

34 Front position lamps

Refer to: R7 02-S23, R50 00-S16

34.1 Effective date and Scope:

- 34.1.1 Effective date from 2006/7/1, new types of front position lamps using in vehicles of category symbols M, N and O, and from 2008/7/1 all types of front position lamps using in vehicles 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 (according to paragraph 34.1.3, it shall exclude paragraph 34.2.2).
- 34.1.2 Effective date from 2009/1/1, new types of front position lamps using in vehicles of category symbols L1 and L3, and from 2011/1/1 all types of front position lamps using in vehicles of category symbols L1, L2, L3 and L5, shall comply with this regulation and shall be use bulbs that is conform with "Filament lamps" of this Direction (according to paragraph 34.1.3, it shall exclude paragraph 34.2.2).
- 34.1.3 Effective date from 2017/1/1, new types of front position lamps using in vehicles of category symbols M, N, O and L , and from 2019/1/1, existing types of front position lamps using in vehicles of category symbols M, N, O and L , shall comply with 34.2.2 in addition, except the applicants applying for low volume safety approval and applying for vehicle-by-vehicle low volume.
- 34.1.4 For the vehicles imported by authorities, organizations, schools or individuals for self-use only may be exempt from regulation of "front position lamps".
- 34.1.5 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.

34.2 Front position lamps : The lamp conform to 34.2.2 Specifications marked is used to indicate the presence and the width of vehicle when viewed from the front.

34.2.1 An interdependent lamp system shall meet the requirements when all its interdependent lamps are operated together.

34.2.2 Specifications marked

34.2.2.1 Vehicles of category symbols M, N, O and L apply to 34.4.4.1, means the marks shall be clearly legible on the outside of the marking material and shall be indelible to include below:

34.2.2.1.1 Brand (or marking), type of replaceable light sources (or MD (or MODULE) the light source module specific identification code).

34.2.2.1.2 In case of lamps with an electronic light source control gear or a variable intensity control and/or non-replaceable light sources and/or light source module(s), bear the marking of the rated voltage or range of voltage and rated wattage.

34.2.2.1.3 The light source module must to mark brand (or marking), MD (or MODULE) the light source module specific identification code, rated voltage (or ranged voltage) and rated wattage. However this provision does not apply to the LED is

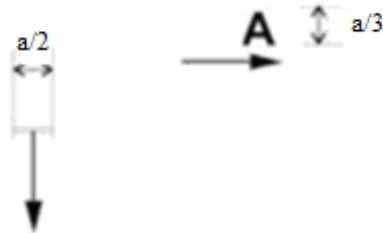
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non-replaceable.

34.2.2.1.4 Lamps operating at voltages other than the nominal rated voltages of 6 V, 12 V or 24 V respectively, by the application of an electronic light source control gear or a variable intensity control being not part of the lamp, or having a secondary operating mode, must also bear a marking denoting the rated secondary design voltage.

34.2.2.1.5 An electronic light source control gear or a variable intensity control being part of the lamp but not included into the lamp body shall bear the name of the manufacturer and its identification number.

34.2.2.1.6 The letter "A" represents (figure as below, "a" is at least 5 mm).



34.2.2.1.7 On front position lamps of which the visibility angles are asymmetrical with regard to the reference axis in a horizontal direction, and on front or rear end-outline marker lamps, a horizontal arrow pointing towards the side on which the photometric specifications are met up to an angle of 80 deg. H.

34.2.2.1.8 On devices which may be used as part of an assembly of two lamps, the additional letter "D" to the right of the symbol mentioned in paragraphs 34.2.2.1.6.

34.2.2.1.9 On devices with reduced light distribution in conformity to paragraph 34.4.3. to this Regulation a vertical arrow starting from a horizontal segment and directed downwards.

34.2.2.1.10 On interdependent lamps, which may be used as part of an interdependent lamp system, the additional letter "Y" to the right of the symbol mentioned in paragraph 34.2.2.1.6 shall be marked on each device.

