

U.S. DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION  
LABORATORY TEST PROCEDURE

FOR

FMVSS No. 201U  
Occupant Protection in Interior Impact  
-Upper Interior Head Impact Protection-

**APPENDIX A  
DATA SHEETS**



**ENFORCEMENT**  
**Office of Vehicle Safety Compliance**  
**Mail Code: NEF-240**  
1200 New Jersey Ave. SE  
Washington, DC 20590

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**DATA SHEET NO. 1  
SUMMARY OF TEST RESULTS**

Test Vehicle: \_\_\_\_\_ NHTSA No.: \_\_\_\_\_  
 Test Facility: \_\_\_\_\_ Test Date: \_\_\_\_\_

Test No.	Target	Side L/R	Horiz. Angle°	Vert. Angle°	FMH Velocity (kph)	HIC (d)	FMH HIC36	FMH contact (mm)	
								Vert.	Horiz.
1	AP2	L							
2	BP1	R							
3	BP2	L							
4	BP4	R							
5	OP2	R							
6	"	"							
7	"	"							
8	"	"							
9	"	"							
10	"	"							
11	"	"							
12	"	"							
"									
"									

REMARKS:

**DATA SHEET NO. 2  
TEST VEHICLE INFORMATION AND OPTIONS**

Test Vehicle: \_\_\_\_\_  
 Test Facility: \_\_\_\_\_

NHTSA No.: \_\_\_\_\_  
 Test Date: \_\_\_\_\_

Test Vehicle Information		Equipment/Accessories	
Make		Sunroof or Moonroof	
Model		Side Rail Curtain Airbags	
Body Style		Torso bags	
VIN		Pelvic bags	
Body Color		Adjustable seat belt anchorages (AUA)	
Engine Disp (liters)		Power adjustable seats	
Number of Cylinders		Front overhead console	
Engine Placement		Grab or Assist Handles	
Transmission Type		Coat hooks	
Transmission Speeds			
Overdrive			
Final Drive			
Odometer Reading			

**DATA FROM CERTIFICATION LABEL**

Manufactured by		GVWR (kg)	
Date of Manufacture		GAWR Front (kg)	
		GAWR Rear (kg)	

**VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION**

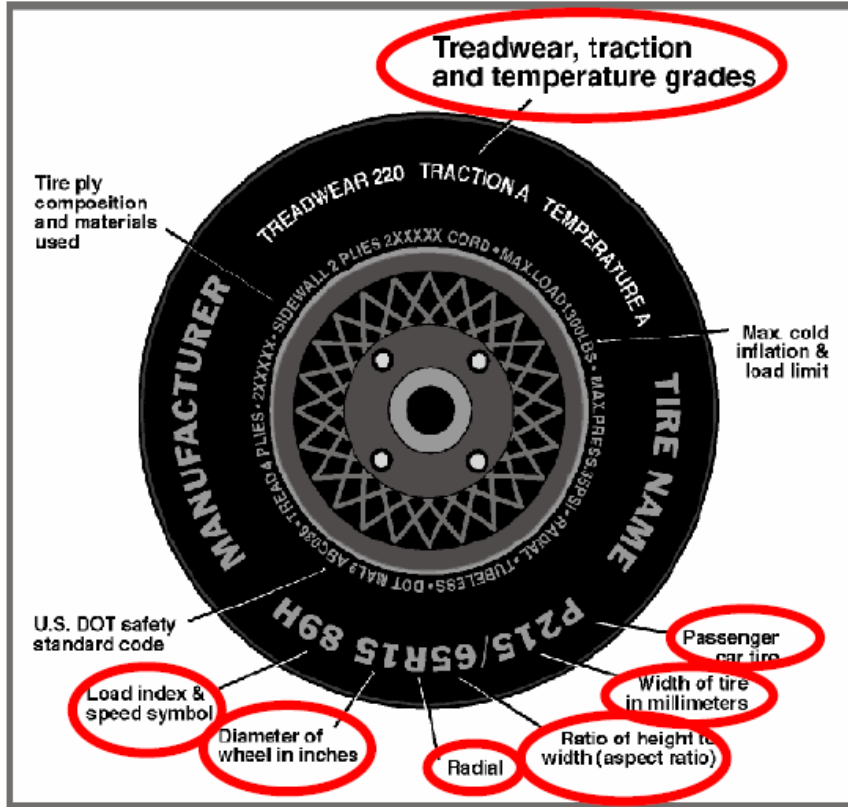
Measured Parameter	Front	2 <sup>nd</sup> Row	3 <sup>rd</sup> Row	Total
Type of Seats (Bench or Bucket)				
Number of Occupants (DSC)				
Vehicle Capacity Weight (VCW) (kg)				
Cargo Weight (RCLW) (kg)				

