



November 2, 2020

Attn: Mr. Peter Abou Chacra  
SunModo  
14800 NE 65<sup>th</sup> St.  
Vancouver, WA 98682

RE: SunModo – SMR100 System  
PV Panel Racking System  
State of Michigan Certification Letter

SEI Project No.: 19498.00

Dear Mr. Abou Chacra:

Structural Enginuity Inc. (SEI) has completed its review of the SunModo – SMR100 Rail System for typical installations in the state of Michigan. The SMR100 Rail is compliant with the sections of the following design references and codes when installed per the conditions and design criteria delineated herein.

**Design References and Codes:**

- ASCE 7-10 – Minimum Design Loads for Buildings and Other Structures
- 2015 Aluminum Design Manual, by the Aluminum Association
- Materials information and section and details provided by SunModo as appendages to this letter
- 2015 International Building Code and 2015 International Residential Code
- AC428, Acceptance Criteria for Modular Framing Systems Used to Support Photovoltaic (PV) Modules, November 2012 by ICC-ES

**General Mounting System and Analysis Overview:**

The SMR100 Rail consists of 6005-T5 (acceptable alternative materials include 6005A-T61 and 6061-T6) extruded aluminum per ASTM B221-08. The rails are used in pairs to support photovoltaic solar panels in order to span between points of attachment to the existing roof structure. The following tables and information summarize the structural analysis performed by SEI in order to certify the SMR100 Rail for the state noted above.

The analysis for certification included the following parameters for each rail system.

SMR100 Rail:

- Risk Category II
- Roof Slopes up to 45 degrees
- Portrait & Landscape orientation of photovoltaic panels
- Max Module Dimensions = Varies, see tables
- Max Mean Roof Height = Varies, see tables (If roof slope < 10°, use eave height)

1815 W. Diehl Rd, Suite 100, Naperville, IL 60563  
630-219-1997 (P)  
www.structuralenginuityinc.com

- Wind Analysis:
  - o Wind Category: B, C, and D
  - o Roof Zones 1, 2, and 3
  - o Wind Directionality Factor ( $K_d$ ) = 0.85
  - o Topographic Factor ( $K_{zt}$ ) = 1
- Snow Analysis:
  - o Snow Exposure Factor ( $C_e$ ) = 1.0
  - o Thermal Factor ( $C_t$ ) = 1.0
  - o Slope Factor ( $C_s$ ) per ASCE 7-10, Figure 7-2a
  - o Importance Factor ( $I_s$ ) = 1
- Seismic Analysis:
  - o Seismic Design Category E or less ( $S_d$  = 2.0 max)
  - o Importance Factor ( $I_p$ ) = 1
  - o Amplification Factor ( $a_p$ ) = 1.0 per ICC-AC428
  - o Component Response Modification Factor ( $R_p$ ) = 1.5 per ICC-AC 428

Applicable loading combinations consisting of dead, wind, snow, and seismic loads in accordance with the governing code requirements were used to determine allowable rail span lengths, based on bending stress capacity, shear capacity, axial capacity, and an assumption of a single-span condition with an allowable deflection of  $L/60$ . Design wind pressures were determined using Components and Cladding calculations per ASCE 7-10, Chapters 26-30 in conjunction with the loading parameters noted above. Applicable roof snow load shall be based on ground snow load maps, equations, and factors of ASCE 7-10, Chapter 7 and applicable sections of the 2015 International Building Code for the location of the project in combination with the loading parameters noted above.

It should be noted that the analysis was limited to the capacity of the SMR100 Rail. Attachments of the rail to the roof structure and analysis of the roof structure itself shall be the responsibility of the installer, and should be reviewed and approved by a registered design professional where required by the local authority having jurisdiction.

### **Installation Notes:**

The SMR100 Rail shall be installed with the following guidelines to be in compliance with attached span tables:

- Tables noted below assume two support rails are being used per each row of photovoltaic modules in a roof solar array.
- Rails shall be continuous and not spliced over a minimum of 2 supports except for span lengths shaded with  In these cases it is acceptable to use a minimum of 1 support per rail section as long as all supports are located at a maximum of 48" on center and the first and last rail sections have a minimum of 2 supports. Splices shall be made with SunModo's structural splice.
- System shall be mounted parallel to roof surface with a 2" to 10" gap between roof surface and bottom of module.
- Installation over roof overhangs or within 10" of any roof edge is not recommended
- Maximum end cantilever of aluminum support rail shall not exceed 1/3 of allowable span in the roof wind pressure zone of the cantilever.

- Tables attached are limited to structural capability of the support rails only; therefore, observe all local jurisdiction requirements regarding roof setback requirements when laying out support rails and solar array.
- Actual span lengths used must be within capacity of roof attachment and structural capacity of roof member supporting solar array.

**Conclusion and Certification Summary:**

Based on the structural analysis performed by SEI in regard to the loading parameters specified above for SMR100 Rail, the following Span Tables for the SunModo SMR100 Rail System were determined. The various span information is controlled by the applicable wind and snow loads to the structure to which the array is being mounted on the roof and based on the roof zone to which the array is installed on the roof. The tables allow for multiple panel sizes and orientations as outlined on the table of contents and on the headers of each table.

This letter is to certify that the loading criteria and design basis used for the structural analysis of the SMR100 Rail System for the span tables attached is validated and performed in compliance with the 2015 International Building Code and 2015 International Residential Code.

Please contact our office if you have any further questions relating to this matter.

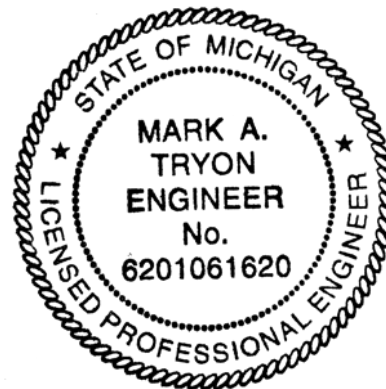
Sincerely,



Peter Martin  
Engineer III  
[pmartin@structuralenginuityinc.com](mailto:pmartin@structuralenginuityinc.com)

Mark A. Tryon, P.E.  
Vice-President/Founder  
[mtryon@structuralenginuityinc.com](mailto:mtryon@structuralenginuityinc.com)

**Structural Enginuity Inc.**



11/10/2020

## **Table of Contents**

|   |         |
|---|---------|
| 60 Cell Module (Portrait Orientation, Max Length 67.5") | C1-C18  |
| Mean Roof Height Less Than 15 Feet                      |         |
| -Gable Roof, Roof Slope Between 0 and 7 degrees         | C1-C3   |
| -Gable Roof, Roof Slope Between 7 and 27 degrees        | C4-C6   |
| -Gable Roof, Roof Slope Between 27 and 45 degrees       | C7-C9   |
| Mean Roof Height Between 15 and 30 Feet                 |         |
| -Gable Roof, Roof Slope Between 0 and 7 degrees         | C10-C12 |
| -Gable Roof, Roof Slope Between 7 and 27 degrees        | C13-C15 |
| -Gable Roof, Roof Slope Between 27 and 45 degrees       | C16-C18 |
| Module in Landscape Orientation (Max Width 42")         | C19-C36 |
| Mean Roof Height Less Than 15 Feet                      |         |
| -Gable Roof, Roof Slope Between 0 and 7 degrees         | C19-C21 |
| -Gable Roof, Roof Slope Between 7 and 27 degrees        | C22-C24 |
| -Gable Roof, Roof Slope Between 27 and 45 degrees       | C25-C27 |
| Mean Roof Height Between 15 and 30 Feet                 |         |
| -Gable Roof, Roof Slope Between 0 and 7 degrees         | C28-C30 |
| -Gable Roof, Roof Slope Between 7 and 27 degrees        | C31-C33 |
| -Gable Roof, Roof Slope Between 27 and 45 degrees       | C34-C36 |
| 72 Cell Module (Portrait Orientation, Max Length 82")   | C37-C54 |
| Mean Roof Height Less Than 15 Feet                      |         |
| -Gable Roof, Roof Slope Between 0 and 7 degrees         | C37-C39 |
| -Gable Roof, Roof Slope Between 7 and 27 degrees        | C40-C42 |
| -Gable Roof, Roof Slope Between 27 and 45 degrees       | C43-C45 |
| Mean Roof Height Between 15 and 30 Feet                 |         |
| -Gable Roof, Roof Slope Between 0 and 7 degrees         | C46-C48 |
| -Gable Roof, Roof Slope Between 7 and 27 degrees        | C49-C52 |
| -Gable Roof, Roof Slope Between 27 and 45 degrees       | C53-C56 |

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 1</b> |                        | Mean Roof Height:  | $h \leq 15$ ft              |     | Panel Orientation: Portrait |     |     |     |     |     |     |     |     |     |
|----------------|------------------------|--------------------|-----------------------------|-----|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                |                        | Roof Angle:        | $0 < \theta \leq 7$ degrees |     |                             |     |     |     |     |     |     |     |     |     |
|                |                        | Exposure Category: | B                           |     |                             |     |     |     |     |     |     |     |     |     |
| Roof Wind Zone | Ground Snow Load (psf) | Wind Speed (mph)   |                             |     |                             |     |     |     |     |     |     |     |     |     |
|                |                        | 100                | 110                         | 115 | 120                         | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180 | 190 |
| Zone 1         | 0                      | 101                | 101                         | 101 | 101                         | 101 | 99  | 94  | 88  | 81  | 76  | 73  | 71  | 67  |
|                | 10                     | 87                 | 87                          | 87  | 87                          | 87  | 87  | 87  | 87  | 81  | 76  | 73  | 71  | 67  |
|                | 20                     | 69                 | 69                          | 69  | 69                          | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 67  |
|                | 30                     | 68                 | 68                          | 68  | 68                          | 68  | 68  | 68  | 68  | 68  | 68  | 68  | 68  | 67  |
|                | 40                     | 60                 | 60                          | 60  | 60                          | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  |
|                | 50                     | 54                 | 54                          | 54  | 54                          | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  |
|                | 60                     | 50                 | 50                          | 50  | 50                          | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50  |
|                | 70                     | 46                 | 46                          | 46  | 46                          | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  |
|                | 80                     | 44                 | 44                          | 44  | 44                          | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  |
| 90             | 41                     | 41                 | 41                          | 41  | 41                          | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  |     |
| Zone 2         | 0                      | 101                | 94                          | 90  | 85                          | 81  | 77  | 70  | 65  | 60  | 56  | 54  | 52  | 49  |
|                | 10                     | 87                 | 87                          | 87  | 85                          | 81  | 77  | 70  | 65  | 60  | 56  | 54  | 52  | 49  |
|                | 20                     | 69                 | 69                          | 69  | 69                          | 69  | 69  | 69  | 65  | 60  | 56  | 54  | 52  | 49  |
|                | 30                     | 68                 | 68                          | 68  | 68                          | 68  | 68  | 68  | 65  | 60  | 56  | 54  | 52  | 49  |
|                | 40                     | 60                 | 60                          | 60  | 60                          | 60  | 60  | 60  | 60  | 60  | 56  | 54  | 52  | 49  |
|                | 50                     | 54                 | 54                          | 54  | 54                          | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 52  | 49  |
|                | 60                     | 50                 | 50                          | 50  | 50                          | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 49  |
|                | 70                     | 46                 | 46                          | 46  | 46                          | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  |
|                | 80                     | 44                 | 44                          | 44  | 44                          | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  |
| 90             | 41                     | 41                 | 41                          | 41  | 41                          | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  |     |
| Zone 3         | 0                      | 85                 | 75                          | 71  | 67                          | 63  | 60  | 55  | 50  | 47  | 43  | 42  | 41  | 38  |
|                | 10                     | 85                 | 75                          | 71  | 67                          | 63  | 60  | 55  | 50  | 47  | 43  | 42  | 41  | 38  |
|                | 20                     | 69                 | 69                          | 69  | 67                          | 63  | 60  | 55  | 50  | 47  | 43  | 42  | 41  | 38  |
|                | 30                     | 68                 | 68                          | 68  | 67                          | 63  | 60  | 55  | 50  | 47  | 43  | 42  | 41  | 38  |
|                | 40                     | 60                 | 60                          | 60  | 60                          | 60  | 60  | 55  | 50  | 47  | 43  | 42  | 41  | 38  |
|                | 50                     | 54                 | 54                          | 54  | 54                          | 54  | 54  | 54  | 50  | 47  | 43  | 42  | 41  | 38  |
|                | 60                     | 50                 | 50                          | 50  | 50                          | 50  | 50  | 50  | 50  | 47  | 43  | 42  | 41  | 38  |
|                | 70                     | 46                 | 46                          | 46  | 46                          | 46  | 46  | 46  | 46  | 46  | 43  | 42  | 41  | 38  |
|                | 80                     | 44                 | 44                          | 44  | 44                          | 44  | 44  | 44  | 44  | 44  | 43  | 42  | 41  | 38  |
| 90             | 41                     | 41                 | 41                          | 41  | 41                          | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 38  |     |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 2</b>       |                              | Mean Roof Height:  | $h \leq 15$ ft              |     |     |     |     |     |     |     |     |     |     | Panel Orientation: | Portrait |
|----------------------|------------------------------|--------------------|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|----------|
|                      |                              | Roof Angle:        | $0 < \theta \leq 7$ degrees |     |     |     |     |     |     |     |     |     |     |                    |          |
|                      |                              | Exposure Category: | C                           |     |     |     |     |     |     |     |     |     |     |                    |          |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                             |     |     |     |     |     |     |     |     |     |     |                    |          |
|                      |                              | 100                | 110                         | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180 | 190                |          |
| Zone 1               | 0                            | 101                | 101                         | 101 | 98  | 95  | 92  | 85  | 78  | 73  | 68  | 66  | 64  | 60                 |          |
|                      | 10                           | 87                 | 87                          | 87  | 87  | 87  | 87  | 85  | 78  | 73  | 68  | 66  | 64  | 60                 |          |
|                      | 20                           | 69                 | 69                          | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 68  | 66  | 64  | 60                 |          |
|                      | 30                           | 68                 | 68                          | 68  | 68  | 68  | 68  | 68  | 68  | 68  | 67  | 66  | 64  | 60                 |          |
|                      | 40                           | 60                 | 60                          | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60                 |          |
|                      | 50                           | 54                 | 54                          | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54                 |          |
|                      | 60                           | 50                 | 50                          | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50                 |          |
|                      | 70                           | 46                 | 46                          | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46                 |          |
|                      | 80                           | 44                 | 44                          | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44                 |          |
| 90                   | 41                           | 41                 | 41                          | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  |                    |          |
| Zone 2               | 0                            | 94                 | 84                          | 80  | 76  | 72  | 68  | 63  | 58  | 54  | 50  | 48  | 47  | 44                 |          |
|                      | 10                           | 87                 | 84                          | 80  | 76  | 72  | 68  | 63  | 58  | 54  | 50  | 48  | 47  | 44                 |          |
|                      | 20                           | 69                 | 69                          | 69  | 69  | 69  | 68  | 63  | 58  | 54  | 50  | 48  | 47  | 44                 |          |
|                      | 30                           | 68                 | 68                          | 68  | 68  | 68  | 68  | 63  | 58  | 54  | 50  | 48  | 47  | 44                 |          |
|                      | 40                           | 60                 | 60                          | 60  | 60  | 60  | 60  | 60  | 58  | 54  | 50  | 48  | 47  | 44                 |          |
|                      | 50                           | 54                 | 54                          | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 50  | 48  | 47  | 44                 |          |
|                      | 60                           | 50                 | 50                          | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 48  | 47  | 44                 |          |
|                      | 70                           | 46                 | 46                          | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 44                 |          |
|                      | 80                           | 44                 | 44                          | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44                 |          |
| 90                   | 41                           | 41                 | 41                          | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  |                    |          |
| Zone 3               | 0                            | 75                 | 66                          | 62  | 59  | 56  | 53  | 49  | 45  | 42  | 39  | 38  | 37  | 35                 |          |
|                      | 10                           | 75                 | 66                          | 62  | 59  | 56  | 53  | 49  | 45  | 42  | 39  | 38  | 37  | 35                 |          |
|                      | 20                           | 69                 | 66                          | 62  | 59  | 56  | 53  | 49  | 45  | 42  | 39  | 38  | 37  | 35                 |          |
|                      | 30                           | 68                 | 66                          | 62  | 59  | 56  | 53  | 49  | 45  | 42  | 39  | 38  | 37  | 35                 |          |
|                      | 40                           | 60                 | 60                          | 60  | 59  | 56  | 53  | 49  | 45  | 42  | 39  | 38  | 37  | 35                 |          |
|                      | 50                           | 54                 | 54                          | 54  | 54  | 54  | 53  | 49  | 45  | 42  | 39  | 38  | 37  | 35                 |          |
|                      | 60                           | 50                 | 50                          | 50  | 50  | 50  | 50  | 49  | 45  | 42  | 39  | 38  | 37  | 35                 |          |
|                      | 70                           | 46                 | 46                          | 46  | 46  | 46  | 46  | 46  | 45  | 42  | 39  | 38  | 37  | 35                 |          |
|                      | 80                           | 44                 | 44                          | 44  | 44  | 44  | 44  | 44  | 44  | 42  | 39  | 38  | 37  | 35                 |          |
| 90                   | 41                           | 41                 | 41                          | 41  | 41  | 41  | 41  | 41  | 41  | 39  | 38  | 37  | 35  |                    |          |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 3</b>       |                              | Mean Roof Height:  | $h \leq 15$ ft              |     |     |     |     |     |     |     |     |     | Panel Orientation: | Portrait |
|----------------------|------------------------------|--------------------|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|----------|
|                      |                              | Roof Angle:        | $0 < \theta \leq 7$ degrees |     |     |     |     |     |     |     |     |     |                    |          |
|                      |                              | Exposure Category: | D                           |     |     |     |     |     |     |     |     |     |                    |          |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                             |     |     |     |     |     |     |     |     |     |                    |          |
|                      |                              | 100                | 110                         | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180                | 190      |
| Zone 1               | 0                            | 101                | 97                          | 94  | 91  | 87  | 83  | 76  | 70  | 65  | 61  | 59  | 57                 | 54       |
|                      | 10                           | 87                 | 87                          | 87  | 87  | 87  | 83  | 76  | 70  | 65  | 61  | 59  | 57                 | 54       |
|                      | 20                           | 69                 | 69                          | 69  | 69  | 69  | 69  | 69  | 69  | 65  | 61  | 59  | 57                 | 54       |
|                      | 30                           | 68                 | 68                          | 68  | 68  | 68  | 68  | 68  | 67  | 65  | 61  | 59  | 57                 | 54       |
|                      | 40                           | 60                 | 60                          | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 59  | 57                 | 54       |
|                      | 50                           | 54                 | 54                          | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54                 | 54       |
|                      | 60                           | 50                 | 50                          | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50                 | 50       |
|                      | 70                           | 46                 | 46                          | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46                 | 46       |
|                      | 80                           | 44                 | 44                          | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44                 | 44       |
| 90                   | 41                           | 41                 | 41                          | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41                 |          |
| Zone 2               | 0                            | 84                 | 75                          | 71  | 67  | 64  | 61  | 56  | 52  | 48  | 45  | 43  | 42                 | 40       |
|                      | 10                           | 84                 | 75                          | 71  | 67  | 64  | 61  | 56  | 52  | 48  | 45  | 43  | 42                 | 40       |
|                      | 20                           | 69                 | 69                          | 69  | 67  | 64  | 61  | 56  | 52  | 48  | 45  | 43  | 42                 | 40       |
|                      | 30                           | 68                 | 68                          | 68  | 67  | 64  | 61  | 56  | 52  | 48  | 45  | 43  | 42                 | 40       |
|                      | 40                           | 60                 | 60                          | 60  | 60  | 60  | 60  | 56  | 52  | 48  | 45  | 43  | 42                 | 40       |
|                      | 50                           | 54                 | 54                          | 54  | 54  | 54  | 54  | 54  | 52  | 48  | 45  | 43  | 42                 | 40       |
|                      | 60                           | 50                 | 50                          | 50  | 50  | 50  | 50  | 50  | 50  | 48  | 45  | 43  | 42                 | 40       |
|                      | 70                           | 46                 | 46                          | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 45  | 43  | 42                 | 40       |
|                      | 80                           | 44                 | 44                          | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 43  | 42                 | 40       |
| 90                   | 41                           | 41                 | 41                          | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 40                 |          |
| Zone 3               | 0                            | 66                 | 58                          | 55  | 52  | 50  | 47  | 43  | 40  | 38  | 35  | 34  | 33                 | 31       |
|                      | 10                           | 66                 | 58                          | 55  | 52  | 50  | 47  | 43  | 40  | 38  | 35  | 34  | 33                 | 31       |
|                      | 20                           | 66                 | 58                          | 55  | 52  | 50  | 47  | 43  | 40  | 38  | 35  | 34  | 33                 | 31       |
|                      | 30                           | 66                 | 58                          | 55  | 52  | 50  | 47  | 43  | 40  | 38  | 35  | 34  | 33                 | 31       |
|                      | 40                           | 60                 | 58                          | 55  | 52  | 50  | 47  | 43  | 40  | 38  | 35  | 34  | 33                 | 31       |
|                      | 50                           | 54                 | 54                          | 54  | 52  | 50  | 47  | 43  | 40  | 38  | 35  | 34  | 33                 | 31       |
|                      | 60                           | 50                 | 50                          | 50  | 50  | 50  | 47  | 43  | 40  | 38  | 35  | 34  | 33                 | 31       |
|                      | 70                           | 46                 | 46                          | 46  | 46  | 46  | 46  | 43  | 40  | 38  | 35  | 34  | 33                 | 31       |
|                      | 80                           | 44                 | 44                          | 44  | 44  | 44  | 44  | 43  | 40  | 38  | 35  | 34  | 33                 | 31       |
| 90                   | 41                           | 41                 | 41                          | 41  | 41  | 41  | 41  | 40  | 38  | 35  | 34  | 33  | 31                 |          |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 4</b>       |                              | Mean Roof Height:  | $h \leq 15$ ft               |     |     |     |     |     |     |     |     |     | Panel Orientation: | Portrait |  |
|----------------------|------------------------------|--------------------|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|----------|--|
|                      |                              | Roof Angle:        | $7 < \theta \leq 27$ degrees |     |     |     |     |     |     |     |     |     |                    |          |  |
|                      |                              | Exposure Category: | B                            |     |     |     |     |     |     |     |     |     |                    |          |  |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                              |     |     |     |     |     |     |     |     |     |                    |          |  |
|                      |                              | 100                | 110                          | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180                | 190      |  |
| Zone 1               | 0                            | 101                | 101                          | 101 | 101 | 101 | 101 | 97  | 92  | 88  | 82  | 79  | 76                 | 72       |  |
|                      | 10                           | 78                 | 78                           | 78  | 78  | 77  | 76  | 75  | 74  | 72  | 71  | 70  | 69                 | 68       |  |
|                      | 20                           | 60                 | 60                           | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 59  | 58  | 58                 | 57       |  |
|                      | 30                           | 60                 | 60                           | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 59  | 58  | 58                 | 57       |  |
|                      | 40                           | 53                 | 53                           | 53  | 53  | 53  | 53  | 53  | 53  | 53  | 53  | 53  | 53                 | 52       |  |
|                      | 50                           | 48                 | 48                           | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48                 | 48       |  |
|                      | 60                           | 44                 | 44                           | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44                 | 44       |  |
|                      | 70                           | 41                 | 41                           | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41                 | 41       |  |
|                      | 80                           | 39                 | 39                           | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39                 | 39       |  |
| 90                   | 37                           | 37                 | 37                           | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37                 |          |  |
| Zone 2               | 0                            | 101                | 94                           | 91  | 88  | 83  | 79  | 73  | 67  | 62  | 58  | 56  | 54                 | 51       |  |
|                      | 10                           | 78                 | 78                           | 78  | 78  | 77  | 76  | 73  | 67  | 62  | 58  | 56  | 54                 | 51       |  |
|                      | 20                           | 60                 | 60                           | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 58  | 56  | 54                 | 51       |  |
|                      | 30                           | 60                 | 60                           | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 58  | 56  | 54                 | 51       |  |
|                      | 40                           | 53                 | 53                           | 53  | 53  | 53  | 53  | 53  | 53  | 53  | 53  | 53  | 53                 | 51       |  |
|                      | 50                           | 48                 | 48                           | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48                 | 48       |  |
|                      | 60                           | 44                 | 44                           | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44                 | 44       |  |
|                      | 70                           | 41                 | 41                           | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41                 | 41       |  |
|                      | 80                           | 39                 | 39                           | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39                 | 39       |  |
| 90                   | 37                           | 37                 | 37                           | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37                 |          |  |
| Zone 3               | 0                            | 83                 | 74                           | 71  | 67  | 64  | 61  | 56  | 52  | 48  | 45  | 44  | 42                 | 40       |  |
|                      | 10                           | 78                 | 74                           | 71  | 67  | 64  | 61  | 56  | 52  | 48  | 45  | 44  | 42                 | 40       |  |
|                      | 20                           | 60                 | 60                           | 60  | 60  | 60  | 60  | 56  | 52  | 48  | 45  | 44  | 42                 | 40       |  |
|                      | 30                           | 60                 | 60                           | 60  | 60  | 60  | 60  | 56  | 52  | 48  | 45  | 44  | 42                 | 40       |  |
|                      | 40                           | 53                 | 53                           | 53  | 53  | 53  | 53  | 53  | 52  | 48  | 45  | 44  | 42                 | 40       |  |
|                      | 50                           | 48                 | 48                           | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 45  | 44  | 42                 | 40       |  |
|                      | 60                           | 44                 | 44                           | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 42                 | 40       |  |
|                      | 70                           | 41                 | 41                           | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41                 | 40       |  |
|                      | 80                           | 39                 | 39                           | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39                 | 39       |  |
| 90                   | 37                           | 37                 | 37                           | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37                 |          |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"



