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TEST REPORT 151116-4203653

Report Date: 16 November 2015

Test Component: ABC Marketing 4203653 20 LED 4-Inch Round Backup Lamp

Devices Tested: Two (2) each submitted 29 October 2015

Test Summary (FMVSS-108)

Photometric Tests

SAE J593c (Backup Lamp) PASSED

Mechanical Tests - SAE J575e PASSED

Color Tests – SAE J578c PASSED

Socket Tests – SAE J567b NOT APPLICABLE

Dimensional Tests NOT APPLICABLE

Signature of responsible engineer:

A handwritten signature in black ink that reads 'Gary I. Robin'. The signature is written in a cursive, flowing style.

Gary I. Robin

DESCRIPTION SHEET

Device Name: ABC Marketing 4203653 20 LED 4-Inch Round Backup Lamp

MARKINGS:

Lens: "SAE DOT R 15"

LENS:	Material:	Acrylic (Clear)
	Shape/Dimensions:	Round, 107 mm D
	Attachment Method:	Vibration Weld
	Gasket:	None
HOUSING:	Material:	ABS (Black)
	Shape/Dimensions:	Round, 109 mm D
	Attachment Method:	Vibration Weld
	Electrical Attachment:	Connector
	Gasket:	None

BULB	FUNCTION	QUANTITY	VOLTAGE
LED	R	20	12.8

Complies with SAE J576b requirements as specified in FMVSS 108 S6.2

TEST RESULT SHEET

Device Name: ABC Marketing 4203653 20 LED 4-Inch Round Backup Lamp

PHOTOMETRIC TESTS

Specification (s): FMVSS-108 (SAE J592e)

Tests performed by: Gary I. Robin

Results: Meets requirements at all points for:
SAE J593c (Backup Lamp)

Test distance: 100 feet

Photometry tests performed at 12.8V

BULB SOCKET REQUIREMENTS – SAE J567b

Lamp is a sealed unit.
The bulb socket requirements are not applicable.

TEST RESULT SHEET

Device Name: ABC Marketing 4203653 20 LED 4-Inch Round Backup Lamp

Mechanical tests: SAE J575e
Test performed by: Gary I. Robin
Sample: 2

Vibration test (Shock test).

There was no evidence of material physical weakness, lens deterioration, displacement or rupture of components.
LEDs were not damaged.

PASSED

Moisture Test:

Lamp had 0cc of moisture accumulation inside of its cavity ($\leq 2\text{cc}$ required). The maximum luminous intensity after external cleaning was at least 100 percent of the intensity prior to exposure.

PASSED

Dust Test:

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.

NOT REQUIRED

Corrosion Test:

There was no evidence of excessive corrosion which would affect the proper functioning of the device.

NOT REQUIRED

Thermal Test:

There was no evidence of reduced function from temperature or humidity.

PASSED

PASSED

Durability Test:

PASSED

LED Life Test:

Lamp is not blinking, blackening or shutting off after 1000 hrs.

PASSED

TEST DATA SHEET

Device Name: ABC Marketing 4203653 20 LED 4-Inch Round Backup Lamp

Sample : #2

Test Item	Chromaticity Test per SAE J578C
Test Date	11/4/2015
Equipment	power supply, chromaticity meter

Test Conditions:

1. Normal ambient (25~30 °C)
2. Voltage: 12.8 V.

Test Method:

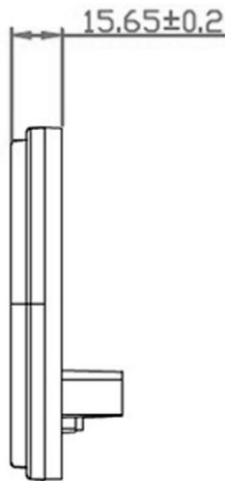
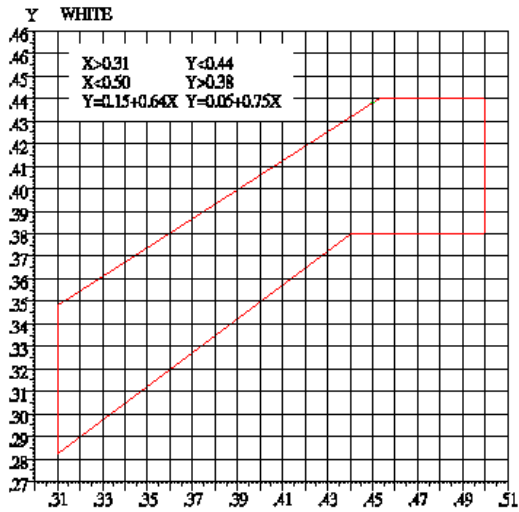
Mount specimen on fixture. Perform chromaticity test at a distance of 1.5 m using CIE fixture.

Determined Standard:

$$\begin{aligned} X > 0.31 & \quad Y < 0.44 \\ X < 0.50 & \quad Y > 0.38 \\ Y = 0.15 + 0.64X & \quad Y = 0.05 + 0.75X \end{aligned}$$

Test Result:

X=0.347 Y=0.361



Result: Passed SAE J578C color test

By:

PHOTOMETRIC TEST DATA SHEET

Device Name: ABC Marketing 4203653 20 LED 4-Inch Round Backup Lamp

Sample number: #1

Specification: SAE J593 (Backup Lamp)

Location	Required		Measured (CP)
	Min	Max	
10U-10L	10	300	185.92
10U-V	15	300	259.56
10U-10R	10	300	175.23
5U-45L	15	300	42.51
5U-10L	20	300	191.15
5U-V	25	300	190.92
5U-10R	20	300	180.53
5U-45R	15	300	44.77
H-45L	15	300	41.86
H-30L	25	300	75.51
H-10L	50	300	177.65
H-V	80	300	136.02
H-10R	50	300	170.07
H-30R	25	300	76.86
H-45R	15	300	43.7
5D-45L	15		41.91
5D-30L	25		69.18
5D-10L	50		179.98
5D-V	80		175.82
5D-10R	50		165.86
5D-30R	25		70.81
5D-45R	15		44.05
group1	45		126.28
group2	50		144.68
group3	100		1183.3
group4	360		1005.39
group5	50		147.67
group6	45		132.52

Device meets requirements at all points

Voltage: 12.80V/ Current: 0.34A

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".

Gary I. Robin

Responsible Engineer

November 16, 2015