Repubblica di San Marino

Autorità per l'Omologazione

Republic of San Marino

Authority for Homologation

Via Consiglio dei Sessanta, 99
47891 Dogana - Repubblica di San Marino

Comunicazione
Communication

E57	Concernente [2/] *Concerning [2/]*	**Il rilascio dell'omologazione** ***Approval granted*** ~~L'estensione dell'omologazione~~ ~~*Approval extended*~~ ~~Il rifiuto dell'omologazione~~ ~~*Approval refused*~~ ~~La revoca dell'omologazione~~ ~~*Approval withdrawn*~~ ~~La cessazione definitiva della produzione~~ ~~*Production definitively discontinued*~~

of a type of lamp pursuant to Regulation No. 148

Lamp[2]:		~~Rear registration plate illuminating lamp~~ Direction indicator lamp ~~Stop lamp~~ Position lamp ~~End outline marker lamp~~ ~~Reversing lamp~~ ~~Manoeuvring lamp~~ ~~Rear fog lamp~~ ~~Parking lamp~~ ~~Daytime running lamp~~ ~~Side marker lamp~~	
Category of the lamp:11, MA		Change index:	0

Omologazione N. ***Approval No.***	**E57*148R00/03*0281**	**Estensione N.** ***Extension No.***	**00**

Marchio di omologazione ***Approval mark***	***See information document No. VN-DOT-AW-ECE-1156-00***

Identificatore Unico (IU) (se applicabile) ***Unique Identifier (UI) (if applicable)***	N/A

1.	Trade name or mark of the lamp:	Custom Dynamics
2.	Manufacturer's name for the type of lamp:	VN-DOT-AW-ECE-1156
3.	Manufacturer's name and address:	ISUN PRODUCTS VIETNAM CO., LTD Ngoc Lang Village, Ngoc Lam Commune, My Hao Town, Hung Yen Province, Vietnam
4.	If applicable, name and address of the manufacturer's representative:	N/A
5.	Submitted for approval on:	15/07/2022
6.	Technical Service responsible for conducting approval tests:	**AUTOMOTIVE TECHNICAL SERVICE S.r.l.** Via Consiglio dei Sessanta, 99 47891 – DOGANA Repubblica di San Marino
7.	Date of report issued by that Service:	30.07.2022
8.	Number of report issued by that Service:	ATS-SM-IR-148-04507
9.	Concise description:	
9.1.	In case of	
9.1.1.	A rear-registration plate illuminating lamp:	N/A
	Geometrical conditions of installation (position(s) and inclination(s) of the device in relation to the space to be occupied by the registration plate and/or different inclinations of this space):	N/A
9.1.2.	A direction indicator:	yes
	Sequential activation of light sources:	~~yes/~~no[2]
9.1.3.	A reversing lamp:	N/A
	The lamp shall be installed on a vehicle only as a part of a pair of lamps:	~~yes/no~~[2]
9.1.4.	A manoeuvring lamp:	N/A
	The maximum mounting height:	N/A
9.1.5.	A daytime running lamp:	N/A
	Maximum luminous intensity does not exceed 700 cd:	N/A
9.2.	By light signalling function and category:	Front direction indicator lamp: 11 Front position lamp: MA
	For mounting either outside or ~~inside or both~~[2]	Outside
	Colour of light emitted:	Front direction indicator lamp: Amber Front position lamp: White

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Number, category and kind of light source(s):	Front direction indicator lamp: 12*LEDs Front position lamp: 24*LEDs Non-replaceable light source
Lamp approved for LED substitute light source(s):	~~yes~~/no[2]
If yes, category of LED substitute light source(s):	N/A
Voltage and wattage:	Front position lamp: 12V/3.5W Front direction indicator lamp: 12V/4.5W
Light source module:	~~yes~~/no[2]
Light source module specific identification code:	N/A
Only for limited mounting height of equal to or less than 750 mm above the ground, if applicable:	~~yes~~/no[2]
Geometrical conditions of installation and relating variations, if any:	See manufacturer's information document
Application of an electronic light source control gear/variable intensity control:	N/A
(a) Being part of the lamp:	~~yes/no~~[2]
(b) Being not part of the lamp:	~~yes/no~~[2]
Input voltage(s) supplied by an electronic light source control gear/variable intensity control:	N/A
Electronic light source control gear/variable intensity control manufacturer and identification number (when the light source control gear is part of the lamp buti s not included into the lamp body):	N/A
Variable luminous intensity, if applicable:	~~yes/no~~[2]
Function(s) produced by an interdependent lamp forming part of an interdependent lamp system, if applicable:	N/A

9.3. The front position lamp[2], ~~rear position lamp[2], stop lamp[2], end-outline marker lamp[2], daytime running lamp~~ [2]is only for use on a vehicle fitted with a tell-tale indicating failure: ~~yes~~/no[2]

10. Position of the approval mark: On the lens

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

12. Approval **GRANTED**/~~EXTENDED/REFUSED/WITHDRAWN~~[2]

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13. Approval granted for devices to be used on vehicles already in use only: ~~yes~~/no[2]

14. Place: DOGANA – Repubblica di San Marino

15. Date: 05.08.2022

16. Signature:



Ing. Marco CONTI
Direttore Generale
General Director

17. 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.

[2] *Strike out what does not apply.*

Allegato *Enclosure*				
Al certificato di omologazione ECE N. *To ECE approval certificate No.*		**E57*148R00/03*0281*00**		
Indice del fascicolo di omologazione *Index to the information package*				
Data *Date of issue*	**05.08.2022**	**Data ultima modifica** *Last amendment date*	--	
1.	**Clausole di garanzia e istruzioni sul diritto di presentare ricorso** *Collateral clauses and instruction on right to appeal*			
2.	**Rapporto(i) Finale di Ispezione N.** *Test report(s) No.*	**ATS-SM-IR-148-04507**	**Data** *Date*	**30.07.2022**
3.	**Scheda informativa N.** **Information document No.**	**VN-DOT-AW-ECE-1156-00**	**Data** *Date*	**15.07.2022**
			Data ultima modifica *Last amendment date*	**--**

LIBERTAS
REPUBBLICA
DI SAN MARINO

Clausole di garanzia e istruzioni sul diritto di presentare ricorso

Clausole di garanzia

La produzione in serie deve essere esattamente conforme ai documenti di omologazione. Le variazioni di produzione in serie sono consentite solo con il consenso espresso del **Autorità per l'Omologazione**.

Le variazioni del nome della società, l'indirizzo e lo stabilimento di produzione, nonché una delle parti che hanno l'autorità alla consegna o eventuali rappresentanti nominati al momento del rilascio dell'omologazione, devono essere immediatamente comunicate al **Autorità per l'Omologazione**. La violazione di queste regole può portare al ritiro dell'omologazione ed inoltre può essere legalmente perseguita.

L'omologazione decade se viene restituita o ritirata o se il tipo omologato non è più conforme ai requisiti di legge. La revoca può essere fatta se non esistono più i requisiti richiesti per il rilascio e la continuazione dell'omologazione, se il titolare dell'omologazione viola gli obblighi dettati dall'omologazione, anche nel caso in cui gli obblighi derivino dalle condizioni assegnate all'interno dell'omologazione, o se è accertato che il tipo approvato non è conforme ai requisiti di sicurezza del traffico e di tutela dell'ambiente.

L'**Autorità per l'Omologazione** può verificare la corretta applicazione della delega conferita rilasciata nella presente omologazione, in qualsiasi momento. In particolare, questo include la verifica della produzione, che sia conforme, nonché le misure di controllo di conformità della produzione. Per questo, possono essere presi dei campioni dalla produzione. I dipendenti o rappresentanti dell'**Autorità per l'Omologazione** possono avere accesso senza ostacoli agli impianti di produzione e stoccaggio.

La delega conferita contenuta nella presente omologazione non è trasferibile. I diritti del marchio di terzi non sono interessati da questa omologazione.

Istruzione su diritto di ricorso

Questa omologazione è appellabile entro un mese dalla notifica. Il ricorso deve essere presentato per iscritto o come una domanda inviata all' **Autorità per l'Omologazione** - Via Consiglio dei Sessanta, 99 - 47891 Dogana - Repubblica di San Marino.

********** **********

Collateral clauses and instruction on right to appeal

Collateral clauses

*The individual production of serial fabrication must be in exact accordance with the approval documents. Changes in the individual production are only allowed with express consent of the **Authority for Homologation**.*

*Changes in the name of the company, the address and the manufacturing plant as well as one of the parties given the authority to delivery or authorized representative named when the approval was granted is to be immediately disclosed to the **Authority for Homologation**. Breach of this regulation can lead to recall of the approval and moreover can be legally prosecuted.*

The approval expires if it is returned or withdrawn or if the type approved no longer complies with the legal requirements. The revocation can be made if the demanded requirements for issuance and the continuance of the approval no longer exist, if the holder of the approval violates the duties involved in the approval, also to the extent that they result from the assigned conditions to this approval, or if it is determined that the approved type does not comply with the requirements of traffic safety or environmental protection.

