

Test Report for:

SCIONPRO INC.
DBA DARE 2B DIFFERENT
Attn: Steve Saporito

FIELD OF VIEW TEST
One Rear Window Louver

Client PO No.: Steve Saporito



Intertek



Intertek



Intertek



Intertek



Intertek



Intertek



Intertek



Michael Fisher
Technician

December 16, 2016
Report No.: 102837293DET-001b



James Bryans
Department Manager

Page 1 of 31

Attn: Steve Saporito
Dare 2B Different
Phone: (321) 288-1655
Email Address: steve@d2bdmotorwerks.com

DATE RECEIVED: 12/08/2016
DATE(S) TESTED: 12/14/2016 through 12/15/2016

WORK REQUEST / APPLICABLE DOCUMENTS:

Per the client's request and in accordance with DOT HS 811 512 dated September 2011, along with Intertek's quotation number Qu-00743127-4 dated 11/22/2016; perform Field of View Test.

DESCRIPTION OF TEST SAMPLE:

One Rear Window Louver, sample number:
▪ SN 001 (Dare 2B Different Rear Louver)

Condition of Test Samples: Production

EQUIPMENT LIST:

Asset #	Description	Manufacturer	Model	Serial#	Next Due
373068	PRESSURE GAUGE	GENERIC	0-100 PSI	N/A	10/14/2017
162371	DIGITAL PROTRACTOR	MITUTOYO	PRO 360	07090144	08/03/2017
162404	DIGITAL PLATFORM SCALE	METTLER TOLEDO	WILDCAT	00093906FJ	08/03/2017
N/A	35MM DSLR CAMERA	CANON	E0S REBEL XS	N/A	N/A
N/A	18-55MM LENS	CANON	EF-S	N/A	N/A
N/A	REMOTE SHUTER RELEASE	YONGNUO	YN-128	N/A	N/A
N/A	12" DIA x 32" CARDBOARD CYLINDERS	N/A	N/A	N/A	N/A

*VBU = "Verified Before Use"

Testing Performed at:

Intertek
45000 Helm Street
Suite 150
Plymouth Twp., MI 48170

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

FIELD OF VIEW TEST

Date Received: 12/08/2016
Date(s) Tested: 12/14/2016 through 12/15/2016

Description of Sample:

One Rear Window Louver, sample number:
▪ SN 001 (Dare 2B Different Rear Louver)

Test Procedure:

A 2017 Ford Mustang GT Coupe; VIN#1FA6P8CF9H5237093 was placed on a smooth level concrete surface at ambient conditions (23°C). The tire pressure was set to 32PSI on all four tires per manufacturers recommendations. A weight plate was placed in each seating area 150.2lbs on the left rear seat, 150.3lbs on the right rear seat, 149.4lbs on the passenger seat and 149.9lbs in the driver side floor. The gas tank was filled to capacity and the windows were cleaned and clear of any obstructions.

The provided rear window louver was attached to the rear window with double sided tape. A 10 foot x 20 foot grid was prepared on the floor with one foot grid spacing, per figure 1 with the rear bumper of the vehicle at the 0.0 foot line and the vehicle centerline directly above the longitudinal axis of the test grid.

