THE NETHERLANDS
(NEDERLAND)

E4

COMMUNICATION

Concerning [1]

- approval granted
~~- approval extended~~
~~- approval refused~~
~~- approval withdrawn~~
~~- production definitely discontinued~~

of a type of retro-reflecting device pursuant to Regulation number 3.

Approval number: E4-3R-023417 **Extension number: 00**

Approval mark:

02 IA
E4
3417

1.	Trade name or mark of the device	:
2.	Manufacturer's name for the type of device	:
3.	Manufacturer's name and address	:
4.	If applicable, name and address of the manufacturer's representative	: not applicable
5.	Submitted for approval on	: April 19, 2010
6.	Technical service responsible for conducting approval tests	: TÜV NORD Mobilität GmbH & Co. KG Institut für Fahrzeugtechnik und Mobilität Adlerstrasse 7, D-45307 Essen

RDW

P.O. Box 777
2700 AT Zoetermeer
The Netherlands

Tel. + 31 (0)79 345 81 43
Fax + 31 (0)79 345 80 43
www.rdw.nl

Vehicle Approval and Information

7.	Date of test report	: April 23, 2010
8.	Number of test report	: KR003-A0-1030212
9.	Concise description	:
	In isolation/part of an assembly of devices [1]	: In isolation/~~part of an assembly of devices~~ [1]
	Colour of light emitted	: white/red/amber [1]
	Installation as an integral part of a lamp which is integrated into the body of a vehicle	: ~~yes~~/no [1]
	Geometric conditions of installation and relating variations, if any	: see the manufacturer's information folder
10.	Position of the approval mark	: on the lens
11.	Reason(s) for extension (if applicable)	: not applicable
12.	Approval	: granted/refused/extended/withdrawn [1]
13.	Place	: Zoetermeer
14.	Date	: 19-MAY-2010
15.	Signature	:

RDW

J.C.M. Hoes

16. The following documents, bearing the approval number shown above, are available on request:
-

[1] Strike out what does not apply.

Application date : April 19, 2010

1. Specification data

Type			
Function		Retro-reflector	
Emitted color		Red/Amber/White	
Rated	Voltage	-	
	Wattage	-	
Applicable Regulation (ECE)		R3.02 Category IA	
Number and category of filament lamp(light source)		-	
Location of marking	Rated Voltage and Wattage	-	
	Trade mark		Marked on Lens
	Approval mark	Marked on Lens	
Remark		The reflector may use as single or installed into a body of another grouped lamp.	

2. Construction and material

Construction	Material	Remarks
Outer lens	PC	Red/Amber/White
Base	ABS	Black
Electrical wiring	Copper covered with insulation	-

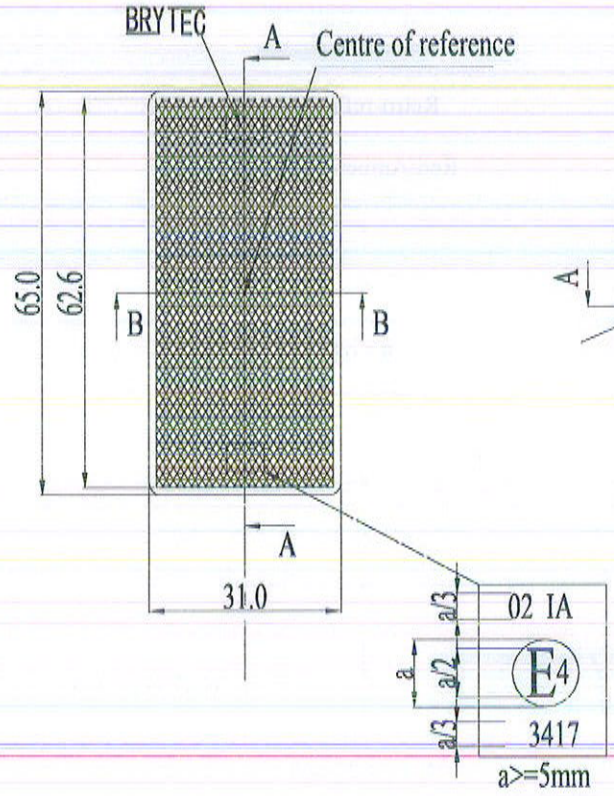
3. Name and address of manufacturer :

4. Name and address of representative of manufacturer : Not applicable

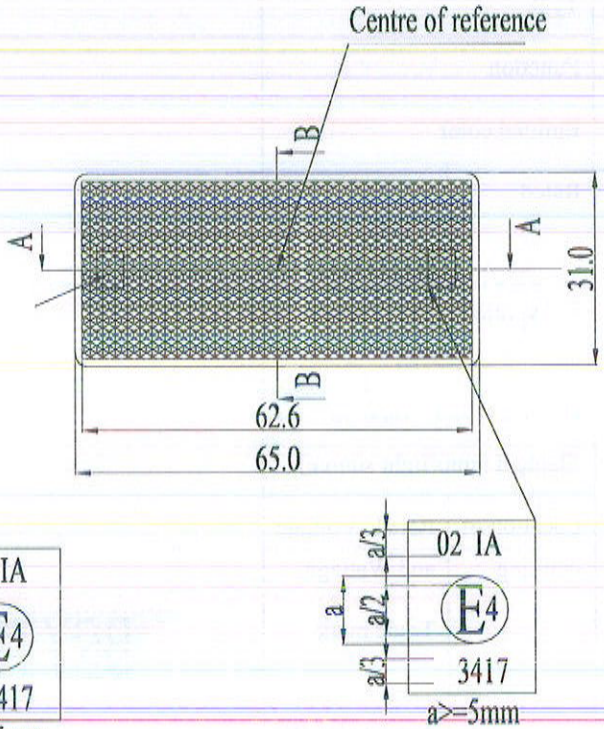
This information document consists of **2** pages.