**Max Rail Spans for SunModo SMR100 System**

| <b>Table 5</b>       |                              | Mean Roof Height:  | $h \leq 15$ ft               |     |     |     |     |     |     |     |     |     |     | Panel Orientation: | Portrait |
|----------------------|------------------------------|--------------------|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|----------|
|                      |                              | Roof Angle:        | $7 < \theta \leq 27$ degrees |     |     |     |     |     |     |     |     |     |     |                    |          |
|                      |                              | Exposure Category: | C                            |     |     |     |     |     |     |     |     |     |     |                    |          |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                              |     |     |     |     |     |     |     |     |     |     |                    |          |
|                      |                              | 100                | 110                          | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180 | 190                |          |
| Zone 1               | 0                            | 101                | 101                          | 101 | 101 | 99  | 96  | 90  | 84  | 78  | 73  | 70  | 68  | 64                 |          |
|                      | 10                           | 78                 | 77                           | 77  | 76  | 75  | 74  | 73  | 71  | 70  | 68  | 67  | 67  | 64                 |          |
|                      | 20                           | 60                 | 60                           | 60  | 60  | 60  | 60  | 60  | 59  | 58  | 57  | 57  | 56  | 55                 |          |
|                      | 30                           | 60                 | 60                           | 60  | 60  | 60  | 60  | 60  | 59  | 58  | 57  | 57  | 56  | 55                 |          |
|                      | 40                           | 53                 | 53                           | 53  | 53  | 53  | 53  | 53  | 53  | 53  | 52  | 52  | 52  | 51                 |          |
|                      | 50                           | 48                 | 48                           | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 47                 |          |
|                      | 60                           | 44                 | 44                           | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44                 |          |
|                      | 70                           | 41                 | 41                           | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41                 |          |
|                      | 80                           | 39                 | 39                           | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39                 |          |
| 90                   | 37                           | 37                 | 37                           | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  |                    |          |
| Zone 2               | 0                            | 94                 | 87                           | 82  | 78  | 74  | 71  | 65  | 60  | 55  | 52  | 50  | 48  | 45                 |          |
|                      | 10                           | 78                 | 77                           | 77  | 76  | 74  | 71  | 65  | 60  | 55  | 52  | 50  | 48  | 45                 |          |
|                      | 20                           | 60                 | 60                           | 60  | 60  | 60  | 60  | 60  | 59  | 55  | 52  | 50  | 48  | 45                 |          |
|                      | 30                           | 60                 | 60                           | 60  | 60  | 60  | 60  | 60  | 59  | 55  | 52  | 50  | 48  | 45                 |          |
|                      | 40                           | 53                 | 53                           | 53  | 53  | 53  | 53  | 53  | 53  | 53  | 52  | 50  | 48  | 45                 |          |
|                      | 50                           | 48                 | 48                           | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 45                 |          |
|                      | 60                           | 44                 | 44                           | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44                 |          |
|                      | 70                           | 41                 | 41                           | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41                 |          |
|                      | 80                           | 39                 | 39                           | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39                 |          |
| 90                   | 37                           | 37                 | 37                           | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  |                    |          |
| Zone 3               | 0                            | 74                 | 66                           | 63  | 60  | 57  | 55  | 50  | 47  | 43  | 41  | 39  | 38  | 36                 |          |
|                      | 10                           | 74                 | 66                           | 63  | 60  | 57  | 55  | 50  | 47  | 43  | 41  | 39  | 38  | 36                 |          |
|                      | 20                           | 60                 | 60                           | 60  | 60  | 57  | 55  | 50  | 47  | 43  | 41  | 39  | 38  | 36                 |          |
|                      | 30                           | 60                 | 60                           | 60  | 60  | 57  | 55  | 50  | 47  | 43  | 41  | 39  | 38  | 36                 |          |
|                      | 40                           | 53                 | 53                           | 53  | 53  | 53  | 53  | 50  | 47  | 43  | 41  | 39  | 38  | 36                 |          |
|                      | 50                           | 48                 | 48                           | 48  | 48  | 48  | 48  | 48  | 47  | 43  | 41  | 39  | 38  | 36                 |          |
|                      | 60                           | 44                 | 44                           | 44  | 44  | 44  | 44  | 44  | 44  | 43  | 41  | 39  | 38  | 36                 |          |
|                      | 70                           | 41                 | 41                           | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 39  | 38  | 36                 |          |
|                      | 80                           | 39                 | 39                           | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 38  | 36                 |          |
| 90                   | 37                           | 37                 | 37                           | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 36  |                    |          |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 6</b>       |                              | Mean Roof Height: $h \leq 15$ ft         |     | Panel Orientation: Portrait |     |     |     |     |     |     |     |     |     |     |    |
|----------------------|------------------------------|--|-----|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
|                      |                              | Roof Angle: $7 < \theta \leq 27$ degrees |     |                             |     |     |     |     |     |     |     |     |     |     |    |
|                      |                              | Exposure Category: D                     |     |                             |     |     |     |     |     |     |     |     |     |     |    |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)                         |     |                             |     |     |     |     |     |     |     |     |     |     |    |
|                      |                              | 100                                      | 110 | 115                         | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180 | 190 |    |
| Zone 1               | 0                            | 101                                      | 101 | 98                          | 94  | 91  | 89  | 82  | 75  | 70  | 65  | 63  | 61  | 58  |    |
|                      | 10                           | 77                                       | 76  | 75                          | 74  | 73  | 72  | 71  | 69  | 67  | 65  | 63  | 61  | 58  |    |
|                      | 20                           | 60                                       | 60  | 60                          | 60  | 60  | 60  | 60  | 59  | 58  | 57  | 56  | 55  | 54  | 53 |
|                      | 30                           | 60                                       | 60  | 60                          | 60  | 60  | 60  | 60  | 59  | 58  | 57  | 56  | 55  | 54  | 53 |
|                      | 40                           | 53                                       | 53  | 53                          | 53  | 53  | 53  | 53  | 53  | 53  | 52  | 51  | 51  | 50  | 49 |
|                      | 50                           | 48                                       | 48  | 48                          | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 47  | 47  | 47  | 46 |
|                      | 60                           | 44                                       | 44  | 44                          | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 43 |
|                      | 70                           | 41                                       | 41  | 41                          | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41 |
|                      | 80                           | 39                                       | 39  | 39                          | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39 |
| 90                   | 37                           | 37                                       | 37  | 37                          | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  |    |
| Zone 2               | 0                            | 87                                       | 77  | 73                          | 69  | 66  | 63  | 58  | 53  | 49  | 46  | 45  | 43  | 41  |    |
|                      | 10                           | 77                                       | 76  | 73                          | 69  | 66  | 63  | 58  | 53  | 49  | 46  | 45  | 43  | 41  |    |
|                      | 20                           | 60                                       | 60  | 60                          | 60  | 60  | 60  | 58  | 53  | 49  | 46  | 45  | 43  | 41  |    |
|                      | 30                           | 60                                       | 60  | 60                          | 60  | 60  | 60  | 58  | 53  | 49  | 46  | 45  | 43  | 41  |    |
|                      | 40                           | 53                                       | 53  | 53                          | 53  | 53  | 53  | 53  | 53  | 49  | 46  | 45  | 43  | 41  |    |
|                      | 50                           | 48                                       | 48  | 48                          | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 46  | 45  | 43  | 41 |
|                      | 60                           | 44                                       | 44  | 44                          | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 43  | 41 |
|                      | 70                           | 41                                       | 41  | 41                          | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41 |
|                      | 80                           | 39                                       | 39  | 39                          | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39 |
| 90                   | 37                           | 37                                       | 37  | 37                          | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  |    |
| Zone 3               | 0                            | 66                                       | 59  | 56                          | 54  | 51  | 49  | 45  | 42  | 39  | 37  | 36  | 35  | 33  |    |
|                      | 10                           | 66                                       | 59  | 56                          | 54  | 51  | 49  | 45  | 42  | 39  | 37  | 36  | 35  | 33  |    |
|                      | 20                           | 60                                       | 59  | 56                          | 54  | 51  | 49  | 45  | 42  | 39  | 37  | 36  | 35  | 33  |    |
|                      | 30                           | 60                                       | 59  | 56                          | 54  | 51  | 49  | 45  | 42  | 39  | 37  | 36  | 35  | 33  |    |
|                      | 40                           | 53                                       | 53  | 53                          | 53  | 51  | 49  | 45  | 42  | 39  | 37  | 36  | 35  | 33  |    |
|                      | 50                           | 48                                       | 48  | 48                          | 48  | 48  | 48  | 45  | 42  | 39  | 37  | 36  | 35  | 33  |    |
|                      | 60                           | 44                                       | 44  | 44                          | 44  | 44  | 44  | 44  | 42  | 39  | 37  | 36  | 35  | 33  |    |
|                      | 70                           | 41                                       | 41  | 41                          | 41  | 41  | 41  | 41  | 41  | 39  | 37  | 36  | 35  | 33  |    |
|                      | 80                           | 39                                       | 39  | 39                          | 39  | 39  | 39  | 39  | 39  | 39  | 37  | 36  | 35  | 33  |    |
| 90                   | 37                           | 37                                       | 37  | 37                          | 37  | 37  | 37  | 37  | 37  | 37  | 36  | 35  | 33  |     |    |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 7</b> |                        | Mean Roof Height: $h \leq 15$ ft          |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |     |     |  |
|----------------|------------------------|---|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|-----|-----|--|
|                |                        | Roof Angle: $27 < \theta \leq 45$ degrees |     |     |     |     |                             |     |     |     |     |     |     |     |  |
|                |                        | Exposure Category: B                      |     |     |     |     |                             |     |     |     |     |     |     |     |  |
| Roof Wind Zone | Ground Snow Load (psf) | Wind Speed (mph)                          |     |     |     |     |                             |     |     |     |     |     |     |     |  |
|                |                        | 100                                       | 110 | 115 | 120 | 125 | 130                         | 140 | 150 | 160 | 170 | 175 | 180 | 190 |  |
| Zone 1         | 0                      | 95  | 90  | 88  | 86  | 83  | 81                          | 77  | 73  | 70  | 67  | 65  | 64  | 61  |  |
|                | 10                     | 83  | 81  | 80  | 78  | 77  | 76                          | 73  | 71  | 68  | 66  | 65  | 64  | 61  |  |
|                | 20                     | 72  | 70  | 70  | 69  | 68  | 67                          | 65  | 63  | 62  | 60  | 59  | 58  | 57  |  |
|                | 30                     | 64  | 63  | 63  | 62  | 61  | 61                          | 59  | 58  | 57  | 55  | 55  | 54  | 53  |  |
|                | 40                     | 57  | 57  | 57  | 57  | 56  | 56                          | 55  | 54  | 53  | 52  | 51  | 50  | 49  |  |
|                | 50                     | 52  | 52  | 52  | 52  | 52  | 52                          | 51  | 50  | 49  | 49  | 48  | 48  | 47  |  |
|                | 60                     | 48  | 48  | 48  | 48  | 48  | 48                          | 48  | 47  | 47  | 46  | 46  | 45  | 44  |  |
|                | 70                     | 45  | 45  | 45  | 45  | 45  | 45                          | 45  | 45  | 44  | 44  | 43  | 43  | 42  |  |
|                | 80                     | 42  | 42  | 42  | 42  | 42  | 42                          | 42  | 42  | 42  | 42  | 42  | 41  | 41  |  |
| 90             | 40                     | 40  | 40  | 40  | 40  | 40  | 40                          | 40  | 40  | 40  | 40  | 40  | 39  |     |  |
| Zone 2         | 0                      | 95  | 90  | 88  | 86  | 83  | 81                          | 77  | 73  | 70  | 67  | 65  | 64  | 61  |  |
|                | 10                     | 83  | 81  | 80  | 78  | 77  | 76                          | 73  | 71  | 68  | 66  | 65  | 64  | 61  |  |
|                | 20                     | 72  | 70  | 70  | 69  | 68  | 67                          | 65  | 63  | 62  | 60  | 59  | 58  | 57  |  |
|                | 30                     | 64  | 63  | 63  | 62  | 61  | 61                          | 59  | 58  | 57  | 55  | 55  | 54  | 53  |  |
|                | 40                     | 57  | 57  | 57  | 57  | 56  | 56                          | 55  | 54  | 53  | 52  | 51  | 50  | 49  |  |
|                | 50                     | 52  | 52  | 52  | 52  | 52  | 52                          | 51  | 50  | 49  | 49  | 48  | 48  | 47  |  |
|                | 60                     | 48  | 48  | 48  | 48  | 48  | 48                          | 48  | 47  | 47  | 46  | 46  | 45  | 44  |  |
|                | 70                     | 45  | 45  | 45  | 45  | 45  | 45                          | 45  | 45  | 44  | 44  | 43  | 43  | 42  |  |
|                | 80                     | 42  | 42  | 42  | 42  | 42  | 42                          | 42  | 42  | 42  | 42  | 42  | 41  | 41  |  |
| 90             | 40                     | 40  | 40  | 40  | 40  | 40  | 40                          | 40  | 40  | 40  | 40  | 40  | 39  |     |  |
| Zone 3         | 0                      | 95  | 90  | 88  | 86  | 83  | 81                          | 77  | 73  | 70  | 67  | 65  | 64  | 61  |  |
|                | 10                     | 83  | 81  | 80  | 78  | 77  | 76                          | 73  | 71  | 68  | 66  | 65  | 64  | 61  |  |
|                | 20                     | 72  | 70  | 70  | 69  | 68  | 67                          | 65  | 63  | 62  | 60  | 59  | 58  | 57  |  |
|                | 30                     | 64  | 63  | 63  | 62  | 61  | 61                          | 59  | 58  | 57  | 55  | 55  | 54  | 53  |  |
|                | 40                     | 57  | 57  | 57  | 57  | 56  | 56                          | 55  | 54  | 53  | 52  | 51  | 50  | 49  |  |
|                | 50                     | 52  | 52  | 52  | 52  | 52  | 52                          | 51  | 50  | 49  | 49  | 48  | 48  | 47  |  |
|                | 60                     | 48  | 48  | 48  | 48  | 48  | 48                          | 48  | 47  | 47  | 46  | 46  | 45  | 44  |  |
|                | 70                     | 45  | 45  | 45  | 45  | 45  | 45                          | 45  | 45  | 44  | 44  | 43  | 43  | 42  |  |
|                | 80                     | 42  | 42  | 42  | 42  | 42  | 42                          | 42  | 42  | 42  | 42  | 42  | 41  | 41  |  |
| 90             | 40                     | 40  | 40  | 40  | 40  | 40  | 40                          | 40  | 40  | 40  | 40  | 40  | 39  |     |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 8</b> |                        | Mean Roof Height: $h \leq 15$ ft          |     | Panel Orientation: Portrait |     |     |     |     |     |     |     |     |     |     |
|----------------|------------------------|---|-----|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                |                        | Roof Angle: $27 < \theta \leq 45$ degrees |     |                             |     |     |     |     |     |     |     |     |     |     |
|                |                        | Exposure Category: C                      |     |                             |     |     |     |     |     |     |     |     |     |     |
| Roof Wind Zone | Ground Snow Load (psf) | Wind Speed (mph)                          |     |                             |     |     |     |     |     |     |     |     |     |     |
|                |                        | 100                                       | 110 | 115                         | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180 | 190 |
| Zone 1         | 0                      | 90  | 85  | 83                          | 80  | 78  | 76  | 72  | 68  | 65  | 62  | 60  | 59  | 56  |
|                | 10                     | 81  | 78  | 76                          | 75  | 74  | 72  | 70  | 67  | 65  | 62  | 60  | 59  | 56  |
|                | 20                     | 70  | 68  | 68                          | 67  | 66  | 65  | 63  | 61  | 59  | 57  | 56  | 55  | 54  |
|                | 30                     | 63  | 62  | 61                          | 60  | 60  | 59  | 57  | 56  | 54  | 53  | 52  | 52  | 50  |
|                | 40                     | 57  | 57  | 56                          | 56  | 55  | 54  | 53  | 52  | 51  | 50  | 49  | 49  | 47  |
|                | 50                     | 52  | 52  | 52                          | 52  | 51  | 51  | 50  | 49  | 48  | 47  | 46  | 46  | 45  |
|                | 60                     | 48  | 48  | 48                          | 48  | 48  | 48  | 47  | 46  | 45  | 45  | 44  | 44  | 43  |
|                | 70                     | 45  | 45  | 45                          | 45  | 45  | 45  | 45  | 44  | 43  | 43  | 42  | 42  | 41  |
|                | 80                     | 42  | 42  | 42                          | 42  | 42  | 42  | 42  | 42  | 41  | 41  | 40  | 40  | 39  |
| 90             | 40                     | 40  | 40  | 40                          | 40  | 40  | 40  | 40  | 40  | 39  | 39  | 39  | 38  |     |
| Zone 2         | 0                      | 90  | 85  | 83                          | 80  | 78  | 76  | 72  | 68  | 65  | 62  | 60  | 59  | 56  |
|                | 10                     | 81  | 78  | 76                          | 75  | 74  | 72  | 70  | 67  | 65  | 62  | 60  | 59  | 56  |
|                | 20                     | 70  | 68  | 68                          | 67  | 66  | 65  | 63  | 61  | 59  | 57  | 56  | 55  | 54  |
|                | 30                     | 63  | 62  | 61                          | 60  | 60  | 59  | 57  | 56  | 54  | 53  | 52  | 52  | 50  |
|                | 40                     | 57  | 57  | 56                          | 56  | 55  | 54  | 53  | 52  | 51  | 50  | 49  | 49  | 47  |
|                | 50                     | 52  | 52  | 52                          | 52  | 51  | 51  | 50  | 49  | 48  | 47  | 46  | 46  | 45  |
|                | 60                     | 48  | 48  | 48                          | 48  | 48  | 48  | 47  | 46  | 45  | 45  | 44  | 44  | 43  |
|                | 70                     | 45  | 45  | 45                          | 45  | 45  | 45  | 45  | 44  | 43  | 43  | 42  | 42  | 41  |
|                | 80                     | 42  | 42  | 42                          | 42  | 42  | 42  | 42  | 42  | 41  | 41  | 40  | 40  | 39  |
| 90             | 40                     | 40  | 40  | 40                          | 40  | 40  | 40  | 40  | 40  | 39  | 39  | 39  | 38  |     |
| Zone 3         | 0                      | 90  | 85  | 83                          | 80  | 78  | 76  | 72  | 68  | 65  | 62  | 60  | 59  | 56  |
|                | 10                     | 81  | 78  | 76                          | 75  | 74  | 72  | 70  | 67  | 65  | 62  | 60  | 59  | 56  |
|                | 20                     | 70  | 68  | 68                          | 67  | 66  | 65  | 63  | 61  | 59  | 57  | 56  | 55  | 54  |
|                | 30                     | 63  | 62  | 61                          | 60  | 60  | 59  | 57  | 56  | 54  | 53  | 52  | 52  | 50  |
|                | 40                     | 57  | 57  | 56                          | 56  | 55  | 54  | 53  | 52  | 51  | 50  | 49  | 49  | 47  |
|                | 50                     | 52  | 52  | 52                          | 52  | 51  | 51  | 50  | 49  | 48  | 47  | 46  | 46  | 45  |
|                | 60                     | 48  | 48  | 48                          | 48  | 48  | 48  | 47  | 46  | 45  | 45  | 44  | 44  | 43  |
|                | 70                     | 45  | 45  | 45                          | 45  | 45  | 45  | 45  | 44  | 43  | 43  | 42  | 42  | 41  |
|                | 80                     | 42  | 42  | 42                          | 42  | 42  | 42  | 42  | 42  | 41  | 41  | 40  | 40  | 39  |
| 90             | 40                     | 40  | 40  | 40                          | 40  | 40  | 40  | 40  | 40  | 39  | 39  | 39  | 38  |     |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 9</b> |                        | Mean Roof Height: $h \leq 15$ ft          |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |     |     |  |
|----------------|------------------------|---|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|-----|-----|--|
|                |                        | Roof Angle: $27 < \theta \leq 45$ degrees |     |     |     |     |                             |     |     |     |     |     |     |     |  |
|                |                        | Exposure Category: D                      |     |     |     |     |                             |     |     |     |     |     |     |     |  |
| Roof Wind Zone | Ground Snow Load (psf) | Wind Speed (mph)                          |     |     |     |     |                             |     |     |     |     |     |     |     |  |
|                |                        | 100                                       | 110 | 115 | 120 | 125 | 130                         | 140 | 150 | 160 | 170 | 175 | 180 | 190 |  |
| Zone 1         | 0                      | 85  | 80  | 77  | 75  | 73  | 71                          | 67  | 63  | 60  | 57  | 55  | 54  | 52  |  |
|                | 10                     | 78  | 75  | 73  | 72  | 70  | 69                          | 66  | 63  | 60  | 57  | 55  | 54  | 52  |  |
|                | 20                     | 68  | 66  | 65  | 64  | 63  | 62                          | 60  | 58  | 56  | 54  | 53  | 52  | 51  |  |
|                | 30                     | 62  | 60  | 59  | 59  | 58  | 57                          | 55  | 54  | 52  | 51  | 50  | 49  | 48  |  |
|                | 40                     | 57  | 56  | 55  | 54  | 54  | 53                          | 52  | 50  | 49  | 48  | 47  | 46  | 45  |  |
|                | 50                     | 52  | 52  | 51  | 51  | 50  | 50                          | 49  | 47  | 46  | 45  | 45  | 44  | 43  |  |
|                | 60                     | 48  | 48  | 48  | 48  | 47  | 47                          | 46  | 45  | 44  | 43  | 43  | 42  | 41  |  |
|                | 70                     | 45  | 45  | 45  | 45  | 45  | 45                          | 44  | 43  | 42  | 41  | 41  | 40  | 40  |  |
|                | 80                     | 42  | 42  | 42  | 42  | 42  | 42                          | 42  | 41  | 40  | 40  | 39  | 39  | 38  |  |
| 90             | 40                     | 40  | 40  | 40  | 40  | 40  | 40                          | 40  | 39  | 38  | 38  | 38  | 37  |     |  |
| Zone 2         | 0                      | 85  | 80  | 77  | 75  | 73  | 71                          | 67  | 63  | 60  | 57  | 55  | 53  | 50  |  |
|                | 10                     | 78  | 75  | 73  | 72  | 70  | 69                          | 66  | 63  | 60  | 57  | 55  | 53  | 50  |  |
|                | 20                     | 68  | 66  | 65  | 64  | 63  | 62                          | 60  | 58  | 56  | 54  | 53  | 52  | 50  |  |
|                | 30                     | 62  | 60  | 59  | 59  | 58  | 57                          | 55  | 54  | 52  | 51  | 50  | 49  | 48  |  |
|                | 40                     | 57  | 56  | 55  | 54  | 54  | 53                          | 52  | 50  | 49  | 48  | 47  | 46  | 45  |  |
|                | 50                     | 52  | 52  | 51  | 51  | 50  | 50                          | 49  | 47  | 46  | 45  | 45  | 44  | 43  |  |
|                | 60                     | 48  | 48  | 48  | 48  | 47  | 47                          | 46  | 45  | 44  | 43  | 43  | 42  | 41  |  |
|                | 70                     | 45  | 45  | 45  | 45  | 45  | 45                          | 44  | 43  | 42  | 41  | 41  | 40  | 40  |  |
|                | 80                     | 42  | 42  | 42  | 42  | 42  | 42                          | 42  | 41  | 40  | 40  | 39  | 39  | 38  |  |
| 90             | 40                     | 40  | 40  | 40  | 40  | 40  | 40                          | 40  | 39  | 38  | 38  | 38  | 37  |     |  |
| Zone 3         | 0                      | 85  | 80  | 77  | 75  | 73  | 71                          | 67  | 63  | 60  | 57  | 55  | 53  | 50  |  |
|                | 10                     | 78  | 75  | 73  | 72  | 70  | 69                          | 66  | 63  | 60  | 57  | 55  | 53  | 50  |  |
|                | 20                     | 68  | 66  | 65  | 64  | 63  | 62                          | 60  | 58  | 56  | 54  | 53  | 52  | 50  |  |
|                | 30                     | 62  | 60  | 59  | 59  | 58  | 57                          | 55  | 54  | 52  | 51  | 50  | 49  | 48  |  |
|                | 40                     | 57  | 56  | 55  | 54  | 54  | 53                          | 52  | 50  | 49  | 48  | 47  | 46  | 45  |  |
|                | 50                     | 52  | 52  | 51  | 51  | 50  | 50                          | 49  | 47  | 46  | 45  | 45  | 44  | 43  |  |
|                | 60                     | 48  | 48  | 48  | 48  | 47  | 47                          | 46  | 45  | 44  | 43  | 43  | 42  | 41  |  |
|                | 70                     | 45  | 45  | 45  | 45  | 45  | 45                          | 44  | 43  | 42  | 41  | 41  | 40  | 40  |  |
|                | 80                     | 42  | 42  | 42  | 42  | 42  | 42                          | 42  | 41  | 40  | 40  | 39  | 39  | 38  |  |
| 90             | 40                     | 40  | 40  | 40  | 40  | 40  | 40                          | 40  | 39  | 38  | 38  | 38  | 37  |     |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 10</b> |                        | Mean Roof Height: $15 < h \leq 30$ ft   |     |     |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |
|-----------------|------------------------|---|-----|-----|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|
|                 |                        | Roof Angle: $0 < \theta \leq 7$ degrees |     |     |     |     |     |     |                             |     |     |     |     |     |
|                 |                        | Exposure Category: B                    |     |     |     |     |     |     |                             |     |     |     |     |     |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                        |     |     |     |     |     |     |                             |     |     |     |     |     |
|                 |                        | 100                                     | 110 | 115 | 120 | 125 | 130 | 140 | 150                         | 160 | 170 | 175 | 180 | 190 |
| Zone 1          | 0                      | 101                                     | 101 | 101 | 101 | 101 | 99  | 94  | 88                          | 81  | 76  | 73  | 71  | 67  |
|                 | 10                     | 87                                      | 87  | 87  | 87  | 87  | 87  | 87  | 87                          | 81  | 76  | 73  | 71  | 67  |
|                 | 20                     | 69                                      | 69  | 69  | 69  | 69  | 69  | 69  | 69                          | 69  | 69  | 69  | 69  | 67  |
|                 | 30                     | 68                                      | 68  | 68  | 68  | 68  | 68  | 68  | 68                          | 68  | 68  | 68  | 68  | 67  |
|                 | 40                     | 60                                      | 60  | 60  | 60  | 60  | 60  | 60  | 60                          | 60  | 60  | 60  | 60  | 60  |
|                 | 50                     | 54                                      | 54  | 54  | 54  | 54  | 54  | 54  | 54                          | 54  | 54  | 54  | 54  | 54  |
|                 | 60                     | 50                                      | 50  | 50  | 50  | 50  | 50  | 50  | 50                          | 50  | 50  | 50  | 50  | 50  |
|                 | 70                     | 46                                      | 46  | 46  | 46  | 46  | 46  | 46  | 46                          | 46  | 46  | 46  | 46  | 46  |
|                 | 80                     | 44                                      | 44  | 44  | 44  | 44  | 44  | 44  | 44                          | 44  | 44  | 44  | 44  | 44  |
| 90              | 41                     | 41                                      | 41  | 41  | 41  | 41  | 41  | 41  | 41                          | 41  | 41  | 41  | 41  |     |
| Zone 2          | 0                      | 101                                     | 94  | 90  | 85  | 81  | 77  | 70  | 65                          | 60  | 56  | 54  | 52  | 49  |
|                 | 10                     | 87                                      | 87  | 87  | 85  | 81  | 77  | 70  | 65                          | 60  | 56  | 54  | 52  | 49  |
|                 | 20                     | 69                                      | 69  | 69  | 69  | 69  | 69  | 69  | 65                          | 60  | 56  | 54  | 52  | 49  |
|                 | 30                     | 68                                      | 68  | 68  | 68  | 68  | 68  | 68  | 65                          | 60  | 56  | 54  | 52  | 49  |
|                 | 40                     | 60                                      | 60  | 60  | 60  | 60  | 60  | 60  | 60                          | 60  | 56  | 54  | 52  | 49  |
|                 | 50                     | 54                                      | 54  | 54  | 54  | 54  | 54  | 54  | 54                          | 54  | 54  | 54  | 52  | 49  |
|                 | 60                     | 50                                      | 50  | 50  | 50  | 50  | 50  | 50  | 50                          | 50  | 50  | 50  | 50  | 49  |
|                 | 70                     | 46                                      | 46  | 46  | 46  | 46  | 46  | 46  | 46                          | 46  | 46  | 46  | 46  | 46  |
|                 | 80                     | 44                                      | 44  | 44  | 44  | 44  | 44  | 44  | 44                          | 44  | 44  | 44  | 44  | 44  |
| 90              | 41                     | 41                                      | 41  | 41  | 41  | 41  | 41  | 41  | 41                          | 41  | 41  | 41  | 41  |     |
| Zone 3          | 0                      | 85                                      | 75  | 71  | 67  | 63  | 60  | 55  | 50                          | 47  | 43  | 42  | 41  | 38  |
|                 | 10                     | 85                                      | 75  | 71  | 67  | 63  | 60  | 55  | 50                          | 47  | 43  | 42  | 41  | 38  |
|                 | 20                     | 69                                      | 69  | 69  | 67  | 63  | 60  | 55  | 50                          | 47  | 43  | 42  | 41  | 38  |
|                 | 30                     | 68                                      | 68  | 68  | 67  | 63  | 60  | 55  | 50                          | 47  | 43  | 42  | 41  | 38  |
|                 | 40                     | 60                                      | 60  | 60  | 60  | 60  | 60  | 55  | 50                          | 47  | 43  | 42  | 41  | 38  |
|                 | 50                     | 54                                      | 54  | 54  | 54  | 54  | 54  | 54  | 50                          | 47  | 43  | 42  | 41  | 38  |
|                 | 60                     | 50                                      | 50  | 50  | 50  | 50  | 50  | 50  | 50                          | 47  | 43  | 42  | 41  | 38  |
|                 | 70                     | 46                                      | 46  | 46  | 46  | 46  | 46  | 46  | 46                          | 46  | 43  | 42  | 41  | 38  |
|                 | 80                     | 44                                      | 44  | 44  | 44  | 44  | 44  | 44  | 44                          | 44  | 43  | 42  | 41  | 38  |
| 90              | 41                     | 41                                      | 41  | 41  | 41  | 41  | 41  | 41  | 41                          | 41  | 41  | 41  | 38  |     |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 11</b> |                        | Mean Roof Height: $15 < h \leq 30$ ft   |     |     |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |    |
|-----------------|------------------------|---|-----|-----|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|----|
|                 |                        | Roof Angle: $0 < \theta \leq 7$ degrees |     |     |     |     |     |     |                             |     |     |     |     |     |    |
|                 |                        | Exposure Category: C                    |     |     |     |     |     |     |                             |     |     |     |     |     |    |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                        |     |     |     |     |     |     |                             |     |     |     |     |     |    |
|                 |                        | 100                                     | 110 | 115 | 120 | 125 | 130 | 140 | 150                         | 160 | 170 | 175 | 180 | 190 |    |
| Zone 1          | 0                      | 101                                     | 99  | 96  | 93  | 89  | 85  | 78  | 72                          | 67  | 63  | 61  | 59  | 56  |    |
|                 | 10                     | 87                                      | 87  | 87  | 87  | 87  | 85  | 78  | 72                          | 67  | 63  | 61  | 59  | 56  |    |
|                 | 20                     | 69                                      | 69  | 69  | 69  | 69  | 69  | 69  | 69                          | 67  | 63  | 61  | 59  | 56  |    |
|                 | 30                     | 68                                      | 68  | 68  | 68  | 68  | 68  | 68  | 68                          | 67  | 63  | 61  | 59  | 56  |    |
|                 | 40                     | 60                                      | 60  | 60  | 60  | 60  | 60  | 60  | 60                          | 60  | 60  | 60  | 59  | 56  |    |
|                 | 50                     | 54                                      | 54  | 54  | 54  | 54  | 54  | 54  | 54                          | 54  | 54  | 54  | 54  | 54  |    |
|                 | 60                     | 50                                      | 50  | 50  | 50  | 50  | 50  | 50  | 50                          | 50  | 50  | 50  | 50  | 50  |    |
|                 | 70                     | 46                                      | 46  | 46  | 46  | 46  | 46  | 46  | 46                          | 46  | 46  | 46  | 46  | 46  |    |
|                 | 80                     | 44                                      | 44  | 44  | 44  | 44  | 44  | 44  | 44                          | 44  | 44  | 44  | 44  | 44  |    |
| 90              | 41                     | 41                                      | 41  | 41  | 41  | 41  | 41  | 41  | 41                          | 41  | 41  | 41  | 41  |     |    |
| Zone 2          | 0                      | 87                                      | 77  | 73  | 69  | 66  | 63  | 58  | 53                          | 49  | 46  | 44  | 43  | 41  |    |
|                 | 10                     | 87                                      | 77  | 73  | 69  | 66  | 63  | 58  | 53                          | 49  | 46  | 44  | 43  | 41  |    |
|                 | 20                     | 69                                      | 69  | 69  | 69  | 66  | 63  | 58  | 53                          | 49  | 46  | 44  | 43  | 41  |    |
|                 | 30                     | 68                                      | 68  | 68  | 68  | 66  | 63  | 58  | 53                          | 49  | 46  | 44  | 43  | 41  |    |
|                 | 40                     | 60                                      | 60  | 60  | 60  | 60  | 60  | 58  | 53                          | 49  | 46  | 44  | 43  | 41  |    |
|                 | 50                     | 54                                      | 54  | 54  | 54  | 54  | 54  | 54  | 53                          | 49  | 46  | 44  | 43  | 41  |    |
|                 | 60                     | 50                                      | 50  | 50  | 50  | 50  | 50  | 50  | 50                          | 49  | 46  | 44  | 43  | 41  |    |
|                 | 70                     | 46                                      | 46  | 46  | 46  | 46  | 46  | 46  | 46                          | 46  | 46  | 44  | 43  | 41  |    |
|                 | 80                     | 44                                      | 44  | 44  | 44  | 44  | 44  | 44  | 44                          | 44  | 44  | 44  | 44  | 43  | 41 |
| 90              | 41                     | 41                                      | 41  | 41  | 41  | 41  | 41  | 41  | 41                          | 41  | 41  | 41  | 41  | 41  |    |
| Zone 3          | 0                      | 68                                      | 60  | 57  | 54  | 51  | 49  | 45  | 41                          | 39  | 36  | 35  | 34  | 32  |    |
|                 | 10                     | 68                                      | 60  | 57  | 54  | 51  | 49  | 45  | 41                          | 39  | 36  | 35  | 34  | 32  |    |
|                 | 20                     | 68                                      | 60  | 57  | 54  | 51  | 49  | 45  | 41                          | 39  | 36  | 35  | 34  | 32  |    |
|                 | 30                     | 68                                      | 60  | 57  | 54  | 51  | 49  | 45  | 41                          | 39  | 36  | 35  | 34  | 32  |    |
|                 | 40                     | 60                                      | 60  | 57  | 54  | 51  | 49  | 45  | 41                          | 39  | 36  | 35  | 34  | 32  |    |
|                 | 50                     | 54                                      | 54  | 54  | 54  | 51  | 49  | 45  | 41                          | 39  | 36  | 35  | 34  | 32  |    |
|                 | 60                     | 50                                      | 50  | 50  | 50  | 50  | 49  | 45  | 41                          | 39  | 36  | 35  | 34  | 32  |    |
|                 | 70                     | 46                                      | 46  | 46  | 46  | 46  | 46  | 45  | 41                          | 39  | 36  | 35  | 34  | 32  |    |
|                 | 80                     | 44                                      | 44  | 44  | 44  | 44  | 44  | 44  | 41                          | 39  | 36  | 35  | 34  | 32  |    |
| 90              | 41                     | 41                                      | 41  | 41  | 41  | 41  | 41  | 41  | 39                          | 36  | 35  | 34  | 32  |     |    |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 12</b> |                        | Mean Roof Height: $15 < h \leq 30$ ft   |     |     |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |
|-----------------|------------------------|---|-----|-----|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|
|                 |                        | Roof Angle: $0 < \theta \leq 7$ degrees |     |     |     |     |     |     |                             |     |     |     |     |     |
|                 |                        | Exposure Category: D                    |     |     |     |     |     |     |                             |     |     |     |     |     |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                        |     |     |     |     |     |     |                             |     |     |     |     |     |
|                 |                        | 100                                     | 110 | 115 | 120 | 125 | 130 | 140 | 150                         | 160 | 170 | 175 | 180 | 190 |
| Zone 1          | 0                      | 100                                     | 93  | 89  | 85  | 81  | 77  | 71  | 66                          | 61  | 57  | 56  | 54  | 51  |
|                 | 10                     | 87                                      | 87  | 87  | 85  | 81  | 77  | 71  | 66                          | 61  | 57  | 56  | 54  | 51  |
|                 | 20                     | 69                                      | 69  | 69  | 69  | 69  | 69  | 69  | 66                          | 61  | 57  | 56  | 54  | 51  |
|                 | 30                     | 68                                      | 68  | 68  | 68  | 68  | 68  | 68  | 66                          | 61  | 57  | 56  | 54  | 51  |
|                 | 40                     | 60                                      | 60  | 60  | 60  | 60  | 60  | 60  | 60                          | 60  | 57  | 56  | 54  | 51  |
|                 | 50                     | 54                                      | 54  | 54  | 54  | 54  | 54  | 54  | 54                          | 54  | 54  | 54  | 54  | 51  |
|                 | 60                     | 50                                      | 50  | 50  | 50  | 50  | 50  | 50  | 50                          | 50  | 50  | 50  | 50  | 50  |
|                 | 70                     | 46                                      | 46  | 46  | 46  | 46  | 46  | 46  | 46                          | 46  | 46  | 46  | 46  | 46  |
|                 | 80                     | 44                                      | 44  | 44  | 44  | 44  | 44  | 44  | 44                          | 44  | 44  | 44  | 44  | 44  |
| 90              | 41                     | 41                                      | 41  | 41  | 41  | 41  | 41  | 41  | 41                          | 41  | 41  | 41  | 41  |     |
| Zone 2          | 0                      | 78                                      | 69  | 66  | 63  | 60  | 57  | 52  | 48                          | 45  | 42  | 40  | 39  | 37  |
|                 | 10                     | 78                                      | 69  | 66  | 63  | 60  | 57  | 52  | 48                          | 45  | 42  | 40  | 39  | 37  |
|                 | 20                     | 69                                      | 69  | 66  | 63  | 60  | 57  | 52  | 48                          | 45  | 42  | 40  | 39  | 37  |
|                 | 30                     | 68                                      | 68  | 66  | 63  | 60  | 57  | 52  | 48                          | 45  | 42  | 40  | 39  | 37  |
|                 | 40                     | 60                                      | 60  | 60  | 60  | 60  | 57  | 52  | 48                          | 45  | 42  | 40  | 39  | 37  |
|                 | 50                     | 54                                      | 54  | 54  | 54  | 54  | 54  | 52  | 48                          | 45  | 42  | 40  | 39  | 37  |
|                 | 60                     | 50                                      | 50  | 50  | 50  | 50  | 50  | 50  | 48                          | 45  | 42  | 40  | 39  | 37  |
|                 | 70                     | 46                                      | 46  | 46  | 46  | 46  | 46  | 46  | 46                          | 45  | 42  | 40  | 39  | 37  |
|                 | 80                     | 44                                      | 44  | 44  | 44  | 44  | 44  | 44  | 44                          | 44  | 42  | 40  | 39  | 37  |
| 90              | 41                     | 41                                      | 41  | 41  | 41  | 41  | 41  | 41  | 41                          | 41  | 40  | 39  | 37  |     |
| Zone 3          | 0                      | 61                                      | 54  | 51  | 49  | 46  | 44  | 41  | 38                          | 35  | 33  | 32  | 31  | 30  |
|                 | 10                     | 61                                      | 54  | 51  | 49  | 46  | 44  | 41  | 38                          | 35  | 33  | 32  | 31  | 30  |
|                 | 20                     | 61                                      | 54  | 51  | 49  | 46  | 44  | 41  | 38                          | 35  | 33  | 32  | 31  | 30  |
|                 | 30                     | 61                                      | 54  | 51  | 49  | 46  | 44  | 41  | 38                          | 35  | 33  | 32  | 31  | 30  |
|                 | 40                     | 60                                      | 54  | 51  | 49  | 46  | 44  | 41  | 38                          | 35  | 33  | 32  | 31  | 30  |
|                 | 50                     | 54                                      | 54  | 51  | 49  | 46  | 44  | 41  | 38                          | 35  | 33  | 32  | 31  | 30  |
|                 | 60                     | 50                                      | 50  | 50  | 49  | 46  | 44  | 41  | 38                          | 35  | 33  | 32  | 31  | 30  |
|                 | 70                     | 46                                      | 46  | 46  | 46  | 46  | 44  | 41  | 38                          | 35  | 33  | 32  | 31  | 30  |
|                 | 80                     | 44                                      | 44  | 44  | 44  | 44  | 44  | 41  | 38                          | 35  | 33  | 32  | 31  | 30  |
| 90              | 41                     | 41                                      | 41  | 41  | 41  | 41  | 41  | 38  | 35                          | 33  | 32  | 31  | 30  |     |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"