REMARKS:

**DATA SHEET NO. 3  
TIRE INFORMATION**

Test Vehicle: \_\_\_\_\_  
Test Facility: \_\_\_\_\_

NHTSA No.: \_\_\_\_\_  
Test Date: \_\_\_\_\_



Tire Placard	Front	Rear
Recommended Cold Pressure (kPa)		
Recommended Tire Size		
Tire Sidewall		
Maximum Tire Pressure (kPa)		
Tire Size on Vehicle		
Tire Manufacturer Model		
Tire Name		
Tire Type		
Tire Width		
Aspect Ratio		
Radial		
Wheel Diameter		
Load Index/Speed Symbol		
Treadwear		
Traction Grade		
Temperature Grade		

**DATA SHEET NO. 4  
TEST VEHICLE WEIGHT AND ATTITUDE**

Test Vehicle: \_\_\_\_\_ NHTSA No.: \_\_\_\_\_  
 Test Facility: \_\_\_\_\_ Test Date: \_\_\_\_\_

**TEST VEHICLE WEIGHTS\***

	Units	UVW			Fully Loaded			As Tested		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	Kg									
Right	Kg									
Ratio	%									
Totals	Kg									

**TIRE PRESSURES (kPa)**

	LF	RF	LR	RR
Recommended Cold Pressure				
Measured Tire Pressure				

**TEST VEHICLE ATTITUDE MEASUREMENTS (mm)**

Vertical Distance Measurements	Fully Loaded	As Tested*	Δ (±5 mm)
Left Front			
Right Front			
Left Rear			
Right Rear			

\* Vehicle attitude as measured after the test vehicle is supported off its suspension with removal of seats, windows, doors, etc.

REMARKS:

**DATA SHEET NO. 5**  
**HORIZONTAL IMPACT ANGLE RANGE FOR A AND B PILLARS**

Test Vehicle: \_\_\_\_\_ NHTSA No.: \_\_\_\_\_  
 Test Facility: \_\_\_\_\_ Test Date: \_\_\_\_\_

**HORIZONTAL IMPACT ANGLE RANGE FOR A AND B PILLARS**

	<b>HORIZONTAL ANGLE SPECIFIED RANGE</b>	<b>MINIMUM HORIZONTAL ANGLE</b>	<b>MAXIMUM HORIZONTAL ANGLE</b>
<b>A-PILLAR</b>	L 195°-255°	L	L
	R 105°-165°	R	R
<b>B-PILLAR</b>	L 195°-345°	L	L
	R 15°-165°	R	R

AS DETERMINED USING THE PROCEDURES SPECIFIED IN S8.13.4.1

REMARKS:

**DATA SHEET NO. 6**  
**VERTICAL IMPACT ANGLE RANGES**

Test Vehicle: \_\_\_\_\_  
 Test Facility: \_\_\_\_\_

NHTSA No.: \_\_\_\_\_  
 Test Date: \_\_\_\_\_

		VERTICAL ANGLE SPECIFIED RANGE	MINIMUM VERTICAL ANGLE	MAXIMUM VERTICAL ANGLE
FRONT HEADER	FH1	L 0°-50°	L 0°	L 50°
		R 0°-50°	R 0°	R 50°
	FH2	L 0°-50°	L 0°	L 50°
		R 0°-50°	R 0°	R 50°
SIDE RAIL	SR1	L 0°-50°	L 0°	L 40°
		R 0°-50°	R 0°	R 40°
	SR2A	L 0°-50°	L 0°	L 40°
		R 0°-50°	R 0°	R 40°
	SR2B	L 0°-50°	L 0°	L 30°
		R 0°-50°	R 0°	R 30°
	SR3-1	L 0°-50°	L 0°	L 40°
		R 0°-50°	R 0°	R 40°
	SR3-2	L 0°-50°	L 0°	L 43°
		R 0°-50°	R 0°	R 43°
REAR HEADER	RH	L 0°-50°	L 0°	L 50°
		R 0°-50°	R 0°	R 50°
A-PILLAR	AP1	L -5°-50°	L -5°	L 5°
		R -5°-50°	R -5°	R 5°
	AP2	L -5°-50°	L -5°	L 37°
		R -5°-50°	R -5°	R 37°
	AP3	L -5°-50°	L -5°	L 37°
		R -5°-50°	R -5°	R 37°