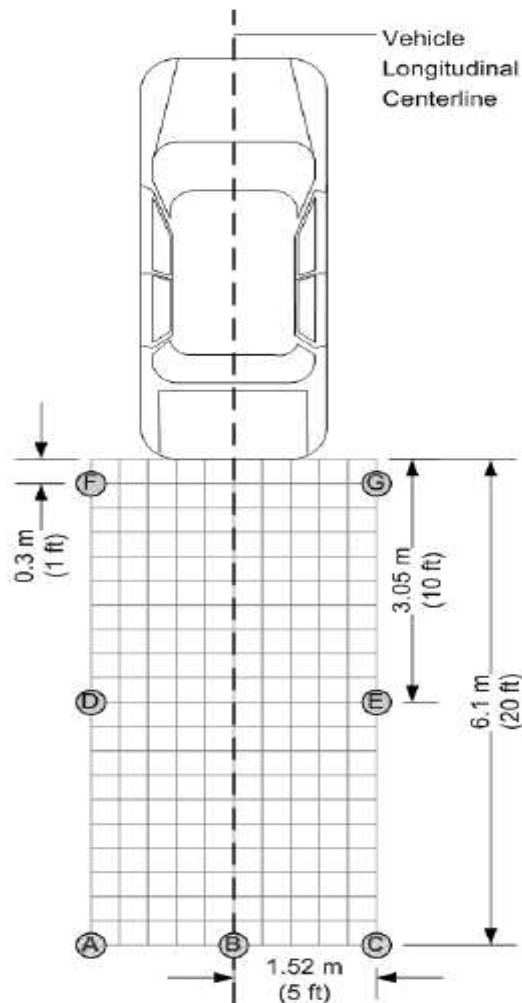


Figure 1: Test set-up

FIELD OF VIEW TEST

Test Procedure (cont'd):

The rearview image filed was then populated with seven (7) 12 inch diameter cylinders prepared per figure 2 and positioned on the grid per figure 1.

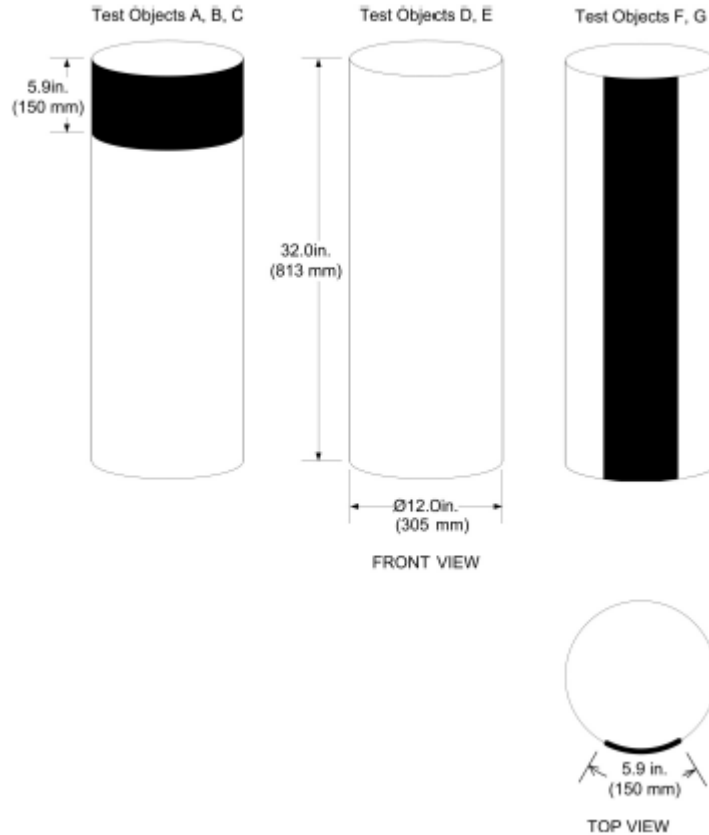


Figure 2: Image field cylinders

The driver seat was positioned at its lowest vertical adjustment with a distance from the front edge of the brake pedal to the front edge of the seat at 19 ⁵/₈ inches, with the seat back at a 25° angle. The position of the camera and tripod in the seat was set up to resemble the human eye position. The center of the lens was 7 ¹/₄" from the head liner and the front of the lens (retracted to 18mm) to the dashboard measured 22 ¹/₂ inches. The distance (*d*), between the center of the camera lens (retracted to 18mm) and the center of the rearview mirror was 18 ¹/₂ inches.

A ruler was affixed to the base of the rearview mirror, level with the ground. The ruler was included to be used as a scaling factor.

