



NSAI

ECE TYPE-APPROVAL CERTIFICATE¹



Communication concerning:²

Approval granted
~~Approval extended~~
~~Approval refused~~
~~Approval withdrawn~~
~~Production definitely discontinued~~

of a type of device or system pursuant to UN Regulation No. 149

Class of the device: **B** Change index: **0**

Approval No: **E24*149R00/08*1642*00**

Unique Identifier (UI) (If applicable) **N/A**

1. Trade name or mark of the device or system: **DXZ DUOXINGZHE**
2. Manufacturer's name for the type of device or system: **10C02**
3. Manufacturer's name and address: **Guangdong DXZ Lighting Technology Co., Ltd.
No. 15, Hecun Section, Yuechi West Road,
Hecun Community, Lishui Town, Nanhai District, Foshan City, China**
4. If applicable, name and address of manufacturer's representative: **N/A**
5. Submitted for approval on: **26.02.2025**
6. Technical Service responsible for conducting approval tests: **CETOC Technical Service Srl
Via della Bufalotta, 374
00139 - ROMA (RM) Italy**
7. Date of report issued by that service: **10.02.2025**
8. Number of report issued by that service: **CN-112-17-268-COM24-16612-IR**

¹ Distinguishing number of the country which has granted/extended/refused/withdrawn approval (see approval provisions in the Regulation).

² Strike out what does not apply.

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9. Brief description:

9.1. For Headlamps of Classes A and B¹

9.1.1. Category as described by the relevant marking:³

HR PL 45

9.1.2. Number, category and kind of light source(s):

**1 LED module with 54 x LED,
Non-replaceable light source**

9.1.3. Reference luminous flux used for the principal passing-beam (lm):

N/A

9.1.4. Principal passing-beam operated at approximately (V):

N/A

9.1.5. Measures according to paragraph 4.12. of this Regulation:

N/A

9.1.6. Number and specific identification code(s) of LED module(s) and for each LED module a statement whether it is replaceable or not: ~~yes/no~~¹

No

9.1.7. Number and specific identification code(s) of electronic light source Control gear(s)

N/A

9.1.8. Total objective luminous flux as described in paragraph 4.5.2.6. of this Regulation exceeds 2.00 10³ lumens: ~~yes/no~~/does not apply¹

N/A

9.1.9. The adjustment of the cut-off has been determined at: 10 m/25 m/~~does not apply~~¹

N/A

The determination of the minimum sharpness of the "cut-off" has been carried out at: 10 m/25 m/~~does not apply~~¹

N/A

9.2. For headlamps of Class D

9.2.1. Headlamp/system submitted for approval as type:⁴

N/A

³ Indicate the appropriate marking selected from the list below:

C, C, C, R, R PL, CR, CR, CR, C/R, C/R, C/R, C/, C/, C/,
C, PL, C PL, C PL, CR PL, CR PL, CR PL, C/R PL, C/R PL, C/R PL,
C/PL, C/PL, C/PL
HC, HC, HC, HR, HR PL, HCR, HCR, HCR, HC/R, HC/R, HC/R, HC/, HC/, HC/,
HC PL, HC PL, HC PL, HCR PL, HCR PL, HCR PL, HC/R PL, HC/R PL, HC/R PL,
HC/PL, HC/PL, HC/PL

⁴ Indicate the appropriate marking selected from the list below:

DC, DC/, DC/PL, DR, DCR, DC/R, DC PL, DR PL, DCR DC/R
DC, DCR, DC/R, DC/, DC PL, DCR PL, DC/R PL, DC/PL, PL, PL,
→ → → → → PL, →
→
DC, DCR, DC/R, DC/, DC PL, DCR PL, DC/R PL, DC/PL,
→ → → → → PL, →
→

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9.2.2. The passing beam light source may/may not¹ be lit simultaneously with the driving beam light source and/or another reciprocally incorporated headlamp. *N/A*

9.2.3. The rated voltage of the device is: *N/A*

9.2.4. Number, category and kind of light source(s): *N/A*

9.2.4.1. If more than one objective luminous flux value is specified: *N/A*

Objective luminous flux value used for the principal passing beam *N/A*

9.2.4.2. If more than one objective luminous flux value is specified: *N/A*

Objective luminous flux value used for the driving beam *N/A*

9.2.5. Trade name and identification number of separate ballast(s) or part(s) of ballast(s): *N/A*

9.2.6. The adjustment of the "cut-off" has been determined at 10 m/25 m.⁽²⁾ *N/A*

The determination of the minimum sharpness of the "cut-off" has been carried out at 10 m/25 m.¹ *N/A*

9.2.7. Number and specific identification code(s) of LED module(s): *N/A*

9.2.8. Distributed lighting system with one common gas-discharge light source: Yes/No¹ *N/A*

9.2.9. Remarks (if any): *N/A*

9.2.10. Measures according to paragraph 4.12. of this Regulation: *N/A*

9.3. For AFS – Systems

9.3.1. Category as described by the relevant marking⁵ *N/A*

9.3.2. Number, category and kind of light source(s) *N/A*

9.3.2.1. Number and specific identification code(s) of LED module(s) and for each LED module a statement whether it is replaceable or not: yes/no¹ *N/A*

9.3.2.2. Number and specific identification code(s) of electronic light source control gear(s), if applicable *N/A*

9.3.2.3. Total objective luminous flux as described in paragraph 4.5.2.6. of This Regulation exceeds 2,000 lumen: yes/no¹ *N/A*