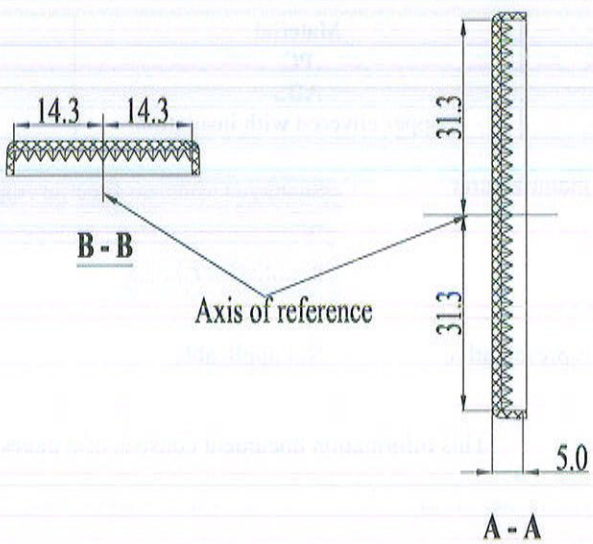
JE MAINTIENDRAI
RDW

Installation condition 1: Vertical orientation



Installation condition 2: Horizontal orientation





JE MAINTIENDRAI
RDW

Typ / *Type* :

Hersteller / *Manufacturer* :

Prüfbericht
Test Report

Gemäß dem Übereinkommen über die Annahme Einheitlicher Technischer Vorschriften für Radfahrzeuge, Ausrüstungsgegenstände und Teile, die in Radfahrzeuge(n) eingebaut und/oder verwendet werden können, und die Bedingungen für die gegenseitige Anerkennung von Genehmigungen, die nach diesen Vorschriften erteilt wurden

Agreement concerning the adoption of uniform technical prescriptions for the wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions

Uniform provisions concerning the approval of retro-reflecting devices for power-driven vehicles and their trailers

ECE-R3
zuletzt geändert *as last amended*

02 series of amendment, Supplement 10

Genehmigungsstand *Approval status*	
	Genehmigungsnummer *Number of approval*
ECE	---

Structure of report :

1. Test object(s) and general test information
2. Test minutes
3. Remarks concerning tested object(s)
4. Appendices
5. Statement of conformity

Typ / *Type* :

Hersteller / *Manufacturer* :

Test object(s) and general test information

1.1. Test object(s)

identification number :

version : ---

1.2. General test information

1.2.1. Order issued by (if different from manufacturer) : ---

1.2.2. Test object / test vehicle received on : not applicable

1.2.3. Test date : April 21, 2010

1.2.4. Test site :

1.2.5. Remark : The results of the test refer exclusively to the object(s) mentioned under point 1.1 of this report.

2. Test minutes

2.1.	Test facilities	: The test facilities are in compliance with the requirements of the regulation.
2.2.	Test results	: The type has been examined according to the amendments mentioned in appendix 0.
		~~An actual test of the type was not required. The results of the previous tests are still valid.~~
	Markings	: The trade mark is marked clearly legible and indelible on the lens of the lamp.
		Space for the approval mark and for additional symbols is provided on the lens of the lamp
2.3.	General specifications	: The retro reflector is designed and made that under normal use their satisfactory operation is ensured and they retain the required characteristics.
		The components are not capable of being easily dismantled, and the optical unit is not replaceable.
		The test samples have been tested in the chronological order indicated in Annex 12 of the Regulation, and in accordance with the test procedure stated in Annex 4 of the Regulation.
		Two samples in amber and white colour for simultaneous extension of the approval to devices meet the colorimetric requirements under Annex 6. (refer to paragraph 5.2. of the Regulation)

2.4. Special tests: Category IA

number of Annex	test	test samples	result of examination	remark
5	shape and dimensions	all	complying	-
6	colorimetry	all	complying	-
10	heat	all	complying	-
7	photometry	all	complying	20′, V=H=0°
7	photometry	c and d	see 2.5.	complete
8 (1.1)	water submersion	g and h	complying	-
8	motor fuels	g and h	complying	-
	oils	g and h	complying	
4	colormetry	g and h	complying	20′, V=H=0°
	photometry	g and h	complying	
8	corrosion	e and f	-	not applicable *)
	abraisive - strength	e and f	-	
9	stability of optical properties with ageing	-	-	not examined
11	colour-fastness	-	-	not examined

*) Remark : the device does not incorporate any metal component, the rear face of the device is not accessible

2.5. Photometric test: Color - red : Results of photometric tests of reflex (retro) reflector, class IA coefficients of luminous intensity (CIL) in accordance with Annex 7 of the Regulation.

- Reflector in vertical orientation

distribution of the intensity of the retro reflector [mcd/lux]								
		sample 1			sample 2			required min.
horizontal angle		L20°	V	R20°	L20°	V	R20°	
vertical angle	U10°	-	445.90	-	-	321.30	-	200
	U5°	229.70	-	206.60	177.90	-	180.40	100
α=20'	H	-	569.30	-	-	398.70	-	300
	D5°	220.20	-	211.10	167.20	-	171.10	100
	D10°	-	416.40	-	-	342.10	-	200
vertical angle	U10°	-	30.89	-	-	33.35	-	2.8
	U5°	26.46	-	27.21	25.99	-	29.05	2.5
α=1°30'	H	-	53.19	-	-	58.00	-	5
	D5°	26.05	-	27.17	25.70	-	27.85	2.5
	D10°	-	32.42	-	-	34.23	-	2.8

Typ / *Type* :

Hersteller / *Manufacturer* :

- Reflector in horizontal orientation

distribution of the intensity of the retro reflector [mcd/lux]								
		sample 1			sample 2			required min.
horizontal angle		L20°	V	R20°	L20°	V	R20°	
vertical angle	U10°	-	484.70	-	-	412.30	-	200
	U5°	224.20	-	381.70	161.50	-	312.40	100
α=20'	H	-	546.80	-	-	477.20	-	300
	D5°	180.80	-	379.10	158.30	-	361.70	100
	D10°	-	437.10	-	-	401.10	-	200
vertical angle	U10°	-	31.53	-	-	31.56	-	2.8
	U5°	25.01	-	26.82	26.04	-	27.87	2.5
α=1°30'	H	-	42.14	-	-	45.71	-	5
	D5°	24.16	-	28.48	24.79	-	29.22	2.5
	D10°	-	29.70	-	-	31.42	-	2.8

2.6. Explanatory note : ~~This grouped lamp was examined according to following Regulation(s)~~

Typ / *Type* :

Hersteller / *Manufacturer* :

3. Remark concerning tested object(s)

All versions of the reflectors as stated in the information document are covered with the tested version(s) and test object(s) respectively.

4. Appendices

L	Technical information about the reflector type according to Annex 2 for the communication of the ECE-type approval	
0	List of modifications	: not attached
1	Information folder no.	:

5. Statement of conformity

The information folder and the type described there comply with the requirements in the above mentioned directive/ regulation.

The test laboratory is accredited for the above mentioned tests by the RDW, Vehicle Technology and Information Centre, the Netherlands:

Certification Number: RDW-99050016

The technical report (including appendices L and 0) consists of pages 1 to 8 and shall not be reproduced except in full without the written approval of the testing laboratory.