**Max Rail Spans for SunModo SMR100 System**

| <b>Table 13</b> |                        | Mean Roof Height: $15 < h \leq 30$ ft    |     |     |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |    |
|-----------------|------------------------|--|-----|-----|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|----|
|                 |                        | Roof Angle: $7 < \theta \leq 27$ degrees |     |     |     |     |     |     |                             |     |     |     |     |     |    |
|                 |                        | Exposure Category: B                     |     |     |     |     |     |     |                             |     |     |     |     |     |    |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                         |     |     |     |     |     |     |                             |     |     |     |     |     |    |
|                 |                        | 100                                      | 110 | 115 | 120 | 125 | 130 | 140 | 150                         | 160 | 170 | 175 | 180 | 190 |    |
| Zone 1          | 0                      | 101                                      | 101 | 101 | 101 | 101 | 101 | 97  | 92                          | 88  | 82  | 79  | 76  | 72  |    |
|                 | 10                     | 78                                       | 78  | 78  | 78  | 77  | 76  | 75  | 74                          | 72  | 71  | 70  | 69  | 68  |    |
|                 | 20                     | 60                                       | 60  | 60  | 60  | 60  | 60  | 60  | 60                          | 60  | 59  | 58  | 58  | 57  |    |
|                 | 30                     | 60                                       | 60  | 60  | 60  | 60  | 60  | 60  | 60                          | 60  | 59  | 58  | 58  | 57  |    |
|                 | 40                     | 53                                       | 53  | 53  | 53  | 53  | 53  | 53  | 53                          | 53  | 53  | 53  | 53  | 52  |    |
|                 | 50                     | 48                                       | 48  | 48  | 48  | 48  | 48  | 48  | 48                          | 48  | 48  | 48  | 48  | 48  | 48 |
|                 | 60                     | 44                                       | 44  | 44  | 44  | 44  | 44  | 44  | 44                          | 44  | 44  | 44  | 44  | 44  | 44 |
|                 | 70                     | 41                                       | 41  | 41  | 41  | 41  | 41  | 41  | 41                          | 41  | 41  | 41  | 41  | 41  | 41 |
|                 | 80                     | 39                                       | 39  | 39  | 39  | 39  | 39  | 39  | 39                          | 39  | 39  | 39  | 39  | 39  | 39 |
| 90              | 37                     | 37                                       | 37  | 37  | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  | 37  |    |
| Zone 2          | 0                      | 101                                      | 94  | 91  | 88  | 83  | 79  | 73  | 67                          | 62  | 58  | 56  | 54  | 51  |    |
|                 | 10                     | 78                                       | 78  | 78  | 78  | 77  | 76  | 73  | 67                          | 62  | 58  | 56  | 54  | 51  |    |
|                 | 20                     | 60                                       | 60  | 60  | 60  | 60  | 60  | 60  | 60                          | 60  | 58  | 56  | 54  | 51  |    |
|                 | 30                     | 60                                       | 60  | 60  | 60  | 60  | 60  | 60  | 60                          | 60  | 58  | 56  | 54  | 51  |    |
|                 | 40                     | 53                                       | 53  | 53  | 53  | 53  | 53  | 53  | 53                          | 53  | 53  | 53  | 53  | 51  |    |
|                 | 50                     | 48                                       | 48  | 48  | 48  | 48  | 48  | 48  | 48                          | 48  | 48  | 48  | 48  | 48  | 48 |
|                 | 60                     | 44                                       | 44  | 44  | 44  | 44  | 44  | 44  | 44                          | 44  | 44  | 44  | 44  | 44  | 44 |
|                 | 70                     | 41                                       | 41  | 41  | 41  | 41  | 41  | 41  | 41                          | 41  | 41  | 41  | 41  | 41  | 41 |
|                 | 80                     | 39                                       | 39  | 39  | 39  | 39  | 39  | 39  | 39                          | 39  | 39  | 39  | 39  | 39  | 39 |
| 90              | 37                     | 37                                       | 37  | 37  | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  | 37  |    |
| Zone 3          | 0                      | 83                                       | 74  | 71  | 67  | 64  | 61  | 56  | 52                          | 48  | 45  | 44  | 42  | 40  |    |
|                 | 10                     | 78                                       | 74  | 71  | 67  | 64  | 61  | 56  | 52                          | 48  | 45  | 44  | 42  | 40  |    |
|                 | 20                     | 60                                       | 60  | 60  | 60  | 60  | 60  | 56  | 52                          | 48  | 45  | 44  | 42  | 40  |    |
|                 | 30                     | 60                                       | 60  | 60  | 60  | 60  | 60  | 56  | 52                          | 48  | 45  | 44  | 42  | 40  |    |
|                 | 40                     | 53                                       | 53  | 53  | 53  | 53  | 53  | 53  | 52                          | 48  | 45  | 44  | 42  | 40  |    |
|                 | 50                     | 48                                       | 48  | 48  | 48  | 48  | 48  | 48  | 48                          | 48  | 45  | 44  | 42  | 40  |    |
|                 | 60                     | 44                                       | 44  | 44  | 44  | 44  | 44  | 44  | 44                          | 44  | 44  | 44  | 42  | 40  |    |
|                 | 70                     | 41                                       | 41  | 41  | 41  | 41  | 41  | 41  | 41                          | 41  | 41  | 41  | 41  | 40  |    |
|                 | 80                     | 39                                       | 39  | 39  | 39  | 39  | 39  | 39  | 39                          | 39  | 39  | 39  | 39  | 39  |    |
| 90              | 37                     | 37                                       | 37  | 37  | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  |     |    |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 14</b> |                        | Mean Roof Height: $15 < h \leq 30$ ft    |     |     |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |    |
|-----------------|------------------------|--|-----|-----|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|----|
|                 |                        | Roof Angle: $7 < \theta \leq 27$ degrees |     |     |     |     |     |     |                             |     |     |     |     |     |    |
|                 |                        | Exposure Category: C                     |     |     |     |     |     |     |                             |     |     |     |     |     |    |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                         |     |     |     |     |     |     |                             |     |     |     |     |     |    |
|                 |                        | 100                                      | 110 | 115 | 120 | 125 | 130 | 140 | 150                         | 160 | 170 | 175 | 180 | 190 |    |
| Zone 1          | 0                      | 101                                      | 101 | 100 | 96  | 93  | 90  | 84  | 78                          | 72  | 67  | 65  | 63  | 59  |    |
|                 | 10                     | 78                                       | 76  | 75  | 75  | 74  | 73  | 71  | 70                          | 68  | 66  | 65  | 63  | 59  |    |
|                 | 20                     | 60                                       | 60  | 60  | 60  | 60  | 60  | 60  | 59                          | 58  | 57  | 56  | 55  | 54  |    |
|                 | 30                     | 60                                       | 60  | 60  | 60  | 60  | 60  | 60  | 59                          | 58  | 57  | 56  | 55  | 54  |    |
|                 | 40                     | 53                                       | 53  | 53  | 53  | 53  | 53  | 53  | 53                          | 52  | 51  | 51  | 51  | 50  |    |
|                 | 50                     | 48                                       | 48  | 48  | 48  | 48  | 48  | 48  | 48                          | 48  | 48  | 48  | 47  | 47  | 46 |
|                 | 60                     | 44                                       | 44  | 44  | 44  | 44  | 44  | 44  | 44                          | 44  | 44  | 44  | 44  | 44  | 44 |
|                 | 70                     | 41                                       | 41  | 41  | 41  | 41  | 41  | 41  | 41                          | 41  | 41  | 41  | 41  | 41  | 41 |
|                 | 80                     | 39                                       | 39  | 39  | 39  | 39  | 39  | 39  | 39                          | 39  | 39  | 39  | 39  | 39  | 39 |
| 90              | 37                     | 37                                       | 37  | 37  | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  | 37  |    |
| Zone 2          | 0                      | 89                                       | 79  | 75  | 71  | 68  | 65  | 59  | 55                          | 51  | 48  | 46  | 45  | 42  |    |
|                 | 10                     | 78                                       | 76  | 75  | 71  | 68  | 65  | 59  | 55                          | 51  | 48  | 46  | 45  | 42  |    |
|                 | 20                     | 60                                       | 60  | 60  | 60  | 60  | 60  | 59  | 55                          | 51  | 48  | 46  | 45  | 42  |    |
|                 | 30                     | 60                                       | 60  | 60  | 60  | 60  | 60  | 59  | 55                          | 51  | 48  | 46  | 45  | 42  |    |
|                 | 40                     | 53                                       | 53  | 53  | 53  | 53  | 53  | 53  | 53                          | 51  | 48  | 46  | 45  | 42  |    |
|                 | 50                     | 48                                       | 48  | 48  | 48  | 48  | 48  | 48  | 48                          | 48  | 48  | 48  | 46  | 45  | 42 |
|                 | 60                     | 44                                       | 44  | 44  | 44  | 44  | 44  | 44  | 44                          | 44  | 44  | 44  | 44  | 44  | 42 |
|                 | 70                     | 41                                       | 41  | 41  | 41  | 41  | 41  | 41  | 41                          | 41  | 41  | 41  | 41  | 41  | 41 |
|                 | 80                     | 39                                       | 39  | 39  | 39  | 39  | 39  | 39  | 39                          | 39  | 39  | 39  | 39  | 39  | 39 |
| 90              | 37                     | 37                                       | 37  | 37  | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  | 37  |    |
| Zone 3          | 0                      | 68                                       | 61  | 58  | 55  | 53  | 50  | 46  | 43                          | 40  | 38  | 37  | 36  | 34  |    |
|                 | 10                     | 68                                       | 61  | 58  | 55  | 53  | 50  | 46  | 43                          | 40  | 38  | 37  | 36  | 34  |    |
|                 | 20                     | 60                                       | 60  | 58  | 55  | 53  | 50  | 46  | 43                          | 40  | 38  | 37  | 36  | 34  |    |
|                 | 30                     | 60                                       | 60  | 58  | 55  | 53  | 50  | 46  | 43                          | 40  | 38  | 37  | 36  | 34  |    |
|                 | 40                     | 53                                       | 53  | 53  | 53  | 53  | 50  | 46  | 43                          | 40  | 38  | 37  | 36  | 34  |    |
|                 | 50                     | 48                                       | 48  | 48  | 48  | 48  | 48  | 46  | 43                          | 40  | 38  | 37  | 36  | 34  |    |
|                 | 60                     | 44                                       | 44  | 44  | 44  | 44  | 44  | 44  | 43                          | 40  | 38  | 37  | 36  | 34  |    |
|                 | 70                     | 41                                       | 41  | 41  | 41  | 41  | 41  | 41  | 41                          | 40  | 38  | 37  | 36  | 34  |    |
|                 | 80                     | 39                                       | 39  | 39  | 39  | 39  | 39  | 39  | 39                          | 39  | 38  | 37  | 36  | 34  |    |
| 90              | 37                     | 37                                       | 37  | 37  | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 36  | 34  |     |    |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 15</b> |                        | Mean Roof Height: $15 < h \leq 30$ ft    |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |     |     |    |
|-----------------|------------------------|--|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|-----|-----|----|
|                 |                        | Roof Angle: $7 < \theta \leq 27$ degrees |     |     |     |     |                             |     |     |     |     |     |     |     |    |
|                 |                        | Exposure Category: D                     |     |     |     |     |                             |     |     |     |     |     |     |     |    |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                         |     |     |     |     |                             |     |     |     |     |     |     |     |    |
|                 |                        | 100                                      | 110 | 115 | 120 | 125 | 130                         | 140 | 150 | 160 | 170 | 175 | 180 | 190 |    |
| Zone 1          | 0                      | 101                                      | 96  | 93  | 90  | 87  | 83                          | 76  | 70  | 65  | 61  | 59  | 57  | 54  |    |
|                 | 10                     | 76                                       | 75  | 74  | 73  | 72  | 71                          | 69  | 67  | 65  | 61  | 59  | 57  | 54  |    |
|                 | 20                     | 60                                       | 60  | 60  | 60  | 59  | 59                          | 58  | 57  | 56  | 54  | 54  | 53  | 52  |    |
|                 | 30                     | 60                                       | 60  | 60  | 60  | 59  | 59                          | 58  | 57  | 56  | 54  | 54  | 53  | 52  |    |
|                 | 40                     | 53                                       | 53  | 53  | 53  | 53  | 53                          | 53  | 52  | 51  | 50  | 50  | 49  | 48  |    |
|                 | 50                     | 48                                       | 48  | 48  | 48  | 48  | 48                          | 48  | 48  | 47  | 47  | 46  | 46  | 45  |    |
|                 | 60                     | 44                                       | 44  | 44  | 44  | 44  | 44                          | 44  | 44  | 44  | 44  | 44  | 44  | 43  | 43 |
|                 | 70                     | 41                                       | 41  | 41  | 41  | 41  | 41                          | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41 |
|                 | 80                     | 39                                       | 39  | 39  | 39  | 39  | 39                          | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39 |
| 90              | 37                     | 37                                       | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  | 37  | 37  | 37  |    |
| Zone 2          | 0                      | 80                                       | 72  | 68  | 64  | 61  | 59                          | 54  | 50  | 46  | 43  | 42  | 41  | 38  |    |
|                 | 10                     | 76                                       | 72  | 68  | 64  | 61  | 59                          | 54  | 50  | 46  | 43  | 42  | 41  | 38  |    |
|                 | 20                     | 60                                       | 60  | 60  | 60  | 59  | 59                          | 54  | 50  | 46  | 43  | 42  | 41  | 38  |    |
|                 | 30                     | 60                                       | 60  | 60  | 60  | 59  | 59                          | 54  | 50  | 46  | 43  | 42  | 41  | 38  |    |
|                 | 40                     | 53                                       | 53  | 53  | 53  | 53  | 53                          | 53  | 50  | 46  | 43  | 42  | 41  | 38  |    |
|                 | 50                     | 48                                       | 48  | 48  | 48  | 48  | 48                          | 48  | 48  | 46  | 43  | 42  | 41  | 38  |    |
|                 | 60                     | 44                                       | 44  | 44  | 44  | 44  | 44                          | 44  | 44  | 44  | 43  | 42  | 41  | 38  |    |
|                 | 70                     | 41                                       | 41  | 41  | 41  | 41  | 41                          | 41  | 41  | 41  | 41  | 41  | 41  | 38  |    |
|                 | 80                     | 39                                       | 39  | 39  | 39  | 39  | 39                          | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 38 |
| 90              | 37                     | 37                                       | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  | 37  | 37  | 37  |    |
| Zone 3          | 0                      | 62                                       | 55  | 53  | 50  | 48  | 46                          | 42  | 39  | 37  | 35  | 34  | 33  | 31  |    |
|                 | 10                     | 62                                       | 55  | 53  | 50  | 48  | 46                          | 42  | 39  | 37  | 35  | 34  | 33  | 31  |    |
|                 | 20                     | 60                                       | 55  | 53  | 50  | 48  | 46                          | 42  | 39  | 37  | 35  | 34  | 33  | 31  |    |
|                 | 30                     | 60                                       | 55  | 53  | 50  | 48  | 46                          | 42  | 39  | 37  | 35  | 34  | 33  | 31  |    |
|                 | 40                     | 53                                       | 53  | 53  | 50  | 48  | 46                          | 42  | 39  | 37  | 35  | 34  | 33  | 31  |    |
|                 | 50                     | 48                                       | 48  | 48  | 48  | 48  | 46                          | 42  | 39  | 37  | 35  | 34  | 33  | 31  |    |
|                 | 60                     | 44                                       | 44  | 44  | 44  | 44  | 44                          | 42  | 39  | 37  | 35  | 34  | 33  | 31  |    |
|                 | 70                     | 41                                       | 41  | 41  | 41  | 41  | 41                          | 41  | 39  | 37  | 35  | 34  | 33  | 31  |    |
|                 | 80                     | 39                                       | 39  | 39  | 39  | 39  | 39                          | 39  | 39  | 37  | 35  | 34  | 33  | 31  |    |
| 90              | 37                     | 37                                       | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 35  | 34  | 33  | 31  |     |    |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 16</b>      |                              | Mean Roof Height: $15 < h \leq 30$ ft     |     |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |     |
|----------------------|------------------------------|---|-----|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|-----|
|                      |                              | Roof Angle: $27 < \theta \leq 45$ degrees |     |     |     |     |     | Exposure Category: B        |     |     |     |     |     |     |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)                          |     |     |     |     |     |                             |     |     |     |     |     |     |
|                      |                              | 100                                       | 110 | 115 | 120 | 125 | 130 | 140                         | 150 | 160 | 170 | 175 | 180 | 190 |
| Zone 1               | 0                            | 95  | 90  | 88  | 86  | 83  | 81  | 77                          | 73  | 70  | 67  | 65  | 64  | 61  |
|                      | 10                           | 83  | 81  | 80  | 78  | 77  | 76  | 73                          | 71  | 68  | 66  | 65  | 64  | 61  |
|                      | 20                           | 72  | 70  | 70  | 69  | 68  | 67  | 65                          | 63  | 62  | 60  | 59  | 58  | 57  |
|                      | 30                           | 64  | 63  | 63  | 62  | 61  | 61  | 59                          | 58  | 57  | 55  | 55  | 54  | 53  |
|                      | 40                           | 57  | 57  | 57  | 57  | 56  | 56  | 55                          | 54  | 53  | 52  | 51  | 50  | 49  |
|                      | 50                           | 52  | 52  | 52  | 52  | 52  | 52  | 51                          | 50  | 49  | 49  | 48  | 48  | 47  |
|                      | 60                           | 48  | 48  | 48  | 48  | 48  | 48  | 48                          | 47  | 47  | 46  | 46  | 45  | 44  |
|                      | 70                           | 45  | 45  | 45  | 45  | 45  | 45  | 45                          | 45  | 44  | 44  | 43  | 43  | 42  |
|                      | 80                           | 42  | 42  | 42  | 42  | 42  | 42  | 42                          | 42  | 42  | 42  | 42  | 41  | 41  |
| 90                   | 40                           | 40  | 40  | 40  | 40  | 40  | 40  | 40                          | 40  | 40  | 40  | 40  | 40  | 39  |
| Zone 2               | 0                            | 95  | 90  | 88  | 86  | 83  | 81  | 77                          | 73  | 70  | 67  | 65  | 64  | 61  |
|                      | 10                           | 83  | 81  | 80  | 78  | 77  | 76  | 73                          | 71  | 68  | 66  | 65  | 64  | 61  |
|                      | 20                           | 72  | 70  | 70  | 69  | 68  | 67  | 65                          | 63  | 62  | 60  | 59  | 58  | 57  |
|                      | 30                           | 64  | 63  | 63  | 62  | 61  | 61  | 59                          | 58  | 57  | 55  | 55  | 54  | 53  |
|                      | 40                           | 57  | 57  | 57  | 57  | 56  | 56  | 55                          | 54  | 53  | 52  | 51  | 50  | 49  |
|                      | 50                           | 52  | 52  | 52  | 52  | 52  | 52  | 51                          | 50  | 49  | 49  | 48  | 48  | 47  |
|                      | 60                           | 48  | 48  | 48  | 48  | 48  | 48  | 48                          | 47  | 47  | 46  | 46  | 45  | 44  |
|                      | 70                           | 45  | 45  | 45  | 45  | 45  | 45  | 45                          | 45  | 44  | 44  | 43  | 43  | 42  |
|                      | 80                           | 42  | 42  | 42  | 42  | 42  | 42  | 42                          | 42  | 42  | 42  | 42  | 41  | 41  |
| 90                   | 40                           | 40  | 40  | 40  | 40  | 40  | 40  | 40                          | 40  | 40  | 40  | 40  | 40  | 39  |
| Zone 3               | 0                            | 95  | 90  | 88  | 86  | 83  | 81  | 77                          | 73  | 70  | 67  | 65  | 64  | 61  |
|                      | 10                           | 83  | 81  | 80  | 78  | 77  | 76  | 73                          | 71  | 68  | 66  | 65  | 64  | 61  |
|                      | 20                           | 72  | 70  | 70  | 69  | 68  | 67  | 65                          | 63  | 62  | 60  | 59  | 58  | 57  |
|                      | 30                           | 64  | 63  | 63  | 62  | 61  | 61  | 59                          | 58  | 57  | 55  | 55  | 54  | 53  |
|                      | 40                           | 57  | 57  | 57  | 57  | 56  | 56  | 55                          | 54  | 53  | 52  | 51  | 50  | 49  |
|                      | 50                           | 52  | 52  | 52  | 52  | 52  | 52  | 51                          | 50  | 49  | 49  | 48  | 48  | 47  |
|                      | 60                           | 48  | 48  | 48  | 48  | 48  | 48  | 48                          | 47  | 47  | 46  | 46  | 45  | 44  |
|                      | 70                           | 45  | 45  | 45  | 45  | 45  | 45  | 45                          | 45  | 44  | 44  | 43  | 43  | 42  |
|                      | 80                           | 42  | 42  | 42  | 42  | 42  | 42  | 42                          | 42  | 42  | 42  | 42  | 41  | 41  |
| 90                   | 40                           | 40  | 40  | 40  | 40  | 40  | 40  | 40                          | 40  | 40  | 40  | 40  | 40  | 39  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 17</b>      |                              | Mean Roof Height: $15 < h \leq 30$ ft     |     |     |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |  |
|----------------------|------------------------------|---|-----|-----|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|--|
|                      |                              | Roof Angle: $27 < \theta \leq 45$ degrees |     |     |     |     |     |     |                             |     |     |     |     |     |  |
|                      |                              | Exposure Category: C                      |     |     |     |     |     |     |                             |     |     |     |     |     |  |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)                          |     |     |     |     |     |     |                             |     |     |     |     |     |  |
|                      |                              | 100                                       | 110 | 115 | 120 | 125 | 130 | 140 | 150                         | 160 | 170 | 175 | 180 | 190 |  |
| Zone 1               | 0                            | 86  | 81  | 79  | 76  | 74  | 72  | 68  | 64                          | 61  | 58  | 57  | 55  | 53  |  |
|                      | 10                           | 79  | 76  | 74  | 73  | 71  | 70  | 67  | 64                          | 61  | 58  | 57  | 55  | 53  |  |
|                      | 20                           | 69  | 67  | 66  | 65  | 64  | 63  | 61  | 59                          | 57  | 55  | 54  | 53  | 51  |  |
|                      | 30                           | 62  | 61  | 60  | 59  | 58  | 57  | 56  | 54                          | 53  | 51  | 50  | 50  | 48  |  |
|                      | 40                           | 57  | 56  | 55  | 55  | 54  | 53  | 52  | 51                          | 49  | 48  | 48  | 47  | 46  |  |
|                      | 50                           | 52  | 52  | 52  | 51  | 51  | 50  | 49  | 48                          | 47  | 46  | 45  | 45  | 44  |  |
|                      | 60                           | 48  | 48  | 48  | 48  | 48  | 47  | 46  | 45                          | 44  | 44  | 43  | 43  | 42  |  |
|                      | 70                           | 45  | 45  | 45  | 45  | 45  | 45  | 44  | 43                          | 42  | 42  | 41  | 41  | 40  |  |
|                      | 80                           | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 41                          | 41  | 40  | 40  | 39  | 39  |  |
| 90                   | 40                           | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 39                          | 38  | 38  | 38  | 37  |     |  |
| Zone 2               | 0                            | 86  | 81  | 79  | 76  | 74  | 72  | 68  | 64                          | 61  | 58  | 56  | 54  | 51  |  |
|                      | 10                           | 79  | 76  | 74  | 73  | 71  | 70  | 67  | 64                          | 61  | 58  | 56  | 54  | 51  |  |
|                      | 20                           | 69  | 67  | 66  | 65  | 64  | 63  | 61  | 59                          | 57  | 55  | 54  | 53  | 51  |  |
|                      | 30                           | 62  | 61  | 60  | 59  | 58  | 57  | 56  | 54                          | 53  | 51  | 50  | 50  | 48  |  |
|                      | 40                           | 57  | 56  | 55  | 55  | 54  | 53  | 52  | 51                          | 49  | 48  | 48  | 47  | 46  |  |
|                      | 50                           | 52  | 52  | 52  | 51  | 51  | 50  | 49  | 48                          | 47  | 46  | 45  | 45  | 44  |  |
|                      | 60                           | 48  | 48  | 48  | 48  | 48  | 47  | 46  | 45                          | 44  | 44  | 43  | 43  | 42  |  |
|                      | 70                           | 45  | 45  | 45  | 45  | 45  | 45  | 44  | 43                          | 42  | 42  | 41  | 41  | 40  |  |
|                      | 80                           | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 41                          | 41  | 40  | 40  | 39  | 39  |  |
| 90                   | 40                           | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 39                          | 38  | 38  | 38  | 37  |     |  |
| Zone 3               | 0                            | 86  | 81  | 79  | 76  | 74  | 72  | 68  | 64                          | 61  | 58  | 56  | 54  | 51  |  |
|                      | 10                           | 79  | 76  | 74  | 73  | 71  | 70  | 67  | 64                          | 61  | 58  | 56  | 54  | 51  |  |
|                      | 20                           | 69  | 67  | 66  | 65  | 64  | 63  | 61  | 59                          | 57  | 55  | 54  | 53  | 51  |  |
|                      | 30                           | 62  | 61  | 60  | 59  | 58  | 57  | 56  | 54                          | 53  | 51  | 50  | 50  | 48  |  |
|                      | 40                           | 57  | 56  | 55  | 55  | 54  | 53  | 52  | 51                          | 49  | 48  | 48  | 47  | 46  |  |
|                      | 50                           | 52  | 52  | 52  | 51  | 51  | 50  | 49  | 48                          | 47  | 46  | 45  | 45  | 44  |  |
|                      | 60                           | 48  | 48  | 48  | 48  | 48  | 47  | 46  | 45                          | 44  | 44  | 43  | 43  | 42  |  |
|                      | 70                           | 45  | 45  | 45  | 45  | 45  | 45  | 44  | 43                          | 42  | 42  | 41  | 41  | 40  |  |
|                      | 80                           | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 41                          | 41  | 40  | 40  | 39  | 39  |  |
| 90                   | 40                           | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 39                          | 38  | 38  | 38  | 37  |     |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 18</b>      |                              | Mean Roof Height: $15 < h \leq 30$ ft     |     |     |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |
|----------------------|------------------------------|---|-----|-----|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|
|                      |                              | Roof Angle: $27 < \theta \leq 45$ degrees |     |     |     |     |     |     |                             |     |     |     |     |     |
|                      |                              | Exposure Category: D                      |     |     |     |     |     |     |                             |     |     |     |     |     |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)                          |     |     |     |     |     |     |                             |     |     |     |     |     |
|                      |                              | 100                                       | 110 | 115 | 120 | 125 | 130 | 140 | 150                         | 160 | 170 | 175 | 180 | 190 |
| Zone 1               | 0                            | 82  | 76  | 74  | 72  | 70  | 67  | 64  | 60                          | 57  | 54  | 53  | 51  | 49  |
|                      | 10                           | 76  | 73  | 71  | 70  | 68  | 67  | 64  | 60                          | 57  | 54  | 53  | 51  | 49  |
|                      | 20                           | 67  | 65  | 64  | 63  | 61  | 60  | 58  | 56                          | 54  | 52  | 51  | 50  | 49  |
|                      | 30                           | 61  | 59  | 58  | 57  | 57  | 56  | 54  | 52                          | 51  | 49  | 48  | 48  | 46  |
|                      | 40                           | 56  | 55  | 54  | 53  | 53  | 52  | 50  | 49                          | 48  | 46  | 46  | 45  | 44  |
|                      | 50                           | 52  | 51  | 51  | 50  | 49  | 49  | 48  | 46                          | 45  | 44  | 44  | 43  | 42  |
|                      | 60                           | 48  | 48  | 48  | 47  | 47  | 46  | 45  | 44                          | 43  | 42  | 42  | 41  | 40  |
|                      | 70                           | 45  | 45  | 45  | 45  | 44  | 44  | 43  | 42                          | 41  | 40  | 40  | 40  | 39  |
|                      | 80                           | 42  | 42  | 42  | 42  | 42  | 42  | 41  | 40                          | 40  | 39  | 38  | 38  | 37  |
|                      | 90                           | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 39                          | 38  | 38  | 37  | 37  | 36  |
| Zone 2               | 0                            | 82  | 76  | 74  | 72  | 70  | 67  | 64  | 60                          | 57  | 53  | 51  | 50  | 47  |
|                      | 10                           | 76  | 73  | 71  | 70  | 68  | 67  | 64  | 60                          | 57  | 53  | 51  | 50  | 47  |
|                      | 20                           | 67  | 65  | 64  | 63  | 61  | 60  | 58  | 56                          | 54  | 52  | 51  | 50  | 47  |
|                      | 30                           | 61  | 59  | 58  | 57  | 57  | 56  | 54  | 52                          | 51  | 49  | 48  | 48  | 46  |
|                      | 40                           | 56  | 55  | 54  | 53  | 53  | 52  | 50  | 49                          | 48  | 46  | 46  | 45  | 44  |
|                      | 50                           | 52  | 51  | 51  | 50  | 49  | 49  | 48  | 46                          | 45  | 44  | 44  | 43  | 42  |
|                      | 60                           | 48  | 48  | 48  | 47  | 47  | 46  | 45  | 44                          | 43  | 42  | 42  | 41  | 40  |
|                      | 70                           | 45  | 45  | 45  | 45  | 44  | 44  | 43  | 42                          | 41  | 40  | 40  | 40  | 39  |
|                      | 80                           | 42  | 42  | 42  | 42  | 42  | 42  | 41  | 40                          | 40  | 39  | 38  | 38  | 37  |
|                      | 90                           | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 39                          | 38  | 38  | 37  | 37  | 36  |
| Zone 3               | 0                            | 82  | 76  | 74  | 72  | 70  | 67  | 64  | 60                          | 57  | 53  | 51  | 50  | 47  |
|                      | 10                           | 76  | 73  | 71  | 70  | 68  | 67  | 64  | 60                          | 57  | 53  | 51  | 50  | 47  |
|                      | 20                           | 67  | 65  | 64  | 63  | 61  | 60  | 58  | 56                          | 54  | 52  | 51  | 50  | 47  |
|                      | 30                           | 61  | 59  | 58  | 57  | 57  | 56  | 54  | 52                          | 51  | 49  | 48  | 48  | 46  |
|                      | 40                           | 56  | 55  | 54  | 53  | 53  | 52  | 50  | 49                          | 48  | 46  | 46  | 45  | 44  |
|                      | 50                           | 52  | 51  | 51  | 50  | 49  | 49  | 48  | 46                          | 45  | 44  | 44  | 43  | 42  |
|                      | 60                           | 48  | 48  | 48  | 47  | 47  | 46  | 45  | 44                          | 43  | 42  | 42  | 41  | 40  |
|                      | 70                           | 45  | 45  | 45  | 45  | 44  | 44  | 43  | 42                          | 41  | 40  | 40  | 40  | 39  |
|                      | 80                           | 42  | 42  | 42  | 42  | 42  | 42  | 41  | 40                          | 40  | 39  | 38  | 38  | 37  |
|                      | 90                           | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 39                          | 38  | 38  | 37  | 37  | 36  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 19</b>      |                              | Mean Roof Height:  | $h \leq 15$ ft              |     |     |     |     |     |     |     |     |     | Panel Orientation: | Landscape |  |  |
|----------------------|------------------------------|--------------------|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|-----------|--|--|
|                      |                              | Roof Angle:        | $0 < \theta \leq 7$ degrees |     |     |     |     |     |     |     |     |     |                    |           |  |  |
|                      |                              | Exposure Category: | B                           |     |     |     |     |     |     |     |     |     |                    |           |  |  |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                             |     |     |     |     |     |     |     |     |     |                    |           |  |  |
|                      |                              | 100                | 110                         | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180                | 190       |  |  |
| Zone 1               | 0                            | 118                | 118                         | 118 | 118 | 118 | 116 | 109 | 104 | 99  | 94  | 92  | 90                 | 85        |  |  |
|                      | 10                           | 108                | 108                         | 108 | 108 | 108 | 108 | 108 | 104 | 99  | 94  | 92  | 90                 | 85        |  |  |
|                      | 20                           | 88                 | 88                          | 88  | 88  | 88  | 88  | 88  | 88  | 88  | 88  | 87  | 87                 | 85        |  |  |
|                      | 30                           | 86                 | 86                          | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86                 | 84        |  |  |
|                      | 40                           | 76                 | 76                          | 76  | 76  | 76  | 76  | 76  | 76  | 76  | 76  | 76  | 76                 | 76        |  |  |
|                      | 50                           | 69                 | 69                          | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 69                 | 69        |  |  |
|                      | 60                           | 63                 | 63                          | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63                 | 63        |  |  |
|                      | 70                           | 59                 | 59                          | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59                 | 59        |  |  |
|                      | 80                           | 55                 | 55                          | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55                 | 55        |  |  |
| 90                   | 52                           | 52                 | 52                          | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52                 |           |  |  |
| Zone 2               | 0                            | 116                | 107                         | 103 | 100 | 97  | 94  | 87  | 80  | 74  | 69  | 67  | 65                 | 61        |  |  |
|                      | 10                           | 108                | 107                         | 103 | 100 | 97  | 94  | 87  | 80  | 74  | 69  | 67  | 65                 | 61        |  |  |
|                      | 20                           | 88                 | 88                          | 88  | 88  | 88  | 88  | 87  | 80  | 74  | 69  | 67  | 65                 | 61        |  |  |
|                      | 30                           | 86                 | 86                          | 86  | 86  | 86  | 86  | 86  | 80  | 74  | 69  | 67  | 65                 | 61        |  |  |
|                      | 40                           | 76                 | 76                          | 76  | 76  | 76  | 76  | 76  | 76  | 74  | 69  | 67  | 65                 | 61        |  |  |
|                      | 50                           | 69                 | 69                          | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 67  | 65                 | 61        |  |  |
|                      | 60                           | 63                 | 63                          | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63                 | 61        |  |  |
|                      | 70                           | 59                 | 59                          | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59                 | 59        |  |  |
|                      | 80                           | 55                 | 55                          | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55                 | 55        |  |  |
| 90                   | 52                           | 52                 | 52                          | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52                 |           |  |  |
| Zone 3               | 0                            | 98                 | 91                          | 86  | 81  | 77  | 74  | 67  | 62  | 58  | 55  | 53  | 52                 | 49        |  |  |
|                      | 10                           | 98                 | 91                          | 86  | 81  | 77  | 74  | 67  | 62  | 58  | 55  | 53  | 52                 | 49        |  |  |
|                      | 20                           | 88                 | 88                          | 86  | 81  | 77  | 74  | 67  | 62  | 58  | 55  | 53  | 52                 | 49        |  |  |
|                      | 30                           | 86                 | 86                          | 86  | 81  | 77  | 74  | 67  | 62  | 58  | 55  | 53  | 52                 | 49        |  |  |
|                      | 40                           | 76                 | 76                          | 76  | 76  | 76  | 74  | 67  | 62  | 58  | 55  | 53  | 52                 | 49        |  |  |
|                      | 50                           | 69                 | 69                          | 69  | 69  | 69  | 69  | 67  | 62  | 58  | 55  | 53  | 52                 | 49        |  |  |
|                      | 60                           | 63                 | 63                          | 63  | 63  | 63  | 63  | 63  | 62  | 58  | 55  | 53  | 52                 | 49        |  |  |
|                      | 70                           | 59                 | 59                          | 59  | 59  | 59  | 59  | 59  | 59  | 58  | 55  | 53  | 52                 | 49        |  |  |
|                      | 80                           | 55                 | 55                          | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 53  | 52                 | 49        |  |  |
| 90                   | 52                           | 52                 | 52                          | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 49                 |           |  |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 20</b>      |                              | Mean Roof Height:  | $h \leq 15$ ft              |     |     |     |     |     |     |     |     |     | Panel Orientation: | Landscape |  |
|----------------------|------------------------------|--------------------|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|-----------|--|
|                      |                              | Roof Angle:        | $0 < \theta \leq 7$ degrees |     |     |     |     |     |     |     |     |     |                    |           |  |
|                      |                              | Exposure Category: | C                           |     |     |     |     |     |     |     |     |     |                    |           |  |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                             |     |     |     |     |     |     |     |     |     |                    |           |  |
|                      |                              | 100                | 110                         | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180                | 190       |  |
| Zone 1               | 0                            | 118                | 118                         | 118 | 114 | 111 | 107 | 101 | 96  | 92  | 86  | 83  | 81                 | 76        |  |
|                      | 10                           | 108                | 108                         | 108 | 108 | 108 | 107 | 101 | 96  | 92  | 86  | 83  | 81                 | 76        |  |
|                      | 20                           | 88                 | 88                          | 88  | 88  | 88  | 88  | 88  | 88  | 87  | 86  | 83  | 81                 | 76        |  |
|                      | 30                           | 86                 | 86                          | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 85  | 83  | 81                 | 76        |  |
|                      | 40                           | 76                 | 76                          | 76  | 76  | 76  | 76  | 76  | 76  | 76  | 76  | 76  | 76                 | 75        |  |
|                      | 50                           | 69                 | 69                          | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 69                 | 69        |  |
|                      | 60                           | 63                 | 63                          | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63                 | 63        |  |
|                      | 70                           | 59                 | 59                          | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59                 | 59        |  |
|                      | 80                           | 55                 | 55                          | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55                 | 55        |  |
| 90                   | 52                           | 52                 | 52                          | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52                 |           |  |
| Zone 2               | 0                            | 107                | 99                          | 96  | 93  | 89  | 85  | 78  | 72  | 67  | 62  | 61  | 59                 | 56        |  |
|                      | 10                           | 107                | 99                          | 96  | 93  | 89  | 85  | 78  | 72  | 67  | 62  | 61  | 59                 | 56        |  |
|                      | 20                           | 88                 | 88                          | 88  | 88  | 88  | 85  | 78  | 72  | 67  | 62  | 61  | 59                 | 56        |  |
|                      | 30                           | 86                 | 86                          | 86  | 86  | 86  | 85  | 78  | 72  | 67  | 62  | 61  | 59                 | 56        |  |
|                      | 40                           | 76                 | 76                          | 76  | 76  | 76  | 76  | 76  | 72  | 67  | 62  | 61  | 59                 | 56        |  |
|                      | 50                           | 69                 | 69                          | 69  | 69  | 69  | 69  | 69  | 69  | 67  | 62  | 61  | 59                 | 56        |  |
|                      | 60                           | 63                 | 63                          | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 62  | 61  | 59                 | 56        |  |
|                      | 70                           | 59                 | 59                          | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59                 | 56        |  |
|                      | 80                           | 55                 | 55                          | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55                 | 55        |  |
| 90                   | 52                           | 52                 | 52                          | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52                 |           |  |
| Zone 3               | 0                            | 91                 | 80                          | 76  | 72  | 68  | 66  | 61  | 56  | 53  | 50  | 48  | 47                 | 44        |  |
|                      | 10                           | 91                 | 80                          | 76  | 72  | 68  | 66  | 61  | 56  | 53  | 50  | 48  | 47                 | 44        |  |
|                      | 20                           | 88                 | 80                          | 76  | 72  | 68  | 66  | 61  | 56  | 53  | 50  | 48  | 47                 | 44        |  |
|                      | 30                           | 86                 | 80                          | 76  | 72  | 68  | 66  | 61  | 56  | 53  | 50  | 48  | 47                 | 44        |  |
|                      | 40                           | 76                 | 76                          | 76  | 72  | 68  | 66  | 61  | 56  | 53  | 50  | 48  | 47                 | 44        |  |
|                      | 50                           | 69                 | 69                          | 69  | 69  | 68  | 66  | 61  | 56  | 53  | 50  | 48  | 47                 | 44        |  |
|                      | 60                           | 63                 | 63                          | 63  | 63  | 63  | 63  | 61  | 56  | 53  | 50  | 48  | 47                 | 44        |  |
|                      | 70                           | 59                 | 59                          | 59  | 59  | 59  | 59  | 59  | 56  | 53  | 50  | 48  | 47                 | 44        |  |
|                      | 80                           | 55                 | 55                          | 55  | 55  | 55  | 55  | 55  | 55  | 53  | 50  | 48  | 47                 | 44        |  |
| 90                   | 52                           | 52                 | 52                          | 52  | 52  | 52  | 52  | 52  | 52  | 50  | 48  | 47  | 44                 |           |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"



