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

Project Number: 07470
Test Date: November 20, 2007

Fan:
Make- *Better Air*
Model- *LPF-2401C*
Blade dia.- *25"*
Orifice dia.- *25.3"*

Blade:
Number- *3*
Shape- *propeller*
Material- *plastic*
Pitch- -
Clearance- *0.2"*

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

Motor:
Make- *FHP*
Model- *M099907*
Hp- *1/2*
RPM- *1625*
Volts- *115/230*
Amps- *5.2/2.6*
Hz- *60*
Phase- *1*
S. F.- *1.0*

Housing:
Material- *plastic*
Intake area- *29.2" x 29.4"*
Discharge- *25.3" dia.*
Depth- *20.3"*

Shutter:
Material- *plastic*
Doors- *9 per column*
Columns- *2*
Door length- *14.8"*
Location- *intake*

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

Discharge Cone:
Depth- *19"*
Minor dia.- *25.3"*
Major dia.- *30.7"*

Notes:

Test Conditions:

T(wb):	63.5	Barometric pressure, recorded	29.34
T(db):	79	Barometric Pressure, corrected	29.21

# Open Nozzle	Noz. Dia. (inch)	Pressure Drop (in.H2O)	Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
4	8	1.82	0.00	7615	1588	230.5	2.57	578	13.2
4	8	1.66	0.04	7272	1579	230.4	2.64	590	12.3
4	8	1.63	0.05	7195	1575	230.3	2.66	595	12.1
4	8	1.46	0.10	6820	1565	230.5	2.71	608	11.2
4	8	1.30	0.15	6434	1556	230.4	2.76	616	10.4
4	8	1.14	0.20	6024	1549	230.4	2.80	622	9.7
4	8	1.02	0.25	5697	1544	230.5	2.82	630	9.0
4	8	0.86	0.30	5230	1540	230.5	2.84	631	8.3