Essen, den April 23, 2010
IFM/#

Dipl.-Ing. K.-S. Kim

Typ / *Type* :

Hersteller / *Manufacturer* :

Technical information about the reflector type according to Annex 2 for the communication of the ECE-type approval **Appendix L**

1.	Trade name or mark of the device	:	
2.	Manufacturer's name for the type of device	:	
3.	Manufacturer's name and address	:	
4.	If applicable, name and address of the manufacturer's representative	:	not applicable
5.	Submitted for approval on	:	April 19, 2010
7.	Date of test report	:	April 23, 2010
9.	Concise description		
	In isolation/part of an assembly of devices [1]	:	In isolation/~~part of an assembly of devices~~ [1]
	Colour of light emitted	:	white/red/amber
10.	Position of the approval mark	:	on the lens
11.	Reason(s) for extension	:	not applicable

RDW

Division Vehicle Regulation & Admission

THE NETHERLANDS
(NEDERLAND)

E4

COMMUNICATION

Concerning [1]:

- approval granted
- ~~approval extended~~
- ~~approval refused~~
- ~~approval withdrawn~~
- ~~production definitely discontinued~~

of a type of device pursuant to Regulation number 6.

Approval number: E4*6R01/29*29244*00

1.	Trade name or mark of the device	:
2.	Manufacturer's name for the type of device	:
3.	Manufacturer's name and address	:
4.	If applicable, name and address of the manufacturer's representative	: ---
5.	Submitted for approval on	: November 16, 2020
6.	Technical service responsible for conducting approval tests	: TÜV Rheinland Kraftfahrt GmbH Typprüfstelle Fahrzeuge/Fahrzeugteile Am Grauen Stein 51105 Cologne, Germany
7.	Date of test report issued by that service	: December 9, 2020
8.	Number of test report issued by that service	: 87-R6-1432/20-00
9.	Concise description	
	Category	: ~~1, 1a, 1b,~~ 2a, ~~2b, 5, 6~~ [2]
	Number, category	: 12 LEDs, Non-replaceable light source
	Function(s) produced by an interdependent lamp forming part of an interdependent lamps system	: not applicable
	Voltage and wattage	: 12V, 1.8W

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2700 AT Zoetermeer
The Netherlands

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E-mail typeapproval@rdw.nl
www.rdw.nl

Type-approval Department

RDW

Approval number: E4*6R01/29*29244*00

	Light source module specific identification code	: not applicable
	Only for limited mounting height of equal to or less than 750 mm above the ground	: ~~yes~~/no [1]
	Geometrical conditions of installation and relating variations, if any	: see information folder for more details
	Application of an electronic light source control gear/variable intensity control	
	(a) being part of the lamp	: ~~yes/no~~ [1]
	(b) being not part of the lamp	: ~~yes/no~~ [1]
	Input voltage(s) supplied by an electronic light source control gear/variable intensity control	: not applicable
	Electronic light source control gear/variable intensity control manufacturer and identification number (when the light source control gear is part of the lamp but is not included into the lamp body)	: not applicable
	Variable luminous intensity	: ~~yes~~/no [1]
	Sequential activation of light sources (see paragraph 5.6. of this Regulation)	: ~~yes~~/no [1]
10.	Position of the approval mark	: on the lens
11.	Reason(s) for extension (if applicable)	: ~~see information folder (approval history)~~ / not applicable
12.	Approval	: granted/~~extended/refused/withdrawn~~ [1]
13.	Place	: Zoetermeer
14.	Date	: 17 December 2020
15.	Signature	:

R. Sarabdjitsingh

16. The list of documents deposited with the Administrative Service which has granted approval is annexed to this communication and may be obtained on request.
-Information document
-Test report

[1] Strike out what does not apply.
[2] For direction indicator lamps of categories 1, 1a, 1b, 2a and 2b, information regarding the signal according to paragraph 6.4.2.

Application date : November 16, 2020

1. Specification data

Type				
Function		Rear direction indicator	Stop lamp	Rear Position Lamp
Emitted colour		Amber	Red	Red
Rated	Voltage	12V		
	Wattage	1.8W	1.8W	0.4W
Applicable Regulation (UN)		R6.01 Category 2a	R7.02 Category R1-S1	
Number and category of light source		12 LEDs	12 LEDs	
		Non-replaceable light source		
Location of marking	Rated voltage	Marked on Housing		
	Trade mark			Marked on Lens
	Approval mark	Marked on Lens		

2. Construction and material

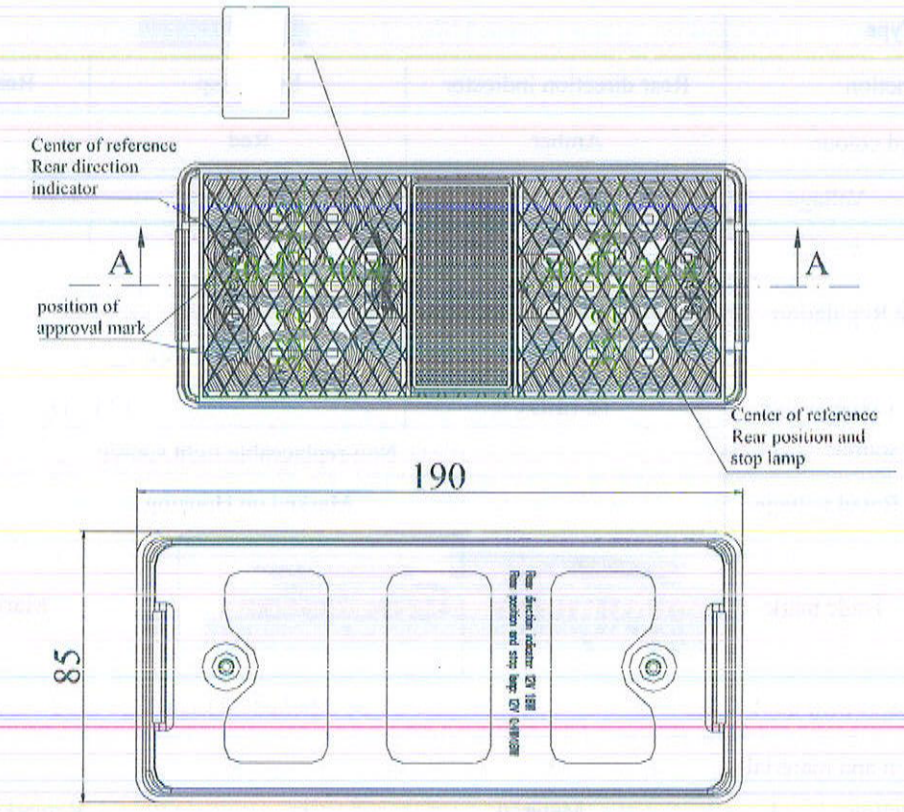
Construction	Material	Remarks
Outer lens	PC	Clear/texture
Inner lens	PC	Rear direction indicator: Amber/Texture Rear position and stop lamp: Red/texture
Housing	ABS	Black
Electrical wiring	Copper covered with insulation	---

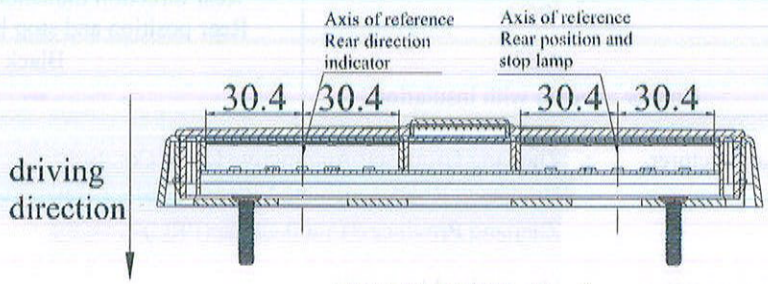
3. Name and address of manufacturer :

4. Name and address of representative of manufacturer : Not applicable

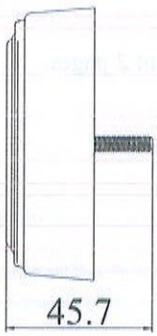
This information document consists of **3** pages.

