



GRAND-DUCHÉ DE LUXEMBOURG

Ministère du Développement durable  
et des Infrastructures  
Département des Transports

L-2938 Luxembourg

SOCIÉTÉ NATIONALE DE  
CERTIFICATION ET D'HOMOLOGATION

s.à r.l.

Registre de Commerce: B 27180

L-5201 Sandweiler



Référence: E13\*112R00\*112R00\*14365\*00

Annexes: - Rapport technique  
- Fiche de renseignements du constructeur

Sandweiler, le 11 septembre 2014

## COMMUNICATION



concernant 2/: - **DELIVRANCE D'UNE HOMOLOGATION**  
concerning 2/: APPROVAL GRANTED  
- **EXTENSION D'HOMOLOGATION**  
APPROVAL EXTENDED  
- **REFUS D'HOMOLOGATION**  
APPROVAL REFUSED  
- **RETRAIT D'HOMOLOGATION**  
APPROVAL WITHDRAWN  
- **ARRET DEFINITIF DE LA PRODUCTION**  
PRODUCTION DEFINITELY DISCONTINUED

**d'un type de projecteur en application du Règlement N° 112**  
of a type of headlamp pursuant to Regulation N° 112

**Numéro d'homologation:** E13\*112R00\*112R00\*14365\*00  
Approval number:

**Marque d'homologation:** refer to the manufacturer's information document  
Approval mark:

- 1. Marque de fabrique ou de commerce du dispositif:** RG  
Trade name or mark of the device:
- 2. Désignation du type de dispositif par le fabricant:** RG-WL-028A/7  
Manufacturer's name for the type of device:
- 3. Nom et adresse du fabricant:** Foshan Ruiguang Auto Lighting & Electrical Co., Ltd.  
Manufacturer's name and address: 2F, Block B, Tangtou Science Industrial Park, Shishan Town, Nanhai District, Foshan City, Guangdong Province, P.R. China
- 4. Nom et adresse du mandataire du fabricant (le cas échéant):** not applicable  
If applicable, name and address of the manufacturer's representative:
- 5. Soumis à l'homologation le:** 22.08.2014  
Submitted for approval on:

6. **Autorité déléguée:**  
Assigned authority: *Société Nationale de Certification et d'Homologation L-5201 Sandweiler*
- Service technique chargé des essais:**  
Technical service responsible for conducting approval tests: ATE EL s.à r.l.  
14, op Huefdreisch  
L-6871 Wecker
7. **Date du procès-verbal d'essai:**  
Date of report issued by that service: 27.08.2014
8. **Numéro du procès-verbal d'essai:**  
Number of report issued by that service: 65RGA0003A
9. **Description sommaire:**  
Brief description:
- **Catégorie indiquée par le marquage pertinent 3/:**  
Driving beam: HR PL  
Category as described by the relevant marking 3/:
  - **Nombre et catégorie(s) de la (des) lampe(s) à incandescence:**  
Driving beam: LEDs\*8  
Number and category(ies) of filament lamp(s):
  - **Mesures au titre du paragraphe 5.8 du présent Règlement:**  
not applicable  
Measures according to paragraph 5.8 of this Regulation:
  - **Nombre de modules DEL et code(s) d'identification propre(s) à ce(s) module(s):** not applicable  
Number and specific identification code(s) of LED module(s):
  - **Nombre de dispositifs de régulation électronique de source lumineuse et code(s) d'identification propre(s) à ce(s) dispositif(s):** not applicable  
Number and specific identification code(s) of electronic light source control gear(s):
  - **Le flux lumineux normal total tel qu'il est décrit au paragraphe 5.9 est supérieur à 2 000 lumens 2/:** yes / ~~no~~  
Total objective luminous flux as described in paragraph 5.9 exceeds 2,000 lumen 2/: not applicable
  - **La détermination du réglage de la ligne de coupure a été effectuée à 2/:** ~~40m~~ / ~~25m~~  
The adjustment of the cut-off has been determined at 2/: not applicable
  - **La détermination de la netteté minimale de la ligne de coupure a été effectuée à 2/:** ~~40m~~ / ~~25m~~  
The determination of the minimum sharpness of the "cut-off" has been carried out at 2/: not applicable