*The **Authority for Homologation** may check the proper exercise of the conferred authority taken from this approval at any time. In particular this means the compliant production as well as the measures for conformity of production. For this purpose samples can be taken or have taken. The employees or the representatives of the **Authority for Homologation** may get unhindered access to the production and storage facilities.*

The conferred authority contained with issuance of this approval is not transferable. Trade mark rights of third parties are not affected with this approval.

Instruction on right to appeal

*This approval can be appealed within one month after notification. The appeal is to be filed in writing or as a transcript at the **Authority for Homologation** - Via Consiglio dei Sessanta, 99 - 47891 Dogana - Repubblica di San Marino.*

E57*148R00/03*0281*00

Inspection Report No.:	ATS-SM-IR-148-04507
of	30/07/2022
Type:	VN-DOT-AW-ECE-1156
Manufacturer:	ISUN PRODUCTS VIETNAM CO., LTD

Isnepction Report

No. ATS-SM-IR-148-04507
Rel. 00

Inspection concerning ~~vehicles~~ / components with regard to:

Uniform provisions concerning the approval of light-signalling devices (lamps) for power-drive vehicles and their trailers:

- ~~Rear registration plate illuminating lamps~~
- Direction indicator lamps
- Position lamps
- ~~Stop lamps~~
- ~~End-outline marker lamps~~
- ~~Reversing lamps~~
- ~~Manoeuvring lamps~~
- ~~Rear fog lamps~~
- ~~Parking lamps~~
- ~~Daytime running lamps~~
- ~~Side marker lamps~~

(strike out what does not apply)

performed according to

ECE Regulation No. 148

as last amended by

00 series of amendments

of the Economic Commission for Europe

Approval status	
ECE	Number of approval
	E57*148R00/03*0281*00

0. General information

0.1.	Information regarding the front group lamp:	
0.1.1.	Trade name or mark of the device:	Custom Dynamics
0.1.2.	Type of the device:	VN-DOT-AW-ECE-1156
0.1.2.1.	Variant 1:	VN-DOT-AW-ECE-1156
0.1.2.2.	Variant 2:	VN-DOT-AW-ECE-JAE
0.1.3.	Manufacturer's name and address:	ISUN PRODUCTS VIETNAM CO., LTD Ngoc Lang Village, Ngoc Lam Commune, My Hao Town, Hung Yen Province, Vietnam
0.1.4.	Manufacturer's representative:	N/A
0.1.5.	The name and address of assembly plant:	ISUN PRODUCTS VIETNAM CO., LTD Ngoc Lang Village, Ngoc Lam Commune, My Hao Town, Hung Yen Province, Vietnam
0.2.	Concise description of device:	
0.2.1.	A rear-registration plate illuminating lamp:	N/A
	Geometrical conditions of installation (position(s) and inclination(s) of the device in relation to the space to be occupied by the registration plate and/or different inclinations of this space):	N/A
0.2.2.	A direction indicator:	Yes
	Sequential activation of light sources:	~~yes/~~no[2]
0.2.3.	A reversing lamp:	N/A
	The lamp shall be installed on a vehicle only as part of a pair of lamps:	~~yes/no~~[2]
0.2.4.	A manoeuvring lamp:	N/A
	The maximum mounting height:	N/A

0.2.5.	A daytime running lamp:	N/A
	Maximum luminous intensity does not exceed 700 cd:	N/A
0.3.	By light signalling function and category:	Front direction indicator lamp: 11 Front position lamp: MA
	For mounting either outside or ~~inside or both~~	outside
	Colour of light emitted:	Front direction indicator lamp: Amber Front position lamp: White
	Number, category and kind of light source(s):	Front direction indicator lamp: 12*LEDs Front position lamp: 24*LEDs Non-replaceable
	Lamp approved for LED substitute light source(s):	N/A
	If yes, category of LED substitute light source(s)	
	Voltage and wattage:	Front position lamp: 12V/3.5W Front direction indicator lamp: 12V/4.5W
	Light source module:	N/A
	Light source module specific identification code:	N/A
	Only for limited mounting height of equal to or less than 750 mm above the ground, if applicable:	N/A
	Geometrical conditions of installation and relating variations, if any:	See manufacturer's information document
	Application of an electronic light source control gear/variable intensity control:	N/A
	(a) Being part of the lamp:	~~yes/no~~[2]
	(b) Being not part of the lamp:	~~yes/no~~[2]
	Input voltage(s) supplied by an electronic light source control gear/variable intensity control:	N/A
	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):	N/A

	Variable luminous intensity, if applicable:	N/A
	Function(s) produced by an interdependent lamp forming part of an interdependent lamp system, if applicable:	N/A
0.4.	The front position lamp, ~~rear position lamp, stop lamp, end-outline marker lamp, daytime running lamp~~ is only for use on a vehicle fitted with a tell-tale indicating failure:	~~yes~~/no[2]
0.5.	Position of the approval mark:	On the lens
0.6.	Reason(s) for extension, if applicable:	N/A
0.7.	No. of the information document:	VN-DOT-AW-ECE-1156-00 Date: 15/07/2022

1.	**Test object:**	Front group lamp
	Functions:	Front direction indicator lamp 11 Front position lamp: MA
	Light sources:	Front direction indicator lamp:12*LEDs; Front position lamp:24*LEDs; non-replaceable
2.	**Test equipment:**	Automotive and Signal Goniophotometer EVERFINE PHOTO-E-INFO Co., Ltd. Type GO-HD5 UV-VIS-near IR Spectrophoto colorimeter EVERFINE PHOTO-E-INFO Co., Ltd. Type PMS-2000
3.	**Test samples**	Two samples were tested. Sample No. 1, left side mounting. Sample No. 2, right side mounting. For information about the form of the lamp, the position of the reference point and the reference axis, see information document.
4.	**General technical requirements and specifications:**	

Points below are from ECE Regulation No. 148.

	Each lamp submitted for approval is conform to the requirements set forth in paragraphs 4. and 5 of ECE Regulation No. 148.	Conform / ~~Not Conform~~
4.1.	The requirements contained in sections 5 "General specifications" and 6 "Individual specifications" (and in the Annexes referenced in the said sections) of UN Regulations Nos. 48, 53, 74 or 86, and their series of amendments in force at the time of application for the lamp type approval apply to this Regulation.	Conform / ~~Not Conform~~
	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.	Conform / ~~Not Conform~~

4.2.	The lamps are so designed and constructed that in normal conditions of use, and notwithstanding the vibrations to which they may be subjected in such use, their satisfactory operation remains assured and they retain the characteristics prescribed by ECE Regulation 148.	Conform / ~~Not Conform~~
4.3.1.	In case of replaceable light source(s)	
4.3.1.1.	The lamp is only equipped with light source(s) approved according to UN Regulation No. 37 and/or UN Regulation No. 128, provided that no restriction on the use is made in UN Regulation No. 37 and its series of amendments in force at the time of application for type approval or in UN Regulation No. 128 and its series of amendments in force at the time of application for type approval.	~~Applicable~~ / Not Applicable
4.3.1.2.	In the case of a light source category or categories or type(s) is restricted for use in lamps on vehicles in use and originally equipped with such lamps, the applicant for type approval of the lamp shall declare that the lamp is only intended for installation on those vehicles; this is noted in the communication form, Annex 1.	~~Applicable~~ / Not Applicable
4.3.1.3.	The design of the lamp is such that the light source(s) can be fixed in no other position but the correct one.	~~Applicable~~ / Not Applicable
4.3.1.4.	The light source(s) holder is conform to the characteristics given in IEC Publication 60061. The holder data sheet relevant to the category of light source(s) used, applies.	~~Applicable~~ / Not Applicable
4.3.2.	In the case of light source modules	
4.3.2.1.	The design of the light source module(s) is such as: (a) That each light source module can only be fitted in no other position than the designated and correct one and can only be removed with the use of tool(s); (b) If there are more than one light source module used in the housing for a lamp, light source modules having different characteristics cannot be interchanged within the same lamp housing.	~~Conform / Not Conform~~