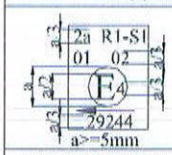
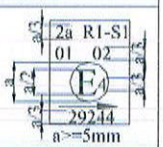
NOTE: THIS DRAWING SHALL BE APPLIED FOR LEFT HAND ONLY AND RIGHT HAND SHALL BE SYMMETRIC EXCEPT FOR MARKINGS.



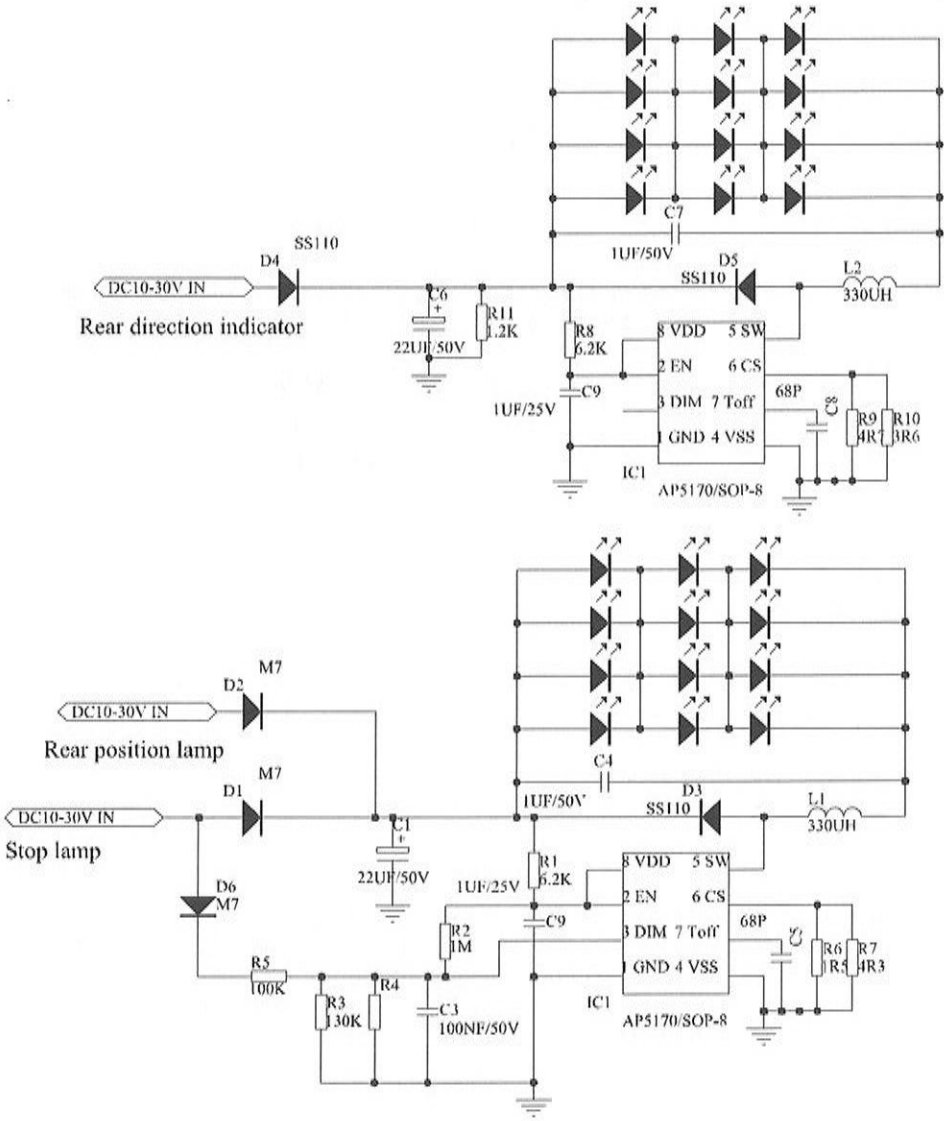


SECTION A-A



Approval mark	
	
LEFT SIDE DEVICE	RIGHT SIDE DEVICE

Circuit Diagram



Rear direction indicator: 12 LEDs, 12V, 1.8W

Rear position and stop lamp: 12 LEDs, 12V, 0.4W/1.8W

Non-replaceable light source

Manufacturer :
Type :

TEST REPORT

according to UN-Regulation

Uniform provisions concerning the approval of direction indicators For power-driven vehicles and their trailers

UN Regulation No.6

including all amendments until

series of Amendments: 01
Supplement 29

Approval status		
UN - Approval	:	---

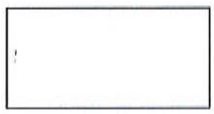
Structure of report:

0. General information
1. Test object(s) and general test information
2. Test minutes
3. Remarks concerning tested object(s)
4. Appendices
5. Statement of conformity

Manufacturer :
Type :

0. General information

0.1. Trademark or trade name of the lamp :



0.2. Manufacturer's name for the type of the lamp :

0.3. Name and address of the manufacturer :

0.4. Name and address of manufacturer's authorized representative : ---

0.5. No. of information folder :
date of issue : November 16, 2020
date of last amendment : ---

1. Test object(s) and general test information

1.1. Test object(s)

1.1.1. ~~Vehicle~~ / object

Commercial description	: Not Applicable
Type(s) ~~/variant(s) /version(s)~~	:
Remark	: 12 LEDs, 12V 1.8W,non-replaceable light source

1.1.2. Condition of ~~vehicle(s)~~ / Object(s) : new, ~~used, pretested~~

1.2. Worst case configuration : Only one variant/version, so no worst case assessment required.

1.2.1. Test date : November 18, 2020

1.2.2. Test site : CATARC Automotive Component Test Center (Ningbo) Co., Ltd.
No. 99, Jingu South Road, Yinzhou Investment & Business Incubation, 315104, Ningbo,
P.R. China

