AUTOMOTIVE MANUFACTURERS EQUIPMENT COMPLIANCE AGENCY, INC.

AMECA NOTICE OF EQUIPMENT COMPLIANCE™

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This notice verifies that the item described below has been tested by an accredited laboratory and has been found to be in compliance with the jurisdictional standard(s) listed below where applicable. The issuance of this AMECA Notice of Equipment Compliance™ does not denote or imply any endorsement or recommendation of the item described below. AMECA does not warranty or guaranty parts. Parts warranties are between the buyer and seller and can vary by state and jurisdictions involved.

Notification Number: 240361

Test Report Date: March 7, 2024

Expiration Date: July 1, 2027

Applicant: Custom Dynamics LLC
15 Cypress Drive
Youngsville, NC 27596

Item: "SD2" - Motorcycle Headlamp - White In Colour

Use: On Motorcycles

Jurisdictional Compliance Standard(S)
Identical To: United States FMVSS 571.108

Markings	
Lens	Housing
Custom Dynamics DOT SAE M HL LED 24	SD2 12V

Light Source	
Lower Beam Headlamp:	3 LED, 12.8V
Upper Beam Headlamp:	7 LED's, 12.8V

Test Lab: Zhejiang ATTC Automobile Technology Service Co., Ltd.
Report Number: AT24XX1D08141

Executive Director

AUTOMOTIVE MANUFACTURERS EQUIPMENT COMPLIANCE AGENCY, INC. CORPORATE SEAL 1994 MARYLAND

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COMPLIANCE TEST REPORT

ACCORDING TO U.S. FMVSS 108

COVER PAGE



TEST DETAILS

APPLICANT'S NAME : Custom Dynamics LLC

ADDRESS : 15 Cypress Drive Youngsville, NC 27596

NO. OF DEVICES TESTED : 2 PCS

PART NUMBER : SD2

DESCRIPTION : Motorcycle Upper/Lower Beam

LIGHT SOURCE : LED

TEST LABORATORY : Zhejiang ATTC Automobile Technology Service Co., Ltd.

TEST PLACE : Building 3, Essence Adream of Space, No.350, Jinghua Road, Hi-tech Zone, Ningbo City, Zhejiang Province, P.R. China

TEST DATE: : March 1, 2024 – March 7, 2024

SUMMARY

TEST DESCRIPTION	TEST RESULTS	
	NUMBER PASSED	NUMBER FAILED
Physical Inspection	2	---
Photometric Test	2	---
Color Test	2	---
Vibration Test	1	---
Moisture Test	1	---
Dust Test	1	---
Corrosion Test	1	---
Plastic Optical Material Test	Not tested*	---
Motorcycle Headlamp Out Of Focus Test (Pre-focused)	Not tested**	---

REMARKS:

*: Plastic optical material test is not carried out for this application because the applicant used the material already listed in "AMECA-List-of-Acceptable-Plastics-for-Optical-Lenses-and-Reflex-Reflectors-October-6-2023"

**: The applicant proved the compliance with photometry simulation result.

NAME AND SIGNATURE : Zhang Xiaoning

TITLE : Test Engineer

DATE : March 7, 2024

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SECTION 1) PHYSICAL INSPECTION

TEST COMPONENT : SD2

MANUFACTURED BY : Norpero Technology Co., Ltd

MARKINGS :

- LENS : Custom Dynamics , DOT SAE M HL LED 24
- HOUSING : SD2 12V

OUTER LENS :

- MATERIAL : Teijin Ploycarbonate China Ltd Panlite L-1250Z 100-K Clear#
- COATING /
- METHOD OF MOUNTING TO HOUSING : Screwing

HOUSING :

- MATERIAL : Aluminum
- METHOD OF MOUNTING TO VEHICLE : Bolts
- GASKET : NO

LIGHT SOURCE USED:

FUNCTION	QTY	TRADE NO/ DESIGNATION	RATED VOLTAGE
Lower beam	3 pcs	LED	12V
Upper beam	7 pcs	LED	12V

INSPECTION PERFORMED BY: Cao Wei

DATE: March 1, 2024

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SECTION 2) COLOR OF LIGHT

TEST COMPONENT : SD2(Lower/Upper Beam)

COLOR REQUIREMENT : WHITE (CIE 1931)

the color of light emitted must fall within the following boundaries:

x = 0.310 (blue boundary)

x = 0.500 (yellow boundary)

y= 0.150 + 0.640x (green boundary)

y= 0.050 + 0.750x (purple boundary)

y = 0.440 (green boundary)

y = 0.380 (red boundary)

