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

Project Number: 08360
Test Date: December 19, 2008

Fan:
Make- *J & D*
Model- *VBG55A3C23*
Blade dia.- *55"*
Orifice dia.- *55.5"*

Blade:
Number- *3*
Shape- *propeller*
Material- *cast aluminum*
Pitch- -
Clearance- *0.3"*

Drive Sheaves:
Drive dia.- *3.95" o.d.*
Axle dia.- *10" o.d.*

Motor:
Make- *Emerson*
Model- *P63SYFGE-4116*
Hp- *2.0*
RPM- *1725/1425*
Volts- *208-230/460*
Amps- *6.2/3.1*
Hz- *60/50*
Phase- *3*
S. F.- *1.15*

Housing:
Material- *galvanized steel*
Intake area- *57.6" x 57.7"*
Discharge- *55.5"*
Depth- *20.1"*

Shutter:
Material- *galvanized steel*
Doors- *2*
Columns- -
Door length -
Location- *exhaust*

Guards:
Description- *wire*
Spacing- *2"x4" / 2" concentric*
Location- *intake / exhaust*

Discharge Cone:
Depth- *36.6"*
Minor dia.- *55.5"*
Major dia.- *63.8"*

Notes: *blade JF3*

Test Conditions:

T(wb):	57	Barometric pressure, recorded	29.01
T(db):	78.5	Barometric Pressure, corrected	28.88

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	**34800**	653	234.3	5.70	1988	**17.5**
0.05	**33200**	651	234.3	5.86	2052	**16.2**
0.10	**31400**	649	234.3	6.03	2121	**14.8**
0.15	**29500**	648	234.5	6.19	2190	**13.5**
0.20	**27300**	646	234.4	6.31	2240	**12.2**
0.25	**25200**	645	234.5	6.41	2279	**11.1**
0.30	**23300**	644	234.3	6.48	2305	**10.1**