FIELD OF VIEW TEST (cont'd)

Test Procedure (cont'd):

A photograph was recorded through the rearview mirror towards the grid described in figure 1. This was conducted with the test louver attached to the vehicle and again with the test louver removed from the vehicle (see photographs 25 through 28 in Appendix A).

Then, a photograph was recorded with a human figure, 5 foot 9 inches tall, approximately 160 pounds in each of the grid locations at the 1-foot mark in 1-foot increments (A – K) as seen in Figure 3. This was conducted with the test louver attached to the vehicle and again with the test louver removed from the vehicle (see photographs 29 through 50 in Appendix A).

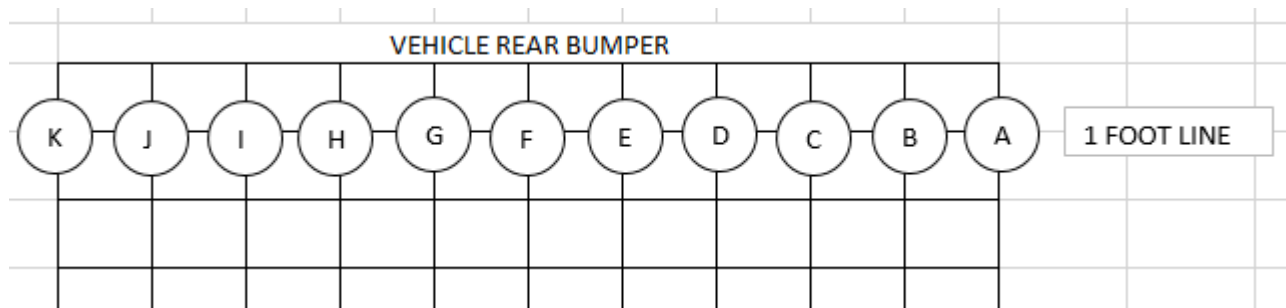


Figure 3: Pedestrian Locations

Finally, a ruler was affixed to the base of the rearview display, level with the ground. The ruler was included to be used as a scaling factor. A photograph was recorded of the rearview video display incorporated into the Ford Mustang (See photographs 23 and 24 in Appendix A).

Acceptance Criteria:

The results of this test as meant to compare the field of view with the test article applied to a vehicle as compared to the field of view with the test article removed. According to NHTSA DOT HS 811 512, two (2) criteria need to be met. Note: The test specification, NHTSA DOT HS 811 512 is utilized to determine the field of view utilizing rearview video systems.

- 1) The full width of the 5.9-inch (150mm) vertical stripe should be visible at some point along the height of both cylinders F and G.
- 2) The front surfaces of cylinders A, B, C, D and E have to be fully visible in the display.

Results:

Prior to testing, it was noted that the test vehicle, without the test article in place, did not meet acceptance criteria 1 and 2 as the evaluation criteria is meant for rearview video systems. It was determined to continue with the field of view testing by conducting a comparison test and a subjective evaluation to determine if the test article had an impact on the drivers' opportunity to discern obstacles in the provided field of view.

FIELD OF VIEW TEST (cont'd)

Results (cont'd):

An evaluation was conducted to determine if the field of view and visual image was of a sufficient quality to permit the average driver to discern critical objects located within the field of view. With the test article removed from the rear window of the vehicle, the horizontal stripes on cylinders A, B and C were visible in the viewing plane. Likewise, with the test article applied to the rear window of the vehicle, the horizontal stripes on cylinders A, B and C were visible in the viewing plane (See photographs 25, 26, 27 and 28 in Appendix A).

Finally, a subjective evaluation was conducted to determine if the field of view provided enough visibility to a driver to have the best opportunity to discern obstacles, such as pedestrians, located within the field of view. It was determined that the driver has equal opportunity to discern obstacles in the field of view with the test article applied as with the test article removed. (See photographs 29 through 50 in appendix A).

Appendix:

Appendix A – Photographs

Disposition of Test Sample:

After the completion of testing, the test sample was returned to the client for further evaluation.