1.2.3. Remark : The results of the test refer exclusively to the object(s) mentioned under point 1.1 of this report.

Manufacturer :
Type :

2. Test minutes

2.1.	Test facilities	: The test facilities are in compliance with the requirements of the regulation.
2.2.	Test results	: ~~The type has been examined according to the amendments mentioned in appendix 0.~~ ~~An actual test of the type was not required. The results of the previous tests are still valid.~~
	Markings	: The trade mark is marked clearly legible and indelible on the ~~lens and on the housing~~ of the lamp. The rated voltage is clearly legible and indelible marked ~~on the lens and~~ on the housing of the lamp. Space for the approval mark and for additional symbols is provided on the lens (the lens can not be separated from the housing).
2.3.	General specifications	: The lamps are designed and made that under normal use their satisfactory operation is ensured and they retain the required characteristics. The colour of the light emitted is within the limits of the coordinates for AMBER as prescribed in Para.8 of the Regulation.
2.4.	Photometric tests	: The light intensity was measured after 1 minute burning period and after 30 minutes burning in reference axis. The distribution of the light intensity after 1 minute burning period was calculated using the ratio of the two described measurements. The light intensity and its distribution are in compliance with the requirement after 1 minute burning period and after 30 minutes burning period. The light distribution angles and levels of intensity have been measured in accordance with Annex 4 of the Regulation, based on the manufacturer's indication of the centre of reference and axis of reference. The lamp containing more than one light source complies with the minimum intensity required when any one light source has failed.

Manufacturer :
Type :

Results of photometric tests of the **rear direction indicator, category 2a** (tested with 13.5V)

measured after **1 minute** burning period when all light sources lit

	light intensity of the lamps in reference axis [cd]	allowable maximum	required minimum
sample no. 1	121.8	500	50
sample no. 2	112.3	500	50

measured after **30 minutes** burning period when all light sources lit

distribution of the intensity of the lamps in [cd]								
horizontal angle		L20°	L10°	L5°	V	R5°	R10°	R20°
vertical angle required minimum intensity	U10°	-	-	10	-	10	-	-
	U5°	5	10	-	35	-	10	5
	H	-	17.5	45	50	45	17.5	-
	D5°	5	10	-	35	-	10	5
	D10°	-	-	10	-	10	-	-
vertical angle sample no. 1	U10°	-	-	38.20	-	39.25	-	-
	U5°	8.764	36.68	-	71.22	-	40.22	8.637
	H	-	40.18	75.66	115.3	74.03	44.47	-
	D5°	8.517	35.83	-	75.79	-	39.93	8.581
	D10°	-	-	35.22	-	36.02	-	-
vertical angle sample no. 2	U10°	-	-	43.08	-	68.34	-	-
	U5°	7.654	26.59	-	86.37	-	72.54	18.19
	H	-	25.69	72.59	106.7	91.73	67.78	-
	D5°	8.060	19.60	-	54.31	-	49.01	13.43
	D10°	-	-	20.70	-	33.22	-	-

	sample no. 1	sample no. 2	allowable maximum	required minimum
maximum intensity [cd]	115.4	118.7	500	-
minimum intensity in the fields defined in Annex 1 of the Regulation [cd]	1.086	1.255	-	0.3

Manufacturer :
Type :

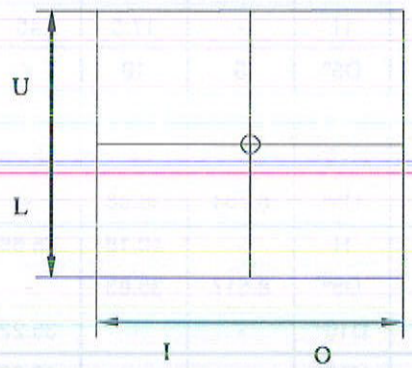
2.5. Colour test : The CIE trichromatic coordinates of the light emitted by lamp are within the limits for amber prescribed in the Regulation No.48.

Chromatic coordinates	Reference axis	
	sample no. 1	sample no. 2
x	0.5749	0.5763
y	0.4234	0.4224

2.6. Apparent surface : Vertical and horizontal outlines of the apparent surface of the light-signalling device in relation to the centre of reference and in accordance with Annex 3 of the Regulation No. 48

Definition of the apparent surface of the device

⊕ centre of reference



function	upper boundary (U) [mm]	lower boundary (L) [mm]	inner boundary (I) [mm]	outer boundary (O) [mm]
Rear direction indicator	30	30	28	28

2.7. Explanatory note : This report describes the examination of the rear direction indicator as a part of a lamp device.

For the examination of the other lamp of the device, refer to the following report:

Type of lamp	Test Report No.
Rear position and stop lamp	87-R7-1433/20-00

Manufacturer :
Type :

3. Remark concerning tested object(s)

All versions of the lamps as stated in the information document are covered with the tested version(s) and test object(s) respectively.

4. Appendices

0 List of modifications

Information folder no. :

5. Statement of conformity

The in point 0.5. mentioned information folder and the type described in that comply with the requirements mentioned on page 1.

With regard to the required level of performance to be achieved, the tested items were representative for the type to be approved (see point 1.2).

The mentioned test results refer to the ~~vehicle(s)~~/object(s) described under point 1.1. of this report.

Engineering Centre Shanghai, December 9, 2020
EY/YH

Emma Yu
Expert Technical Service

Manufacturer :
Type :

List of modifications **Appendix 0**

Correction of : ---

Modification of : ---

Addition of : ---

Deletion of : ---

RDW Division Vehicle Regulation & Admission

THE NETHERLANDS
(NEDERLAND)

E4

JE MAINTIENDRAI

COMMUNICATION

Concerning [1]:

- approval granted
- ~~approval extended~~
- ~~approval refused~~
- ~~approval withdrawn~~
- ~~production definitely discontinued~~

of a type of device pursuant to Regulation number 7.

