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Working Party on Lighting and Light-Signalling

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Item 5.5. of the provisional agenda

**PROPOSAL FOR DRAFT COLLECTIVE CORRIGENDA TO  
REGULATIONS Nos. 19 AND 37**

Submitted by the expert from Italy

Note: The text reproduced below was jointly prepared by the experts from the Czech Republic, France, Italy, the Netherlands and the United Kingdom in order to delete the limiting 12-month period for granting of approvals for class B front fog lamps equipped with light sources of categories H21W, PSX24W and PX24W.

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

A.1. PROPOSAL FOR DRAFT CORRIGENDUM 1 TO SUPPLEMENT 11 TO THE 02 SERIES OF AMENDMENTS TO REGULATION No. 19 (Front fog lamps)

Paragraph 15.4., should be deleted.

A.2. PROPOSAL FOR DRAFT CORRIGENDUM 1 TO SUPPLEMENT 27 TO THE 03 SERIES OF AMENDMENTS TO REGULATION No. 37 (Filament lamps)

Annex 1.

The list of categories of filament lamps and their sheets, for categories H21W, PSX24W and PX24W, the reference to footnote \*\*\*\*/ and footnote \*\*\*\*/, should be deleted.

B. BACKGROUND

At its fifty-fifth session, the Working Party on Lighting and Light-Signalling (GRE) adopted draft Supplement 11 to the 02 series of amendments to Regulation No. 19, introducing a new paragraph 15.4., which reads as follows:

"15.4. Granting of approvals for front fog lamps marked "B" as defined in this Regulation equipped with light source categories H21W, PSX24W and PX24W according to Regulation No. 37 shall be limited to a period of 12 months after the entry into force of Supplement 11 to the 02 series of amendments of this Regulation. This restriction shall be removed if, during this time period, the new system of restrictions to the use of light sources is inserted in Regulation No. 37."

At the same session, the expert from Italy pointed out that the determination of a 12-month limitation period in the above-mentioned paragraph is an unprecedented case and should not be commonly used in Regulations (TRANS/WP29/GRE/55, para. 47).

C. JUSTIFICATION

The measurements according to the United Nations Economic Commission for Europe (UNECE) Regulations for type approval purposes and other associated photometric data, that have become available subsequent to the fifty-fifth GRE session, demonstrate that these light source categories are definitely suitable for the use in front fog lamps to be approved according to Regulation No. 19. The supporting data confirm the suitability of the filament lamps in question for compliance with the requirements for class B front fog lamps and also for the new increased requirements for class F3 front fog lamps, currently under consideration by GRE (ECE/TRANS/WP.29/GRE/2006/19).

The aim of this proposal is to remove the above-mentioned 12-month limitation period and to allow ongoing type approvals of front fog lamps using the filament lamps of categories H21W, PSX24W and PX24W.

It was acknowledged at the fifty-fifth GRE session, during the discussion concerning the acceptability of the above-mentioned light sources, that a new system in Regulation No. 37 to

determine suitability of light sources is required to avoid similar concerns in the future. The work to develop this new system should continue, but without the time pressure imposed by the unprecedented 12-month limitation period.

#### D. SUPPORTING INFORMATION

Data based upon a front fog lamp, type approved according to Supplement 11 to the 02 series of amendments to Regulation No. 19, are provided in part F of this document.

The performance of a front fog lamp depends upon a combination of the characteristics of the optical system and the light source and the example in question uses a PSX24W light source mounted into a reflector having an aperture of 85 mm and a short focal length. This example has been chosen as an extreme application that would be particularly sensitive to the light source tolerances.



The front fog lamp has been subjected to the following tests:

1. Type approval according to Supplement 11 to the 02 series of amendments to Regulation No. 19 (E11 - 020095). Results attached show full compliance.
2. Photometric measurement according to the requirements for class F3 front fog lamps (ECE/TRANS/WP.29/GRE/2006/19). Results attached show full compliance.
3. A study confirming compliance with the photometric requirements of Supplement 11 to the 02 series of amendments to Regulation No. 19, using the maximum tolerances of the PSX24W light source. This is in excess of the UNECE type approval requirements because the extremes of the filament positions have been considered whereas a nominal "etalon" light source is used for type approval and conformity of production (COP) testing. The results of this study, based upon computer simulation, are available but are not attached (the document contains ninety-two pages of data and diagrams).