APPENDIX A – PHOTOGRAPHS



Photograph 1: Camera Placement



Photograph 2: Camera Placement

APPENDIX A – PHOTOGRAPHS (cont'd)

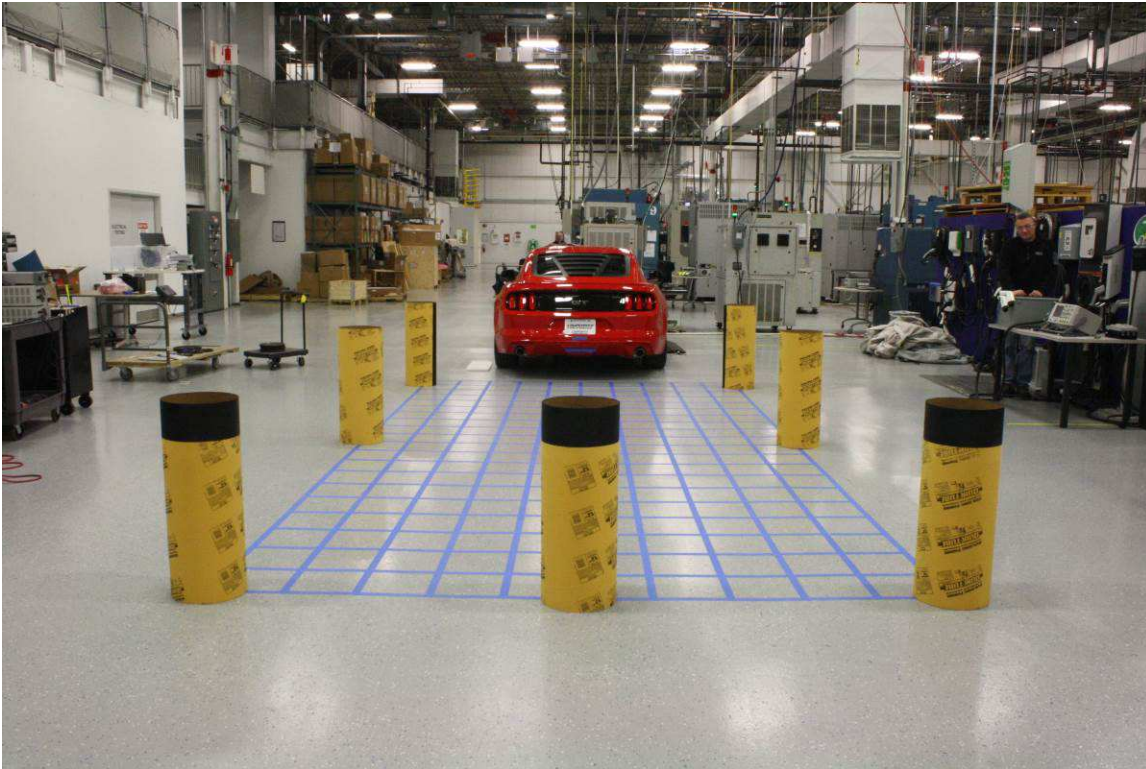


Photograph 3: Camera Placement



Photograph 4: Camera Tripod Placement

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 5: Rear of Grid

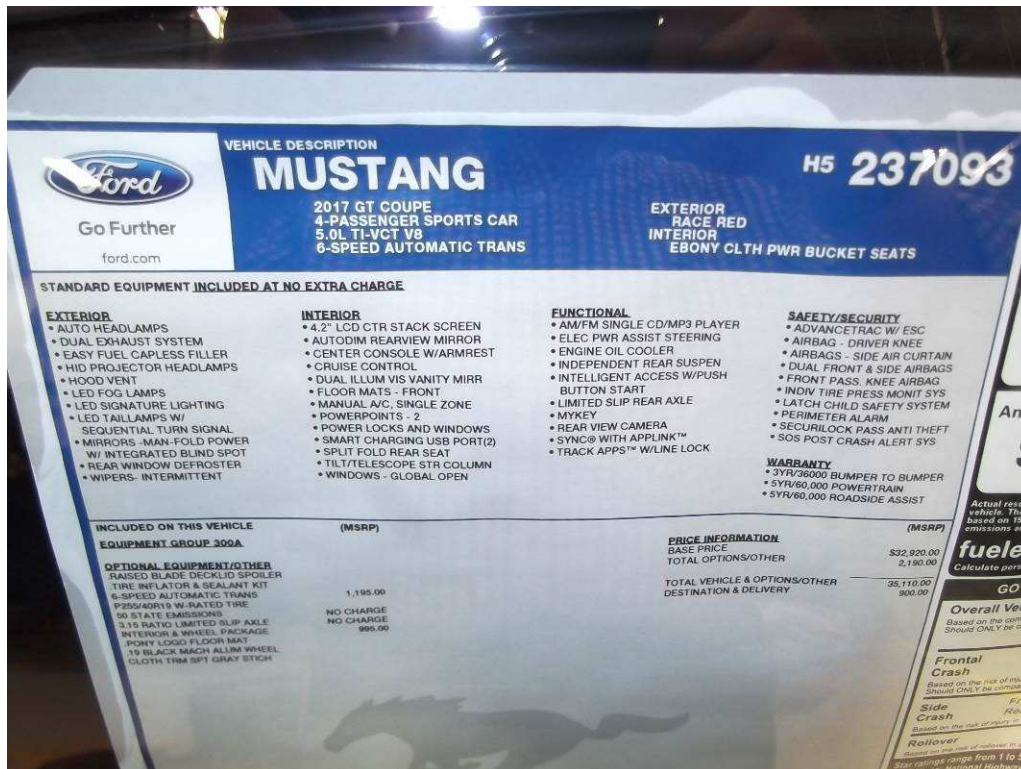


Photograph 6: Seat Back Angle

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 7: Tire Pressure Label



Photograph 8: Vehicle Window Sticker

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 9: Weights on the Driver's Side



Photograph 10: Weights on the Passenger Side

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 11: Weights on the Rear Seats



Photograph 12: Center of Vehicle

APPENDIX A – PHOTOGRAPHS (cont'd)