Remarks:



**DATA SHEET NO. 6 (CONTINUED)**  
**VERTICAL IMPACT ANGLE RANGES**

Test Vehicle: \_\_\_\_\_  
 Test Facility: \_\_\_\_\_

NHTSA No.: \_\_\_\_\_  
 Test Date: \_\_\_\_\_

		VERTICAL ANGLE SPECIFIED RANGE	MINIMUM VERTICAL ANGLE	MAXIMUM VERTICAL ANGLE
B-PILLAR	BP1	L -10°-50°	L -10°	L 13°
		R -10°-50°	R -10°	R 13°
	BP2*	L 0°-50°	L 0°	L 0°
		R 0°-50°	R 0°	R 0°
	BP3	L -10°-50°	L -10°	L -5°
		R -10°-50°	R -10°	R -5°
	BP4	L -10°-50°	L -10°	L -5°
		R -10°-50°	R -10°	R -5°
O-PILLAR	OP1	L -10°-50°	L -10°	L 17°
		R -10°-50°	R -10°	R 17°
	OP2	L -10°-50°	L -10°	L -2°
		R -10°-50°	R -10°	R -2°
REAR PILLAR	RP1	L -10°-50°	L -10°	L 20°
		R -10°-50°	R -10°	R 20°
	RP2	L -10°-50°	L -10°	L 0°
		R -10°-50°	R -10°	R 0°
UPPER ROOF 1		0°-50°	0°	50°
UPPER ROOF 2		0°-50°	0°	50°
UPPER ROOF 3		0°-50°	0°	45°
UPPER ROOF 4		0°-50°	0°	50°
UPPER ROOF 5		0°-50°	0°	50°
UPPER ROOF 6		0°-50°	0°	38°
UPPER ROOF 7		0°-50°	0°	50°
UPPER ROOF 8		0°-50°	0°	50°
UPPER ROOF 9		0°-50°	0°	45°
UPPER ROOF 10		0°-50°	0°	50°
UPPER ROOF 11		0°-50°	0°	50°
UPPER ROOF 12		0°-50°	0°	38°

**DATA SHEET NO. 7**  
**TARGET MEASUREMENTS**

Test Vehicle: \_\_\_\_\_ NHTSA No.: \_\_\_\_\_  
 Test Facility: \_\_\_\_\_ Test Date: \_\_\_\_\_

Measurement	Description	Left Side	Right Side
M	Seat Fore/Aft Travel (Front seats)		
T <sup>o</sup>	Horizontal < {CG-F1 (Left Seat) to (Right A-Pillar)}		--
A1 <sup>o</sup>	360 <sup>o</sup> - T <sup>o</sup>		--
W <sup>o</sup>	Horizontal < {CG-2 (Left Seat) to (Left A-Pillar)}		--
A2 <sup>o</sup>	A2 <sup>o</sup> = W <sup>o</sup>		--
U <sup>o</sup>	Horizontal < {CG-2 (Left Seat) to (Left B-Pillar)}		--
B1 <sup>o</sup>	B1 <sup>o</sup> = U <sup>o</sup>		--
V <sup>o</sup>	Horizontal < {CG-R (Left Seat) to (Left B-Pillar)}		--
B2 <sup>o</sup>	B2 <sup>o</sup> = V <sup>o</sup>		--
W <sup>o</sup> (right)	Horizontal < {CG-F2 (Right Seat) to (Right A-Pillar)}	--	
A1 <sup>o</sup> (right)	A1 <sup>o</sup> (right) = W <sup>o</sup> (right)	--	
T <sup>o</sup> (right)	Horizontal < {CG-F1 (Right Seat) to (Left A-Pillar)}	--	
A2 <sup>o</sup> (right)	360 <sup>o</sup> -T <sup>o</sup> (right)	--	
V <sup>o</sup> (right)	Horizontal < {CG-R (Right Seat) to (Right B-Pillar)}	--	
B1 <sup>o</sup> (right)	B1 <sup>o</sup> (right) = V <sup>o</sup> (right)	--	
U <sup>o</sup> (right)	Horizontal < {CG-F2 (Right Seat) to (Right B-Pillar)}	--	
B2 <sup>o</sup> (right)	B2 <sup>o</sup> (right) = U <sup>o</sup> (right)	--	
J	A-Pillar {(Plane 3) – (Plane 5)}		
J/2	J ÷ 2		

