

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

Project Number: 07480
Test Date: November 20, 2007

Fan:
 Make- *Better Air*
 Model- *LPF-1400*
 Blade dia.- *14.3"*
 Orifice dia.- *14.6"*

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*

Shutter:
 Material- *plastic*
 # Doors- *4*
 # Columns- *1*
 Door length- *15.1*
 Location- *Intake*

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

Housing:
 Material- *plastic*
 Intake area- *14.4" x 14.4"*
 Discharge-
 Depth- *21" top*
19.3" bottom

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

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

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

Notes:

Test Conditions:

T(wb): 64.5 Barometric pressure, recorded 29.27
 T(db): 79 Barometric Pressure, corrected 29.14

# Open Nozzle	Noz. Dia. (inch)	Pressure		Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
		Drop (in.H2O)	Static (in.H2O)						
2	8	0.73	0.00	2403	1550	229.6	1.34	300	8.0
2	8	0.67	0.04	2310	1549	229.8	1.35	305	7.6
2	8	0.66	0.05	2293	1552	230.5	1.34	306	7.5
2	8	0.59	0.10	2167	1553	230.5	1.35	305	7.1
2	8	0.51	0.15	2014	1557	230.4	1.33	302	6.7
1	8	0.73	0.20	1206	1633	230.6	1.11	248	4.9
1	6	1.55	0.25	988	1616	230.0	1.15	266	3.7
1	6	1.08	0.30	824	1599	230.6	1.22	279	3.0