**Max Rail Spans for SunModo SMR100 System**

| <b>Table 21</b>      |                              | Mean Roof Height:  | $h \leq 15$ ft              |     |     |     |     |     |     |     |     |     | Panel Orientation: | Landscape |  |
|----------------------|------------------------------|--------------------|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|-----------|--|
|                      |                              | Roof Angle:        | $0 < \theta \leq 7$ degrees |     |     |     |     |     |     |     |     |     |                    |           |  |
|                      |                              | Exposure Category: | D                           |     |     |     |     |     |     |     |     |     |                    |           |  |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                             |     |     |     |     |     |     |     |     |     |                    |           |  |
|                      |                              | 100                | 110                         | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180                | 190       |  |
| Zone 1               | 0                            | 118                | 113                         | 110 | 106 | 103 | 100 | 94  | 89  | 83  | 77  | 75  | 73                 | 68        |  |
|                      | 10                           | 108                | 108                         | 108 | 106 | 103 | 100 | 94  | 89  | 83  | 77  | 75  | 73                 | 68        |  |
|                      | 20                           | 88                 | 88                          | 88  | 88  | 88  | 88  | 88  | 87  | 83  | 77  | 75  | 73                 | 68        |  |
|                      | 30                           | 86                 | 86                          | 86  | 86  | 86  | 86  | 86  | 85  | 83  | 77  | 75  | 73                 | 68        |  |
|                      | 40                           | 76                 | 76                          | 76  | 76  | 76  | 76  | 76  | 76  | 76  | 76  | 75  | 73                 | 68        |  |
|                      | 50                           | 69                 | 69                          | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 69                 | 68        |  |
|                      | 60                           | 63                 | 63                          | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63                 | 63        |  |
|                      | 70                           | 59                 | 59                          | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59                 | 59        |  |
|                      | 80                           | 55                 | 55                          | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55                 | 55        |  |
| 90                   | 52                           | 52                 | 52                          | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52                 |           |  |
| Zone 2               | 0                            | 99                 | 92                          | 88  | 83  | 79  | 76  | 69  | 64  | 60  | 56  | 55  | 53                 | 50        |  |
|                      | 10                           | 99                 | 92                          | 88  | 83  | 79  | 76  | 69  | 64  | 60  | 56  | 55  | 53                 | 50        |  |
|                      | 20                           | 88                 | 88                          | 88  | 83  | 79  | 76  | 69  | 64  | 60  | 56  | 55  | 53                 | 50        |  |
|                      | 30                           | 86                 | 86                          | 86  | 83  | 79  | 76  | 69  | 64  | 60  | 56  | 55  | 53                 | 50        |  |
|                      | 40                           | 76                 | 76                          | 76  | 76  | 76  | 76  | 69  | 64  | 60  | 56  | 55  | 53                 | 50        |  |
|                      | 50                           | 69                 | 69                          | 69  | 69  | 69  | 69  | 69  | 64  | 60  | 56  | 55  | 53                 | 50        |  |
|                      | 60                           | 63                 | 63                          | 63  | 63  | 63  | 63  | 63  | 63  | 60  | 56  | 55  | 53                 | 50        |  |
|                      | 70                           | 59                 | 59                          | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 56  | 55  | 53                 | 50        |  |
|                      | 80                           | 55                 | 55                          | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 53                 | 50        |  |
| 90                   | 52                           | 52                 | 52                          | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 50                 |           |  |
| Zone 3               | 0                            | 80                 | 71                          | 67  | 64  | 62  | 59  | 55  | 51  | 48  | 45  | 44  | 42                 | 40        |  |
|                      | 10                           | 80                 | 71                          | 67  | 64  | 62  | 59  | 55  | 51  | 48  | 45  | 44  | 42                 | 40        |  |
|                      | 20                           | 80                 | 71                          | 67  | 64  | 62  | 59  | 55  | 51  | 48  | 45  | 44  | 42                 | 40        |  |
|                      | 30                           | 80                 | 71                          | 67  | 64  | 62  | 59  | 55  | 51  | 48  | 45  | 44  | 42                 | 40        |  |
|                      | 40                           | 76                 | 71                          | 67  | 64  | 62  | 59  | 55  | 51  | 48  | 45  | 44  | 42                 | 40        |  |
|                      | 50                           | 69                 | 69                          | 67  | 64  | 62  | 59  | 55  | 51  | 48  | 45  | 44  | 42                 | 40        |  |
|                      | 60                           | 63                 | 63                          | 63  | 63  | 62  | 59  | 55  | 51  | 48  | 45  | 44  | 42                 | 40        |  |
|                      | 70                           | 59                 | 59                          | 59  | 59  | 59  | 59  | 55  | 51  | 48  | 45  | 44  | 42                 | 40        |  |
|                      | 80                           | 55                 | 55                          | 55  | 55  | 55  | 55  | 55  | 51  | 48  | 45  | 44  | 42                 | 40        |  |
| 90                   | 52                           | 52                 | 52                          | 52  | 52  | 52  | 52  | 51  | 48  | 45  | 44  | 42  | 40                 |           |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 22</b>      |                              | Mean Roof Height:  | $h \leq 15$ ft               |     |     |     |     |     |     |     |     |     | Panel Orientation: | Landscape |  |
|----------------------|------------------------------|--------------------|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|-----------|--|
|                      |                              | Roof Angle:        | $7 < \theta \leq 27$ degrees |     |     |     |     |     |     |     |     |     |                    |           |  |
|                      |                              | Exposure Category: | B                            |     |     |     |     |     |     |     |     |     |                    |           |  |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                              |     |     |     |     |     |     |     |     |     |                    |           |  |
|                      |                              | 100                | 110                          | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180                | 190       |  |
| Zone 1               | 0                            | 118                | 118                          | 118 | 118 | 118 | 118 | 113 | 107 | 102 | 98  | 96  | 94                 | 90        |  |
|                      | 10                           | 97                 | 97                           | 97  | 97  | 97  | 96  | 95  | 93  | 91  | 89  | 88  | 87                 | 85        |  |
|                      | 20                           | 76                 | 76                           | 76  | 76  | 76  | 76  | 76  | 76  | 75  | 74  | 74  | 73                 | 72        |  |
|                      | 30                           | 76                 | 76                           | 76  | 76  | 76  | 76  | 76  | 76  | 75  | 74  | 74  | 73                 | 72        |  |
|                      | 40                           | 67                 | 67                           | 67  | 67  | 67  | 67  | 67  | 67  | 67  | 67  | 67  | 67                 | 66        |  |
|                      | 50                           | 61                 | 61                           | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61                 | 61        |  |
|                      | 60                           | 56                 | 56                           | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56                 | 56        |  |
|                      | 70                           | 52                 | 52                           | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52                 | 52        |  |
|                      | 80                           | 49                 | 49                           | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49                 | 49        |  |
| 90                   | 46                           | 46                 | 46                           | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46                 |           |  |
| Zone 2               | 0                            | 117                | 108                          | 105 | 101 | 98  | 95  | 90  | 83  | 77  | 72  | 70  | 67                 | 64        |  |
|                      | 10                           | 97                 | 97                           | 97  | 97  | 97  | 95  | 90  | 83  | 77  | 72  | 70  | 67                 | 64        |  |
|                      | 20                           | 76                 | 76                           | 76  | 76  | 76  | 76  | 76  | 76  | 75  | 72  | 70  | 67                 | 64        |  |
|                      | 30                           | 76                 | 76                           | 76  | 76  | 76  | 76  | 76  | 76  | 75  | 72  | 70  | 67                 | 64        |  |
|                      | 40                           | 67                 | 67                           | 67  | 67  | 67  | 67  | 67  | 67  | 67  | 67  | 67  | 67                 | 64        |  |
|                      | 50                           | 61                 | 61                           | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61                 | 61        |  |
|                      | 60                           | 56                 | 56                           | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56                 | 56        |  |
|                      | 70                           | 52                 | 52                           | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52                 | 52        |  |
|                      | 80                           | 49                 | 49                           | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49                 | 49        |  |
| 90                   | 46                           | 46                 | 46                           | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46                 |           |  |
| Zone 3               | 0                            | 98                 | 91                           | 88  | 84  | 80  | 77  | 70  | 65  | 61  | 57  | 55  | 54                 | 51        |  |
|                      | 10                           | 97                 | 91                           | 88  | 84  | 80  | 77  | 70  | 65  | 61  | 57  | 55  | 54                 | 51        |  |
|                      | 20                           | 76                 | 76                           | 76  | 76  | 76  | 76  | 70  | 65  | 61  | 57  | 55  | 54                 | 51        |  |
|                      | 30                           | 76                 | 76                           | 76  | 76  | 76  | 76  | 70  | 65  | 61  | 57  | 55  | 54                 | 51        |  |
|                      | 40                           | 67                 | 67                           | 67  | 67  | 67  | 67  | 67  | 65  | 61  | 57  | 55  | 54                 | 51        |  |
|                      | 50                           | 61                 | 61                           | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 57  | 55  | 54                 | 51        |  |
|                      | 60                           | 56                 | 56                           | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 55  | 54                 | 51        |  |
|                      | 70                           | 52                 | 52                           | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52                 | 51        |  |
|                      | 80                           | 49                 | 49                           | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49                 | 49        |  |
| 90                   | 46                           | 46                 | 46                           | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46                 |           |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 23</b>      |                              | Mean Roof Height:  | $h \leq 15$ ft               |     |     |     |     |     |     |     |     |     | Panel Orientation: | Landscape |  |
|----------------------|------------------------------|--------------------|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|-----------|--|
|                      |                              | Roof Angle:        | $7 < \theta \leq 27$ degrees |     |     |     |     |     |     |     |     |     |                    |           |  |
|                      |                              | Exposure Category: | C                            |     |     |     |     |     |     |     |     |     |                    |           |  |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                              |     |     |     |     |     |     |     |     |     |                    |           |  |
|                      |                              | 100                | 110                          | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180                | 190       |  |
| Zone 1               | 0                            | 118                | 118                          | 118 | 118 | 115 | 111 | 105 | 100 | 95  | 91  | 89  | 86                 | 81        |  |
|                      | 10                           | 97                 | 97                           | 97  | 96  | 95  | 94  | 92  | 90  | 88  | 86  | 85  | 84                 | 81        |  |
|                      | 20                           | 76                 | 76                           | 76  | 76  | 76  | 76  | 76  | 75  | 73  | 72  | 72  | 71                 | 70        |  |
|                      | 30                           | 76                 | 76                           | 76  | 76  | 76  | 76  | 76  | 75  | 73  | 72  | 72  | 71                 | 70        |  |
|                      | 40                           | 67                 | 67                           | 67  | 67  | 67  | 67  | 67  | 67  | 67  | 66  | 66  | 65                 | 64        |  |
|                      | 50                           | 61                 | 61                           | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61                 | 60        |  |
|                      | 60                           | 56                 | 56                           | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56                 | 56        |  |
|                      | 70                           | 52                 | 52                           | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52                 | 52        |  |
|                      | 80                           | 49                 | 49                           | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49                 | 49        |  |
| 90                   | 46                           | 46                 | 46                           | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46                 |           |  |
| Zone 2               | 0                            | 108                | 100                          | 97  | 94  | 91  | 88  | 80  | 74  | 69  | 65  | 63  | 61                 | 57        |  |
|                      | 10                           | 97                 | 97                           | 97  | 94  | 91  | 88  | 80  | 74  | 69  | 65  | 63  | 61                 | 57        |  |
|                      | 20                           | 76                 | 76                           | 76  | 76  | 76  | 76  | 76  | 74  | 69  | 65  | 63  | 61                 | 57        |  |
|                      | 30                           | 76                 | 76                           | 76  | 76  | 76  | 76  | 76  | 74  | 69  | 65  | 63  | 61                 | 57        |  |
|                      | 40                           | 67                 | 67                           | 67  | 67  | 67  | 67  | 67  | 67  | 67  | 65  | 63  | 61                 | 57        |  |
|                      | 50                           | 61                 | 61                           | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61                 | 57        |  |
|                      | 60                           | 56                 | 56                           | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56                 | 56        |  |
|                      | 70                           | 52                 | 52                           | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52                 | 52        |  |
|                      | 80                           | 49                 | 49                           | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49                 | 49        |  |
| 90                   | 46                           | 46                 | 46                           | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46                 |           |  |
| Zone 3               | 0                            | 91                 | 83                           | 79  | 75  | 72  | 69  | 63  | 59  | 55  | 52  | 50  | 49                 | 46        |  |
|                      | 10                           | 91                 | 83                           | 79  | 75  | 72  | 69  | 63  | 59  | 55  | 52  | 50  | 49                 | 46        |  |
|                      | 20                           | 76                 | 76                           | 76  | 75  | 72  | 69  | 63  | 59  | 55  | 52  | 50  | 49                 | 46        |  |
|                      | 30                           | 76                 | 76                           | 76  | 75  | 72  | 69  | 63  | 59  | 55  | 52  | 50  | 49                 | 46        |  |
|                      | 40                           | 67                 | 67                           | 67  | 67  | 67  | 67  | 63  | 59  | 55  | 52  | 50  | 49                 | 46        |  |
|                      | 50                           | 61                 | 61                           | 61  | 61  | 61  | 61  | 61  | 59  | 55  | 52  | 50  | 49                 | 46        |  |
|                      | 60                           | 56                 | 56                           | 56  | 56  | 56  | 56  | 56  | 56  | 55  | 52  | 50  | 49                 | 46        |  |
|                      | 70                           | 52                 | 52                           | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 50  | 49                 | 46        |  |
|                      | 80                           | 49                 | 49                           | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49                 | 46        |  |
| 90                   | 46                           | 46                 | 46                           | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46                 |           |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 24</b>      |                              | Mean Roof Height:  | $h \leq 15$ ft               |     |     |     |     |     |     |     |     |     | Panel Orientation: | Landscape |  |
|----------------------|------------------------------|--------------------|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|-----------|--|
|                      |                              | Roof Angle:        | $7 < \theta \leq 27$ degrees |     |     |     |     |     |     |     |     |     |                    |           |  |
|                      |                              | Exposure Category: | D                            |     |     |     |     |     |     |     |     |     |                    |           |  |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                              |     |     |     |     |     |     |     |     |     |                    |           |  |
|                      |                              | 100                | 110                          | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180                | 190       |  |
| Zone 1               | 0                            | 118                | 118                          | 114 | 110 | 106 | 103 | 98  | 93  | 88  | 82  | 80  | 77                 | 73        |  |
|                      | 10                           | 97                 | 96                           | 95  | 94  | 92  | 91  | 89  | 87  | 84  | 82  | 80  | 77                 | 73        |  |
|                      | 20                           | 76                 | 76                           | 76  | 76  | 76  | 75  | 74  | 73  | 71  | 70  | 69  | 69                 | 67        |  |
|                      | 30                           | 76                 | 76                           | 76  | 76  | 76  | 75  | 74  | 73  | 71  | 70  | 69  | 69                 | 67        |  |
|                      | 40                           | 67                 | 67                           | 67  | 67  | 67  | 67  | 67  | 67  | 66  | 64  | 64  | 63                 | 62        |  |
|                      | 50                           | 61                 | 61                           | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 60  | 60  | 59                 | 58        |  |
|                      | 60                           | 56                 | 56                           | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56                 | 55        |  |
|                      | 70                           | 52                 | 52                           | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52                 | 52        |  |
|                      | 80                           | 49                 | 49                           | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49                 | 49        |  |
| 90                   | 46                           | 46                 | 46                           | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46                 |           |  |
| Zone 2               | 0                            | 100                | 93                           | 90  | 86  | 82  | 78  | 72  | 67  | 62  | 58  | 57  | 55                 | 52        |  |
|                      | 10                           | 97                 | 93                           | 90  | 86  | 82  | 78  | 72  | 67  | 62  | 58  | 57  | 55                 | 52        |  |
|                      | 20                           | 76                 | 76                           | 76  | 76  | 76  | 75  | 72  | 67  | 62  | 58  | 57  | 55                 | 52        |  |
|                      | 30                           | 76                 | 76                           | 76  | 76  | 76  | 75  | 72  | 67  | 62  | 58  | 57  | 55                 | 52        |  |
|                      | 40                           | 67                 | 67                           | 67  | 67  | 67  | 67  | 67  | 67  | 62  | 58  | 57  | 55                 | 52        |  |
|                      | 50                           | 61                 | 61                           | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 58  | 57  | 55                 | 52        |  |
|                      | 60                           | 56                 | 56                           | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 56  | 55                 | 52        |  |
|                      | 70                           | 52                 | 52                           | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52                 | 52        |  |
|                      | 80                           | 49                 | 49                           | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49                 | 49        |  |
| 90                   | 46                           | 46                 | 46                           | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 46                 |           |  |
| Zone 3               | 0                            | 83                 | 74                           | 71  | 67  | 64  | 62  | 57  | 53  | 50  | 47  | 45  | 44                 | 42        |  |
|                      | 10                           | 83                 | 74                           | 71  | 67  | 64  | 62  | 57  | 53  | 50  | 47  | 45  | 44                 | 42        |  |
|                      | 20                           | 76                 | 74                           | 71  | 67  | 64  | 62  | 57  | 53  | 50  | 47  | 45  | 44                 | 42        |  |
|                      | 30                           | 76                 | 74                           | 71  | 67  | 64  | 62  | 57  | 53  | 50  | 47  | 45  | 44                 | 42        |  |
|                      | 40                           | 67                 | 67                           | 67  | 67  | 64  | 62  | 57  | 53  | 50  | 47  | 45  | 44                 | 42        |  |
|                      | 50                           | 61                 | 61                           | 61  | 61  | 61  | 61  | 57  | 53  | 50  | 47  | 45  | 44                 | 42        |  |
|                      | 60                           | 56                 | 56                           | 56  | 56  | 56  | 56  | 56  | 53  | 50  | 47  | 45  | 44                 | 42        |  |
|                      | 70                           | 52                 | 52                           | 52  | 52  | 52  | 52  | 52  | 52  | 50  | 47  | 45  | 44                 | 42        |  |
|                      | 80                           | 49                 | 49                           | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 47  | 45  | 44                 | 42        |  |
| 90                   | 46                           | 46                 | 46                           | 46  | 46  | 46  | 46  | 46  | 46  | 46  | 45  | 44  | 42                 |           |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 25</b> |                        | Mean Roof Height: $h \leq 15$ ft          |     |     |     |     | Panel Orientation: Landscape |     |     |     |     |     |     |     |  |
|-----------------|------------------------|---|-----|-----|-----|-----|------------------------------|-----|-----|-----|-----|-----|-----|-----|--|
|                 |                        | Roof Angle: $27 < \theta \leq 45$ degrees |     |     |     |     |                              |     |     |     |     |     |     |     |  |
|                 |                        | Exposure Category: B                      |     |     |     |     |                              |     |     |     |     |     |     |     |  |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                          |     |     |     |     |                              |     |     |     |     |     |     |     |  |
|                 |                        | 100                                       | 110 | 115 | 120 | 125 | 130                          | 140 | 150 | 160 | 170 | 175 | 180 | 190 |  |
| Zone 1          | 0                      | 118                                       | 114 | 111 | 108 | 105 | 103                          | 97  | 93  | 88  | 84  | 82  | 80  | 77  |  |
|                 | 10                     | 106                                       | 102 | 101 | 99  | 97  | 96                           | 93  | 89  | 86  | 84  | 82  | 80  | 77  |  |
|                 | 20                     | 92  | 89  | 88  | 87  | 86  | 85                           | 83  | 80  | 78  | 76  | 75  | 74  | 72  |  |
|                 | 30                     | 81  | 80  | 79  | 79  | 78  | 77                           | 75  | 73  | 72  | 70  | 69  | 68  | 67  |  |
|                 | 40                     | 72  | 72  | 72  | 72  | 72  | 71                           | 70  | 68  | 67  | 65  | 65  | 64  | 63  |  |
|                 | 50                     | 66  | 66  | 66  | 66  | 66  | 66                           | 65  | 64  | 63  | 62  | 61  | 60  | 59  |  |
|                 | 60                     | 61  | 61  | 61  | 61  | 61  | 61                           | 61  | 60  | 59  | 58  | 58  | 57  | 56  |  |
|                 | 70                     | 57  | 57  | 57  | 57  | 57  | 57                           | 57  | 57  | 56  | 56  | 55  | 55  | 54  |  |
|                 | 80                     | 53  | 53  | 53  | 53  | 53  | 53                           | 53  | 53  | 53  | 53  | 53  | 52  | 52  |  |
|                 | 90                     | 51  | 51  | 51  | 51  | 51  | 51                           | 51  | 51  | 51  | 51  | 51  | 50  | 50  |  |
| Zone 2          | 0                      | 118                                       | 114 | 111 | 108 | 105 | 103                          | 97  | 93  | 88  | 84  | 82  | 80  | 77  |  |
|                 | 10                     | 106                                       | 102 | 101 | 99  | 97  | 96                           | 93  | 89  | 86  | 84  | 82  | 80  | 77  |  |
|                 | 20                     | 92  | 89  | 88  | 87  | 86  | 85                           | 83  | 80  | 78  | 76  | 75  | 74  | 72  |  |
|                 | 30                     | 81  | 80  | 79  | 79  | 78  | 77                           | 75  | 73  | 72  | 70  | 69  | 68  | 67  |  |
|                 | 40                     | 72  | 72  | 72  | 72  | 72  | 71                           | 70  | 68  | 67  | 65  | 65  | 64  | 63  |  |
|                 | 50                     | 66  | 66  | 66  | 66  | 66  | 66                           | 65  | 64  | 63  | 62  | 61  | 60  | 59  |  |
|                 | 60                     | 61  | 61  | 61  | 61  | 61  | 61                           | 61  | 60  | 59  | 58  | 58  | 57  | 56  |  |
|                 | 70                     | 57  | 57  | 57  | 57  | 57  | 57                           | 57  | 57  | 56  | 56  | 55  | 55  | 54  |  |
|                 | 80                     | 53  | 53  | 53  | 53  | 53  | 53                           | 53  | 53  | 53  | 53  | 53  | 52  | 52  |  |
|                 | 90                     | 51  | 51  | 51  | 51  | 51  | 51                           | 51  | 51  | 51  | 51  | 51  | 50  | 50  |  |
| Zone 3          | 0                      | 118                                       | 114 | 111 | 108 | 105 | 103                          | 97  | 93  | 88  | 84  | 82  | 80  | 77  |  |
|                 | 10                     | 106                                       | 102 | 101 | 99  | 97  | 96                           | 93  | 89  | 86  | 84  | 82  | 80  | 77  |  |
|                 | 20                     | 92  | 89  | 88  | 87  | 86  | 85                           | 83  | 80  | 78  | 76  | 75  | 74  | 72  |  |
|                 | 30                     | 81  | 80  | 79  | 79  | 78  | 77                           | 75  | 73  | 72  | 70  | 69  | 68  | 67  |  |
|                 | 40                     | 72  | 72  | 72  | 72  | 72  | 71                           | 70  | 68  | 67  | 65  | 65  | 64  | 63  |  |
|                 | 50                     | 66  | 66  | 66  | 66  | 66  | 66                           | 65  | 64  | 63  | 62  | 61  | 60  | 59  |  |
|                 | 60                     | 61  | 61  | 61  | 61  | 61  | 61                           | 61  | 60  | 59  | 58  | 58  | 57  | 56  |  |
|                 | 70                     | 57  | 57  | 57  | 57  | 57  | 57                           | 57  | 57  | 56  | 56  | 55  | 55  | 54  |  |
|                 | 80                     | 53  | 53  | 53  | 53  | 53  | 53                           | 53  | 53  | 53  | 53  | 53  | 52  | 52  |  |
|                 | 90                     | 51  | 51  | 51  | 51  | 51  | 51                           | 51  | 51  | 51  | 51  | 51  | 50  | 50  |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 26</b>      |                              | Mean Roof Height:  | $h \leq 15$ ft                |     |     |     |     |     |     |     |     |     | Panel Orientation: | Landscape |  |
|----------------------|------------------------------|--------------------|-------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|-----------|--|
|                      |                              | Roof Angle:        | $27 < \theta \leq 45$ degrees |     |     |     |     |     |     |     |     |     |                    |           |  |
|                      |                              | Exposure Category: | C                             |     |     |     |     |     |     |     |     |     |                    |           |  |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                               |     |     |     |     |     |     |     |     |     |                    |           |  |
|                      |                              | 100                | 110                           | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180                | 190       |  |
| Zone 1               | 0                            | 114                | 107                           | 104 | 101 | 99  | 96  | 91  | 86  | 82  | 78  | 76  | 74                 | 71        |  |
|                      | 10                           | 102                | 99                            | 97  | 95  | 93  | 92  | 88  | 85  | 82  | 78  | 76  | 74                 | 71        |  |
|                      | 20                           | 89                 | 87                            | 86  | 84  | 83  | 82  | 79  | 77  | 75  | 72  | 71  | 70                 | 68        |  |
|                      | 30                           | 80                 | 78                            | 77  | 77  | 76  | 75  | 73  | 71  | 69  | 67  | 66  | 65                 | 64        |  |
|                      | 40                           | 72                 | 72                            | 71  | 71  | 70  | 69  | 68  | 66  | 65  | 63  | 62  | 62                 | 60        |  |
|                      | 50                           | 66                 | 66                            | 66  | 66  | 65  | 65  | 63  | 62  | 61  | 60  | 59  | 58                 | 57        |  |
|                      | 60                           | 61                 | 61                            | 61  | 61  | 61  | 61  | 60  | 59  | 58  | 57  | 56  | 55                 | 54        |  |
|                      | 70                           | 57                 | 57                            | 57  | 57  | 57  | 57  | 57  | 56  | 55  | 54  | 54  | 53                 | 52        |  |
|                      | 80                           | 53                 | 53                            | 53  | 53  | 53  | 53  | 53  | 53  | 53  | 52  | 51  | 51                 | 50        |  |
|                      | 90                           | 51                 | 51                            | 51  | 51  | 51  | 51  | 51  | 51  | 51  | 50  | 49  | 49                 | 48        |  |
| Zone 2               | 0                            | 114                | 107                           | 104 | 101 | 99  | 96  | 91  | 86  | 82  | 78  | 76  | 74                 | 70        |  |
|                      | 10                           | 102                | 99                            | 97  | 95  | 93  | 92  | 88  | 85  | 82  | 78  | 76  | 74                 | 70        |  |
|                      | 20                           | 89                 | 87                            | 86  | 84  | 83  | 82  | 79  | 77  | 75  | 72  | 71  | 70                 | 68        |  |
|                      | 30                           | 80                 | 78                            | 77  | 77  | 76  | 75  | 73  | 71  | 69  | 67  | 66  | 65                 | 64        |  |
|                      | 40                           | 72                 | 72                            | 71  | 71  | 70  | 69  | 68  | 66  | 65  | 63  | 62  | 62                 | 60        |  |
|                      | 50                           | 66                 | 66                            | 66  | 66  | 65  | 65  | 63  | 62  | 61  | 60  | 59  | 58                 | 57        |  |
|                      | 60                           | 61                 | 61                            | 61  | 61  | 61  | 61  | 60  | 59  | 58  | 57  | 56  | 55                 | 54        |  |
|                      | 70                           | 57                 | 57                            | 57  | 57  | 57  | 57  | 57  | 56  | 55  | 54  | 54  | 53                 | 52        |  |
|                      | 80                           | 53                 | 53                            | 53  | 53  | 53  | 53  | 53  | 53  | 53  | 52  | 51  | 51                 | 50        |  |
|                      | 90                           | 51                 | 51                            | 51  | 51  | 51  | 51  | 51  | 51  | 51  | 50  | 49  | 49                 | 48        |  |
| Zone 3               | 0                            | 114                | 107                           | 104 | 101 | 99  | 96  | 91  | 86  | 82  | 78  | 76  | 74                 | 70        |  |
|                      | 10                           | 102                | 99                            | 97  | 95  | 93  | 92  | 88  | 85  | 82  | 78  | 76  | 74                 | 70        |  |
|                      | 20                           | 89                 | 87                            | 86  | 84  | 83  | 82  | 79  | 77  | 75  | 72  | 71  | 70                 | 68        |  |
|                      | 30                           | 80                 | 78                            | 77  | 77  | 76  | 75  | 73  | 71  | 69  | 67  | 66  | 65                 | 64        |  |
|                      | 40                           | 72                 | 72                            | 71  | 71  | 70  | 69  | 68  | 66  | 65  | 63  | 62  | 62                 | 60        |  |
|                      | 50                           | 66                 | 66                            | 66  | 66  | 65  | 65  | 63  | 62  | 61  | 60  | 59  | 58                 | 57        |  |
|                      | 60                           | 61                 | 61                            | 61  | 61  | 61  | 61  | 60  | 59  | 58  | 57  | 56  | 55                 | 54        |  |
|                      | 70                           | 57                 | 57                            | 57  | 57  | 57  | 57  | 57  | 56  | 55  | 54  | 54  | 53                 | 52        |  |
|                      | 80                           | 53                 | 53                            | 53  | 53  | 53  | 53  | 53  | 53  | 53  | 52  | 51  | 51                 | 50        |  |
|                      | 90                           | 51                 | 51                            | 51  | 51  | 51  | 51  | 51  | 51  | 51  | 50  | 49  | 49                 | 48        |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 27</b> |                        | Mean Roof Height: $h \leq 15$ ft          |     |     |     |     | Panel Orientation: Landscape |     |     |     |     |     |     |     |  |
|-----------------|------------------------|---|-----|-----|-----|-----|------------------------------|-----|-----|-----|-----|-----|-----|-----|--|
|                 |                        | Roof Angle: $27 < \theta \leq 45$ degrees |     |     |     |     |                              |     |     |     |     |     |     |     |  |
|                 |                        | Exposure Category: D                      |     |     |     |     |                              |     |     |     |     |     |     |     |  |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                          |     |     |     |     |                              |     |     |     |     |     |     |     |  |
|                 |                        | 100                                       | 110 | 115 | 120 | 125 | 130                          | 140 | 150 | 160 | 170 | 175 | 180 | 190 |  |
| Zone 1          | 0                      | 107                                       | 101 | 98  | 95  | 92  | 89                           | 84  | 80  | 76  | 72  | 70  | 68  | 65  |  |
|                 | 10                     | 99  | 95  | 93  | 91  | 89  | 87                           | 84  | 80  | 76  | 72  | 70  | 68  | 65  |  |
|                 | 20                     | 87  | 84  | 83  | 81  | 80  | 79                           | 76  | 73  | 71  | 68  | 67  | 66  | 64  |  |
|                 | 30                     | 78  | 76  | 75  | 74  | 73  | 72                           | 70  | 68  | 66  | 64  | 63  | 62  | 60  |  |
|                 | 40                     | 72  | 70  | 70  | 69  | 68  | 67                           | 65  | 64  | 62  | 60  | 60  | 59  | 57  |  |
|                 | 50                     | 66  | 66  | 65  | 64  | 64  | 63                           | 62  | 60  | 59  | 57  | 57  | 56  | 55  |  |
|                 | 60                     | 61  | 61  | 61  | 61  | 60  | 60                           | 58  | 57  | 56  | 55  | 54  | 53  | 52  |  |
|                 | 70                     | 57  | 57  | 57  | 57  | 57  | 57                           | 56  | 54  | 53  | 52  | 52  | 51  | 50  |  |
|                 | 80                     | 53  | 53  | 53  | 53  | 53  | 53                           | 53  | 52  | 51  | 50  | 50  | 49  | 48  |  |
|                 | 90                     | 51  | 51  | 51  | 51  | 51  | 51                           | 51  | 50  | 49  | 48  | 48  | 48  | 47  |  |
| Zone 2          | 0                      | 107                                       | 101 | 98  | 95  | 92  | 89                           | 84  | 80  | 76  | 71  | 69  | 67  | 63  |  |
|                 | 10                     | 99  | 95  | 93  | 91  | 89  | 87                           | 84  | 80  | 76  | 71  | 69  | 67  | 63  |  |
|                 | 20                     | 87  | 84  | 83  | 81  | 80  | 79                           | 76  | 73  | 71  | 68  | 67  | 66  | 63  |  |
|                 | 30                     | 78  | 76  | 75  | 74  | 73  | 72                           | 70  | 68  | 66  | 64  | 63  | 62  | 60  |  |
|                 | 40                     | 72  | 70  | 70  | 69  | 68  | 67                           | 65  | 64  | 62  | 60  | 60  | 59  | 57  |  |
|                 | 50                     | 66  | 66  | 65  | 64  | 64  | 63                           | 62  | 60  | 59  | 57  | 57  | 56  | 55  |  |
|                 | 60                     | 61  | 61  | 61  | 61  | 60  | 60                           | 58  | 57  | 56  | 55  | 54  | 53  | 52  |  |
|                 | 70                     | 57  | 57  | 57  | 57  | 57  | 57                           | 56  | 54  | 53  | 52  | 52  | 51  | 50  |  |
|                 | 80                     | 53  | 53  | 53  | 53  | 53  | 53                           | 53  | 52  | 51  | 50  | 50  | 49  | 48  |  |
|                 | 90                     | 51  | 51  | 51  | 51  | 51  | 51                           | 51  | 50  | 49  | 48  | 48  | 48  | 47  |  |
| Zone 3          | 0                      | 107                                       | 101 | 98  | 95  | 92  | 89                           | 84  | 80  | 76  | 71  | 69  | 67  | 63  |  |
|                 | 10                     | 99  | 95  | 93  | 91  | 89  | 87                           | 84  | 80  | 76  | 71  | 69  | 67  | 63  |  |
|                 | 20                     | 87  | 84  | 83  | 81  | 80  | 79                           | 76  | 73  | 71  | 68  | 67  | 66  | 63  |  |
|                 | 30                     | 78  | 76  | 75  | 74  | 73  | 72                           | 70  | 68  | 66  | 64  | 63  | 62  | 60  |  |
|                 | 40                     | 72  | 70  | 70  | 69  | 68  | 67                           | 65  | 64  | 62  | 60  | 60  | 59  | 57  |  |
|                 | 50                     | 66  | 66  | 65  | 64  | 64  | 63                           | 62  | 60  | 59  | 57  | 57  | 56  | 55  |  |
|                 | 60                     | 61  | 61  | 61  | 61  | 60  | 60                           | 58  | 57  | 56  | 55  | 54  | 53  | 52  |  |
|                 | 70                     | 57  | 57  | 57  | 57  | 57  | 57                           | 56  | 54  | 53  | 52  | 52  | 51  | 50  |  |
|                 | 80                     | 53  | 53  | 53  | 53  | 53  | 53                           | 53  | 52  | 51  | 50  | 50  | 49  | 48  |  |
|                 | 90                     | 51  | 51  | 51  | 51  | 51  | 51                           | 51  | 50  | 49  | 48  | 48  | 48  | 47  |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 28</b> |                        | Mean Roof Height: $15 < h \leq 30$ ft   |     |     |     |     | Panel Orientation: Landscape |     |     |     |     |     |     |     |  |
|-----------------|------------------------|---|-----|-----|-----|-----|------------------------------|-----|-----|-----|-----|-----|-----|-----|--|
|                 |                        | Roof Angle: $0 < \theta \leq 7$ degrees |     |     |     |     |                              |     |     |     |     |     |     |     |  |
|                 |                        | Exposure Category: B                    |     |     |     |     |                              |     |     |     |     |     |     |     |  |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                        |     |     |     |     |                              |     |     |     |     |     |     |     |  |
|                 |                        | 100                                     | 110 | 115 | 120 | 125 | 130                          | 140 | 150 | 160 | 170 | 175 | 180 | 190 |  |
| Zone 1          | 0                      | 118                                     | 118 | 118 | 118 | 118 | 116                          | 109 | 104 | 99  | 94  | 92  | 90  | 85  |  |
|                 | 10                     | 108                                     | 108 | 108 | 108 | 108 | 108                          | 108 | 104 | 99  | 94  | 92  | 90  | 85  |  |
|                 | 20                     | 88                                      | 88  | 88  | 88  | 88  | 88                           | 88  | 88  | 88  | 88  | 87  | 87  | 85  |  |
|                 | 30                     | 86                                      | 86  | 86  | 86  | 86  | 86                           | 86  | 86  | 86  | 86  | 86  | 86  | 84  |  |
|                 | 40                     | 76                                      | 76  | 76  | 76  | 76  | 76                           | 76  | 76  | 76  | 76  | 76  | 76  | 76  |  |
|                 | 50                     | 69                                      | 69  | 69  | 69  | 69  | 69                           | 69  | 69  | 69  | 69  | 69  | 69  | 69  |  |
|                 | 60                     | 63                                      | 63  | 63  | 63  | 63  | 63                           | 63  | 63  | 63  | 63  | 63  | 63  | 63  |  |
|                 | 70                     | 59                                      | 59  | 59  | 59  | 59  | 59                           | 59  | 59  | 59  | 59  | 59  | 59  | 59  |  |
|                 | 80                     | 55                                      | 55  | 55  | 55  | 55  | 55                           | 55  | 55  | 55  | 55  | 55  | 55  | 55  |  |
| 90              | 52                     | 52                                      | 52  | 52  | 52  | 52  | 52                           | 52  | 52  | 52  | 52  | 52  | 52  |     |  |
| Zone 2          | 0                      | 116                                     | 107 | 103 | 100 | 97  | 94                           | 87  | 80  | 74  | 69  | 67  | 65  | 61  |  |
|                 | 10                     | 108                                     | 107 | 103 | 100 | 97  | 94                           | 87  | 80  | 74  | 69  | 67  | 65  | 61  |  |
|                 | 20                     | 88                                      | 88  | 88  | 88  | 88  | 88                           | 87  | 80  | 74  | 69  | 67  | 65  | 61  |  |
|                 | 30                     | 86                                      | 86  | 86  | 86  | 86  | 86                           | 86  | 80  | 74  | 69  | 67  | 65  | 61  |  |
|                 | 40                     | 76                                      | 76  | 76  | 76  | 76  | 76                           | 76  | 76  | 74  | 69  | 67  | 65  | 61  |  |
|                 | 50                     | 69                                      | 69  | 69  | 69  | 69  | 69                           | 69  | 69  | 69  | 69  | 67  | 65  | 61  |  |
|                 | 60                     | 63                                      | 63  | 63  | 63  | 63  | 63                           | 63  | 63  | 63  | 63  | 63  | 63  | 61  |  |
|                 | 70                     | 59                                      | 59  | 59  | 59  | 59  | 59                           | 59  | 59  | 59  | 59  | 59  | 59  | 59  |  |
|                 | 80                     | 55                                      | 55  | 55  | 55  | 55  | 55                           | 55  | 55  | 55  | 55  | 55  | 55  | 55  |  |
| 90              | 52                     | 52                                      | 52  | 52  | 52  | 52  | 52                           | 52  | 52  | 52  | 52  | 52  | 52  |     |  |
| Zone 3          | 0                      | 98                                      | 91  | 86  | 81  | 77  | 74                           | 67  | 62  | 58  | 55  | 53  | 52  | 49  |  |
|                 | 10                     | 98                                      | 91  | 86  | 81  | 77  | 74                           | 67  | 62  | 58  | 55  | 53  | 52  | 49  |  |
|                 | 20                     | 88                                      | 88  | 86  | 81  | 77  | 74                           | 67  | 62  | 58  | 55  | 53  | 52  | 49  |  |
|                 | 30                     | 86                                      | 86  | 86  | 81  | 77  | 74                           | 67  | 62  | 58  | 55  | 53  | 52  | 49  |  |
|                 | 40                     | 76                                      | 76  | 76  | 76  | 76  | 74                           | 67  | 62  | 58  | 55  | 53  | 52  | 49  |  |
|                 | 50                     | 69                                      | 69  | 69  | 69  | 69  | 69                           | 67  | 62  | 58  | 55  | 53  | 52  | 49  |  |
|                 | 60                     | 63                                      | 63  | 63  | 63  | 63  | 63                           | 63  | 62  | 58  | 55  | 53  | 52  | 49  |  |
|                 | 70                     | 59                                      | 59  | 59  | 59  | 59  | 59                           | 59  | 59  | 58  | 55  | 53  | 52  | 49  |  |
|                 | 80                     | 55                                      | 55  | 55  | 55  | 55  | 55                           | 55  | 55  | 55  | 55  | 53  | 52  | 49  |  |
| 90              | 52                     | 52                                      | 52  | 52  | 52  | 52  | 52                           | 52  | 52  | 52  | 52  | 52  | 49  |     |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"