34.2.2.2 Vehicles of category symbols L apply to 34.4.4.2, means the marks shall be clearly legible on the outside of the marking material and shall be indelible to include below:

34.2.2.2.1 Brand (or marking), type of replaceable light sources (or MD (or MODULE) the light source module specific identification code).

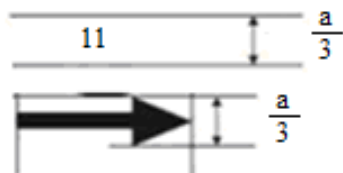
34.2.2.2.2 In case of lamps with non-replaceable light sources or light source module(s), bear the marking of the rated voltage or range of voltage and rated wattage.

34.2.2.2.3 The light source module must to mark brand (or marking), MD (or MODULE) the light source module specific identification code, rated voltage (or ranged voltage) and rated wattage. However this provision does not apply to the LED is

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non-replaceable.

- 34.2.2.2.4 On front position lamps of which the visibility angles are asymmetrical with regard to the reference axis in a horizontal direction, and on front or rear end-outline marker lamps, a horizontal arrow pointing towards the side on which the photometric specifications are met up to an angle of 80 deg. H (figure as below , "a" is at least 5 mm).



- 34.3 Front position lamps shall according to suitable variants and range are of principle :

34.3.1 The same brand.

34.3.2 The same characteristics of the optical system (levels of intensity, light distribution angles, category of light source, light source module, etc.) , however , if bulbs or filter's color are change that it doesn't mean to change the variants.

- 34.4 Photometric measurements : .

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

34.4.2 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.

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

34.4.2.2 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:

34.4.2.2.1 Maximum intensity if all lamps together are lit;

34.4.2.2.2 Minimum intensity if either lamp has failed.

34.4.2.3 In case of failure of a single lamp containing more than one light source the following provisions shall apply:

34.4.2.3.1 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.

34.4.2.3.2 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;

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34.4.3 Moreover, throughout the fields defined in the diagrams, the intensity of the light emitted must be not less than 0.05 cd. In the case where a device is intended to be installed at a mounting height of equal to or less than 750 mm above the ground, the photometric intensity is verified only up to an angle of 5 degrees downwards.

34.4.4 Angles required for light distribution in space of the lamps (The vehicles of category symbols L shall comply with either 34.4.4.1 or 34.4.4.2 of this regulation):

34.4.4.1 In the case of front position lamps used on the vehicles of category symbols M, N, O and L horizontal angles are shown in Figure 2 (H plane: "horizontal plane going through the reference centre of the lamp"). The minimum vertical angles of light distribution in space are 15 degrees above and 15 degrees below the horizontal except

34.4.4.1.1 For lamps with a permissible mounting height less than 750 mm above the ground, for which they are 15 degrees above and 5 degrees below the horizontal.

34.4.4.1.2 Optional lamps intended to be installed with their H plane at a mounting height more than 2,100 mm above the ground, for which they are 5 deg. above and 15 deg. below the horizontal;

34.4.4.2 This requirement only suitable for the vehicles of category symbols L:

34.4.4.2.1 For a pair of lamps : Horizontal angles are shown in Figure 2. Vertical angles are $+15^{\circ}$ / -10° .

34.4.4.2.2 For a single lamp : Horizontal angles are shown in Figure 3. Vertical angles are $+15^{\circ}$ / -10° .

34.4.5 If the front position lamp incorporates one or more infrared radiation generators, the photometric and colour requirements for this front position lamp shall be met with and without the operation of the infrared radiation generator(s).

34.4.6 This requirement only suitable for the vehicles of category symbols L1 and L3:

34.4.6.1 In the case of a single lamp containing more than one light source:

(a) Minimum intensity if one lamp has failed.

(b) For an assembly of two or more lamps the total intensity shall not exceed the maximum value prescribed for a single lamp, multiplied by 1.4.

(c) 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.

34.5 Trichromatic coordinate: The colour of the light emitted inside the field may be white or amber defined in "The installation of lighting and light-signaling devices" of "Directions". Outside this field, no sharp variation of colour shall be observed. These requirements shall also apply within the range of variable luminous intensity produced in Figure 1 below. These requirements shall also apply within the range of variable luminous intensity produced by testing conditions. 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.

