

REPORT NUMBER KAR21003-06

**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

**FORD MOTOR COMPANY
2001 LINCOLN LS
4 DOOR SEDAN
NHTSA NUMBER: M10210**

**PREPARED BY:
KARCO ENGINEERING
9270 HOLLY ROAD
ADELANTO, CALIFORNIA 92301**



DECEMBER 30, 2000

FINAL REPORT

**PREPARED FOR:
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Prepared by: _____
Mr. James E. Gorth, Project Engineer
KARCO Engineering

Date: December 30, 2000

Reviewed by: _____
Mr. Jerry L. Kratzke, Director of Operations
KARCO Engineering

Date: December 30, 2000

Approved by: _____
Mr. Frank D. Richardson, Program Manager
KARCO Engineering

Date: December 30, 2000

FINAL REPORT ACCEPTED BY:

Manager, Side Impact NCAP

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16. Abstract A 55/28 km/h 90 deg. Moving Deformable Barrier Side Impact NCAP Test was conducted on the subject 2001 Lincoln LS 4 Door Sedan in accordance with the specifications of the Office of Crash Worthiness Standards Test Procedure for the generation of consumer information on vehicle side crash protection. The test was conducted at KARCO Engineering laboratories in Adelanto, California, on December 18, 2000. The impact velocity of the Moving Deformable Barrier was 61.71 km/h, and the outside ambient temperature at the struck (driver's) side of the vehicle was 10.5 deg. C. The target vehicle's maximum post test static crush was 422 mm located at level 2 . The test vehicle's occupant performance is as follows: <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 35%;">Measurement Description</th> <th style="width: 30%;">Driver SID</th> <th style="width: 35%;">Passenger SID</th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib (LUR) G's</td> <td style="text-align: center;">61.8</td> <td style="text-align: center;">53.2</td> </tr> <tr> <td>Left Lower Rib (LLR) G's</td> <td style="text-align: center;">57.3</td> <td style="text-align: center;">60.1</td> </tr> <tr> <td>Lower Spine (T₁₂) G's</td> <td style="text-align: center;">77.5</td> <td style="text-align: center;">42.5</td> </tr> <tr> <td>Thoracic Trauma Index (TTI) G's</td> <td style="text-align: center;">70</td> <td style="text-align: center;">51</td> </tr> <tr> <td>Pelvis (PEV) G's</td> <td style="text-align: center;">79</td> <td style="text-align: center;">82</td> </tr> </tbody> </table>				Measurement Description	Driver SID	Passenger SID	Left Upper Rib (LUR) G's	61.8	53.2	Left Lower Rib (LLR) G's	57.3	60.1	Lower Spine (T ₁₂) G's	77.5	42.5	Thoracic Trauma Index (TTI) G's	70	51	Pelvis (PEV) G's	79	82
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17. Key Words New Car Assessment Program (NCAP) Side Impact Moving Deformable Barrier (MDB) Side Impact Dummy (SID)		18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Admin. NHTSA Technical Reference Division 400 Seventh St., SW, Room 5108 Washington, DC 20590																			
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SECTION 1

PURPOSE and TEST PROCEDURE

1.1 PURPOSE

This Side Impact NCAP test is conducted as part of the FY' 2001 test program sponsored by the National Highway Traffic Safety Administration (NHTSA), under contract No. DTNH22-99-D-02041. The purpose of this test is to generate comparative side impact data on a 2001 Lincoln LS 4 Door Sedan manufactured by Ford Motor Company.

1.2 TEST PROCEDURE

The side impact test is conducted in accordance with the current National Highway Traffic Safety Administration (NHTSA), Office of Crashworthiness Standards (OCS), laboratory test procedure NCAP Side Impact Testing, dated July 1997 and the corresponding KARCO Engineering Test Procedure KTP-214D, dated November 18, 1998. The procedures for receiving, inspection, testing and reporting of test results are described in the test procedures; they are not repeated in this report.

SECTION 2

SUMMARY OF SIDE IMPACT TEST

2.1 SUMMARY OF SIDE IMPACT NCAP TEST

A model year 2001 Lincoln LS 4 Door Sedan was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 61.71 km/h. The specified impact velocity range is from 61.1 to 62.7 km/h. The test (target) vehicle is stationary and positioned 63° to the line of forward motion. The weight of the vehicle as tested is 1874 kg; the test weight of the MDB is 1361 kg. The test is conducted at KARCO Engineering in Adelanto, California, on December 18, 2000.

One (1) real-time motion picture camera and eleven (11) high-speed motion picture cameras are used to document the impact event. The pre-test and post-test conditions are recorded by one (1) real-time motion picture camera. Camera locations and pertinent camera information is documented in the data sheets. Pre- and post-test photographs of the vehicle and SID can be found in Appendix A. Two 50th percentile adult male Side Impact Dummies (SID's) were placed in the driver and left rear passenger designated seating positions according to the test procedure. Each SID is instrumented with contact switches on the pelvis and thorax and eleven accelerometers in the following locations:

- Left Upper Rib (LUR) uni-axial accelerometer (Y-axis primary and redundant)
- Left Lower Rib (LLR) uni-axial accelerometer (Y-axis primary and redundant)
- Lower Thoracic Spine (T12) uni-axial accelerometer (Y-axis primary and redundant)
- Pelvic (PEV) section uni-axial accelerometer (Y-axis primary and redundant)
- Head Center of Gravity (CG) tri-axial accelerometers (X, Y, and Z axes)

The test vehicle is instrumented with twenty-five (25) structural accelerometers and the MDB is instrumented with five (5) accelerometers and a one (1) contact switch on the right bumper to compare left to right side bumper impact timing. All data channels are recorded with a fully self contained on-board Test Data Acquisition System (TDAS). The data is digitally sampled at 10,000 samples per second and processed per Appendix V of the Test Procedure.

2.2 GENERAL COMMENTS

The test vehicle sustained a maximum static crush of 422 mm at level 2, 1200mm rearward of the left vertical impact point. The driver SID, Serial No. 274 and the passenger SID, Serial No. 275 were calibrated prior to this test. The SID injury criteria is summarized as follows:

Measurement	Units	Driver	Passenger
Thoracic Trauma Index (TTI)	G's	70	51
Peak Pelvic G's (PEV)	G's	79	82

Tests summaries and post-test observations are presented in Section 3. The vehicle, camera, and occupant measurements are presented in Section 4. Appendix A contains the still photograph prints. Appendix B contains the driver and passenger SID's, vehicle, and MDB response data traces. Appendix C contains the SID's Configuration and performance verification data. Appendix D contains the test equipment information.

SECTION 3

SIDE IMPACT DUMMY (SID) AND VEHICLE TEST DATA

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

NHTSA No. M10210

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 12/18/00

CONVERSION FACTORS USED IN THIS REPORT*

Quantity	Typical Application	Std Units	Metric Unit	Multiply By
Mass	Vehicle Weight	lb	kg	0.4536
Linear Velocity	Impact Velocity	mile/h	km/h	1.609
Length or Distance	Measurements	in	mm	25.4
Volume	Fuel Systems	gal	liter	3.785
Volume	Small Fluids	oz	mL	29.573
Pressure	Tire Pressures	lbf/in ²	kPa	7.0
Volume	Liquid	gal	liter	3.785
Temperature	General Use	°F	°C	$=(t_f - 32)/1.8$
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf/ft	Nm	1.355

* Based on the Recommended Practice in SAE J916, May 85

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001 Lincoln LS 4 Door Sedan
 Test Program: 55/28 km/h 90° Side Impact NCAP

NHTSA No.: M10210
 Test Date: 12/18/00

TEST VEHICLE INFORMATION

Make	Lincoln
Model	LS
Body Style	4 Door Sedan
NHTSA No.	M10210
VIN	ILNHM86S71Y646276
Color	Black
Delivery Date	12/11/00
Odometer Reading (mile)	99
Dealer	Advantage Lincoln Mercury
Transmission	5-Speed Automatic
Final Drive	Front
Number of Cylinders	6
Engine Displacement (L)	3
Engine Placement	Longitudinal

TEST VEHICLE OPTIONS

Driver Airbag	Yes
Passenger Airbag	Yes
Power Windows	Yes
Power Steering	Yes
Power Door Locks	Yes
Tilt Wheel	Yes
Air Conditioning	Yes
Power Brakes	Yes
Disc Brakes, Front	Yes
Disc Brakes, Rear	Yes
Anti-lock Brakes	Yes
AM/FM/Cassette	Yes
Anti-Theft System	No
Cruise Control	Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Ford Motor Co	GVWR (kg)	2195
Date of Manufacture	November-00	GAWR Front (kg)	1202
		GAWR Rear (kg)	1195

DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	210	210
Cold Pressure (kPa)	210	210
Recommend Tire Size	P215/60/HR16	P215/60/HR16
Tire Size on Vehicle	P215/60/HR16	P215/60/HR16
Tire Manufacturer	Continental	Continental

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench	None	
Number of Occupants	2	3	0	5
Capacity Wt. (VCW) (kg)				408
Cargo Weight (RCLW) (kg)				68

DATA SHEET NO. 1...(continued)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001 Lincoln LS 4 Door Sedan
 Test Program: 55/28 km/h 90° Side Impact NCAP

NHTSA No.: M10210
 Test Date: 12/18/00

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	424	392		467	489	
Right	kg	441	395		454	464	
Ratio	%	52.4	47.6		49.1	50.9	
Totals	kg	865	787	1652	921	953	1874

TARGET TEST WEIGHT CALCULATION*

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1652
Weight of 2 P572F Side Impact Dummies	kg	161.5
Rated Cargo/Luggage Weight (RCLW)	kg	68
Calculated Vehicle Target Weight (TVTW)	kg	1882

*Actual As Tested Weight (ATW) will be TVTW -5/-10 kg

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	702	705	708	712	1387
As Tested	mm	689	705	679	686	1481
Fully Loaded	mm	689	705	674	690	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheel base	mm	2912
Total Vehicle Length at Left Side	mm	3545
Total Vehicle Length at Centerline	mm	4923
Total Vehicle Length at Right Side	mm	3540
Weight of Ballast In Cargo Area	kg	51
Amount of Stoddard Solvent in Fuel Tank	Liters	63.3

TEST VEHICLE VERTICAL IMPACT LINE DATA

Measurement Description	Units	Value
Test Vehicle Wheel base	mm	2912
Target Impact Point Aft of Front Axle	mm	508
Actual Impact Point Aft of Front Axle	mm	510

DATA SHEET NO. 1...(continued)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

NHTSA No. M10210

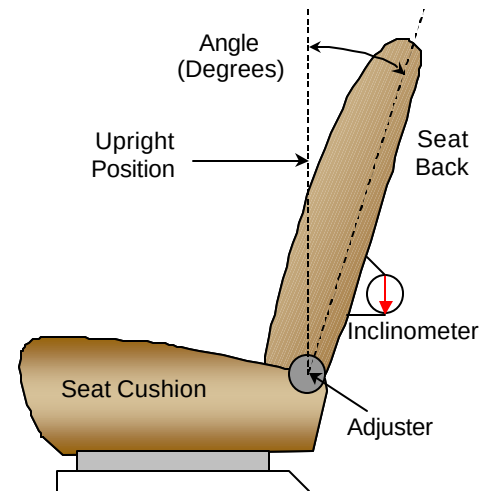
Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 12/18/00

NOMINAL DESIGN RIDING POSITION

The driver's seat back is positioned to the manufacturers designated angle. The procedure for the seat is as follows:

A slit is cut into fabric of the seat at the outboard edge, approximately 13 inches above the pivot point to expose the frame of the seat. An inclinometer is firmly placed against the flat portion of the frame surface and the seat back is adjusted to the manufacturers designated angle relative to rocker sill.



FRONT SEAT ASSEMBLY

Driver seat back angle: 23° with a seated dummy

Rear seat back angle: 28° fixed

SEAT FORE/AFT POSITIONS

The driver's seat is electronically adjustable. The fore/aft is set to the middle position. The rear passenger seat is fixed, no adjustment is possible.

Driver seat fore/aft total travel: 236mm of total travel

Rear seat fore/aft total travel: Seat is fixed

Driver seat fore/aft position: Seat set at 118mm

Rear seat fore/aft position: Seat is fixed

SEAT BELT UPPER ANCHORAGE

The test vehicle is equipped with an adjustable "D" ring anchorage for the driver's seat position. There are 4 positions or detents. The driver's "D" ring anchorage is placed in the 2nd position. The rear seat-anchor is fixed.

DATA SHEET NO. 1...(continued)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

NHTSA No. M10210

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 12/18/00

FUEL TANK CAPACITY DATA

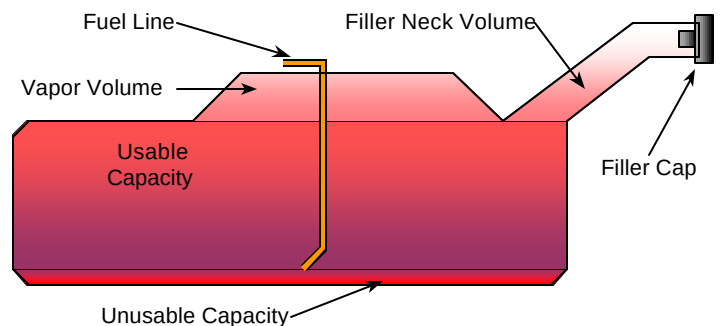
The "Usable Capacity" of the standard equipment fuel tank is: 68.1 liters

The "Usable Capacity" of any optional equipment fuel tank is: N/A liters

92-94% of "Usable Capacity" for certification to FMVSS 301 requirement: 62.6 to 64.0 liters

Actual amount of Stoddard solvent added to vehicle for certification test: 63.3 liters

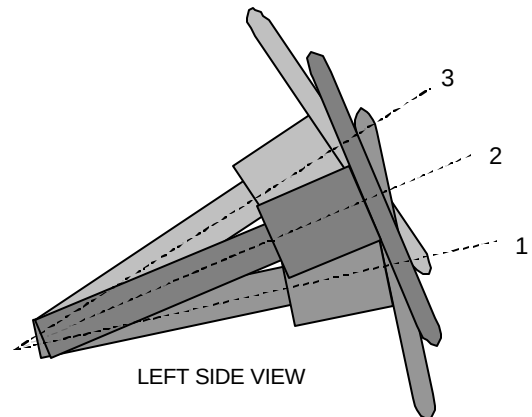
The test vehicle is equipped with an electric fuel pump. The fuel pump will operate for approximately three (3) seconds with the ignition in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the right rear fender.



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when moved through its full range of motion. An aluminum plate is placed across the rim of the steering wheel, an inclinometer is placed onto the plate and the angle is measured. The tested vehicle has its steering column set at position 2 as indicated in the drawing at right and the angle below. The steering column is also equipped with telescoping adjustment set to the middle position of total travel.



STEERING COLUMN ASSEMBLY

Lowermost, position 1: 12°

Geometric center, position 2: 19.5°

Uppermost, position 3: 27°

DATA SHEET NO. 2
TEST VEHICLE SUMMARY OF RESULTS

Test Vehicle: 2001 Lincoln LS 4 Door Sedan
Test Program: 55/28 km/h 90° Side Impact NCAP

NHTSA No.: M10210
Test Date: 12/18/00

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	424	392		467	489	
Right	kg	441	395		454	464	
Weight Ratio	%	52.4	47.6		49.1	50.9	
Totals	kg	865	787	1652	921	953	1874

MAXIMUM EXTERIOR STATIC CRUSH

Level	Measured Parameter	Units	Maximum Crush	Above Ground
Level 1	Sill Top Height	mm	249	216
Level 2	Occupant H-Point	mm	422	460
Level 3	Mid Door	mm	402	556
Level 4	Window Sill	mm	370	866
Level 5	Window Top	mm	171	1270
N/A	Maximum Penetration	mm	422	

INSTRUMENTATION

Driver SID Accelerometers	11
Passenger SID Accelerometers	11
Vehicle Structure Accelerometers	25
MDB Accelerometers	5
Total	52

16mm MOVIE COVERAGE

High Speed, Vehicle On-Board	3
High Speed, Off-Board	6
High Speed, MDB On-Board	2
Real Time, Panning	1
Total	12

DATA SHEET NO. 3
MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS

Test Vehicle: 2001 Lincoln LS 4 Door Sedan
 Test Program: 55/28 km/h 90° Side Impact NCAP

NHTSA No.: M10210
 Test Date: 12/18/00

MDB SPECIFICATIONS (mm)

Measurement Description	Length
Overall Width of Framework Carriage	1252
Overall Length Including Honeycomb Face	4115
Wheel base of Framework Carriage	2590
C.G. Location aft of Front Axle	1127

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	384	308	
Right	kg	385	284	
Ratio	%	56.5	43.5	
Totals	kg	769	592	1361

SPEED AND IMPACT ANGLE DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	61.71
Trap No. 2 Velocity (Redn.)	km/h	61.1 to 62.7	62.21
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	89.5

MAXIMUM STATIC CRUSH OF HONEYCOMB FACE (mm)

Vertical Location			From Centerline		Max Crush
Row	Description	Height	Distance	Direction	
A	Center of Bumper	432	800	Right	182
B	Top of Bumper	533	800	Right	124
C	Mid Level	686	800	Right	134
D	Top of Stack	813	800	Right	83

MDB INSTRUMENTATION AND CAMERAS

Accelerometers	5
Contact Switches	2
High Speed Cameras	2

**DATA SHEET NO. 4
POST TEST OBSERVATIONS**

Test Vehicle: 2001 Lincoln LS 4 Door Sedan
Test Program: 55/28 km/h 90° Side Impact NCAP

NHTSA No.: M10210
Test Date: 12/18/00

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID	Rear Seat SID
Dummy Type / Serial No.	P572F, SID / No. 274	P572F, SID / No. 275
Head Contact	Airbag	C-Pillar
Upper Torso Contact	Airbag	Door Panel
Lower Torso Contact	Door Panel	Seat/Door Panel
Left Knee Contact	Door Panel	Door Panel
Right Knee Contact	Knee	Knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

Description	Front	Rear
Left Side Door Opening	Remained closed inoperable	Remained closed, inoperable
Right Side Door Opening	Remained closed operable	Remained closed, operable
Seat Movement	None	None
Seat Back Failure	None	None

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	Pillars pushed inward with no apparent failure
Sill Separation	No Apparent Visible Failure
Windshield Damage	Glazing Cracks on Struck Side Only
Window Damage	Both Left Side Windows Broke
Other Notable Effects	No significant items to note.

AIR BAG DEPLOYMENT

	Driver	Front Passenger	Rear Passenger
Front	No	No	N/A
Side	Yes	N/A	N/A

MDB LEFT EDGE IMPACT POINT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	2 (right)
Vertical Offset	mm	+/- 20	3 (above)

SECTION 4
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 5
SID INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

NHTSA No.: M10210

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 12/18/00

THORAX AND PELVIS PEAK ACCELERATIONS, PRIMARY (FIR 100 Filtered)

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Upper Rib (LUR)	Y	G's	61.8	38.8	-26.0	135.6	53.2	51.8	-2.7	124.8
Lower Rib (LLR)	Y	G's	57.3	38.6	-22.7	135.5	60.1	49.9	-8.7	74.1
Lower Spine (T ₁₂)	Y	G's	77.5	30.2	-19.9	72.3	42.5	43.6	-17.7	76.8
Pelvis (PEV)	Y	G's	79.3	26.0	-22.2	72.2	82.5	38.2	-21.6	64.4

THORACIC TRAUMA INDEX (TTI) AND PELVIC ACCELERATION, PRIMARY (FIR 100 Filtered)

Location	Driver				Passenger			
	LUR	T ₁₂	TTI(g)	PEV(g)	LLR	T ₁₂	TTI(g)	PEV(g)
Primary Rib, Spine, and Pelvis	61.811	77.498	70	79	60.144	42.451	51	82

THORAX AND PELVIS PEAK ACCELERATIONS, REDUNDANT (FIR 100 Filtered)

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Upper Rib (LUR)	Y	G's	61.9	38.8	-24.2	135.5	53.4	51.8	-3.1	124.6
Lower Rib (LLR)	Y	G's	57.4	38.6	-22.2	135.4	60.5	49.9	-7.6	73.8
Lower Spine (T ₁₂)	Y	G's	78.9	30.3	-20.9	72.7	42.3	43.6	-18.1	76.7
Pelvis (PEV)	Y	G's	78.0	26.2	-22.1	72.1	82.9	38.2	-21.4	64.6

THORACIC TRAUMA INDEX (TTI) AND PELVIC ACCELERATION, REDUNDANT (FIR 100 Filtered)

Location	Driver				Passenger			
	LUR	T ₁₂	TTI(g)	PEV(g)	LLR	T ₁₂	TTI(g)	PEV(g)
Redundant Rib, Spine, and Pelvis	61.864	78.868	70	78	60.538	42.336	51	83

HEAD CG PEAK ACCELERATIONS (SAE CLASS 1000 Filtered)

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	15.9	34.6	-20.5	69.9	5.2	45.8	-15.8	85.0
Head CG	Y	G's	44.9	44.3	-15.0	144.8	87.3	58.4	-7.9	44.2
Head CG	Z	G's	41.5	136.6	-8.3	25.2	12.3	51.4	-39.8	69.8
Head CG Resultant	N/A	G's	45.1	44.3			87.8	58.6		

HEAD INJURY CRITERIA (SAE CLASS 1000 Filtered)

Location	Driver				Passenger			
	HIC	T ¹	T ²	Avg G	HIC	T ¹	T ²	Avg G
Head CG	202.7	106.8	142.7	31.7	376.4	52.8	71.8	52.2

Positive Acceleration Polarities: Longitudinal (X) = Forward
 (Conforms to SAE J211) Lateral (Y) = Right
 Vertical (Z) = Down

DATA SHEET NO. 6

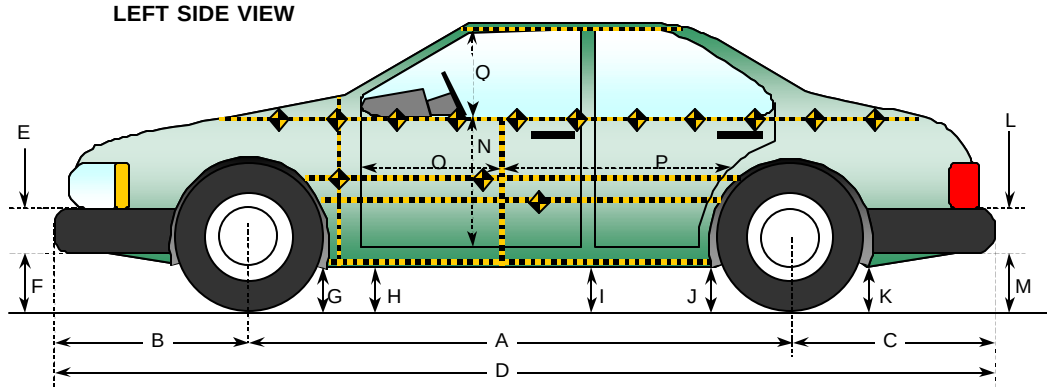
VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

NHTSA No.: M10210

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 12/18/00



All Measurements in mm

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2912	2845	67
B	Front Axle To FSOV	855	885	-30
C	Rear Axle to RSOV	1159	1177	-18
D	Total Length at Centerline	4923	4903	20
E	Front Bumper Thickness	385	385	0
F	Front Bumper Bottom to Ground	192	205	-13
G	Sill Height at Front Wheel Well	148	176	-28
H	Sill Height at Front Door Leading Edge	153	119	34
I	Sill Height at "B" Pillar	155	204	-49
J1	Sill Height at Rear Wheel Well	140	173	-33
J2	Pinch Weld Height at Rear Wheel Well	162	191	-29
K	Sill Height aft of Rear Wheel Well	201	254	-53
L	Rear Bumper Thickness	411	411	0
M	Rear Bumper Bottom to Ground	259	321	-62
N	Sill Height to Window Bottom Sill	676	594	82
O	Front Door Leading Edge to Impact CL	808	737	71
P	Rear Door Trailing Edge to Impact CL	1539	1270	269
Q	Front Window Opening	397	370	27
R	Right Side Length	3540	3685	-145
S	Left Side Length	3545	3545	0
T	Vehicle Width at "B" Post	1797	1597	200

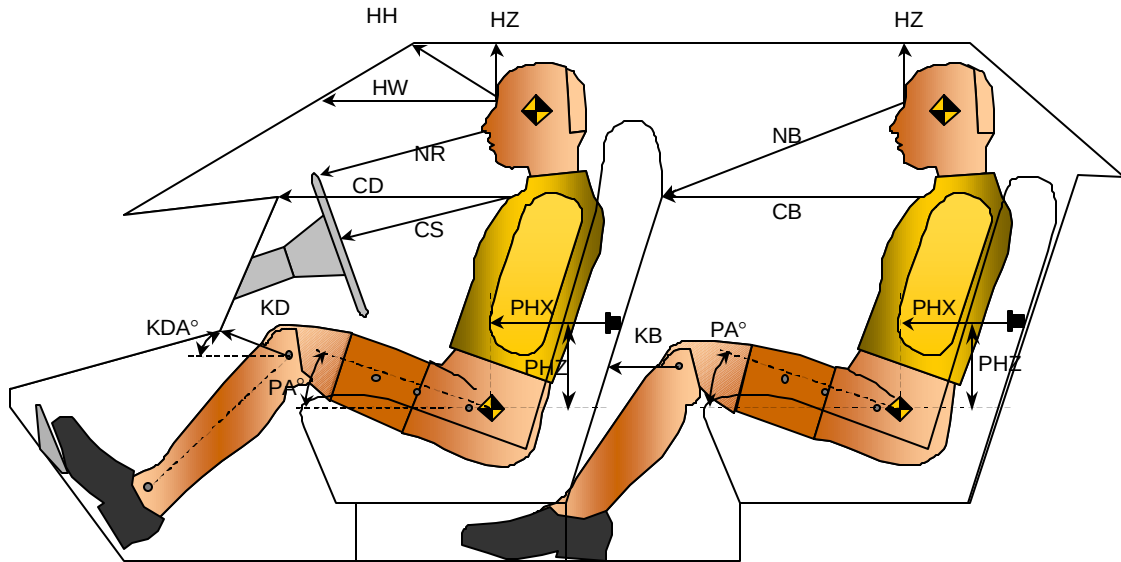
DATA SHEET NO. 7
SID LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

NHTSA No.: M10210

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 12/18/00

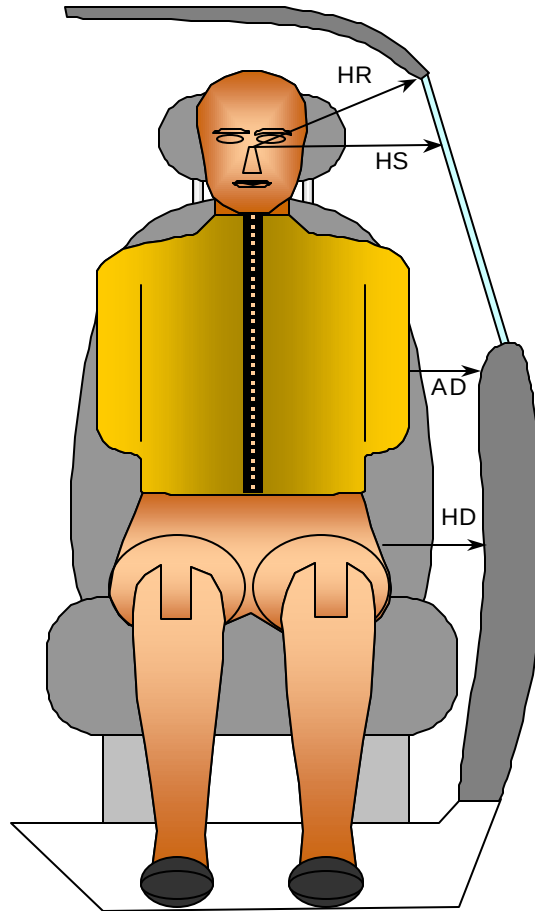


Driver Code	Pass. Code	Measurement Description	Driver		Passenger	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	390	20		
HW		Head to Windshield	675			
HZ	HZ	Head to Roof	199	90	165	90
NR	NB	Nose to Rim/Nose to Seatback	445	12	640	18
CD	CB	Chest to Dash or Seatback	542	6	555	3
CS		Chest to Steering Wheel	300	18		
KDL	KBL	Left Knee to Dash or Seatback	143	31	225	
KDR	KBR	Right Knee to Dash or Seatback	128		242	
PA	PA	Pelvic Angle		23.5		24
PHX	PHX	H-Point to Striker (X-Axis)	194		285	
PHZ	PHZ	H-Point to Striker (Z-Axis)	152		335	

DATA SHEET NO. 8
SID LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2001 Lincoln LS 4 Door Sedan
 Test Program: 55/28 km/h 90° Side Impact NCAP

NHTSA No.: M10210
 Test Date: 12/18/00



FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver	Passenger
HR	Head to Side Header	mm	220	205
HS	Head to Side Window	mm	345	350
AD	Arm to Door	mm	111	106
HD	H-Point to Door	mm	145	138

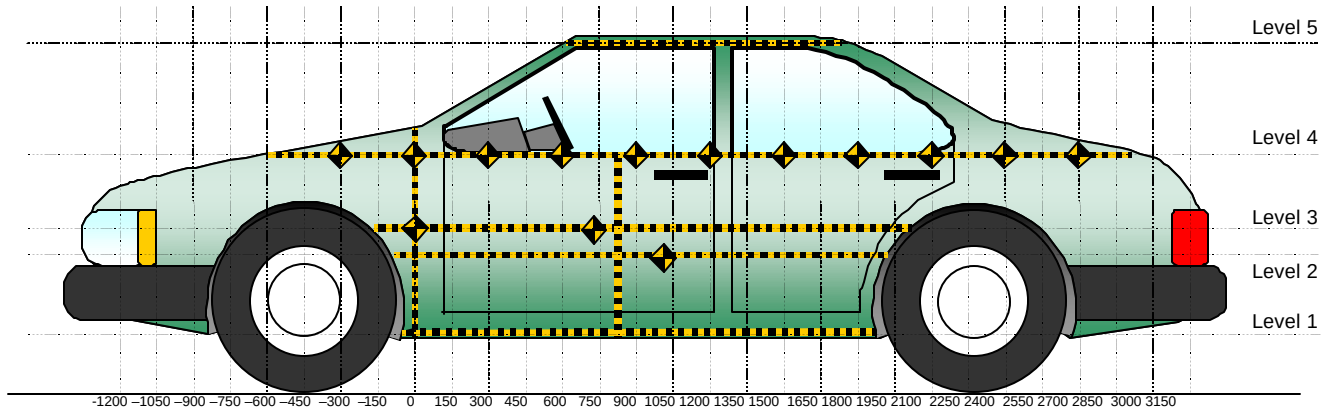
DATA SHEET NO. 9
VEHICLE SIDE MEASUREMENTS

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

NHTSA No.: M10210

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 12/18/00



All Measurements Shown in mm

LEFT SIDE VIEW

Measurements are taken with vehicle in the as tested condition.

Measurements taken 900mm right of impact reference.

All measurements below in mm.

Level	Measurement Description	Height Above Ground
5	Window Top	1270
4	Window Sill	866
3	Mid Door	556
2	Occupant H-Point	460
1	Sill Top	216

DATA SHEET NO. 10 - VEHICLE EXTERIOR CRUSH PROFILES

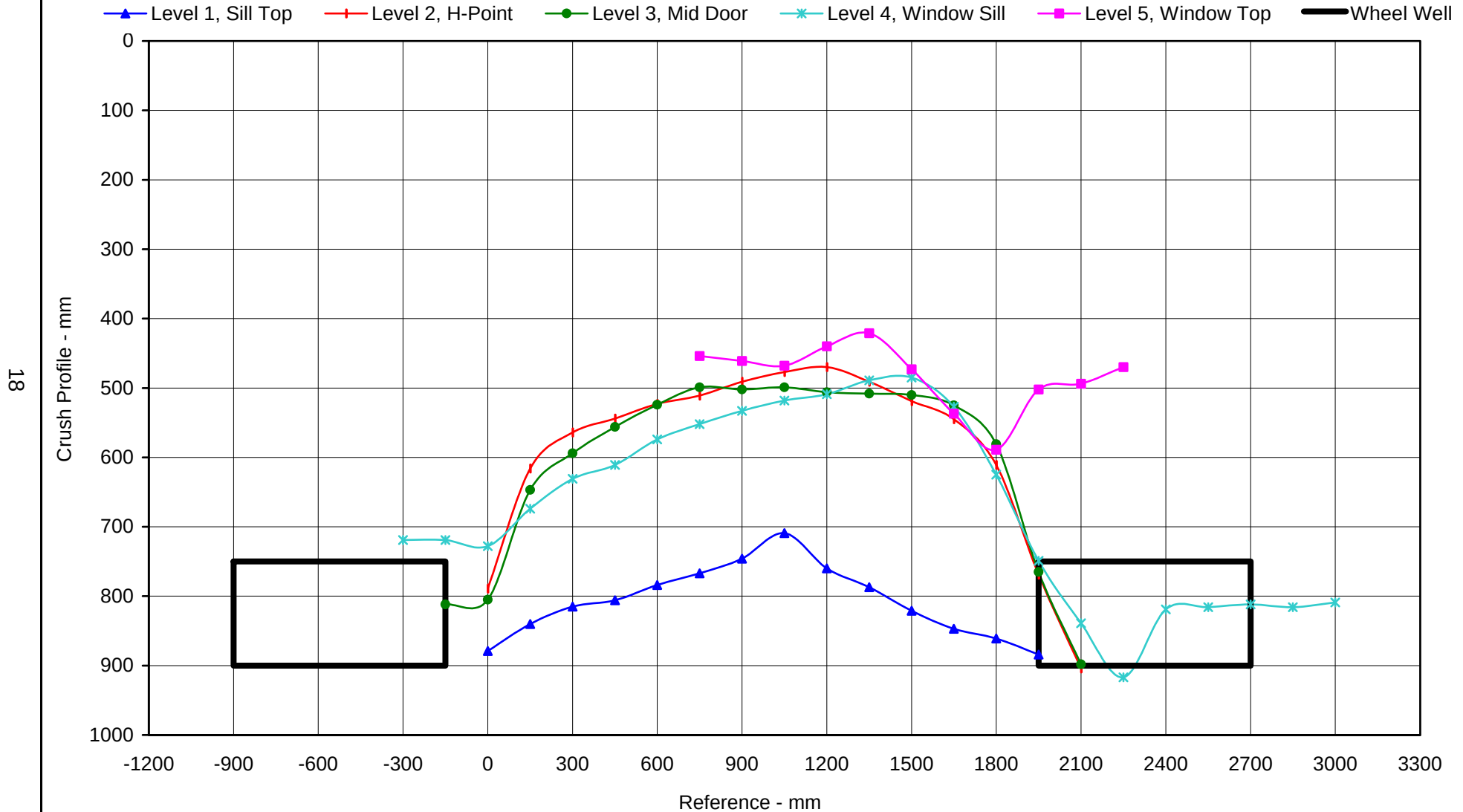
Test Vehicle: 2001 Lincoln LS 4 Door Sedan
 Test Program: 55/28 km/h 90° Side Impact NCAP

NHTSA No.: M10210
 Test Date: 12/18/00

	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900															
-750															
-600															
-450															
-300				761					719					42	
-150			901	787				812	719				89	68	
0	957	897	904	802		879	789	805	728		78	108	99	74	
150	957	895	902	817		840	616	647	674		117	279	255	143	
300	958	895	902	825		815	564	594	631		143	331	308	194	
450	959	896	903	833		806	544	556	611		153	352	347	222	
600	960	898	902	837		784	523	524	574		176	375	378	263	
750	960	898	901	843	524	767	511	499	552	454	193	387	402	291	70
900	960	896	900	844	534	746	491	502	533	461	214	405	398	311	73
1050	958	894	898	847	579	709	477	499	518	468	249	417	399	329	111
1200	957	892	896	850	584	760	470	506	509	440	197	422	390	341	144
1350	958	891	893	852	592	787	491	508	489	421	171	400	385	363	171
1500	951	889	892	855	594	821	519	510	485	473	130	370	382	370	121
1650	949	888	892	859	596	847	545	525	527	537	102	343	367	332	59
1800	944	887	892	864	584	861	611	581	625	589	83	276	311	239	-5
1950	939	886	894	868	573	884	769	765	749	502	55	117	129	119	71
2100		889	895	872	539		904	898	839	494		-15	-3	33	45
2250				874	499				917	470				-43	29
2400				876					819					57	
2550				870					816					54	
2700				861					812					49	
2850				849					816					33	
3000				834					809					25	

Pre-Test and Post-Test dimensions are actual distance from centerline of test vehicle.

DATA SHEET NO. 10...(continued)



Maximum Crush, Level 1: 249 mm at 1050 mm
 Maximum Crush, Level 2: 422 mm at 1200 mm
 Maximum Crush, Level 3: 402 mm at 750 mm
 Maximum Crush, Level 4: 370 mm at 1500 mm
 Maximum Crush, Level 5: 171 mm at 1350 mm

Test Program: 55/28 km/h 90° Side Impact NCAP No.: M10210
 Test Vehicle: 2001 Lincoln LS 4 Door Sedan
 Test Date: 12/18/00



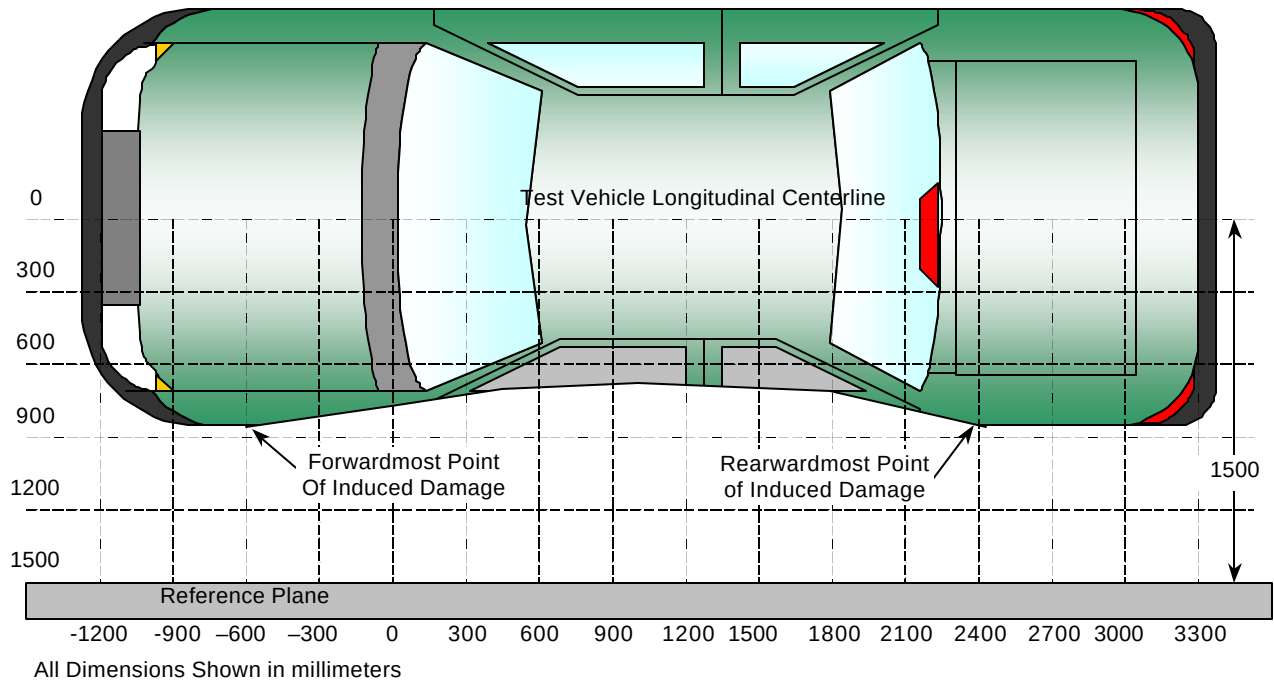
DATA SHEET NO. 11
VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

NHTSA No.: M10210

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 12/18/00



TOP VIEW

Damage Profile Distances

DPD	Distance From Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max Static Crush (mm)
1	-300	4	761	719	42
2	300	2	895	564	331
3	1050	2	894	477	417
4	1650	3	892	525	367
5	2250	4	499	470	29
6	3000	4	834	809	25

Pre-Test and Post-Test measurements are distance from vehicle centerline.

DATA SHEET NO. 12

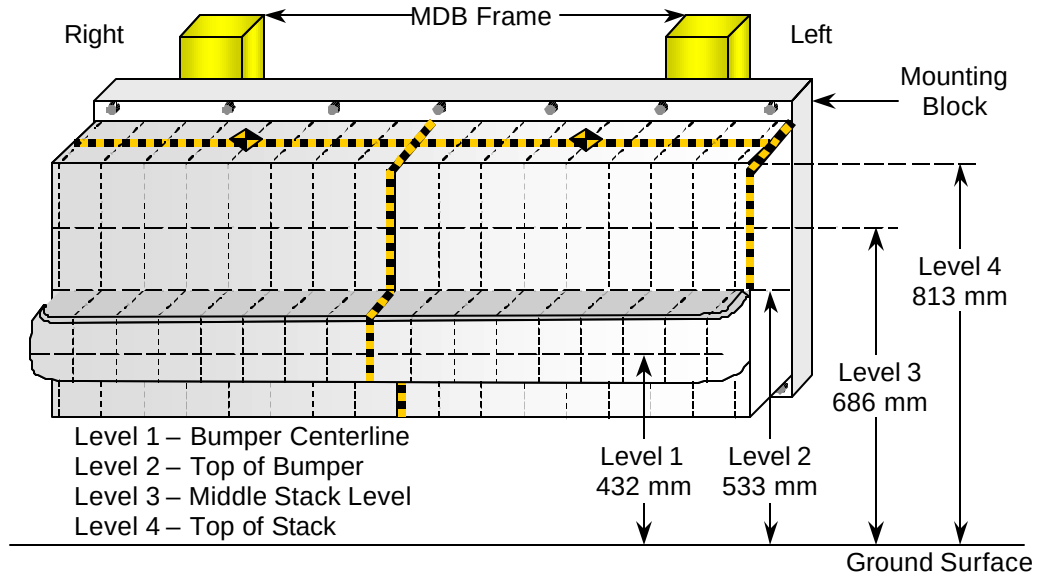
DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

NHTSA No.: M10210

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 12/18/00



DEFORMABLE BARRIER STATIC CRUSH

Stack	Distance Right of Center								CL	Distance Left of Center							
Level	800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
1	111	85	78	74	73	74	76	81	85	88	94	100	103	115	126	144	182
2	49	42	37	29	27	28	33	38	43	55	56	62	66	71	82	93	124
3	13	-2	-1	11	11	19	15	14	12	11	13	22	28	36	56	86	134
4	40	1	-22	-17	-6	16	5	4	3	5	8	19	36	58	86	114	83

All Dimensions in mm

DATA SHEET NO. 13

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

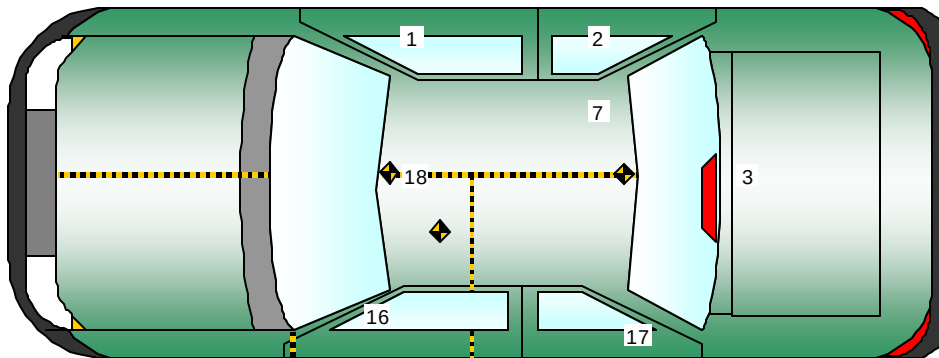
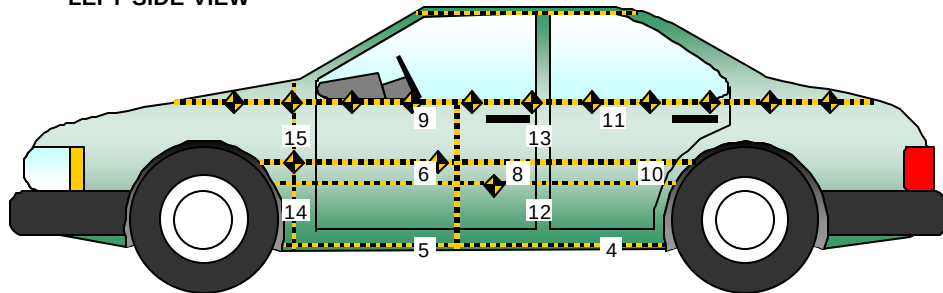
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

NHTSA No.: M10210

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 12/18/00

LEFT SIDE VIEW



No.	Location
1	Right Sill at Front Seat
2	Right Sill at Rear Seat
3	Rear Floorpan Above Axle
4	Left Sill at Rear Door
5	Left Sill at Front Door
6	Left Front Door Centerline
7	Right Rear Occupant Compartment
8	Left Front Door Mid-Rear
9	Left Front Door Upper Centerline

No.	Location
10	Left Rear Door Mid-Rear
11	Left Rear Door Upper Centerline
12	Left Lower B-Post
13	Left Middle B-Post
14	Left Lower A-Post
15	Left Middle A-Post
16	Front Seat Track
17	Rear Seat Track or Structure
18	Vehicle CG

DATA SHEET NO. 13

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

NHTSA No.: M10210

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 12/18/00

VEHICLE ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS

Loc. No.	Accelerometer Location	Measurements (mm)			Peak Values (G's)				
		X	Y	Z	Axis	Max	Time	Min	Time
1	Right Sill at Front Seat	2945	710	330	X	3.5	68.5	-7.5	15.7
					Y	19.3	28.5	-2.3	125.3
					Z	4.6	23.9	-4.6	12.4
					RES	20.1	28.5		
2	Right Sill at Rear Seat	2130	620	180	X	3.2	68.3	-6.5	16.5
					Y	20.3	27.1	-2.9	72.7
					Z	4.6	41.6	-4.8	10.9
					RES	20.8	27.1		
3	Rear Floorpan Above Axle	930	0	270	X	3.0	56.2	-5.2	11.0
					Y	17.6	49.8	-3.0	129.7
					Z	11.9	47.9	-6.3	29.7
					RES	18.5	48.6		
4	Left Sill at Rear Door	1690	-760	180	Y	34.6	20.6	-11.8	26.0
5	Left Sill at Front Door	2605	-760	180	Y	101.0	17.9	-26.1	26.3
6	Front Door Centerline	2769	-765	665	Y	261.2	9.3	-89.8	17.2
7	Rear Occupant Compartment	2240	320	185	Y	24.3	28.9	-3.7	73.3
8	Front Door Mid-Rear	2465	-760	695	Y	159.6	7.6	-96.7	22.1
9	Front Door Upper Centerline	2819	-775	885	Y	284.4	14.6	-181.2	27.3
10	Rear Door Mid-Rear	1525	-765	705	Y	113.0	5.6	-67.9	20.3
11	Rear Door Upper Centerline	1725	-765	860	Y	174.6	13.7	-58.6	31.1
12	B-Post Lower	2310	-745	895	Y	158.2	5.0	-56.5	28.2
13	B-Post Middle	2310	-745	1050	Y	108.9	5.3	-42.0	28.6
14	A-Post Lower	3420	-800	645	Y	95.6	3.8	-11.4	40.4
15	A-Post Middle	3420	-800	730	Y	57.5	11.0	-34.5	16.0
16	Front Seat Track	2895	-570	345	Y	84.2	17.4	-58.9	24.8
17	Rear Seat Structure				Y				
18	Vehicle CG	2210	0	410	X	11.1	20.6	-9.5	15.1
					Y	41.2	19.2	-2.4	32.7
					Z	14.9	37.9	-13.5	19.9
					RES	43.5	19.4		

**

** Not installed

DATA SHEET NO. 14

MDB ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

NHTSA No.: M10210

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 12/18/00

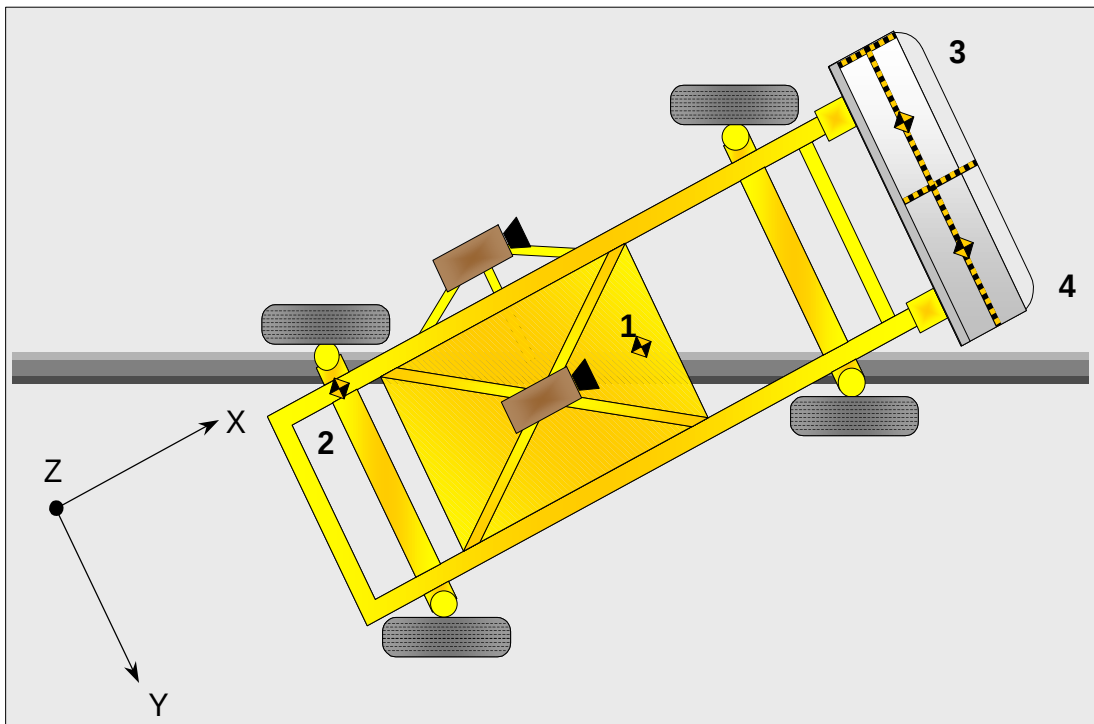
MDB ACCELEROMETER PEAK DATA AND LOCATIONS

Loc. No.	Accelerometer Location	Measurements (mm)			Peak Values (G's)				
		X	Y	Z	Axis	Max	Time	Min	Time
1	MDB CG	-1195	0	430	X	3.1	170.5	-19.6	36.3
					Y	3.7	171.4	-8.6	26.9
					Z	11.2	134.5	-11.5	144.5
					RES	21.5	44.0		
2	MDB Rear	-2642	-593	608	X	2.4	149.0	-22.6	37.0
					Y	2.5	93.1	-7.3	24.8

Reference Points X - MDB Front Axle Y - MDB Centerline Z - Ground Plane

MDB BUMPER CONTACT SWITCH DATA

Loc. No.	Contact Switch Location	Units	Peak and 50% Crossing Point			
			Max	Time	50%	Time
3	MDB Left Bumper (T=0)	% F.S	100.0	0.0	0.0	0.0
4	MDB Right Bumper	% F.S.	101.0	27.4	50.5	0.4



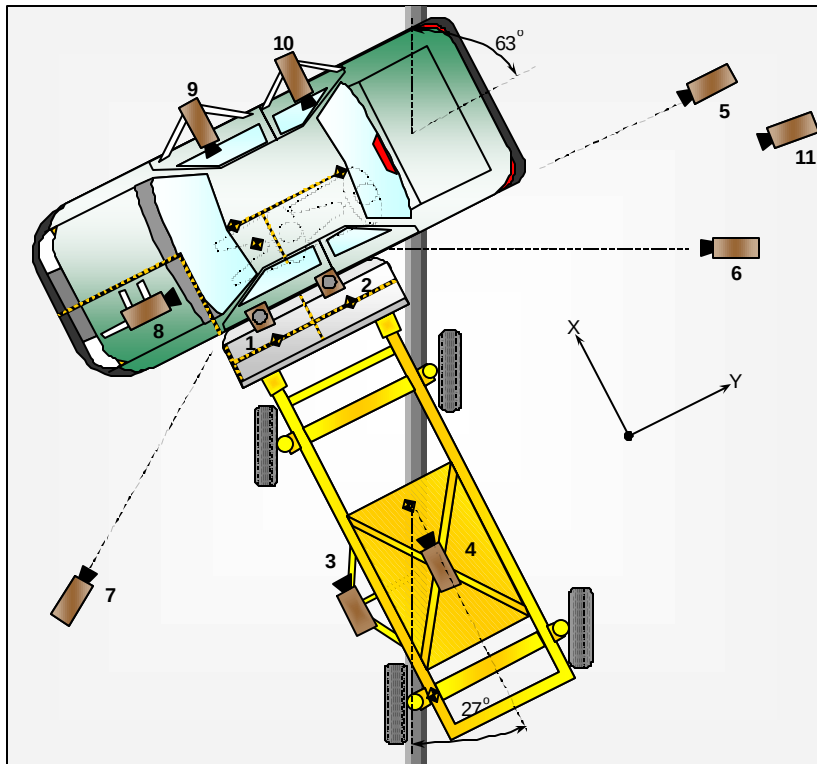
DATA SHEET NO. 15
HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

NHTSA No.: M10210

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 12/18/00



No.	Camera View	Location (mm)			Angle (deg.)	Lens (mm)	Film Speed (fr./sec.)
		X	Y	Z			
1	Overhead Overall	1676	-762	5486	-86	10	911
2	Overhead Close-up	-762	0	5791	-82	24	1007
3	MDB Onboard, Impact Point Close-Up	-2134	0	1143	-7	13	812
4	MDB Onboard, Centerline of Impact	-3048	-1676	1829	-4	13	982
5	Right Side, Ground Level, Overall	9144	-18288	2210	-1	25	1060
6	Right Side, Ground Level, Close-up	0	-18898	1524	0	60	1000
7	Left Side, Ground Level, Close-up	-2362	-5410	1448	-6	13	1020
8	Vehicle Onboard Front SID, Front	-305	1219	1478	-10	19	1006
9	Vehicle Onboard Front SID, Side	1624	914	1173	0	19	1011
10	Vehicle Onboard Rear SID, Side	1981	0	1173	0	10	1021
11	Front View In-line with Track	108051	229	1021	0	80	490
12	Real Time Coverage	3072	20040	2350	n/a	n/a	16

DATA SHEET NO. 16

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

NHTSA No.: M10210

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 12/18/00

Test Time: 11:17 AM

Temperature at Time of Impact: 10.5 °C

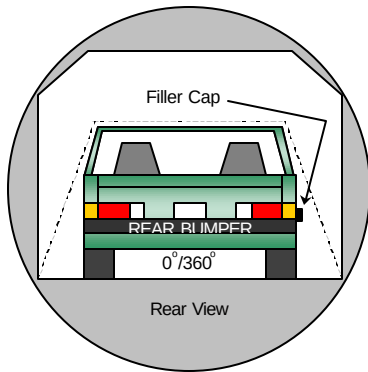
STODDARD SOLVENT SPILLAGE MEASUREMENTS

- A. From impact until vehicle motion ceases: 0.0 oz.
(Maximum Allowable = 1 ounce)
- B. For the 5 minute period after motion ceases: 0.0 oz.
(Maximum Allowable = 5 ounces)
- C. For the following 25 minutes: 0.0 oz.
(Maximum Allowable = 1 oz./minute)
- D. Spillage Details: No leakage occurred

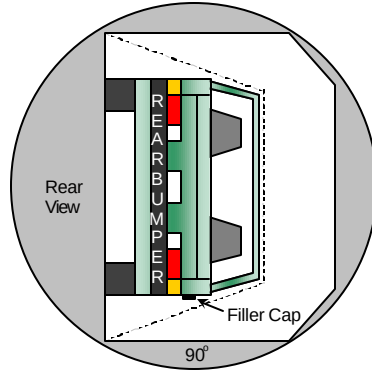
DATA SHEET NO. 17
FMVSS 301 STATIC ROLLOVER DATA SHEET

Test Vehicle: 2001 Lincoln LS 4 Door Sedan
 Test Program: 55/28 km/h 90° Side Impact NCAP

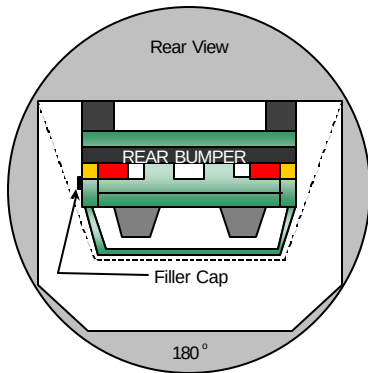
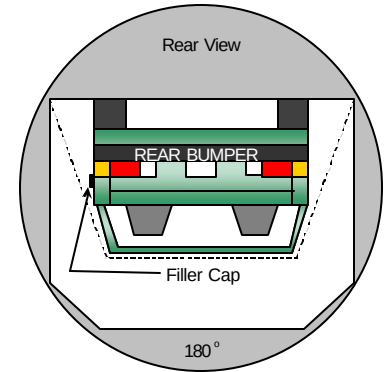
NHTSA No.: M10210
 Test Date: 12/18/00



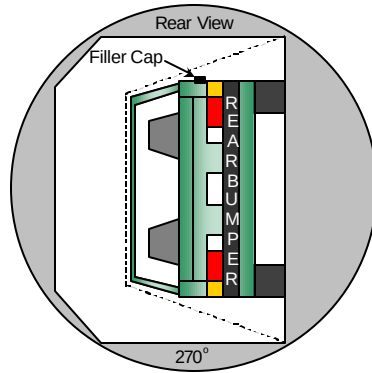
0° TO 90°



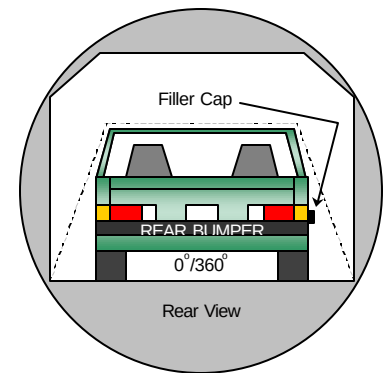
90° TO 180°



180° TO 270°



270° TO 360°



1. The specified fixture rollover rate for each 90° of rotation is 60 to 120 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. Details of Stoddard Solvent spillage locations:
 No solvent leakage occurred during static rollover testing.

Test Phase	Rotation Time (sec.)	Hold Time (sec.)	Spillage (oz.)
0° TO 90°	84	300	0.0
90° TO 180°	81	300	0.0
180° TO 270°	76	300	0.0
270° TO 360°	82	300	0.0

APPENDIX A
PHOTOGRAPHS

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Figure A-1: Left Front, as Received



Figure A-2: Right Rear, as Received

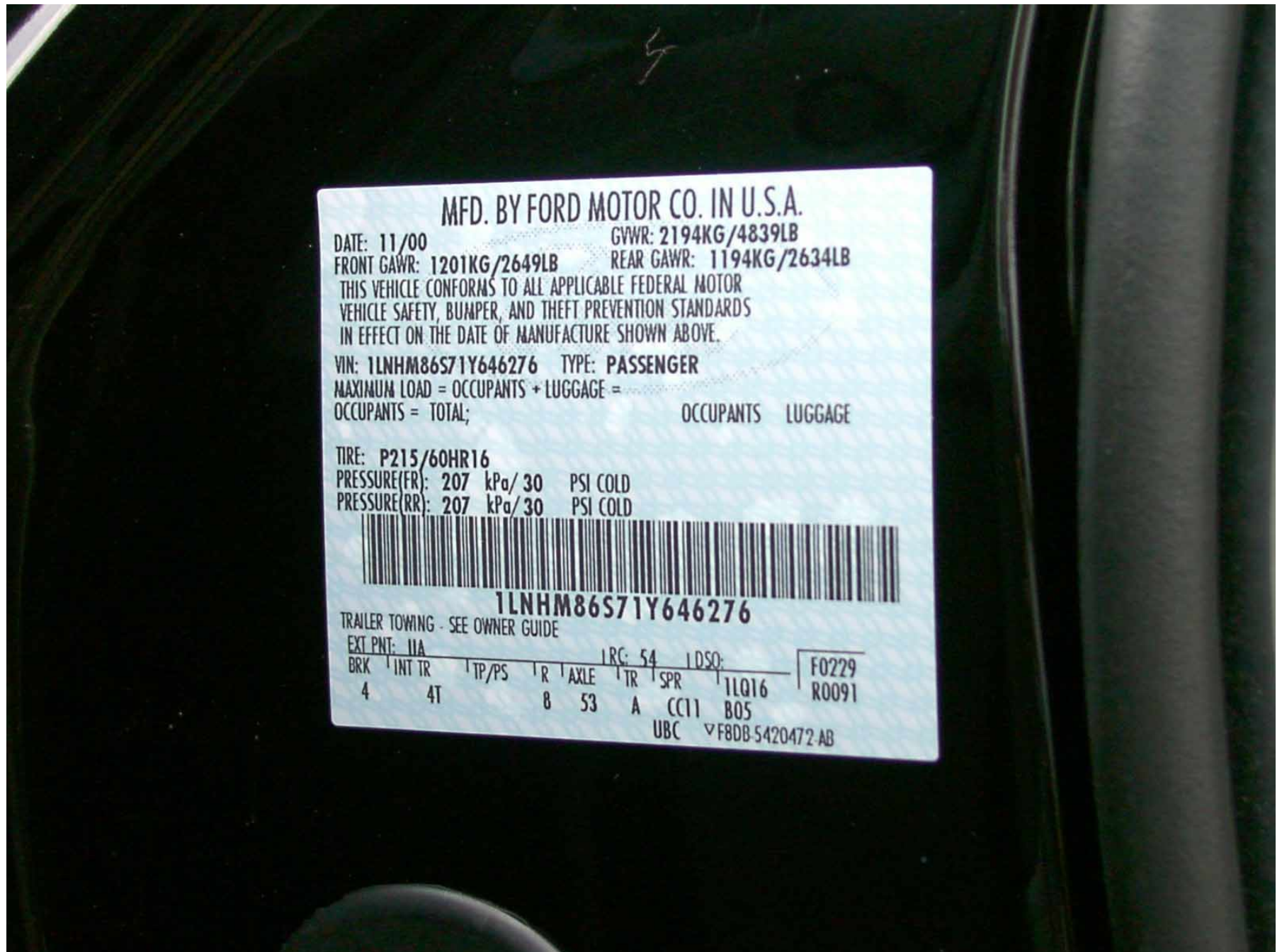


Figure A-3: Vehicle Certification Label

LS

RECOMMENDED TIRE SIZE AND INFLATION PRESSURE (COLD)
DIMENSIONS DES PNEUS et PRESSIONS DE GONFLAGE RECOMMANDÉES (À FROID)

TIRE SIZE DIMENSIONS DES PNEUS		TIRE PRESSURE FRONT/REAR	PRESSION DES PNEUS AVANT/ARRIÈRE
P215/60R16 94H*	215/60R16 95W*	210 kPa	210 kPa
P215/60R16 94V*	245/45R17 95W*	30 PSI	30 lb/po ²
P235/50R17 95V*			
TEMPORAL SPARE PNEU PROVISoire	T145/80R16 T185/60R17	414 kPa 60 PSI	414 kPa 60 lb/po ²

*MUST BE REPLACED WITH AN EQUIVALENT TYPE SPEED RATED TIRE.
*NE REMPLACER QUE PAR UN PNEU DONT L'INDICE DE VITESSE EST LE MÊME.

TOTAL LOAD = OCCUPANTS PLUS LUGGAGE		CHARGE TOTALE = OCCUPANTS PLUS BAGAGES			
MAXIMUM LOAD CHARGE MAXIMALE	OCCUPANTS OCCUPANTS	DISTRIBUTION RÉPARTITION			
		FRONT AVANT	REAR ARRIÈRE	LUGGAGE BAGAGES	
408 kg / 900 lb	5	2	3	68 kg / 150 lb	

FOR SUSTAINED HIGH SPEED, TRAILER TOWING, RECREATIONAL ACCESSORIES AND TEMPORAL SPARE USAGE - SEE OWNER GUIDE.
HAUTES VITESSES SOUTENUES, REMORQUES, ACCESSOIRES DE LOISIRS ET PNEU DE SECOURS PROVISoire: CONSULTER LE GUIDE DU PROPRIÉTAIRE.

1W43-1532-AA

Figure A-4: Vehicle Tire Label



Figure A-5: Front View, Pre-Test



Figure A-6: Front View, Post-Test



Figure A-7: Rear View, Pre-Test



Figure A-8: Rear View, Post-Test



Figure A-9: Left (Impacted) Side View, Pre-Test



Figure A-10: Left (Impacted) Side View, Post-Test





Figure A-12: Overhead Overall View, Pre-Test



Figure A-13: Overhead Overall View, Post-Test



Figure A-14: MDB Left Side View at Impact Position, Pre-Test



Figure A-15: MDB Right Side View at Impact Position, Pre-Test



Figure A-16: Impact Point Target Close-up, Pre-Test

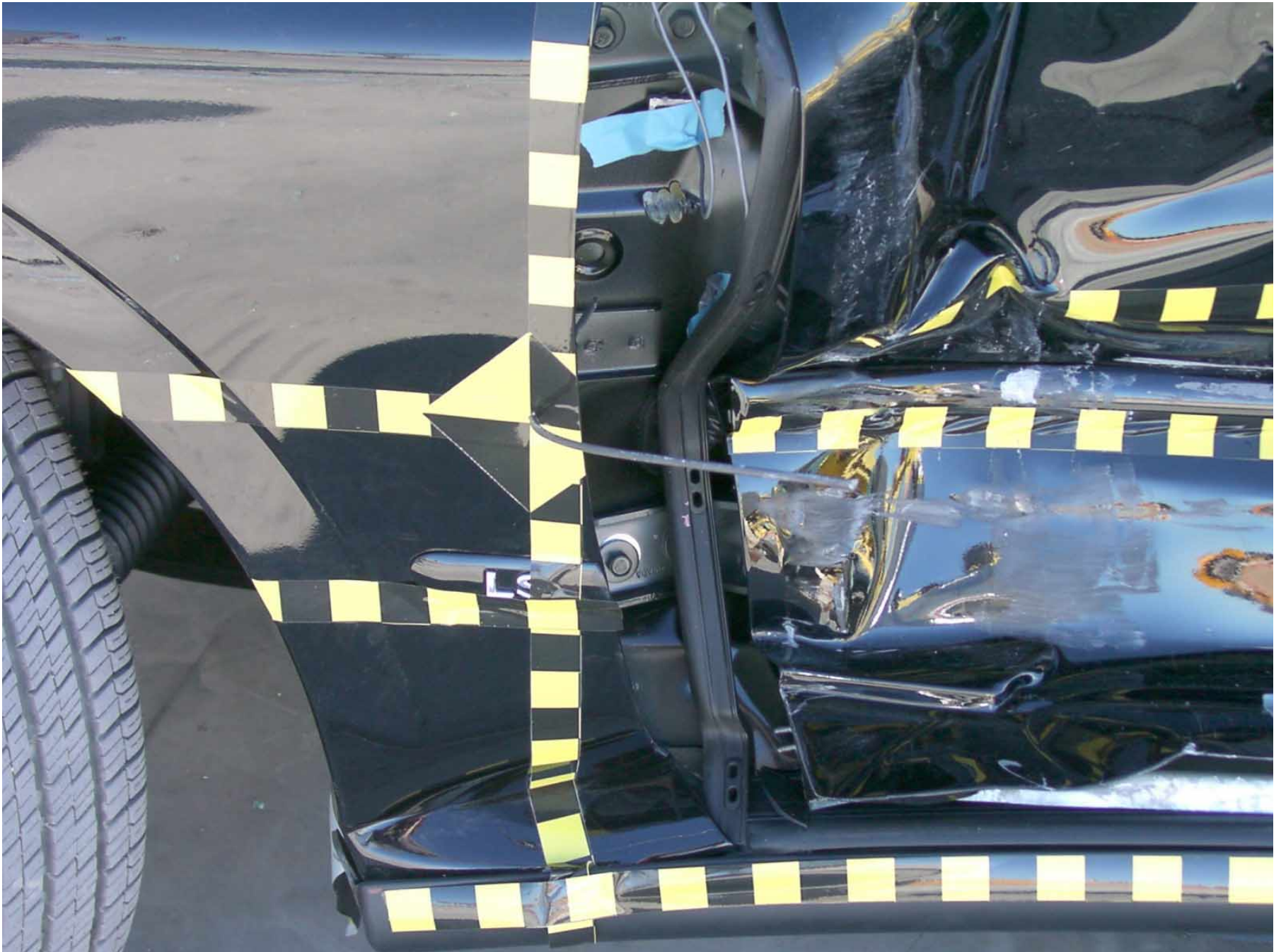


Figure A-17: Impact Point Target Close-up, Post-Test



Figure A-18: Driver Dummy Left Side with Door Open, Pre-Test

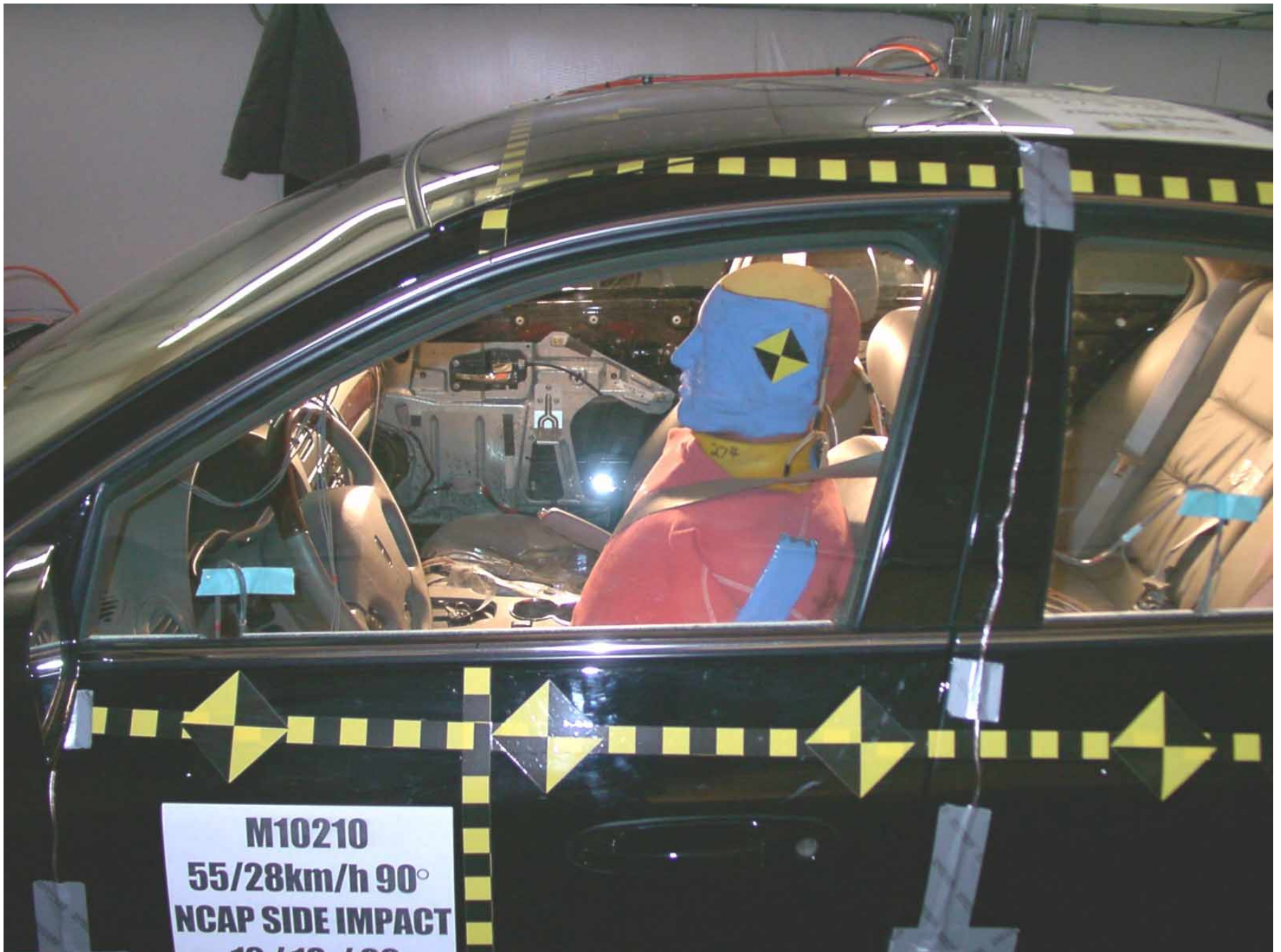


Figure A-19: Driver Dummy Left Side, Pre-test



Figure A-20: Driver Dummy Left Side, Post-Test



Figure A-21: Driver Dummy Clearance, Pre-Test



Figure A-22: Driver Dummy Clearance, Post-Test



Figure A-23: Driver Dummy Inside View, Pre-Test



Figure A-24: Driver Dummy Inside View, Post-Test



Figure A-25: Driver Door Inside View, Pre-Test



Figure A-26: Driver Dummy Contact Points Inside View, Post-Test



Figure A-27: Passenger Dummy Left Side with Door Open, Pre-Test

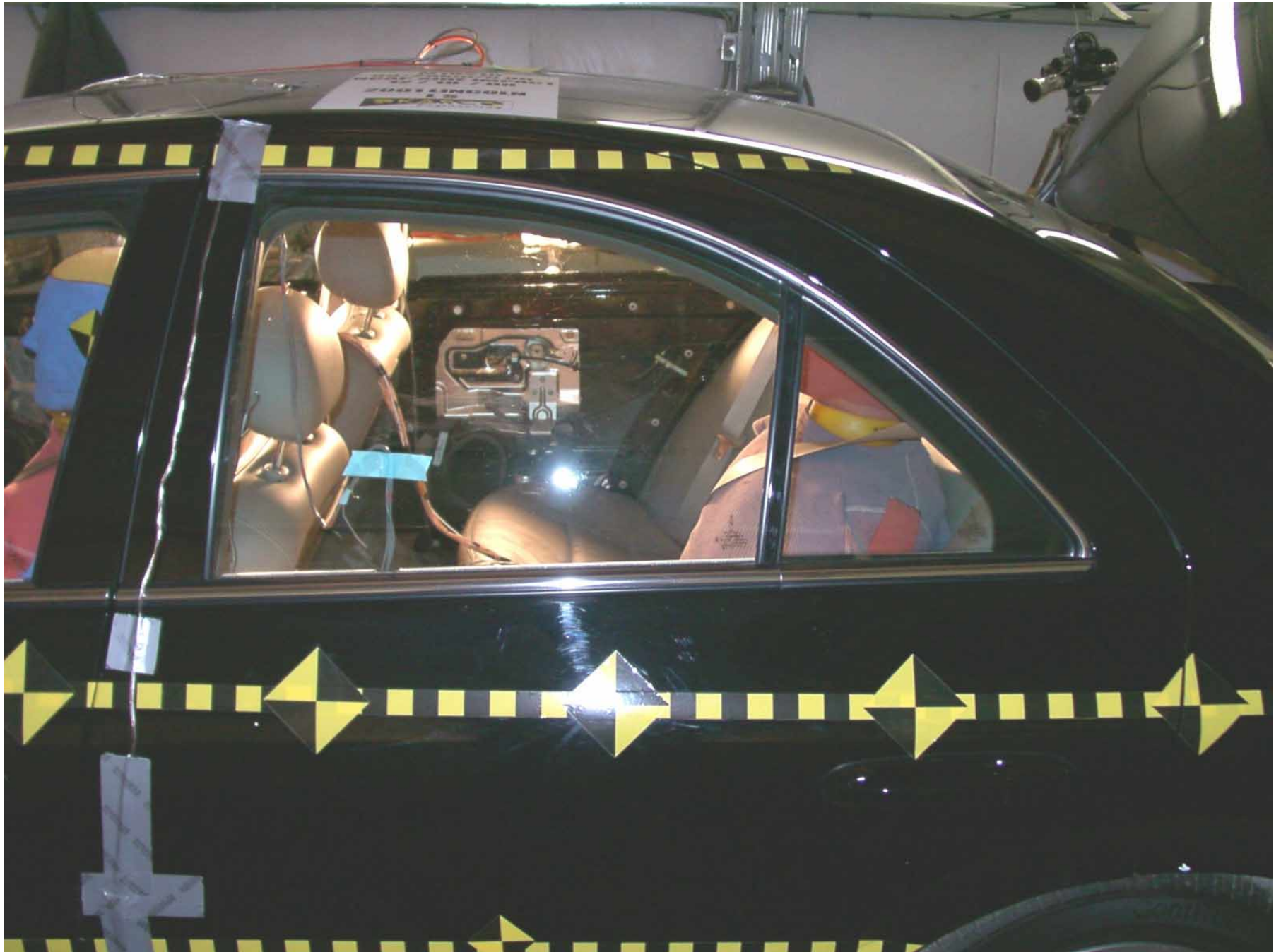


Figure A-28: Passenger Dummy Left Side, Pre-Test



Figure A-29: Passenger Dummy Left Side, Post-Test



Figure A-30: Passenger Dummy Clearance, Pre-Test



Figure A-31: Passenger Dummy Clearance, Post-Test



Figure A-32: Passenger Dummy Inside View, Pre-Test

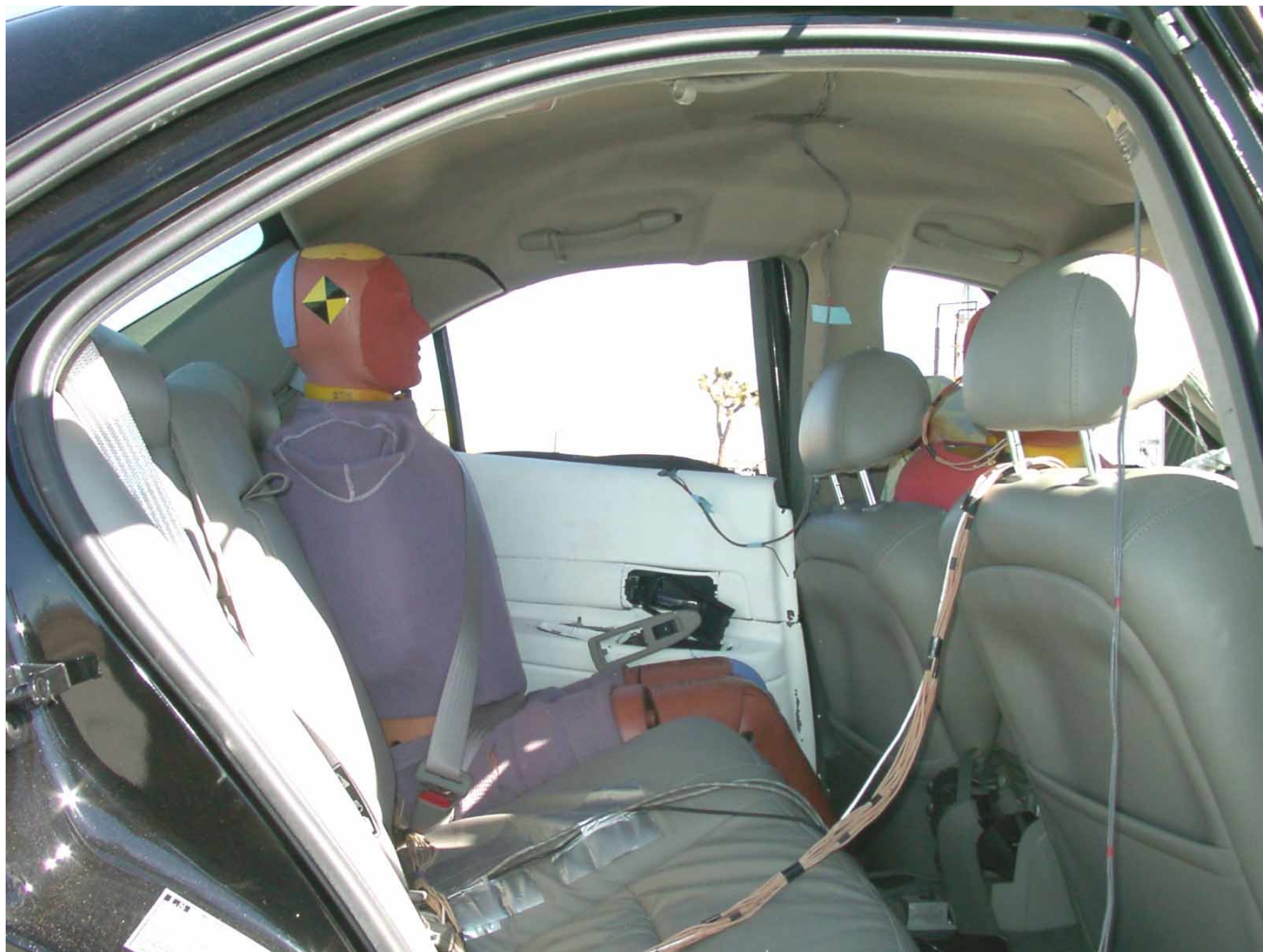


Figure A-33: Passenger Dummy Inside View, Post-Test



Figure A-34: Passenger Door Inside View, Pre-Test



Figure A-35: Passenger Dummy Contact Points Inside View, Post-Test

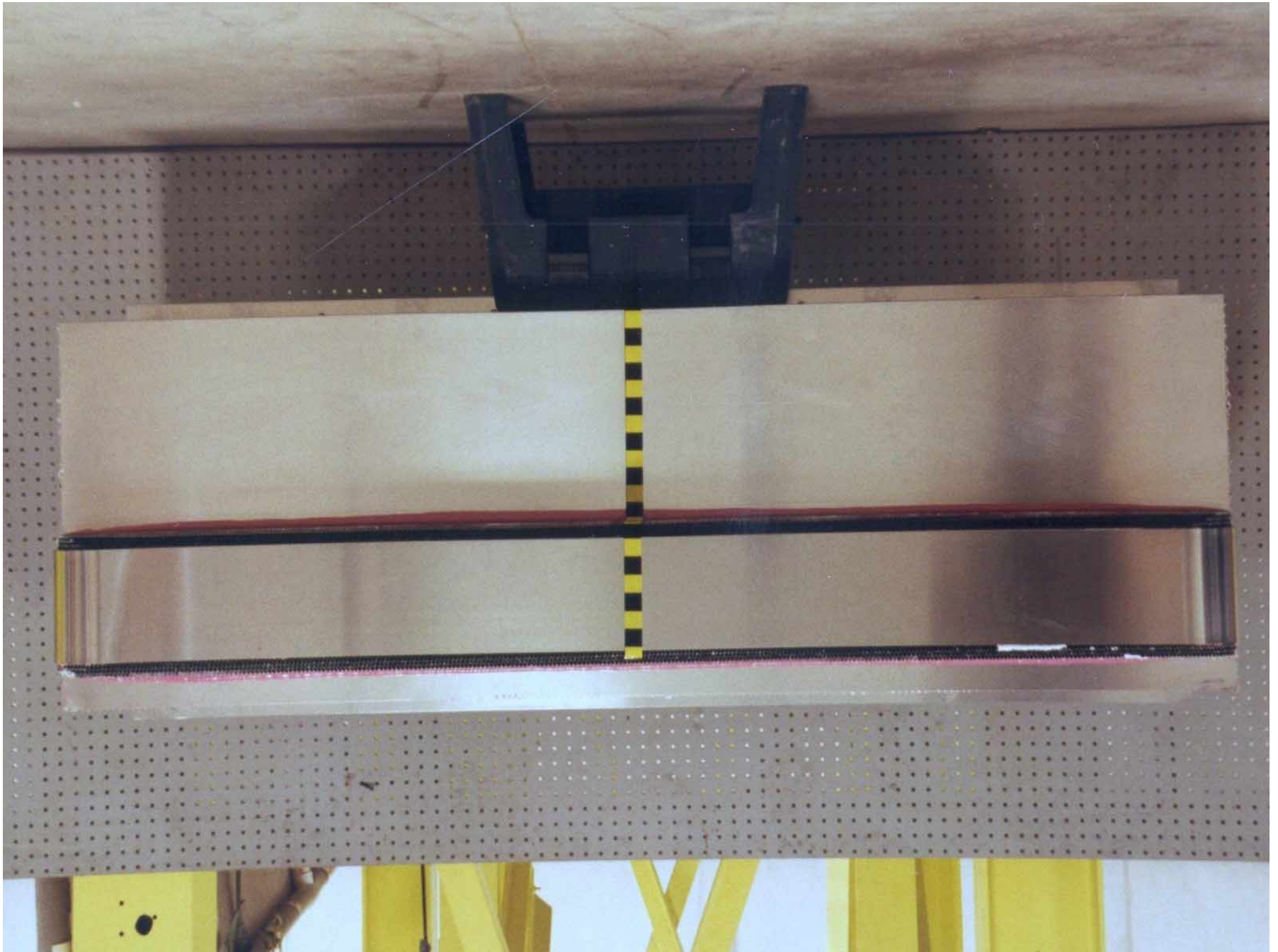


Figure A-36: Front View of Deformable Barrier, Pre-Test



Figure A-37: Front View of Deformable Barrier, Post-Test

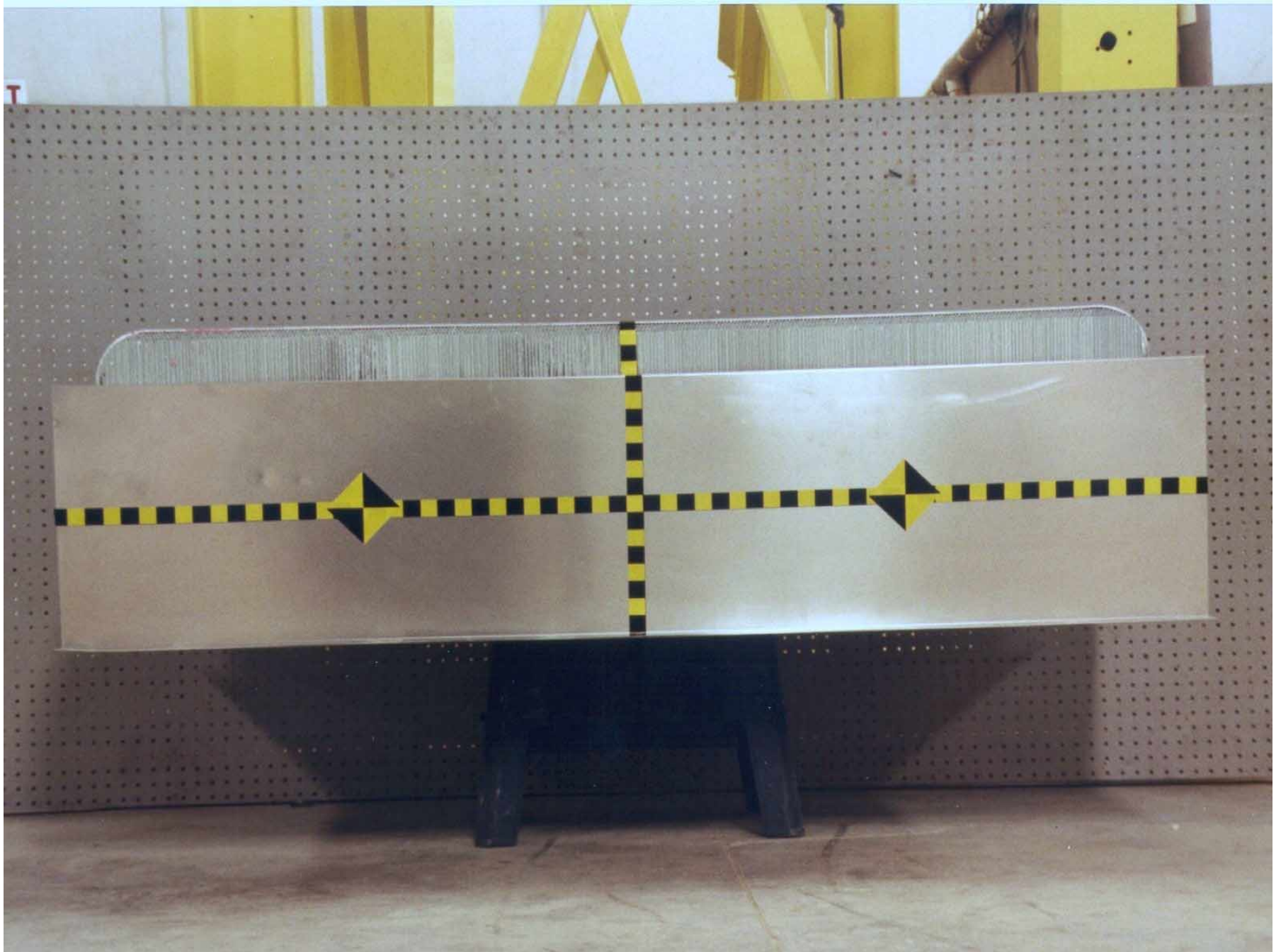


Figure A-38: Top View of Deformable Barrier, Pre-Test



Figure A-39: Top View of Deformable Barrier, Post-Test

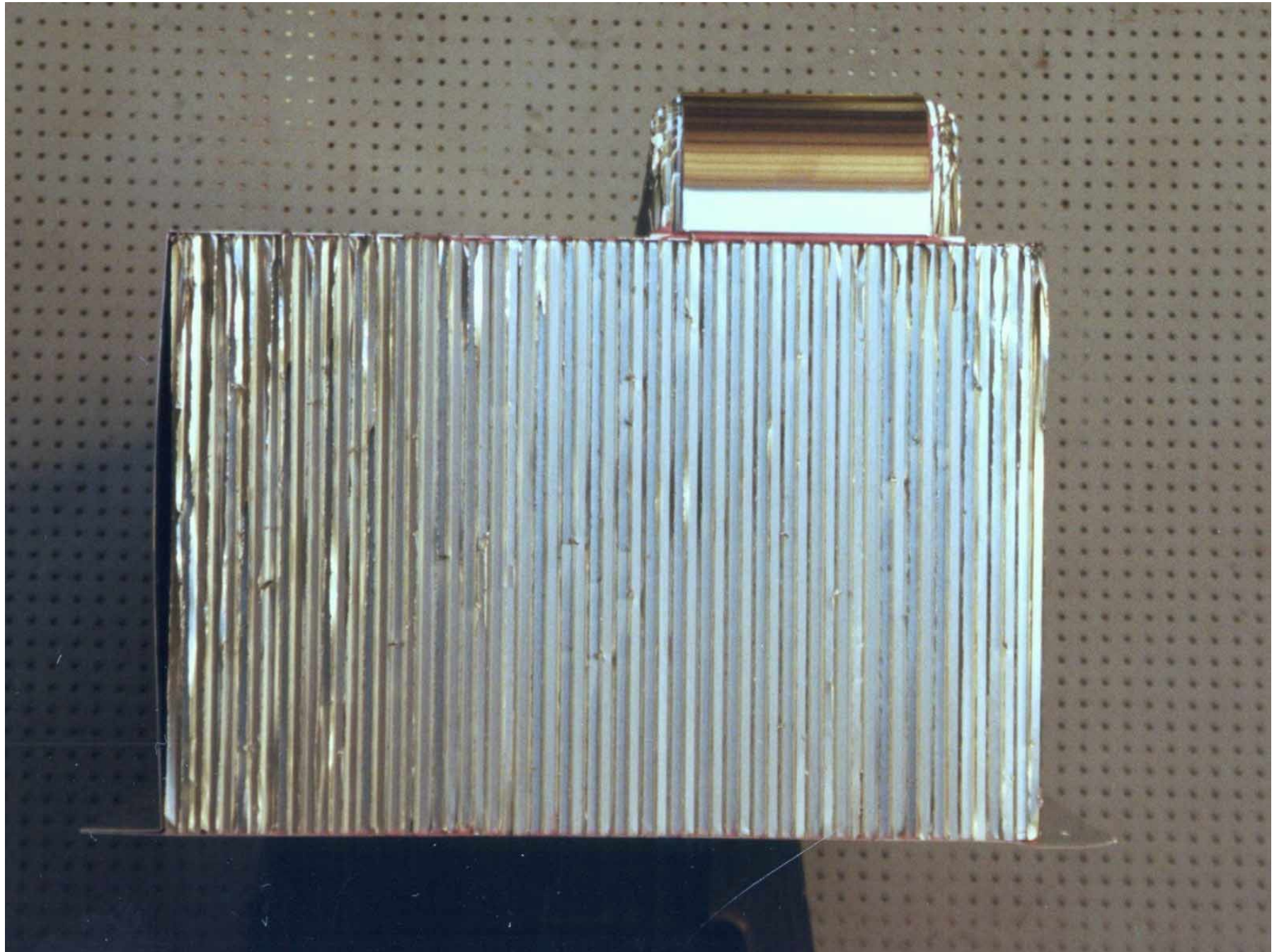


Figure A-40: Right Side View of Deformable Barrier, Pre-Test



Figure A-41: Right Side View of Deformable Barrier, Post-Test



Figure A-42: Left Side View of Deformable Barrier, Pre-Test



Figure A-43: Left Side View of Deformable Barrier, Post-Test



Figure A-44: Vehicle on Rollover Device, Top View

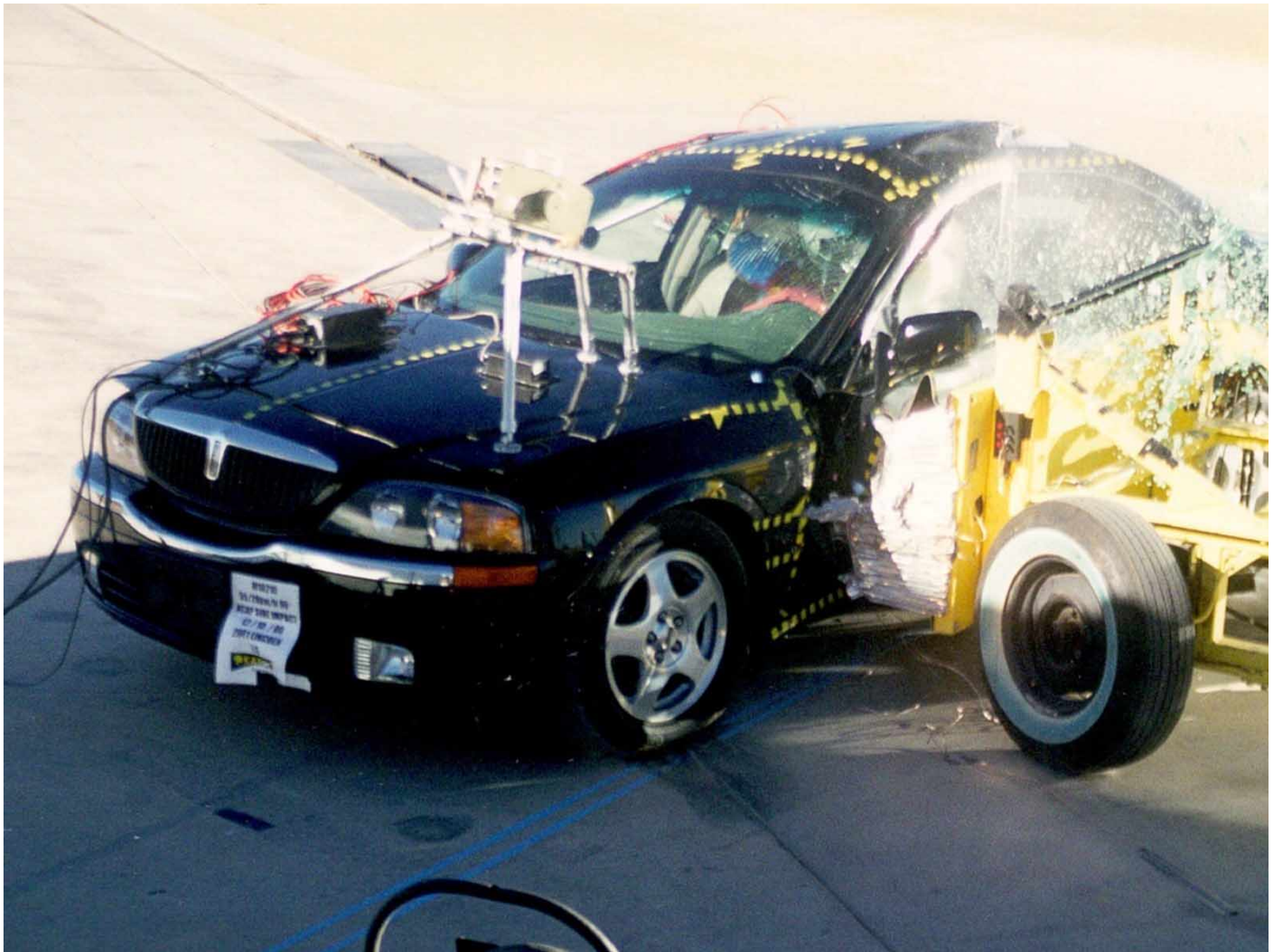


Figure A-45: Vehicle During Impact

APPENDIX B
SID, VEHICLE, AND MDB RESPONSE DATA

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B-9	Driver Upper Rib Primary Y Velocity	B-9
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LIST OF DATA PLOTS, PASSENGER SID

