

TABLE 2308.7.2(5)
RAFTER SPANS FOR COMMON LUMBER SPECIES
 (Ground snow load = 30 psf, ceiling attached to rafters, $L/\Delta = 240$)

| RAFTER SPACING (inches) | SPECIES AND GRADE | | DEAD LOAD = 10 psf | | | | | DEAD LOAD = 20 psf | | | | |
|-------------------------------|-------------------|----|-----------------------------------|-------------|-------------|-------------|-------------|--------------------|-------------|-------------|-------------|-------------|
| | | | 2 × 4 | 2 × 6 | 2 × 8 | 2 × 10 | 2 × 12 | 2 × 4 | 2 × 6 | 2 × 8 | 2 × 10 | 2 × 12 |
| | | | Maximum rafter spans ^a | | | | | | | | | |
| | | | (ft. - in.) | (ft. - in.) | (ft. - in.) | (ft. - in.) | (ft. - in.) | (ft. - in.) | (ft. - in.) | (ft. - in.) | (ft. - in.) | (ft. - in.) |
| 12 | Douglas Fir-Larch | SS | 9-1 | 14-4 | 18-10 | 24-1 | Note b | 9-1 | 14-4 | 18-10 | 24-1 | Note b |
| | Douglas Fir-Larch | #1 | 8-9 | 13-9 | 18-2 | 22-9 | Note b | 8-9 | 13-2 | 16-8 | 20-4 | 23-7 |
| | Douglas Fir-Larch | #2 | 8-7 | 13-6 | 17-5 | 21-4 | 24-8 | 8-5 | 12-4 | 15-7 | 19-1 | 22-1 |
| | Douglas Fir-Larch | #3 | 7-1 | 10-5 | 13-2 | 16-1 | 18-8 | 6-4 | 9-4 | 11-9 | 14-5 | 16-8 |
| | Hem-Fir | SS | 8-7 | 13-6 | 17-10 | 22-9 | Note b | 8-7 | 13-6 | 17-10 | 22-9 | Note b |
| | Hem-Fir | #1 | 8-5 | 13-3 | 17-5 | 22-2 | 25-9 | 8-5 | 12-10 | 16-3 | 19-10 | 23-0 |
| | Hem-Fir | #2 | 8-0 | 12-7 | 16-7 | 21-0 | 24-4 | 8-0 | 12-2 | 15-4 | 18-9 | 21-9 |
| | Hem-Fir | #3 | 7-1 | 10-5 | 13-2 | 16-1 | 18-8 | 6-4 | 9-4 | 11-9 | 14-5 | 16-8 |
| | Southern Pine | SS | 8-11 | 14-1 | 18-6 | 23-8 | Note b | 8-11 | 14-1 | 18-6 | 23-8 | Note b |
| | Southern Pine | #1 | 8-7 | 13-6 | 17-10 | 22-3 | Note b | 8-7 | 13-5 | 17-0 | 19-11 | 23-7 |
| | Southern Pine | #2 | 8-3 | 12-11 | 16-4 | 19-5 | 22-10 | 7-8 | 11-7 | 14-8 | 17-4 | 20-5 |
| | Southern Pine | #3 | 6-7 | 9-9 | 12-4 | 15-0 | 17-9 | 5-11 | 8-9 | 11-0 | 13-5 | 15-10 |
| | Spruce-Pine-Fir | SS | 8-5 | 13-3 | 17-5 | 22-3 | Note b | 8-5 | 13-3 | 17-5 | 22-3 | Note b |
| | Spruce-Pine-Fir | #1 | 8-3 | 12-11 | 17-0 | 21-4 | 24-8 | 8-3 | 12-4 | 15-7 | 19-1 | 22-1 |
| | Spruce-Pine-Fir | #2 | 8-3 | 12-11 | 17-0 | 21-4 | 24-8 | 8-3 | 12-4 | 15-7 | 19-1 | 22-1 |
| | Spruce-Pine-Fir | #3 | 7-1 | 10-5 | 13-2 | 16-1 | 18-8 | 6-4 | 9-4 | 11-9 | 14-5 | 16-8 |