10. **Emplacement de la marque d'homologation:** on the lens  
Approval mark position:
11. **Motif(s) de l'extension d'homologation:** not applicable  
Reason(s) for extension of approval:
12. **Homologation 2/:** accordée / étendue / refusée / retirée  
Approval 2/: granted / extended / refused / withdrawn
13. **Lieu:** Sandweiler  
Place:
14. **Date:** 11 septembre 2014  
Date:
15. **Signature:**  
Signature:

Pour le Département des Transports



*Marco Feltes*

Marco FELTES  
Inspecteur Principal 1<sup>er</sup> en rang

Pour la SNCH



*Claude Liesch*

Claude LIESCH  
Directeur



16. **La liste des pièces constituant le dossier d'homologation déposé au Service administratif ayant délivré l'homologation est jointe en annexe et peut être obtenue sur demande.**

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

*voir "INDEX DU DOSSIER D'HOMOLOGATION" ci-joint / see "INDEX TO TYPE-APPROVAL REPORT"*

2/ **Biffer les mentions inutiles/** Strike out what does not apply

- 3/ **Indiquer le marquage adéquat choisi dans la liste ci-dessous /** Indicate the adequate marking chosen in the list in the bottom
- 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  
→ ↔ → ↔



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**Référence:** E13\*112R00\*112R00\*14365\*00

**Annexes:** - Rapport technique  
- Fiche de renseignements du constructeur

Sandweiler, le 11 septembre 2014

## Index du dossier d'homologation

Index to type-approval report

	<b>Numéro d'homologation:</b> Approval number:	E13*112R00*112R00*14365*00
	<b>Révision:</b> Revision:	00
	<b>Marque de fabrication ou de commerce:</b> Trade name or mark:	RG
	<b>Type:</b> Type:	RG-WL-028A/7
<b>1.</b>	<b>Procès-verbal d'essai:</b> Test report:	N° 65RGA0003A
	- Technical report:	Page(s) 1, 2
	- Index:	Annex(es) I1 - Page(s) 1
	- General test report:	Annex(es) T - Page(s) 1 to 5
	- General information:	Annex(es) GII - Page(s) 1, 2
<b>2.</b>	<b>Dossier du constructeur:</b> Report of the manufacturer:	N° RG-WL-028A/7-00
	- Manufacturer's information document:	Page(s) 1 to 4
<b>3.</b>	<b>Autres documents annexés:</b> Other documents annexed:	not applicable
<b>4.</b>	<b>Date de délivrance de l'homologation initiale:</b> Date of issue of initial type approval:	11.09.2014
<b>5.</b>	<b>Date de la dernière délivrance de pages révisées:</b> Date of last issue of revised pages:	not applicable
<b>6.</b>	<b>Date de la dernière délivrance d'une homologation révisée:</b> Date of last extension:	not applicable



Allied Technology Experts-  
Enterprise of Luxembourg

Technical Report No. 65RGA0003A  
Type: RG-WL-028A/7

Tests and inspection concerning

**Motor vehicle headlamps emitting an asymmetrical passing beam or a driving beam or both and equipped with filament lamps and/or LED modules**

according to the ECE Regulation No. 112 including all amendments up to Series 00, Supplement 12 of 19.08.2010

**Manufacturer:** Foshan Ruiguang Auto Lighting & Electrical Co., Ltd.  
2F, Block B, Tangtou Science  
Industrial Park, Shishan Town,  
Nanhai District, Foshan City,  
Guangdong Province, P.R. China

**Type:** RG-WL-028A/7

<b>Type of Approval:</b>  ECE	<b>Type Approval No.:</b>  E13*112R00*112R00*....*00	<b>Manufacturer:</b>  Foshan Ruiguang Auto Lighting & Electrical Co., Ltd.
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**Conclusion:** The tests and checks carried out have shown the compliance of the type described in this report and the attached annexes with the Regulation mentioned above.