4.3.2.2.	The light source module(s) is tamperproof.	~~Conform / Not Conform~~
4.3.2.3.	A light source module is so designed that regardless of the use of tool(s), it isn't mechanically interchangeable with any replaceable approved light source.	~~Conform / Not Conform~~
4.3.2.4.	In the case of non-replaceable filament light source(s) or light source module(s) equipped with non-replaceable filament light source(s), the applicant shall annex to the type approval documentation a report, acceptable to the Authority responsible for type approval, that demonstrates compliance of these non-replaceable filament light source(s) with the requirements as specified in paragraph 4.11 of IEC 60809, Edition 3.	~~Conform / Not Conform~~
4.4.	Independent and interdependent lamps	
4.4.1.	An assembly of two independent lamps to be type approved as lamp marked "D" is applicable to front and rear position lamps except for categories MA, MR, stop lamps except for category MS, front and rear end-outline marker lamps and direction indicator lamps except for categories 11, 11a, 11b, 11c and 12;	~~Applicable~~ / Not Applicable
4.4.2.	An interdependent lamp system to be type approved as lamps marked "Y" is applicable to front and rear position lamps, stop lamps, front and rear end-outline marker lamps, daytime running lamps and direction indicator lamps of categories 1, 1a, 1b, 2a, 2b.	~~Applicable~~ / Not Applicable
4.5.	Lamps as such or grouped, combined, reciprocally incorporated:	
4.5.1.	Lamps having been approved as front or rear position lamps, are deemed being also approved end-outline marker lamps.	~~Applicable~~ / Not Applicable
4.5.3.	Position lamps or daytime running lamps, which are reciprocally incorporated with another function, using a common light source, and designed to operate permanently with an additional system to regulate the intensity of the light emitted, are permitted.	~~Applicable~~ / Not Applicable

4.5.4.	However, in the case of rear position lamp reciprocally incorporated with a stop lamp, the lamp is either:	
	(a) a part of a multiple light source arrangement; or	~~Applicable~~ / Not Applicable
	(b) intended for use in a vehicle equipped with a failure monitoring system for that function.	~~Applicable~~ / Not Applicable
	In either case, a note shall be made within the communication document.	~~Applicable~~ / Not Applicable
4.5.5.	If the front position lamp incorporates one or more infrared radiation generators, the photometric and colour requirements for this front position lamp are met with and without the operation of the infrared radiation generator(s).	~~Applicable~~ / Not Applicable
4.6.	Failure provisions	
4.6.1.	Failure of a single lamp containing more than one light source	Applicable / ~~Not Applicable~~
4.6.1.1.	In a single lamp containing more than one light source, a group of light sources, wired so that the failure of any one of them causes all of them to stop emitting light, are considered to be one light source.	~~Applicable~~ / Not Applicable
4.6.1.2.	In case of failure of any one light source in a single lamp containing more than one light source, at least one of the following provisions shall apply:	
	(a) The light intensity complies with the minimum intensity required in the pertinent table of standard light distribution in space as shown in Annex 3, ECE R148 and when all light sources are illuminated the maximum intensities shall not be exceeded; or	Applicable / ~~Not Applicable~~
	(b) A signal for activation of a tell-tale indicating failure, as indicated in paragraphs 6.4.8., 6.7.8., 6.9.8, 6.10.8., 6.11.8., 6.12.8., 6.13.8. and 6.18.8. of UN Regulation No. 48, is produced, provided that the luminous intensity in the axis of reference is at least 50 per cent of the minimum intensity required. In this case a note in the communication form states that the lamp is only for use on a vehicle fitted with a tell-tale indicating failure.	~~Applicable /~~ Not Applicable

4.6.1.3.	The requirements of paragraph 4.6.1.2. do not apply to daytime running lamps that shall comply with the requirements of paragraph 5.4.4. However, the requirements of paragraph 4.6.1.1. are still applicable.	~~Applicable~~ / Not Applicable
4.6.1.4.	The requirements of paragraph 4.6.1.2. do not apply to direction indicator lamps, direction indicator lamps of category 1, 1a, 1b, 2a, 2b shall comply with the requirements of paragraph 5.6.3. However, the requirements of paragraph 4.6.1.1. are still applicable.	Applicable / ~~Not Applicable~~
4.6.1.5.	The requirements of paragraph 4.6.1.2. do not apply to registration plate lamps. However, the requirements of paragraph 4.6.1.1. are still applicable.	~~Applicable~~ / Not Applicable
4.6.1.6.	The requirements of paragraph 4.6.1.2. (b) do not apply to stop- and position lamps for vehicles of category L. However, the requirements of paragraph 4.6.1.1. and 4.6.1.2. (a) are still applicable.	Applicable /~~Not Applicable~~
4.6.2.	In case of failure of the variable intensity control of:	
	(a) A rear position lamp category R2 emitting more than the maximum value of category R1;	~~Applicable~~ / Not Applicable
	(b) A rear end-outline marker lamp category RM2 emitting more than the maximum value of category RM1;	~~Applicable~~ / Not Applicable
	(c) A stop lamp category S2 emitting more than the maximum value of category S1;	~~Applicable~~ / Not Applicable
	(d) A stop lamp category S4 emitting more than the maximum value of category S3;	~~Applicable~~ / Not Applicable
	(e) A direction indicator of category 2b emitting more than the maximum value of category 2a;	~~Applicable~~ / Not Applicable
	(f) A rear fog lamp of category F2 emitting more than the maximum value of category F1.	~~Applicable~~ / Not Applicable
	Requirements of steady luminous intensity of the respective category are fulfilled automatically.	~~Applicable~~ / Not Applicable

4.8.11.	If a rear position lamp and/or a rear end-outline marker lamp is reciprocally incorporated with a stop lamp producing either steady or variable luminous intensity, the ratio between the luminous intensities actually measured of the two lamps when turned on simultaneously at the intensity of the rear position lamp or end-outline marker lamp when turned on alone should be at least 5: 1 in the field delimited by the straight horizontal lines passing through ±5° V and the straight vertical lines passing through ±10° H of the light distribution table.	~~Conform / Not Conform~~

Test conditions

All photometric and colorimetric measurements are made according to ECE Regulation 148, paragraphs 4.7, 4.8 and 4.9

Conform / ~~Not Conform~~

5. Specific technical requirements

Points in this section are from ECE Regulation No. 148.

Technical requirements applicability:

Lamp(s)	**ECE R148 paragraph**	**Applicability**
front position lamps, (symbols ~~A~~, MA) ~~and front end-outline marker lamps, (symbols AM)~~	5.1	Applicable / ~~Not Applicable~~
direction-indicator lamps (Symbols ~~1, 1a, 1b, 2a, 2b, 5, 6,~~ 11, ~~11a~~, ~~11b, 11c, 12~~)	5.6	Applicable / ~~Not Applicable~~

5.1. **Front position lamps, (symbols ~~A~~, MA) and ~~front end-outline marker lamps, (symbols AM)~~**

5.1.1.

Requirements				**Light distribution in space (ECE R148 Annex 2, part A)**	
Lamp(s) and lamp categories	**Minimum luminous intensity in HV**	**Maximum luminous intensity in any direction - single lamp**	**Maximum luminous intensity in any direction - lamp marked "D" (ECE R148 paragraph 3.3.2.5.2.)**	**Minimum horizontal angles (inboard / outboard)**	**Minimum vertical angles (above / below)**
~~Front position lamps, A~~	~~(4)~~	~~[140]~~	~~[70]~~	~~45° / 80°~~ ~~20° / 80°[1]~~	~~15° / 15°~~ ~~15° / 5°[2]~~ ~~5° / 15°[3]~~
~~front end-outline marker lamp, AM~~	~~(4)~~	~~[140]~~	~~[70]~~	~~0° / 80°~~	~~15° / 15°~~ ~~15° / 5°[2]~~ ~~5° / 15°[3]~~
Front position lamps (motorcycle), MA	(4)	[140]	[N/A]	80° / 80° 20° / 80°	15° / 10° 15° / 5°[2]
~~Front position lamps A incorporated in a headlamp or in a front fog lamp~~	~~(4)~~	~~[140]~~	~~[N/A]~~	~~45° / 80°~~ ~~20° / 80°~~	~~15° / 10°~~ ~~15° / 5°[2]~~

5.1.2. Outside the reference axis and within the angular fields defined in the diagrams in Part A of Annex 2, the intensity of the light emitted by each lamp must in each direction corresponding to the points in the table of standard light distribution reproduced in paragraph 2. of Annex 3, be not less than the minimum specified in paragraph 5.1.1., multiplied by the percentage specified in the said table of the direction in question.

Conform / ~~Not Conform~~

5.1.3. Throughout the fields defined in the diagrams in Part A of Annex 2, the luminous intensity of the light emitted must be not less than 0.05 cd for front position lamps and front end-outline marker lamps;

Conform / ~~Not Conform~~

5.6. **Direction-indicator lamps (Symbols ~~1, 1a, 1b, 2a, 2b, 5, 6,~~ 11, ~~11a, 11b, 11c, 12~~)** **Applicable / ~~Not Applicable~~**

5.6.1. The light emitted by each of the two lamps supplied shall meet the requirements in Table 8 where the minimum luminous intensities shall be fulfilled:
(a) In the case of direction indicators of categories 1, 1a, 1b, 2a, 2b, 11, 11a, 11b, 11c and 12 in the reference axis; or
(b) In the case of direction indicators of categories 5 and 6 in direction A according to Annex 2.

