

# COMMISSION

## COMMISSION DIRECTIVE

of 21 November 1979

adapting to technical progress Council Directive 76/756/EEC on the approximation of the laws of the Member States relating to the installation of the lighting and light-signalling devices on motor vehicles and their trailers

(80/233/EEC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community,

Having regard to Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the type approval of motor vehicles and their trailers <sup>(1)</sup>, as last amended by Directive 78/547/EEC <sup>(2)</sup>, and in particular Articles 11, 12 and 13 thereof,

Having regard to Council Directive 76/756/EEC of 27 July 1976 on the approximation of the laws of the Member States relating to the installation of lighting and light-signalling devices on motor vehicles and their trailers <sup>(3)</sup>,

Whereas in the light of the experience gained and the present state of the art it is now possible to amplify certain requirements and bring them more into line with actual test conditions;

Whereas these amendments are to be followed by further amendments at present being examined, the effect of which will be to render certain requirements more stringent with a view to increasing the safety both of the occupants of the vehicles and of other road users;

Whereas the measures provided for in this Directive are in accordance with the opinion of the Committee for the Adaptation to Technical Progress of Directives for

the Removal of Technical Barriers to Trade in Motor Vehicles,

HAS ADOPTED THIS DIRECTIVE:

### Article 1

Directive 76/756/EEC is hereby amended as follows:

- Articles 2 and 3 are replaced by a new Article 2 as follows:

#### 'Article 2

- With effect from 1 May 1980, no Member State may, on grounds relating to the installation of the lighting and light-signalling devices, whether mandatory or optional, listed in items 1.5.7 to 1.5.20 of Annex I:

— refuse, in respect of a type of vehicle, to grant EEC type approval, to issue the document referred to in the last indent of Article 10 (1) of Directive 70/156/EEC, or to grant national type approval, or

— prohibit the entry into service of vehicles,

if the installation of the said lighting and light-signalling devices on this type of vehicle or on these vehicles complies with the provisions of this Directive.

- With effect from 1 January 1981, Member States:

— may no longer issue the document referred to in the last indent of Article 10 (1) of Directive 70/156/EEC in respect of a type of vehicle in

<sup>(1)</sup> OJ No L 42, 23. 2. 1970, p. 1.

<sup>(2)</sup> OJ No L 168, 26. 6. 1978, p. 39.

<sup>(3)</sup> OJ No L 262, 27. 9. 1976, p. 1.

which the installation of the said lighting and light-signalling devices does not comply with the provisions of this Directive,

— may refuse to grant national type approval in respect of a type of vehicle in which the installation of the said lighting and light-signalling devices does not comply with the provisions of this Directive.

3. With effect from 1 October 1982, Member States may prohibit the entry into service of vehicles in respect of which a certificate pursuant to Article 10 of Directive 70/156/EEC concerning the installation of the said lighting and light-signalling devices was issued after 1 October 1979, where the installation of these devices does not comply with the provisions of this Directive.'

2. Articles 4, 5, 6 and 7 become Articles 3, 4, 5 and 6 respectively.

3. Annexes I and II are amended in accordance with the Annex to this Directive.

*Article 2*

Member States shall bring into force the provisions necessary in order to comply with this Directive by 30 April 1980 and shall forthwith inform the Commission thereof.

*Article 3*

This Directive is addressed to the Member States.

Done at Brussels, 21 November 1979.

*For the Commission*

Étienne DAVIGNON

*Member of the Commission*

## ANNEX

## Amendments to the Annexes to Directive 76/756/EEC

## ANNEX I: INSTALLATION OF LIGHTING AND LIGHT-SIGNALLING DEVICES

Item 1.3 is hereby amended as follows:

'1.3. **Unladen vehicle**

"Unladen vehicle" means the vehicle in running order, as defined in item 2.6 of Annex I, model information document, to Directive 70/156/EEC, but without driver.'

Item 1.5.3 is hereby amended as follows:

'1.5.3. *Grouped lamps*

"Grouped lamps" means devices having separate lenses or separate parts of lenses, separate light sources, but a common lamp body.'

Item 1.5.4 is hereby amended as follows:

'1.5.4. *Combined lamps*

"Combined lamps" means devices having separate lenses or separate parts of lenses, but a common light source and a common lamp body.'