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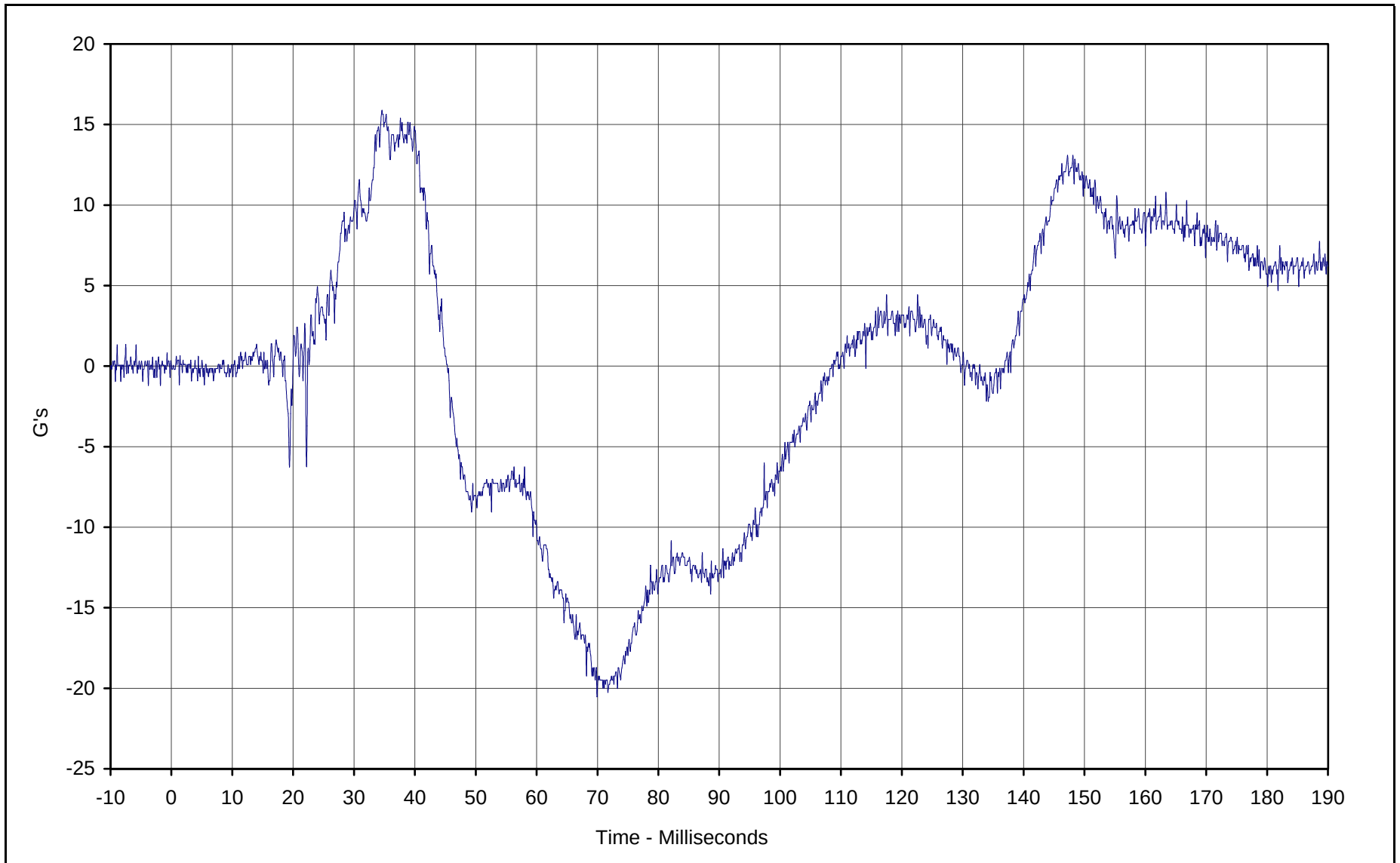
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LIST OF DATA PLOTS, FIR FILTER DATA

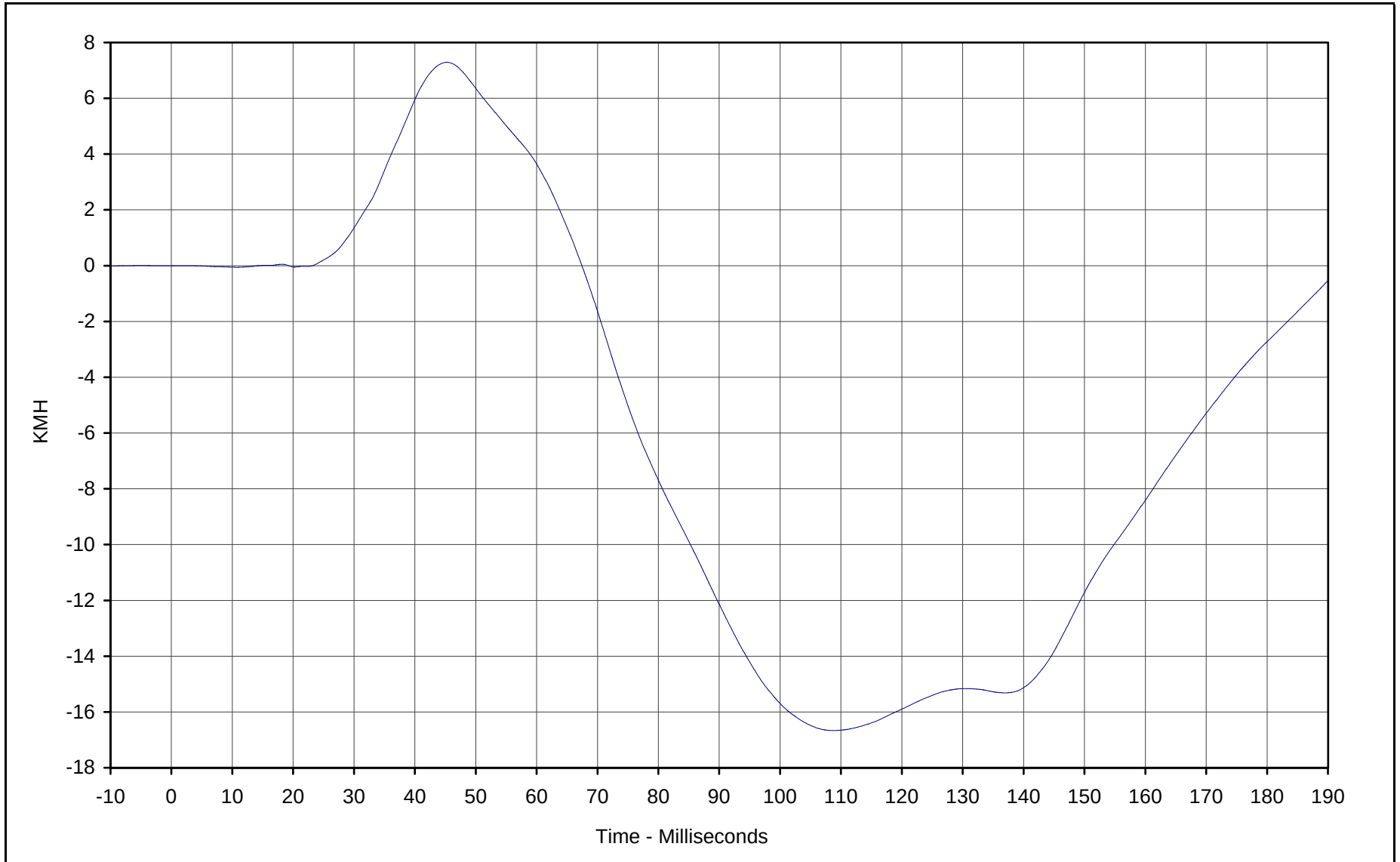
Data Plot	Page
B-119 Driver Upper Rib Primary Y	B-119
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B-122 Driver Pelvis Primary Y	B-122
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Curve Description: Driver Head CG X
Maximum Value: 15.9 at 34.6 Milliseconds
Minimum Value: -20.5 at 69.9 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-001

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

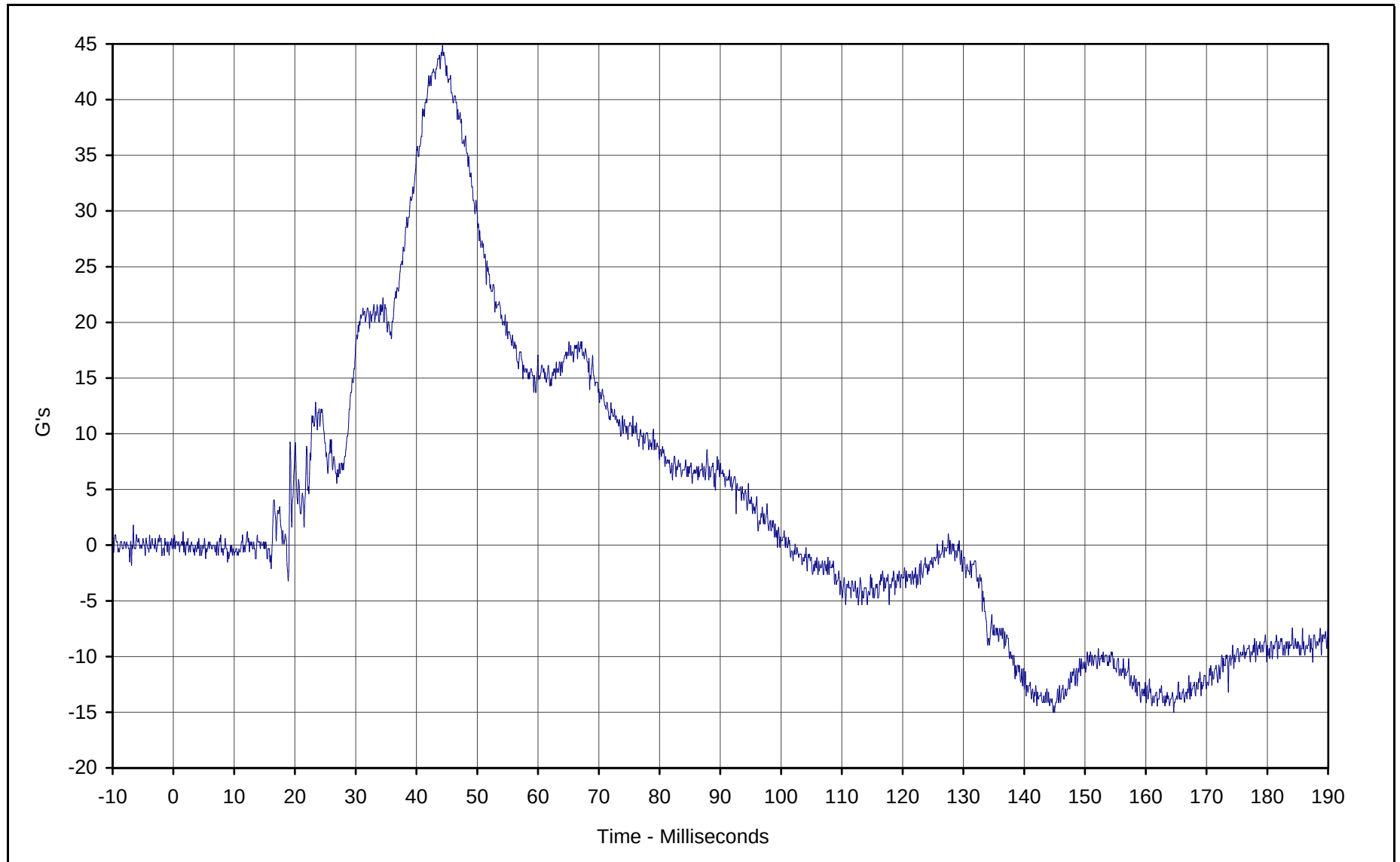




Curve Description: Driver Head CG X Velocity
Maximum Value: 7.3 at 45.3 Milliseconds
Minimum Value: -16.7 at 108.7 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-001

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

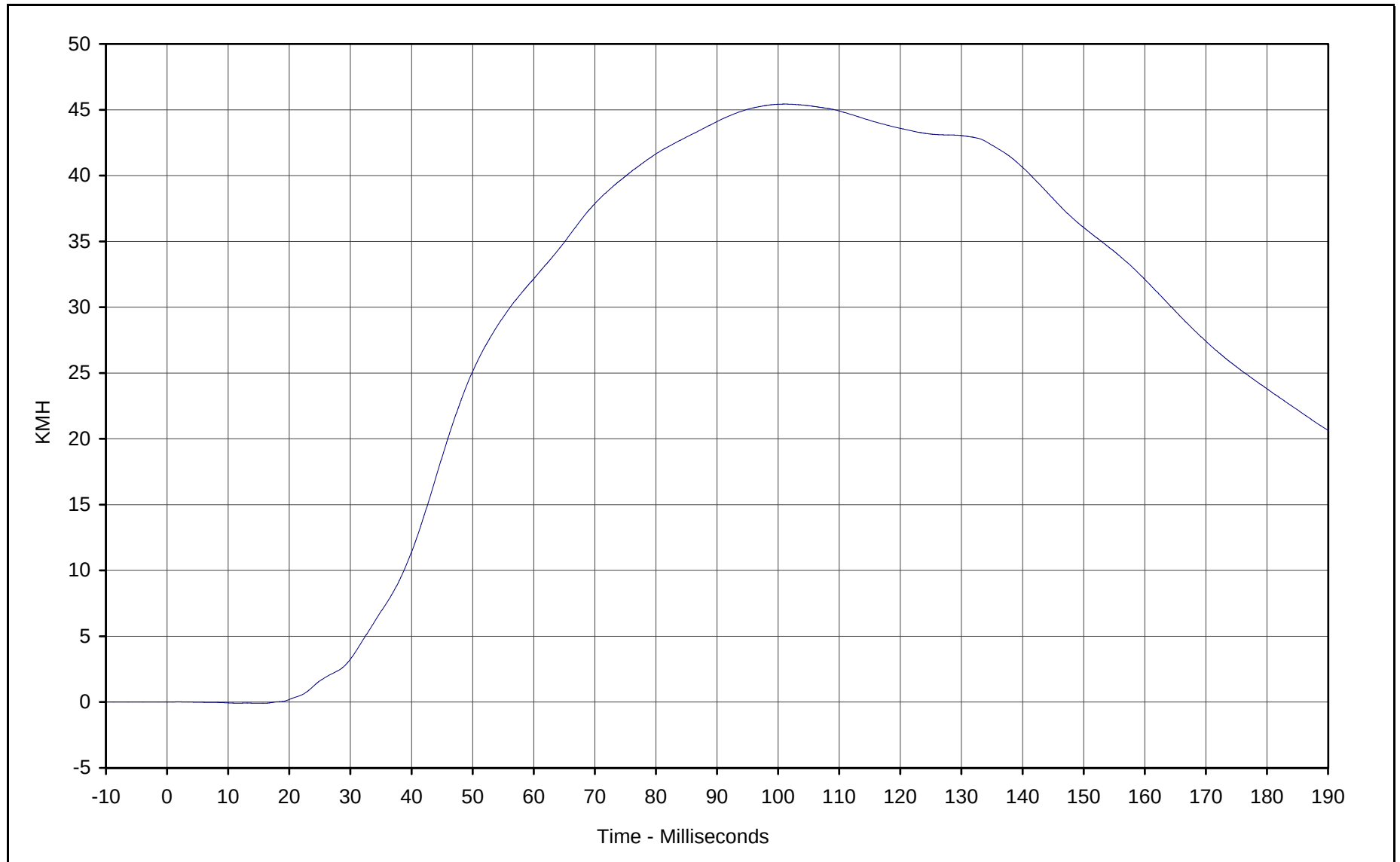




Curve Description: Driver Head CG Y
Maximum Value: 44.9 at 44.3 Milliseconds
Minimum Value: -15.0 at 144.8 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-002

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

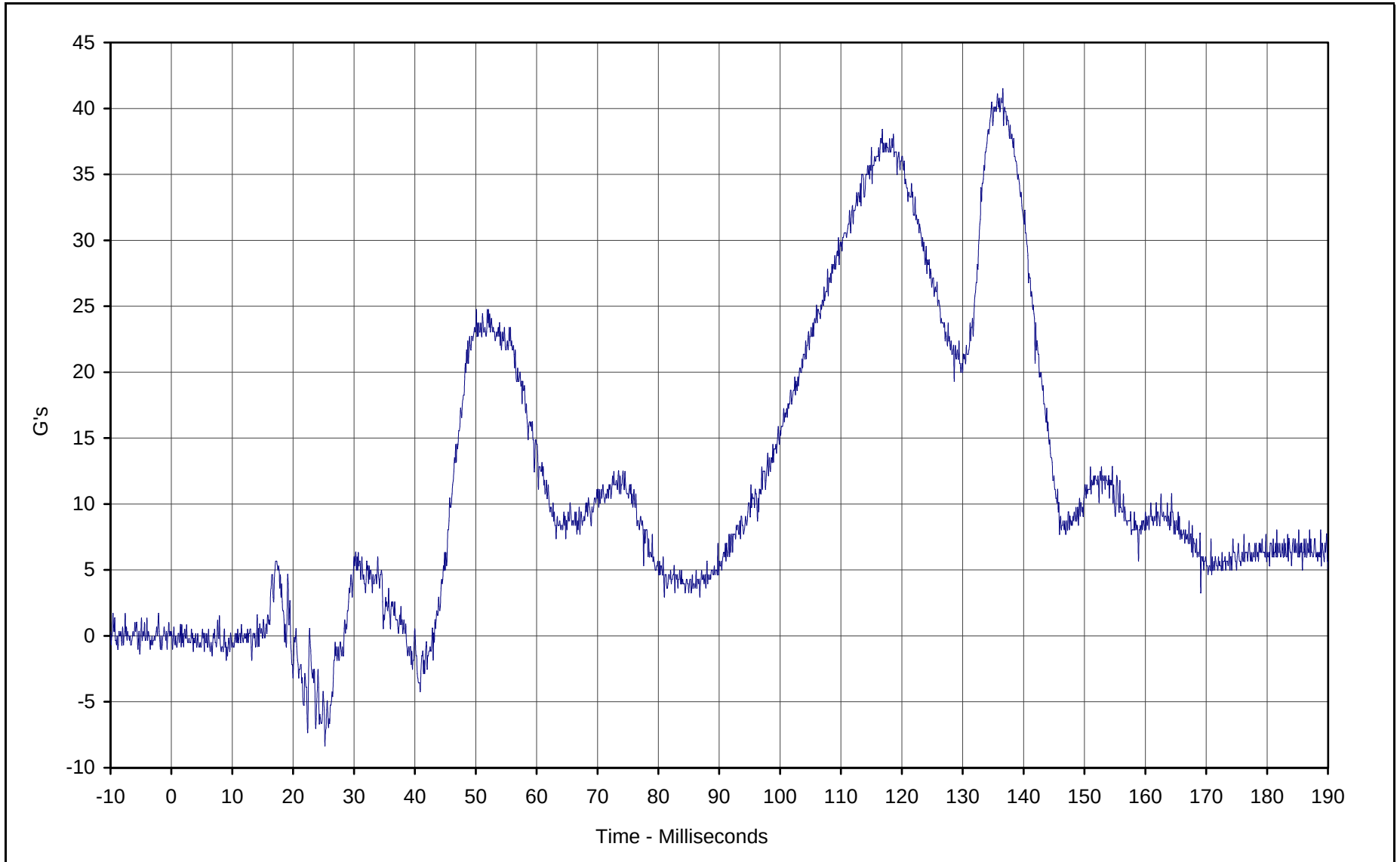




Curve Description: Driver Head CG Y Velocity
Maximum Value: 45.4 at 101.1 Milliseconds
Minimum Value: -0.1 at 15.9 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-002

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

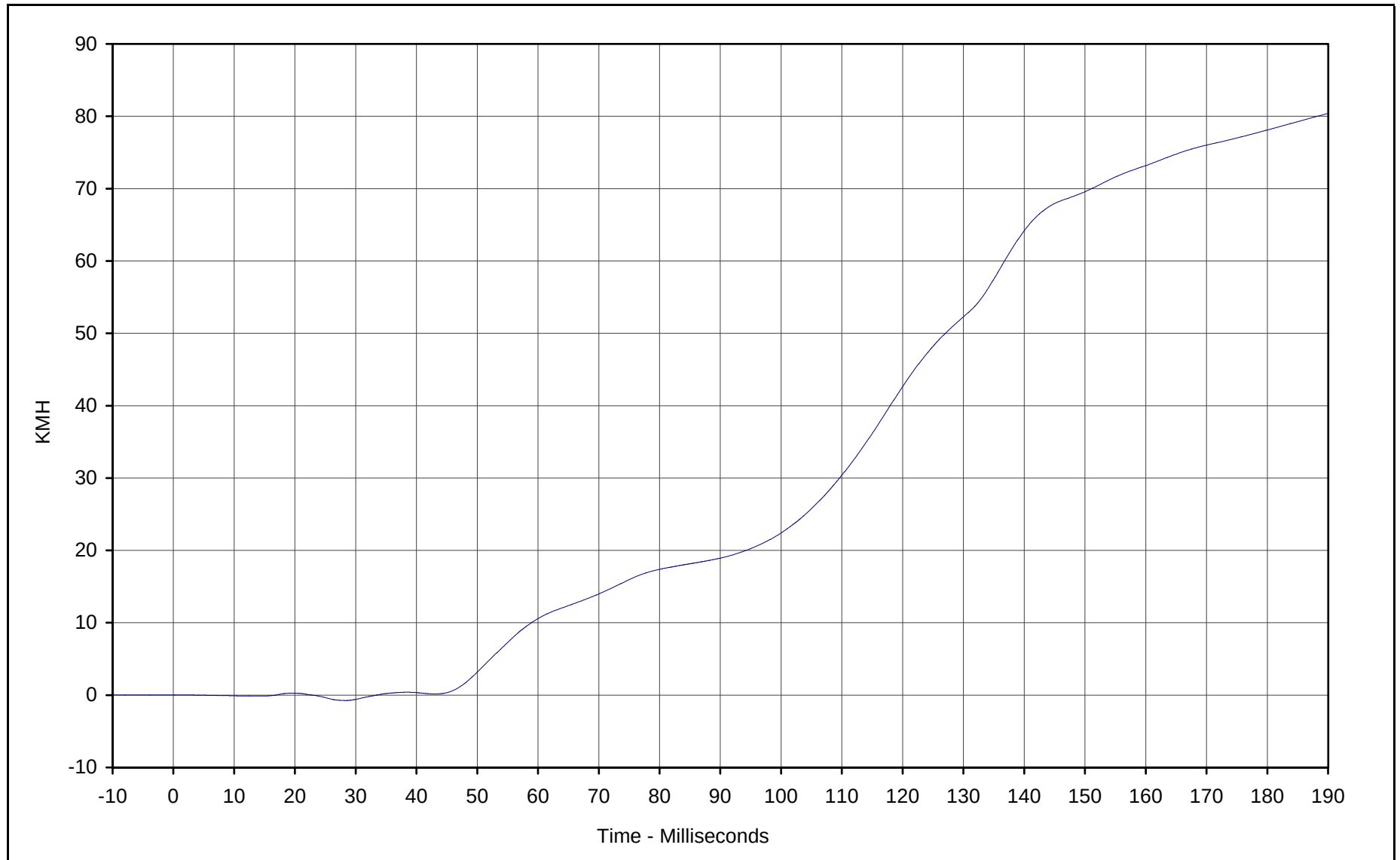




Curve Description: Driver Head CG Z
Maximum Value: 41.5 at 136.6 Milliseconds
Minimum Value: -8.3 at 25.2 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-003

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

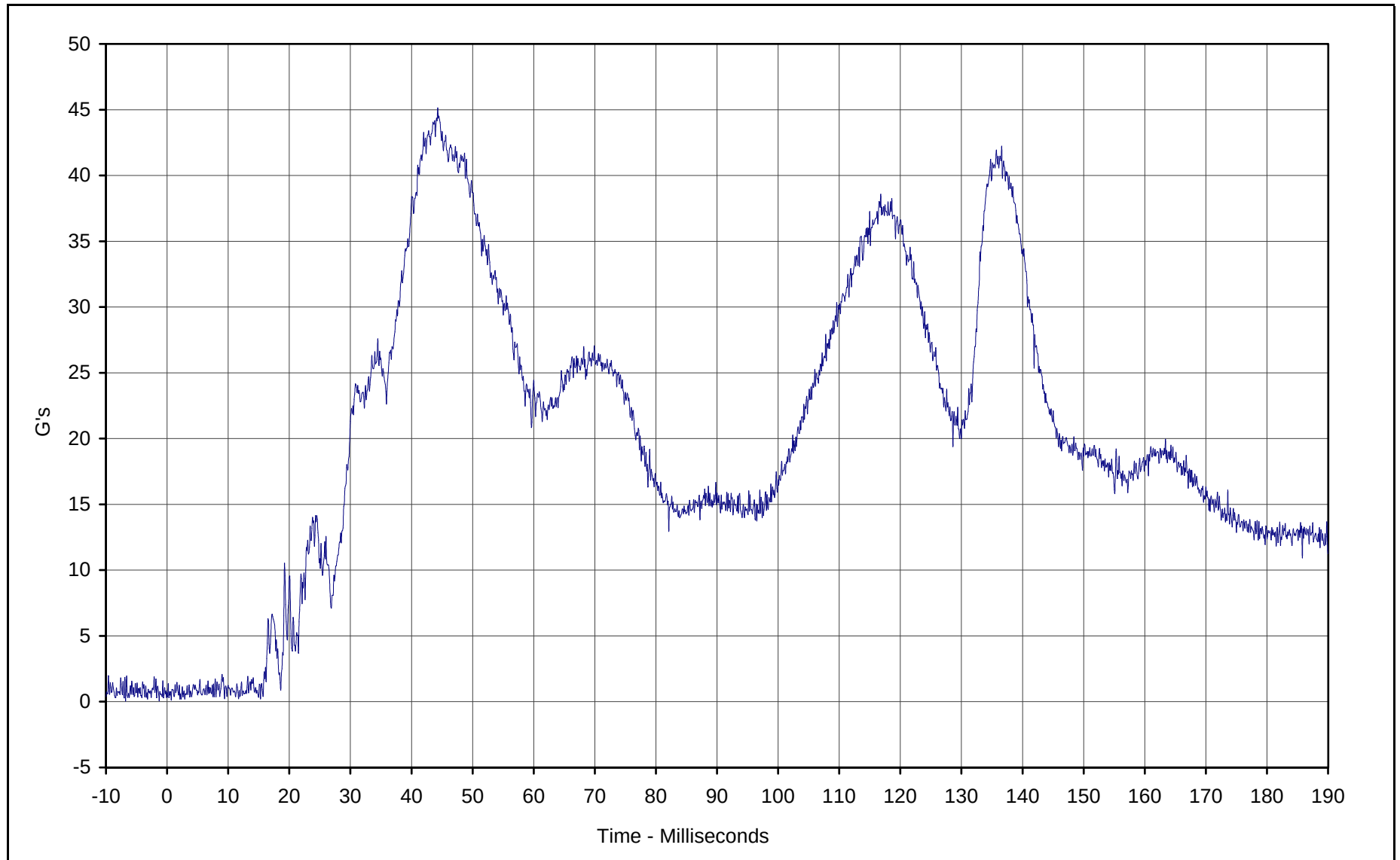




Curve Description: Driver Head CG Z Velocity
Maximum Value: 80.4 at 189.9 Milliseconds
Minimum Value: -0.7 at 28.3 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-003

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

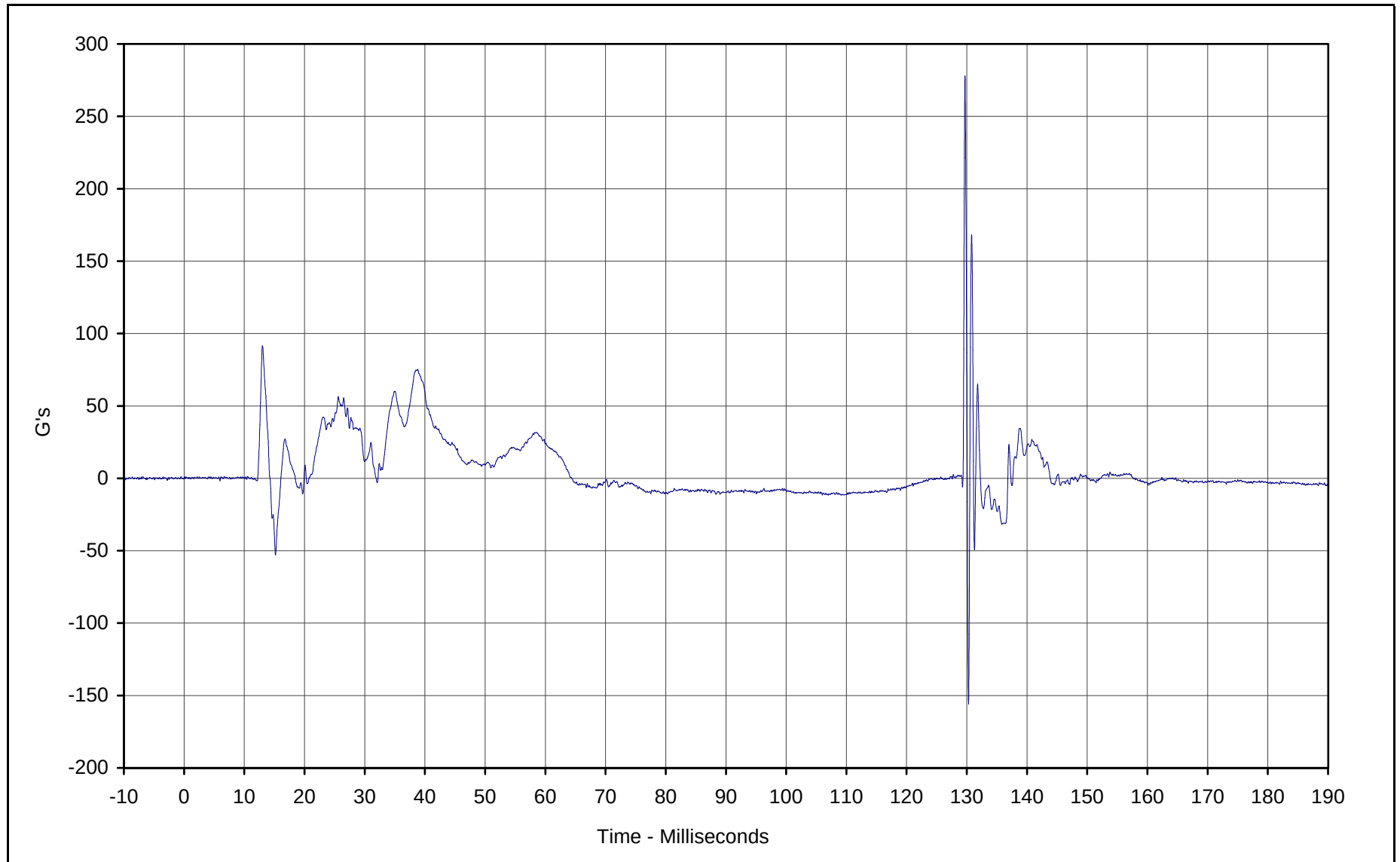




Curve Description: Driver Head CG Resultant
Maximum Value: 45.1 at 44.3 Milliseconds
Minimum Value: 0.1 at 0.7 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: RES-001

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

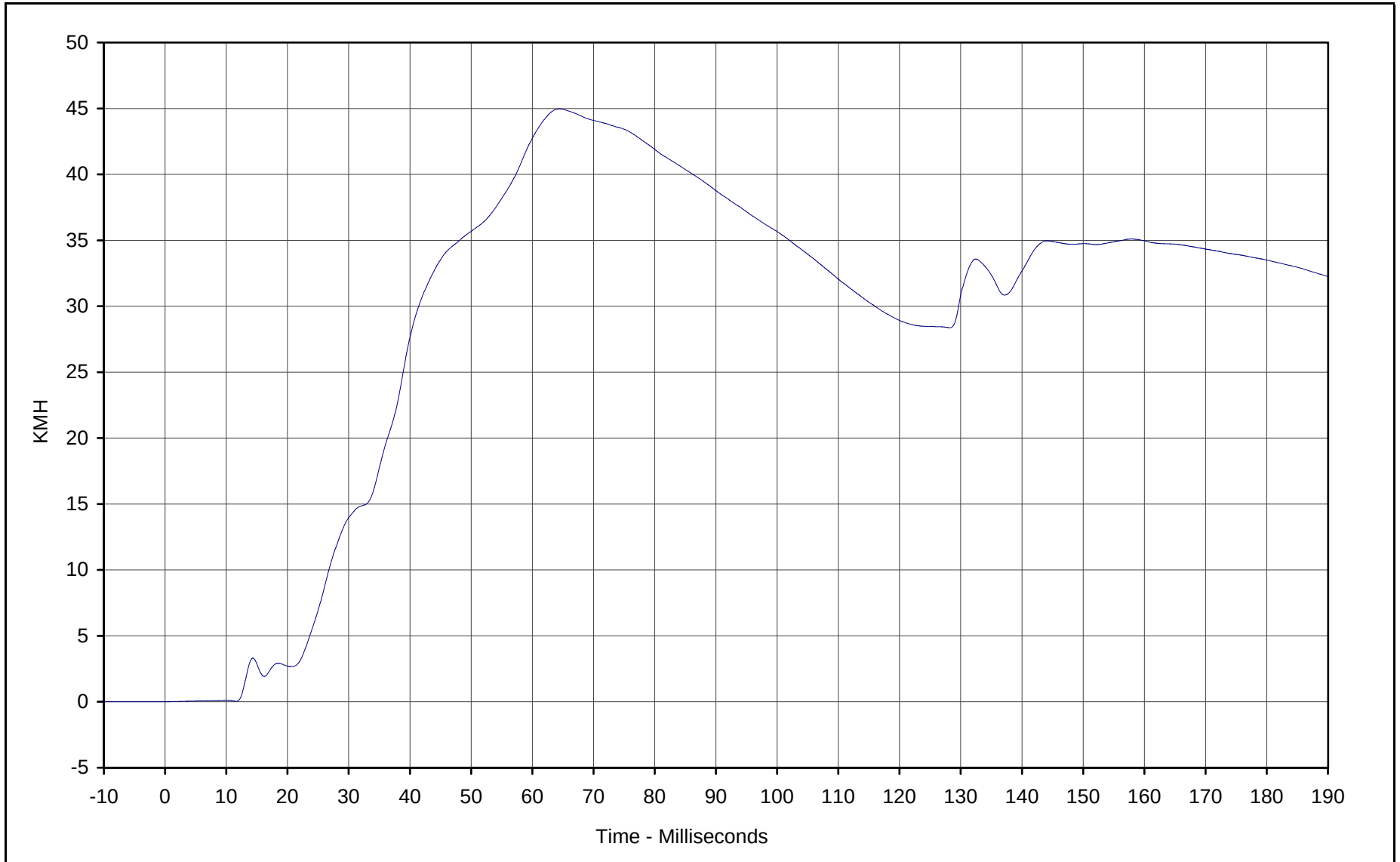




Curve Description: Driver Upper Rib Primary Y
Maximum Value: 277.9 at 129.7 Milliseconds
Minimum Value: -155.8 at 130.3 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-004

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

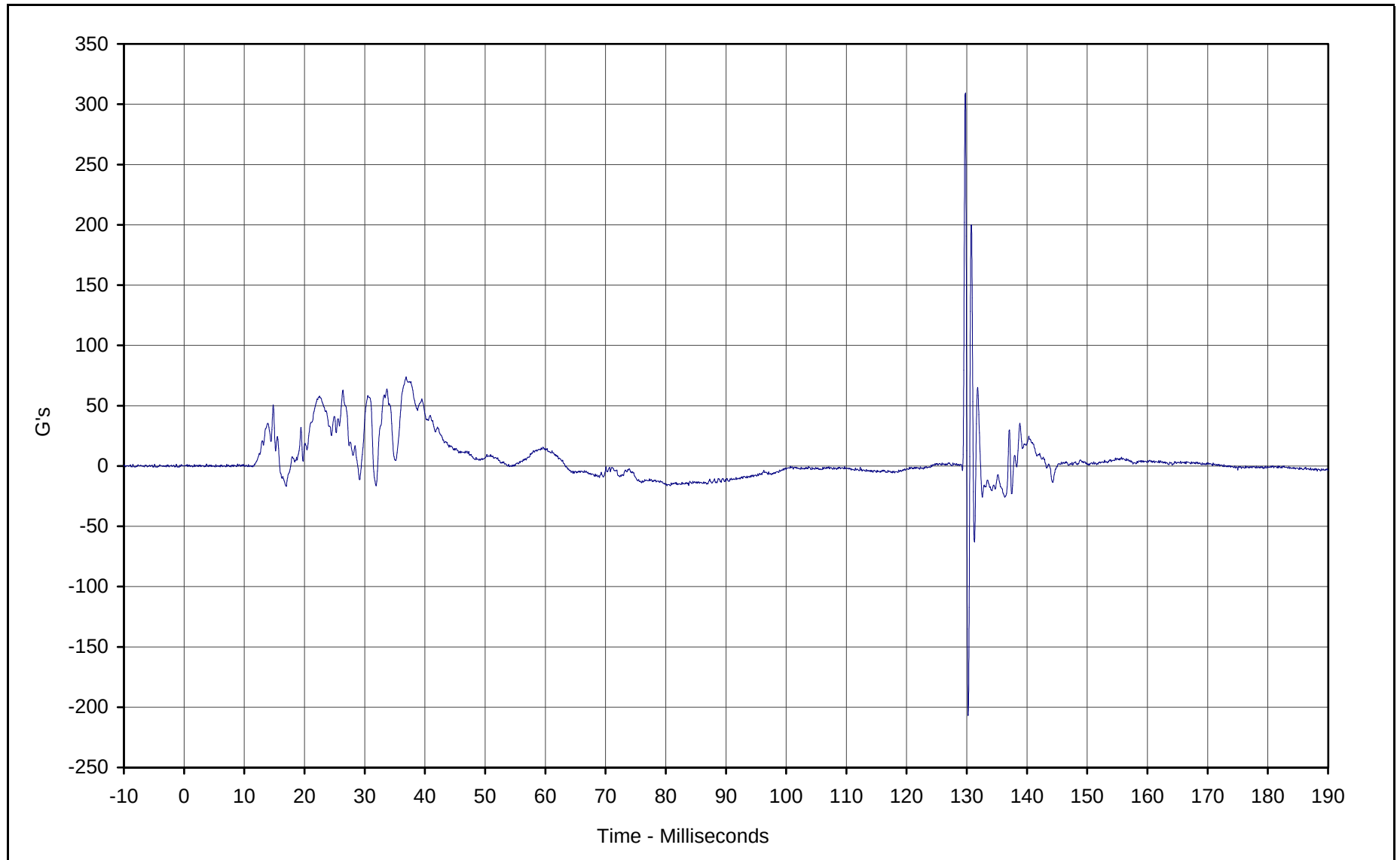




Curve Description: Driver Upper Rib Primary Y Velocity
Maximum Value: 45.0 at 64.4 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-004

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

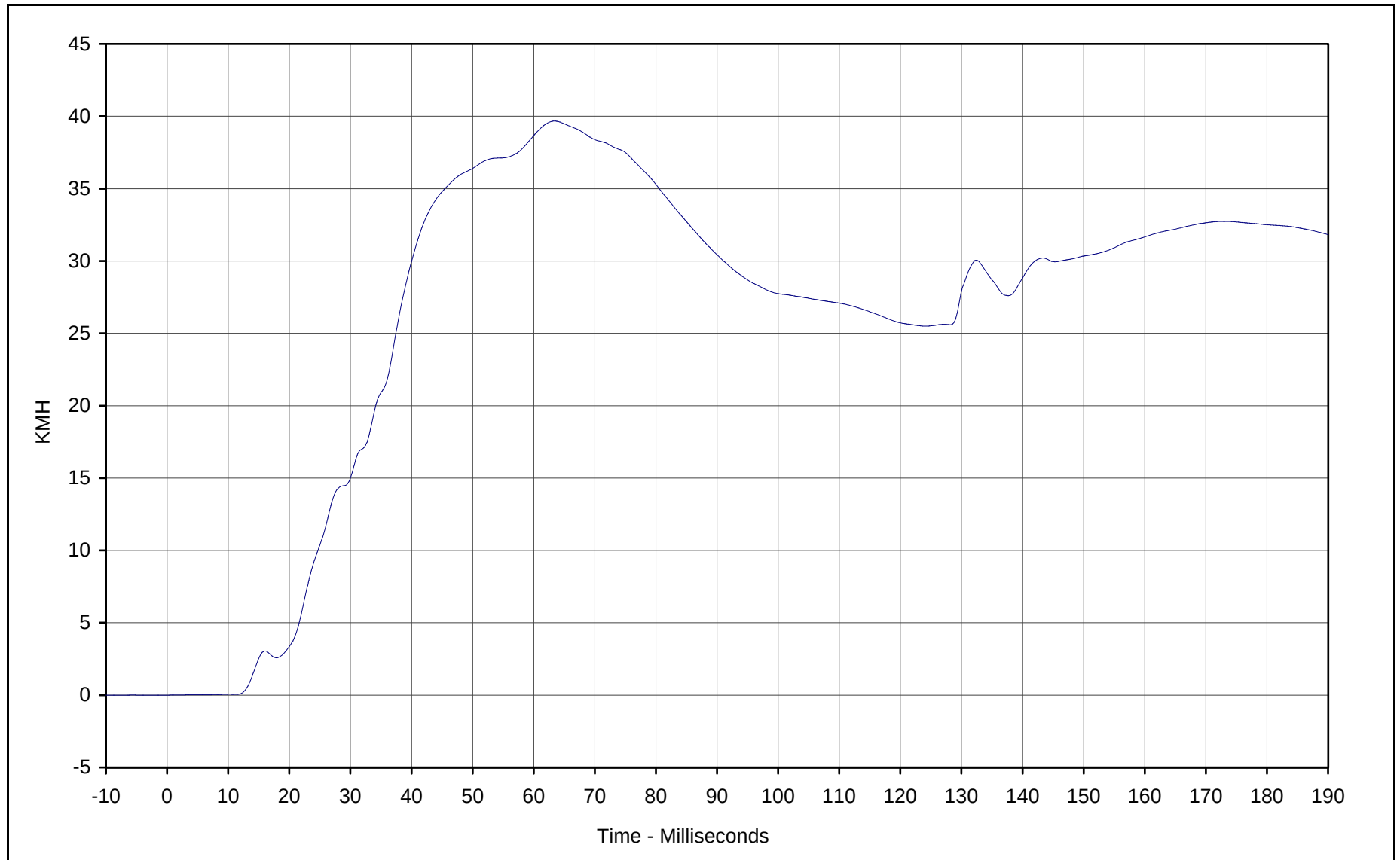




Curve Description: Driver Lower Rib Primary Y
Maximum Value: 309.1 at 129.8 Milliseconds
Minimum Value: -206.2 at 130.2 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-005

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan





Curve Description: Driver Lower Rib Primary Y Velocity

Maximum Value: 39.7 at 63.4 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

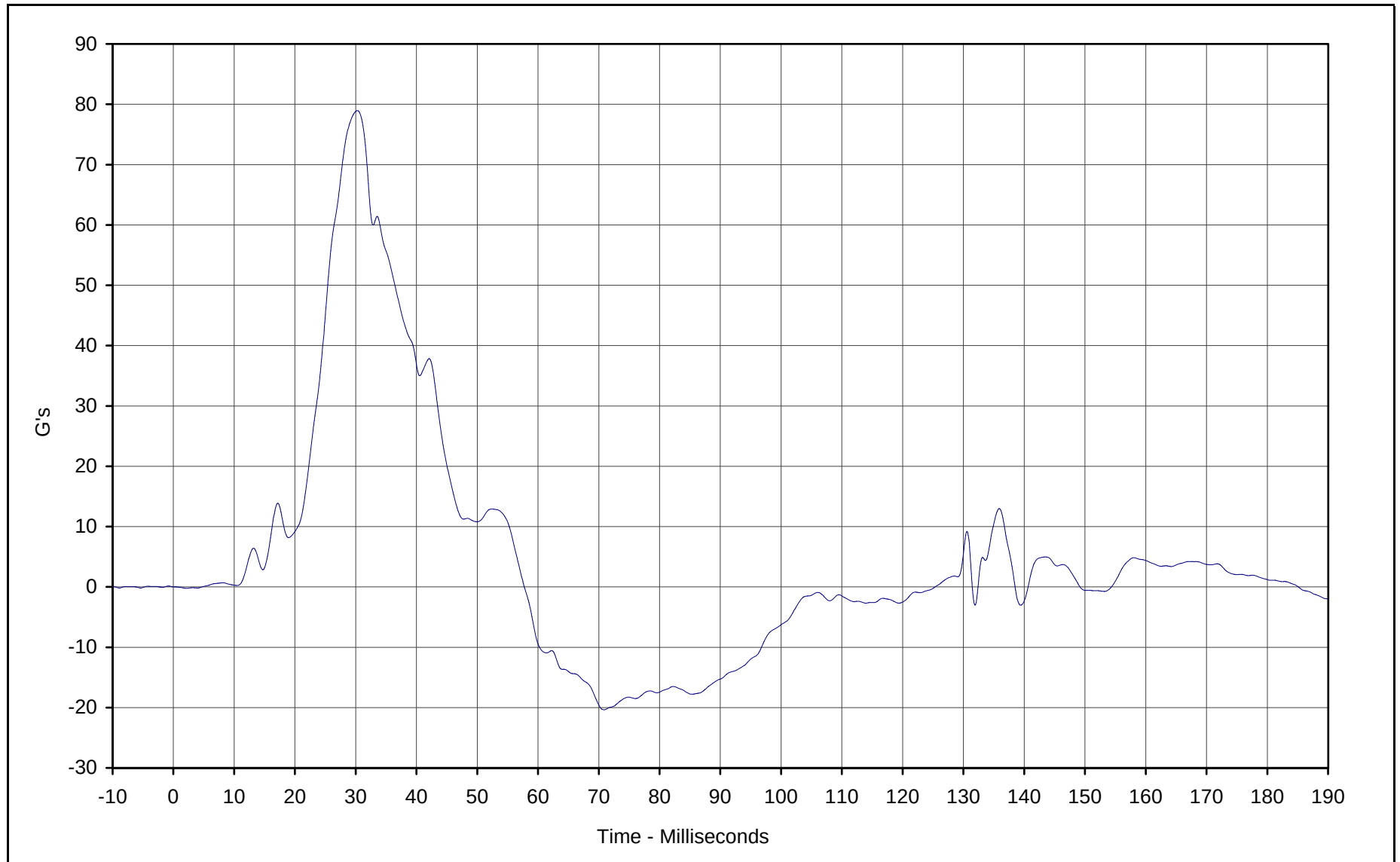
Date of Test: 12/18/00

Curve Number: IN1-005

Test Program: 55/28 km/h Side Impact NCAP No.: M10210

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

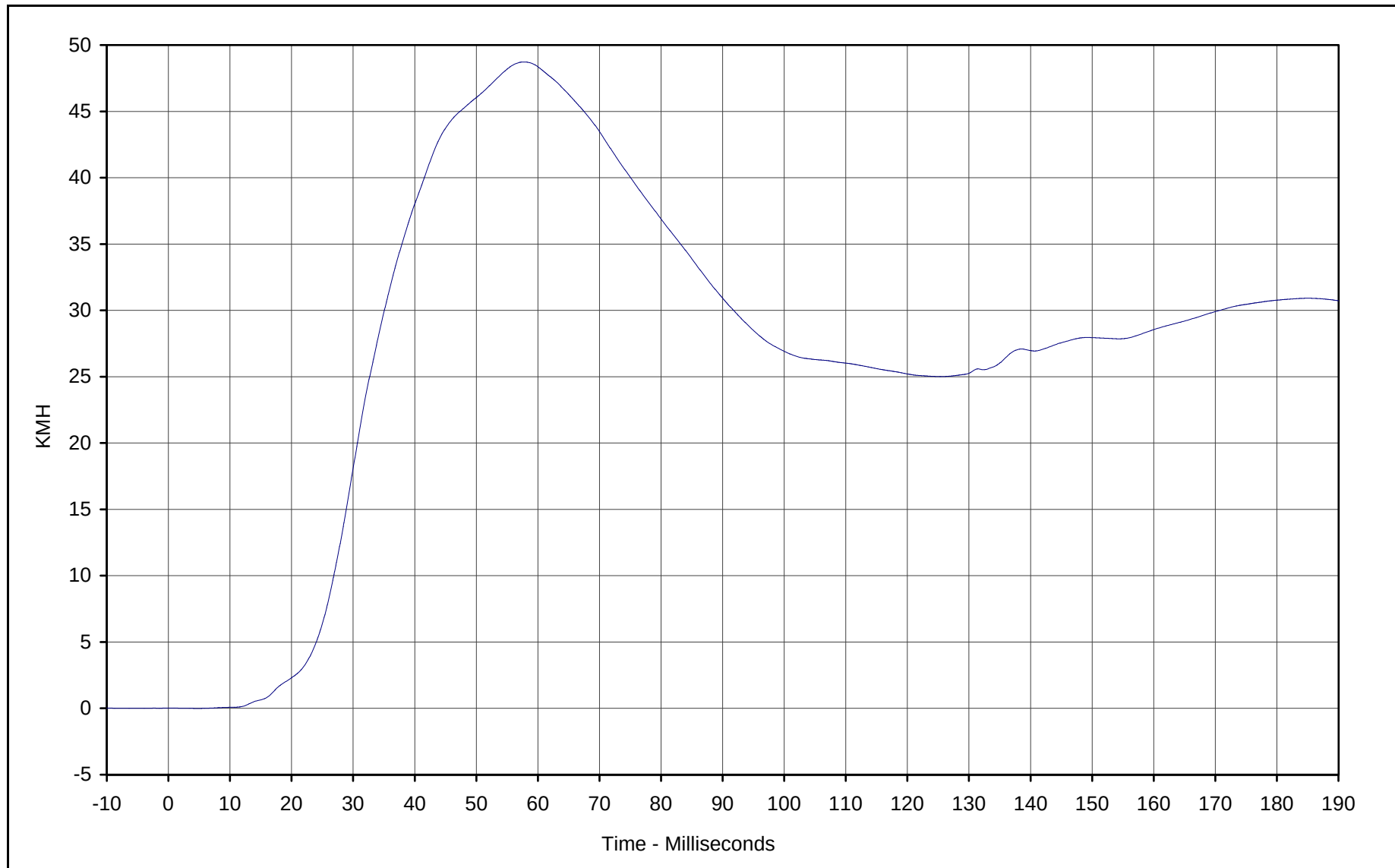




Curve Description: Driver Lower Spine Primary Y
Maximum Value: 78.9 at 30.3 Milliseconds
Minimum Value: -20.4 at 70.8 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: FIL-006

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan





Curve Description: Driver Lower Spine Primary Y Velocity

Maximum Value: 48.7 at 57.7 Milliseconds

Minimum Value: 0.0 at 4.7 Milliseconds

SAE Filter Class: 180

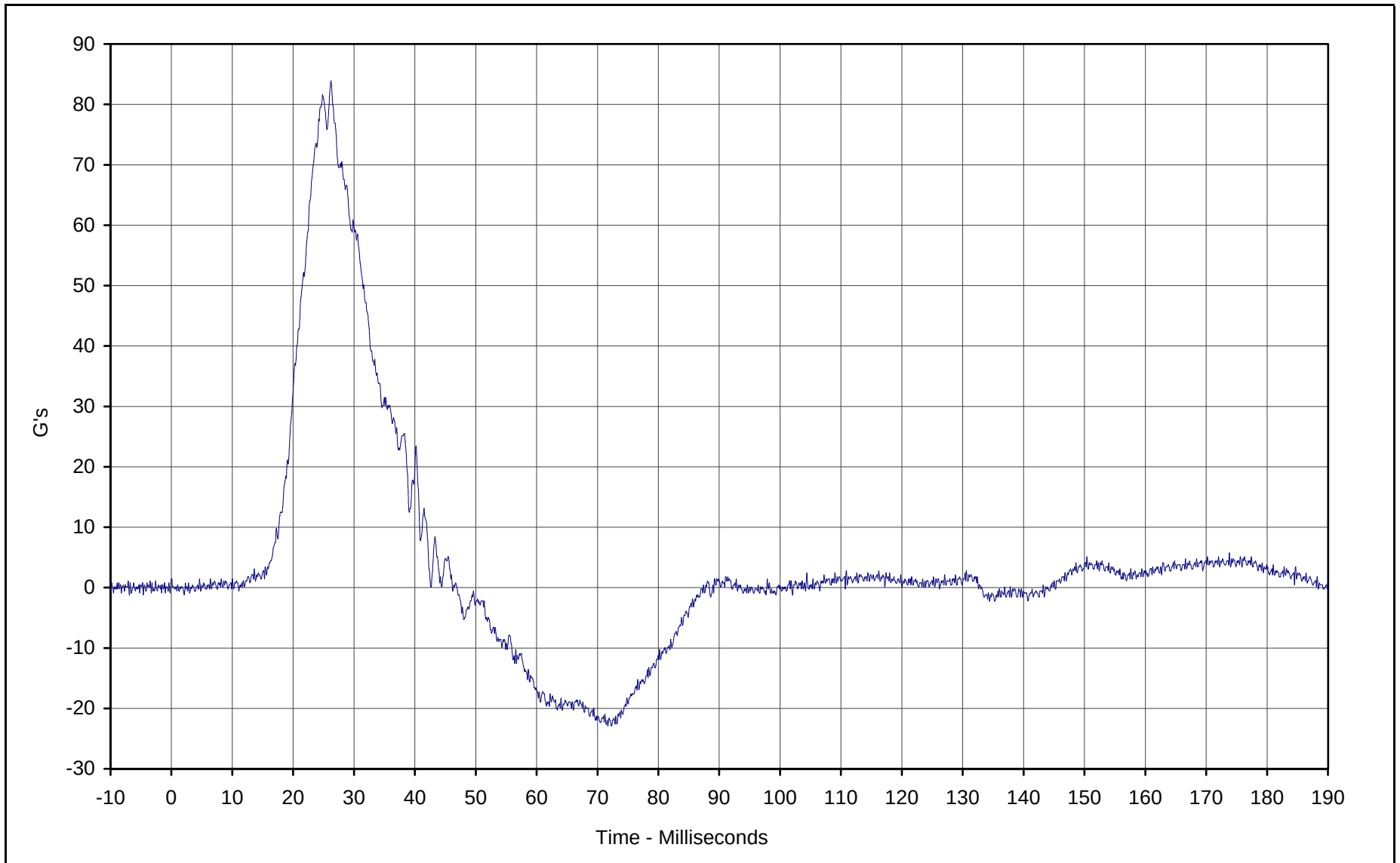
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Curve Number: IN1-006

Test Program: 55/28 km/h Side Impact NCAP No.: M10210

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

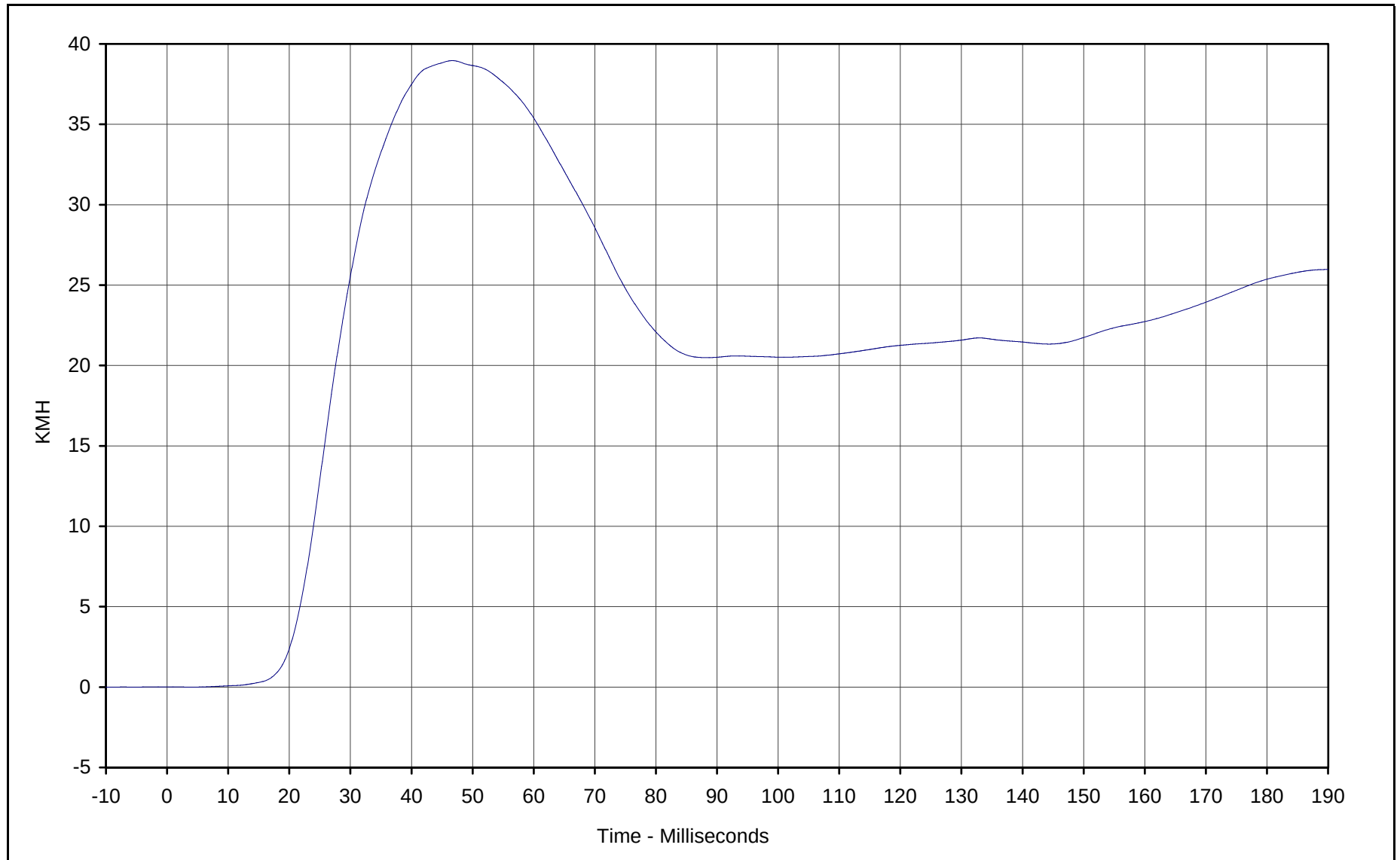




Curve Description: Driver Pelvis Primary Y
Maximum Value: 83.9 at 26.2 Milliseconds
Minimum Value: -22.9 at 71.7 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-007

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

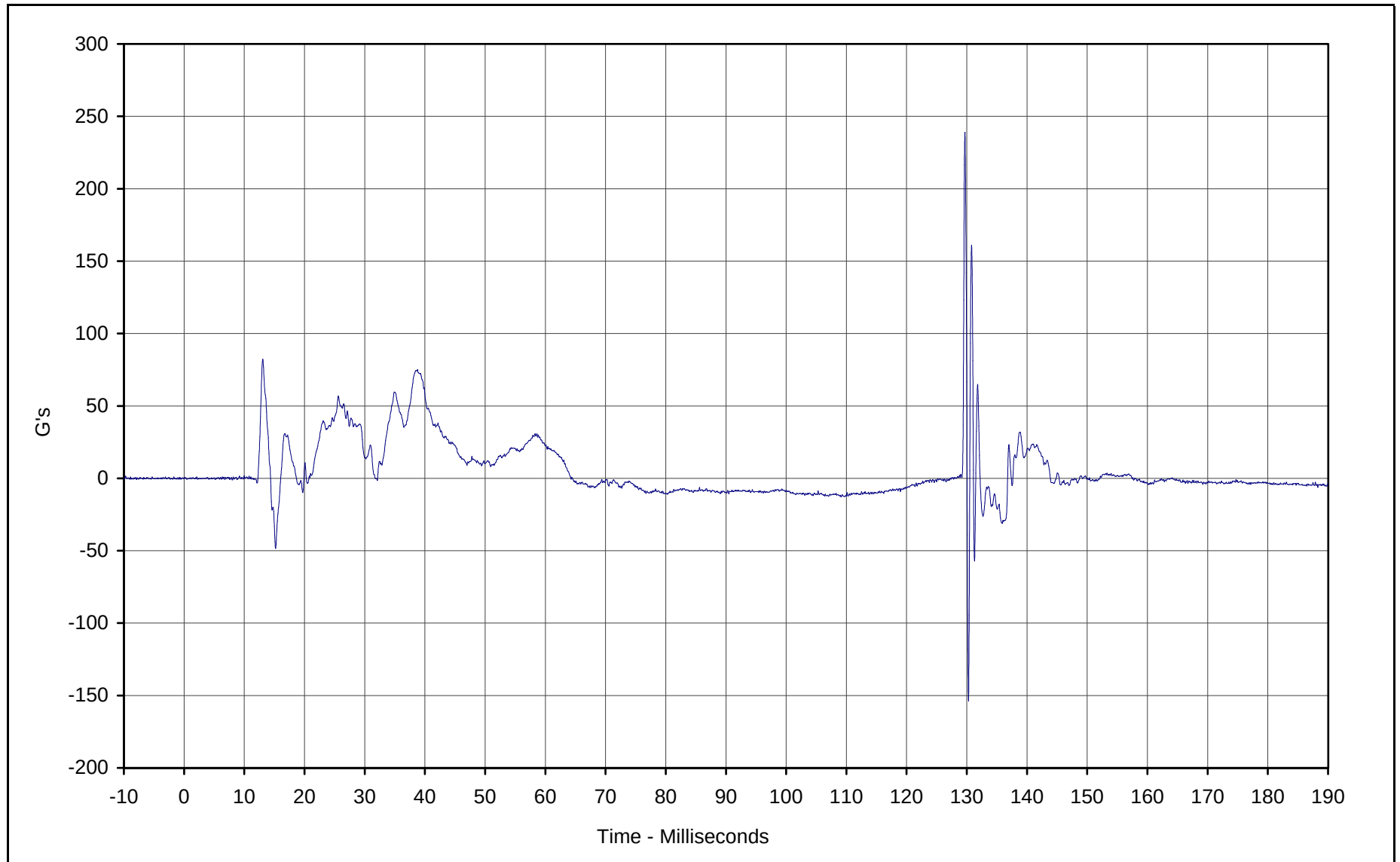




Curve Description: Driver Pelvis Primary Y Velocity
Maximum Value: 39.0 at 46.7 Milliseconds
Minimum Value: 0.0 at 4.2 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-007

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

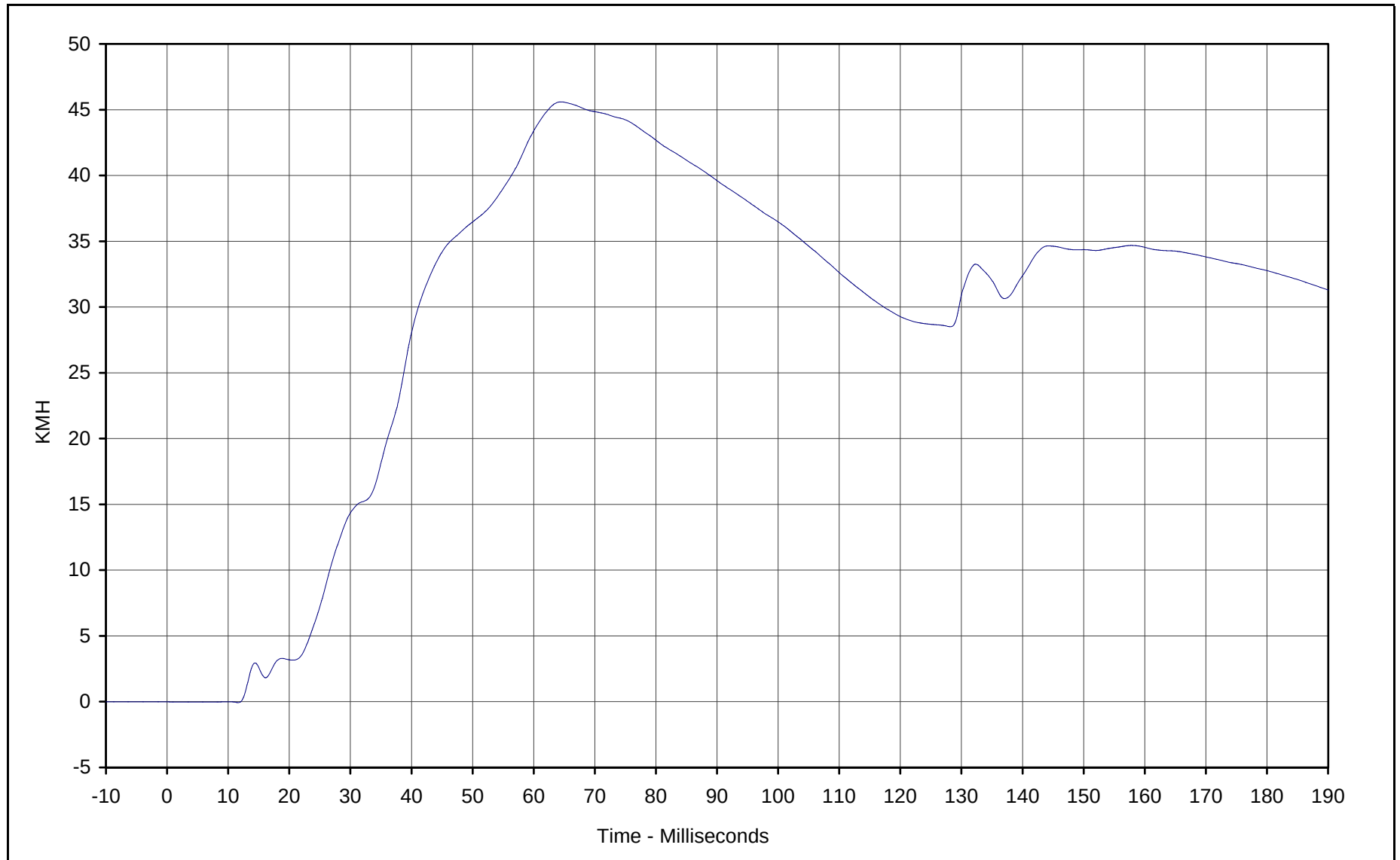




Curve Description: Driver Upper Rib Redundant Y
Maximum Value: 238.9 at 129.7 Milliseconds
Minimum Value: -153.3 at 130.3 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-008

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan





Curve Description: Driver Upper Rib Redundant Y Velocity

Maximum Value: 45.6 at 64.5 Milliseconds

Minimum Value: -0.1 at 11.6 Milliseconds

SAE Filter Class: 180

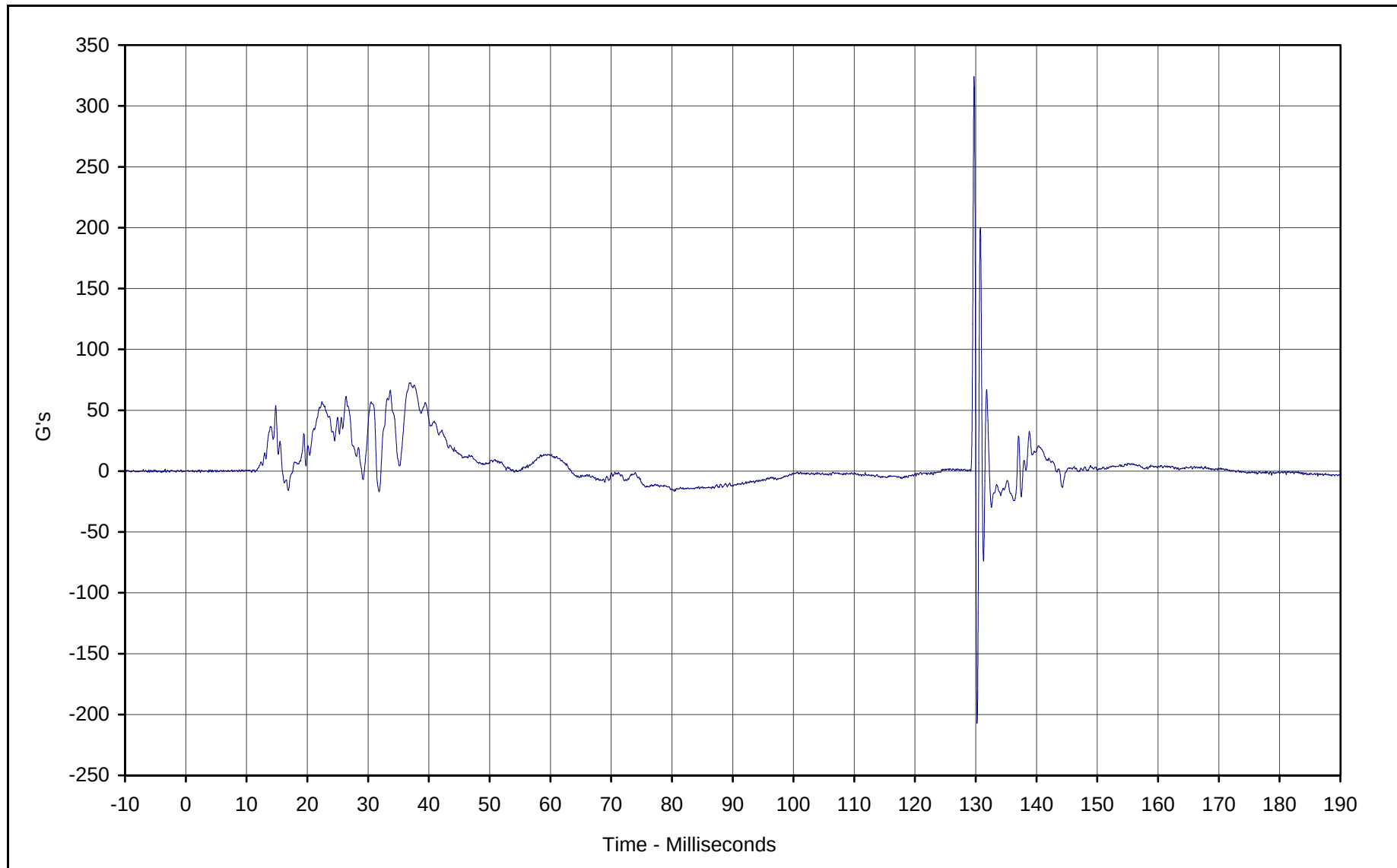
Date of Test: 12/18/00

Curve Number: IN1-008

Test Program: 55/28 km/h Side Impact NCAP No.: M10210

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

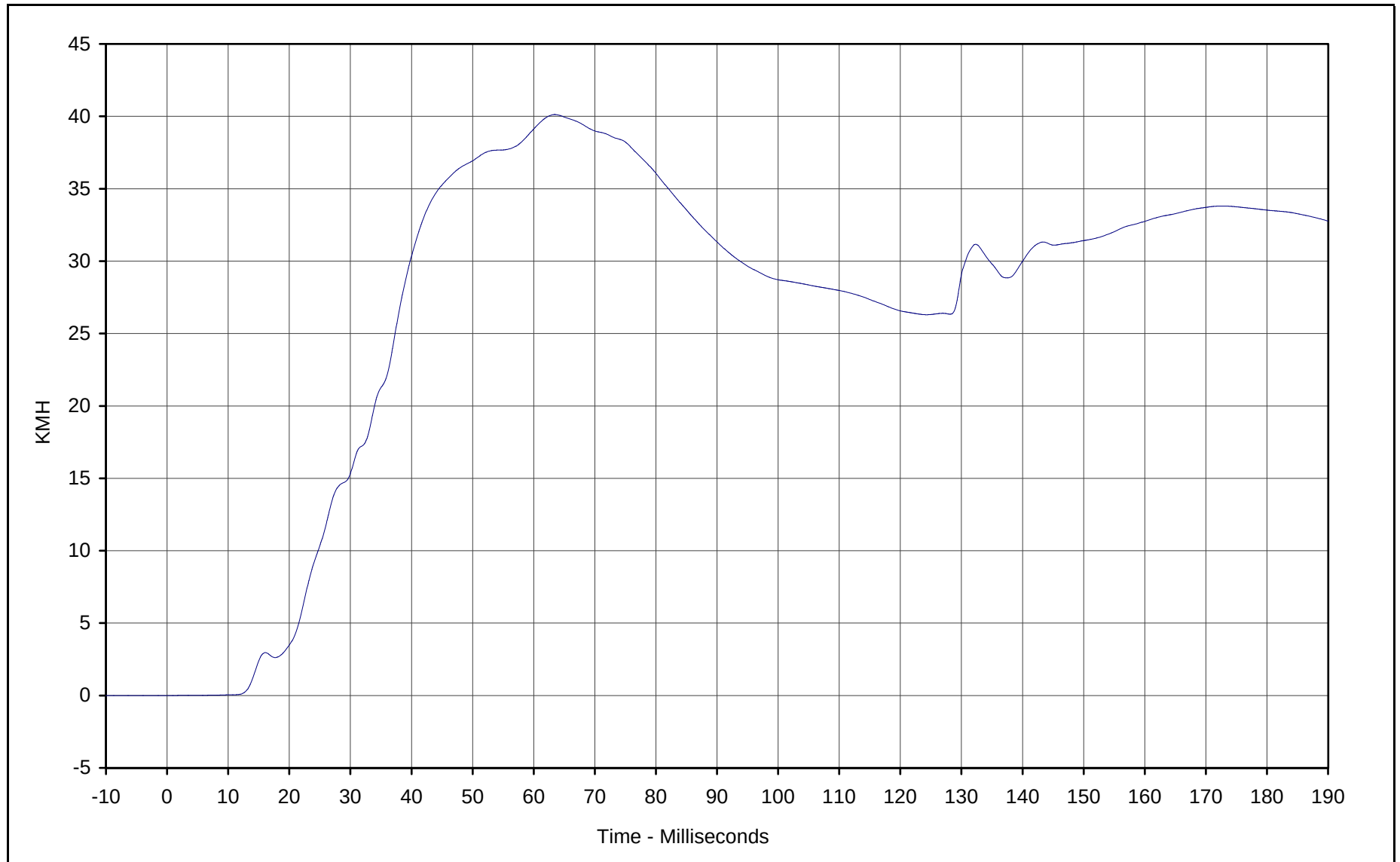




Curve Description: Driver Lower Rib Redundant Y
Maximum Value: 323.5 at 129.7 Milliseconds
Minimum Value: -206.4 at 130.2 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-009

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan





Curve Description: Driver Lower Rib Redundant Y Velocity

Maximum Value: 40.1 at 63.4 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

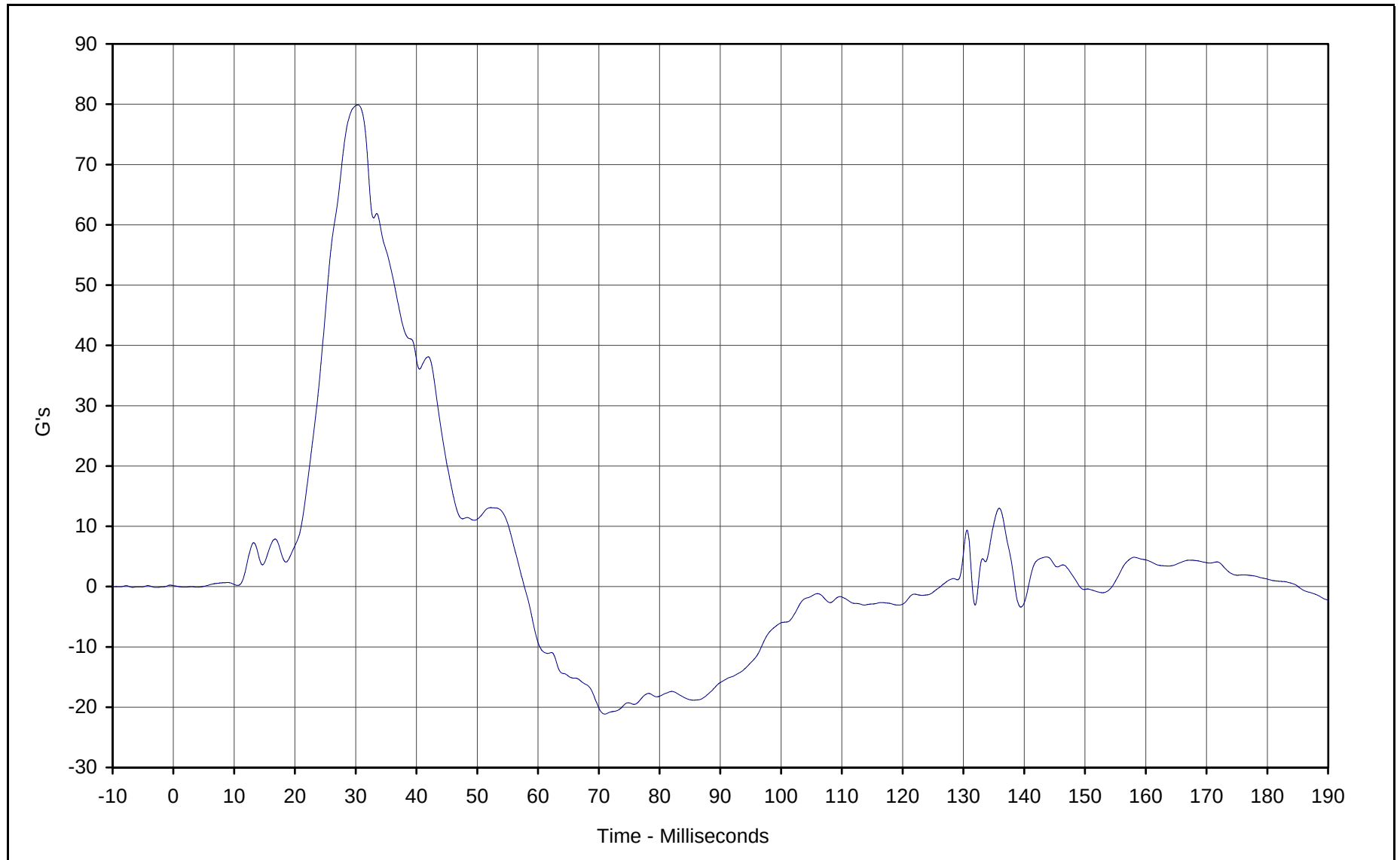
Date of Test: 12/18/00

Curve Number: IN1-009

Test Program: 55/28 km/h Side Impact NCAP No.: M10210

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

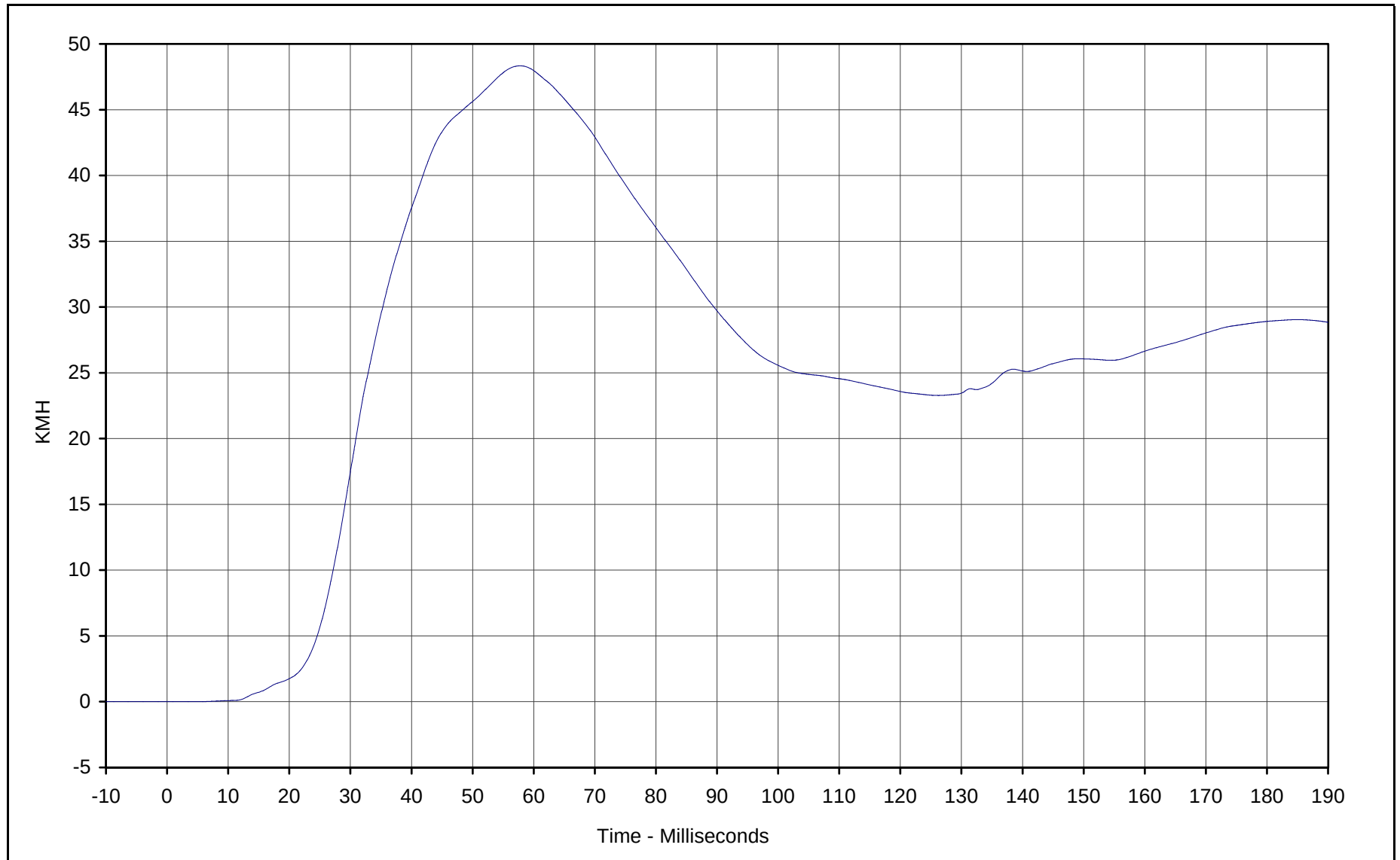




Curve Description: Driver Lower Spine Redundant Y
Maximum Value: 79.9 at 30.3 Milliseconds
Minimum Value: -21.2 at 71.0 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: FIL-010

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan





Curve Description: Driver Lower Spine Redundant Y Velocity

Maximum Value: 48.3 at 57.7 Milliseconds

Minimum Value: 0.0 at 4.8 Milliseconds

SAE Filter Class: 180

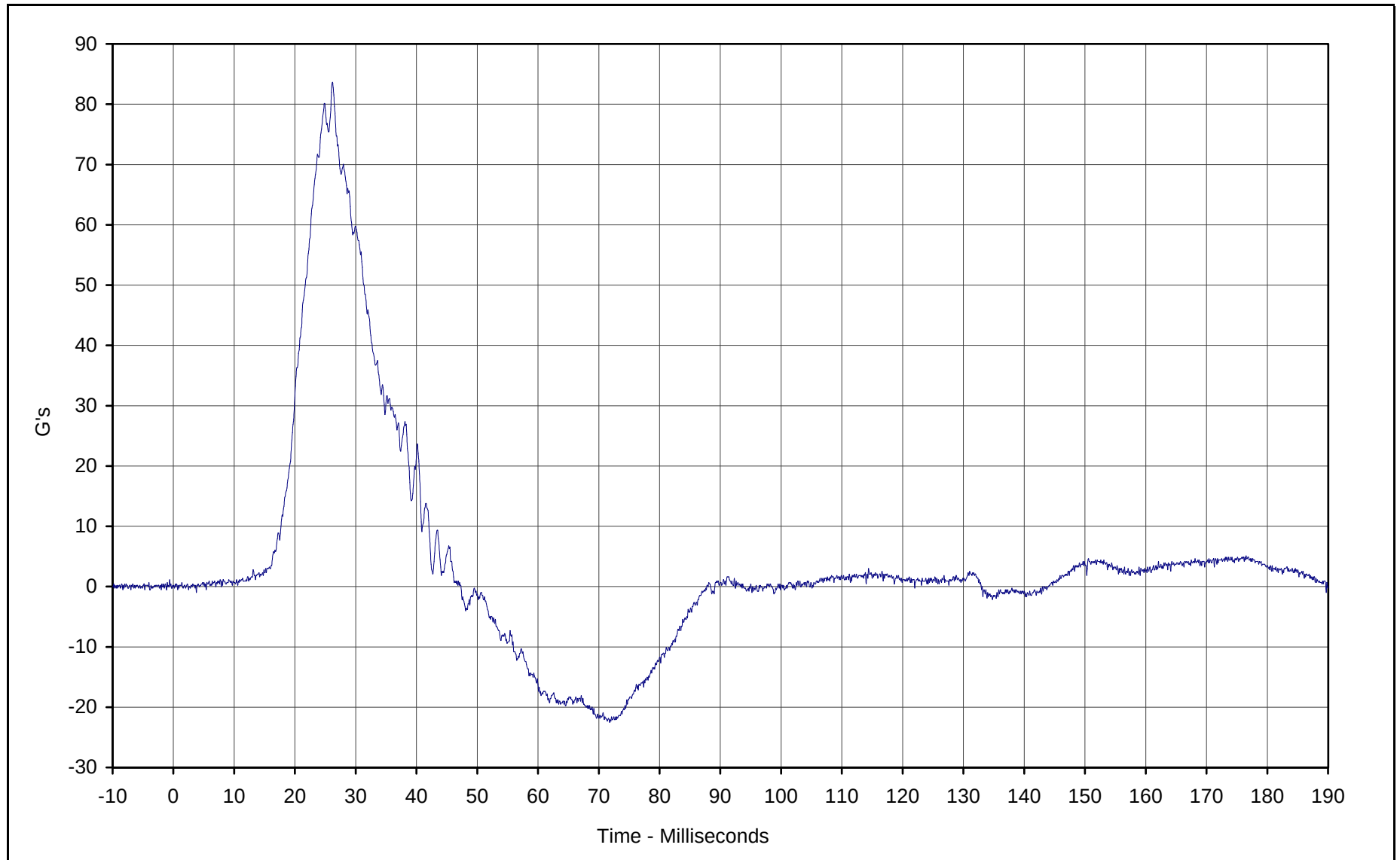
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Curve Number: IN1-0010

Test Program: 55/28 km/h Side Impact NCAP No.: M10210

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

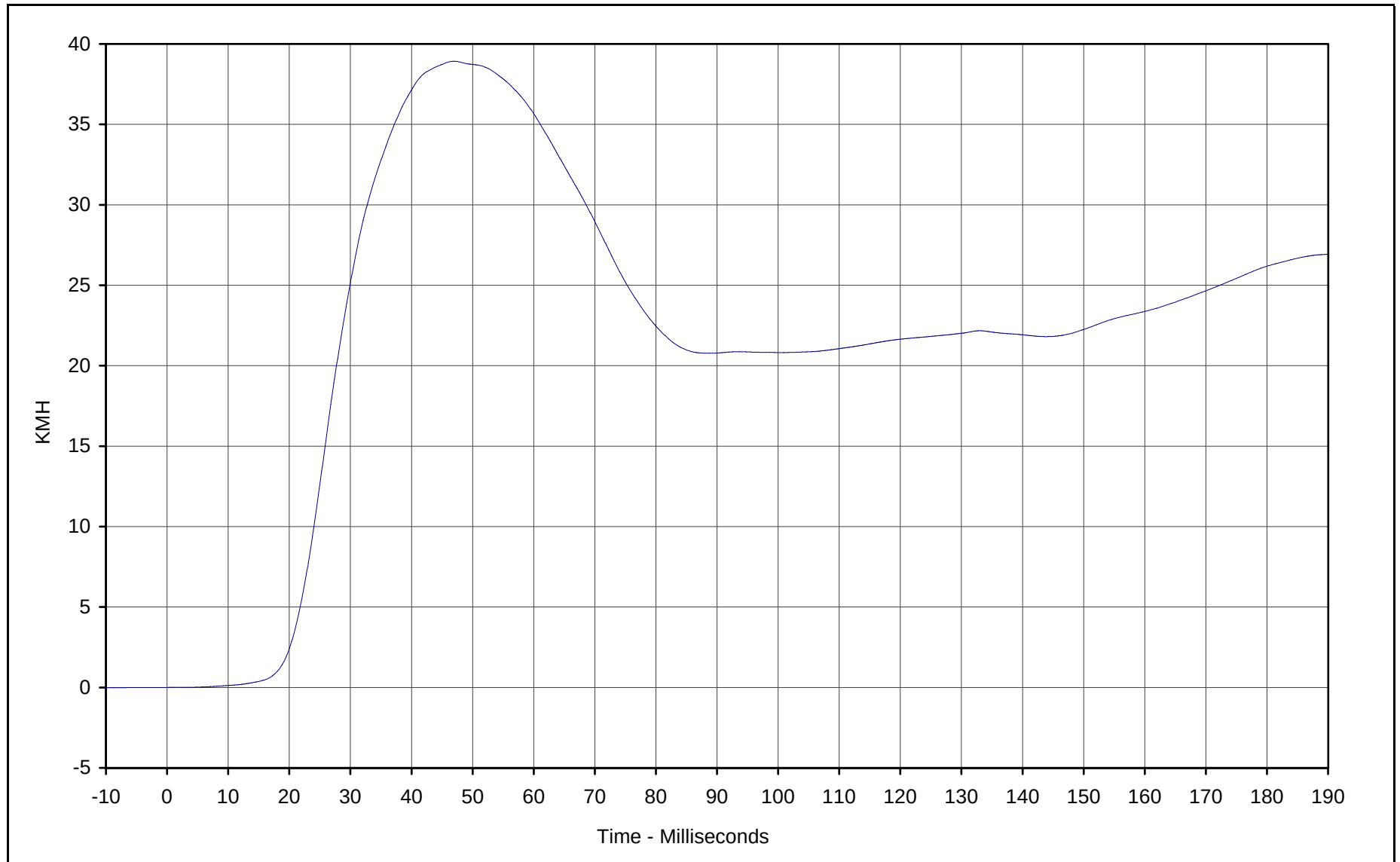




Curve Description: Driver Pelvis Redundant Y
Maximum Value: 83.6 at 26.2 Milliseconds
Minimum Value: -22.5 at 71.8 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-011

