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

Project Number: 07473
Test Date: November 20, 2007

Fan:
Make- *Better Air*
Model- *LPF-1600*
Blade dia.- *16.4"*
Orifice dia.- *16.7"*

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

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

Motor:
Make- *FHP*
Model- *M099905*
Hp- *1/4*
RPM- *1625*
Volts- *115/230*
Amps- *2.6/1.3*
Hz- *60*
Phase- *1*
S. F.- *1.0*

Housing:
Material- *plastic*
Intake area- *16.5" x 16.5"*
Discharge- *16.7" dia.*
Depth- *21" top*
19.3" bottom

Shutter:
Material- *plastic*
Doors- *5*
Columns- *1*
Door length- *17.2*
Location- *intake*

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

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

Notes:

Test Conditions:

T(wb):	65	Barometric pressure, recorded	29.36
T(db):	80	Barometric Pressure, corrected	29.22

# Open Nozzle	Noz. Dia. (inch)	Pressure Drop (in.H2O)	Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
2	8	0.99	0.00	2809	1633	229.7	1.12	256	11.0
2	8	0.93	0.04	2722	1628	230.0	1.15	260	10.5
2	8	0.91	0.05	2685	1626	229.5	1.15	259	10.4
2	8	0.83	0.10	2571	1620	230.0	1.17	265	9.7
2	8	0.76	0.15	2452	1615	229.7	1.19	271	9.0
2	8	0.68	0.20	2317	1612	229.5	1.21	268	8.6
2	8	0.59	0.25	2157	1611	229.9	1.20	271	8.0
1	8	1.87	0.30	1931	1613	230.1	1.21	273	7.1