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- 9.3.3. (a) Indications according to paragraph 5.3.5.1. of this Regulation (which lighting unit(s) provide a "cut-off" as defined in Annex 5 of this Regulation, that projects into a zone extending from 6 degrees left to 4 degrees right and upwards from a horizontal line positioned at 0.8 degree down) *N/A*
- (b) The adjustment of the "cut-off" has been determined at 10 m / 25 m¹ *N/A*
- (c) The determination of the minimum sharpness of the "cut-off" has been carried out at 10 m / 25 m¹ *N/A*
- 9.3.4. The vehicle(s) for which the system is intended as original equipment *N/A*
- 9.3.5. Whether approval is sought for a system which is not intended to be included as part of the approval of a vehicle type according to UN Regulation No. 48: yes/no¹ *N/A*
- 9.3.5.1. If in the affirmative: information sufficient to identify the vehicle(s) for which the system is intended *N/A*
- 9.3.6. Indications according to paragraph 5.3.5.2. of this Regulation (which class E passing beam mode(s), if any, comply with a "data set" of Table 14 of this Regulation) *N/A*
- 9.3.7. Whether approval is sought for a system intended to be installed on vehicles only, which provide means for a stabilization/limitation of the system's supply: yes/no¹ *N/A*
- 9.3.8. The adjustment of the "cut-off" has been determined at 10 m / 25 m.¹ *N/A*
- The determination of the minimum sharpness of the "cut-off" has been Carried out at 10 m / 25 m.¹ *N/A*
- 9.3.9. The system is designed to provide passing beams of:⁶ *N/A*
- 9.3.9.1. Class C ☐ Class V ☐ Class E ☐ Class W ☐
- 9.3.9.2. With the following mode(s), identified by the designation(s), if it applies¹⁴
- | | | | |
|------------|------------|------------|------------|
| Mode No. C | Mode No. V | Mode No. E | Mode No. W |
| Mode No. C | Mode No. V | Mode No. E | Mode No. W |
| Mode No. C | Mode No. V | Mode No. E | Mode No. W |

⁵ Indicate the appropriate marking as foreseen according to this Regulation for each installation unit or assembly of installation units.

⁶ Mark with an X where applicable.

⁷ To be extended if more modes are provided.

⁸ To be continued if more units are provided.

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9.3.9.3. Where the lighting units indicated below are energized^{5,7, 8} for the mode No.

(a) If no bend lighting applies:

Left side No.1 ☐ No.3 ☐ No.5 ☐ No.7 ☐ No. 9 ☐ No.11 ☐

Right side No.2 ☐ No.4 ☐ No.6 ☐ No.8 ☐ No.10 ☐ No.12 ☐

(b) If bend lighting of category 1 applies:

Left side No.1 ☐ No.3 ☐ No.5 ☐ No.7 ☐ No. 9 ☐ No.11 ☐

Right side No.2 ☐ No.4 ☐ No.6 ☐ No.8 ☐ No.10 ☐ No.12 ☐

(c) if bend lighting of category 2 applies:

Left side No.1 ☐ No.3 ☐ No.5 ☐ No.7 ☐ No. 9 ☐ No.11 ☐

Right side No.2 ☐ No.4 ☐ No.6 ☐ No.8 ☐ No.10 ☐ No.12 ☐

9.3.9.4. The lighting units marked below are energized, when the system is in its neutral state^{5, 7}

Left side No.1 ☐ No.3 ☐ No.5 ☐ No.7 ☐ No. 9 ☐ No.11 ☐

Right side No.2 ☐ No.4 ☐ No.6 ☐ No.8 ☐ No.10 ☐ No.12 ☐

9.3.9.5. The lighting units marked below are energized, when the system is in its traffic change function^{5, 6, 7}

(a) If no bend lighting applies:

Left side No.1 ☐ No.3 ☐ No.5 ☐ No.7 ☐ No. 9 ☐ No.11 ☐

Right side No.2 ☐ No.4 ☐ No.6 ☐ No.8 ☐ No.10 ☐ No.12 ☐

(b) If bend lighting of category 1 applies:

Left side No.1 ☐ No.3 ☐ No.5 ☐ No.7 ☐ No. 9 ☐ No.11 ☐

Right side No.2 ☐ No.4 ☐ No.6 ☐ No.8 ☐ No.10 ☐ No.12 ☐

(c) if bend lighting of category 2 applies:

Left side No.1 ☐ No.3 ☐ No.5 ☐ No.7 ☐ No. 9 ☐ No.11 ☐

Right side No.2 ☐ No.4 ☐ No.6 ☐ No.8 ☐ No.10 ☐ No.12 ☐

9.3.10. The system is designed to provide a main beam^{5, 6, 7}:

9.3.10.1. Yes ☐ No ☐

9.3.10.2. With the following mode(s), identified by the designation(s), if it applies:

Main beam mode No. M

Main beam mode No. M

Main beam mode No. M

9.3.10.3. Where the lighting units marked below are energized, for mode No.

(a) If no bend lighting applies:

Left side No.1 ☐ No.3 ☐ No.5 ☐ No.7 ☐ No. 9 ☐ No.11 ☐

Right side No.2 ☐ No.4 ☐ No.6 ☐ No.8 ☐ No.10 ☐ No.12 ☐

(b) If bend lighting applies:

Left side No.1 ☐ No.3 ☐ No.5 ☐ No.7 ☐ No. 9 ☐ No.11 ☐

Right side No.2 ☐ No.4 ☐ No.6 ☐ No.8 ☐ No.10 ☐ No.12 ☐

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9.3.10.4. The lighting units marked below are energized, when the system is in its neutral state^{6,8}

Left side No.1 ☐ No.3 ☐ No.5 ☐ No.7 ☐ No.9 ☐ No.11 ☐
Right side No.2 ☐ No.4 ☐ No.6 ☐ No.8 ☐ No.10 ☐ No.12 ☐

9.3.10.5. The system is designed to provide an adaptation of the driving beam for:

Right-Hand and Left-Hand traffic: yes ☐ no ☐
Right-Hand traffic only: yes ☐ no ☐
Left-Hand traffic only: yes ☐ no ☐

9.4. For headlamps of Classes AS, BS, CS, DS and ES1

9.4.1. Category as described by the relevant marking:⁹ *N/A*

9.4.2. Number, category and kind of light source(s), if any: *N/A*

9.4.3. Number and specific identification code(s) of LED modules and for each LED module a statement whether it is replaceable or not: yes/no¹ *N/A*

9.4.4. Number and specific identification code(s) of electronic light source control gear(s), if any: *N/A*

9.4.5. The determination of "cut-off" sharpness yes / no¹ *N/A*

If yes, it was carried out at 10 m / 25 m¹

9.4.6. Trade name and identification number of separate ballast(s) or part(s) of ballast(s): *N/A*

9.4.7. The passing beam light source may/may not¹ be lit simultaneously with the driving beam light source and/or another reciprocally incorporated headlamp. *N/A*

9.4.8. The minimum bank angle(s) to satisfy the requirement of paragraph 5.4.5.2., if any *N/A*

9.4.9. Primary Driving Beam: yes / no¹ *N/A*
Secondary Driving Beam: yes / no¹ *N/A*
The Secondary Driving Beam shall only be operated together with a passing beam or a primary driving beam. *N/A*