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

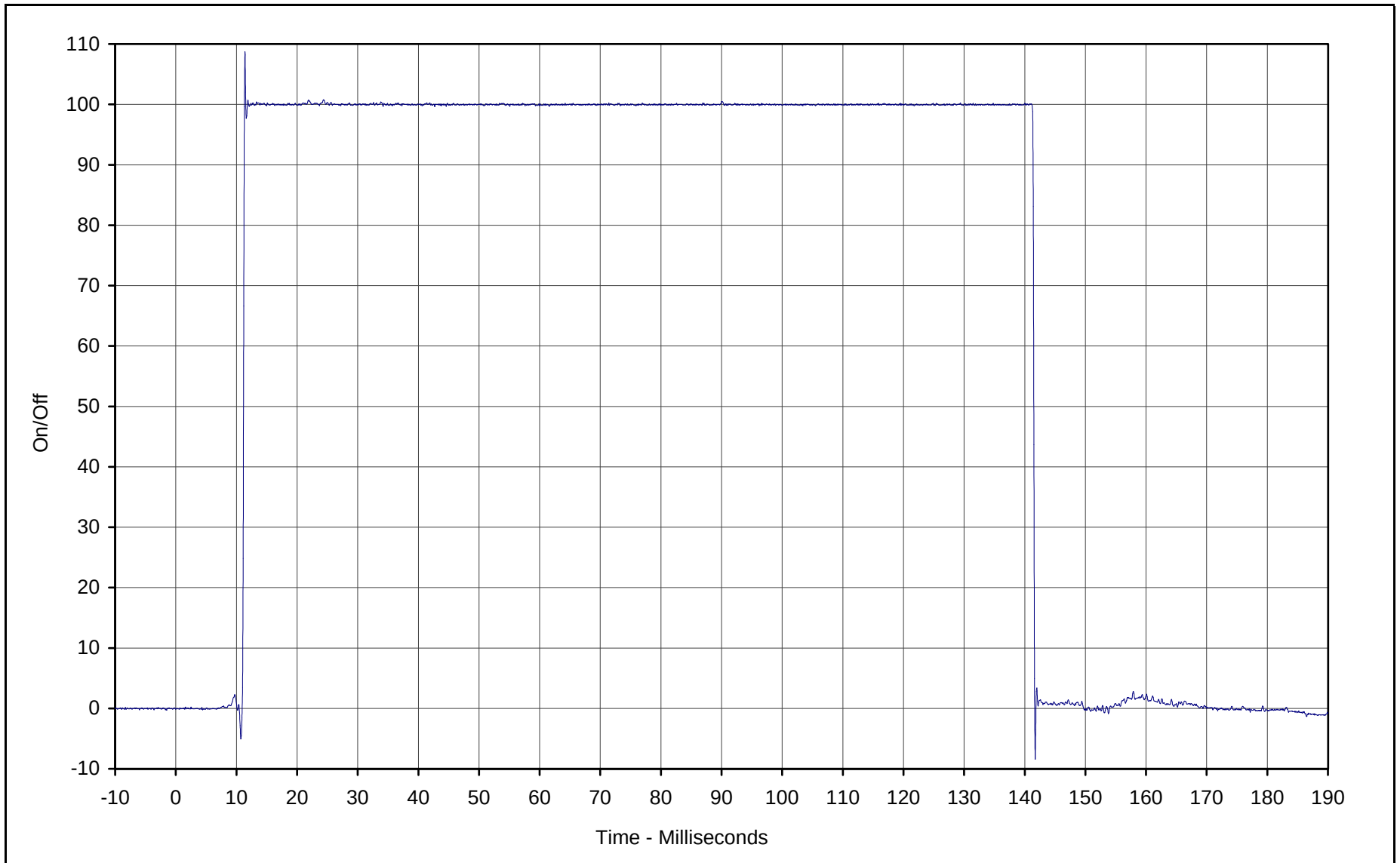




Curve Description: Driver Pelvis Redundant Y Velocity
Maximum Value: 38.9 at 47.0 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-011

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

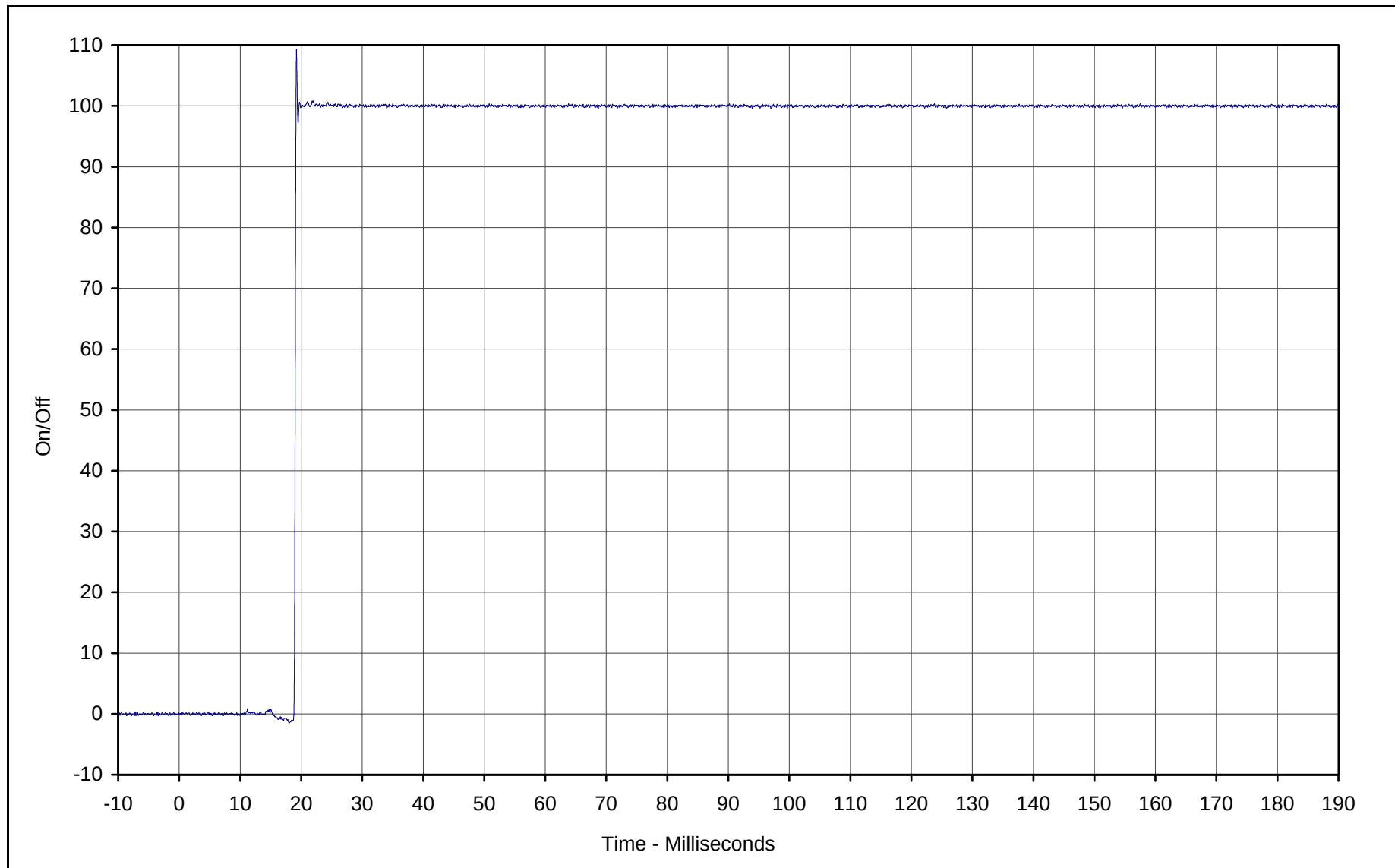




Curve Description: Driver Thorax Contact
Maximum Value: 108.7 at 11.4 Milliseconds
Crossing Point: 50% at 11.2 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-012

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

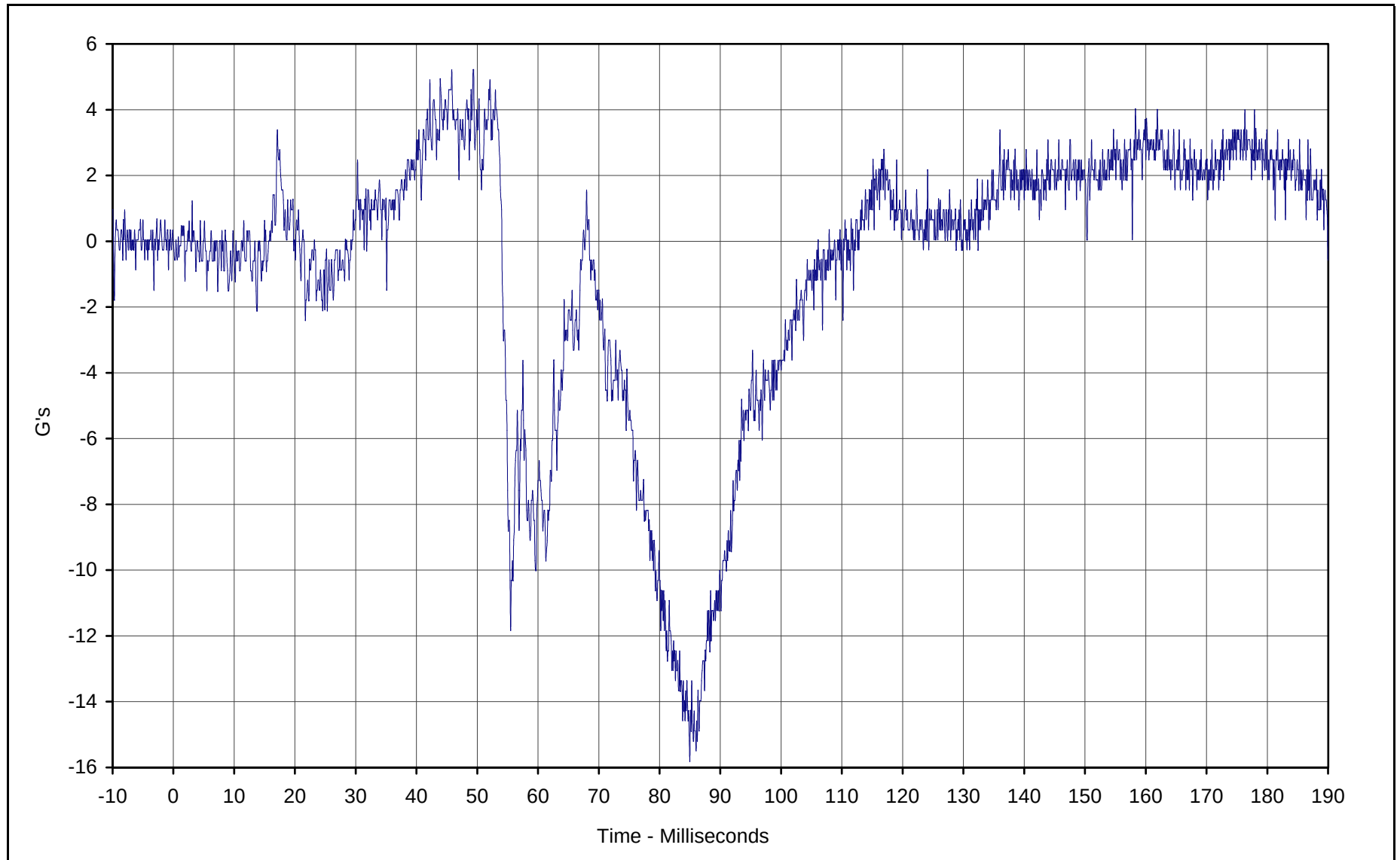




Curve Description: Driver Pelvis Contact
Maximum Value: 108.8 at 19.2 Milliseconds
Crossing Point: 50% at 19.0 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-013

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

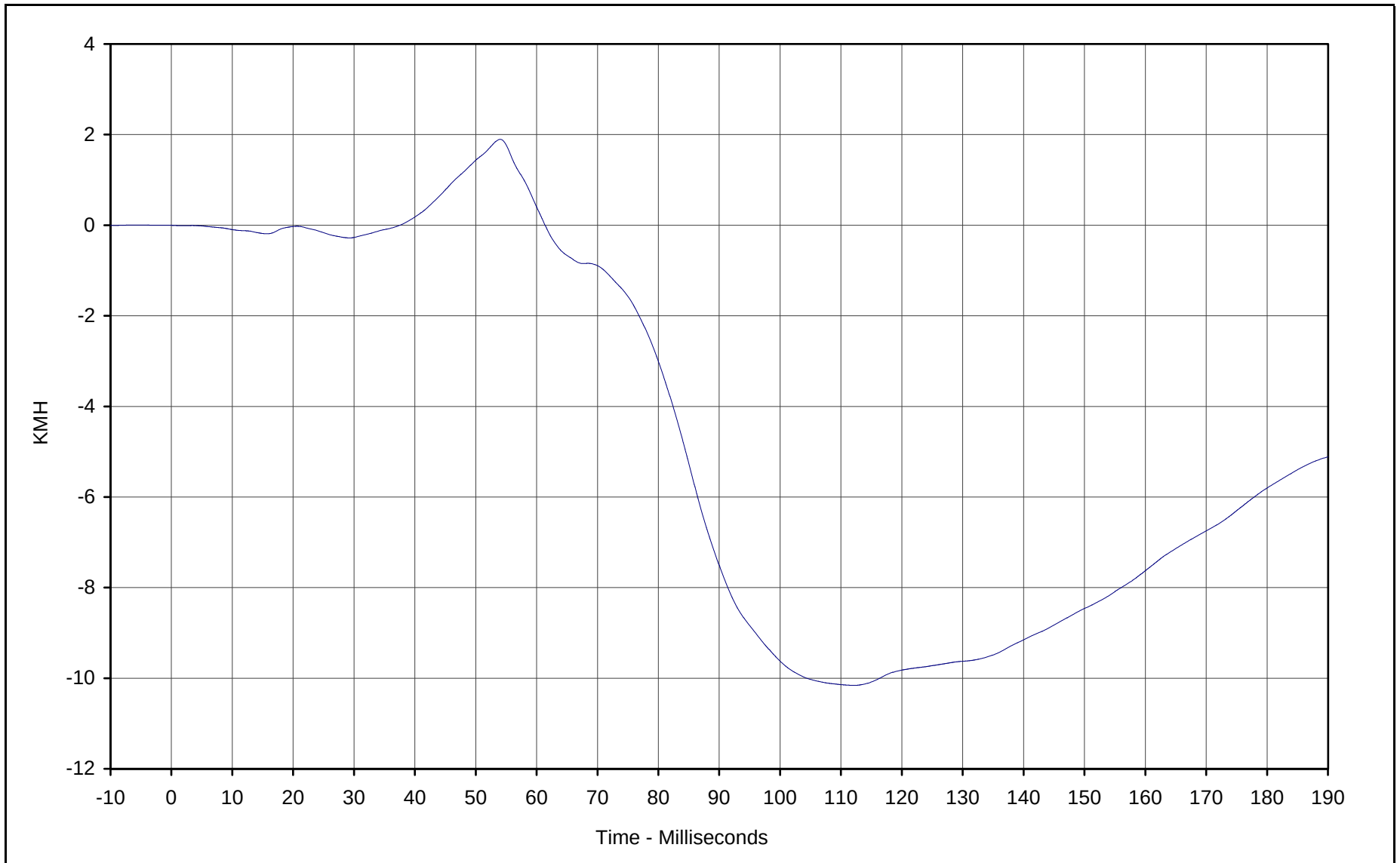




Curve Description: Pass. Head CG X
Maximum Value: 5.2 at 45.8 Milliseconds
Minimum Value: -15.8 at 85.0 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-014

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

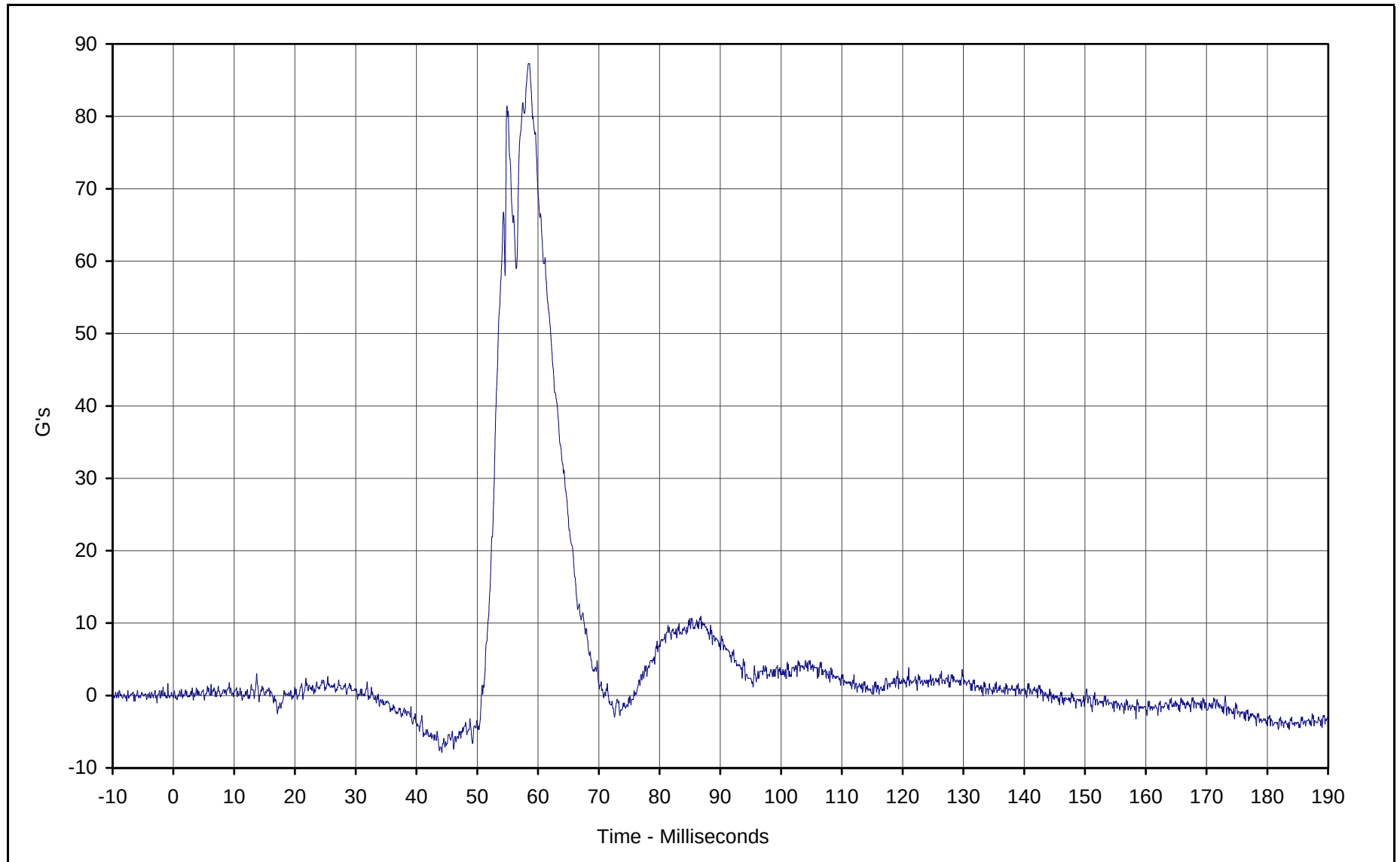




Curve Description: Pass. Head CG X Velocity
Maximum Value: 1.9 at 54.0 Milliseconds
Minimum Value: -10.2 at 112.1 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-014

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

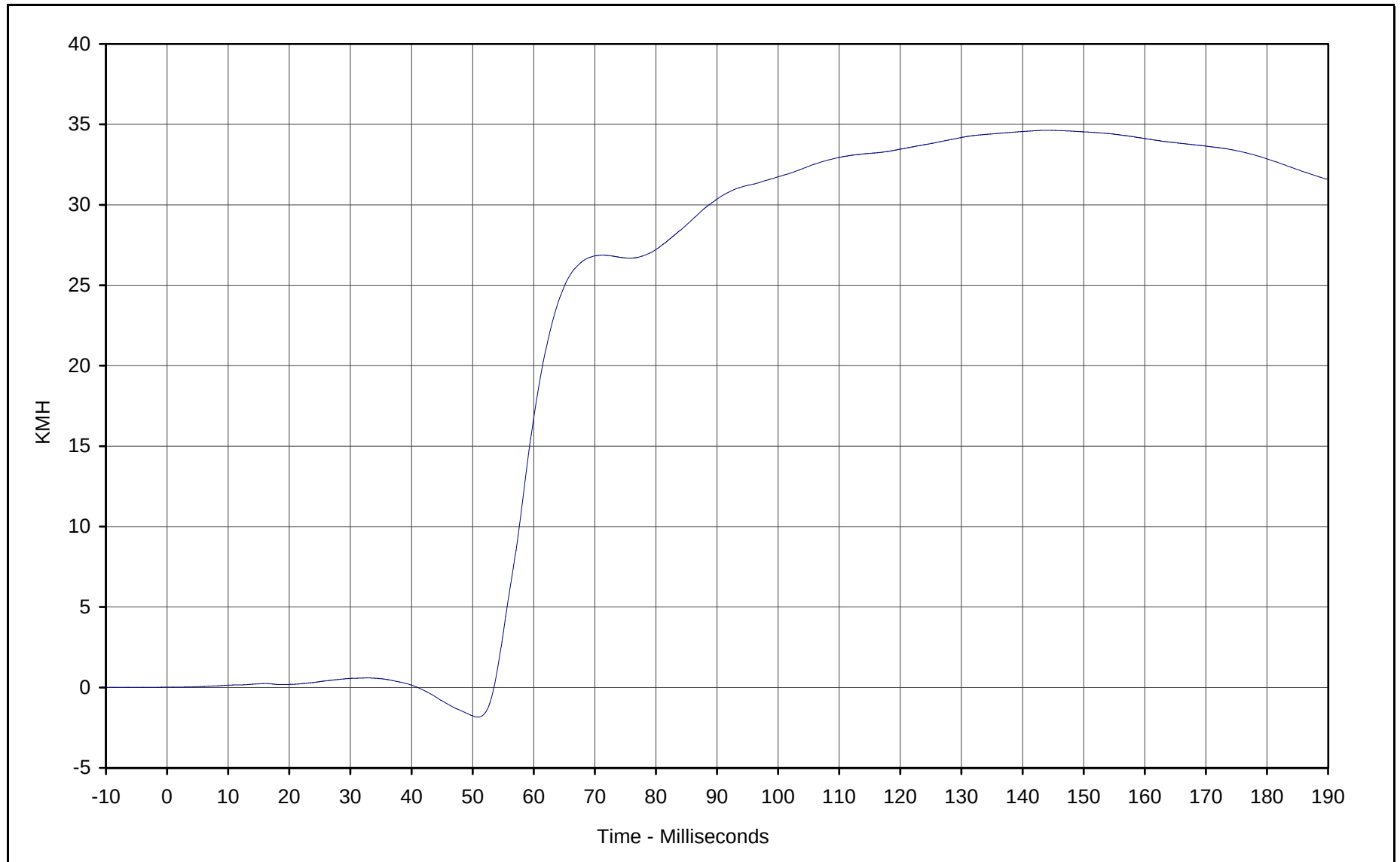




Curve Description: Pass. Head CG Y
Maximum Value: 87.3 at 58.4 Milliseconds
Minimum Value: -7.9 at 44.2 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-015

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

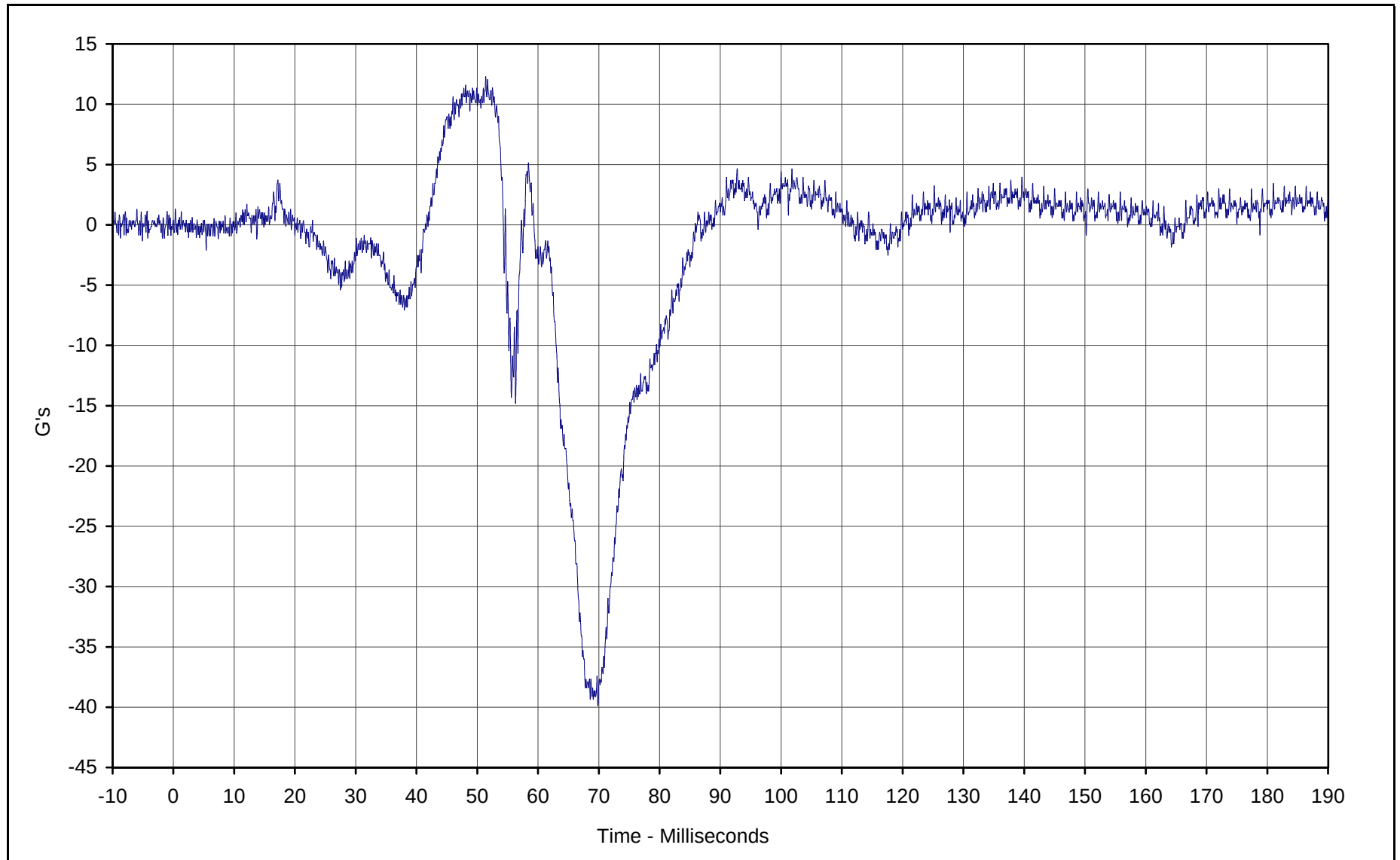




Curve Description: Pass. Head CG Y Velocity
Maximum Value: 34.6 at 144.0 Milliseconds
Minimum Value: -1.8 at 50.9 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-015

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

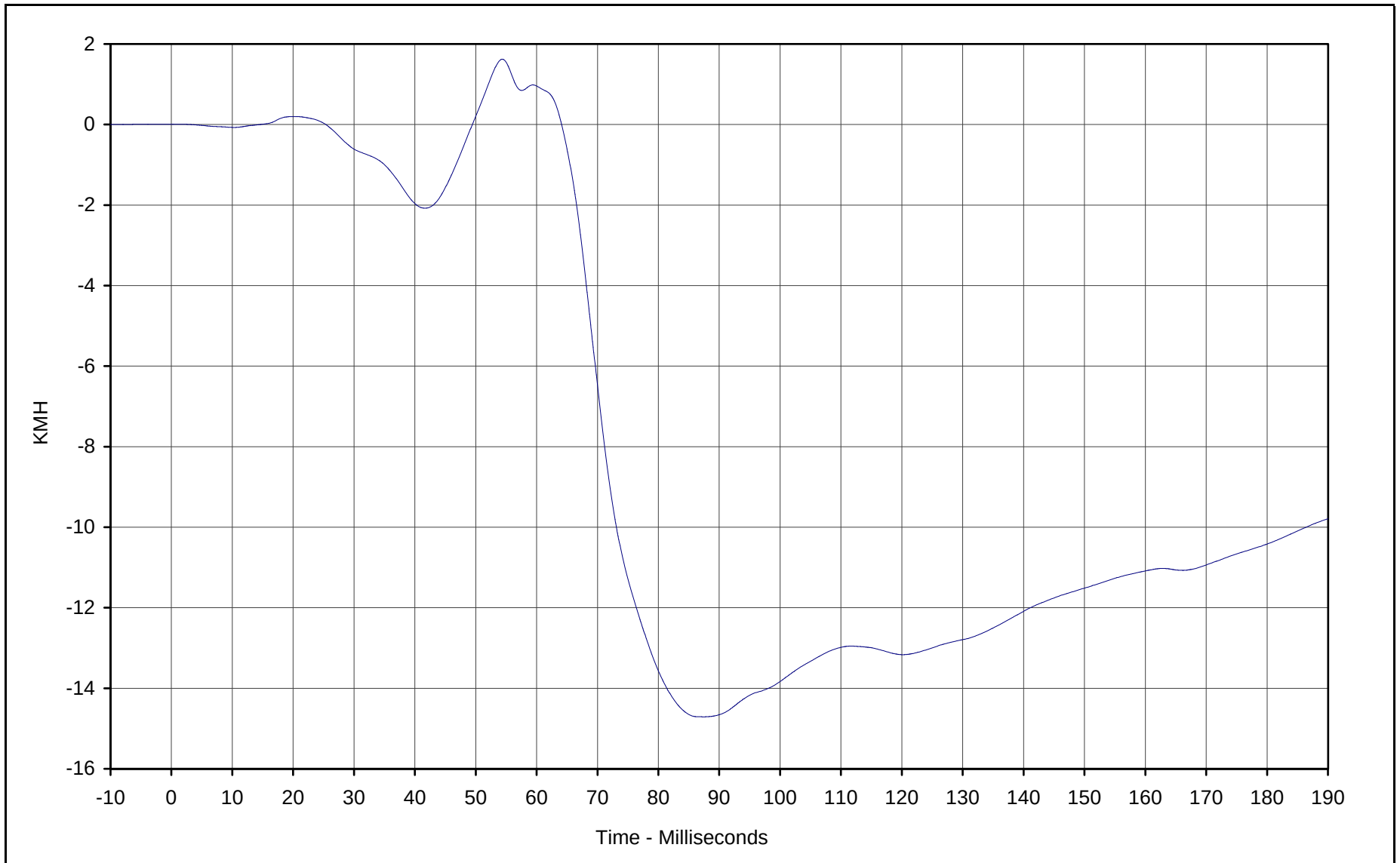




Curve Description: Pass. Head CG Z
Maximum Value: 12.3 at 51.4 Milliseconds
Minimum Value: -39.8 at 69.8 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-016

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

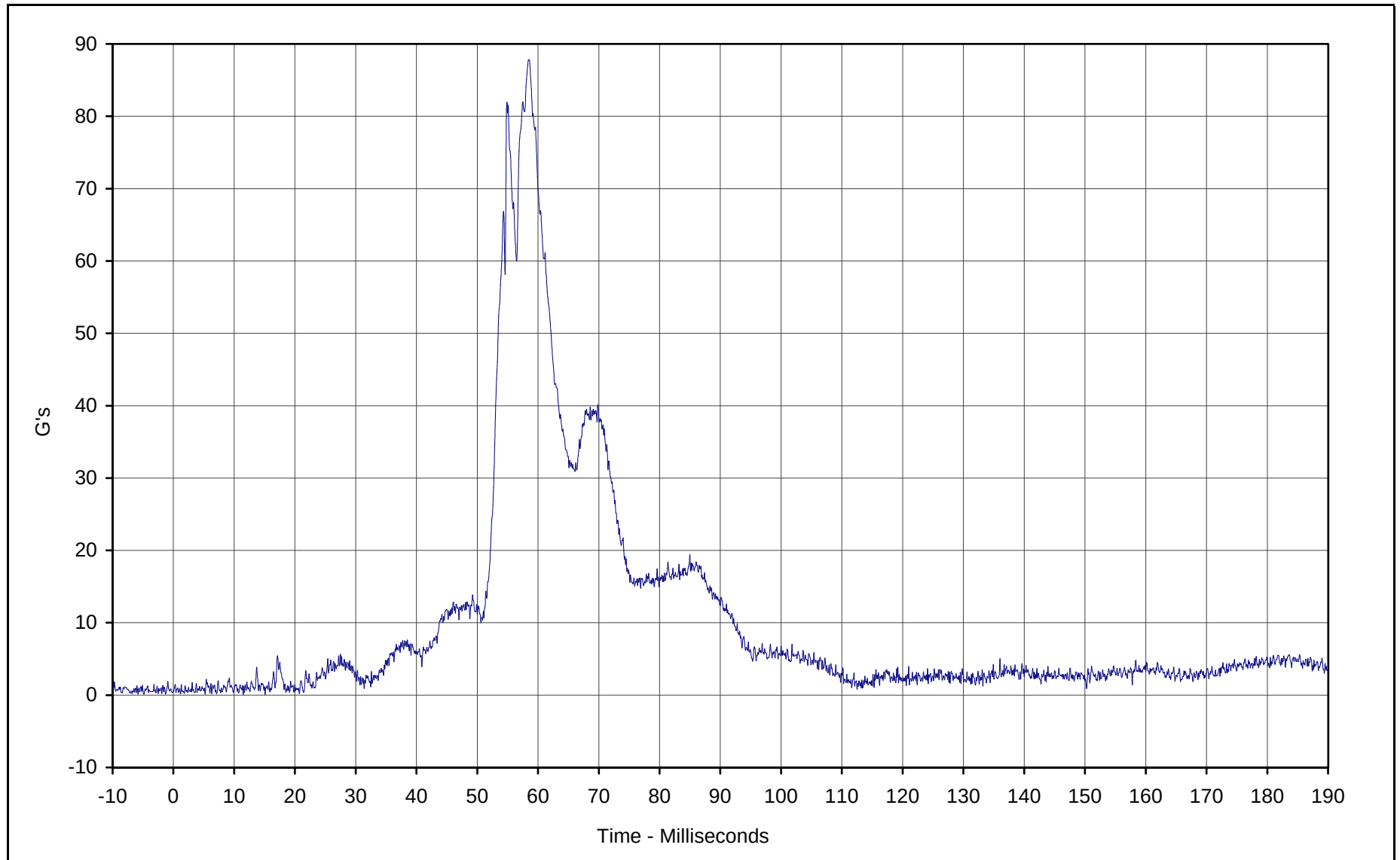




Curve Description: Pass. Head CG Z Velocity
Maximum Value: 1.6 at 54.3 Milliseconds
Minimum Value: -14.7 at 87.5 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-016

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

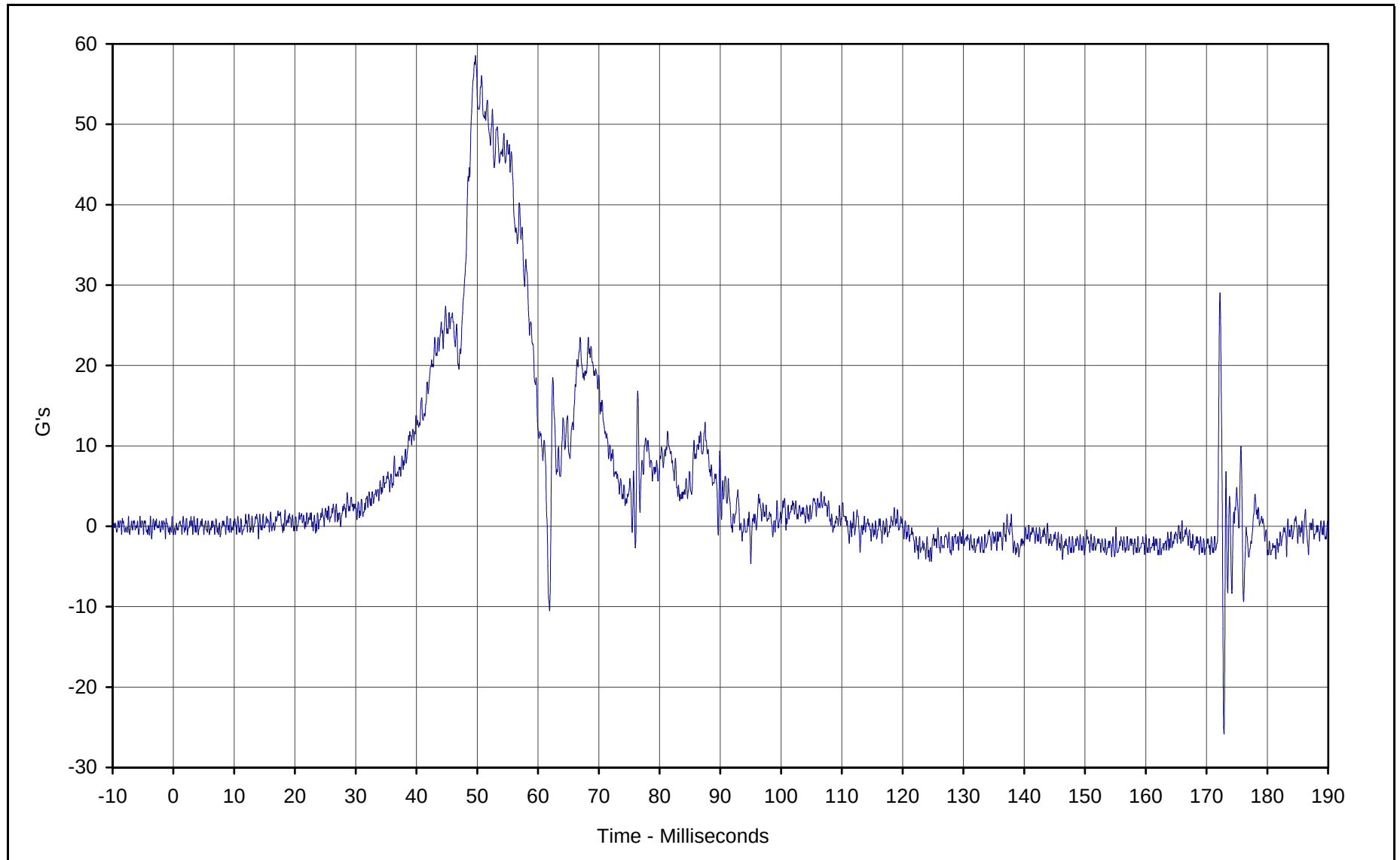




Curve Description: Pass. Head CG Resultant
Maximum Value: 87.8 at 58.6 Milliseconds
Minimum Value: 0.1 at 11.5 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: RES-014

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

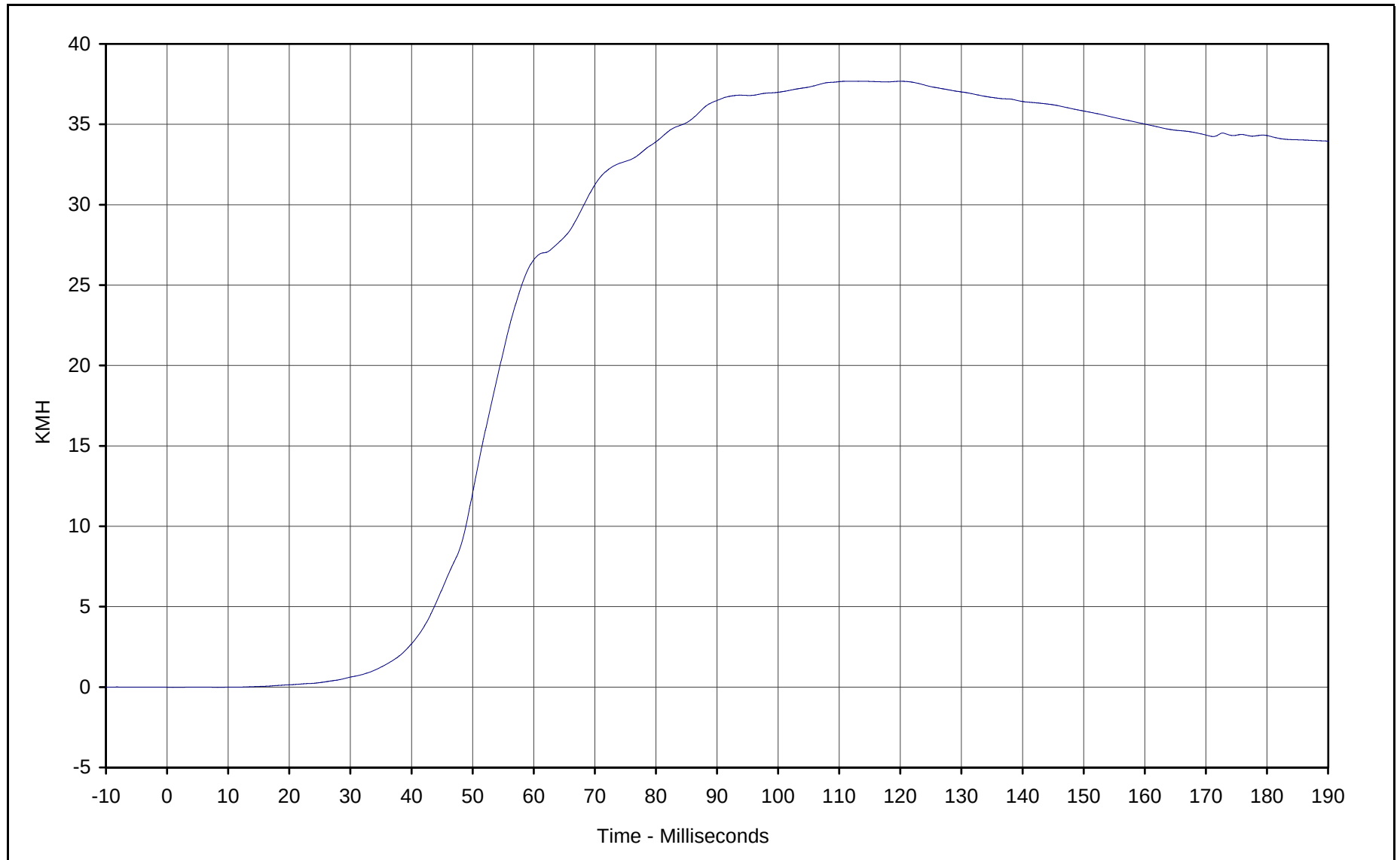




Curve Description: Pass. Upper Rib Primary Y
Maximum Value: 58.6 at 49.7 Milliseconds
Minimum Value: -25.8 at 172.9 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-017

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan





Curve Description: Pass. Upper Rib Primary Y Velocity

Maximum Value: 37.7 at 112.6 Milliseconds

Minimum Value: 0.0 at 1.0 Milliseconds

SAE Filter Class: 180

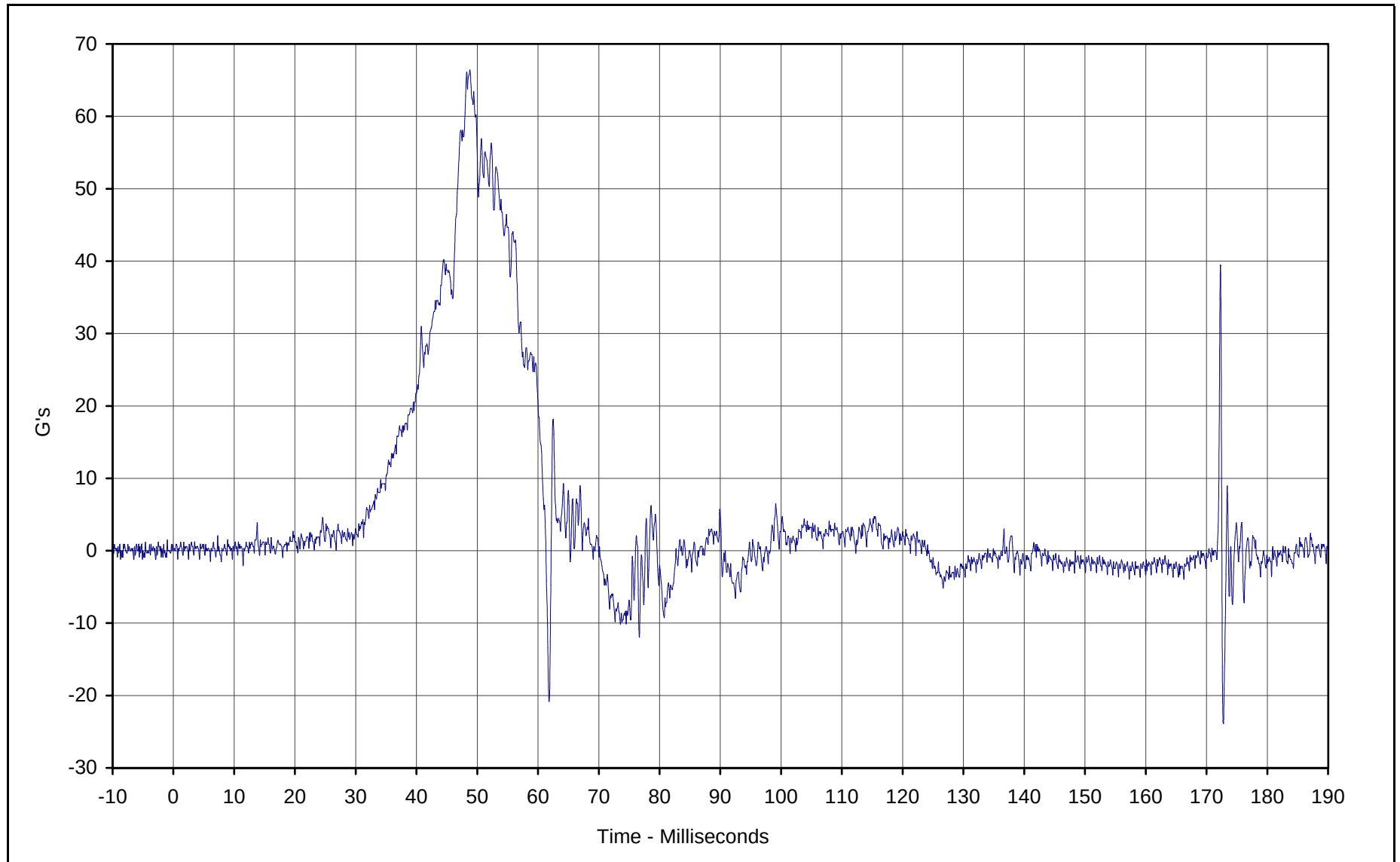
Date of Test: 12/18/00

Curve Number: IN1-017

Test Program: 55/28 km/h Side Impact NCAP No.: M10210

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

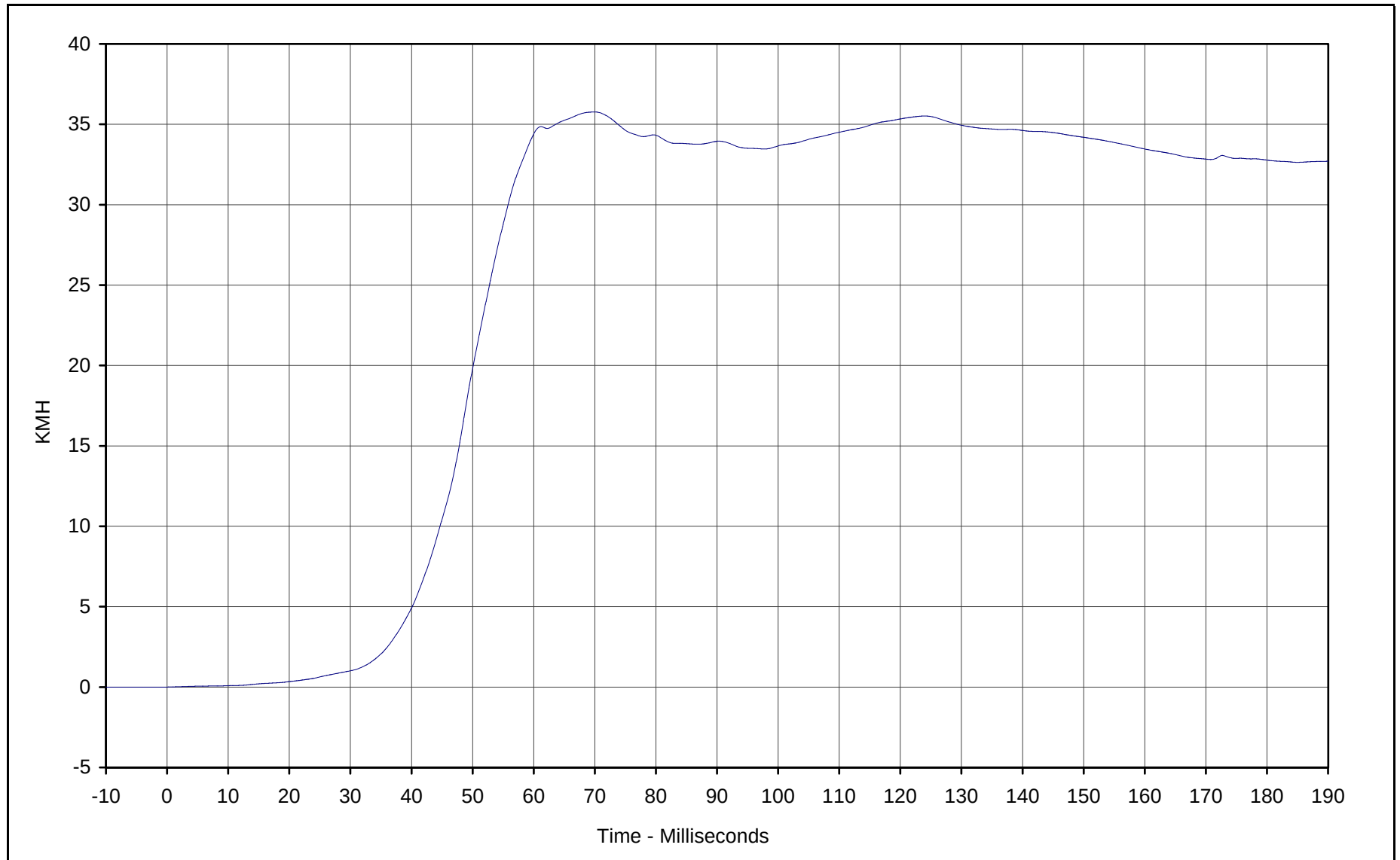




Curve Description: Pass. Lower Rib Primary Y
Maximum Value: 66.4 at 48.8 Milliseconds
Minimum Value: -23.8 at 172.8 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-018

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan





Curve Description: Pass. Lower Rib Primary Y Velocity

Maximum Value: 35.8 at 69.9 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

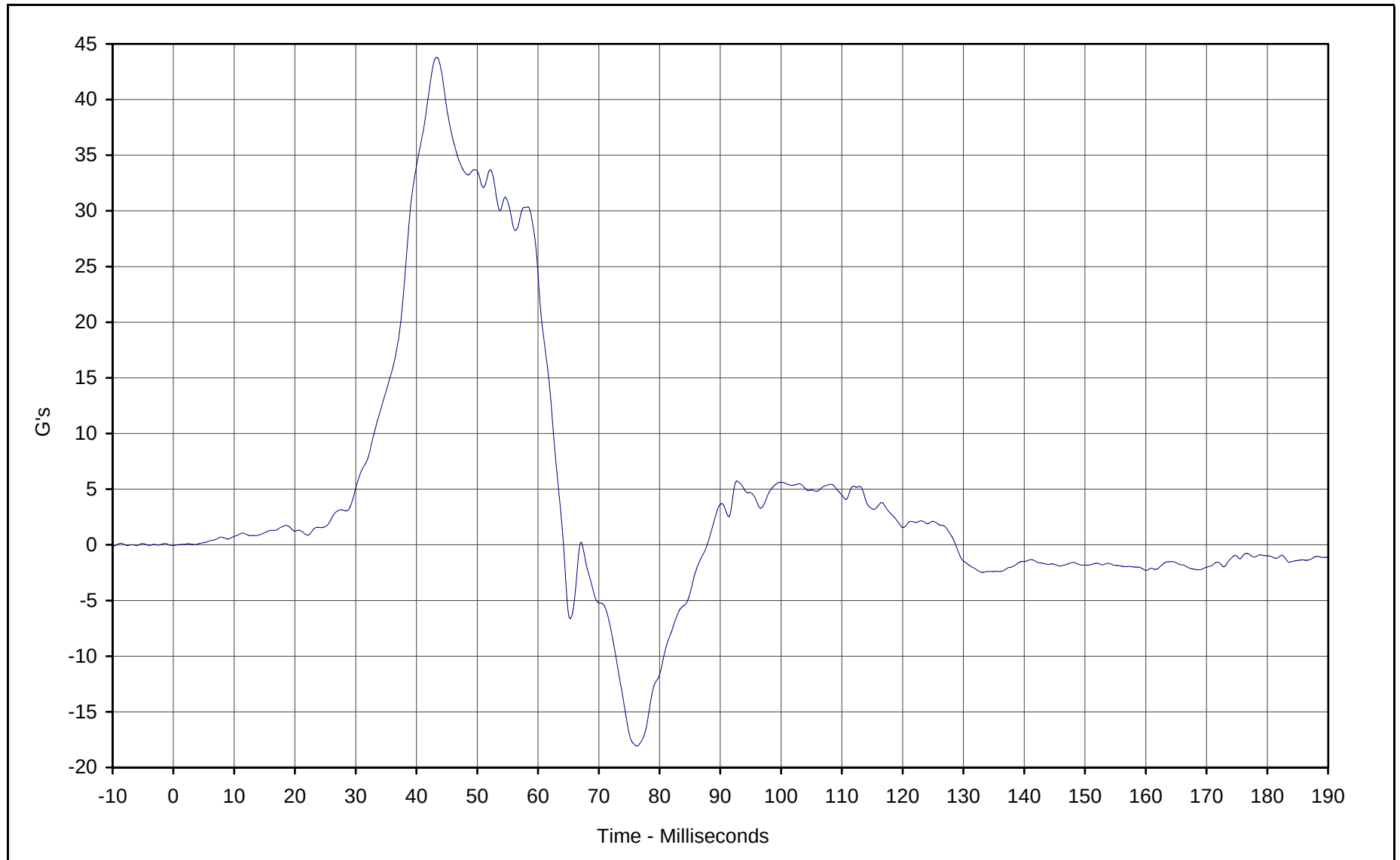
Date of Test: 12/18/00

Curve Number: IN1-018

Test Program: 55/28 km/h Side Impact NCAP No.: M10210

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

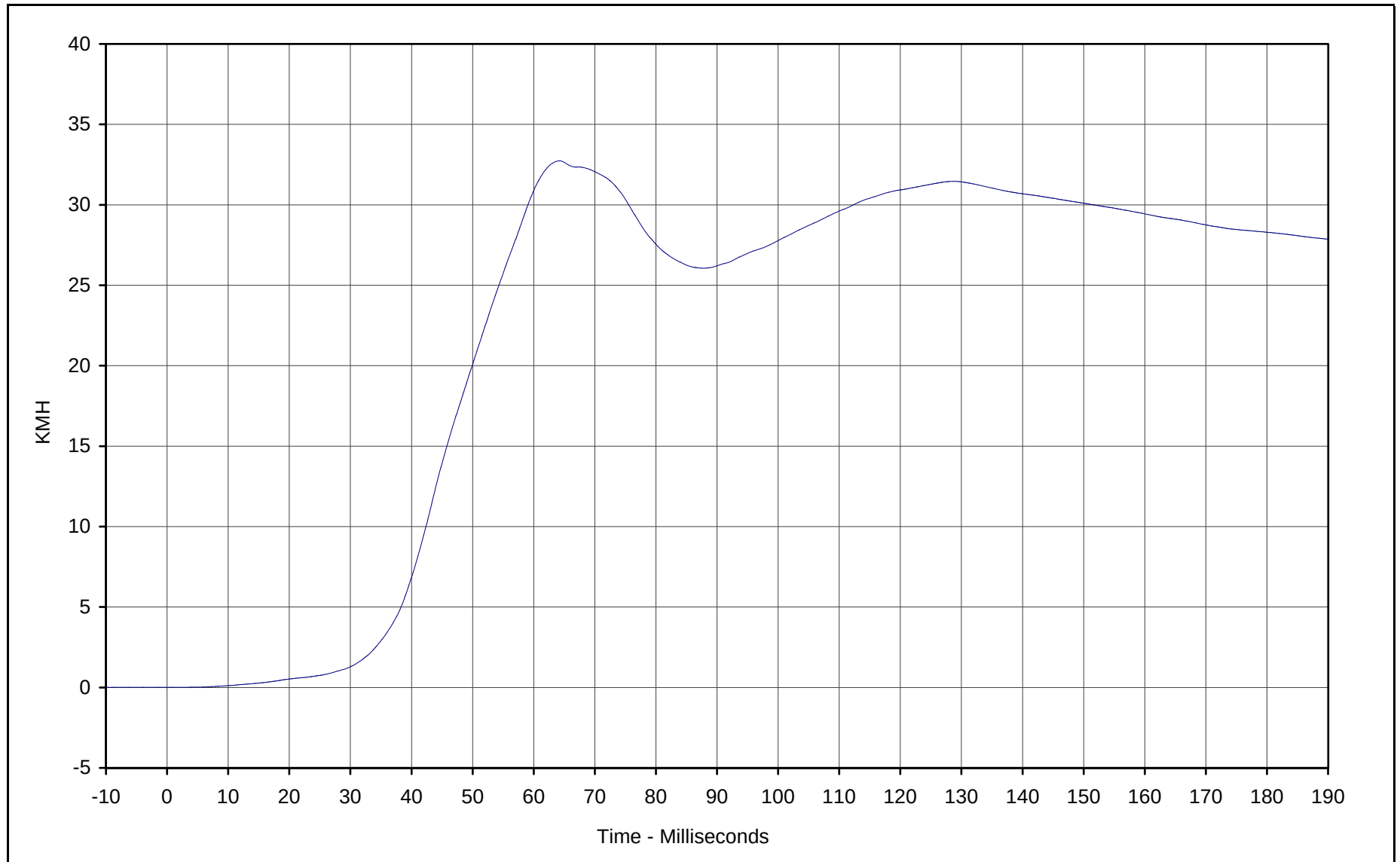




Curve Description: Pass. Lower Spine Primary Y
Maximum Value: 43.8 at 43.3 Milliseconds
Minimum Value: -18.1 at 76.3 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: FIL-019

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan





Curve Description: Pass. Lower Spine Primary Y Velocity

Maximum Value: 32.7 at 64.2 Milliseconds

Minimum Value: 0.0 at 0.7 Milliseconds

SAE Filter Class: 180

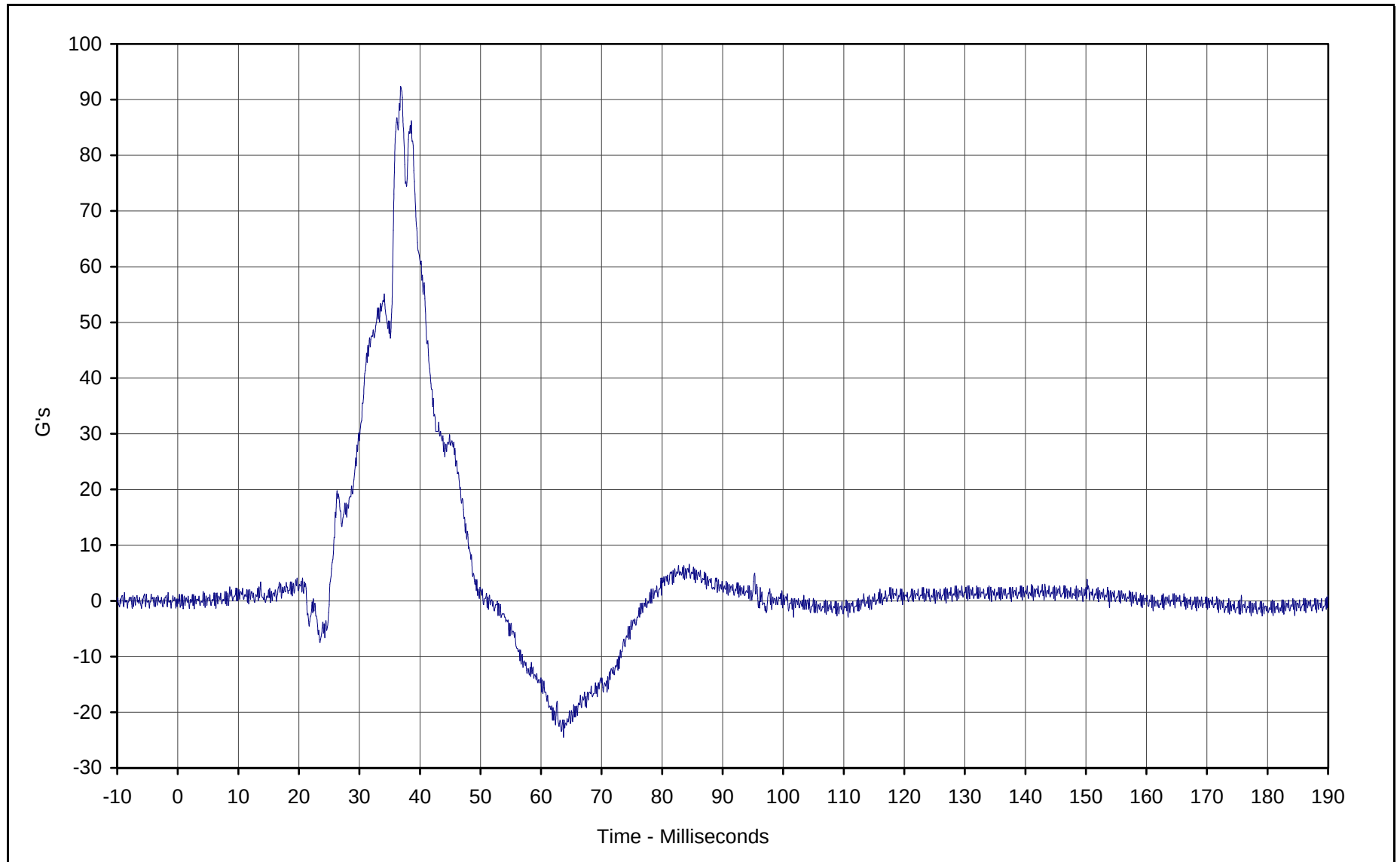
Date of Test: 12/18/00

Curve Number: IN1-019

Test Program: 55/28 km/h Side Impact NCAP No.: M10210

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

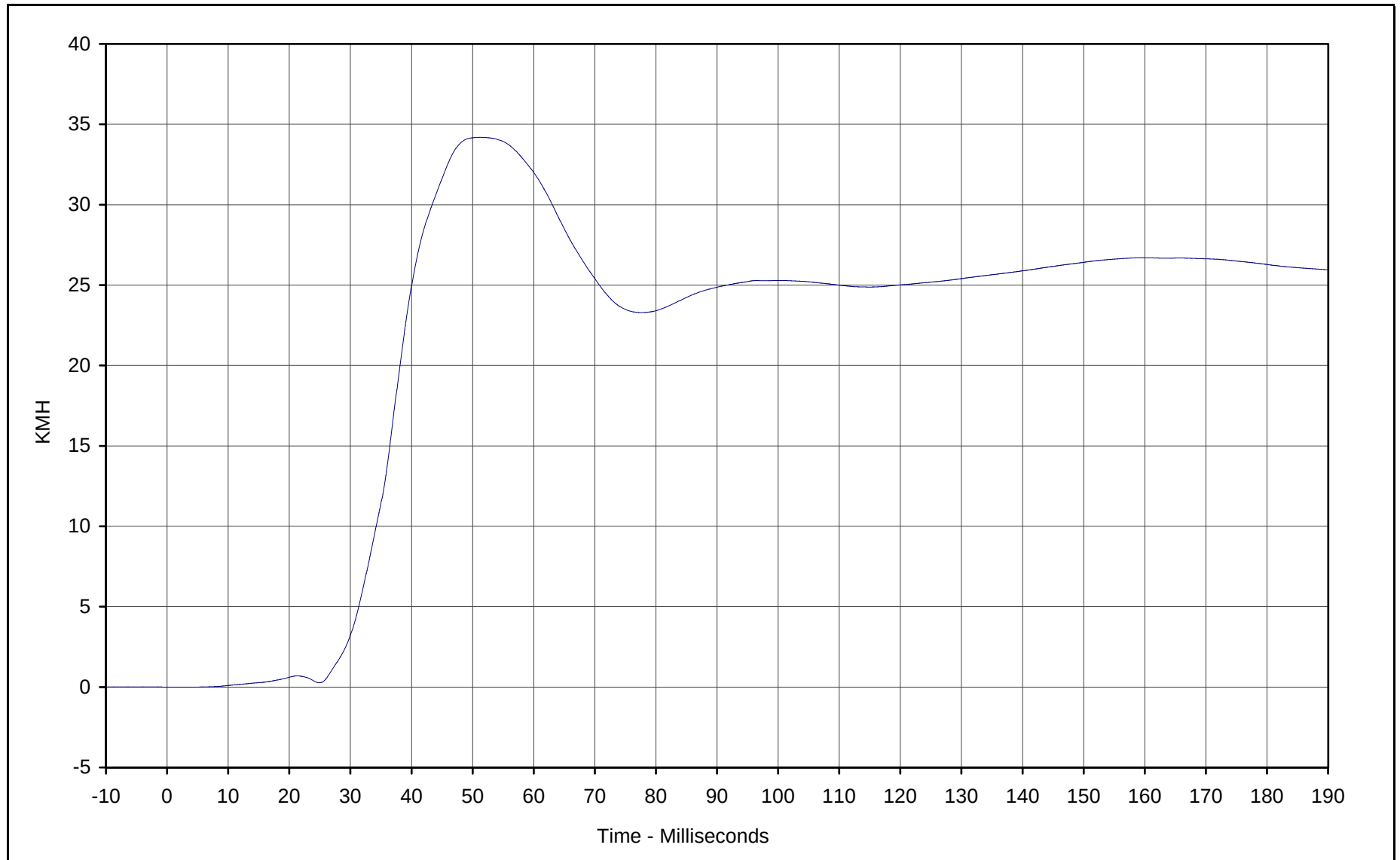




Curve Description: Pass. Pelvis Primary Y
Maximum Value: 92.4 at 36.8 Milliseconds
Minimum Value: -24.5 at 63.7 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-020

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

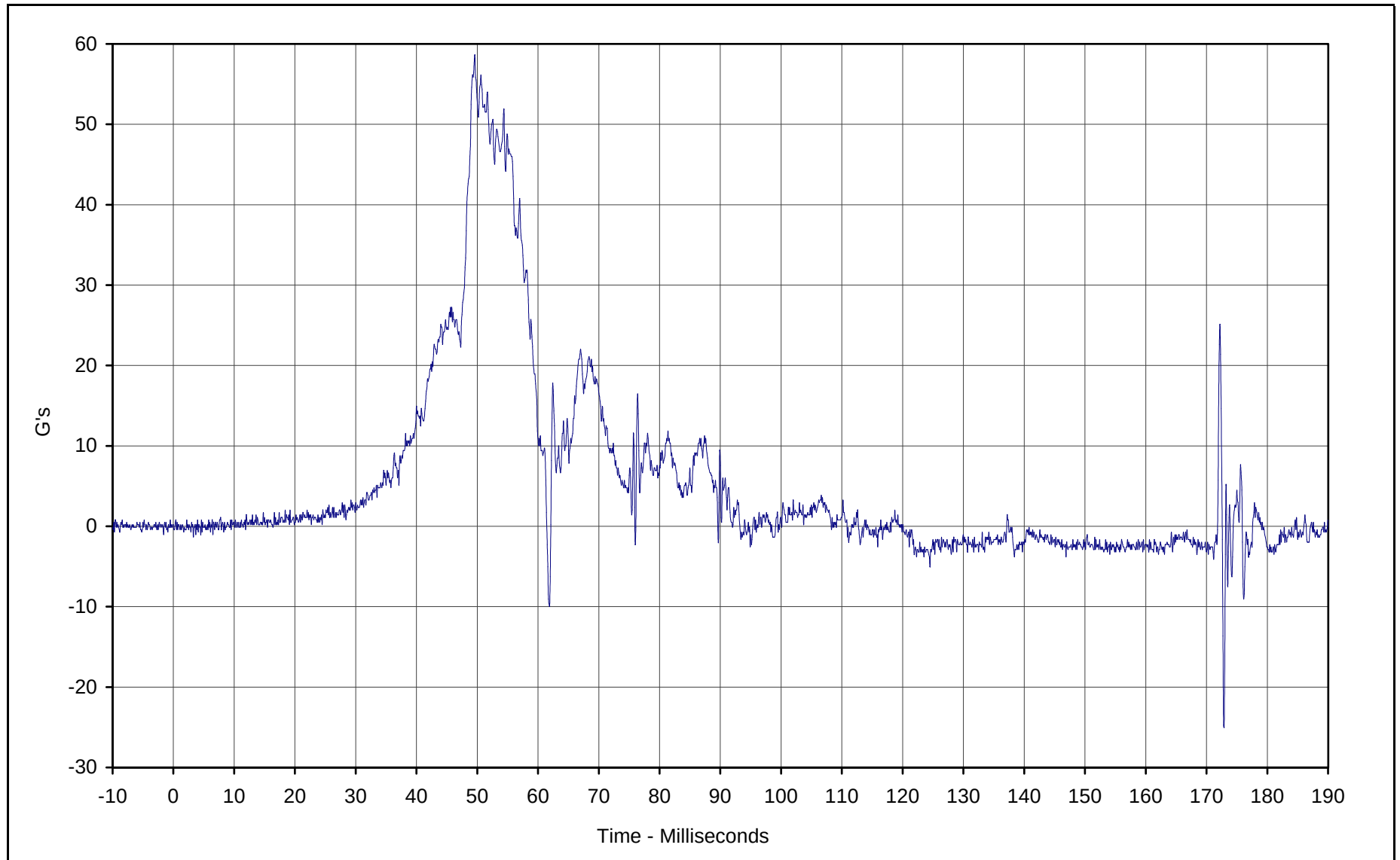




Curve Description: Pass. Pelvis Primary Y Velocity
Maximum Value: 34.2 at 51.3 Milliseconds
Minimum Value: 0.0 at 2.6 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-020

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

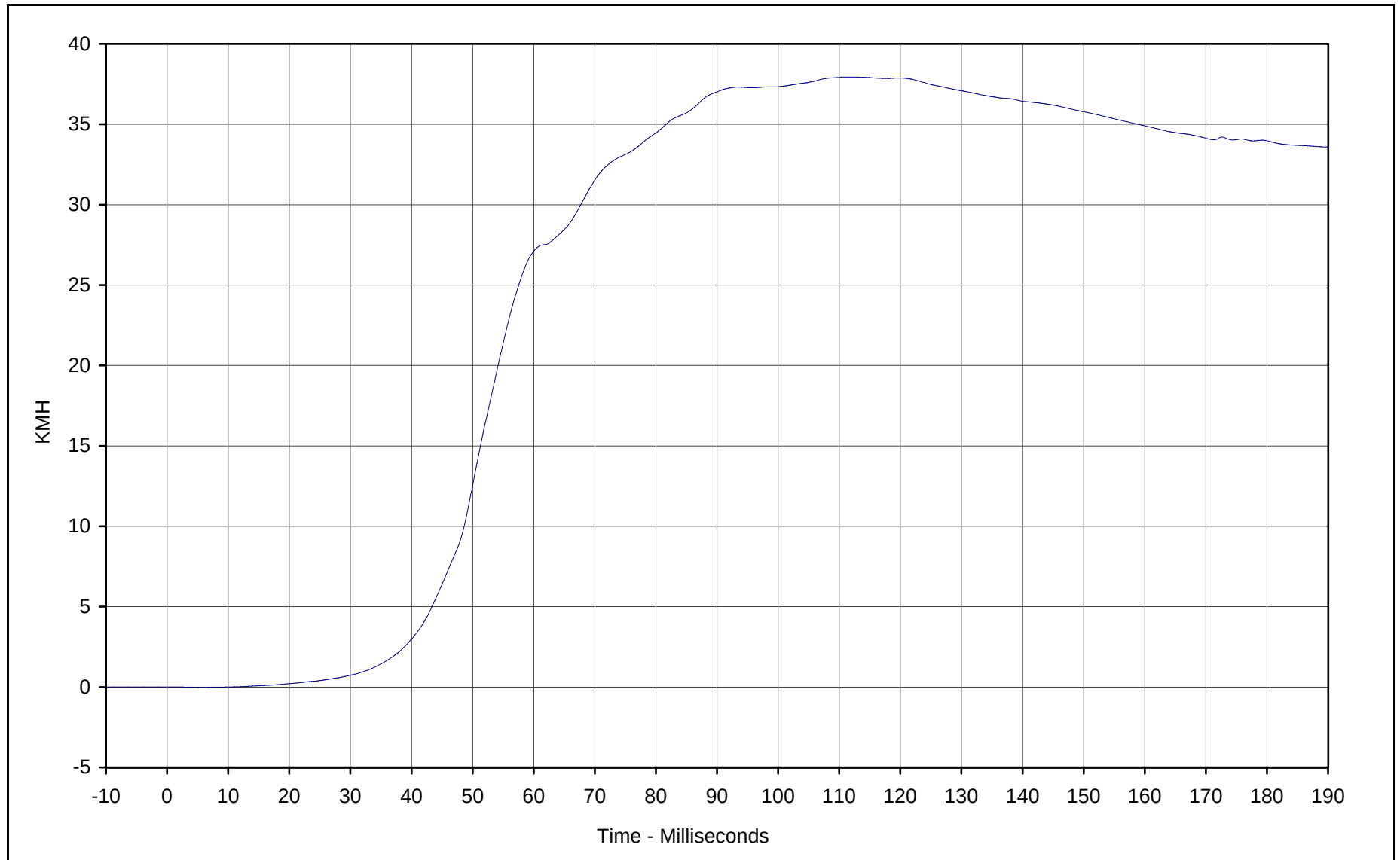




Curve Description: Pass. Upper Rib Redundant Y
Maximum Value: 58.6 at 49.6 Milliseconds
Minimum Value: -25.0 at 172.9 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-021

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan





Curve Description: Pass. Upper Rib Redundant Y Velocity

Maximum Value: 37.9 at 110.9 Milliseconds

Minimum Value: 0.0 at 6.0 Milliseconds

SAE Filter Class: 180

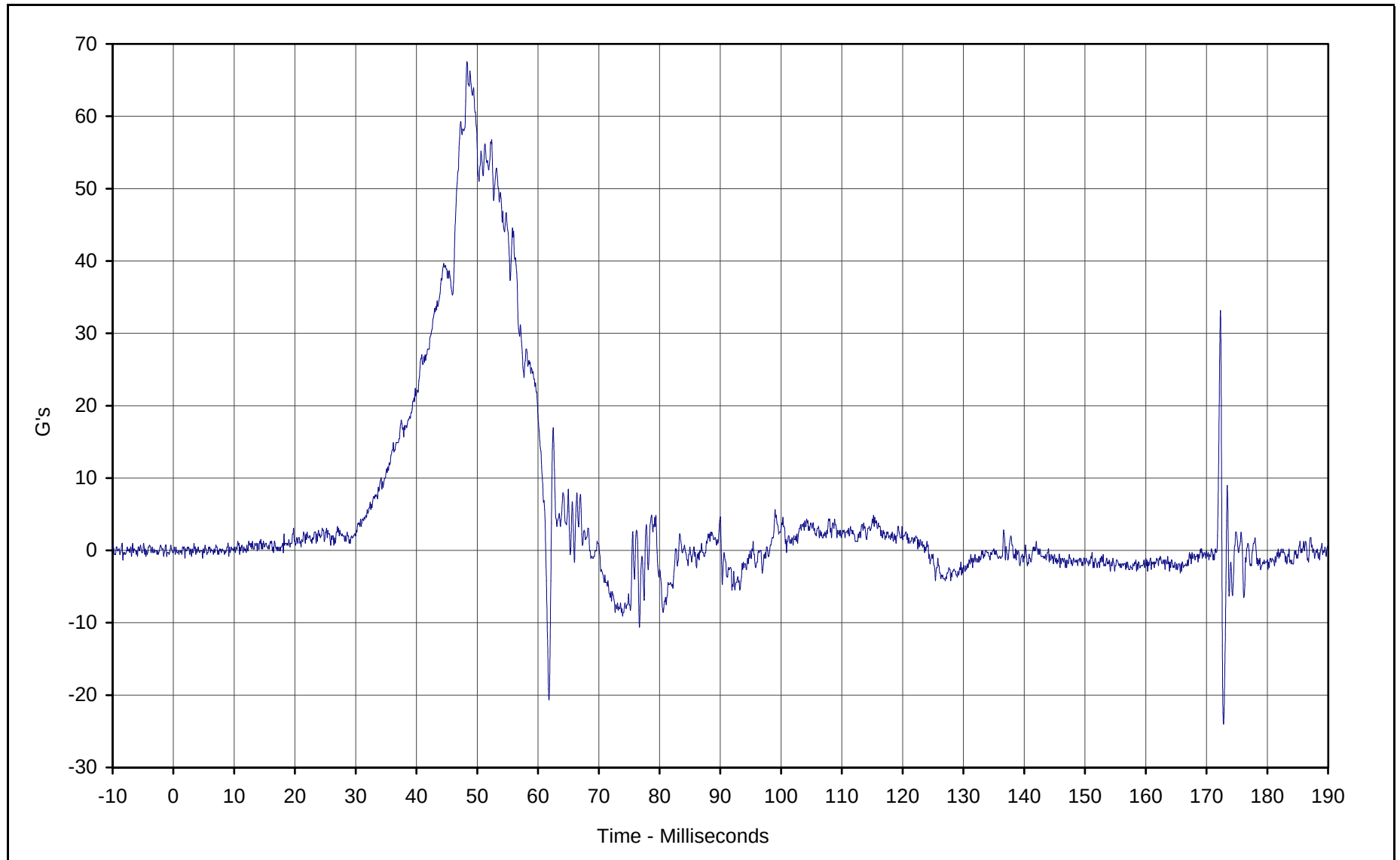
Date of Test: 12/18/00

Curve Number: IN1-021

Test Program: 55/28 km/h Side Impact NCAP No.: M10210

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

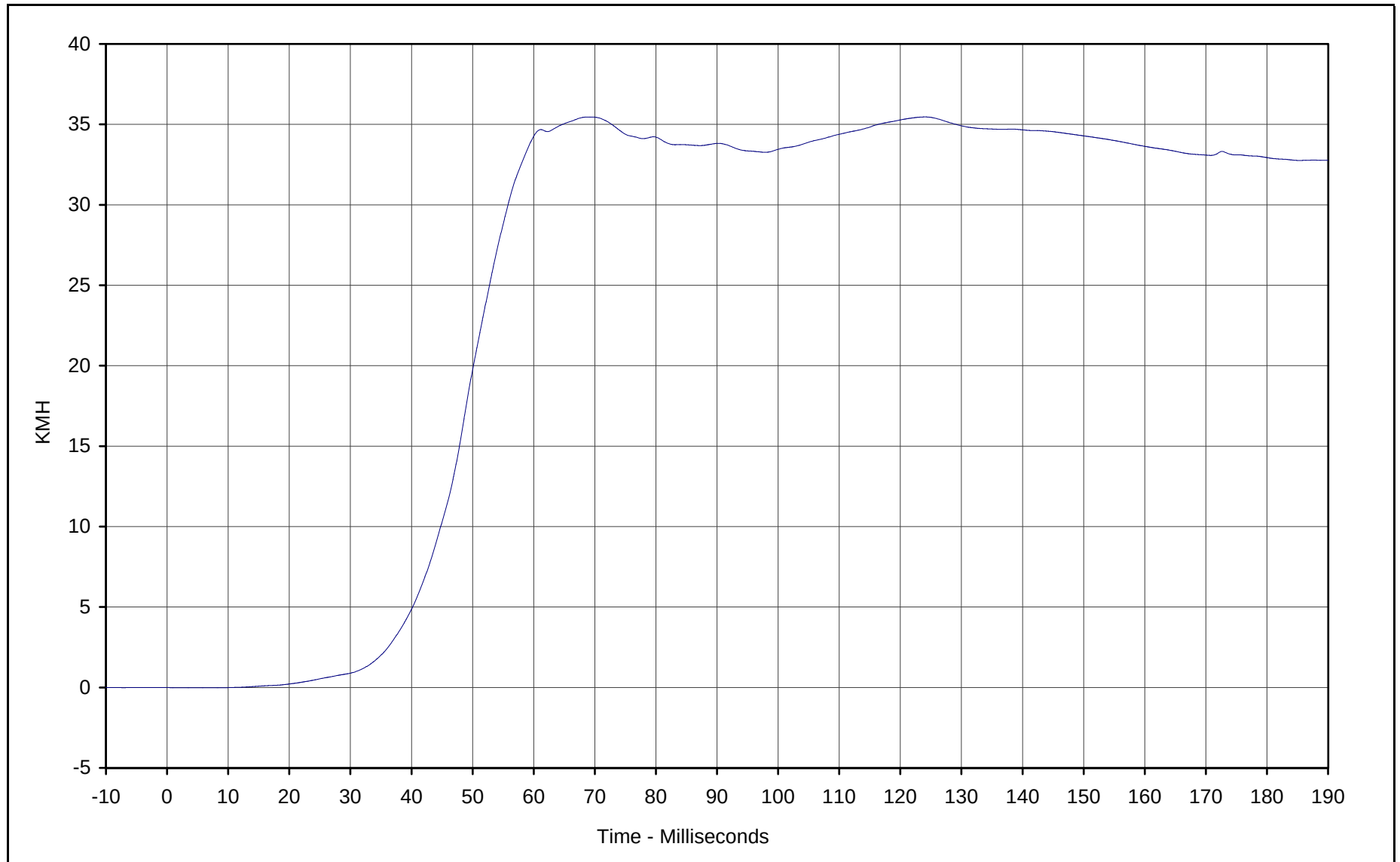




Curve Description: Pass. Lower Rib Redundant Y
Maximum Value: 67.5 at 48.3 Milliseconds
Minimum Value: -24.0 at 172.8 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-022

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan





Curve Description: Pass. Lower Rib Redundant Y Velocity

Maximum Value: 35.5 at 124.0 Milliseconds

Minimum Value: 0.0 at 8.5 Milliseconds

SAE Filter Class: 180

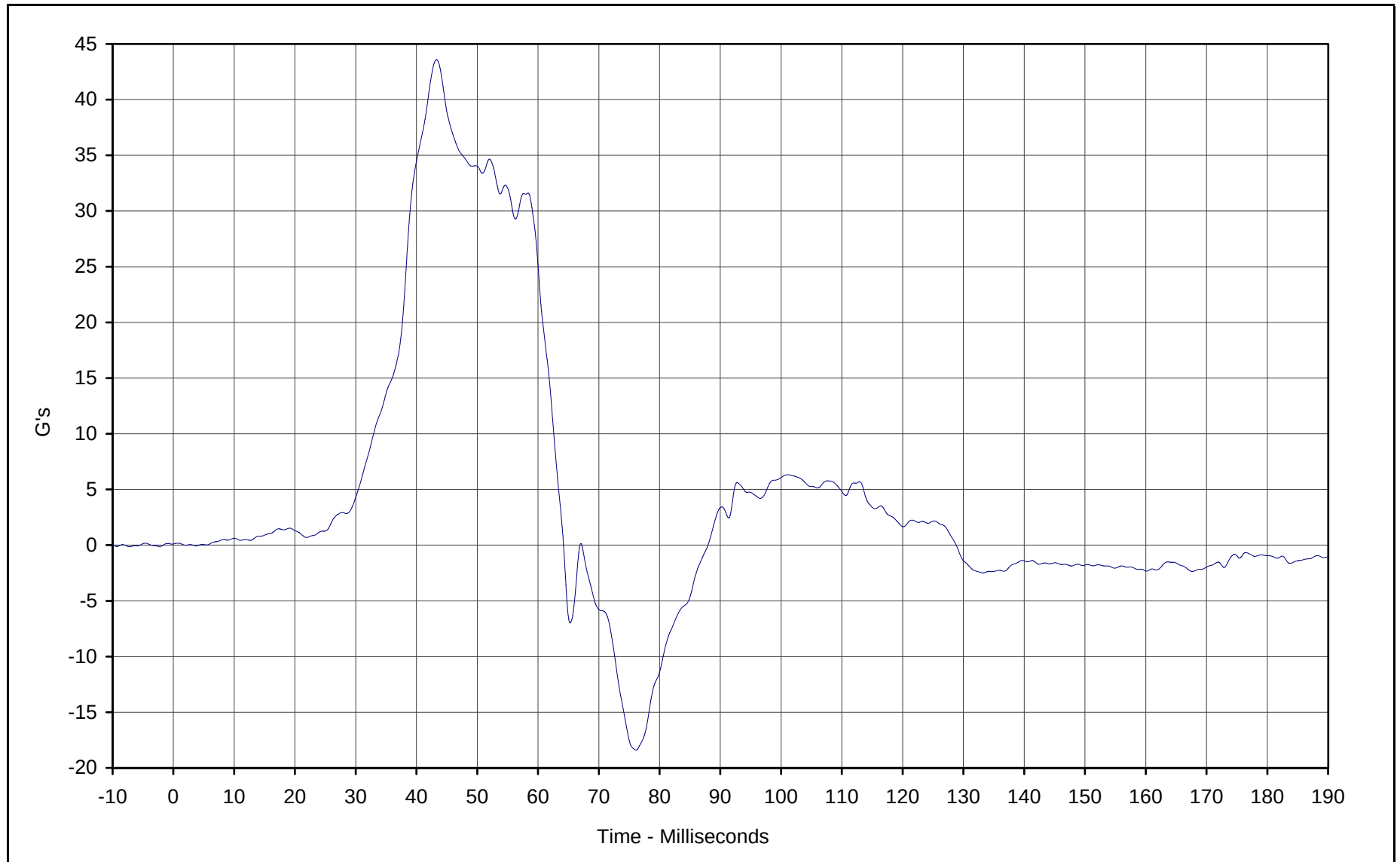
Date of Test: 12/18/00

Curve Number: IN1-022

Test Program: 55/28 km/h Side Impact NCAP No.: M10210

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

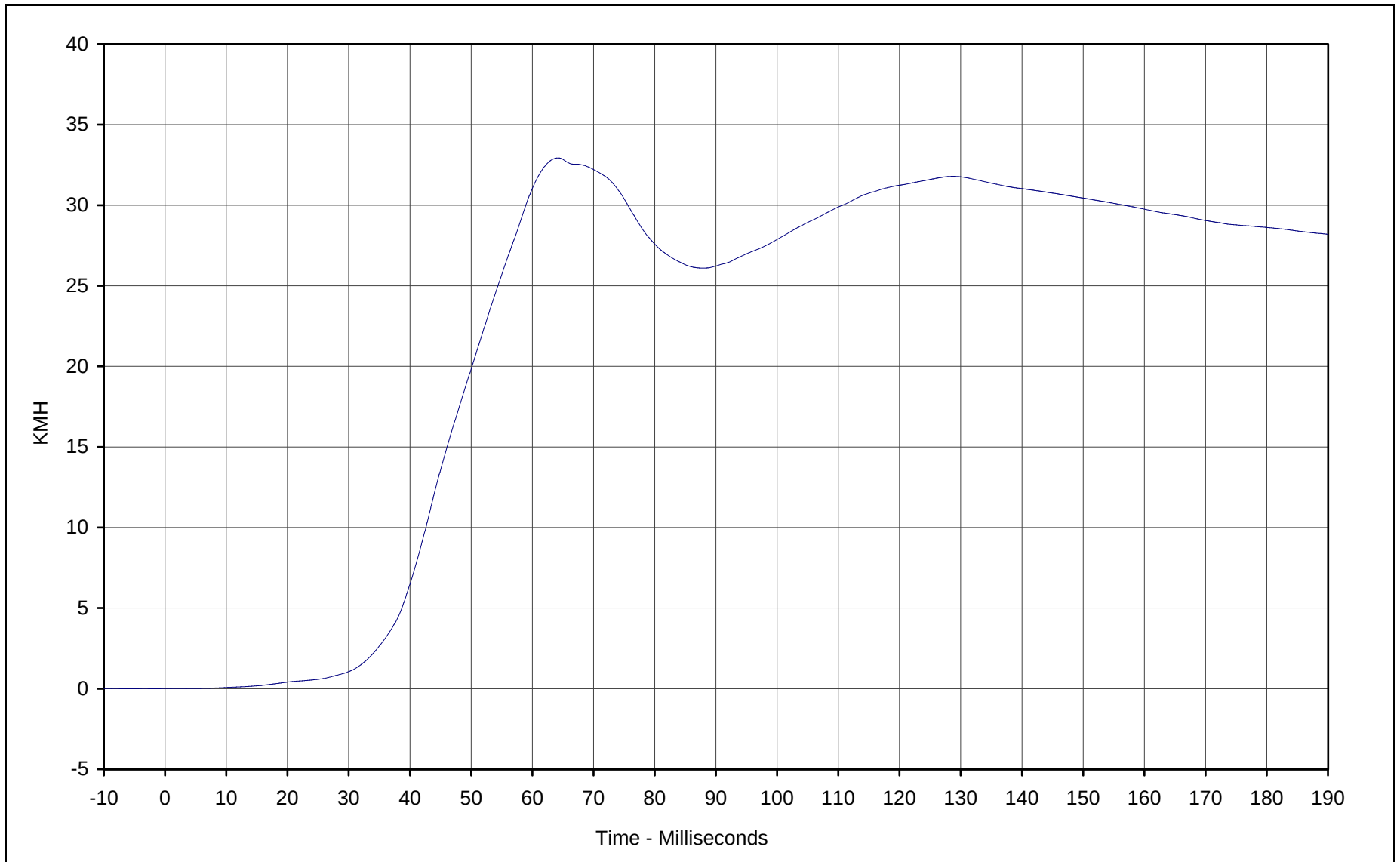




Curve Description: Pass. Lower Spine Redundant Y
Maximum Value: 43.6 at 43.3 Milliseconds
Minimum Value: -18.4 at 76.1 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: FIL-023

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan





Curve Description: Pass. Lower Spine Redundant Y Velocity

Maximum Value: 32.9 at 64.2 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

