



# Starling Madison Lofquist, Inc.

*Consulting Structural and Forensic Engineers*

3600 E University Dr, Suite 1400, Phoenix, AZ 85034  
tel: (602) 438-2500 fax: (602) 438-2505 www.smleng.com

Roof Tech, Inc.  
10620 Treena Street, Suite 230  
San Diego, CA 92131

June 9, 2022

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Attn: Mr. Yoichi Shimokobe, CEO

## **Subject: Roof Tech RT-Mini Mount – Structural Analysis**

SML Job No.: 471-22

Dear Mr. Shimokobe:

We have analyzed the Roof Tech RT-Mini Mount photovoltaic (PV) panel roof mount system and determined that, for the configurations and criteria described below, it is in compliance with the applicable sections of the following Reference Documents:

- Codes: ASCE/SEI 7-10 Min. Design Loads for Buildings & Other Structures  
International Building Code 2015 Edition  
International Residential Building Code 2012, 2015 & 2018 Edition
- Other: Aluminum Design Manual, 2010 & 2015 Edition

The Roof Tech RT-Mini Mount photovoltaic (PV) panel roof mount system is comprised of a 6000 series aluminum RT-Mini Mount base. An appropriately load rated 'L-Foot', by others, may be attached to the RT-Mini Mount base with a stainless steel SS304 8.0 mm or 5/16" diameter bolt, and flange nut. An appropriately load rated rail, by others, may be attached to the 'L-Foot' per the rail manufacturer's installation instructions. The installation of the RT-Mini Mount must be with the long direction parallel to the roof framing and in accordance with Roof Tech's Installation Manual. The system is attached to the roof wood substrate with SS304 5.0 mm x 60 mm wood screws.

Three wood substrates were tested with the fasteners also passing through two layers of composite asphalt roof shingles and 2 layers of building paper. The first tested wood substrate consisted of 7/16" thick sheathing over a 2x4 DF #2 rafter (2x truss top chord OK by inspection), the second tested wood substrate consisted of 7/16" thick OSB only, and the third tested wood substrate consisted of 15/32" thick plywood only. See Exhibit 'A' – attached. **Two wood screws are required at the rafter installations and five wood screws are required at the OSB and plywood only installations.**

The testing data provided by Institute of Building Technology (IBT) report no.: 2426-18005 project no.: 29702 dated March 21, 2018, shows that the critical failure occurs in one of three ways; pullout of the wood screws from the 2x rafter, yielding of the attached components in shear, or pullout of the nails attaching the OSB/Plywood to the 2x rafter. Maximum allowable values for these failure conditions were derived using a safety factor of 2.0 on the ultimate loads resulting in aluminum failure and a safety factor of 3.0 on the loads resulting in wood failure. The testing was performed in general accordance with IAPMO Uniform Evaluation Services *Evaluation Criteria for Joist Hangers and Miscellaneous Connectors*, EC002 adopted June 2007, revised January 2016 and ASTM D1761-2012, *Standard Test Methods for Mechanical Fasteners in Wood*.

Compression load capacity on the OSB and plywood installations were determined by testing conducted at Western Technologies Inc. (WT). The data is represented in job no. 2163XD260 event no. G260-3 (OSB) dated January 3, 2014 and job no. 2163XD260 event no. G260-6 (Plywood) dated May 30, 2014. The safety factor for downward compression on the sheathing is 2.0.

The results of the above testing are presented below:

The maximum allowable uplift and shear force for 7/16" thick sheathing over a 2x4 DF #2 rafter is 447 lb and 355 lb respectively. The maximum allowable uplift, down force, and shear force for 7/16" thick OSB only is 153 lb, 258 lb, and 192 lb respectively. The maximum allowable uplift, down force, and shear force for 15/32" thick plywood only is 180 lb, 556 lb, and 277 lb respectively.

The attached tables below show the maximum spacing of the RT [E] Mount Mini for the combined loading criteria of wind speed, roof slope, and snow loads which produce reaction loads less than the allowable loads listed above. The effect of seismic loads (for all design categories A-F) have been determined to be less than the effect due to wind loads in all load conditions and combinations. The assumed topography is flat with a  $K_{zt} = 1.0$ . Therefore, the maximum allowable spacing for common load cases due to dead, wind and snow loads are the controlling load cases.

**‘Rail Option’:**

The maximum height for the ‘Rail Option’ is measured from the bottom of the [E] Mount Mini base to the top of the rail. See Exhibit ‘A’ – attached, for the allowable ‘Rail Option’ PV panel layouts and ‘L-Foot’ and rail configuration. The maximum rail cantilever shall be limited to the smaller of 40% of the maximum rail span in the ‘Rail Option’ tables below and the rail manufacturer’s specified maximum cantilever. It is the responsibility of the contractor to verify that the ‘L-Foot’ and rails that are used have a span rating greater than that shown in the ‘Rail Option’ tables below. Provide thermal expansion splices along the rail at intervals not to exceed manufacturer’s recommendations or 14 feet o.c., and refer to the rail manufacturer’s thermal expansion splice detailing for proper installation.

| RT1       | RT-[E] Mount Mini Rafter Installations<br>(60 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |    |
|-----------|--|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|----|
|           | Portrait Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |    |
| Snow Load | Exposure Category  | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |    |
|           |  |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |    |
| 0 PSF     | B  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 89  | 78  | 68  |    |
|           |  |                  | 2         | 96                        | 96  | 87  | 73  | 62  | 54  | 47  | 41  | 37  |    |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 93  | 82  | 73 |
|           |  |                  | 2         | 96                        | 95  | 87  | 74  | 63  | 55  | 48  | 42  | 38  |    |
|           |  | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 90  | 79  | 70  | 63 |
|           |  |                  | 2         | 96                        | 96  | 96  | 96  | 86  | 75  | 66  | 58  | 52  |    |
|           | C  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 82  | 70  | 61  | 54  | 48 |
|           |  |                  | 2         | 73                        | 66  | 60  | 51  | 43  | 38  | 33  | 29  | 26  |    |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 86  | 75  | 65  | 58  | 51  |    |
|           |  |                  | 2         | 74                        | 67  | 61  | 52  | 45  | 39  | 34  | 30  | 27  |    |
|           |  | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 85  | 74  | 64  | 56  | 50  | 45  |    |
|           |  |                  | 2         | 96                        | 91  | 83  | 71  | 61  | 54  | 47  | 42  | 37  |    |
| D         | 0 to 6 Degrees   | 1                | 96        | 96                        | 96  | 80  | 68  | 59  | 51  | 45  | 40  |     |    |
|           |  | 2                | 61        | 55                        | 50  | 43  | 36  | 31  | 27  | 24  | 21  |     |    |
|           | 7 to 27 Degrees  | 1                | 96        | 96                        | 96  | 85  | 72  | 63  | 55  | 49  | 43  |     |    |
|           |  | 2                | 62        | 56                        | 52  | 44  | 38  | 33  | 29  | 25  | 22  |     |    |
|           | 28 to 45 Degrees   | 1                | 96        | 92                        | 85  | 72  | 62  | 54  | 48  | 42  | 38  |     |    |
|           |  | 2                | 84        | 77                        | 71  | 60  | 52  | 45  | 40  | 35  | 31  |     |    |
| 1-10 PSF  | B  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 89  | 78  | 68  |    |
|           |  |                  | 2         | 96                        | 96  | 87  | 73  | 62  | 54  | 47  | 41  | 37  |    |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 93  | 82  | 73 |
|           |  |                  | 2         | 96                        | 95  | 87  | 74  | 63  | 55  | 48  | 42  | 38  |    |
|           |  | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 96  | 90  | 79  | 70  | 63  |    |
|           |  |                  | 2         | 96                        | 96  | 96  | 96  | 86  | 75  | 66  | 58  | 52  |    |
|           | C  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 82  | 70  | 61  | 54  | 48  |    |
|           |  |                  | 2         | 73                        | 66  | 60  | 51  | 43  | 38  | 33  | 29  | 26  |    |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 86  | 75  | 65  | 58  | 51  |    |
|           |  |                  | 2         | 74                        | 67  | 61  | 52  | 45  | 39  | 34  | 30  | 27  |    |
|           |  | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 85  | 74  | 64  | 56  | 50  | 45  |    |
|           |  |                  | 2         | 96                        | 91  | 83  | 71  | 61  | 54  | 47  | 42  | 37  |    |
| D         | 0 to 6 Degrees   | 1                | 96        | 96                        | 96  | 80  | 68  | 59  | 51  | 45  | 40  |     |    |
|           |  | 2                | 61        | 55                        | 50  | 43  | 36  | 31  | 27  | 24  | 21  |     |    |
|           | 7 to 27 Degrees  | 1                | 96        | 96                        | 96  | 85  | 72  | 63  | 55  | 49  | 43  |     |    |
|           |  | 2                | 62        | 56                        | 52  | 44  | 38  | 33  | 29  | 25  | 22  |     |    |
|           | 28 to 45 Degrees   | 1                | 96        | 92                        | 85  | 72  | 62  | 54  | 48  | 42  | 38  |     |    |
|           |  | 2                | 84        | 77                        | 71  | 60  | 52  | 45  | 40  | 35  | 31  |     |    |
| 11-20 PSF | B  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 89  | 78  | 68  |    |
|           |  |                  | 2         | 96                        | 96  | 87  | 73  | 62  | 54  | 47  | 41  | 37  |    |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 93  | 82  | 73 |
|           |  |                  | 2         | 96                        | 95  | 87  | 74  | 63  | 55  | 48  | 42  | 38  |    |
|           |  | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 96  | 90  | 79  | 70  | 63  |    |
|           |  |                  | 2         | 96                        | 96  | 96  | 96  | 86  | 75  | 66  | 58  | 52  |    |
|           | C  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 82  | 70  | 61  | 54  | 48  |    |
|           |  |                  | 2         | 73                        | 66  | 60  | 51  | 43  | 38  | 33  | 29  | 26  |    |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 86  | 75  | 65  | 58  | 51  |    |
|           |  |                  | 2         | 74                        | 67  | 61  | 52  | 45  | 39  | 34  | 30  | 27  |    |
|           |  | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 85  | 74  | 64  | 56  | 50  | 45  |    |
|           |  |                  | 2         | 96                        | 91  | 83  | 71  | 61  | 54  | 47  | 42  | 37  |    |
| D         | 0 to 6 Degrees   | 1                | 96        | 96                        | 96  | 80  | 68  | 59  | 51  | 45  | 40  |     |    |
|           |  | 2                | 61        | 55                        | 50  | 43  | 36  | 31  | 27  | 24  | 21  |     |    |
|           | 7 to 27 Degrees  | 1                | 96        | 96                        | 96  | 85  | 72  | 63  | 55  | 49  | 43  |     |    |
|           |  | 2                | 62        | 56                        | 52  | 44  | 38  | 33  | 29  | 25  | 22  |     |    |
|           | 28 to 45 Degrees   | 1                | 96        | 92                        | 85  | 72  | 62  | 54  | 48  | 42  | 38  |     |    |
|           |  | 2                | 84        | 77                        | 71  | 60  | 52  | 45  | 40  | 35  | 31  |     |    |

| RT1       | RT-[E] Mount Mini Rafter Installations<br>(60 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |    |
|-----------|--|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|----|
|           | Portrait Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |    |
| Snow Load | Exposure Category  | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |    |
|           |  |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |    |
| 21-30 PSF | B  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 89  | 78  | 68  |    |
|           |  |                  | 2         | 96                        | 96  | 87  | 73  | 62  | 54  | 47  | 41  | 37  |    |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 93  | 82  | 73 |
|           |  |                  | 2         | 96                        | 95  | 87  | 74  | 63  | 55  | 48  | 42  | 38  |    |
|           |  | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 90  | 79  | 70  | 63 |
|           |  |                  | 2         | 96                        | 96  | 96  | 96  | 86  | 75  | 66  | 58  | 52  |    |
|           | C  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 82  | 70  | 61  | 54  | 48 |
|           |  |                  | 2         | 73                        | 66  | 60  | 51  | 43  | 38  | 33  | 29  | 26  |    |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 86  | 75  | 65  | 58  | 51  |    |
|           |  |                  | 2         | 74                        | 67  | 61  | 52  | 45  | 39  | 34  | 30  | 27  |    |
|           |  | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 85  | 74  | 64  | 56  | 50  | 45  |    |
|           |  |                  | 2         | 96                        | 91  | 83  | 71  | 61  | 54  | 47  | 42  | 37  |    |
| D         | 0 to 6 Degrees   | 1                | 96        | 96                        | 96  | 80  | 68  | 59  | 51  | 45  | 40  |     |    |
|           |  | 2                | 61        | 55                        | 50  | 43  | 36  | 31  | 27  | 24  | 21  |     |    |
|           | 7 to 27 Degrees  | 1                | 96        | 96                        | 96  | 85  | 72  | 63  | 55  | 49  | 43  |     |    |
|           |  | 2                | 62        | 56                        | 52  | 44  | 38  | 33  | 29  | 25  | 22  |     |    |
|           | 28 to 45 Degrees   | 1                | 96        | 92                        | 85  | 72  | 62  | 54  | 48  | 42  | 38  |     |    |
|           |  | 2                | 84        | 77                        | 71  | 60  | 52  | 45  | 40  | 35  | 31  |     |    |
| 31-40 PSF | B  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 89  | 78  | 68  |    |
|           |  |                  | 2         | 96                        | 96  | 87  | 73  | 62  | 54  | 47  | 41  | 37  |    |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 93  | 82  | 73 |
|           |  |                  | 2         | 96                        | 95  | 87  | 74  | 63  | 55  | 48  | 42  | 38  |    |
|           |  | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 96  | 90  | 79  | 70  | 63  |    |
|           |  |                  | 2         | 96                        | 96  | 96  | 96  | 86  | 75  | 66  | 58  | 52  |    |
|           | C  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 82  | 70  | 61  | 54  | 48  |    |
|           |  |                  | 2         | 73                        | 66  | 60  | 51  | 43  | 38  | 33  | 29  | 26  |    |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 86  | 75  | 65  | 58  | 51  |    |
|           |  |                  | 2         | 74                        | 67  | 61  | 52  | 45  | 39  | 34  | 30  | 27  |    |
|           |  | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 85  | 74  | 64  | 56  | 50  | 45  |    |
|           |  |                  | 2         | 96                        | 91  | 83  | 71  | 61  | 54  | 47  | 42  | 37  |    |
| D         | 0 to 6 Degrees   | 1                | 96        | 96                        | 96  | 80  | 68  | 59  | 51  | 45  | 40  |     |    |
|           |  | 2                | 61        | 55                        | 50  | 43  | 36  | 31  | 27  | 24  | 21  |     |    |
|           | 7 to 27 Degrees  | 1                | 96        | 96                        | 96  | 85  | 72  | 63  | 55  | 49  | 43  |     |    |
|           |  | 2                | 62        | 56                        | 52  | 44  | 38  | 33  | 29  | 25  | 22  |     |    |
|           | 28 to 45 Degrees   | 1                | 96        | 92                        | 85  | 72  | 62  | 54  | 48  | 42  | 38  |     |    |
|           |  | 2                | 84        | 77                        | 71  | 60  | 52  | 45  | 40  | 35  | 31  |     |    |
| 41-50 PSF | B  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 89  | 78  | 68  |    |
|           |  |                  | 2         | 96                        | 96  | 87  | 73  | 62  | 54  | 47  | 41  | 37  |    |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 93  | 82  | 73 |
|           |  |                  | 2         | 96                        | 95  | 87  | 74  | 63  | 55  | 48  | 42  | 38  |    |
|           |  | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 96  | 90  | 79  | 70  | 63  |    |
|           |  |                  | 2         | 96                        | 96  | 96  | 96  | 86  | 75  | 66  | 58  | 52  |    |
|           | C  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 82  | 70  | 61  | 54  | 48  |    |
|           |  |                  | 2         | 73                        | 66  | 60  | 51  | 43  | 38  | 33  | 29  | 26  |    |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 86  | 75  | 65  | 58  | 51  |    |
|           |  |                  | 2         | 74                        | 67  | 61  | 52  | 45  | 39  | 34  | 30  | 27  |    |
|           |  | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 85  | 74  | 64  | 56  | 50  | 45  |    |
|           |  |                  | 2         | 96                        | 91  | 83  | 71  | 61  | 54  | 47  | 42  | 37  |    |
| D         | 0 to 6 Degrees   | 1                | 96        | 96                        | 96  | 80  | 68  | 59  | 51  | 45  | 40  |     |    |
|           |  | 2                | 61        | 55                        | 50  | 43  | 36  | 31  | 27  | 24  | 21  |     |    |
|           | 7 to 27 Degrees  | 1                | 96        | 96                        | 96  | 85  | 72  | 63  | 55  | 49  | 43  |     |    |
|           |  | 2                | 62        | 56                        | 52  | 44  | 38  | 33  | 29  | 25  | 22  |     |    |
|           | 28 to 45 Degrees   | 1                | 96        | 92                        | 85  | 72  | 62  | 54  | 48  | 42  | 38  |     |    |
|           |  | 2                | 84        | 77                        | 71  | 60  | 52  | 45  | 40  | 35  | 31  |     |    |