Requirements				**Light distribution in space (ECE R148 Annex 2, parts A / B)**	
Lamp(s) and lamp categories	**luminous intensity in HV**	**luminous intensity in any direction - single lamp**	**luminous intensity in any direction - lamp marked "D" (ECE R148 paragraph 3.3.2.5.2.)**	**Minimum horizontal angles (inboard / outboard)**	**Minimum vertical angles (above / below)**
~~Direction indicator lamp, 1~~	~~(175)~~	~~[1000]~~	~~[500]~~	~~45° / 80°~~ ~~20° / 80°[1]~~	~~15° / 15°~~ ~~15° / 5°[2]~~
~~Direction indicator lamp, 1a~~	~~(250)~~	~~[1200]~~	~~[600]~~	~~45° / 80°~~ ~~20° / 80°[1]~~	~~15° / 15°~~ ~~15° / 5°[2]~~
~~Direction indicator lamp, 1b~~	~~(400)~~	~~[1200]~~	~~[600]~~	~~45° / 80°~~ ~~20° / 80°[1]~~	~~15° / 15°~~ ~~15° / 5°[2]~~
~~Direction indicator lamp, 2a (steady)~~	~~(50)~~	~~[500]~~	~~[250]~~	~~45° / 80°~~ ~~20° / 80°[1]~~	~~15° / 15°~~ ~~15° / 5°[2]~~ ~~5° / 15°[3]~~
~~Direction indicator lamp, 2b (variable)~~	~~(50)~~	~~[1000]~~	~~[500]~~	~~45° / 80°~~ ~~20° / 80°[1]~~	~~15° / 15°~~ ~~15° / 5°[2]~~ ~~5° / 15°[3]~~
~~Direction indicator lamp, 5~~	~~(0.6)~~	~~[280]~~	~~[140]~~	~~(A/B)~~ ~~5° / 55°~~	~~15° / 15°~~ ~~15° / 5°[2]~~
~~Direction indicator lamp, 6~~	~~(50)~~	~~[280]~~	~~[140]~~	~~(A/B)~~ ~~5° / 55°~~	~~30° / 5°~~
Direction indicator lamp, 11	(90)	[1000]	[N/A]	20° / 80°	15° / 15° 15° / 5°[2]
~~Direction indicator lamp, 11a~~	~~(175)~~	~~[1000]~~	~~[N/A]~~	~~20° / 80°~~	~~15° / 15°~~ ~~15° / 5°[2]~~
~~Direction indicator lamp, 11b~~	~~(250)~~	~~[1200]~~	~~[N/A]~~	~~20° / 80°~~	~~15° / 15°~~ ~~15° / 5°[2]~~
~~Direction indicator lamp, 11c~~	~~(400)~~	~~[1200]~~	~~[N/A]~~	~~20° / 80°~~	~~15° / 15°~~ ~~15° / 5°[2]~~
~~Direction indicator lamp, 12~~	~~(50)~~	~~[260]~~	~~[N/A]~~	~~20° / 80°~~	~~15° / 15°~~ ~~15° / 5°[2]~~

[1] Reduced angles used only below the H-plane for lamps mounted with the H-plane below 750mm.
[2] For lamps to be installed with the H-plane of the lamp at a mounting height of less than 750mm.
[3] Optional lamps to be installed with the H-plane of the lamp at a mounting height of more than 2100mm.

5.6.2.	Outside the reference axis the intensity of the light emitted by each lamp shall, in each direction corresponding to the points in the table of standard light distribution reproduced in: (a) Paragraph 2.1. of Annex 3 for categories 1, 1a, 1b, 2a, 2b, 11, 11a, 11b, 11c and 12.; or ~~(b) Paragraph 2.4. of Annex 3 for category 6.~~ ~~Be not less than the minimum specified in paragraph 5.6.1., multiplied by the percentage specified in the said table of the direction in question.~~.	Conform / ~~Not Conform~~
5.6.3.	For direction-indicator lamps of categories 1, 1a, 1b, 2a and 2b a signal for activation of the tell-tale prescribed in paragraph 6.5.8. of UN Regulation No. 48 or paragraph 6.3.8. of UN Regulation No. 53 shall be produced if (notwithstanding the provisions stated in paragraph 4.6.):	~~Conform / Not Conform~~
	(a) Any one light source has failed; or	~~Applicable /~~ Not Applicable
	(b) In the case of a lamp designed for only two light sources, the intensity in the axis of reference is less than 50 per cent of the minimum intensity; or	~~Applicable /~~ Not Applicable
	(c) As a consequence of a failure of one or more light sources, the intensity in one of the following directions as indicated in paragraph 2.1. of Annex 3, is less than the minimum intensity required: (i) H=0°, V=0° (ii) H=20° to the outside of the vehicle, V= +5° (iii) H=10° to the inside of the vehicle, V= 0°.	~~Applicable /~~ Not Applicable
5.6.4.	In divergence from paragraphs 4.8.3. and 4.8.3.1., for category 5 direction indicators, to the rear, a minimum value of 0.6 cd is required throughout the fields specified in Part A of Annex 2;	~~Conform / Not Conform~~
5.6.5.	Throughout the fields defined in the diagrams in Part A of Annex 2, the intensity of the light emitted shall be not less than 0.7 cd for lamps of category 1b, not less than 0.3 cd for lamps of categories 1, 1a, 2a, 11, 11a, 11b, 11c, 12 and for those of category 2b by day; it shall not be less than 0.07 cd for lamps of category 2b by night;	Conform ~~/ Not Conform~~

5.6.6.	In general, the intensities shall be measured with the light source(s) continuously alight.	Applicable ~~/ Not Applicable~~
	However, depending on the construction of the lamp, for example, the use of light-emitting diodes (LED), or the need to take precautions to avoid overheating, it is allowed to measure the lamps in flashing mode.	~~Applicable /~~ Not Applicable
	(a) This shall be achieved by switching with a frequency of f = 1.5 ± 0.5 Hz with the pulse width greater than 0.3 s, measured at 95 per cent peak light intensity. In all other cases the voltage as required in paragraph 4.7.1. shall be switched with a rise time and fall time shorter than 0.01 s; no overshoot is allowed;	~~Conform / Not Conform~~
	(b) In the case of measurements taken in flashing mode the reported luminous intensity shall be represented by the maximum intensity.	~~Conform / Not Conform~~
5.6.7.	In the case of lamps of category 2b the time that elapses between energizing the light source(s) and the light output measured on the reference axis to reach 90 per cent of the value measured in accordance with paragraph 5.6.2. shall be measured for the extreme levels of luminous intensity produced by the direction indicator. The time measured to obtain the lowest luminous intensity shall not exceed the time measured to obtain the highest luminous intensity.	~~Conform / Not Conform~~
5.6.10.	For any direction indicator lamp except those equipped with filament light source(s), the luminous intensities measured after one minute and after 30 minutes of operation in flashing mode (f = 1.5 Hz, duty factor 50 per cent), shall comply with the minimum and maximum requirements. The luminous intensity distribution after one minute of operation can be calculated by applying at each test point the ratio of luminous intensity measured in HV after one minute and after 30 minutes of operation as above described..	Applicable ~~/ Not Applicable~~

5.6.11.	For direction indicator lamps of categories 1, 1a, 1b, 2a, 2b, 11, 11a, 11b, 11c or 12 the flash may be produced by sequential activation of their light sources if the following conditions are met:	~~Applicable /~~ Not Applicable
	(a) Each light source, after its activation, shall remain lit until the end of the ON cycle;	~~Conform / Not Conform~~
	(b) The sequence of activation of the light sources shall produce a signal which proceeds in a uniform progressive manner from inboard towards the outboard edge of the light emitting surface;	~~Conform / Not Conform~~
	(c) It shall be one signal with no interruption and no vertical oscillations (e.g. not more than one change of direction along the vertical axis). The distance between two adjacent/tangential distinct parts of the light emitting surface of the sequential direction indicator shall not exceed 50mm, when measured perpendicularly to the reference axis, instead of the values defined in paragraph 5.7.2. of UN Regulation 48. These interruptions of the signal shall not create any overlap in the vertical axis between the different parts, from inboard towards the outboard of the vehicle, and shall not be used for any other lighting or light signalling functions;	~~Conform / Not Conform~~
	(d) The variation shall finish no more than 200ms after the beginning of the ON cycle;	~~Conform / Not Conform~~
	(e) The orthogonal projection of the light emitting surfaces of the direction indicator in the direction of the axis of reference shall be circumscribed by a rectangle on a plane normal to the axis of reference and having its longer sides parallel to the H-plane. The ratio of the horizontal to the vertical sides shall not be less than 1.7.	~~Conform / Not Conform~~
	Compliance to the conditions mentioned above shall be verified in flashing mode.	~~Conform / Not Conform~~

