

## 39 End-outline marker lamps

Refer to: R07 02-S19

### 39.1 Effective date and Scope:

- 39.1.1 Effective date from 2006/7/1, the new vehicle variants of category symbols M, N and O, and from 2008/7/1 all vehicle variants of category symbols M, N and O, shall comply with this regulation and shall be use bulbs that is conform with "Filament lamps" of this Direction.
- 39.1.2 For the vehicles imported by authorities, organizations, schools or individuals for self-use only could exempt from regulation of "end-outline marker lamps".
- 39.1.3 For the low volume type safety approval, maximum 20% deviation of the levels of intensity standard of this test is allowed, and if the light source is LED, it can omit the failure conditions test.

### 39.2 End-outline marker lamps:

- 39.2.1 Means a lamp fitted near to the extreme outer edges and as close as possible to the top of the vehicle and intended to indicate clearly the vehicle's overall width.
- 39.2.2 A rear end-outline marker lamp category RM2 emitting more than the maximum value of category RM1, requirements of steady luminous intensity of the respective category shall be fulfilled automatically.
- 39.2.3 An interdependent lamp system shall meet the requirements when all its interdependent lamps are operated together.

### 39.3 End-outline marker lamps shall according to suitable variants and range of principle :

- 39.3.1 Brand
- 39.3.2 The characteristics of the optical system (levels of intensity, light distribution angles, category of filament lamp, light source module, etc.) , however , if bulbs or filter's color is change that it doesn't mean to change the variants.

### 39.4 Photometric measurements:

- 39.4.1 Within the field of light distribution schematically shown as a grid in Figure 1, the light pattern should be substantially uniform.

In the case of devices of categories RM2 the time that elapses between energising the light source(s) and the light output measured on the reference axis to reach 90 per cent of the value measured shall be measured for the extreme levels of luminous intensity produced by the device. The time measured to obtain the lowest luminous intensity shall not exceed the time measured to obtain the highest luminous intensity.

- 39.4.2 In each direction corresponding to the points in the light distribution be not less than the product of the minimum specified in Table1 by the percentage specified in the said figure of the direction in question. In no direction within the space from which the light-signalling device is visible, exceed the maximum specified in Table.

- 39.4.2.1 For an assembly of two or more lamps the total intensity shall not exceed the maximum value prescribed for a single lamp.

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- 39.4.2.2 When an assembly of two independent lamps to be type approved as "D" lamps having the same function is deemed to be a single lamp, it shall comply with the requirements for:
- 39.4.2.2.1 Maximum intensity if all lamps together are lit;
- 39.4.2.2.2 Minimum intensity if either lamp has failed.
- 39.4.2.3 In case of failure of a single lamp containing more than one light source the following provisions shall apply:
- 39.4.2.3.1 A group of light sources, wired so that the failure of any one of them causes all of them to stop emitting light, shall be considered to be one light source.
- 39.4.2.3.2 The lamp shall comply with the minimum intensity required when any one light source has failed (refer to figure 1). However, for lamps designed for only two light sources, 50 per cent of the minimum intensity in the axis of reference of the lamp shall be considered sufficient, provided that a note in the communication form states that the lamp is only for use on a vehicle fitted with an operating tell-tale which indicates when any one of these two light sources has failed;
- 39.4.3 Moreover, throughout the fields defined in the diagrams, the intensity of the light emitted must be not less than 0.05 cd. As for angles required for light distribution in space of the lamps, the horizontal angles are shown in Figure 2. The minimum vertical angles of light distribution in space are 15 degrees above and 15 degrees below the horizontal
- 39.4.4 For lamps with a permissible mounting height less than 750 mm above the ground, the minimum vertical angles of light distribution in space are 15 degrees above and 5 degrees below the horizontal, the photometric intensity is verified only up to an angle of 5 degrees downwards.
- 39.5 Trichromatic coordinates: The colour of the light emitted inside the field shall be red or white defined in "The installation of lighting and light-signaling devices" of "Directions" (see Figure 1) , Outside this field, no sharp variation of colour shall be observed. The source of light is according to each testing measure conditions to proceed. However, for lamps equipped with non-replaceable light sources (filament lamps and other), the colorimetric characteristics should be verified with the light sources present in the lamp.
- 39.5.1 This requirement also applies to range of variable light of category RM2 Rear end-outline marker lamps.
- 39.6 In the case of light source modules, it shall be checked that:
- 39.6.1 The design of the light source module(s) shall be such as:
- 39.6.1.1 that each light source module can only be fitted in no other position than the designated and correct one and can only be removed with the use of tool(s);
- 39.6.1.2 If there are more than one light source module used in the housing for a device, light source modules having different characteristics can not be interchanged within the same lamp housing.
- 39.6.2 The light source module(s) shall be tamperproof.
- 39.6.3 A light source module shall be so designed that regardless of the use of tool(s), it shall not be mechanically interchangeable with

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any replaceable approved light source.

