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1958 Agreement – Consideration of draft amendments to existing Regulation submitted by GRE

Proposal for Supplement 1 to the 01 series of amendments to Regulation No. 123 (Adaptive front lighting Systems (AFS))

Submitted by the Working Party on Lighting and Light-Signalling (GRE)*

The text reproduced below was adopted by the Working Party on Lighting and Light-Signalling (GRE) at its sixty-fourth session. It is based on ECE/TRANS/WP.29/GRE/2010/42, as amended by Annex IV to the report, on ECE/TRANS/WP.29/GRE/2010/47 not amended, and on ECE/TRANS/WP.29/GRE/2010/48 and ECE/TRANS/WP.29/GRE/2010/50, both as amended by Annex XII to the report. It is submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) and to the Administrative Committee (AC.1) for consideration (ECE/TRANS/WP.29/GRE/64, paras. 19 and 38).

* In accordance with the programme of work of the Inland Transport Committee for 2006–2010 (ECE/TRANS/166/Add.1, 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.

Paragraph 1.9., amend to read:

"1.9. "*Neutral state*" means…. or of the main beam, if any, in the maximum condition of activation is produced, and no AFS control signal applies;"

Insert a new paragraph 2.1.7., to read:

"2.1.7. If the system is designed to provide an adaptive driving-beam;"

Paragraphs 5.3. to 5.3.2., amend to read:

"5.3. Replaceable and non-replaceable light sources and LED modules:

5.3.1. The system shall be equipped with one or a combination of:

5.3.1.1. Light sources that are approved according to Regulation No. 37 and their series of amendments in force at the time of application for type approval and for which no restriction on the use is made;

5.3.1.2. Light sources that are approved according to Regulation No. 99;

5.3.1.3. LED module(s).

5.3.2. If a light source is replaceable:

5.3.2.1. The lamp holder shall conform to the characteristics given on the data sheet of IEC Publication No. 60061, as referred to in the relevant light source Regulation.

5.3.2.2. The design of the device shall be such that the filament lamp can be fixed in no other position but the correct one.

5.3.3. The class C (basic) passing beam shall be equipped only with replaceable light sources or LED modules."

Paragraph 5.7.2., amend to read:

"5.7.2. Except in the case of adaptation of the driving-beam, either the passing beam or the driving beam shall always be obtained, without any possibility of remaining in an intermediate or undefined state; if this is not possible, such a state must be covered by the provisions according to paragraph 5.7.3. below;"

Insert new paragraphs 6.3.6. to 6.3.7.2., to read:

"6.3.6. In the case of adaptation of the driving-beam function the system shall meet the requirements of the above paragraphs only when it is in the maximum condition of activation.

6.3.7. During adaptation, the driving-beam function shall meet the requirements for all the cases of Right-Hand and Left-Hand traffic specified in Part A of Table 7 in Annex 3 to this Regulation. These requirements shall be verified during the type approval testing in conjunction with a signal generator to be provided by the applicant. This signal generator shall reproduce the signals provided by the vehicle and cause the adaptation of the driving-beam and in particular shall represent the settings so that the photometric compliance can be verified.

6.3.7.1. If the driving-beam function meets the requirements in Part A of Table 7 in Annex 3 to this Regulation specified for line 1 to line 3 for oncoming and preceding vehicles (symmetrical beam) the relevant information shall be noticed in the communication document in Annex 1, paragraph 18.5.

6.3.7.2. If the requirements of paragraph 6.3.7. above can be met for Right-Hand traffic or Left-Hand traffic only, the relevant information shall be reported in the communication document in Annex 1, paragraph 18.5."

Annex 1, insert a new item 18.5., as follows:

"18.5. The system is designed to provide an adaptation of the driving-beam for:

Right-Hand and Left-Hand traffic : ☐ yes ☐ no

Right-Hand and Left-Hand traffic (symmetrical beam): ☐ yes ☐ no

Right-Hand traffic only : ☐ yes ☐ no

Left-Hand traffic only : ☐ yes ☐ no"

Annex 3, table 1, amend to read:

"*Table 1*

Passing beam photometric requirements

	tabled requirements expressed in cd		Position /deg				passing beam											
			horizontal			vertical	class C		class V		class E				class W			
	No	Element	at/	from	to	at	min	max	min	max	min	max			min	max		
Part A	1	B50L	L	3,43		U 0,57	50 4/	350	50	350	50	625	8/		50	625		
	2	HV	V			H	50 4/	625	50	625	50				50			
	3	BR	R	2,5		U 1	50 4/	1 750	50	880	50	1 750			50	2 650		
	4	Segment BRR	R	8	R 20	U 0,57	50 /4	3 550		880		3 550				5 300		
	5	Segment BLL	L	8	L 20	U 0,57	50 4/	625		880		880				880		
	6	P	L	7		H	63								63			
	7	Zone III (as specified by Table 3 of this annex)						625		625		880				880		
	8a	S50, S50LL, S50RR 5/				U 4	63 7/				63 7/				63 7/			
	9a	S100, S100LL,S100RR 5/				U 2	125 7/				125 7/				125 7/			
	10	50 R	R	1,72		D 0,86			5 100									
	11	75 R	R	1,15		D 0,57	10 100				15 200				20 300			
	12	50 V	V			D 0,86	5 100		5 100		10 100				10 100			
	13	50 L	L	3,43		D 0,86	3 550	13 200	3 550	13 200	6 800				6 800	26 400	9/	
	14	25 LL	L	16		D 1,72	1 180		845		1 180				3 400			
	15	25 RR	R	11		D 1,72	1 180		845		1 180				3 400			
	16	Segment 20 and below it	L	3,5	V	D 2										17 600		2/
	17	Segment 10 and below it	L	4,5	R 2,0	D 4		12 300	1	12 300	1		12 300	1/		7 100		2/
	18	Emax 3/					16 900	44 100	8 400	44 100		16 900	79 300	8/	29 530	70 500		2/
Part B (bending modes): Table 1 Part A applies, however with the lines No.1, 2, 7, 13 and 18 being replaced by those listed hereunder																		
Part B	1	B50L	L	3.43		U 0.57	50 4/	530		530						790		
	2	HV					50 4/	880		880								
	7	Zone III (as specified by Table 3 of this annex)						880		880		880				880		
	13	50L	L	3.43		D 0.86	1 700		1 700		3 400				3 400			
	18	Emax 6/					10 100	44 100	5 100	44 100	10 100	79 300	8/		20 300	70 500		2/

"

Annex 3, table 1, footnote [4], amend to read:

"[4] The contribution of each side of the system (for segment BLL and BRR: of at least one point), when measured according to the provisions of Annex 9 to this Regulation shall not be less than 50 cd."

Annex 3, after table 6, insert a new table 7, as follows:

"Table 7

Requirements concerning the adaptation of the driving-beam according to paragraph 6.3.7 of this Regulation

Part A	*Test Point*	*Position / deg.*		*Max. Intensity* **
		Horizontal	*Vertical*	*(cd)*
	Line 1 Left Oncoming vehicle at 50 m in the case of Right-Hand Traffic	4.8°L to 2°L	0.57°Up	625
	Line 1 Right Oncoming vehicle at 50 m in the case of Left-Hand Traffic	2°R to 4.8°R	0.57°Up	625
	Line 2 Left Oncoming vehicle at 100 m in the case of Right-Hand Traffic	2.4°L to 1°L	0.3°Up	1 750
	Line 2 Right Oncoming vehicle at 100 m in the case of Left-Hand Traffic	1°R to 2.4°R	0.3°Up	1 750
	Line 3 Left Oncoming vehicle at 200 m in the case of Right-Hand Traffic	1.2°L to 0.5°L	0.15°Up	5 450
	Line 3 Right Oncoming vehicle at 200 m in the case of Left-Hand Traffic	0.5°R to 1.2°R	0.15°Up	5 450

	Line 4 Preceding vehicle at 50 m in the case of Right-Hand Traffic	1.7°L to1.0°R	0.3°Up	1 850
		>1.0° R to 1.7°R		2 500
	Line 4 Preceding vehicle at 50 m in the case of Left-Hand Traffic	1.7°R to1.0°L		1 850
		>1.0° L to 1.7°L		2 500
	Line 5 Preceding vehicle at 100 m in the case of Right-Hand Traffic	0.9° L to 0.5°R	0.15°Up	5 300
		>0.5°R to 0.9°R		7 000
	Line 5 Preceding vehicle at 100 m in the case of Left-Hand Traffic	0.9° R to 0.5°L		5 300
		>0.5°L to 0.9°L		7 000
	Line 6 Preceding vehicle at 200 m in the case of Left-Hand Traffic and Right-Hand Traffic	0.45°L to 0.45°R	0.1°Up	16 000

Part B	*Test Point*	*Position /degrees **		*Min. Intensity ***
		Horizontal	*Vertical*	*(cd)*
	50R	1.72 R	D 0.86	5 100
	50V	V	D 0.86	5 100
	50L	3.43 L	D 0.86	2 550
	25LL	16 L	D 1.72	1 180
	25RR	11 R	D 1.72	1 180

* Angular positions are indicated for right-hand traffic.

** The photometric requirements for each single measuring point (angular position) of this lighting function apply to half of the sum of the respective measured values from all lighting units of the system applied for this function.

Each of the lines defined in part A of table 7, in conjunction with the test points as prescribed in part B of table 7 shall be measured individually corresponding to the signal provided by the signal generator.

In the case where the passing beam, which meets the requirements of paragraph 6.2., is continuously operated in conjunction with the adaptation of the driving beam, the photometric requirements in Part B of the table 7 shall not be applied."

Annex 4, amend to read:

"TESTS FOR STABILITY OF PHOTOMETRIC PERFORMANCE OF

SYSTEMS IN OPERATION

TESTS ON COMPLETE SYSTEMS

Once the ……..

For the purpose of this annex:

(a) …

(b) …

(c) …

The tests shall be carried out:

(a) …

(b) …

(c) In the case of a system providing an adaptation of the driving-beam, the driving-beam shall be in the maximum condition if activated.

The measuring equipment ……."

Annex 4, paragraph 1.1.1.1.(d), amend to read:

"1.1.1.1. …

…

(d) In the case of a test sample designed to provide a passing beam bending mode or a mode or function which is activated for a short time with an additional light source being energized, said light source shall simultaneously be switched on for 1 minute, and switched off for 9 minutes during the activation of the passing beam only, specified in (a) or (b) above."