**Max Rail Spans for SunModo SMR100 System**

| <b>Table 29</b>      |                              | Mean Roof Height:  | $15 < h \leq 30$ ft         |     |     |     |     |     |     |     |     |     | Panel Orientation: | Landscape |  |  |
|----------------------|------------------------------|--------------------|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|-----------|--|--|
|                      |                              | Roof Angle:        | $0 < \theta \leq 7$ degrees |     |     |     |     |     |     |     |     |     |                    |           |  |  |
|                      |                              | Exposure Category: | C                           |     |     |     |     |     |     |     |     |     |                    |           |  |  |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                             |     |     |     |     |     |     |     |     |     |                    |           |  |  |
|                      |                              | 100                | 110                         | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180                | 190       |  |  |
| Zone 1               | 0                            | 118                | 116                         | 112 | 108 | 105 | 102 | 96  | 91  | 85  | 79  | 77  | 75                 | 70        |  |  |
|                      | 10                           | 108                | 108                         | 108 | 108 | 105 | 102 | 96  | 91  | 85  | 79  | 77  | 75                 | 70        |  |  |
|                      | 20                           | 88                 | 88                          | 88  | 88  | 88  | 88  | 88  | 87  | 85  | 79  | 77  | 75                 | 70        |  |  |
|                      | 30                           | 86                 | 86                          | 86  | 86  | 86  | 86  | 86  | 86  | 85  | 79  | 77  | 75                 | 70        |  |  |
|                      | 40                           | 76                 | 76                          | 76  | 76  | 76  | 76  | 76  | 76  | 76  | 76  | 75  | 75                 | 70        |  |  |
|                      | 50                           | 69                 | 69                          | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 69  | 69                 | 69        |  |  |
|                      | 60                           | 63                 | 63                          | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63                 | 63        |  |  |
|                      | 70                           | 59                 | 59                          | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59                 | 59        |  |  |
|                      | 80                           | 55                 | 55                          | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55                 | 55        |  |  |
| 90                   | 52                           | 52                 | 52                          | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52                 |           |  |  |
| Zone 2               | 0                            | 101                | 94                          | 90  | 86  | 82  | 78  | 71  | 66  | 62  | 58  | 56  | 55                 | 52        |  |  |
|                      | 10                           | 101                | 94                          | 90  | 86  | 82  | 78  | 71  | 66  | 62  | 58  | 56  | 55                 | 52        |  |  |
|                      | 20                           | 88                 | 88                          | 88  | 86  | 82  | 78  | 71  | 66  | 62  | 58  | 56  | 55                 | 52        |  |  |
|                      | 30                           | 86                 | 86                          | 86  | 86  | 82  | 78  | 71  | 66  | 62  | 58  | 56  | 55                 | 52        |  |  |
|                      | 40                           | 76                 | 76                          | 76  | 76  | 76  | 76  | 71  | 66  | 62  | 58  | 56  | 55                 | 52        |  |  |
|                      | 50                           | 69                 | 69                          | 69  | 69  | 69  | 69  | 69  | 66  | 62  | 58  | 56  | 55                 | 52        |  |  |
|                      | 60                           | 63                 | 63                          | 63  | 63  | 63  | 63  | 63  | 63  | 62  | 58  | 56  | 55                 | 52        |  |  |
|                      | 70                           | 59                 | 59                          | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 58  | 56  | 55                 | 52        |  |  |
|                      | 80                           | 55                 | 55                          | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55  | 55                 | 52        |  |  |
| 90                   | 52                           | 52                 | 52                          | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52  | 52                 |           |  |  |
| Zone 3               | 0                            | 83                 | 73                          | 69  | 66  | 63  | 61  | 56  | 52  | 49  | 46  | 45  | 43                 | 41        |  |  |
|                      | 10                           | 83                 | 73                          | 69  | 66  | 63  | 61  | 56  | 52  | 49  | 46  | 45  | 43                 | 41        |  |  |
|                      | 20                           | 83                 | 73                          | 69  | 66  | 63  | 61  | 56  | 52  | 49  | 46  | 45  | 43                 | 41        |  |  |
|                      | 30                           | 83                 | 73                          | 69  | 66  | 63  | 61  | 56  | 52  | 49  | 46  | 45  | 43                 | 41        |  |  |
|                      | 40                           | 76                 | 73                          | 69  | 66  | 63  | 61  | 56  | 52  | 49  | 46  | 45  | 43                 | 41        |  |  |
|                      | 50                           | 69                 | 69                          | 69  | 66  | 63  | 61  | 56  | 52  | 49  | 46  | 45  | 43                 | 41        |  |  |
|                      | 60                           | 63                 | 63                          | 63  | 63  | 63  | 61  | 56  | 52  | 49  | 46  | 45  | 43                 | 41        |  |  |
|                      | 70                           | 59                 | 59                          | 59  | 59  | 59  | 59  | 56  | 52  | 49  | 46  | 45  | 43                 | 41        |  |  |
|                      | 80                           | 55                 | 55                          | 55  | 55  | 55  | 55  | 55  | 52  | 49  | 46  | 45  | 43                 | 41        |  |  |
| 90                   | 52                           | 52                 | 52                          | 52  | 52  | 52  | 52  | 52  | 49  | 46  | 45  | 43  | 41                 |           |  |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 30</b> |                        | Mean Roof Height: $15 < h \leq 30$ ft   |     |     |     |     |     |     | Panel Orientation: Landscape |     |     |     |     |     |    |
|-----------------|------------------------|---|-----|-----|-----|-----|-----|-----|------------------------------|-----|-----|-----|-----|-----|----|
|                 |                        | Roof Angle: $0 < \theta \leq 7$ degrees |     |     |     |     |     |     |                              |     |     |     |     |     |    |
|                 |                        | Exposure Category: D                    |     |     |     |     |     |     |                              |     |     |     |     |     |    |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                        |     |     |     |     |     |     |                              |     |     |     |     |     |    |
|                 |                        | 100                                     | 110 | 115 | 120 | 125 | 130 | 140 | 150                          | 160 | 170 | 175 | 180 | 190 |    |
| Zone 1          | 0                      | 117                                     | 108 | 105 | 101 | 98  | 95  | 90  | 83                           | 77  | 72  | 70  | 68  | 64  |    |
|                 | 10                     | 108                                     | 108 | 105 | 101 | 98  | 95  | 90  | 83                           | 77  | 72  | 70  | 68  | 64  |    |
|                 | 20                     | 88                                      | 88  | 88  | 88  | 88  | 88  | 87  | 83                           | 77  | 72  | 70  | 68  | 64  |    |
|                 | 30                     | 86                                      | 86  | 86  | 86  | 86  | 86  | 86  | 83                           | 77  | 72  | 70  | 68  | 64  |    |
|                 | 40                     | 76                                      | 76  | 76  | 76  | 76  | 76  | 76  | 76                           | 76  | 72  | 70  | 68  | 64  |    |
|                 | 50                     | 69                                      | 69  | 69  | 69  | 69  | 69  | 69  | 69                           | 69  | 69  | 69  | 69  | 68  | 64 |
|                 | 60                     | 63                                      | 63  | 63  | 63  | 63  | 63  | 63  | 63                           | 63  | 63  | 63  | 63  | 63  | 63 |
|                 | 70                     | 59                                      | 59  | 59  | 59  | 59  | 59  | 59  | 59                           | 59  | 59  | 59  | 59  | 59  | 59 |
|                 | 80                     | 55                                      | 55  | 55  | 55  | 55  | 55  | 55  | 55                           | 55  | 55  | 55  | 55  | 55  | 55 |
| 90              | 52                     | 52                                      | 52  | 52  | 52  | 52  | 52  | 52  | 52                           | 52  | 52  | 52  | 52  | 52  |    |
| Zone 2          | 0                      | 94                                      | 86  | 81  | 77  | 74  | 71  | 65  | 60                           | 56  | 53  | 51  | 50  | 47  |    |
|                 | 10                     | 94                                      | 86  | 81  | 77  | 74  | 71  | 65  | 60                           | 56  | 53  | 51  | 50  | 47  |    |
|                 | 20                     | 88                                      | 86  | 81  | 77  | 74  | 71  | 65  | 60                           | 56  | 53  | 51  | 50  | 47  |    |
|                 | 30                     | 86                                      | 86  | 81  | 77  | 74  | 71  | 65  | 60                           | 56  | 53  | 51  | 50  | 47  |    |
|                 | 40                     | 76                                      | 76  | 76  | 76  | 74  | 71  | 65  | 60                           | 56  | 53  | 51  | 50  | 47  |    |
|                 | 50                     | 69                                      | 69  | 69  | 69  | 69  | 69  | 65  | 60                           | 56  | 53  | 51  | 50  | 47  |    |
|                 | 60                     | 63                                      | 63  | 63  | 63  | 63  | 63  | 63  | 60                           | 56  | 53  | 51  | 50  | 47  |    |
|                 | 70                     | 59                                      | 59  | 59  | 59  | 59  | 59  | 59  | 59                           | 56  | 53  | 51  | 50  | 47  |    |
|                 | 80                     | 55                                      | 55  | 55  | 55  | 55  | 55  | 55  | 55                           | 55  | 53  | 51  | 50  | 47  |    |
| 90              | 52                     | 52                                      | 52  | 52  | 52  | 52  | 52  | 52  | 52                           | 52  | 51  | 50  | 47  |     |    |
| Zone 3          | 0                      | 74                                      | 66  | 63  | 61  | 58  | 56  | 52  | 48                           | 45  | 42  | 41  | 40  | 38  |    |
|                 | 10                     | 74                                      | 66  | 63  | 61  | 58  | 56  | 52  | 48                           | 45  | 42  | 41  | 40  | 38  |    |
|                 | 20                     | 74                                      | 66  | 63  | 61  | 58  | 56  | 52  | 48                           | 45  | 42  | 41  | 40  | 38  |    |
|                 | 30                     | 74                                      | 66  | 63  | 61  | 58  | 56  | 52  | 48                           | 45  | 42  | 41  | 40  | 38  |    |
|                 | 40                     | 74                                      | 66  | 63  | 61  | 58  | 56  | 52  | 48                           | 45  | 42  | 41  | 40  | 38  |    |
|                 | 50                     | 69                                      | 66  | 63  | 61  | 58  | 56  | 52  | 48                           | 45  | 42  | 41  | 40  | 38  |    |
|                 | 60                     | 63                                      | 63  | 63  | 61  | 58  | 56  | 52  | 48                           | 45  | 42  | 41  | 40  | 38  |    |
|                 | 70                     | 59                                      | 59  | 59  | 59  | 58  | 56  | 52  | 48                           | 45  | 42  | 41  | 40  | 38  |    |
|                 | 80                     | 55                                      | 55  | 55  | 55  | 55  | 55  | 52  | 48                           | 45  | 42  | 41  | 40  | 38  |    |
| 90              | 52                     | 52                                      | 52  | 52  | 52  | 52  | 52  | 48  | 45                           | 42  | 41  | 40  | 38  |     |    |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 31</b> |                        | Mean Roof Height: $15 < h \leq 30$ ft    |     |     |     |     |     |     | Panel Orientation: Landscape |     |     |     |     |     |
|-----------------|------------------------|--|-----|-----|-----|-----|-----|-----|------------------------------|-----|-----|-----|-----|-----|
|                 |                        | Roof Angle: $7 < \theta \leq 27$ degrees |     |     |     |     |     |     |                              |     |     |     |     |     |
|                 |                        | Exposure Category: B                     |     |     |     |     |     |     |                              |     |     |     |     |     |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                         |     |     |     |     |     |     |                              |     |     |     |     |     |
|                 |                        | 100                                      | 110 | 115 | 120 | 125 | 130 | 140 | 150                          | 160 | 170 | 175 | 180 | 190 |
| Zone 1          | 0                      | 118                                      | 118 | 118 | 118 | 118 | 118 | 113 | 107                          | 102 | 98  | 96  | 94  | 90  |
|                 | 10                     | 97                                       | 97  | 97  | 97  | 97  | 96  | 95  | 93                           | 91  | 89  | 88  | 87  | 85  |
|                 | 20                     | 76                                       | 76  | 76  | 76  | 76  | 76  | 76  | 76                           | 75  | 74  | 74  | 73  | 72  |
|                 | 30                     | 76                                       | 76  | 76  | 76  | 76  | 76  | 76  | 76                           | 75  | 74  | 74  | 73  | 72  |
|                 | 40                     | 67                                       | 67  | 67  | 67  | 67  | 67  | 67  | 67                           | 67  | 67  | 67  | 67  | 66  |
|                 | 50                     | 61                                       | 61  | 61  | 61  | 61  | 61  | 61  | 61                           | 61  | 61  | 61  | 61  | 61  |
|                 | 60                     | 56                                       | 56  | 56  | 56  | 56  | 56  | 56  | 56                           | 56  | 56  | 56  | 56  | 56  |
|                 | 70                     | 52                                       | 52  | 52  | 52  | 52  | 52  | 52  | 52                           | 52  | 52  | 52  | 52  | 52  |
|                 | 80                     | 49                                       | 49  | 49  | 49  | 49  | 49  | 49  | 49                           | 49  | 49  | 49  | 49  | 49  |
| 90              | 46                     | 46                                       | 46  | 46  | 46  | 46  | 46  | 46  | 46                           | 46  | 46  | 46  | 46  |     |
| Zone 2          | 0                      | 117                                      | 108 | 105 | 101 | 98  | 95  | 90  | 83                           | 77  | 72  | 70  | 67  | 64  |
|                 | 10                     | 97                                       | 97  | 97  | 97  | 97  | 95  | 90  | 83                           | 77  | 72  | 70  | 67  | 64  |
|                 | 20                     | 76                                       | 76  | 76  | 76  | 76  | 76  | 76  | 76                           | 75  | 72  | 70  | 67  | 64  |
|                 | 30                     | 76                                       | 76  | 76  | 76  | 76  | 76  | 76  | 76                           | 75  | 72  | 70  | 67  | 64  |
|                 | 40                     | 67                                       | 67  | 67  | 67  | 67  | 67  | 67  | 67                           | 67  | 67  | 67  | 67  | 64  |
|                 | 50                     | 61                                       | 61  | 61  | 61  | 61  | 61  | 61  | 61                           | 61  | 61  | 61  | 61  | 61  |
|                 | 60                     | 56                                       | 56  | 56  | 56  | 56  | 56  | 56  | 56                           | 56  | 56  | 56  | 56  | 56  |
|                 | 70                     | 52                                       | 52  | 52  | 52  | 52  | 52  | 52  | 52                           | 52  | 52  | 52  | 52  | 52  |
|                 | 80                     | 49                                       | 49  | 49  | 49  | 49  | 49  | 49  | 49                           | 49  | 49  | 49  | 49  | 49  |
| 90              | 46                     | 46                                       | 46  | 46  | 46  | 46  | 46  | 46  | 46                           | 46  | 46  | 46  | 46  |     |
| Zone 3          | 0                      | 98                                       | 91  | 88  | 84  | 80  | 77  | 70  | 65                           | 61  | 57  | 55  | 54  | 51  |
|                 | 10                     | 97                                       | 91  | 88  | 84  | 80  | 77  | 70  | 65                           | 61  | 57  | 55  | 54  | 51  |
|                 | 20                     | 76                                       | 76  | 76  | 76  | 76  | 76  | 70  | 65                           | 61  | 57  | 55  | 54  | 51  |
|                 | 30                     | 76                                       | 76  | 76  | 76  | 76  | 76  | 70  | 65                           | 61  | 57  | 55  | 54  | 51  |
|                 | 40                     | 67                                       | 67  | 67  | 67  | 67  | 67  | 67  | 65                           | 61  | 57  | 55  | 54  | 51  |
|                 | 50                     | 61                                       | 61  | 61  | 61  | 61  | 61  | 61  | 61                           | 61  | 57  | 55  | 54  | 51  |
|                 | 60                     | 56                                       | 56  | 56  | 56  | 56  | 56  | 56  | 56                           | 56  | 56  | 55  | 54  | 51  |
|                 | 70                     | 52                                       | 52  | 52  | 52  | 52  | 52  | 52  | 52                           | 52  | 52  | 52  | 52  | 51  |
|                 | 80                     | 49                                       | 49  | 49  | 49  | 49  | 49  | 49  | 49                           | 49  | 49  | 49  | 49  | 49  |
| 90              | 46                     | 46                                       | 46  | 46  | 46  | 46  | 46  | 46  | 46                           | 46  | 46  | 46  | 46  |     |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 32</b> |                        | Mean Roof Height: $15 < h \leq 30$ ft    |     |     |     |     |     |     | Panel Orientation: Landscape |     |     |     |     |     |    |
|-----------------|------------------------|--|-----|-----|-----|-----|-----|-----|------------------------------|-----|-----|-----|-----|-----|----|
|                 |                        | Roof Angle: $7 < \theta \leq 27$ degrees |     |     |     |     |     |     |                              |     |     |     |     |     |    |
|                 |                        | Exposure Category: C                     |     |     |     |     |     |     |                              |     |     |     |     |     |    |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                         |     |     |     |     |     |     |                              |     |     |     |     |     |    |
|                 |                        | 100                                      | 110 | 115 | 120 | 125 | 130 | 140 | 150                          | 160 | 170 | 175 | 180 | 190 |    |
| Zone 1          | 0                      | 118                                      | 118 | 116 | 112 | 109 | 105 | 100 | 95                           | 90  | 85  | 82  | 79  | 75  |    |
|                 | 10                     | 97                                       | 96  | 95  | 94  | 93  | 92  | 90  | 88                           | 85  | 83  | 82  | 79  | 75  |    |
|                 | 20                     | 76                                       | 76  | 76  | 76  | 76  | 76  | 76  | 75                           | 73  | 72  | 71  | 70  | 69  | 68 |
|                 | 30                     | 76                                       | 76  | 76  | 76  | 76  | 76  | 76  | 75                           | 73  | 72  | 71  | 70  | 69  | 68 |
|                 | 40                     | 67                                       | 67  | 67  | 67  | 67  | 67  | 67  | 67                           | 67  | 66  | 65  | 64  | 64  | 63 |
|                 | 50                     | 61                                       | 61  | 61  | 61  | 61  | 61  | 61  | 61                           | 61  | 61  | 60  | 60  | 60  | 59 |
|                 | 60                     | 56                                       | 56  | 56  | 56  | 56  | 56  | 56  | 56                           | 56  | 56  | 56  | 56  | 56  | 55 |
|                 | 70                     | 52                                       | 52  | 52  | 52  | 52  | 52  | 52  | 52                           | 52  | 52  | 52  | 52  | 52  | 52 |
|                 | 80                     | 49                                       | 49  | 49  | 49  | 49  | 49  | 49  | 49                           | 49  | 49  | 49  | 49  | 49  | 49 |
| 90              | 46                     | 46                                       | 46  | 46  | 46  | 46  | 46  | 46  | 46                           | 46  | 46  | 46  | 46  | 46  |    |
| Zone 2          | 0                      | 102                                      | 95  | 92  | 89  | 85  | 81  | 74  | 68                           | 64  | 60  | 58  | 56  | 53  |    |
|                 | 10                     | 97                                       | 95  | 92  | 89  | 85  | 81  | 74  | 68                           | 64  | 60  | 58  | 56  | 53  |    |
|                 | 20                     | 76                                       | 76  | 76  | 76  | 76  | 76  | 74  | 68                           | 64  | 60  | 58  | 56  | 53  |    |
|                 | 30                     | 76                                       | 76  | 76  | 76  | 76  | 76  | 74  | 68                           | 64  | 60  | 58  | 56  | 53  |    |
|                 | 40                     | 67                                       | 67  | 67  | 67  | 67  | 67  | 67  | 67                           | 64  | 60  | 58  | 56  | 53  |    |
|                 | 50                     | 61                                       | 61  | 61  | 61  | 61  | 61  | 61  | 61                           | 61  | 61  | 60  | 58  | 56  | 53 |
|                 | 60                     | 56                                       | 56  | 56  | 56  | 56  | 56  | 56  | 56                           | 56  | 56  | 56  | 56  | 56  | 53 |
|                 | 70                     | 52                                       | 52  | 52  | 52  | 52  | 52  | 52  | 52                           | 52  | 52  | 52  | 52  | 52  | 52 |
|                 | 80                     | 49                                       | 49  | 49  | 49  | 49  | 49  | 49  | 49                           | 49  | 49  | 49  | 49  | 49  | 49 |
| 90              | 46                     | 46                                       | 46  | 46  | 46  | 46  | 46  | 46  | 46                           | 46  | 46  | 46  | 46  | 46  |    |
| Zone 3          | 0                      | 85                                       | 76  | 73  | 69  | 66  | 64  | 59  | 55                           | 51  | 48  | 47  | 45  | 43  |    |
|                 | 10                     | 85                                       | 76  | 73  | 69  | 66  | 64  | 59  | 55                           | 51  | 48  | 47  | 45  | 43  |    |
|                 | 20                     | 76                                       | 76  | 73  | 69  | 66  | 64  | 59  | 55                           | 51  | 48  | 47  | 45  | 43  |    |
|                 | 30                     | 76                                       | 76  | 73  | 69  | 66  | 64  | 59  | 55                           | 51  | 48  | 47  | 45  | 43  |    |
|                 | 40                     | 67                                       | 67  | 67  | 67  | 66  | 64  | 59  | 55                           | 51  | 48  | 47  | 45  | 43  |    |
|                 | 50                     | 61                                       | 61  | 61  | 61  | 61  | 61  | 59  | 55                           | 51  | 48  | 47  | 45  | 43  |    |
|                 | 60                     | 56                                       | 56  | 56  | 56  | 56  | 56  | 56  | 55                           | 51  | 48  | 47  | 45  | 43  |    |
|                 | 70                     | 52                                       | 52  | 52  | 52  | 52  | 52  | 52  | 52                           | 51  | 48  | 47  | 45  | 43  |    |
|                 | 80                     | 49                                       | 49  | 49  | 49  | 49  | 49  | 49  | 49                           | 49  | 48  | 47  | 45  | 43  |    |
| 90              | 46                     | 46                                       | 46  | 46  | 46  | 46  | 46  | 46  | 46                           | 46  | 46  | 45  | 43  |     |    |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 33</b> |                        | Mean Roof Height: $15 < h \leq 30$ ft    |     |     |     |     |     |     | Panel Orientation: Landscape |     |     |     |     |     |
|-----------------|------------------------|--|-----|-----|-----|-----|-----|-----|------------------------------|-----|-----|-----|-----|-----|
|                 |                        | Roof Angle: $7 < \theta \leq 27$ degrees |     |     |     |     |     |     |                              |     |     |     |     |     |
|                 |                        | Exposure Category: D                     |     |     |     |     |     |     |                              |     |     |     |     |     |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                         |     |     |     |     |     |     |                              |     |     |     |     |     |
|                 |                        | 100                                      | 110 | 115 | 120 | 125 | 130 | 140 | 150                          | 160 | 170 | 175 | 180 | 190 |
| Zone 1          | 0                      | 118                                      | 112 | 108 | 105 | 102 | 99  | 93  | 89                           | 83  | 77  | 75  | 72  | 68  |
|                 | 10                     | 97                                       | 94  | 93  | 92  | 91  | 90  | 87  | 85                           | 82  | 77  | 75  | 72  | 68  |
|                 | 20                     | 76                                       | 76  | 76  | 76  | 75  | 74  | 73  | 72                           | 70  | 69  | 68  | 67  | 66  |
|                 | 30                     | 76                                       | 76  | 76  | 76  | 75  | 74  | 73  | 72                           | 70  | 69  | 68  | 67  | 66  |
|                 | 40                     | 67                                       | 67  | 67  | 67  | 67  | 67  | 67  | 66                           | 65  | 63  | 63  | 62  | 61  |
|                 | 50                     | 61                                       | 61  | 61  | 61  | 61  | 61  | 61  | 61                           | 60  | 59  | 59  | 58  | 57  |
|                 | 60                     | 56                                       | 56  | 56  | 56  | 56  | 56  | 56  | 56                           | 56  | 56  | 55  | 55  | 54  |
|                 | 70                     | 52                                       | 52  | 52  | 52  | 52  | 52  | 52  | 52                           | 52  | 52  | 52  | 52  | 51  |
|                 | 80                     | 49                                       | 49  | 49  | 49  | 49  | 49  | 49  | 49                           | 49  | 49  | 49  | 49  | 49  |
| 90              | 46                     | 46                                       | 46  | 46  | 46  | 46  | 46  | 46  | 46                           | 46  | 46  | 46  | 46  |     |
| Zone 2          | 0                      | 96                                       | 89  | 84  | 80  | 77  | 73  | 67  | 63                           | 58  | 55  | 53  | 52  | 49  |
|                 | 10                     | 96                                       | 89  | 84  | 80  | 77  | 73  | 67  | 63                           | 58  | 55  | 53  | 52  | 49  |
|                 | 20                     | 76                                       | 76  | 76  | 76  | 75  | 73  | 67  | 63                           | 58  | 55  | 53  | 52  | 49  |
|                 | 30                     | 76                                       | 76  | 76  | 76  | 75  | 73  | 67  | 63                           | 58  | 55  | 53  | 52  | 49  |
|                 | 40                     | 67                                       | 67  | 67  | 67  | 67  | 67  | 67  | 63                           | 58  | 55  | 53  | 52  | 49  |
|                 | 50                     | 61                                       | 61  | 61  | 61  | 61  | 61  | 61  | 61                           | 58  | 55  | 53  | 52  | 49  |
|                 | 60                     | 56                                       | 56  | 56  | 56  | 56  | 56  | 56  | 56                           | 56  | 55  | 53  | 52  | 49  |
|                 | 70                     | 52                                       | 52  | 52  | 52  | 52  | 52  | 52  | 52                           | 52  | 52  | 52  | 52  | 49  |
|                 | 80                     | 49                                       | 49  | 49  | 49  | 49  | 49  | 49  | 49                           | 49  | 49  | 49  | 49  | 49  |
| 90              | 46                     | 46                                       | 46  | 46  | 46  | 46  | 46  | 46  | 46                           | 46  | 46  | 46  | 46  |     |
| Zone 3          | 0                      | 77                                       | 69  | 66  | 63  | 61  | 58  | 54  | 50                           | 47  | 44  | 43  | 41  | 39  |
|                 | 10                     | 77                                       | 69  | 66  | 63  | 61  | 58  | 54  | 50                           | 47  | 44  | 43  | 41  | 39  |
|                 | 20                     | 76                                       | 69  | 66  | 63  | 61  | 58  | 54  | 50                           | 47  | 44  | 43  | 41  | 39  |
|                 | 30                     | 76                                       | 69  | 66  | 63  | 61  | 58  | 54  | 50                           | 47  | 44  | 43  | 41  | 39  |
|                 | 40                     | 67                                       | 67  | 66  | 63  | 61  | 58  | 54  | 50                           | 47  | 44  | 43  | 41  | 39  |
|                 | 50                     | 61                                       | 61  | 61  | 61  | 61  | 58  | 54  | 50                           | 47  | 44  | 43  | 41  | 39  |
|                 | 60                     | 56                                       | 56  | 56  | 56  | 56  | 56  | 54  | 50                           | 47  | 44  | 43  | 41  | 39  |
|                 | 70                     | 52                                       | 52  | 52  | 52  | 52  | 52  | 52  | 50                           | 47  | 44  | 43  | 41  | 39  |
|                 | 80                     | 49                                       | 49  | 49  | 49  | 49  | 49  | 49  | 49                           | 47  | 44  | 43  | 41  | 39  |
| 90              | 46                     | 46                                       | 46  | 46  | 46  | 46  | 46  | 46  | 46                           | 44  | 43  | 41  | 39  |     |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 34</b> |                        | Mean Roof Height: $15 < h \leq 30$ ft     |     |     |     |     |     | Panel Orientation: Landscape |     |     |     |     |     |     |    |
|-----------------|------------------------|---|-----|-----|-----|-----|-----|------------------------------|-----|-----|-----|-----|-----|-----|----|
|                 |                        | Roof Angle: $27 < \theta \leq 45$ degrees |     |     |     |     |     |                              |     |     |     |     |     |     |    |
|                 |                        | Exposure Category: B                      |     |     |     |     |     |                              |     |     |     |     |     |     |    |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                          |     |     |     |     |     |                              |     |     |     |     |     |     |    |
|                 |                        | 100                                       | 110 | 115 | 120 | 125 | 130 | 140                          | 150 | 160 | 170 | 175 | 180 | 190 |    |
| Zone 1          | 0                      | 118                                       | 114 | 111 | 108 | 105 | 103 | 97                           | 93  | 88  | 84  | 82  | 80  | 77  |    |
|                 | 10                     | 106                                       | 102 | 101 | 99  | 97  | 96  | 93                           | 89  | 86  | 84  | 82  | 80  | 77  |    |
|                 | 20                     | 92  | 89  | 88  | 87  | 86  | 85  | 83                           | 80  | 78  | 76  | 75  | 74  | 72  |    |
|                 | 30                     | 81  | 80  | 79  | 79  | 78  | 77  | 75                           | 73  | 72  | 70  | 69  | 68  | 67  |    |
|                 | 40                     | 72  | 72  | 72  | 72  | 72  | 71  | 70                           | 68  | 67  | 65  | 65  | 64  | 63  |    |
|                 | 50                     | 66  | 66  | 66  | 66  | 66  | 66  | 65                           | 64  | 63  | 62  | 61  | 60  | 59  |    |
|                 | 60                     | 61  | 61  | 61  | 61  | 61  | 61  | 61                           | 60  | 59  | 58  | 58  | 57  | 56  |    |
|                 | 70                     | 57  | 57  | 57  | 57  | 57  | 57  | 57                           | 57  | 56  | 56  | 55  | 55  | 54  |    |
|                 | 80                     | 53  | 53  | 53  | 53  | 53  | 53  | 53                           | 53  | 53  | 53  | 53  | 53  | 52  | 52 |
|                 | 90                     | 51  | 51  | 51  | 51  | 51  | 51  | 51                           | 51  | 51  | 51  | 51  | 51  | 50  | 50 |
| Zone 2          | 0                      | 118                                       | 114 | 111 | 108 | 105 | 103 | 97                           | 93  | 88  | 84  | 82  | 80  | 77  |    |
|                 | 10                     | 106                                       | 102 | 101 | 99  | 97  | 96  | 93                           | 89  | 86  | 84  | 82  | 80  | 77  |    |
|                 | 20                     | 92  | 89  | 88  | 87  | 86  | 85  | 83                           | 80  | 78  | 76  | 75  | 74  | 72  |    |
|                 | 30                     | 81  | 80  | 79  | 79  | 78  | 77  | 75                           | 73  | 72  | 70  | 69  | 68  | 67  |    |
|                 | 40                     | 72  | 72  | 72  | 72  | 72  | 71  | 70                           | 68  | 67  | 65  | 65  | 64  | 63  |    |
|                 | 50                     | 66  | 66  | 66  | 66  | 66  | 66  | 65                           | 64  | 63  | 62  | 61  | 60  | 59  |    |
|                 | 60                     | 61  | 61  | 61  | 61  | 61  | 61  | 61                           | 60  | 59  | 58  | 58  | 57  | 56  |    |
|                 | 70                     | 57  | 57  | 57  | 57  | 57  | 57  | 57                           | 57  | 56  | 56  | 55  | 55  | 54  |    |
|                 | 80                     | 53  | 53  | 53  | 53  | 53  | 53  | 53                           | 53  | 53  | 53  | 53  | 53  | 52  | 52 |
|                 | 90                     | 51  | 51  | 51  | 51  | 51  | 51  | 51                           | 51  | 51  | 51  | 51  | 51  | 50  | 50 |
| Zone 3          | 0                      | 118                                       | 114 | 111 | 108 | 105 | 103 | 97                           | 93  | 88  | 84  | 82  | 80  | 77  |    |
|                 | 10                     | 106                                       | 102 | 101 | 99  | 97  | 96  | 93                           | 89  | 86  | 84  | 82  | 80  | 77  |    |
|                 | 20                     | 92  | 89  | 88  | 87  | 86  | 85  | 83                           | 80  | 78  | 76  | 75  | 74  | 72  |    |
|                 | 30                     | 81  | 80  | 79  | 79  | 78  | 77  | 75                           | 73  | 72  | 70  | 69  | 68  | 67  |    |
|                 | 40                     | 72  | 72  | 72  | 72  | 72  | 71  | 70                           | 68  | 67  | 65  | 65  | 64  | 63  |    |
|                 | 50                     | 66  | 66  | 66  | 66  | 66  | 66  | 65                           | 64  | 63  | 62  | 61  | 60  | 59  |    |
|                 | 60                     | 61  | 61  | 61  | 61  | 61  | 61  | 61                           | 60  | 59  | 58  | 58  | 57  | 56  |    |
|                 | 70                     | 57  | 57  | 57  | 57  | 57  | 57  | 57                           | 57  | 56  | 56  | 55  | 55  | 54  |    |
|                 | 80                     | 53  | 53  | 53  | 53  | 53  | 53  | 53                           | 53  | 53  | 53  | 53  | 53  | 52  | 52 |
|                 | 90                     | 51  | 51  | 51  | 51  | 51  | 51  | 51                           | 51  | 51  | 51  | 51  | 51  | 50  | 50 |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 35</b>      |                              | Mean Roof Height:  | 15 < h ≤ 30 ft      |     | Panel Orientation: Landscape |     |     |     |     |     |     |     |     |     |
|----------------------|------------------------------|--------------------|---------------------|-----|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                      |                              | Roof Angle:        | 27 < θ ≤ 45 degrees |     |                              |     |     |     |     |     |     |     |     |     |
|                      |                              | Exposure Category: | C                   |     |                              |     |     |     |     |     |     |     |     |     |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                     |     |                              |     |     |     |     |     |     |     |     |     |
|                      |                              | 100                | 110                 | 115 | 120                          | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180 | 190 |
| Zone 1               | 0                            | 109                | 103                 | 99  | 96                           | 94  | 91  | 86  | 81  | 77  | 73  | 72  | 70  | 67  |
|                      | 10                           | 100                | 96                  | 94  | 92                           | 90  | 88  | 85  | 81  | 77  | 73  | 72  | 70  | 67  |
|                      | 20                           | 87                 | 85                  | 83  | 82                           | 81  | 79  | 77  | 74  | 72  | 69  | 68  | 67  | 65  |
|                      | 30                           | 79                 | 77                  | 76  | 75                           | 74  | 73  | 71  | 69  | 67  | 65  | 64  | 63  | 61  |
|                      | 40                           | 72                 | 71                  | 70  | 69                           | 68  | 68  | 66  | 64  | 63  | 61  | 60  | 60  | 58  |
|                      | 50                           | 66                 | 66                  | 65  | 65                           | 64  | 63  | 62  | 61  | 59  | 58  | 57  | 57  | 55  |
|                      | 60                           | 61                 | 61                  | 61  | 61                           | 60  | 60  | 59  | 58  | 56  | 55  | 55  | 54  | 53  |
|                      | 70                           | 57                 | 57                  | 57  | 57                           | 57  | 57  | 56  | 55  | 54  | 53  | 52  | 52  | 51  |
|                      | 80                           | 53                 | 53                  | 53  | 53                           | 53  | 53  | 53  | 53  | 52  | 51  | 50  | 50  | 49  |
|                      | 90                           | 51                 | 51                  | 51  | 51                           | 51  | 51  | 51  | 51  | 50  | 50  | 49  | 48  | 47  |
| Zone 2               | 0                            | 109                | 103                 | 99  | 96                           | 94  | 91  | 86  | 81  | 77  | 73  | 71  | 68  | 65  |
|                      | 10                           | 100                | 96                  | 94  | 92                           | 90  | 88  | 85  | 81  | 77  | 73  | 71  | 68  | 65  |
|                      | 20                           | 87                 | 85                  | 83  | 82                           | 81  | 79  | 77  | 74  | 72  | 69  | 68  | 67  | 65  |
|                      | 30                           | 79                 | 77                  | 76  | 75                           | 74  | 73  | 71  | 69  | 67  | 65  | 64  | 63  | 61  |
|                      | 40                           | 72                 | 71                  | 70  | 69                           | 68  | 68  | 66  | 64  | 63  | 61  | 60  | 60  | 58  |
|                      | 50                           | 66                 | 66                  | 65  | 65                           | 64  | 63  | 62  | 61  | 59  | 58  | 57  | 57  | 55  |
|                      | 60                           | 61                 | 61                  | 61  | 61                           | 60  | 60  | 59  | 58  | 56  | 55  | 55  | 54  | 53  |
|                      | 70                           | 57                 | 57                  | 57  | 57                           | 57  | 57  | 56  | 55  | 54  | 53  | 52  | 52  | 51  |
|                      | 80                           | 53                 | 53                  | 53  | 53                           | 53  | 53  | 53  | 53  | 52  | 51  | 50  | 50  | 49  |
|                      | 90                           | 51                 | 51                  | 51  | 51                           | 51  | 51  | 51  | 51  | 50  | 50  | 49  | 48  | 47  |
| Zone 3               | 0                            | 109                | 103                 | 99  | 96                           | 94  | 91  | 86  | 81  | 77  | 73  | 71  | 68  | 65  |
|                      | 10                           | 100                | 96                  | 94  | 92                           | 90  | 88  | 85  | 81  | 77  | 73  | 71  | 68  | 65  |
|                      | 20                           | 87                 | 85                  | 83  | 82                           | 81  | 79  | 77  | 74  | 72  | 69  | 68  | 67  | 65  |
|                      | 30                           | 79                 | 77                  | 76  | 75                           | 74  | 73  | 71  | 69  | 67  | 65  | 64  | 63  | 61  |
|                      | 40                           | 72                 | 71                  | 70  | 69                           | 68  | 68  | 66  | 64  | 63  | 61  | 60  | 60  | 58  |
|                      | 50                           | 66                 | 66                  | 65  | 65                           | 64  | 63  | 62  | 61  | 59  | 58  | 57  | 57  | 55  |
|                      | 60                           | 61                 | 61                  | 61  | 61                           | 60  | 60  | 59  | 58  | 56  | 55  | 55  | 54  | 53  |
|                      | 70                           | 57                 | 57                  | 57  | 57                           | 57  | 57  | 56  | 55  | 54  | 53  | 52  | 52  | 51  |
|                      | 80                           | 53                 | 53                  | 53  | 53                           | 53  | 53  | 53  | 53  | 52  | 51  | 50  | 50  | 49  |
|                      | 90                           | 51                 | 51                  | 51  | 51                           | 51  | 51  | 51  | 51  | 50  | 50  | 49  | 48  | 47  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 36</b> |                        | Mean Roof Height: $15 < h \leq 30$ ft     |     |     |     |     |     |     | Panel Orientation: Landscape |     |     |     |     |     |  |
|-----------------|------------------------|---|-----|-----|-----|-----|-----|-----|------------------------------|-----|-----|-----|-----|-----|--|
|                 |                        | Roof Angle: $27 < \theta \leq 45$ degrees |     |     |     |     |     |     |                              |     |     |     |     |     |  |
|                 |                        | Exposure Category: D                      |     |     |     |     |     |     |                              |     |     |     |     |     |  |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                          |     |     |     |     |     |     |                              |     |     |     |     |     |  |
|                 |                        | 100                                       | 110 | 115 | 120 | 125 | 130 | 140 | 150                          | 160 | 170 | 175 | 180 | 190 |  |
| Zone 1          | 0                      | 103                                       | 97  | 94  | 91  | 88  | 85  | 80  | 76                           | 72  | 68  | 67  | 65  | 62  |  |
|                 | 10                     | 96  | 92  | 90  | 88  | 86  | 84  | 80  | 76                           | 72  | 68  | 67  | 65  | 62  |  |
|                 | 20                     | 85  | 82  | 81  | 79  | 78  | 76  | 74  | 71                           | 69  | 66  | 65  | 64  | 62  |  |
|                 | 30                     | 77  | 75  | 74  | 73  | 72  | 71  | 68  | 66                           | 64  | 62  | 61  | 60  | 58  |  |
|                 | 40                     | 71  | 69  | 68  | 68  | 67  | 66  | 64  | 62                           | 60  | 59  | 58  | 57  | 55  |  |
|                 | 50                     | 66  | 65  | 64  | 63  | 63  | 62  | 60  | 59                           | 57  | 56  | 55  | 54  | 53  |  |
|                 | 60                     | 61  | 61  | 60  | 60  | 59  | 59  | 57  | 56                           | 55  | 53  | 53  | 52  | 51  |  |
|                 | 70                     | 57  | 57  | 57  | 57  | 56  | 56  | 55  | 54                           | 52  | 51  | 51  | 50  | 49  |  |
|                 | 80                     | 53  | 53  | 53  | 53  | 53  | 53  | 52  | 51                           | 50  | 49  | 49  | 48  | 47  |  |
|                 | 90                     | 51  | 51  | 51  | 51  | 51  | 51  | 50  | 49                           | 49  | 48  | 47  | 47  | 46  |  |
| Zone 2          | 0                      | 103                                       | 97  | 94  | 91  | 88  | 85  | 80  | 76                           | 71  | 66  | 64  | 63  | 59  |  |
|                 | 10                     | 96  | 92  | 90  | 88  | 86  | 84  | 80  | 76                           | 71  | 66  | 64  | 63  | 59  |  |
|                 | 20                     | 85  | 82  | 81  | 79  | 78  | 76  | 74  | 71                           | 69  | 66  | 64  | 63  | 59  |  |
|                 | 30                     | 77  | 75  | 74  | 73  | 72  | 71  | 68  | 66                           | 64  | 62  | 61  | 60  | 58  |  |
|                 | 40                     | 71  | 69  | 68  | 68  | 67  | 66  | 64  | 62                           | 60  | 59  | 58  | 57  | 55  |  |
|                 | 50                     | 66  | 65  | 64  | 63  | 63  | 62  | 60  | 59                           | 57  | 56  | 55  | 54  | 53  |  |
|                 | 60                     | 61  | 61  | 60  | 60  | 59  | 59  | 57  | 56                           | 55  | 53  | 53  | 52  | 51  |  |
|                 | 70                     | 57  | 57  | 57  | 57  | 56  | 56  | 55  | 54                           | 52  | 51  | 51  | 50  | 49  |  |
|                 | 80                     | 53  | 53  | 53  | 53  | 53  | 53  | 52  | 51                           | 50  | 49  | 49  | 48  | 47  |  |
|                 | 90                     | 51  | 51  | 51  | 51  | 51  | 51  | 50  | 49                           | 49  | 48  | 47  | 47  | 46  |  |
| Zone 3          | 0                      | 103                                       | 97  | 94  | 91  | 88  | 85  | 80  | 76                           | 71  | 66  | 64  | 63  | 59  |  |
|                 | 10                     | 96  | 92  | 90  | 88  | 86  | 84  | 80  | 76                           | 71  | 66  | 64  | 63  | 59  |  |
|                 | 20                     | 85  | 82  | 81  | 79  | 78  | 76  | 74  | 71                           | 69  | 66  | 64  | 63  | 59  |  |
|                 | 30                     | 77  | 75  | 74  | 73  | 72  | 71  | 68  | 66                           | 64  | 62  | 61  | 60  | 58  |  |
|                 | 40                     | 71  | 69  | 68  | 68  | 67  | 66  | 64  | 62                           | 60  | 59  | 58  | 57  | 55  |  |
|                 | 50                     | 66  | 65  | 64  | 63  | 63  | 62  | 60  | 59                           | 57  | 56  | 55  | 54  | 53  |  |
|                 | 60                     | 61  | 61  | 60  | 60  | 59  | 59  | 57  | 56                           | 55  | 53  | 53  | 52  | 51  |  |
|                 | 70                     | 57  | 57  | 57  | 57  | 56  | 56  | 55  | 54                           | 52  | 51  | 51  | 50  | 49  |  |
|                 | 80                     | 53  | 53  | 53  | 53  | 53  | 53  | 52  | 51                           | 50  | 49  | 49  | 48  | 47  |  |
|                 | 90                     | 51  | 51  | 51  | 51  | 51  | 51  | 50  | 49                           | 49  | 48  | 47  | 47  | 46  |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"



