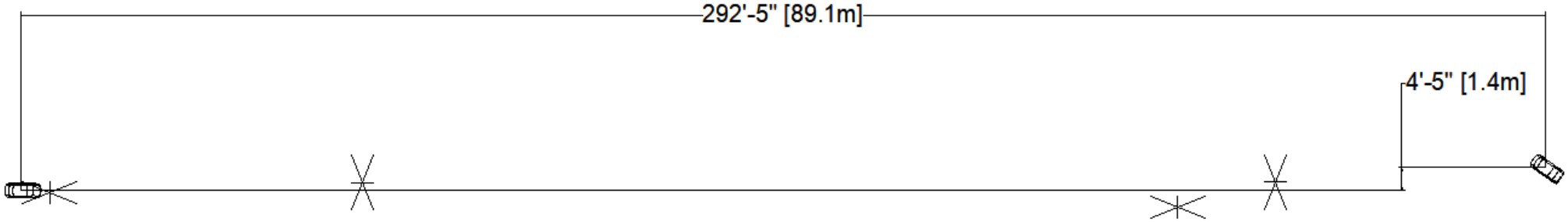
MASH 2016 Test 3-71 Summary

0° CIA **90° CIA**

0.000 seconds 0.090 seconds 0.270 seconds 0.630 seconds 0.810 seconds 0.990 seconds



General Information

Test Agency……Applus IDIADA KARCO
Test Number……P41103-01
Test Designation…… 3-71
Test Date……5/4/21

Test Article

Name / Model……STF1008 with 48" x 48" Roll-Up Sign
Type……Work-Zone Device
Device Height …… 10.7 ft. (3.3 m)
Key Elements……STF1008 Base, Vinyl Roll-Up Sign, Flags
Road Surface……Smooth, clean concrete

Test Vehicle

Type / Designation……1100C
Year, Make, and Model……2015 Kia Rio
Curb Mass……2,522.0 lbs (1,144.0 kg)
Test Inertial Mass……2,469.1 lbs (1,120.0 kg)
Gross Static Mass……2,609.1 lbs (1,183.5 kg)

Impact Conditions

Impact Velocity Device 1……64.48 mph (103.77 km/h)
Impact Velocity Device 2……61.47 mph (98.93 km/h)
Device 1 Angle……0.0°
Device 2 Angle……90.0°
Location / Orientation Device 1.. 15.6 in. (397 mm) From Vehicle Centerline on Passenger Side
Location / Orientation Device 2.. 16.6 in. (421 mm) From Vehicle Centerline on Driver Side
Device 1 Kinetic Energy…… 343.2 kip-feet (465.3 Kilojoules)
Device 2 Kinetic Energy…… 311.9 kip-feet (422.9 Kilojoules)
Minimum KE Required…..... 288 kip-feet (390 Kilojoules)

Exit Conditions

Device 1 Exit Velocity…… 63.64 mph (102.4 km/h)
Device 2 Exit Velocity…… 61.02 mph (98.2 km/h)
Vehicle Resting Position……292.3 ft. (89.1 m) Downstream 4.6 ft. (1.4 m) Toward the Left
Vehicle Stability ……Satisfactory
0° - Maximum Roll Angle……Did Not Exceed 75°
90° - Maximum Pitch Angle…..Did Not Exceed 75°
0° - Maximum Roll Angle……Did Not Exceed 75°
90° - Maximum Pitch Angle…..Did Not Exceed 75°

Occupant Risk

Longitudinal OIV……Not Applicable*
Lateral OIV……Not Applicable*
Longitudinal RA……Not Applicable*
Lateral RA…… Not Applicable*
THIV……Not Applicable*
PHD……Not Applicable*
ASI…… Not Applicable*

Test Article Deflections

0° Sign Debris Field (longitudinal) … 216.2 ft. (65.9 m)
0° Sign Debris Field (lateral)… 2.6 ft. (0.8 m)
90° Sign Debris Field (longitudinal).. 175.2 ft. (53.4 m)
90° Sign Debris Field (lateral)…… 0.1 ft. (0.0 m)

Vehicle Damage

Vehicle Damage Scale……12-FD-2
CDC……12FLAN3
0° Maximum Deformation……MASH Deformation Limits Not Exceeded (0.0 in.)
90° Maximum Deformation……MASH Deformation Limits Not Exceeded (0.0 in.)

** Not Applicable, device weighs less than 220 lbs (100 kg)*

Figure 2: Summary of Test 3-71