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TEST REPORT 160125-4228443

Report Date: 25 January 2016
Test Component: ABC Marketing, 4228443, 4" round, 7 LED, backup lamp (R) with reflex mounting flange
Devices Tested: Three (3) Submitted 11/11/2015

TEST SUMMARY (FMVSS-108)

Photometric Tests - Backup Lamp
SAE J593c (Back Up Lamp)

PASSED

Mechanical Tests - SAE J575e
Color Tests – SAE J578c
Socket Tests – SAE J567b
Dimensional Tests (All Vehicle Types)

PASSED
PASSED
NOT APPLICABLE
PASSED

Signature of responsible engineer:

A handwritten signature in black ink that reads 'Gary I. Robin'. The signature is written in a cursive style with a large initial 'G'.

Gary I. Robin

DESCRIPTION SHEET

Device Name: ABC Marketing, 4228443, 4" round, 7 LED, backup lamp (R) with reflex mounting flange

MARKINGS:

LENS: "DOT SAE R 15"

LENS

MATERIAL: PMMA (transparent)

REFLECTOR

MATERIAL: PMMA (red)

FLANGE

MATERIAL: ABS (black)

HOUSING

MATERIAL: ABS (black)

BULB:

FUNCTION	QUANTITY	TRADE NO.	VOLTAGE
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R	7	LED	12.8V
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Lens complies with SAE J576 JUL 91 requirements as specified in FMVSS-108

TEST RESULT SHEET

Device Name: ABC Marketing, 4228443, 4" round, 7 LED, backup lamp (R) with reflex mounting flange

PHOTOMETRIC TESTS

Specification (s): FMVSS-108 (SAE J593c)
Tests performed by: Gary I. Robin

Meets requirements at all points for:
SAE J593c (Back Up Lamp)

Test distance: 3.16 M

All photometry tests performed at 12.80V after 10 minute warm-up (SAE J1889 methodology).

All lamps seasoned 10 hours prior to testing.

LENS AREA REQUIREMENTS

Lamp is a backup - Lens Area requirements are not applicable

BULB SOCKET REQUIREMENTS – SAE J567b

Lamp uses LEDs -The bulb socket requirements are not applicable.

TEST RESULT SHEET

Device Name: ABC Marketing, 4228443, 4" round, 7 LED, backup lamp (R) with reflex mounting flange

MECHANICAL TESTS: SAE J575e
Test performed by: Gary I. Robin

Sample #2

Vibration Test (Shock test): PASSED
There was no evidence of material physical weakness, lens or reflector rotation, displacement or rupture of parts. LED parts were not damaged.

Moisture Test PASSED
Lamp had 0cc of moisture accumulation inside of the cavity. (≤ 2 cc required).

Dust Test: NOT REQUIRED
No dust was found on the interior surfaces of the device. The maximum candlepower after external cleaning was at least 100% of the HV candlepower prior to exposure.

Corrosion Test: NOT REQUIRED
There was no evidence of excessive corrosion which would affect the proper functioning of the device.

Thermal Test: PASSED

Durability Test: PASSED

LED Life Test: PASSED
Lamp are not blinking, blacking or shutting off after 1000 hrs.

TEST DATA SHEET

Device Name: ABC Marketing, 4228443, 4" round, 7 LED, backup lamp (R) with reflex mounting flange

Test Item	Chroma Test
Test Date	1/20/2016
Equipment	Power Supply, Chroma Meter
<p>Test Condition :</p> <p>1. 25~30 Normal indoor temperature 25-30</p> <p>2. Voltage: 12.8 V</p>	
<p>Test Method :</p> <p>Attach lamp to tooling, test at a distance of 1.5 m, Chroma Test in CIE fixture.</p>	
<p>Determined Standard :</p> <p>X>0.31 Y<0.44 X<0.5 Y>0.38 Y=0.15+0.64X Y=0.05+0.75X</p>	
<p>Test Result :</p> <p>X=0.362, Y=0.352</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="font-size: small;"> $X > 0.31$ $Y < 0.44$ $X < 0.50$ $Y > 0.38$ $Y = 0.15 + 0.64X$ $Y = 0.05 + 0.75X$ </p> </div> <div style="width: 45%; text-align: center;"> <p style="font-size: small;"> $\phi 5.46''$ $0.85''$ </p> </div> </div>	

Result: Passed SAE J578C color test
By:

Say / Rubin

PHOTOMETRIC TEST DATA SHEET

Device Name: ABC Marketing, 4228443, 4" round, 7 LED, backup lamp (R) with reflex mounting flange

Sample number: #1 / Specification: SAE J593c (Backup Lamp)

Volts: 12.80 / Amps: 0.330 / Bulb: 7xLED

Location	Measured	Min CP	Max CP	Zone
10U 10L	170.12	10	300	3
10U V	180.08	15	300	3
10U 10R	156.38	10	300	3
5U 45R	44.16	15	300	6
5U 10R	149.50	20	300	3
5U V	185.93	25	300	3
5U 10L	160.26	20	300	3
5U 45L	39.79	15	300	1
H 45L	41.08	15	300	1
H 30L	55.10	25	300	2
H 10L	157.01	50	300	4
H V	182.24	80	300	4
H 10R	150.50	50	300	4
H 30R	55.79	25	300	5
H 45R	43.97	15	300	6
5D 45R	42.39	15	-	6
5D 30R	52.70	25	-	5
5D 10R	151.45	50	-	4
5D V	179.05	80	-	4
5D 10L	158.03	50	-	4
5D 30L	53.34	25	-	2
5D 45L	40.40	15	-	1

Zone	Candela	Req Min	Req Max
1	121.28	45	-
2	108.44	50	-
3	1002.27	100	-
4	978.29	360	-
5	108.49	50	-
6	130.52	45	-

REFLEX TEST DATA SHEET

Device Name: ABC Marketing, 4228443, 4" round, 7 LED, backup lamp (R) with reflex mounting flange

Specification: SAE J594f (Red Reflex Reflector)

Location	CP Measured	Req'd Min CP
10U V .2z	7.082	3
H 20L .2z	3.898	1.5
H V .2z	9.999	4.5
H 20R .2z	3.426	1.5
10D V .2z	7.094	3
10U V 1.5Z	0.062	0.05
H 20L 1.5Z	0.038	0.03
H V 1.5Z	0.153	0.07
H 20R 1.5Z	0.086	0.03
10D V 1.5Z	0.089	0.05

Result: Passed SAE J593c Photometric Backup and SAE J594f Reflex Tests

By:



Reviewed and approved for submittal by:

A handwritten signature in black ink that reads "Gary I. Robin". The signature is written in a cursive style with a large initial "G" and "R".

Gary I. Robin

Responsible Engineer

25 January 2016