

TFES Lab (ME EN 4650)
Flow Visualization: Raw Data Sheet

Name: Heather Anderson

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Lab Section: 007

Water temperature: 8.6 (°C)

-7000x x

Object	Description	Characteristic Dimension (mm)	Angle of Attack (deg)	Pump Frequency (Hz)	Flow Speed (cm/s)	Camera Images (# Range)
Airfoil	no angle of attack	50 (width)	0	8		253-257
	low angle of attack	↓	4	↓		258-263
	angle of attack before stall	↓	8	↓		264-268
	angle of attack after stall	↓	12	↓		271-275
Long Flat Plate	low speed (laminar)	455 (length)	-	4		231-235
	med speed (transition)	↓	-	8		236-240
	high speed (turbulent)	↓	-	12		241-245
Circular Cylinder	low speed	13 (dia)	-	4		169-173
	medium speed	↓	-	8		174-178
[your choice] golf ball	medium speed	44 (dia)	-	8		284-288
	high speed	↓	-	12		289-293

Flat plate: $Re_v = 500000$

$$Re = \frac{V \cdot L}{\nu} \quad , \nu = 1(10^{-6}) (m^2/s)$$

Flow velocity: displacement of dye in given time
time taken