| RT1       | RT-[E] Mount Mini Rafter Installations<br>(60 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                 |           |                           |     |     |     |     |     |     |     |     |    |
|-----------|--|-----------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|----|
|           | Portrait Orientation - ASCE 7-10   |                 |           |                           |     |     |     |     |     |     |     |     |    |
| Snow Load | Exposure Category  | Roof Angle      | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |    |
|           |  |                 |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |    |
| 51-60 PSF | B  | 0 to 6 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 89  | 78  | 68  |    |
|           |  |                 | 2         | 96                        | 96  | 87  | 73  | 62  | 54  | 47  | 41  | 37  |    |
|           |  | 7 to 27 Degrees | 1         | 84                        | 84  | 84  | 84  | 84  | 84  | 84  | 84  | 82  | 73 |
|           |  |                 | 2         | 84                        | 84  | 84  | 74  | 63  | 55  | 48  | 42  | 38  |    |
|           | C  | 0 to 6 Degrees  | 1         | 96                        | 96  | 96  | 96  | 82  | 70  | 61  | 54  | 48  |    |
|           |  |                 | 2         | 73                        | 66  | 60  | 51  | 43  | 38  | 33  | 29  | 26  |    |
|           |  | 7 to 27 Degrees | 1         | 84                        | 84  | 84  | 84  | 84  | 75  | 65  | 58  | 51  |    |
|           |  |                 | 2         | 74                        | 67  | 61  | 52  | 45  | 39  | 34  | 30  | 27  |    |
|           | D  | 0 to 6 Degrees  | 1         | 96                        | 96  | 96  | 80  | 82  | 59  | 51  | 45  | 40  |    |
|           |  |                 | 2         | 61                        | 55  | 50  | 43  | 36  | 31  | 27  | 24  | 21  |    |
|           |  | 7 to 27 Degrees | 1         | 84                        | 84  | 84  | 84  | 72  | 63  | 55  | 49  | 43  |    |
|           |  |                 | 2         | 62                        | 56  | 52  | 44  | 38  | 33  | 29  | 25  | 22  |    |
| E         | 0 to 6 Degrees   | 1               | 85        | 85                        | 85  | 72  | 62  | 54  | 48  | 42  | 38  |     |    |
|           |  | 2               | 84        | 77                        | 71  | 60  | 52  | 45  | 40  | 35  | 31  |     |    |
|           | 7 to 27 Degrees  | 1               | 85        | 85                        | 85  | 85  | 85  | 75  | 66  | 58  | 52  |     |    |
|           |  | 2               | 85        | 85                        | 85  | 85  | 85  | 75  | 66  | 58  | 52  |     |    |
| 61-70 PSF | B  | 0 to 6 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 89  | 78  | 68  |    |
|           |  |                 | 2         | 96                        | 96  | 87  | 73  | 62  | 54  | 47  | 41  | 37  |    |
|           |  | 7 to 27 Degrees | 1         | 73                        | 73  | 73  | 73  | 73  | 73  | 73  | 73  | 73  |    |
|           |  |                 | 2         | 73                        | 73  | 73  | 73  | 63  | 55  | 48  | 42  | 38  |    |
|           | C  | 0 to 6 Degrees  | 1         | 96                        | 96  | 96  | 96  | 82  | 70  | 61  | 54  | 48  |    |
|           |  |                 | 2         | 73                        | 66  | 60  | 51  | 43  | 38  | 33  | 29  | 26  |    |
|           |  | 7 to 27 Degrees | 1         | 73                        | 73  | 73  | 73  | 73  | 73  | 65  | 58  | 51  |    |
|           |  |                 | 2         | 73                        | 67  | 61  | 52  | 45  | 39  | 34  | 30  | 27  |    |
|           | D  | 0 to 6 Degrees  | 1         | 96                        | 96  | 96  | 80  | 68  | 59  | 51  | 45  | 40  |    |
|           |  |                 | 2         | 61                        | 55  | 50  | 43  | 36  | 31  | 27  | 24  | 21  |    |
|           |  | 7 to 27 Degrees | 1         | 73                        | 73  | 73  | 73  | 72  | 63  | 55  | 49  | 43  |    |
|           |  |                 | 2         | 62                        | 56  | 52  | 44  | 38  | 33  | 29  | 25  | 22  |    |
| E         | 0 to 6 Degrees   | 1               | 74        | 74                        | 74  | 74  | 74  | 74  | 74  | 74  | 70  | 63  |    |
|           |  | 2               | 74        | 74                        | 74  | 74  | 74  | 74  | 66  | 58  | 52  |     |    |
|           | 7 to 27 Degrees  | 1               | 74        | 74                        | 74  | 74  | 74  | 74  | 64  | 56  | 50  | 45  |    |
|           |  | 2               | 74        | 74                        | 74  | 71  | 61  | 54  | 47  | 42  | 37  |     |    |
| F         | 0 to 6 Degrees   | 1               | 96        | 96                        | 96  | 80  | 68  | 59  | 51  | 45  | 40  |     |    |
|           |  | 2               | 61        | 55                        | 50  | 43  | 36  | 31  | 27  | 24  | 21  |     |    |
|           | 7 to 27 Degrees  | 1               | 73        | 73                        | 73  | 73  | 72  | 63  | 55  | 49  | 43  |     |    |
|           |  | 2               | 62        | 56                        | 52  | 44  | 38  | 33  | 29  | 25  | 22  |     |    |
| G         | 0 to 6 Degrees   | 1               | 74        | 74                        | 74  | 72  | 62  | 54  | 48  | 42  | 38  |     |    |
|           |  | 2               | 74        | 74                        | 71  | 60  | 52  | 45  | 40  | 35  | 31  |     |    |
|           | 7 to 27 Degrees  | 1               | 74        | 74                        | 74  | 74  | 74  | 74  | 64  | 56  | 50  | 45  |    |
|           |  | 2               | 74        | 74                        | 74  | 74  | 74  | 74  | 64  | 56  | 50  | 45  |    |

| RT2       | RT-[E] Mount Mini Rafter Installations<br>(72 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |
|-----------|--|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
|           | Portrait Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |
| Snow Load | Exposure Category  | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |
|           |  |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 0 PSF     | B  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 90  | 78  | 68  | 60  |
|           |  |                  | 2         | 93                        | 84  | 77  | 64  | 55  | 47  | 41  | 36  | 32  |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 93  | 82  | 72  | 64  |
|           |  |                  | 2         | 92                        | 84  | 77  | 65  | 56  | 48  | 42  | 37  | 33  |
|           |  | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 90  | 79  | 69  | 61  | 55  |
|           |  |                  | 2         | 96                        | 96  | 96  | 87  | 75  | 66  | 58  | 51  | 46  |
|           | C  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 85  | 72  | 62  | 54  | 47  | 42  |
|           |  |                  | 2         | 64                        | 58  | 53  | 45  | 38  | 33  | 29  | 25  | 22  |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 88  | 76  | 66  | 57  | 51  | 45  |
|           |  |                  | 2         | 64                        | 59  | 54  | 46  | 39  | 34  | 30  | 26  | 23  |
|           |  | 28 to 45 Degrees | 1         | 96                        | 95  | 87  | 75  | 65  | 56  | 49  | 44  | 39  |
|           |  |                  | 2         | 87                        | 79  | 73  | 62  | 54  | 47  | 41  | 37  | 33  |
| D         | 0 to 6 Degrees   | 1                | 96        | 92                        | 84  | 70  | 60  | 51  | 45  | 39  | 35  |     |
|           |  | 2                | 53        | 48                        | 44  | 37  | 32  | 28  | 24  | 21  | 19  |     |
|           | 7 to 27 Degrees  | 1                | 96        | 96                        | 88  | 74  | 64  | 55  | 48  | 43  | 38  |     |
|           |  | 2                | 54        | 49                        | 45  | 38  | 33  | 29  | 25  | 22  | 20  |     |
|           | 28 to 45 Degrees   | 1                | 88        | 81                        | 74  | 63  | 55  | 48  | 42  | 37  | 33  |     |
|           |  | 2                | 74        | 67                        | 62  | 53  | 46  | 40  | 35  | 31  | 27  |     |
| 1-10 PSF  | B  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 90  | 78  | 68  | 60  |
|           |  |                  | 2         | 93                        | 84  | 77  | 64  | 55  | 47  | 41  | 36  | 32  |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 93  | 82  | 72  | 64  |
|           |  |                  | 2         | 92                        | 84  | 77  | 65  | 56  | 48  | 42  | 37  | 33  |
|           |  | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 90  | 79  | 69  | 61  | 55  |
|           |  |                  | 2         | 96                        | 96  | 96  | 87  | 75  | 66  | 58  | 51  | 46  |
|           | C  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 85  | 72  | 62  | 54  | 47  | 42  |
|           |  |                  | 2         | 64                        | 58  | 53  | 45  | 38  | 33  | 29  | 25  | 22  |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 88  | 76  | 66  | 57  | 51  | 45  |
|           |  |                  | 2         | 64                        | 59  | 54  | 46  | 39  | 34  | 30  | 26  | 23  |
|           |  | 28 to 45 Degrees | 1         | 96                        | 95  | 87  | 75  | 65  | 56  | 49  | 44  | 39  |
|           |  |                  | 2         | 87                        | 79  | 73  | 62  | 54  | 47  | 41  | 37  | 33  |
| D         | 0 to 6 Degrees   | 1                | 96        | 92                        | 84  | 70  | 60  | 51  | 45  | 39  | 35  |     |
|           |  | 2                | 53        | 48                        | 44  | 37  | 32  | 28  | 24  | 21  | 19  |     |
|           | 7 to 27 Degrees  | 1                | 96        | 96                        | 88  | 74  | 64  | 55  | 48  | 43  | 38  |     |
|           |  | 2                | 54        | 49                        | 45  | 38  | 33  | 29  | 25  | 22  | 20  |     |
|           | 28 to 45 Degrees   | 1                | 88        | 81                        | 74  | 63  | 55  | 48  | 42  | 37  | 33  |     |
|           |  | 2                | 74        | 67                        | 62  | 53  | 46  | 40  | 35  | 31  | 27  |     |
| 11-20 PSF | B  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 90  | 78  | 68  | 60  |
|           |  |                  | 2         | 93                        | 84  | 77  | 64  | 55  | 47  | 41  | 36  | 32  |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 93  | 82  | 72  | 64  |
|           |  |                  | 2         | 92                        | 84  | 77  | 65  | 56  | 48  | 42  | 37  | 33  |
|           |  | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 90  | 79  | 69  | 61  | 55  |
|           |  |                  | 2         | 96                        | 96  | 96  | 87  | 75  | 66  | 58  | 51  | 46  |
|           | C  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 85  | 72  | 62  | 54  | 47  | 42  |
|           |  |                  | 2         | 64                        | 58  | 53  | 45  | 38  | 33  | 29  | 25  | 22  |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 88  | 76  | 66  | 57  | 51  | 45  |
|           |  |                  | 2         | 64                        | 59  | 54  | 46  | 39  | 34  | 30  | 26  | 23  |
|           |  | 28 to 45 Degrees | 1         | 96                        | 95  | 87  | 75  | 65  | 56  | 49  | 44  | 39  |
|           |  |                  | 2         | 87                        | 79  | 73  | 62  | 54  | 47  | 41  | 37  | 33  |
| D         | 0 to 6 Degrees   | 1                | 96        | 92                        | 84  | 70  | 60  | 51  | 45  | 39  | 35  |     |
|           |  | 2                | 53        | 48                        | 44  | 37  | 32  | 28  | 24  | 21  | 19  |     |
|           | 7 to 27 Degrees  | 1                | 96        | 96                        | 88  | 74  | 64  | 55  | 48  | 43  | 38  |     |
|           |  | 2                | 54        | 49                        | 45  | 38  | 33  | 29  | 25  | 22  | 20  |     |
|           | 28 to 45 Degrees   | 1                | 88        | 81                        | 74  | 63  | 55  | 48  | 42  | 37  | 33  |     |
|           |  | 2                | 74        | 67                        | 62  | 53  | 46  | 40  | 35  | 31  | 27  |     |

| RT2       | RT-[E] Mount Mini Rafter Installations<br>(72 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |
|-----------|--|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
|           | Portrait Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |
| Snow Load | Exposure Category  | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |
|           |  |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 21-30 PSF | B  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 90  | 78  | 68  | 60  |
|           |  |                  | 2         | 93                        | 84  | 77  | 64  | 55  | 47  | 41  | 36  | 32  |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 93  | 82  | 72  | 64  |
|           |  |                  | 2         | 92                        | 84  | 77  | 65  | 56  | 48  | 42  | 37  | 33  |
|           |  | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 90  | 79  | 69  | 61  | 55  |
|           |  |                  | 2         | 96                        | 96  | 96  | 87  | 75  | 66  | 58  | 51  | 46  |
|           | C  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 85  | 72  | 62  | 54  | 47  | 42  |
|           |  |                  | 2         | 64                        | 58  | 53  | 45  | 38  | 33  | 29  | 25  | 22  |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 88  | 76  | 66  | 57  | 51  | 45  |
|           |  |                  | 2         | 64                        | 59  | 54  | 46  | 39  | 34  | 30  | 26  | 23  |
|           |  | 28 to 45 Degrees | 1         | 96                        | 95  | 87  | 75  | 65  | 56  | 49  | 44  | 39  |
|           |  |                  | 2         | 87                        | 79  | 73  | 62  | 54  | 47  | 41  | 37  | 33  |
| D         | 0 to 6 Degrees   | 1                | 96        | 92                        | 84  | 70  | 60  | 51  | 45  | 39  | 35  |     |
|           |  | 2                | 53        | 48                        | 44  | 37  | 32  | 28  | 24  | 21  | 19  |     |
|           | 7 to 27 Degrees  | 1                | 96        | 96                        | 88  | 74  | 64  | 55  | 48  | 43  | 38  |     |
|           |  | 2                | 54        | 49                        | 45  | 38  | 33  | 29  | 25  | 22  | 20  |     |
|           | 28 to 45 Degrees   | 1                | 88        | 81                        | 74  | 63  | 55  | 48  | 42  | 37  | 33  |     |
|           |  | 2                | 74        | 67                        | 62  | 53  | 46  | 40  | 35  | 31  | 27  |     |
| 31-40 PSF | B  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 90  | 78  | 68  | 60  |
|           |  |                  | 2         | 93                        | 84  | 77  | 64  | 55  | 47  | 41  | 36  | 32  |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 93  | 82  | 72  | 64  |
|           |  |                  | 2         | 92                        | 84  | 77  | 65  | 56  | 48  | 42  | 37  | 33  |
|           |  | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 90  | 79  | 69  | 61  | 55  |
|           |  |                  | 2         | 96                        | 96  | 96  | 87  | 75  | 66  | 58  | 51  | 46  |
|           | C  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 85  | 72  | 62  | 54  | 47  | 42  |
|           |  |                  | 2         | 64                        | 58  | 53  | 45  | 38  | 33  | 29  | 25  | 22  |
|           |  | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 88  | 76  | 66  | 57  | 51  | 45  |
|           |  |                  | 2         | 64                        | 59  | 54  | 46  | 39  | 34  | 30  | 26  | 23  |
|           |  | 28 to 45 Degrees | 1         | 96                        | 95  | 87  | 75  | 65  | 56  | 49  | 44  | 39  |
|           |  |                  | 2         | 87                        | 79  | 73  | 62  | 54  | 47  | 41  | 37  | 33  |
| D         | 0 to 6 Degrees   | 1                | 96        | 92                        | 84  | 70  | 60  | 51  | 45  | 39  | 35  |     |
|           |  | 2                | 53        | 48                        | 44  | 37  | 32  | 28  | 24  | 21  | 19  |     |
|           | 7 to 27 Degrees  | 1                | 96        | 96                        | 88  | 74  | 64  | 55  | 48  | 43  | 38  |     |
|           |  | 2                | 54        | 49                        | 45  | 38  | 33  | 29  | 25  | 22  | 20  |     |
|           | 28 to 45 Degrees   | 1                | 88        | 81                        | 74  | 63  | 55  | 48  | 42  | 37  | 33  |     |
|           |  | 2                | 74        | 67                        | 62  | 53  | 46  | 40  | 35  | 31  | 27  |     |
| 41-50 PSF | B  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 90  | 78  | 68  | 60  |
|           |  |                  | 2         | 93                        | 84  | 77  | 64  | 55  | 47  | 41  | 36  | 32  |
|           |  | 7 to 27 Degrees  | 1         | 87                        | 87  | 87  | 87  | 87  | 87  | 82  | 72  | 64  |
|           |  |                  | 2         | 87                        | 84  | 77  | 65  | 56  | 48  | 42  | 37  | 33  |
|           |  | 28 to 45 Degrees | 1         | 87                        | 87  | 87  | 87  | 87  | 79  | 69  | 61  | 55  |
|           |  |                  | 2         | 87                        | 87  | 87  | 87  | 75  | 66  | 58  | 51  | 46  |
|           | C  | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 85  | 72  | 62  | 54  | 47  | 42  |
|           |  |                  | 2         | 64                        | 58  | 53  | 45  | 38  | 33  | 29  | 25  | 22  |
|           |  | 7 to 27 Degrees  | 1         | 87                        | 87  | 87  | 87  | 76  | 66  | 57  | 51  | 45  |
|           |  |                  | 2         | 64                        | 59  | 54  | 46  | 39  | 34  | 30  | 26  | 23  |
|           |  | 28 to 45 Degrees | 1         | 87                        | 87  | 87  | 75  | 65  | 56  | 49  | 44  | 39  |
|           |  |                  | 2         | 87                        | 79  | 73  | 62  | 54  | 47  | 41  | 37  | 33  |
| D         | 0 to 6 Degrees   | 1                | 96        | 92                        | 84  | 70  | 60  | 51  | 45  | 39  | 35  |     |
|           |  | 2                | 53        | 48                        | 44  | 37  | 32  | 28  | 24  | 21  | 19  |     |
|           | 7 to 27 Degrees  | 1                | 87        | 87                        | 87  | 74  | 64  | 55  | 48  | 43  | 38  |     |
|           |  | 2                | 54        | 49                        | 45  | 38  | 33  | 29  | 25  | 22  | 20  |     |
|           | 28 to 45 Degrees   | 1                | 87        | 81                        | 74  | 63  | 55  | 48  | 42  | 37  | 33  |     |
|           |  | 2                | 74        | 67                        | 62  | 53  | 46  | 40  | 35  | 31  | 27  |     |