REMARKS:

**DATA SHEET NO. 7 (continued)**  
**TARGET MEASUREMENTS**

Test Vehicle: \_\_\_\_\_ NHTSA No.: \_\_\_\_\_  
 Test Facility: \_\_\_\_\_ Test Date: \_\_\_\_\_

Measurement	Description	Left Side	Right Side
D1	Upper Roof {(Plane A) – (Plane B)}		
D1/2	$D1 \div 2$		
D2	Upper Roof {(Plane C) – (Plane D)}		
D2/2	$D2 \div 2$		
.35D1	.35 x D1		
.35D2	.35 x D2		
N	B-Pillar {(BPR) – (lowest point on daylight opening forward of B-Pillar)}		
N/2	B-Pillar {(BP3) – (lowest point on daylight opening forward of B-Pillar)}		
N/4	B-Pillar {(BP4) – (lowest point on daylight opening forward of B-Pillar)}		
Q	O-Pillar (Plane 13 – Plane 14)		
Q/2	$Q / 2$		
D	R-Pillar (Point 7 – Point M)		
3D/7	$3 D / 7$		

REMARKS:

**DATA SHEET NO. 7 (Continued)**  
**TARGET MEASUREMENTS**

Test Vehicle: \_\_\_\_\_  
Test Facility: \_\_\_\_\_

NHTSA No.: \_\_\_\_\_  
Test Date: \_\_\_\_\_

<b>SgRP Locations (world coordinates)</b>						
	Left (mm)			Right (mm)		
	x	y	z	X	y	z
Front						
Rear						

<b>SgRP Locations (vehicle coordinates)</b>						
	Left (mm)			Right (mm)		
	x	y	z	x	y	z
Front						
Rear						

<b>CG Locations (world coordinates)</b>						
	Left (mm)			Right (mm)		
	x	y	z	x	y	z
CGF1						
CGF2						
CGR						

REFERENCE FOR VEHICLE COORDINATE SYSTEM (measured in millimeters):

- Front driver bottom striker bolt (x, y, z) =
- Front passenger top striker bolt (x, y, z) =
- Rear passenger top striker bolt (x, y, z) =

REMARKS:

**DATA SHEET NO. 8**  
**SUMMARY OF TARGETING RESULTS**

Test Vehicle: \_\_\_\_\_ NHTSA No.: \_\_\_\_\_  
 Test Facility: \_\_\_\_\_ Test Date: \_\_\_\_\_

SUMMARY OF TARGETING RESULTS								
Target	Location (mm)			Horizontal Angle °	Vertical Angle °	Relocation (Yes/No)	Extension (# of 25 mm Spheres)	Impact (Yes/No)
	x	Y	z					
<b>A-Pillar Left Side</b>								
AP1								
REL								
AP2								
AP3								
<b>A-Pillar Right Side</b>								
AP1								
REL								
AP2								
AP3								
<b>B-Pillar Left Side</b>								
BP1								
BP2								
BP3								
BP4								
<b>B-Pillar Right Side</b>								
BP1								
BP2								
BP3								
BP4								
<b>Other Pillar Left Side</b>								
OPR								
OP1								
OP2								

**DATA SHEET NO. 8 (CONTINUED)**  
**SUMMARY OF TARGETING RESULTS**

Test Vehicle: \_\_\_\_\_ NHTSA No.: \_\_\_\_\_  
 Test Facility: \_\_\_\_\_ Test Date: \_\_\_\_\_

SUMMARY OF TARGETING RESULTS								
Target	Location (mm)			Horizontal Angle °	Vertical Angle °	Relocation (Yes/No)	Extension (# of 25 mm Spheres)	Impact (Yes/No)
	x	Y	z					
<b>Rear Pillar Left Side</b>								
RP1								
REL								
RP2								
<b>Rear Pillar Right Side</b>								
RP1								
REL								
RP2								
<b>Front Header Left Side</b>								
FH1								
FH2								
<b>Front Header Right Side</b>								
FH1								
FH2								
SR3-2								