TEST METHOD : TRISTIMULOUS

TEST PERFORMED BY : Cao Wei

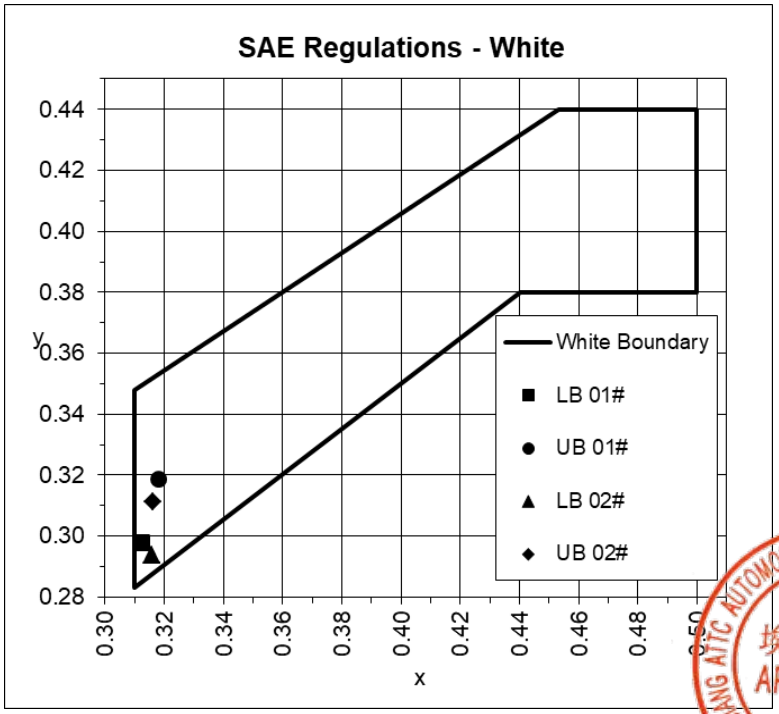
DATE : March 1, 2024

LAMP VOLTAGE/CURRENT : 12.8V

TEST DISTANCE : 3.16m

RESULTS :

4D/V point	Coordinate x	Coordinate y
LB 01#	0.3125	0.2977
UB 01#	0.3181	0.3187
LB 02#	0.3159	0.2937
UB 02#	0.3161	0.3111



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SECTION 3) PHOTOMETRY

TEST COMPONENT	:	SD2(Lower/Upper beam)
SAMPLE No	:	sample 01# & sample 02#
FMVSS No. 108 REQUIREMENT	:	
VEHICLE TYPE/SIZE	:	
- NUMBER OF COMPARTMENTS	:	---
- NUMBER OF LAMPS	:	1
- NUMBER OF LIGHTED SECTIONS	:	---
TEST PERFORMED BY	:	Cao Wei
DATE	:	March 1, 2024
PHOTOMETRIC TEST DISTANCE	:	25m
BULB TRADE NO.	:	---
TEST VOLTAGE/CURRENT	:	12.8V
AIM NOTES	:	Reference center refer to the drawing on last page
OTHER NOTES	:	---
RESULTS	:	Pass



MOTORCYCLE HEADLAMP PHOTOMETRY REQUIREMENTS (TABLE XX of FMVSS No. 108)					
MOTORCYCLE				MEASUREMENTS	
TEST POINT (degrees)		MAXIMUM PHOTOMETRIC INTENSITY (cd)	MINIMUM PHOTOMETRIC INTENSITY (cd)	Sample 01#	Sample 02#
1.5U	1R to R	1,400	-	516.8	271.4
1U	1.5L to L	700	-	560.8	317.9
0.5U	1.5L to L	1,000	-	653.2	325.3
0.5U	1R to 3R	2,700	-	694.9	305.7
1.5D	9L and 9R	-	700	9690/11290	11190/10540
2D	V	-	7,000	13480	14700
2D	3L and 3R	-	4,000	13350/13500	14640/14390
2D	6L and 6R	-	1,500	12650/13430	14240/14000
2D	12L and 12R	-	700	9991/11810	11410/11250
3D	6L and 6R	-	800	11950/12130	13580/13900
4D	V	-	2,000	6744	8563
4D	4R	12,500	-	6855	8828
UPPER BEAM PHOTOMETRY REQUIREMENTS				MEASUREMENTS	
2U	V	-	1000	55010	57900
1U	3L and 3R	-	2,000	34320/34180	40780/21180
H	V	-	12,500	62200	64020
0.5D	V	-	20,000	57930	59750
0.5D	3L and 3R	-	10,000	38360/38320	37890/27170
0.5D	6L and 6R	-	3,300	18970/19130	27580/14370
0.5D	9L and 9R	-	1,500	10610/10720	15010/8591
0.5D	12L and 12R	-	800	7452/7432	9582/5836
1D	V	-	17,500	57620	62270
2D	V	-	5,000	44040	44420
3D	V	-	2,500	25660	27230
3D	9L and 9R	-	1,500	11640/12180	14720/13220
3D	12L and 12R	-	300	10400/10740	12320/11920
4D	V	7,500	1500	6850	7110
ANYWHERE IN BEAM		75,000	-	65844	68374

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SECTION 4) PHYSICAL TESTS

VIBRATION TEST

	YES	NO
Devices completed test without evidence of material physical weakness of failure of parts which affects proper function	✓	
No evidence of lens or reflector rotation which affects proper function	✓	
Necessary to rephotometer test		✓
Additional photometric Data Sheet added to report		✓

MOISTURE TEST

	YES	NO
Devices accumulated less than 2 cc of Moisture	✓	

DUST TEST

	YES	NO
At completion of test, Max Candlepower Readings of Devices were within 10% of those prior to Dust Test	✓	
Necessary to rephotometer test		✓
Additional photometric Data Sheet added to report		✓

CORROSION TEST

	YES	NO
Device completed test without evidence of Corrosion	✓	
Necessary to rephotometer test		✓
Additional photometric Data Sheet added to report		✓

PLASTIC OPTICAL MATERIAL TEST

	YES	NO
Device completed test and meets applicable performance requirements specified in Appendix H of this test procedure	N/A	N/A

MOTORCYCLE HEADLAMP OUT OF FOCUS TEST

	YES	NO
Device completed test and meets applicable performance requirements specified in FMVSS No. 108.	N/A	N/A

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SECTION 5) PHOTOGRAPHS OF TEST SAMPLE

FRONT VIEW



SIDE VIEW



REAR VIEW



BEIJING ATTC AUTOMOBILE TECHNOLOGY SERVICE CO.,LTD.
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SECTION 6) DRAWINGS

