

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

Project Number: 07475
 Test Date: November 20, 2007

Fan:
 Make- *Better Air*
 Model- *LPF-2000*
 Blade dia.- *20.4"*
 Orifice dia.- *20.7"*

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

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

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*

Housing:
 Material- *plastic*
 Intake area- *20.4"x20.4"*
 Discharge- *20.7" dia.*
 Depth- *21.3" top*
 19.3" bottom

Shutter:
 Material- *plastic*
 # Doors- *7 per column*
 # Columns- *2*
 Door length- *10.4"*
 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 29.35
 T(db): 80 Barometric Pressure, corrected 29.21

# Open Nozzle	Noz. Dia. (inch)	Pressure		Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
		Drop (in.H2O)	Static Pressure (in.H2O)						
2	8	3.24	0.00	5083	1568	229.6	2.64	587	8.7
2	8	3.06	0.04	4936	1565	229.7	2.68	596	8.3
2	8	3.01	0.05	4900	1562	229.5	2.67	599	8.2
2	8	2.81	0.10	4735	1558	229.7	2.71	604	7.8
2	8	2.62	0.15	4572	1553	229.7	2.73	604	7.6
2	8	2.40	0.20	4372	1550	229.9	2.74	610	7.2
2	8	2.18	0.25	4167	1548	229.6	2.74	611	6.8
2	8	1.95	0.30	3945	1547	229.8	2.50	611	6.5