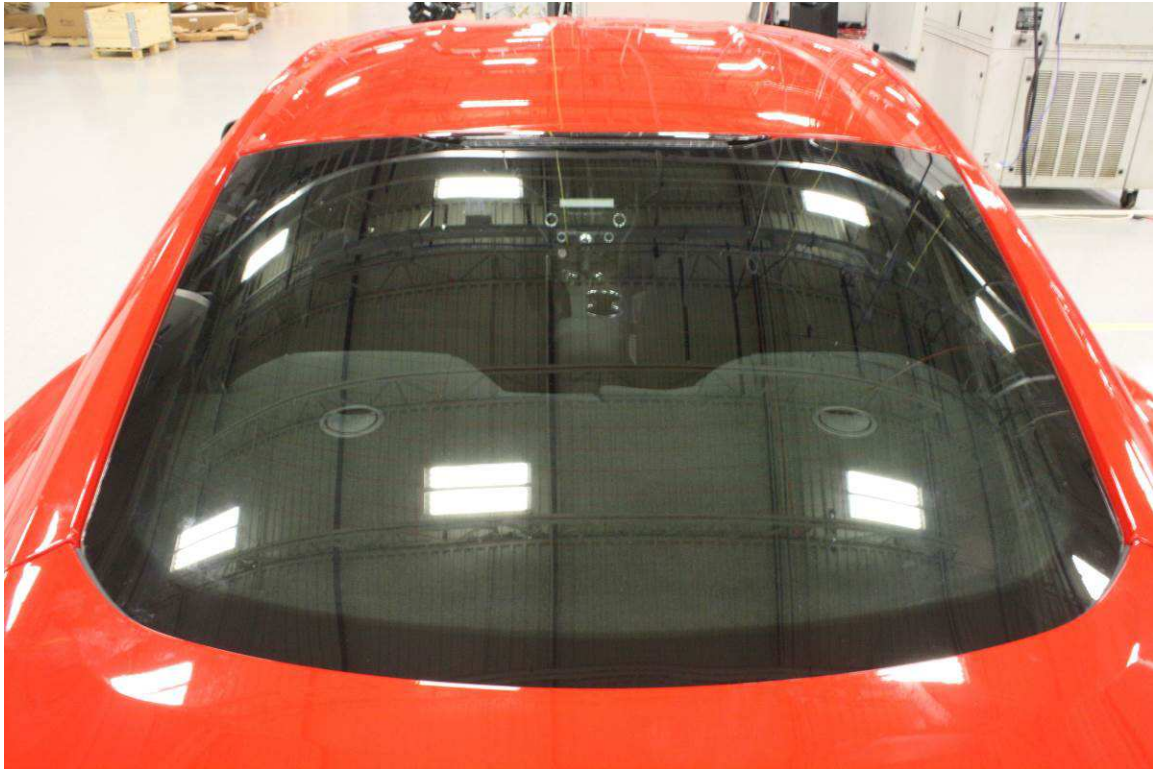


Photograph 13: Fuel Tank Gauge



Photograph 14: Louver in Place Overhead

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 15: Overhead without Louver



Photograph 16: Rear of car without Louver

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 17: Rear Louver in Place Lower Left



Photograph 18: Rear Louver in Place Top Left

APPENDIX A – PHOTOGRAPHS (cont'd)