⁹ Indicate the appropriate marking selected from the list below:

C-AS,	C-BS,	R-BS,	CR-BS,	C/-BS,	C/R-BS,
WC-CS,	C-BS PL,	R-BS PL,	CR-BS PL,	C/-BS PL,	C/R-BS PL,
WC/-CS,	WC-DS,	WR-CS	WR-DS,	WCR-CS,	WCR-DS,
WC-DS PL,	WC/-DS,	WC/R-CS,	WC/R-DS,	WC-CS PL,	
	WR-CS PL,	WR-DS PL,	WCR-CS PL,	WCR-DS PL,	

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9.5. For front fog lamps Class F3

9.5.1. Class as described by the relevant marking:
(F3, F3/, F3PL, F3/PL) *N/A*

9.5.2. Number, category and kind of light source(s): *N/A*

9.5.3 LED module: yes/no¹ and for each LED module a statement whether it
is replaceable or not: yes/no¹ *N/A*

9.5.4. LED module specific identification code: *N/A*

9.5.5. Application of electronic light source control gear:¹⁰ yes/no¹

Supply to the light source: *N/A*

Specification of the light source control gear: *N/A*

Input voltage:¹¹ *N/A*

In the case of an electronic light source control gear not being part
of the lamp: *N/A*

Output signal specification: *N/A*

9.5.6. Colour of light emitted: *White/Selective yellow⁽¹⁾*

9.5.7. Luminous flux of the light source (see paragraph 4.5.2.6.)
greater than 2,000 lumens: yes/no¹ *N/A*

9.5.8. Luminous intensity is variable: ... yes/no¹ *N/A*

9.5.9. The determination of the cut-off gradient (if measured) was carried
out at 10 m / 25 m¹ *N/A*

9.6. For cornering lamps

9.6.1. Number, category and kind of light source(s):¹² *N/A*

9.6.2. Voltage and wattage: *N/A*

WC/CS PL,	WC/-DS PL,	WC/R-CS PL,	WC/R-DS PL,		
WC+-CS,	WC+-DS,	WC+R-CS,	WC+R-DS,	C+-BS,	C+R-BS,
WC+-CS PL,	WC+-DS PL,	WC+R-CS PL,	WC+R-DS PL,	C+-BS PL,	C+R-BS PL
WC-ES,	WR-ES,	WCR-ES,	WC/-ES,	WC/R-ES,	WC-ES PL,
WR-ES PL,	WCR-ES PL,	WC/-ES PL,	WC/R-ES PL		
WC+-ES,	WC+R-ES,	WC+-ES PL,	WC+R-ES PL		

¹⁰ The voltage specifications shall include the tolerances or voltage range as specified by the manufacturer and verified by this approval.

¹¹ The parameters of the input voltage including duty cycle, frequency, pulse shape and peak voltage shall be included.

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9.6.3. Light source module: yes/no¹ *N/A*

9.6.4. Light source module specific identification code: *N/A*

9.6.5. Application of an electronic light source control gear:

(a) Being part of the lamp yes/no¹

(b) Being not part of the lamp yes/no¹

9.6.6. Input voltage supplied by an electronic light source control gear: *N/A*

9.6.7. Electronic light source control gear manufacturer and identification number (when the light source control gear is part of the lamp but is not included into the lamp body): *N/A*

9.6.8. Geometrical conditions of installation and relating variations, if any: *N/A*

10. Approval mark(s) position(s): *Marked on lens*

11. Reason(s) for extension of approval (if applicable): *N/A*

12. Approval granted / ~~extended~~ / ~~refused~~ / ~~withdrawn~~¹ *Granted*

13. Place: *Dublin*

14. Date: *25th April, 2025*

15. Signature:




16. The list of documents deposited with the Type Approval Authority, which has granted approval is annexed to this communication and may be obtained on request.

¹² For cornering lamps with non-replaceable light sources indicate the number and total wattage of the light sources used.



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Index to the Information Package

Date of issue: **25th April, 2025**

Date of latest amendment: **N/A**

Reason for extension/revision **N/A**

1. Additional conditions, and advisory
notes on legal alternatives

2. Test report(s)

- numbers(s): **CN-112-17-268-COM24-16612-IR**

- date of issue: **10.02.2025**

- date of latest amendment: **N/A**

3. Information document

- numbers(s): **10C02-00**

- date of issue: **02.09.2024**

- date of latest amendment: **N/A**

Documentation: **17 pages**



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Appendix: **Additional conditions, and advisory notes on legal alternatives**

A: Additional conditions:

1. The lamp, Type 10C02 shall be marked as prescribed by the regulation.
2. Fitting instructions shall be supplied with each lamp, giving details of any limitations in the use of the lamp.
3. The lamp should be fitted in accordance with the fitting instructions.
4. The attached technical report, with any of its attachments, forms part of this Type Approval certificate.
5. Each individual product from series production shall be to the measurements specified in the attached drawings, and shall be manufactured only from the materials specified in the Approval documents.
6. Changes in the product are permitted only with the explicit permission of NSAI. Breaches of this requirement will lead to a withdrawal of the Type Approval, and in addition may be subject to criminal prosecution.
7. This Type Approval will expire when it is surrendered by the holder, or withdrawn by NSAI, or when the approved type of product no longer conforms to legal requirements. The recall of the Type Approval can be issued by NSAI when the conditions required for the issuing or continuation of the Type Approval are no longer current, or when the Approval holder is in breach of the duties attached to the Type Approval, or when it is established that the approved type no longer meets the requirements of traffic safety.
8. NSAI may at any time check the correct performance of the duties imposed by the grant of this Type Approval, and in order to do so, may make tests, or have tests made.
9. Changes in the company name, address or manufacturing site, as well as in any of the sales or other agents specified in the issuing of the approval must immediately be notified to the NSAI.
10. The duties imposed by the issuing of this certificate are not transferable. The legal protection of third parties is not affected by this certificate.
11. When the manufacture or sale of the vehicle, system, component or separate technical unit has not been started within one year of the date of issue of this certificate, then NSAI is to be informed. This requirement also applies when the manufacture or sale has been halted for more than one year, or when it ought to have been halted for more than one year. The initial commencement of manufacture or sale, or the resumption of manufacture or sale, shall then be notified to NSAI within one month of commencement or resumption.