| RT2       | RT-[E] Mount Mini Rafter Installations<br>(72 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                     |           |                           |     |     |     |     |     |     |     |     |    |
|-----------|--|---------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|----|
|           | Portrait Orientation - ASCE 7-10   |                     |           |                           |     |     |     |     |     |     |     |     |    |
| Snow Load | Exposure Category  | Roof Angle          | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |    |
|           |  |                     |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |    |
| 51-60 PSF | B  | 0 to 6<br>Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 90  | 78  | 68  | 60  |    |
|           |  |                     | 2         | 93                        | 84  | 77  | 64  | 55  | 47  | 41  | 36  | 32  |    |
|           |  | 7 to 27<br>Degrees  | 1         | 74                        | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 72  | 64 |
|           |  |                     | 2         | 74                        | 74  | 74  | 65  | 56  | 48  | 42  | 37  | 33  |    |
|           |  | 28 to 45<br>Degrees | 1         | 75                        | 75  | 75  | 75  | 75  | 75  | 75  | 69  | 61  | 55 |
|           |  |                     | 2         | 75                        | 75  | 75  | 75  | 75  | 66  | 58  | 51  | 46  |    |
|           | C  | 0 to 6<br>Degrees   | 1         | 96                        | 96  | 96  | 85  | 72  | 62  | 54  | 47  | 42  |    |
|           |  |                     | 2         | 64                        | 58  | 53  | 45  | 38  | 33  | 29  | 25  | 22  |    |
|           |  | 7 to 27<br>Degrees  | 1         | 74                        | 74  | 74  | 74  | 74  | 66  | 57  | 51  | 45  |    |
|           |  |                     | 2         | 64                        | 59  | 54  | 46  | 39  | 34  | 30  | 26  | 23  |    |
|           |  | 28 to 45<br>Degrees | 1         | 75                        | 75  | 75  | 75  | 65  | 56  | 49  | 44  | 39  |    |
|           |  |                     | 2         | 75                        | 75  | 73  | 62  | 54  | 47  | 41  | 37  | 33  |    |
| D         | 0 to 6<br>Degrees  | 1                   | 96        | 92                        | 84  | 70  | 72  | 51  | 45  | 39  | 35  |     |    |
|           |  | 2                   | 53        | 48                        | 44  | 37  | 32  | 28  | 24  | 21  | 19  |     |    |
|           | 7 to 27<br>Degrees   | 1                   | 74        | 74                        | 74  | 74  | 64  | 55  | 48  | 43  | 38  |     |    |
|           |  | 2                   | 54        | 49                        | 45  | 38  | 33  | 29  | 25  | 22  | 20  |     |    |
|           | 28 to 45<br>Degrees  | 1                   | 75        | 75                        | 74  | 63  | 55  | 48  | 42  | 37  | 33  |     |    |
|           |  | 2                   | 74        | 67                        | 62  | 53  | 46  | 40  | 35  | 31  | 27  |     |    |
| 61-70 PSF | B  | 0 to 6<br>Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 90  | 78  | 68  | 60  |    |
|           |  |                     | 2         | 93                        | 84  | 77  | 64  | 55  | 47  | 41  | 36  | 32  |    |
|           |  | 7 to 27<br>Degrees  | 1         | 64                        | 64  | 64  | 64  | 64  | 64  | 64  | 64  | 64  |    |
|           |  |                     | 2         | 64                        | 64  | 64  | 64  | 56  | 48  | 42  | 37  | 33  |    |
|           |  | 28 to 45<br>Degrees | 1         | 65                        | 65  | 65  | 65  | 65  | 65  | 65  | 61  | 55  |    |
|           |  |                     | 2         | 65                        | 65  | 65  | 65  | 65  | 65  | 58  | 51  | 46  |    |
|           | C  | 0 to 6<br>Degrees   | 1         | 96                        | 96  | 96  | 85  | 72  | 62  | 54  | 47  | 42  |    |
|           |  |                     | 2         | 64                        | 58  | 53  | 45  | 38  | 33  | 29  | 25  | 22  |    |
|           |  | 7 to 27<br>Degrees  | 1         | 64                        | 64  | 64  | 64  | 64  | 64  | 57  | 51  | 45  |    |
|           |  |                     | 2         | 64                        | 59  | 54  | 46  | 39  | 34  | 30  | 26  | 23  |    |
|           |  | 28 to 45<br>Degrees | 1         | 65                        | 65  | 65  | 65  | 65  | 56  | 49  | 44  | 39  |    |
|           |  |                     | 2         | 65                        | 65  | 65  | 62  | 54  | 47  | 41  | 37  | 33  |    |
| D         | 0 to 6<br>Degrees  | 1                   | 96        | 92                        | 84  | 70  | 60  | 51  | 45  | 39  | 35  |     |    |
|           |  | 2                   | 53        | 48                        | 44  | 37  | 32  | 28  | 24  | 21  | 19  |     |    |
|           | 7 to 27<br>Degrees   | 1                   | 64        | 64                        | 64  | 64  | 64  | 55  | 48  | 43  | 38  |     |    |
|           |  | 2                   | 54        | 49                        | 45  | 38  | 33  | 29  | 25  | 22  | 20  |     |    |
|           | 28 to 45<br>Degrees  | 1                   | 65        | 65                        | 65  | 63  | 55  | 48  | 42  | 37  | 33  |     |    |
|           |  | 2                   | 65        | 65                        | 62  | 53  | 46  | 40  | 35  | 31  | 27  |     |    |



| RT3       | RT-[E] Mount Mini Plywood Only Installations<br>(60 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |
|-----------|--|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
|           | Portrait Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |
| Snow Load | Exposure Category  | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |
|           |  |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 0 PSF     | B  | 0 to 6 Degrees   | 1         | 86                        | 77  | 70  | 57  | 48  | 41  | 36  | 31  | 27  |
|           |  |                  | 2         | 43                        | 39  | 35  | 29  | 25  | 21  | 19  | 16  | 14  |
|           |  | 7 to 27 Degrees  | 1         | 89                        | 80  | 73  | 61  | 52  | 44  | 38  | 34  | 30  |
|           |  |                  | 2         | 44                        | 39  | 36  | 30  | 26  | 22  | 19  | 17  | 15  |
|           |  | 28 to 45 Degrees | 1         | 72                        | 66  | 60  | 51  | 44  | 38  | 33  | 29  | 26  |
|           |  |                  | 2         | 60                        | 54  | 50  | 42  | 36  | 31  | 27  | 24  | 21  |
|           | C  | 0 to 6 Degrees   | 1         | 57                        | 52  | 47  | 39  | 33  | 28  | 25  | 21  | 19  |
|           |  |                  | 2         | 29                        | 27  | 24  | 20  | 17  | 15  | 13  | 11  | 10  |
|           |  | 7 to 27 Degrees  | 1         | 61                        | 55  | 50  | 42  | 36  | 31  | 27  | 23  | 21  |
|           |  |                  | 2         | 30                        | 27  | 25  | 21  | 18  | 16  | 14  | 12  | 11  |
|           |  | 28 to 45 Degrees | 1         | 51                        | 46  | 42  | 36  | 31  | 27  | 23  | 20  | 18  |
|           |  |                  | 2         | 42                        | 38  | 35  | 30  | 25  | 22  | 19  | 17  | 15  |
| D         | 0 to 6 Degrees   | 1                | 47        | 42                        | 39  | 32  | 27  | 23  | 20  | 18  | 16  |     |
|           |  | 2                | 24        | 22                        | 20  | 17  | 14  | 12  | 11  | 9   | 8   |     |
|           | 7 to 27 Degrees  | 1                | 50        | 46                        | 41  | 35  | 30  | 26  | 22  | 20  | 17  |     |
|           |  | 2                | 25        | 23                        | 21  | 18  | 15  | 13  | 11  | 10  | 9   |     |
|           | 28 to 45 Degrees   | 1                | 43        | 39                        | 35  | 30  | 26  | 22  | 19  | 17  | 15  |     |
|           |  | 2                | 35        | 32                        | 29  | 25  | 21  | 18  | 16  | 14  | 13  |     |
| 1-10 PSF  | B  | 0 to 6 Degrees   | 1         | 86                        | 77  | 70  | 57  | 48  | 41  | 36  | 31  | 27  |
|           |  |                  | 2         | 43                        | 39  | 35  | 29  | 25  | 21  | 19  | 16  | 14  |
|           |  | 7 to 27 Degrees  | 1         | 89                        | 80  | 73  | 61  | 52  | 44  | 38  | 34  | 30  |
|           |  |                  | 2         | 44                        | 39  | 36  | 30  | 26  | 22  | 19  | 17  | 15  |
|           |  | 28 to 45 Degrees | 1         | 72                        | 66  | 60  | 51  | 44  | 38  | 33  | 29  | 26  |
|           |  |                  | 2         | 60                        | 54  | 50  | 42  | 36  | 31  | 27  | 24  | 21  |
|           | C  | 0 to 6 Degrees   | 1         | 57                        | 52  | 47  | 39  | 33  | 28  | 25  | 21  | 19  |
|           |  |                  | 2         | 29                        | 27  | 24  | 20  | 17  | 15  | 13  | 11  | 10  |
|           |  | 7 to 27 Degrees  | 1         | 61                        | 55  | 50  | 42  | 36  | 31  | 27  | 23  | 21  |
|           |  |                  | 2         | 30                        | 27  | 25  | 21  | 18  | 16  | 14  | 12  | 11  |
|           |  | 28 to 45 Degrees | 1         | 51                        | 46  | 42  | 36  | 31  | 27  | 23  | 20  | 18  |
|           |  |                  | 2         | 42                        | 38  | 35  | 30  | 25  | 22  | 19  | 17  | 15  |
| D         | 0 to 6 Degrees   | 1                | 47        | 42                        | 39  | 32  | 27  | 23  | 20  | 18  | 16  |     |
|           |  | 2                | 24        | 22                        | 20  | 17  | 14  | 12  | 11  | 9   | 8   |     |
|           | 7 to 27 Degrees  | 1                | 50        | 46                        | 41  | 35  | 30  | 26  | 22  | 20  | 17  |     |
|           |  | 2                | 25        | 23                        | 21  | 18  | 15  | 13  | 11  | 10  | 9   |     |
|           | 28 to 45 Degrees   | 1                | 43        | 39                        | 35  | 30  | 26  | 22  | 19  | 17  | 15  |     |
|           |  | 2                | 35        | 32                        | 29  | 25  | 21  | 18  | 16  | 14  | 13  |     |
| 11-20 PSF | B  | 0 to 6 Degrees   | 1         | 80                        | 77  | 70  | 57  | 48  | 41  | 36  | 31  | 27  |
|           |  |                  | 2         | 43                        | 39  | 35  | 29  | 25  | 21  | 19  | 16  | 14  |
|           |  | 7 to 27 Degrees  | 1         | 67                        | 67  | 67  | 61  | 52  | 44  | 38  | 34  | 30  |
|           |  |                  | 2         | 44                        | 39  | 36  | 30  | 26  | 22  | 19  | 17  | 15  |
|           |  | 28 to 45 Degrees | 1         | 72                        | 66  | 60  | 51  | 44  | 38  | 33  | 29  | 26  |
|           |  |                  | 2         | 60                        | 54  | 50  | 42  | 36  | 31  | 27  | 24  | 21  |
|           | C  | 0 to 6 Degrees   | 1         | 57                        | 52  | 47  | 39  | 33  | 28  | 25  | 21  | 19  |
|           |  |                  | 2         | 29                        | 27  | 24  | 20  | 17  | 15  | 13  | 11  | 10  |
|           |  | 7 to 27 Degrees  | 1         | 61                        | 55  | 50  | 42  | 36  | 31  | 27  | 23  | 21  |
|           |  |                  | 2         | 30                        | 27  | 25  | 21  | 18  | 16  | 14  | 12  | 11  |
|           |  | 28 to 45 Degrees | 1         | 51                        | 46  | 42  | 36  | 31  | 27  | 23  | 20  | 18  |
|           |  |                  | 2         | 42                        | 38  | 35  | 30  | 25  | 22  | 19  | 17  | 15  |
| D         | 0 to 6 Degrees   | 1                | 47        | 42                        | 39  | 32  | 27  | 23  | 20  | 18  | 16  |     |
|           |  | 2                | 24        | 22                        | 20  | 17  | 14  | 12  | 11  | 9   | 8   |     |
|           | 7 to 27 Degrees  | 1                | 50        | 46                        | 41  | 35  | 30  | 26  | 22  | 20  | 17  |     |
|           |  | 2                | 25        | 23                        | 21  | 18  | 15  | 13  | 11  | 10  | 9   |     |
|           | 28 to 45 Degrees   | 1                | 43        | 39                        | 35  | 30  | 26  | 22  | 19  | 17  | 15  |     |
|           |  | 2                | 35        | 32                        | 29  | 25  | 21  | 18  | 16  | 14  | 13  |     |

| RT3       | RT-[E] Mount Mini Plywood Only Installations<br>(60 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |    |
|-----------|--|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|----|
|           | Portrait Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |    |
| Snow Load | Exposure Category  | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |    |
|           |  |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |    |
| 21-30 PSF | B  | 0 to 6 Degrees   | 1         | 69                        | 69  | 69  | 57  | 48  | 41  | 36  | 31  | 27  |    |
|           |  |                  | 2         | 43                        | 39  | 35  | 29  | 25  | 21  | 19  | 16  | 14  |    |
|           |  | 7 to 27 Degrees  | 1         | 56                        | 56  | 56  | 56  | 52  | 44  | 38  | 34  | 30  |    |
|           |  |                  | 2         | 44                        | 39  | 36  | 30  | 26  | 22  | 19  | 17  | 15  |    |
|           |  | 28 to 45 Degrees | 1         | 66                        | 65  | 60  | 51  | 44  | 38  | 33  | 29  | 26  |    |
|           |  |                  | 2         | 60                        | 54  | 50  | 42  | 36  | 31  | 27  | 24  | 21  |    |
|           | C  | 0 to 6 Degrees   | 1         | 57                        | 52  | 47  | 39  | 33  | 28  | 25  | 21  | 19  |    |
|           |  |                  | 2         | 29                        | 27  | 24  | 20  | 17  | 15  | 13  | 11  | 10  |    |
|           |  | 7 to 27 Degrees  | 1         | 56                        | 55  | 50  | 42  | 36  | 31  | 27  | 23  | 21  |    |
|           |  |                  | 2         | 30                        | 27  | 25  | 21  | 18  | 16  | 14  | 12  | 11  |    |
|           |  | 28 to 45 Degrees | 1         | 51                        | 46  | 42  | 36  | 31  | 27  | 23  | 20  | 18  |    |
|           |  |                  | 2         | 42                        | 38  | 35  | 30  | 25  | 22  | 19  | 17  | 15  |    |
| D         | 0 to 6 Degrees   | 1                | 47        | 42                        | 39  | 32  | 27  | 23  | 20  | 18  | 16  |     |    |
|           |  | 2                | 24        | 22                        | 20  | 17  | 14  | 12  | 11  | 9   | 8   |     |    |
|           | 7 to 27 Degrees  | 1                | 50        | 46                        | 41  | 35  | 30  | 26  | 22  | 20  | 17  |     |    |
|           |  | 2                | 25        | 23                        | 21  | 18  | 15  | 13  | 11  | 10  | 9   |     |    |
|           | 28 to 45 Degrees   | 1                | 43        | 39                        | 35  | 30  | 26  | 22  | 19  | 17  | 15  |     |    |
|           |  | 2                | 35        | 32                        | 29  | 25  | 21  | 18  | 16  | 14  | 13  |     |    |
| 31-40 PSF | B  | 0 to 6 Degrees   | 1         | 54                        | 54  | 54  | 54  | 48  | 41  | 36  | 31  | 27  |    |
|           |  |                  | 2         | 43                        | 39  | 35  | 29  | 25  | 21  | 19  | 16  | 14  |    |
|           |  | 7 to 27 Degrees  | 1         | 43                        | 43  | 43  | 43  | 43  | 43  | 38  | 34  | 30  |    |
|           |  |                  | 2         | 43                        | 39  | 36  | 30  | 26  | 22  | 19  | 17  | 15  |    |
|           |  | 28 to 45 Degrees | 1         | 53                        | 53  | 53  | 51  | 44  | 38  | 33  | 29  | 26  |    |
|           |  |                  | 2         | 53                        | 53  | 50  | 42  | 36  | 31  | 27  | 24  | 21  |    |
|           | C  | 0 to 6 Degrees   | 1         | 54                        | 52  | 47  | 39  | 33  | 28  | 25  | 21  | 19  |    |
|           |  |                  | 2         | 29                        | 27  | 24  | 20  | 17  | 15  | 13  | 11  | 10  |    |
|           |  | 7 to 27 Degrees  | 1         | 43                        | 43  | 43  | 42  | 36  | 31  | 27  | 23  | 21  |    |
|           |  |                  | 2         | 30                        | 27  | 25  | 21  | 18  | 16  | 14  | 12  | 11  |    |
|           |  | 28 to 45 Degrees | 1         | 51                        | 46  | 42  | 36  | 31  | 27  | 23  | 20  | 18  |    |
|           |  |                  | 2         | 42                        | 38  | 35  | 30  | 25  | 22  | 19  | 17  | 15  |    |
| D         | 0 to 6 Degrees   | 1                | 47        | 42                        | 39  | 32  | 27  | 23  | 20  | 18  | 16  |     |    |
|           |  | 2                | 24        | 22                        | 20  | 17  | 14  | 12  | 11  | 9   | 8   |     |    |
|           | 7 to 27 Degrees  | 1                | 43        | 43                        | 41  | 35  | 30  | 26  | 22  | 20  | 17  |     |    |
|           |  | 2                | 25        | 23                        | 21  | 18  | 15  | 13  | 11  | 10  | 9   |     |    |
|           | 28 to 45 Degrees   | 1                | 43        | 39                        | 35  | 30  | 26  | 22  | 19  | 17  | 15  |     |    |
|           |  | 2                | 35        | 32                        | 29  | 25  | 21  | 18  | 16  | 14  | 13  |     |    |
| 41-50 PSF | B  | 0 to 6 Degrees   | 1         | 44                        | 44  | 44  | 44  | 44  | 41  | 36  | 31  | 27  |    |
|           |  |                  | 2         | 43                        | 39  | 35  | 29  | 25  | 21  | 19  | 16  | 14  |    |
|           |  | 7 to 27 Degrees  | 1         | 35                        | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 34  | 30 |
|           |  |                  | 2         | 35                        | 35  | 35  | 30  | 26  | 22  | 19  | 17  | 15  |    |
|           |  | 28 to 45 Degrees | 1         | 44                        | 44  | 44  | 44  | 43  | 38  | 33  | 29  | 26  |    |
|           |  |                  | 2         | 44                        | 44  | 44  | 42  | 36  | 31  | 27  | 24  | 21  |    |
|           | C  | 0 to 6 Degrees   | 1         | 44                        | 44  | 44  | 39  | 33  | 28  | 25  | 21  | 19  |    |
|           |  |                  | 2         | 29                        | 27  | 24  | 20  | 17  | 15  | 13  | 11  | 10  |    |
|           |  | 7 to 27 Degrees  | 1         | 35                        | 35  | 35  | 35  | 35  | 31  | 27  | 23  | 21  |    |
|           |  |                  | 2         | 30                        | 27  | 25  | 21  | 18  | 16  | 14  | 12  | 11  |    |
|           |  | 28 to 45 Degrees | 1         | 44                        | 44  | 42  | 36  | 31  | 27  | 23  | 20  | 18  |    |
|           |  |                  | 2         | 42                        | 38  | 35  | 30  | 25  | 22  | 19  | 17  | 15  |    |
| D         | 0 to 6 Degrees   | 1                | 44        | 42                        | 39  | 32  | 27  | 23  | 20  | 18  | 16  |     |    |
|           |  | 2                | 24        | 22                        | 20  | 17  | 14  | 12  | 11  | 9   | 8   |     |    |
|           | 7 to 27 Degrees  | 1                | 35        | 35                        | 35  | 35  | 30  | 26  | 22  | 20  | 17  |     |    |
|           |  | 2                | 25        | 23                        | 21  | 18  | 15  | 13  | 11  | 10  | 9   |     |    |
|           | 28 to 45 Degrees   | 1                | 43        | 39                        | 35  | 30  | 26  | 22  | 19  | 17  | 15  |     |    |
|           |  | 2                | 35        | 32                        | 29  | 25  | 21  | 18  | 16  | 14  | 13  |     |    |

