

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

Project Number: 07469
Test Date: November 20, 2007

Fan:
 Make- *Better Air*
 Model- *LPF-2401*
 Blade dia.- *25"*
 Orifice dia.- *25.3"*

Motor:
 Make- *FHP*
 Model- *M099907*
 Hp- *1/2*
 RPM- *1625*
 Volts- *115/230*
 Amps- *5.2/2.6*
 Hz- *60*
 Phase- *1*
 S. F.- *1.0*

Shutter:
 Material- *plastic*
 # Doors- *9 per column*
 # Columns- *2*
 Door length- *14.8"*
 Location- *intake*

Blade:
 Number- *3*
 Shape- *propeller*
 Material- *plastic*
 Pitch- *-*
 Clearance- *0.2"*

Housing:
 Material- *plastic*
 Intake area- *29.2" x 29.4"*
 Discharge- *25.3" dia.*
 Depth- *20.3"*

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): 63 Barometric pressure, recorded 29.34
 T(db): 78 Barometric Pressure, corrected 29.21

# Open Nozzle	Noz. Dia. (inch)	Pressure		Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
		Drop (in.H2O)	Static (in.H2O)						
4	8	1.49	0.00	6871	1574	230.6	2.72	610	11.3
4	8	1.36	0.04	6575	1564	230.4	2.75	613	10.7
4	8	1.33	0.05	6502	1561	230.3	2.77	613	10.6
4	8	1.21	0.10	6188	1555	230.3	2.80	625	9.9
4	8	1.07	0.15	5830	1550	230.4	2.82	625	9.3
4	8	0.94	0.20	5449	1547	230.2	2.83	633	8.6
4	8	0.82	0.25	5101	1545	230.3	2.87	632	8.1
4	8	0.71	0.30	4728	1546	230.6	2.83	629	7.5