Item 1.5.20 is hereby amended as follows:

'1.5.20. *Reflex reflector*

"Reflex reflector" means a device used to indicate the presence of a vehicle by the reflection of light emanating from a light source not connected to the vehicle, the observer being situated near the source.

For the purposes of this Directive the following are not considered as reflex reflectors:

- retro-reflecting number plates,
- the retro-reflecting signals mentioned in the ADR (European Agreement concerning the international carriage of dangerous goods by road),
- other retro-reflecting plates and signals which must be used to comply with a Member State's specifications for use as regards certain categories of vehicles or certain methods of operation.'

Item 1.6.1 is hereby amended as follows:

'1.6.1. *Illuminating surface of a lighting device*

"Illuminating surface of a lighting device" (1.5.7 to 1.5.10) means the orthogonal projection of the full aperture of the reflector in a transverse plane. If the lighting device has no reflector, the definition of item 1.6.2 shall be applied. If the lamp glass (or glasses) extend(s) over part only of the full aperture of the reflector, then the projection of that part only is taken into account.

In the case of a dipped-beam headlamp, the illuminating surface is limited by the apparent trace of the cut-off on to the lens. If the reflector and glass are adjustable relative to one another, the mean adjustment should be used.'

Item 1.6.4 is hereby amended as follows:

**1.6.4. *Apparent surface***

“Apparent surface”, for a defined direction of observation, means the orthogonal projection of the light-emitting surface in a plane perpendicular to the direction of observation (see drawing in Appendix 2) and tangential to the most exterior point of the lens.’

After item 1.6.4 the following new item 1.6.5 shall be added:

**1.6.5. *Light-emitting surface***

“Light-emitting surface” means all or part of the exterior surface of the transparent lens that encloses the lighting and light-signalling device and allows compliance with photometric and colorimetric requirements.’

Item 1.8 is hereby amended as follows:

**1.8. *Centre of reference***

“Centre of reference” means the intersection of the axis of reference with the light-emitting surface. This centre of reference is to be specified by the manufacturer of the lamp.’

Item 1.9 is hereby amended as follows:

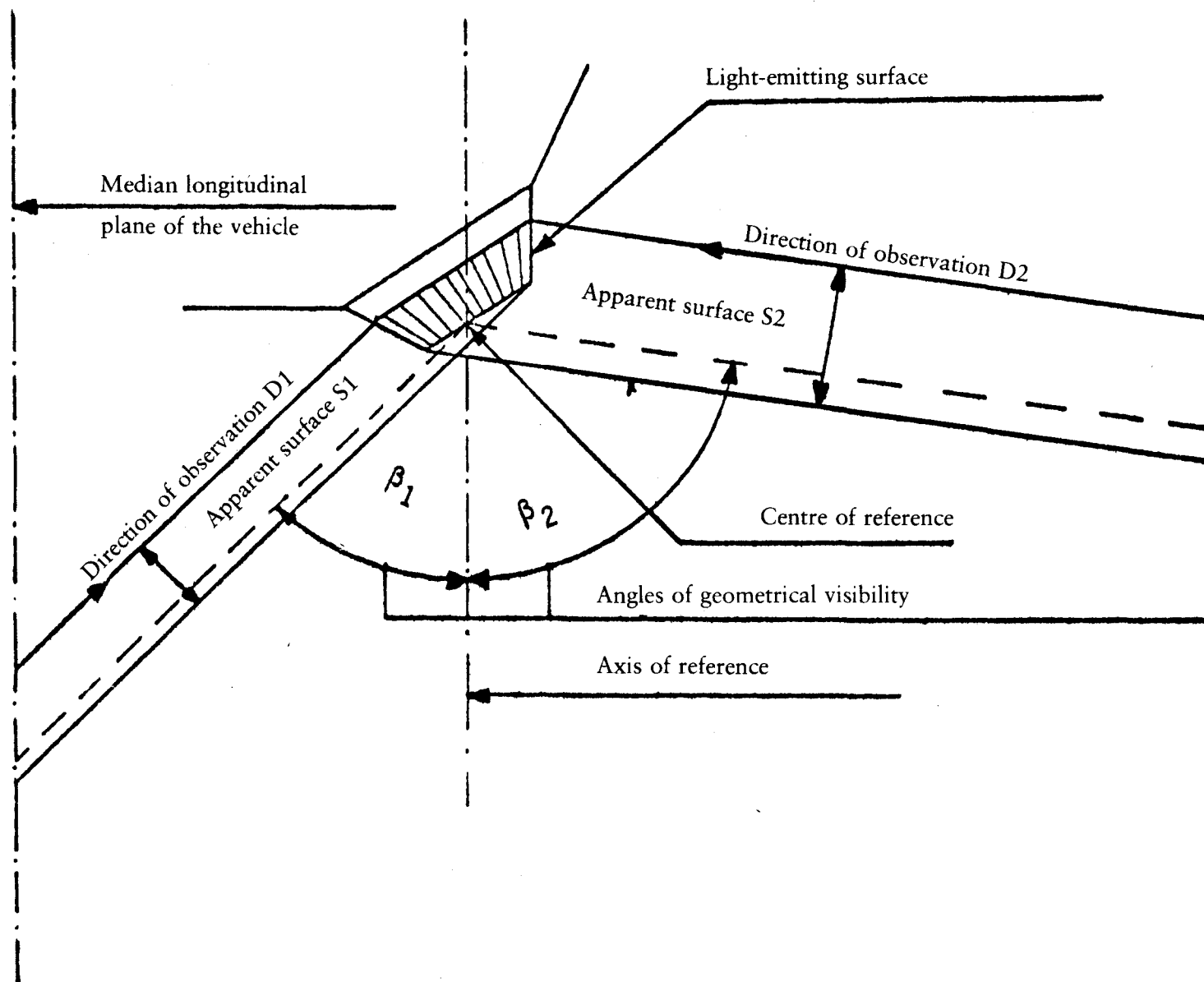
**1.9. *Angles of geometric visibility***

