

TECHNICAL REPORT

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Road vehicles — Legal situation concerning lighting and light-signalling devices

*Véhicules routiers — Situation légale concernant les dispositifs
d'éclairage et de signalisation lumineuse*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The main task of technical committees is to prepare International Standards, but in exceptional circumstances a technical committee may propose the publication of a Technical Report of one of the following types:

- type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;
- type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;
- type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

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 Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/TR 10603, which is a Technical Report of type 3, was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Sub-Committee SC 8, *Lighting and signalling*.

The rationale for this Type 3 Technical Report is given in the Introduction.

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Road vehicles — Legal situation concerning lighting and light-signalling devices

1 INTRODUCTION

This document is a compilation of legal specifications of the United Nation Conference of Road Traffic, North America, Europe, Australia and Japan and shall be used when the Lighting and Light Signalling Devices of ISO 303 are designed and installed into the various Road vehicles.

Furthermore, it gives the main difference between the listed requirements as well as specific national regulations and should be used for further harmonization.

This technical report includes most of the requirements of Lighting and Light Signalling Devices of the following international standards, rules and regulations :

UN	Conference of road traffic, Final Act, november 1968 (current final draft of new revision for approval until spring 1991)
ECE	Regulation R 48/01 (an update to the current EEC-D's is pending)
EEC	Directive 76/756 - Effective October 1, 1977, amended by Directive 80/233 - Effective May 1, 1980, and Directive 82/244 - Effective October 1, 1982, and Directive 83/276 - Effective October 1, 1983, and Directive 84/8 - Effective October 1, 1984, and Directive 89/278 - Effective October 1, 1989
EEC	Directive 78/316 - Effective September 28, 1979 (currently under revision)
USA	FMVSS 108 (last amendment of April 1990)
CANADA	CMVSS 108 and CMVSS 108-1 (last amendment Sept. 1987)
AUSTRALIA	ADR and Draft Regulations, amended April '89
JAPAN	Safety and standing regulations, issued May 89 (blue book)
CHINA	GB 4785-84, Numbers, positions and colors of lighting and light signalling devices
SOUTH AFRICA	SABS SV 1046-1980 (mainly harmonized with ECE and EEC, effective April '86)
BRAZIL	Vehicle legal requirements (10.88)
ISO 303:1986	Road vehicles - Installation of lighting and light signalling devices for motor vehicles and their trailers.
ISO 7227:1987	Road vehicles - Lighting and light signalling devices - Vocabulary.

Note : If any doubt exists, it is recommended that the transport authority of the country in question be consulted.

1.1 Definitions used in this report

- The abbreviation ECE means Economic Commission for Europe. This is an official section of the UN.
- The abbreviation EEC means Economic Community.
- The term "worldwide" used in the tables means conforming to the requirements accepted by the following countries that participated in the UN Conference of Road Traffic in November 1968 for achieving the Final Act; indications is given in this list of the countries that are members of the ECE and EEC

TABLE 1 : INTERNATIONAL INSTITUTIONS

All following countries participated at the UN-conference of Road Traffic of november 1968 for archieving the Final Act.

In this list are also indicated the countries that are members of the ISO/TC22, the ECE and the EEC.

Countries marked (ECE) apply ECE-Regulation partially and totally on a voluntarily basis alternatively to their national regulation.

Countries marked [ECE] have ECE-Regulation partially or totally incorporated into their national regulation as member of the UN.

AFGHANISTAN	
ALGERIA	
ARGENTINA	ISO, [ECE]
AUSTRALIA	ISO, [ECE]
AUSTRIA	ISO, ECE 12, EEC*
BELGIUM	ISO, ECE 6, EEC
BRAZIL	ISO, [ECE]
BULGARIA	ISO
CANADA	ISO, (ECE)
CENTRAL AFRICAN REP.	
CHILE	ISO,
CHINA	ISO, [ECE]
COSTA RICA	ISO
CYPRUS	
CZECHOSLOVAKIA	ISO, ECE 8
DENMARK	ISO, ECE 18, EEC
DOMINICAN REPUBLIC	
ECUADOR	
EGYPT ARAB. REP.	ISO
FINLAND	ISO, ECE 17
FRANCE	ISO, ECE 2, EEC
GABON	
GERMANY	ISO, ECE 1, EEC
GHANA	ISO
GREECE	ISO, (ECE), EEC
HOLY SEE	
HUNGARY	ISO, ECE 7
INDIA	ISO
INDONESIA	ISO
IRAN	ISO
IRAQ	ISO
IRELAND	ISO, (ECE), EEC