| RT3       | RT-[E] Mount Mini Plywood Only Installations<br>(60 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |    |
|-----------|--|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|----|
|           | Portrait Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |    |
| Snow Load | Exposure Category  | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |    |
|           |  |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |    |
| 51-60 PSF | B  | 0 to 6 Degrees   | 1         | 37                        | 37  | 37  | 37  | 37  | 37  | 36  | 31  | 27  |    |
|           |  |                  | 2         | 37                        | 37  | 35  | 29  | 25  | 21  | 19  | 16  | 14  |    |
|           |  | 7 to 27 Degrees  | 1         | 30                        | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30 |
|           |  |                  | 2         | 30                        | 30  | 30  | 30  | 26  | 22  | 19  | 17  | 15  |    |
|           |  | 28 to 45 Degrees | 1         | 38                        | 38  | 38  | 38  | 38  | 37  | 33  | 29  | 26  |    |
|           |  |                  | 2         | 38                        | 38  | 38  | 38  | 36  | 31  | 27  | 24  | 21  |    |
|           | C  | 0 to 6 Degrees   | 1         | 37                        | 37  | 37  | 37  | 33  | 28  | 25  | 21  | 19  |    |
|           |  |                  | 2         | 29                        | 27  | 24  | 20  | 17  | 15  | 13  | 11  | 10  |    |
|           |  | 7 to 27 Degrees  | 1         | 30                        | 30  | 30  | 30  | 30  | 30  | 27  | 23  | 21  |    |
|           |  |                  | 2         | 30                        | 27  | 25  | 21  | 18  | 16  | 14  | 12  | 11  |    |
|           |  | 28 to 45 Degrees | 1         | 38                        | 38  | 38  | 36  | 31  | 27  | 23  | 20  | 18  |    |
|           |  |                  | 2         | 38                        | 38  | 35  | 30  | 25  | 22  | 19  | 17  | 15  |    |
| D         | 0 to 6 Degrees   | 1                | 37        | 37                        | 37  | 32  | 33  | 23  | 20  | 18  | 16  |     |    |
|           |  | 2                | 24        | 22                        | 20  | 17  | 14  | 12  | 11  | 9   | 8   |     |    |
|           | 7 to 27 Degrees  | 1                | 30        | 30                        | 30  | 30  | 30  | 26  | 22  | 20  | 17  |     |    |
|           |  | 2                | 25        | 23                        | 21  | 18  | 15  | 13  | 11  | 10  | 9   |     |    |
|           | 28 to 45 Degrees   | 1                | 38        | 38                        | 35  | 30  | 26  | 22  | 19  | 17  | 15  |     |    |
|           |  | 2                | 35        | 32                        | 29  | 25  | 21  | 18  | 16  | 14  | 13  |     |    |
| 61-70 PSF | B  | 0 to 6 Degrees   | 1         | 32                        | 32  | 32  | 32  | 32  | 32  | 32  | 31  | 27  |    |
|           |  |                  | 2         | 32                        | 32  | 32  | 29  | 25  | 21  | 19  | 16  | 14  |    |
|           |  | 7 to 27 Degrees  | 1         | 26                        | 26  | 26  | 26  | 26  | 26  | 26  | 26  | 26  |    |
|           |  |                  | 2         | 26                        | 26  | 26  | 26  | 26  | 22  | 19  | 17  | 15  |    |
|           |  | 28 to 45 Degrees | 1         | 33                        | 33  | 33  | 33  | 33  | 33  | 33  | 29  | 26  |    |
|           |  |                  | 2         | 33                        | 33  | 33  | 33  | 33  | 31  | 27  | 24  | 21  |    |
|           | C  | 0 to 6 Degrees   | 1         | 32                        | 32  | 32  | 32  | 32  | 28  | 25  | 21  | 19  |    |
|           |  |                  | 2         | 29                        | 27  | 24  | 20  | 17  | 15  | 13  | 11  | 10  |    |
|           |  | 7 to 27 Degrees  | 1         | 26                        | 26  | 26  | 26  | 26  | 26  | 26  | 23  | 21  |    |
|           |  |                  | 2         | 26                        | 26  | 25  | 21  | 18  | 16  | 14  | 12  | 11  |    |
|           |  | 28 to 45 Degrees | 1         | 33                        | 33  | 33  | 33  | 31  | 27  | 23  | 20  | 18  |    |
|           |  |                  | 2         | 33                        | 33  | 33  | 30  | 25  | 22  | 19  | 17  | 15  |    |
| D         | 0 to 6 Degrees   | 1                | 32        | 32                        | 32  | 32  | 27  | 23  | 20  | 18  | 16  |     |    |
|           |  | 2                | 24        | 22                        | 20  | 17  | 14  | 12  | 11  | 9   | 8   |     |    |
|           | 7 to 27 Degrees  | 1                | 26        | 26                        | 26  | 26  | 26  | 26  | 22  | 20  | 17  |     |    |
|           |  | 2                | 25        | 23                        | 21  | 18  | 15  | 13  | 11  | 10  | 9   |     |    |
|           | 28 to 45 Degrees   | 1                | 33        | 33                        | 33  | 30  | 26  | 22  | 19  | 17  | 15  |     |    |
|           |  | 2                | 33        | 32                        | 29  | 25  | 21  | 18  | 16  | 14  | 13  |     |    |

| RT4       | RT-[E] Mount Mini Plywood Only Installations<br>(72 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |
|-----------|--|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
|           | Portrait Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |
| Snow Load | Exposure Category  | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |
|           |  |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 0 PSF     | B  | 0 to 6 Degrees   | 1         | 75                        | 67  | 61  | 50  | 42  | 36  | 31  | 27  | 24  |
|           |  |                  | 2         | 37                        | 34  | 31  | 26  | 22  | 19  | 16  | 14  | 13  |
|           |  | 7 to 27 Degrees  | 1         | 78                        | 70  | 64  | 53  | 45  | 39  | 33  | 29  | 26  |
|           |  |                  | 2         | 38                        | 34  | 31  | 26  | 22  | 19  | 17  | 15  | 13  |
|           |  | 28 to 45 Degrees | 1         | 63                        | 57  | 52  | 44  | 38  | 33  | 29  | 25  | 22  |
|           |  |                  | 2         | 52                        | 47  | 43  | 37  | 31  | 27  | 24  | 21  | 19  |
|           | C  | 0 to 6 Degrees   | 1         | 50                        | 45  | 41  | 34  | 29  | 25  | 21  | 19  | 16  |
|           |  |                  | 2         | 25                        | 23  | 21  | 18  | 15  | 13  | 11  | 10  | 9   |
|           |  | 7 to 27 Degrees  | 1         | 53                        | 48  | 43  | 36  | 31  | 27  | 23  | 20  | 18  |
|           |  |                  | 2         | 26                        | 24  | 22  | 18  | 16  | 13  | 12  | 10  | 9   |
|           |  | 28 to 45 Degrees | 1         | 44                        | 40  | 37  | 31  | 27  | 23  | 20  | 18  | 16  |
|           |  |                  | 2         | 36                        | 33  | 30  | 26  | 22  | 19  | 17  | 15  | 13  |
| D         | 0 to 6 Degrees   | 1                | 41        | 37                        | 34  | 28  | 24  | 20  | 18  | 16  | 14  |     |
|           |  | 2                | 21        | 19                        | 17  | 15  | 12  | 11  | 9   | 8   | 7   |     |
|           | 7 to 27 Degrees  | 1                | 44        | 40                        | 36  | 30  | 26  | 22  | 19  | 17  | 15  |     |
|           |  | 2                | 22        | 20                        | 18  | 15  | 13  | 11  | 10  | 9   | 8   |     |
|           | 28 to 45 Degrees   | 1                | 37        | 34                        | 31  | 26  | 22  | 19  | 17  | 15  | 13  |     |
|           |  | 2                | 31        | 28                        | 26  | 22  | 18  | 16  | 14  | 12  | 11  |     |
| 1-10 PSF  | B  | 0 to 6 Degrees   | 1         | 75                        | 67  | 61  | 50  | 42  | 36  | 31  | 27  | 24  |
|           |  |                  | 2         | 37                        | 34  | 31  | 26  | 22  | 19  | 16  | 14  | 13  |
|           |  | 7 to 27 Degrees  | 1         | 78                        | 70  | 64  | 53  | 45  | 39  | 33  | 29  | 26  |
|           |  |                  | 2         | 38                        | 34  | 31  | 26  | 22  | 19  | 17  | 15  | 13  |
|           |  | 28 to 45 Degrees | 1         | 63                        | 57  | 52  | 44  | 38  | 33  | 29  | 25  | 22  |
|           |  |                  | 2         | 52                        | 47  | 43  | 37  | 31  | 27  | 24  | 21  | 19  |
|           | C  | 0 to 6 Degrees   | 1         | 50                        | 45  | 41  | 34  | 29  | 25  | 21  | 19  | 16  |
|           |  |                  | 2         | 25                        | 23  | 21  | 18  | 15  | 13  | 11  | 10  | 9   |
|           |  | 7 to 27 Degrees  | 1         | 53                        | 48  | 43  | 36  | 31  | 27  | 23  | 20  | 18  |
|           |  |                  | 2         | 26                        | 24  | 22  | 18  | 16  | 13  | 12  | 10  | 9   |
|           |  | 28 to 45 Degrees | 1         | 44                        | 40  | 37  | 31  | 27  | 23  | 20  | 18  | 16  |
|           |  |                  | 2         | 36                        | 33  | 30  | 26  | 22  | 19  | 17  | 15  | 13  |
| D         | 0 to 6 Degrees   | 1                | 41        | 37                        | 34  | 28  | 24  | 20  | 18  | 16  | 14  |     |
|           |  | 2                | 21        | 19                        | 17  | 15  | 12  | 11  | 9   | 8   | 7   |     |
|           | 7 to 27 Degrees  | 1                | 44        | 40                        | 36  | 30  | 26  | 22  | 19  | 17  | 15  |     |
|           |  | 2                | 22        | 20                        | 18  | 15  | 13  | 11  | 10  | 9   | 8   |     |
|           | 28 to 45 Degrees   | 1                | 37        | 34                        | 31  | 26  | 22  | 19  | 17  | 15  | 13  |     |
|           |  | 2                | 31        | 28                        | 26  | 22  | 18  | 16  | 14  | 12  | 11  |     |
| 11-20 PSF | B  | 0 to 6 Degrees   | 1         | 70                        | 67  | 61  | 50  | 42  | 36  | 31  | 27  | 24  |
|           |  |                  | 2         | 37                        | 34  | 31  | 26  | 22  | 19  | 16  | 14  | 13  |
|           |  | 7 to 27 Degrees  | 1         | 59                        | 59  | 59  | 53  | 45  | 39  | 33  | 29  | 26  |
|           |  |                  | 2         | 38                        | 34  | 31  | 26  | 22  | 19  | 17  | 15  | 13  |
|           |  | 28 to 45 Degrees | 1         | 63                        | 57  | 52  | 44  | 38  | 33  | 29  | 25  | 22  |
|           |  |                  | 2         | 52                        | 47  | 43  | 37  | 31  | 27  | 24  | 21  | 19  |
|           | C  | 0 to 6 Degrees   | 1         | 50                        | 45  | 41  | 34  | 29  | 25  | 21  | 19  | 16  |
|           |  |                  | 2         | 25                        | 23  | 21  | 18  | 15  | 13  | 11  | 10  | 9   |
|           |  | 7 to 27 Degrees  | 1         | 53                        | 48  | 43  | 36  | 31  | 27  | 23  | 20  | 18  |
|           |  |                  | 2         | 26                        | 24  | 22  | 18  | 16  | 13  | 12  | 10  | 9   |
|           |  | 28 to 45 Degrees | 1         | 44                        | 40  | 37  | 31  | 27  | 23  | 20  | 18  | 16  |
|           |  |                  | 2         | 36                        | 33  | 30  | 26  | 22  | 19  | 17  | 15  | 13  |
| D         | 0 to 6 Degrees   | 1                | 41        | 37                        | 34  | 28  | 24  | 20  | 18  | 16  | 14  |     |
|           |  | 2                | 21        | 19                        | 17  | 15  | 12  | 11  | 9   | 8   | 7   |     |
|           | 7 to 27 Degrees  | 1                | 44        | 40                        | 36  | 30  | 26  | 22  | 19  | 17  | 15  |     |
|           |  | 2                | 22        | 20                        | 18  | 15  | 13  | 11  | 10  | 9   | 8   |     |
|           | 28 to 45 Degrees   | 1                | 37        | 34                        | 31  | 26  | 22  | 19  | 17  | 15  | 13  |     |
|           |  | 2                | 31        | 28                        | 26  | 22  | 18  | 16  | 14  | 12  | 11  |     |

| RT4       | RT-[E] Mount Mini Plywood Only Installations<br>(72 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |
|-----------|--|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
|           | Portrait Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |
| Snow Load | Exposure Category  | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |
|           |  |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 21-30 PSF | B  | 0 to 6 Degrees   | 1         | 60                        | 60  | 60  | 50  | 42  | 36  | 31  | 27  | 24  |
|           |  |                  | 2         | 37                        | 34  | 31  | 26  | 22  | 19  | 16  | 14  | 13  |
|           |  | 7 to 27 Degrees  | 1         | 49                        | 49  | 49  | 49  | 45  | 39  | 33  | 29  | 26  |
|           |  |                  | 2         | 38                        | 34  | 31  | 26  | 22  | 19  | 17  | 15  | 13  |
|           |  | 28 to 45 Degrees | 1         | 57                        | 56  | 52  | 44  | 38  | 33  | 29  | 25  | 22  |
|           |  |                  | 2         | 52                        | 47  | 43  | 37  | 31  | 27  | 24  | 21  | 19  |
|           | C  | 0 to 6 Degrees   | 1         | 50                        | 45  | 41  | 34  | 29  | 25  | 21  | 19  | 16  |
|           |  |                  | 2         | 25                        | 23  | 21  | 18  | 15  | 13  | 11  | 10  | 9   |
|           |  | 7 to 27 Degrees  | 1         | 49                        | 48  | 43  | 36  | 31  | 27  | 23  | 20  | 18  |
|           |  |                  | 2         | 26                        | 24  | 22  | 18  | 16  | 13  | 12  | 10  | 9   |
|           |  | 28 to 45 Degrees | 1         | 44                        | 40  | 37  | 31  | 27  | 23  | 20  | 18  | 16  |
|           |  |                  | 2         | 36                        | 33  | 30  | 26  | 22  | 19  | 17  | 15  | 13  |
| D         | 0 to 6 Degrees   | 1                | 41        | 37                        | 34  | 28  | 24  | 20  | 18  | 16  | 14  |     |
|           |  | 2                | 21        | 19                        | 17  | 15  | 12  | 11  | 9   | 8   | 7   |     |
|           | 7 to 27 Degrees  | 1                | 44        | 40                        | 36  | 30  | 26  | 22  | 19  | 17  | 15  |     |
|           |  | 2                | 22        | 20                        | 18  | 15  | 13  | 11  | 10  | 9   | 8   |     |
|           | 28 to 45 Degrees   | 1                | 37        | 34                        | 31  | 26  | 22  | 19  | 17  | 15  | 13  |     |
|           |  | 2                | 31        | 28                        | 26  | 22  | 18  | 16  | 14  | 12  | 11  |     |
| 31-40 PSF | B  | 0 to 6 Degrees   | 1         | 47                        | 47  | 47  | 47  | 42  | 36  | 31  | 27  | 24  |
|           |  |                  | 2         | 37                        | 34  | 31  | 26  | 22  | 19  | 16  | 14  | 13  |
|           |  | 7 to 27 Degrees  | 1         | 38                        | 38  | 38  | 38  | 38  | 38  | 33  | 29  | 26  |
|           |  |                  | 2         | 38                        | 34  | 31  | 26  | 22  | 19  | 17  | 15  | 13  |
|           |  | 28 to 45 Degrees | 1         | 46                        | 46  | 46  | 44  | 38  | 33  | 29  | 25  | 22  |
|           |  |                  | 2         | 46                        | 46  | 43  | 37  | 31  | 27  | 24  | 21  | 19  |
|           | C  | 0 to 6 Degrees   | 1         | 47                        | 45  | 41  | 34  | 29  | 25  | 21  | 19  | 16  |
|           |  |                  | 2         | 25                        | 23  | 21  | 18  | 15  | 13  | 11  | 10  | 9   |
|           |  | 7 to 27 Degrees  | 1         | 38                        | 38  | 38  | 36  | 31  | 27  | 23  | 20  | 18  |
|           |  |                  | 2         | 26                        | 24  | 22  | 18  | 16  | 13  | 12  | 10  | 9   |
|           |  | 28 to 45 Degrees | 1         | 44                        | 40  | 37  | 31  | 27  | 23  | 20  | 18  | 16  |
|           |  |                  | 2         | 36                        | 33  | 30  | 26  | 22  | 19  | 17  | 15  | 13  |
| D         | 0 to 6 Degrees   | 1                | 41        | 37                        | 34  | 28  | 24  | 20  | 18  | 16  | 14  |     |
|           |  | 2                | 21        | 19                        | 17  | 15  | 12  | 11  | 9   | 8   | 7   |     |
|           | 7 to 27 Degrees  | 1                | 38        | 38                        | 36  | 30  | 26  | 22  | 19  | 17  | 15  |     |
|           |  | 2                | 22        | 20                        | 18  | 15  | 13  | 11  | 10  | 9   | 8   |     |
|           | 28 to 45 Degrees   | 1                | 37        | 34                        | 31  | 26  | 22  | 19  | 17  | 15  | 13  |     |
|           |  | 2                | 31        | 28                        | 26  | 22  | 18  | 16  | 14  | 12  | 11  |     |
| 41-50 PSF | B  | 0 to 6 Degrees   | 1         | 38                        | 38  | 38  | 38  | 38  | 36  | 31  | 27  | 24  |
|           |  |                  | 2         | 37                        | 34  | 31  | 26  | 22  | 19  | 16  | 14  | 13  |
|           |  | 7 to 27 Degrees  | 1         | 31                        | 31  | 31  | 31  | 31  | 31  | 31  | 29  | 26  |
|           |  |                  | 2         | 31                        | 31  | 31  | 26  | 22  | 19  | 17  | 15  | 13  |
|           |  | 28 to 45 Degrees | 1         | 38                        | 38  | 38  | 38  | 38  | 33  | 29  | 25  | 22  |
|           |  |                  | 2         | 38                        | 38  | 38  | 37  | 31  | 27  | 24  | 21  | 19  |
|           | C  | 0 to 6 Degrees   | 1         | 38                        | 38  | 38  | 34  | 29  | 25  | 21  | 19  | 16  |
|           |  |                  | 2         | 25                        | 23  | 21  | 18  | 15  | 13  | 11  | 10  | 9   |
|           |  | 7 to 27 Degrees  | 1         | 31                        | 31  | 31  | 31  | 31  | 27  | 23  | 20  | 18  |
|           |  |                  | 2         | 26                        | 24  | 22  | 18  | 16  | 13  | 12  | 10  | 9   |
|           |  | 28 to 45 Degrees | 1         | 38                        | 38  | 37  | 31  | 27  | 23  | 20  | 18  | 16  |
|           |  |                  | 2         | 36                        | 33  | 30  | 26  | 22  | 19  | 17  | 15  | 13  |
| D         | 0 to 6 Degrees   | 1                | 38        | 37                        | 34  | 28  | 24  | 20  | 18  | 16  | 14  |     |
|           |  | 2                | 21        | 19                        | 17  | 15  | 12  | 11  | 9   | 8   | 7   |     |
|           | 7 to 27 Degrees  | 1                | 31        | 31                        | 31  | 30  | 26  | 22  | 19  | 17  | 15  |     |
|           |  | 2                | 22        | 20                        | 18  | 15  | 13  | 11  | 10  | 9   | 8   |     |
|           | 28 to 45 Degrees   | 1                | 37        | 34                        | 31  | 26  | 22  | 19  | 17  | 15  | 13  |     |
|           |  | 2                | 31        | 28                        | 26  | 22  | 18  | 16  | 14  | 12  | 11  |     |