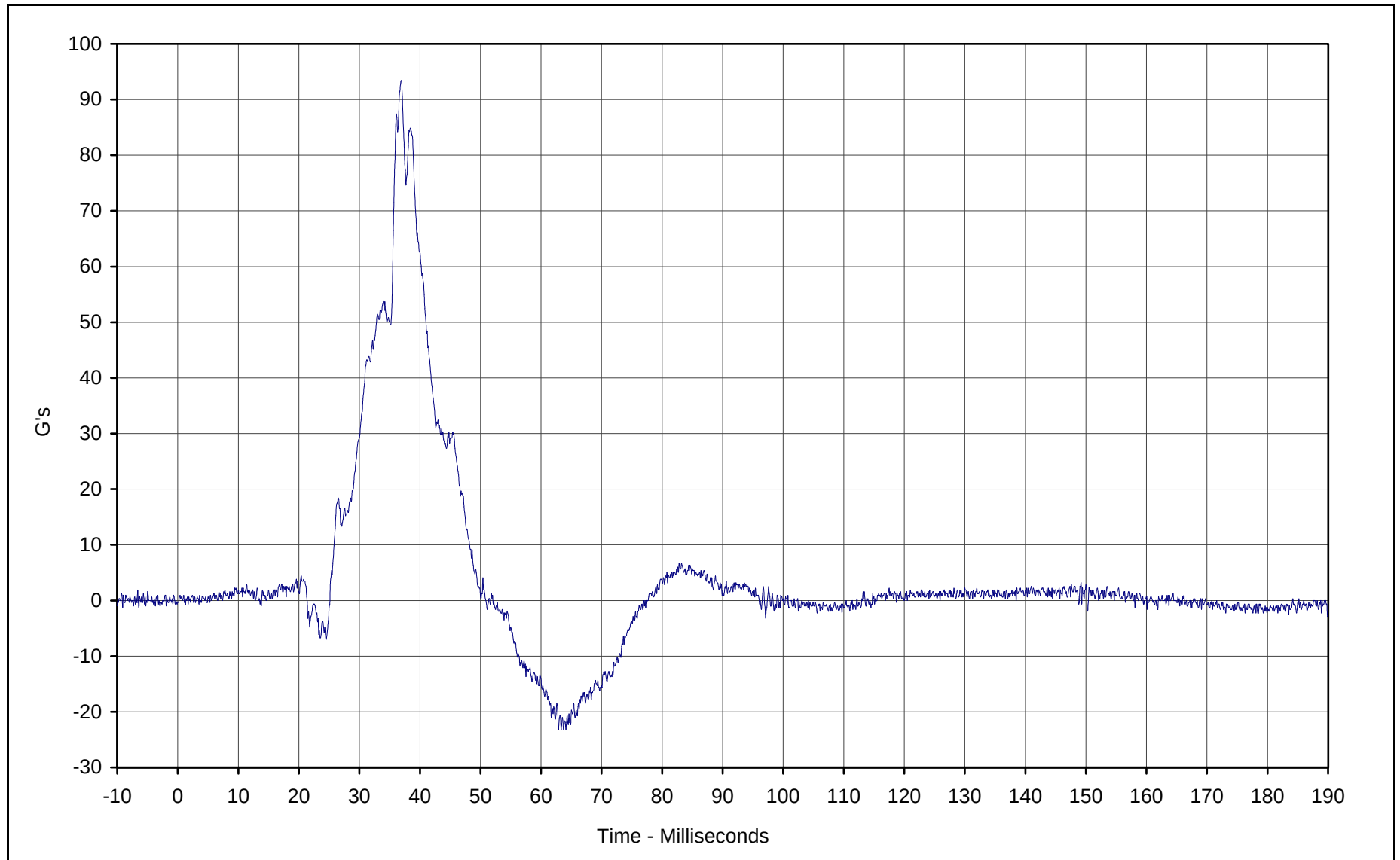
Date of Test: 12/18/00

Curve Number: IN1-023

Test Program: 55/28 km/h Side Impact NCAP No.: M10210

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

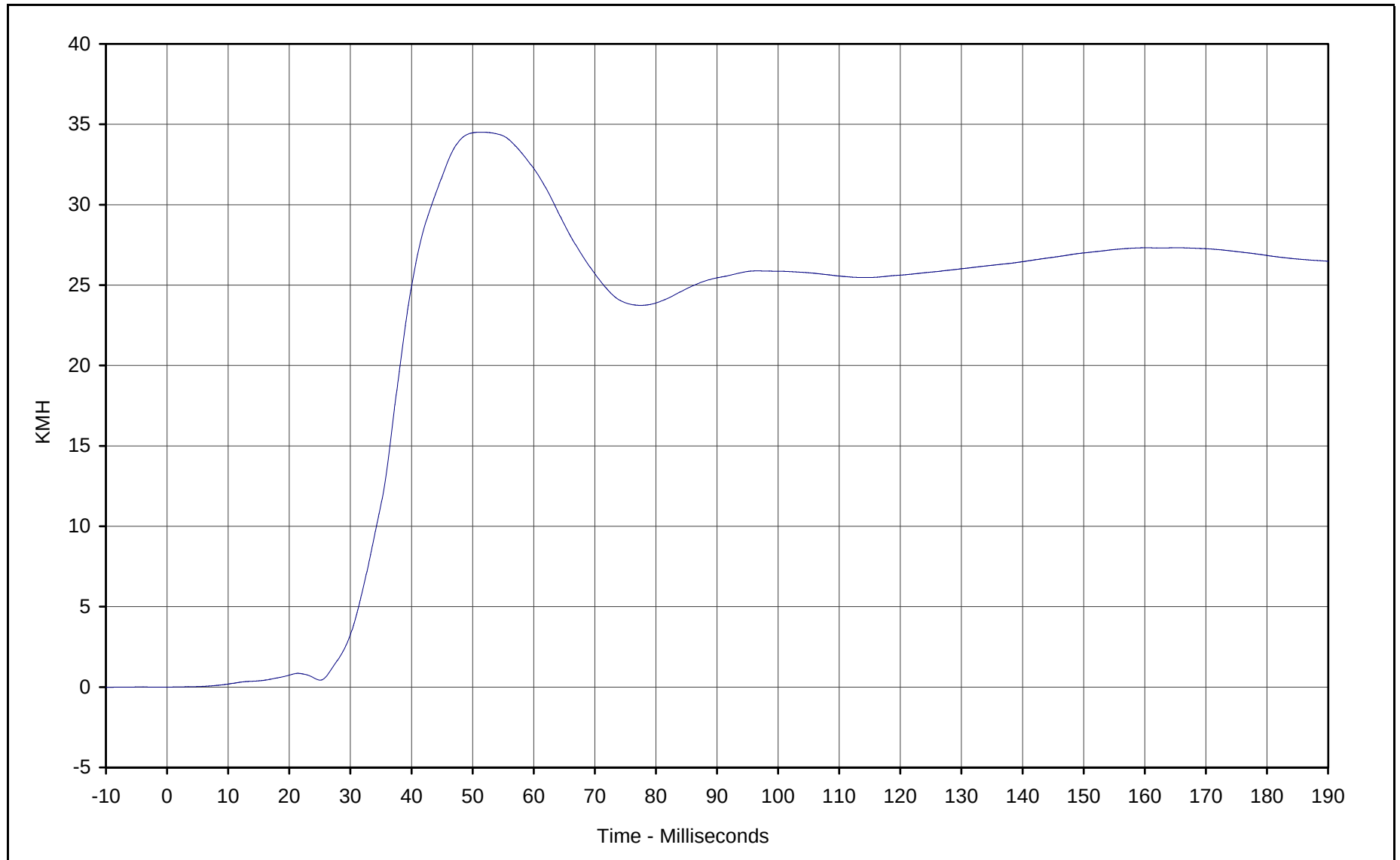




Curve Description: Pass. Pelvis Redundant Y
Maximum Value: 93.4 at 36.9 Milliseconds
Minimum Value: -23.2 at 62.9 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-024

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

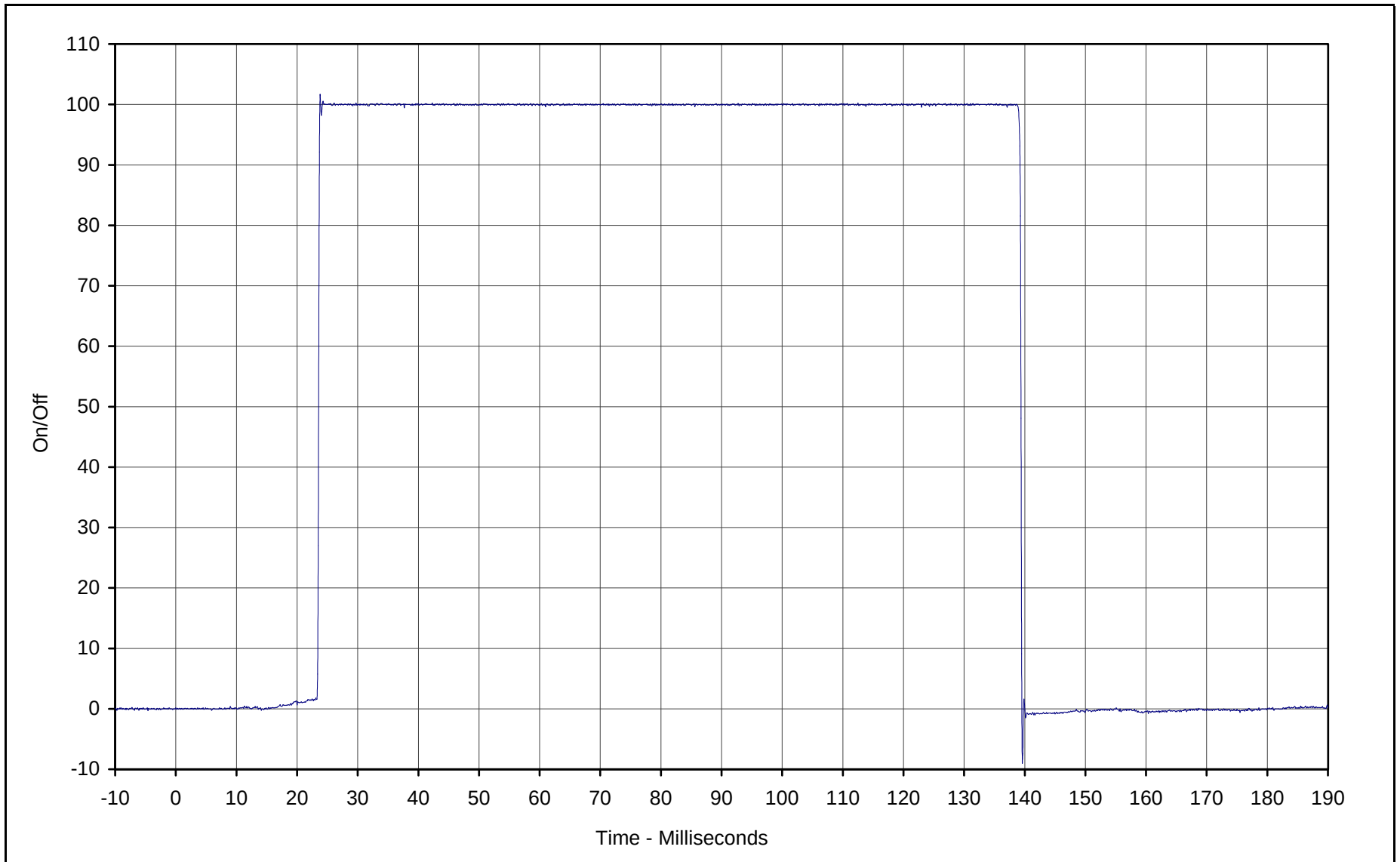




Curve Description: Pass. Pelvis Redundant Y Velocity
Maximum Value: 34.5 at 51.3 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-024

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

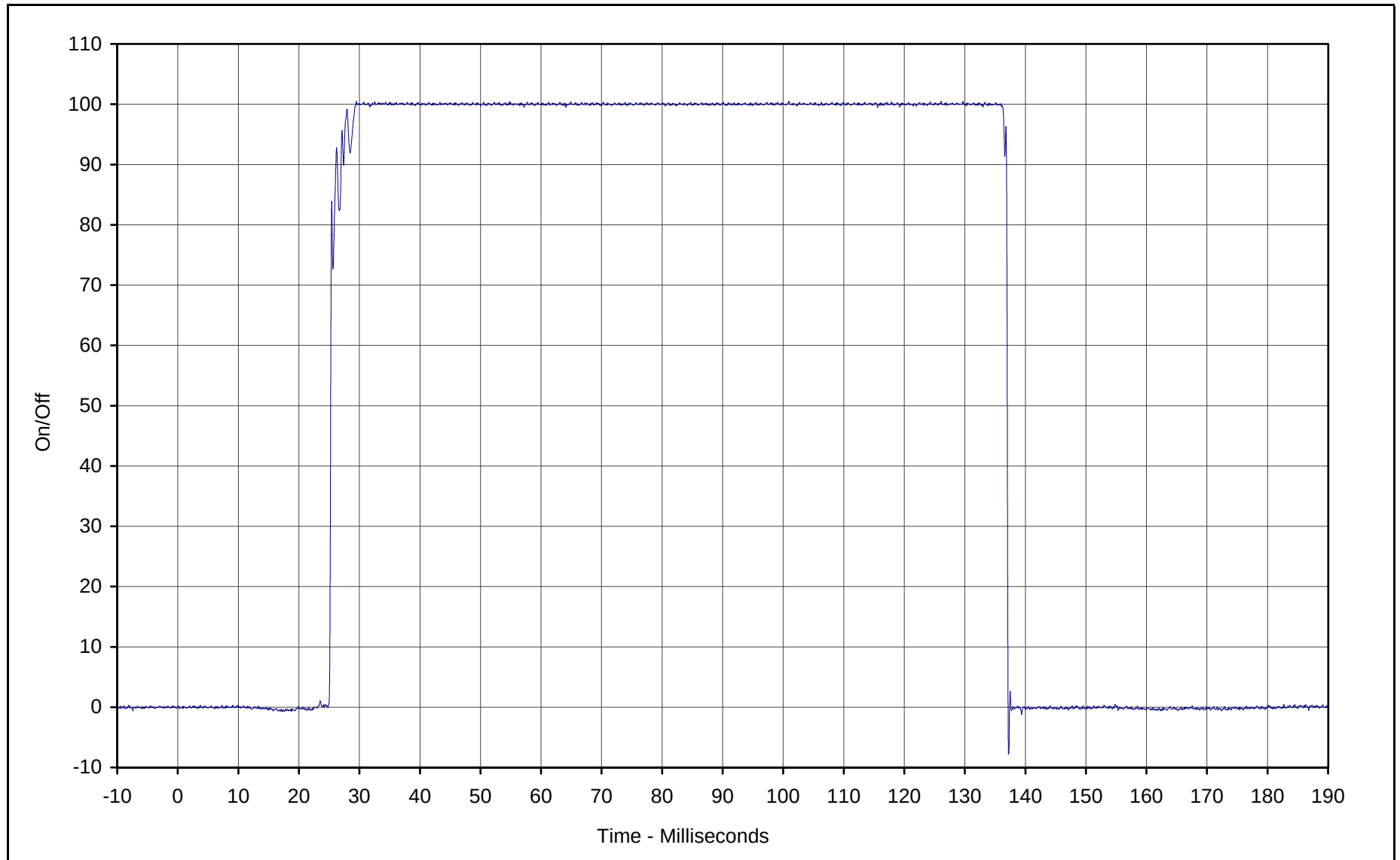




Curve Description: Pass. Thorax Contact
Maximum Value: 101.6 at 23.8 Milliseconds
Crossing Point: 50% at 23.6 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-025

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

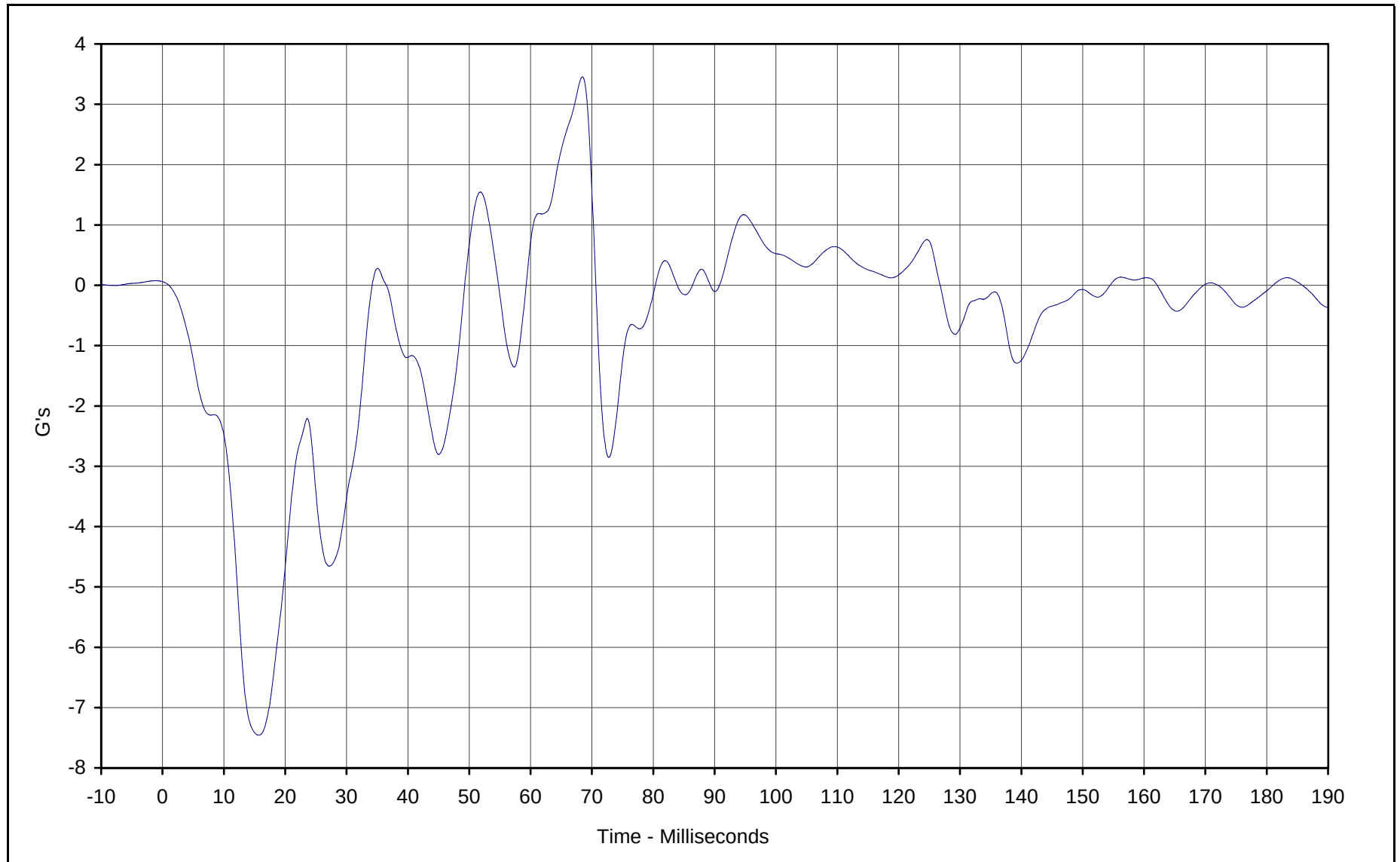




Curve Description: Pass. Pelvis Contact
Maximum Value: 100.5 at 29.5 Milliseconds
Crossing Point: 50% at 25.3 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-026

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

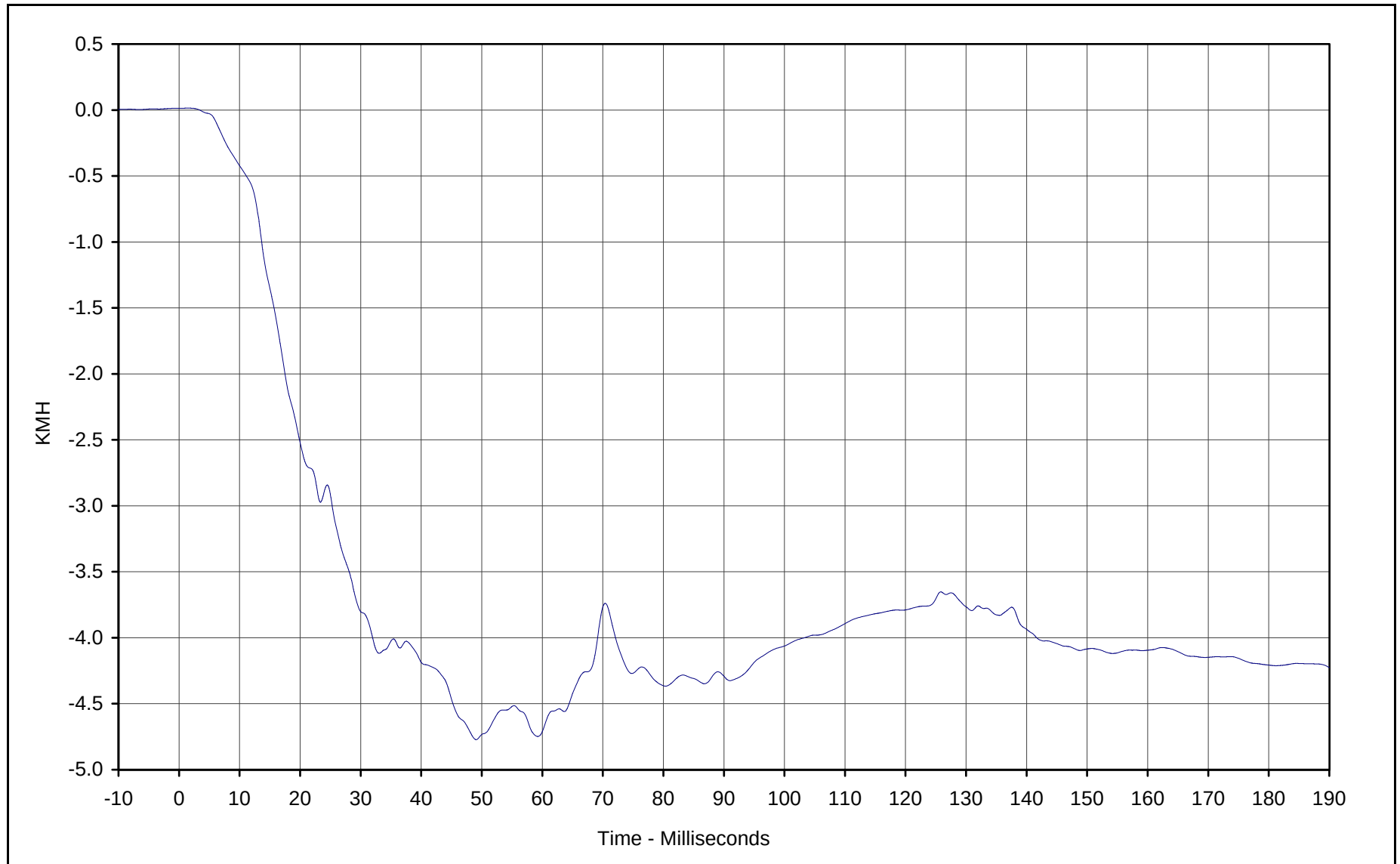




Curve Description: Right Sill at Front Seat X
Maximum Value: 3.5 at 68.5 Milliseconds
Minimum Value: -7.5 at 15.7 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-027

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

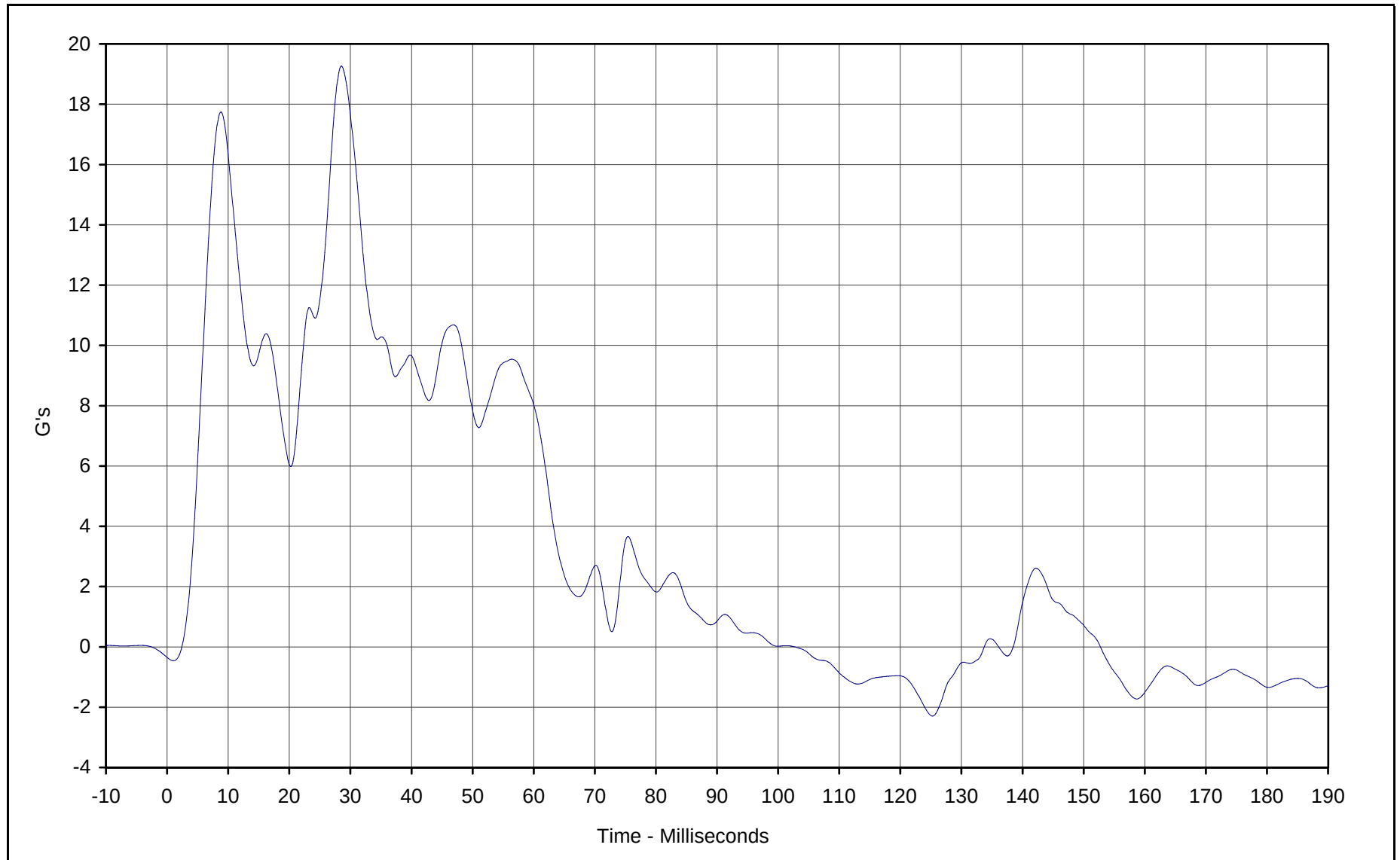




Curve Description: Right Sill at Front Seat X Velocity
Maximum Value: 0.0 at 1.6 Milliseconds
Minimum Value: -4.8 at 49.1 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-027

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan





Curve Description: Right Sill at Front Seat Y

Maximum Value: 19.3 at 28.5 Milliseconds

Minimum Value: -2.3 at 125.3 Milliseconds

SAE Filter Class: 60

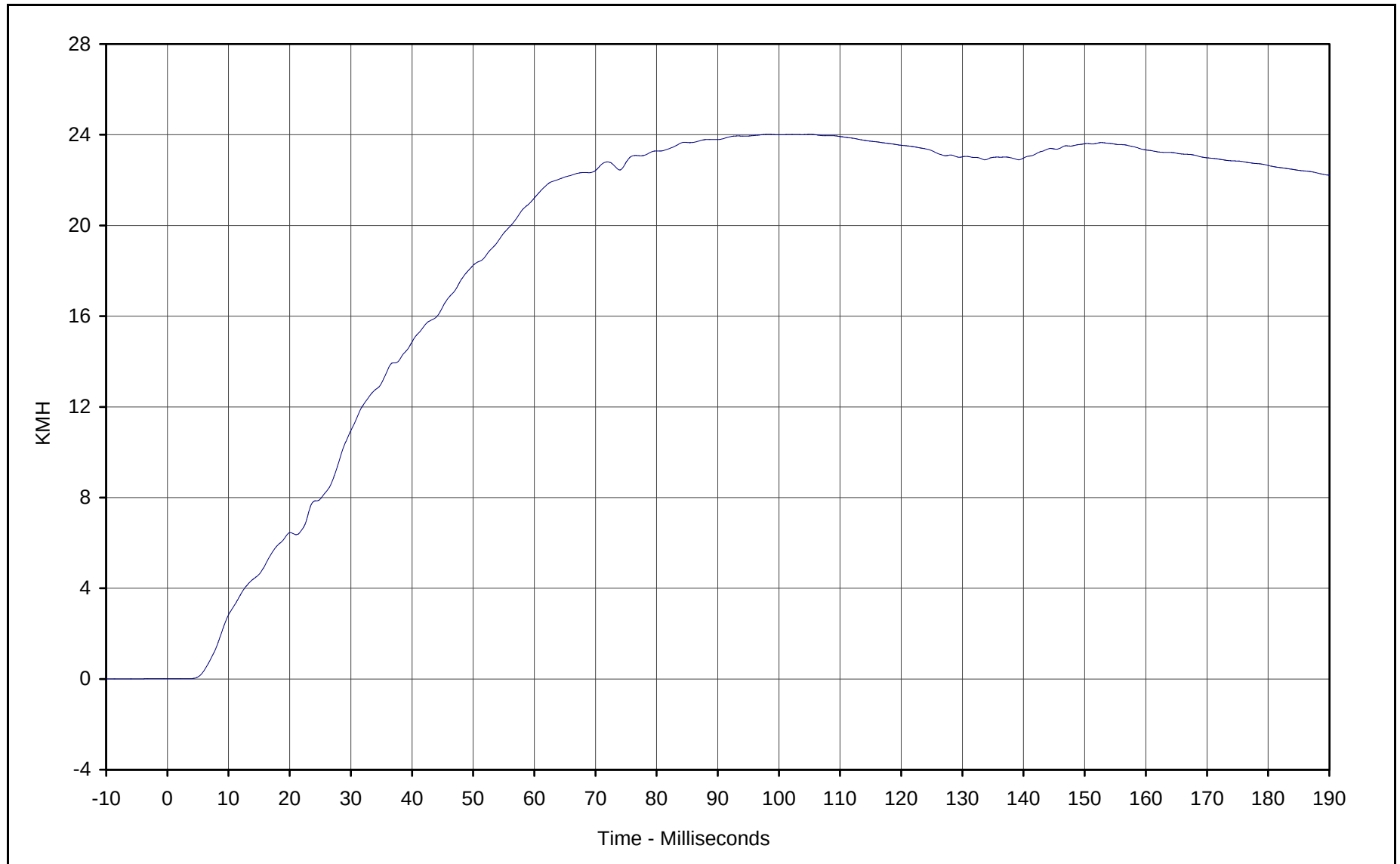
Date of Test: 12/18/00

Curve Number: FIL-028

Test Program: 55/28 km/h Side Impact NCAP No.: M10210

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

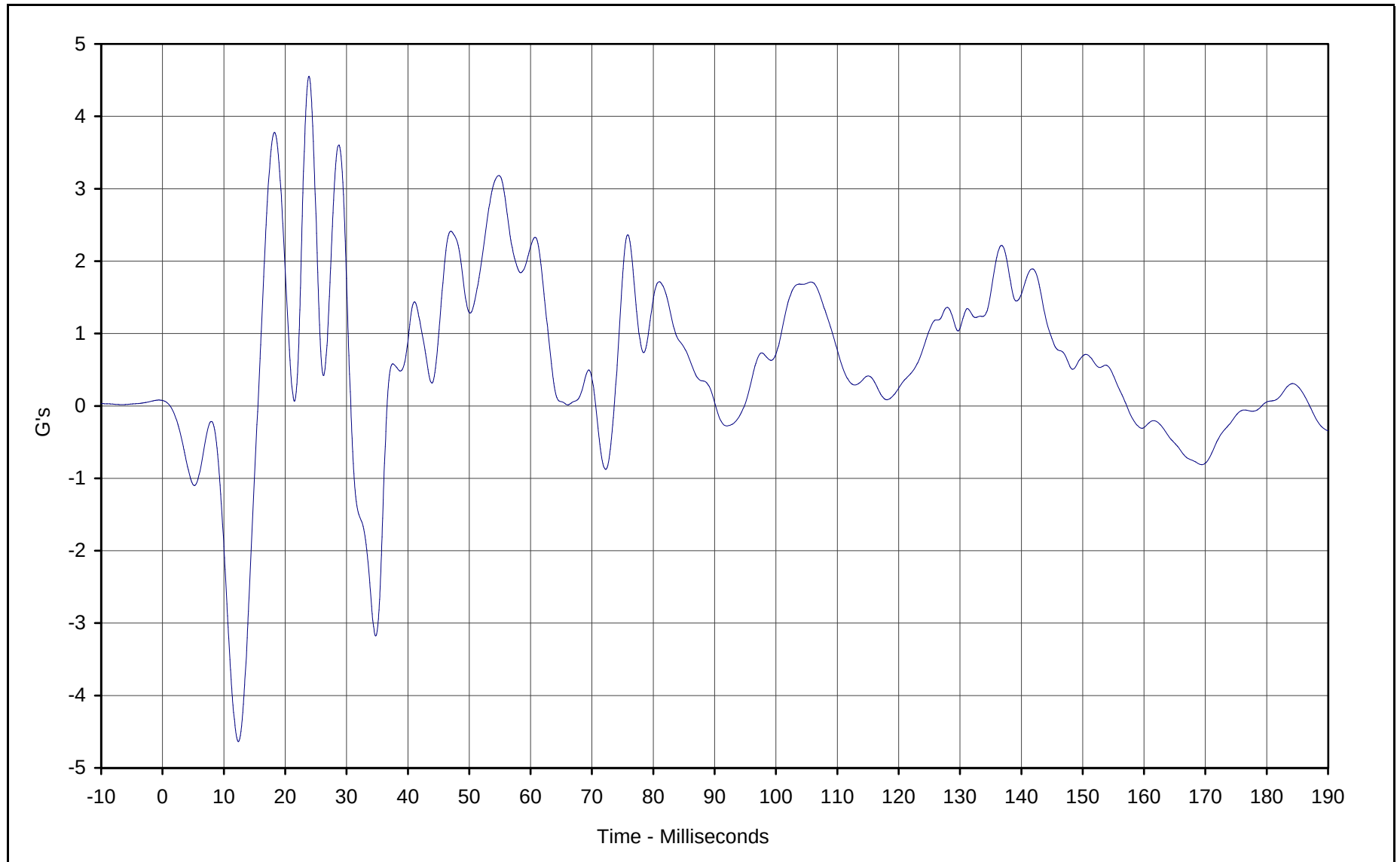




Curve Description: Right Sill at Front Seat Y Velocity
Maximum Value: 24.0 at 98.3 Milliseconds
Minimum Value: 0.0 at 3.6 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-028

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

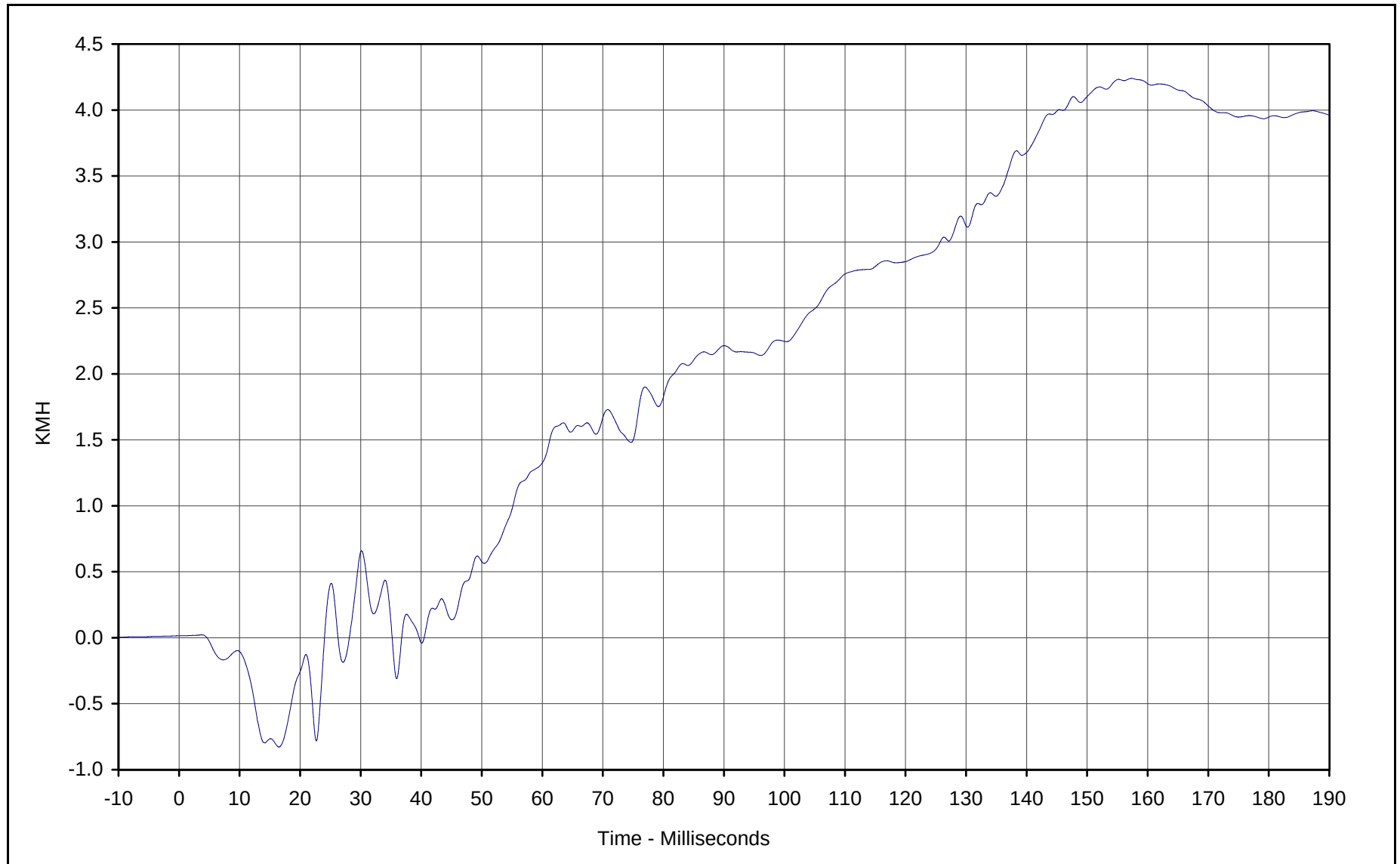




Curve Description: Right Sill at Front Seat Z
Maximum Value: 4.6 at 23.9 Milliseconds
Minimum Value: -4.6 at 12.4 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-029

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

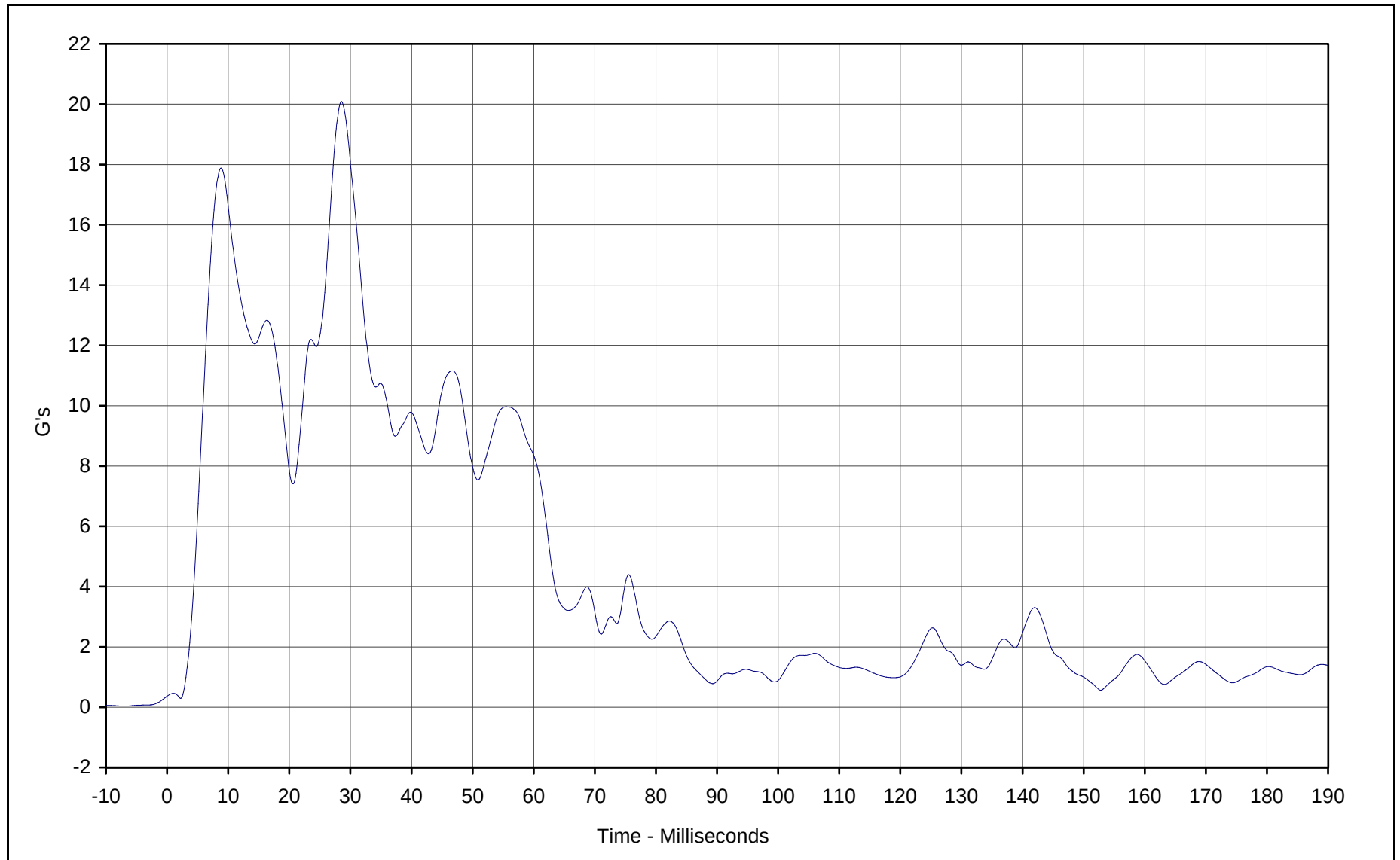




Curve Description: Right Sill at Front Seat Z Velocity
Maximum Value: 4.2 at 157.3 Milliseconds
Minimum Value: -0.8 at 16.5 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-029

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

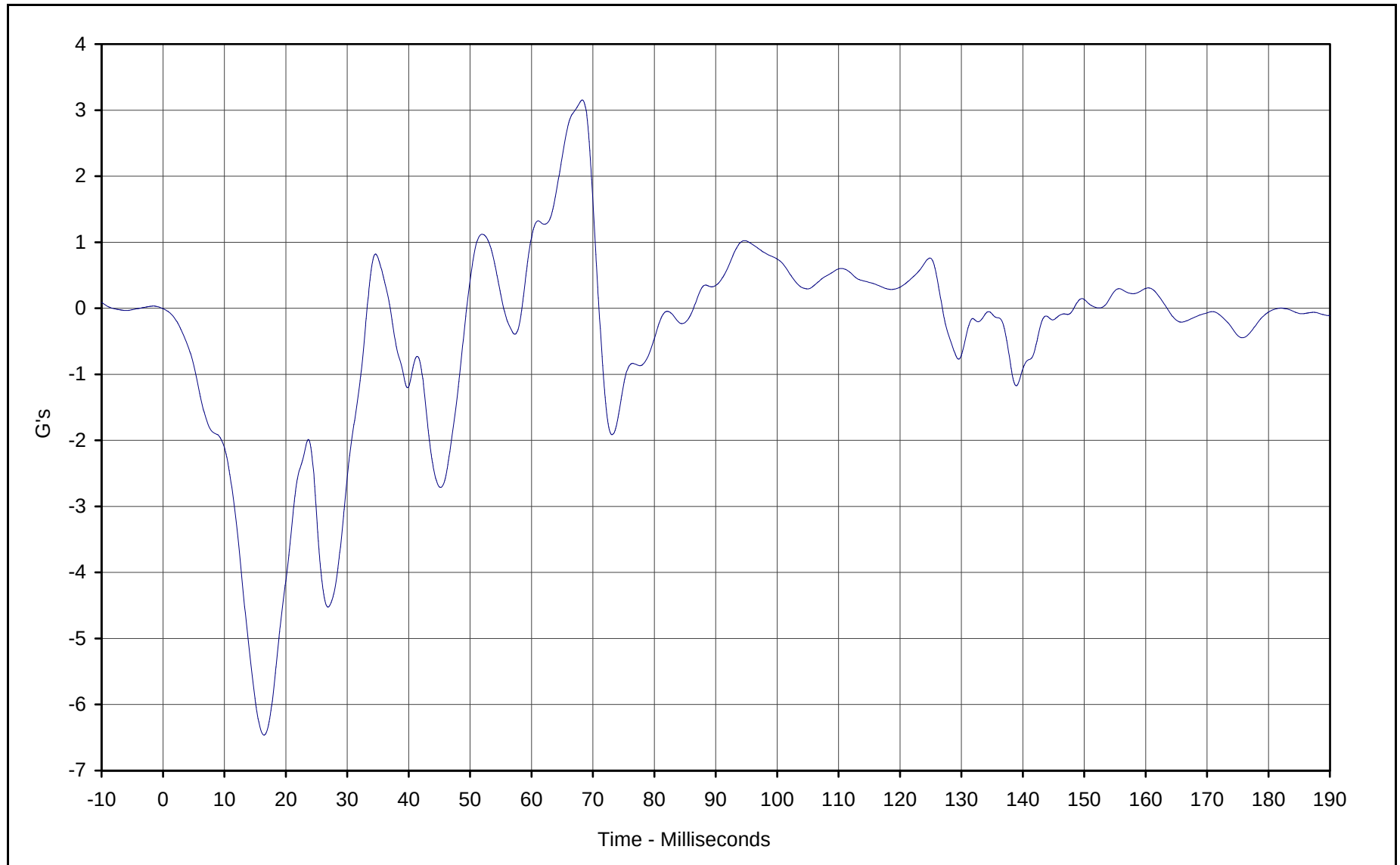




Curve Description: Right Sill at Front Seat Resultant
Maximum Value: 20.1 at 28.5 Milliseconds
Minimum Value: 0.3 at 2.2 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: RES-027

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

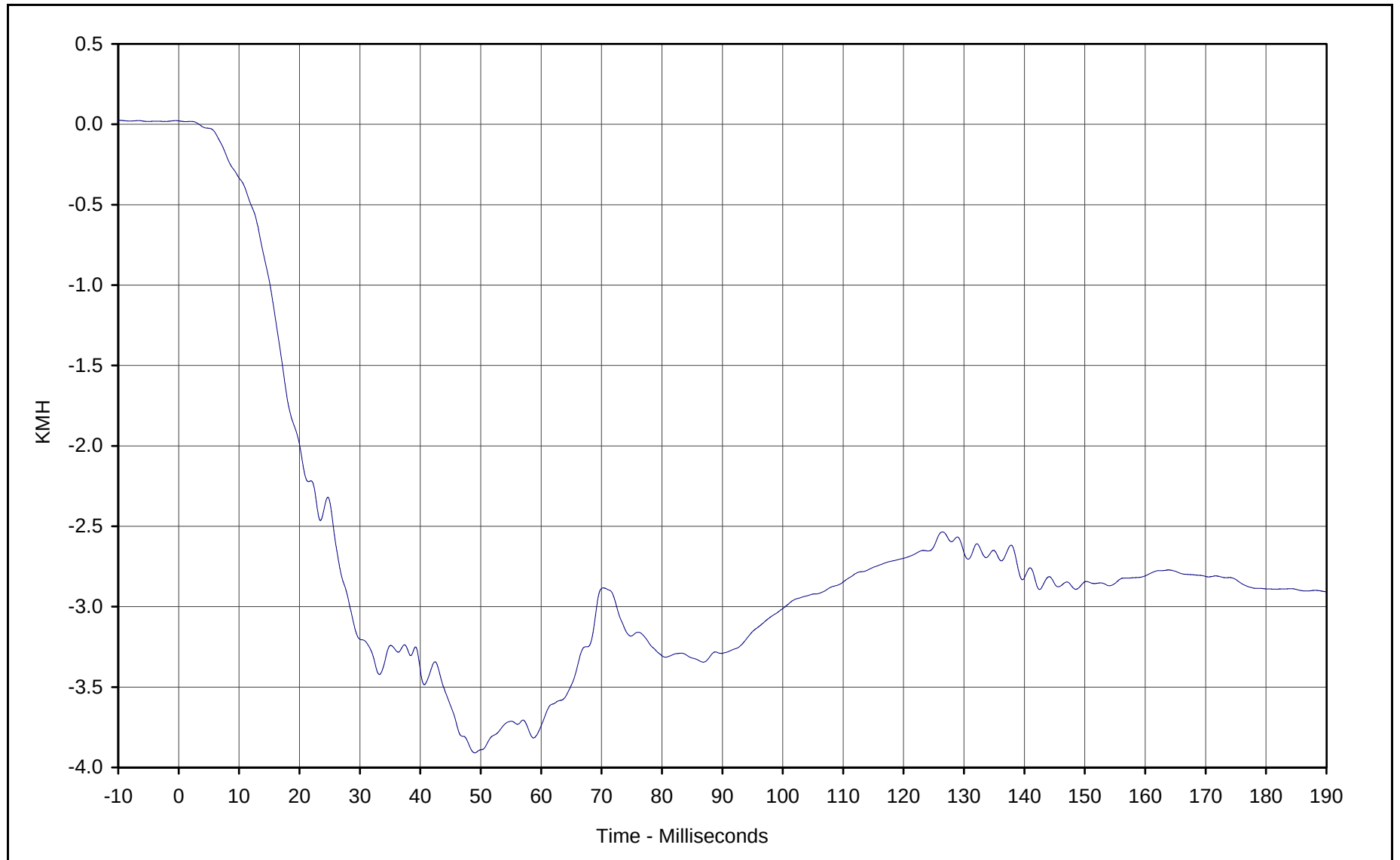




Curve Description: Right Sill at Rear Seat X
Maximum Value: 3.2 at 68.3 Milliseconds
Minimum Value: -6.5 at 16.5 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-030

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan



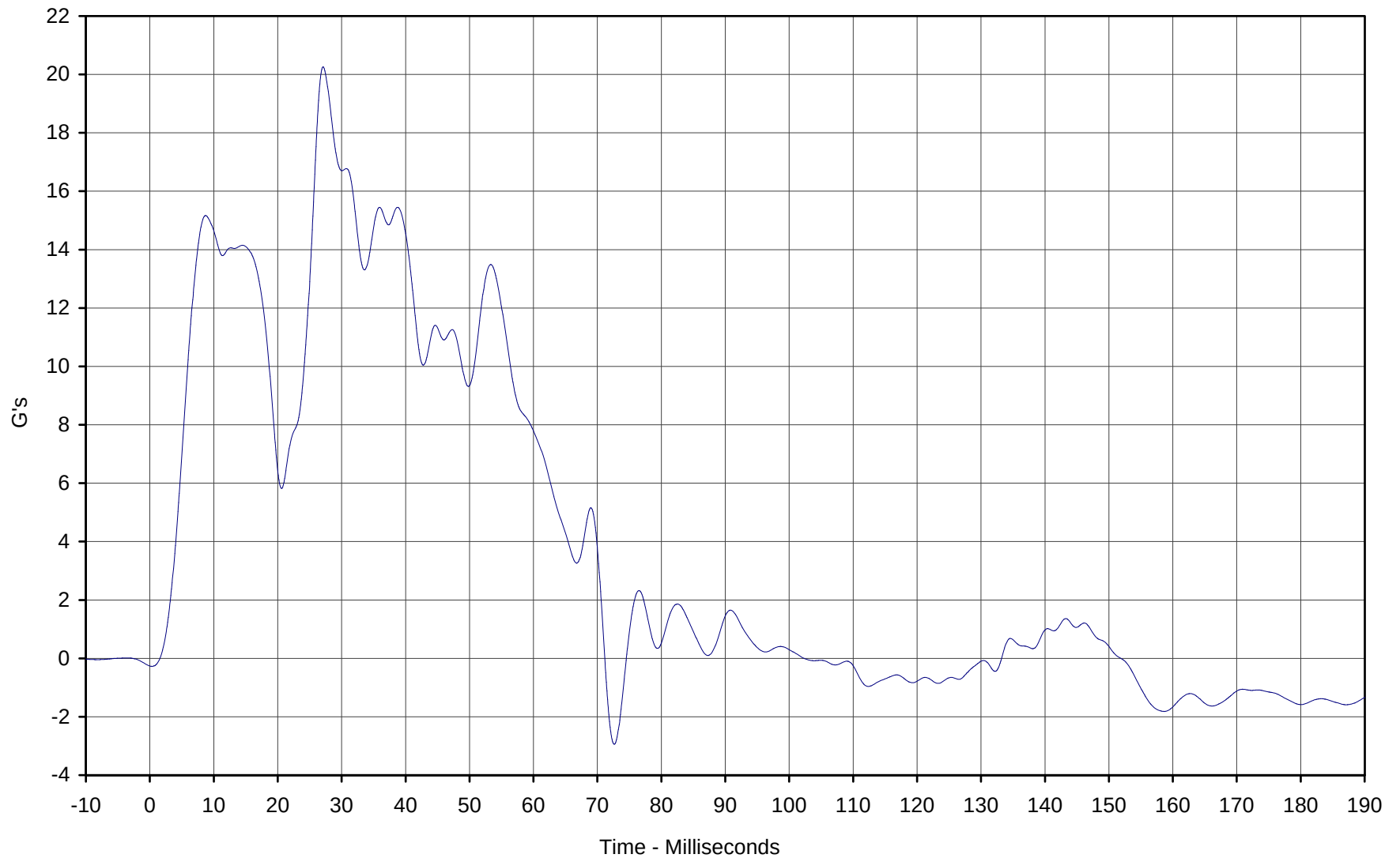


Curve Description: Right Sill at Rear Seat X Velocity
Maximum Value: 0.0 at 0.0 Milliseconds
Minimum Value: -3.9 at 49.0 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-030

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan



B-60

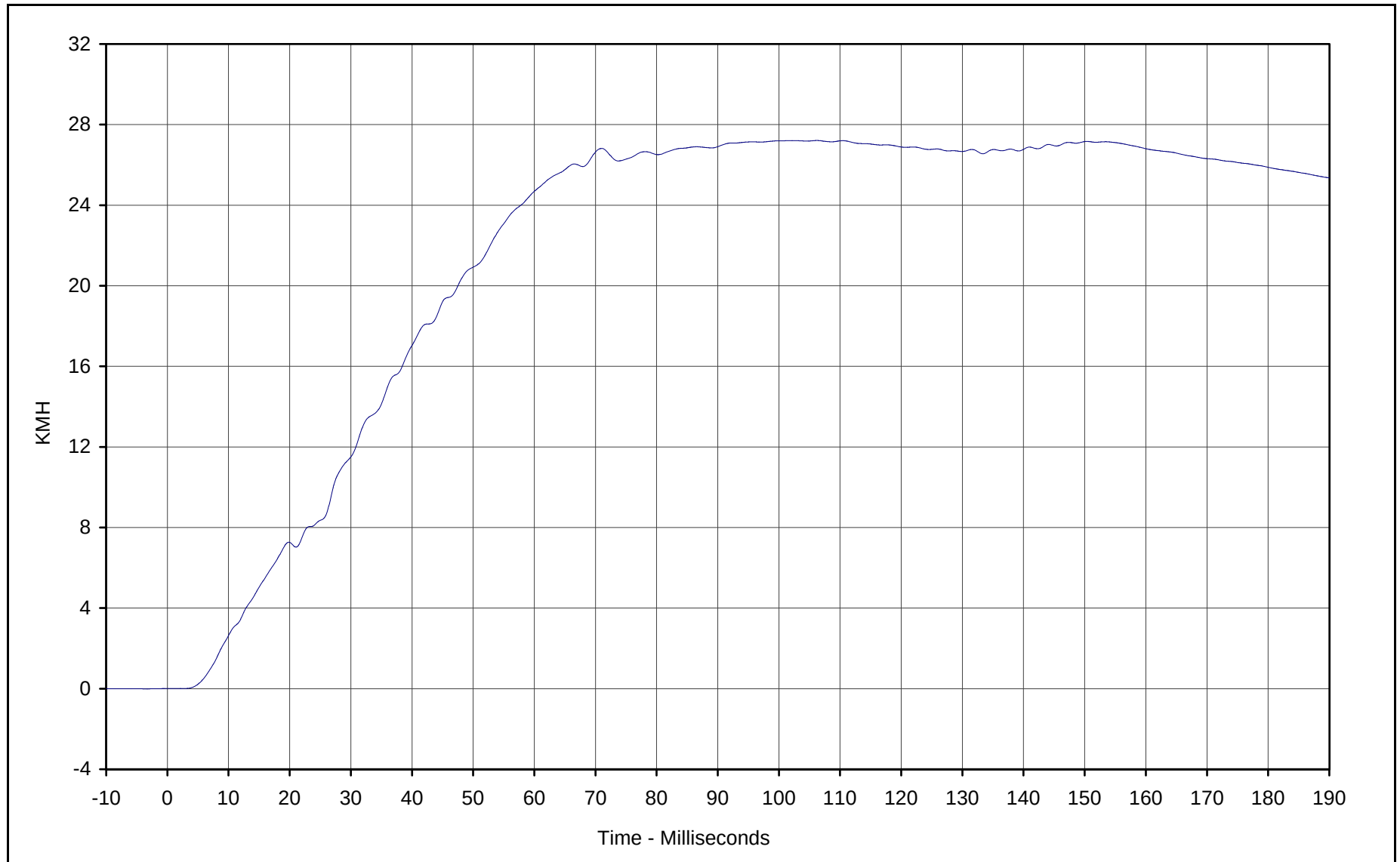


Curve Description: Right Sill at Rear Seat Y
Maximum Value: 20.3 at 27.1 Milliseconds
Minimum Value: -2.9 at 72.7 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-031

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan



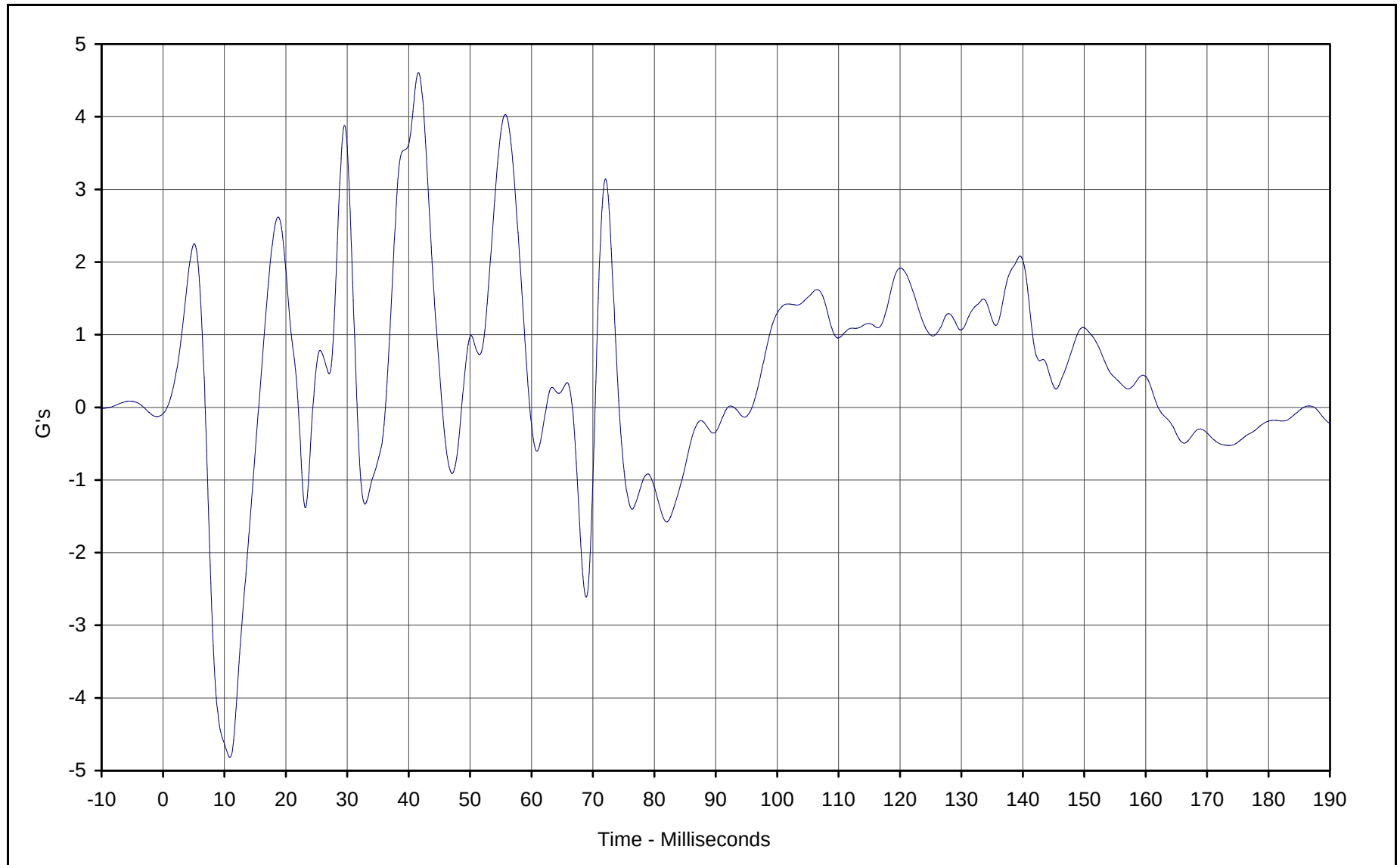
KAR21003-06



Curve Description: Right Sill at Rear Seat Y Velocity
Maximum Value: 27.2 at 106.2 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-031

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

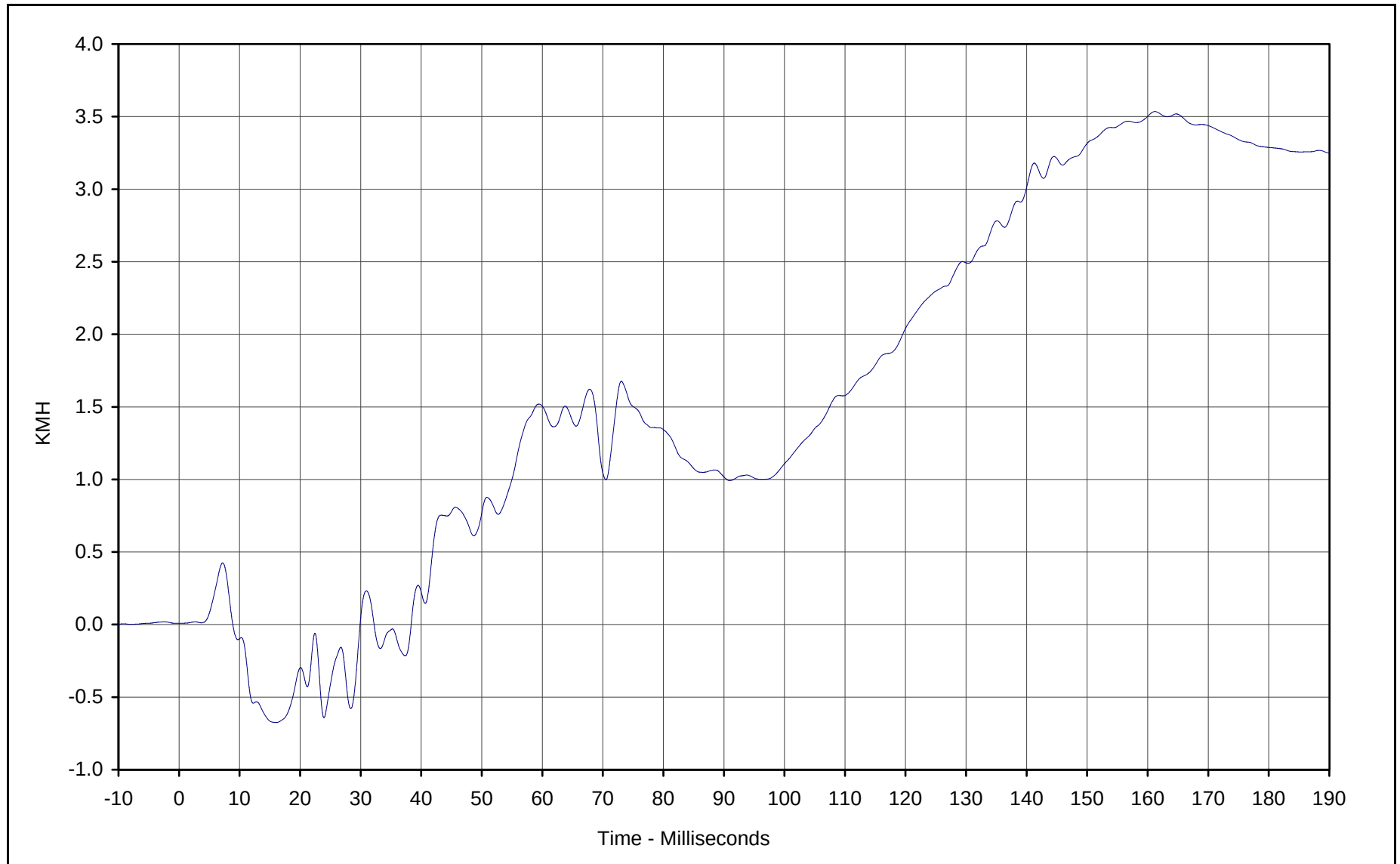




Curve Description: Right Sill at Rear Seat Z
Maximum Value: 4.6 at 41.6 Milliseconds
Minimum Value: -4.8 at 10.9 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-032

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

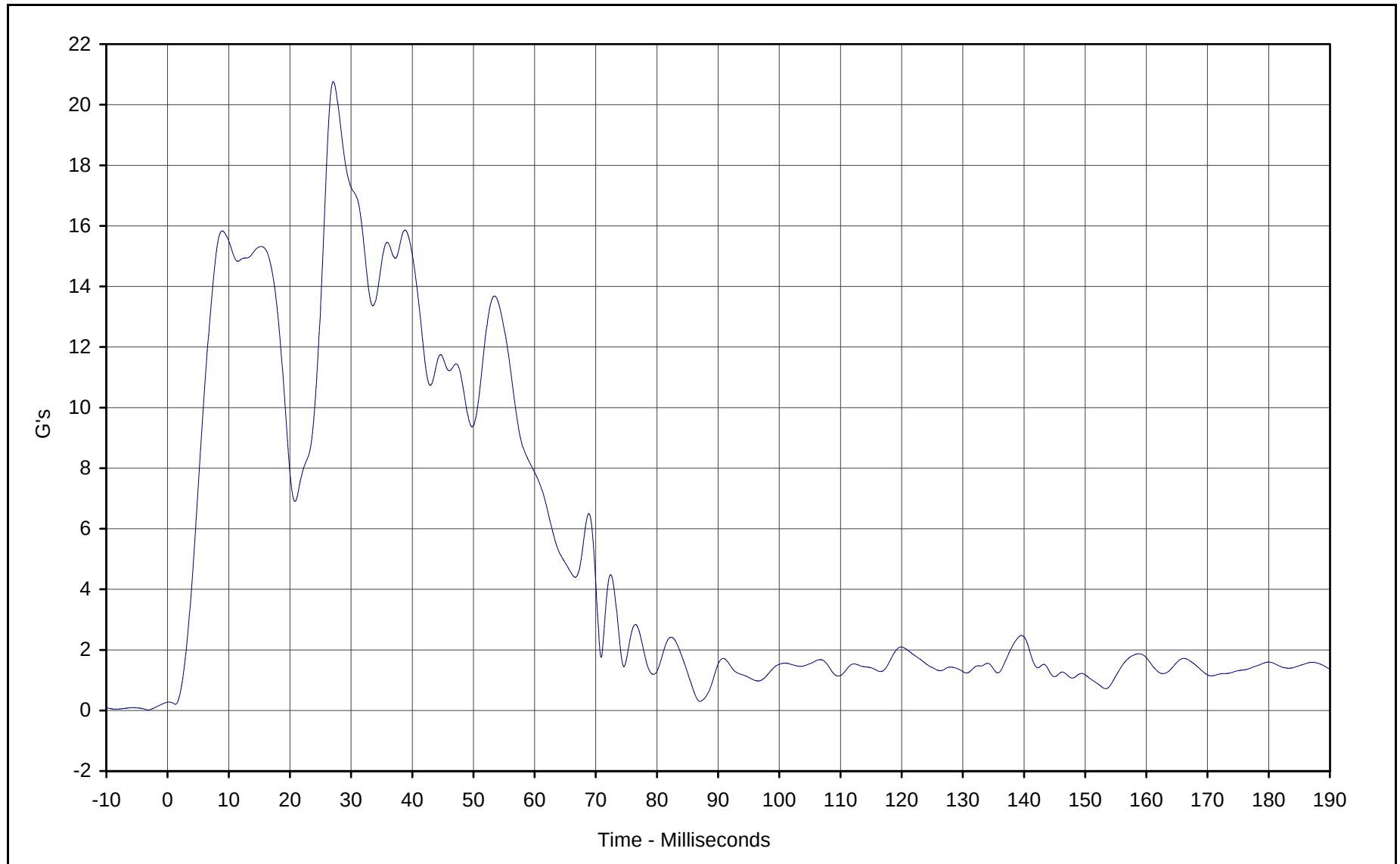




Curve Description: Right Sill at Rear Seat Z Velocity
Maximum Value: 3.5 at 161.2 Milliseconds
Minimum Value: -0.7 at 16.1 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-032

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

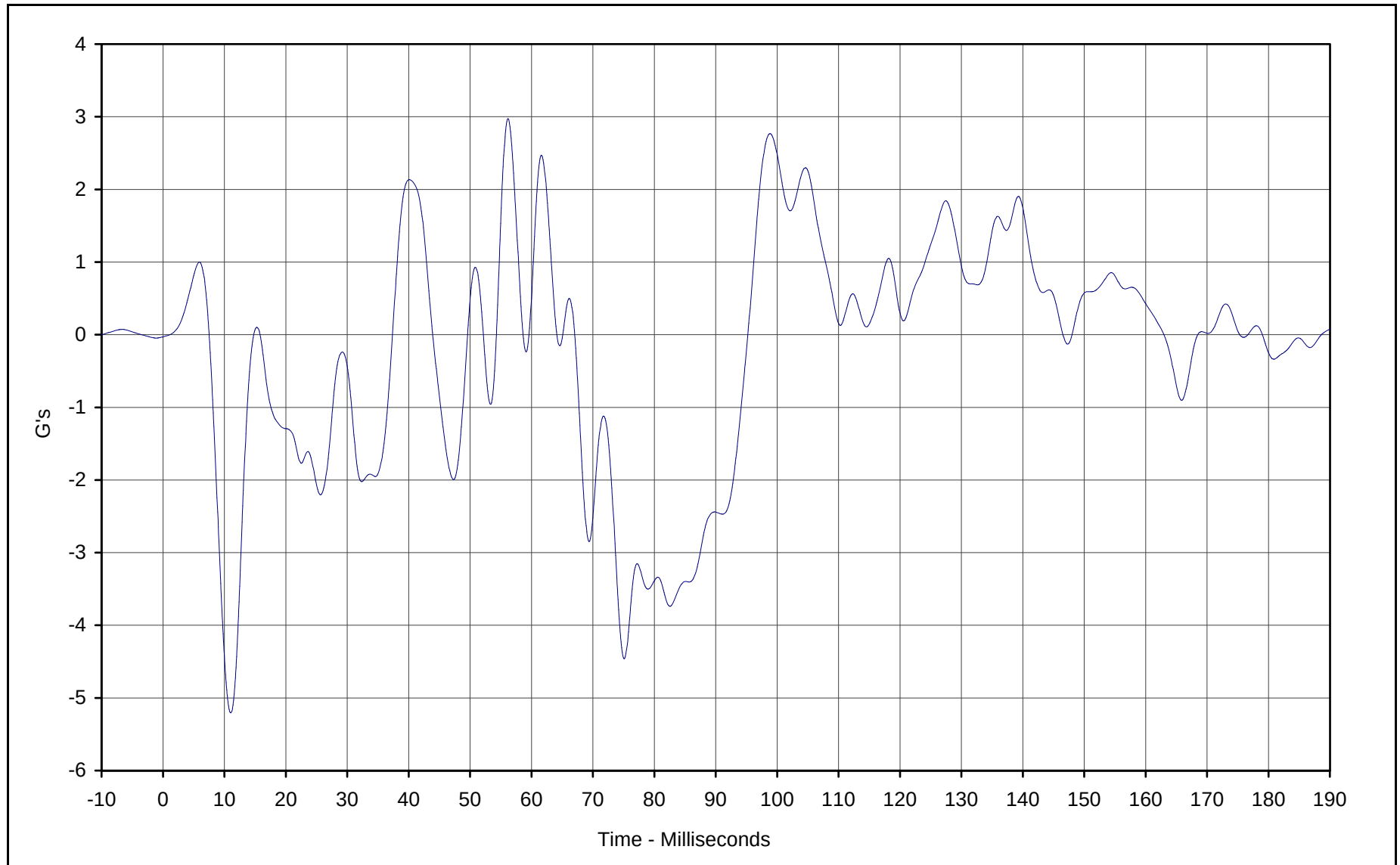




Curve Description: Right Sill at Rear Resultant
Maximum Value: 20.8 at 27.1 Milliseconds
Minimum Value: 0.2 at 1.3 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: RES-030

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

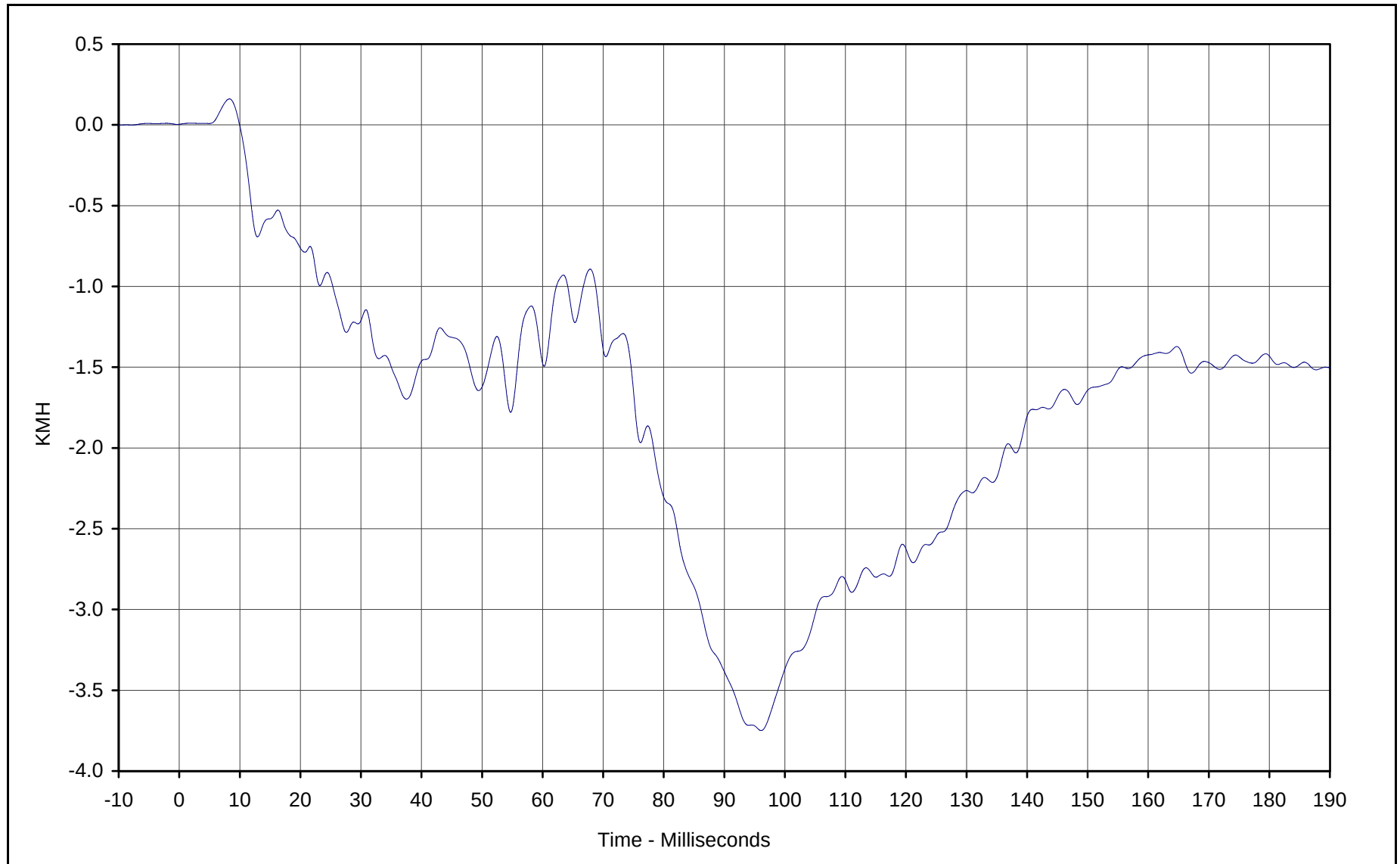




Curve Description: Rear Floor Above Axle X
Maximum Value: 3.0 at 56.2 Milliseconds
Minimum Value: -5.2 at 11.0 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-033

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

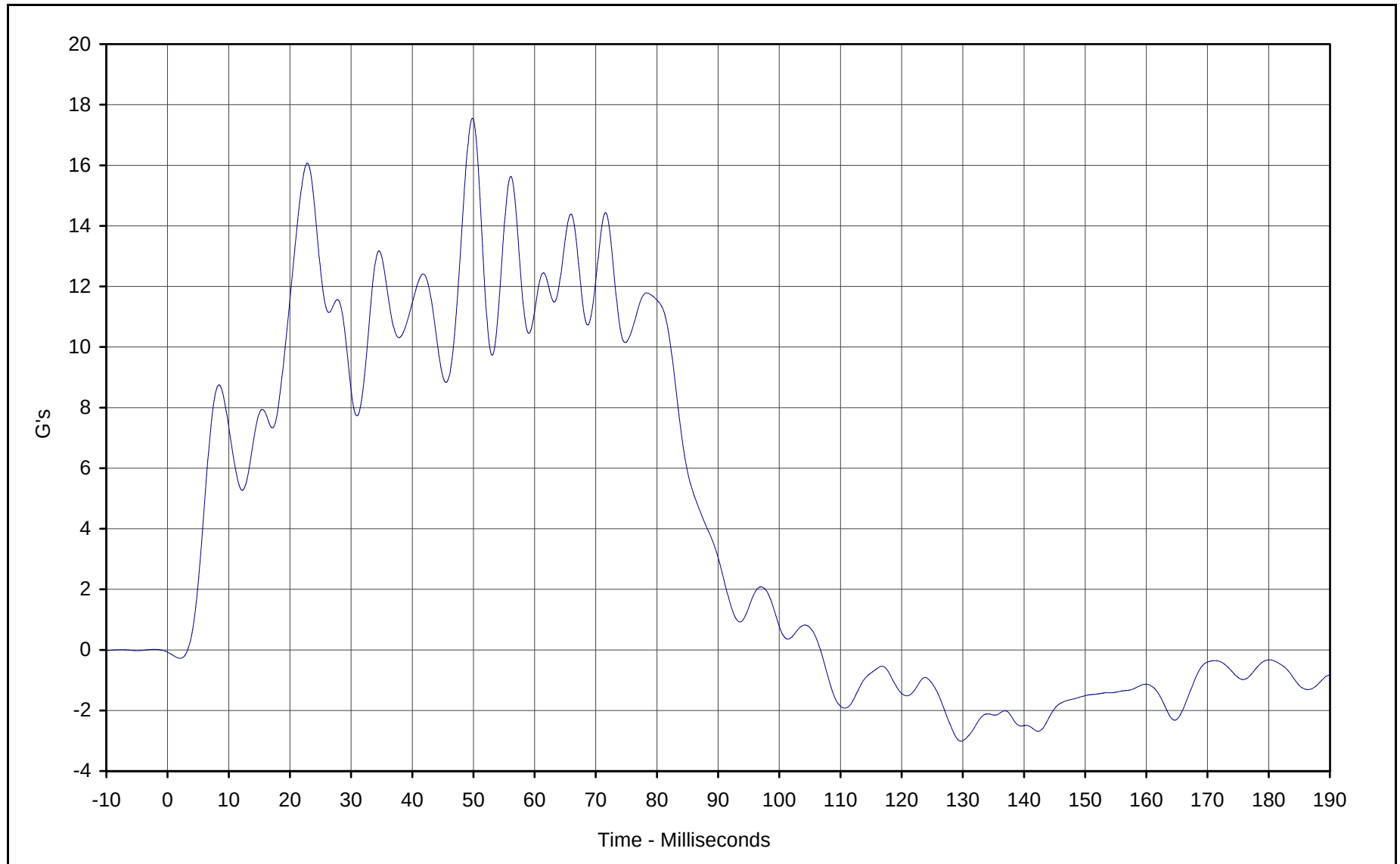




Curve Description: Rear Floor Above Axle X Velocity
Maximum Value: 0.2 at 8.3 Milliseconds
Minimum Value: -3.7 at 96.1 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-033

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

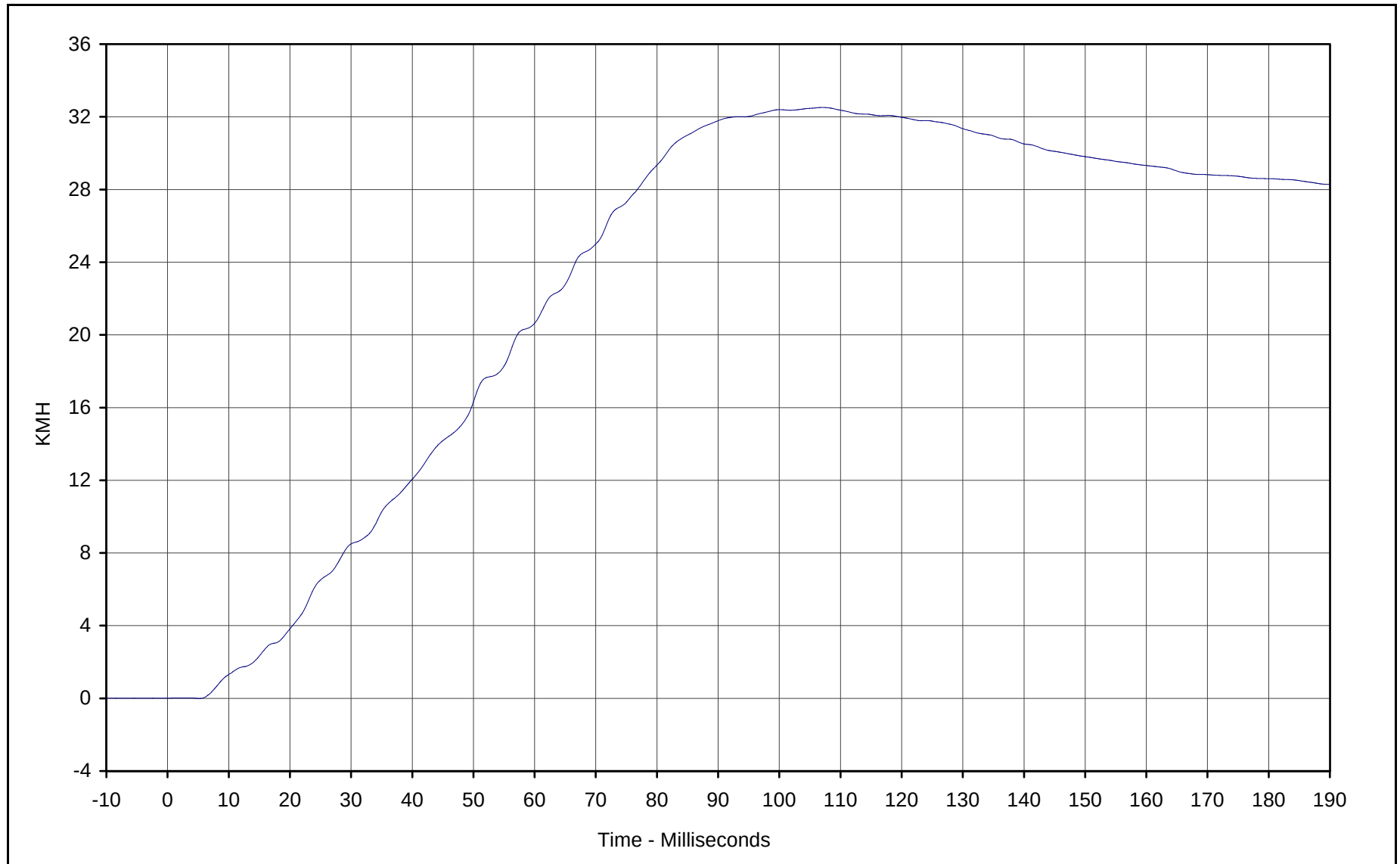




Curve Description: Rear Floor Above Axle Y
Maximum Value: 17.6 at 49.8 Milliseconds
Minimum Value: -3.0 at 129.7 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-034

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

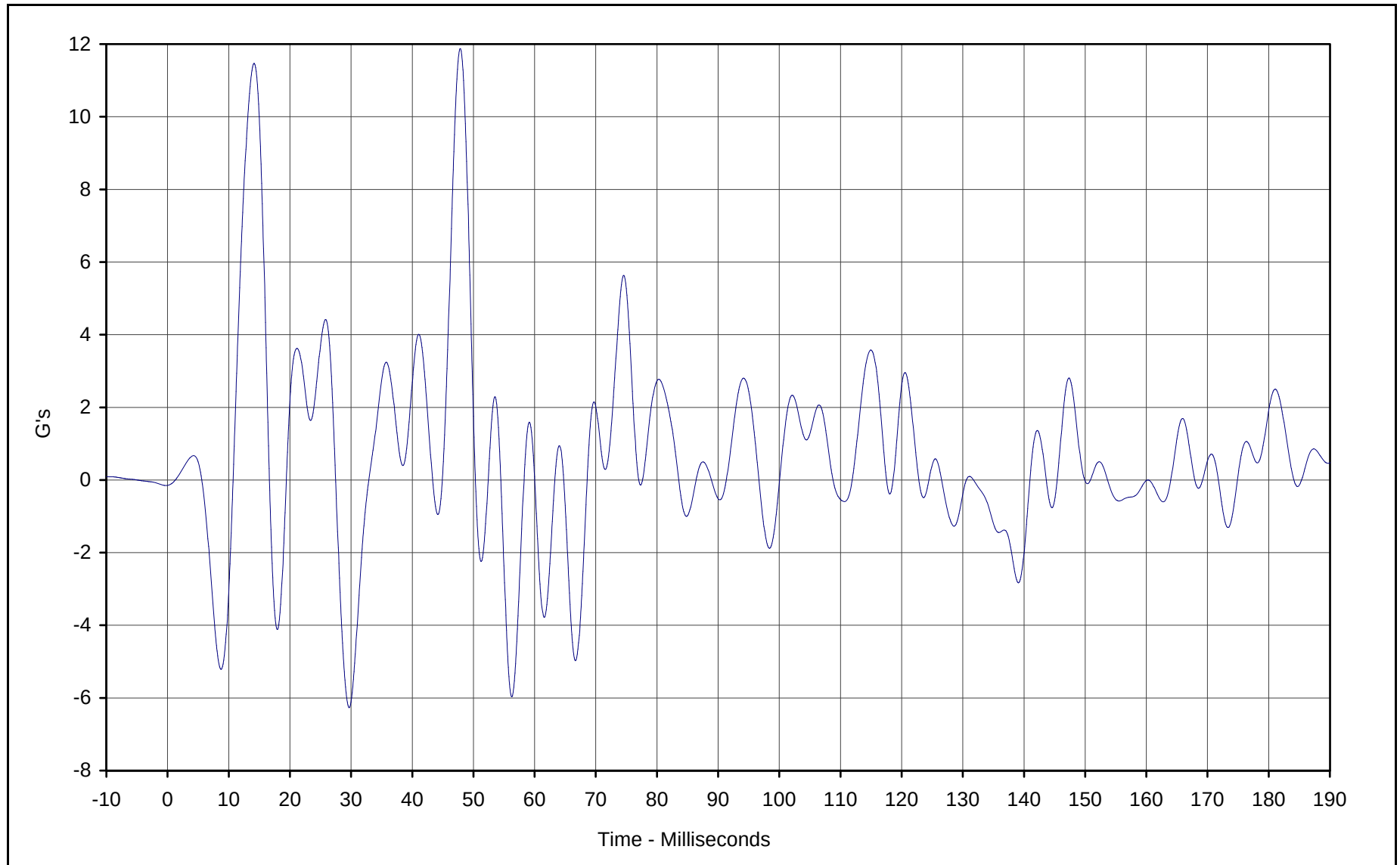




Curve Description: Rear Floor Above Axle Y Velocity
Maximum Value: 32.5 at 107.0 Milliseconds
Minimum Value: 0.0 at 5.2 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-034

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

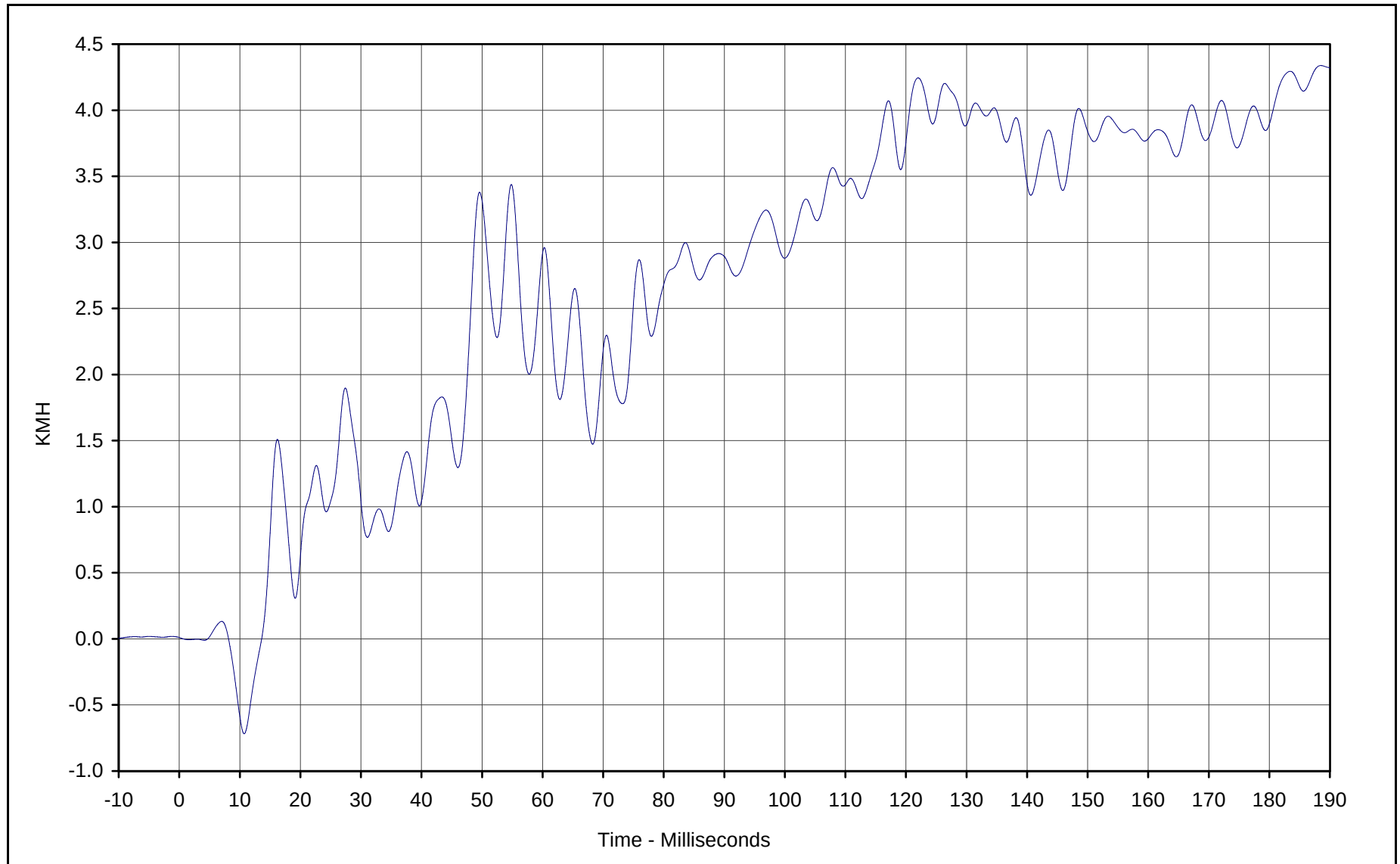




Curve Description: Rear Floor Above Axle Z
Maximum Value: 11.9 at 47.9 Milliseconds
Minimum Value: -6.3 at 29.7 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-035

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

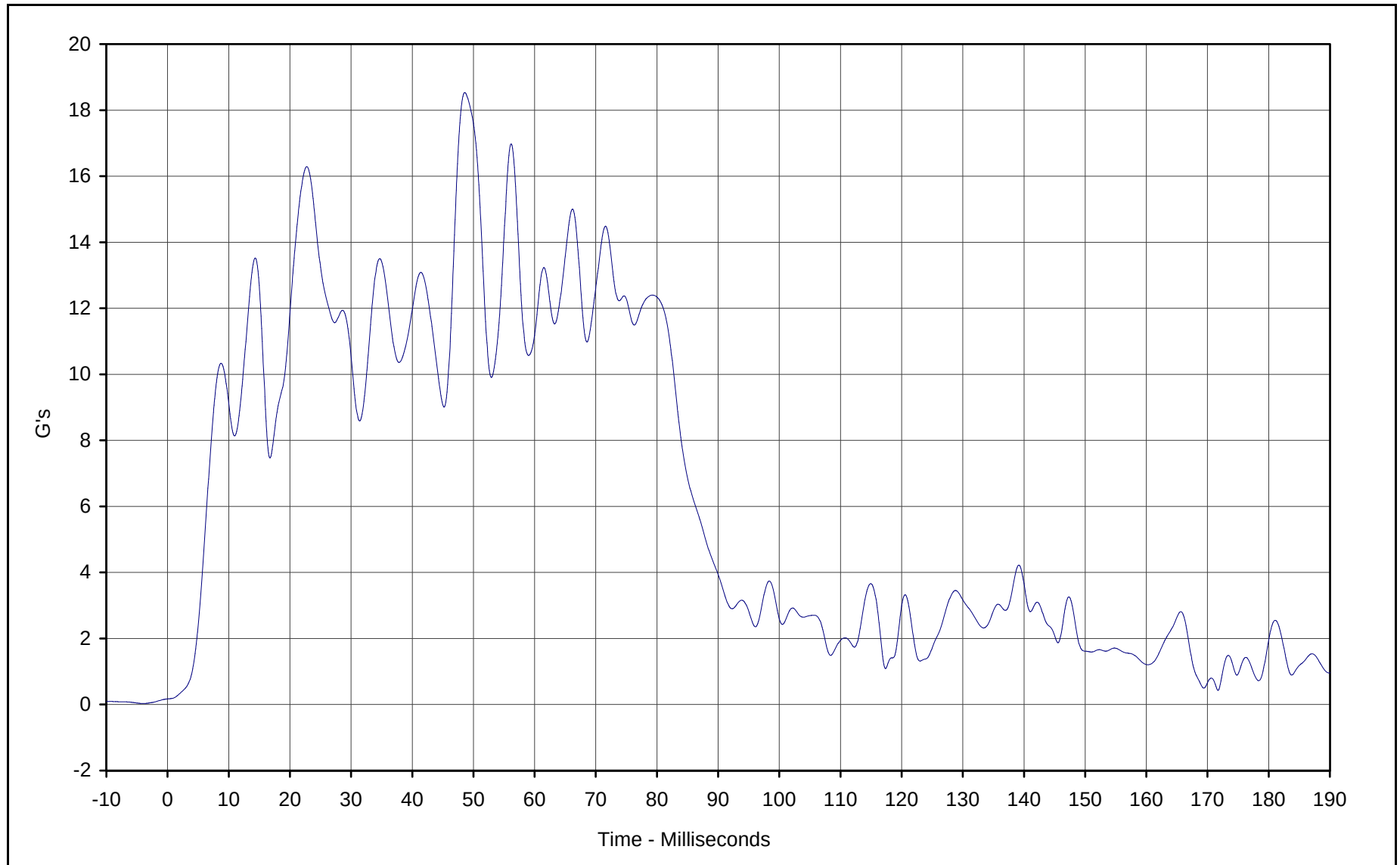




Curve Description: Rear Floor Above Axle Z Velocity
Maximum Value: 4.3 at 188.5 Milliseconds
Minimum Value: -0.7 at 10.7 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-035