“Angles of geometric visibility” means the angles which determine the field of the minimum solid angle in which the apparent surface of the lamp must be visible. That field of the solid angle is determined by the segments of the sphere of which the centre coincides with the centre of reference of the lamp and the equator is parallel with the ground. These segments are determined in relation to the axis of reference. The horizontal angles  $\beta$  correspond to the longitude and the vertical angles  $\alpha$  to the latitude. There must be no obstacle on the inside of the angles of geometric visibility to the propagation of light from any part of the apparent surface of the lamp observed from infinity.

If measurements are taken closer to the lamp, the direction of observation must be shifted parallel to achieve the same accuracy.

On the inside of the angles of geometric visibility no account is taken of obstacles, if they were already presented when the lamp was type-approved.

If, when the lamp is installed, any part of the apparent surface of the lamp is hidden by any further parts of the vehicle, proof shall be furnished that the part of the lamp not hidden by obstacles still conforms to the photometric values prescribed for the approval of the device as an optical unit (see figure below).’



Item 1.12 is hereby amended as follows:

**1.12. A single lamp**

“A single lamp” also means any combination of two or more lamps, whether identical or not, having the same function and emitting light of the same colour, if it comprises devices, the projection of whose aggregate illuminating surfaces in a given transverse plane occupies 60 % or more of the area of the smallest rectangle circumscribing the projections of those illuminating surfaces, provided that such combination is, where approval is required, approved as a single lamp.

This possible combination does not apply to main-beam headlamps, dipped-beam headlamps and front fog lamps.’

Item 1.14 is hereby amended as follows:

**1.14. Distance between two lamps**

“Distance between two lamps” which face in the same direction means the shortest distance between the orthogonal projections in a plane perpendicular to the axes of reference of the outlines of the two illuminating surfaces as defined according to the case mentioned in 1.6. The distance between two lamps may, however, be measured without determining the outlines of the illuminating surfaces exactly, where the distance is clearly in excess of the minimum requirements of the Directive.’

After item 1.17 the following new item 1.18 shall be added:

**1.18. Ground**

“Ground” means the surface on which the vehicle stands which should be substantially horizontal.’