4. Comparison with other front fog lamps having type approvals with H8 and H11 light sources showing similar or superior performance from the PSX24W light source. These results are not attached due to their commercial nature.

Computer simulation to confirm the compliance with the photometric requirements of Supplement 11 to the 02 series of amendments to Regulation No. 19, using the maximum tolerances of the H21W light source, has also been carried out using an 80 mm diameter reflector. This study shows very similar results to those obtained for the PSX24W light source and copies of the results are available but not attached due to the large amount of data involved.

#### E. CONCLUSION

Extensive computer simulation and the results of type approval testing confirm the suitability of the PSX24W light source for front fog lamp applications conforming to the requirements of Supplement 11 to the 02 series of amendments to Regulation No. 19 and to the proposed high performance specification (ECE/TRANS/WP.29/GRE/2006/19). This validation has been carried out using a small (85 mm diameter) front fog lamp to confirm suitability in particularly sensitive optical arrangements. Studies of the performance of the H21W light source show results similar to those of the PSX24W.

There is no justification to maintain the limitation on the type approvals of front fog lamps equipped with light source categories H21W, PSX24W and PX24W according to Regulation No. 37 and it should be removed.

#### F. TEST DATA

Photometric testing according to the requirements of Supplement 11 to the 02 series of amendments to Regulation No. 19: Class B front fog lamp

Lamp Type	85 mm round foglamps	British Standards Institute Photometric laboratory results		
Etalon	PSX24W – 106009427003			
Voltage	12.08 V			
Current	1.725 A			
Lumens		Operator		
Specification	Supplement 11 to the 02 series of amendments to Regulation No. 19		Date	26 July 2006

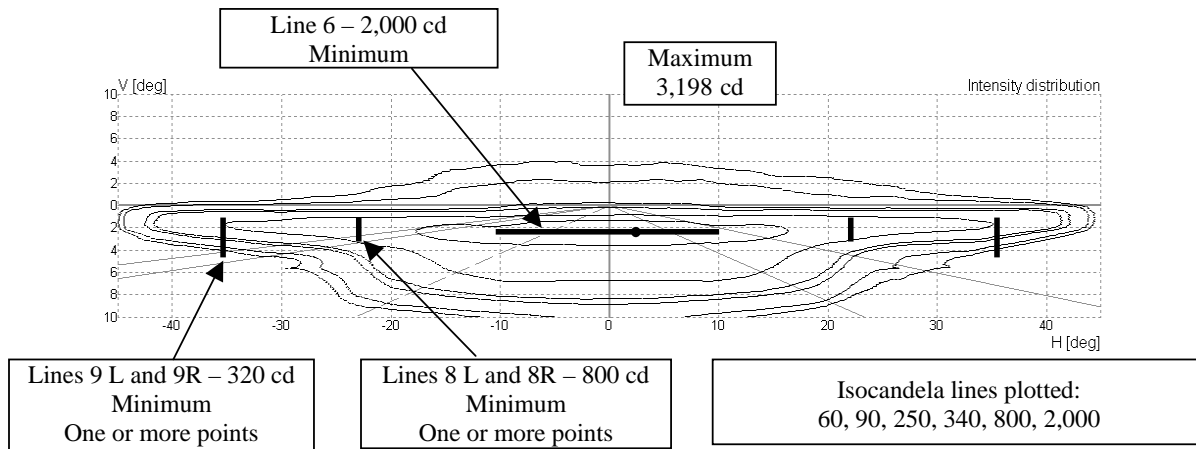
Zone	Vertical position	Horizontal position	Required value (lux)	Criteria for compliance	Sample 1	Sample 2
A	0° to 1.72°U	5.14°L to 5.14°R	0.15 min 1.0 max	Whole zone	<b>0.17/0.4</b>	<b>0.16/0.41</b>
B	0° to 3.43°U	26.6°L to 26.6°R	1.0 max	Whole zone	<b>0.4</b>	<b>0.41</b>
C	3.43°U to 15°U	26.6°L to 26.6°R	0.5 max	Whole zone	<b>0.11</b>	<b>0.07</b>
	> 15°U	90°L to 90°R	0.32 max	Whole zone	<b>0.05</b>	<b>0.07</b>
D	1.72°D to 3.43°D	10.2°L to 10.2°R	1.5 min	At least one point on each vertical line	<b>3.19</b>	<b>4.00</b>
E	1.72°D to 3.43°D	10.2°L to 21.8°L and 10.2°R to 21.8°R	0.5 min	At least one point on each vertical line	<b>1.89</b>	<b>1.96</b>