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

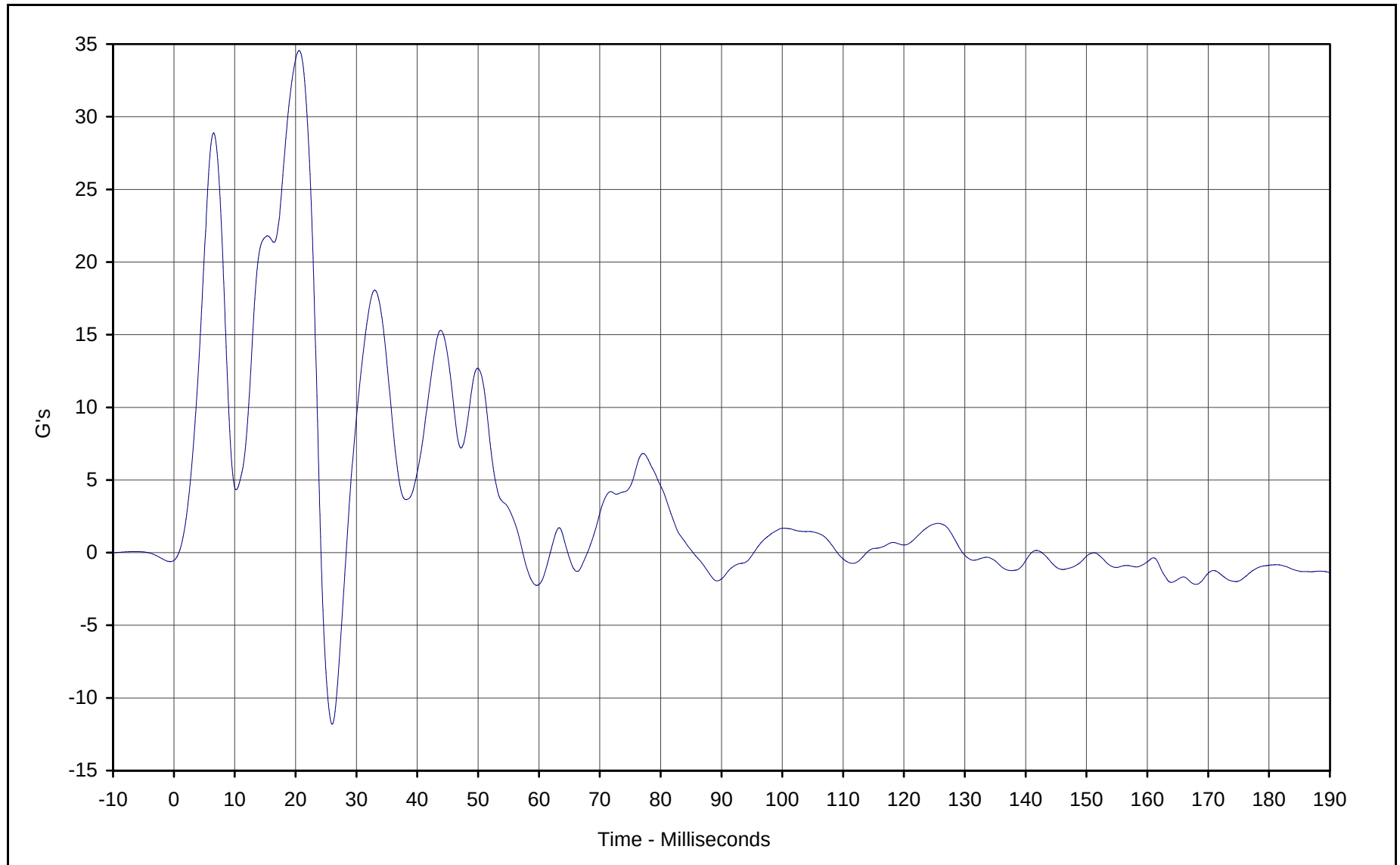




Curve Description: Rear Floor Above Axle Resultant
Maximum Value: 18.5 at 48.6 Milliseconds
Minimum Value: 0.2 at 0.0 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: RES-033

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

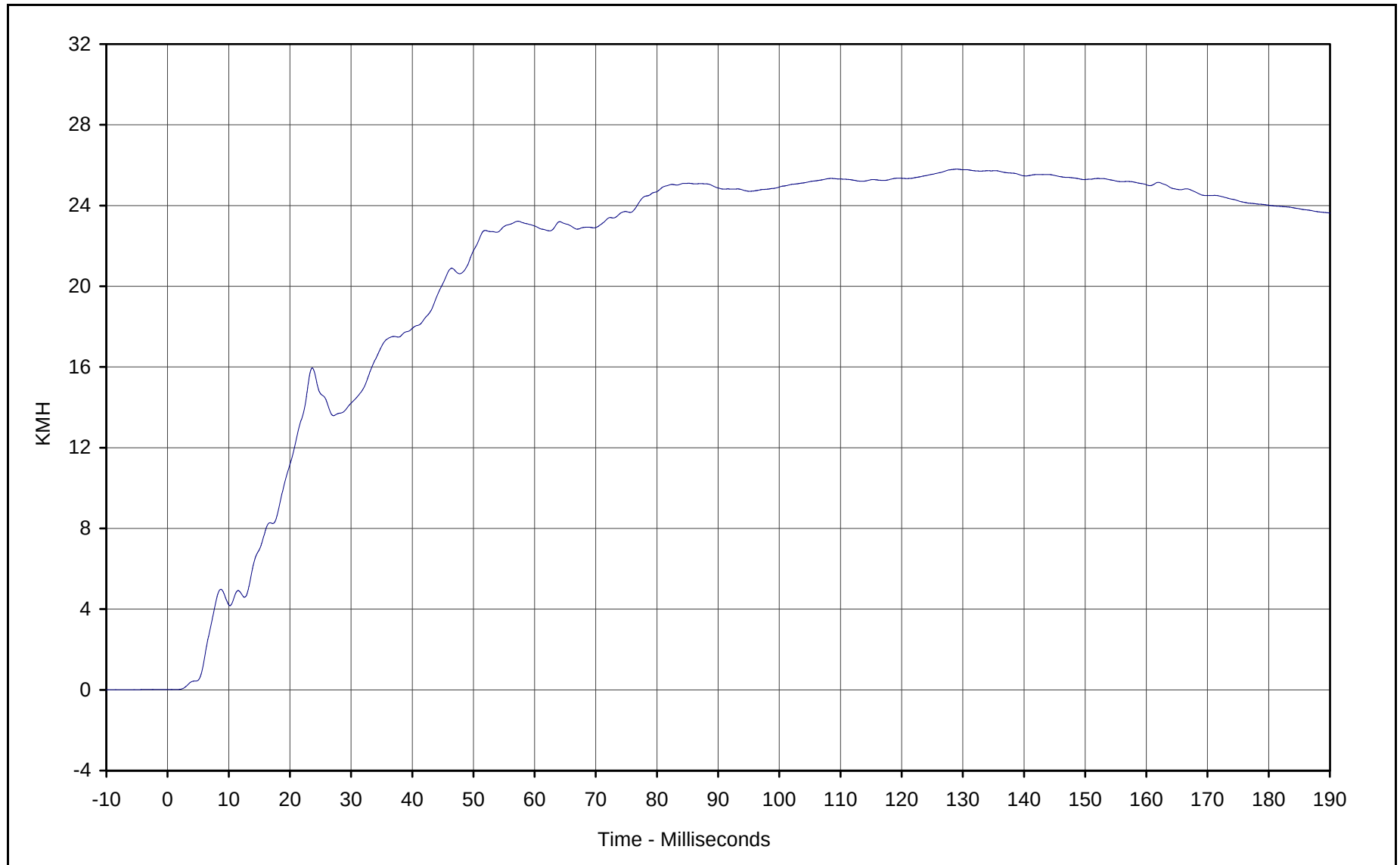




Curve Description: Left Sill at Rear Door Y
Maximum Value: 34.6 at 20.6 Milliseconds
Minimum Value: -11.8 at 26.0 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-036

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

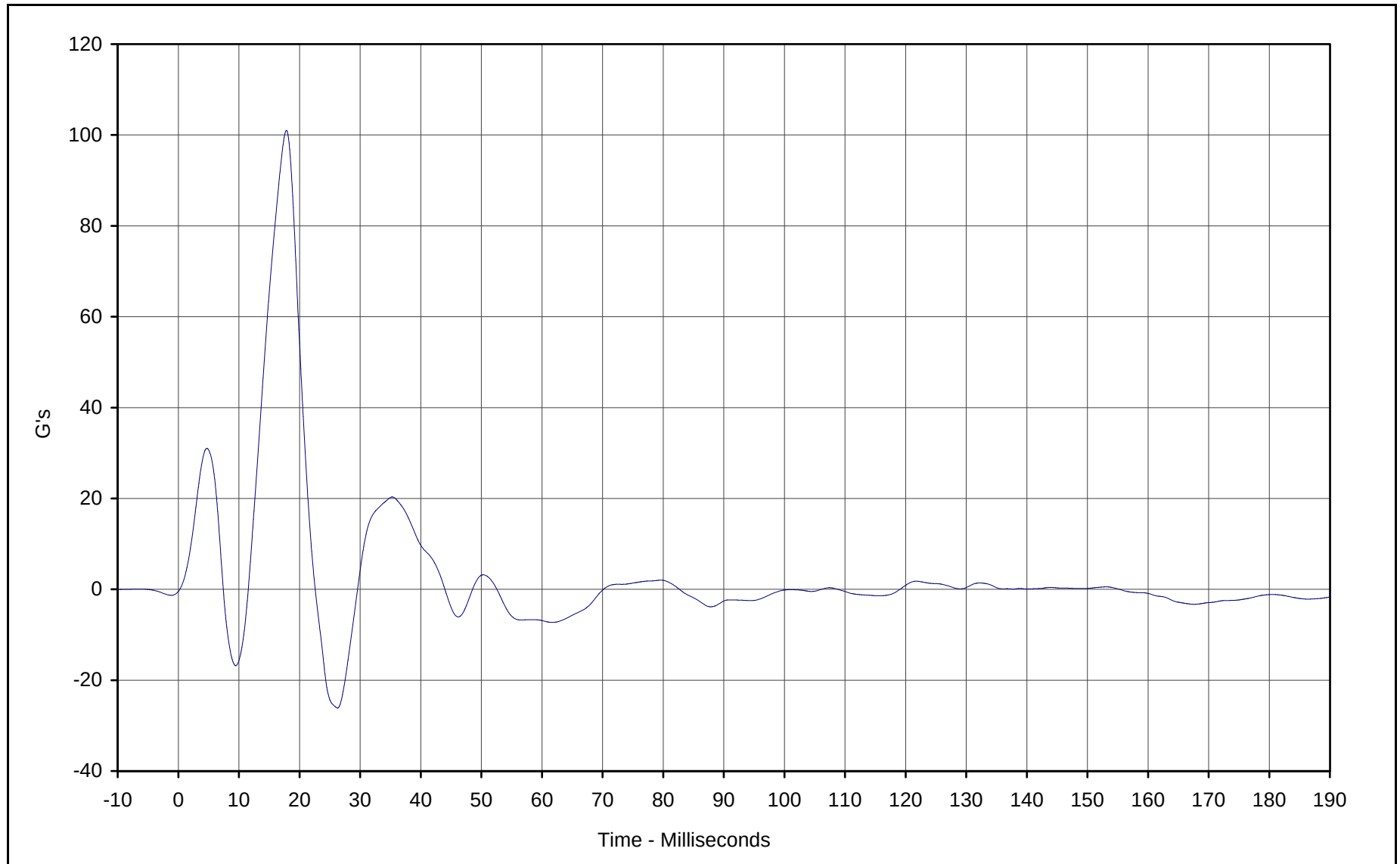




Curve Description: Left Sill at Rear Door Y Velocity
Maximum Value: 25.8 at 129.0 Milliseconds
Minimum Value: 0.0 at 1.4 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-036

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

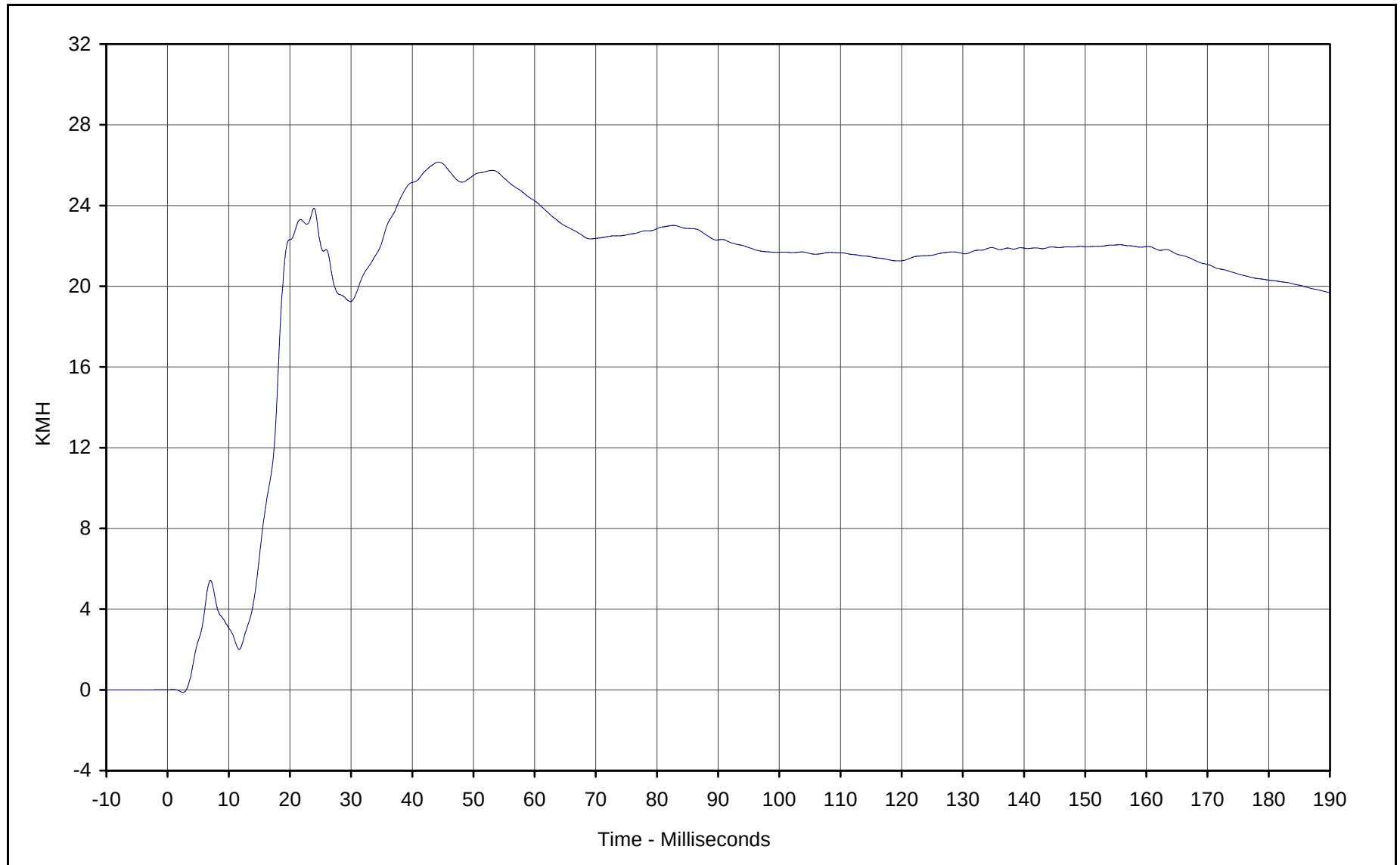




Curve Description: Left Sill at Front Door Y
Maximum Value: 101.0 at 17.9 Milliseconds
Minimum Value: -26.1 at 26.3 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-037

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

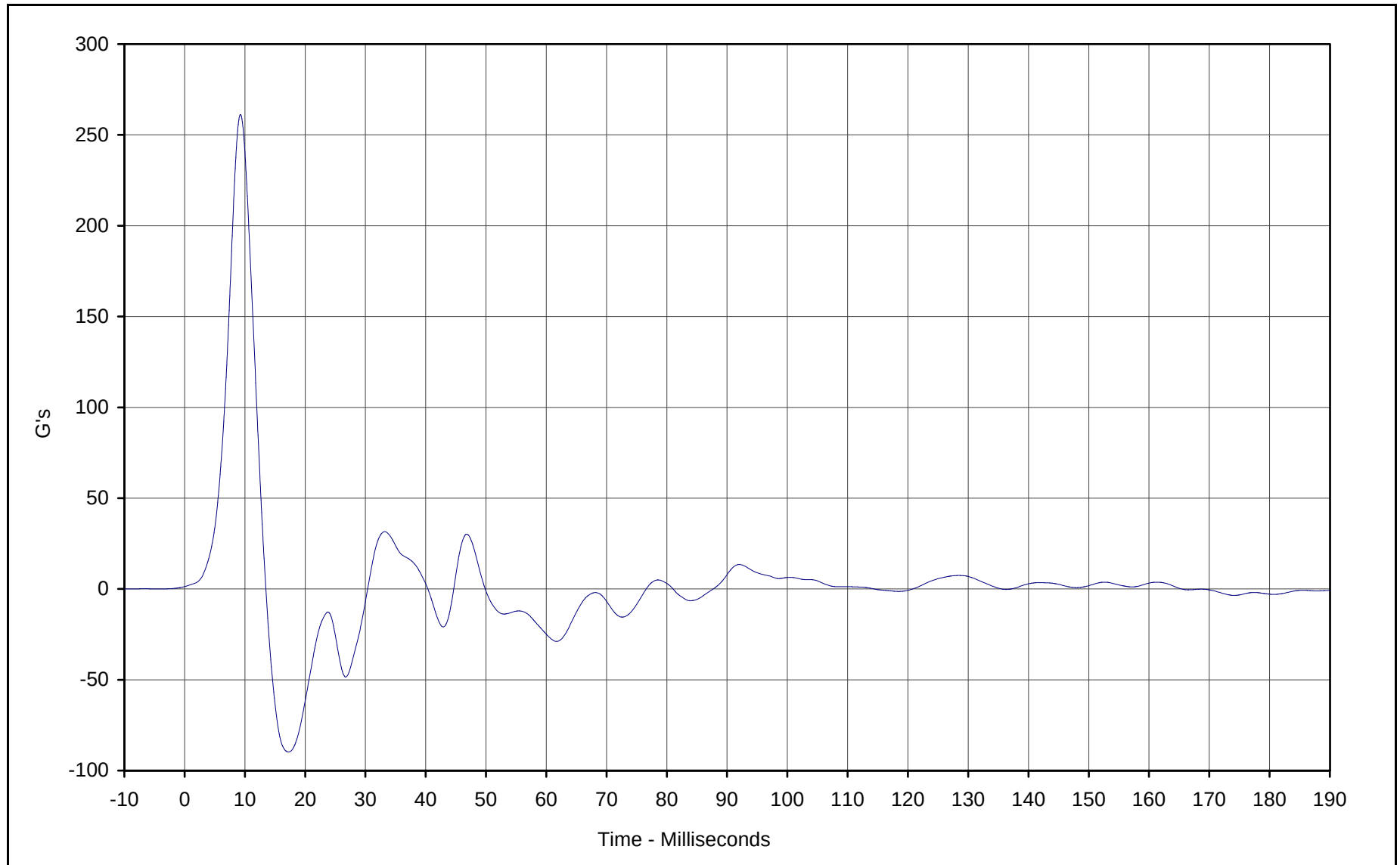




Curve Description: Left Sill at Front Door Y Velocity
Maximum Value: 26.1 at 44.3 Milliseconds
Minimum Value: -0.1 at 2.5 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-037

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

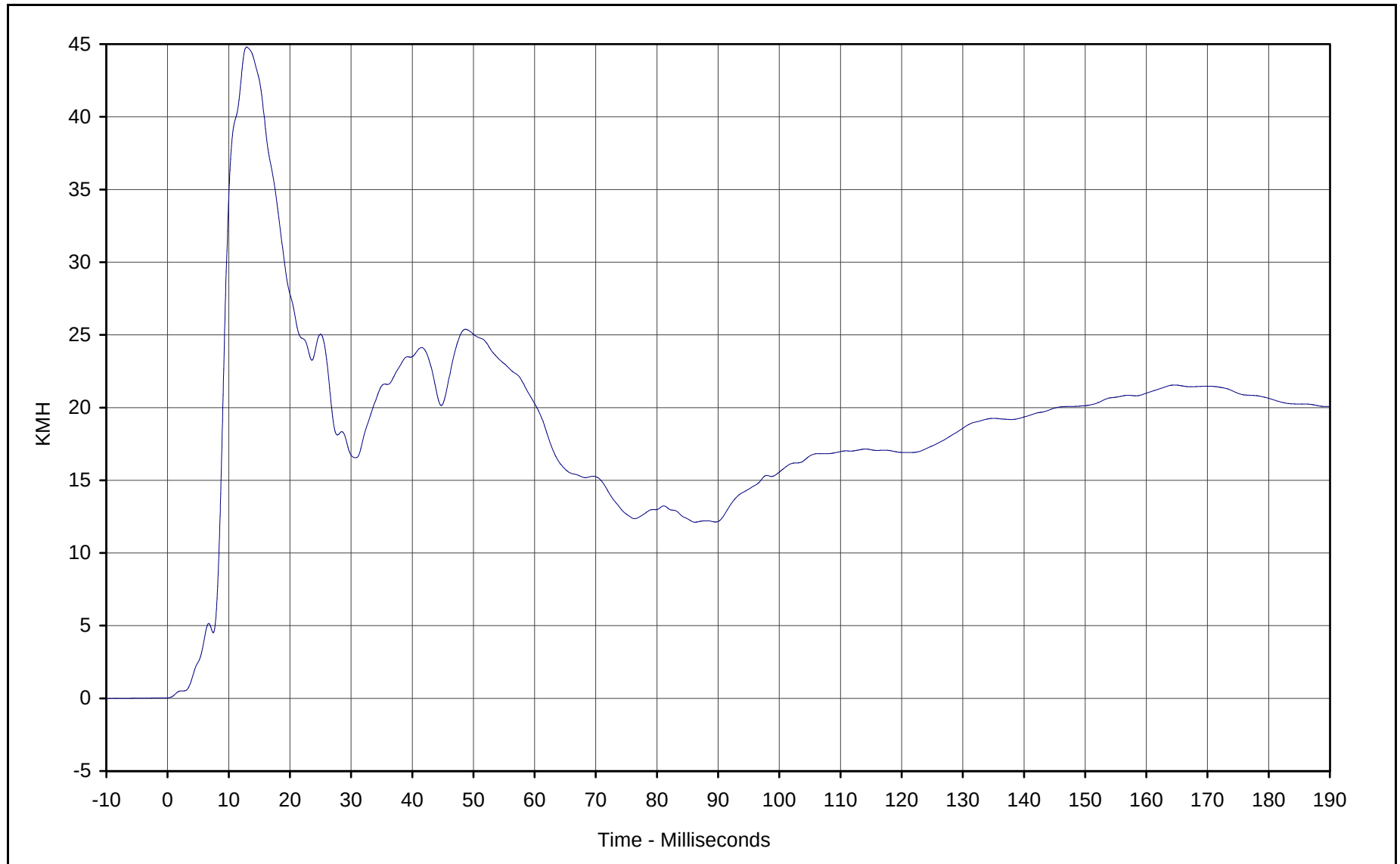




Curve Description: Left Front Door Centerline Y
Maximum Value: 261.2 at 9.3 Milliseconds
Minimum Value: -89.8 at 17.2 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-038

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

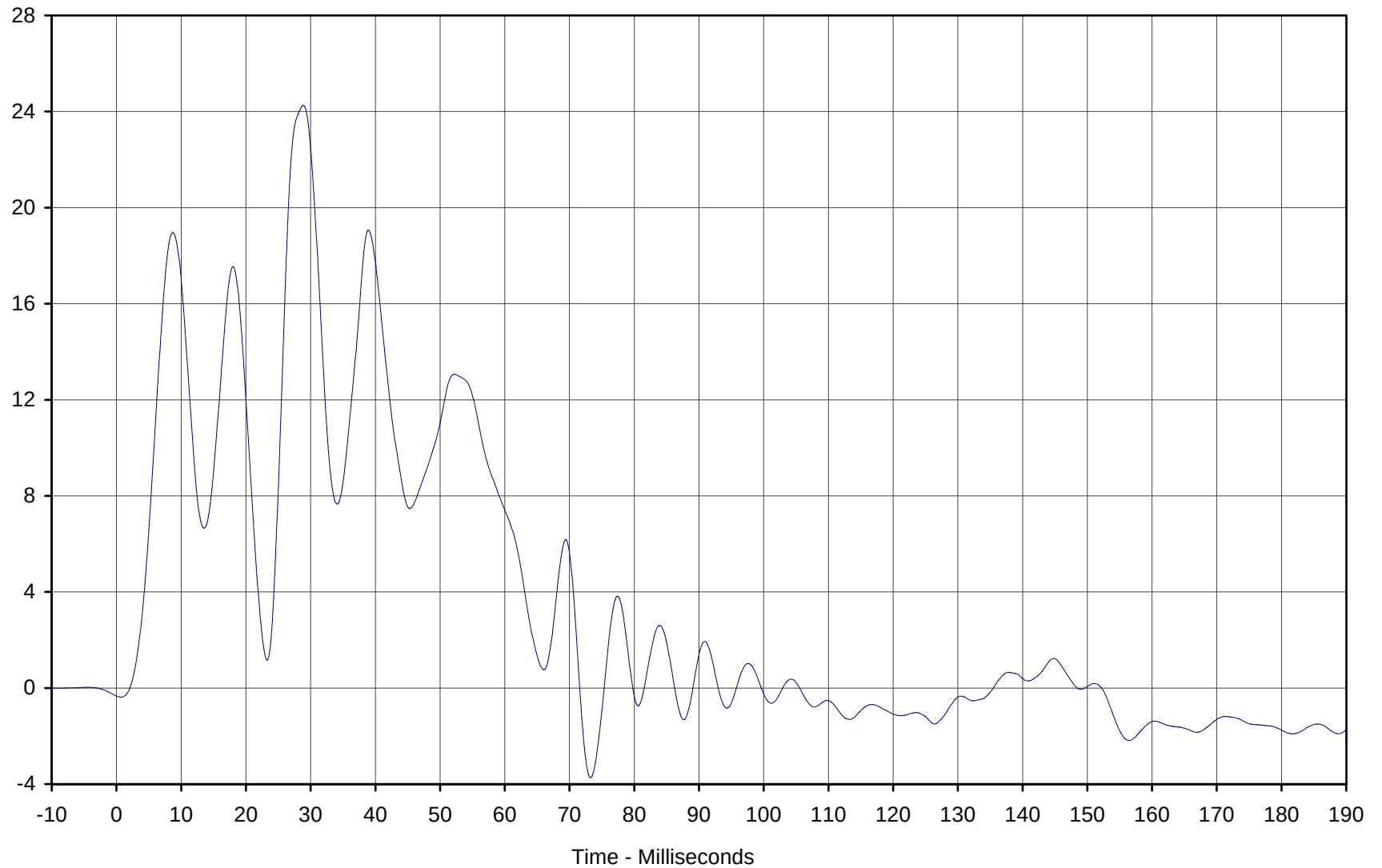




Curve Description: Left Front Door CL Y Velocity
Maximum Value: 44.8 at 12.9 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-038

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

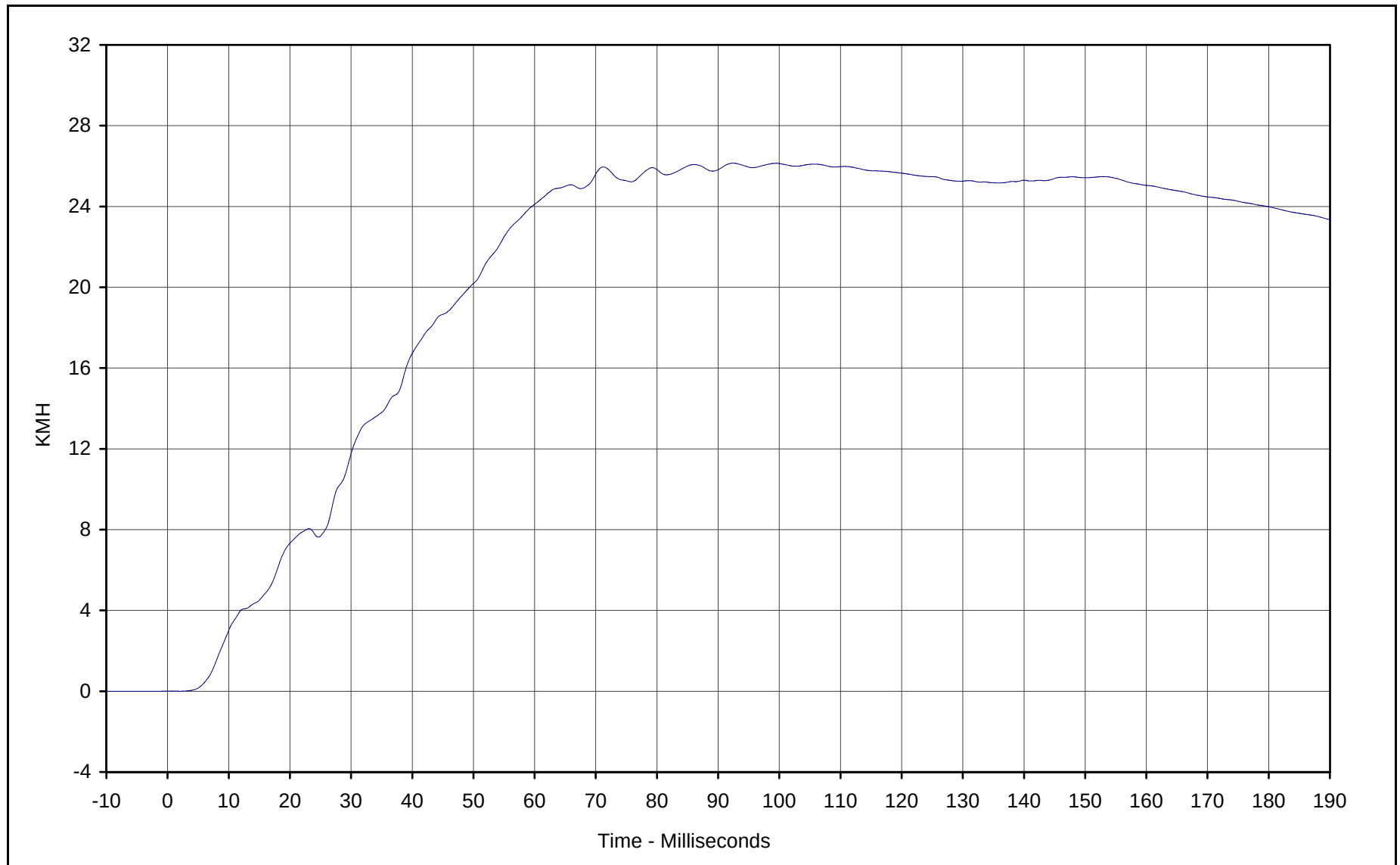




Curve Description: Right Rear Occ. Compartment Y
Maximum Value: 24.3 at 28.9 Milliseconds
Minimum Value: -3.7 at 73.3 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-039

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

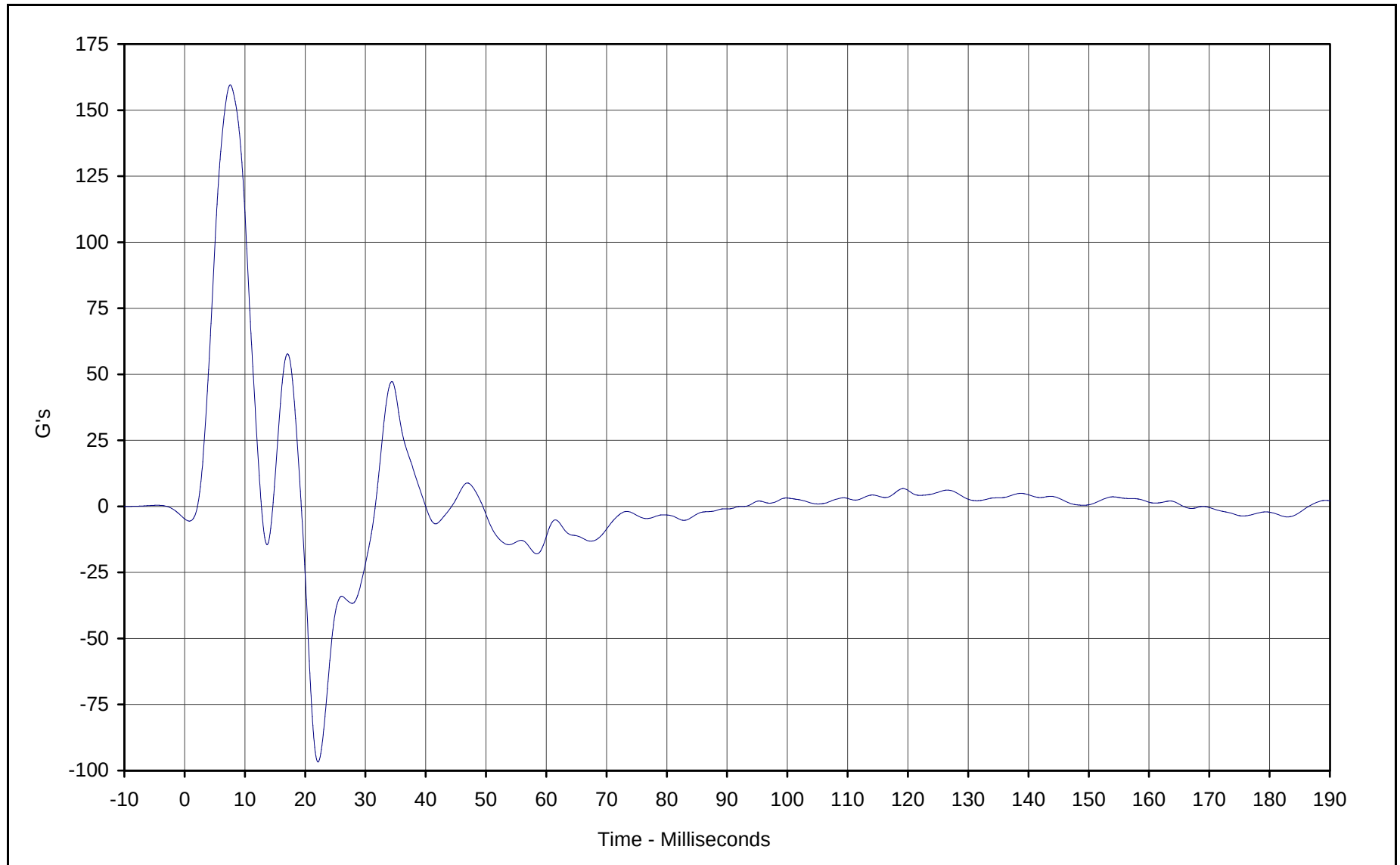




Curve Description: Right Rear Occ. Comp. Y Velocity
Maximum Value: 26.1 at 92.5 Milliseconds
Minimum Value: 0.0 at 2.1 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-039

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

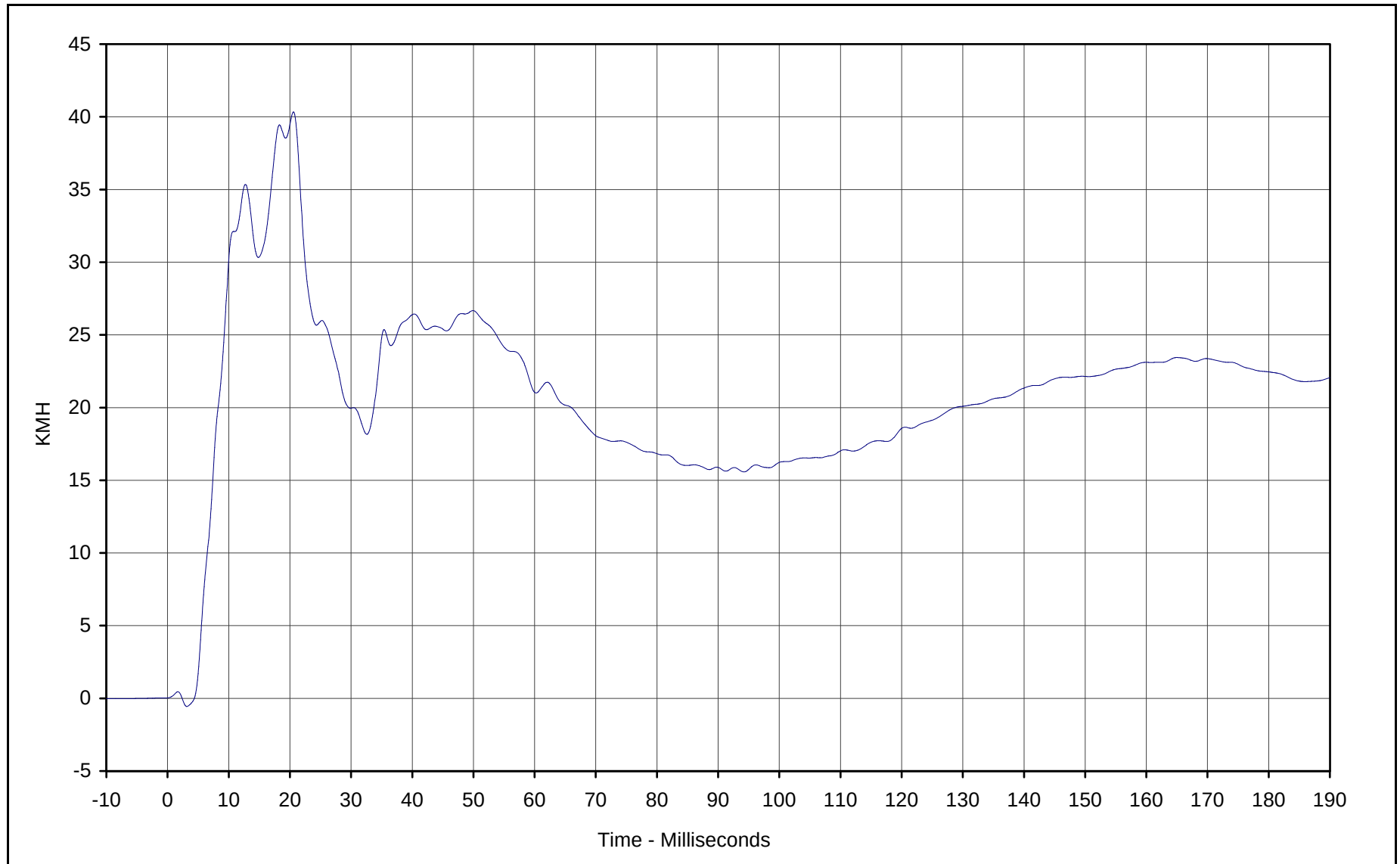




Curve Description: Left Front Door Mid Rear Y
Maximum Value: 159.6 at 7.6 Milliseconds
Minimum Value: -96.7 at 22.1 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-040

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

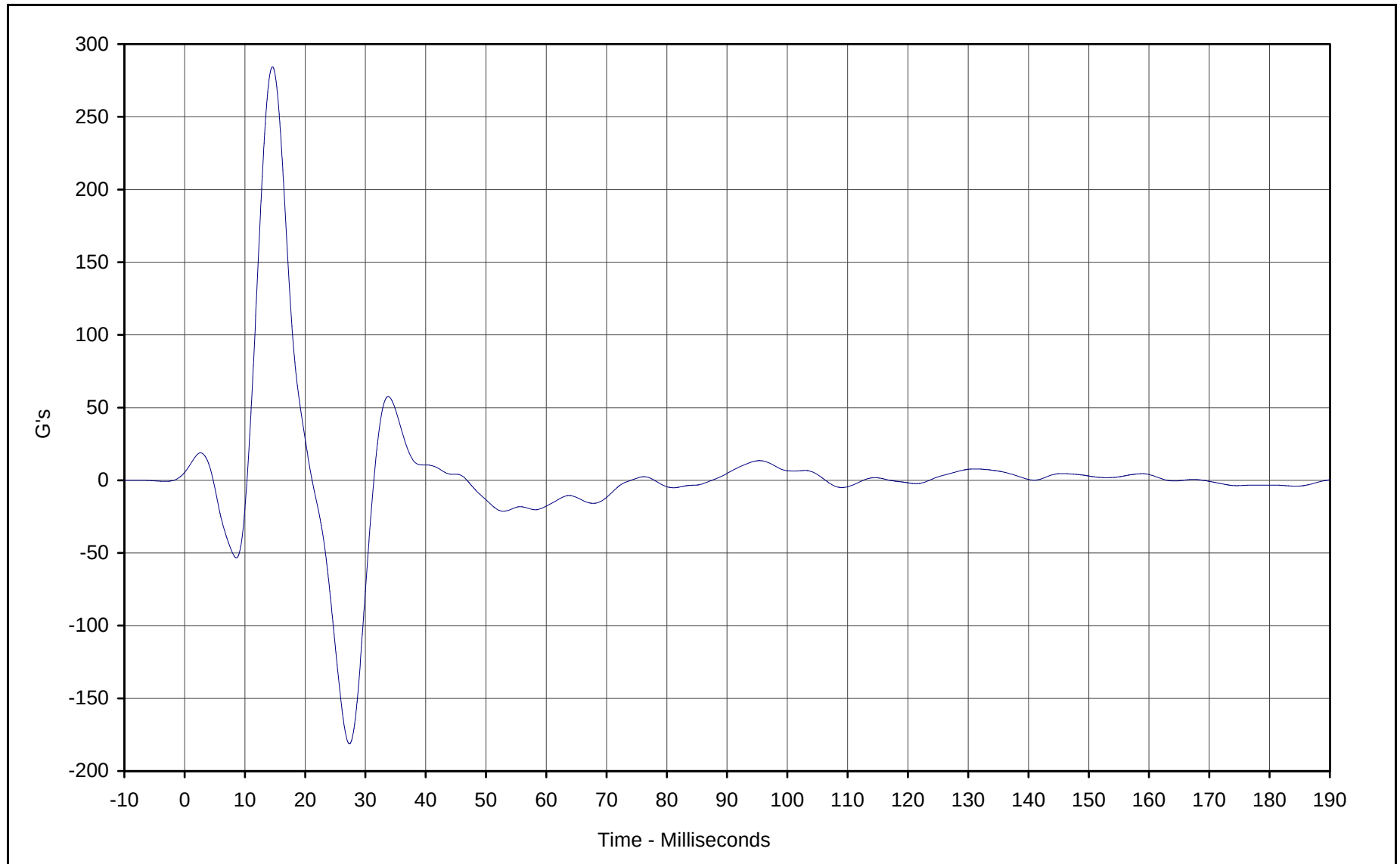




Curve Description: Left Front Door Mid Rear Y Velocity
Maximum Value: 40.3 at 20.6 Milliseconds
Minimum Value: -0.6 at 3.2 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-040

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

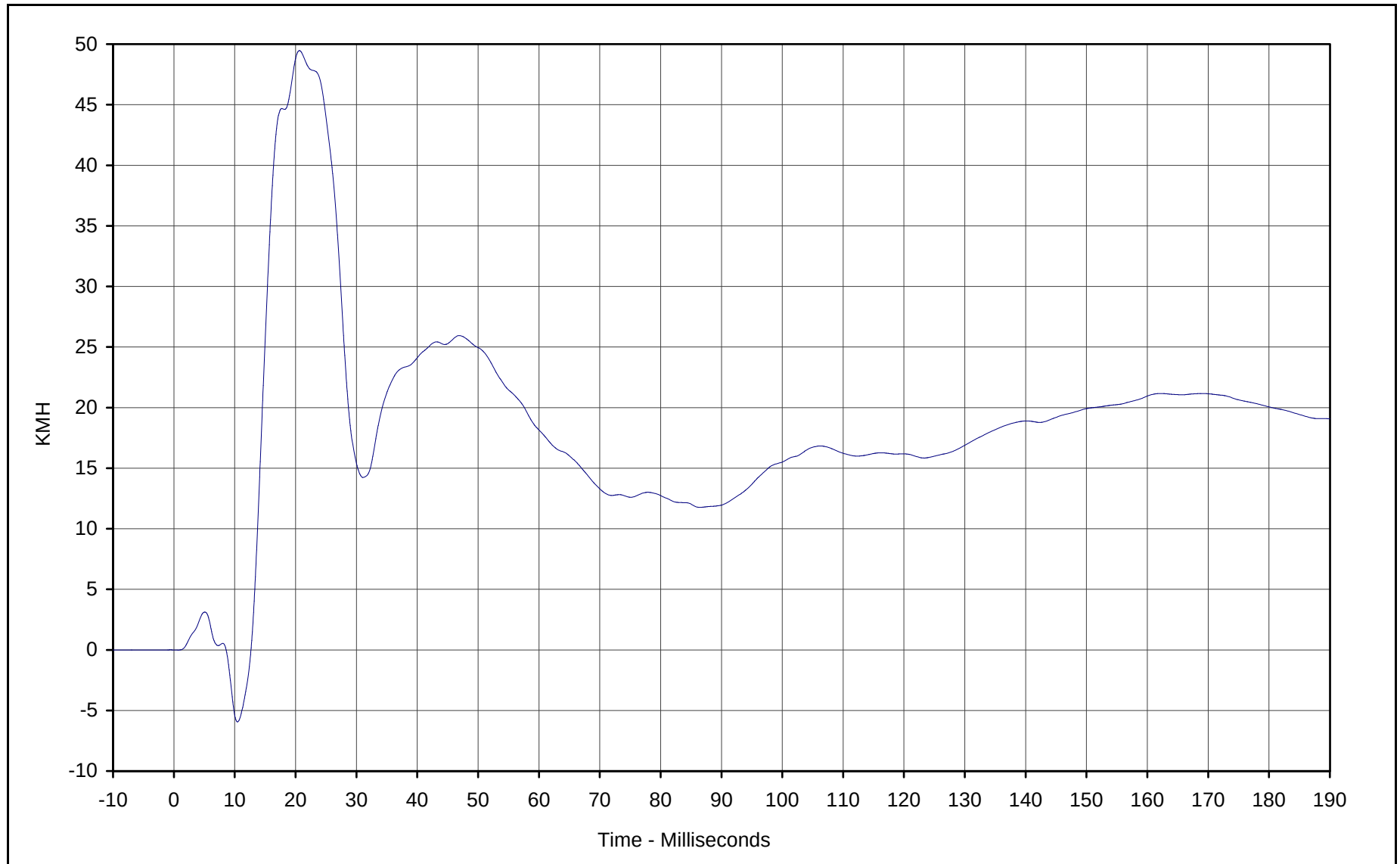




Curve Description: Left Front Door Upper CL Y
Maximum Value: 284.4 at 14.6 Milliseconds
Minimum Value: -181.2 at 27.3 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-041

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan





Curve Description: Left Front Door Upper CL Y Velocity

Maximum Value: 49.5 at 20.6 Milliseconds

Minimum Value: -5.9 at 10.5 Milliseconds

SAE Filter Class: 180

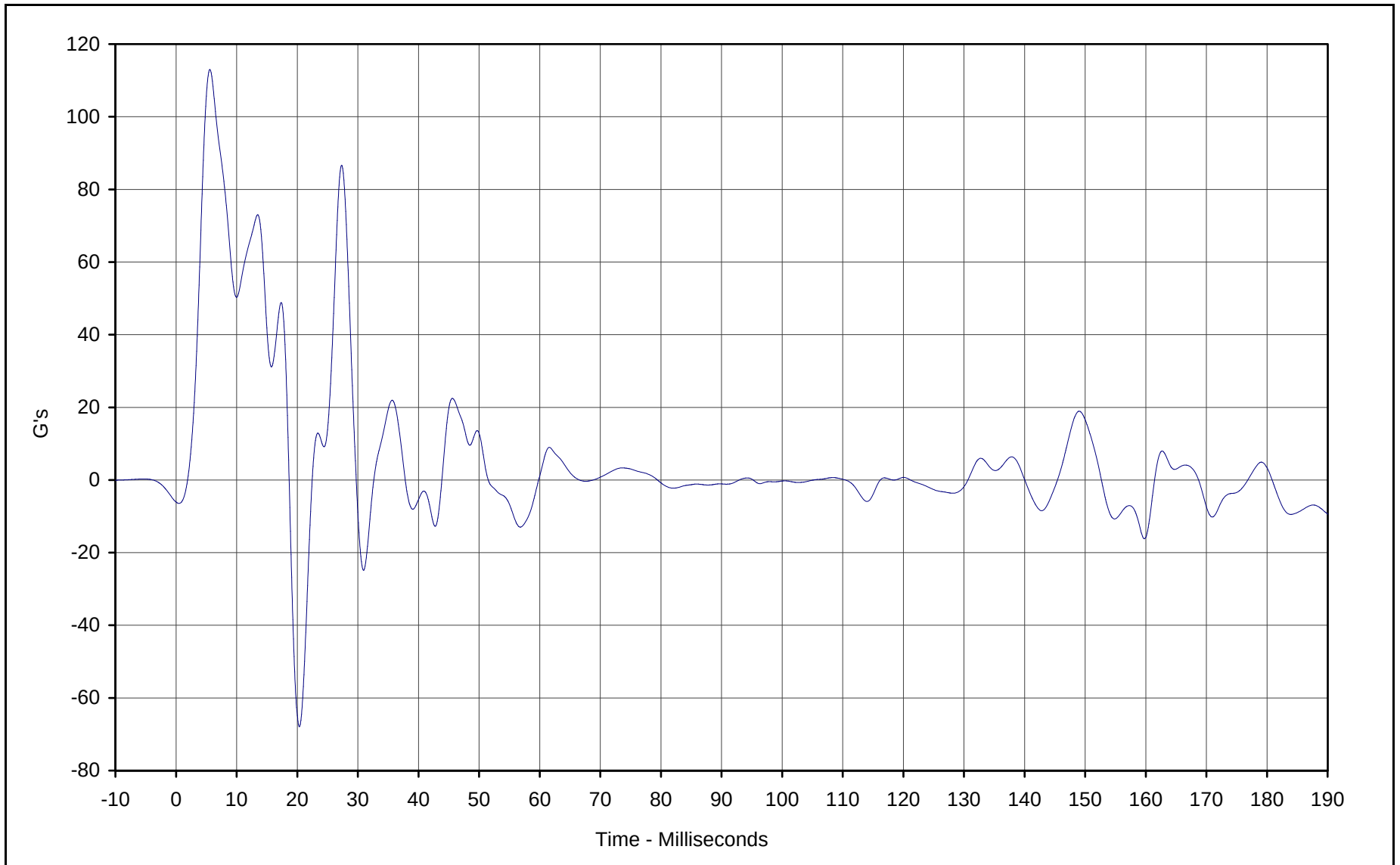
Date of Test: 12/18/00

Curve Number: IN1-041

Test Program: 55/28 km/h Side Impact NCAP No.: M10210

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

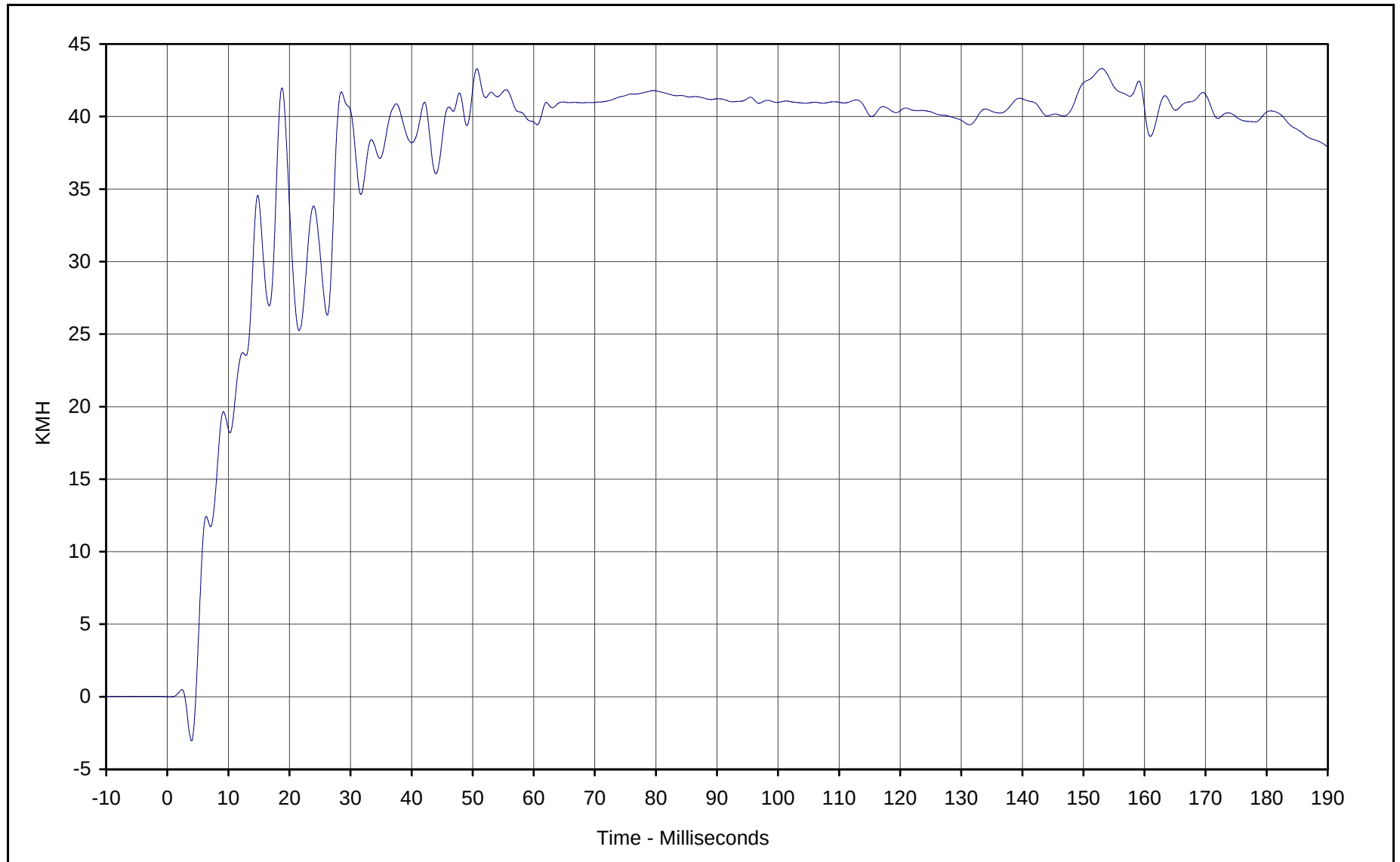




Curve Description: Left Rear Door Mid Rear Y
Maximum Value: 113.0 at 5.6 Milliseconds
Minimum Value: -67.9 at 20.3 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-042

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

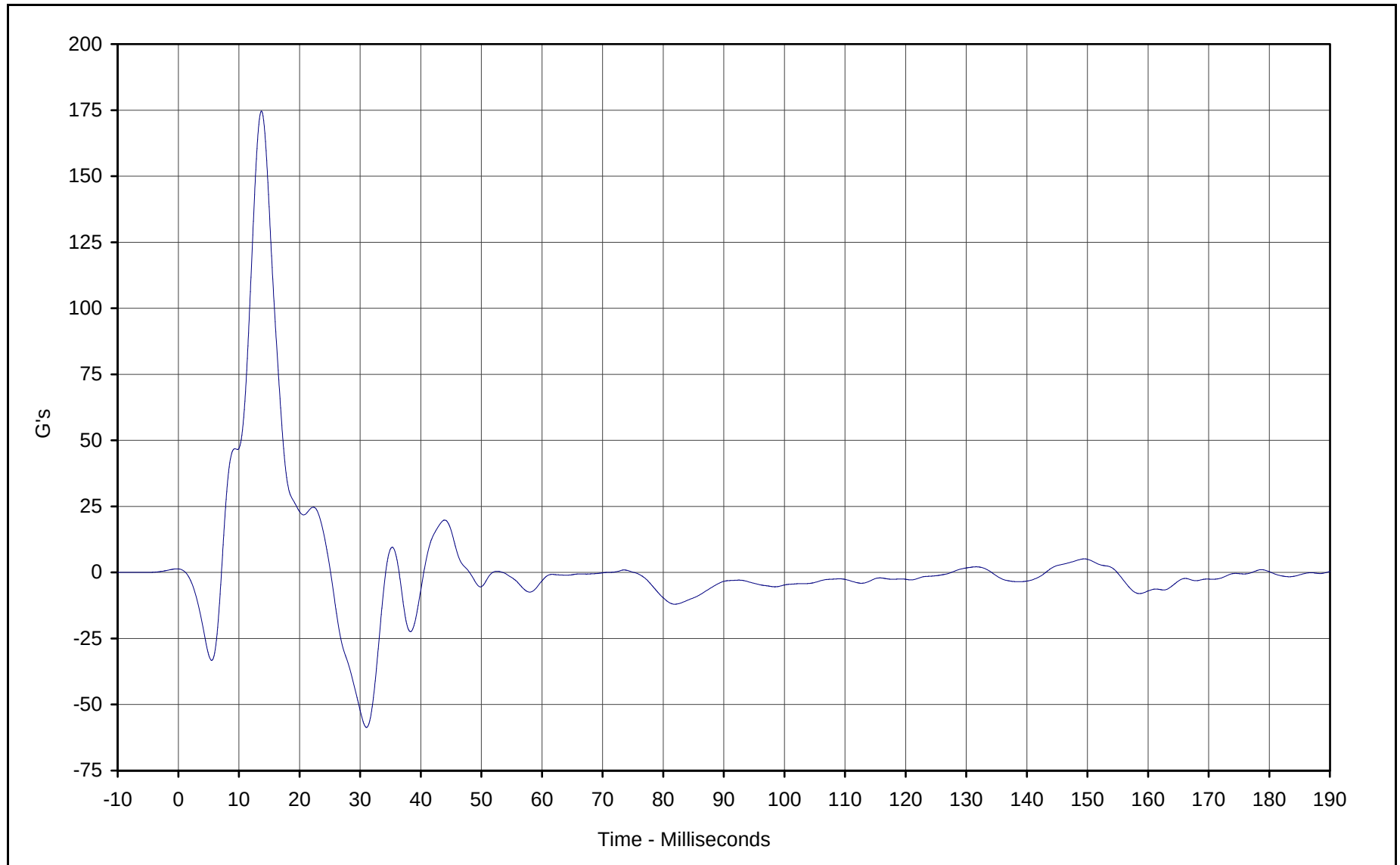




Curve Description: Left Rear Door Mid Rear Y Velocity
Maximum Value: 43.3 at 153.0 Milliseconds
Minimum Value: -3.0 at 4.0 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-042

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

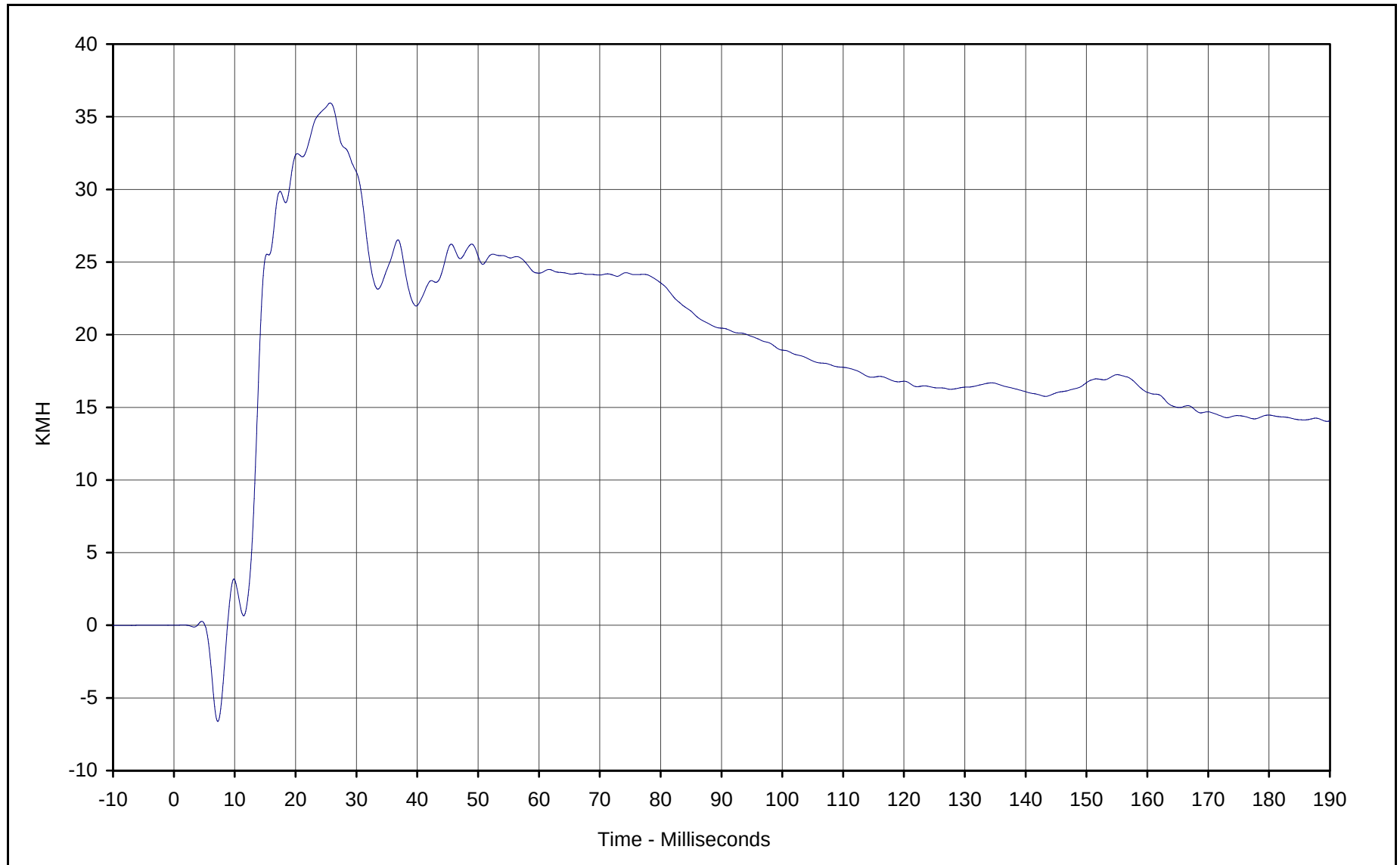




Curve Description: Left Rear Door Upper CL Y
Maximum Value: 174.6 at 13.7 Milliseconds
Minimum Value: -58.6 at 31.1 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-043

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan





Curve Description: Left Rear Door Upper CL Y Velocity

Maximum Value: 35.9 at 25.7 Milliseconds

Minimum Value: -6.6 at 7.2 Milliseconds

SAE Filter Class: 180

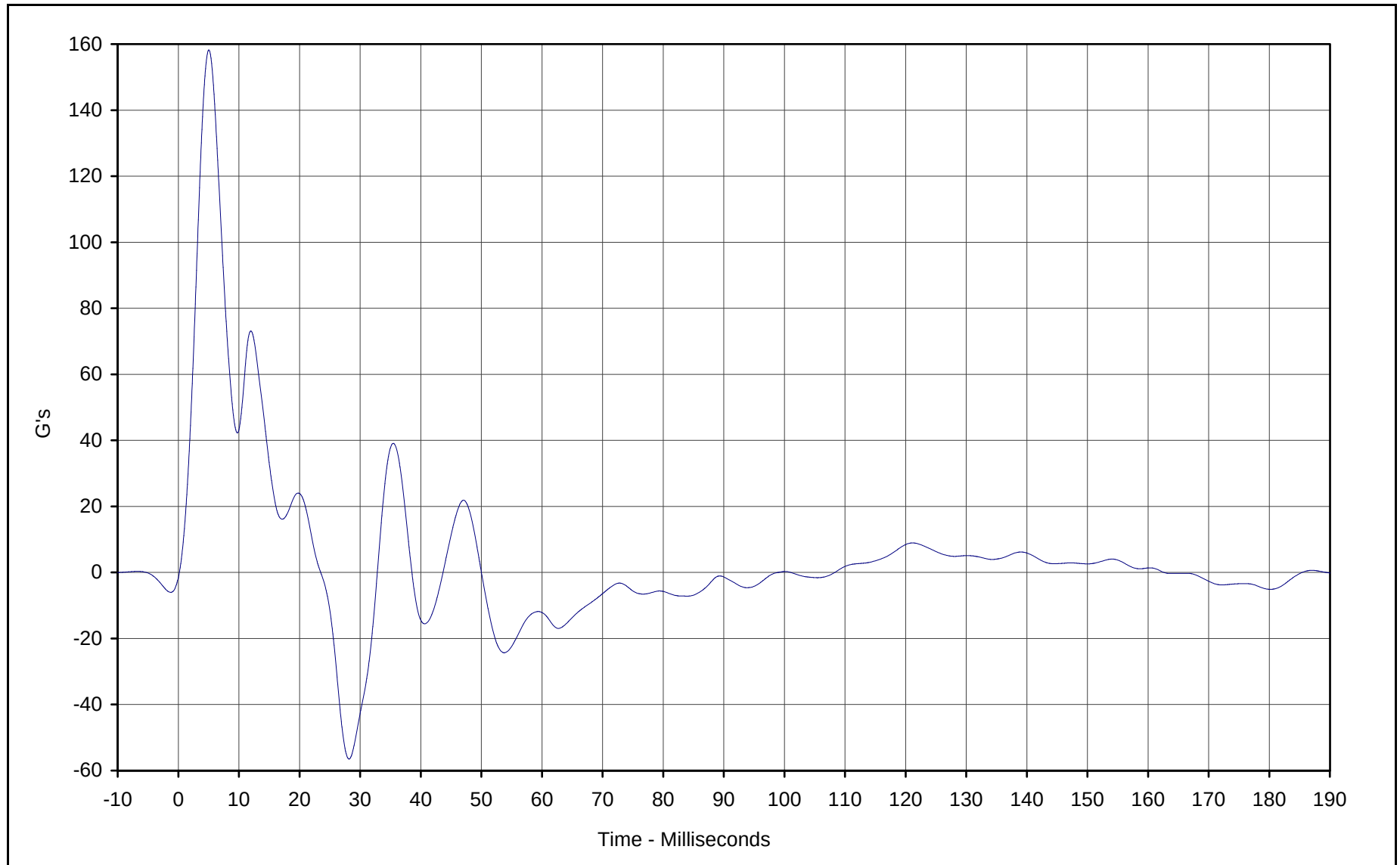
Date of Test: 12/18/00

Curve Number: IN1-043

Test Program: 55/28 km/h Side Impact NCAP No.: M10210

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

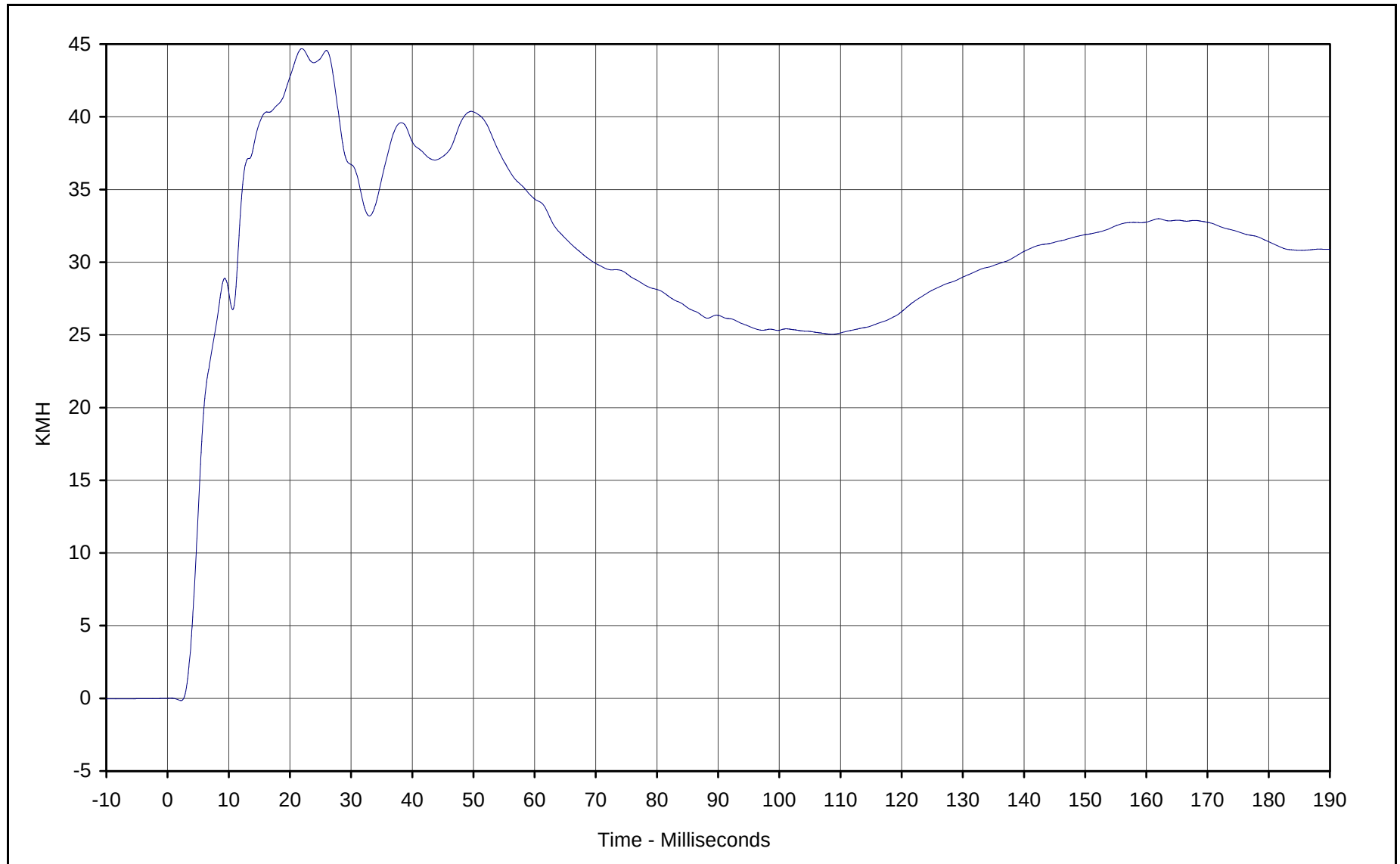




Curve Description: Left B-Post Lower Y
Maximum Value: 158.2 at 5.0 Milliseconds
Minimum Value: -56.5 at 28.2 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-044

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

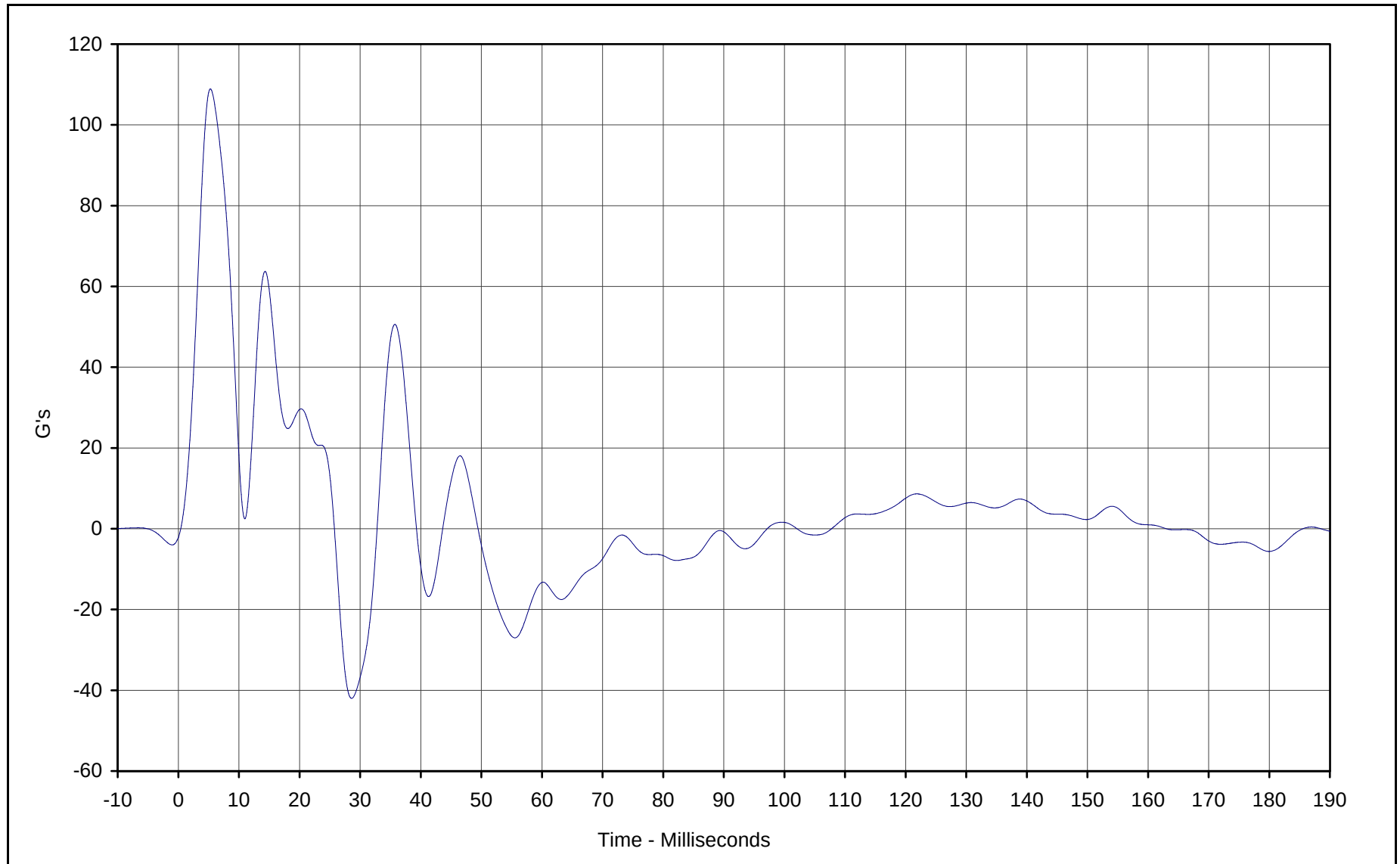




Curve Description: Left B-Post Lower Y Velocity
Maximum Value: 44.7 at 22.0 Milliseconds
Minimum Value: -0.2 at 2.2 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-044

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

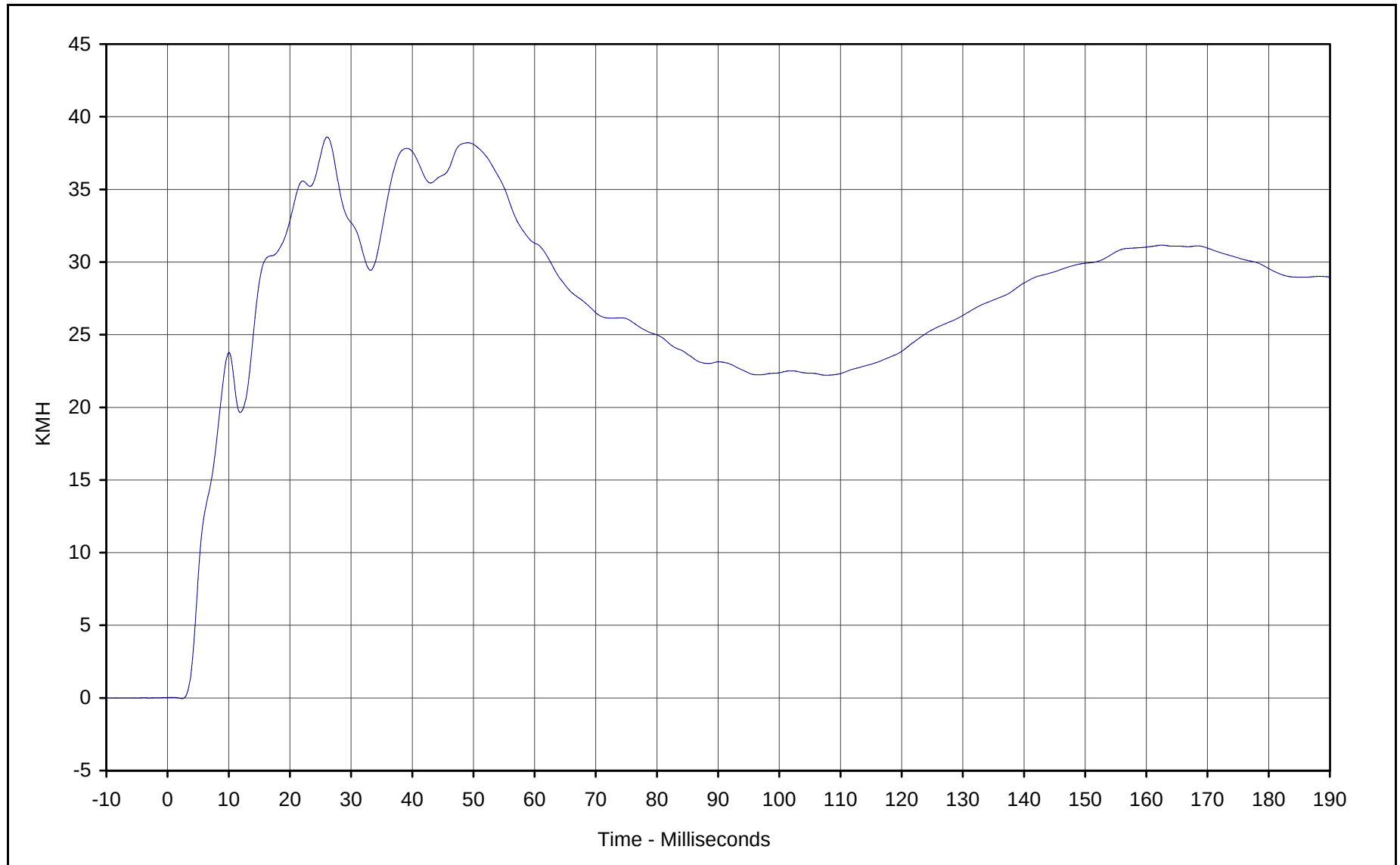




Curve Description: Left B-Post Middle Y
Maximum Value: 108.9 at 5.3 Milliseconds
Minimum Value: -42.0 at 28.6 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-045

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

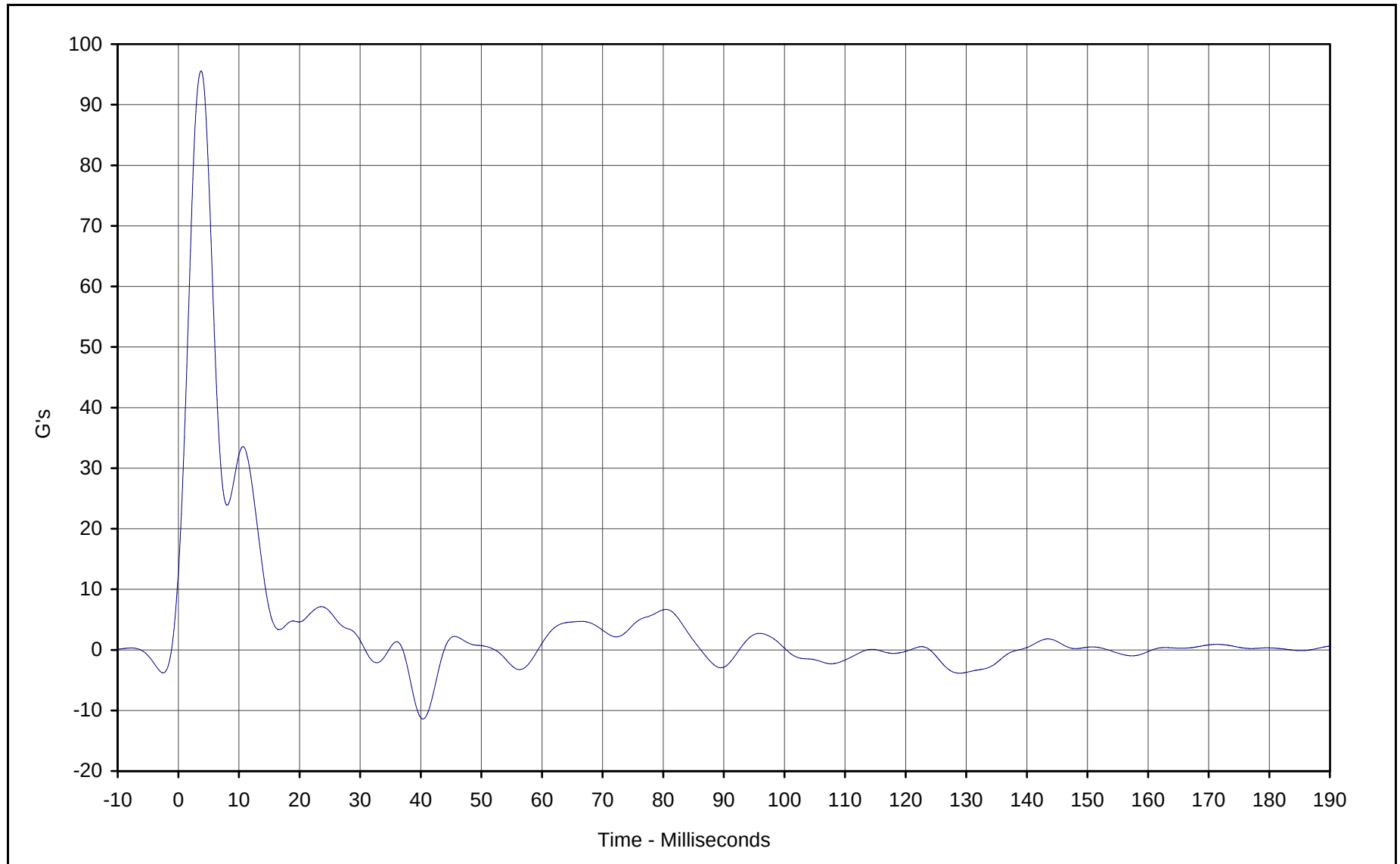




Curve Description: Left B-Post Middle Y Velocity
Maximum Value: 38.6 at 26.1 Milliseconds
Minimum Value: 0.0 at 2.4 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-045

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

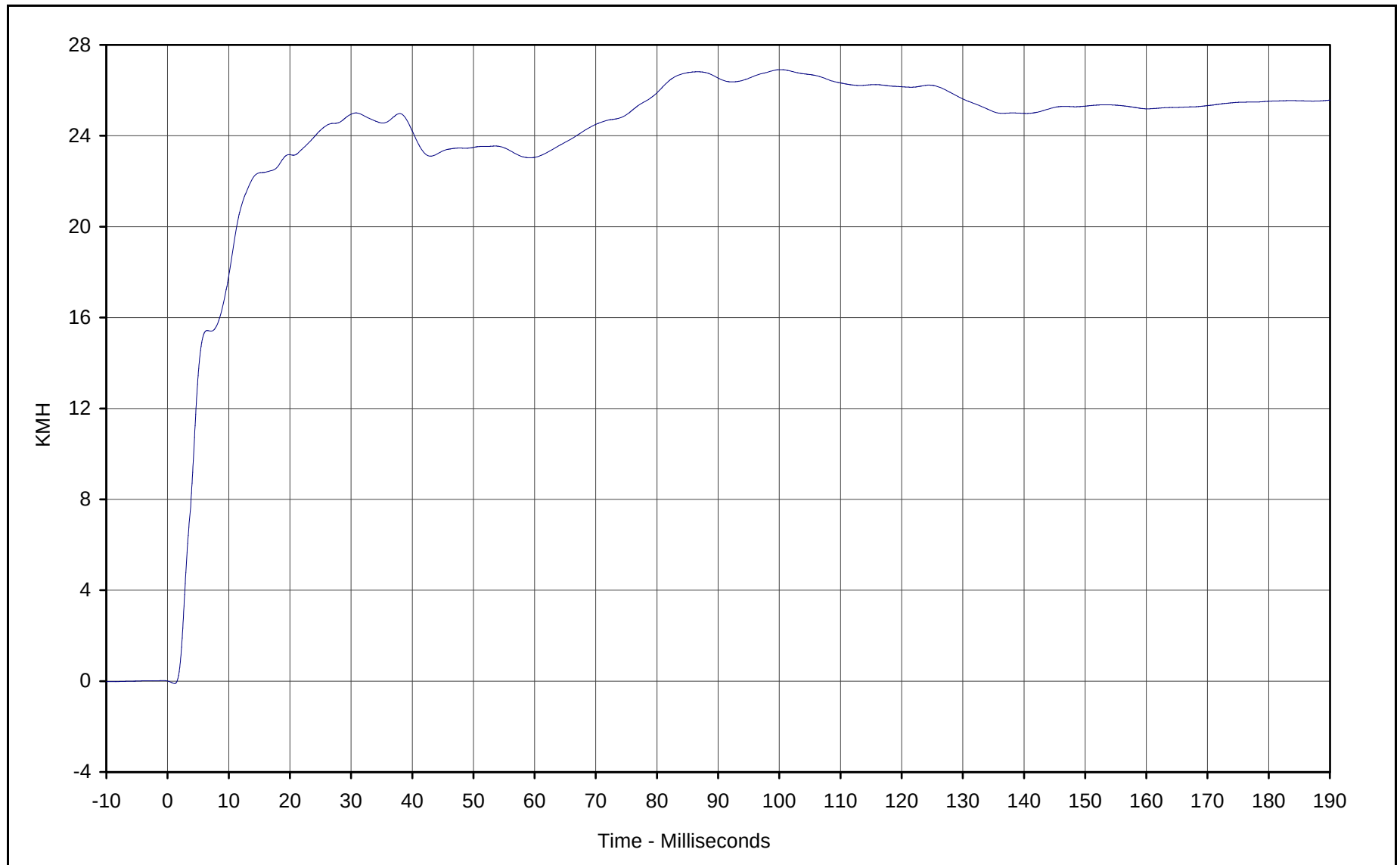




Curve Description: Left A-Post Lower Y
Maximum Value: 95.6 at 3.8 Milliseconds
Minimum Value: -11.4 at 40.4 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-046

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

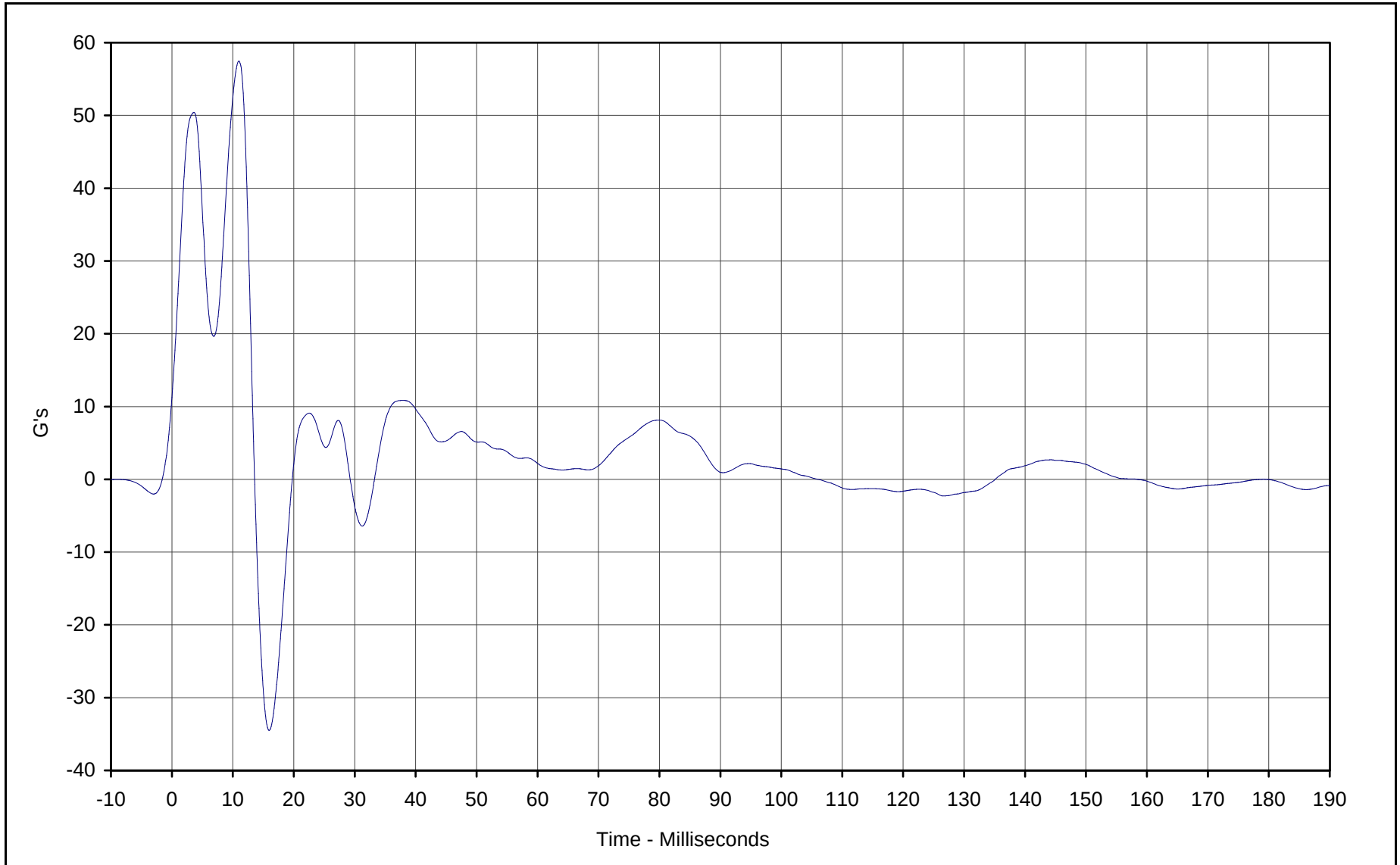




Curve Description: Left A-Post Lower Y Velocity
Maximum Value: 26.9 at 100.2 Milliseconds
Minimum Value: -0.1 at 1.1 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-046

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

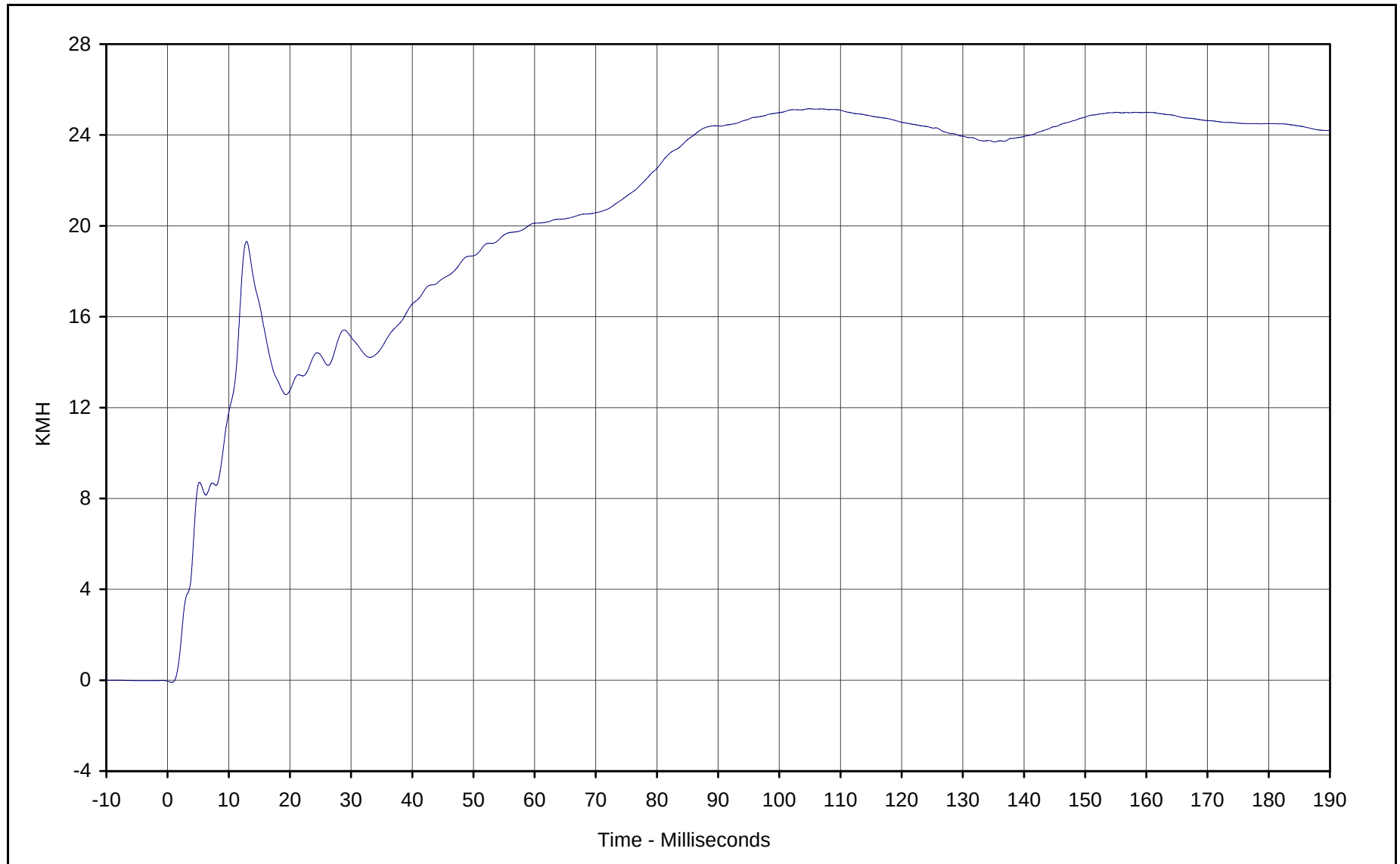




Curve Description: Left A-Post Middle Y
Maximum Value: 57.5 at 11.0 Milliseconds
Minimum Value: -34.5 at 16.0 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-047