Item 2.2.2 is hereby amended as follows:

- '2.2.2. a list of devices prescribed by the manufacturer for the lighting and light-signalling assembly. The list may include several types of device for each operation. Each type must be duly identified (component type-approval mark, name of manufacturer, etc.);'

Item 2.2.4 is hereby amended as follows:

- '2.2.4. layout drawing(s) for each individual lamp showing the illuminating surfaces as defined in 1.6, the axis of reference as defined in 1.7 and the centre of reference as defined in 1.8.'

Item 3.5.1 is hereby amended as follows:

- '3.5.1. be fitted to the vehicle symmetrically in relation to the median longitudinal plane (this estimate to be based on the exterior geometrical form of the lamp and not on the edge of its illuminating surface referred to in 1.6);'

Item 3.5.2 is hereby amended as follows:

- '3.5.2. be symmetrical to one another in relation to the median longitudinal plane; this requirement is not valid with regard to the interior structure of the lamp;'

Item 3.8 is hereby amended as follows:

- '3.8. The maximum height above ground shall be measured from the highest point and the minimum height from the lowest point of the illuminating surface.  
In the case of dipped headlamps, the minimum height in relation to the ground is measured from the lowest edge of the reflector.'

After item 3.8 the following new item 3.8.1 shall be added:

- '3.8.1. The position, as regards width, will be determined from the edge of the illuminating surface which is the furthest from the median longitudinal plane of the vehicle when referred to the overall width, and from the inner edges of the illuminating surfaces when referred to the distance between the lamps.'

Item 3.10 is hereby amended as follows:

- '3.10. No red light emitted from a lamp as defined in 1.5 shall be visible towards the front and no white light emitted from a lamp as defined in 1.5 other than from the reversing lamp shall be visible towards the rear. Lamps used to illuminate the vehicle's interior shall not be taken into consideration in this respect.  
This requirement is considered to have been met if:'

Item 3.10.1 is hereby amended as follows:

- '3.10.1. for the visibility of a red light towards the front: there must be no direct visibility of a light-emitting surface of a red lamp if viewed by an observer moving within Zone 1 in a transverse plane situated 25 m in front of the vehicle (see Appendix 3, figure 1);'

Item 3.10.2 is hereby amended as follows:

- '3.10.2. for the visibility of a white light towards the rear: there must be no direct visibility of a light-emitting surface of a white lamp if viewed by an observer moving within Zone 2 in a transverse plane situated 25 m behind the vehicle (see Appendix 3, figure 2).'

Item 3.11 is hereby amended as follows:

- '3.11. The electrical connections must be such that the front and rear position (side) lamps, the end-outline marker lamps if they exist, and the rear registration plate lamp can only be switched on and off simultaneously.

This is not valid when using front and rear position (side) lamps as parking lamps.'

Item 3.15.3 is hereby amended as follows:

- '3.15.3. In the event of a defect in the concealment control or other defects referred to in points 3.15.2.1 and 3.15.2.2, a concealed lighting device shall be capable of being moved into the position of use without the aid of tools.'

Item 3.15.6 is hereby amended as follows:

- '3.15.6. When the concealment device has a temperature of  $-30$  to  $+50$  °C the headlamp must be capable of reaching the fully-open position within three seconds of initial operation of the control.'

After item 3.15.6 the following new item 3.16 shall be added:

- '3.16. **Number of lamps**

The number of lamps mounted on the vehicle shall be equal to the number(s) specified in subparagraph 2 of 4.1 to 4.17.'

Item 4.1.4.3 is hereby amended as follows:

- '4.1.4.3. **Length:**

at the front of the vehicle and fitted in such a way that the light emitted does not cause discomfort to the driver either directly or indirectly through the rear-view mirrors and/or other reflecting surfaces of the vehicles.'

Item 4.1.5 is hereby amended as follows:

- '4.1.5. *Geometric visibility*

The visibility of the illuminating surface, including its visibility in areas which do not appear to be illuminated in the direction of observation considered, must be ensured within a divergent space defined by generating lines based on the perimeter of the illuminating surface and forming an angle of not less than  $5^\circ$  with the axis of reference of the headlamp. The origin of the angles of geometric visibility is the perimeter of the projection of the illuminating surface on a transverse plane tangent to the foremost part of the lens of the headlamp.'

Item 4.1.11 is hereby amended as follows:

- '4.1.11. *Tell-tale*

Circuit-closed tell-tale mandatory.'