Photometric testing according to the requirements of ECE/TRANS/WP.29/GRE/2006/19:  
Class F3 front fog lamp

Lamp Type	85 mm round foglamps	British Standards Institute Photometric laboratory results	
Etalon	PSX24W – 106009427003		
Voltage	12.08 V		
Current	1.725 A	Operator	
Lumens		Date	26 July 2006
Specification	ECE/TRANS/WP.29/GRE/2006/19 (proposed requirements of Regulation No. 19 for the new category F3 fog lamp)		

Designated lines or zones	Vertical position <sup>*/</sup> above h + below h -	Horizontal position <sup>*/</sup> left of v: - right of v: +	To comply	Required luminous intensity (in cd)	Sample 1	Sample 2
Point 1, 2 <sup>**/</sup>	+ 60°	± 45°	All points	60 max	<b>18/13</b>	<b>13/13</b>
Point 3, 4 <sup>**/</sup>	+ 40°	± 30°			<b>29/31</b>	<b>30/30</b>
Point 5, 6 <sup>**/</sup>	+ 30°	± 60°			<b>37/31</b>	<b>40/26</b>
Point 7, 10 <sup>**/</sup>	+ 20°	± 40°			<b>31/29</b>	<b>29/29</b>
Point 8, 9 <sup>**/</sup>	+ 20°	± 15°			<b>22/24</b>	<b>23/23</b>
Line 1 <sup>**/</sup>	+ 8°	- 26° to + 26°	All line	90 max	<b>42</b>	<b>40</b>
Line 2 <sup>**/</sup>	+ 4°	- 26° to + 26°	All line	105 max	<b>65</b>	<b>65</b>
Line 3	+ 2°	- 26° to + 26°	All line	170 max	<b>112</b>	<b>108</b>
Line 4	+ 1°	- 26° to + 26°	All line	250 max	<b>175</b>	<b>168</b>
Line 5	0°	- 10° to + 10°	All line	340 max	<b>316</b>	<b>325</b>
Line 6	- 2.5°	- 10° to + 10°	All line	2,000 min	<b>2,170</b> <b>(2,542 max)</b>	<b>2,260</b> <b>(3,110 max)</b>
Line 7	- 6.0°	- 10° to + 10°	All line	< 50 per cent of max. on line 6	<b>1,130</b>	<b>1,209</b>
Line 8L and R <sup>***/</sup>	-1.5° to - 3.5°	- 22° and + 22°	One or more points	800 min	<b>1,200/</b> <b>1,210</b>	<b>1,040/</b> <b>1,550</b>
Line 9L and R <sup>***/</sup>	-1.5° to - 4.5°	- 35° and + 35°	One or more points	320 min	<b>699</b>	<b>607/</b> <b>572</b>
Zone D	- 1° to - 3°	- 10° to + 10°	Whole zone	8,400 max	<b>3,070</b>	<b>3,210</b>
<sup>*/</sup>	The co-ordinates are specified in degrees for an angular web with a vertical polar axis.					
<sup>**/</sup>	See paragraph 6.4.3.4. of ECE/TRANS/WP.29/GRE/2006/19.					
<sup>***/</sup>	See paragraph 6.4.3.2. of ECE/TRANS/WP.29/GRE/2006/19.					

Isolux diagram: 85 mm front fog lamp



Specification	ECE/TRANS/WP.29/GRE/2006/19 (proposed requirements of Regulation No. 19 for the new category F3 fog lamp)		
Lamp type	85 mm round fog lamp	Sample No	247/484586 -02
Etalon	Philips: PS (X) 24W - 106009427003		
Voltage	12.08 V	Current	1.725 A
Operator	TI	Date	04 October 2006
Total flux	173.42 Lumen		

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