REMARKS:

**DATA SHEET NO. 8 (CONTINUED)**  
**SUMMARY OF TARGETING RESULTS**

Test Vehicle: \_\_\_\_\_ NHTSA No.: \_\_\_\_\_  
 Test Facility: \_\_\_\_\_ Test Date: \_\_\_\_\_

SUMMARY OF TARGETING RESULTS								
Target	Location (mm)			Horizontal Angle °	Vertical Angle °	Relocation (Yes/No)	Extension (# of 25 mm Spheres)	Impact (Yes/No)
	x	Y	z					
<b>Side Rail Left Side</b>								
SR1								
REL								
SR2A								
REL								
SR2B								
REL								
SR3-1								
SR3-2								
<b>Side Rail Right Side</b>								
SR1								
REL								
SR2A								
REL								
SR2B								
REL								
SR3-1								
SR3-2								

REMARKS:

**DATA SHEET NO. 8 (CONTINUED)**  
**SUMMARY OF TARGETING RESULTS**

Test Vehicle: \_\_\_\_\_ NHTSA No.: \_\_\_\_\_  
 Test Facility: \_\_\_\_\_ Test Date: \_\_\_\_\_

SUMMARY OF TARGETING RESULTS								
Target	Location (mm)			Horizontal Angle °	Vertical Angle °	Relocation (Yes/No)	Extension (# of 25 mm Spheres)	Impact (Yes/No)
	x	Y	z					
<b>Rear Header Left Side</b>								
RH								
<b>Rear Header Right Side</b>								
RH								
<b>Upper Roof Left Side</b>								
UR1@x=1116								
UR2@x=1315								
UR3@BP								
UR4@x=1898								
UR5@x=2059								
UR6@OP								
<b>Upper Roof Right Side</b>								
UR7@x=1116								
UR8@x=1315								
UR9@BP								
UR10@x=1898								
UR11@x=2058								
UR12@OP								

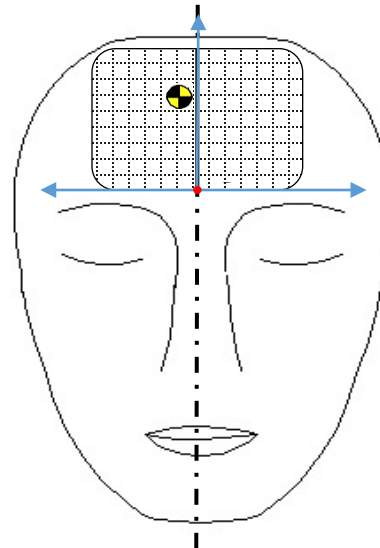
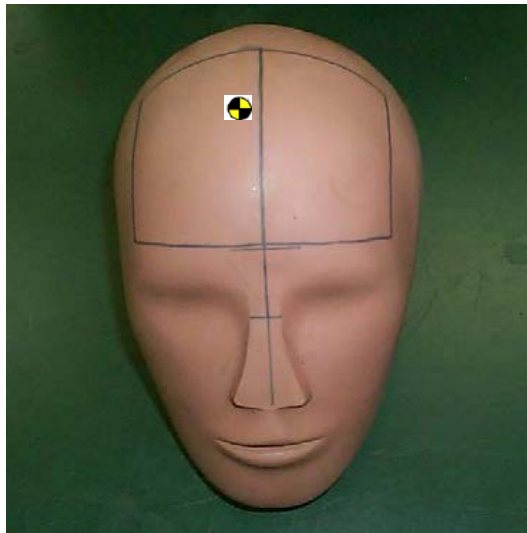
REMARKS:



**DATA SHEET NO. 9  
FMH IMPACT TEST DATA SUMMARY TABLES  
TEST SEQUENCE No. \_\_\_\_**

Test Vehicle: \_\_\_\_\_ NHTSA No.: \_\_\_\_\_  
 Test Facility: \_\_\_\_\_ Test Date: \_\_\_\_\_

Test Sequence No: ____	
Target Location	
Time:	
Temperature:	
Humidity:	
FMH ID No.:	
FMH Mass:	
Horizontal Approach °:	
Vertical Approach °:	
Impact Velocity:	



FMH HIC36	Time 1	Time 2	HIC (d)	Time 1	Time 2	FMH contact (mm)	
						Vert.	Horiz.