Item 4.2.5 is hereby amended as follows:

- '4.2.5. *Geometric visibility*

Defined by angles  $\alpha$  and  $\beta$  as specified in 1.9:

$\alpha = 15^\circ$  upwards and  $10^\circ$  downwards,

$\beta = 45^\circ$  outwards and  $10^\circ$  inwards.

Since the photometric values required for dipped-beam headlamps do not cover the full geometric field of vision, a minimum value of 1 cd in the space remaining is required for type-approval purposes. The presence of panels or other items of equipment near the light must not give rise to secondary effects causing discomfort to other road users.'

Item 4.2.11 is hereby amended as follows:

'4.2.11. *Tell-tale*  
Tell-tale optional.'

Item 4.3.11 is hereby amended as follows:

'4.3.11. *Tell-tale*  
Tell-tale optional.'

Item 4.4.11 is hereby amended as follows:

'4.4.11. *Tell-tale*  
Tell-tale optional.'

Item 4.5.3 is hereby amended as follows:

'4.5.3. *Arrangement*  
A: Two front direction-indicator lamps (category 1).  
Two rear direction-indicator lamps (category 2).  
Two side repeating direction-indicator lamps (category 5).

Where lamps combining the functions of front direction-indicator lamps (category 1) and side repeating direction-indicator lamps (category 5) are fitted, two additional side repeating direction-indicator lamps (category 5) may be fitted to meet the visibility requirements of 4.5.5.

B: Two rear direction-indicator lamps (category 2).'

Item 4.5.4.1 is hereby amended as follows:

'4.5.4.1. *Width:*

The edge of the illuminating surface furthest from the median longitudinal plane of the vehicle must not be more than 400 mm from the extreme outer edge of the vehicle.

The distance between the inner edges of the two illuminating surfaces shall be not less than 600 mm. Where the vertical distance between the rear direction-indicator lamp and the corresponding rear position (side) lamp is not more than 300 mm, the distance between the extreme outer edge of the vehicle and the outer edge of the illuminating surface of the rear direction-indicator lamp must not exceed by more than 50 mm the distance between the extreme outer edge of the vehicle and the outer edge of the illuminating surface of the corresponding rear position (side) lamp.

For front direction-indicator lamps the illuminating surface must not be less than 40 mm from the illuminating surface of the dipped-beam headlamps or front fog lamps, if any. A smaller distance is permitted if the luminous intensity in the reference axis of the direction-indicator lamp is equal to at least 400 cd.

Item 4.5.8 is hereby amended as follows:

'4.5.8. *May not be combined*  
with another lamp. May be combined only with direction-indicator lamps of another category.'



Item 4.5.11 is hereby amended as follows:

'4.5.11. *Tell-tale*

Operational tell-tale mandatory for front and rear direction-indicator lamps. It may be optical or auditory or both. If it is optical, it shall be a flashing light which, at least in the event of the malfunction of any of the front or rear direction-indicator lamps, is either extinguished, or remains alight without flashing, or shows a marked change of frequency. If it is entirely auditory it shall be clearly audible and shall show a marked change of frequency, at least in the event of the malfunction of any of the front or rear direction-indicator lamps.

If a motor vehicle is equipped to draw a trailer, it must be fitted with a special optical operational tell-tale for the direction-indicator lamps on the trailer unless the tell-tale of the drawing vehicle allows the failure of any one of the direction-indicator lamps on the vehicle combination thus formed to be detected.'

Item 4.6.10 is hereby amended as follows:

'4.6.10. *Electrical connections*

The signal shall be operated by means of a separate control enabling all the direction-indicator lamps to flash in phase.'