Wecker, 27.08.2014

p.o. Mengting Xu  
Ingénieur Inspecteur

**Index:** see Annex I1

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## 1 Tests and inspection results

Refer to Annex T

## 2 Type and variants

The tests and inspections carried out and described in this technical report have been selected in order to include the following variants and versions of the type and its equipments, as far as these are relevant for the topic of this report, into the judgement:

<b>As stated in Annex MID (Manufacturer's Information Document):</b>	<b>Item</b>
None.	

## 3 Remark

### 3.1 General

This report describes test results of the driving beam headlamp.



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**Compilation of Dossier No.: 65RGA0003**

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**Extension 00**

Technical Report no.: 65RGA0003A

page 1 and 2

Composition of Annex:

I1:	Index	page 1
T:	General Test Report	page 1 to 5
GI1:	General Information	page 1 to 2
MID:	Manufacturer's Information Document	page 1 to 4
	Index of the Manufacturer's Information Document:	
	Information Document	page 1
	Drawings	page 2 to 4

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## General Test Report

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The data in this section refer only to the items submitted to testing or inspection.

### 0 Abstract

0.1 Denomination RG-WL-028A/7

### 1 Dates and resources

1.1 Date of receipt of test item 19.08.2014

1.2 Date of test 19.08.2014 - 22.08.2014

1.3 Place of test SHANGHAI MOTOR VEHICLE INSPECTION CENTER(SMVIC);  
Anting, Jiading District, Shanghai, China

1.4 Testing site and testing equipment:

All measuring and test equipment used to carry out the inspections are in accordance with ISO 17025 and the regulatory act(s) applied.

### 2 Test object

The tests were conducted with a test component which is representative of the component type to be approved.

Type: RG-WL-028A/7

Description: Driving beam headlamp/Class B  
ID: Sample 1, Sample 2

### 3 Tests and inspections

#### 3.0 General specifications

Markings: The trade name is marked clearly legible and indelible on the lens of the lamp.  
The rated voltage and wattage is marked clearly legible and indelible on the housing of the lamp.  
Space for the approval mark and for additional symbols is provided on the lens of the lamp.

Vibration endurance: The lamp is designed and constructed that in normal use despite the vibrations to which they may be subjected, their satisfactory operation is assured and they retain the required characteristics.

Adjusting device: Requirement fulfilled.





**General Test Report**

Replaceable filament lamp(s): Not applicable. The headlamps is equipped with LEDs. Annex 10 of the Regulation are fulfilled.

Only two different and clearly distinct settings(Right-hand, left-hand traffic): Not applicable.

Illumination requirements for different traffic conditions: Not applicable.

Design requirement of headlamp provide alternately a driving beam and a passing beam headlamp: Not applicable.

**3.1 Test and performance requirements**

3.1.1 LED or LED MODULES test

3.1.1.1 Red content of LED or LED MODULES

	Required illumination	Sample 1
Red content $k_{red}$	$\geq 0.05$	0.09

3.1.1.2 UV-radiation of LED or LED MODULES

	Required illumination	Sample 1
UV-radiation $k_{uv}$	$\leq 10^{-5}$ W/lm	$0.63 \times 10^{-7}$

3.1.1.3 Temperature stability test of LED or LED MODULES

Passing beam  
Not applicable.

Driving beam

Photometric test result (lux)			
	Value after 1 minute	Value after Photometric stability	Ratio
	$E_{1 \text{ minute}}$	$E_{\text{stabilization}}$	$E_{1 \text{ minute}}/E_{\text{stabilization}}$
HV	61.51	58.12	1.06

3.1.1.4 Colormetric test of LED or LED MODULES

Trichromatic coordinates-reference axis	Value after 1 minute	Value after Photometric stability
x	0.421	0.419
y	0.398	0.396

The samples tested fulfil with the colorimetric specifications in regulation.

