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

Project Number: 08359
Test Date: December 19, 2008

Fan:
Make- *J & D*
Model- *VBG55G3C23*
Blade dia.- *54.9"*
Orifice dia.- *55.5"*

Blade:
Number- *3*
Shape- *propeller*
Material- *galvanized steel*
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 L130*

Test Conditions:

T(wb):	56	Barometric pressure, recorded	29.00
T(db):	78	Barometric Pressure, corrected	28.87

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	**35000**	651	235.1	5.78	2023	**17.3**
0.05	**33600**	649	234.9	5.96	2100	**16.0**
0.10	**32000**	648	234.8	6.16	2180	**14.7**
0.15	**30500**	646	234.8	6.31	2243	**13.6**
0.20	**28700**	645	235.2	6.46	2301	**12.5**
0.25	**27100**	643	234.9	6.60	2364	**11.5**
0.30	**25300**	642	235.0	6.67	2391	**10.6**