**Max Rail Spans for SunModo SMR100 System**

| <b>Table 37</b>      |                              | Mean Roof Height:  | $h \leq 15$ ft              |     |     |     |     |     |     |     |     |     | Panel Orientation: | Landscape |  |  |
|----------------------|------------------------------|--------------------|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|-----------|--|--|
|                      |                              | Roof Angle:        | $0 < \theta \leq 7$ degrees |     |     |     |     |     |     |     |     |     |                    |           |  |  |
|                      |                              | Exposure Category: | B                           |     |     |     |     |     |     |     |     |     |                    |           |  |  |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                             |     |     |     |     |     |     |     |     |     |                    |           |  |  |
|                      |                              | 100                | 110                         | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180                | 190       |  |  |
| Zone 1               | 0                            | 94                 | 94                          | 94  | 94  | 94  | 93  | 87  | 80  | 74  | 69  | 67  | 65                 | 61        |  |  |
|                      | 10                           | 79                 | 79                          | 79  | 79  | 79  | 79  | 79  | 79  | 74  | 69  | 67  | 65                 | 61        |  |  |
|                      | 20                           | 63                 | 63                          | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 62                 | 61        |  |  |
|                      | 30                           | 61                 | 61                          | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61                 | 61        |  |  |
|                      | 40                           | 54                 | 54                          | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54                 | 54        |  |  |
|                      | 50                           | 49                 | 49                          | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49                 | 49        |  |  |
|                      | 60                           | 45                 | 45                          | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45                 | 45        |  |  |
|                      | 70                           | 42                 | 42                          | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42                 | 42        |  |  |
|                      | 80                           | 39                 | 39                          | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39                 | 39        |  |  |
| 90                   | 37                           | 37                 | 37                          | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37                 |           |  |  |
| Zone 2               | 0                            | 94                 | 88                          | 83  | 78  | 74  | 71  | 65  | 59  | 55  | 51  | 49  | 48                 | 45        |  |  |
|                      | 10                           | 79                 | 79                          | 79  | 78  | 74  | 71  | 65  | 59  | 55  | 51  | 49  | 48                 | 45        |  |  |
|                      | 20                           | 63                 | 63                          | 63  | 63  | 63  | 63  | 63  | 59  | 55  | 51  | 49  | 48                 | 45        |  |  |
|                      | 30                           | 61                 | 61                          | 61  | 61  | 61  | 61  | 61  | 59  | 55  | 51  | 49  | 48                 | 45        |  |  |
|                      | 40                           | 54                 | 54                          | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 51  | 49  | 48                 | 45        |  |  |
|                      | 50                           | 49                 | 49                          | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 48                 | 45        |  |  |
|                      | 60                           | 45                 | 45                          | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45                 | 45        |  |  |
|                      | 70                           | 42                 | 42                          | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42                 | 42        |  |  |
|                      | 80                           | 39                 | 39                          | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39                 | 39        |  |  |
| 90                   | 37                           | 37                 | 37                          | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37                 |           |  |  |
| Zone 3               | 0                            | 79                 | 69                          | 65  | 62  | 59  | 56  | 51  | 47  | 43  | 40  | 38  | 37                 | 35        |  |  |
|                      | 10                           | 79                 | 69                          | 65  | 62  | 59  | 56  | 51  | 47  | 43  | 40  | 38  | 37                 | 35        |  |  |
|                      | 20                           | 63                 | 63                          | 63  | 62  | 59  | 56  | 51  | 47  | 43  | 40  | 38  | 37                 | 35        |  |  |
|                      | 30                           | 61                 | 61                          | 61  | 61  | 59  | 56  | 51  | 47  | 43  | 40  | 38  | 37                 | 35        |  |  |
|                      | 40                           | 54                 | 54                          | 54  | 54  | 54  | 54  | 51  | 47  | 43  | 40  | 38  | 37                 | 35        |  |  |
|                      | 50                           | 49                 | 49                          | 49  | 49  | 49  | 49  | 49  | 47  | 43  | 40  | 38  | 37                 | 35        |  |  |
|                      | 60                           | 45                 | 45                          | 45  | 45  | 45  | 45  | 45  | 45  | 43  | 40  | 38  | 37                 | 35        |  |  |
|                      | 70                           | 42                 | 42                          | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 40  | 38  | 37                 | 35        |  |  |
|                      | 80                           | 39                 | 39                          | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 38  | 37                 | 35        |  |  |
| 90                   | 37                           | 37                 | 37                          | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 35                 |           |  |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 38</b>      |                              | Mean Roof Height:  | $h \leq 15$ ft              |     |     |     |     |     |     |     |     |     |     | Panel Orientation: | Portrait |  |
|----------------------|------------------------------|--------------------|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|----------|--|
|                      |                              | Roof Angle:        | $0 < \theta \leq 7$ degrees |     |     |     |     |     |     |     |     |     |     |                    |          |  |
|                      |                              | Exposure Category: | C                           |     |     |     |     |     |     |     |     |     |     |                    |          |  |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                             |     |     |     |     |     |     |     |     |     |     |                    |          |  |
|                      |                              | 100                | 110                         | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180 | 190                |          |  |
| Zone 1               | 0                            | 94                 | 94                          | 94  | 92  | 88  | 84  | 77  | 71  | 66  | 62  | 60  | 58  | 55                 |          |  |
|                      | 10                           | 79                 | 79                          | 79  | 79  | 79  | 79  | 77  | 71  | 66  | 62  | 60  | 58  | 55                 |          |  |
|                      | 20                           | 63                 | 63                          | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 62  | 60  | 58  | 55                 |          |  |
|                      | 30                           | 61                 | 61                          | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 60  | 58  | 55                 |          |  |
|                      | 40                           | 54                 | 54                          | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54                 |          |  |
|                      | 50                           | 49                 | 49                          | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49                 |          |  |
|                      | 60                           | 45                 | 45                          | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45                 |          |  |
|                      | 70                           | 42                 | 42                          | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42                 |          |  |
|                      | 80                           | 39                 | 39                          | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39                 |          |  |
| 90                   | 37                           | 37                 | 37                          | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  |                    |          |  |
| Zone 2               | 0                            | 88                 | 77                          | 73  | 69  | 66  | 63  | 57  | 53  | 49  | 46  | 44  | 43  | 40                 |          |  |
|                      | 10                           | 79                 | 77                          | 73  | 69  | 66  | 63  | 57  | 53  | 49  | 46  | 44  | 43  | 40                 |          |  |
|                      | 20                           | 63                 | 63                          | 63  | 63  | 63  | 63  | 57  | 53  | 49  | 46  | 44  | 43  | 40                 |          |  |
|                      | 30                           | 61                 | 61                          | 61  | 61  | 61  | 61  | 57  | 53  | 49  | 46  | 44  | 43  | 40                 |          |  |
|                      | 40                           | 54                 | 54                          | 54  | 54  | 54  | 54  | 54  | 53  | 49  | 46  | 44  | 43  | 40                 |          |  |
|                      | 50                           | 49                 | 49                          | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 46  | 44  | 43                 | 40       |  |
|                      | 60                           | 45                 | 45                          | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 44  | 43                 | 40       |  |
|                      | 70                           | 42                 | 42                          | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42                 | 40       |  |
|                      | 80                           | 39                 | 39                          | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39                 | 39       |  |
| 90                   | 37                           | 37                 | 37                          | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37                 |          |  |
| Zone 3               | 0                            | 69                 | 61                          | 58  | 55  | 52  | 49  | 45  | 41  | 38  | 35  | 34  | 33  | 31                 |          |  |
|                      | 10                           | 69                 | 61                          | 58  | 55  | 52  | 49  | 45  | 41  | 38  | 35  | 34  | 33  | 31                 |          |  |
|                      | 20                           | 63                 | 61                          | 58  | 55  | 52  | 49  | 45  | 41  | 38  | 35  | 34  | 33  | 31                 |          |  |
|                      | 30                           | 61                 | 61                          | 58  | 55  | 52  | 49  | 45  | 41  | 38  | 35  | 34  | 33  | 31                 |          |  |
|                      | 40                           | 54                 | 54                          | 54  | 54  | 52  | 49  | 45  | 41  | 38  | 35  | 34  | 33  | 31                 |          |  |
|                      | 50                           | 49                 | 49                          | 49  | 49  | 49  | 49  | 49  | 45  | 41  | 38  | 35  | 34  | 33                 | 31       |  |
|                      | 60                           | 45                 | 45                          | 45  | 45  | 45  | 45  | 45  | 45  | 41  | 38  | 35  | 34  | 33                 | 31       |  |
|                      | 70                           | 42                 | 42                          | 42  | 42  | 42  | 42  | 42  | 42  | 41  | 38  | 35  | 34  | 33                 | 31       |  |
|                      | 80                           | 39                 | 39                          | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 38  | 35  | 34  | 33                 | 31       |  |
| 90                   | 37                           | 37                 | 37                          | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 35  | 34  | 33  | 31                 |          |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 39</b>      |                              | Mean Roof Height:  | $h \leq 15$ ft              |     |     |     |     |     |     |     |     |     |     | Panel Orientation: | Portrait |  |
|----------------------|------------------------------|--------------------|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|----------|--|
|                      |                              | Roof Angle:        | $0 < \theta \leq 7$ degrees |     |     |     |     |     |     |     |     |     |     |                    |          |  |
|                      |                              | Exposure Category: | D                           |     |     |     |     |     |     |     |     |     |     |                    |          |  |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                             |     |     |     |     |     |     |     |     |     |     |                    |          |  |
|                      |                              | 100                | 110                         | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180 | 190                |          |  |
| Zone 1               | 0                            | 94                 | 91                          | 87  | 83  | 79  | 75  | 69  | 64  | 59  | 56  | 54  | 52  | 49                 |          |  |
|                      | 10                           | 79                 | 79                          | 79  | 79  | 79  | 75  | 69  | 64  | 59  | 56  | 54  | 52  | 49                 |          |  |
|                      | 20                           | 63                 | 63                          | 63  | 63  | 63  | 63  | 63  | 62  | 59  | 56  | 54  | 52  | 49                 |          |  |
|                      | 30                           | 61                 | 61                          | 61  | 61  | 61  | 61  | 61  | 61  | 59  | 56  | 54  | 52  | 49                 |          |  |
|                      | 40                           | 54                 | 54                          | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 52  | 49                 |          |  |
|                      | 50                           | 49                 | 49                          | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49                 |          |  |
|                      | 60                           | 45                 | 45                          | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45                 |          |  |
|                      | 70                           | 42                 | 42                          | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42                 |          |  |
|                      | 80                           | 39                 | 39                          | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39                 |          |  |
| 90                   | 37                           | 37                 | 37                          | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  |                    |          |  |
| Zone 2               | 0                            | 77                 | 69                          | 65  | 62  | 59  | 56  | 51  | 47  | 44  | 41  | 39  | 38  | 36                 |          |  |
|                      | 10                           | 77                 | 69                          | 65  | 62  | 59  | 56  | 51  | 47  | 44  | 41  | 39  | 38  | 36                 |          |  |
|                      | 20                           | 63                 | 63                          | 63  | 62  | 59  | 56  | 51  | 47  | 44  | 41  | 39  | 38  | 36                 |          |  |
|                      | 30                           | 61                 | 61                          | 61  | 61  | 59  | 56  | 51  | 47  | 44  | 41  | 39  | 38  | 36                 |          |  |
|                      | 40                           | 54                 | 54                          | 54  | 54  | 54  | 54  | 51  | 47  | 44  | 41  | 39  | 38  | 36                 |          |  |
|                      | 50                           | 49                 | 49                          | 49  | 49  | 49  | 49  | 49  | 47  | 44  | 41  | 39  | 38  | 36                 |          |  |
|                      | 60                           | 45                 | 45                          | 45  | 45  | 45  | 45  | 45  | 45  | 44  | 41  | 39  | 38  | 36                 |          |  |
|                      | 70                           | 42                 | 42                          | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 41  | 39  | 38  | 36                 |          |  |
|                      | 80                           | 39                 | 39                          | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 38  | 36                 |          |  |
| 90                   | 37                           | 37                 | 37                          | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 36  |                    |          |  |
| Zone 3               | 0                            | 61                 | 54                          | 51  | 48  | 46  | 44  | 40  | 37  | 34  | 32  | 31  | 30  | 28                 |          |  |
|                      | 10                           | 61                 | 54                          | 51  | 48  | 46  | 44  | 40  | 37  | 34  | 32  | 31  | 30  | 28                 |          |  |
|                      | 20                           | 61                 | 54                          | 51  | 48  | 46  | 44  | 40  | 37  | 34  | 32  | 31  | 30  | 28                 |          |  |
|                      | 30                           | 61                 | 54                          | 51  | 48  | 46  | 44  | 40  | 37  | 34  | 32  | 31  | 30  | 28                 |          |  |
|                      | 40                           | 54                 | 54                          | 51  | 48  | 46  | 44  | 40  | 37  | 34  | 32  | 31  | 30  | 28                 |          |  |
|                      | 50                           | 49                 | 49                          | 49  | 48  | 46  | 44  | 40  | 37  | 34  | 32  | 31  | 30  | 28                 |          |  |
|                      | 60                           | 45                 | 45                          | 45  | 45  | 45  | 44  | 40  | 37  | 34  | 32  | 31  | 30  | 28                 |          |  |
|                      | 70                           | 42                 | 42                          | 42  | 42  | 42  | 42  | 40  | 37  | 34  | 32  | 31  | 30  | 28                 |          |  |
|                      | 80                           | 39                 | 39                          | 39  | 39  | 39  | 39  | 39  | 37  | 34  | 32  | 31  | 30  | 28                 |          |  |
| 90                   | 37                           | 37                 | 37                          | 37  | 37  | 37  | 37  | 37  | 34  | 32  | 31  | 30  | 28  |                    |          |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 40</b>      |                              | Mean Roof Height:  | $h \leq 15$ ft               |     |     |     |     |     |     |     |     |     | Panel Orientation: | Portrait |  |
|----------------------|------------------------------|--------------------|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|----------|--|
|                      |                              | Roof Angle:        | $7 < \theta \leq 27$ degrees |     |     |     |     |     |     |     |     |     |                    |          |  |
|                      |                              | Exposure Category: | B                            |     |     |     |     |     |     |     |     |     |                    |          |  |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                              |     |     |     |     |     |     |     |     |     |                    |          |  |
|                      |                              | 100                | 110                          | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180                | 190      |  |
| Zone 1               | 0                            | 94                 | 94                           | 94  | 94  | 94  | 94  | 90  | 86  | 80  | 74  | 72  | 69                 | 65       |  |
|                      | 10                           | 71                 | 71                           | 71  | 71  | 70  | 69  | 68  | 67  | 66  | 64  | 64  | 63                 | 62       |  |
|                      | 20                           | 54                 | 54                           | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 53  | 53  | 53                 | 52       |  |
|                      | 30                           | 54                 | 54                           | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 53  | 53  | 53                 | 52       |  |
|                      | 40                           | 48                 | 48                           | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48                 | 47       |  |
|                      | 50                           | 43                 | 43                           | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43                 | 43       |  |
|                      | 60                           | 40                 | 40                           | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40                 | 40       |  |
|                      | 70                           | 37                 | 37                           | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37                 | 37       |  |
|                      | 80                           | 35                 | 35                           | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35                 | 35       |  |
| 90                   | 33                           | 33                 | 33                           | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33                 |          |  |
| Zone 2               | 0                            | 94                 | 89                           | 85  | 80  | 76  | 73  | 66  | 61  | 57  | 53  | 51  | 49                 | 46       |  |
|                      | 10                           | 71                 | 71                           | 71  | 71  | 70  | 69  | 66  | 61  | 57  | 53  | 51  | 49                 | 46       |  |
|                      | 20                           | 54                 | 54                           | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 53  | 51  | 49                 | 46       |  |
|                      | 30                           | 54                 | 54                           | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 53  | 51  | 49                 | 46       |  |
|                      | 40                           | 48                 | 48                           | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48                 | 46       |  |
|                      | 50                           | 43                 | 43                           | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43                 | 43       |  |
|                      | 60                           | 40                 | 40                           | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40                 | 40       |  |
|                      | 70                           | 37                 | 37                           | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37                 | 37       |  |
|                      | 80                           | 35                 | 35                           | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35                 | 35       |  |
| 90                   | 33                           | 33                 | 33                           | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33                 |          |  |
| Zone 3               | 0                            | 76                 | 68                           | 64  | 61  | 58  | 56  | 51  | 47  | 44  | 41  | 40  | 39                 | 36       |  |
|                      | 10                           | 71                 | 68                           | 64  | 61  | 58  | 56  | 51  | 47  | 44  | 41  | 40  | 39                 | 36       |  |
|                      | 20                           | 54                 | 54                           | 54  | 54  | 54  | 54  | 51  | 47  | 44  | 41  | 40  | 39                 | 36       |  |
|                      | 30                           | 54                 | 54                           | 54  | 54  | 54  | 54  | 51  | 47  | 44  | 41  | 40  | 39                 | 36       |  |
|                      | 40                           | 48                 | 48                           | 48  | 48  | 48  | 48  | 48  | 47  | 44  | 41  | 40  | 39                 | 36       |  |
|                      | 50                           | 43                 | 43                           | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 41  | 40  | 39                 | 36       |  |
|                      | 60                           | 40                 | 40                           | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 39                 | 36       |  |
|                      | 70                           | 37                 | 37                           | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37                 | 36       |  |
|                      | 80                           | 35                 | 35                           | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35                 | 35       |  |
| 90                   | 33                           | 33                 | 33                           | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33                 |          |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 41</b>      |                              | Mean Roof Height:  | $h \leq 15$ ft               |     |     |     |     |     |     |     |     |     |     | Panel Orientation: | Portrait |  |
|----------------------|------------------------------|--------------------|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|----------|--|
|                      |                              | Roof Angle:        | $7 < \theta \leq 27$ degrees |     |     |     |     |     |     |     |     |     |     |                    |          |  |
|                      |                              | Exposure Category: | C                            |     |     |     |     |     |     |     |     |     |     |                    |          |  |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                              |     |     |     |     |     |     |     |     |     |     |                    |          |  |
|                      |                              | 100                | 110                          | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180 | 190                |          |  |
| Zone 1               | 0                            | 94                 | 94                           | 94  | 93  | 91  | 89  | 83  | 77  | 71  | 66  | 64  | 62  | 58                 |          |  |
|                      | 10                           | 71                 | 70                           | 70  | 69  | 68  | 68  | 66  | 65  | 63  | 62  | 61  | 61  | 58                 |          |  |
|                      | 20                           | 54                 | 54                           | 54  | 54  | 54  | 54  | 54  | 54  | 53  | 52  | 52  | 51  | 50                 |          |  |
|                      | 30                           | 54                 | 54                           | 54  | 54  | 54  | 54  | 54  | 54  | 53  | 52  | 52  | 51  | 50                 |          |  |
|                      | 40                           | 48                 | 48                           | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 47  | 46                 |          |  |
|                      | 50                           | 43                 | 43                           | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43                 |          |  |
|                      | 60                           | 40                 | 40                           | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40                 |          |  |
|                      | 70                           | 37                 | 37                           | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37                 |          |  |
|                      | 80                           | 35                 | 35                           | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35                 |          |  |
| 90                   | 33                           | 33                 | 33                           | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  |                    |          |  |
| Zone 2               | 0                            | 89                 | 79                           | 75  | 71  | 68  | 64  | 59  | 54  | 50  | 47  | 46  | 44  | 41                 |          |  |
|                      | 10                           | 71                 | 70                           | 70  | 69  | 68  | 64  | 59  | 54  | 50  | 47  | 46  | 44  | 41                 |          |  |
|                      | 20                           | 54                 | 54                           | 54  | 54  | 54  | 54  | 54  | 54  | 50  | 47  | 46  | 44  | 41                 |          |  |
|                      | 30                           | 54                 | 54                           | 54  | 54  | 54  | 54  | 54  | 54  | 50  | 47  | 46  | 44  | 41                 |          |  |
|                      | 40                           | 48                 | 48                           | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 47  | 46  | 44  | 41                 |          |  |
|                      | 50                           | 43                 | 43                           | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 41                 |          |  |
|                      | 60                           | 40                 | 40                           | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40                 |          |  |
|                      | 70                           | 37                 | 37                           | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37                 |          |  |
|                      | 80                           | 35                 | 35                           | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35                 |          |  |
| 90                   | 33                           | 33                 | 33                           | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  |                    |          |  |
| Zone 3               | 0                            | 68                 | 60                           | 57  | 55  | 52  | 50  | 46  | 42  | 39  | 37  | 36  | 35  | 33                 |          |  |
|                      | 10                           | 68                 | 60                           | 57  | 55  | 52  | 50  | 46  | 42  | 39  | 37  | 36  | 35  | 33                 |          |  |
|                      | 20                           | 54                 | 54                           | 54  | 54  | 52  | 50  | 46  | 42  | 39  | 37  | 36  | 35  | 33                 |          |  |
|                      | 30                           | 54                 | 54                           | 54  | 54  | 52  | 50  | 46  | 42  | 39  | 37  | 36  | 35  | 33                 |          |  |
|                      | 40                           | 48                 | 48                           | 48  | 48  | 48  | 48  | 46  | 42  | 39  | 37  | 36  | 35  | 33                 |          |  |
|                      | 50                           | 43                 | 43                           | 43  | 43  | 43  | 43  | 43  | 42  | 39  | 37  | 36  | 35  | 33                 |          |  |
|                      | 60                           | 40                 | 40                           | 40  | 40  | 40  | 40  | 40  | 40  | 39  | 37  | 36  | 35  | 33                 |          |  |
|                      | 70                           | 37                 | 37                           | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 36  | 35  | 33                 |          |  |
|                      | 80                           | 35                 | 35                           | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 33                 |          |  |
| 90                   | 33                           | 33                 | 33                           | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  |                    |          |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 42</b>      |                              | Mean Roof Height:  | $h \leq 15$ ft               |     |     |     |     |     |     |     |     |     |     | Panel Orientation: | Portrait |    |
|----------------------|------------------------------|--------------------|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|----------|----|
|                      |                              | Roof Angle:        | $7 < \theta \leq 27$ degrees |     |     |     |     |     |     |     |     |     |     |                    |          |    |
|                      |                              | Exposure Category: | D                            |     |     |     |     |     |     |     |     |     |     |                    |          |    |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)   |                              |     |     |     |     |     |     |     |     |     |     |                    |          |    |
|                      |                              | 100                | 110                          | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180 | 190                |          |    |
| Zone 1               | 0                            | 94                 | 92                           | 90  | 88  | 85  | 81  | 74  | 69  | 64  | 59  | 57  | 56  | 52                 |          |    |
|                      | 10                           | 70                 | 69                           | 68  | 67  | 67  | 66  | 64  | 63  | 61  | 59  | 57  | 56  | 52                 |          |    |
|                      | 20                           | 54                 | 54                           | 54  | 54  | 54  | 54  | 54  | 53  | 52  | 51  | 50  | 50  | 49                 | 49       |    |
|                      | 30                           | 54                 | 54                           | 54  | 54  | 54  | 54  | 54  | 53  | 52  | 51  | 50  | 50  | 49                 | 49       |    |
|                      | 40                           | 48                 | 48                           | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 47  | 46  | 46  | 46                 | 45       |    |
|                      | 50                           | 43                 | 43                           | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43                 | 42       | 42 |
|                      | 60                           | 40                 | 40                           | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40                 | 40       | 39 |
|                      | 70                           | 37                 | 37                           | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37                 | 37       | 37 |
|                      | 80                           | 35                 | 35                           | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35                 | 35       | 35 |
| 90                   | 33                           | 33                 | 33                           | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33                 | 33       |    |
| Zone 2               | 0                            | 79                 | 70                           | 67  | 63  | 60  | 57  | 53  | 49  | 45  | 42  | 41  | 40  | 37                 |          |    |
|                      | 10                           | 70                 | 69                           | 67  | 63  | 60  | 57  | 53  | 49  | 45  | 42  | 41  | 40  | 37                 |          |    |
|                      | 20                           | 54                 | 54                           | 54  | 54  | 54  | 54  | 54  | 53  | 49  | 45  | 42  | 41  | 40                 | 37       |    |
|                      | 30                           | 54                 | 54                           | 54  | 54  | 54  | 54  | 54  | 53  | 49  | 45  | 42  | 41  | 40                 | 37       |    |
|                      | 40                           | 48                 | 48                           | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 45  | 42  | 41  | 40                 | 37       |    |
|                      | 50                           | 43                 | 43                           | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 42  | 41  | 40                 | 37       |    |
|                      | 60                           | 40                 | 40                           | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40                 | 40       | 37 |
|                      | 70                           | 37                 | 37                           | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37                 | 37       | 37 |
|                      | 80                           | 35                 | 35                           | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35                 | 35       | 35 |
| 90                   | 33                           | 33                 | 33                           | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 33                 | 33       |    |
| Zone 3               | 0                            | 60                 | 54                           | 51  | 49  | 47  | 45  | 41  | 38  | 36  | 33  | 32  | 31  | 30                 |          |    |
|                      | 10                           | 60                 | 54                           | 51  | 49  | 47  | 45  | 41  | 38  | 36  | 33  | 32  | 31  | 30                 |          |    |
|                      | 20                           | 54                 | 54                           | 51  | 49  | 47  | 45  | 41  | 38  | 36  | 33  | 32  | 31  | 30                 |          |    |
|                      | 30                           | 54                 | 54                           | 51  | 49  | 47  | 45  | 41  | 38  | 36  | 33  | 32  | 31  | 30                 |          |    |
|                      | 40                           | 48                 | 48                           | 48  | 48  | 47  | 45  | 41  | 38  | 36  | 33  | 32  | 31  | 30                 |          |    |
|                      | 50                           | 43                 | 43                           | 43  | 43  | 43  | 43  | 41  | 38  | 36  | 33  | 32  | 31  | 30                 |          |    |
|                      | 60                           | 40                 | 40                           | 40  | 40  | 40  | 40  | 40  | 38  | 36  | 33  | 32  | 31  | 30                 |          |    |
|                      | 70                           | 37                 | 37                           | 37  | 37  | 37  | 37  | 37  | 37  | 36  | 33  | 32  | 31  | 30                 |          |    |
|                      | 80                           | 35                 | 35                           | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 33  | 32  | 31  | 30                 |          |    |
| 90                   | 33                           | 33                 | 33                           | 33  | 33  | 33  | 33  | 33  | 33  | 33  | 32  | 31  | 30  |                    |          |    |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 43</b>      |                              | Mean Roof Height: $h \leq 15$ ft          |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |     |     |    |
|----------------------|------------------------------|---|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|-----|-----|----|
|                      |                              | Roof Angle: $27 < \theta \leq 45$ degrees |     |     |     |     |                             |     |     |     |     |     |     |     |    |
|                      |                              | Exposure Category: B                      |     |     |     |     |                             |     |     |     |     |     |     |     |    |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)                          |     |     |     |     |                             |     |     |     |     |     |     |     |    |
|                      |                              | 100                                       | 110 | 115 | 120 | 125 | 130                         | 140 | 150 | 160 | 170 | 175 | 180 | 190 |    |
| Zone 1               | 0                            | 86  | 82  | 80  | 78  | 76  | 74                          | 70  | 67  | 63  | 61  | 59  | 58  | 55  |    |
|                      | 10                           | 76  | 73  | 72  | 71  | 70  | 69                          | 66  | 64  | 62  | 60  | 59  | 58  | 55  |    |
|                      | 20                           | 65  | 64  | 63  | 62  | 62  | 61                          | 59  | 58  | 56  | 54  | 54  | 53  | 51  |    |
|                      | 30                           | 58  | 57  | 57  | 56  | 56  | 55                          | 54  | 53  | 51  | 50  | 50  | 49  | 48  |    |
|                      | 40                           | 52  | 52  | 52  | 52  | 51  | 51                          | 50  | 49  | 48  | 47  | 46  | 46  | 45  |    |
|                      | 50                           | 47  | 47  | 47  | 47  | 47  | 47                          | 46  | 46  | 45  | 44  | 44  | 43  | 42  |    |
|                      | 60                           | 43  | 43  | 43  | 43  | 43  | 43                          | 43  | 43  | 42  | 42  | 41  | 41  | 40  |    |
|                      | 70                           | 41  | 41  | 41  | 41  | 41  | 41                          | 41  | 41  | 40  | 40  | 39  | 39  | 38  |    |
|                      | 80                           | 38  | 38  | 38  | 38  | 38  | 38                          | 38  | 38  | 38  | 38  | 38  | 38  | 37  | 37 |
| 90                   | 36                           | 36  | 36  | 36  | 36  | 36  | 36                          | 36  | 36  | 36  | 36  | 36  | 36  | 35  |    |
| Zone 2               | 0                            | 86  | 82  | 80  | 78  | 76  | 74                          | 70  | 67  | 63  | 61  | 59  | 58  | 55  |    |
|                      | 10                           | 76  | 73  | 72  | 71  | 70  | 69                          | 66  | 64  | 62  | 60  | 59  | 58  | 55  |    |
|                      | 20                           | 65  | 64  | 63  | 62  | 62  | 61                          | 59  | 58  | 56  | 54  | 54  | 53  | 51  |    |
|                      | 30                           | 58  | 57  | 57  | 56  | 56  | 55                          | 54  | 53  | 51  | 50  | 50  | 49  | 48  |    |
|                      | 40                           | 52  | 52  | 52  | 52  | 51  | 51                          | 50  | 49  | 48  | 47  | 46  | 46  | 45  |    |
|                      | 50                           | 47  | 47  | 47  | 47  | 47  | 47                          | 46  | 46  | 45  | 44  | 44  | 43  | 42  |    |
|                      | 60                           | 43  | 43  | 43  | 43  | 43  | 43                          | 43  | 43  | 42  | 42  | 41  | 41  | 40  |    |
|                      | 70                           | 41  | 41  | 41  | 41  | 41  | 41                          | 41  | 41  | 40  | 40  | 39  | 39  | 38  |    |
|                      | 80                           | 38  | 38  | 38  | 38  | 38  | 38                          | 38  | 38  | 38  | 38  | 38  | 38  | 37  | 37 |
| 90                   | 36                           | 36  | 36  | 36  | 36  | 36  | 36                          | 36  | 36  | 36  | 36  | 36  | 36  | 35  |    |
| Zone 3               | 0                            | 86  | 82  | 80  | 78  | 76  | 74                          | 70  | 67  | 63  | 61  | 59  | 58  | 55  |    |
|                      | 10                           | 76  | 73  | 72  | 71  | 70  | 69                          | 66  | 64  | 62  | 60  | 59  | 58  | 55  |    |
|                      | 20                           | 65  | 64  | 63  | 62  | 62  | 61                          | 59  | 58  | 56  | 54  | 54  | 53  | 51  |    |
|                      | 30                           | 58  | 57  | 57  | 56  | 56  | 55                          | 54  | 53  | 51  | 50  | 50  | 49  | 48  |    |
|                      | 40                           | 52  | 52  | 52  | 52  | 51  | 51                          | 50  | 49  | 48  | 47  | 46  | 46  | 45  |    |
|                      | 50                           | 47  | 47  | 47  | 47  | 47  | 47                          | 46  | 46  | 45  | 44  | 44  | 43  | 42  |    |
|                      | 60                           | 43  | 43  | 43  | 43  | 43  | 43                          | 43  | 43  | 42  | 42  | 41  | 41  | 40  |    |
|                      | 70                           | 41  | 41  | 41  | 41  | 41  | 41                          | 41  | 41  | 40  | 40  | 39  | 39  | 38  |    |
|                      | 80                           | 38  | 38  | 38  | 38  | 38  | 38                          | 38  | 38  | 38  | 38  | 38  | 38  | 37  | 37 |
| 90                   | 36                           | 36  | 36  | 36  | 36  | 36  | 36                          | 36  | 36  | 36  | 36  | 36  | 36  | 35  |    |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 44</b>      |                              | Mean Roof Height: $h \leq 15$ ft          |     | Panel Orientation: Portrait |     |     |     |     |     |     |     |     |     |     |
|----------------------|------------------------------|---|-----|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                      |                              | Roof Angle: $27 < \theta \leq 45$ degrees |     |                             |     |     |     |     |     |     |     |     |     |     |
|                      |                              | Exposure Category: C                      |     |                             |     |     |     |     |     |     |     |     |     |     |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)                          |     |                             |     |     |     |     |     |     |     |     |     |     |
|                      |                              | 100                                       | 110 | 115                         | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180 | 190 |
| Zone 1               | 0                            | 82  | 77  | 75                          | 73  | 71  | 69  | 65  | 62  | 59  | 56  | 55  | 53  | 51  |
|                      | 10                           | 73  | 71  | 69                          | 68  | 67  | 66  | 63  | 61  | 59  | 56  | 55  | 53  | 51  |
|                      | 20                           | 64  | 62  | 61                          | 60  | 59  | 59  | 57  | 55  | 53  | 52  | 51  | 50  | 49  |
|                      | 30                           | 57  | 56  | 55                          | 55  | 54  | 53  | 52  | 51  | 49  | 48  | 47  | 47  | 46  |
|                      | 40                           | 52  | 52  | 51                          | 50  | 50  | 49  | 48  | 47  | 46  | 45  | 45  | 44  | 43  |
|                      | 50                           | 47  | 47  | 47                          | 47  | 47  | 46  | 45  | 44  | 43  | 43  | 42  | 42  | 41  |
|                      | 60                           | 43  | 43  | 43                          | 43  | 43  | 43  | 43  | 42  | 41  | 40  | 40  | 40  | 39  |
|                      | 70                           | 41  | 41  | 41                          | 41  | 41  | 41  | 41  | 40  | 39  | 39  | 38  | 38  | 37  |
|                      | 80                           | 38  | 38  | 38                          | 38  | 38  | 38  | 38  | 38  | 38  | 37  | 37  | 36  | 36  |
|                      | 90                           | 36  | 36  | 36                          | 36  | 36  | 36  | 36  | 36  | 36  | 36  | 35  | 35  | 34  |
| Zone 2               | 0                            | 82  | 77  | 75                          | 73  | 71  | 69  | 65  | 62  | 59  | 56  | 55  | 53  | 51  |
|                      | 10                           | 73  | 71  | 69                          | 68  | 67  | 66  | 63  | 61  | 59  | 56  | 55  | 53  | 51  |
|                      | 20                           | 64  | 62  | 61                          | 60  | 59  | 59  | 57  | 55  | 53  | 52  | 51  | 50  | 49  |
|                      | 30                           | 57  | 56  | 55                          | 55  | 54  | 53  | 52  | 51  | 49  | 48  | 47  | 47  | 46  |
|                      | 40                           | 52  | 52  | 51                          | 50  | 50  | 49  | 48  | 47  | 46  | 45  | 45  | 44  | 43  |
|                      | 50                           | 47  | 47  | 47                          | 47  | 47  | 46  | 45  | 44  | 43  | 43  | 42  | 42  | 41  |
|                      | 60                           | 43  | 43  | 43                          | 43  | 43  | 43  | 43  | 42  | 41  | 40  | 40  | 40  | 39  |
|                      | 70                           | 41  | 41  | 41                          | 41  | 41  | 41  | 41  | 40  | 39  | 39  | 38  | 38  | 37  |
|                      | 80                           | 38  | 38  | 38                          | 38  | 38  | 38  | 38  | 38  | 38  | 37  | 37  | 36  | 36  |
|                      | 90                           | 36  | 36  | 36                          | 36  | 36  | 36  | 36  | 36  | 36  | 36  | 35  | 35  | 34  |
| Zone 3               | 0                            | 82  | 77  | 75                          | 73  | 71  | 69  | 65  | 62  | 59  | 56  | 55  | 53  | 51  |
|                      | 10                           | 73  | 71  | 69                          | 68  | 67  | 66  | 63  | 61  | 59  | 56  | 55  | 53  | 51  |
|                      | 20                           | 64  | 62  | 61                          | 60  | 59  | 59  | 57  | 55  | 53  | 52  | 51  | 50  | 49  |
|                      | 30                           | 57  | 56  | 55                          | 55  | 54  | 53  | 52  | 51  | 49  | 48  | 47  | 47  | 46  |
|                      | 40                           | 52  | 52  | 51                          | 50  | 50  | 49  | 48  | 47  | 46  | 45  | 45  | 44  | 43  |
|                      | 50                           | 47  | 47  | 47                          | 47  | 47  | 46  | 45  | 44  | 43  | 43  | 42  | 42  | 41  |
|                      | 60                           | 43  | 43  | 43                          | 43  | 43  | 43  | 43  | 42  | 41  | 40  | 40  | 40  | 39  |
|                      | 70                           | 41  | 41  | 41                          | 41  | 41  | 41  | 41  | 40  | 39  | 39  | 38  | 38  | 37  |
|                      | 80                           | 38  | 38  | 38                          | 38  | 38  | 38  | 38  | 38  | 38  | 37  | 37  | 36  | 36  |
|                      | 90                           | 36  | 36  | 36                          | 36  | 36  | 36  | 36  | 36  | 36  | 36  | 35  | 35  | 34  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"