ISRAEL	ISO, (ECE)
ITALY	ISO, ECE 3, EEC
JAPAN	ISO, (ECE)
KENYA	
KUWAIT	
LIBERIA	
LIBYA	
LUXEMBOURG	ISO, ECE 13, EEC
MALAYSIA	
MALI	
MEXICO	ISO
MONACO	
NETHERLANDS	ISO, ECE 4, EEC
NEW ZEALAND	ISO, [ECE]
NIGERIA	ISO
NORWAY	ISO, ECE 16, EEC*
PERU	
PHILIPPINES	
POLAND	ISO, ECE 20
PORTUGAL	ECE 21, EEC
REPUBLIC OF KOREA	ISO
ROMANIA	ISO, ECE 19
SAN MARINO	
SAUDI ARABIA	ISO
SPAIN	ISO, ECE 9, EEC
SOUTH AFRICA	ISO, [ECE]
SUDAN	
SWEDEN	ISO, ECE 5
SWITZERLAND	ISO, ECE 14
THAILAND	
TURKEY	ISO, (ECE), EEC*
UNION OF SOVIET	
SOCIAL REPUBLIC	ISO, ECE 22
UNITED ARAB. REP.	ISO
UNITED KINGDOM OF	
GREAT BRITAIN	ISO, ECE 11, EEC
UNITED STATES	ISO
OF AMERICA	
VENEZUELA	
YUGOSLAVIA	ISO, ECE 10

2 SCOPE

For lighting and light signalling devices to be installed into road motor vehicles and their trailers.

This document shall be applied when no other detailed specifications are available to choose the requirements for the appropriate devices regarding their design data and installation.

* EEC : Request for Membership is under review.
Date : May 22, 1990.

3 REFERENCES

ISO 303:1986, *Road vehicles - Installation of lighting and light signalling devices for motor vehicles and their trailers.*

ISO 2575:1982, *Road vehicles - Symbols for controls, indicators and tell-tales.*

ISO 7227:1987, *Road vehicles - Lighting and light signalling devices - Vocabulary.*

ISO/TR 9819:1991, *Road vehicles - Comparison tables of regulations on photometric requirements of the light signalling devices.*

4 DATASHEETS OF LIGHTING AND TELTALS FOR ROAD VEHICLES

- I Passenger cars and multipurpose vehicles
- II Trucks, buses and multipurpose vehicles
- III Trailers
- IV Telltales for lighting devices

Each table consists of :

- the lighting and light signalling devices in the sequence of ISO 303 (except the table of telltales)
- the legal situation of each device specified in the regulation of the international institutions and the national countries.

TABLE 2 : MOTOR VEHICLES HAVE THE FOLLOWING "LEGAL DEFINITION" OF CATEGORIES

	Datasheet	ECE/EEC	USA/CAN
Passenger car	I	M1	< 2032 overall width
Multipurpose vehicle	I	Not applicable	< 2032 overall width
Minibus (1 driver, 8 passengers)	I	M2	Not applicable
Bus	II	M3	> 2032 overall width
Trucks	II	N1...N3 *	> 2032 overall width
Multipurpose vehicles	II	Not applicable	> 2032 overall width
Trailers for motor vehicles	III	O	2032 overall width

* N1 < 3,5 t ; 3,5 t < N2 < 12 t ; N3 > 12 t .

Note : Motor vehicles have also subdefinitions regarding other overall width and length as stated in the appropriate datasheets.

TABLE 3 : LIGHTING DEVICES FOR PASSENGER CARS AND MULTIPURPOSE VEHICLES

LIGHTING DEVICE	LEGAL SITUATION OF THE DEVICE IN THE DIFFERENT COUNTRIES		
	MANDATORY	OPTIONAL	PROHIBITED
Headlamp dipped beam	Worldwide		
Headlamp main beam	Worldwide		
Front fog lamp		Worldwide	
Front position lamp	Worldwide		
Parking lamp	USA, Can (1) Japan	ECE/EEC (2) Australia, Sweden	
Front direction indicator lamp	Worldwide		
Rear direction indicator lamp	Worldwide		
Side direction indicator lamp	ECE/EEC Japan Sweden	USA, Canada Australia	
Stop lamp	Worldwide		
Rear position lamp	Worldwide		
Rear fog lamp	ECE/EEC	Japan, Australia Sweden, USA, Canada	
Reversing lamp	Worldwide (3)		
Rear registration plate lamp	Worldwide		
Rear reflex reflector (not triangular)	Worldwide		
Front and rear side reflex reflector	USA, Canada	ECE/EEC, Australia, Sweden	

-
- 1) .Optional when overall width is more than 2032 mm.
2) .Prohibited when overall width is more than 2000 mm overall length is more than 6000 mm.
3) .Optional, in some European Countries, because of national requirements.
4) .ECE/EEC : current draft of revised regulation.
5) .See national requirements of each country.