| RT4       | RT-[E] Mount Mini Plywood Only Installations<br>(72 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |    |
|-----------|--|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|----|
|           | Portrait Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |    |
| Snow Load | Exposure Category  | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |    |
|           |  |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |    |
| 51-60 PSF | B  | 0 to 6 Degrees   | 1         | 32                        | 32  | 32  | 32  | 32  | 32  | 31  | 27  | 24  |    |
|           |  |                  | 2         | 32                        | 32  | 31  | 26  | 22  | 19  | 16  | 14  | 13  |    |
|           |  | 7 to 27 Degrees  | 1         | 26                        | 26  | 26  | 26  | 26  | 26  | 26  | 26  | 26  | 26 |
|           |  |                  | 2         | 26                        | 26  | 26  | 26  | 22  | 19  | 17  | 15  | 13  |    |
|           |  | 28 to 45 Degrees | 1         | 33                        | 33  | 33  | 33  | 33  | 33  | 29  | 25  | 22  |    |
|           |  |                  | 2         | 33                        | 33  | 33  | 33  | 31  | 27  | 24  | 21  | 19  |    |
|           | C  | 0 to 6 Degrees   | 1         | 32                        | 32  | 32  | 32  | 29  | 25  | 21  | 19  | 16  |    |
|           |  |                  | 2         | 25                        | 23  | 21  | 18  | 15  | 13  | 11  | 10  | 9   |    |
|           |  | 7 to 27 Degrees  | 1         | 26                        | 26  | 26  | 26  | 26  | 26  | 23  | 20  | 18  |    |
|           |  |                  | 2         | 26                        | 24  | 22  | 18  | 16  | 13  | 12  | 10  | 9   |    |
|           |  | 28 to 45 Degrees | 1         | 33                        | 33  | 33  | 31  | 27  | 23  | 20  | 18  | 16  |    |
|           |  |                  | 2         | 33                        | 33  | 30  | 26  | 22  | 19  | 17  | 15  | 13  |    |
|           | D  | 0 to 6 Degrees   | 1         | 32                        | 32  | 32  | 28  | 29  | 20  | 18  | 16  | 14  |    |
|           |  |                  | 2         | 21                        | 19  | 17  | 15  | 12  | 11  | 9   | 8   | 7   |    |
|           |  | 7 to 27 Degrees  | 1         | 26                        | 26  | 26  | 26  | 26  | 22  | 19  | 17  | 15  |    |
|           |  |                  | 2         | 22                        | 20  | 18  | 15  | 13  | 11  | 10  | 9   | 8   |    |
|           |  | 28 to 45 Degrees | 1         | 33                        | 33  | 31  | 26  | 22  | 19  | 17  | 15  | 13  |    |
|           |  |                  | 2         | 31                        | 28  | 26  | 22  | 18  | 16  | 14  | 12  | 11  |    |
| 61-70 PSF | B  | 0 to 6 Degrees   | 1         | 28                        | 28  | 28  | 28  | 28  | 28  | 28  | 27  | 24  |    |
|           |  |                  | 2         | 28                        | 28  | 28  | 26  | 22  | 19  | 16  | 14  | 13  |    |
|           |  | 7 to 27 Degrees  | 1         | 23                        | 23  | 23  | 23  | 23  | 23  | 23  | 23  | 23  |    |
|           |  |                  | 2         | 23                        | 23  | 23  | 23  | 22  | 19  | 17  | 15  | 13  |    |
|           |  | 28 to 45 Degrees | 1         | 29                        | 29  | 29  | 29  | 29  | 29  | 29  | 25  | 22  |    |
|           |  |                  | 2         | 29                        | 29  | 29  | 29  | 29  | 27  | 24  | 21  | 19  |    |
|           | C  | 0 to 6 Degrees   | 1         | 28                        | 28  | 28  | 28  | 28  | 25  | 21  | 19  | 16  |    |
|           |  |                  | 2         | 25                        | 23  | 21  | 18  | 15  | 13  | 11  | 10  | 9   |    |
|           |  | 7 to 27 Degrees  | 1         | 23                        | 23  | 23  | 23  | 23  | 23  | 23  | 20  | 18  |    |
|           |  |                  | 2         | 23                        | 23  | 22  | 18  | 16  | 13  | 12  | 10  | 9   |    |
|           |  | 28 to 45 Degrees | 1         | 29                        | 29  | 29  | 29  | 27  | 23  | 20  | 18  | 16  |    |
|           |  |                  | 2         | 29                        | 29  | 29  | 26  | 22  | 19  | 17  | 15  | 13  |    |
|           | D  | 0 to 6 Degrees   | 1         | 28                        | 28  | 28  | 28  | 24  | 20  | 18  | 16  | 14  |    |
|           |  |                  | 2         | 21                        | 19  | 17  | 15  | 12  | 11  | 9   | 8   | 7   |    |
|           |  | 7 to 27 Degrees  | 1         | 23                        | 23  | 23  | 23  | 23  | 22  | 19  | 17  | 15  |    |
|           |  |                  | 2         | 22                        | 20  | 18  | 15  | 13  | 11  | 10  | 9   | 8   |    |
|           |  | 28 to 45 Degrees | 1         | 29                        | 29  | 29  | 26  | 22  | 19  | 17  | 15  | 13  |    |
|           |  |                  | 2         | 29                        | 28  | 26  | 22  | 18  | 16  | 14  | 12  | 11  |    |

| RT5       | RT-[E] Mount Mini OSB Only Installations<br>(60 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |
|-----------|--|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
|           | Portrait Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |
| Snow Load | Exposure Category  | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |
|           |  |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 0 PSF     | B  | 0 to 6 Degrees   | 1         | 73                        | 65  | 59  | 49  | 41  | 35  | 30  | 26  | 23  |
|           |  |                  | 2         | 36                        | 33  | 30  | 25  | 21  | 18  | 16  | 14  | 12  |
|           |  | 7 to 27 Degrees  | 1         | 70                        | 67  | 61  | 51  | 43  | 37  | 32  | 28  | 25  |
|           |  |                  | 2         | 37                        | 33  | 30  | 25  | 22  | 19  | 16  | 14  | 13  |
|           |  | 28 to 45 Degrees | 1         | 60                        | 55  | 50  | 42  | 36  | 32  | 28  | 24  | 22  |
|           |  |                  | 2         | 50                        | 45  | 41  | 35  | 30  | 26  | 23  | 20  | 18  |
|           | C  | 0 to 6 Degrees   | 1         | 48                        | 44  | 39  | 33  | 28  | 24  | 21  | 18  | 16  |
|           |  |                  | 2         | 25                        | 22  | 20  | 17  | 15  | 13  | 11  | 10  | 8   |
|           |  | 7 to 27 Degrees  | 1         | 51                        | 46  | 42  | 35  | 30  | 26  | 22  | 20  | 17  |
|           |  |                  | 2         | 25                        | 23  | 21  | 18  | 15  | 13  | 11  | 10  | 9   |
|           |  | 28 to 45 Degrees | 1         | 42                        | 39  | 35  | 30  | 26  | 22  | 19  | 17  | 15  |
|           |  |                  | 2         | 35                        | 32  | 29  | 25  | 21  | 18  | 16  | 14  | 13  |
| D         | 0 to 6 Degrees   | 1                | 40        | 36                        | 33  | 27  | 23  | 20  | 17  | 15  | 13  |     |
|           |  | 2                | 21        | 19                        | 17  | 14  | 12  | 10  | 9   | 8   | 7   |     |
|           | 7 to 27 Degrees  | 1                | 42        | 38                        | 35  | 29  | 25  | 22  | 19  | 16  | 15  |     |
|           |  | 2                | 21        | 19                        | 18  | 15  | 13  | 11  | 10  | 8   | 7   |     |
|           | 28 to 45 Degrees   | 1                | 35        | 32                        | 30  | 25  | 22  | 19  | 16  | 14  | 13  |     |
|           |  | 2                | 29        | 27                        | 25  | 21  | 18  | 15  | 14  | 12  | 11  |     |
| 1-10 PSF  | B  | 0 to 6 Degrees   | 1         | 54                        | 54  | 54  | 49  | 41  | 35  | 30  | 26  | 23  |
|           |  |                  | 2         | 36                        | 33  | 30  | 25  | 21  | 18  | 16  | 14  | 12  |
|           |  | 7 to 27 Degrees  | 1         | 49                        | 49  | 49  | 49  | 43  | 37  | 32  | 28  | 25  |
|           |  |                  | 2         | 37                        | 33  | 30  | 25  | 22  | 19  | 16  | 14  | 13  |
|           |  | 28 to 45 Degrees | 1         | 53                        | 52  | 50  | 42  | 36  | 32  | 28  | 24  | 22  |
|           |  |                  | 2         | 50                        | 45  | 41  | 35  | 30  | 26  | 23  | 20  | 18  |
|           | C  | 0 to 6 Degrees   | 1         | 48                        | 44  | 39  | 33  | 28  | 24  | 21  | 18  | 16  |
|           |  |                  | 2         | 25                        | 22  | 20  | 17  | 15  | 13  | 11  | 10  | 8   |
|           |  | 7 to 27 Degrees  | 1         | 49                        | 46  | 42  | 35  | 30  | 26  | 22  | 20  | 17  |
|           |  |                  | 2         | 25                        | 23  | 21  | 18  | 15  | 13  | 11  | 10  | 9   |
|           |  | 28 to 45 Degrees | 1         | 42                        | 39  | 35  | 30  | 26  | 22  | 19  | 17  | 15  |
|           |  |                  | 2         | 35                        | 32  | 29  | 25  | 21  | 18  | 16  | 14  | 13  |
| D         | 0 to 6 Degrees   | 1                | 40        | 36                        | 33  | 27  | 23  | 20  | 17  | 15  | 13  |     |
|           |  | 2                | 21        | 19                        | 17  | 14  | 12  | 10  | 9   | 8   | 7   |     |
|           | 7 to 27 Degrees  | 1                | 42        | 38                        | 35  | 29  | 25  | 22  | 19  | 16  | 15  |     |
|           |  | 2                | 21        | 19                        | 18  | 15  | 13  | 11  | 10  | 8   | 7   |     |
|           | 28 to 45 Degrees   | 1                | 35        | 32                        | 30  | 25  | 22  | 19  | 16  | 14  | 13  |     |
|           |  | 2                | 29        | 27                        | 25  | 21  | 18  | 15  | 14  | 12  | 11  |     |
| 11-20 PSF | B  | 0 to 6 Degrees   | 1         | 38                        | 38  | 38  | 38  | 38  | 35  | 30  | 26  | 23  |
|           |  |                  | 2         | 36                        | 33  | 30  | 25  | 21  | 18  | 16  | 14  | 12  |
|           |  | 7 to 27 Degrees  | 1         | 34                        | 34  | 34  | 34  | 34  | 34  | 32  | 28  | 25  |
|           |  |                  | 2         | 34                        | 33  | 30  | 25  | 22  | 19  | 16  | 14  | 13  |
|           |  | 28 to 45 Degrees | 1         | 40                        | 39  | 38  | 36  | 34  | 32  | 28  | 24  | 22  |
|           |  |                  | 2         | 40                        | 39  | 38  | 35  | 30  | 26  | 23  | 20  | 18  |
|           | C  | 0 to 6 Degrees   | 1         | 38                        | 38  | 38  | 33  | 28  | 24  | 21  | 18  | 16  |
|           |  |                  | 2         | 25                        | 22  | 20  | 17  | 15  | 13  | 11  | 10  | 8   |
|           |  | 7 to 27 Degrees  | 1         | 34                        | 34  | 34  | 33  | 30  | 26  | 22  | 20  | 17  |
|           |  |                  | 2         | 25                        | 23  | 21  | 18  | 15  | 13  | 11  | 10  | 9   |
|           |  | 28 to 45 Degrees | 1         | 36                        | 35  | 34  | 30  | 26  | 22  | 19  | 17  | 15  |
|           |  |                  | 2         | 35                        | 32  | 29  | 25  | 21  | 18  | 16  | 14  | 13  |
| D         | 0 to 6 Degrees   | 1                | 38        | 36                        | 33  | 27  | 23  | 20  | 17  | 15  | 13  |     |
|           |  | 2                | 21        | 19                        | 17  | 14  | 12  | 10  | 9   | 8   | 7   |     |
|           | 7 to 27 Degrees  | 1                | 34        | 34                        | 33  | 29  | 25  | 22  | 19  | 16  | 15  |     |
|           |  | 2                | 21        | 19                        | 18  | 15  | 13  | 11  | 10  | 8   | 7   |     |
|           | 28 to 45 Degrees   | 1                | 34        | 32                        | 30  | 25  | 22  | 19  | 16  | 14  | 13  |     |
|           |  | 2                | 29        | 27                        | 25  | 21  | 18  | 15  | 14  | 12  | 11  |     |

| RT5       | RT-[E] Mount Mini OSB Only Installations<br>(60 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |    |
|-----------|--|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|----|
|           | Portrait Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |    |
| Snow Load | Exposure Category  | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |    |
|           |  |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |    |
| 21-30 PSF | B  | 0 to 6 Degrees   | 1         | 33                        | 33  | 33  | 33  | 33  | 33  | 30  | 26  | 23  |    |
|           |  |                  | 2         | 33                        | 33  | 30  | 25  | 21  | 18  | 16  | 14  | 12  |    |
|           |  | 7 to 27 Degrees  | 1         | 29                        | 29  | 29  | 29  | 29  | 29  | 29  | 28  | 28  | 25 |
|           |  |                  | 2         | 29                        | 29  | 29  | 25  | 22  | 19  | 16  | 14  | 13  |    |
|           |  | 28 to 45 Degrees | 1         | 36                        | 35  | 34  | 32  | 31  | 29  | 28  | 24  | 22  |    |
|           |  |                  | 2         | 36                        | 35  | 34  | 32  | 30  | 26  | 23  | 20  | 18  |    |
|           | C  | 0 to 6 Degrees   | 1         | 33                        | 33  | 33  | 33  | 28  | 24  | 21  | 18  | 16  |    |
|           |  |                  | 2         | 25                        | 22  | 20  | 17  | 15  | 13  | 11  | 10  | 8   |    |
|           |  | 7 to 27 Degrees  | 1         | 29                        | 29  | 29  | 29  | 28  | 26  | 22  | 20  | 17  |    |
|           |  |                  | 2         | 25                        | 23  | 21  | 18  | 15  | 13  | 11  | 10  | 9   |    |
|           |  | 28 to 45 Degrees | 1         | 32                        | 32  | 31  | 29  | 26  | 22  | 19  | 17  | 15  |    |
|           |  |                  | 2         | 32                        | 32  | 29  | 25  | 21  | 18  | 16  | 14  | 13  |    |
| D         | 0 to 6 Degrees   | 1                | 33        | 33                        | 33  | 27  | 23  | 20  | 17  | 15  | 13  |     |    |
|           |  | 2                | 21        | 19                        | 17  | 14  | 12  | 10  | 9   | 8   | 7   |     |    |
|           | 7 to 27 Degrees  | 1                | 29        | 29                        | 29  | 28  | 25  | 22  | 19  | 16  | 15  |     |    |
|           |  | 2                | 21        | 19                        | 18  | 15  | 13  | 11  | 10  | 8   | 7   |     |    |
|           | 28 to 45 Degrees   | 1                | 31        | 30                        | 29  | 25  | 22  | 19  | 16  | 14  | 13  |     |    |
|           |  | 2                | 29        | 27                        | 25  | 21  | 18  | 15  | 14  | 12  | 11  |     |    |
| 31-40 PSF | B  | 0 to 6 Degrees   | 1         | 26                        | 26  | 26  | 26  | 26  | 26  | 26  | 26  | 23  |    |
|           |  |                  | 2         | 26                        | 26  | 26  | 25  | 21  | 18  | 16  | 14  | 12  |    |
|           |  | 7 to 27 Degrees  | 1         | 23                        | 23  | 23  | 23  | 23  | 23  | 23  | 23  | 22  |    |
|           |  |                  | 2         | 23                        | 23  | 23  | 23  | 22  | 19  | 16  | 14  | 13  |    |
|           |  | 28 to 45 Degrees | 1         | 30                        | 30  | 29  | 28  | 27  | 25  | 24  | 23  | 22  |    |
|           |  |                  | 2         | 30                        | 30  | 29  | 28  | 27  | 25  | 23  | 20  | 18  |    |
|           | C  | 0 to 6 Degrees   | 1         | 26                        | 26  | 26  | 26  | 26  | 24  | 21  | 18  | 16  |    |
|           |  |                  | 2         | 25                        | 22  | 20  | 17  | 15  | 13  | 11  | 10  | 8   |    |
|           |  | 7 to 27 Degrees  | 1         | 23                        | 23  | 23  | 23  | 23  | 22  | 22  | 20  | 17  |    |
|           |  |                  | 2         | 23                        | 23  | 21  | 18  | 15  | 13  | 11  | 10  | 9   |    |
|           |  | 28 to 45 Degrees | 1         | 28                        | 27  | 26  | 25  | 24  | 22  | 19  | 17  | 15  |    |
|           |  |                  | 2         | 28                        | 27  | 26  | 25  | 21  | 18  | 16  | 14  | 13  |    |
| D         | 0 to 6 Degrees   | 1                | 26        | 26                        | 26  | 26  | 23  | 20  | 17  | 15  | 13  |     |    |
|           |  | 2                | 21        | 19                        | 17  | 14  | 12  | 10  | 9   | 8   | 7   |     |    |
|           | 7 to 27 Degrees  | 1                | 23        | 23                        | 23  | 23  | 22  | 21  | 19  | 16  | 15  |     |    |
|           |  | 2                | 21        | 19                        | 18  | 15  | 13  | 11  | 10  | 8   | 7   |     |    |
|           | 28 to 45 Degrees   | 1                | 26        | 26                        | 25  | 24  | 22  | 19  | 16  | 14  | 13  |     |    |
|           |  | 2                | 26        | 26                        | 25  | 21  | 18  | 15  | 14  | 12  | 11  |     |    |
| 41-50 PSF | B  | 0 to 6 Degrees   | 1         | 21                        | 21  | 21  | 21  | 21  | 21  | 21  | 21  | 21  |    |
|           |  |                  | 2         | 21                        | 21  | 21  | 21  | 21  | 18  | 16  | 14  | 12  |    |
|           |  | 7 to 27 Degrees  | 1         | 18                        | 18  | 18  | 18  | 18  | 18  | 18  | 18  | 18  |    |
|           |  |                  | 2         | 18                        | 18  | 18  | 18  | 18  | 18  | 16  | 14  | 13  |    |
|           |  | 28 to 45 Degrees | 1         | 25                        | 25  | 25  | 24  | 23  | 23  | 22  | 21  | 20  |    |
|           |  |                  | 2         | 25                        | 25  | 25  | 24  | 23  | 23  | 22  | 20  | 18  |    |
|           | C  | 0 to 6 Degrees   | 1         | 21                        | 21  | 21  | 21  | 21  | 21  | 21  | 18  | 16  |    |
|           |  |                  | 2         | 21                        | 21  | 20  | 17  | 15  | 13  | 11  | 10  | 8   |    |
|           |  | 7 to 27 Degrees  | 1         | 18                        | 18  | 18  | 18  | 18  | 18  | 18  | 18  | 17  |    |
|           |  |                  | 2         | 18                        | 18  | 18  | 18  | 15  | 13  | 11  | 10  | 9   |    |
|           |  | 28 to 45 Degrees | 1         | 24                        | 24  | 23  | 22  | 21  | 20  | 19  | 17  | 15  |    |
|           |  |                  | 2         | 24                        | 24  | 23  | 22  | 21  | 18  | 16  | 14  | 13  |    |
| D         | 0 to 6 Degrees   | 1                | 21        | 21                        | 21  | 21  | 21  | 20  | 17  | 15  | 13  |     |    |
|           |  | 2                | 21        | 19                        | 17  | 14  | 12  | 10  | 9   | 8   | 7   |     |    |
|           | 7 to 27 Degrees  | 1                | 18        | 18                        | 18  | 18  | 18  | 18  | 18  | 16  | 15  |     |    |
|           |  | 2                | 18        | 18                        | 18  | 15  | 13  | 11  | 10  | 8   | 7   |     |    |
|           | 28 to 45 Degrees   | 1                | 23        | 23                        | 22  | 21  | 20  | 19  | 16  | 14  | 13  |     |    |
|           |  | 2                | 23        | 23                        | 22  | 21  | 18  | 15  | 14  | 12  | 11  |     |    |