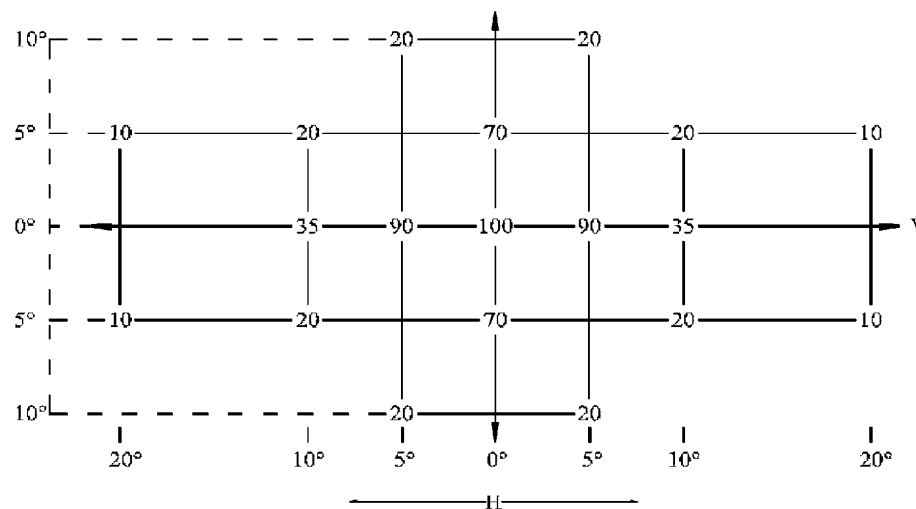


Figure 1. Light distribution

34.6 Comply with this lamps of Regulation that is equal comply with “End-outline marker lamps”.

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 :

Category	Light intensity (Candelas)	Minimum light intensity	Maximum value when used as	
			Single lamp	Lamp (single) marked “D”
Front position lamp A		4	140	70
Front position lamp incorporated in a headlamp or front fog lamp		4	140	---
Category	Light intensity (Candelas)	Minimum light intensity	Maximum light intensity	
Front position lamp for category symbols L		4	60	
Front position lamp incorporated in headlamp for category symbols L		4	100	

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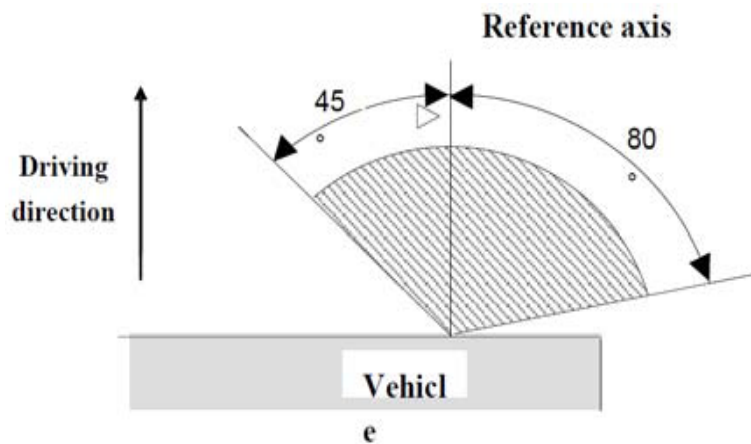


Figure 2. Front position lamps (apply to the vehicles of category symbols M/N/O/L of paragraph 34.4.4.1)

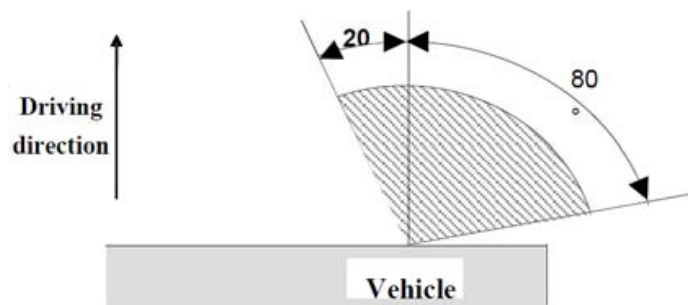


Figure 2-1 Under the H plane for rear position lamps intended to be installed with this plane at a mounting height less than 750 mm above ground. (apply to the vehicles of category symbols M/N/O/L of paragraph 34.4.4.1)