TABLE 3 : LIGHTING DEVICES FOR PASSENGER CARS AND MULTIPURPOSE VEHICLES (CONT.)

LIGHTING DEVICE	LEGAL SITUATION OF THE DEVICE IN THE DIFFERENT COUNTRIES		
	MANDATORY	OPTIONAL	PROHIBITED
Front and rear side marker lamp	USA, Canada	Aus. , Sweden (4)	ECE/EEC
Intermediate side reflex reflector		Worldwide	
Intermediate side marker lamp			Worldwide
Front and rear end-outline marker lamp		Worldwide	
Front and rear identification lamp			Worldwide
Rear identification plate			Worldwide
Front reflex reflector		ECE/EEC	USA, Jap., Swe., Aus.
Rear triangular reflex reflector			Worldwide
Centre ligh-mounted stop lamp	USA, Can., Aus., New Zealand	(5)	(5)
Daytime running lamp	Sweden, Finland Canada, Norvège	Australia	

1) .Optional when overall width is more than 2032 mm.
2) .Prohibited when overall width is more than 2000 mm overall length is more than 6000 mm.
3) .Optional, in some European Countries, because of national requirements.
4) .ECE/EEC : current draft of revised regulation.
5) .See national requirements of each country.

TABLE 4 : LIGHTING DEVICES FOR TRUCKS, BUSES AND MULTIPURPOSE VEHICLES

LIGHTING DEVICE	LEGAL SITUATION OF THE DEVICE IN THE DIFFERENT COUNTRIES		
	MANDATORY	OPTIONAL	PROHIBITED
Headlamp dipped beam	Worldwide		
Headlamp main beam	Worldwide		
Front fog lamp		Worldwide	
Front position lamp	Worldwide		
Parking lamp	USA, Canada Japan (2)	ECE/EEC (1) USA Canada (2) Japan, Australia Sweden	
Front direction indicator lamp	Worldwide		
Rear direction indicator lamp	Worldwide		
Side direction indicator lamp	ECE/EEC, Japan Sweden	USA, Australia Canada	
Stop lamp	Worldwide		
Rear position lamp	Worldwide		
Rear fog lamp	ECE/EEC	Japan, Australia USA, Sweden, Canada	
Reversing lamp	Worldwide (3)		
Rear registration plate lamp	Worldwide		
Rear reflex reflector (not triangular)	Worldwide		
Front and rear side reflex reflector	ECE/EEC, Sweden Jap. (4), Aus.(5) USA Canada		

- 1) Prohibited when overall width is more than 2000 mm and overall length is more than 6000 mm.
2) Mandatory when overall width is less than 2032 mm.
3) Optional in most European countries, because of national requirements.
4) Mandatory only when overall length is more than 6000 mm.
5) Mandatory only when overall length is more than 9000 mm.
6) Mandatory only when : ECE/EEC, overall width is more than 2100 mm; when 1800-2100 optional for EEC (ECE still draft)
Mandatory only when : USA and Canada, overall width is more than 2032 mm.
Mandatory only when : Australia, overall width is more than 2200 mm.
7) Mandatory in some European countries because of national requirements.
8) For vehicles greater than 6000 mm overall length still draft of revised regulation.
9) For vehicles less than 6000 mm overall length still draft of revised regulation.

TABLE 4 : LIGHTING DEVICES FOR TRUCKS, BUSES AND MULTIPURPOSE VEHICLES (CONT.)

LIGHTING DEVICE	LEGAL SITUATION OF THE DEVICE IN THE DIFFERENT COUNTRIES		
	MANDATORY	OPTIONAL	PROHIBITED
Front and rear side marker lamp	Japan, Sweden (4) Australia (5) ECE/EEC (8) USA Canada	ECE/EEC (9)	ECE/EEC
Intermediate side reflex reflector	ECE/EEC, Swe. (4) Japan, USA Canada (5)	Australia	
Intermediate side marker lamp	Sweden (4) Japan, USA, Canada (5)	Australia	ECE/EEC
Front and rear end-outline marker lamp	Worldwide (6)		
Front and rear identification lamp	USA, Canada (6)	Sweden, Japan Australia	ECE/EEC
Rear identification plate	(7)	USA, Canada, Japan Australia	ECE/EEC, Sweden
Front reflex reflector		ECE/EEC	Sweden, USA Japan, Australia
Rear triangular reflex reflector			Worldwide
Daytime running lamp	Sweden, Finland Canada, Nor.	Australia	