B : Legal Options

Any objection to the requirements set out in this certificate shall be made within one month of the date of issue. The objection shall be made, in writing, to NSAI in Dublin

Road Illumination Devices (Lamps) and Systems (Class A and B)

0. Legislation:

0.1. Requirements according to : UNECE Regulation 149.00, Supplement 8

1. General

1.1. Reason for Inspection Report : New approval / ~~Extension of approval~~ / ~~Test report only~~ / COP
1.1.1. Previous Type Approval Number : N/A
1.2. Manufacturer's Representative(s) : N/A
1.3. CETOC TS Representative(s) : Xiaoli Li
1.4. Location of test : GuangZhou ShunTai Quality Technical Service Co., Ltd.
Room 206A, 2F, 4# Plant, No.63 Punan Road, Huangpu District,
Guangzhou, China, 510760
1.5. Date of test : 04/07/2024

2. Manufacturer Details

2.1. Make : DXZ DUOXINGZHE
2.2. Type : 10C02
2.3. Variant/Version : N/A
2.4. Commercial Name : 7Inch Driving light
2.5. Category : HR PL 45
2.6. Name and Address of manufacturer : Guangdong DXZ Lighting Technology Co., Ltd.
No. 15, Hecun Section, Yuechi West Road, Hecun Community,
Lishui Town, Nanhai District, Foshan City, China

3. Conclusion:

3.1. Final conclusion of the inspection: The above mentioned type was tested in accordance with the above
mentioned legislation and was found to comply in all respects. This
Inspection report relates only to the items tested.

Signature :

Name : Xiaoli Li

Position : Type Approval Engineer

Place and date : Guangzhou China, 10/02/2025



Name : Marco Pagliari

Position : Tech. Mgr.

Place and date : Roma, 10/02/2025

4. List of Appendixes:

Appendix Nr.	Page Nr.	Subject
Appendix 1	2	: Test report history
Appendix 2	2	: General specification
Appendix 3	4	: Inspection results
Appendix 4	14	: Photos

APPENDIX 1 - TEST REPORT HISTORY

List this report and previous reports, with extension details.

Inspection Report Number	Reason for Extension	Date of Issue
CN-112-17-268-COM24-16612-IR	N/A	10/02/2025

APPENDIX 2 – GENERAL SPECIFICATION

1. **Worst Case Rationale** : Single specification

2. **Significant Interpretations, Alternative Test Methods, New Technologies** : N/A

3. **Summary of test results** :

	PASS	FAIL	N/A	COVERED BY PREVIOUS EXTENSION	See approval/Report Nr.
Headlamps emitting a driving-beam and/or an asymmetrical passing-beam for vehicles of categories L, M, N and T	☒	☐	☐	☐	
Adaptive front-lighting systems (AFS) for vehicles of categories M and N	☐	☐	☒	☐	
Headlamps emitting a driving-beam and/or a symmetrical passing-beam for vehicles of categories L and T	☐	☐	☒	☐	
Front fog lamps for vehicles of categories L3, L4, L5, L7, M, N and T	☐	☐	☒	☐	
Cornering lamps for vehicles of categories M, N and T	☐	☐	☒	☐	

4. **Component Specification** :

Component Identification Number:	10C02
Traffic direction	~~Right hand traffic~~ , ~~Left hand traffic~~ , Both
Headlamp providing	~~Passing beam~~ , ~~No bending mode~~ , ~~With bending mode~~
	Driving beam, No bending mode, ~~With bending mode~~
Class	B
Category as described by the relevant marking:	HR PL 45
Number, category and kind of light source(s):	1 LED module with 54 x LED, Non-replaceable light source
Reference luminous flux used for the principal passing-beam (lm):	N/A

Principal passing-beam operated at approximately (V):	N/A
Measures according to paragraph 4.12. of this Regulation:	N/A
Number and specific identification code(s) of LED module(s) and for each LED module a statement whether it is replaceable or not:	yes/no
Number and specific identification code(s) of electronic light source control gear(s).	N/A
Total objective luminous flux as described in paragraph 4.5.6. of this Regulation exceeds 2,000 lumens:	yes/no/does not apply
The adjustment of the cut-off has been determined at:	10 m/25 m/does not apply
The determination of the minimum sharpness of the "cut-off" has been carried out at:	10 m/25 m/does not apply
Approval mark position	Marked on Lens

5. Facility and Equipment Checks

- 5.1. Calibration certificates checked and valid, recorded in the following table : Conform
- 5.2. All instruments are equipped with identification label : Yes
- 5.3. Calibration certificates are complete of calibration-chain with detailed information regarding primary used. : Yes

Equipment	Serial / Certificate No.	Calibration due*
Automotive and Signal Goniophotometer	G20240711010001	10/07/2025
Photometer head	G20240711002002	10/07/2025
High Accuracy Array Spectroradiometer	G20240711006001	10/07/2025
DC Power Supply	D20240711303004	10/07/2025

*Specify calibrated date + (interval) or calibration due date.