**Max Rail Spans for SunModo SMR100 System**

| <b>Table 45</b> |                        | Mean Roof Height: $h \leq 15$ ft          |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |     |     |  |
|-----------------|------------------------|---|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|-----|-----|--|
|                 |                        | Roof Angle: $27 < \theta \leq 45$ degrees |     |     |     |     |                             |     |     |     |     |     |     |     |  |
|                 |                        | Exposure Category: D                      |     |     |     |     |                             |     |     |     |     |     |     |     |  |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                          |     |     |     |     |                             |     |     |     |     |     |     |     |  |
|                 |                        | 100                                       | 110 | 115 | 120 | 125 | 130                         | 140 | 150 | 160 | 170 | 175 | 180 | 190 |  |
| Zone 1          | 0                      | 77  | 72  | 70  | 68  | 66  | 64                          | 61  | 57  | 54  | 52  | 50  | 49  | 47  |  |
|                 | 10                     | 71  | 68  | 66  | 65  | 64  | 62                          | 60  | 57  | 54  | 52  | 50  | 49  | 47  |  |
|                 | 20                     | 62  | 60  | 59  | 58  | 57  | 56                          | 54  | 53  | 51  | 49  | 48  | 47  | 46  |  |
|                 | 30                     | 56  | 55  | 54  | 53  | 52  | 52                          | 50  | 49  | 47  | 46  | 45  | 45  | 43  |  |
|                 | 40                     | 51  | 50  | 50  | 49  | 49  | 48                          | 47  | 46  | 44  | 43  | 43  | 42  | 41  |  |
|                 | 50                     | 47  | 47  | 46  | 46  | 46  | 45                          | 44  | 43  | 42  | 41  | 41  | 40  | 39  |  |
|                 | 60                     | 43  | 43  | 43  | 43  | 43  | 43                          | 42  | 41  | 40  | 39  | 39  | 38  | 37  |  |
|                 | 70                     | 41  | 41  | 41  | 41  | 41  | 40                          | 40  | 39  | 38  | 37  | 37  | 37  | 36  |  |
|                 | 80                     | 38  | 38  | 38  | 38  | 38  | 38                          | 38  | 37  | 37  | 36  | 36  | 35  | 35  |  |
|                 | 90                     | 36  | 36  | 36  | 36  | 36  | 36                          | 36  | 36  | 35  | 35  | 34  | 34  | 33  |  |
| Zone 2          | 0                      | 77  | 72  | 70  | 68  | 66  | 64                          | 61  | 57  | 54  | 51  | 50  | 48  | 45  |  |
|                 | 10                     | 71  | 68  | 66  | 65  | 64  | 62                          | 60  | 57  | 54  | 51  | 50  | 48  | 45  |  |
|                 | 20                     | 62  | 60  | 59  | 58  | 57  | 56                          | 54  | 53  | 51  | 49  | 48  | 47  | 45  |  |
|                 | 30                     | 56  | 55  | 54  | 53  | 52  | 52                          | 50  | 49  | 47  | 46  | 45  | 45  | 43  |  |
|                 | 40                     | 51  | 50  | 50  | 49  | 49  | 48                          | 47  | 46  | 44  | 43  | 43  | 42  | 41  |  |
|                 | 50                     | 47  | 47  | 46  | 46  | 46  | 45                          | 44  | 43  | 42  | 41  | 41  | 40  | 39  |  |
|                 | 60                     | 43  | 43  | 43  | 43  | 43  | 43                          | 42  | 41  | 40  | 39  | 39  | 38  | 37  |  |
|                 | 70                     | 41  | 41  | 41  | 41  | 41  | 40                          | 40  | 39  | 38  | 37  | 37  | 37  | 36  |  |
|                 | 80                     | 38  | 38  | 38  | 38  | 38  | 38                          | 38  | 37  | 37  | 36  | 36  | 35  | 35  |  |
|                 | 90                     | 36  | 36  | 36  | 36  | 36  | 36                          | 36  | 36  | 35  | 35  | 34  | 34  | 33  |  |
| Zone 3          | 0                      | 77  | 72  | 70  | 68  | 66  | 64                          | 61  | 57  | 54  | 51  | 50  | 48  | 45  |  |
|                 | 10                     | 71  | 68  | 66  | 65  | 64  | 62                          | 60  | 57  | 54  | 51  | 50  | 48  | 45  |  |
|                 | 20                     | 62  | 60  | 59  | 58  | 57  | 56                          | 54  | 53  | 51  | 49  | 48  | 47  | 45  |  |
|                 | 30                     | 56  | 55  | 54  | 53  | 52  | 52                          | 50  | 49  | 47  | 46  | 45  | 45  | 43  |  |
|                 | 40                     | 51  | 50  | 50  | 49  | 49  | 48                          | 47  | 46  | 44  | 43  | 43  | 42  | 41  |  |
|                 | 50                     | 47  | 47  | 46  | 46  | 46  | 45                          | 44  | 43  | 42  | 41  | 41  | 40  | 39  |  |
|                 | 60                     | 43  | 43  | 43  | 43  | 43  | 43                          | 42  | 41  | 40  | 39  | 39  | 38  | 37  |  |
|                 | 70                     | 41  | 41  | 41  | 41  | 41  | 40                          | 40  | 39  | 38  | 37  | 37  | 37  | 36  |  |
|                 | 80                     | 38  | 38  | 38  | 38  | 38  | 38                          | 38  | 37  | 37  | 36  | 36  | 35  | 35  |  |
|                 | 90                     | 36  | 36  | 36  | 36  | 36  | 36                          | 36  | 36  | 35  | 35  | 34  | 34  | 33  |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 46</b> |                        | Mean Roof Height: $15 < h \leq 30$ ft   |     |     |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |  |
|-----------------|------------------------|---|-----|-----|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|--|
|                 |                        | Roof Angle: $0 < \theta \leq 7$ degrees |     |     |     |     |     |     |                             |     |     |     |     |     |  |
|                 |                        | Exposure Category: B                    |     |     |     |     |     |     |                             |     |     |     |     |     |  |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                        |     |     |     |     |     |     |                             |     |     |     |     |     |  |
|                 |                        | 100                                     | 110 | 115 | 120 | 125 | 130 | 140 | 150                         | 160 | 170 | 175 | 180 | 190 |  |
| Zone 1          | 0                      | 94                                      | 94  | 94  | 94  | 94  | 93  | 87  | 80                          | 74  | 69  | 67  | 65  | 61  |  |
|                 | 10                     | 79                                      | 79  | 79  | 79  | 79  | 79  | 79  | 79                          | 74  | 69  | 67  | 65  | 61  |  |
|                 | 20                     | 63                                      | 63  | 63  | 63  | 63  | 63  | 63  | 63                          | 63  | 63  | 63  | 62  | 61  |  |
|                 | 30                     | 61                                      | 61  | 61  | 61  | 61  | 61  | 61  | 61                          | 61  | 61  | 61  | 61  | 61  |  |
|                 | 40                     | 54                                      | 54  | 54  | 54  | 54  | 54  | 54  | 54                          | 54  | 54  | 54  | 54  | 54  |  |
|                 | 50                     | 49                                      | 49  | 49  | 49  | 49  | 49  | 49  | 49                          | 49  | 49  | 49  | 49  | 49  |  |
|                 | 60                     | 45                                      | 45  | 45  | 45  | 45  | 45  | 45  | 45                          | 45  | 45  | 45  | 45  | 45  |  |
|                 | 70                     | 42                                      | 42  | 42  | 42  | 42  | 42  | 42  | 42                          | 42  | 42  | 42  | 42  | 42  |  |
|                 | 80                     | 39                                      | 39  | 39  | 39  | 39  | 39  | 39  | 39                          | 39  | 39  | 39  | 39  | 39  |  |
| 90              | 37                     | 37                                      | 37  | 37  | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  |     |  |
| Zone 2          | 0                      | 94                                      | 88  | 83  | 78  | 74  | 71  | 65  | 59                          | 55  | 51  | 49  | 48  | 45  |  |
|                 | 10                     | 79                                      | 79  | 79  | 78  | 74  | 71  | 65  | 59                          | 55  | 51  | 49  | 48  | 45  |  |
|                 | 20                     | 63                                      | 63  | 63  | 63  | 63  | 63  | 63  | 59                          | 55  | 51  | 49  | 48  | 45  |  |
|                 | 30                     | 61                                      | 61  | 61  | 61  | 61  | 61  | 61  | 59                          | 55  | 51  | 49  | 48  | 45  |  |
|                 | 40                     | 54                                      | 54  | 54  | 54  | 54  | 54  | 54  | 54                          | 54  | 51  | 49  | 48  | 45  |  |
|                 | 50                     | 49                                      | 49  | 49  | 49  | 49  | 49  | 49  | 49                          | 49  | 49  | 49  | 48  | 45  |  |
|                 | 60                     | 45                                      | 45  | 45  | 45  | 45  | 45  | 45  | 45                          | 45  | 45  | 45  | 45  | 45  |  |
|                 | 70                     | 42                                      | 42  | 42  | 42  | 42  | 42  | 42  | 42                          | 42  | 42  | 42  | 42  | 42  |  |
|                 | 80                     | 39                                      | 39  | 39  | 39  | 39  | 39  | 39  | 39                          | 39  | 39  | 39  | 39  | 39  |  |
| 90              | 37                     | 37                                      | 37  | 37  | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  |     |  |
| Zone 3          | 0                      | 79                                      | 69  | 65  | 62  | 59  | 56  | 51  | 47                          | 43  | 40  | 38  | 37  | 35  |  |
|                 | 10                     | 79                                      | 69  | 65  | 62  | 59  | 56  | 51  | 47                          | 43  | 40  | 38  | 37  | 35  |  |
|                 | 20                     | 63                                      | 63  | 63  | 62  | 59  | 56  | 51  | 47                          | 43  | 40  | 38  | 37  | 35  |  |
|                 | 30                     | 61                                      | 61  | 61  | 61  | 59  | 56  | 51  | 47                          | 43  | 40  | 38  | 37  | 35  |  |
|                 | 40                     | 54                                      | 54  | 54  | 54  | 54  | 54  | 51  | 47                          | 43  | 40  | 38  | 37  | 35  |  |
|                 | 50                     | 49                                      | 49  | 49  | 49  | 49  | 49  | 49  | 47                          | 43  | 40  | 38  | 37  | 35  |  |
|                 | 60                     | 45                                      | 45  | 45  | 45  | 45  | 45  | 45  | 45                          | 43  | 40  | 38  | 37  | 35  |  |
|                 | 70                     | 42                                      | 42  | 42  | 42  | 42  | 42  | 42  | 42                          | 42  | 40  | 38  | 37  | 35  |  |
|                 | 80                     | 39                                      | 39  | 39  | 39  | 39  | 39  | 39  | 39                          | 39  | 39  | 38  | 37  | 35  |  |
| 90              | 37                     | 37                                      | 37  | 37  | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 35  |     |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