- 1) Prohibited when overall width is more than 2000 mm and overall length is more than 6000 mm.
- 2) Mandatory when overall width is less than 2032 mm.
- 3) Optional in most European countries, because of national requirements.
- 4) Mandatory only when overall length is more than 6000 mm.
- 5) Mandatory only when overall length is more than 9000 mm.
- 6) Mandatory only when : ECE/EEC, overall width is more than 2100 mm; when 1800-2100 optional for EEC (ECE still draft)
Mandatory only when : USA and Canada, overall width is more than 2032 mm.
Mandatory only when : Australia, overall width is more than 2200 mm.
- 7) Mandatory in some European countries because of national requirements.
- 8) For vehicles greater than 6000 mm overall length still draft of revised regulation.
- 9) For vehicles less than 6000 mm overall length still draft of revised regulation.

TABLE 5 : LIGHTING DEVICES FOR TRAILERS

LIGHTING DEVICE	LEGAL SITUATION OF THE DEVICE IN THE DIFFERENT COUNTRIES		
	MANDATORY	OPTIONAL	PROHIBITED
Headlamp dipped beam			Worldwide
Headlamp main beam			Worldwide
Front fog lamp			Worldwide
Front position lamp	Worldwide (1)		
Parking lamp			Worldwide (2)
Front direction indicator lamp			Worldwide (2)
Rear direction indicator lamp	Worldwide		
Side direction indicator lamp	Japan	USA, Canada Australia	ECE/EEC, Sweden
Stop lamp	Worldwide		
Rear position lamp	Worldwide		
Rear fog lamp	ECE/EEC	Japan, Australia, Sweden, USA, Canada	
Reversing lamp		Worldwide	
Rear registration plate lamp	Worldwide		
Rear reflex reflector (not triangular)	USA, Canada, Australia (3)		EEC (4) ECE, Japan, Sweden
Front and rear side reflex reflector	Worldwide		

- 1) For ECE/EEC and Sweden, optional when overall width is less than 1600 mm.
- 2) For USA and Canada, mandatory when overall width is less than 2032 mm.
- 3) For USA, Canada and Australia, the shape (triangular or not) is not specified.
- 4) Optional only when is grouped with other rear lights.
- 5) Mandatory only when : ECE/EEC and Sweden, overall width is more than 2100 mm ;
when 1800-2100 optional for EEC (ECE still draft)
Mandatory only when USA and Canada, overall width is more than 2032 mm ;
Mandatory only when Australia, overall width is more than 2200.
- 6) Mandatory in some European Countries because of national requirements.
- 7) Mandatory only when overall length is more than 6000 mm.
- 8) Only on the rear of trailers.
- 9) Canada : optional only
- 10) Mandatory when overall length is more than 9100 mm.

TABLE 5 : LIGHTING DEVICES FOR TRAILERS (CONT.)

LIGHTING DEVICE	LEGAL SITUATION OF THE DEVICE IN THE DIFFERENT COUNTRIES		
	MANDATORY	OPTIONAL	PROHIBITED
Front and rear side marker lamp	USA, Canada Japan, Sweden (7)	Australia	ECE/EEC
Intermediate side reflex reflector	Worldwide Canada (10)		
Intermediate side marker lamp	USA, Canada (10) Japan, Sweden (7)	Australia	ECE/EEC
Front and rear end-outline marker lamp	Worldwide (5)		
Front and rear identification lamp	USA, Canada (8)	Sweden, Japan Australia	ECE/EEC
Rear identification plate	(6)	USA, Canada Japan, Australia	ECE/EEC Sweden
Front reflex reflector	Worldwide (9)		
Rear triangular reflex reflector	Worldwide (3)		

- 1) For ECE/EEC and Sweden, optional when overall width is less than 1600 mm.
- 2) For USA and Canada, mandatory when overall width is less than 2032 mm.
- 3) For USA, Canada and Australia, the shape (triangular or not) is not specified.
- 4) Optional only when is grouped with other rear lights.
- 5) Mandatory only when : ECE/EEC and Sweden, overall width is more than 2100 mm ;
when 1800-2100 optional for EEC (ECE still draft)
Mandatory only when : USA and Canada, overall width is more than 2032 mm ;
Mandatory only when : Australia, overall width is more than 2200.
- 6) Mandatory in some European Countries because of national requirements.
- 7) Mandatory only when overall length is more than 6000 mm.
- 8) Only on the rear of trailers.
- 9) Canada : optional only
- 10) Mandatory when overall length is more than 9100 mm.