3.1.1.5 Measurement of objective luminous flux of LED module(s) the producing principal passing beam  
Not applicable.

3.1.2 Bending lighting design requirement  
Not applicable.



**General Test Report**

3.1.3 Colormetric test

Trichromatic coordinates-reference axis	Sample 1	Sample 2
x	0.419	0.418
y	0.396	0.396

The samples tested fulfil with the colorimetric specifications in regulation.

3.1.4 Photometric test

3.1.4.1 Passing beam(Class B)  
Not applicable.

3.1.4.2 Bending lighting  
Not applicable.

3.1.4.3 Driving beam(Class B)

3.1.4.3.1 Driving beam illuminance values measured after photometric stabilization

Illumination measured on screen(lux)			
	Required illumination	Sample 1	Sample 2
Maximum Luminance ( $E_M$ )	$48 \leq E_M \leq 240$	66.23	65.12
	$*E_M \leq 16 \times E_{75R}$		
Luminance at the point HV	$\geq 0.8 \times E_M$	58.12	58.02
Minimum Luminance on line 1125L-1125R	$\geq 24$	27.33	26.86
Minimum Luminance on line 2250L-2250R	$\geq 6$	13.13	12.89

\* In the case of a combined passing and driving headlamp.

Reference mark

	Calculation the formula	Sample 1	Sample 2
$I'_M$ shall be rounded off to the value 7.5-10-12.5-17.5-20-25-27.5-30-37.5-40-45-50	$I'_M = 0.208 \times E_M$	13.78	13.54
Reference mark 12.5			

Illuminance values measured after one minute(LED or LED MODULES)

Illumination measured on screen(lux)			
	Required illumination	Sample 1	Sample 2
Maximum Luminance ( $E_M$ )	$48 \leq E_M \leq 240$	70.09	68.34
	$*E_M \leq 16 \times E_{75R}$		
Luminance at the point HV	$\geq 0.8 \times E_M$	61.51	60.89
Minimum Luminance on line 1125L-1125R	$\geq 24$	28.92	28.19
Minimum Luminance on line 2250L-2250R	$\geq 6$	13.90	13.53

\* In the case of a combined passing and driving headlamp.

3.1.4.4 Additional tests in the case of headlamps with an adjustable reflector  
Not applicable.



**General Test Report**

3.1.5 Tests for stability of photometric performance of headlamps in operation

3.1.5.1 Clean headlamp

The headlamp has been operated for 12 hours in accordance with item 1.1.1 of Annex 4.

3.1.5.1.1 Test results

The visual inspection after the test did not show any distortion, deformation, cracking or change in colour of either the headlamp lens or the external lens.

Passing beam  
Not applicable.

Driving beam

Photometric test result (lux)				
	Initial of test	End of test	Difference(%)	Allowable difference(%)
$E_M$	66.23	63.74	3.76	10

3.1.5.2 Dirty headlamp

The headlamp has been prepared in accordance with item 1.2.1 of Annex 4.

3.1.5.2.1 Test results

The visual inspection after the test did not show any distortion, deformation, cracking or change in colour of either the headlamp lens or the external lens.

Passing beam  
Not applicable.

Driving beam

Photometric test result (lux)				
	Initial of test	End of test	Difference(%)	Allowable difference(%)
$E_M$	63.74	59.2	7.12	10

3.1.5.3 Test for change in vertical position of the "cut-off" line under the influence of heat

The test procedure is in accordance with item 2.1 of Annex 4  
Not applicable.

3.1.5.3.1 Test results(Unit mrad)

	Sample 1	Sample 2	Maximum permissible
$\Delta r_1 =  r_3 - r_{60} $	N.A.	N.A.	$\Delta r_1 \leq 1.0 \text{ mrad}$



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**General Test Report**

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3.1.6 Requirements for lamps incorporating lenses of plastic material - Testing of lens or material samples and of complete lamps  
The lamp manufacturer can prove that the product has already passed the tests prescribed in item 2.1. to 2.5. of annex 6, those tests need not be repeated;  
only the tests prescribed in Appendix 1, table B, shall be mandatory.

