(a) with LED module(s) producing the principal dipped beam, or~~

~~(b)~~ with a light source **or LED module(s)** producing the principal dipped beam and having an objective luminous flux which exceeds 2,000 lumens.

In the case of filament lamps for which more than one test voltage is specified, the objective luminous flux which produces the principal dipped beam, as indicated in the communication form for the type approval of the device, is applied...."

## II. Justification

1. The GTB study (March 2012, Klettwitz, Germany) shows that the light source type does not have any influence on glaring of the other road users. Thus, there is no reason to require an automatic leveling device for all headlamps with light emitting diode (LED) light sources, whatever is the luminous flux of the light source. The use of automatic leveling device for all kinds of LED headlamps is a hurdle for the development of this technology.

2. The use of LED in automotive lighting should be pushed forwards, as they have several advantages such as:

- Energy saving: LEDs have a consumption of roughly 30/40W for both headlamps compared to 137W with the current technology. According to the technical guidelines of the European Union (EU), it implies a decrease of CO<sub>2</sub> emissions by 1,0g (based on the data of the EU technical guidelines of February 2013). Additionally, this technology is well adapted to the small urban cars (e.g. electrical engine powered vehicles).
- Reliability: LEDs have a life time much higher than halogen light sources, which should reduce the number of "blind in one eye" cars on the roads.

3. This document proposes to harmonize the leveling requirements of LED headlamps with the headlamps using other light source types, such as xenon and halogen.