

PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 113

(Headlamps emitting a symmetrical passing beam)

The text reproduced below was prepared by the expert from Germany in order to clarify and update the provisions in the proposed amendments in document ECE/TRANS/WP.29/GRE/2009/27 of headlamps for the approval test procedure. This is a proposal for correction of the existing Regulation as well as of document ECE/TRANS/WP.29/GRE/2009/27.

The modifications to the current text of the Regulation are marked in **bold** characters.

A. PROPOSAL

6. ILLUMINATION

6.1. General provisions

6.1.1. Headlamps shall be so made that they give adequate illumination without dazzle when emitting the passing beam, and good illumination when emitting a driving beam.

Paragraph 6.1.2., amend to read:

6.1.2. The luminous intensity produced by the headlamp shall be measured at 25 m distance by means of a photoelectric cell having a useful area comprised within a square of 65 mm side.

The point HV is the centre-point of the coordinate system with a vertical polar axis. Line h is the horizontal through HV (see Annex 3 to this Regulation).

Paragraph 6.2.5., amend to read:

6.2.5. The illumination produced **in 25m** by the passing beam shall meet the following requirements:

6.2.5.1. For Class A headlamps:

TEST POINT/ LINE/ ZONE	Position in B-β grid in angular degrees Vertical β <u>**</u> / Horizontal B <u>**</u> /		Required illumination in lux at 25 m
Any point on and above the line H-H: (Zone III)	0° to 15°U	5.14°L to 5.14° R	≤ 0. 32
Any point on line 25L to 25R	1.72° D	5.14°L to 5.14° R	≥ 1. 28
Any point on line 12.5L to 12.5R	3.43° D	5.14°L to 5.14° R	≥ 0. 64

6.2.5.2. For Class B headlamps:

TEST POINT/ LINE/ ZONE	Position in B-β grid in angular degrees Vertical β <u>**</u> / Horizontal B <u>**</u> /		Required illumination in lux at 25 m
Any point on and above the line h-h: (Zone III)	0° to 15°U	5.14°L to 5.14° R	≤ 0. 7
Point B50	0.57U	0	≤ 0. 7
Any point on line 50L to 50R except 50V * /	0.86° D	2.58°L to 2.58° R	≥ 1. 5
Point 50V	0.86° D	0°	≥ 3
Any point on line 25L to25R	1.72° D	5.14°L to 5.14° R	≥ 3
Any point in zone IV	0.86° D to 1.72° D	5.14°L to 5.14° R	≥ 1. 5

*/ ratio of intensity (50R/ 50L) ≥ 0. 25

Notes:

"D" means under the H-H line.

"R" means right of the V-V line.

"U" means above the H-H line.

"L" means left of the V-V line.

**/ 0.25° tolerance allowed independently at each test point for photometry unless indicated otherwise.

Maybe transitional provisions are necessary:

"13. TRANSITIONAL PROVISIONS

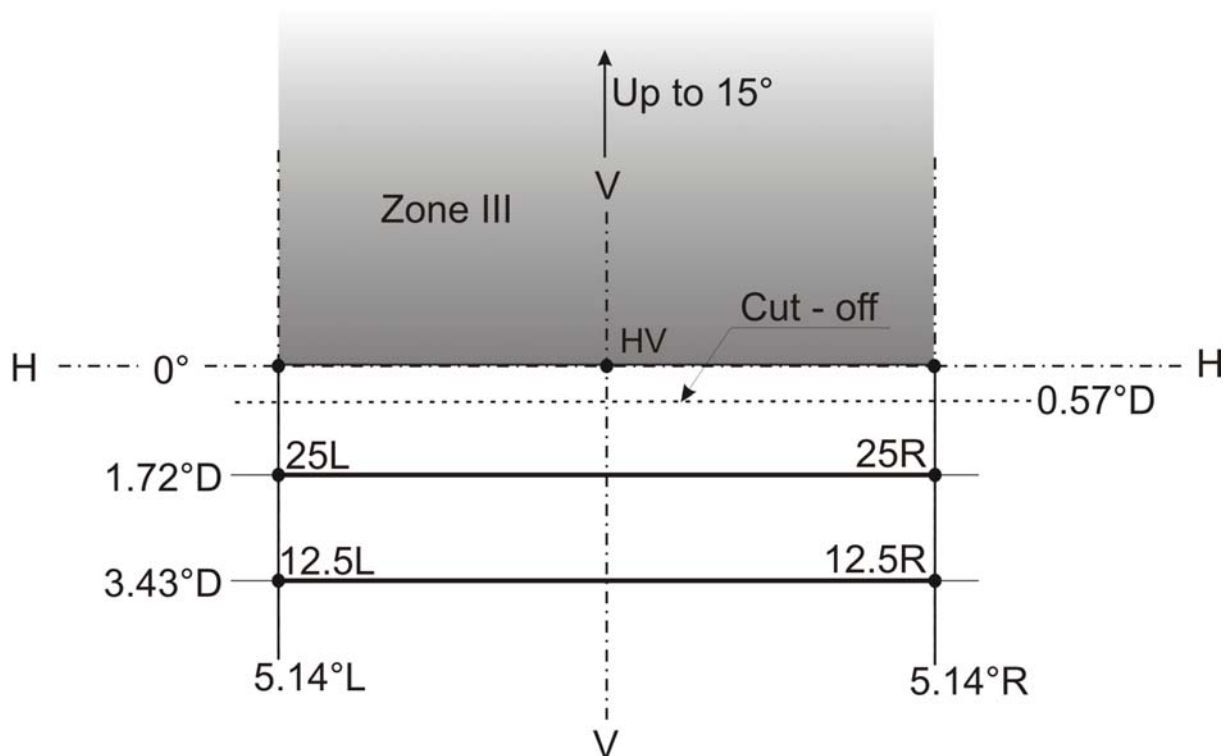
- 13.1. Approvals granted under the preceding supplements to this Regulation shall remain valid.
- 13.2. Contracting Parties applying this Regulation shall continue to grant approvals on the basis of the preceding supplements to this Regulation, provided that the headlamps are intended as replacements for fitting to vehicles in use.
- 13.3. Contracting Parties applying this Regulation shall not refuse to grant extensions of approvals to the preceding supplements to this Regulation."