| RT5       | RT-[E] Mount Mini OSB Only Installations<br>(60 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |    |
|-----------|--|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|----|
|           | Portrait Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |    |
| Snow Load | Exposure Category  | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |    |
|           |  |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |    |
| 51-60 PSF | B  | 0 to 6 Degrees   | 1         | 18                        | 18  | 18  | 18  | 18  | 18  | 18  | 18  | 18  | 18 |
|           |  |                  | 2         | 18                        | 18  | 18  | 18  | 18  | 18  | 16  | 14  | 12  |    |
|           |  | 7 to 27 Degrees  | 1         | 15                        | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15 |
|           |  |                  | 2         | 15                        | 15  | 15  | 15  | 15  | 15  | 15  | 14  | 13  |    |
|           |  | 28 to 45 Degrees | 1         | 21                        | 21  | 21  | 21  | 21  | 21  | 20  | 19  | 19  | 18 |
|           |  |                  | 2         | 21                        | 21  | 21  | 21  | 21  | 21  | 20  | 19  | 19  | 18 |
|           | C  | 0 to 6 Degrees   | 1         | 18                        | 18  | 18  | 18  | 18  | 18  | 18  | 18  | 18  | 16 |
|           |  |                  | 2         | 18                        | 18  | 18  | 17  | 15  | 13  | 11  | 10  | 8   |    |
|           |  | 7 to 27 Degrees  | 1         | 15                        | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15 |
|           |  |                  | 2         | 15                        | 15  | 15  | 15  | 15  | 13  | 11  | 10  | 9   |    |
|           |  | 28 to 45 Degrees | 1         | 21                        | 21  | 21  | 20  | 19  | 18  | 17  | 17  | 15  |    |
|           |  |                  | 2         | 21                        | 21  | 21  | 20  | 19  | 18  | 16  | 14  | 13  |    |
| D         | 0 to 6 Degrees   | 1                | 18        | 18                        | 18  | 18  | 18  | 18  | 17  | 15  | 13  |     |    |
|           |  | 2                | 18        | 18                        | 17  | 14  | 12  | 10  | 9   | 8   | 7   |     |    |
|           | 7 to 27 Degrees  | 1                | 15        | 15                        | 15  | 15  | 15  | 15  | 15  | 15  | 15  |     |    |
|           |  | 2                | 15        | 15                        | 15  | 15  | 13  | 11  | 10  | 8   | 7   |     |    |
|           | 28 to 45 Degrees   | 1                | 21        | 20                        | 20  | 19  | 18  | 17  | 16  | 14  | 13  |     |    |
|           |  | 2                | 21        | 20                        | 20  | 19  | 18  | 15  | 14  | 12  | 11  |     |    |
| 61-70 PSF | B  | 0 to 6 Degrees   | 1         | 15                        | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  |    |
|           |  |                  | 2         | 15                        | 15  | 15  | 15  | 15  | 15  | 15  | 14  | 12  |    |
|           |  | 7 to 27 Degrees  | 1         | 13                        | 13  | 13  | 13  | 13  | 13  | 13  | 13  | 13  |    |
|           |  |                  | 2         | 13                        | 13  | 13  | 13  | 13  | 13  | 13  | 13  | 13  |    |
|           |  | 28 to 45 Degrees | 1         | 19                        | 19  | 19  | 19  | 19  | 18  | 18  | 17  | 16  |    |
|           |  |                  | 2         | 19                        | 19  | 19  | 19  | 19  | 18  | 18  | 17  | 16  |    |
|           | C  | 0 to 6 Degrees   | 1         | 15                        | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  |    |
|           |  |                  | 2         | 15                        | 15  | 15  | 15  | 15  | 13  | 11  | 10  | 8   |    |
|           |  | 7 to 27 Degrees  | 1         | 13                        | 13  | 13  | 13  | 13  | 13  | 13  | 13  | 13  |    |
|           |  |                  | 2         | 13                        | 13  | 13  | 13  | 13  | 13  | 11  | 10  | 9   |    |
|           |  | 28 to 45 Degrees | 1         | 19                        | 19  | 19  | 18  | 17  | 17  | 16  | 15  | 15  |    |
|           |  |                  | 2         | 19                        | 19  | 19  | 18  | 17  | 17  | 16  | 14  | 13  |    |
| D         | 0 to 6 Degrees   | 1                | 15        | 15                        | 15  | 15  | 15  | 15  | 15  | 15  | 13  |     |    |
|           |  | 2                | 15        | 15                        | 15  | 14  | 12  | 10  | 9   | 8   | 7   |     |    |
|           | 7 to 27 Degrees  | 1                | 13        | 13                        | 13  | 13  | 13  | 13  | 13  | 13  | 13  |     |    |
|           |  | 2                | 13        | 13                        | 13  | 13  | 13  | 11  | 10  | 8   | 7   |     |    |
|           | 28 to 45 Degrees   | 1                | 19        | 18                        | 18  | 17  | 16  | 16  | 15  | 14  | 13  |     |    |
|           |  | 2                | 19        | 18                        | 18  | 17  | 16  | 15  | 14  | 12  | 11  |     |    |

| RT6       | RT-[E] Mount Mini OSB Only Installations<br>(72 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |
|-----------|--|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
|           | Portrait Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |
| Snow Load | Exposure Category  | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |
|           |  |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 0 PSF     | B  | 0 to 6 Degrees   | 1         | 73                        | 65  | 59  | 49  | 41  | 35  | 30  | 26  | 23  |
|           |  |                  | 2         | 31                        | 28  | 26  | 22  | 18  | 16  | 14  | 12  | 11  |
|           |  | 7 to 27 Degrees  | 1         | 70                        | 67  | 61  | 51  | 43  | 37  | 32  | 28  | 25  |
|           |  |                  | 2         | 32                        | 29  | 26  | 22  | 19  | 16  | 14  | 12  | 11  |
|           |  | 28 to 45 Degrees | 1         | 60                        | 55  | 50  | 42  | 36  | 32  | 28  | 24  | 22  |
|           |  |                  | 2         | 43                        | 39  | 36  | 31  | 26  | 23  | 20  | 18  | 16  |
|           | C  | 0 to 6 Degrees   | 1         | 48                        | 44  | 39  | 33  | 28  | 24  | 21  | 18  | 16  |
|           |  |                  | 2         | 21                        | 19  | 18  | 15  | 13  | 11  | 9   | 8   | 7   |
|           |  | 7 to 27 Degrees  | 1         | 51                        | 46  | 42  | 35  | 30  | 26  | 22  | 20  | 17  |
|           |  |                  | 2         | 22                        | 20  | 18  | 15  | 13  | 11  | 10  | 9   | 8   |
|           |  | 28 to 45 Degrees | 1         | 42                        | 39  | 35  | 30  | 26  | 22  | 19  | 17  | 15  |
|           |  |                  | 2         | 30                        | 28  | 25  | 22  | 18  | 16  | 14  | 12  | 11  |
| D         | 0 to 6 Degrees   | 1                | 40        | 36                        | 33  | 27  | 23  | 20  | 17  | 15  | 13  |     |
|           |  | 2                | 18        | 16                        | 15  | 12  | 11  | 9   | 8   | 7   | 6   |     |
|           | 7 to 27 Degrees  | 1                | 42        | 38                        | 35  | 29  | 25  | 22  | 19  | 16  | 15  |     |
|           |  | 2                | 18        | 17                        | 15  | 13  | 11  | 9   | 8   | 7   | 6   |     |
|           | 28 to 45 Degrees   | 1                | 35        | 32                        | 30  | 25  | 22  | 19  | 16  | 14  | 13  |     |
|           |  | 2                | 26        | 23                        | 21  | 18  | 15  | 13  | 12  | 10  | 9   |     |
| 1-10 PSF  | B  | 0 to 6 Degrees   | 1         | 54                        | 54  | 54  | 49  | 41  | 35  | 30  | 26  | 23  |
|           |  |                  | 2         | 31                        | 28  | 26  | 22  | 18  | 16  | 14  | 12  | 11  |
|           |  | 7 to 27 Degrees  | 1         | 49                        | 49  | 49  | 49  | 43  | 37  | 32  | 28  | 25  |
|           |  |                  | 2         | 32                        | 29  | 26  | 22  | 19  | 16  | 14  | 12  | 11  |
|           |  | 28 to 45 Degrees | 1         | 53                        | 52  | 50  | 42  | 36  | 32  | 28  | 24  | 22  |
|           |  |                  | 2         | 43                        | 39  | 36  | 31  | 26  | 23  | 20  | 18  | 16  |
|           | C  | 0 to 6 Degrees   | 1         | 48                        | 44  | 39  | 33  | 28  | 24  | 21  | 18  | 16  |
|           |  |                  | 2         | 21                        | 19  | 18  | 15  | 13  | 11  | 9   | 8   | 7   |
|           |  | 7 to 27 Degrees  | 1         | 49                        | 46  | 42  | 35  | 30  | 26  | 22  | 20  | 17  |
|           |  |                  | 2         | 22                        | 20  | 18  | 15  | 13  | 11  | 10  | 9   | 8   |
|           |  | 28 to 45 Degrees | 1         | 42                        | 39  | 35  | 30  | 26  | 22  | 19  | 17  | 15  |
|           |  |                  | 2         | 30                        | 28  | 25  | 22  | 18  | 16  | 14  | 12  | 11  |
| D         | 0 to 6 Degrees   | 1                | 40        | 36                        | 33  | 27  | 23  | 20  | 17  | 15  | 13  |     |
|           |  | 2                | 18        | 16                        | 15  | 12  | 11  | 9   | 8   | 7   | 6   |     |
|           | 7 to 27 Degrees  | 1                | 42        | 38                        | 35  | 29  | 25  | 22  | 19  | 16  | 15  |     |
|           |  | 2                | 18        | 17                        | 15  | 13  | 11  | 9   | 8   | 7   | 6   |     |
|           | 28 to 45 Degrees   | 1                | 35        | 32                        | 30  | 25  | 22  | 19  | 16  | 14  | 13  |     |
|           |  | 2                | 26        | 23                        | 21  | 18  | 15  | 13  | 12  | 10  | 9   |     |
| 11-20 PSF | B  | 0 to 6 Degrees   | 1         | 38                        | 38  | 38  | 38  | 38  | 35  | 30  | 26  | 23  |
|           |  |                  | 2         | 31                        | 28  | 26  | 22  | 18  | 16  | 14  | 12  | 11  |
|           |  | 7 to 27 Degrees  | 1         | 34                        | 34  | 34  | 34  | 34  | 34  | 32  | 28  | 25  |
|           |  |                  | 2         | 30                        | 29  | 26  | 22  | 19  | 16  | 14  | 12  | 11  |
|           |  | 28 to 45 Degrees | 1         | 40                        | 39  | 38  | 36  | 34  | 32  | 28  | 24  | 22  |
|           |  |                  | 2         | 35                        | 34  | 33  | 31  | 26  | 23  | 20  | 18  | 16  |
|           | C  | 0 to 6 Degrees   | 1         | 38                        | 38  | 38  | 33  | 28  | 24  | 21  | 18  | 16  |
|           |  |                  | 2         | 21                        | 19  | 18  | 15  | 13  | 11  | 9   | 8   | 7   |
|           |  | 7 to 27 Degrees  | 1         | 34                        | 34  | 34  | 33  | 30  | 26  | 22  | 20  | 17  |
|           |  |                  | 2         | 22                        | 20  | 18  | 15  | 13  | 11  | 10  | 9   | 8   |
|           |  | 28 to 45 Degrees | 1         | 36                        | 35  | 34  | 30  | 26  | 22  | 19  | 17  | 15  |
|           |  |                  | 2         | 30                        | 28  | 25  | 22  | 18  | 16  | 14  | 12  | 11  |
| D         | 0 to 6 Degrees   | 1                | 38        | 36                        | 33  | 27  | 23  | 20  | 17  | 15  | 13  |     |
|           |  | 2                | 18        | 16                        | 15  | 12  | 11  | 9   | 8   | 7   | 6   |     |
|           | 7 to 27 Degrees  | 1                | 34        | 34                        | 33  | 29  | 25  | 22  | 19  | 16  | 15  |     |
|           |  | 2                | 18        | 17                        | 15  | 13  | 11  | 9   | 8   | 7   | 6   |     |
|           | 28 to 45 Degrees   | 1                | 34        | 32                        | 30  | 25  | 22  | 19  | 16  | 14  | 13  |     |
|           |  | 2                | 26        | 23                        | 21  | 18  | 15  | 13  | 12  | 10  | 9   |     |