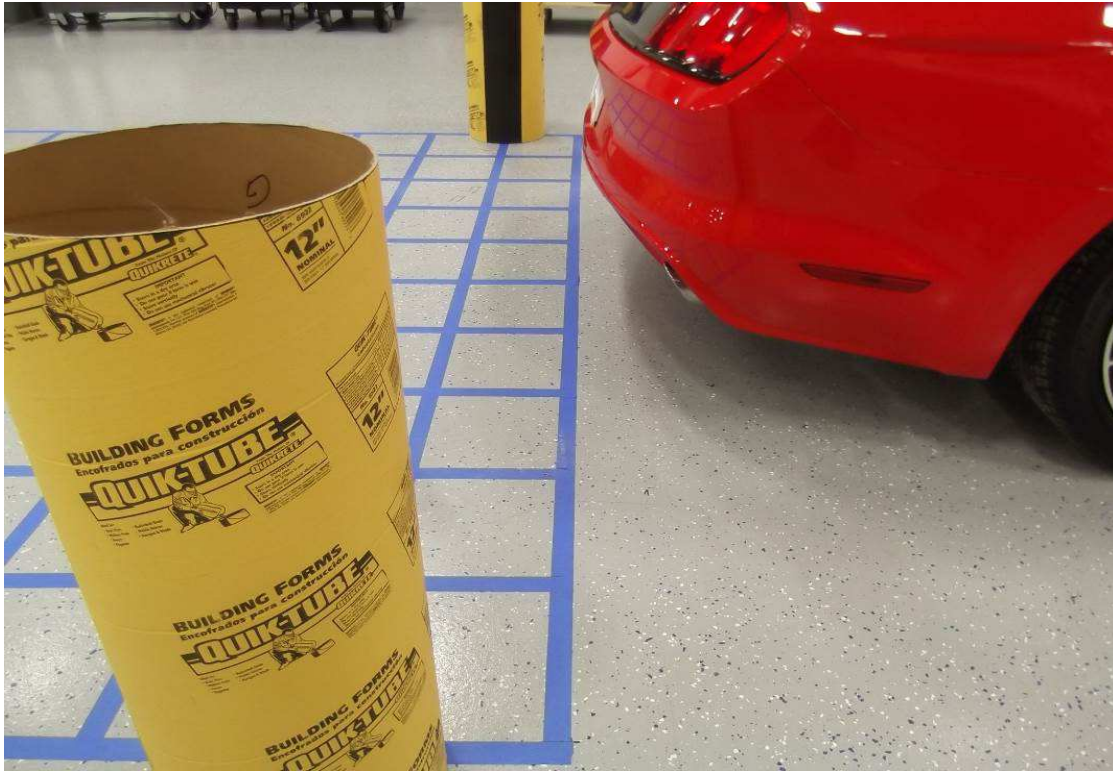


Photograph 19: Rear Louver Sample Rear



Photograph 20: Rear Louver Sample Side

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 21: Rear of Bumper on Grid



Photograph 22: Rear of Car with Louver

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 23: In Car rearview monitoring system



Photograph 24: Zoomed In View Of Photograph 23

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 25: Grid And Cylinders With Louver



Photograph 26: Grid And Cylinders Without Louver

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 27: Grid And Cylinders With Louver



Photograph 28: Grid And Cylinders Without Louver

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 29: Location A With Louver



Photograph 30: Location A Without Louver

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 31: Location B With Louver



Photograph 32: Location B Without Louver

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 33: Location C With Louver



Photograph 34: Location C Without Louver

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 35: Location D With Louver



Photograph 36: Location D Without Louver

APPENDIX A – PHOTOGRAPHS (cont'd)