APPENDIX 3 – INSPECTION RESULTS

INSPECTION RESULTS	PASS	FAIL	N/A
MARKING			
Marking	☒	☐	☐
GENERAL SPECIFICATIONS			
The requirements contained in sections 5. "General specifications" and 6. "Individual specifications" and in the Annexes referenced in the said sections of Regulations Nos. 48, 53, 74 or 86, and their series of amendments in force at the time of application for the lamp type approval shall apply to this Regulation.	☒	☐	☐
The requirements pertinent to each lamp and to the category/ies of vehicle on which the lamp is intended to be installed shall be applied, where its verification at the moment of lamp type approval is feasible.			
Vibration endurance	☒	☐	☐
Adjusting device	☒	☐	☐
Headlamps designed to satisfy the requirements both of right hand and of left hand traffic may be adapted for traffic on a given side of the road either by an appropriate initial setting when fitted on the vehicle or by selective setting by the user. Conformity with the requirements of this paragraph shall be verified by visual inspection and, where necessary, by a test fitting.	☐	☐	☒
On headlamps designed to provide alternately a driving-beam and a passing-beam, or a passing-beam and/or a driving-beam designed to become bend lighting, any mechanical, electromechanical or other device incorporated in the headlamp for these purposes shall be so constructed that:			
a) In the case of failure, the luminous intensity above the line H-H shall not exceed the values of a passing-beam according to paragraph 6.2.4.; in addition, on headlamps designed to provide a passing and/or a driving-beam to become a bend lighting, a minimum luminous intensity of at least 2,500 cd. shall be fulfilled in test point 25V (VV line, 1.72D).	☐	☐	☒
b) No possibility of the mechanism stopping in between 2 positions.	☐	☐	☒
c) No possibility to change the shape or position of the moving parts with ordinary tools.	☐	☐	☒
In the case of headlamps designed to meet the requirements of traffic moving on one side of the road appropriate measures shall be taken to prevent discomfort to users in a country where traffic moves on the opposite side of the road			
a) Occulting a part of the outer headlamp lens area.	☐	☐	☒
b) Downward adjustment of the beam. Horizontal adjustment is allowed.	☐	☐	☒
c) Any other measure to remove the asymmetrical part of the beam.	☐	☐	☒
Luminous intensity requirements for different traffic conditions:			
Passing beam designed for left-hand traffic and adapted to right-hand traffic: 0.86D-1.72L: --- cd (LH) / --- cd (RH) ≥ 2500 cd 0.57U-3.43R: --- cd (LH) / --- cd (RH) ≤ 880 cd	☐	☐	☒
In case of a passing-beam headlamp incorporating a light source or LED module(s) producing the principal passing-beam and having a total objective luminous flux which exceeds 2,000 lumens, a reference shall be made in the communication form. The objective luminous flux of LED modules shall be measured as described in Annex 'Requirements for LED modules'.	☐	☐	☒

INSPECTION RESULTS

PASS FAIL N/A

FILAMENT LAMP

The headlamp can be equipped with filament lamp(s) approved according to Regulation No. 37. Any filament lamp covered by Regulation No. 37 may be used, provided that no restriction on the use is made in Regulation No. 37 and its series of amendments in force at the time of application for type approval.

☐ ☐ ☒

The filament lamp can be fixed in no other position but the correct one.

☐ ☐ ☒

The filament lamp holder conforms to the characteristics given in IEC Publication 60061.

☐ ☐ ☒

LED MODULES

The headlamp can be equipped with LED module.

☒ ☐ ☐

Electronic light source control gear(s) associated with the operation of LED module(s) is part of the LED module

☐ ☐ ☒

The headlamp (if equipped with LED modules) and the LED module(s) themselves comply with the relevant requirements specified in Annex 'Requirements for LED modules' of this Regulation.

☒ ☐ ☐

The total objective luminous flux of all LED modules producing the principal passing-beam and measured as described in Annex 'Requirements for LED modules' shall be equal or greater than 1,000 lumens.

☐ ☐ ☒

In the case of a replaceable LED module the removal and replacement of this LED module, as described in Annex 'Requirements for LED modules' shall be demonstrated to the satisfaction of the Technical Service

☐ ☐ ☒

The definitions 'light source module' and 'LED module' in Regulation No. 48 allow the use of LED modules, which may contain holders for other light sources. Notwithstanding this provision a mixture of LED(s) and other light sources for the principal dipped beam or the contributor to the bend lighting or each driving-beam, as specified by this Regulation is not allowed.

☒ ☐ ☐

a) Only removable from its device with the use of tools, unless it is stated in the communication sheet that the LED module is non replaceable.

☒ ☐ ☐

A LED module shall be:

b) So designed that regardless of the use of tool(s), it is not mechanically interchangeable with any replaceable approved light source.

☒ ☐ ☐

LED MODULES (ANNEX 9)

LED module(s) remain in good working order when in normal use. They exhibit no fault in design or manufacture

☒ ☐ ☐

LED module(s) are tamperproof.

☒ ☐ ☐

The design of removable LED module(s) is such that:

When the LED module is removed and replaced with another module provided by the applicant and bearing the same light source module identification code, the photometric specifications are met.

☐ ☐ ☒

LED modules with different light source identification codes within the same lamp housing, are not interchangeable.

☐ ☐ ☒

INSPECTION RESULTS

PASS FAIL N/A

The LED(s) on the LED module are equipped with suitable fixation elements.

☒ ☐ ☐

The fixation elements are strong and firmly secured to the LED(s) and the LED module.

☒ ☐ ☐

The kind of light sources on a LED MODULE are Light emitting diodes (LED). Other kind of light sources are not permitted.

☒ ☐ ☐

Red content

Passing beam:

$k_{red} = -- \geq 0.05$

☐ ☐ ☒

Driving beam:

$k_{red} = 0.09596 \geq 0.05$

☒ ☐ ☐

UV-radiation

Passing beam:

$k_{UV} = -- \leq 10^{-5} \text{ W/lm}$

☐ ☐ ☒

Driving beam:

$k_{UV} = 1.1545 \times 10^{-10} \leq 10^{-5} \text{ W/lm}$

☒ ☐ ☐

Temperature stability

Point in the measure screen	Value after 1 minute $I_{1 \text{ minute}}$	Value after phot. stability $I_{\text{stabilization}}$	$I_{1 \text{ minute}} / I_{\text{stabilization}}$
25R (Passing beam)	--	--	--
HV (Driving beam)	187283	184087	1.017

Colour

WHITE ZONE:

Limit towards the blue: $x \geq 0.310$

Limit towards the yellow: $x \leq 0.500$

Limit towards the green: $y \leq 0.150 + 0.640x$

Limit towards the green: $y \leq 0.440$

Limit towards the purple: $y \geq 0.050 + 0.750x$

Limit towards the red: $y \geq 0.382$

Chromatic co-ordinates	Colour after 1 minute	Colour after photometric stabilization
x	0.3566	0.3567
y	0.3299	0.3299
z	0.3135	0.3134

The sample tested fulfils with the colorimetric specifications defined in the present Regulation.

☒ ☐ ☐

Total objective luminous flux

Passing beam

Luminous flux = --- lm $\geq 1000 \text{ lm}$

☐ ☐ ☒

PHOTOMETRIC SPECIFICATIONS

PASSING BEAM

The "cut-off" enables the headlamp to be adjusted correctly for the photometric measurements and for the aiming on the vehicle

☐ ☐ ☒

INSPECTION RESULTS

PASS FAIL N/A

PRINCIPAL AND ADDITIONAL LIGHT SOURCES

Only one principal light source or one or more LED module(s) for each passing beam headlamp.

