

University of Illinois Department of Agricultural and Biological Engineering
Bioenvironmental and Structural Systems Lab
Final Report

Project Number: 09344
Test Date: December 16, 2009

Fan: Make- <i>Schaefer</i> Model- <i>366S12</i> Blade dia.- <i>36"</i> Orifice dia.- <i>37"</i> Blade: Number- <i>6</i> Shape- <i>propeller</i> Material- <i>galvanized steel</i> Pitch- <i>-</i> Clearance- <i>0.5"</i> Drive Sheaves: Drive dia.- <i>3.3", MA33</i> Axle dia.- <i>9.3", AK94</i>	Motor: Make- <i>Marathon</i> Model- <i>DWF56B17T20F</i> Hp- <i>1/2</i> RPM- <i>1725</i> Volts- <i>115/230</i> Amps- <i>4.6/2.3</i> Hz- <i>60</i> Phase- <i>1</i> S. F.- <i>1.0</i> Housing: Material- <i>galvanized steel</i> Intake area- <i>40.6"x41"</i> Discharge- <i>40.8"x41"</i> Depth- <i>30.3" top, 23"</i> <i>0</i>	Shutter: Material- <i>aluminum</i> # Doors- <i>11 per column</i> # Columns- <i>2</i> Door length <i>20.7"</i> Location- <i>intake</i> Guards: Description- <i>wire</i> Spacing- <i>1" x 2"</i> Location- <i>exhaust</i> Discharge Cone: Depth- <i>none</i> Minor dia.- <i>-</i> Major dia.- <i>-</i>
--	--	--

Notes: AFR 0.71

Test Conditions:

T(wb):	54.5	Barometric pressure, recorded	29.80
T(db):	76.5	Barometric Pressure, corrected	29.67

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	9280	596	230.5	2.08	452	20.5
0.05	8630	594	229.9	2.20	476	18.1
0.10	8030	592	230.0	2.26	489	16.4
0.15	7340	591	230.1	2.34	511	14.4
0.20	6110	589	229.8	2.59	539	11.3
0.25	4510	587	229.8	2.65	572	7.9
0.30	3650	583	230.4	2.83	613	6.0