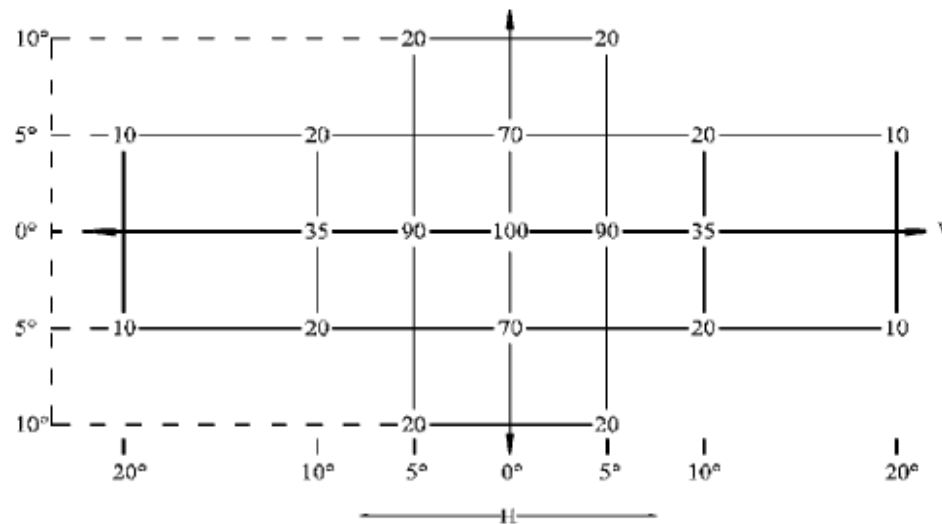


Fig 1. Light intensity distribution in percentage

Table 1. In the reference axis, the light emitted shall be at least equal to the minimum values and not exceed the maximum values specified below :			
Light intensity (Candelas) lamp	Minimum light intensity cd	Maximum values in cd when used as	
		Single lamp	Lamp (single) marked "D"
Front end-outline marker lamp AM	4	140	70
Rear end-outline marker lamp RM1 (steady)	4	17	8.5
Rear end-outline marker lamp RM2(variable)	4	42	21

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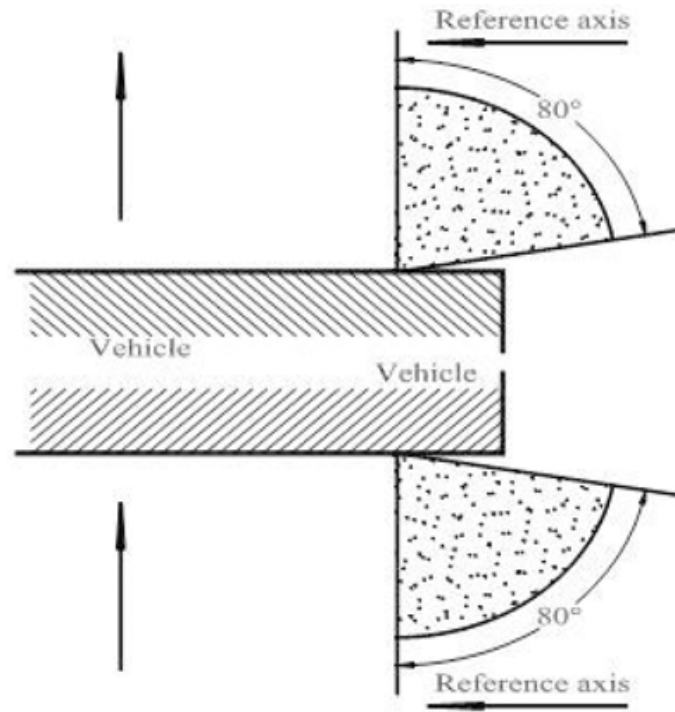


Fig 2. Horizontal angles required for the light distribution in space -- end-outline marker lamp (AM · RM1 · RM2)