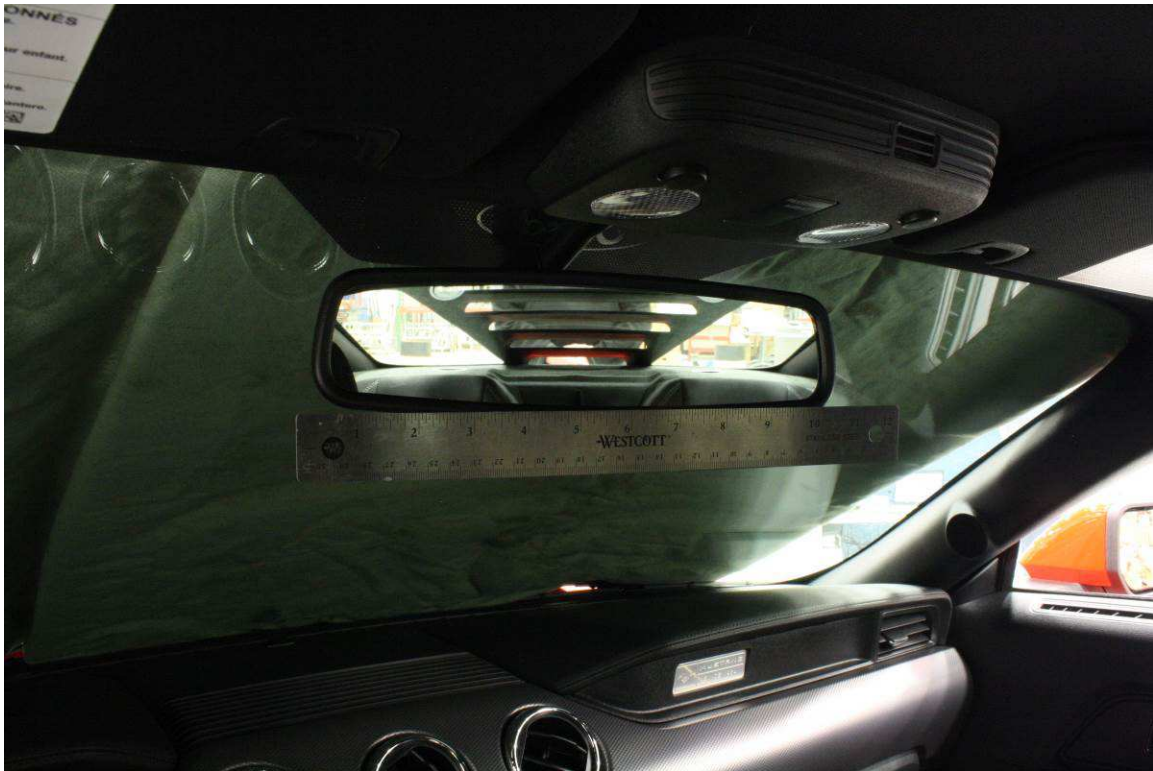


Photograph 37: Location E With Louver



Photograph 38: Location E Without Louver

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 39: Location F With Louver



Photograph 40: Location F Without Louver

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 41: Location G With Louver



Photograph 42: Location G Without Louver

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 43: Location H With Louver