| 16 | Douglas Fir-Larch | SS | 8-3 | 13-0 | 17-2 | 21-10 | Note b | 8-3 | 13-0 | 17-2 | 21-3 | 24-8 |
| | Douglas Fir-Larch | #1 | 8-0 | 12-6 | 16-2 | 19-9 | 22-10 | 7-10 | 11-5 | 14-5 | 17-8 | 20-5 |
| | Douglas Fir-Larch | #2 | 7-10 | 11-11 | 15-1 | 18-5 | 21-5 | 7-3 | 10-8 | 13-6 | 16-6 | 19-2 |
| | Douglas Fir-Larch | #3 | 6-2 | 9-0 | 11-5 | 13-11 | 16-2 | 5-6 | 8-1 | 10-3 | 12-6 | 14-6 |
| | Hem-Fir | SS | 7-10 | 12-3 | 16-2 | 20-8 | 25-1 | 7-10 | 12-3 | 16-2 | 20-8 | 24-2 |
| | Hem-Fir | #1 | 7-8 | 12-0 | 15-9 | 19-3 | 22-3 | 7-7 | 11-1 | 14-1 | 17-2 | 19-11 |
| | Hem-Fir | #2 | 7-3 | 11-5 | 14-11 | 18-2 | 21-1 | 7-2 | 10-6 | 13-4 | 16-3 | 18-10 |
| | Hem-Fir | #3 | 6-2 | 9-0 | 11-5 | 13-11 | 16-2 | 5-6 | 8-1 | 10-3 | 12-6 | 14-6 |
| | Southern Pine | SS | 8-1 | 12-9 | 16-10 | 21-6 | Note b | 8-1 | 12-9 | 16-10 | 21-6 | 25-11 |
| | Southern Pine | #1 | 7-10 | 12-3 | 16-2 | 19-3 | 22-10 | 7-10 | 11-7 | 14-9 | 17-3 | 20-5 |
| | Southern Pine | #2 | 7-6 | 11-2 | 14-2 | 16-10 | 19-10 | 6-8 | 10-0 | 12-8 | 15-1 | 17-9 |
| | Southern Pine | #3 | 5-9 | 8-6 | 10-8 | 13-0 | 15-4 | 5-2 | 7-7 | 9-7 | 11-7 | 13-9 |
| | Spruce-Pine-Fir | SS | 7-8 | 12-0 | 15-10 | 20-2 | 24-7 | 7-8 | 12-0 | 15-10 | 19-9 | 22-10 |
| | Spruce-Pine-Fir | #1 | 7-6 | 11-9 | 15-1 | 18-5 | 21-5 | 7-3 | 10-8 | 13-6 | 16-6 | 19-2 |
| | Spruce-Pine-Fir | #2 | 7-6 | 11-9 | 15-1 | 18-5 | 21-5 | 7-3 | 10-8 | 13-6 | 16-6 | 19-2 |
| | Spruce-Pine-Fir | #3 | 6-2 | 9-0 | 11-5 | 13-11 | 16-2 | 5-6 | 8-1 | 10-3 | 12-6 | 14-6 |
| 19.2 | Douglas Fir-Larch | SS | 7-9 | 12-3 | 16-1 | 20-7 | 25-0 | 7-9 | 12-3 | 15-10 | 19-5 | 22-6 |
| | Douglas Fir-Larch | #1 | 7-6 | 11-8 | 14-9 | 18-0 | 20-11 | 7-1 | 10-5 | 13-2 | 16-1 | 18-8 |
| | Douglas Fir-Larch | #2 | 7-4 | 10-11 | 13-9 | 16-10 | 19-6 | 6-8 | 9-9 | 12-4 | 15-1 | 17-6 |
| | Douglas Fir-Larch | #3 | 5-7 | 8-3 | 10-5 | 12-9 | 14-9 | 5-0 | 7-4 | 9-4 | 11-5 | 13-2 |
| | Hem-Fir | SS | 7-4 | 11-7 | 15-3 | 19-5 | 23-7 | 7-4 | 11-7 | 15-3 | 19-1 | 22-1 |
| | Hem-Fir | #1 | 7-2 | 11-4 | 14-4 | 17-7 | 20-4 | 6-11 | 10-2 | 12-10 | 15-8 | 18-2 |
| | Hem-Fir | #2 | 6-10 | 10-9 | 13-7 | 16-7 | 19-3 | 6-7 | 9-7 | 12-2 | 14-10 | 17-3 |
| | Hem-Fir | #3 | 5-7 | 8-3 | 10-5 | 12-9 | 14-9 | 5-0 | 7-4 | 9-4 | 11-5 | 13-2 |

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