

TECHNICAL REPORT

**ISO/TR
11842**

First edition
1997-05-01

Road vehicles — Comparison of statutory photometric requirements in various countries for lighting devices

*Véhicules routiers — Comparaison des exigences photométriques
réglementaires des dispositifs d'éclairage dans les différents pays*

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Reference number
ISO/TR 11842:1997(E)

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ISO/TR 11842:1997(E)**Foreword**

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Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid.

ISO/TR 11842, which is a Technical Report of type 3, was prepared by ISO/TC 22, *Road vehicles*, Subcommittee SC 8, *Lighting and signalling*.

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Printed in Switzerland

Road vehicles — Comparison of statutory photometric requirements in various countries for lighting devices

1 Scope

This Technical Report compiles photometric requirements for headlamps [main beam (upper beam) and dipped beam (low beam)] and fog lamps from existing provisions for lighting devices, established by national or international legislations in various countries.

2 References

SAE J579 DEC84, *SEALED BEAM HEADLAMP UNITS FOR MOTOR VEHICLES*.

SAE J583 MAY81, *FRONT FOG LAMPS*.

U.S. FEDERAL MOTOR VEHICLE SAFETY, STANDARD 108.

ECE RI.01, CORRIGENDUM 1, 18MR86, *UNIFORM PROVISIONS CONCERNING TYPE APPROVAL OF MOTOR VEHICLE HEADLAMPS EMITTING AN ASYMMETRICAL PASSING BEAM AND/OR A DRIVING BEAM AND EQUIPPED WITH FILAMENT LAMPS OF CATEGORY R2*.

ECE R8.02 AS AMENDED BY R8.04, *UNIFORM PROVISIONS CONCERNING THE APPROVAL OF MOTOR VEHICLE HEADLAMPS EMITTING AN ASYMMETRICAL PASSING BEAM OR A DRIVING BEAM OR BOTH AND EQUIPPED WITH HALOGEN LAMPS (H1, H2, OR H3 LAMPS)*.

ECE R19.02 08MY88, *UNIFORM PROVISIONS CONCERNING THE APPROVAL OF MOTOR VEHICLE FRONT FOG LAMPS*.

ECE R20.01 AS AMENDED BY R20.02, 03JL86, *UNIFORM PROVISIONS CONCERNING THE APPROVAL OF MOTOR VEHICLE HEADLAMPS EMITTING AN ASYMMETRICAL PASSING BEAM OR A DRIVING BEAM OR BOTH AND EQUIPPED WITH HALOGEN FILAMENT LAMPS (H4 LAMPS)*.

JAPAN, MINISTRY OF TRANSPORT, CHIGI NO. 246 AND CHISIN NO. 1353, 13 DECEMBER 1988.