6. Test results

6.1. Photometric test results for each tested front position lamp MA

6.1.1. Sample No. 1, normal mode, 24*LEDs lit together

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	After 30 min	After 1 min	
1	5L	10U	0.80	140.00	78.54	81.92	Complies
2	5R	10U	0.80	140.00	96.91	101.08	Complies
3	20R	5U	0.40	140.00	65.00	67.80	Complies
4	10R	5U	0.80	140.00	101.15	105.50	Complies
5	V	5U	2.80	140.00	113.66	118.55	Complies
6	10L	5U	0.80	140.00	67.90	70.82	Complies
7	20L	5U	0.40	140.00	45.35	47.30	Complies
8	10L	H	1.40	140.00	68.45	71.39	Complies
9	5L	H	3.60	140.00	82.89	86.46	Complies
10	V	H	4.00	140.00	110.67	115.43	Complies
11	5R	H	3.60	140.00	119.80	124.95	Complies
12	10R	H	1.40	140.00	99.65	103.94	Complies
13	20R	5D	0.40	140.00	58.09	60.59	Complies
14	10R	5D	0.80	140.00	88.02	91.81	Complies
15	V	5D	2.80	140.00	83.54	87.13	Complies
16	10L	5D	0.80	140.00	65.24	68.05	Complies
17	20L	5D	0.40	140.00	43.63	45.51	Complies
18	5L	10D	0.80	140.00	66.71	69.58	Complies
19	5R	10D	0.80	140.00	76.07	79.34	Complies
20	All Directions Min.		0.05	---	2.75	2.87	Complies
21	All Directions Max.		---	140.00	123.76	129.08	Complies

Sample No. 2, normal mode, 24*LEDs lit together

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	After 30 min	After 1 min	
1	5L	10U	0.80	140.00	75.28	78.11	Complies
2	5R	10U	0.80	140.00	75.18	78.00	Complies
3	20R	5U	0.40	140.00	44.05	45.70	Complies
4	10R	5U	0.80	140.00	68.47	71.04	Complies
5	V	5U	2.80	140.00	103.8	107.70	Complies
6	10L	5U	0.80	140.00	70.96	73.62	Complies
7	20L	5U	0.40	140.00	46.05	47.78	Complies
8	10L	H	1.40	140.00	73.33	76.08	Complies
9	5L	H	3.60	140.00	100.88	104.67	Complies
10	V	H	4.00	140.00	117.43	121.84	Complies
11	5R	H	3.60	140.00	88.02	91.33	Complies
12	10R	H	1.40	140.00	65.81	68.28	Complies
13	20R	5D	0.40	140.00	42.40	43.99	Complies
14	10R	5D	0.80	140.00	60.16	62.42	Complies
15	V	5D	2.80	140.00	88.70	92.03	Complies
16	10L	5D	0.80	140.00	68.04	70.60	Complies
17	20L	5D	0.40	140.00	46.42	48.16	Complies
18	5L	10D	0.80	140.00	65.38	67.84	Complies
19	5R	10D	0.80	140.00	60.03	62.28	Complies
20	All Directions Min.		0.05	---	2.49	2.58	Complies
21	All Directions Max.		---	140.00	120.73	125.26	Complies

Sample No. 1, failed mode, 21*LEDs lit together

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	After 30 min	After 1 min	
1	5L	10U	0.80	140.00	71.69	74.53	Complies
2	5R	10U	0.80	140.00	88.25	91.75	Complies
3	20R	5U	0.40	140.00	56.11	58.33	Complies
4	10R	5U	0.80	140.00	90.05	93.62	Complies
5	V	5U	2.80	140.00	102.4	106.46	Complies
6	10L	5U	0.80	140.00	61.44	63.88	Complies
7	20L	5U	0.40	140.00	41.30	42.94	Complies
8	10L	H	1.40	140.00	62.93	65.42	Complies
9	5L	H	3.60	140.00	74.70	77.66	Complies
10	V	H	4.00	140.00	100.41	104.39	Complies
11	5R	H	3.60	140.00	108.61	112.92	Complies
12	10R	H	1.40	140.00	90.65	94.24	Complies
13	20R	5D	0.40	140.00	53.72	55.85	Complies
14	10R	5D	0.80	140.00	81.27	84.49	Complies
15	V	5D	2.80	140.00	74.36	77.31	Complies
16	10L	5D	0.80	140.00	60.01	62.39	Complies
17	20L	5D	0.40	140.00	39.88	41.46	Complies
18	5L	10D	0.80	140.00	61.35	63.78	Complies
19	5R	10D	0.80	140.00	70.66	73.46	Complies
20	All Directions Min.		0.05	---	2.43	2.53	Complies
21	All Directions Max.		---	140.00	111.73	116.16	Complies

Sample No. 2, failed mode, 21*LEDs lit together

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	After 30 min	After 1 min	
1	5L	10U	0.80	140.00	67.03	68.88	Complies
2	5R	10U	0.80	140.00	68.47	70.36	Complies
3	20R	5U	0.40	140.00	39.11	40.19	Complies
4	10R	5U	0.80	140.00	62.91	64.64	Complies
5	V	5U	2.80	140.00	93.54	96.12	Complies
6	10L	5U	0.80	140.00	63.35	65.09	Complies
7	20L	5U	0.40	140.00	41.79	42.94	Complies
8	10L	H	1.40	140.00	66.04	67.86	Complies
9	5L	H	3.60	140.00	89.13	91.58	Complies
10	V	H	4.00	140.00	105.70	108.61	Complies
11	5R	H	3.60	140.00	80.62	82.84	Complies
12	10R	H	1.40	140.00	57.04	58.61	Complies
13	20R	5D	0.40	140.00	38.04	39.09	Complies
14	10R	5D	0.80	140.00	55.21	56.73	Complies
15	V	5D	2.80	140.00	79.02	81.20	Complies
16	10L	5D	0.80	140.00	61.95	63.66	Complies
17	20L	5D	0.40	140.00	41.32	42.46	Complies
18	5L	10D	0.80	140.00	58.75	60.37	Complies
19	5R	10D	0.80	140.00	54.06	55.55	Complies
20	All Directions Min.		0.05	---	2.23	2.29	Complies
21	All Directions Max.		---	140.00	108.76	111.75	Complies

6.1.2. The colour of the light emitted shall be white, ~~however the lamp identified by symbol 'MA' may be amber.~~

Conform / ~~Not Conform~~

White:
green boundary: y = 0.150 + 0.640 x
yellowish green boundary: y = 0.440
yellow boundary: x = 0.500
reddish purple boundary: y = 0.382
purple boundary: y = 0.050 + 0.750 x
blue boundary: x = 0.310.

	Sample 1	Sample 2
X:	0.3208	0.3216
Y:	0.3288	0.3301

6.2. Photometric test results for each front direction indicator category 11

6.2.1. Sample No. 1, normal mode, 12*LEDs lit together

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	After 30 min	After 1 min	
1	5L	10U	18.00	1000.00	156.27	159.18	Complies
2	5R	10U	18.00	1000.00	152.74	155.59	Complies
3	20R	5U	9.00	1000.00	66.27	67.51	Complies
4	10R	5U	18.00	1000.00	149.59	152.38	Complies
5	H	5U	63.00	1000.00	341.75	348.12	Complies
6	10L	5U	18.00	1000.00	157.54	160.48	Complies
7	20L	5U	9.00	1000.00	74.07	75.45	Complies
8	10L	V	31.50	1000.00	179.37	182.71	Complies
9	5L	V	81.00	1000.00	323.80	329.84	Complies
10	H	V	90.00	1000.00	413.08	420.78	Complies
11	5R	V	81.00	1000.00	290.22	295.63	Complies
12	10R	V	31.50	1000.00	164.41	167.47	Complies
13	20R	5D	9.00	1000.00	67.78	69.04	Complies
14	10R	5D	18.00	1000.00	152.71	155.56	Complies
15	H	5D	63.00	1000.00	292.95	298.41	Complies
16	10L	5D	18.00	1000.00	165.57	168.66	Complies
17	20L	5D	9.00	1000.00	72.17	73.52	Complies
18	5L	10D	18.00	1000.00	160.60	163.59	Complies
19	5R	10D	18.00	1000.00	165.93	169.02	Complies
20	All Directions Min		0.30	-	8.76	8.92	Complies
21	All Directions Max		-	1000.00	418.76	426.57	Complies