| RT6       | RT-[E] Mount Mini OSB Only Installations<br>(72 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |    |
|-----------|--|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|----|
|           | Portrait Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |    |
| Snow Load | Exposure Category  | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |    |
|           |  |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |    |
| 21-30 PSF | B  | 0 to 6 Degrees   | 1         | 33                        | 33  | 33  | 33  | 33  | 33  | 30  | 26  | 23  |    |
|           |  |                  | 2         | 29                        | 28  | 26  | 22  | 18  | 16  | 14  | 12  | 11  |    |
|           |  | 7 to 27 Degrees  | 1         | 29                        | 29  | 29  | 29  | 29  | 29  | 29  | 28  | 28  | 25 |
|           |  |                  | 2         | 25                        | 25  | 25  | 22  | 19  | 16  | 14  | 12  | 11  |    |
|           |  | 28 to 45 Degrees | 1         | 36                        | 35  | 34  | 32  | 31  | 29  | 28  | 24  | 22  |    |
|           |  |                  | 2         | 31                        | 30  | 30  | 28  | 26  | 23  | 20  | 18  | 16  |    |
|           | C  | 0 to 6 Degrees   | 1         | 33                        | 33  | 33  | 33  | 28  | 24  | 21  | 18  | 16  |    |
|           |  |                  | 2         | 21                        | 19  | 18  | 15  | 13  | 11  | 9   | 8   | 7   |    |
|           |  | 7 to 27 Degrees  | 1         | 29                        | 29  | 29  | 29  | 28  | 26  | 22  | 20  | 17  |    |
|           |  |                  | 2         | 22                        | 20  | 18  | 15  | 13  | 11  | 10  | 9   | 8   |    |
|           |  | 28 to 45 Degrees | 1         | 32                        | 32  | 31  | 29  | 26  | 22  | 19  | 17  | 15  |    |
|           |  |                  | 2         | 28                        | 27  | 25  | 22  | 18  | 16  | 14  | 12  | 11  |    |
| D         | 0 to 6 Degrees   | 1                | 33        | 33                        | 33  | 27  | 23  | 20  | 17  | 15  | 13  |     |    |
|           |  | 2                | 18        | 16                        | 15  | 12  | 11  | 9   | 8   | 7   | 6   |     |    |
|           | 7 to 27 Degrees  | 1                | 29        | 29                        | 29  | 28  | 25  | 22  | 19  | 16  | 15  |     |    |
|           |  | 2                | 18        | 17                        | 15  | 13  | 11  | 9   | 8   | 7   | 6   |     |    |
|           | 28 to 45 Degrees   | 1                | 31        | 30                        | 29  | 25  | 22  | 19  | 16  | 14  | 13  |     |    |
|           |  | 2                | 26        | 23                        | 21  | 18  | 15  | 13  | 12  | 10  | 9   |     |    |
| 31-40 PSF | B  | 0 to 6 Degrees   | 1         | 26                        | 26  | 26  | 26  | 26  | 26  | 26  | 26  | 23  |    |
|           |  |                  | 2         | 22                        | 22  | 22  | 22  | 18  | 16  | 14  | 12  | 11  |    |
|           |  | 7 to 27 Degrees  | 1         | 23                        | 23  | 23  | 23  | 23  | 23  | 23  | 23  | 22  |    |
|           |  |                  | 2         | 20                        | 20  | 20  | 20  | 19  | 16  | 14  | 12  | 11  |    |
|           |  | 28 to 45 Degrees | 1         | 30                        | 30  | 29  | 28  | 27  | 25  | 24  | 23  | 22  |    |
|           |  |                  | 2         | 26                        | 26  | 25  | 24  | 23  | 22  | 20  | 18  | 16  |    |
|           | C  | 0 to 6 Degrees   | 1         | 26                        | 26  | 26  | 26  | 26  | 24  | 21  | 18  | 16  |    |
|           |  |                  | 2         | 21                        | 19  | 18  | 15  | 13  | 11  | 9   | 8   | 7   |    |
|           |  | 7 to 27 Degrees  | 1         | 23                        | 23  | 23  | 23  | 23  | 22  | 22  | 20  | 17  |    |
|           |  |                  | 2         | 20                        | 20  | 18  | 15  | 13  | 11  | 10  | 9   | 8   |    |
|           |  | 28 to 45 Degrees | 1         | 28                        | 27  | 26  | 25  | 24  | 22  | 19  | 17  | 15  |    |
|           |  |                  | 2         | 24                        | 24  | 23  | 22  | 18  | 16  | 14  | 12  | 11  |    |
| D         | 0 to 6 Degrees   | 1                | 26        | 26                        | 26  | 26  | 23  | 20  | 17  | 15  | 13  |     |    |
|           |  | 2                | 18        | 16                        | 15  | 12  | 11  | 9   | 8   | 7   | 6   |     |    |
|           | 7 to 27 Degrees  | 1                | 23        | 23                        | 23  | 23  | 22  | 21  | 19  | 16  | 15  |     |    |
|           |  | 2                | 18        | 17                        | 15  | 13  | 11  | 9   | 8   | 7   | 6   |     |    |
|           | 28 to 45 Degrees   | 1                | 26        | 26                        | 25  | 24  | 22  | 19  | 16  | 14  | 13  |     |    |
|           |  | 2                | 23        | 22                        | 21  | 18  | 15  | 13  | 12  | 10  | 9   |     |    |
| 41-50 PSF | B  | 0 to 6 Degrees   | 1         | 21                        | 21  | 21  | 21  | 21  | 21  | 21  | 21  | 21  |    |
|           |  |                  | 2         | 18                        | 18  | 18  | 18  | 18  | 16  | 14  | 12  | 11  |    |
|           |  | 7 to 27 Degrees  | 1         | 18                        | 18  | 18  | 18  | 18  | 18  | 18  | 18  | 18  |    |
|           |  |                  | 2         | 16                        | 16  | 16  | 16  | 16  | 16  | 14  | 12  | 11  |    |
|           |  | 28 to 45 Degrees | 1         | 25                        | 25  | 25  | 24  | 23  | 23  | 22  | 21  | 20  |    |
|           |  |                  | 2         | 22                        | 22  | 22  | 21  | 20  | 20  | 19  | 18  | 16  |    |
|           | C  | 0 to 6 Degrees   | 1         | 21                        | 21  | 21  | 21  | 21  | 21  | 21  | 18  | 16  |    |
|           |  |                  | 2         | 18                        | 18  | 18  | 15  | 13  | 11  | 9   | 8   | 7   |    |
|           |  | 7 to 27 Degrees  | 1         | 18                        | 18  | 18  | 18  | 18  | 18  | 18  | 18  | 17  |    |
|           |  |                  | 2         | 16                        | 16  | 16  | 15  | 13  | 11  | 10  | 9   | 8   |    |
|           |  | 28 to 45 Degrees | 1         | 24                        | 24  | 23  | 22  | 21  | 20  | 19  | 17  | 15  |    |
|           |  |                  | 2         | 21                        | 21  | 20  | 19  | 18  | 16  | 14  | 12  | 11  |    |
| D         | 0 to 6 Degrees   | 1                | 21        | 21                        | 21  | 21  | 21  | 20  | 17  | 15  | 13  |     |    |
|           |  | 2                | 18        | 16                        | 15  | 12  | 11  | 9   | 8   | 7   | 6   |     |    |
|           | 7 to 27 Degrees  | 1                | 18        | 18                        | 18  | 18  | 18  | 18  | 18  | 16  | 15  |     |    |
|           |  | 2                | 16        | 16                        | 15  | 13  | 11  | 9   | 8   | 7   | 6   |     |    |
|           | 28 to 45 Degrees   | 1                | 23        | 23                        | 22  | 21  | 20  | 19  | 16  | 14  | 13  |     |    |
|           |  | 2                | 20        | 20                        | 19  | 18  | 15  | 13  | 12  | 10  | 9   |     |    |

| RT6       | RT-[E] Mount Mini OSB Only Installations<br>(72 Cell PV Panels)<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |    |
|-----------|--|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|----|
|           | Portrait Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |    |
| Snow Load | Exposure Category  | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |    |
|           |  |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |    |
| 51-60 PSF | B  | 0 to 6 Degrees   | 1         | 18                        | 18  | 18  | 18  | 18  | 18  | 18  | 18  | 18  | 18 |
|           |  |                  | 2         | 15                        | 15  | 15  | 15  | 15  | 15  | 14  | 12  | 11  |    |
|           |  | 7 to 27 Degrees  | 1         | 15                        | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15 |
|           |  |                  | 2         | 13                        | 13  | 13  | 13  | 13  | 13  | 13  | 12  | 11  |    |
|           |  | 28 to 45 Degrees | 1         | 21                        | 21  | 21  | 21  | 21  | 20  | 19  | 19  | 18  |    |
|           |  |                  | 2         | 19                        | 19  | 19  | 19  | 18  | 17  | 17  | 16  | 16  |    |
|           | C  | 0 to 6 Degrees   | 1         | 18                        | 18  | 18  | 18  | 18  | 18  | 18  | 18  | 18  | 16 |
|           |  |                  | 2         | 15                        | 15  | 15  | 15  | 13  | 11  | 9   | 8   | 7   |    |
|           |  | 7 to 27 Degrees  | 1         | 15                        | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15 |
|           |  |                  | 2         | 13                        | 13  | 13  | 13  | 13  | 11  | 10  | 9   | 8   |    |
|           |  | 28 to 45 Degrees | 1         | 21                        | 21  | 21  | 20  | 19  | 18  | 17  | 17  | 15  |    |
|           |  |                  | 2         | 19                        | 18  | 18  | 17  | 17  | 16  | 14  | 12  | 11  |    |
| D         | 0 to 6 Degrees   | 1                | 18        | 18                        | 18  | 18  | 18  | 18  | 18  | 17  | 15  | 13  |    |
|           |  | 2                | 15        | 15                        | 15  | 12  | 11  | 9   | 8   | 7   | 6   |     |    |
|           | 7 to 27 Degrees  | 1                | 15        | 15                        | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  |    |
|           |  | 2                | 13        | 13                        | 13  | 13  | 11  | 9   | 8   | 7   | 6   |     |    |
|           | 28 to 45 Degrees   | 1                | 21        | 20                        | 20  | 19  | 18  | 17  | 16  | 14  | 13  |     |    |
|           |  | 2                | 18        | 18                        | 17  | 16  | 15  | 13  | 12  | 10  | 9   |     |    |
| 61-70 PSF | B  | 0 to 6 Degrees   | 1         | 15                        | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  |    |
|           |  |                  | 2         | 13                        | 13  | 13  | 13  | 13  | 13  | 13  | 12  | 11  |    |
|           |  | 7 to 27 Degrees  | 1         | 13                        | 13  | 13  | 13  | 13  | 13  | 13  | 13  | 13  |    |
|           |  |                  | 2         | 12                        | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 11  |    |
|           |  | 28 to 45 Degrees | 1         | 19                        | 19  | 19  | 19  | 19  | 18  | 18  | 17  | 16  |    |
|           |  |                  | 2         | 16                        | 16  | 16  | 16  | 16  | 15  | 15  | 15  | 14  |    |
|           | C  | 0 to 6 Degrees   | 1         | 15                        | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15 |
|           |  |                  | 2         | 13                        | 13  | 13  | 13  | 13  | 11  | 9   | 8   | 7   |    |
|           |  | 7 to 27 Degrees  | 1         | 13                        | 13  | 13  | 13  | 13  | 13  | 13  | 13  | 13  | 13 |
|           |  |                  | 2         | 12                        | 12  | 12  | 12  | 12  | 11  | 10  | 9   | 8   |    |
|           |  | 28 to 45 Degrees | 1         | 19                        | 19  | 19  | 18  | 17  | 17  | 16  | 15  | 15  |    |
|           |  |                  | 2         | 16                        | 16  | 16  | 16  | 15  | 14  | 14  | 12  | 11  |    |
| D         | 0 to 6 Degrees   | 1                | 15        | 15                        | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 13  |    |
|           |  | 2                | 13        | 13                        | 13  | 12  | 11  | 9   | 8   | 7   | 6   |     |    |
|           | 7 to 27 Degrees  | 1                | 13        | 13                        | 13  | 13  | 13  | 13  | 13  | 13  | 13  | 13  |    |
|           |  | 2                | 12        | 12                        | 12  | 12  | 11  | 9   | 8   | 7   | 6   |     |    |
|           | 28 to 45 Degrees   | 1                | 19        | 18                        | 18  | 17  | 16  | 16  | 15  | 14  | 13  |     |    |
|           |  | 2                | 16        | 16                        | 16  | 15  | 14  | 13  | 12  | 10  | 9   |     |    |

| RT7                               |                   | RT-[E] Mount Mini Rafter Installations Cont.<br>Maximum Mount Spacing in Inches |           |                           |     |     |     |     |     |     |     |     |    |
|-----------------------------------|-------------------|---|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|----|
| Landscape Orientation - ASCE 7-10 |                   |   |           |                           |     |     |     |     |     |     |     |     |    |
| Snow Load                         | Exposure Category | Roof Angle  | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |    |
|                                   |                   |   |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |    |
| 0 PSF                             | B                 | 0 to 6 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  |    |
|                                   |                   | 2   | 96        | 96                        | 96  | 96  | 96  | 92  | 80  | 70  | 62  |     |    |
|                                   |                   | 7 to 27 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  |    |
|                                   |                   | 2   | 96        | 96                        | 96  | 96  | 96  | 94  | 82  | 72  | 64  |     |    |
|                                   |                   | 28 to 45 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  |    |
|                                   |                   | 2   | 96        | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 89  |    |
|                                   | C                 | 0 to 6 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 92  | 81 |
|                                   |                   | 2   | 96        | 96                        | 96  | 96  | 87  | 74  | 64  | 56  | 49  | 44  |    |
|                                   |                   | 7 to 27 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 88 |
|                                   |                   | 2   | 96        | 96                        | 96  | 96  | 89  | 76  | 66  | 58  | 51  | 46  |    |
|                                   |                   | 28 to 45 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 85  | 76 |
|                                   |                   | 2   | 96        | 96                        | 96  | 96  | 96  | 96  | 91  | 80  | 71  | 64  |    |
| D                                 | 0 to 6 Degrees    | 1   | 96        | 96                        | 96  | 96  | 96  | 96  | 96  | 87  | 77  | 68  |    |
|                                   | 2                 | 96  | 94        | 86                        | 73  | 62  | 54  | 47  | 41  | 37  | 37  |     |    |
|                                   | 7 to 27 Degrees   | 1   | 96        | 96                        | 96  | 96  | 96  | 96  | 94  | 83  | 74  |     |    |
|                                   | 2                 | 96  | 96        | 88                        | 75  | 64  | 56  | 49  | 43  | 38  | 38  |     |    |
|                                   | 28 to 45 Degrees  | 1   | 96        | 96                        | 96  | 96  | 96  | 96  | 93  | 82  | 72  | 64  |    |
|                                   | 2                 | 96  | 96        | 96                        | 96  | 89  | 77  | 68  | 60  | 54  | 54  |     |    |
| 1-10 PSF                          | B                 | 0 to 6 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  |    |
|                                   |                   | 2   | 96        | 96                        | 96  | 96  | 96  | 92  | 80  | 70  | 62  |     |    |
|                                   |                   | 7 to 27 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  |    |
|                                   |                   | 2   | 96        | 96                        | 96  | 96  | 96  | 94  | 82  | 72  | 64  |     |    |
|                                   |                   | 28 to 45 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  |    |
|                                   |                   | 2   | 96        | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 89  |     |    |
|                                   | C                 | 0 to 6 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 92  | 81  |    |
|                                   |                   | 2   | 96        | 96                        | 96  | 87  | 74  | 64  | 56  | 49  | 44  |     |    |
|                                   |                   | 7 to 27 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 88  |    |
|                                   |                   | 2   | 96        | 96                        | 96  | 89  | 76  | 66  | 58  | 51  | 46  |     |    |
|                                   |                   | 28 to 45 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 85  | 76  |    |
|                                   |                   | 2   | 96        | 96                        | 96  | 96  | 96  | 91  | 80  | 71  | 64  |     |    |
| D                                 | 0 to 6 Degrees    | 1   | 96        | 96                        | 96  | 96  | 96  | 96  | 96  | 87  | 77  | 68  |    |
|                                   | 2                 | 96  | 94        | 86                        | 73  | 62  | 54  | 47  | 41  | 37  |     |     |    |
|                                   | 7 to 27 Degrees   | 1   | 96        | 96                        | 96  | 96  | 96  | 96  | 94  | 83  | 74  |     |    |
|                                   | 2                 | 96  | 96        | 88                        | 75  | 64  | 56  | 49  | 43  | 38  |     |     |    |
|                                   | 28 to 45 Degrees  | 1   | 96        | 96                        | 96  | 96  | 96  | 96  | 93  | 82  | 72  | 64  |    |
|                                   | 2                 | 96  | 96        | 96                        | 96  | 89  | 77  | 68  | 60  | 54  |     |     |    |
| 11-20 PSF                         | B                 | 0 to 6 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  |    |
|                                   |                   | 2   | 96        | 96                        | 96  | 96  | 96  | 92  | 80  | 70  | 62  |     |    |
|                                   |                   | 7 to 27 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  |    |
|                                   |                   | 2   | 96        | 96                        | 96  | 96  | 96  | 94  | 82  | 72  | 64  |     |    |
|                                   |                   | 28 to 45 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  |    |
|                                   |                   | 2   | 96        | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 89  |     |    |
|                                   | C                 | 0 to 6 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 92  | 81  |    |
|                                   |                   | 2   | 96        | 96                        | 96  | 87  | 74  | 64  | 56  | 49  | 44  |     |    |
|                                   |                   | 7 to 27 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 88  |    |
|                                   |                   | 2   | 96        | 96                        | 96  | 89  | 76  | 66  | 58  | 51  | 46  |     |    |
|                                   |                   | 28 to 45 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 85  | 76  |    |
|                                   |                   | 2   | 96        | 96                        | 96  | 96  | 96  | 91  | 80  | 71  | 64  |     |    |
| D                                 | 0 to 6 Degrees    | 1   | 96        | 96                        | 96  | 96  | 96  | 96  | 96  | 87  | 77  | 68  |    |
|                                   | 2                 | 96  | 94        | 86                        | 73  | 62  | 54  | 47  | 41  | 37  |     |     |    |
|                                   | 7 to 27 Degrees   | 1   | 96        | 96                        | 96  | 96  | 96  | 96  | 94  | 83  | 74  |     |    |
|                                   | 2                 | 96  | 96        | 88                        | 75  | 64  | 56  | 49  | 43  | 38  |     |     |    |
|                                   | 28 to 45 Degrees  | 1   | 96        | 96                        | 96  | 96  | 96  | 96  | 93  | 82  | 72  | 64  |    |
|                                   | 2                 | 96  | 96        | 96                        | 96  | 89  | 77  | 68  | 60  | 54  |     |     |    |

| RT7       | RT-[E] Mount Mini Rafter Installations Cont.<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |    |
|-----------|---|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|----|
|           | Landscape Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |    |
| Snow Load | Exposure Category   | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |    |
|           |   |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |    |
| 21-30 PSF | B   | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  |    |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 92  | 80  | 70  | 62  |    |
|           |   | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96 |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 96  | 94  | 82  | 72  | 64 |
|           |   | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96 |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 89 |
|           | C   | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 92  | 81 |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 87  | 74  | 64  | 56  | 49  | 44 |
|           |   | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 88 |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 89  | 76  | 66  | 58  | 51  | 46 |
|           |   | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 85  | 76 |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 96  | 91  | 80  | 71  | 64 |
| D         | 0 to 6 Degrees  | 1                | 96        | 96                        | 96  | 96  | 96  | 96  | 96  | 87  | 77  | 68  |    |
|           |   | 2                | 96        | 94                        | 86  | 73  | 62  | 54  | 47  | 41  | 37  | 37  |    |
|           | 7 to 27 Degrees   | 1                | 96        | 96                        | 96  | 96  | 96  | 96  | 96  | 94  | 83  | 74  |    |
|           |   | 2                | 96        | 96                        | 88  | 75  | 64  | 56  | 49  | 43  | 38  | 38  |    |
|           | 28 to 45 Degrees  | 1                | 96        | 96                        | 96  | 96  | 96  | 96  | 93  | 82  | 72  | 64  |    |
|           |   | 2                | 96        | 96                        | 96  | 96  | 89  | 77  | 68  | 60  | 54  | 54  |    |
| 31-40 PSF | B   | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  |    |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 92  | 80  | 70  | 62  |    |
|           |   | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96 |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 96  | 94  | 82  | 72  | 64 |
|           |   | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96 |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 89 |
|           | C   | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 92  | 81 |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 87  | 74  | 64  | 56  | 49  | 44 |
|           |   | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 88 |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 89  | 76  | 66  | 58  | 51  | 46 |
|           |   | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 85  | 76 |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 96  | 91  | 80  | 71  | 64 |
| D         | 0 to 6 Degrees  | 1                | 96        | 96                        | 96  | 96  | 96  | 96  | 96  | 87  | 77  | 68  |    |
|           |   | 2                | 96        | 94                        | 86  | 73  | 62  | 54  | 47  | 41  | 37  | 37  |    |
|           | 7 to 27 Degrees   | 1                | 96        | 96                        | 96  | 96  | 96  | 96  | 96  | 94  | 83  | 74  |    |
|           |   | 2                | 96        | 96                        | 88  | 75  | 64  | 56  | 49  | 43  | 38  | 38  |    |
|           | 28 to 45 Degrees  | 1                | 96        | 96                        | 96  | 96  | 96  | 96  | 93  | 82  | 72  | 64  |    |
|           |   | 2                | 96        | 96                        | 96  | 96  | 89  | 77  | 68  | 60  | 54  | 54  |    |
| 41-50 PSF | B   | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  |    |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 92  | 80  | 70  | 62  |    |
|           |   | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96 |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 96  | 94  | 82  | 72  | 64 |
|           |   | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96 |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 89 |
|           | C   | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 92  | 81 |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 87  | 74  | 64  | 56  | 49  | 44 |
|           |   | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 88 |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 89  | 76  | 66  | 58  | 51  | 46 |
|           |   | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 85  | 76 |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 96  | 91  | 80  | 71  | 64 |
| D         | 0 to 6 Degrees  | 1                | 96        | 96                        | 96  | 96  | 96  | 96  | 96  | 87  | 77  | 68  |    |
|           |   | 2                | 96        | 94                        | 86  | 73  | 62  | 54  | 47  | 41  | 37  | 37  |    |
|           | 7 to 27 Degrees   | 1                | 96        | 96                        | 96  | 96  | 96  | 96  | 96  | 94  | 83  | 74  |    |
|           |   | 2                | 96        | 96                        | 88  | 75  | 64  | 56  | 49  | 43  | 38  | 38  |    |
|           | 28 to 45 Degrees  | 1                | 96        | 96                        | 96  | 96  | 96  | 96  | 93  | 82  | 72  | 64  |    |
|           |   | 2                | 96        | 96                        | 96  | 96  | 89  | 77  | 68  | 60  | 54  | 54  |    |