☐ ☐ ☒

One additional light source (R.37) or one or more additional LED module(s) inside the passing beam headlamp to contribute to bend lighting.

☐ ☐ ☒

One additional light source (R.37) or one or more additional LED module(s) inside the passing beam headlamp for the purpose of generating infrared radiation.

☐ ☐ ☒

The additional light source for infrared radiation is only activated at the same time as the principal light source or LED module(s).

☐ ☐ ☒

ACTIVATION AND FAILURE LAMP REQUIREMENTS

In the event that the principal light source fails, the additional light source or LED module(s) for infrared radiation is automatically switched off.

☐ ☐ ☒

In the event of failure of an additional light source or one or more additional LED module(s), the headlamp continues to fulfil the requirements of the passing beam.

☐ ☐ ☒

INSPECTION RESULTS

PASS FAIL N/A

PASSING BEAM

Luminous intensity values measured after photometric stabilization (LED module or filament light sources)

☐ ☐ ☒

Test point designation	Luminous intensity I(cd)		
	SAMPLE A	SAMPLE B	I required
B50L	--	--	$I \leq 350$
BR	--	--	$I \leq 1750$
75R	--	--	$I \geq 10100$
75L	--	--	$I \leq 10600$
50L	--	--	$I \leq 13200$
50L (in case of LED module in conjunction with an electronic light source control gear)	--	--	$I \leq 18500$
50R	--	--	$I \geq 10100$
50V	--	--	$I \geq 5100$
25L	--	--	$I \geq 1700$
25R	--	--	$I \geq 1700$
Zone III	--	--	$I \leq 625$
Zone IV	--	--	$I \geq 2500$
Zone I	--	--	$I \leq 2 \times I_{50R}$

There shall be no lateral variations detrimental to good visibility in any of the zones I, II, III and IV.

☐ ☐ ☒

Points	Luminous intensity I(cd)		
	SAMPLE A	SAMPLE B	I required
B1	--	--	$I \leq 625$
B2	--	--	$I \leq 625$
B3	--	--	$I \leq 625$
B4	--	--	$I \leq 625$
B5	--	--	$I \leq 625$
B6	--	--	$I \leq 625$
B7	--	--	$625 \geq I \geq 65$
B8	--	--	$625 \geq I \geq 125$
B1+B2+B3	--	--	$I \geq 190$
B4+B5+B6	--	--	$I \geq 375$

INSPECTION RESULTS

PASS FAIL N/A

Luminous intensity values (calculation) after one minute (LED module)

☐ ☐ ☒

Test point designation	Luminous intensity I(cd)		
	SAMPLE A	SAMPLE B	I required
B50L	--	--	$I \leq 350$
BR	--	--	$I \leq 1750$
75R	--	--	$I \geq 10100$
75L	--	--	$I \leq 10600$
50L	--	--	$I \leq 13200$
50L (in case of LED module in conjunction with an electronic light source control gear)	--	--	$I \leq 18500$
50R	--	--	$I \geq 10100$
50V	--	--	$I \geq 5100$
25L	--	--	$I \geq 1700$
25R	--	--	$I \geq 1700$
Zone III	--	--	$I \leq 625$
Zone IV	--	--	$I \geq 2500$
Zone I	--	--	$I \leq 2 \times I_{50R}$

There shall be no lateral variations detrimental to good visibility in any of the zones I, II, III and IV.

☐ ☐ ☒

Points	Luminous intensity I(cd)		
	SAMPLE A	SAMPLE B	I required
B1	--	--	$I \leq 625$
B2	--	--	$I \leq 625$
B3	--	--	$I \leq 625$
B4	--	--	$I \leq 625$
B5	--	--	$I \leq 625$
B6	--	--	$I \leq 625$
B7	--	--	$625 \geq I \geq 65$
B8	--	--	$625 \geq I \geq 125$
B1+B2+B3	--	--	$I \geq 190$
B4+B5+B6	--	--	$I \geq 375$

INSPECTION RESULTS

PASS FAIL N/A

DRIVING BEAM

Luminous intensity values measured after photometric stabilization (LED module or filament light sources) ☒ ☐ ☐

Test points	Luminous intensity I(cd)		
	SAMPLE A	SAMPLE B	I required
Maximum luminous intensity (I_M)	187993	184688	$215000 \geq I_M \geq 40500$
HV	187283	184087	$I \geq 80\% \text{ isolux IM}$
H-5L	46986	46672	$I \geq 5100$
H-2.5L	138563	136869	$I \geq 20300$
H-2.5R	137604	135585	$I \geq 20300$
H-5R	50963	49876	$I \geq 5100$

Luminous intensity values (calculation) after one minute (LED module) ☒ ☐ ☐

Test points	Luminous intensity I(cd)		
	SAMPLE A	SAMPLE B	I required
Maximum luminous intensity (I_M)	186852	183188	$215000 \geq I_M \geq 40500$
HV	186549	182891	$I \geq 80\% \text{ isolux IM}$
H-5L	46933	46013	$I \geq 5100$
H-2.5L	139541	136805	$I \geq 20300$
H-2.5R	136713	134032	$I \geq 20300$
H-5R	50342	49355	$I \geq 5100$

Reference mark:	7.5-10-12.5-17.5-20-25-27.5-30-37.5-40-45-50	45
-----------------	--	----

ADJUSTABLE REFLECTORS

PRINCIPAL PASSING BEAM ☐ ☐ ☒

ORIENTATION	Luminous intensities I(cd)			
	B50R ($I \leq 350$)		75L ($I \geq 5100$)	
	SAMPLE A	SAMPLE B	SAMPLE A	SAMPLE B
Upwards orientation	--	--	--	--
Downwards orientation	--	--	--	--

DRIVING BEAM ☐ ☐ ☒

ORIENTATION	Luminous intensities I(cd)					
	SAMPLE A			SAMPLE B		
	HV	I_M	$\frac{HV}{I_M} (\%) \geq 80\%$	HV	I_M	$\frac{HV}{I_M} (\%) \geq 80\%$
Upwards orientation	--	--	--	--	--	--
Downwards orientation	--	--	--	--	--	--

INSPECTION RESULTS

PASS FAIL N/A

COLORIMETRIC SPECIFICATIONS

WHITE ZONE:

Limit towards the blue:	$x \geq 0.310$
Limit towards the yellow:	$x \leq 0.500$
Limit towards the green:	$y \leq 0.150 + 0.640x$
Limit towards the green:	$y \leq 0.440$
Limit towards the purple:	$y \geq 0.050 + 0.750x$
Limit towards the red:	$y \geq 0.382$

Trichromatic coordinates (reference axis)	SAMPLE A		SAMPLE B	
	Passing beam	Driving beam	Passing beam	Driving beam
x	--	0.3566	--	0.3567
y	--	0.3299	--	0.3299
z	--	0.3135	--	0.3134

The sample tested fulfils with the colorimetric specifications defined in the present Regulation.

