

# Cranfield University 8' x 4' Boundary Layer Wind Tunnel LS3

<p><b>Location:</b> Cranfield, Bedfordshire</p>	<p><b>Designation:</b> Low Speed Open Return</p>
<p><b>Owner(s):</b> School of Engineering Cranfield University Bedfordshire, MK43 0AL United Kingdom</p>	<p><b>Performance</b>  <b>Mach Number:</b> n/a  <b>Maximum Flow Speed:</b> 0.5 – 16m/s  <b>Reynolds No:</b> <math>0.36 \times 10^6/m</math> - <math>1.16 \times 10^6/m</math>.  <b>Total Pressure:</b> Ambient  <b>Dynamic Pressure:</b> up to 162 N/m<sup>2</sup>  <b>Total Temperature:</b> Ambient  <b>Turbulence intensity:</b> &lt; 0.1%  <b>Run Time:</b> continuous.  <b>Typical Recharge Time:</b> n/a.</p>
<p><b>Test Section Size:</b> 2.4m x 1.2m x 15m.</p>	
<p><b>Operational Status:</b> Operational</p>	<p><b>Testing Capabilities:</b>  <b>Model Support:</b> 6-component overhead balance. Computer controlled 3-axis traverse system. 360° rotating floor mounted turntable.  <b>Data Acquisition:</b> multiple channel high speed data acquisition system.  <b>Outputs:</b> Forces and Moments, pressure and velocity (PIV, 4-channel hot wire anemometer).  <b>Flow visualisation:</b> Multiple smoke filament flow seeding, high speed video, surface oilflow. Hydrocarbon analyser for plume dispersion studies.</p>
<p><b>Number and Type of Staff:</b>  <b>Scientific:</b> n/k  <b>Technical Support:</b> 1 – 2 technicians</p>	
<p><b>Test support:</b> Workshop for wind tunnel model design, manufacture and modification capability.</p>	
<p><b>Specialist Rigs:</b></p> <ul style="list-style-type: none"> <li>• Interchangeable turbulence grids and surface roughness elements for atmospheric boundary layer simulation.</li> <li>• High pressure air system (blowing and suction).</li> </ul>	