Approval number: E4*7R02/27*29244*00

1.	Trade name or mark of the device	:	
2.	Manufacturer's name for the type of device	:	
3.	Manufacturer's name and address	:	
4.	If applicable, name and address of the manufacturer's representative	:	---
5.	Submitted for approval on	:	November 16, 2020
6.	Technical service responsible for conducting approval tests	:	TÜV Rheinland Kraftfahrt GmbH Typprüfstelle Fahrzeuge/Fahrzeugteile Am Grauen Stein 51105 Cologne, Germany
7.	Date of report issued by that service	:	December 9, 2020
8.	Number of report issued by that service	:	
9.	Concise description		
9.1	By category of lamp	:	Rear position and stop lamp: R1-S1
	For mounting either outside or inside or both	:	outside ~~/ inside/ both~~ [1]
	Colour of light emitted	:	red ~~/ white~~[1]
	Number and category(ies) of light source(s)	:	12 LEDs, Non-replaceable light source
	Voltage and wattage	:	Rear position and stop lamp: 12V, 0.4W/~~1.8W~~

P.O. Box 777
2700 AT Zoetermeer
The Netherlands

Tel. + 31 (0)79 345 83 02
E-mail typeapproval@rdw.nl
www.rdw.nl

Type-approval Department

JE MAINTIENDRAI
RDW

	Light source module specific identification code	: not applicable
	Only for limited mounting height of equal to or less than 750 mm above the ground	: ~~yes~~/no [1]
	Geometrical conditions of installation and relating variations, if any	: see information folder for more details
	Application of an electronic light source control gear/variable intensity control	
	(a) being part of the lamp	: ~~yes/no~~ [1]
	(b) being not part of the lamp	: ~~yes/no~~ [1]
	Input voltage(s) supplied by an electronic light source control gear/variable intensity control	: not applicable
	Electronic light source control gear/variable intensity control manufacturer and identification number (when the light source control gear is part of the lamp but is not included into the lamp body)	: not applicable
	Variable luminous intensity	: ~~yes~~/no [1]
	The ~~front position lamp~~ [1], rear position lamp [1], stop lamp [1], ~~end-outline marker lamp~~ [1] is only for use on a vehicle fitted with a tell-tale indicating failure	: yes/no [1]
9.2	Function(s) produced by an interdependent lamp forming part of an interdependent lamp system	
	Front position lamp	: ~~yes/no~~ [1]
	R1 Rear position lamp	: ~~yes~~/no [1]
	R2 Rear position lamp	: ~~yes/no~~ [1]
	S1 Stop lamp	: yes/no [1]
	S2 Stop lamp	: ~~yes/no~~ [1]
	S3 Stop lamp	: ~~yes/no~~ [1]
	S4 Stop lamp	: ~~yes/no~~ [1]
	End-outline marker lamp	: ~~yes/no~~ [1]
10.	Position of the approval mark	: on the lens
11.	Reason(s) for extension (if applicable)	: ~~see information folder (approval history)~~ / not applicable
12.	Approval	: granted/~~extended/refused/withdrawn~~ [1]
13.	Place	: Zoetermeer
14.	Date	: 17 December 2020
15.	Signature	: R. Sarabdjitsingh

16. The list of documents deposited with the Administrative Service which has granted approval is annexed to this communication and may be obtained on request.
-Information document
-Test report

[1] Strike out what does not apply.

Application date : November 16, 2020

1. Specification data

Type				
Function		Rear direction indicator	Stop lamp	Rear Position Lamp
Emitted colour		Amber	Red	Red
Rated	Voltage	12V		
	Wattage	1.8W	1.8W	0.4W
Applicable Regulation (UN)		R6.01 Category 2a	R7.02 Category R1-S1	
Number and category of light source		12 LEDs	12 LEDs	
		Non-replaceable light source		
Location of marking	Rated voltage	Marked on Housing		
	Trade mark			Marked on Lens
	Approval mark	Marked on Lens		

2. Construction and material

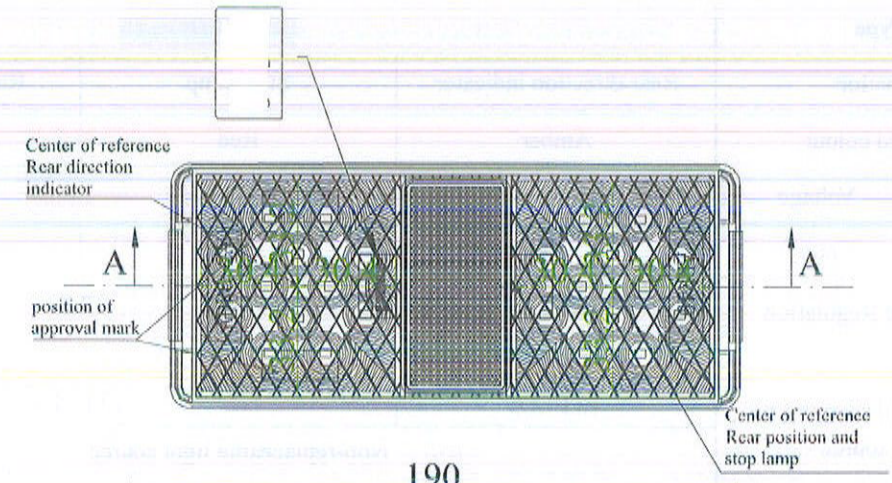
Construction	Material	Remarks
Outer lens	PC	Clear/texture
Inner lens	PC	Rear direction indicator: Amber/Texture Rear position and stop lamp: Red/texture
Housing	ABS	Black
Electrical wiring	Copper covered with insulation	---

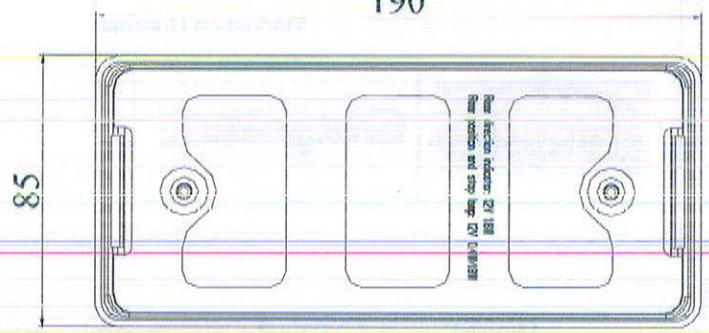
3. Name and address of manufacturer :

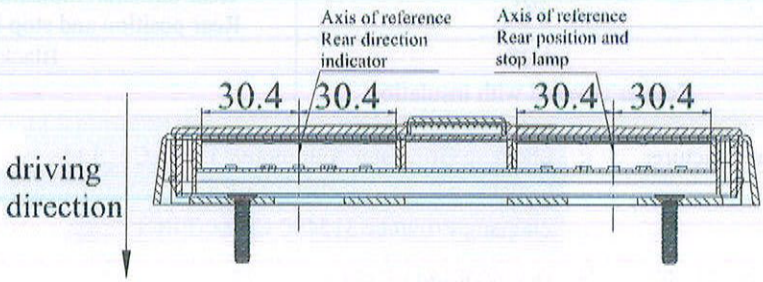
4. Name and address of representative of manufacturer : Not applicable

This information document consists of **3** pages.

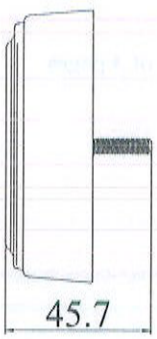
NOTE: THIS DRAWING SHALL BE APPLIED FOR LEFT HAND ONLY AND RIGHT HAND SHALL BE SYMMETRIC EXCEPT FOR MARKINGS.