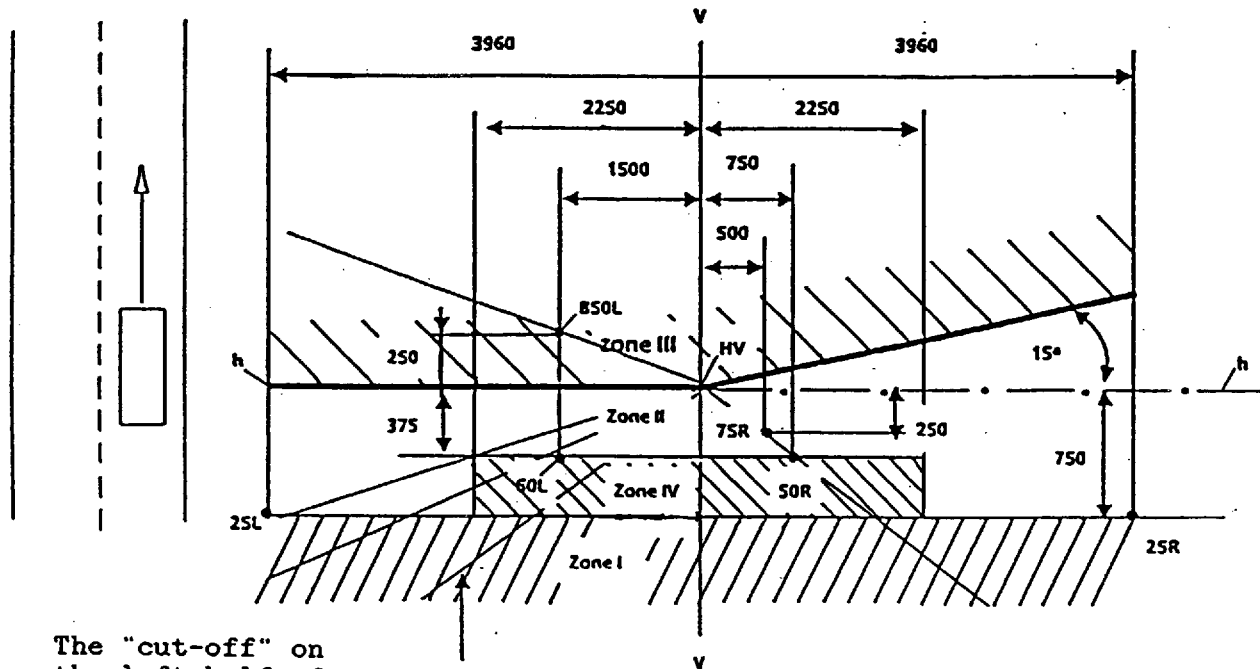
3 Photometric requirements

Sheets No. 1 to 14 of this Technical Report are excerpts from existing provisions established by national or international legislations. They were the current requirements as of October 1991.

Europe: (ECE R1.01, Corrigendum 1, 18MR86)

Sheet No. 1

STANDARD EUROPEAN BEAM



The "cut-off" on the left half of the screen is horizontal and is situated 25 cm below the hh line. The "elbow" of the "cut-off" is on the vv line.

MEASURING SCREEN

HEADLAMP FOR RIGHT HAND TRAFFIC

h-h: horizontal plane)
v-v: vertical plane)

