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

Project Number: 07481
Test Date: November 20, 2007

Fan:
Make- *Better Air*
Model- *LPF-1200*
Blade dia.- *12.4"*
Orifice dia.- *12.6"*

Blade:
Number- *6*
Shape- *propeller*
Material- *plastic*
Pitch- -
Clearance- *0.1"*

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

Motor:
Make- *FHP*
Model- *M099905*
Hp- *1/3*
RPM- *1625*
Volts- *115/230*
Amps- *2.6/1.3*
Hz- *60*
Phase- *1*
S. F.- *1.0*

Housing:
Material- *plastic*
Intake area- *12.5" x 12.5"*
Discharge- *12.6" dia.*
Depth- *21" top*
19.5" bottom

Shutter:
Material- *plastic*
Doors- *4*
Columns- *1*
Door length- *13.3"*
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	29.27
T(db):	81	Barometric Pressure, corrected	29.13

# Open Nozzle	Noz. Dia. (inch)	Pressure Drop (in.H2O)	Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
1	8	1.66	0.00	1824	1638	229.7	1.11	252	7.2
1	8	1.52	0.04	1743	1638	230.0	1.12	249	7.0
1	8	1.49	0.05	1725	1639	229.7	1.10	255	6.8
1	8	1.29	0.10	1608	1642	230.2	1.12	253	6.4
1	8	1.09	0.15	1477	1646	229.9	1.08	244	6.1
1	6	0.63	0.18	630	1682	229.5	0.96	218	2.9
1	4	2.69	0.20	578	1680	229.8	0.96	217	2.7
1	4	1.90	0.25	486	1669	230.0	1.01	225	2.2
1	4	1.25	0.30	393	1664	229.8	1.02	230	1.7