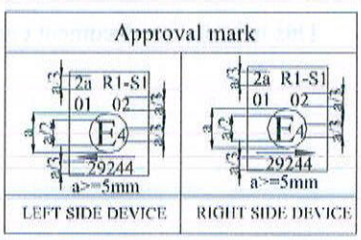




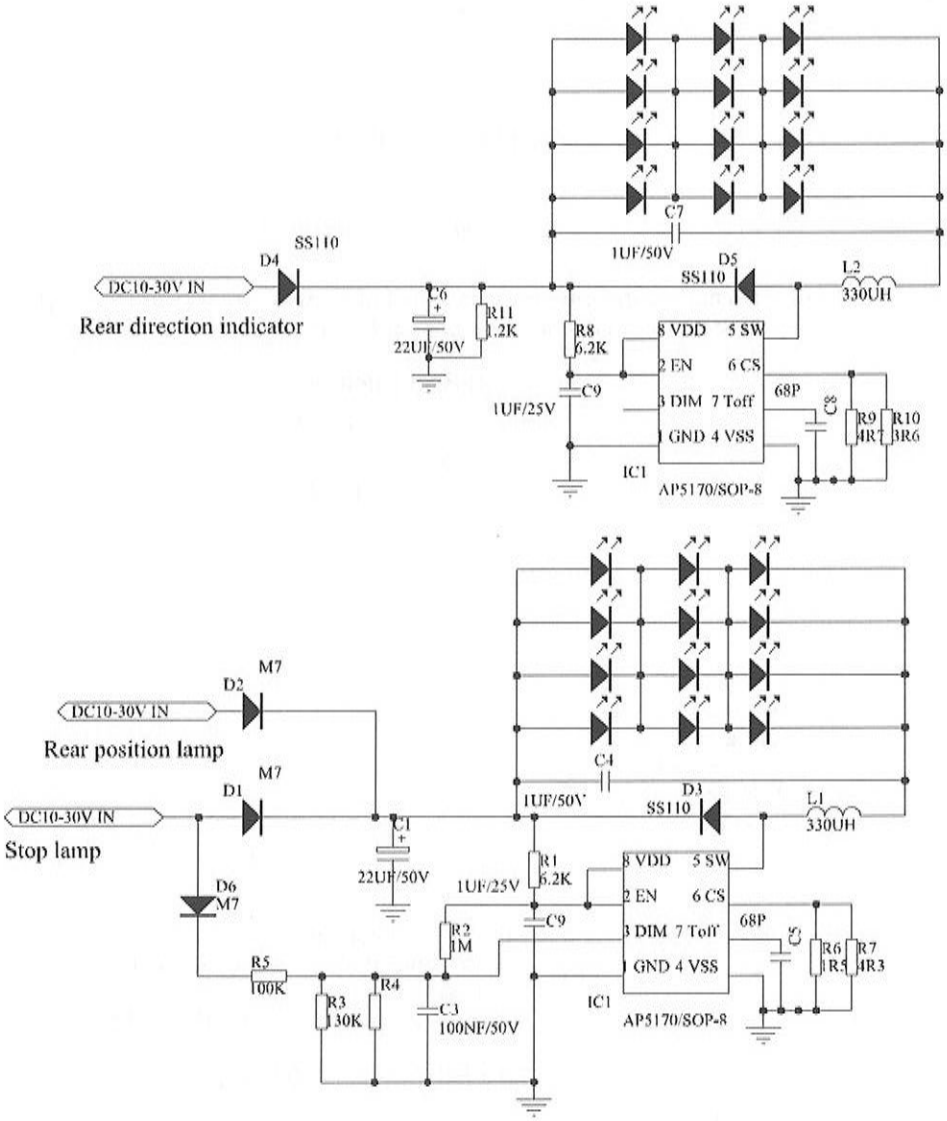


SECTION A-A





Circuit Diagram



Rear direction indicator: 12 LEDs, 12V, 1.8W

Rear position and stop lamp: 12 LEDs, 12V, 0.4W/1.8W

Non-replaceable light source

Manufacturer :
Type :

TEST REPORT

according to UN-Regulation

Uniform provisions concerning the approval of front and rear position lamps, stop-lamp and end-outline marker lamps for motor vehicles and their trailers

UN-Regulation No.7

including all amendments until

series of Amendments: 02
Supplement 27

Approval status		
UN - Approval	:	---

Structure of report:

0. General information
1. Test object(s) and general test information
2. Test minutes
3. Remarks concerning tested object(s)
4. Appendices
5. Statement of conformity

Manufacturer :
Type :

0. General information

0.1. Trademark or trade name of the lamp :

0.2. Manufacturer's name for the type of the lamp :

0.3. Name and address of the manufacturer :

0.4. Name and address of manufacturer's authorized representative : ---

0.5. No. of information folder :
date of issue : November 16, 2020
date of last amendment : ---

1. Test object(s) and general test information

1.1. Test object(s)

1.1.1. ~~Vehicle~~ / object

Commercial description : Not Applicable

Type(s) /variant(s) ~~/version(s)~~ :

Remark : Non-replaceable light source:
Rear position and stop lamp: 12 LEDs, 12V 0.4W/1.8W

1.1.2. Condition of ~~vehicle(s)~~ / Object(s) : new, ~~used, pretested~~

1.2. Worst case configuration : Only one variant/version, so no worst case assessment required.

1.2.1. Test date : November 18, 2020

1.2.2. Test site : CATARC Automotive Component Test Center (Ningbo) Co., Ltd.
No. 99, Jingu South Road, Yinzhou Investment & Business Incubation, 315104, Ningbo,
P.R. China

1.2.3. Remark : The results of the test refer exclusively to the object(s) mentioned under point 1.1 of this report.

Manufacturer :
Type :

2. Test minutes

2.1.	Test facilities	: The test facilities are in compliance with the requirements of the regulation.
2.2.	Test results	: ~~The type has been examined according to the amendments mentioned in appendix 0.~~ ~~An actual test of the type was not required. The results of the previous tests are still valid.~~
	Markings	: The trade mark is marked clearly legible and indelible on the lens ~~and on the housing~~ of the lamp. The rated voltage is clearly legible and indelible marked ~~on the lens and~~ on the housing of the lamp. Space for the approval mark and for additional symbols is provided on the lens (the lens can not be separated from the housing).
2.3.	General specifications	: The lamps are designed and made that under normal use their satisfactory operation is ensured and they retain the required characteristics. The colour of the light emitted is within the limits of the coordinates for RED as prescribed in Para.8 of the Regulation.
2.4.	Photometric tests	: The light intensity was measured after 1 minute burning period and after 30 minutes burning in reference axis. The distribution of the light intensity after 1 minute burning period was calculated using the ratio of the two described measurements. The light intensity and its distribution are in compliance with the requirement after 1 minute burning period and after 30 minutes burning period. The light distribution angles and levels of intensity have been measured in accordance with Annex 4 of the Regulation, based on the manufacturer's indication of the centre of reference and axis of reference. The rear position lamp is reciprocally incorporated with the stop lamp. The ratio between the luminous intensities of the two lamps when turned on simultaneously and the intensity of the position lamp when turned on alone is greater than 5:1 in the field required. The rear position lamp and stop lamp containing more than one light source complies with the minimum intensity required when any one light source has failed.