Photograph 44: Location H Without Louver

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 45: Location I With Louver

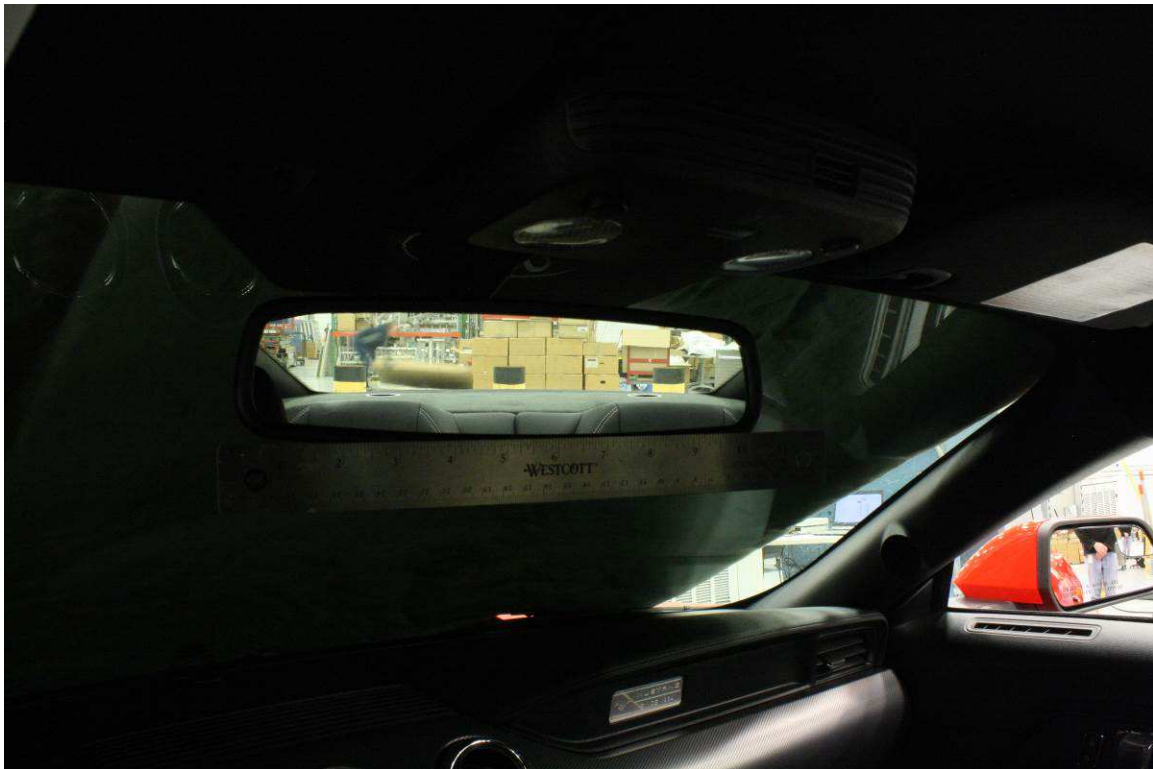


Photograph 46: Location I Without Louver

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 47: Location J With Louver



Photograph 48: Location J Without Louver

APPENDIX A – PHOTOGRAPHS (cont'd)



Photograph 49: Location K With Louver



Photograph 50: Location K Without Louver