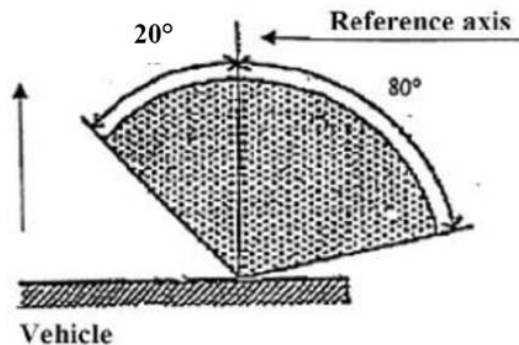


Figure 2-2 Horizontal angles for Front position lamp fitted to L vehicles with a pair of lamps of paragraph 34.4.4.2.

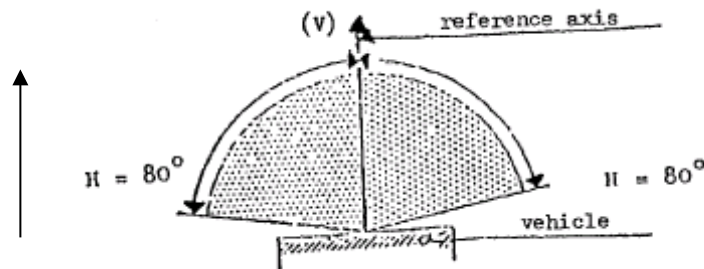


Figure 3. Horizontal angles for Single-lamp front position lamp fitted to L vehicles of paragraph 34.4.4.2.

34.7 In the case of replaceable light source(s) of the vehicles of category symbols M,N,O and L shall apply to 34.4.4.1 only:

34.7.1 Any category or categories of light source(s) approved according to "Directions" of "Filament lamps" may be used, it's shall concern about relevant special restriction.

34.7.2 The design of the device shall be such that the light source(s) can be fixed in no other position but the correct one.

34.7.3 The light source(s) holder shall conform to the characteristics given in IEC Publication 60061, and the holder data sheet relevant to the category of light source used, applies.

34.8 In the case of replaceable light source(s) of the vehicles of category symbols L shall only apply to 34.4.4.2:

34.8.1 Any category or categories of light source(s) approved according to "VSTD" of "Filament lamps" may be used, it's shall concern about relevant special restriction.

34.8.2 The design of the device shall be such that the light source(s) can be fixed in no other position but the correct one.

34.8.3 The light source(s) holder shall conform to the characteristics given in IEC Publication 60061, and the holder data sheet relevant to the category of light source used, applies.

34.9 In the case of light source modules, it shall be checked that:

34.9.1 In the case of replaceable light source(s) of the vehicles of category symbols M,N,O and L shall apply to 34.4.4.1 only. The design of the light source module(s) shall be such as:

34.9.1.1 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);

34.9.1.2 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.

34.9.2 The light source module(s) shall be tamperproof.

34.9.3 A light source module shall be so designed that regardless of the use of tool(s), it shall not be mechanically interchangeable with any replaceable approved light source.

34.10 Measuring condition for each test (Vehicles of category symbols L shall either 34.4.4.1 or 34.4.4.2 to conform to 34.10.1 or 34.10.2):

34.10.1 Vehicles of category symbols M, N, O and L :

34.10.1.1 Test voltage :

34.10.1.1.1 In the case of a lamp equipped with non-replaceable light sources (filament lamps and other), at 6.75 V, 13.5 V or 28.0 V respectively.

34.10.1.1.2 In case of a lamp with replaceable light source, if not supplied by an electronic light source control gear or a variable intensity control, with an uncolored or colored standard light source(s) of the category prescribed for the device, supplied with the voltage:

(a) In the case of filament lamp(s), that is necessary to produce the reference luminous flux required for that category of filament lamp.