Sample No. 2, normal mode, 12*LEDs lit together

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	After 30 min	After 1 min	
1	5L	10U	18.00	1000.00	164.94	167.31	Complies
2	5R	10U	18.00	1000.00	160.73	163.04	Complies
3	20R	5U	9.00	1000.00	70.28	71.29	Complies
4	10R	5U	18.00	1000.00	155.87	158.11	Complies
5	V	5U	63.00	1000.00	354.44	359.52	Complies
6	10L	5U	18.00	1000.00	165.22	167.59	Complies
7	20L	5U	9.00	1000.00	79.03	80.16	Complies
8	10L	H	31.50	1000.00	185.40	188.06	Complies
9	5L	H	81.00	1000.00	333.68	338.47	Complies
10	V	H	90.00	1000.00	436.50	442.76	Complies
11	5R	H	81.00	1000.00	307.90	312.32	Complies
12	10R	H	31.50	1000.00	177.33	179.87	Complies
13	20R	5D	9.00	1000.00	72.47	73.51	Complies
14	10R	5D	18.00	1000.00	159.74	162.03	Complies
15	V	5D	63.00	1000.00	304.76	309.13	Complies
16	10L	5D	18.00	1000.00	162.02	164.34	Complies
17	20L	5D	9.00	1000.00	77.10	78.21	Complies
18	5L	10D	18.00	1000.00	163.50	165.84	Complies
19	5R	10D	18.00	1000.00	156.10	158.34	Complies
20	All Directions Min		0.30	-	7.87	7.98	Complies
21	All Directions Max		-	1000.00	442.17	448.51	Complies

Sample No. 1, failed mode,9*LEDs lit together

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	After 30 min	After 1 min	
1	5L	10U	18.00	1000.00	122.07	124.38	Complies
2	5R	10U	18.00	1000.00	117.25	119.47	Complies
3	20R	5U	9.00	1000.00	51.73	52.71	Complies
4	10R	5U	18.00	1000.00	115.83	118.02	Complies
5	V	5U	63.00	1000.00	263.11	268.08	Complies
6	10L	5U	18.00	1000.00	121.58	123.88	Complies
7	20L	5U	9.00	1000.00	57.92	59.01	Complies
8	10L	H	31.50	1000.00	138.93	141.56	Complies
9	5L	H	81.00	1000.00	249.13	253.84	Complies
10	V	H	90.00	1000.00	313.15	319.07	Complies
11	5R	H	81.00	1000.00	222.96	227.17	Complies
12	10R	H	31.50	1000.00	126.18	128.57	Complies
13	20R	5D	9.00	1000.00	52.79	53.79	Complies
14	10R	5D	18.00	1000.00	118.58	120.82	Complies
15	V	5D	63.00	1000.00	223.43	227.65	Complies
16	10L	5D	18.00	1000.00	128.91	131.35	Complies
17	20L	5D	9.00	1000.00	56.52	57.59	Complies
18	5L	10D	18.00	1000.00	124.30	126.65	Complies
19	5R	10D	18.00	1000.00	128.8	131.23	Complies
20	All Directions Min		0.30	-	6.89	7.02	Complies
21	All Directions Max		-	1000.00	317.58	323.58	Complies

Sample No. 2, failed mode,9*LEDs lit together

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	After 30 min	After 1 min	
1	5L	10U	18.00	1000.00	120.06	121.80	Complies
2	5R	10U	18.00	1000.00	116.95	118.65	Complies
3	20R	5U	9.00	1000.00	50.50	51.23	Complies
4	10R	5U	18.00	1000.00	112.37	114.00	Complies
5	V	5U	63.00	1000.00	256.50	260.22	Complies
6	10L	5U	18.00	1000.00	120.58	122.33	Complies
7	20L	5U	9.00	1000.00	57.93	58.77	Complies
8	10L	H	31.50	1000.00	134.27	136.22	Complies
9	5L	H	81.00	1000.00	243.09	246.61	Complies
10	V	H	90.00	1000.00	324.17	328.87	Complies
11	5R	H	81.00	1000.00	219.28	222.46	Complies
12	10R	H	31.50	1000.00	123.79	125.58	Complies
13	20R	5D	9.00	1000.00	51.25	51.99	Complies
14	10R	5D	18.00	1000.00	112.79	114.43	Complies
15	V	5D	63.00	1000.00	217.72	220.88	Complies
16	10L	5D	18.00	1000.00	115.22	116.89	Complies
17	20L	5D	9.00	1000.00	54.86	55.66	Complies
18	5L	10D	18.00	1000.00	115.62	117.30	Complies
19	5R	10D	18.00	1000.00	108.86	110.44	Complies
20	All Directions Min		0.30	-	6.31	6.40	Complies
21	All Directions Max		-	1000.00	330.43	335.22	Complies

6.2.2 The colour of the light emitted shall be amber. This requirement shall also apply within the range of variable luminous intensity produced by rear direction indicator lamps of category 2b.

Conform / ~~Not Conform~~

Amber:
green boundary: y<=x-0.120
red boundary: y ≥ 0.390
white boundary: y ≥ 0.790 - 0.670 x

	Sample 1	Sample 2
X:	0.5724	0.5738
Y:	0.4242	0.4231

7. Other information

Place of testing:	Jiangsu Huachen Vehicle Inspection Co., Ltd. Xihuan Road, Xinqiao, Danbei, Danyang, Jiangsu, China	
Date of testing:	19/07/2022	
Technical service representative:	**Senior Inspector** Mr. Yu Hongfeng	**Junior Inspector (if applicable)** N/A
Manufacturer's representative:		N/A
Remarks:		None

7.1. Appendix

List of modifications

Test Photo (s)

7.2 Enclosures

Information Folder

8. Statement of conformity

The information document as given in paragraph 0.4 and the type described there are in compliance with the test specification mentioned above.

With regard to the required level of performance to be achieved, the tested items were representative for the type to be approved (see paragraph 1).

The tests were carried out in accordance with the relevant requirements of EN ISO/IEC 17025 and EN ISO/IEC 17020 / R148-00 ECE/UN.

The test report comprises pages 1 to 30.

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Dogana, Repubblica di San Marino, 30.07.2022

No. of project and protocol	***Originality Check*** (*)	**Automotive Technical Service S.r.l.** ***Inspector***	
	ATS-SM-PR-04507	(Mr. Yu Hongfeng)	
		Automotive Technical Service S.r.l. ***Deputy Technical Director***	
		(Eng. Bogdan Nicolae Domnescu)	

(*) To check the originality of documents, scan the QR Code or connect to the site https://www.ats.sm/originality-control-atp-adr-tyapp/ and follow the instruction in it.