☒ ☐ ☐

TEST OF STABILITY OF PHOTOMETRIC PERFORMANCE

CLEAN HEADLAMP

Once the specified photometric values have been measured, the device has been operated for 12 hours following the on-off cycles described in the annex "Overview of operational periods concerning test for stability of photometric performance" of the regulation. Subsequently, both the visual appearance of the sample and the photometry at the required points were checked.

TEST RESULTS:

Visual inspection: no distortion, deformation, cracking or change in colour of either the headlamp lens or the external lens.

☒ ☐ ☐

PASSING BEAM:

Point in the measure screen	Luminous intensities I(cd)		
	Previous values to the test	Values after the test	Requirement
50R	--	--	< 170cd
B50L	--	--	< 10 %
25L	--	--	< 10 %

DRIVING BEAM:

Point in the measure screen	Luminous intensities I(cd)		
	Previous values to the test	Values after the test	Requirement
I _M	184688	178907	< 10 %

INSPECTION RESULTS

PASS FAIL N/A

DIRTY HEADLAMP

After carrying out the Clean headlamp test, the device has been prepared by applying the test mixture evenly over the light-emitting surface as described in the regulation. Once the mixture has dried, the device has been operated for 1 hour following the same on-off cycles as for the previous test. The device has then been cleaned, and both the visual appearance of the sample and the photometry of the required points have been checked.

TEST RESULTS:

Visual inspection (no distortion, deformation, cracking or change in colour of either the headlamp lens or the external lens).

☒ ☐ ☐

PASSING BEAM:

Point in the measure screen	Luminous intensities I(cd)		
	Previous values to the test	Values after the test	Requirement
50R	--	--	< 170cd
B50L	--	--	< 10 %
25L	--	--	< 10 %

DRIVING BEAM:

Point in the measure screen	Luminous intensities I(cd)		
	Previous values to the test	Values after the test	Requirement
I _M	178907	173522	< 10 %

Conclusion: For points 50R, 25L and IM, the 10% of discrepancy allowed between the values measured prior to the test and the values measured after the test is complied. For point B50L, the value measured shall not exceed the photometric value measured prior to the test by more than 170 cd.

TEST FOR CHANGE OF VERTICAL POSITION OF THE CUT-OFF LINE UNDER THE INFLUENCE OF HEAT

☐ ☐ ☒

The position of the cut-off line has been verified in the points specified by the regulation after 3 minutes (r3) and 60 minutes (r60) of operation.

SAMPLE A	$\Delta r_1 = r_3 - r_{60} = \text{--- mrad}$ $\Delta r_1 \leq 1.0 \text{ upwards and } \leq 2.0 \text{ downwards}$
----------	---

However, if this value is:

Upward: $1.0 \text{ mrad} < \Delta r_1 < 1.5 \text{ mrad}$

Downward: $2.0 \text{ mrad} < \Delta r_1 < 3.0 \text{ mrad}$

An additional sample shall be tested after being subjected to three consecutive cycles of 1 hour on and 1 hour off, following the above measurement procedure.

SAMPLE B	$\Delta r_1 = r_3 - r_{60} = \text{--- mrad}$ $\Delta r_1 \leq 1.0 \text{ upwards and } \leq 2.0 \text{ downwards}$
----------	---

INSPECTION RESULTS

PASS FAIL N/A

TEST OF LENS OR MATERIAL SAMPLES AND COMPLETE HEADLAMPS INCORPORATING LENSES OF PLASTIC MATERIAL

Note: The manufacturer has proved that the product has already passed the tests "Resistance to temperature changes", "Resistance to atmospheric and chemical agents", "Resistance to light source radiations", "Resistance to detergents and hydrocarbons" and "Resistance to mechanical deterioration" of this UN Regulation, or the equivalent tests pursuant to another regulation. Those tests need not be repeated; only the tests "Deterioration" and "Adherence" have been performed. Refer to the material report No. 2021621-QUA/RTL 02-129

☒ ☐ ☐

RESISTANCE TO MECHANICAL DETERIORATION

The lens has been submitted for the mechanical deterioration test described in the present Regulation.

☒ ☐ ☐

Photometric test after headlamp mechanical deterioration exposure

Points of measurement	I measured (cd) SAMPLE C	Limits
B50L	--	≤ ?? cd
75R	--	≥ ?? cd

For headlamp producing driving beam only:

Points of measurement	I measured (cd) SAMPLE C	Limits
HV	178319	≥ 10% below the value of HV

TEST OF ADHERENCE OF COATINGS

No appreciable impairment of the gridded area.

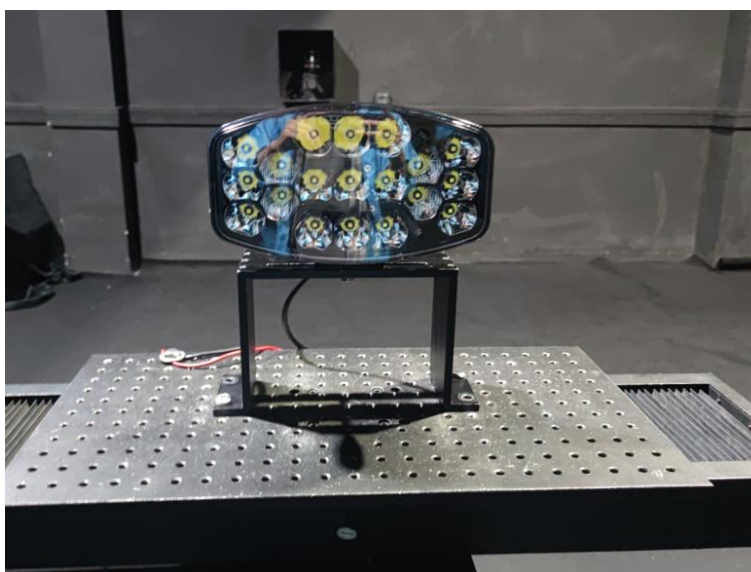
☒ ☐ ☐

Impairments at the intersections between squares or at the edges of the cuts do not exceed 15% of the gridded surface.

