

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

Project Number: 06045
Test Date: March 2, 2006

Fan:

Make- *Valco*
 Model- *HPM36W340LGAT*
 Blade dia.- *36"*
 Orifice dia.- *36.7"*

Blade:

Number- *3*
 Shape- *propeller*
 Material- *galvanized steel*
 Pitch- *-*
 Clearance- *0.4"*

Drive Sheaves:

Drive dia.- *4" o.d.*
 Axle dia.- *8.3" o.d.*

Motor:

Make- *Raydot*
 Model- *K56B06D27*
 Hp- *1.0*
 RPM- *1725/1425*
 Volts- *115/230*
 Amps- *9.6/4.8*
 Hz- *60/50*
 Phase- *1*
 S. F.- *1.4*

Housing:

Material- *fiberglass*
 Intake area- *40.8" x 40.5"*
 Discharge- *36.7" o.d.*
 Depth- *24" top*
 20.3" bottom

Shutter:

Material- *aluminum*
 # Doors- *11 per column*
 # Columns- *2*
 Door length *20.8"*
 Location- *intake*

Guards:

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

Discharge Cone:

Depth- *27.8"*
 Minor dia.- *36.7"*
 Major dia.- *45.5"*

Notes: *60 Hz, 1 ph. test*

Test Conditions:

T(wb):	56	Barometric pressure, recorded	29.31
T(db):	78	Barometric Pressure, corrected	29.18

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	15900	840	229.5	4.36	872	18.2
0.05	15100	838	229.7	4.56	922	16.4
0.10	14300	836	230.4	4.77	971	14.7
0.15	13400	835	230.4	5.02	1026	13.1
0.20	12500	833	230.2	5.21	1070	11.7
0.25	11400	832	229.9	5.41	1109	10.3
0.30	7400	833	229.9	5.23	1073	6.9