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Item 5 of the provisional agenda

UN Regulations Nos. 37 (Filament lamps), 99 (Gas discharge light sources), 128 (Light emitting diodes light sources) and the Consolidated Resolution on the common specification of light source categories

Proposal for Supplement [10] to the original version of UN Regulation No. 128 (Light emitting diodes light sources)

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 GTB to amend requirements for light emitting diode (LED) light sources. There is an associated amendment to the Consolidated Resolution on the common specification of light source categories (R.E.5) (ECE/TRANS/WP.29/GRE/2019/16). The modifications to the existing text of the UN 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 2018–2019 (ECE/TRANS/274, para. 123 and ECE/TRANS/2018/21/Add.1, cluster 3.1), 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

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I. Proposal

Paragraph 3.11.2.2., amend to read:

“3.11.2.2. In case in the relevant data sheet only one side of the light emitting area is specified as to generate the cut-off, **at least one of the following provisions shall apply:**

- (a) **The value of the maximum luminance gradient $G_{50\mu m, max}$, determined according to Annex L of IEC Publication 60809, Edition 4, shall not be less than the value given in the relevant category sheet, if any; or**
- (b) **Zzone 1b shall have a position closer to the corresponding side of zone 1a than to the opposite side.”**

II. Justification

1. The current text of UN Regulation No. 128, paragraph 3.11. requires a certain “asymmetry” of the Light Emitting Area (LEA). This was introduced to ensure a “minimum worst-case gradient”. However, the current requirement is seen as too design restrictive.

2. It is proposed to insert a minimum luminance gradient as an alternative and more direct requirement. The International Electrotechnical Commission (IEC) body SC34A/WG2 has developed a method how to measure / calculate the luminance gradient for LED light sources. This method is added to standard IEC 60809 as a new Annex L “Method to determine the maximum luminance gradient of LED light sources”.

3. In order to provide an alternative of the minimum luminance gradient the corresponding new wording was added to the existing wording of paragraph 3.11.2.2. The old wording was maintained as one of the alternatives.

4. As a consequence of this proposal, there is a related proposal (ECE/TRANS/WP.29/GRE/2019/16) to the category L1A/6, L1B/6 sheet in the Consolidated Resolution on the common specification of light source categories (R.E.5).
