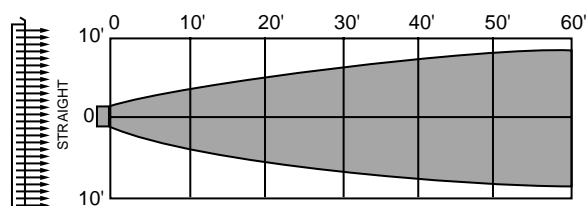


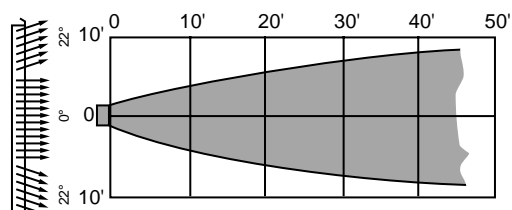
## Engineering Data

### A618MS, 821, 831, 92 Series, 98VOH, H and V Series Registers and Grilles, Air Pattern Obtained with Various Deflection Settings

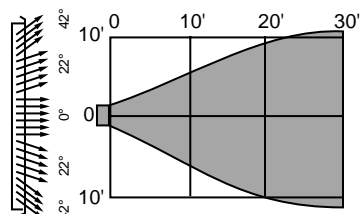
#### A DEFLECTION



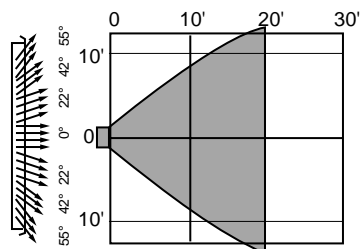
#### C DEFLECTION



#### E DEFLECTION



#### G DEFLECTION



### Recommended NC Criteria

	Communication Environment	Typical Occupancy
Below NC 25	Extremely quiet environment; suppressed speech is quite audible; suitable for acute pickup of all sounds	Broadcasting studios, concert halls, music rooms.
NC 30	Very quiet office; suitable for large conferences; telephone use satisfactory.	Residences, theatres, libraries, executive offices, directors rooms.
NC 35	Quiet office; satisfactory for conference at a 15 ft. table; normal voice 10-30 ft.; telephone use satisfactory.	Private offices, schools, hotel rooms, courtrooms, churches, hospital rooms.
NC 40	Satisfactory for conferences at a 6-8 ft. table; normal voice 6-12 ft.; telephone use satisfactory.	General office, labs, dining rooms.
NC 45	Satisfactory for conferences at a 4-5 ft. table; normal voice 3-6 ft.; raised voice 6-12 ft.; telephone use occasionally difficult.	Retail stores, cafeterias, lobby areas, large drafting & engineering offices, reception areas.
Above NC 50	Unsatisfactory for conference of more than two or three persons, normal voice 1-2 ft.; raised voice 3-6 ft.; telephone use slightly difficult.	Computer rooms, stenographic pools, print machine rooms, process areas.

### Velocity Limitations for Various Applications

The sound caused by an air outlet in operation is directly proportional to the velocity of the air passing through it. By selecting outlets of proper sizes, air velocities can be controlled within safe sound limits.

The following recommended outlet velocities are within the safe sound limits for most applications.

Application	Recommended Velometer Velocities
Broadcasting Studios	500 FPM
Residences	500 to 750 FPM
Apartments	500 to 750 FPM
Churches	500 to 750 FPM
Hotel Bedrooms	500 to 750 FPM
Legitimate Theatres	500 to 1000 FPM
Private offices, acoustically treated	500 to 1000 FPM
Motion Picture Theatres	1000 to 1250 FPM
Private Offices, not treated	1000 to 1250 FPM
General Offices	1250 to 1500 FPM
Stores, upper floors	1500 FPM
Stores, main floors	1500 FPM
Industrial Buildings	1500 to 2000 FPM