Amend the drawings for Class A and Class B Headlamps:

Annex 3

MEASURING SCREEN
for Class A headlamps
(Dimensions in mm with screen at 25 m distance)

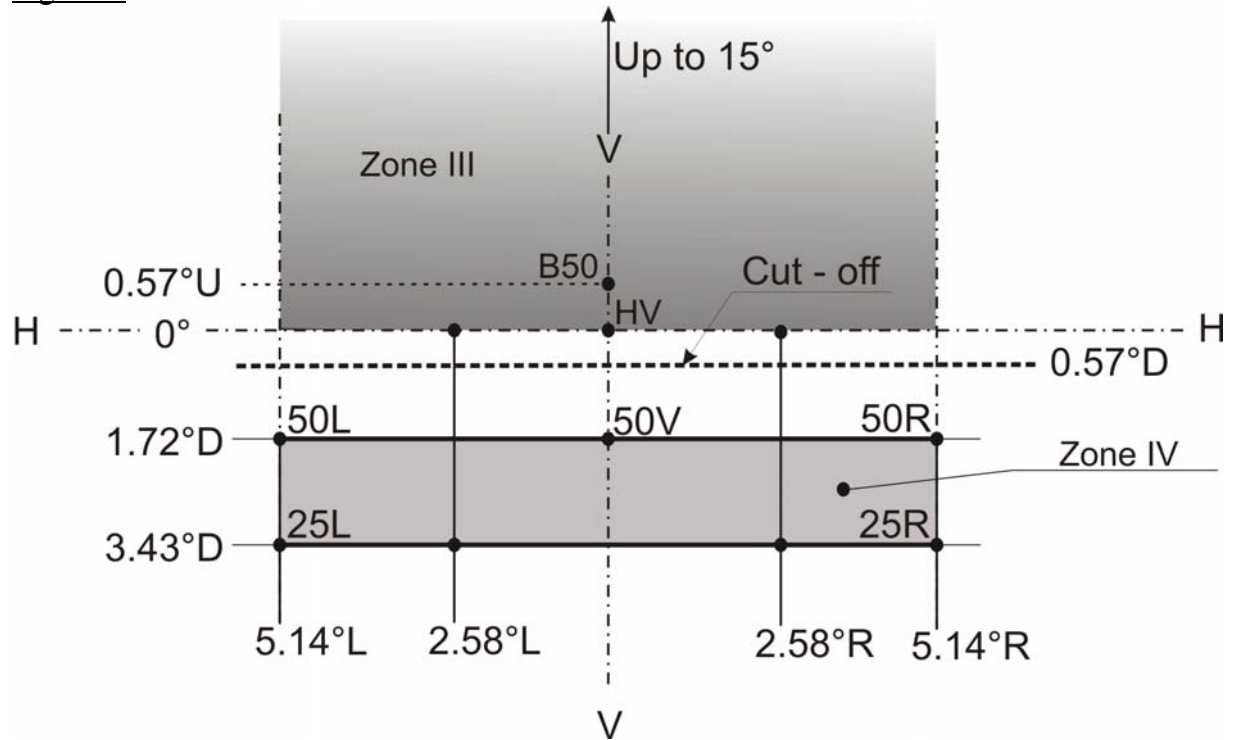
Figure A



H-H: horizontal plane) passing through
V-V: vertical plane) focus of headlamp

MEASURING SCREEN
for Class B headlamps
(Dimensions in mm with screen at 25 m distance)

Figure B



H-H: horizontal plane) passing through
V-V: vertical plane) focus of headlamp

B. JUSTIFICATION (and open questions):

Question concerning ECE Regulation 113 photometry (sphere vs. flat screen)

For the headlamps of Class C and D, the Line 14 of the relevant table in ECE R113 contains a requirement for the limitation of the veiling light in a zone from 10U up to 90U with a maximum of 0.15 lux (in 25m). This requirement is needed to limit the veiling glare e.g. during fog. The arrangement of the requirements however contains a mistake, because corresponding to paragraph 6.1.2. the value has to be measured at a screen set up 25m and this results infinite glare 90° upward given by the cosine³ correction. This makes no sense. The writers intended to have the requirements applicable on a sphere and measured at a distance of 25m, in this case the cosine correction is not needed. The dualism of measurements on a screen and in an angular system leads to confusion because it is not clear in the whole content when which system (screen / spherical coordinates) has to apply. This should be clarified by this proposed amendment.

In the existing Regulation for the values above the hh – line no limitation was specified, so it is unclear where this area ends. With the introduction of Zone III, which is still specified for the CoP of the Class B headlamps, and the specification of limits this open item is also solved.

In the light distribution of the Class B headlamps were been also referenced the Zone I and the Zone II without any application of this Zones inside the Regulation, therefore this Zones are not more indicated in the drawing. In the CoP requirements. For Class B headlamps was also specified the point B50 without any specification of the coordinates, this mistake is also solved by the introduction in the table because it is still part of the Zone above the hh-line (Zone III).
