

Swirl Diffuser - Airflow Testing

Manufacturer:
Custom Plastic Distributors
EUT Information
Swirl Diffuser
Date:
6/14/10

Testing Conditions:	
Temperature (°C)	24.2
Temperature (°C)	23.4
Temperature (°C)	24.0
Barometric Pressure (Pa)	100200
Humidity (%)	55%
Calculated Nozzle Diameter (in.)	2
Nozzle(s) Used (in.)	1 x 2"

Test	Duct CFM	Plenum Pressure (in. H₂O)	Vertical Projection - Throw (ft) @ 150, 100, & 50 lfm	Horizontal Spread (ft) @ 50 LFM Min. Flow Rate
1	60	0.05	1.2 / 1.4 / 2.9	2.2
2	70	0.07	1.3 / 2.0 / 3.5	3.1
3	80	0.09	1.5 / 2.0 / 3.7	3.4
4	90	0.10	1.6 / 2.1 / 4.4	3.7
5	100	0.14	2.0 / 2.5 / 5.0	4.0
6	110	0.15	2.0 / 2.6 / 5.4	4.3
7	120	0.18	2.1 / 2.6 / 5.6	4.5

Performance Notes:

- Throw & Spread were tested in a room with a ceiling height of 11', with isothermal air condition (24°C)
- spread is the maximum distance (ft), measured parallel to the plane of the outlet between the extremes of the terminal velocity envelope (50, 100, and 150 lfm).
- Throw is the distance (ft) from the center of the outlet to a point in the mixed airstream where the highest sustained velocity of the mixed airstream has been reduced to a specific level (50 lfm).
- Test Conducted with damper fully opened
- Data derived in accordance to ANSI/ASHRAE Standard 70-1991

Testing Notes:

- 1 Tested in accordance with ANSI ASHRAE 70-1991
- 2 Test Procedure 6.4.4 - Isothermal Air
- 3 Static pressure measured with test installation D (section 6.2.4)
- 4 Device Class III (section 6.4.3.1.4)
- 5 Room Dimensions = 30' x 20' x 11' H
- 6 Airflow Probe - DegreeC - Cambridge Accusense UAS Hot Wire Anemometer
- 7 All tests conducted with damper fully opened



Test Set-Up



Close-up of Diffuser Under Test (Test Points in Blue)



Test Set-Up



Close-up of Airflow Sensor



Test Set-Up