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

Project Number: 07477
Test Date: November 20, 2007

Fan:
Make- *Better Air*
Model- *LPF-1800*
Blade dia.- *18.4"*
Orifice dia.- *18.6"*

Blade:
Number- *6*
Shape- *propeller*
Material- *plastic*
Pitch- -
Clearance- *.1"*

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

Motor:
Make- *FHP*
Model- *M099906*
Hp- *1/3*
RPM- *1625*
Volts- *115/230*
Amps- *3.6/1.8*
Hz- *60*
Phase- *1*
S. F.- *1.0*

Housing:
Material- *plastic*
Intake area- *18.4" x 18.4"*
Discharge- *18.6" dia.*
Depth- *21.5" top*
20" bottom

Shutter:
Material- *plastic*
Doors- *6*
Columns- *1*
Door length- *19.2"*
Location- *Intake*

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

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

Notes:

Test Conditions:

T(wb):	65.5	Barometric pressure, recorded	29.33
T(db):	81	Barometric Pressure, corrected	29.19

# Open Nozzle	Noz. Dia. (inch)	Pressure Drop (in.H2O)	Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
2	8	1.86	0.00	3858	1507	230.1	1.90	418	9.2
2	8	1.73	0.04	3721	1499	230.5	1.93	419	8.9
2	8	1.71	0.05	3699	1499	230.4	1.93	421	8.8
2	8	1.55	0.10	3522	1490	230.6	1.95	426	8.3
2	8	1.39	0.15	3335	1485	230.4	1.97	429	7.8
2	8	1.23	0.20	3137	1483	230.3	1.98	428	7.3
2	8	1.09	0.25	2945	1487	230.0	1.94	424	6.9
2	8	0.87	0.30	2636	1501	230.2	1.91	418	6.3