3.1.6.1 Resistance to mechanical deterioration of the lens surface  
The lens of lamp sample No. 1 shall be subjected to the test described in item 2.4.1. of Annex 6

3.1.6.1.1 Test results

Illumination measured on screen(lux)		
	Sample 1	Required illumination
B 50L	N.A.	$\leq 0.52$
HV	N.A.	$\leq 0.91$
75R	N.A.	$\geq 10.8$

3.1.6.2 Test of adherence of coatings, if any  
The lens of lamp sample No. 2 shall be subjected to the test described in item 2.5. of Annex 6.

3.1.6.2.1 Test results  
After the test, there is no appreciable impairment of the gridded area.  
Impairments at the intersections between squares or at the edges of the cuts does not exceed 15 per cent of the gridded surface.



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### General Information

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**[ ]        Numbering according to annex 1 of the ECE Regulation No.112**

[1.]	Trade name or mark of device:	RG
[2.]	Manufacturer's name for the type of device:	RG-WL-028A/7
[3.]	Manufacturer's name and address:	Foshan Ruiguang Auto Lighting & Electrical Co., Ltd. 2F, Block B, Tangtou Science Industrial Park, Shishan Town, Nanhai District, Foshan City, Guangdong Province, P.R. China
[4.]	If applicable, name and address of the manufacturer's representative:	Not applicable
[5.]	Submitted for approval on:	22.08.2014
[6.]	Technical service responsible for conducting approval tests:	ATE EL s.à r.l. 14, op Huefdreisch L-6871 Wecker
[7.]	Date of report issued by that service:	27.08.2014
[8.]	Number of report issued by that service:	65RGA0003A
[9.]	Brief description:	
	Category as described by the relevant marking:	Driving beam: HR PL
	Number and category(ies) of filament lamp(s):	Driving beam: LEDs*8
	Measures according to paragraph 5.8. of this Regulation:	Not applicable
	Number and specific identification code(s) of LED module(s)	Not applicable
	Number and specific identification code(s) of electronic light source control gear(s)	Not applicable
	Total objective luminous flux as described in paragraph 5.9. exceeds 2,000 lumen: yes/no	Not applicable
	The adjustment of the cut-off has been determined at: 10 m/25 m	Not applicable



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**General Information**

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	The determination of the minimum sharpness of the "cut-off" has been carried out at: 10 m/25 m	Not applicable
[10.]	Approval mark position:	On the lens
[11.]	Reason(s) for extension of approval:	Not applicable
[12.]		
[13.]		
[14.]		
[15.]		
[16.]		

**FOSHAN RUIGUANG AUTO LIGHTING&ELECTRICAL CO.,LTD.**

First application date : 08 August, 2014

Page 1 of 4

Information folder No. : RG-WL-028A/7-00

## 1. Specification data

Type		RG-WL-028A/7	
Version		Version 1: RG-WL-028A/7-I	Version 2: RG-WL-028A/7-II
Function		Driving beam headlamp	
Rated	Voltage	12V	
	Wattage	55 W	
Applicable Regulation (ECE)		R112.00 class B	
Location of marking	Filament Lamp category	8LEDs, non-replaceable light source	
		Marked on Housing	
	Trade mark	RG	
		Marked on Lens	