(b) In the case of LED light source(s) of 6.75 V, 13.5 V or 28.0 V; the luminous flux value produced shall be corrected. The correction factor is the ratio between the objective luminous flux and the value of the luminous flux found at the voltage applied.

(c) When equipped with light source(s) at 6.75 V, 13.5 V or 28.0 V, the luminous intensity values produced shall be corrected. For filament lamps the correction factor is the ratio between the reference luminous flux and the mean value of the luminous flux found at the voltage applied (6.75 V, 13.5 V or 28.0 V).

For LED light sources the correction factor is the ratio between the objective luminous flux and the mean value of the luminous flux found at the voltage applied (6.75 V, 13.5 V or 28.0 V).

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The actual luminous fluxes of each light source(s) used shall not deviate more than +/- 5 per cent from the mean value. Alternatively and in case of filament lamps only, a standard filament lamp may be used in turn, in each of the individual positions, operated at its reference flux, the individual measurements in each position being added together.

34.10.1.1.3 In the case of a system that uses an electronic light source control gear or a variable intensity control, being part of the lamp 6/ applying at the input terminals of the lamp the voltage declared by the manufacturer or, if not indicated, 6.75 V, 13.5 V or 28.0 V respectively.

34.10.1.1.4 In the case of a system that uses an electronic light source control gear or a variable intensity control, not being part of the lamp the voltage declared by the manufacturer shall be applied to the input terminals of the lamp.

34.10.1.2 However, in the case of light sources operated by a variable intensity control to obtain variable luminous intensity, photometric measurements shall be performed according to the applicant's description.

34.10.1.3 The technical service shall require from the manufacturer the light source control gear or a variable intensity control needed to supply the light source and the applicable functions.

34.10.1.4 The limits of the apparent surface in the direction of the reference axis of a light-signaling device shall be determined.

34.10.2 This requirement only suitable for the vehicles of category symbols L:

34.10.2.1 Test voltage :

34.10.2.1.1 All measurements, photometric and colorimetric shall be carried out with an uncoloured or coloured standard light source of the category prescribed for the device, supplied with the voltage:

- (a) In the case of filament lamps, that is necessary to produce the reference luminous flux required for that category of filament lamp.
- (b) In the case of LED light sources of 6.75 V or 13.5 V; the luminous flux value produced shall be corrected. The correction factor is the ratio between the objective luminous flux and the mean value of the luminous flux found at the voltage applied.
- (c) When equipped with light sources at 6.75 V or 13.5 V, the luminous intensity values produced shall be corrected. For filament lamps the correction factor is the ratio between the reference luminous flux and the mean value of the luminous flux found at the voltage applied (6.75 V, 13.5 V or 28.0 V). For LED light sources the correction factor is the ratio between the objective luminous flux and the mean value of the luminous flux found at the voltage applied (6.75 V or 13.5 V). The actual luminous fluxes of each light sources used shall not deviate more than +/- 5 per cent from the mean value. Alternatively and in case of filament lamps only, a standard filament lamp may be used in turn, in each of the individual positions, operated at its reference flux, the individual measurements in each position being added together.

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- 34.10.2.1.2 In the case of a lamp equipped with non-replaceable light sources (filament lamps and other), at 6.75 V, 13.5 V or 28.0 V respectively;
- 34.10.2.1.3 In the case of a system that uses an electronic light source control gear being part of the lamp³ applying at the input terminals of the lamp the voltage declared by the manufacturer or, if not indicated, 6.75 V, 13.5 V or 28.0 V, respectively;
- 34.10.2.1.4 In the case of a system that uses an electronic light source control gear not being part of the lamp, the voltage declared by the manufacturer shall be applied to the input terminals of the lamp.
- 34.10.2.2 The test laboratory shall require from the manufacturer the light source control gear needed to supply the light source and the applicable functions.
- 34.10.2.3 The limits of the apparent surface in the direction of the reference axis of a light signalling device shall be determined.