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

Project Number: 07485
Test Date: November 20, 2007

Fan:
Make- *Better Air*
Model- *MPF-2000*
Blade dia.- *20.4"*
Orifice dia.- *20.7"*

Blade:
Number- *6*
Shape- *propeller*
Material- *plastic*
Pitch- -
Clearance- *0.2"*

Drive Sheaves:
Drive dia.- *direct*
Axle dia.- *drive*

Motor:
Make- *Vostermans*
Model- *4E50*
Hp- *1/2*
RPM- *1600*
Volts- *240*
Amps- *2.0*
Hz- *60*
Phase- *1*
S. F.- -

Housing:
Material- *plastic*
Intake area- *20.4"x20.4"*
Discharge- *20.7" dia.*
Depth- *21.3" top*
19.3" bottom

Shutter:
Material- *plastic*
Doors- *7 per column*
Columns- *2*
Door length- *10.4"*
Location- *intake*

Guards:
Description- *wire*
Spacing- *2" concentric*
Location- *exhaust*

Discharge Cone:
Depth- *none*
Minor dia.- -
Major dia.- -

Notes:

Test Conditions:

T(wb):	65	Barometric pressure, recorded	29.24
T(db):	81	Barometric Pressure, corrected	29.10

# Open Nozzle	Noz. Dia. (inch)	Pressure Drop (in.H2O)	Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
3	8	1.18	0.00	4615	1518	230.0	2.05	452	10.2
3	8	1.11	0.04	4465	1496	230.0	2.08	459	9.7
3	8	1.08	0.05	4414	1492	229.7	2.09	465	9.5
3	8	0.98	0.10	4193	1474	229.8	2.13	466	9.0
3	8	0.88	0.15	3972	1462	229.5	2.16	478	8.3
3	8	0.77	0.20	3725	1450	230.3	2.18	483	7.7
3	8	0.69	0.25	3512	1452	230.4	2.18	483	7.3
3	8	0.58	0.30	3230	1454	230.5	2.18	480	6.7