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|--|---------------|-----------------------------------|
| width of cathedral roof (ft) | 26.00 | halve for beam load |
| width of slanted ceiling (ft) | 10.00 | this is just 1 side |
| width of central ceiling (ft) | 11.50 | halve for beam load |
| width of kitchen ceiling (ft) | 12.00 | halve for beam load |
| slope factor of cathedral roof | 1.30 | for 10/12 roof pitch |
| supported area of kitchen roof (sq-ft) | 40.00 | a 5x16ft triangle |
| length of header (ft) | 10.00 | only to distribute side roof load |
| length of cathedral rafter (ft) | 16.92 | |
| attic live load (lb/sq-ft) | 20 | |
| snow load (lb/sq-ft) | 20 | |
| cathedral roof loading (plf) | 138.76 | |
| 26ga MasterRib & underlayment | 1.50 | |
| 1/2" OSB decking | 1.70 | |
| 2x12 rafters @ 16" O.C. | 3.50 | |
| incidental | 1.50 | |
| slanted ceiling loading (plf) | 42.00 | |
| R-30 fiberglass insulation | 0.50 | |
| 1/2" drywall | 2.20 | |
| incidental | 1.50 | |
| central ceiling loading (plf) | 40.25 | |
| 2x8 collar ties | 2.50 | |
| R-30 fiberglass insulation | 0.50 | |
| 3/4" T&G ceiling | 2.50 | |
| incidental | 1.50 | |
| kitchen ceiling loading (plf) | 37.20 | |
| 2x8 joists | 2.50 | |
| 1/2" drywall | 2.20 | |
| incidental | 1.50 | |
| kitchen roof dead load (total) | 228.00 | |
| 2x8 rafter | 2.50 | |
| 1/2" OSB decking | 1.70 | |
| 26ga MasterRib & underlayment | 1.50 | |
| total dead load per linear-ft | 281 | |
| live loads (plf) | 575 | |
| snow load on cathedral roof | 260 | |
| kitchen attic | 120 | |
| central attic | 115 | |
| snow load on kitchen roof | 80 | |
| total load per linear-ft | 856 | |