Manufacturer :
Type :

Results of photometric tests of the **rear position lamp, category R1** (tested with 13.5V)

measured after **1 minute** burning period when all light sources lit

	light intensity of the lamps in reference axis [cd]	allowable maximum	required minimum
sample no. 1	13.94	17	4
sample no. 2	15.76	17	4

measured after **30 minutes** burning period when all light sources lit

distribution of the intensity of the lamps in [cd]								
horizontal angle		L20°	L10°	L5°	V	R5°	R10°	R20°
vertical angle	U10°	-	-	0.8	-	0.8	-	-
required	U5°	0.4	0.8	-	2.8	-	0.8	0.4
minimum	H	-	1.4	3.6	4	3.6	1.4	-
intensity	D5°	0.4	0.8	-	2.8	-	0.8	0.4
	D10°	-	-	0.8	-	0.8	-	-
vertical angle	U10°	-	-	4.379	-	5.381	-	-
	U5°	1.026	3.741	-	7.616	-	6.121	1.585
sample no. 1	H	-	3.912	6.961	13.19	10.25	6.022	-
	D5°	1.041	3.742	-	8.489	-	6.350	1.615
	D10°	-	-	4.090	-	4.948	-	-
vertical angle	U10°	-	-	5.898	-	5.022	-	-
	U5°	1.676	6.083	-	10.05	-	4.158	1.109
sample no. 2	H	-	6.220	9.326	14.92	7.320	4.377	-
	D5°	1.525	6.205	-	7.814	-	4.059	1.057
	D10°	-	-	4.919	-	4.217	-	-

	sample no. 1	sample no. 2	allowable maximum	required minimum
maximum intensity above 5°D [cd]	15.34	15.56	17	-
If incorporated with a stop lamp maximum intensity [cd] below a plane forming 5° with and downward from a horizontal plane	8.790	8.023	60	-
minimum intensity in the fields defined in Annex 1 of the Regulation [cd]	0.122	0.116	-	0.05

Manufacturer :
Type :

Results of photometric tests of the **stop lamp, category S1** (tested with 13.5V)

measured after **1 minute** burning period when all light sources lit

	light intensity of the lamps in reference axis [cd]	allowable maximum	required minimum
sample no. 1	117.9	260	60
sample no. 2	128.3	260	60

measured after **30 minutes** burning period when all light sources lit

distribution of the intensity of the lamps in [cd]								
horizontal angle		L20°	L10°	L5°	V	R5°	R10°	R20°
vertical angle	U10°	-	-	12	-	12	-	-
required	U5°	6	12	-	42	-	12	6
minimum	H	-	21	54	60	54	21	-
intensity	D5°	6	12	-	42	-	12	6
	D10°	-	-	12	-	12	-	-
vertical angle	U10°	-	-	37.92	-	46.52	-	-
	U5°	8.940	32.29	-	65.42	-	52.73	13.81
sample no. 1	H	-	33.68	59.76	111.9	67.81	51.59	-
	D5°	9.039	31.99	-	72.74	-	54.52	13.99
	D10°	-	-	35.05	-	42.47	-	-
vertical angle	U10°	-	-	48.32	-	41.14	-	-
	U5°	13.78	49.55	-	82.21	-	33.96	9.165
sample no. 2	H	-	50.60	75.61	121.5	59.63	35.64	-
	D5°	12.49	50.39	-	63.30	-	32.96	8.679
	D10°	-	-	39.94	-	34.10	-	-

	sample no. 1	sample no. 2	allowable maximum	required minimum
maximum intensity [cd]	199.9	206.3	260	-
minimum intensity in the fields defined in Annex 1 of the Regulation [cd]	6.786	6.747	-	0.3

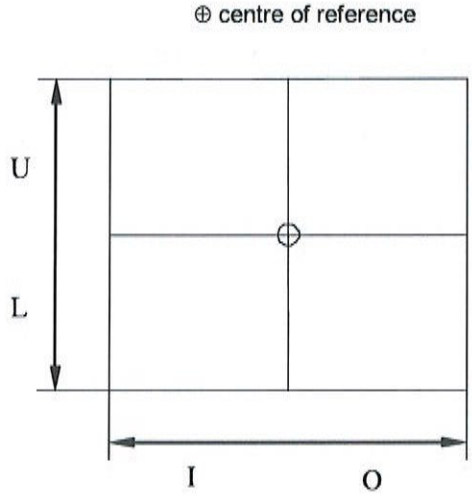
Manufacturer :
Type :

2.5. Colour test : The CIE trichromatic coordinates of the light emitted by lamp are within the limits for red prescribed in the Regulation No.48.

Chromatic coordinates	Reference axis			
	sample no. 1		sample no. 2	
	position	stop	position	stop
x	0.6997	0.7016	0.6991	0.7016
y	0.2999	0.2967	0.3002	0.2970

2.6. Apparent surface : Vertical and horizontal outlines of the apparent surface of the light-signalling device in relation to the centre of reference and in accordance with Annex 3 of the Regulation No. 48

Definition of the apparent surface of the device



function	upper boundary (U) [mm]	lower boundary (L) [mm]	inner boundary (I) [mm]	outer boundary (O) [mm]
Rear position and stop lamp	30	30	28	28

2.7. Explanatory note : This report describes the examination of the rear position and stop lamp as a part of a lamp device.

For the examination of the other lamp of the device, refer to the following report:

Type of lamp	Test Report No.
Rear direction indicator	87-R6-1432/20-00

Manufacturer :
Type :

3. Remark concerning tested object(s)

All versions of the lamps as stated in the information document are covered with the tested version(s) and test object(s) respectively.

4. Appendices

0 List of modifications

Information folder no. :

5. Statement of conformity

The in point 0.5. mentioned information folder and the type described in that comply with the requirements mentioned on page 1.

With regard to the required level of performance to be achieved, the tested items were representative for the type to be approved (see point 1.2).

The mentioned test results refer to the ~~vehicle(s)~~/object(s) described under point 1.1. of this report.

Engineering Centre Shanghai, December 9, 2020
EY/YH

Emma Yu
Expert Technical Service

Manufacturer :
Type :

List of modifications **Appendix 0**

Correction of : ---

Modification of : ---

Addition of : ---

Deletion of : ---