Appendix 1

List of modifications **~~Applicable~~ / Not Applicable** **Appendix 1**

More details for application of **Date** **:**

Correction of : -

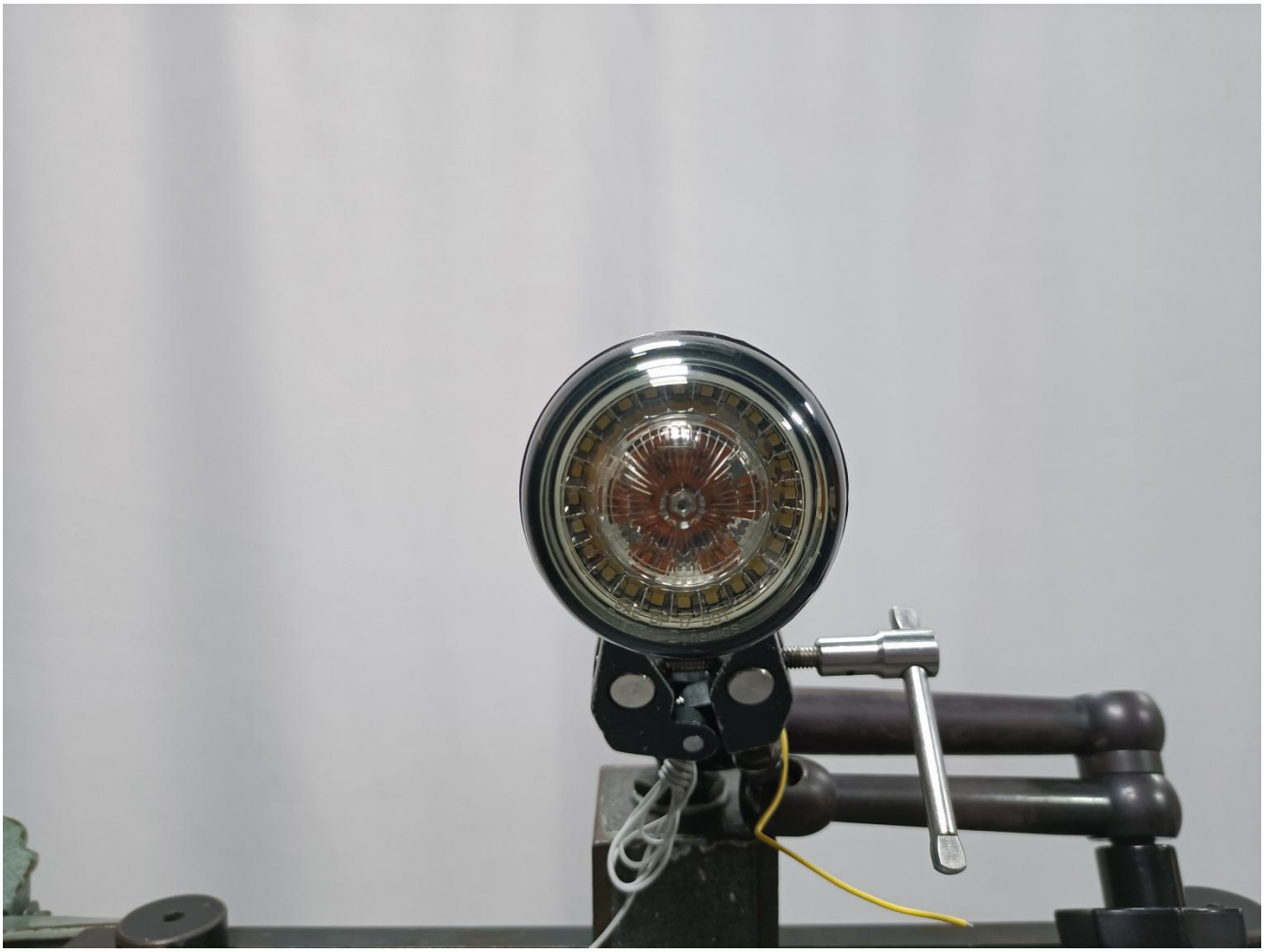
Modification of : -

Addition of : -

Deletion of : -

Appendix 2

Test Photo(s) **Appendix 2**



ISUN PRODUCTS VIETNAM CO., LTD
Ngoc Lang Village, Ngoc Lam Commune, My
Hao Town, Hung Yen Province, Vietnam

July 15, 2022

Dear Sirs,

We would like to apply for the type approval according to ECE.

Function	**ECE approval number**
Front position lamp	E57*148R00/03*XXXX*00
Front direction indicator lamp	E57*148R00/03*XXXX*00

Trade name or mark	:	Custom Dynamics
Manufacturer's name for type of device	:	VN-DOT-AW-ECE-1156
Name and address of manufacturer	:	ISUN PRODUCTS VIETNAM CO., LTD Ngoc Lang Village, Ngoc Lam Commune, My Hao Town, Hung Yen Province, Vietnam

We confirm that the above mentioned application has not been submitted to any other EC member state nor has any other member state granted a corresponding approval.

Sincerely



Mr. Cao Jindong
ISUN PRODUCTS VIETNAM CO., LTD

Information folder No. :	VN-DOT-AW-ECE-1156-00
First application date :	July 15, 2022

1. Specification data

Type		VN-DOT-AW-ECE-1156	
Variant		Variant 1: VN-DOT-AW-ECE-1156 Variant 2: VN-DOT-AW-ECE-JAE The difference is wiring base	
Function		Front group lamp	
		Front position lamp	Front direction indicator lamp
Color		White	Amber
Rated	Voltage	12V	12V
	Wattage	3.5W	4.5W
Application Regulation ECE		R148.00 MA	R148.00 Cat. 11
Location of marking	Number and category of light source	24*LEDs	12*LEDs
		Non-replaceable light source	
		Marked on wiring base	
	Trade mark	Custom Dynamics	
		Marked on lens	
	Approval mark	Marked on lens	
For vehicle category		L	

2. Construction and material

Construction		Material	Remarks
Outer lens		PC	Colour: Smoky grey
Inner lens	F.D.L.	PMMA	Colour: Clear
Reflector		PC	Aluminum plating on the inside surface Colour: Metal silver
Electrical Wiring		Copper covered with insulation	--

3. Name and address of manufacturer	:	ISUN PRODUCTS VIETNAM CO., LTD Ngoc Lang Village, Ngoc Lam Commune, My Hao Town, Hung Yen Province, Vietnam
4. Name and address of the assembly plant	:	See 3.
5. Name and address of the manufacturer's representative	:	N/A

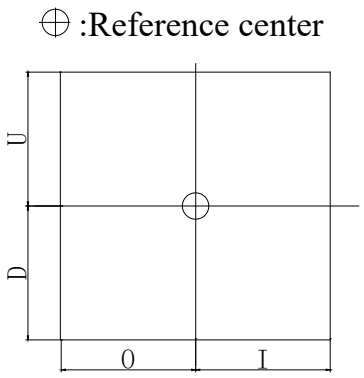
6: Apparent surface

U= Upper limit

D= Down limit

I= Inside limit

O= Outside limit



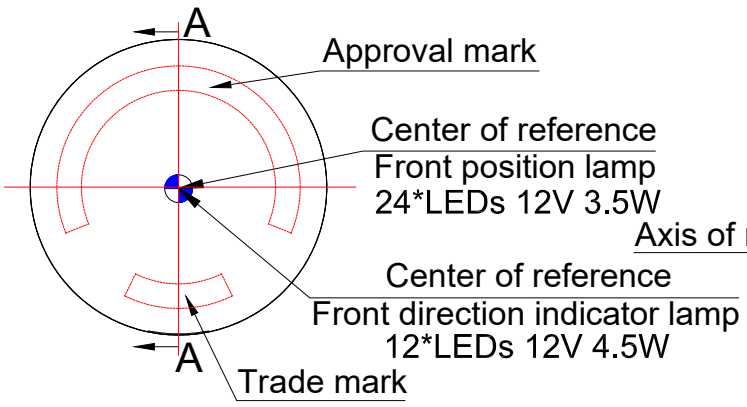
Unit: mm

Function	Limit (O)	Limit (I)	Limit (U)	Limit (D)
Front position lamp	23	23	23	23
Front direction indicator lamp	15	15	15	15
--	--	--	--	--

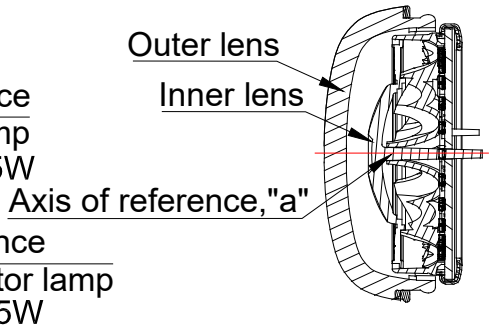
7: Remark

Application of an electronic light source control gear	No
Being part of the lamp	No
Being not part of the lamp	No
Input voltage	No
Manufacture and identification number	No

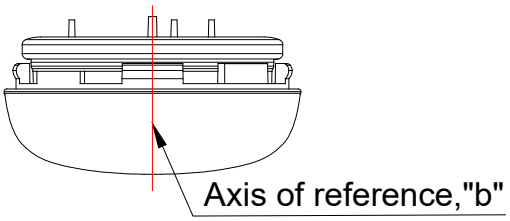
Front view



Section A-A



Top view

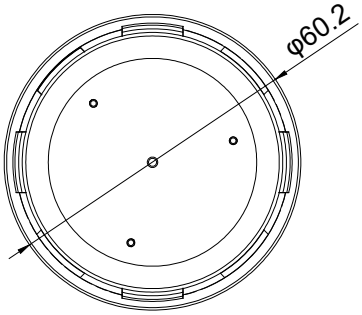


NOTE:
1. "a": Horizontal Plane of Vehicle
2. "b": Longitudinal Plane of Vehicle

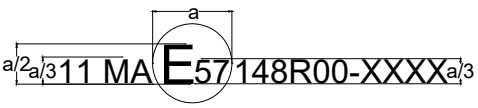
Trade mark

Custom Dynamics

Back view



Approval mark



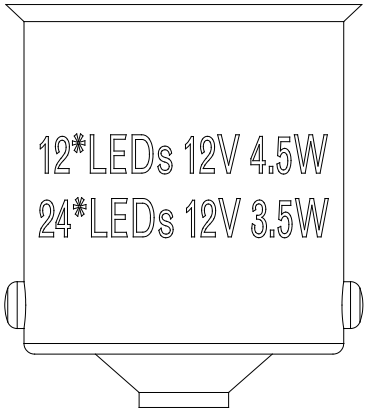
a=5 mm min

XXXX means an approval number, please refer to the certificate.

