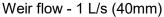


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## Flow Characteristic Curve - R130SR4 120 100 Nater Head Level (mm) 80 60 40 TRANSITION FLOW REGION Please note that the water depth levels in this shaded area of the chart were observed to fluctuate continuously between maximum and 20 minimum levels due to the transition between weir and orifice flow conditions occurring at the outlet. Only the maximum observed water levels are plotted on this chart. 2 3 5 Flow Rate (L/s)







Orifice Flow - 3.0 L/s (80mm)

## **Observation Comments:**

- A concentric swirl pattern and air core was observed which indicated weir flow conditions, with the water head level stabilising at each flow rate setpoint from 0-2.0 L/s producing a linear characteristic curve for all outlet pipe connections.
- At 3.0 L/s a transition from swirl motion to vortex flow was obvserved, as the air core decreased and moved to the side of the grate. At 3.0 L/s the vortex surcharged and transitioned to orifice conditions were characterised by the water level surging down 10 -20mm.
- The maximum flow limit to maintain weir flow conditions is 2.0 L/s.

I hereby certify that the test results presented on this outlet performance certificate are true and correct and were obtained using recognised AHSCA Gutter Outlet Testing procedures.

Dr Terry Lucke,

Chief Researcher:

Mark Alexander.

AHSCA Foundation Chairman:

Date: 16<sup>th</sup> November 2016 Date: 16<sup>th</sup> November 2016