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

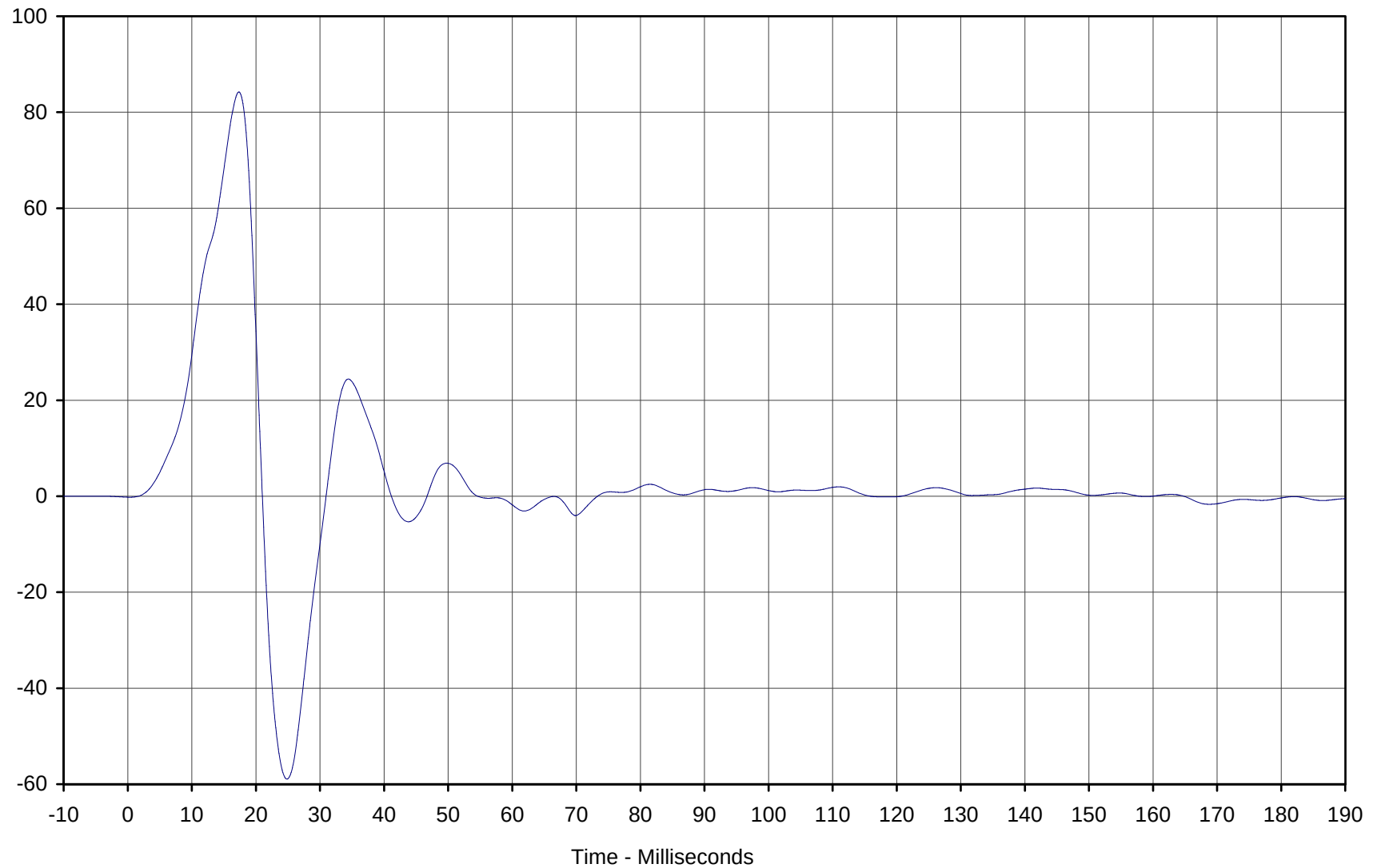




Curve Description: Left A-Post Middle Y Velocity
Maximum Value: 25.2 at 104.9 Milliseconds
Minimum Value: -0.1 at 0.7 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-047

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

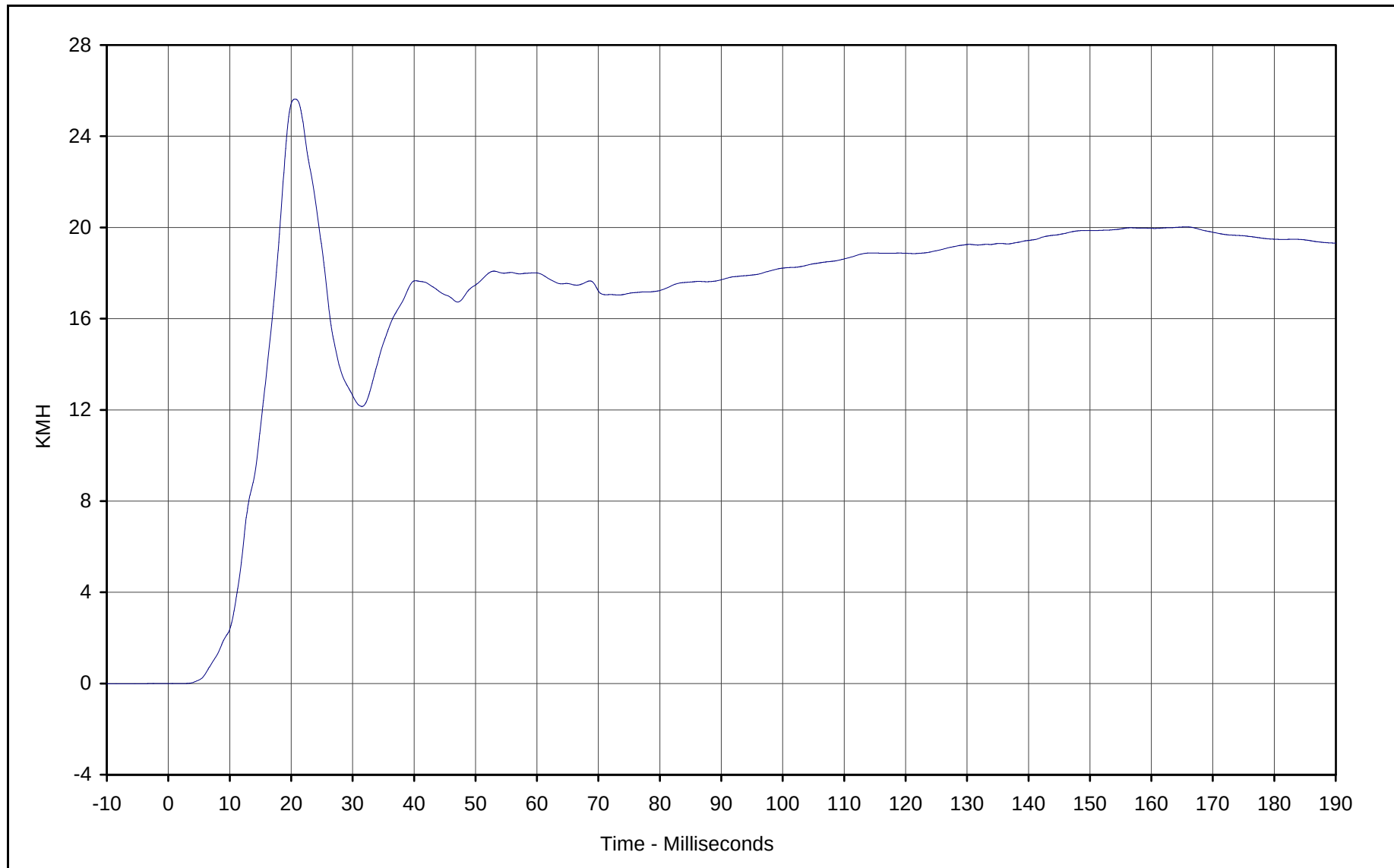




Curve Description: Left Front Seat Track Y
Maximum Value: 84.2 at 17.4 Milliseconds
Minimum Value: -58.9 at 24.8 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-048

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

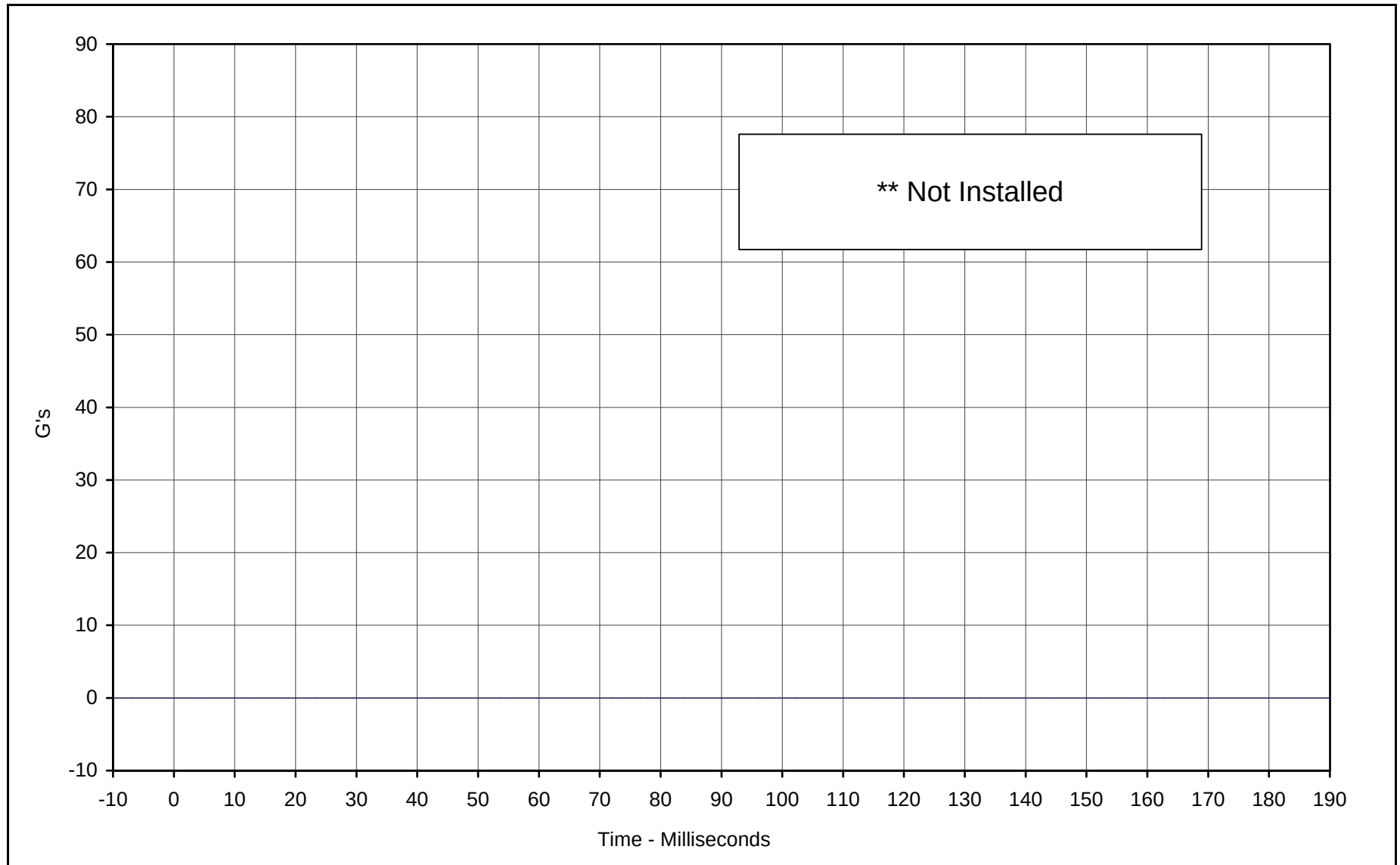




Curve Description: Left Front Seat Track Y Velocity
Maximum Value: 25.6 at 20.6 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-048

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan





Curve Description: Left Rear Seat Structure Y **

Maximum Value: 0.0 at 0.0 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 60

Date of Test: 12/18/00

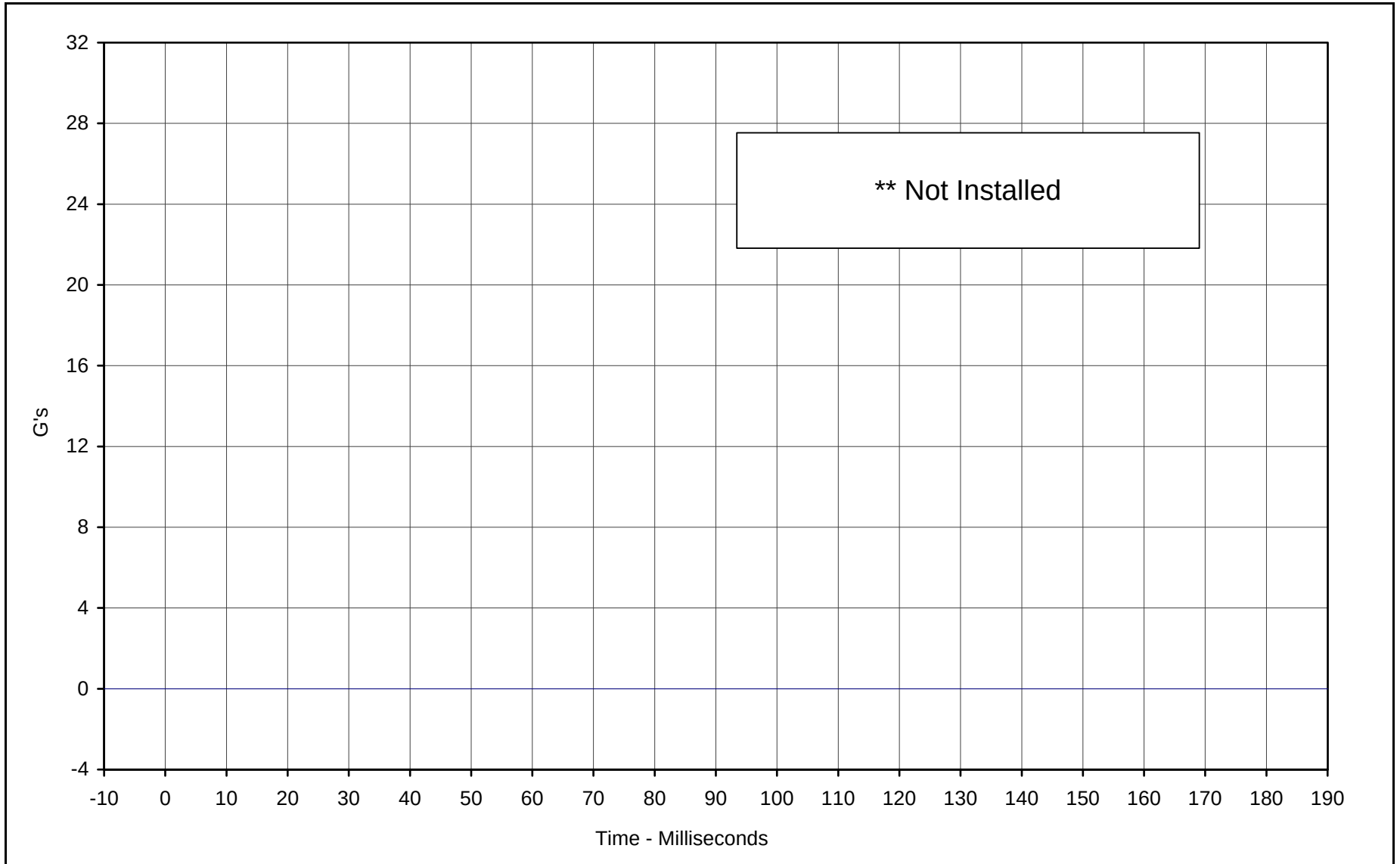
Curve Number: FIL-049

Test Program: 55/28 km/h Side Impact NCAP No.: M10210

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

** Not Installed





Curve Description: Left Rear Seat Structure Y Velocity **

Maximum Value: 0.0 at 0.0 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 12/18/00

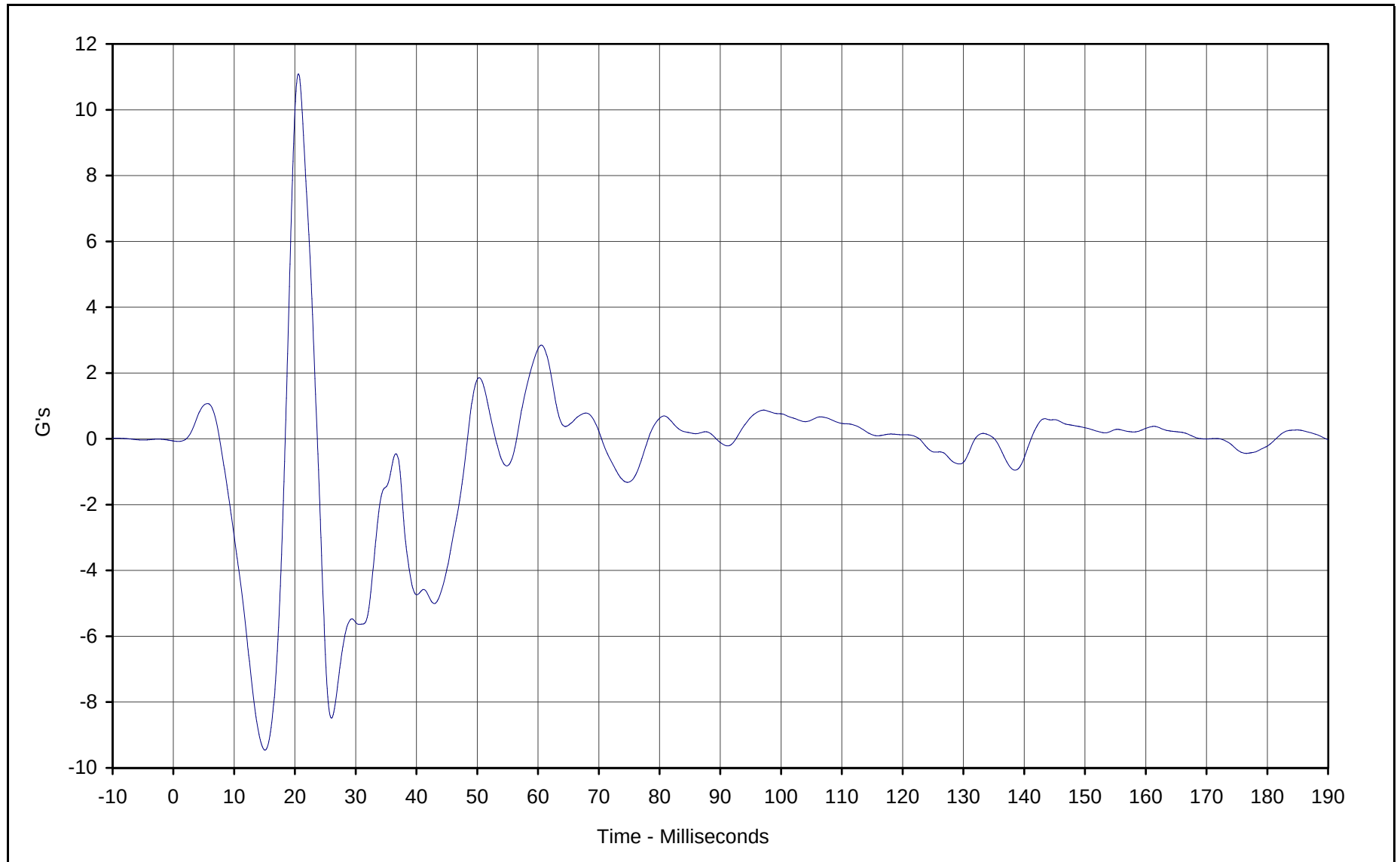
Curve Number: IN1-049

Test Program: 55/28 km/h Side Impact NCAP No.: M10210

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

** Not Installed

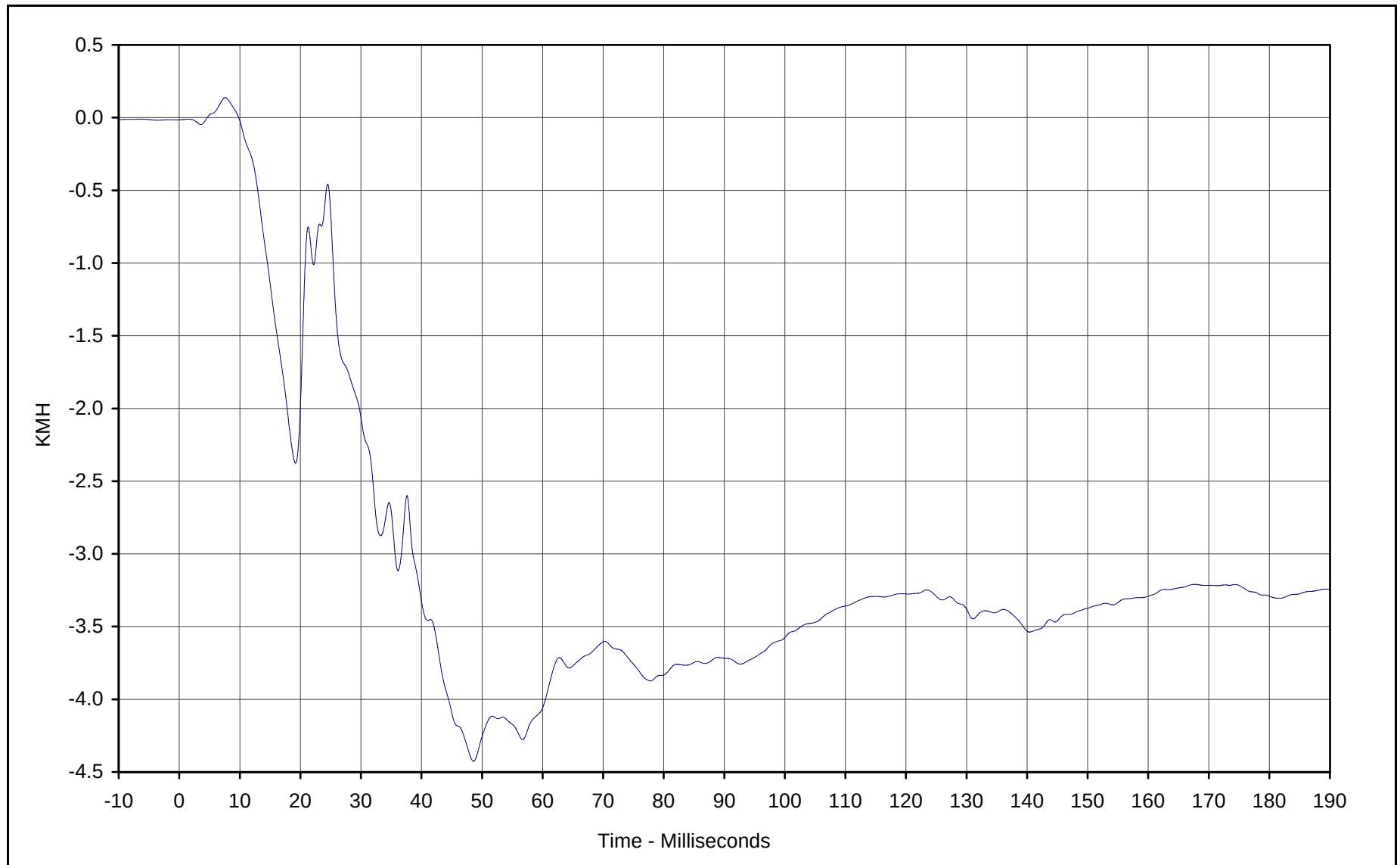




Curve Description: Vehicle CG X
Maximum Value: 11.1 at 20.6 Milliseconds
Minimum Value: -9.5 at 15.1 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-050

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

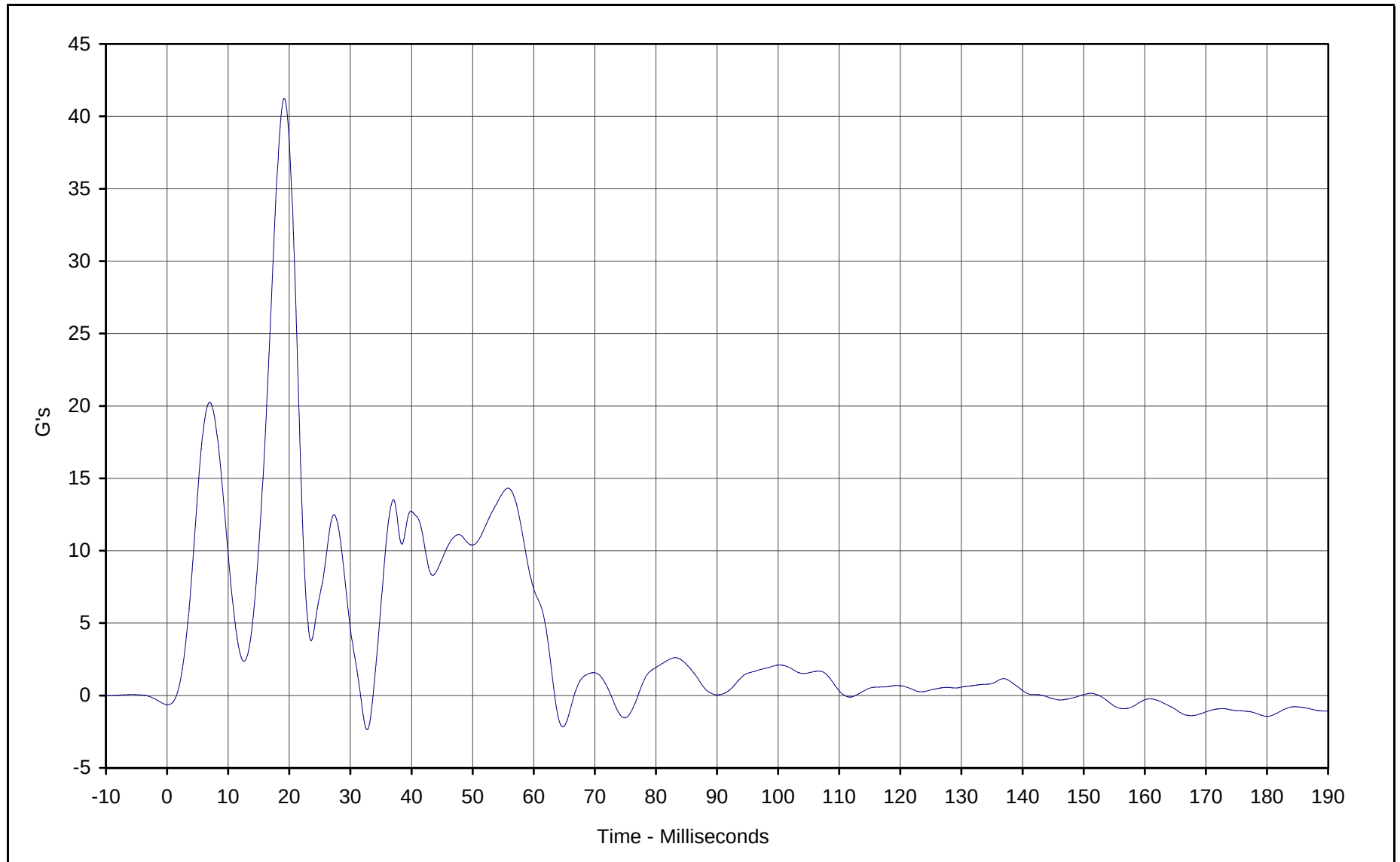




Curve Description: Vehicle CG X Velocity
Maximum Value: 0.1 at 7.6 Milliseconds
Minimum Value: -4.4 at 48.6 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-050

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

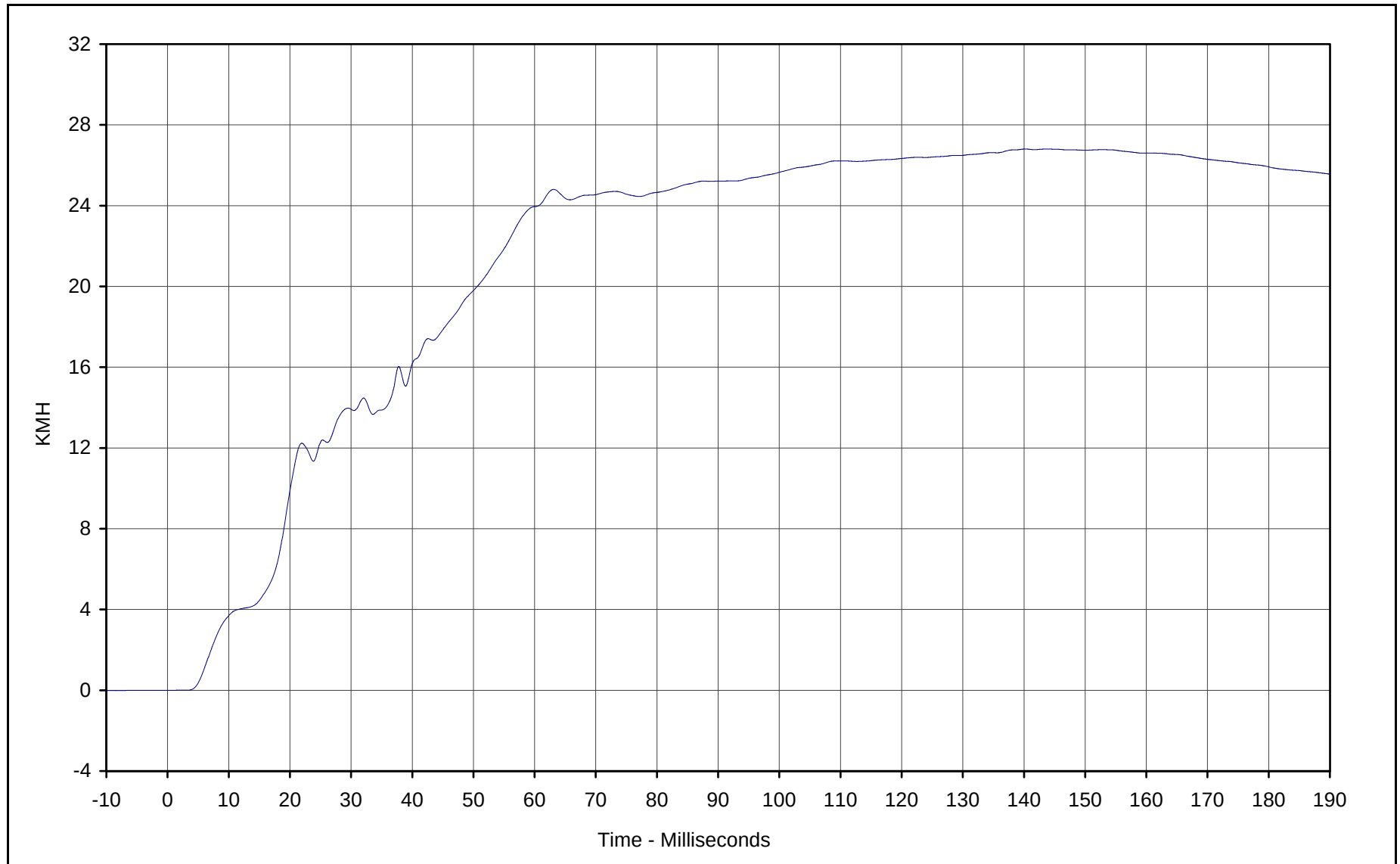




Curve Description: Vehicle CG Y
Maximum Value: 41.2 at 19.2 Milliseconds
Minimum Value: -2.4 at 32.7 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-051

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

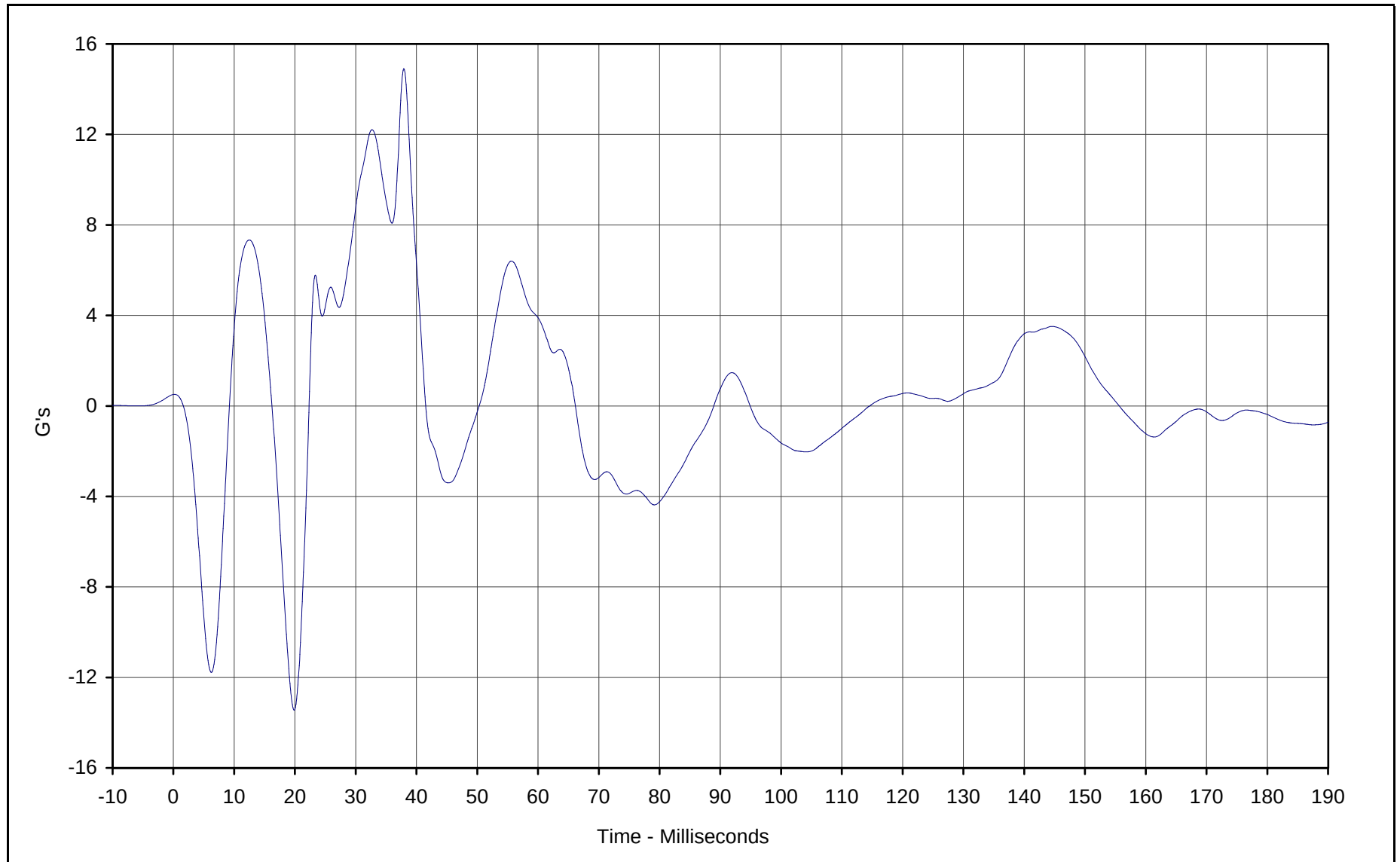




Curve Description: Vehicle CG Y Velocity
Maximum Value: 26.8 at 143.9 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-051

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

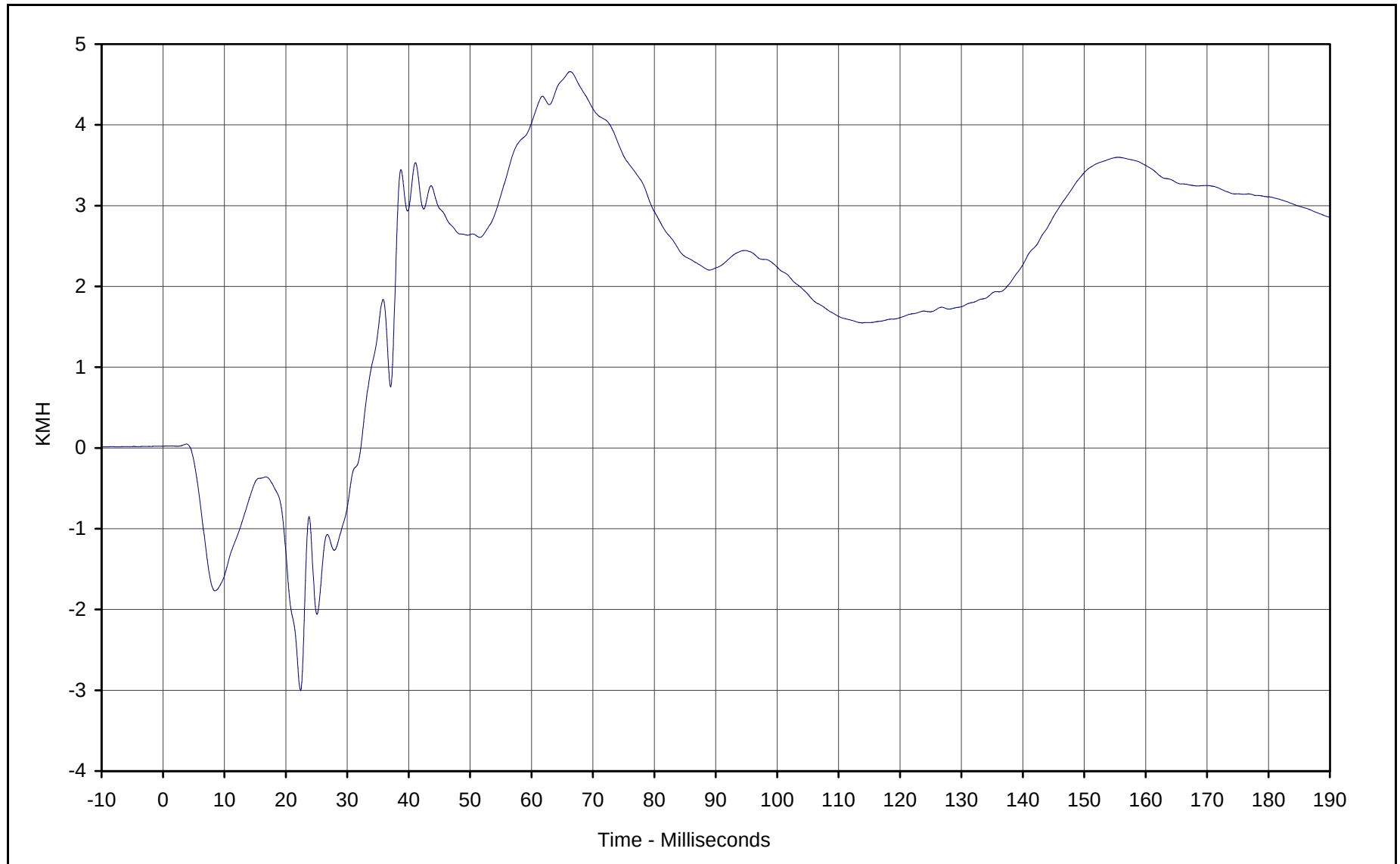




Curve Description: Vehicle CG Z
Maximum Value: 14.9 at 37.9 Milliseconds
Minimum Value: -13.5 at 19.9 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-052

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

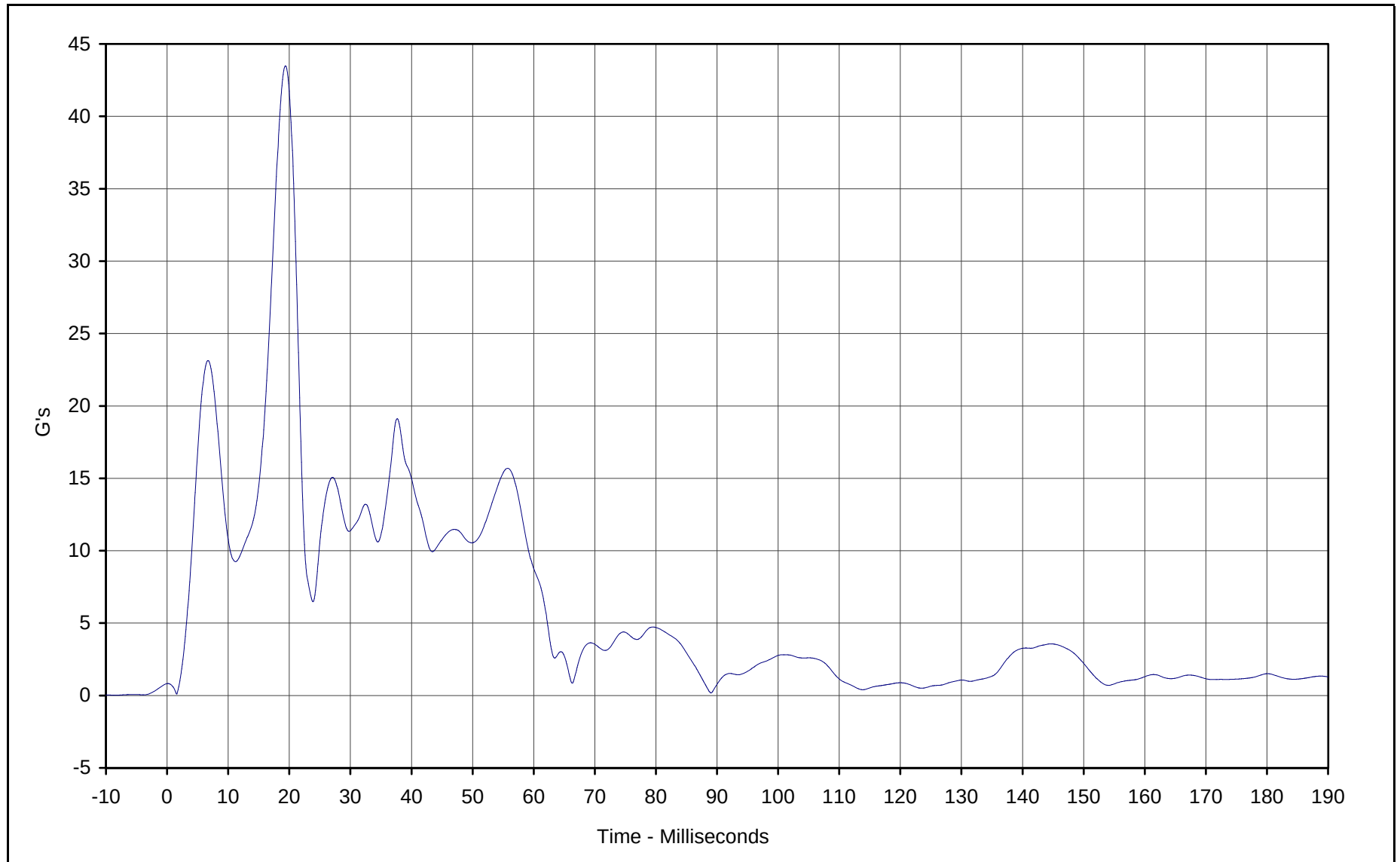




Curve Description: Vehicle CG Z Velocity
Maximum Value: 4.7 at 66.3 Milliseconds
Minimum Value: -3.0 at 22.4 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-052

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

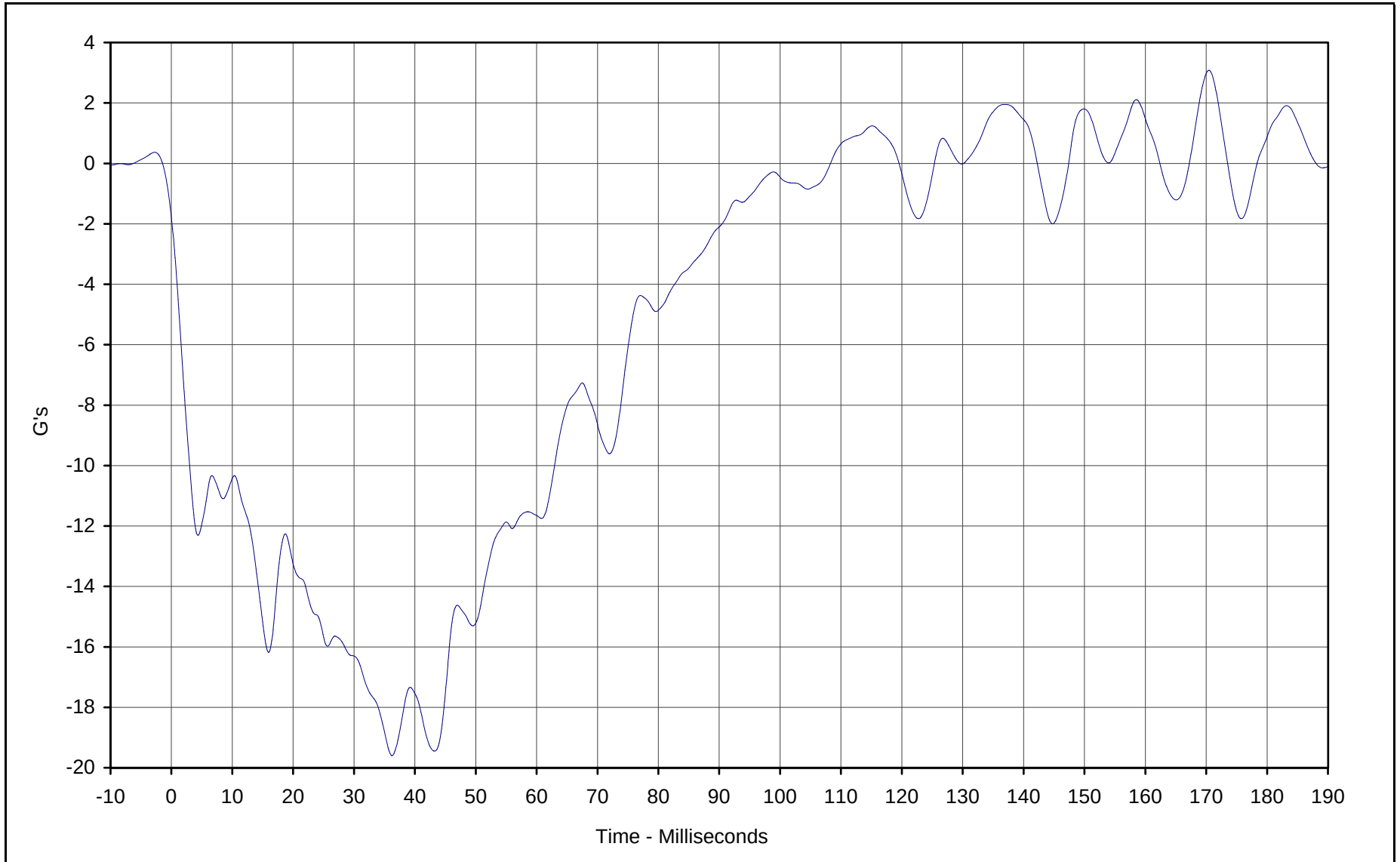




Curve Description: Vehicle CG Resultant
Maximum Value: 43.5 at 19.4 Milliseconds
Minimum Value: 0.1 at 1.6 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: RES-050

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

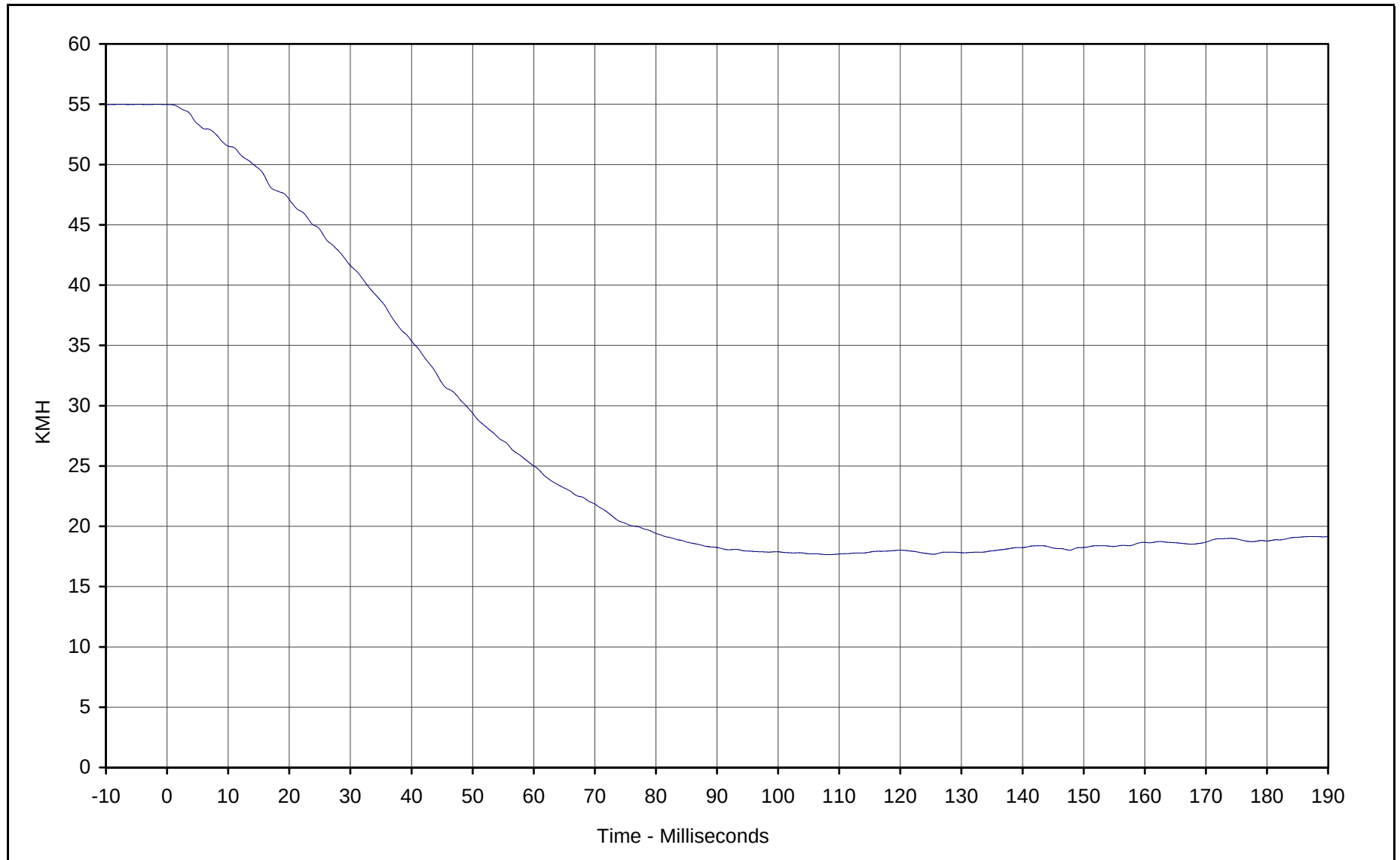




Curve Description: MDB CG X
Maximum Value: 3.1 at 170.5 Milliseconds
Minimum Value: -19.6 at 36.3 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-053

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

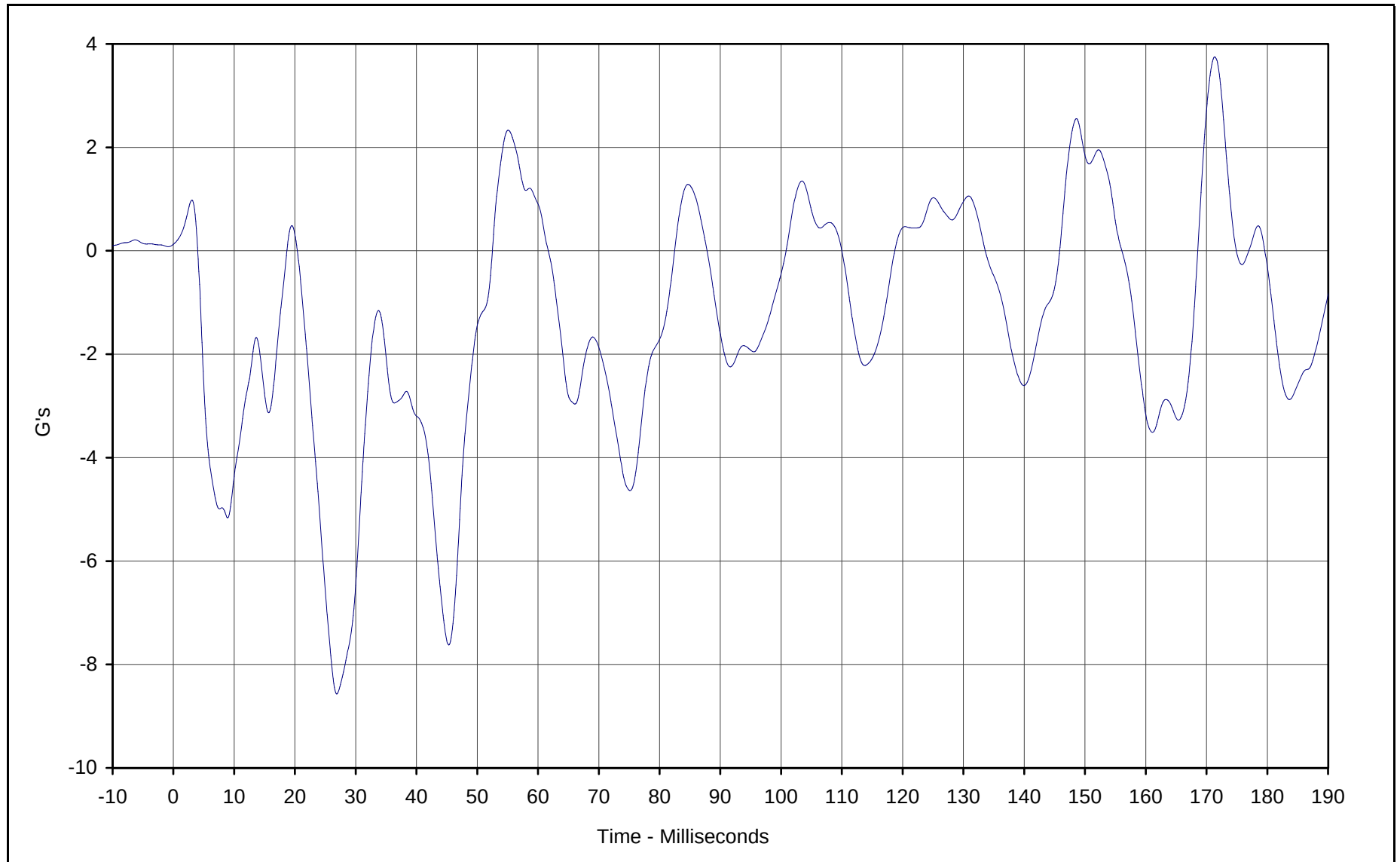




Curve Description: MDB CG X Velocity
Maximum Value: 55.0 at 0.3 Milliseconds
Minimum Value: 17.6 at 108.3 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-053

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

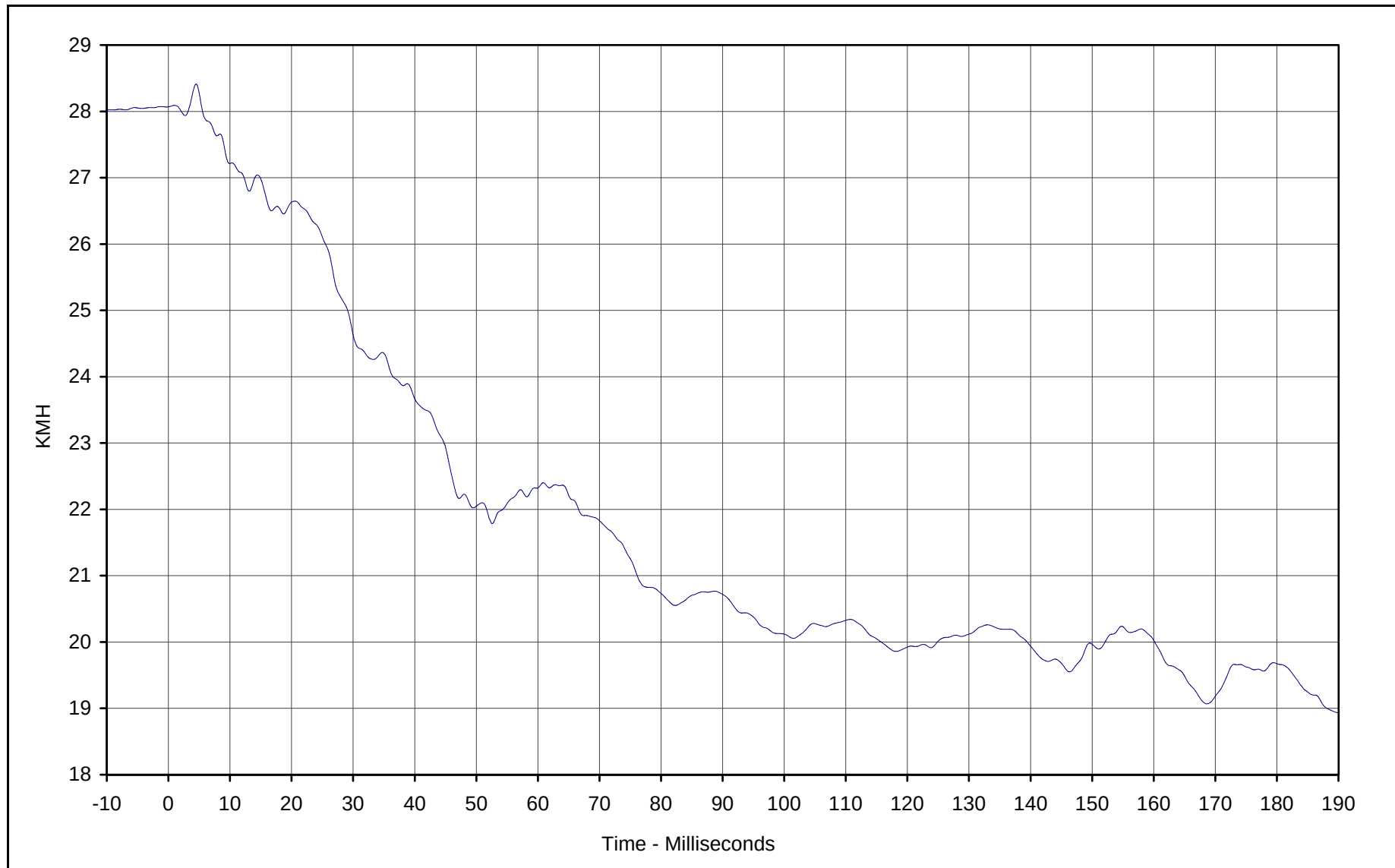




Curve Description: MDB CG Y
Maximum Value: 3.7 at 171.4 Milliseconds
Minimum Value: -8.6 at 26.9 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-054

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

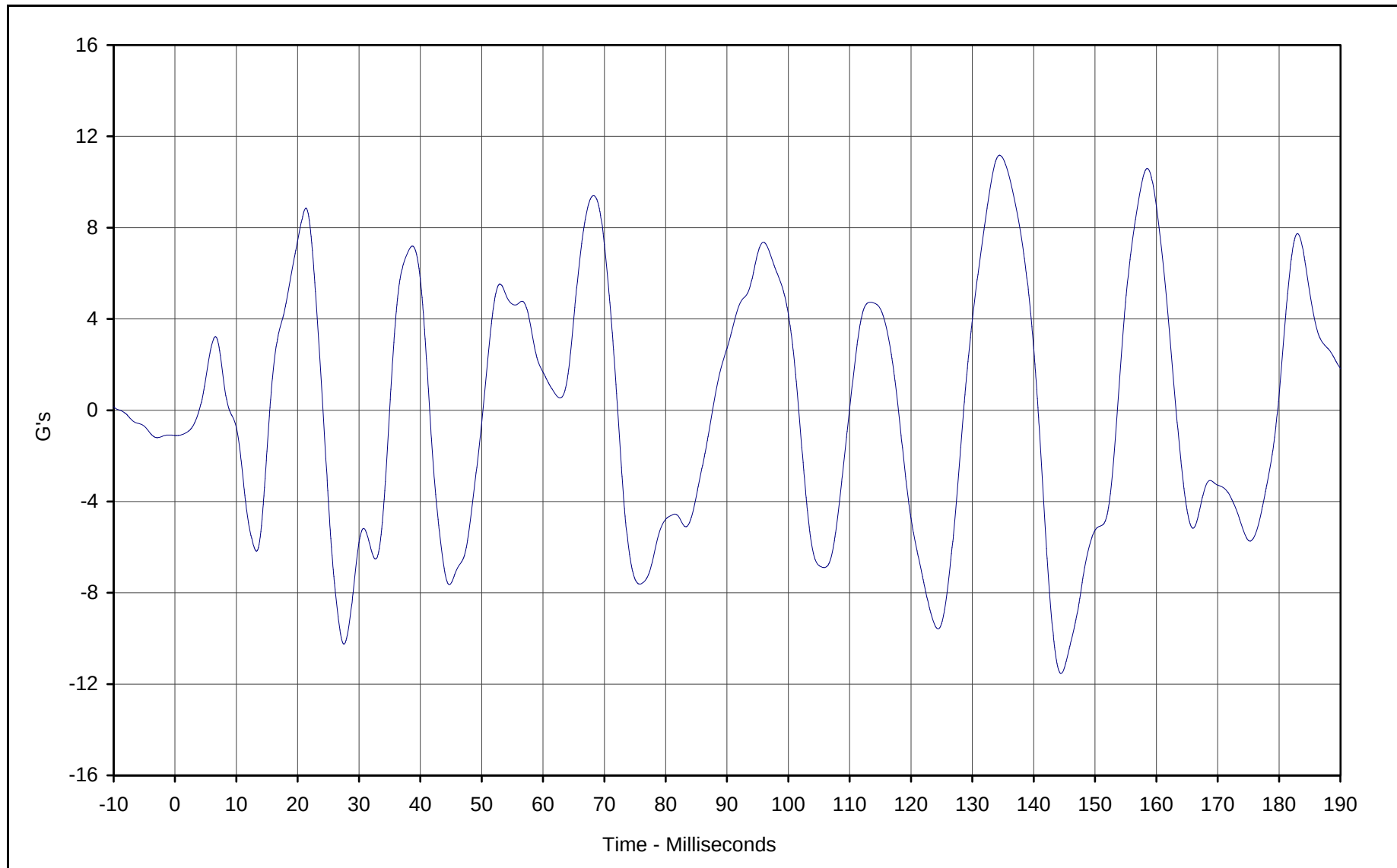




Curve Description: MDB CG Y Velocity
Maximum Value: 28.4 at 4.5 Milliseconds
Minimum Value: 18.9 at 189.9 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-054

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

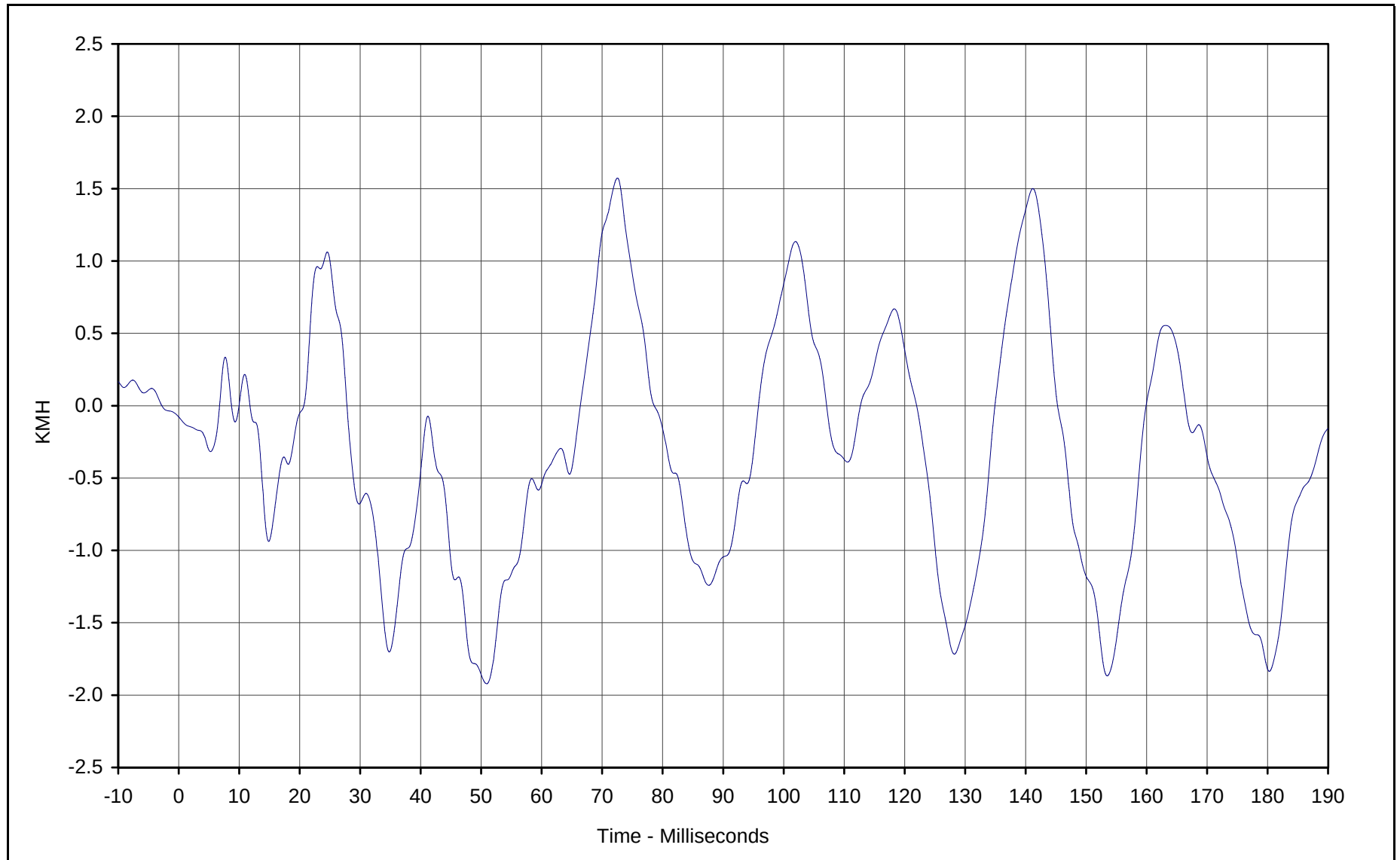




Curve Description: MDB CG Z
Maximum Value: 11.2 at 134.5 Milliseconds
Minimum Value: -11.5 at 144.5 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-055

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

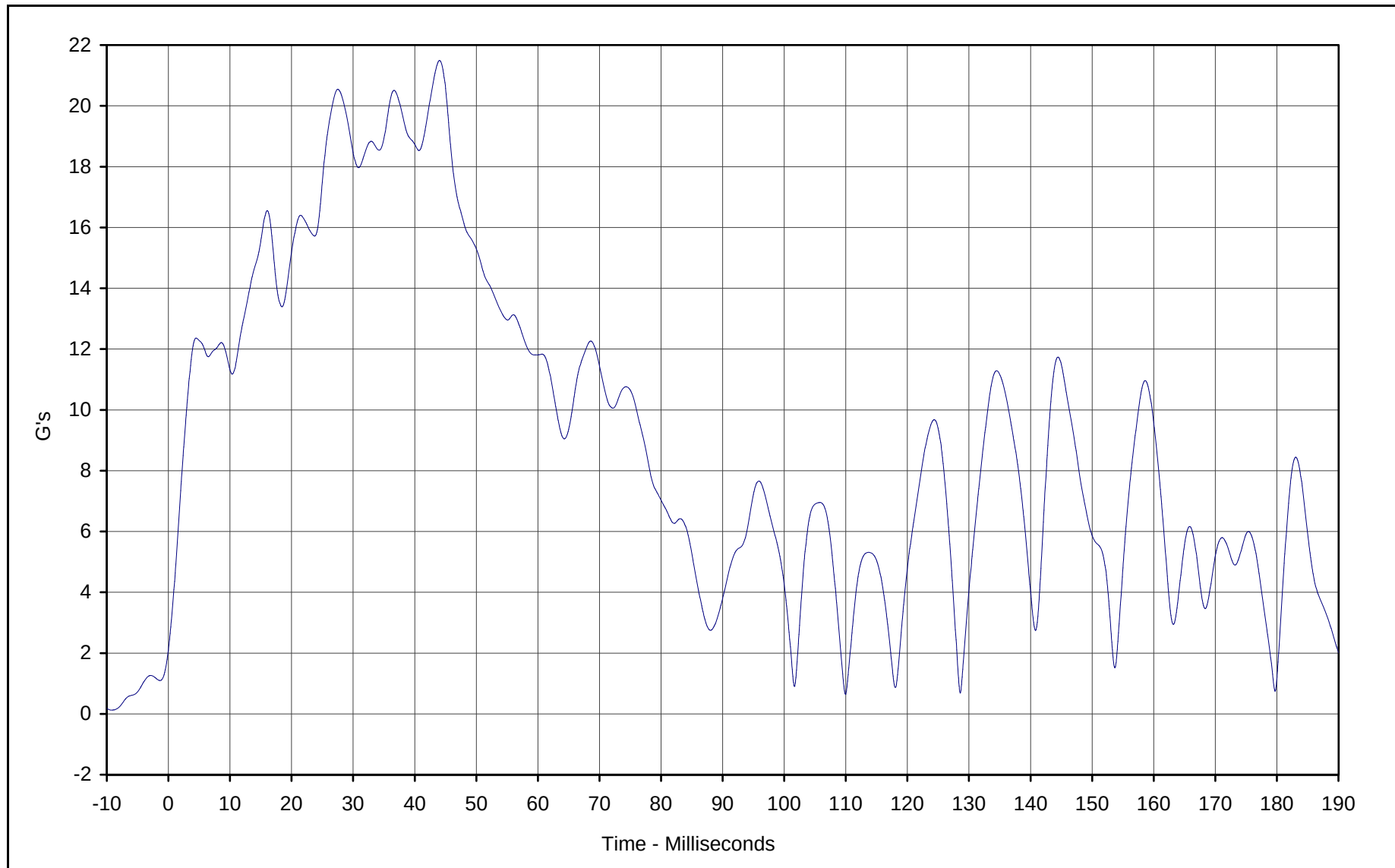




Curve Description: MDB CG Z Velocity
Maximum Value: 1.6 at 72.5 Milliseconds
Minimum Value: -1.9 at 50.9 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-055

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

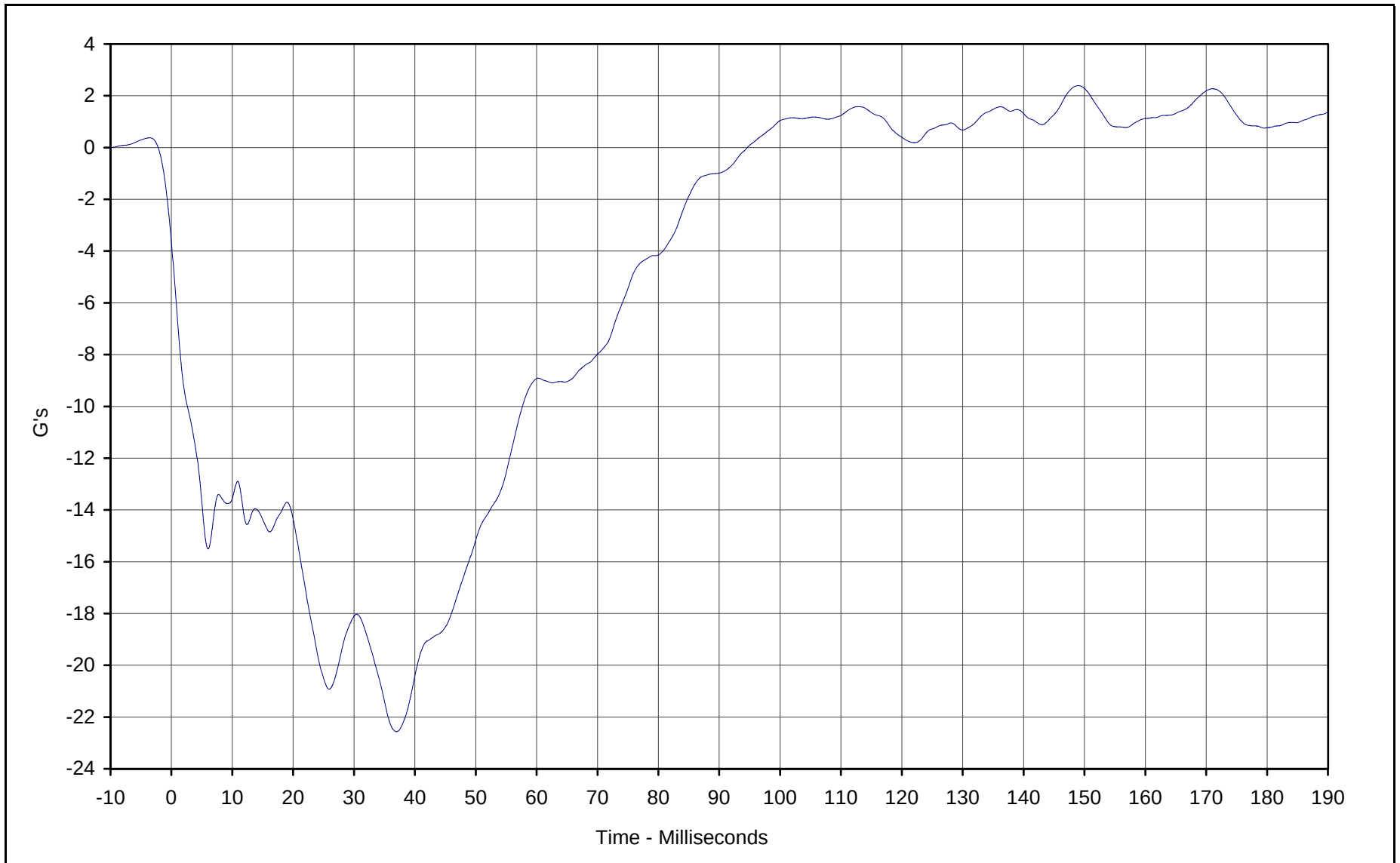




Curve Description: MDB CG Resultant
Maximum Value: 21.5 at 44.0 Milliseconds
Minimum Value: 0.6 at 110.0 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: RES-053

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

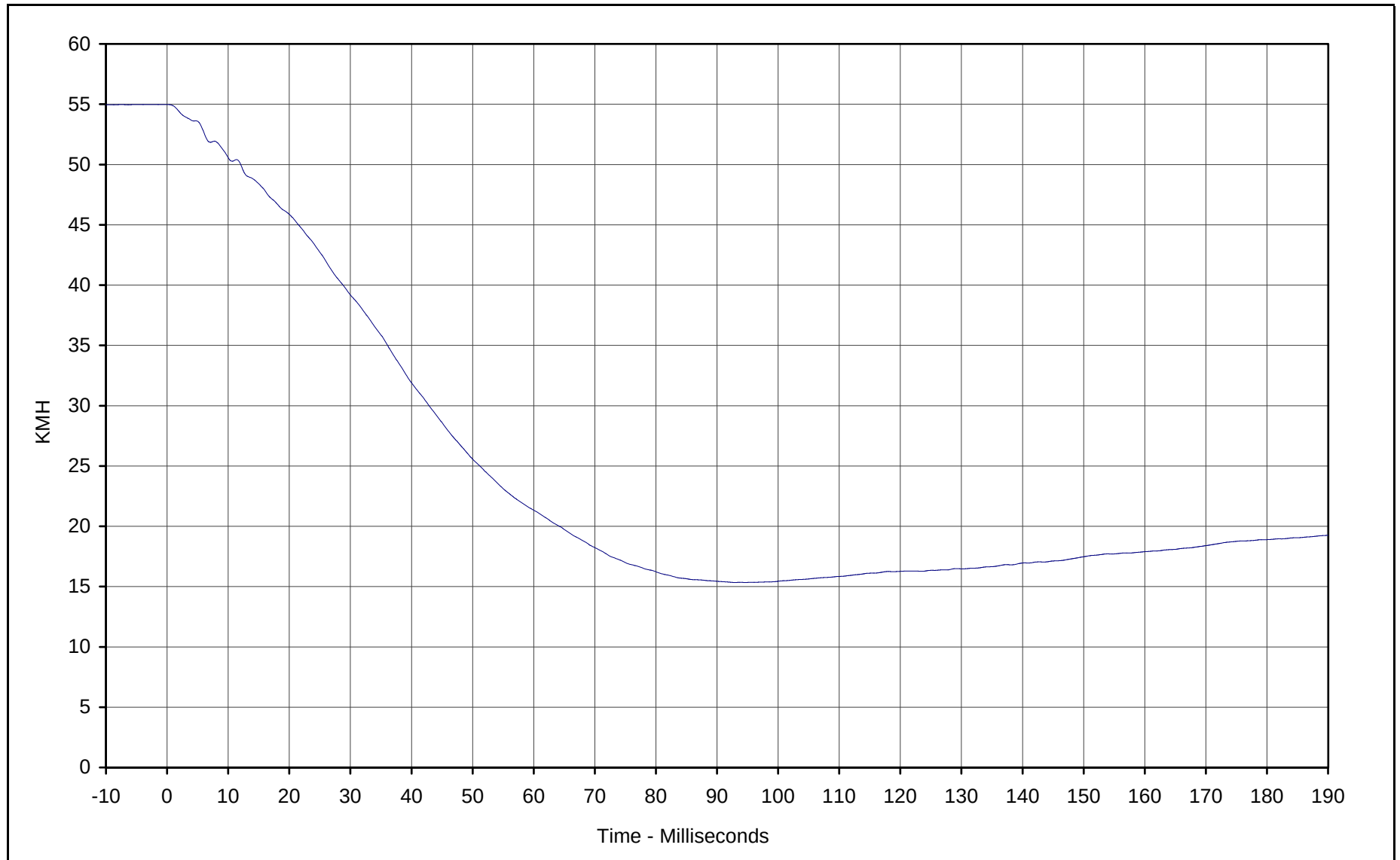




Curve Description: MDB Rear X
Maximum Value: 2.4 at 149.0 Milliseconds
Minimum Value: -22.6 at 37.0 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-056

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

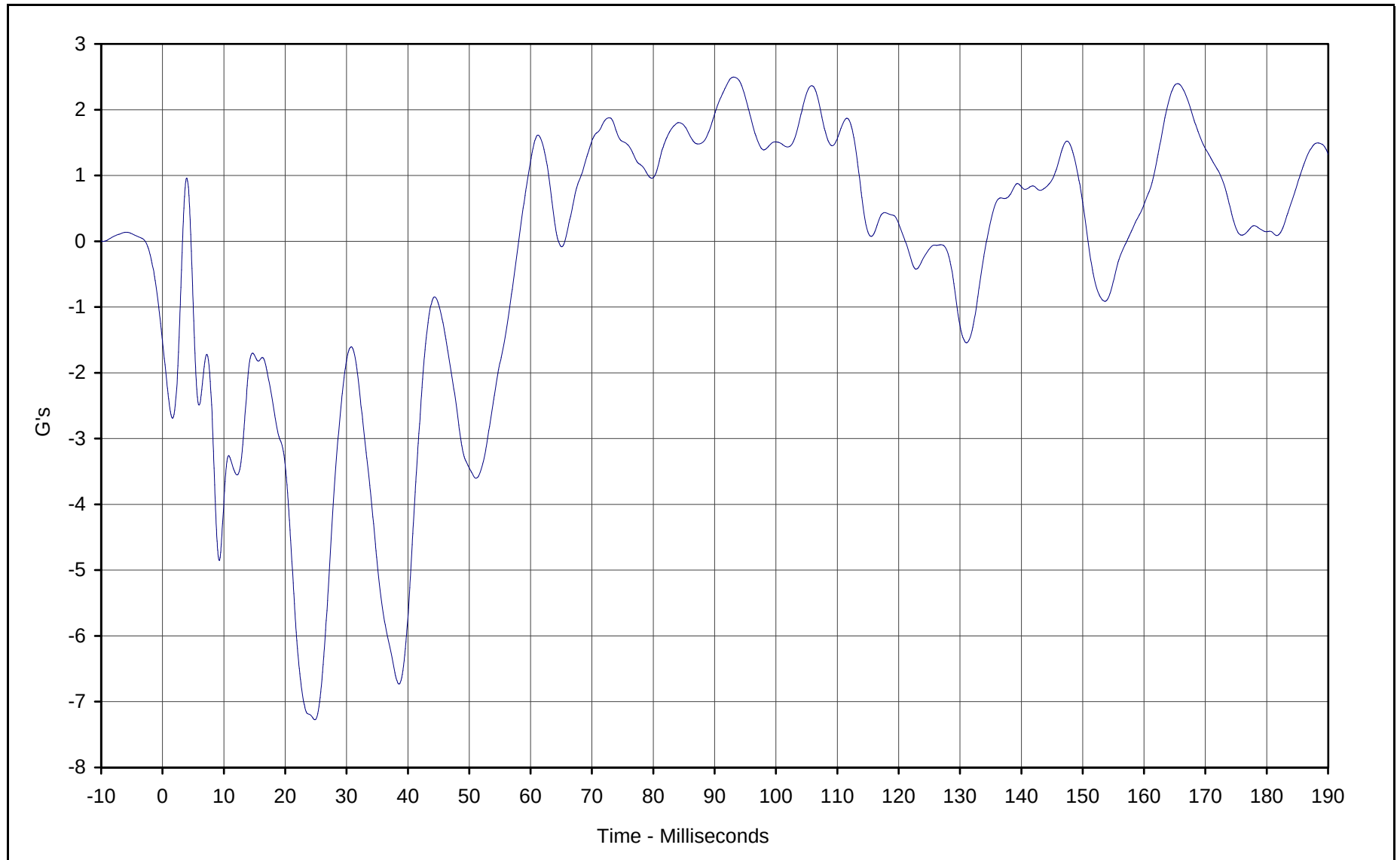




Curve Description: MDB Rear X Velocity
Maximum Value: 55.0 at 0.0 Milliseconds
Minimum Value: 15.3 at 94.6 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-056

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

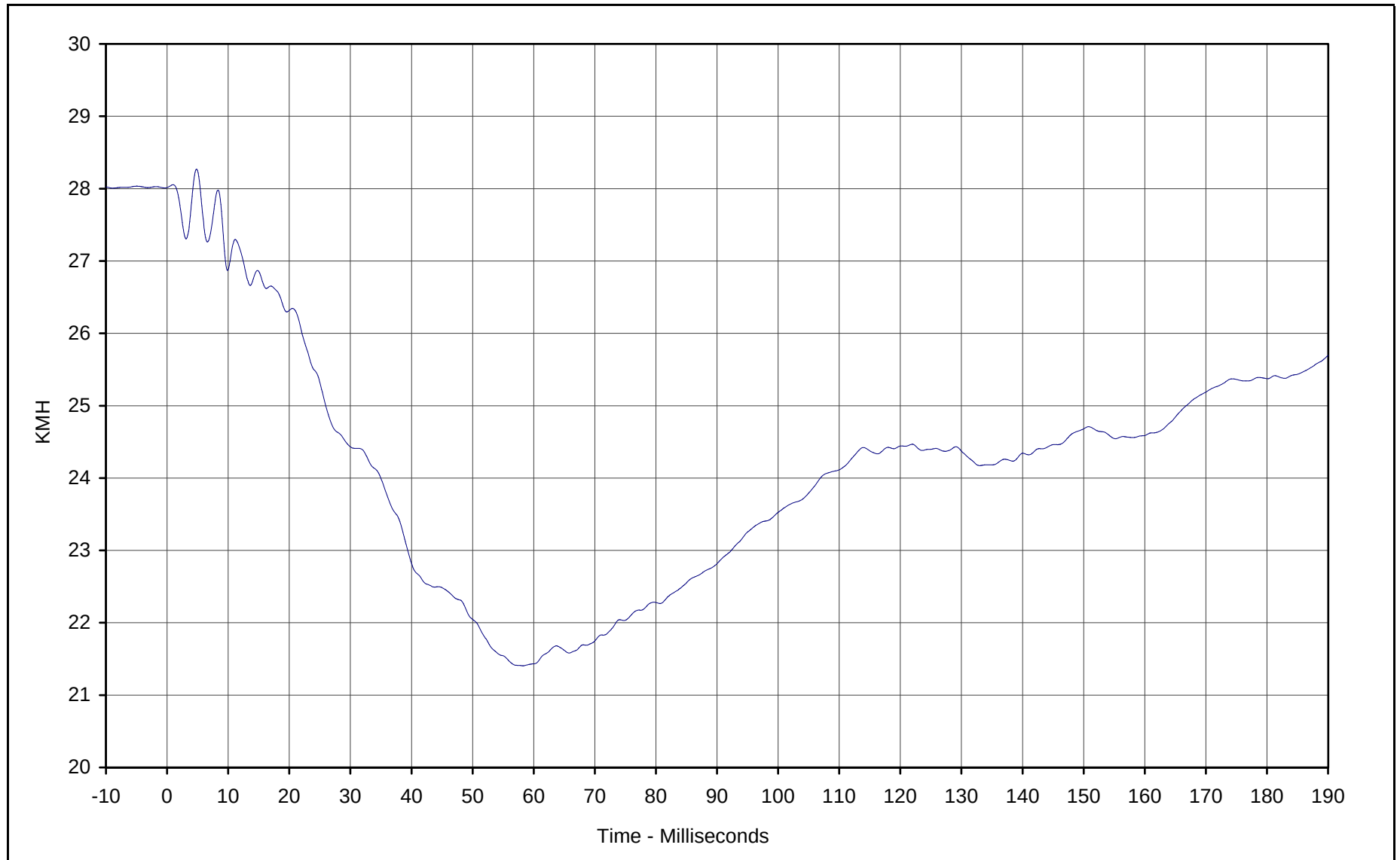




Curve Description: MDB Rear Y
Maximum Value: 2.5 at 93.1 Milliseconds
Minimum Value: -7.3 at 24.8 Milliseconds
SAE Filter Class: 60
Date of Test: 12/18/00
Curve Number: FIL-057

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

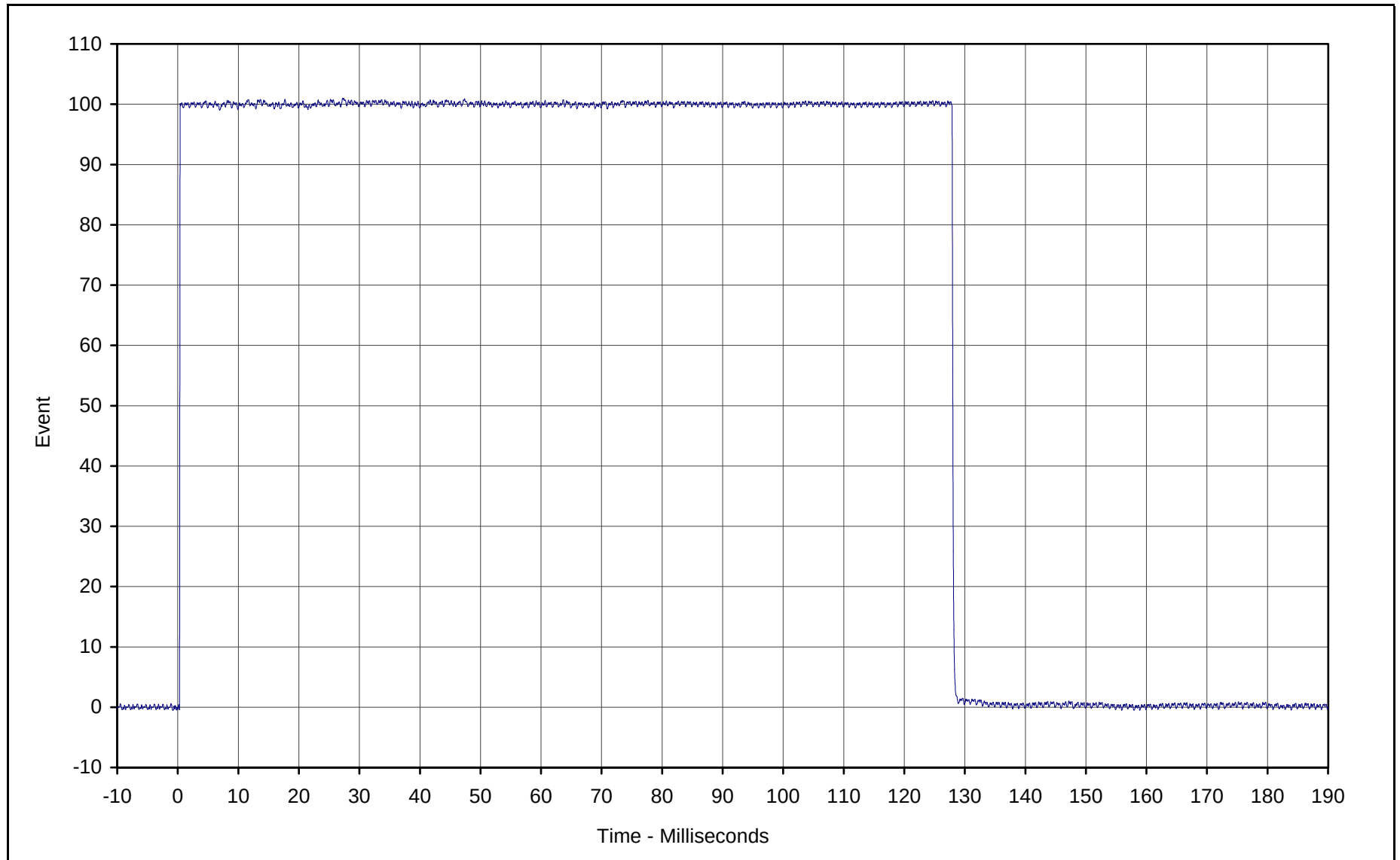




Curve Description: MDB Rear Y Velocity
Maximum Value: 28.3 at 4.8 Milliseconds
Minimum Value: 21.4 at 58.2 Milliseconds
SAE Filter Class: 180
Date of Test: 12/18/00
Curve Number: IN1-057

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

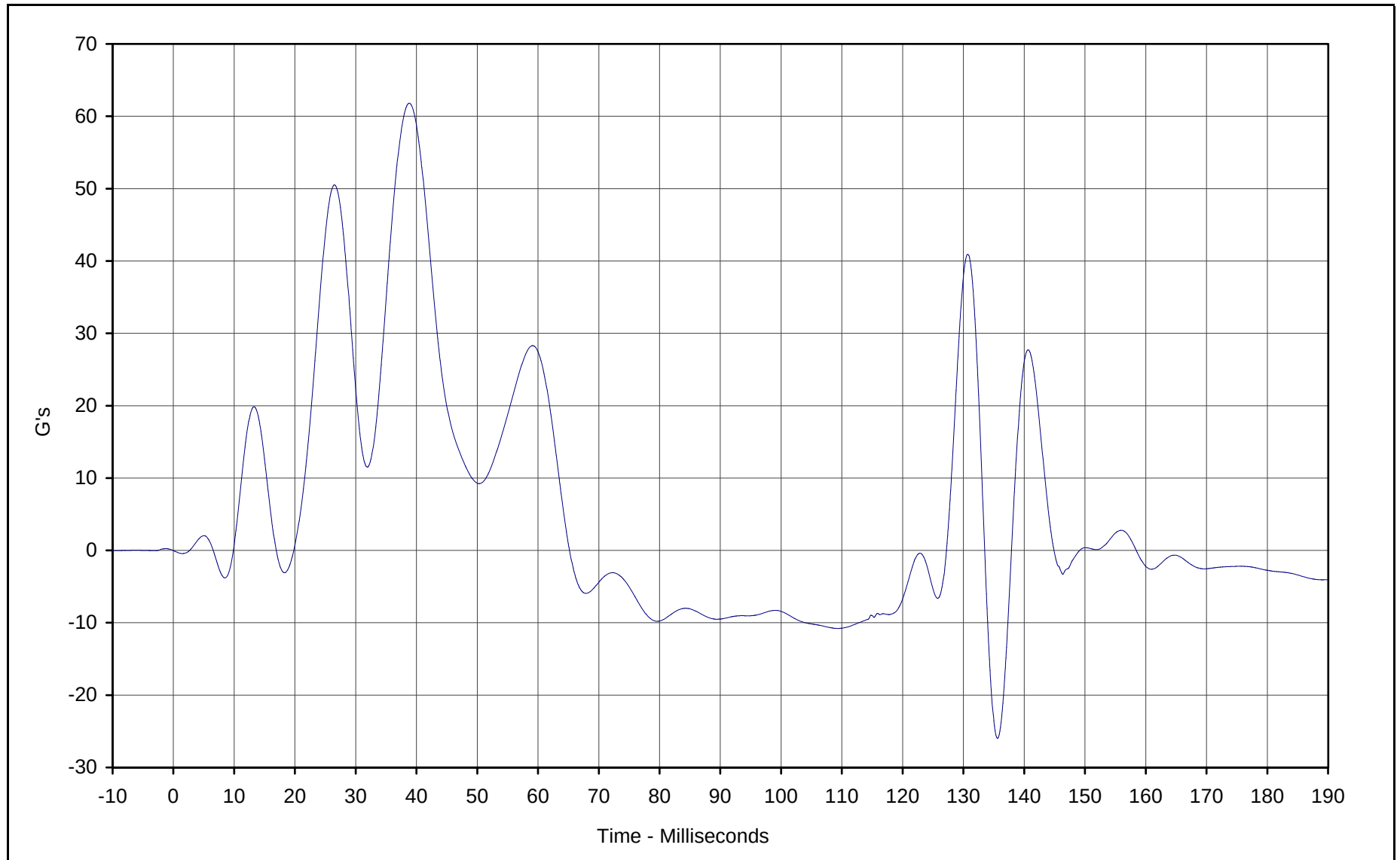




Curve Description: MDB Right Bumper Contact
Maximum Value: 101.0 at 27.4 Milliseconds
Crossing Point: 50% at 0.4 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/18/00
Curve Number: FIL-058