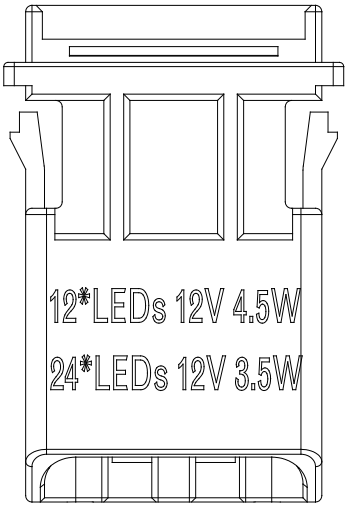
General assembly drawing

The difference is wiring base

Variant 1: VN-DOT-AW-ECE-1156



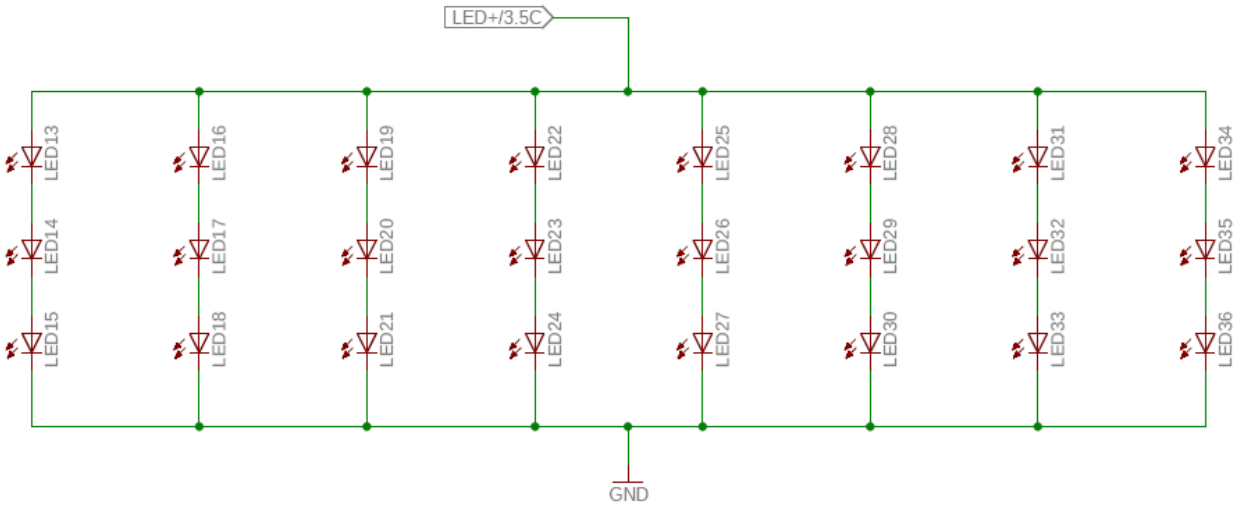
Variant 2: VN-DOT-AW-ECE-JAE



Variant

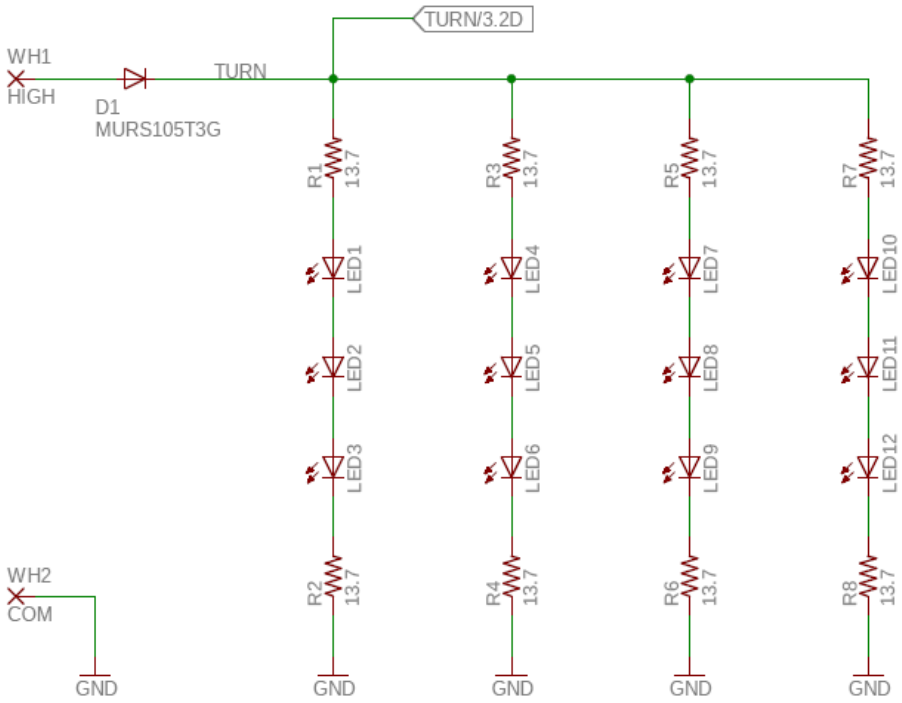
Front position lamp

24*LEDs 12V 3.5W

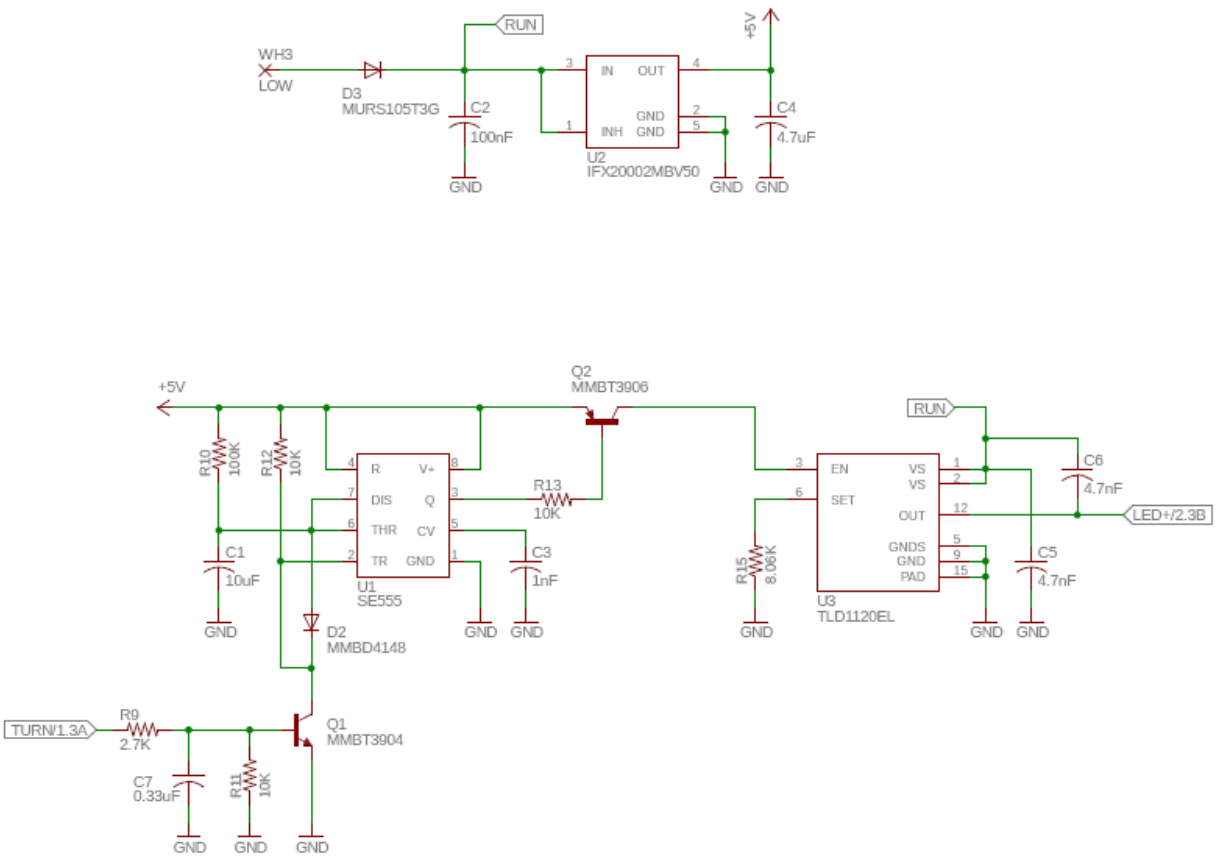


Front direction indicator lamp

12*LEDs 12V 4.5W



Led circuit diagram



Led circuit diagram