passing through
focus of headlamp

dimensions in mm

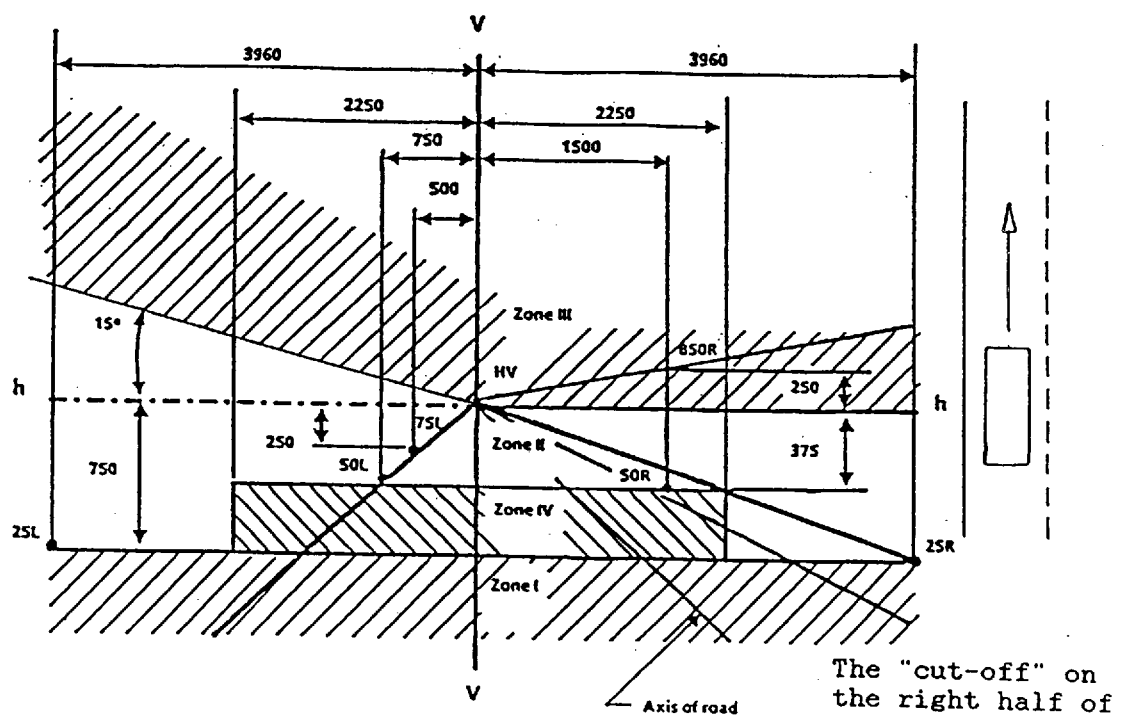
Lux measured at 25m

Point on measuring screen	REQUIRED ILLUMINATION IN LUX
Headlights for right hand traffic	
Point B 50 L	≤ 0.3
Point 75 R	≥ 6
Point 50 R	≥ 6
Point 25 L	≥ 1.5
Point 25 R	≥ 1.5
Any point in Zone III	≤ 0.7
Any point in Zone IV	≥ 2
Any point in Zone I	≤ 20

Europe: (ECE R1.01, Corrigendum 1, 18MR86)

Sheet No. 2

STANDARD EUROPEAN BEAM



The "cut-off" on the right half of the screen is horizontal and is situated 25 cm below the hh line. The "elbow" of the "cut-off" is on the vv line.

MEASURING SCREEN

HEADLAMP FOR LEFT HAND TRAFFIC

h-h: horizontal plane)
v-v: vertical plane)

passing through
focus of headlamp

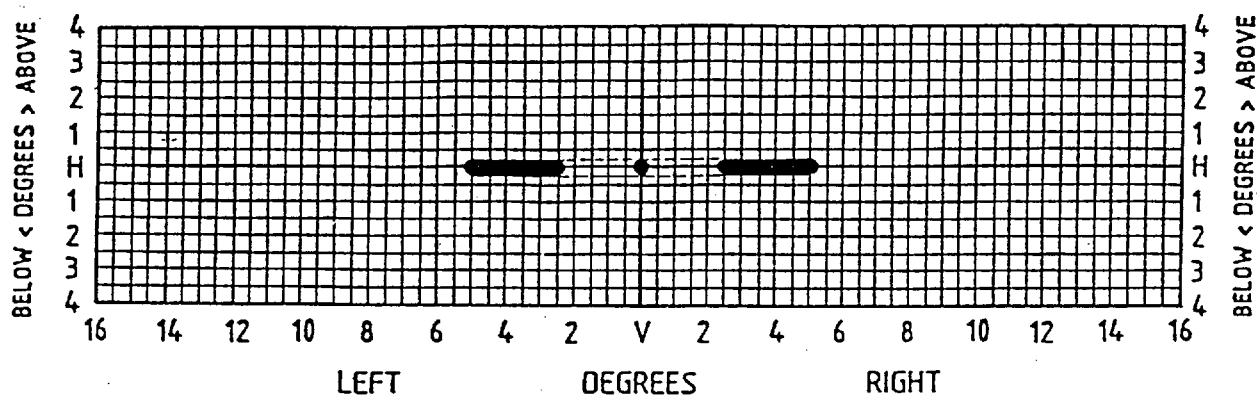
dimensions in mm

Lux measured at 25m

Point on measuring screen	REQUIRED ILLUMINATION IN LUX
Headlights for left hand traffic	
Point B 50 R	≤ 0.3
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Point 25 R	≥ 1.5
Point 25 L	≥ 1.5
Any point in Zone III	≤ 0.7
Any point in Zone IV	≥ 2
Any point in Zone I	≤ 20

Sheet No. 3

EUROPE:(ECE R1.01, CORRIGENDUM 1, 18MR86)



Lux measured at 25m

DRIVING BEAM		
TEST POSITION (degrees)		SPECIFIED (lux)
H	5.1L to 2.6L	4
	2.6L to V	16
	V	*32
	V to 2.6R	16
	2.6R to 5.1R	4

The illumination produced on the screen by the driving beam shall meet the following requirements:

The point of intersection HV of the lines hh and vv shall be situated within the isolux 90% of maximum illumination. This maximum value shall not be less than *32 lux.

Starting from point HV, horizontally to the right and left, illumination shall be not less than 16 lux up to a distance of 1.125 m and not less than 4 lux up to a distance of 2.25 m. (Where the flux of the standard filament lamp used for measurements is other than 700 lumens, the measurements as taken must be corrected proportionally to the ratio of the fluxes.)

(e) The screen illumination values mentioned under (c) and (d) shall be measured by means of a photo-electric cell, the useful area of which shall be contained within a square of 65 mm side.