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

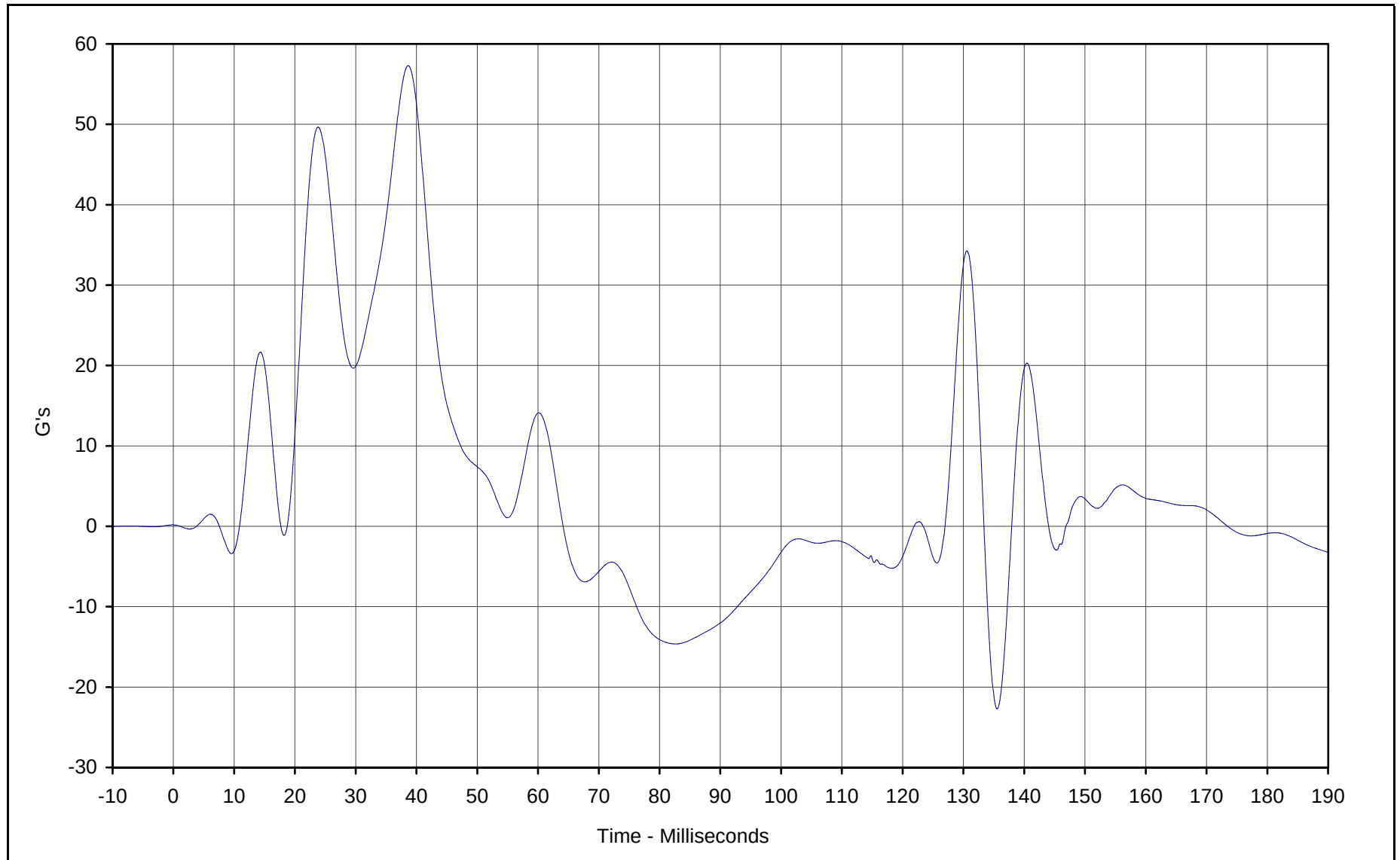




Curve Description: Driver Upper Rib Primary Y
Maximum Value: 61.8 at 38.8 Milliseconds
Minimum Value: -26.0 at 135.6 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00
Curve Number: FIR-004

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

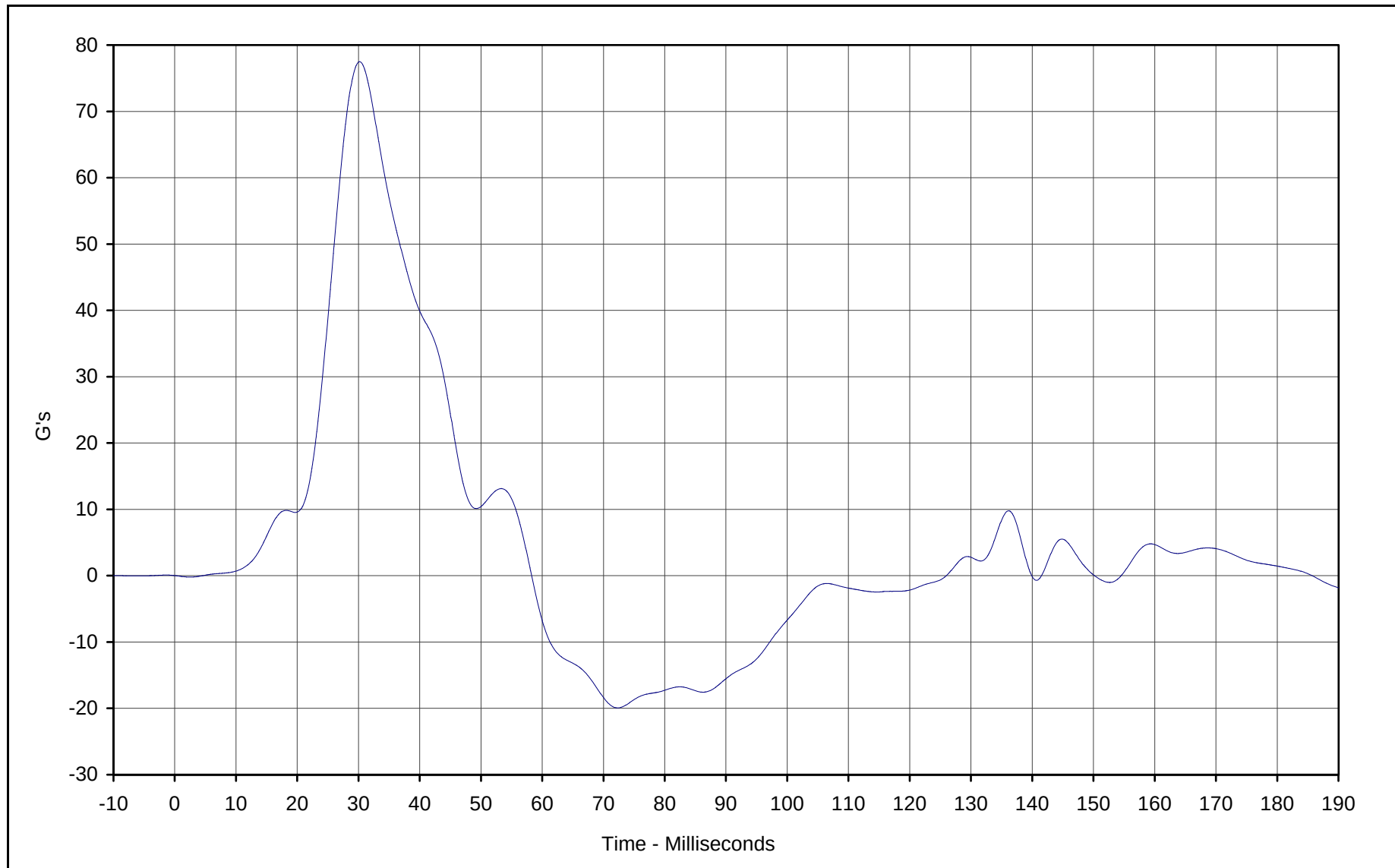




Curve Description: Driver Lower Rib Primary Y
Maximum Value: 57.3 at 38.6 Milliseconds
Minimum Value: -22.7 at 135.5 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00
Curve Number: FIR-005

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

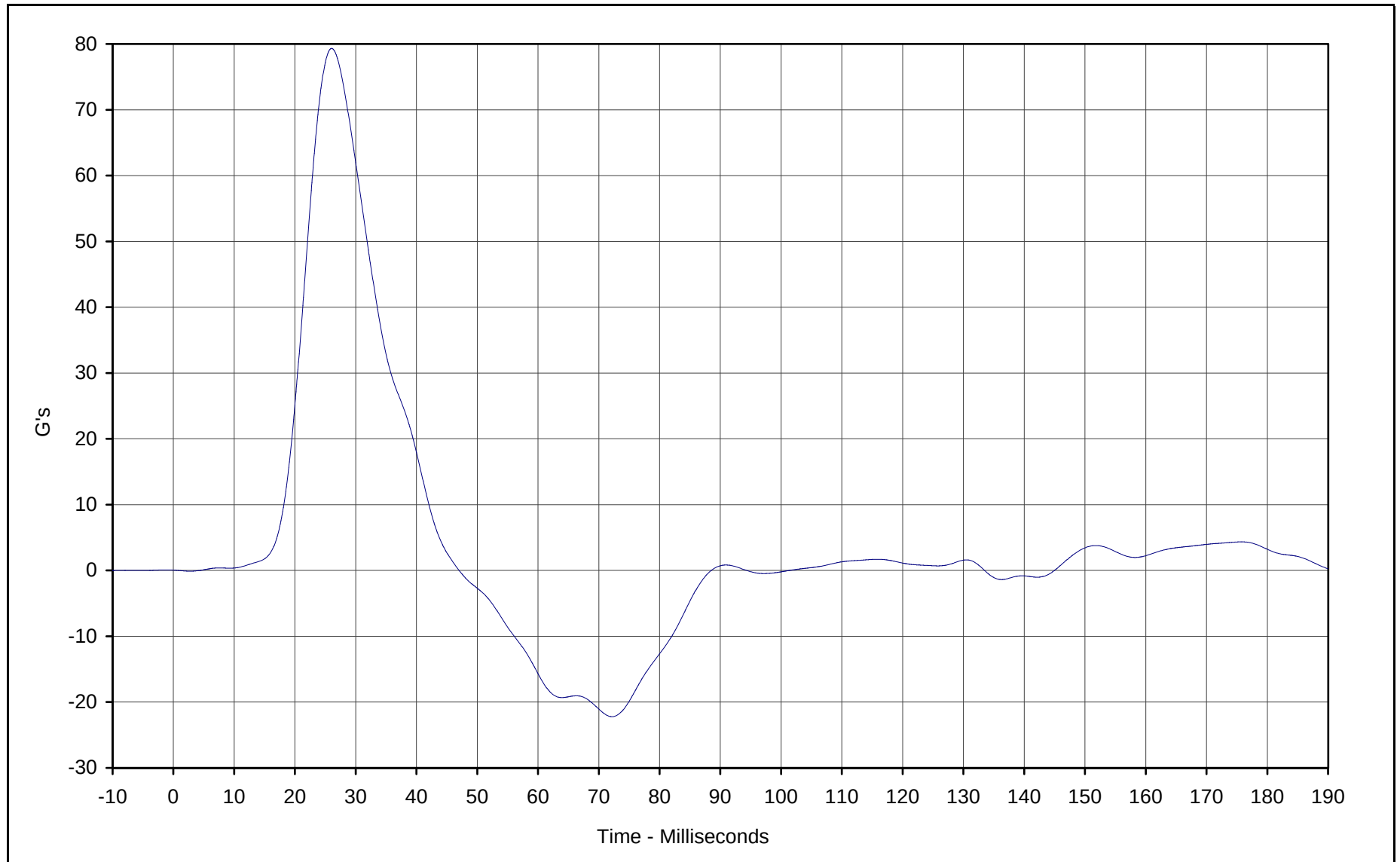




Curve Description: Driver Lower Spine Primary Y
Maximum Value: 77.5 at 30.2 Milliseconds
Minimum Value: -19.9 at 72.3 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00
Curve Number: FIR-006

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

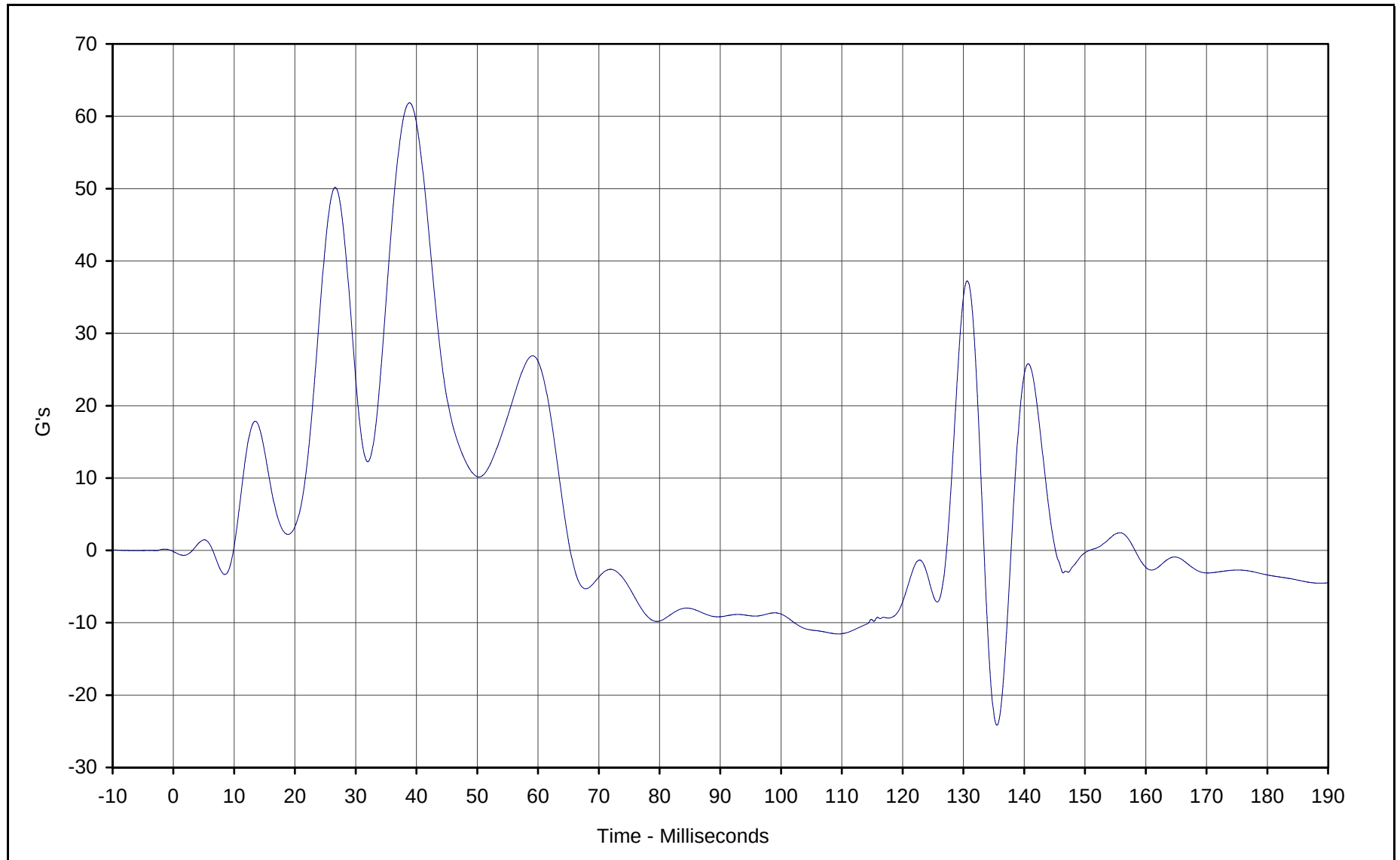




Curve Description: Driver Pelvis Primary Y
Maximum Value: 79.3 at 26.0 Milliseconds
Minimum Value: -22.2 at 72.2 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00
Curve Number: FIR-007

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

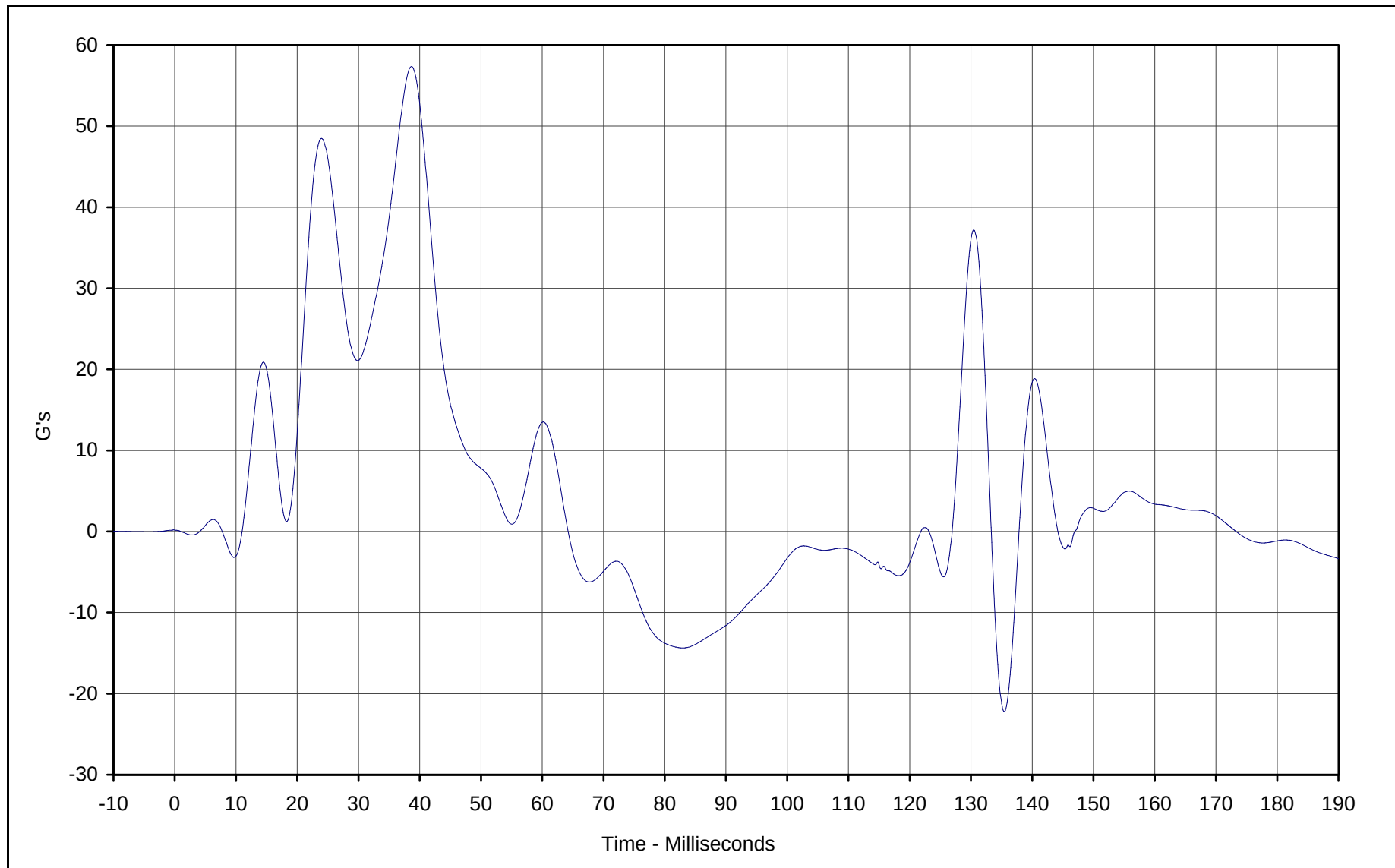




Curve Description: Driver Upper Rib Redundant Y
Maximum Value: 61.9 at 38.8 Milliseconds
Minimum Value: -24.2 at 135.5 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00
Curve Number: FIR-008

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan





Curve Description: Driver Lower Rib Redundant Y

Maximum Value: 57.4 at 38.6 Milliseconds

Minimum Value: -22.2 at 135.4 Milliseconds

SAE Filter Class: FIR 100

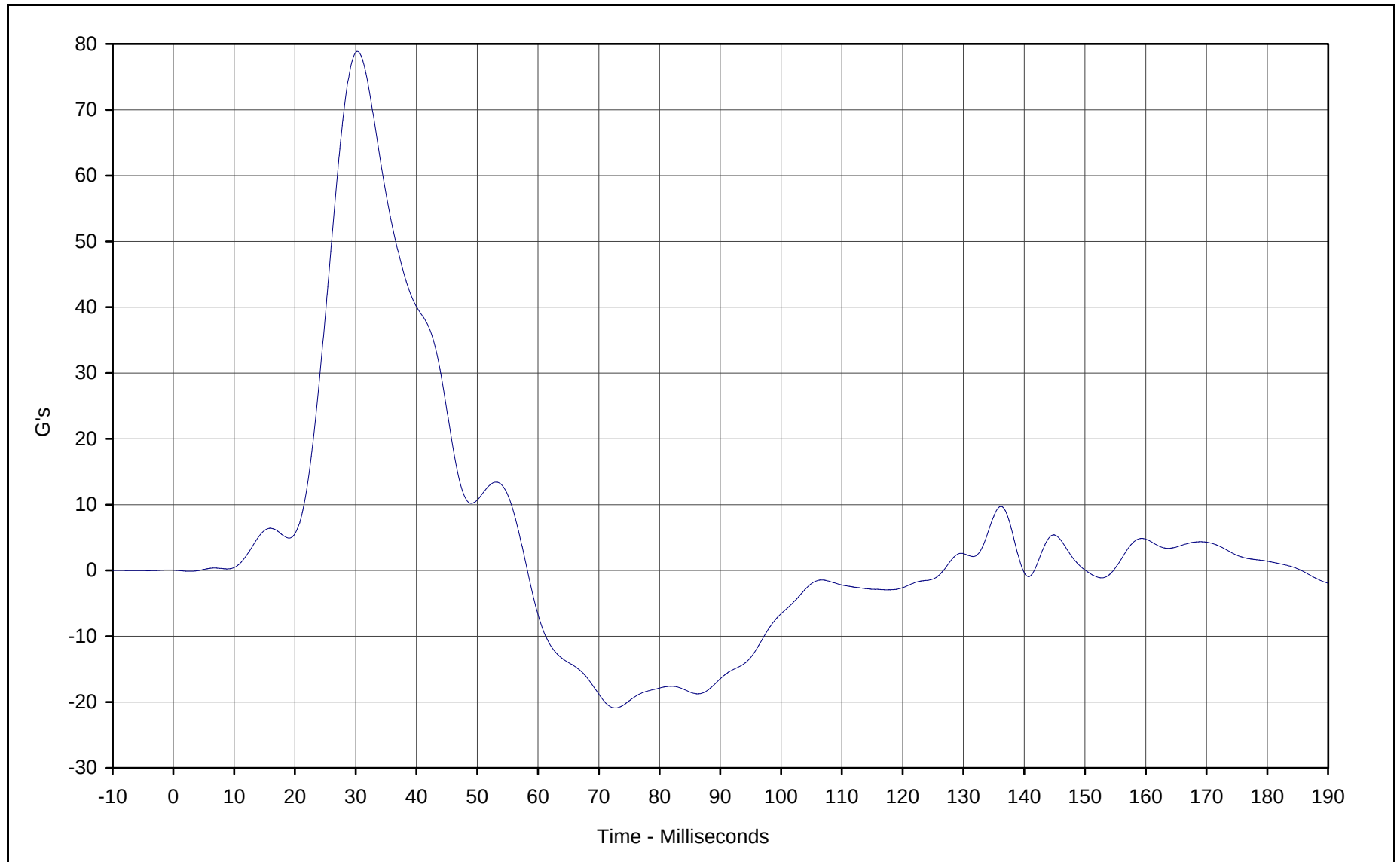
Date of Test: 12/18/00

Curve Number: FIR-009

Test Program: 55/28 km/h Side Impact NCAP No.: M10210

Test Vehicle: 2001 Lincoln LS 4 Door Sedan

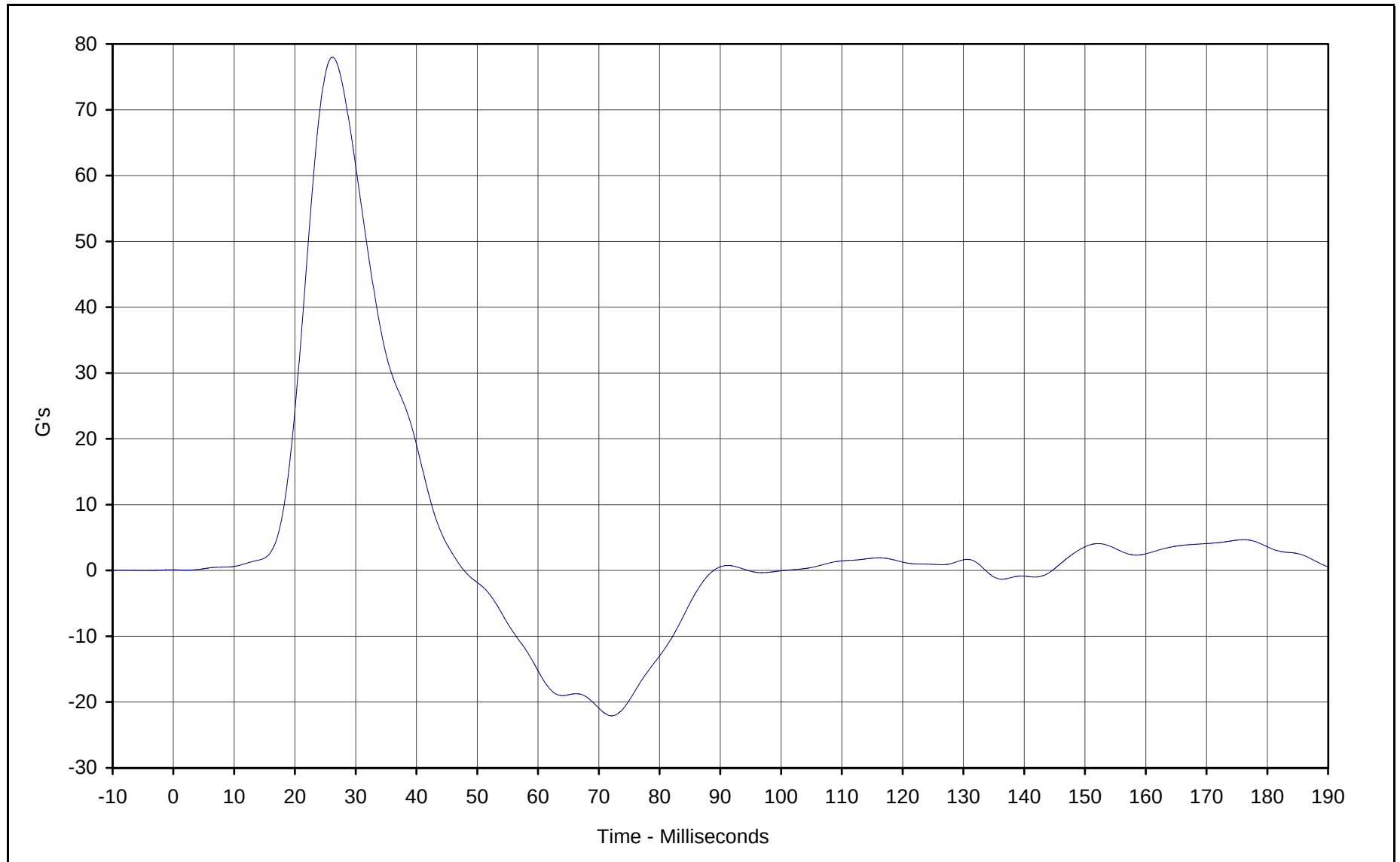




Curve Description: Driver Lower Spine Redundant Y
Maximum Value: 78.9 at 30.3 Milliseconds
Minimum Value: -20.9 at 72.7 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00
Curve Number: FIR-010

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

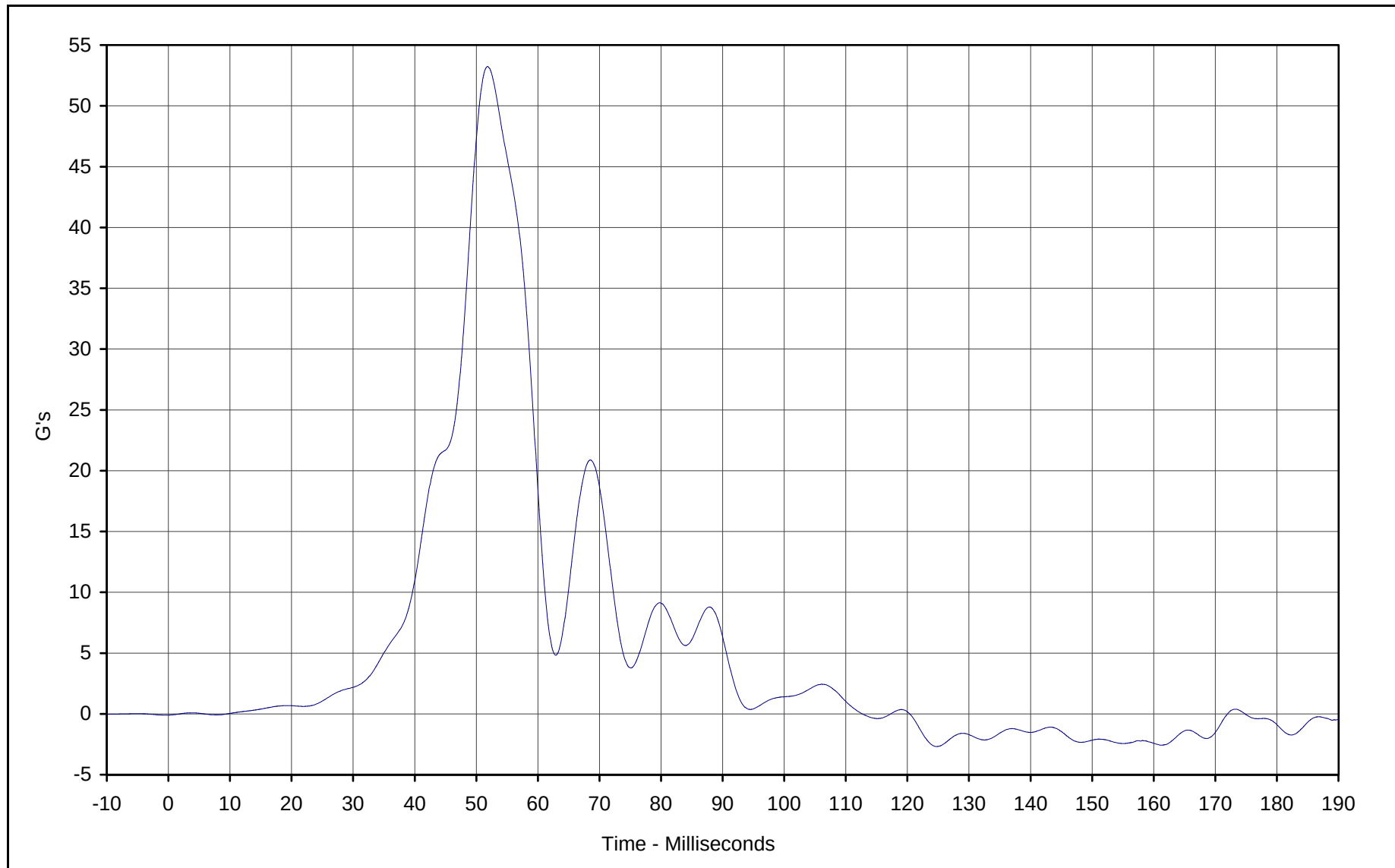




Curve Description: Driver Pelvis Redundant Y
Maximum Value: 78.0 at 26.2 Milliseconds
Minimum Value: -22.1 at 72.1 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00
Curve Number: FIR-011

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

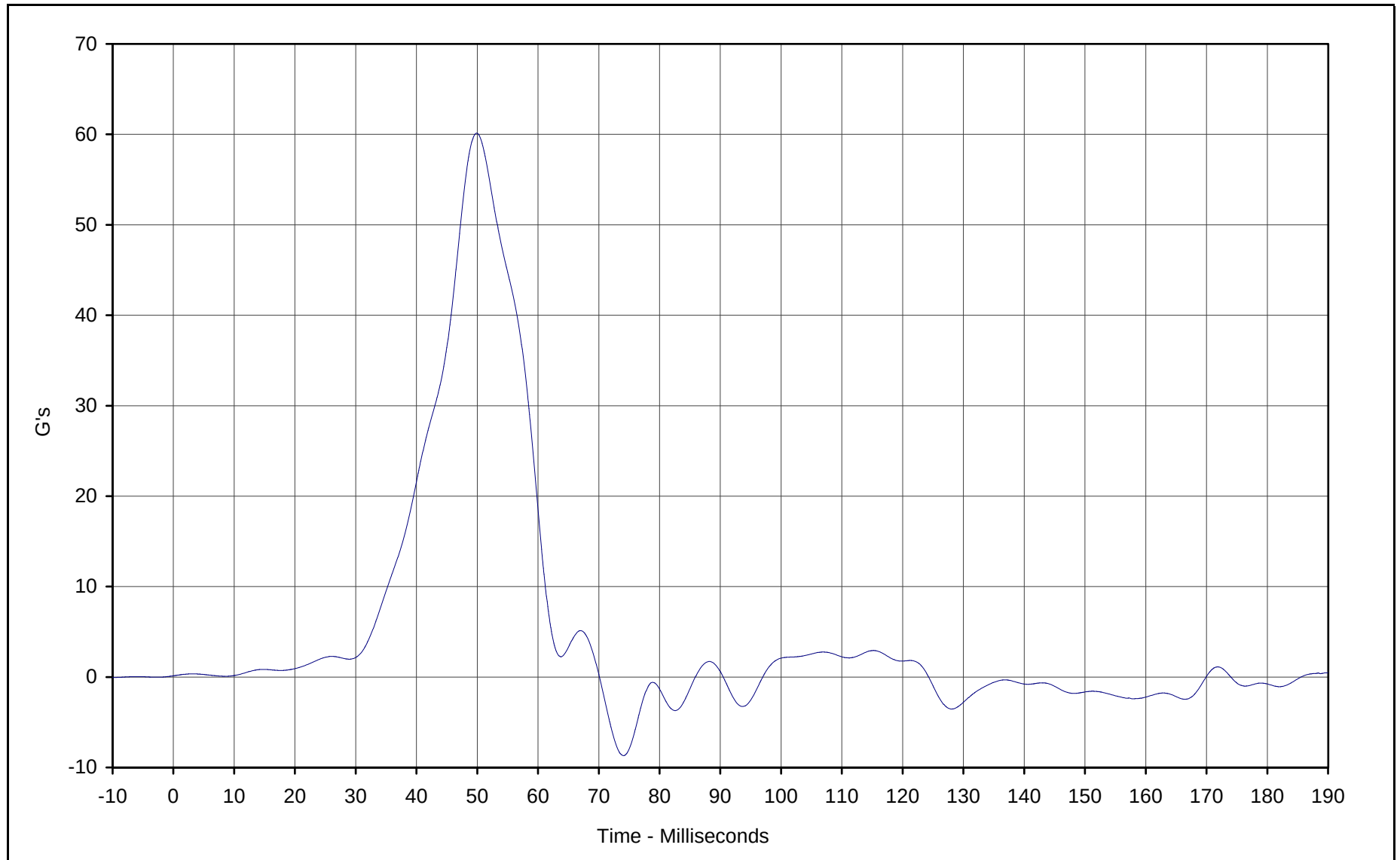




Curve Description: Pass. Upper Rib Primary Y
Maximum Value: 53.2 at 51.8 Milliseconds
Minimum Value: -2.7 at 124.8 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00
Curve Number: FIR-017

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

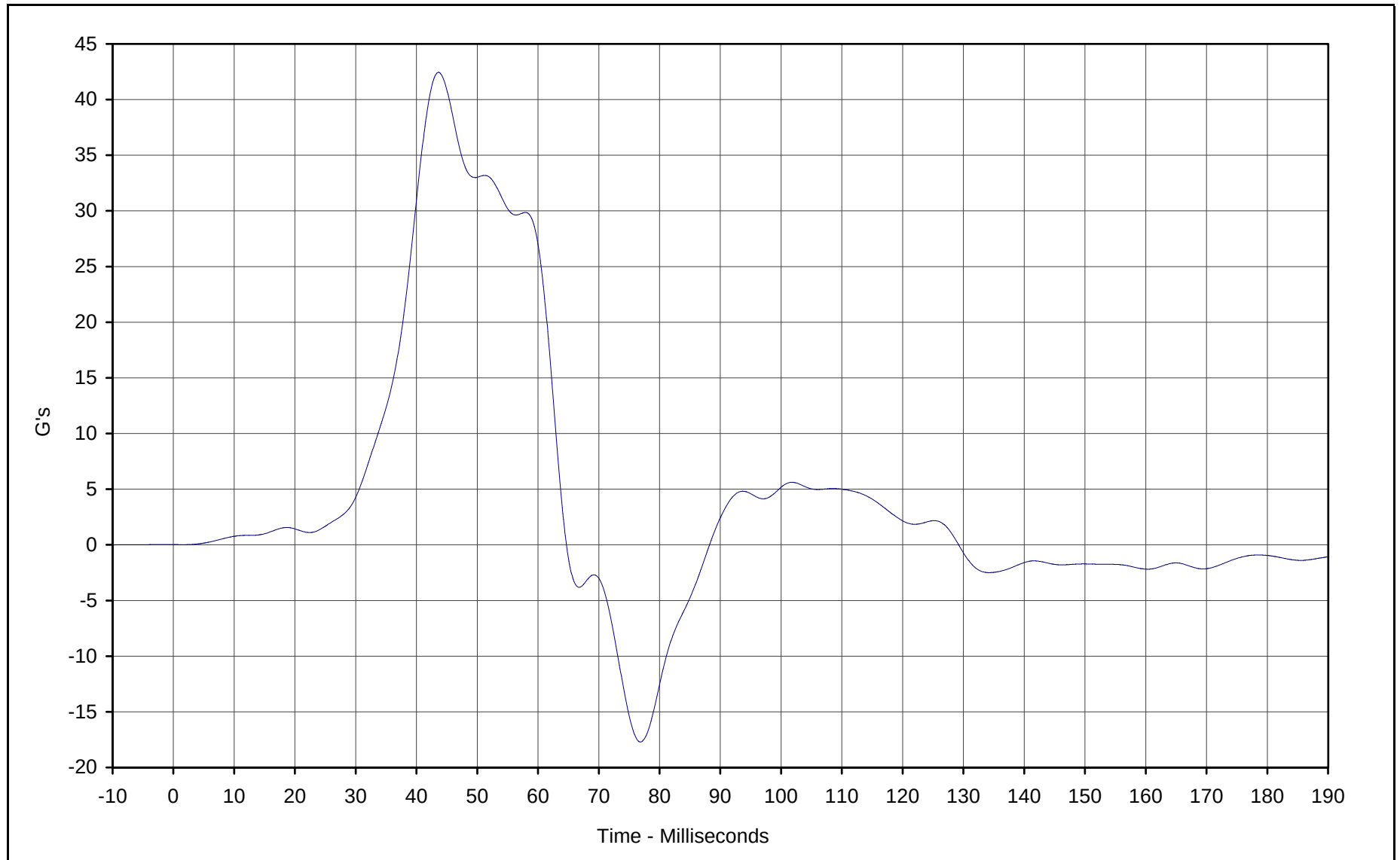




Curve Description: Pass. Lower Rib Primary Y
Maximum Value: 60.1 at 49.9 Milliseconds
Minimum Value: -8.7 at 74.1 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00
Curve Number: FIR-018

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

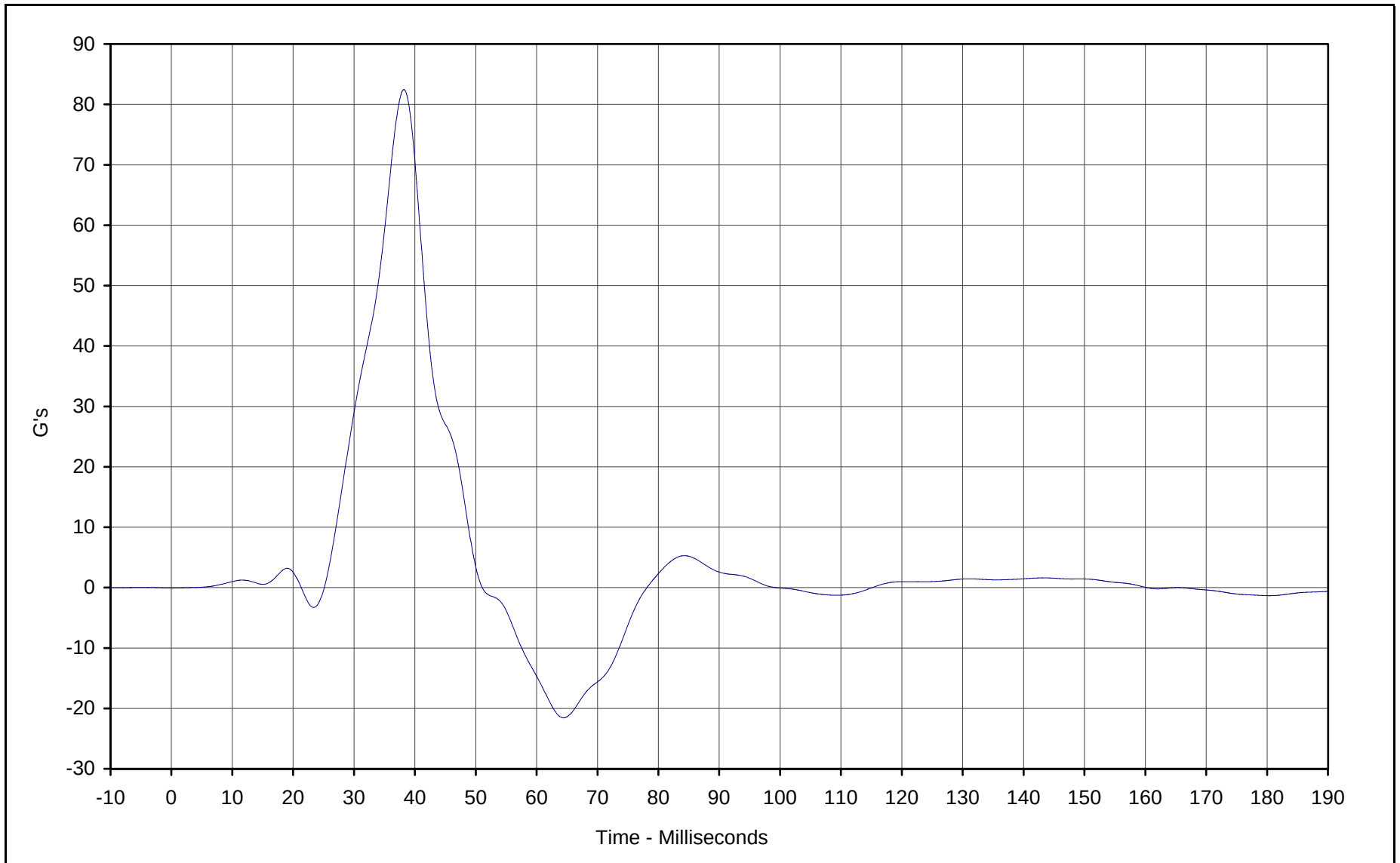




Curve Description: Pass. Lower Spine Primary Y
Maximum Value: 42.5 at 43.6 Milliseconds
Minimum Value: -17.7 at 76.8 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00
Curve Number: FIR-019

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

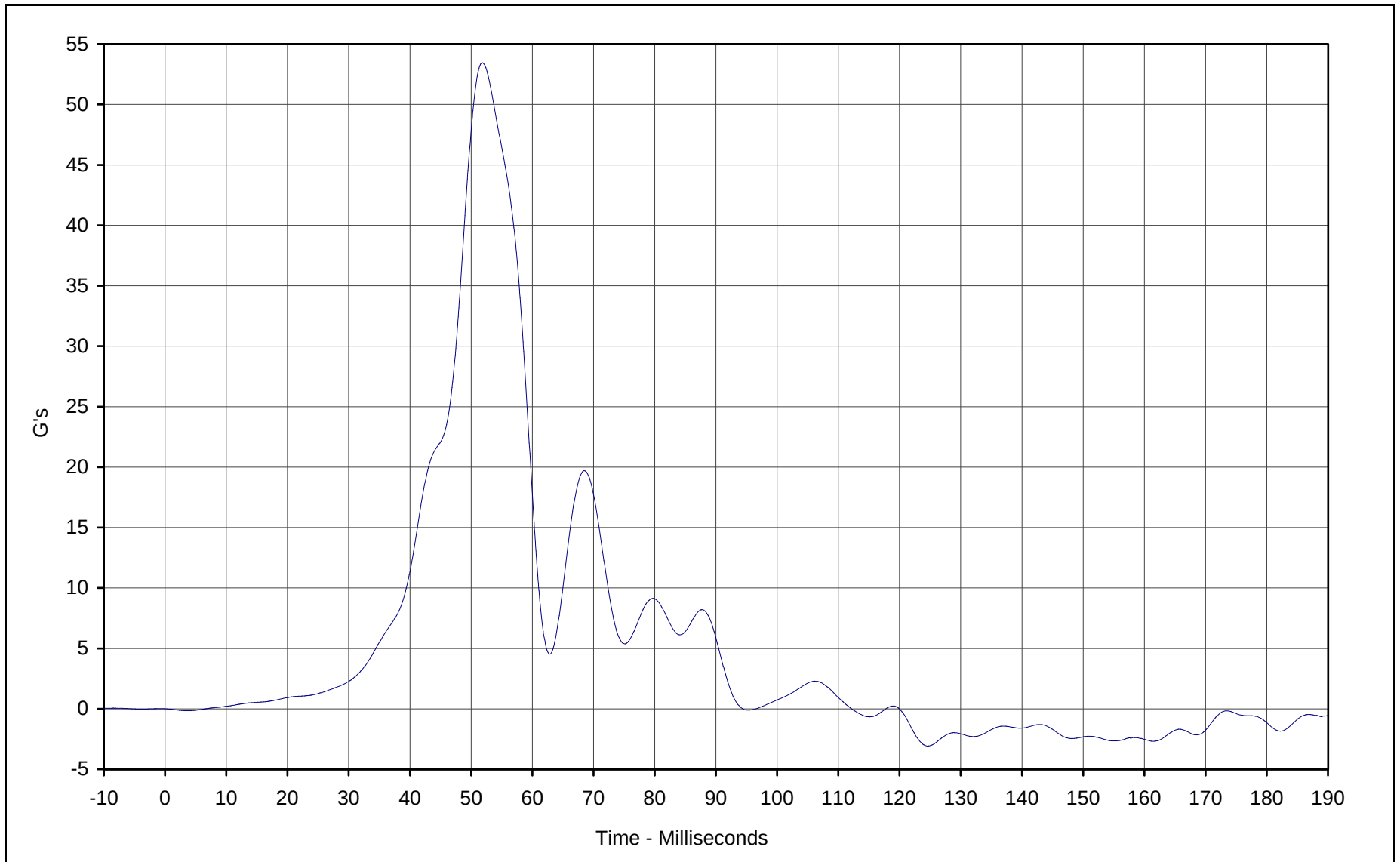




Curve Description: Pass. Pelvis Primary Y
Maximum Value: 82.5 at 38.2 Milliseconds
Minimum Value: -21.6 at 64.4 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00
Curve Number: FIR-020

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

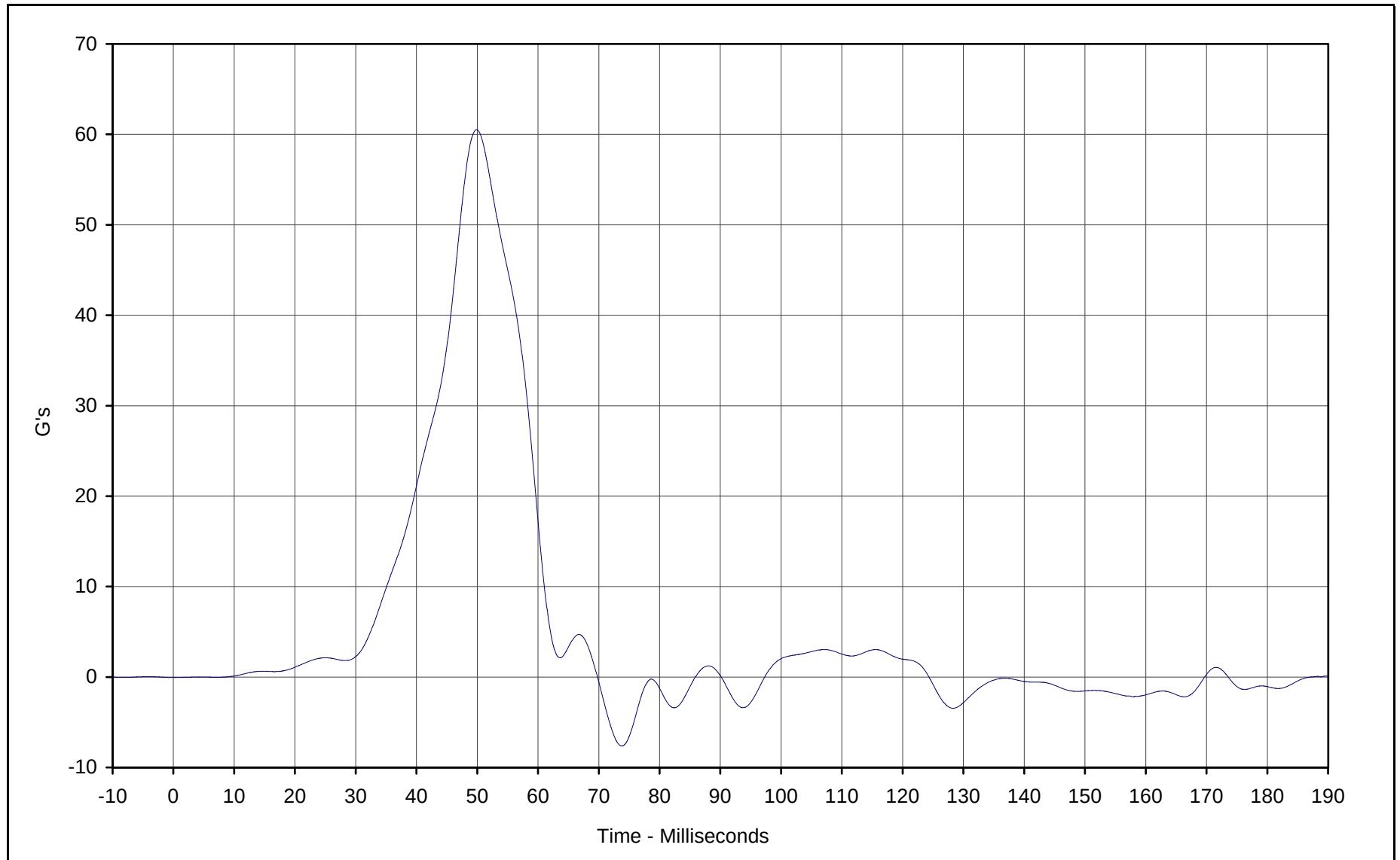




Curve Description: Pass. Upper Rib Redundant Y
Maximum Value: 53.4 at 51.8 Milliseconds
Minimum Value: -3.1 at 124.6 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00
Curve Number: FIR-021

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

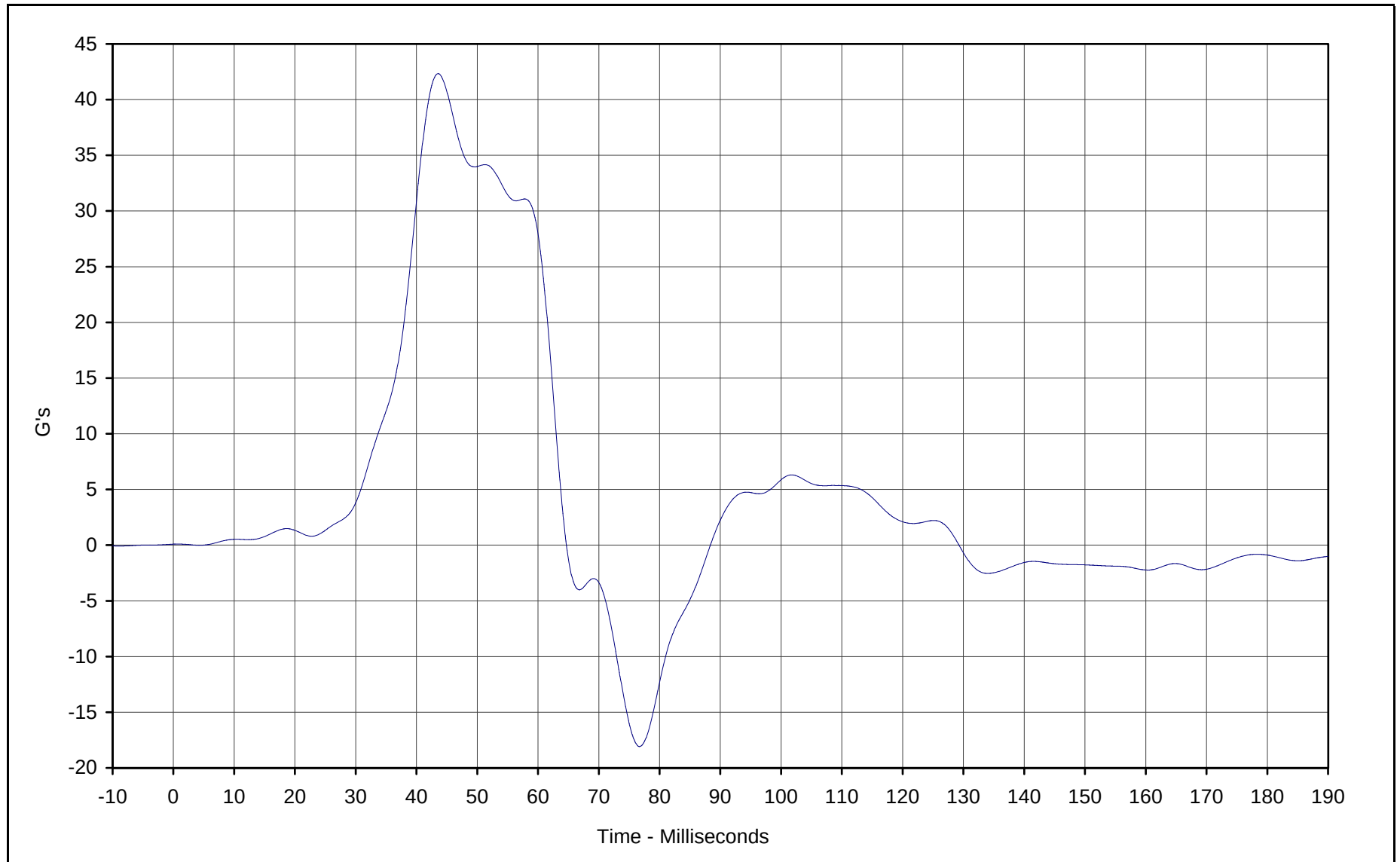




Curve Description: Pass. Lower Rib Redundant Y
Maximum Value: 60.5 at 49.9 Milliseconds
Minimum Value: -7.6 at 73.8 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00
Curve Number: FIR-022

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan

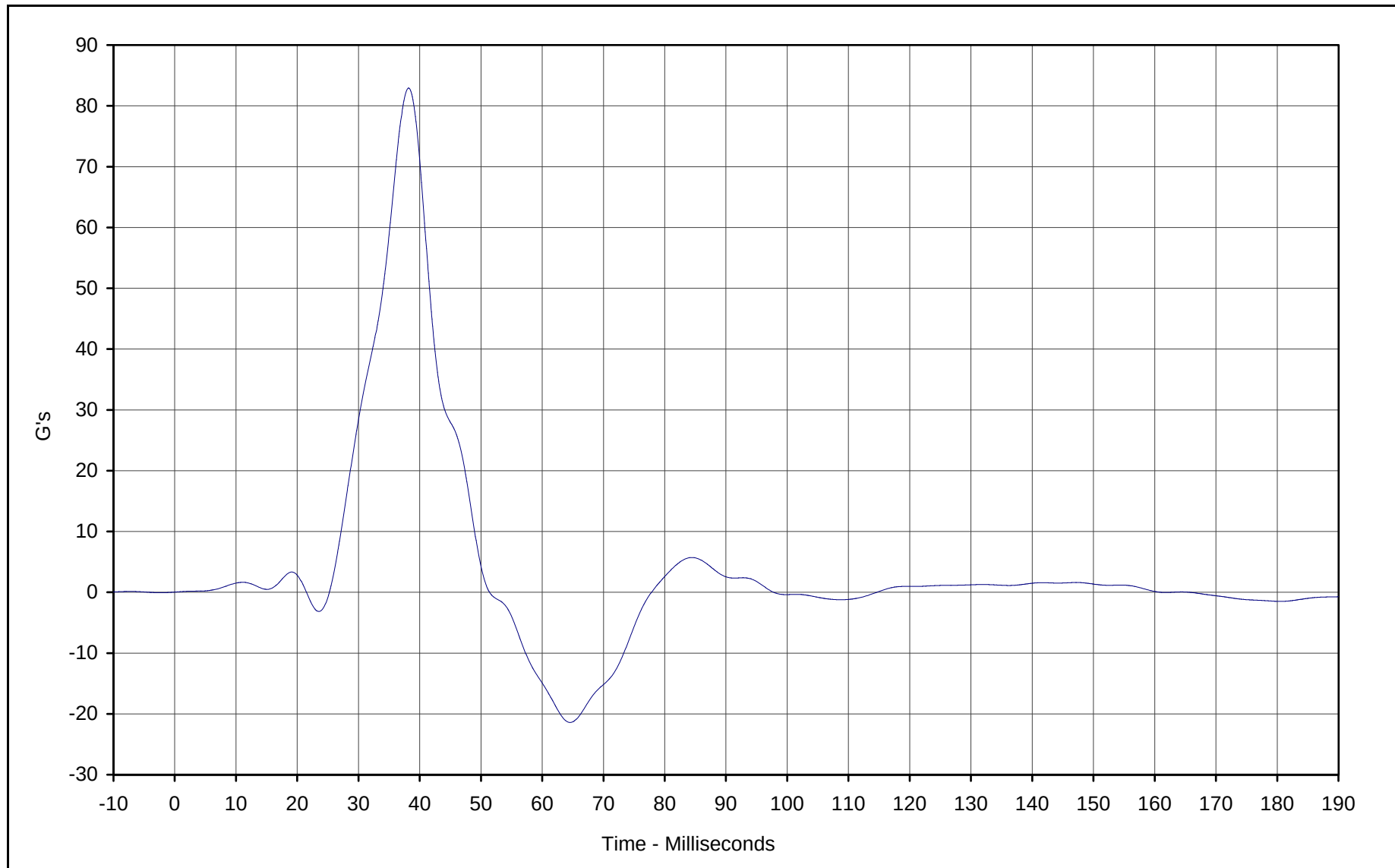




Curve Description: Pass. Lower Spine Redundant Y
Maximum Value: 42.3 at 43.6 Milliseconds
Minimum Value: -18.1 at 76.7 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00
Curve Number: FIR-023

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan





Curve Description: Pass. Pelvis Redundant Y
Maximum Value: 82.9 at 38.2 Milliseconds
Minimum Value: -21.4 at 64.6 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00
Curve Number: FIR-024

Test Program: 55/28 km/h Side Impact NCAP No.: M10210
Test Vehicle: 2001 Lincoln LS 4 Door Sedan



APPENDIX C
SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA

APPENDIX C
PRE-TEST SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA



Performance Verification Data Side Impact Dummy (SID) External Dimensions

ATD Serial No.: 274

Part Serial No.: N/A

Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	21.1	Pass
Laboratory relative humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	906	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	515	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	520	Pass
KV- Knee Pivot From Floor	mm	490 to 505	500	Pass
HW- Hip Width	mm	356 to 391	365	Pass
Overall Test Results				Pass

Laboratory Technician

December 17, 2000

Test Date

Approved By

Date



Performance Verification Data Side Impact Dummy (SID) Thorax Lateral Impact

ATD Serial No.: 274

Part Serial No.: N/A

Test I.D.: TI12C

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.24	Pass
Left Upper Rib Acceleration	G's	37.0 to 46.0	39.7	Pass
Left Lower Rib Acceleration	G's	37.0 to 46.0	39.7	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	18.8	Pass
Overall Test Results				Pass

Laboratory Technician

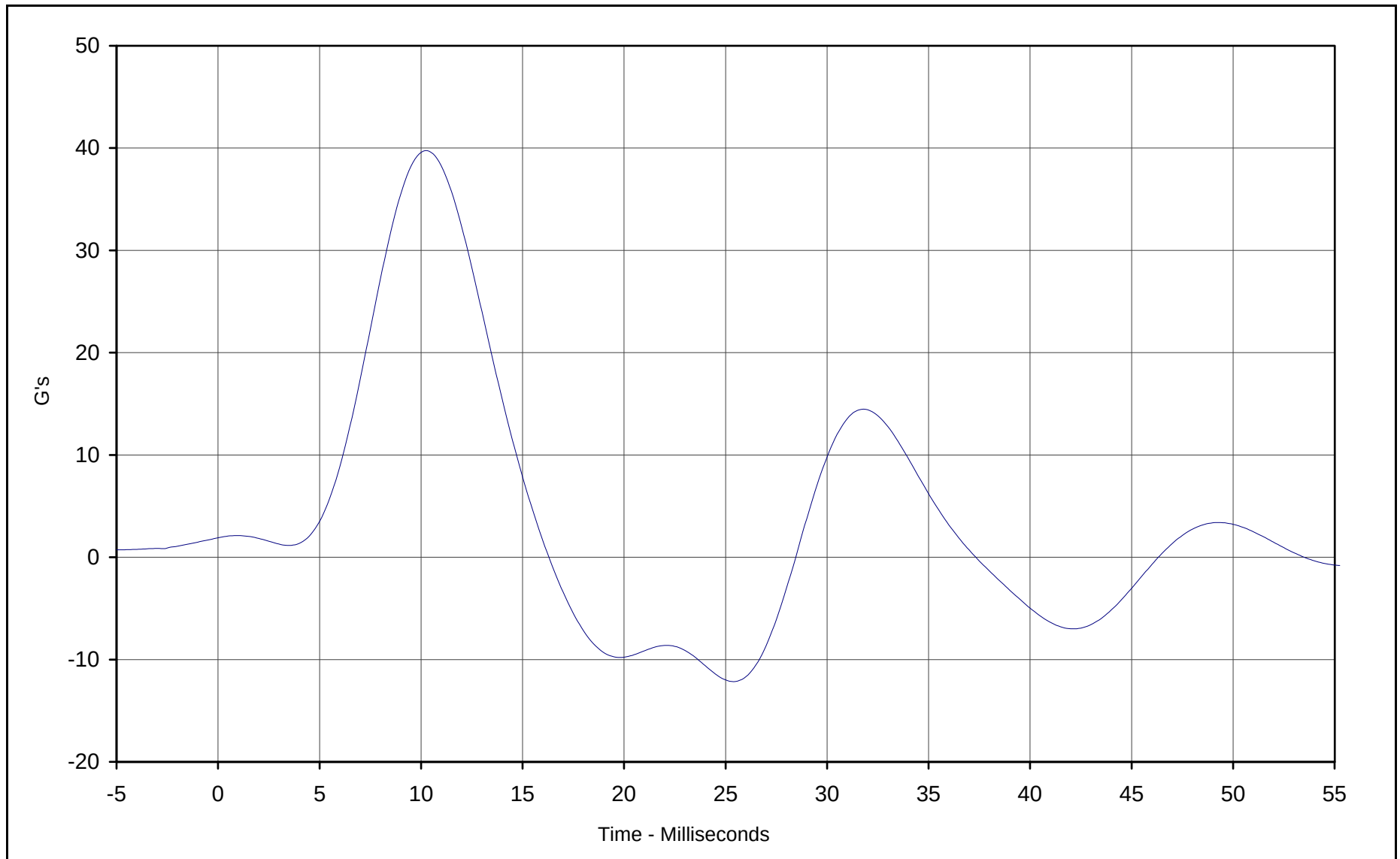
December 15, 2000

Test Date

Approved By

Date

C-3



Curve Description: Left Upper Rib Y Acceleration

Maximum Value: 39.7 at 10.2 Milliseconds

Minimum Value: -12.2 at 25.4 Milliseconds

SAE Filter Class: FIR 100

Date of Test: 12/15/00

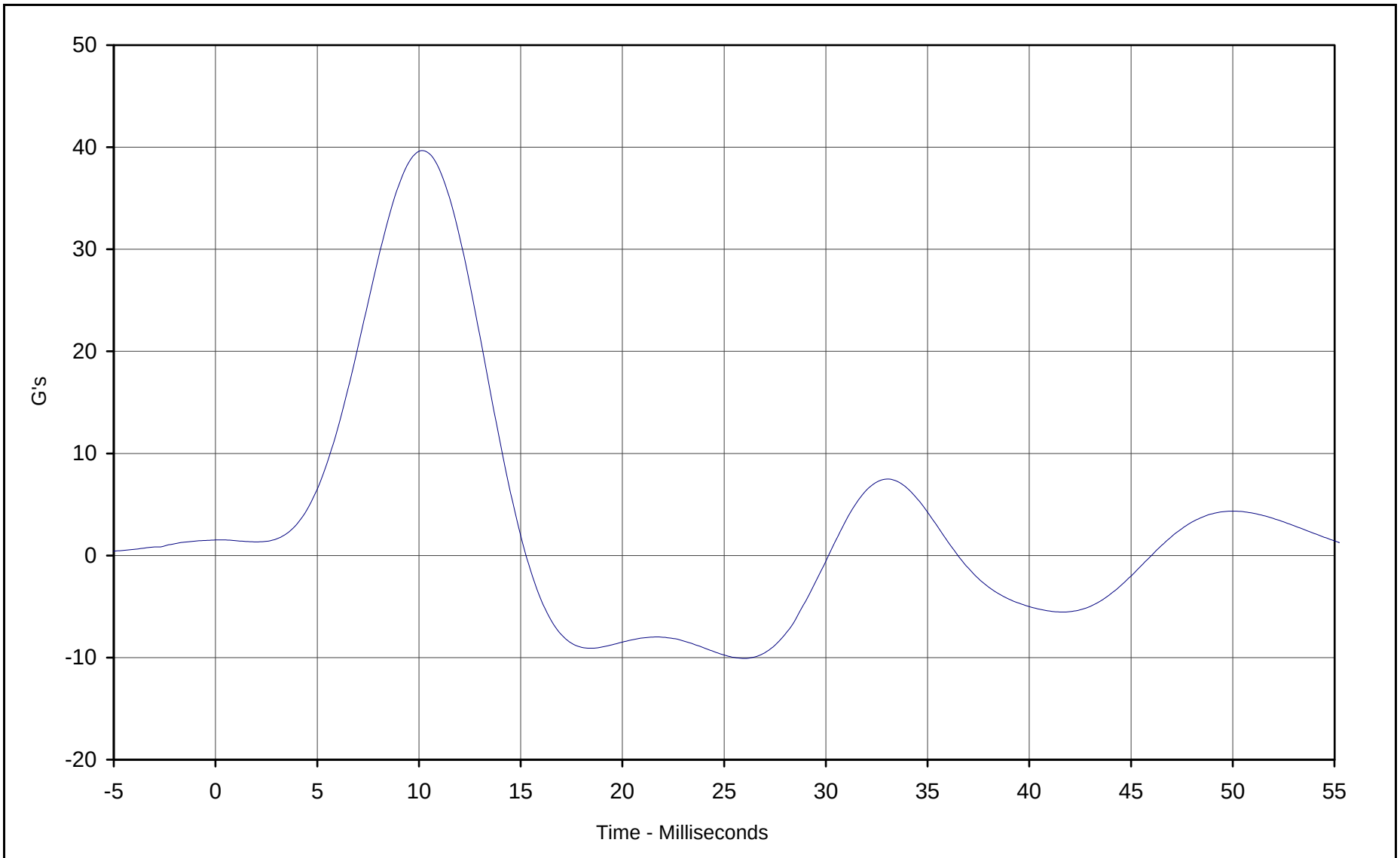
Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 274 Test I.D.: TI12C



KAR21003-06

C-4



Curve Description: Left Lower Rib Y Acceleration

Maximum Value: 39.7 at 10.2 Milliseconds

Minimum Value: -10.1 at 25.9 Milliseconds

SAE Filter Class: FIR 100

Date of Test: 12/15/00

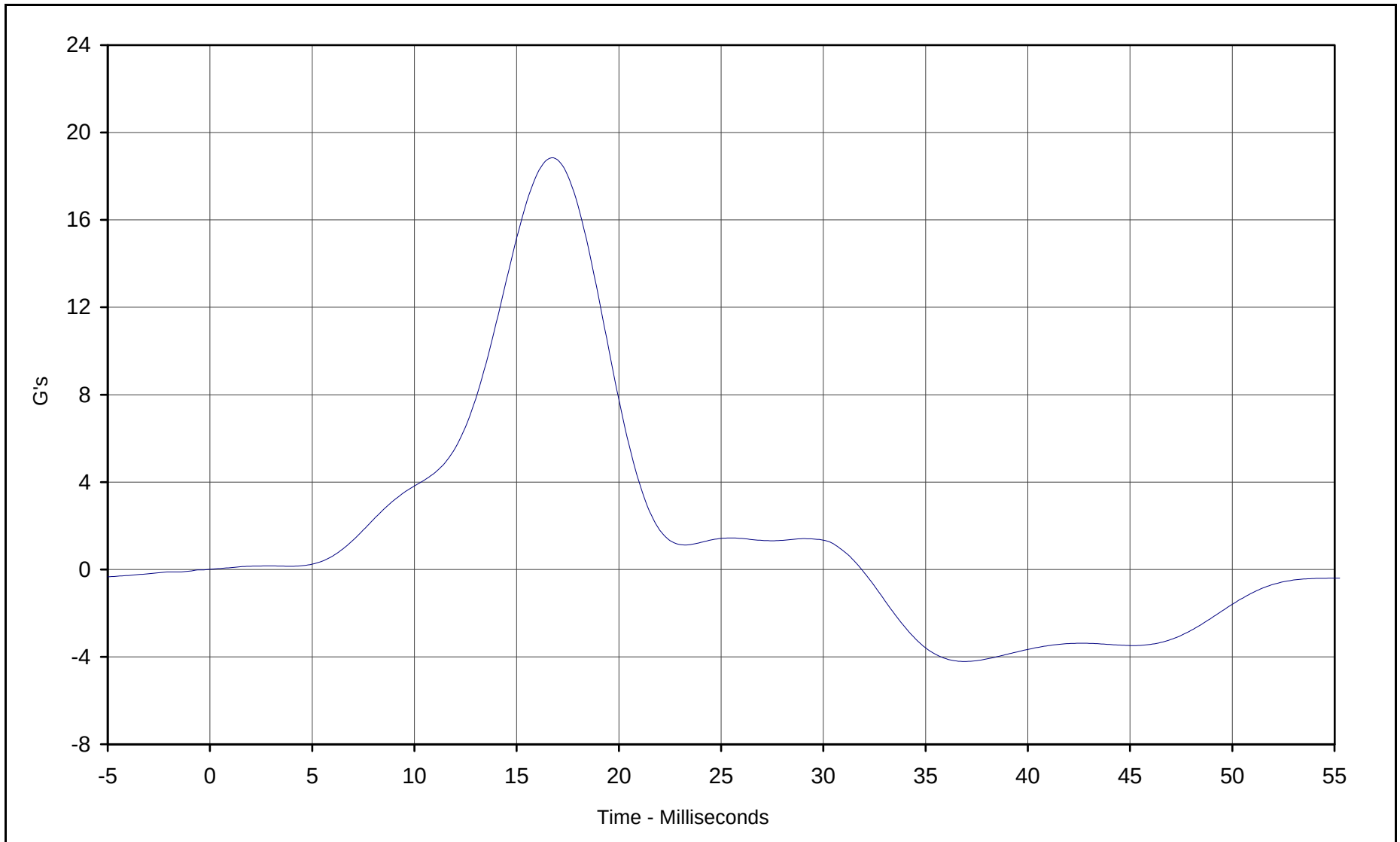
Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 274 Test I.D.: TI12C



KAR21003-06

C-5



Curve Description: Lower Spine Y Acceleration
Maximum Value: 18.8 at 16.7 Milliseconds
Minimum Value: -4.2 at 36.9 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/15/00

Test Program: SID Thorax Lateral Impact Test
Test Information: SID S/N: 274 Test I.D.: TI12C



KAR21003-06



Performance Verification Data Side Impact Dummy (SID) Left Side Pelvis Lateral Impact

ATD Serial No.: 274

Part Serial No.: N/A

Test I.D.: PI12C

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.30	Pass
Pelvis Acceleration	G's	40.0 to 60.0	53.9	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0 Msec.	6.0	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

Laboratory Technician

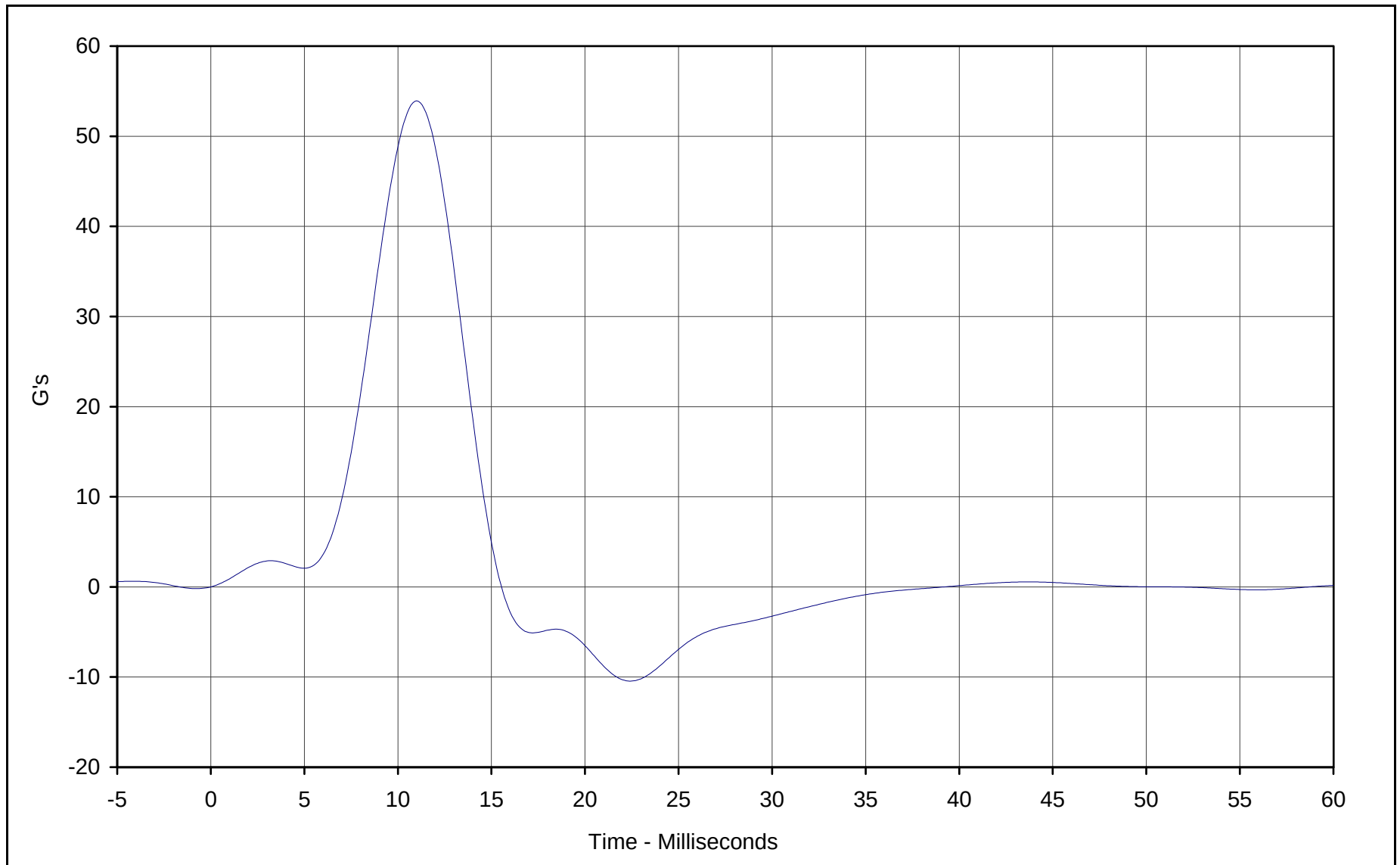
December 15, 2000

Test Date

Approved By

Date

C-7



Curve Description: Pelvis Y Axis Acceleration
Maximum Value: 53.9 at 11.0 Milliseconds
Minimum Value: -10.5 at 22.4 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/15/00

Test Program: SID Left Side Pelvis Lateral Impact
Test Information: SID S/N: 274 Test I.D.: PI12C



KAR21003-06



Performance Verification Data Side Impact Dummy (SID) Abdominal Compression Test

ATD Serial No.: 274

Part Serial No.: N/A

Test I.D.: AB12I

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Force at 0.5 Inches of Displacement	Pounds	23.0 to 36.0	28.4	Pass
Force at 0.75 Inches of Displacement	Pounds	36.0 to 50.0	43.6	Pass
Force at 1.0 Inches of Displacement	Pounds	50.0 to 63.0	61.0	Pass
Force at 1.3 Inches of Displacement	Pounds	73.0 to 88.0	86.5	Pass
Overall Test Results				Pass

Laboratory Technician

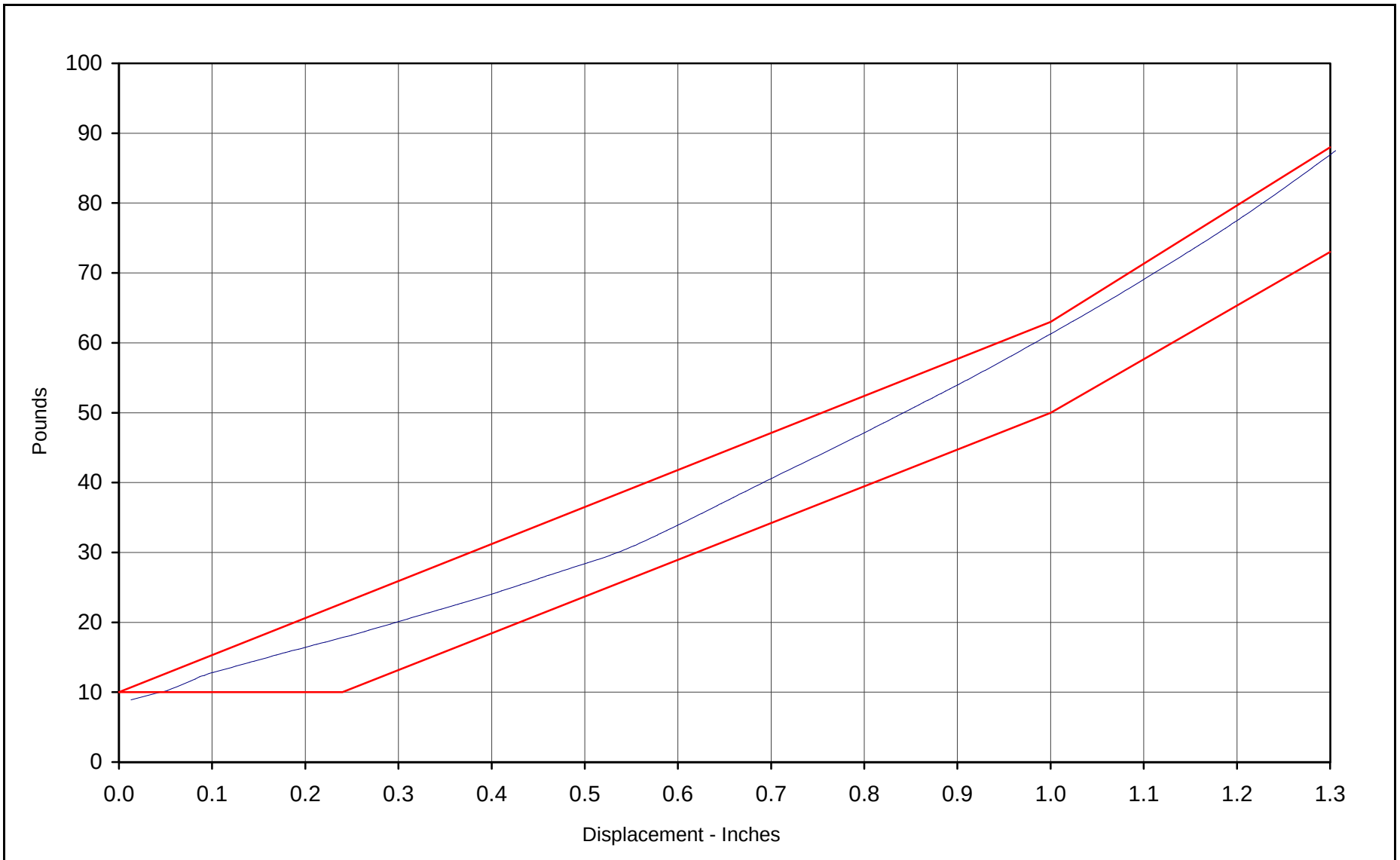
December 16, 2000

Test Date

Approved By

Date

C-9



Curve Description: Abdomen Force vs. Displacement

Force at 0.5 In.: 28.4 Pounds

Force at 0.75 In.: 43.6 Pounds

Force at 1.0 In.: 61.0 Pounds

Force at 1.3 In.: 86.5 Pounds

Date of Test: 12/16/00

Test Program: SID Abdominal Compression

Test Information: SID S/N: 274 Test I.D.: AB12I



KAR21003-06



Performance Verification Data Side Impact Dummy (SID) Head Drop Calibration

ATD Serial No.: 274

Part Serial No.: N/A

Test I.D.: HD12I

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	69	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	210.0 to 260.0	242.9	Pass
Peak Lateral Acceleration	G's	≤10.0	7.6	Pass
Time Above 100 G's	Msec.	0.9 to 1.5	1.1	Pass
Is Resultant Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

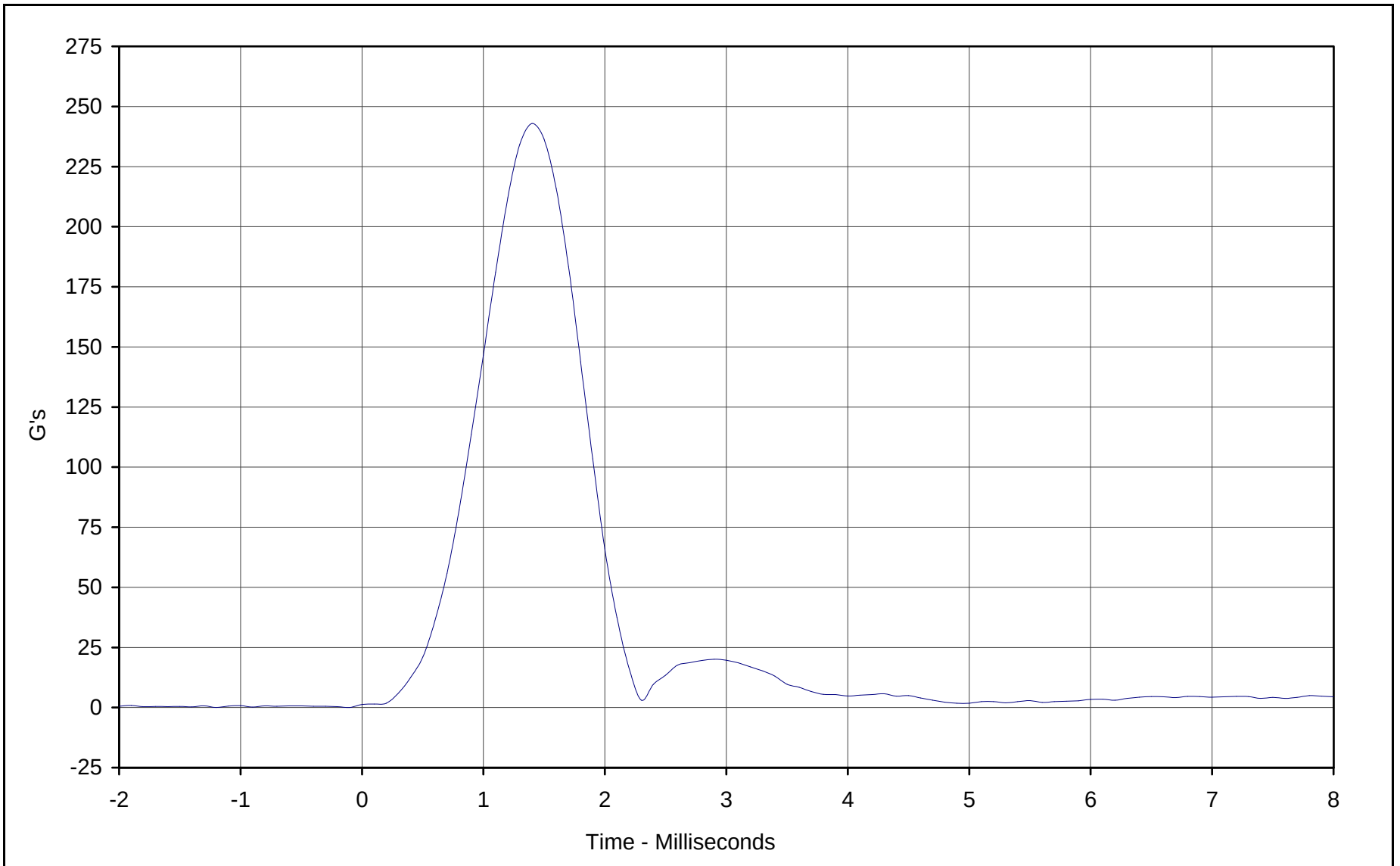
Laboratory Technician

December 16, 2000

Test Date

Approved By

Date

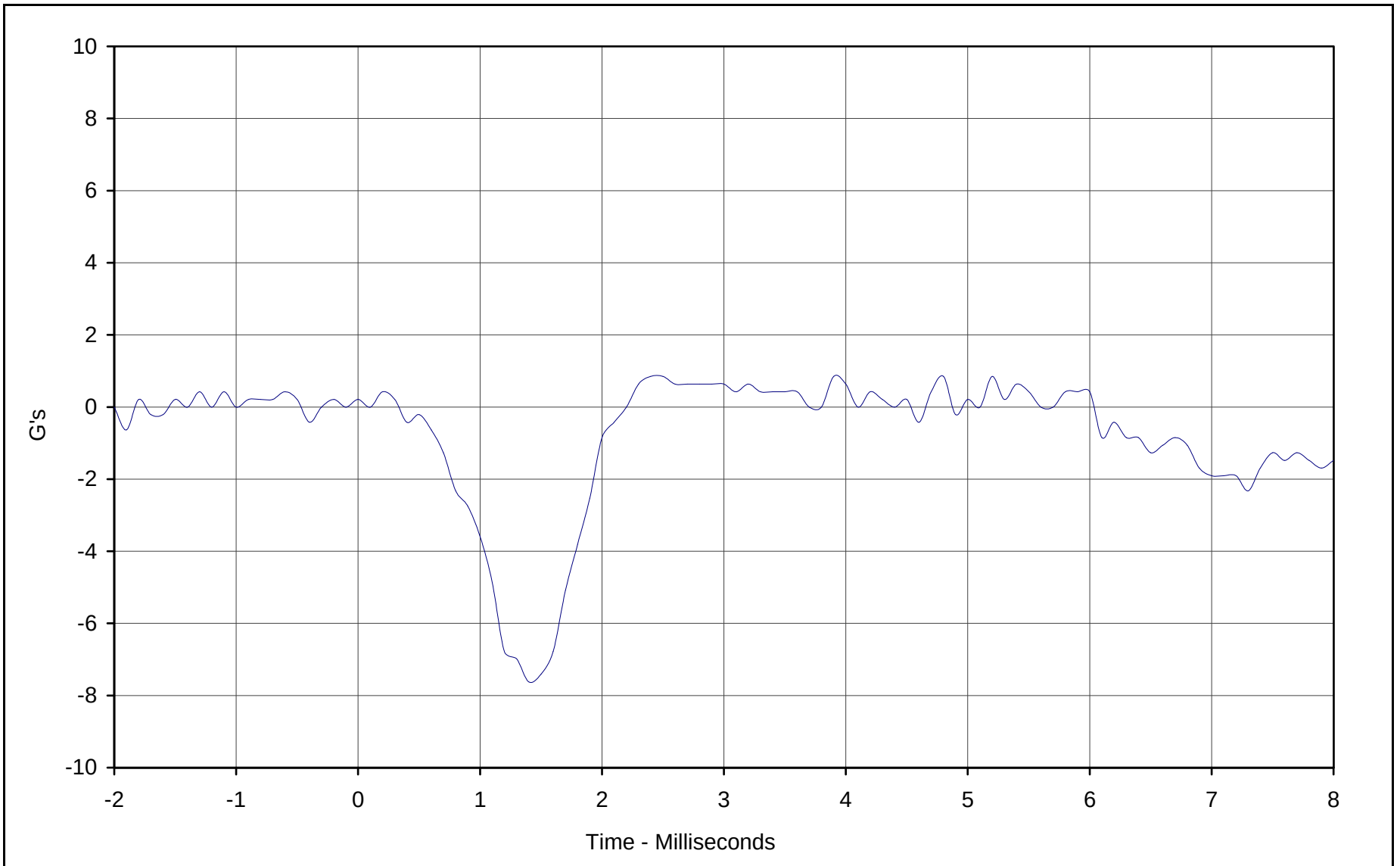


Curve Description: Head Resultant Acceleration
Maximum Value: 242.9 at 1.4 Milliseconds
Minimum Value: 1.3 at 0.0 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/16/00

Test Program: SID Head Drop Calibration
Test Information: SID S/N: 274 Test I.D.: HD12I



C-12



Curve Description: Head Y Axis Acceleration
Maximum Value: 0.8 at 2.4 Milliseconds
Minimum Value: -7.6 at 1.4 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/16/00

Test Program: SID Head Drop Calibration
Test Information: SID S/N: 274 Test I.D.: HD12I



KAR21003-06



Performance Verification Data Side Impact Dummy (SID) External Dimensions

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	21.1	Pass
Laboratory relative humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	907	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	510	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	515	Pass
KV- Knee Pivot From Floor	mm	490 to 505	500	Pass
HW- Hip Width	mm	356 to 391	360	Pass
Overall Test Results				Pass

Laboratory Technician

December 17, 2000

Test Date

Approved By

Date



Performance Verification Data Side Impact Dummy (SID) Thorax Lateral Impact

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: TI12D

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.28	Pass
Left Upper Rib Acceleration	G's	37.0 to 46.0	39.2	Pass
Left Lower Rib Acceleration	G's	37.0 to 46.0	38.8	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	18.5	Pass
Overall Test Results				Pass