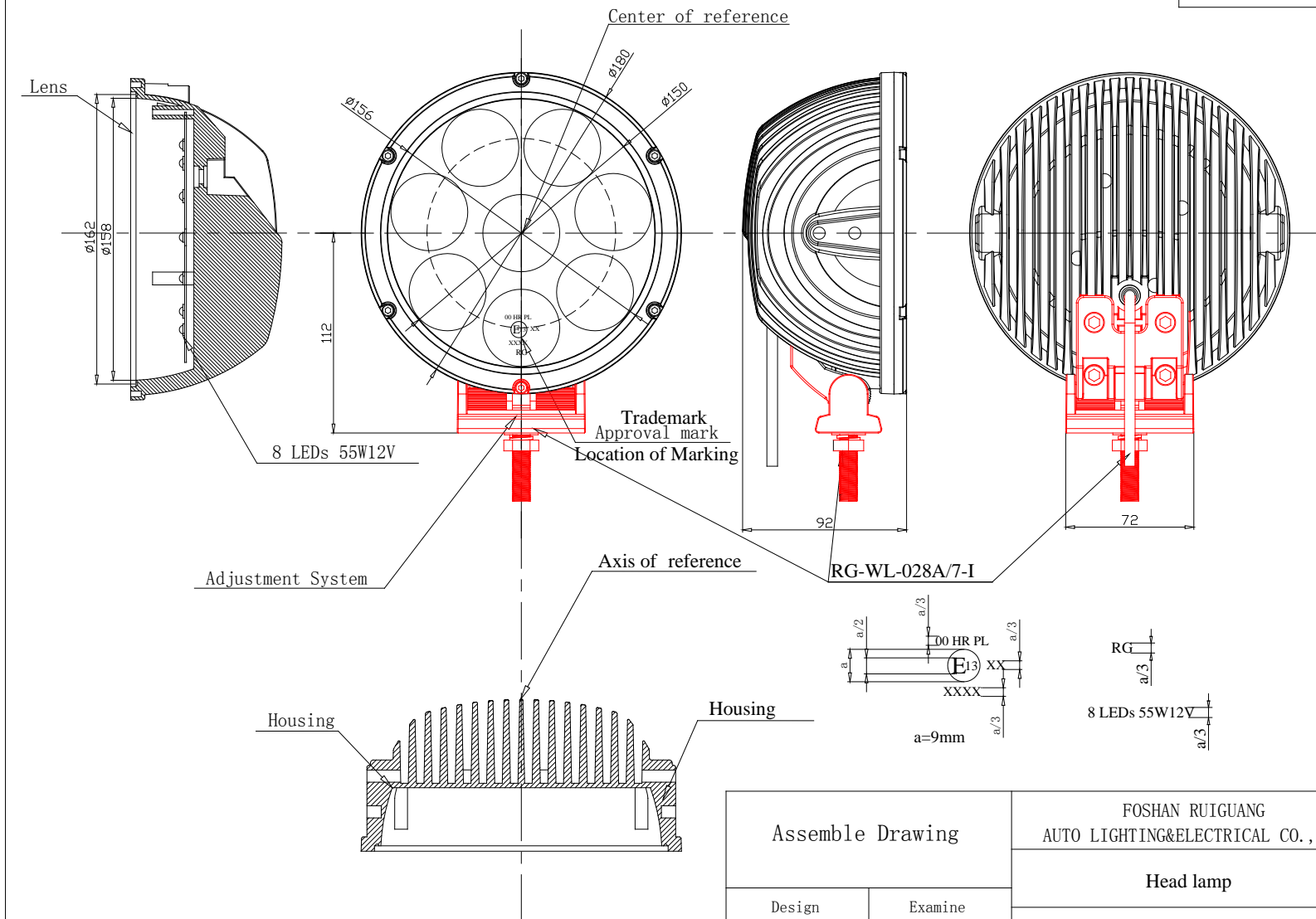
## 2. Construction and material

Construction	Material	Remarks
Lens	Plastic(PC) Trade name: Makrolon AL2647 Manufacturer: Bayer Material Science Ltd.	Color: Clear Coating: Trade name: UVT 200 Q1 Manufacturer: Red Spot Paint & Varnish Co., Inc
Reflector	Plastic(PC)	---
Housing	Aluminum alloy	---

3. Name and address of manufacturer : FOSHAN RUIGUANG AUTO LIGHTING&ELECTRICAL CO.,LTD.  
: 2F,Block B, Tangtou Science Industrial Park, Shishan Town, Nanhai District, Foshan City, Guangdong Province, P.R.China

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

This information document consists of 4 pages



Assemble Drawing		FOSHAN RUIGUANG AUTO LIGHTING&ELECTRICAL CO.,LTD
Design	Examine	Head lamp
WELL	WELL	RG-WL-028A/7





### The LED Circuit Diagram

