corner loading.

See the charts below. The first one is the response of the cabinet if it were placed in free space. It is overdamped and has a gradual rolloff curve. It needs to have a curve like this because lower frequencies below the modal region tend to pressurize the room rather than develop standing waves. This causes bass boost and would make the speaker to sound boomy if it didn't have this resonse curve. The second curve shows response with room gain.

Bass response without room gain

Bass response including room gain

There are three distinct frequency ranges in a room and sound acts differently in each of these regions. The first region is the pressure range where the room is uniformly pressurized, below about 20-30Hz. The second region is the modal range where standing wave nodes form, between 20-30Hz and 150-200Hz. The third region is the reverberent range, above about 200Hz.

The pressure mode is at low frequencies with wavelengths longer than any dimension of the room. This causes a uniform bass boost of approximately 12dB/octave. Boost is greatest in small, tight rooms and least in large rooms with lots of open doors.

The next region is the modal range where at least one dimension of the room develops standing waves. The modal range usually starts around 20-30Hz and ends around 150-200Hz. In the modal range, pockets form throughout the room in 3D space where bass notes are either louder or softer, depending on frequency and position. Standing wave nodes constructively or destructively combine to form the pockets of louder or softer bass.

Standing wave modes are spaced far apart at the lowest frequencies of the modal range, which makes them the most noticeable. As frequency rises, the separation between modes gets closer and closer to a point where you can't tell them apart. When the bandwidth of each node is wider than the separation between nodes, there is no longer any clear distinction between nodes. Above this point, called the Schroeder frequency, the sound in the room forms a reverberent field.