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Working Party on the Construction of Vehicles

Working Party on Lighting and Light-Signalling (GRE)

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agenda item 5.2.)

PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 48

(Installation of lighting and light-signalling devices)

Transmitted by the Expert from the Working Party "Brussels 1952" (GTB)

Note: The text reproduced below was prepared by the expert from GTB with a view to introduce some technical conditions to allow high intensity light sources to be fitted in dipped beam headlamps.

Note: This document is distributed to the Experts on Lighting and Light-Signalling only.

GE.98-2310

A. PROPOSAL

Insert new paragraph 2.7.25. and 2.7.26., to read:

- "2.7.25. "reference luminous flux", means a specified value of a standard (étalon) filament lamp to which the photometric characteristics of a lighting device are referred.
- 2.7.26. "objective luminous flux" means a design value of the luminous flux of a replaceable light source. To be achieved, within the specified tolerances, when the replaceable light source is energized by the power supply at the specified test voltage as indicated in the data sheet of the light source."

Paragraph 6.2.9., amend the last subparagraph to read:

"....

Dipped beam headlamps

- with filament lamps according to Regulation No. 37 having a reference luminous flux which exceeds 1.700 lumen
- or, with gas discharge light sources according to Regulation No. 99 having an objective luminous flux which exceeds 2000 lumen.

Shall only be installed in conjunction with the installation of headlamp cleaning device(s) according to Regulation No. 45 4/. In addition, with respect to vertical inclination, the provisions of paragraph 6.2.6.2.2. shall not be applied.

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B. JUSTIFICATION

In 1995 Regulation No. 48 was amended to mandate headlamp cleaning and automatic headlamp levelling for headlamps equipped with gas discharge light sources. The reason for that amendment was the higher luminous flux from the light sources and the expected higher luminous intensities of the headlamp below the cut-off. Pending the introduction of other high luminous flux light sources, GTB was requested to make a proposal on "whether and under what conditions such high intensity light sources can be used for dipped beam headlamps." See reports of GRE-38 and GRE-39.

The following aspects were considered:

- new light sources are desired by vehicle and headlamp manufacturers to produce improved beam patterns - particularly for wider distribution and for better optical guidance/visibility in adverse weather conditions;
- technical progress shall be encouraged;
- risk of glare shall be minimized. To this aim - pending more fundamental knowledge from research - the "luminous flux of the light source" is considered the best possible criterion for evaluation of glare.