Item 4.6.11 is hereby amended as follows:

'4.6.11. *Tell-tale*

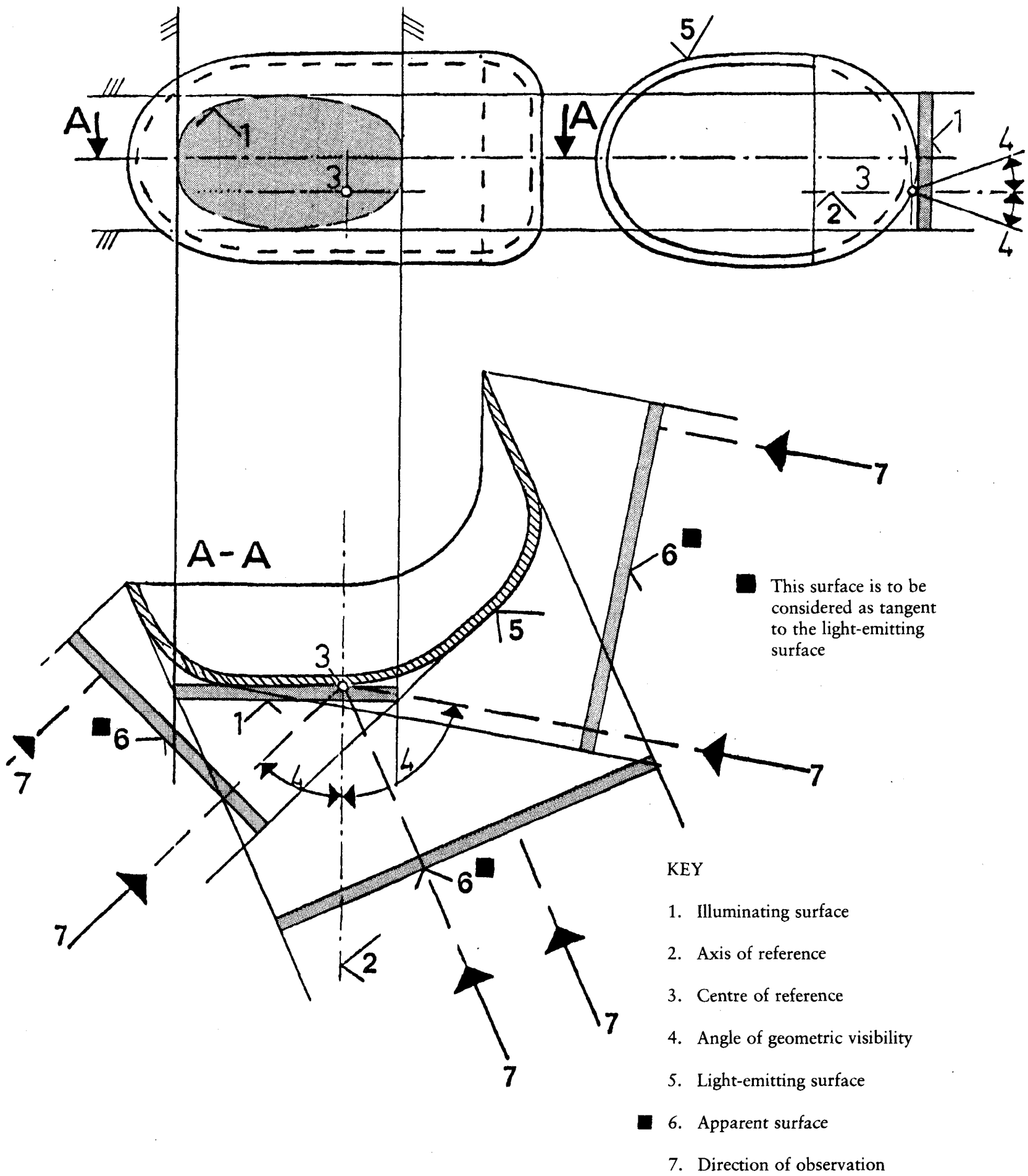
Circuit-closed tell-tale mandatory. Flashing warning light, which can operate in conjunction with the tell-tale(s) specified in 4.5.11.'

Item 4.7.11 is hereby amended as follows:

'4.7.11. *Tell-tale*

Tell-tale optional. Where fitted, this tell-tale must be an operational tell-tale consisting of a non-flashing warning light which comes on in the event of the malfunctioning of the stop lamps.'

Appendix 2: the drawing is replaced by the following drawing:



ANNEX II

Item 15 is hereby amended as follows:

- '15. The following documents, bearing the type-approval number indicated above, are annexed to this type-approval certificate:

.....List(s) of devices presented by the manufacturer for the lighting and light-signalling assembly; for each device the manufacturer's mark and the component type-approval mark are indicated.'

If expressly requested, these documents must be supplied to the competent authorities of the other Member States.

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