| Roof Wind Zone |  | Ground Snow Load (psf) | Wind Speed (mph) |     |     |     |     |     |     |     |     |     |     |     |     |    |
|----------------|--|------------------------|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
|                |  |                        | 100              | 110 | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180 | 190 |    |
| Zone 1         |  | 0                      | 94               | 93  | 90  | 85  | 81  | 77  | 71  | 66  | 61  | 57  | 55  | 54  | 51  |    |
|                |  | 10                     | 79               | 79  | 79  | 79  | 79  | 77  | 71  | 66  | 61  | 57  | 55  | 54  | 51  |    |
|                |  | 20                     | 63               | 63  | 63  | 63  | 63  | 63  | 63  | 63  | 61  | 57  | 55  | 54  | 51  |    |
|                |  | 30                     | 61               | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 61  | 57  | 55  | 54  | 51  |    |
|                |  | 40                     | 54               | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 54  | 51  |    |
|                |  | 50                     | 49               | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 49 |
|                |  | 60                     | 45               | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45 |
|                |  | 70                     | 42               | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42 |
|                |  | 80                     | 39               | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39 |
|                |  | 90                     | 37               | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37 |
| Zone 2         |  | 0                      | 80               | 71  | 67  | 63  | 60  | 58  | 53  | 49  | 45  | 42  | 41  | 39  | 37  |    |
|                |  | 10                     | 79               | 71  | 67  | 63  | 60  | 58  | 53  | 49  | 45  | 42  | 41  | 39  | 37  |    |
|                |  | 20                     | 63               | 63  | 63  | 63  | 60  | 58  | 53  | 49  | 45  | 42  | 41  | 39  | 37  |    |
|                |  | 30                     | 61               | 61  | 61  | 61  | 60  | 58  | 53  | 49  | 45  | 42  | 41  | 39  | 37  |    |
|                |  | 40                     | 54               | 54  | 54  | 54  | 54  | 54  | 53  | 49  | 45  | 42  | 41  | 39  | 37  |    |
|                |  | 50                     | 49               | 49  | 49  | 49  | 49  | 49  | 49  | 49  | 45  | 42  | 41  | 39  | 37  |    |
|                |  | 60                     | 45               | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 45  | 42  | 41  | 39  | 37  |    |
|                |  | 70                     | 42               | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 42  | 41  | 39  | 37  |    |
|                |  | 80                     | 39               | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 37  |    |
|                |  | 90                     | 37               | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 37 |
| Zone 3         |  | 0                      | 63               | 56  | 53  | 50  | 47  | 45  | 41  | 38  | 35  | 33  | 32  | 31  | 29  |    |
|                |  | 10                     | 63               | 56  | 53  | 50  | 47  | 45  | 41  | 38  | 35  | 33  | 32  | 31  | 29  |    |
|                |  | 20                     | 63               | 56  | 53  | 50  | 47  | 45  | 41  | 38  | 35  | 33  | 32  | 31  | 29  |    |
|                |  | 30                     | 61               | 56  | 53  | 50  | 47  | 45  | 41  | 38  | 35  | 33  | 32  | 31  | 29  |    |
|                |  | 40                     | 54               | 54  | 53  | 50  | 47  | 45  | 41  | 38  | 35  | 33  | 32  | 31  | 29  |    |
|                |  | 50                     | 49               | 49  | 49  | 49  | 47  | 45  | 41  | 38  | 35  | 33  | 32  | 31  | 29  |    |
|                |  | 60                     | 45               | 45  | 45  | 45  | 45  | 45  | 41  | 38  | 35  | 33  | 32  | 31  | 29  |    |
|                |  | 70                     | 42               | 42  | 42  | 42  | 42  | 42  | 41  | 38  | 35  | 33  | 32  | 31  | 29  |    |
|                |  | 80                     | 39               | 39  | 39  | 39  | 39  | 39  | 39  | 38  | 35  | 33  | 32  | 31  | 29  |    |
|                |  | 90                     | 37               | 37  | 37  | 37  | 37  | 37  | 37  | 37  | 35  | 33  | 32  | 31  | 29  |    |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 48</b> |                        | Mean Roof Height: $15 < h \leq 30$ ft   |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |     |     |  |
|-----------------|------------------------|---|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|-----|-----|--|
|                 |                        | Roof Angle: $0 < \theta \leq 7$ degrees |     |     |     |     |                             |     |     |     |     |     |     |     |  |
|                 |                        | Exposure Category: D                    |     |     |     |     |                             |     |     |     |     |     |     |     |  |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                        |     |     |     |     |                             |     |     |     |     |     |     |     |  |
|                 |                        | 100                                     | 110 | 115 | 120 | 125 | 130                         | 140 | 150 | 160 | 170 | 175 | 180 | 190 |  |
| Zone 1          | 0                      | 94                                      | 85  | 81  | 77  | 73  | 70                          | 65  | 60  | 56  | 52  | 50  | 49  | 46  |  |
|                 | 10                     | 79                                      | 79  | 79  | 77  | 73  | 70                          | 65  | 60  | 56  | 52  | 50  | 49  | 46  |  |
|                 | 20                     | 63                                      | 63  | 63  | 63  | 63  | 63                          | 62  | 60  | 56  | 52  | 50  | 49  | 46  |  |
|                 | 30                     | 61                                      | 61  | 61  | 61  | 61  | 61                          | 61  | 60  | 56  | 52  | 50  | 49  | 46  |  |
|                 | 40                     | 54                                      | 54  | 54  | 54  | 54  | 54                          | 54  | 54  | 54  | 52  | 50  | 49  | 46  |  |
|                 | 50                     | 49                                      | 49  | 49  | 49  | 49  | 49                          | 49  | 49  | 49  | 49  | 49  | 49  | 46  |  |
|                 | 60                     | 45                                      | 45  | 45  | 45  | 45  | 45                          | 45  | 45  | 45  | 45  | 45  | 45  | 45  |  |
|                 | 70                     | 42                                      | 42  | 42  | 42  | 42  | 42                          | 42  | 42  | 42  | 42  | 42  | 42  | 42  |  |
|                 | 80                     | 39                                      | 39  | 39  | 39  | 39  | 39                          | 39  | 39  | 39  | 39  | 39  | 39  | 39  |  |
| 90              | 37                     | 37                                      | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  | 37  | 37  |     |  |
| Zone 2          | 0                      | 72                                      | 64  | 60  | 57  | 55  | 52                          | 48  | 44  | 41  | 38  | 37  | 36  | 34  |  |
|                 | 10                     | 72                                      | 64  | 60  | 57  | 55  | 52                          | 48  | 44  | 41  | 38  | 37  | 36  | 34  |  |
|                 | 20                     | 63                                      | 63  | 60  | 57  | 55  | 52                          | 48  | 44  | 41  | 38  | 37  | 36  | 34  |  |
|                 | 30                     | 61                                      | 61  | 60  | 57  | 55  | 52                          | 48  | 44  | 41  | 38  | 37  | 36  | 34  |  |
|                 | 40                     | 54                                      | 54  | 54  | 54  | 54  | 52                          | 48  | 44  | 41  | 38  | 37  | 36  | 34  |  |
|                 | 50                     | 49                                      | 49  | 49  | 49  | 49  | 49                          | 48  | 44  | 41  | 38  | 37  | 36  | 34  |  |
|                 | 60                     | 45                                      | 45  | 45  | 45  | 45  | 45                          | 45  | 44  | 41  | 38  | 37  | 36  | 34  |  |
|                 | 70                     | 42                                      | 42  | 42  | 42  | 42  | 42                          | 42  | 42  | 41  | 38  | 37  | 36  | 34  |  |
|                 | 80                     | 39                                      | 39  | 39  | 39  | 39  | 39                          | 39  | 39  | 39  | 38  | 37  | 36  | 34  |  |
| 90              | 37                     | 37                                      | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  | 36  | 34  |     |  |
| Zone 3          | 0                      | 56                                      | 50  | 47  | 45  | 43  | 41                          | 37  | 34  | 32  | 30  | 29  | 28  | 27  |  |
|                 | 10                     | 56                                      | 50  | 47  | 45  | 43  | 41                          | 37  | 34  | 32  | 30  | 29  | 28  | 27  |  |
|                 | 20                     | 56                                      | 50  | 47  | 45  | 43  | 41                          | 37  | 34  | 32  | 30  | 29  | 28  | 27  |  |
|                 | 30                     | 56                                      | 50  | 47  | 45  | 43  | 41                          | 37  | 34  | 32  | 30  | 29  | 28  | 27  |  |
|                 | 40                     | 54                                      | 50  | 47  | 45  | 43  | 41                          | 37  | 34  | 32  | 30  | 29  | 28  | 27  |  |
|                 | 50                     | 49                                      | 49  | 47  | 45  | 43  | 41                          | 37  | 34  | 32  | 30  | 29  | 28  | 27  |  |
|                 | 60                     | 45                                      | 45  | 45  | 45  | 43  | 41                          | 37  | 34  | 32  | 30  | 29  | 28  | 27  |  |
|                 | 70                     | 42                                      | 42  | 42  | 42  | 42  | 41                          | 37  | 34  | 32  | 30  | 29  | 28  | 27  |  |
|                 | 80                     | 39                                      | 39  | 39  | 39  | 39  | 39                          | 37  | 34  | 32  | 30  | 29  | 28  | 27  |  |
| 90              | 37                     | 37                                      | 37  | 37  | 37  | 37  | 37                          | 34  | 32  | 30  | 29  | 28  | 27  |     |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 49</b> |                        | Mean Roof Height: $15 < h \leq 30$ ft    |     |     |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |  |
|-----------------|------------------------|--|-----|-----|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|--|
|                 |                        | Roof Angle: $7 < \theta \leq 27$ degrees |     |     |     |     |     |     |                             |     |     |     |     |     |  |
|                 |                        | Exposure Category: B                     |     |     |     |     |     |     |                             |     |     |     |     |     |  |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                         |     |     |     |     |     |     |                             |     |     |     |     |     |  |
|                 |                        | 100                                      | 110 | 115 | 120 | 125 | 130 | 140 | 150                         | 160 | 170 | 175 | 180 | 190 |  |
| Zone 1          | 0                      | 94                                       | 94  | 94  | 94  | 94  | 94  | 90  | 86                          | 80  | 74  | 72  | 69  | 65  |  |
|                 | 10                     | 71                                       | 71  | 71  | 71  | 70  | 69  | 68  | 67                          | 66  | 64  | 64  | 63  | 62  |  |
|                 | 20                     | 54                                       | 54  | 54  | 54  | 54  | 54  | 54  | 54                          | 54  | 53  | 53  | 53  | 52  |  |
|                 | 30                     | 54                                       | 54  | 54  | 54  | 54  | 54  | 54  | 54                          | 54  | 53  | 53  | 53  | 52  |  |
|                 | 40                     | 48                                       | 48  | 48  | 48  | 48  | 48  | 48  | 48                          | 48  | 48  | 48  | 48  | 47  |  |
|                 | 50                     | 43                                       | 43  | 43  | 43  | 43  | 43  | 43  | 43                          | 43  | 43  | 43  | 43  | 43  |  |
|                 | 60                     | 40                                       | 40  | 40  | 40  | 40  | 40  | 40  | 40                          | 40  | 40  | 40  | 40  | 40  |  |
|                 | 70                     | 37                                       | 37  | 37  | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  | 37  |  |
|                 | 80                     | 35                                       | 35  | 35  | 35  | 35  | 35  | 35  | 35                          | 35  | 35  | 35  | 35  | 35  |  |
| 90              | 33                     | 33                                       | 33  | 33  | 33  | 33  | 33  | 33  | 33                          | 33  | 33  | 33  | 33  |     |  |
| Zone 2          | 0                      | 94                                       | 89  | 85  | 80  | 76  | 73  | 66  | 61                          | 57  | 53  | 51  | 49  | 46  |  |
|                 | 10                     | 71                                       | 71  | 71  | 71  | 70  | 69  | 66  | 61                          | 57  | 53  | 51  | 49  | 46  |  |
|                 | 20                     | 54                                       | 54  | 54  | 54  | 54  | 54  | 54  | 54                          | 54  | 53  | 51  | 49  | 46  |  |
|                 | 30                     | 54                                       | 54  | 54  | 54  | 54  | 54  | 54  | 54                          | 54  | 53  | 51  | 49  | 46  |  |
|                 | 40                     | 48                                       | 48  | 48  | 48  | 48  | 48  | 48  | 48                          | 48  | 48  | 48  | 48  | 46  |  |
|                 | 50                     | 43                                       | 43  | 43  | 43  | 43  | 43  | 43  | 43                          | 43  | 43  | 43  | 43  | 43  |  |
|                 | 60                     | 40                                       | 40  | 40  | 40  | 40  | 40  | 40  | 40                          | 40  | 40  | 40  | 40  | 40  |  |
|                 | 70                     | 37                                       | 37  | 37  | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  | 37  |  |
|                 | 80                     | 35                                       | 35  | 35  | 35  | 35  | 35  | 35  | 35                          | 35  | 35  | 35  | 35  | 35  |  |
| 90              | 33                     | 33                                       | 33  | 33  | 33  | 33  | 33  | 33  | 33                          | 33  | 33  | 33  | 33  |     |  |
| Zone 3          | 0                      | 76                                       | 68  | 64  | 61  | 58  | 56  | 51  | 47                          | 44  | 41  | 40  | 39  | 36  |  |
|                 | 10                     | 71                                       | 68  | 64  | 61  | 58  | 56  | 51  | 47                          | 44  | 41  | 40  | 39  | 36  |  |
|                 | 20                     | 54                                       | 54  | 54  | 54  | 54  | 54  | 51  | 47                          | 44  | 41  | 40  | 39  | 36  |  |
|                 | 30                     | 54                                       | 54  | 54  | 54  | 54  | 54  | 51  | 47                          | 44  | 41  | 40  | 39  | 36  |  |
|                 | 40                     | 48                                       | 48  | 48  | 48  | 48  | 48  | 48  | 47                          | 44  | 41  | 40  | 39  | 36  |  |
|                 | 50                     | 43                                       | 43  | 43  | 43  | 43  | 43  | 43  | 43                          | 43  | 41  | 40  | 39  | 36  |  |
|                 | 60                     | 40                                       | 40  | 40  | 40  | 40  | 40  | 40  | 40                          | 40  | 40  | 40  | 39  | 36  |  |
|                 | 70                     | 37                                       | 37  | 37  | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  | 36  |  |
|                 | 80                     | 35                                       | 35  | 35  | 35  | 35  | 35  | 35  | 35                          | 35  | 35  | 35  | 35  | 35  |  |
| 90              | 33                     | 33                                       | 33  | 33  | 33  | 33  | 33  | 33  | 33                          | 33  | 33  | 33  | 33  |     |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 50</b> |                        | Mean Roof Height: $15 < h \leq 30$ ft    |     |     |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |  |
|-----------------|------------------------|--|-----|-----|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|--|
|                 |                        | Roof Angle: $7 < \theta \leq 27$ degrees |     |     |     |     |     |     |                             |     |     |     |     |     |  |
|                 |                        | Exposure Category: C                     |     |     |     |     |     |     |                             |     |     |     |     |     |  |
| Roof Wind Zone  | Ground Snow Load (psf) | Wind Speed (mph)                         |     |     |     |     |     |     |                             |     |     |     |     |     |  |
|                 |                        | 100                                      | 110 | 115 | 120 | 125 | 130 | 140 | 150                         | 160 | 170 | 175 | 180 | 190 |  |
| Zone 1          | 0                      | 94                                       | 94  | 91  | 89  | 87  | 84  | 77  | 71                          | 65  | 61  | 59  | 57  | 54  |  |
|                 | 10                     | 71                                       | 69  | 69  | 68  | 67  | 66  | 65  | 63                          | 62  | 60  | 59  | 57  | 54  |  |
|                 | 20                     | 54                                       | 54  | 54  | 54  | 54  | 54  | 54  | 53                          | 52  | 51  | 50  | 50  | 49  |  |
|                 | 30                     | 54                                       | 54  | 54  | 54  | 54  | 54  | 54  | 53                          | 52  | 51  | 50  | 50  | 49  |  |
|                 | 40                     | 48                                       | 48  | 48  | 48  | 48  | 48  | 48  | 48                          | 47  | 47  | 46  | 46  | 45  |  |
|                 | 50                     | 43                                       | 43  | 43  | 43  | 43  | 43  | 43  | 43                          | 43  | 43  | 43  | 43  | 42  |  |
|                 | 60                     | 40                                       | 40  | 40  | 40  | 40  | 40  | 40  | 40                          | 40  | 40  | 40  | 40  | 40  |  |
|                 | 70                     | 37                                       | 37  | 37  | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  | 37  |  |
|                 | 80                     | 35                                       | 35  | 35  | 35  | 35  | 35  | 35  | 35                          | 35  | 35  | 35  | 35  | 35  |  |
| 90              | 33                     | 33                                       | 33  | 33  | 33  | 33  | 33  | 33  | 33                          | 33  | 33  | 33  | 33  |     |  |
| Zone 2          | 0                      | 82                                       | 72  | 69  | 65  | 62  | 59  | 54  | 50                          | 46  | 43  | 42  | 41  | 38  |  |
|                 | 10                     | 71                                       | 69  | 69  | 65  | 62  | 59  | 54  | 50                          | 46  | 43  | 42  | 41  | 38  |  |
|                 | 20                     | 54                                       | 54  | 54  | 54  | 54  | 54  | 54  | 50                          | 46  | 43  | 42  | 41  | 38  |  |
|                 | 30                     | 54                                       | 54  | 54  | 54  | 54  | 54  | 54  | 50                          | 46  | 43  | 42  | 41  | 38  |  |
|                 | 40                     | 48                                       | 48  | 48  | 48  | 48  | 48  | 48  | 48                          | 46  | 43  | 42  | 41  | 38  |  |
|                 | 50                     | 43                                       | 43  | 43  | 43  | 43  | 43  | 43  | 43                          | 43  | 43  | 42  | 41  | 38  |  |
|                 | 60                     | 40                                       | 40  | 40  | 40  | 40  | 40  | 40  | 40                          | 40  | 40  | 40  | 40  | 38  |  |
|                 | 70                     | 37                                       | 37  | 37  | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  | 37  |  |
|                 | 80                     | 35                                       | 35  | 35  | 35  | 35  | 35  | 35  | 35                          | 35  | 35  | 35  | 35  | 35  |  |
| 90              | 33                     | 33                                       | 33  | 33  | 33  | 33  | 33  | 33  | 33                          | 33  | 33  | 33  | 33  |     |  |
| Zone 3          | 0                      | 62                                       | 56  | 53  | 50  | 48  | 46  | 42  | 39                          | 37  | 34  | 33  | 32  | 30  |  |
|                 | 10                     | 62                                       | 56  | 53  | 50  | 48  | 46  | 42  | 39                          | 37  | 34  | 33  | 32  | 30  |  |
|                 | 20                     | 54                                       | 54  | 53  | 50  | 48  | 46  | 42  | 39                          | 37  | 34  | 33  | 32  | 30  |  |
|                 | 30                     | 54                                       | 54  | 53  | 50  | 48  | 46  | 42  | 39                          | 37  | 34  | 33  | 32  | 30  |  |
|                 | 40                     | 48                                       | 48  | 48  | 48  | 48  | 46  | 42  | 39                          | 37  | 34  | 33  | 32  | 30  |  |
|                 | 50                     | 43                                       | 43  | 43  | 43  | 43  | 43  | 42  | 39                          | 37  | 34  | 33  | 32  | 30  |  |
|                 | 60                     | 40                                       | 40  | 40  | 40  | 40  | 40  | 40  | 39                          | 37  | 34  | 33  | 32  | 30  |  |
|                 | 70                     | 37                                       | 37  | 37  | 37  | 37  | 37  | 37  | 37                          | 37  | 34  | 33  | 32  | 30  |  |
|                 | 80                     | 35                                       | 35  | 35  | 35  | 35  | 35  | 35  | 35                          | 35  | 34  | 33  | 32  | 30  |  |
| 90              | 33                     | 33                                       | 33  | 33  | 33  | 33  | 33  | 33  | 33                          | 33  | 33  | 32  | 30  |     |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 51</b>      |                              | Mean Roof Height: $15 < h \leq 30$ ft    |     |     |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |    |
|----------------------|------------------------------|--|-----|-----|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|----|
|                      |                              | Roof Angle: $7 < \theta \leq 27$ degrees |     |     |     |     |     |     |                             |     |     |     |     |     |    |
|                      |                              | Exposure Category: D                     |     |     |     |     |     |     |                             |     |     |     |     |     |    |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)                         |     |     |     |     |     |     |                             |     |     |     |     |     |    |
|                      |                              | 100                                      | 110 | 115 | 120 | 125 | 130 | 140 | 150                         | 160 | 170 | 175 | 180 | 190 |    |
| Zone 1               | 0                            | 94                                       | 89  | 87  | 83  | 79  | 76  | 69  | 64                          | 59  | 56  | 54  | 52  | 49  |    |
|                      | 10                           | 70                                       | 68  | 67  | 66  | 65  | 65  | 63  | 61                          | 59  | 56  | 54  | 52  | 49  |    |
|                      | 20                           | 54                                       | 54  | 54  | 54  | 54  | 54  | 54  | 53                          | 52  | 50  | 49  | 49  | 48  | 47 |
|                      | 30                           | 54                                       | 54  | 54  | 54  | 54  | 54  | 54  | 53                          | 52  | 50  | 49  | 49  | 48  | 47 |
|                      | 40                           | 48                                       | 48  | 48  | 48  | 48  | 48  | 48  | 48                          | 47  | 46  | 46  | 45  | 45  | 44 |
|                      | 50                           | 43                                       | 43  | 43  | 43  | 43  | 43  | 43  | 43                          | 43  | 43  | 42  | 42  | 42  | 41 |
|                      | 60                           | 40                                       | 40  | 40  | 40  | 40  | 40  | 40  | 40                          | 40  | 40  | 40  | 40  | 39  | 39 |
|                      | 70                           | 37                                       | 37  | 37  | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  | 37  | 37 |
|                      | 80                           | 35                                       | 35  | 35  | 35  | 35  | 35  | 35  | 35                          | 35  | 35  | 35  | 35  | 35  | 35 |
| 90                   | 33                           | 33                                       | 33  | 33  | 33  | 33  | 33  | 33  | 33                          | 33  | 33  | 33  | 33  | 33  |    |
| Zone 2               | 0                            | 73                                       | 65  | 62  | 59  | 56  | 54  | 49  | 45                          | 42  | 39  | 38  | 37  | 35  |    |
|                      | 10                           | 70                                       | 65  | 62  | 59  | 56  | 54  | 49  | 45                          | 42  | 39  | 38  | 37  | 35  |    |
|                      | 20                           | 54                                       | 54  | 54  | 54  | 54  | 54  | 49  | 45                          | 42  | 39  | 38  | 37  | 35  |    |
|                      | 30                           | 54                                       | 54  | 54  | 54  | 54  | 54  | 49  | 45                          | 42  | 39  | 38  | 37  | 35  |    |
|                      | 40                           | 48                                       | 48  | 48  | 48  | 48  | 48  | 48  | 45                          | 42  | 39  | 38  | 37  | 35  |    |
|                      | 50                           | 43                                       | 43  | 43  | 43  | 43  | 43  | 43  | 43                          | 42  | 39  | 38  | 37  | 35  |    |
|                      | 60                           | 40                                       | 40  | 40  | 40  | 40  | 40  | 40  | 40                          | 40  | 39  | 38  | 37  | 35  |    |
|                      | 70                           | 37                                       | 37  | 37  | 37  | 37  | 37  | 37  | 37                          | 37  | 37  | 37  | 37  | 35  |    |
|                      | 80                           | 35                                       | 35  | 35  | 35  | 35  | 35  | 35  | 35                          | 35  | 35  | 35  | 35  | 35  | 35 |
| 90                   | 33                           | 33                                       | 33  | 33  | 33  | 33  | 33  | 33  | 33                          | 33  | 33  | 33  | 33  | 33  |    |
| Zone 3               | 0                            | 56                                       | 51  | 48  | 46  | 44  | 42  | 39  | 36                          | 33  | 31  | 30  | 29  | 28  |    |
|                      | 10                           | 56                                       | 51  | 48  | 46  | 44  | 42  | 39  | 36                          | 33  | 31  | 30  | 29  | 28  |    |
|                      | 20                           | 54                                       | 51  | 48  | 46  | 44  | 42  | 39  | 36                          | 33  | 31  | 30  | 29  | 28  |    |
|                      | 30                           | 54                                       | 51  | 48  | 46  | 44  | 42  | 39  | 36                          | 33  | 31  | 30  | 29  | 28  |    |
|                      | 40                           | 48                                       | 48  | 48  | 46  | 44  | 42  | 39  | 36                          | 33  | 31  | 30  | 29  | 28  |    |
|                      | 50                           | 43                                       | 43  | 43  | 43  | 43  | 42  | 39  | 36                          | 33  | 31  | 30  | 29  | 28  |    |
|                      | 60                           | 40                                       | 40  | 40  | 40  | 40  | 40  | 39  | 36                          | 33  | 31  | 30  | 29  | 28  |    |
|                      | 70                           | 37                                       | 37  | 37  | 37  | 37  | 37  | 37  | 36                          | 33  | 31  | 30  | 29  | 28  |    |
|                      | 80                           | 35                                       | 35  | 35  | 35  | 35  | 35  | 35  | 35                          | 33  | 31  | 30  | 29  | 28  |    |
| 90                   | 33                           | 33                                       | 33  | 33  | 33  | 33  | 33  | 33  | 33                          | 31  | 30  | 29  | 28  |     |    |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 52</b>      |                              | Mean Roof Height: $15 < h \leq 30$ ft     |     |     |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |    |
|----------------------|------------------------------|---|-----|-----|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|----|
|                      |                              | Roof Angle: $27 < \theta \leq 45$ degrees |     |     |     |     |     |     |                             |     |     |     |     |     |    |
|                      |                              | Exposure Category: B                      |     |     |     |     |     |     |                             |     |     |     |     |     |    |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)                          |     |     |     |     |     |     |                             |     |     |     |     |     |    |
|                      |                              | 100                                       | 110 | 115 | 120 | 125 | 130 | 140 | 150                         | 160 | 170 | 175 | 180 | 190 |    |
| Zone 1               | 0                            | 86  | 82  | 80  | 78  | 76  | 74  | 70  | 67                          | 63  | 61  | 59  | 58  | 55  |    |
|                      | 10                           | 76  | 73  | 72  | 71  | 70  | 69  | 66  | 64                          | 62  | 60  | 59  | 58  | 55  |    |
|                      | 20                           | 65  | 64  | 63  | 62  | 62  | 61  | 59  | 58                          | 56  | 54  | 54  | 53  | 51  |    |
|                      | 30                           | 58  | 57  | 57  | 56  | 56  | 55  | 54  | 53                          | 51  | 50  | 50  | 49  | 48  |    |
|                      | 40                           | 52  | 52  | 52  | 52  | 51  | 51  | 50  | 49                          | 48  | 47  | 46  | 46  | 45  |    |
|                      | 50                           | 47  | 47  | 47  | 47  | 47  | 47  | 46  | 46                          | 45  | 44  | 44  | 43  | 42  |    |
|                      | 60                           | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43                          | 42  | 42  | 41  | 41  | 40  |    |
|                      | 70                           | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41                          | 40  | 40  | 39  | 39  | 38  |    |
|                      | 80                           | 38  | 38  | 38  | 38  | 38  | 38  | 38  | 38                          | 38  | 38  | 38  | 38  | 37  | 37 |
| 90                   | 36                           | 36  | 36  | 36  | 36  | 36  | 36  | 36  | 36                          | 36  | 36  | 36  | 36  | 35  |    |
| Zone 2               | 0                            | 86  | 82  | 80  | 78  | 76  | 74  | 70  | 67                          | 63  | 61  | 59  | 58  | 55  |    |
|                      | 10                           | 76  | 73  | 72  | 71  | 70  | 69  | 66  | 64                          | 62  | 60  | 59  | 58  | 55  |    |
|                      | 20                           | 65  | 64  | 63  | 62  | 62  | 61  | 59  | 58                          | 56  | 54  | 54  | 53  | 51  |    |
|                      | 30                           | 58  | 57  | 57  | 56  | 56  | 55  | 54  | 53                          | 51  | 50  | 50  | 49  | 48  |    |
|                      | 40                           | 52  | 52  | 52  | 52  | 51  | 51  | 50  | 49                          | 48  | 47  | 46  | 46  | 45  |    |
|                      | 50                           | 47  | 47  | 47  | 47  | 47  | 47  | 46  | 46                          | 45  | 44  | 44  | 43  | 42  |    |
|                      | 60                           | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43                          | 42  | 42  | 41  | 41  | 40  |    |
|                      | 70                           | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41                          | 40  | 40  | 39  | 39  | 38  |    |
|                      | 80                           | 38  | 38  | 38  | 38  | 38  | 38  | 38  | 38                          | 38  | 38  | 38  | 38  | 37  | 37 |
| 90                   | 36                           | 36  | 36  | 36  | 36  | 36  | 36  | 36  | 36                          | 36  | 36  | 36  | 36  | 35  |    |
| Zone 3               | 0                            | 86  | 82  | 80  | 78  | 76  | 74  | 70  | 67                          | 63  | 61  | 59  | 58  | 55  |    |
|                      | 10                           | 76  | 73  | 72  | 71  | 70  | 69  | 66  | 64                          | 62  | 60  | 59  | 58  | 55  |    |
|                      | 20                           | 65  | 64  | 63  | 62  | 62  | 61  | 59  | 58                          | 56  | 54  | 54  | 53  | 51  |    |
|                      | 30                           | 58  | 57  | 57  | 56  | 56  | 55  | 54  | 53                          | 51  | 50  | 50  | 49  | 48  |    |
|                      | 40                           | 52  | 52  | 52  | 52  | 51  | 51  | 50  | 49                          | 48  | 47  | 46  | 46  | 45  |    |
|                      | 50                           | 47  | 47  | 47  | 47  | 47  | 47  | 46  | 46                          | 45  | 44  | 44  | 43  | 42  |    |
|                      | 60                           | 43  | 43  | 43  | 43  | 43  | 43  | 43  | 43                          | 42  | 42  | 41  | 41  | 40  |    |
|                      | 70                           | 41  | 41  | 41  | 41  | 41  | 41  | 41  | 41                          | 40  | 40  | 39  | 39  | 38  |    |
|                      | 80                           | 38  | 38  | 38  | 38  | 38  | 38  | 38  | 38                          | 38  | 38  | 38  | 38  | 37  | 37 |
| 90                   | 36                           | 36  | 36  | 36  | 36  | 36  | 36  | 36  | 36                          | 36  | 36  | 36  | 36  | 35  |    |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"



**Max Rail Spans for SunModo SMR100 System**

| Roof Wind Zone |  | Ground Snow Load (psf) | Wind Speed (mph) |     |     |     |     |     |     |     |     |     |     |     |     |
|----------------|--|------------------------|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                |  |                        | 100              | 110 | 115 | 120 | 125 | 130 | 140 | 150 | 160 | 170 | 175 | 180 | 190 |
| Zone 1         |  | 0                      | 78               | 74  | 71  | 69  | 67  | 65  | 62  | 58  | 55  | 53  | 51  | 50  | 48  |
|                |  | 10                     | 71               | 69  | 67  | 66  | 65  | 63  | 61  | 58  | 55  | 53  | 51  | 50  | 48  |
|                |  | 20                     | 63               | 61  | 60  | 59  | 58  | 57  | 55  | 53  | 52  | 50  | 49  | 48  | 47  |
|                |  | 30                     | 56               | 55  | 54  | 54  | 53  | 52  | 51  | 49  | 48  | 46  | 46  | 45  | 44  |
|                |  | 40                     | 52               | 51  | 50  | 50  | 49  | 48  | 47  | 46  | 45  | 44  | 43  | 43  | 42  |
|                |  | 50                     | 47               | 47  | 47  | 46  | 46  | 45  | 44  | 43  | 42  | 41  | 41  | 40  | 40  |
|                |  | 60                     | 43               | 43  | 43  | 43  | 43  | 43  | 42  | 41  | 40  | 39  | 39  | 39  | 38  |
|                |  | 70                     | 41               | 41  | 41  | 41  | 41  | 41  | 40  | 39  | 38  | 38  | 37  | 37  | 36  |
|                |  | 80                     | 38               | 38  | 38  | 38  | 38  | 38  | 38  | 38  | 37  | 36  | 36  | 36  | 35  |
|                |  | 90                     | 36               | 36  | 36  | 36  | 36  | 36  | 36  | 36  | 35  | 35  | 35  | 34  | 34  |
| Zone 2         |  | 0                      | 78               | 74  | 71  | 69  | 67  | 65  | 62  | 58  | 55  | 53  | 51  | 50  | 47  |
|                |  | 10                     | 71               | 69  | 67  | 66  | 65  | 63  | 61  | 58  | 55  | 53  | 51  | 50  | 47  |
|                |  | 20                     | 63               | 61  | 60  | 59  | 58  | 57  | 55  | 53  | 52  | 50  | 49  | 48  | 47  |
|                |  | 30                     | 56               | 55  | 54  | 54  | 53  | 52  | 51  | 49  | 48  | 46  | 46  | 45  | 44  |
|                |  | 40                     | 52               | 51  | 50  | 50  | 49  | 48  | 47  | 46  | 45  | 44  | 43  | 43  | 42  |
|                |  | 50                     | 47               | 47  | 47  | 46  | 46  | 45  | 44  | 43  | 42  | 41  | 41  | 40  | 40  |
|                |  | 60                     | 43               | 43  | 43  | 43  | 43  | 43  | 42  | 41  | 40  | 39  | 39  | 39  | 38  |
|                |  | 70                     | 41               | 41  | 41  | 41  | 41  | 41  | 40  | 39  | 38  | 38  | 37  | 37  | 36  |
|                |  | 80                     | 38               | 38  | 38  | 38  | 38  | 38  | 38  | 38  | 37  | 36  | 36  | 36  | 35  |
|                |  | 90                     | 36               | 36  | 36  | 36  | 36  | 36  | 36  | 36  | 35  | 35  | 35  | 34  | 34  |
| Zone 3         |  | 0                      | 78               | 74  | 71  | 69  | 67  | 65  | 62  | 58  | 55  | 53  | 51  | 50  | 47  |
|                |  | 10                     | 71               | 69  | 67  | 66  | 65  | 63  | 61  | 58  | 55  | 53  | 51  | 50  | 47  |
|                |  | 20                     | 63               | 61  | 60  | 59  | 58  | 57  | 55  | 53  | 52  | 50  | 49  | 48  | 47  |
|                |  | 30                     | 56               | 55  | 54  | 54  | 53  | 52  | 51  | 49  | 48  | 46  | 46  | 45  | 44  |
|                |  | 40                     | 52               | 51  | 50  | 50  | 49  | 48  | 47  | 46  | 45  | 44  | 43  | 43  | 42  |
|                |  | 50                     | 47               | 47  | 47  | 46  | 46  | 45  | 44  | 43  | 42  | 41  | 41  | 40  | 40  |
|                |  | 60                     | 43               | 43  | 43  | 43  | 43  | 43  | 42  | 41  | 40  | 39  | 39  | 39  | 38  |
|                |  | 70                     | 41               | 41  | 41  | 41  | 41  | 41  | 40  | 39  | 38  | 38  | 37  | 37  | 36  |
|                |  | 80                     | 38               | 38  | 38  | 38  | 38  | 38  | 38  | 38  | 37  | 36  | 36  | 36  | 35  |
|                |  | 90                     | 36               | 36  | 36  | 36  | 36  | 36  | 36  | 36  | 35  | 35  | 35  | 34  | 34  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

| <b>Table 54</b>      |                              | Mean Roof Height: $15 < h \leq 30$ ft     |     |     |     |     |     |     | Panel Orientation: Portrait |     |     |     |     |     |  |
|----------------------|------------------------------|---|-----|-----|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----|-----|--|
|                      |                              | Roof Angle: $27 < \theta \leq 45$ degrees |     |     |     |     |     |     | Exposure Category: D        |     |     |     |     |     |  |
| Roof<br>Wind<br>Zone | Ground<br>Snow<br>Load (psf) | Wind Speed (mph)                          |     |     |     |     |     |     |                             |     |     |     |     |     |  |
|                      |                              | 100                                       | 110 | 115 | 120 | 125 | 130 | 140 | 150                         | 160 | 170 | 175 | 180 | 190 |  |
| Zone 1               | 0                            | 74  | 69  | 67  | 65  | 63  | 61  | 58  | 55                          | 52  | 49  | 48  | 47  | 44  |  |
|                      | 10                           | 69  | 66  | 65  | 63  | 62  | 60  | 58  | 55                          | 52  | 49  | 48  | 47  | 44  |  |
|                      | 20                           | 61  | 59  | 58  | 57  | 56  | 55  | 53  | 51                          | 49  | 47  | 47  | 46  | 44  |  |
|                      | 30                           | 55  | 54  | 53  | 52  | 51  | 50  | 49  | 47                          | 46  | 45  | 44  | 43  | 42  |  |
|                      | 40                           | 51  | 50  | 49  | 48  | 48  | 47  | 46  | 45                          | 43  | 42  | 41  | 41  | 40  |  |
|                      | 50                           | 47  | 46  | 46  | 45  | 45  | 44  | 43  | 42                          | 41  | 40  | 40  | 39  | 38  |  |
|                      | 60                           | 43  | 43  | 43  | 43  | 42  | 42  | 41  | 40                          | 39  | 38  | 38  | 37  | 36  |  |
|                      | 70                           | 41  | 41  | 41  | 41  | 40  | 40  | 39  | 38                          | 37  | 37  | 36  | 36  | 35  |  |
|                      | 80                           | 38  | 38  | 38  | 38  | 38  | 38  | 37  | 37                          | 36  | 35  | 35  | 35  | 34  |  |
|                      | 90                           | 36  | 36  | 36  | 36  | 36  | 36  | 36  | 35                          | 35  | 34  | 34  | 33  | 33  |  |
| Zone 2               | 0                            | 74  | 69  | 67  | 65  | 63  | 61  | 58  | 55                          | 51  | 48  | 47  | 45  | 42  |  |
|                      | 10                           | 69  | 66  | 65  | 63  | 62  | 60  | 58  | 55                          | 51  | 48  | 47  | 45  | 42  |  |
|                      | 20                           | 61  | 59  | 58  | 57  | 56  | 55  | 53  | 51                          | 49  | 47  | 47  | 45  | 42  |  |
|                      | 30                           | 55  | 54  | 53  | 52  | 51  | 50  | 49  | 47                          | 46  | 45  | 44  | 43  | 42  |  |
|                      | 40                           | 51  | 50  | 49  | 48  | 48  | 47  | 46  | 45                          | 43  | 42  | 41  | 41  | 40  |  |
|                      | 50                           | 47  | 46  | 46  | 45  | 45  | 44  | 43  | 42                          | 41  | 40  | 40  | 39  | 38  |  |
|                      | 60                           | 43  | 43  | 43  | 43  | 42  | 42  | 41  | 40                          | 39  | 38  | 38  | 37  | 36  |  |
|                      | 70                           | 41  | 41  | 41  | 41  | 40  | 40  | 39  | 38                          | 37  | 37  | 36  | 36  | 35  |  |
|                      | 80                           | 38  | 38  | 38  | 38  | 38  | 38  | 37  | 37                          | 36  | 35  | 35  | 35  | 34  |  |
|                      | 90                           | 36  | 36  | 36  | 36  | 36  | 36  | 36  | 35                          | 35  | 34  | 34  | 33  | 33  |  |
| Zone 3               | 0                            | 74  | 69  | 67  | 65  | 63  | 61  | 58  | 55                          | 51  | 48  | 47  | 45  | 42  |  |
|                      | 10                           | 69  | 66  | 65  | 63  | 62  | 60  | 58  | 55                          | 51  | 48  | 47  | 45  | 42  |  |
|                      | 20                           | 61  | 59  | 58  | 57  | 56  | 55  | 53  | 51                          | 49  | 47  | 47  | 45  | 42  |  |
|                      | 30                           | 55  | 54  | 53  | 52  | 51  | 50  | 49  | 47                          | 46  | 45  | 44  | 43  | 42  |  |
|                      | 40                           | 51  | 50  | 49  | 48  | 48  | 47  | 46  | 45                          | 43  | 42  | 41  | 41  | 40  |  |
|                      | 50                           | 47  | 46  | 46  | 45  | 45  | 44  | 43  | 42                          | 41  | 40  | 40  | 39  | 38  |  |
|                      | 60                           | 43  | 43  | 43  | 43  | 42  | 42  | 41  | 40                          | 39  | 38  | 38  | 37  | 36  |  |
|                      | 70                           | 41  | 41  | 41  | 41  | 40  | 40  | 39  | 38                          | 37  | 37  | 36  | 36  | 35  |  |
|                      | 80                           | 38  | 38  | 38  | 38  | 38  | 38  | 37  | 37                          | 36  | 35  | 35  | 35  | 34  |  |
|                      | 90                           | 36  | 36  | 36  | 36  | 36  | 36  | 36  | 35                          | 35  | 34  | 34  | 33  | 33  |  |

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"