☒ ☐ ☐

This inspection report shall not be reproduced except in full, without written approval of the technical service.

APPENDIX 4 – PHOTOS



Remarks

None

Note: CETOC TS apply measurement uncertainty to calibrated items but not test results.

INFORMATION DOCUMENT

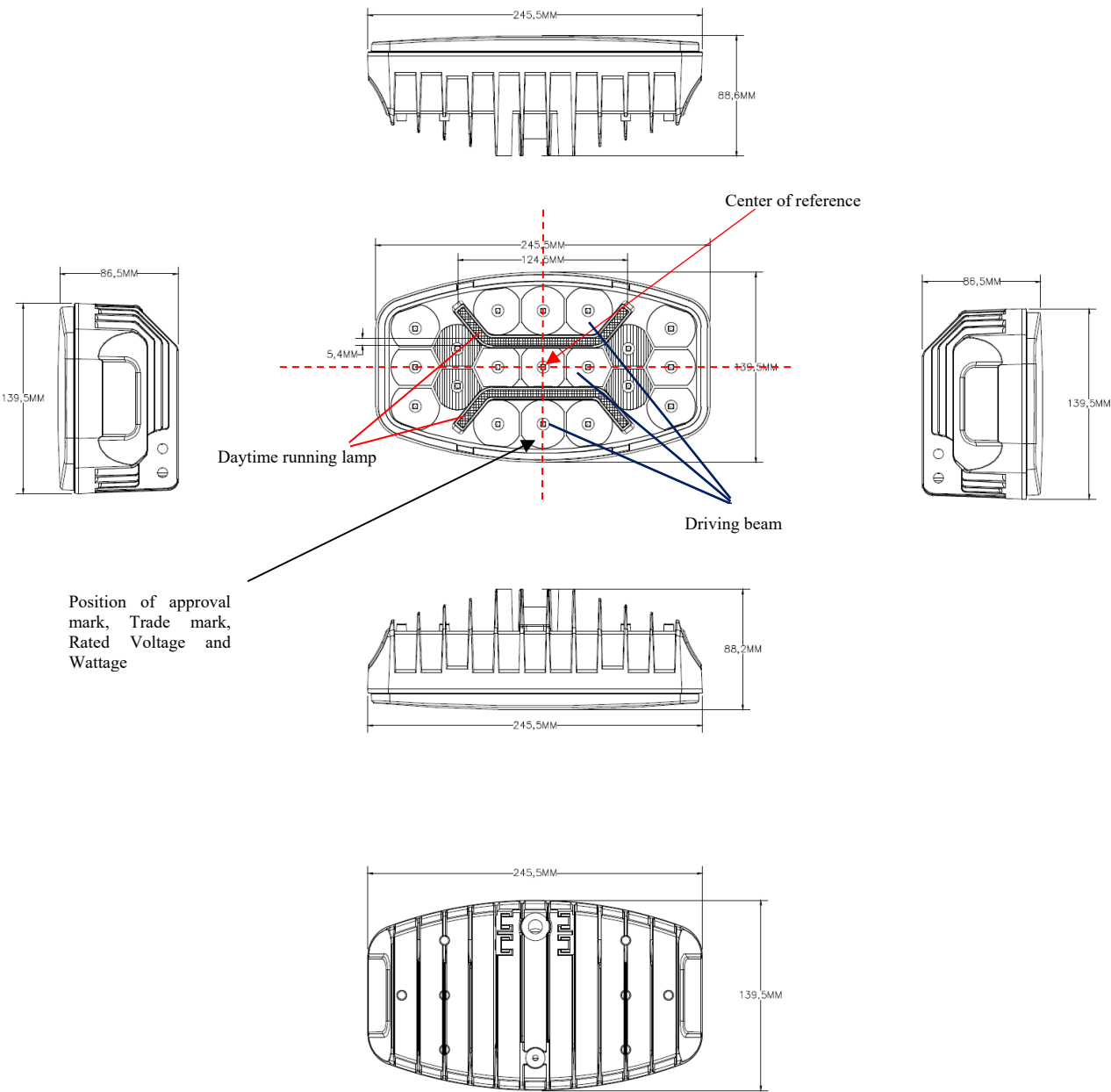
1. Specification data

Type	10C02		
Variants	--		
Trade name or mark	DXZ DUOXINGZHE		
Function	Driving beam	Daytime running lamp	
Color	White	White	
Number and category of light sources	1LED module with 54 x LED, Non-replaceable light source	19 x LED, Non-replaceable light source	
Rated	Voltage	12V/24V	12V/24V
	Wattage	55W	5W
Applicable Regulation		R149.00 Class B	R148.00 Category RL
Location of marking	Rated Voltage and Wattage	Marked on Lens	
	Trade mark	Marked on Lens	
	Approval mark	Marked on Lens	

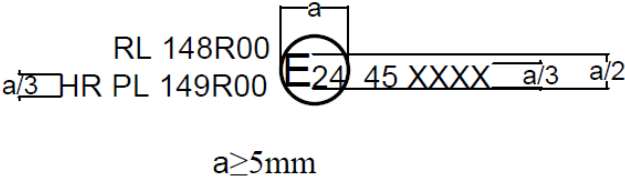
2. Construction and material

Construction	Material	Remarks
Lens	PC	Polycarbonate: Lexan LS2-111 UV Coating: UVHC3000 GE Bayer Silicones
Reflector	PC	--
Housing	ADC12+6063	Black
Electrical Wiring	Copper cover with insulation	--

3. Name and address of manufacturer : Guangdong DXZ Lighting Technology Co., Ltd.
No. 15, Hecun Section, Yuechi West Road, Hecun Community, Lishui Town, Nanhai District, Foshan City, China
4. Name and address of assembly plant : Guangdong DXZ Lighting Technology Co., Ltd.
No. 15, Hecun Section, Yuechi West Road, Hecun Community, Lishui Town, Nanhai District, Foshan City, China



Approval Mark



CIRCUIT DIAGRAM

