Calculation on strength of rim

$P = \frac{4sz}{L}$ = load

s = strength of wood = 5000 #/sq"
z = section modulus = $\frac{bh^3}{6}$
L = length of beam

For minor chord

$$P = \frac{4 \cdot 5000 \cdot 1.625 \cdot 9^2}{4.25 \cdot 12 \cdot 6} = 8600\#$$

For 1/2 minor chord

$$P = \frac{4 \cdot 5000 \cdot 1.625 \cdot 4.5^2}{1.75 \cdot 12 \cdot 6} = 5200\#$$

Dead load = 1250#
Wind = 5450#
6700# max

† This does not take into account the effect of metal band.

$F_1 \cos 45^0 + F_2 \cos 32.5^0 = F_3$
$F_1 \sin 45^0 = F_2 \sin 32.5^0$
$F_1 = .551 F_3$, $F_5 = 390 F_3$
$F_2 = .722 F_3$ $F_4 = .610 F_3$

$\sin 32\frac{1}{2}^0 = .539$
$\cos$ " $= .844$
$\sin 45^0 = .707$
$\cos$ " = "

Difference in bearing height = (.844 - .707) · 12.0833 = 1' 7 7/8"
Distance between centers = (.539 + .707) · 12.0833 = 15' 1/2"
offset of north bearing = 2 X .707 = 1 1/2"
" " south " = 2 X .500 = 1
Total distance 15' 3"