Post-test Damage:

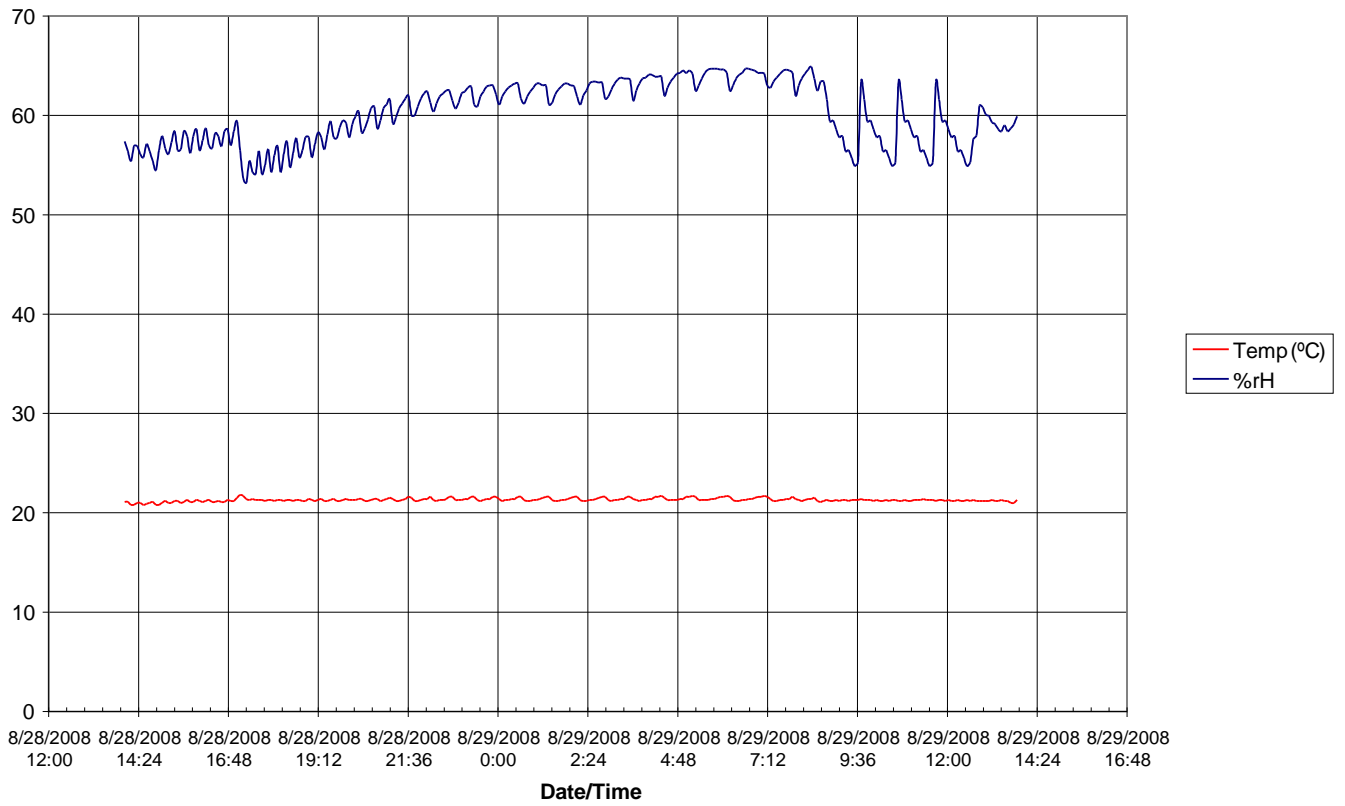
**DATA SHEET NO. 10  
TEST EQUIPMENT LIST AND CALIBRATION INFORMATION**

Item	Serial No.	Manufacturer	Cal. Date
FMH Accels			
Temperature Data Logger			
Digital Protractor			
Data Acquisition System			
FMH Impactor			
CMM			
Weigh Scales			
"			
"			

### DATA SHEET NO. 11 TEMPERATURE AND HUMIDITY TRACE

Test Vehicle: \_\_\_\_\_  
Test Facility: \_\_\_\_\_

NHTSA No.: \_\_\_\_\_  
Test Date: \_\_\_\_\_



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