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

Project Number: 07452
Test Date: November 19, 2007

Fan:
Make- *Better Air*
Model- *LPF-3801-1*
Blade dia.- *36.4"*
Orifice dia.- *37"*

Blade:
Number- *3*
Shape- *propeller*
Material- *plastic*
Pitch- -
Clearance- *0.3"*

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

Motor:
Make- *FHP*
Model- *M009537*
Hp- *1.0*
RPM- *850*
Volts- *230*
Amps- *4.6*
Hz- *60*
Phase- *1*
S. F.- *1.1*

Housing:
Material- *plastic*
Intake area- *41" x 41"*
Discharge- *37" dia.*
Depth- *27.8" top*
27" bottom

Shutter:
Material- *plastic*
Doors- *12 per column*
Columns- *2*
Door length- *20.8"*
Location- *intake*

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

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

Notes:

Test Conditions:

T(wb):	59	Barometric pressure, recorded	29.44
T(db):	77	Barometric Pressure, corrected	29.31

# Open Nozzle	Noz. Dia. (inch)	Pressure Drop (in.H2O)	Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
6	8	2.71	0.00	13862	817	230.1	4.97	1118	12.4
6	8	2.43	0.05	13140	816	230.3	4.98	1126	11.7
6	8	2.18	0.10	12447	816	230.3	4.98	1119	11.1
6	8	1.90	0.15	11620	816	229.9	4.97	1117	10.4
6	8	1.64	0.20	10795	817	230.3	4.94	1118	9.7
6	8	1.28	0.25	9535	819	230.2	4.86	1098	8.7
6	8	0.76	0.30	7340	829	230.5	4.57	1034	7.1