Laboratory Technician

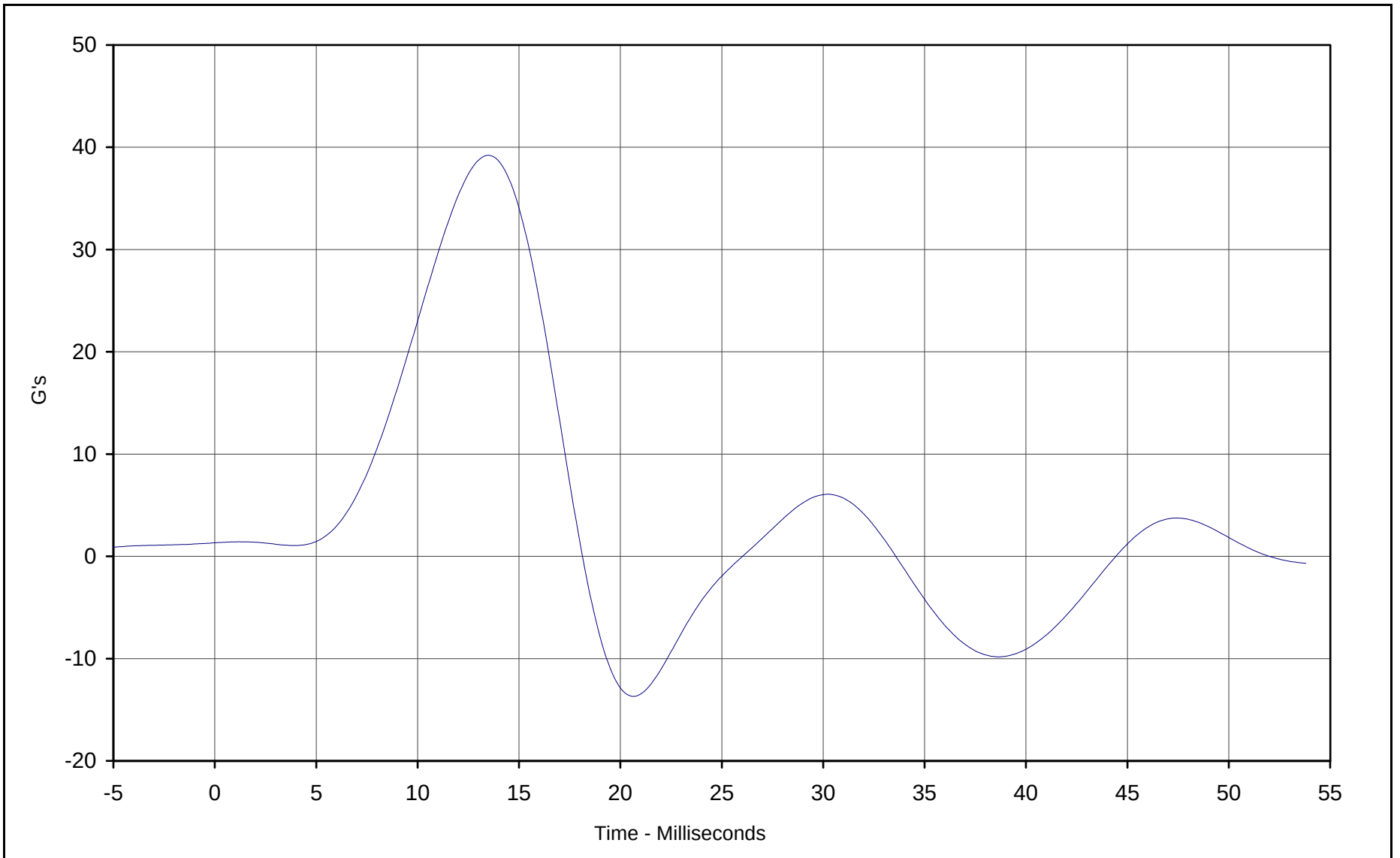
December 15, 2000

Test Date

Approved By

Date

C-15



Curve Description: Left Upper Rib Y Acceleration

Maximum Value: 39.2 at 13.5 Milliseconds

Minimum Value: -13.7 at 20.6 Milliseconds

SAE Filter Class: FIR 100

Date of Test: 12/15/00

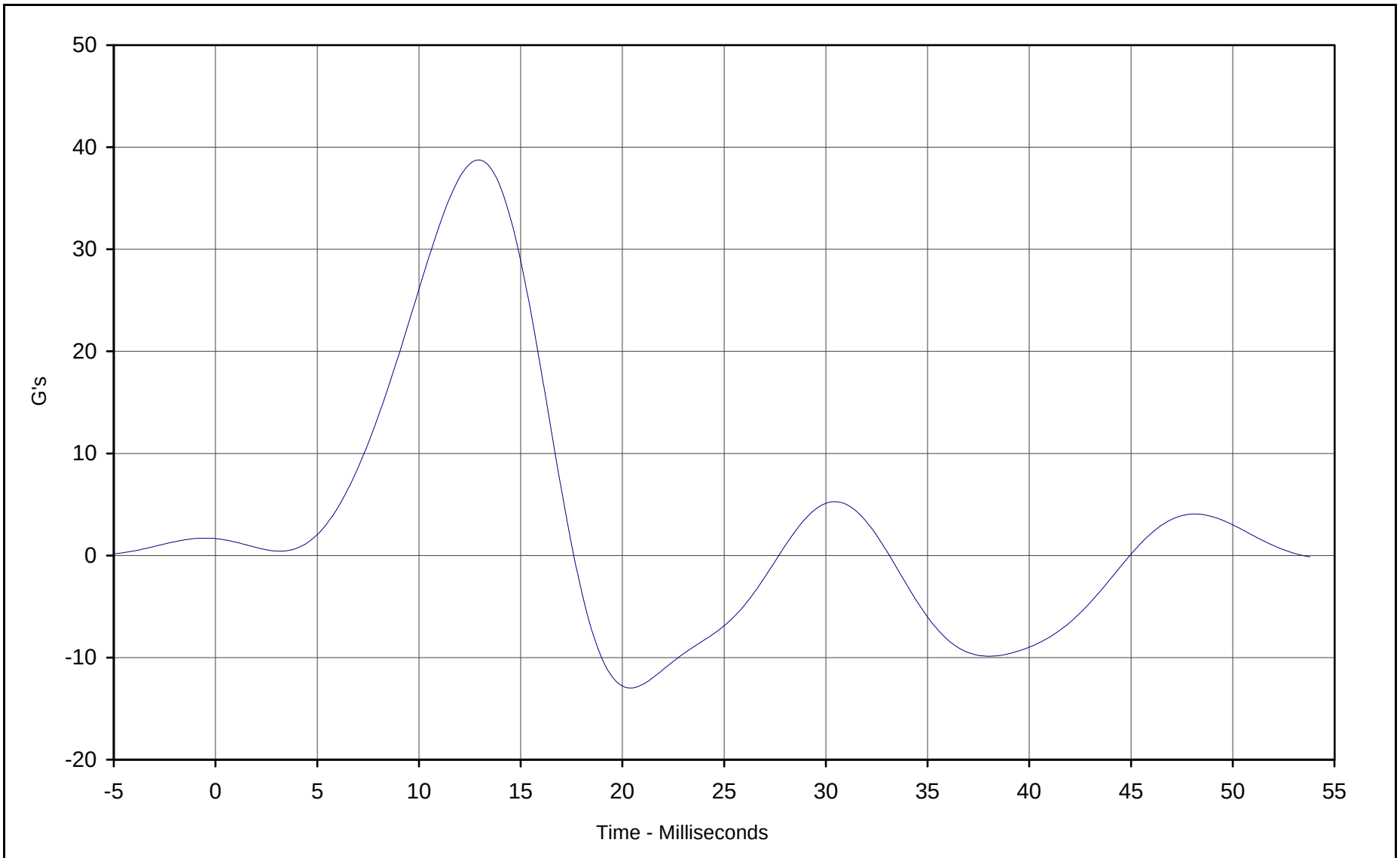
Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 275 Test I.D.: TI12D



KAR21003-06

C-16



Curve Description: Left Lower Rib Y Acceleration

Maximum Value: 38.8 at 12.9 Milliseconds

Minimum Value: -13.0 at 20.4 Milliseconds

SAE Filter Class: FIR 100

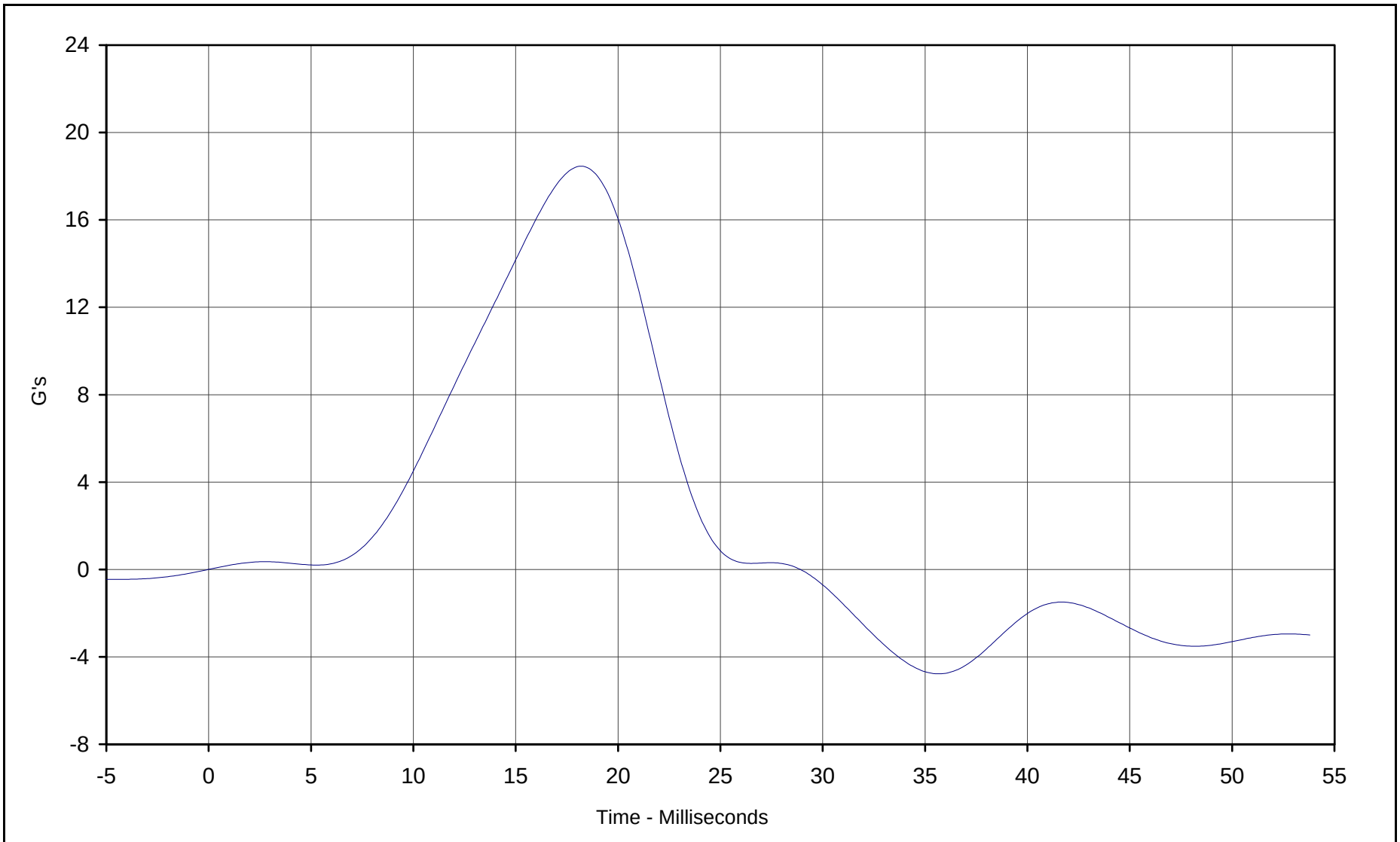
Date of Test: 12/15/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 275 Test I.D.: TI12D



KAR21003-06



Curve Description: Lower Spine Y Acceleration
Maximum Value: 18.5 at 18.2 Milliseconds
Minimum Value: -4.8 at 35.7 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/15/00

Test Program: SID Thorax Lateral Impact Test
Test Information: SID S/N: 275 Test I.D.: TI12D





Performance Verification Data Side Impact Dummy (SID) Left Side Pelvis Lateral Impact

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: PI12D

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.25	Pass
Pelvis Acceleration	G's	40.0 to 60.0	54.7	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0 Msec.	5.9	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

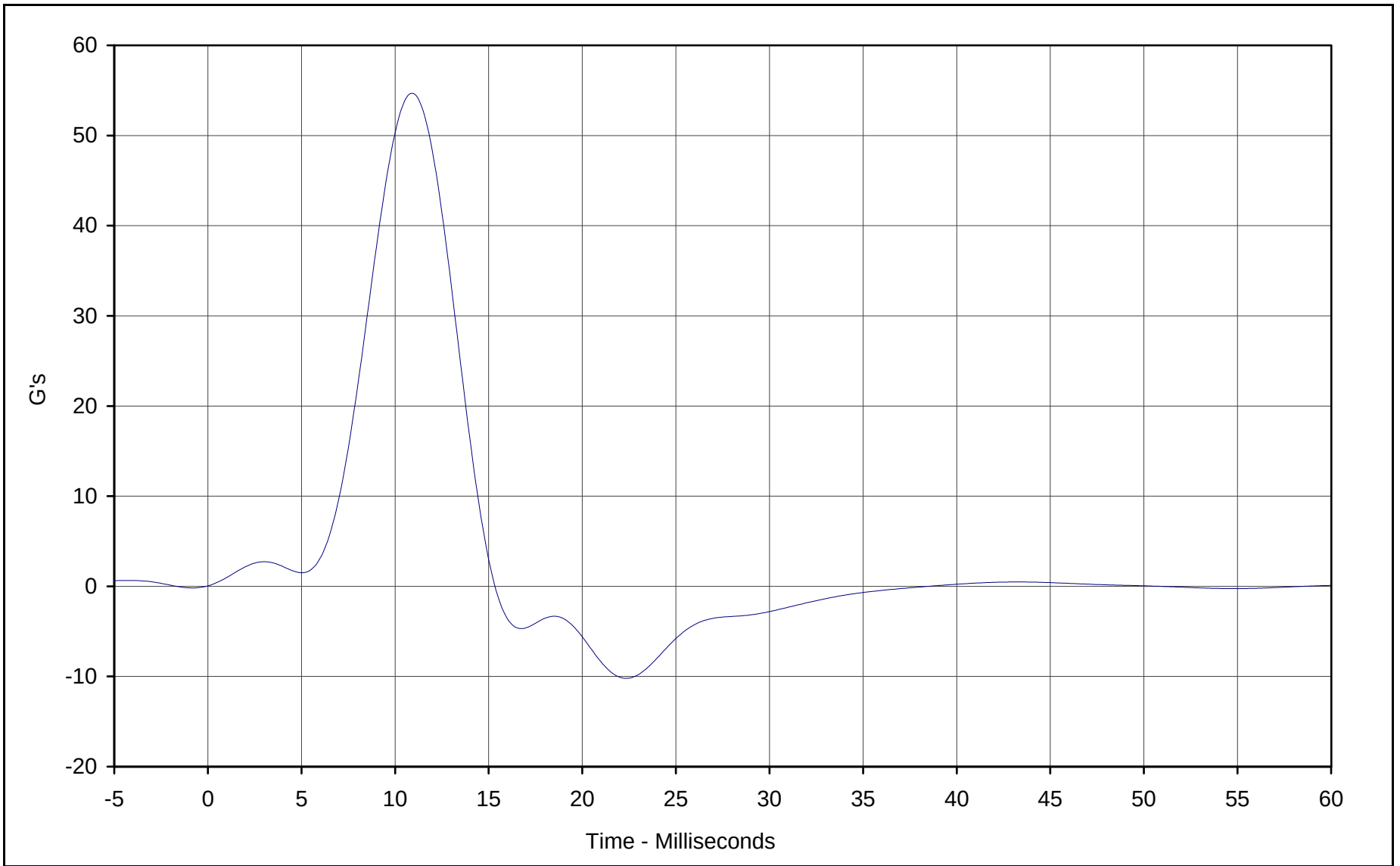
Laboratory Technician

December 15, 2000

Test Date

Approved By

Date



Curve Description: Pelvis Y Axis Acceleration
Maximum Value: 54.7 at 10.9 Milliseconds
Minimum Value: -10.2 at 22.3 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/15/00

Test Program: SID Left Side Pelvis Lateral Impact
Test Information: SID S/N: 275 Test I.D.: PI12D





Performance Verification Data Side Impact Dummy (SID) Abdominal Compression Test

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: AB12J

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Force at 0.5 Inches of Displacement	Pounds	23.0 to 36.0	29.0	Pass
Force at 0.75 Inches of Displacement	Pounds	36.0 to 50.0	43.2	Pass
Force at 1.0 Inches of Displacement	Pounds	50.0 to 63.0	60.0	Pass
Force at 1.3 Inches of Displacement	Pounds	73.0 to 88.0	83.7	Pass
Overall Test Results				Pass

Laboratory Technician

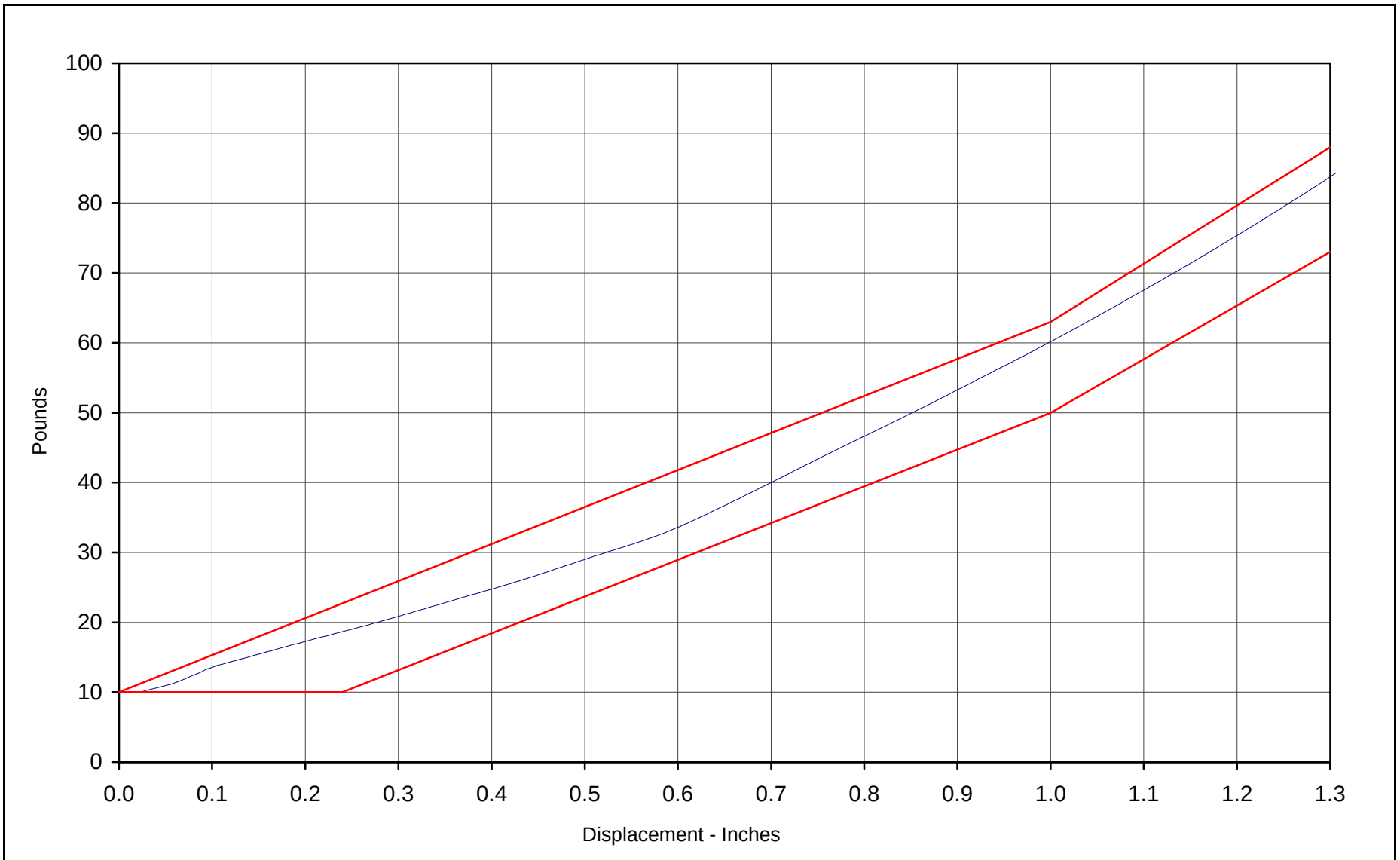
December 16, 2000

Test Date

Approved By

Date

C-21



Curve Description: Abdomen Force vs. Displacement

Force at 0.5 In.: 29.0 Pounds

Force at 0.75 In.: 43.2 Pounds

Force at 1.0 In.: 60.0 Pounds

Force at 1.3 In.: 83.7 Pounds

Date of Test: 12/16/00

Test Program: SID Abdominal Compression

Test Information: SID S/N: 275 Test I.D.: AB12J



KAR21003-06



Performance Verification Data Side Impact Dummy (SID) Head Drop Calibration

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: HD12J

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	69	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	210.0 to 260.0	223.5	Pass
Peak Lateral Acceleration	G's	≤10.0	7.0	Pass
Time Above 100 G's	Msec.	0.9 to 1.5	1.0	Pass
Is Resultant Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

Laboratory Technician

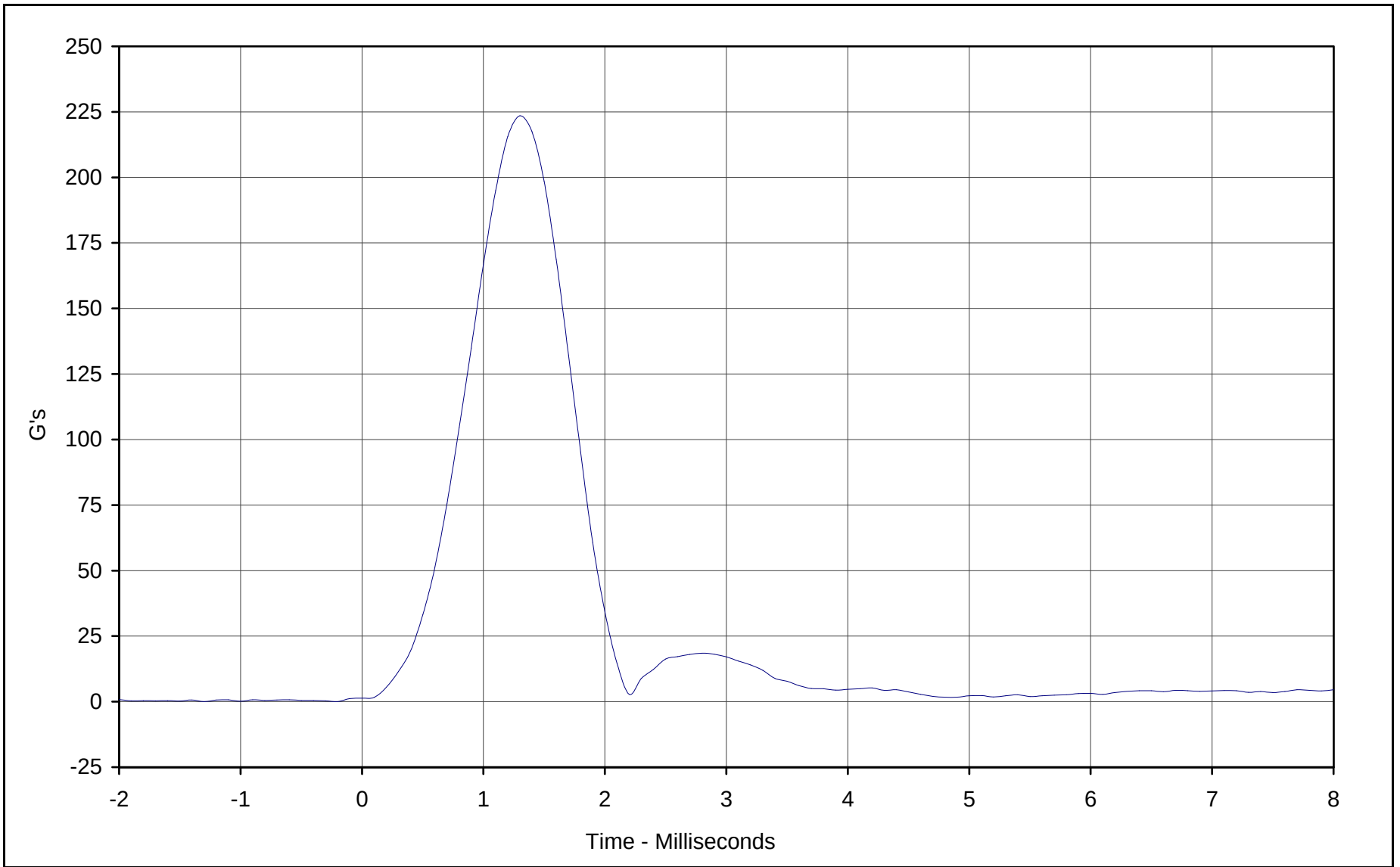
December 16, 2000

Test Date

Approved By

Date

C-23

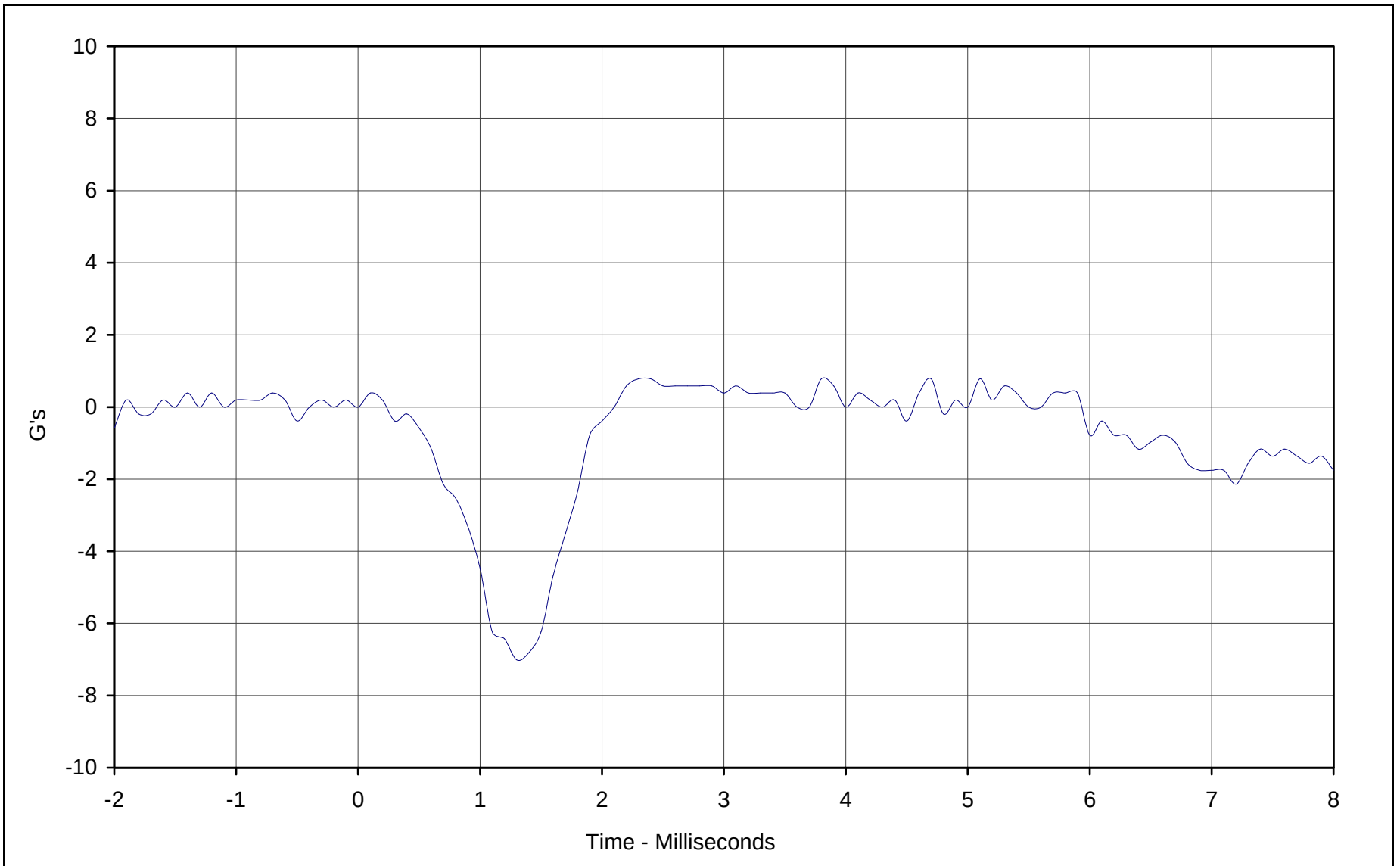


Curve Description: Head Resultant Acceleration
Maximum Value: 223.5 at 1.3 Milliseconds
Minimum Value: 1.3 at 0.0 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/16/00

Test Program: SID Head Drop Calibration
Test Information: SID S/N: 275 Test I.D.: HD12J



KAR21003-06



Curve Description: Head Y Axis Acceleration
Maximum Value: 0.8 at 2.3 Milliseconds
Minimum Value: -7.0 at 1.3 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/16/00

Test Program: SID Head Drop Calibration
Test Information: SID S/N: 275 Test I.D.: HD12J



APPENDIX C
POST-TEST SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA



Performance Verification Data Side Impact Dummy (SID) External Dimensions

ATD Serial No.: 274

Part Serial No.: N/A

Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	21.1	Pass
Laboratory relative humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	908	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	515	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	513	Pass
KV- Knee Pivot From Floor	mm	490 to 505	502	Pass
HW- Hip Width	mm	356 to 391	365	Pass
Overall Test Results				Pass

Laboratory Technician

December 19, 2000

Test Date

Approved By

Date



Performance Verification Data Side Impact Dummy (SID) Thorax Lateral Impact

ATD Serial No.: 274

Part Serial No.: N/A

Test I.D.: TI12E

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.33	Pass
Left Upper Rib Acceleration	G's	37.0 to 46.0	42.5	Pass
Left Lower Rib Acceleration	G's	37.0 to 46.0	42.6	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	19.1	Pass
Overall Test Results				Pass

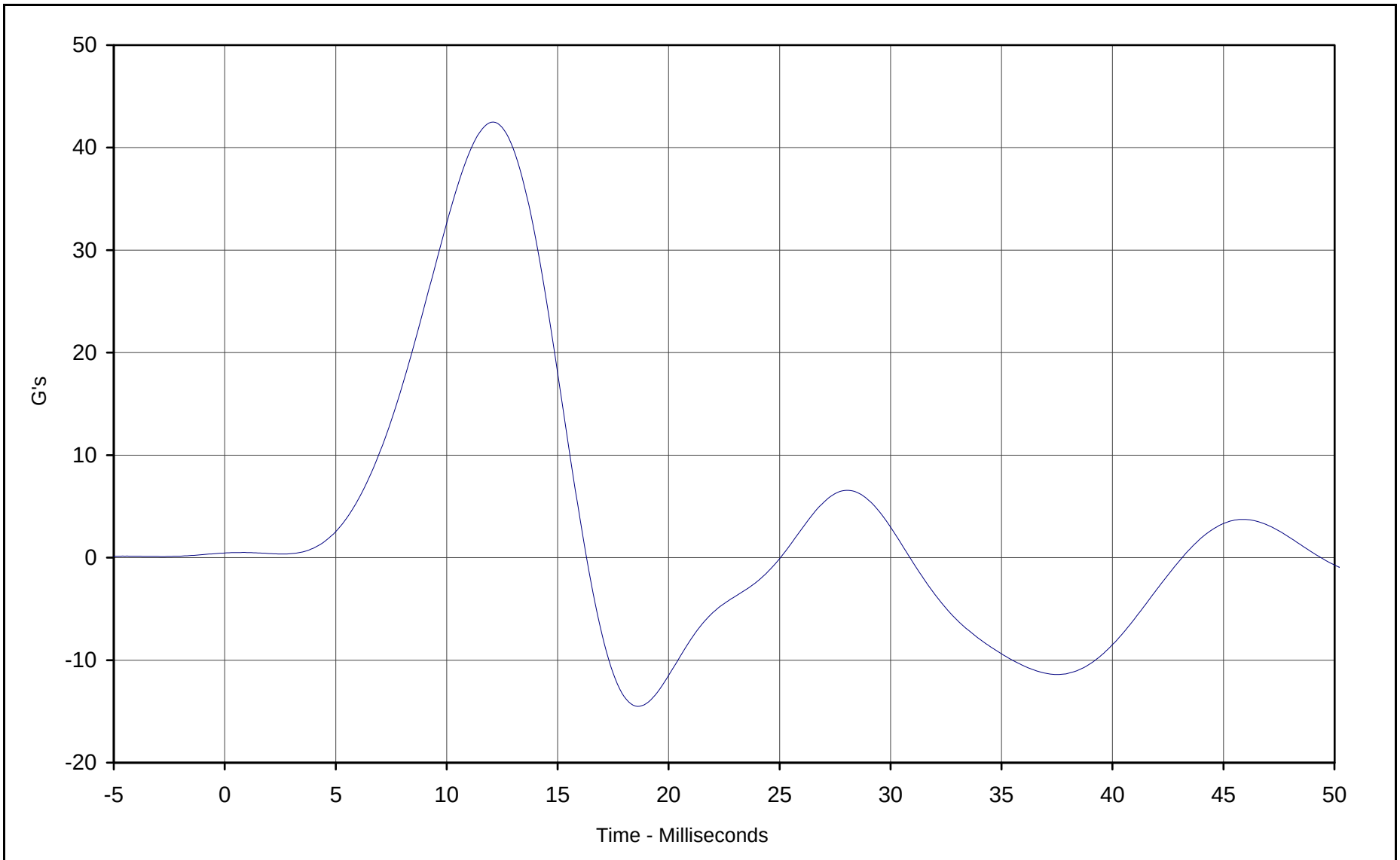
Laboratory Technician

December 18, 2000

Test Date

Approved By

Date



Curve Description: Left Upper Rib Y Acceleration

Maximum Value: 42.5 at 12.1 Milliseconds

Minimum Value: -14.5 at 18.6 Milliseconds

SAE Filter Class: FIR 100

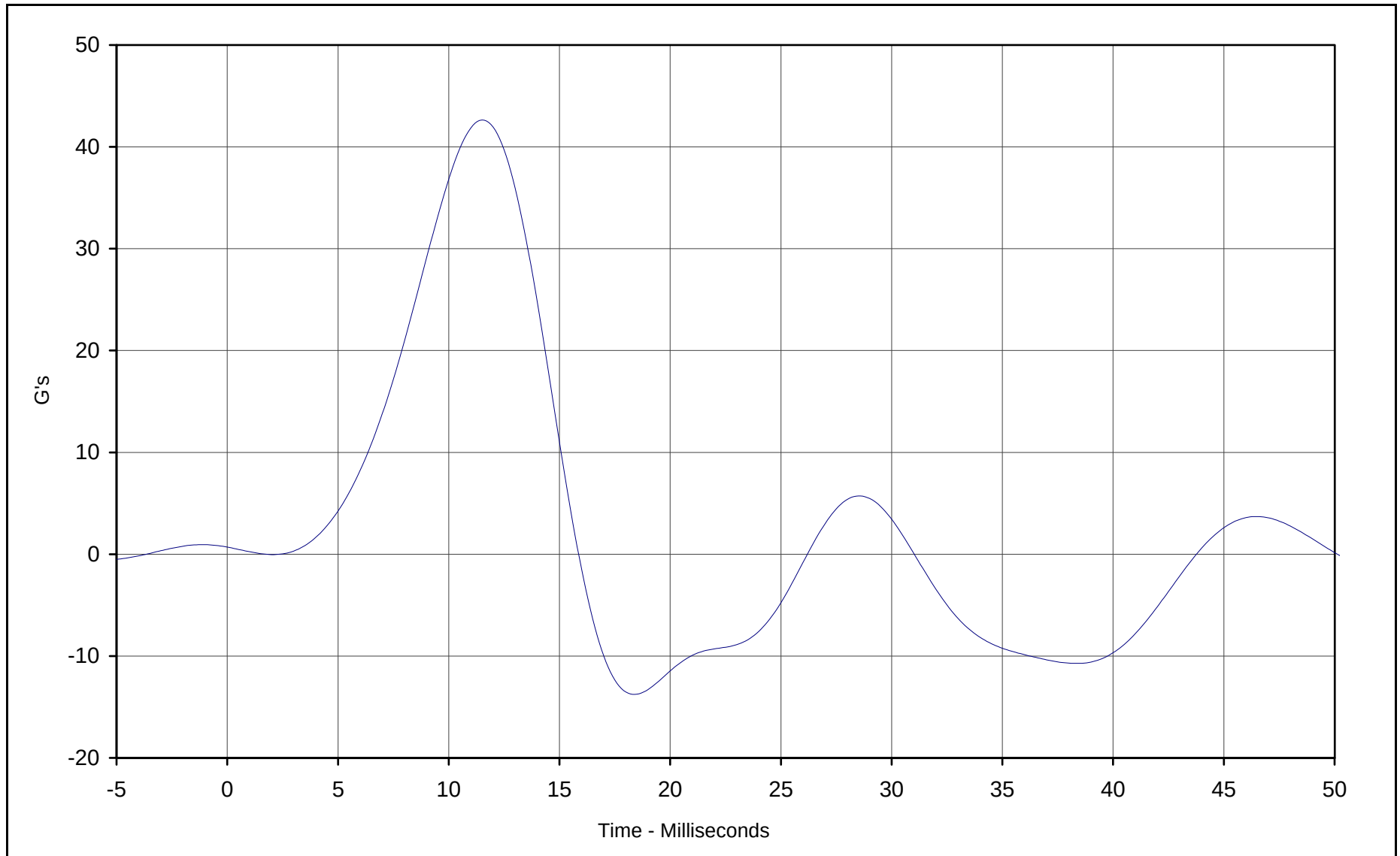
Date of Test: 12/18/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 274 Test I.D.: TI12E



C-28



Curve Description: Left Lower Rib Y Acceleration

Maximum Value: 42.6 at 11.5 Milliseconds

Minimum Value: -13.8 at 18.4 Milliseconds

SAE Filter Class: FIR 100

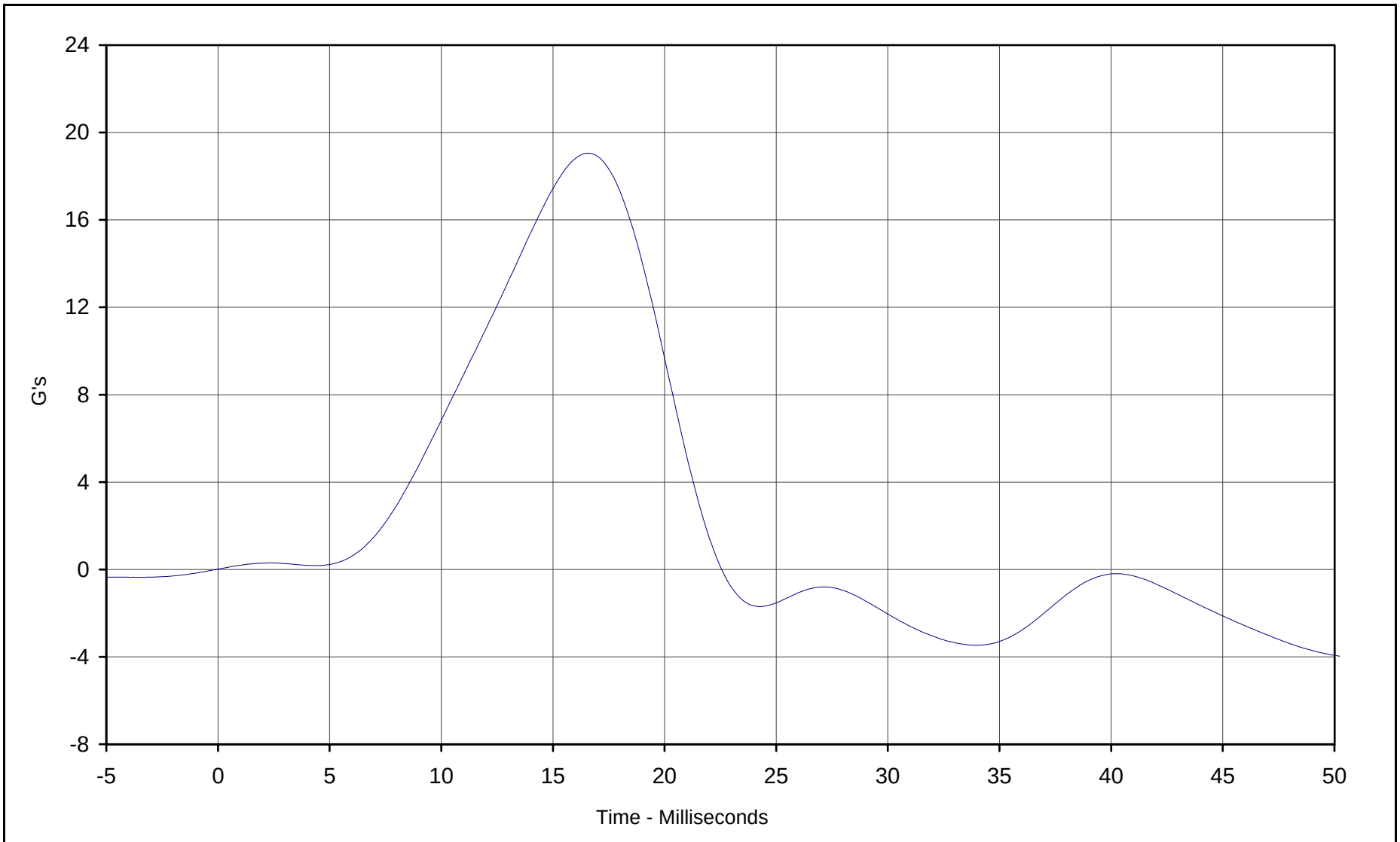
Date of Test: 12/18/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 274 Test I.D.: TI12E



KAR21003-06



Curve Description: Lower Spine Y Acceleration
Maximum Value: 19.1 at 16.6 Milliseconds
Minimum Value: -4.1 at 51.7 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00

Test Program: SID Thorax Lateral Impact Test
Test Information: SID S/N: 274 Test I.D.: TI12E





Performance Verification Data Side Impact Dummy (SID) Left Side Pelvis Lateral Impact

ATD Serial No.: 274

Part Serial No.: N/A

Test I.D.: PI12E

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.27	Pass
Pelvis Acceleration	G's	40.0 to 60.0	42.7	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0 Msec.	6.5	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

Laboratory Technician

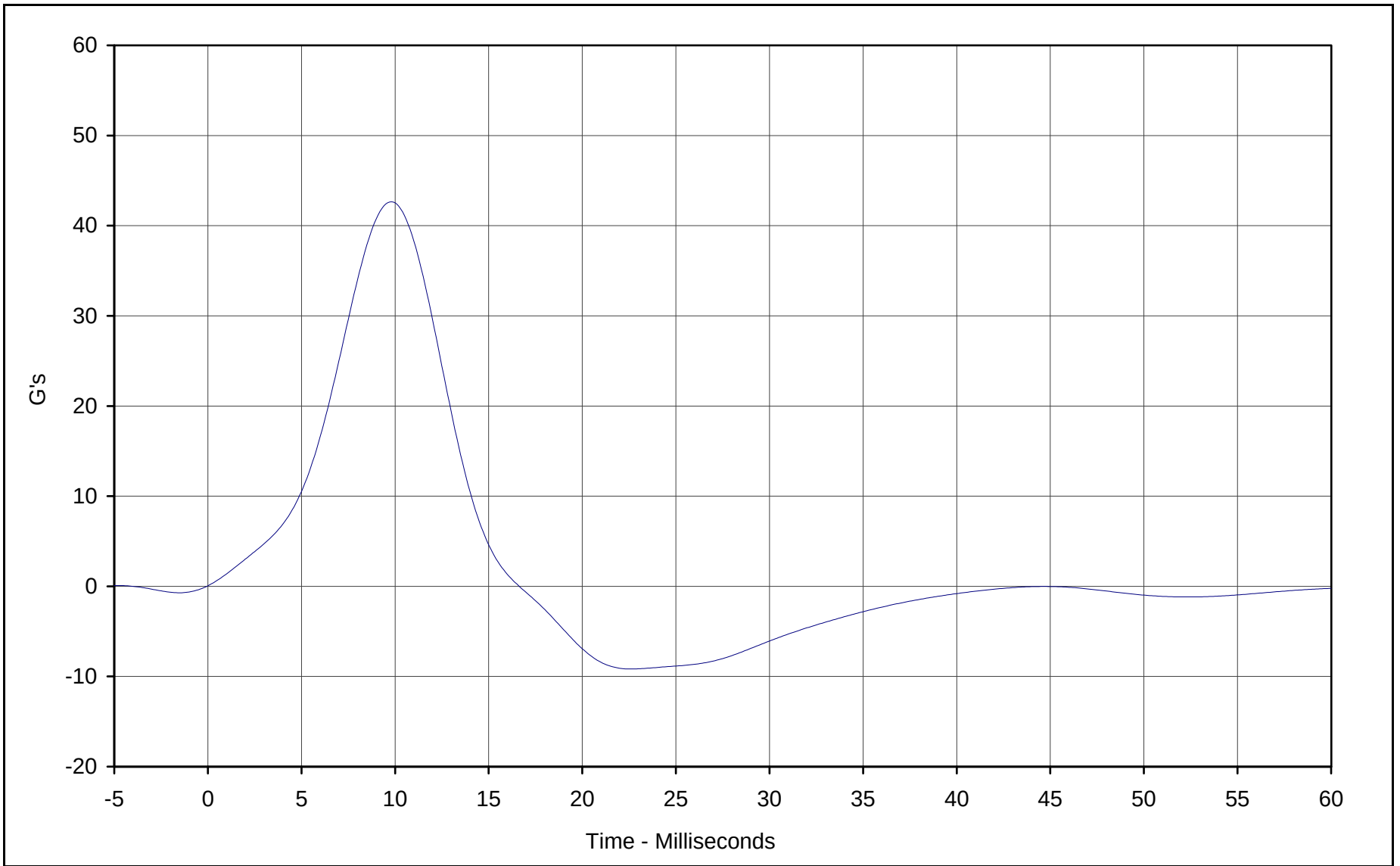
December 18, 2000

Test Date

Approved By

Date

C-31



Curve Description: Pelvis Y Axis Acceleration
Maximum Value: 42.7 at 9.8 Milliseconds
Minimum Value: -9.2 at 22.6 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00

Test Program: SID Left Side Pelvis Lateral Impact
Test Information: SID S/N: 274 Test I.D.: PI12E



KAR21003-06



Performance Verification Data Side Impact Dummy (SID) Abdominal Compression Test

ATD Serial No.: 274

Part Serial No.: N/A

Test I.D.: AB01A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Force at 0.5 Inches of Displacement	Pounds	23.0 to 36.0	28.4	Pass
Force at 0.75 Inches of Displacement	Pounds	36.0 to 50.0	43.5	Pass
Force at 1.0 Inches of Displacement	Pounds	50.0 to 63.0	61.0	Pass
Force at 1.3 Inches of Displacement	Pounds	73.0 to 88.0	86.1	Pass
Overall Test Results				Pass

Laboratory Technician

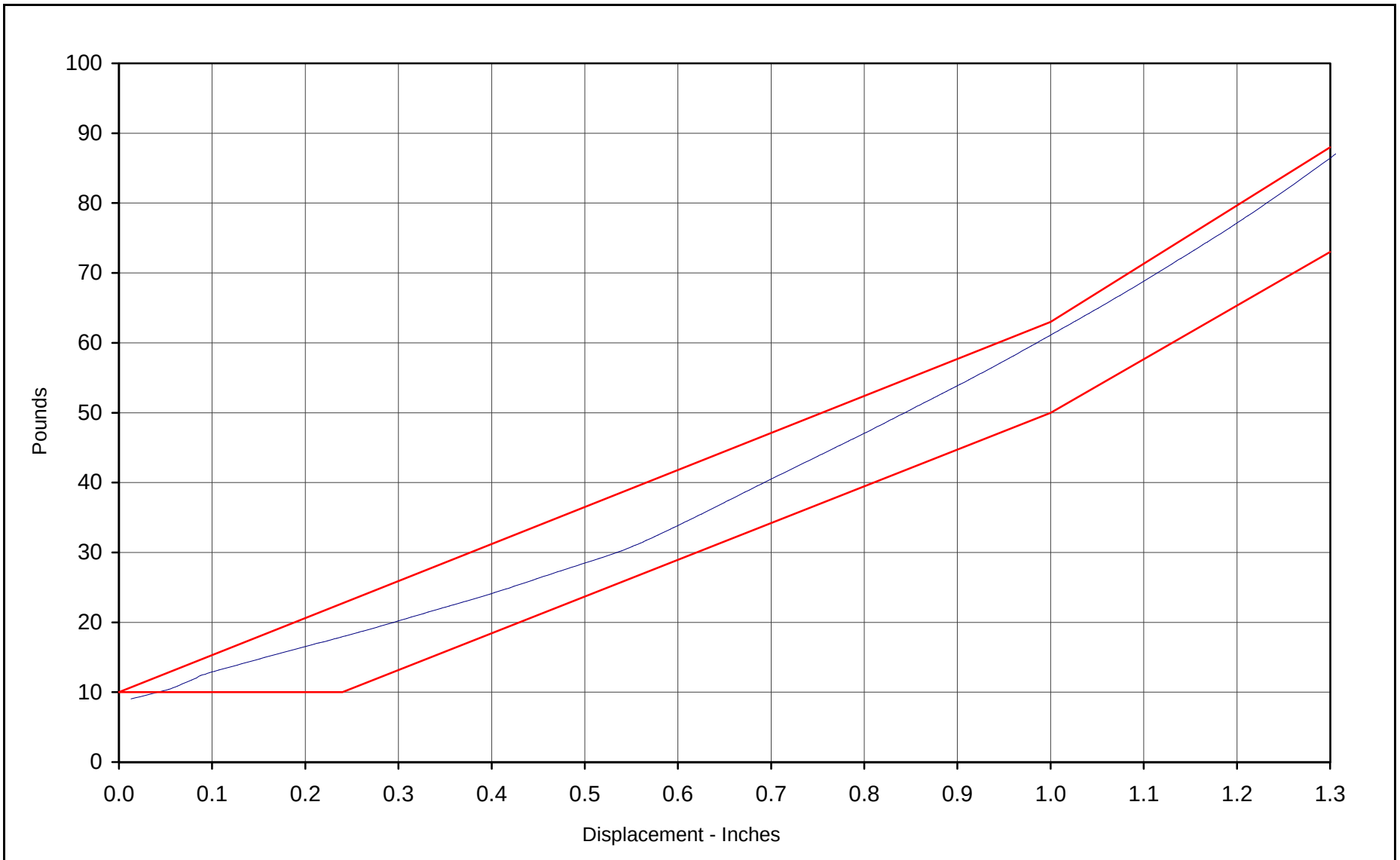
December 19, 2000

Test Date

Approved By

Date

C-33



Curve Description: Abdomen Force vs. Displacement

Force at 0.5 In.: 28.4 Pounds

Force at 0.75 In.: 43.5 Pounds

Force at 1.0 In.: 61.0 Pounds

Force at 1.3 In.: 86.1 Pounds

Date of Test: 12/19/00

Test Program: SID Abdominal Compression

Test Information: SID S/N: 274 Test I.D.: AB01A



KAR21003-06



Performance Verification Data Side Impact Dummy (SID) Head Drop Calibration

ATD Serial No.: 274

Part Serial No.: N/A

Test I.D.: HD12K

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	69	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	210.0 to 260.0	231.3	Pass
Peak Lateral Acceleration	G's	≤10.0	3.7	Pass
Time Above 100 G's	Msec.	0.9 to 1.5	0.9	Pass
Is Resultant Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

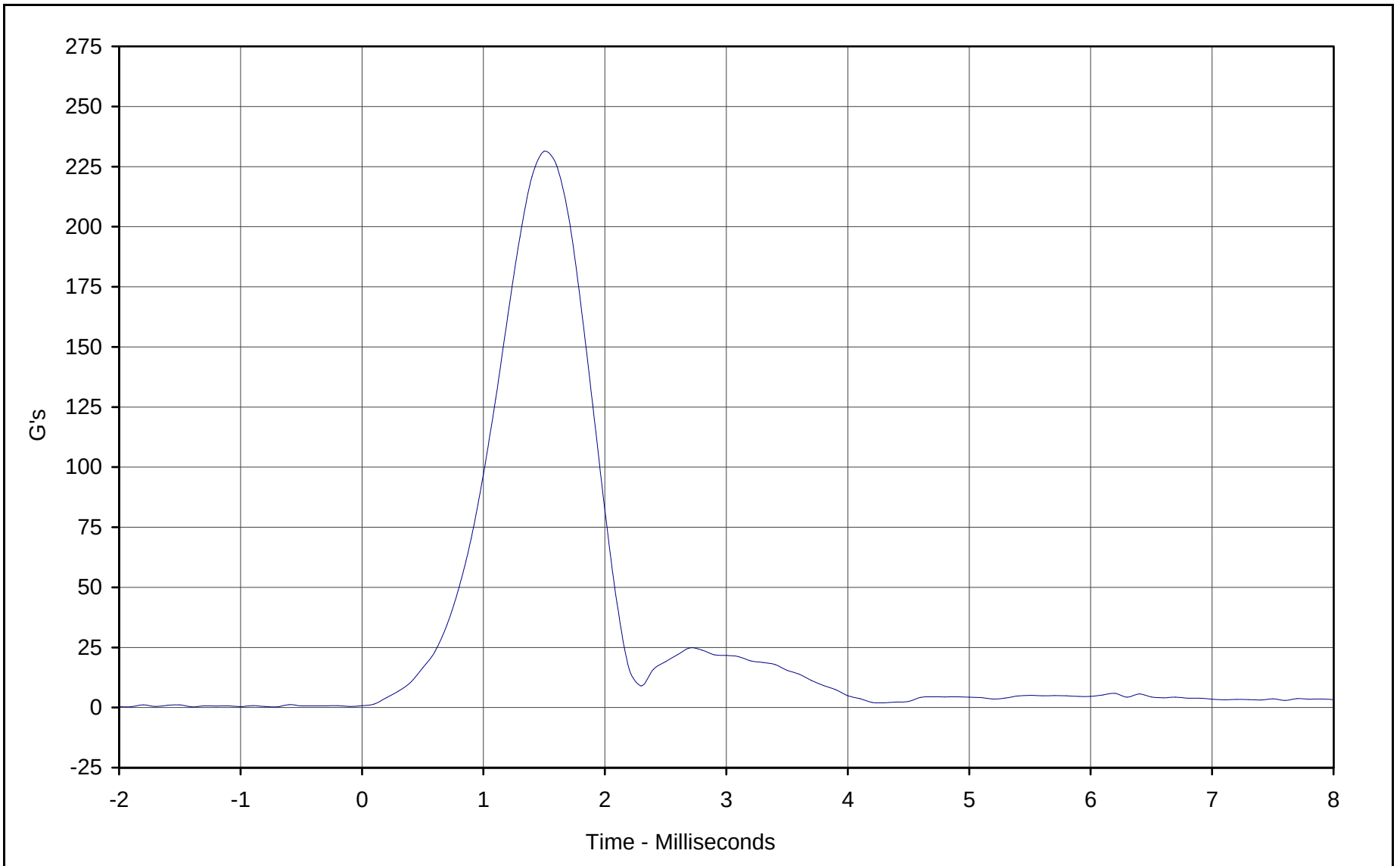
Laboratory Technician

December 19, 2000

Test Date

Approved By

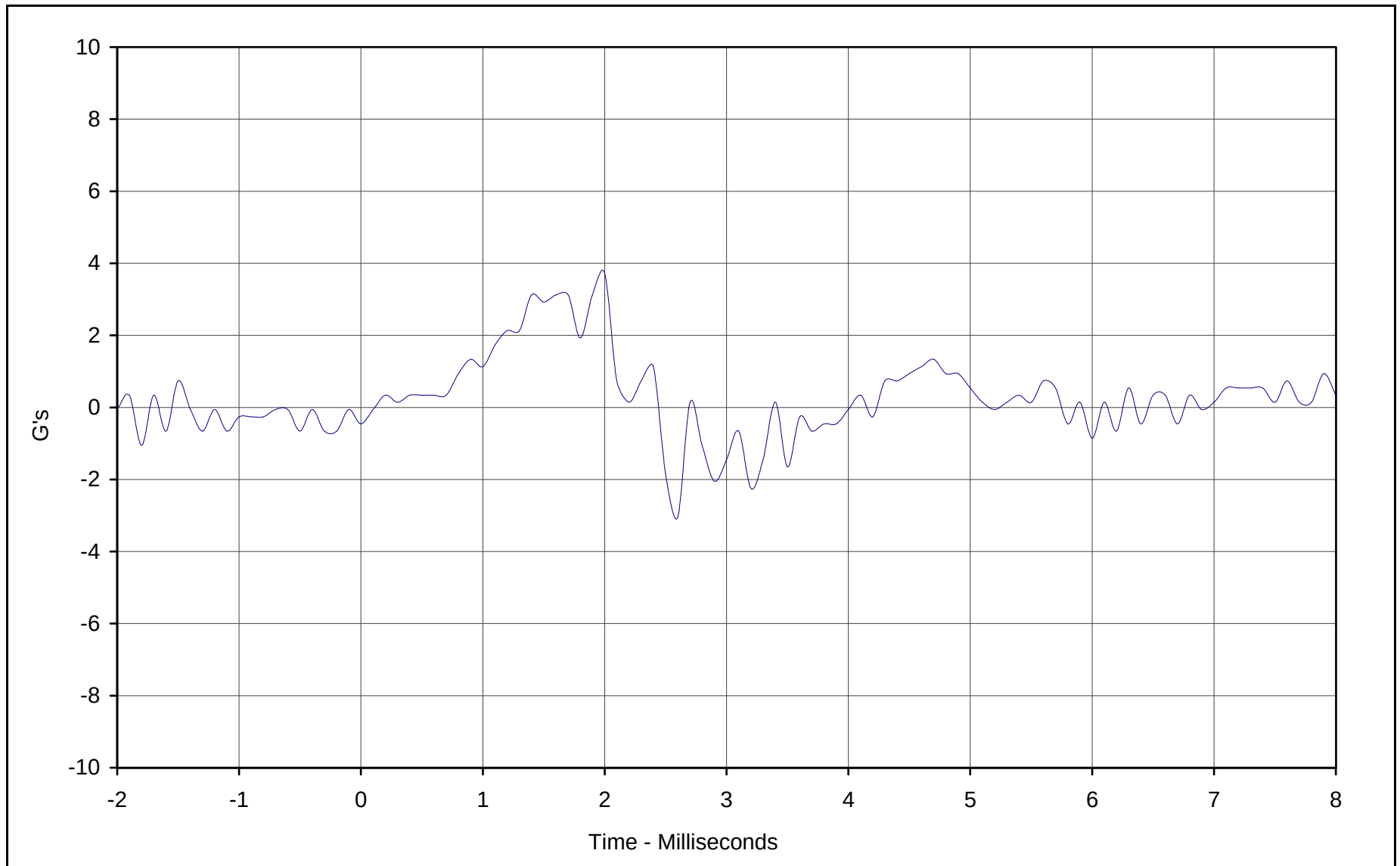
Date



Curve Description: Head Resultant Acceleration
Maximum Value: 231.3 at 1.5 Milliseconds
Minimum Value: 0.8 at 0.0 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/19/00

Test Program: SID Head Drop Calibration
Test Information: SID S/N: 274 Test I.D.: HD12K





Curve Description: Head Y Axis Acceleration
Maximum Value: 3.7 at 2 Milliseconds
Minimum Value: -3.0 at 2.6 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/19/00

Test Program: SID Head Drop Calibration
Test Information: SID S/N: 274 Test I.D.: HD12K





Performance Verification Data Side Impact Dummy (SID) External Dimensions

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	21.1	Pass
Laboratory relative humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	907	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	510	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	515	Pass
KV- Knee Pivot From Floor	mm	490 to 505	500	Pass
HW- Hip Width	mm	356 to 391	360	Pass
Overall Test Results				Pass

Laboratory Technician

December 19, 2000

Test Date

Approved By

Date



Performance Verification Data Side Impact Dummy (SID) Thorax Lateral Impact

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: TI12F

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.31	Pass
Left Upper Rib Acceleration	G's	37.0 to 46.0	43.9	Pass
Left Lower Rib Acceleration	G's	37.0 to 46.0	41.3	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	18.6	Pass
Overall Test Results				Pass

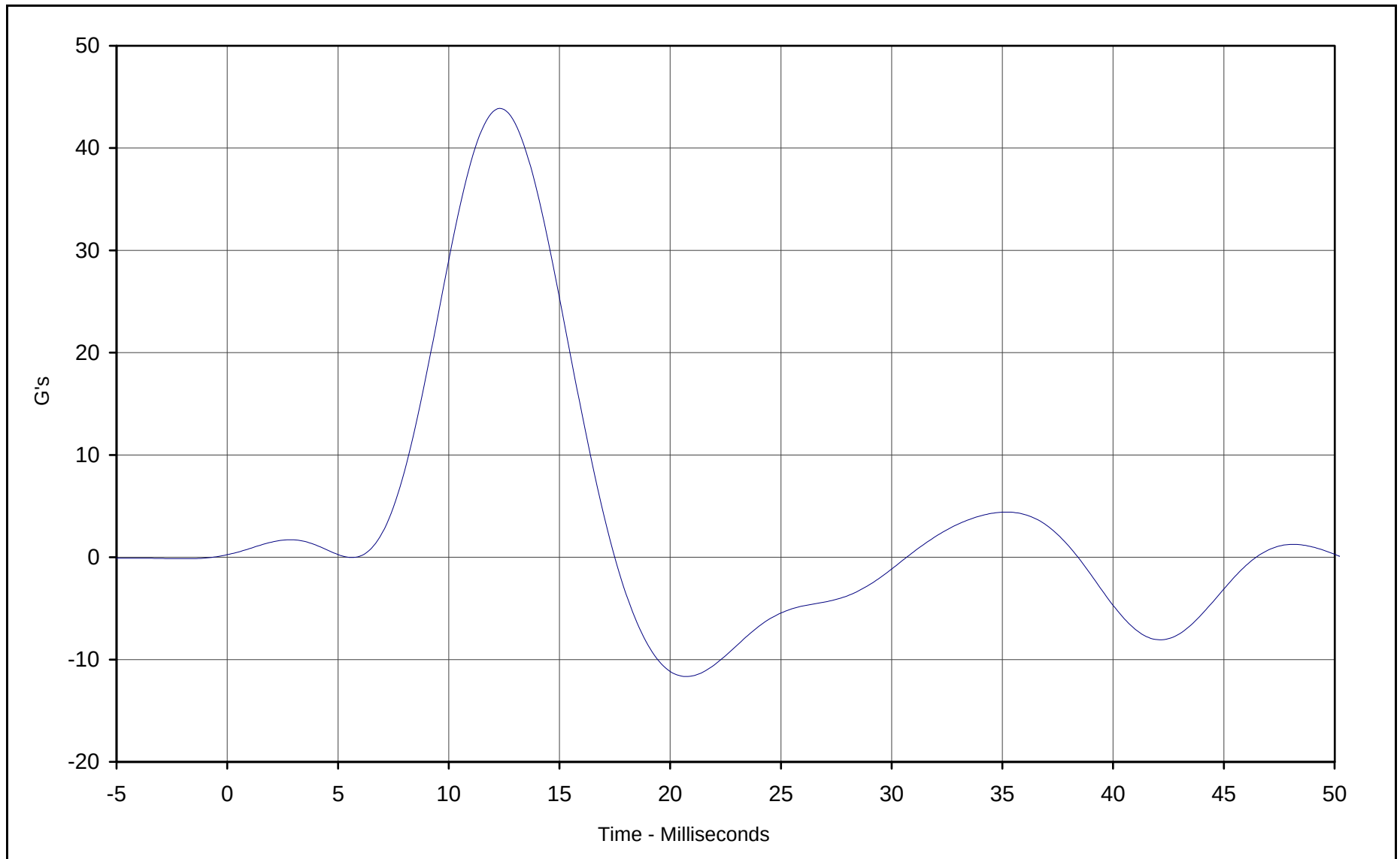
Laboratory Technician

December 18, 2000

Test Date

Approved By

Date



Curve Description: Left Upper Rib Y Acceleration

Maximum Value: 43.9 at 12.3 Milliseconds

Minimum Value: -11.7 at 20.7 Milliseconds

SAE Filter Class: FIR 100

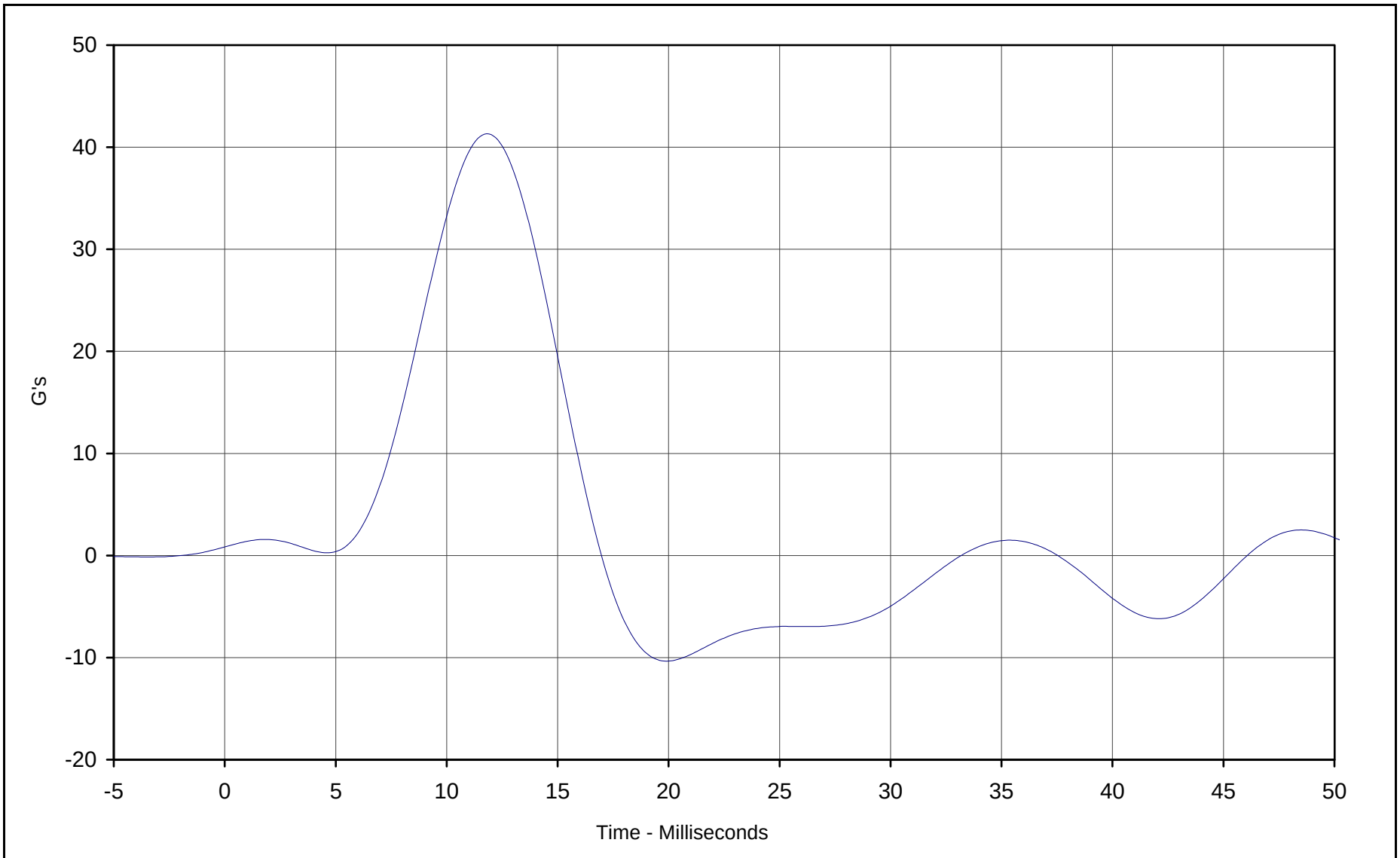
Date of Test: 12/18/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 275 Test I.D.: TI12F



C-40



Curve Description: Left Lower Rib Y Acceleration

Maximum Value: 41.3 at 11.8 Milliseconds

Minimum Value: -10.3 at 19.9 Milliseconds

SAE Filter Class: FIR 100

Date of Test: 12/18/00

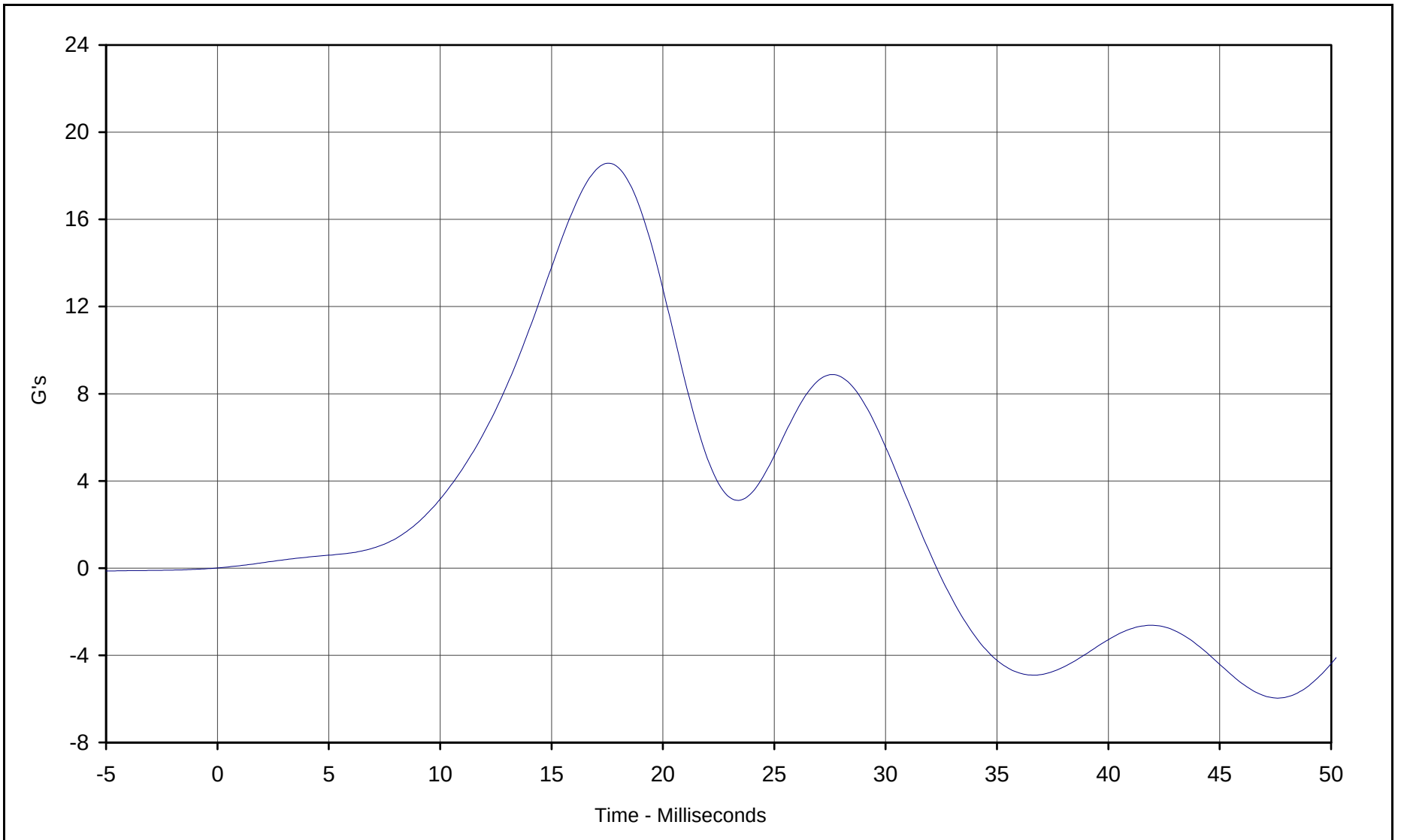
Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 275 Test I.D.: TI12F



KAR21003-06

C-41



Curve Description: Lower Spine Y Acceleration
Maximum Value: 18.6 at 17.6 Milliseconds
Minimum Value: -6.0 at 47.6 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00

Test Program: SID Thorax Lateral Impact Test
Test Information: SID S/N: 275 Test I.D.: TI12F



KAR21003-06



Performance Verification Data

Side Impact Dummy (SID)

Left Side Pelvis Lateral Impact

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: PI12F

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.29	Pass
Pelvis Acceleration	G's	40.0 to 60.0	42.2	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0 Msec.	6.5	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

Laboratory Technician

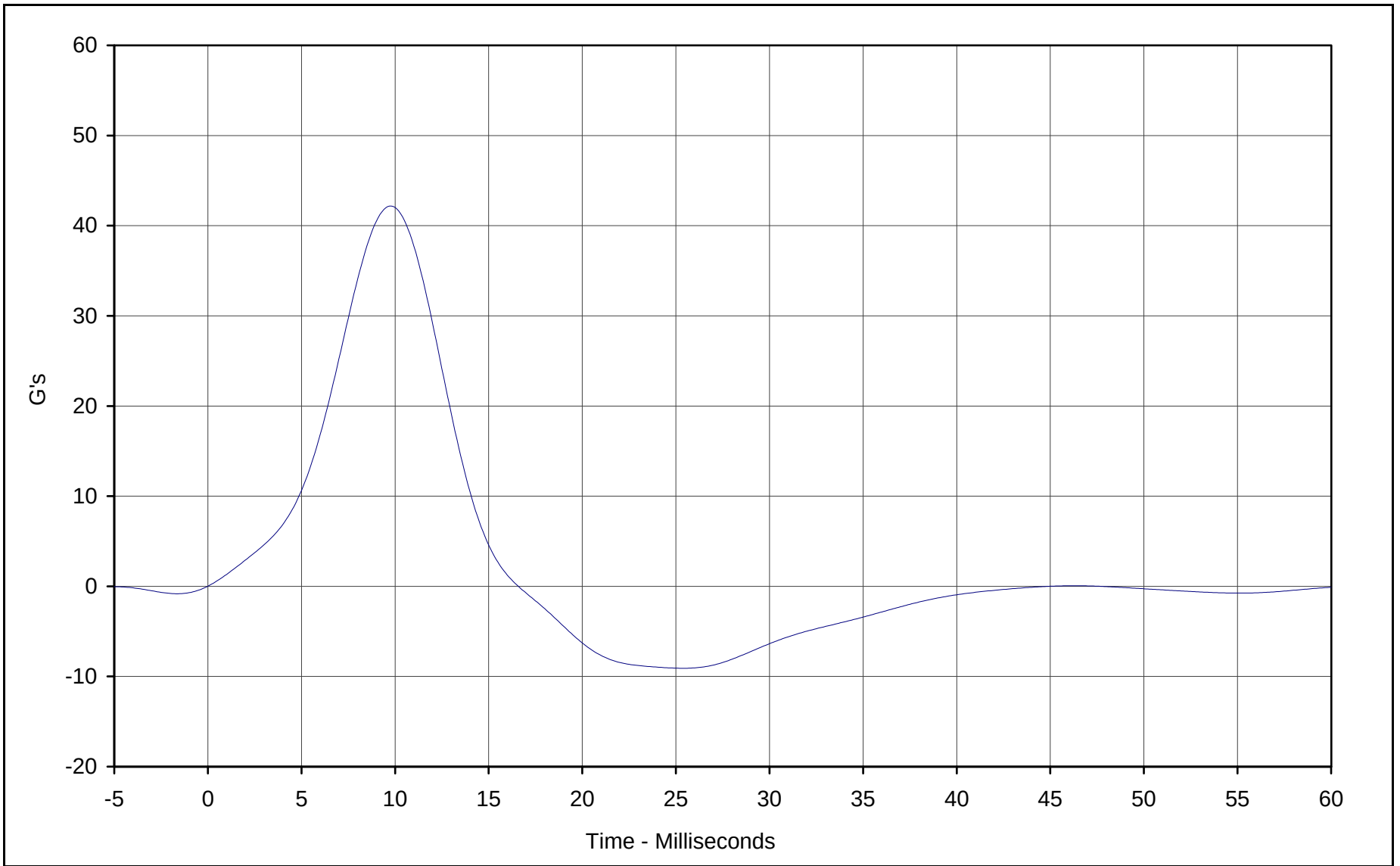
December 18, 2000

Test Date

Approved By

Date

C-43



Curve Description: Pelvis Y Axis Acceleration
Maximum Value: 42.2 at 9.8 Milliseconds
Minimum Value: -9.1 at 25.4 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 12/18/00

Test Program: SID Left Side Pelvis Lateral Impact
Test Information: SID S/N: 275 Test I.D.: PI12F



KAR21003-06



Performance Verification Data Side Impact Dummy (SID) Abdominal Compression Test

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: AB01A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Force at 0.5 Inches of Displacement	Pounds	23.0 to 36.0	28.3	Pass
Force at 0.75 Inches of Displacement	Pounds	36.0 to 50.0	43.8	Pass
Force at 1.0 Inches of Displacement	Pounds	50.0 to 63.0	61.2	Pass
Force at 1.3 Inches of Displacement	Pounds	73.0 to 88.0	86.8	Pass
Overall Test Results				Pass

Laboratory Technician

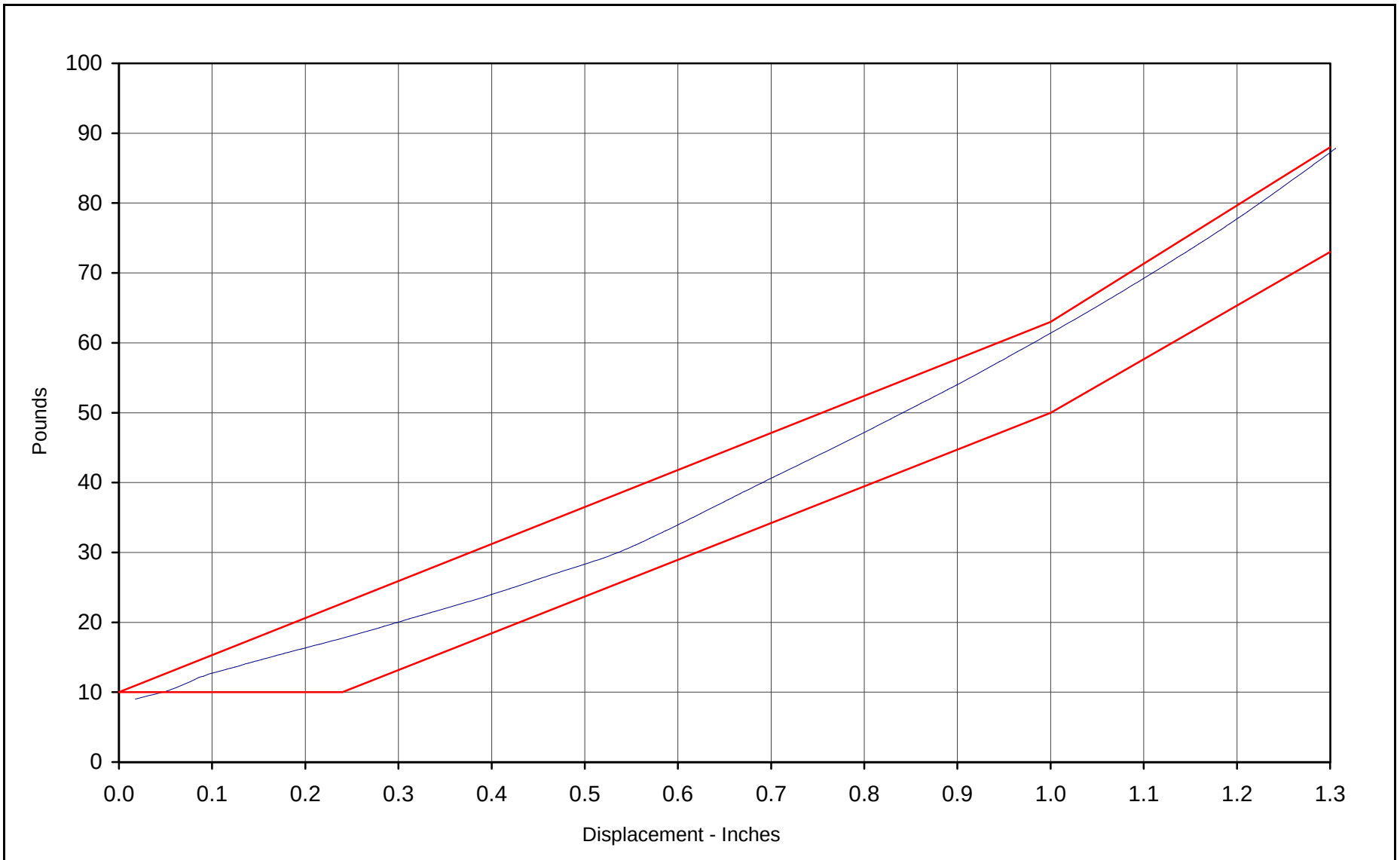
December 19, 2000

Test Date

Approved By

Date

C-45



Curve Description: Abdomen Force vs. Displacement

Force at 0.5 In.: 28.3 Pounds

Force at 0.75 In.: 43.8 Pounds

Force at 1.0 In.: 61.2 Pounds

Force at 1.3 In.: 86.8 Pounds

Date of Test: 12/19/00

Test Program: SID Abdominal Compression

Test Information: SID S/N: 275 Test I.D.: AB01A



KAR21003-06



Performance Verification Data Side Impact Dummy (SID) Head Drop Calibration

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: HD12L

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	69	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	210.0 to 260.0	252.0	Pass
Peak Lateral Acceleration	G's	≤10.0	7.8	Pass
Time Above 100 G's	Msec.	0.9 to 1.5	1.0	Pass
Is Resultant Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

Laboratory Technician

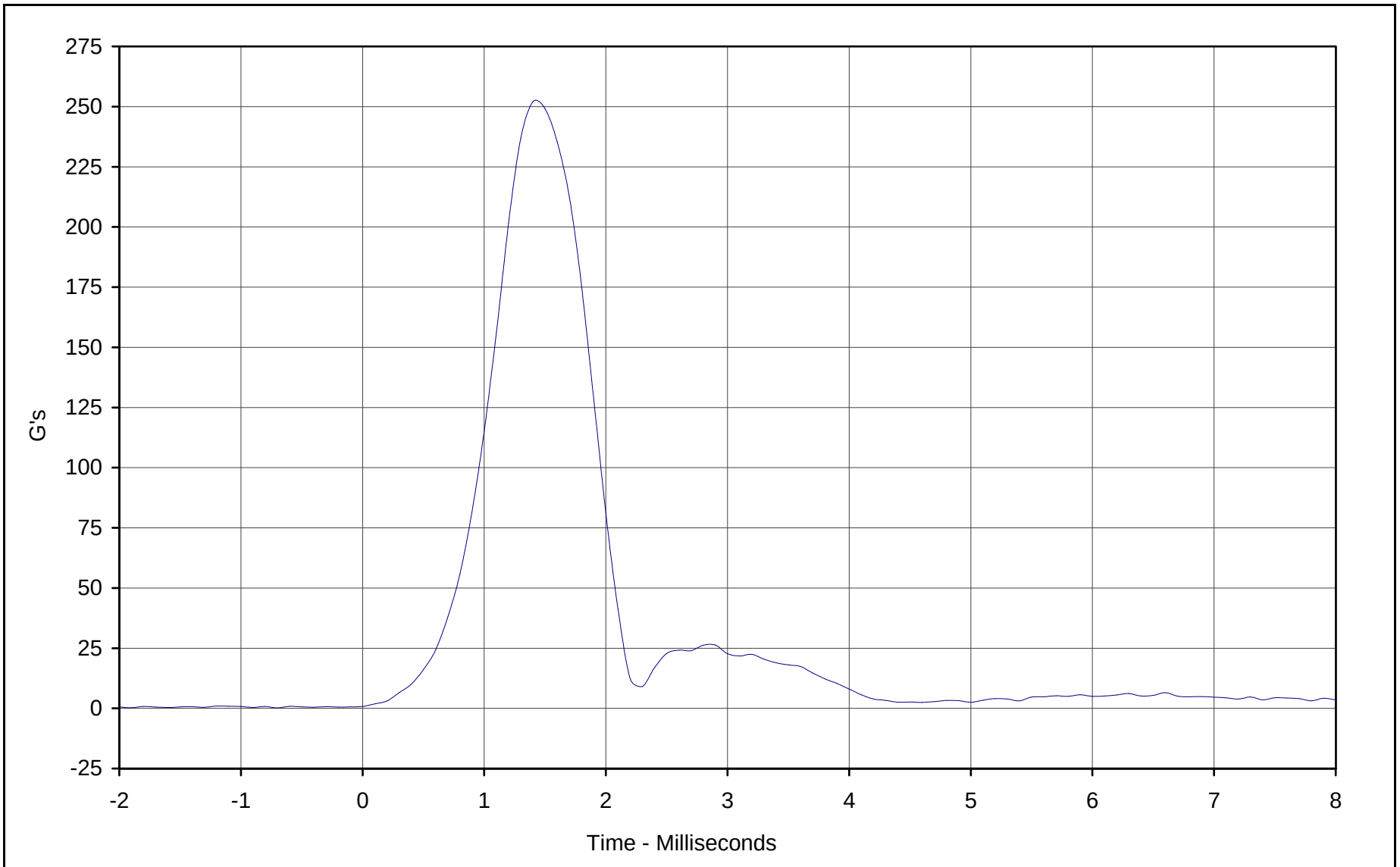
December 19, 2000

Test Date

Approved By

Date

C-47



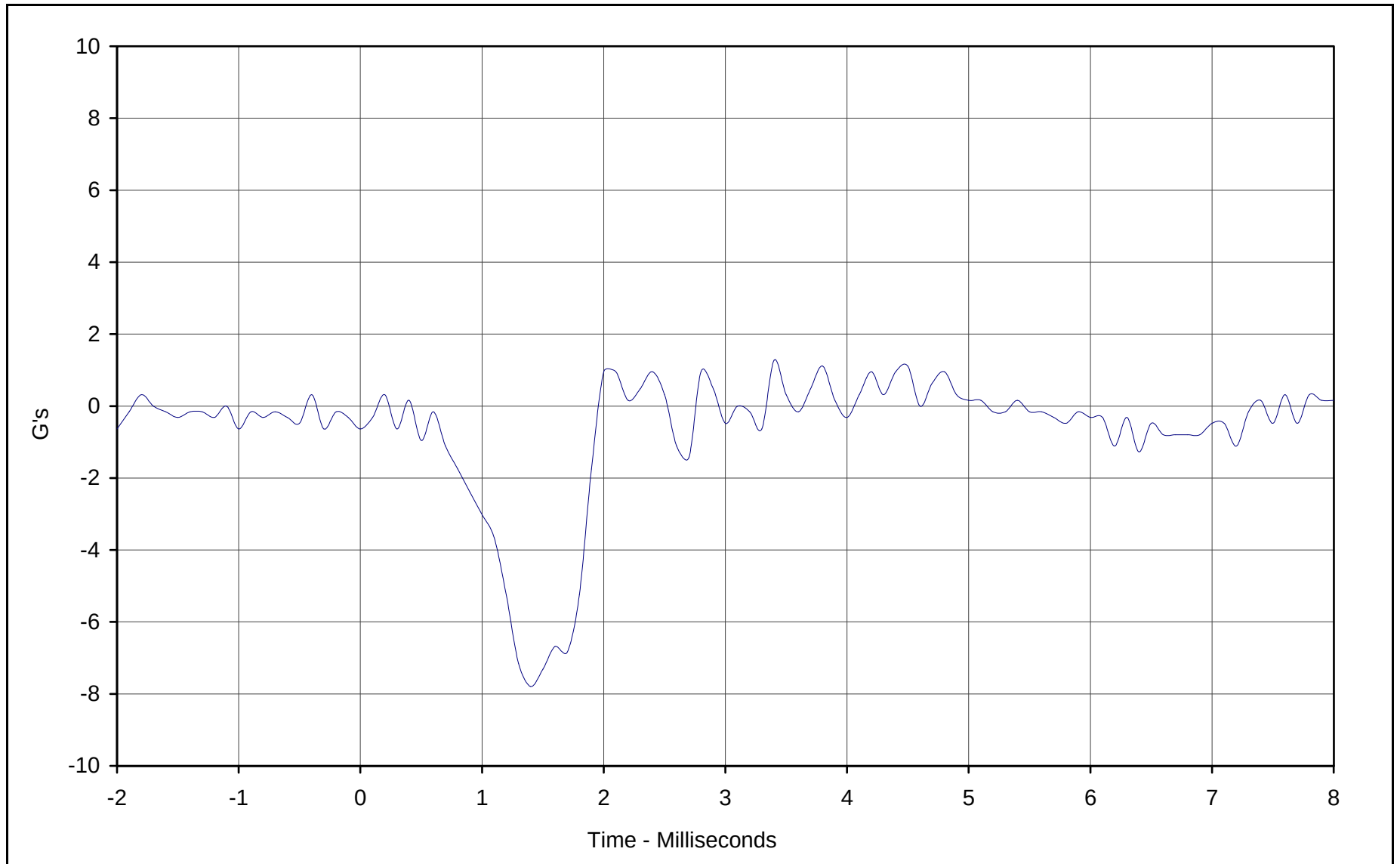
Curve Description: Head Resultant Acceleration
Maximum Value: 252.0 at 1.4 Milliseconds
Minimum Value: 0.8 at 0.0 Milliseconds
SAE Filter Class: 1000
Date of Test: 12/19/00

Test Program: SID Head Drop Calibration
Test Information: SID S/N: 275 Test I.D.: HD12L



KAR21003-06

C-48



Curve Description: Head Y Axis Acceleration

Maximum Value: 1.3 at 3.4 Milliseconds

Minimum Value: -7.8 at 1.4 Milliseconds

SAE Filter Class: 1000

Date of Test: 12/19/00

Test Program: SID Head Drop Calibration

Test Information: SID S/N: 275 Test I.D.: HD12L



KAR21003-06

APPENDIX D
TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

55/28 km/h Side Impact NCAP
Instrumentation Data Channel Assignments
Driver S.I.D. Serial Number 274
12/18/00
2001 Lincoln LS 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
1	Head CG	X	KEAC086	Accel.,1/2 bridge	Endevco	7264-2000X	G
2	Head CG	Y	KEAC087	Accel.,1/2 bridge	Endevco	7264-2000Y	G
3	Head CG	Z	KEAC088	Accel.,1/2 bridge	Endevco	7264-2000Z	G
4	Upper Rib Primary	Y	KEAC070	Accel.,1/2 bridge	Endevco	7264-2000X	G
5	Lower Rib, Primary	Y	KEAC071	Accel.,1/2 bridge	Endevco	7264-2000Y	G
6	Lower Spine, Primary	Y	KEAC072	Accel.,1/2 bridge	Endevco	7264-2000Z	G
7	Pelvis, Primary	Y	KEAC090	Accel.,Full bridge	Endevco	7264-2000X	G
8	Upper Rib Redundant	Y	KEAC076	Accel.,1/2 bridge	Endevco	7264-2000X	G
9	Lower Rib, Redundant	Y	KEAC077	Accel.,1/2 bridge	Endevco	7264-2000Y	G
10	Lower Spine, Redundant	Y	KEAC078	Accel.,1/2 bridge	Endevco	7264-2000Z	G
11	Pelvis, Redundant	Y	KEAC089	Accel.,1/2 bridge	Endevco	7264-2000X	G
12	Thorax Contact	N/A	T0	Contact Switch	Tapeswitch	8 oz. Yellow	%
13	Pelvis Contact	N/A	T0	Contact Switch	Tapeswitch	8 oz. Yellow	%

55/28 km/h Side Impact NCAP
Instrumentation Data Channel Assignments
Passenger S.I.D. Serial Number 275
12/18/00
2001 Lincoln LS 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
14	Head CG	X	KEAC069	Accel.,1/2 bridge	Endevco	7264-2000X	G
15	Head CG	Y	KEAC080	Accel.,1/2 bridge	Endevco	7264-2000Y	G
16	Head CG	Z	KEAC082	Accel.,1/2 bridge	Endevco	7264-2000Z	G
17	Upper Rib Primary	Y	KEAC066	Accel.,1/2 bridge	Endevco	7264-2000X	G
18	Lower Rib, Primary	Y	KEAC067	Accel.,1/2 bridge	Endevco	7264-2000Y	G
19	Lower Spine, Primary	Y	KEAC068	Accel.,1/2 bridge	Endevco	7264-2000Z	G
20	Pelvis, Primary	Y	KEAC079	Accel.,1/2 bridge	Endevco	7264-2000X	G
21	Upper Rib Redundant	Y	KEAC073	Accel.,1/2 bridge	Endevco	7264-2000X	G
22	Lower Rib, Redundant	Y	KEAC074	Accel.,1/2 bridge	Endevco	7264-2000Y	G
23	Lower Spine, Redundant	Y	KEAC075	Accel.,1/2 bridge	Endevco	7264-2000Z	G
24	Pelvis, Redundant	Y	KEAC081	Accel.,1/2 bridge	Endevco	7264-2000X	G
25	Thorax Contact	Y	T0	Contact Switch	Tapeswitch	8 oz. Yellow	%
26	Pelvis Contact	Y	T0	Contact Switch	Tapeswitch	8 oz. Yellow	%

55/28 km/h Side Impact NCAP
Instrumentation Data Channel Assignments
Vehicle Accelerometers
12/18/00
2001 Lincoln LS 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
27	Right at Sill Front Seat	X	KETX2A	Accel., Triax	I.C. Sensor	3031-200	G
28	Right at Sill Front Seat	Y	KETX2B	Accel., Triax	I.C. Sensor	3031-200	G
29	Right at Sill Front Seat	Z	KETX2C	Accel., Triax	I.C. Sensor	3031-200	G
30	Right at Sill Rear Seat	X	KETX3A	Accel., Triax	I.C. Sensor	3031-500	G
31	Right at Sill Rear Seat	Y	KETX3B	Accel., Triax	I.C. Sensor	3031-500	G
32	Right at Sill Rear Seat	Z	KETX3C	Accel., Triax	I.C. Sensor	3031-500	G
33	Rear Floorpan Above Axle	X	KETX4A	Accel., Triax	I.C. Sensor	3031-500	G
34	Rear Floorpan Above Axle	Y	KETX4B	Accel., Triax	I.C. Sensor	3031-500	G
35	Rear Floorpan Above Axle	Z	KETX4C	Accel., Triax	I.C. Sensor	3031-500	G
36	Left Sill at Rear Door	Y	KEVA012	Accel., Vehicle block	I.C. Sensor	3031-500	G
37	Left Sill at Front Door	Y	KEVA001	Accel., Vehicle block	I.C. Sensor	3031-500	G
38	Left Front Door Centerline	Y	ICST004X	Accel., Triax	I.C. Sensor	3031-500	G
39	Rear Occupant Compartment	Y	KEVA006	Accel., Vehicle block	I.C. Sensor	3031-200	G
40	Left Front Door Mid-Rear	Y	ICST004Y	Accel., Triax	I.C. Sensor	3031-500	G
41	Left Front Door Upper Centerline	Y	ICST004Z	Accel., Triax	I.C. Sensor	3031-500	G
42	Rear Door Mid-Rear	Y	ICST005X	Accel., Triax	I.C. Sensor	3031-500	G
43	Rear Door Upper Centerline	Y	ICST005Y	Accel., Triax	I.C. Sensor	3031-500	G
44	B-Post Lower	Y	KEBX2A	Accel., Biax	I.C. Sensor	3031-500	G
45	B-Post Middle	Y	KEBX2B	Accel., Biax	I.C. Sensor	3031-500	G
46	A-Post Lower	Y	KEBX1A	Accel., Biax	I.C. Sensor	3031-200	G
47	A-Post Middle	Y	KEBX1B	Accel., Biax	I.C. Sensor	3031-500	G
48	Front Seat Track	Y	KEIC008Y	Single	I.C. Sensor	3031-500	G
49	Rear Seat Structure	Y	N/A	N/A	N/A	N/A	N/A
50	Vehicle CG	X	KETX2A	Accel., Triax	I.C. Sensor	3031-200	G
51	Vehicle CG	Y	KETX2B	Accel., Triax	I.C. Sensor	3031-200	G
52	Vehicle CG	Z	KETX2C	Accel., Triax	I.C. Sensor	3031-200	G

55/28 km/h Side Impact NCAP
Instrumentation Data Channel Assignments
Moving Deformable Barrier
12/18/00
2001 Lincoln LS 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
53	MDB CG	X	ICST001X	Accel., Triax	I.C. Sensor	3031-100	G
54	MDB CG	Y	ICST001Y	Accel., Triax	I.C. Sensor	3031-100	G
55	MDB CG	Z	ICST001Z	Accel., Triax	I.C. Sensor	3031-100	G
56	MDB Rear Centerline	X	ICST002X	Accel., Biax	I.C. Sensor	3031-100	G
57	MDB Rear Centerline	Y	ICST002Y	Accel., Biax	I.C. Sensor	3031-100	G
58	Right Bumper Contact	N/A	T0	Contact Switch	Tapeswitch	40 oz. Grey	%