| RT7       | RT-[E] Mount Mini Rafter Installations Cont.<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |    |    |
|-----------|---|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|----|----|
|           | Landscape Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |    |    |
| Snow Load | Exposure Category   | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |    |    |
|           |   |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |    |    |
| 51-60 PSF | B   | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96 |    |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 92  | 80  | 70  | 62  |    |    |
|           |   | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96 | 96 |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 96  | 94  | 82  | 72  | 64 |    |
|           |   | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96 | 96 |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96 | 89 |
|           | C   | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 92  | 81 |    |
|           |   |                  | 2         | 96                        | 96  | 96  | 87  | 74  | 64  | 56  | 49  | 44  |    |    |
|           |   | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96 | 88 |
|           |   |                  | 2         | 96                        | 96  | 96  | 89  | 76  | 66  | 58  | 51  | 46  |    |    |
|           |   | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 85  | 76 |    |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 96  | 91  | 80  | 71  | 64 |    |
| D         | 0 to 6 Degrees  | 1                | 96        | 96                        | 96  | 96  | 96  | 96  | 96  | 87  | 77  | 68  |    |    |
|           |   | 2                | 96        | 94                        | 86  | 73  | 62  | 54  | 47  | 41  | 37  |     |    |    |
|           | 7 to 27 Degrees   | 1                | 96        | 96                        | 96  | 96  | 96  | 96  | 96  | 94  | 83  | 74  |    |    |
|           |   | 2                | 96        | 96                        | 88  | 75  | 64  | 56  | 49  | 43  | 38  |     |    |    |
|           | 28 to 45 Degrees  | 1                | 96        | 96                        | 96  | 96  | 96  | 96  | 93  | 82  | 72  | 64  |    |    |
|           |   | 2                | 96        | 96                        | 96  | 96  | 89  | 77  | 68  | 60  | 54  |     |    |    |
| 61-70 PSF | B   | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96 |    |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 92  | 80  | 70  | 62  |    |    |
|           |   | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96 |    |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 94  | 82  | 72  | 64  |    |    |
|           |   | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96 |    |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 89 |    |
|           | C   | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 92  | 81 |    |
|           |   |                  | 2         | 96                        | 96  | 96  | 87  | 74  | 64  | 56  | 49  | 44  |    |    |
|           |   | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 88 |    |
|           |   |                  | 2         | 96                        | 96  | 96  | 89  | 76  | 66  | 58  | 51  | 46  |    |    |
|           |   | 28 to 45 Degrees | 1         | 96                        | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 85  | 76 |    |
|           |   |                  | 2         | 96                        | 96  | 96  | 96  | 96  | 96  | 91  | 80  | 71  | 64 |    |
| D         | 0 to 6 Degrees  | 1                | 96        | 96                        | 96  | 96  | 96  | 96  | 96  | 87  | 77  | 68  |    |    |
|           |   | 2                | 96        | 94                        | 86  | 73  | 62  | 54  | 47  | 41  | 37  |     |    |    |
|           | 7 to 27 Degrees   | 1                | 96        | 96                        | 96  | 96  | 96  | 96  | 96  | 94  | 83  | 74  |    |    |
|           |   | 2                | 96        | 96                        | 88  | 75  | 64  | 56  | 49  | 43  | 38  |     |    |    |
|           | 28 to 45 Degrees  | 1                | 96        | 96                        | 96  | 96  | 96  | 96  | 93  | 82  | 72  | 64  |    |    |
|           |   | 2                | 96        | 96                        | 96  | 96  | 89  | 77  | 68  | 60  | 54  |     |    |    |

| RT8                               |                   | RT-[E] Mount Mini Plywood Only Installations<br>Maximum Mount Spacing in Inches |           |                           |     |     |     |     |     |     |     |     |
|-----------------------------------|-------------------|---|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Landscape Orientation - ASCE 7-10 |                   |   |           |                           |     |     |     |     |     |     |     |     |
| Snow Load                         | Exposure Category | Roof Angle  | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |
|                                   |                   |   |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 0 PSF                             | B                 | 0 to 6 Degrees  | 1         | 96                        | 96  | 96  | 96  | 82  | 70  | 61  | 53  | 47  |
|                                   |                   |   | 2         | 73                        | 66  | 60  | 50  | 43  | 37  | 32  | 28  | 25  |
|                                   |                   | 7 to 27 Degrees   | 1         | 96                        | 96  | 96  | 96  | 88  | 76  | 66  | 58  | 51  |
|                                   |                   |   | 2         | 74                        | 67  | 62  | 52  | 44  | 38  | 33  | 29  | 26  |
|                                   |                   | 28 to 45 Degrees  | 1         | 96                        | 96  | 96  | 87  | 74  | 65  | 56  | 50  | 44  |
|                                   |                   |   | 2         | 96                        | 93  | 85  | 72  | 62  | 53  | 47  | 41  | 37  |
|                                   | C                 | 0 to 6 Degrees  | 1         | 96                        | 88  | 80  | 66  | 56  | 48  | 42  | 37  | 33  |
|                                   |                   |   | 2         | 50                        | 45  | 41  | 35  | 30  | 26  | 22  | 20  | 17  |
|                                   |                   | 7 to 27 Degrees   | 1         | 96                        | 94  | 85  | 71  | 61  | 52  | 46  | 40  | 36  |
|                                   |                   |   | 2         | 52                        | 47  | 43  | 36  | 31  | 27  | 23  | 21  | 18  |
|                                   |                   | 28 to 45 Degrees  | 1         | 87                        | 79  | 72  | 61  | 52  | 45  | 40  | 35  | 31  |
|                                   |                   |   | 2         | 72                        | 65  | 60  | 51  | 43  | 38  | 33  | 29  | 26  |
| D                                 | 0 to 6 Degrees    | 1   | 80        | 72                        | 66  | 55  | 47  | 40  | 35  | 31  | 27  |     |
|                                   |                   | 2   | 42        | 38                        | 35  | 29  | 25  | 21  | 19  | 16  | 15  |     |
|                                   | 7 to 27 Degrees   | 1   | 86        | 78                        | 71  | 60  | 51  | 44  | 38  | 34  | 30  |     |
|                                   |                   | 2   | 43        | 39                        | 36  | 30  | 26  | 22  | 20  | 17  | 15  |     |
|                                   | 28 to 45 Degrees  | 1   | 73        | 66                        | 61  | 51  | 44  | 38  | 33  | 30  | 26  |     |
|                                   |                   | 2   | 60        | 55                        | 50  | 43  | 37  | 32  | 28  | 24  | 22  |     |
| 1-10 PSF                          | B                 | 0 to 6 Degrees  | 1         | 96                        | 96  | 96  | 96  | 82  | 70  | 61  | 53  | 47  |
|                                   |                   |   | 2         | 73                        | 66  | 60  | 50  | 43  | 37  | 32  | 28  | 25  |
|                                   |                   | 7 to 27 Degrees   | 1         | 96                        | 96  | 96  | 96  | 88  | 76  | 66  | 58  | 51  |
|                                   |                   |   | 2         | 74                        | 67  | 62  | 52  | 44  | 38  | 33  | 29  | 26  |
|                                   |                   | 28 to 45 Degrees  | 1         | 96                        | 96  | 96  | 87  | 74  | 65  | 56  | 50  | 44  |
|                                   |                   |   | 2         | 96                        | 93  | 85  | 72  | 62  | 53  | 47  | 41  | 37  |
|                                   | C                 | 0 to 6 Degrees  | 1         | 96                        | 88  | 80  | 66  | 56  | 48  | 42  | 37  | 33  |
|                                   |                   |   | 2         | 50                        | 45  | 41  | 35  | 30  | 26  | 22  | 20  | 17  |
|                                   |                   | 7 to 27 Degrees   | 1         | 96                        | 94  | 85  | 71  | 61  | 52  | 46  | 40  | 36  |
|                                   |                   |   | 2         | 52                        | 47  | 43  | 36  | 31  | 27  | 23  | 21  | 18  |
|                                   |                   | 28 to 45 Degrees  | 1         | 87                        | 79  | 72  | 61  | 52  | 45  | 40  | 35  | 31  |
|                                   |                   |   | 2         | 72                        | 65  | 60  | 51  | 43  | 38  | 33  | 29  | 26  |
| D                                 | 0 to 6 Degrees    | 1   | 80        | 72                        | 66  | 55  | 47  | 40  | 35  | 31  | 27  |     |
|                                   |                   | 2   | 42        | 38                        | 35  | 29  | 25  | 21  | 19  | 16  | 15  |     |
|                                   | 7 to 27 Degrees   | 1   | 86        | 78                        | 71  | 60  | 51  | 44  | 38  | 34  | 30  |     |
|                                   |                   | 2   | 43        | 39                        | 36  | 30  | 26  | 22  | 20  | 17  | 15  |     |
|                                   | 28 to 45 Degrees  | 1   | 73        | 66                        | 61  | 51  | 44  | 38  | 33  | 30  | 26  |     |
|                                   |                   | 2   | 60        | 55                        | 50  | 43  | 37  | 32  | 28  | 24  | 22  |     |
| 11-20 PSF                         | B                 | 0 to 6 Degrees  | 1         | 96                        | 96  | 96  | 96  | 82  | 70  | 61  | 53  | 47  |
|                                   |                   |   | 2         | 73                        | 66  | 60  | 50  | 43  | 37  | 32  | 28  | 25  |
|                                   |                   | 7 to 27 Degrees   | 1         | 96                        | 96  | 96  | 96  | 88  | 76  | 66  | 58  | 51  |
|                                   |                   |   | 2         | 74                        | 67  | 62  | 52  | 44  | 38  | 33  | 29  | 26  |
|                                   |                   | 28 to 45 Degrees  | 1         | 96                        | 96  | 96  | 87  | 74  | 65  | 56  | 50  | 44  |
|                                   |                   |   | 2         | 96                        | 93  | 85  | 72  | 62  | 53  | 47  | 41  | 37  |
|                                   | C                 | 0 to 6 Degrees  | 1         | 96                        | 88  | 80  | 66  | 56  | 48  | 42  | 37  | 33  |
|                                   |                   |   | 2         | 50                        | 45  | 41  | 35  | 30  | 26  | 22  | 20  | 17  |
|                                   |                   | 7 to 27 Degrees   | 1         | 96                        | 94  | 85  | 71  | 61  | 52  | 46  | 40  | 36  |
|                                   |                   |   | 2         | 52                        | 47  | 43  | 36  | 31  | 27  | 23  | 21  | 18  |
|                                   |                   | 28 to 45 Degrees  | 1         | 87                        | 79  | 72  | 61  | 52  | 45  | 40  | 35  | 31  |
|                                   |                   |   | 2         | 72                        | 65  | 60  | 51  | 43  | 38  | 33  | 29  | 26  |
| D                                 | 0 to 6 Degrees    | 1   | 80        | 72                        | 66  | 55  | 47  | 40  | 35  | 31  | 27  |     |
|                                   |                   | 2   | 42        | 38                        | 35  | 29  | 25  | 21  | 19  | 16  | 15  |     |
|                                   | 7 to 27 Degrees   | 1   | 86        | 78                        | 71  | 60  | 51  | 44  | 38  | 34  | 30  |     |
|                                   |                   | 2   | 43        | 39                        | 36  | 30  | 26  | 22  | 20  | 17  | 15  |     |
|                                   | 28 to 45 Degrees  | 1   | 73        | 66                        | 61  | 51  | 44  | 38  | 33  | 30  | 26  |     |
|                                   |                   | 2   | 60        | 55                        | 50  | 43  | 37  | 32  | 28  | 24  | 22  |     |



| RT8                               |                   | RT-[E] Mount Mini Plywood Only Installations<br>Maximum Mount Spacing in Inches |           |                           |     |     |     |     |     |     |     |     |
|-----------------------------------|-------------------|---|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Landscape Orientation - ASCE 7-10 |                   |   |           |                           |     |     |     |     |     |     |     |     |
| Snow Load                         | Exposure Category | Roof Angle  | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |
|                                   |                   |   |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 21-30 PSF                         | B                 | 0 to 6 Degrees  | 1         | 96                        | 96  | 96  | 96  | 82  | 70  | 61  | 53  | 47  |
|                                   |                   | 2   | 73        | 66                        | 60  | 50  | 43  | 37  | 32  | 28  | 25  |     |
|                                   |                   | 7 to 27 Degrees   | 1         | 95                        | 95  | 95  | 95  | 88  | 76  | 66  | 58  | 51  |
|                                   |                   | 2   | 74        | 67                        | 62  | 52  | 44  | 38  | 33  | 29  | 26  |     |
|                                   |                   | 28 to 45 Degrees  | 1         | 96                        | 96  | 96  | 87  | 74  | 65  | 56  | 50  | 44  |
|                                   |                   | 2   | 96        | 93                        | 85  | 72  | 62  | 53  | 47  | 41  | 37  |     |
|                                   | C                 | 0 to 6 Degrees  | 1         | 96                        | 88  | 80  | 66  | 56  | 48  | 42  | 37  | 33  |
|                                   |                   | 2   | 50        | 45                        | 41  | 35  | 30  | 26  | 22  | 20  | 17  |     |
|                                   |                   | 7 to 27 Degrees   | 1         | 95                        | 94  | 85  | 71  | 61  | 52  | 46  | 40  | 36  |
|                                   |                   | 2   | 52        | 47                        | 43  | 36  | 31  | 27  | 23  | 21  | 18  |     |
|                                   |                   | 28 to 45 Degrees  | 1         | 87                        | 79  | 72  | 61  | 52  | 45  | 40  | 35  | 31  |
|                                   |                   | 2   | 72        | 65                        | 60  | 51  | 43  | 38  | 33  | 29  | 26  |     |
| D                                 | 0 to 6 Degrees    | 1   | 80        | 72                        | 66  | 55  | 47  | 40  | 35  | 31  | 27  |     |
|                                   | 2                 | 42  | 38        | 35                        | 29  | 25  | 21  | 19  | 16  | 15  |     |     |
|                                   | 7 to 27 Degrees   | 1   | 86        | 78                        | 71  | 60  | 51  | 44  | 38  | 34  | 30  |     |
|                                   | 2                 | 43  | 39        | 36                        | 30  | 26  | 22  | 20  | 17  | 15  |     |     |
|                                   | 28 to 45 Degrees  | 1   | 73        | 66                        | 61  | 51  | 44  | 38  | 33  | 30  | 26  |     |
|                                   | 2                 | 60  | 55        | 50                        | 43  | 37  | 32  | 28  | 24  | 22  |     |     |
| 31-40 PSF                         | B                 | 0 to 6 Degrees  | 1         | 91                        | 91  | 91  | 91  | 82  | 70  | 61  | 53  | 47  |
|                                   |                   | 2   | 73        | 66                        | 60  | 50  | 43  | 37  | 32  | 28  | 25  |     |
|                                   |                   | 7 to 27 Degrees   | 1         | 74                        | 74  | 74  | 74  | 74  | 74  | 66  | 58  | 51  |
|                                   |                   | 2   | 74        | 67                        | 62  | 52  | 44  | 38  | 33  | 29  | 26  |     |
|                                   |                   | 28 to 45 Degrees  | 1         | 91                        | 91  | 91  | 87  | 74  | 65  | 56  | 50  | 44  |
|                                   |                   | 2   | 91        | 91                        | 85  | 72  | 62  | 53  | 47  | 41  | 37  |     |
|                                   | C                 | 0 to 6 Degrees  | 1         | 91                        | 88  | 80  | 66  | 56  | 48  | 42  | 37  | 33  |
|                                   |                   | 2   | 50        | 45                        | 41  | 35  | 30  | 26  | 22  | 20  | 17  |     |
|                                   |                   | 7 to 27 Degrees   | 1         | 74                        | 74  | 74  | 71  | 61  | 52  | 46  | 40  | 36  |
|                                   |                   | 2   | 52        | 47                        | 43  | 36  | 31  | 27  | 23  | 21  | 18  |     |
|                                   |                   | 28 to 45 Degrees  | 1         | 87                        | 79  | 72  | 61  | 52  | 45  | 40  | 35  | 31  |
|                                   |                   | 2   | 72        | 65                        | 60  | 51  | 43  | 38  | 33  | 29  | 26  |     |
| D                                 | 0 to 6 Degrees    | 1   | 80        | 72                        | 66  | 55  | 47  | 40  | 35  | 31  | 27  |     |
|                                   | 2                 | 42  | 38        | 35                        | 29  | 25  | 21  | 19  | 16  | 15  |     |     |
|                                   | 7 to 27 Degrees   | 1   | 74        | 74                        | 71  | 60  | 51  | 44  | 38  | 34  | 30  |     |
|                                   | 2                 | 43  | 39        | 36                        | 30  | 26  | 22  | 20  | 17  | 15  |     |     |
|                                   | 28 to 45 Degrees  | 1   | 73        | 66                        | 61  | 51  | 44  | 38  | 33  | 30  | 26  |     |
|                                   | 2                 | 60  | 55        | 50                        | 43  | 37  | 32  | 28  | 24  | 22  |     |     |
| 41-50 PSF                         | B                 | 0 to 6 Degrees  | 1         | 75                        | 75  | 75  | 75  | 75  | 70  | 61  | 53  | 47  |
|                                   |                   | 2   | 73        | 66                        | 60  | 50  | 43  | 37  | 32  | 28  | 25  |     |
|                                   |                   | 7 to 27 Degrees   | 1         | 61                        | 61  | 61  | 61  | 61  | 61  | 61  | 58  | 51  |
|                                   |                   | 2   | 61        | 61                        | 61  | 52  | 44  | 38  | 33  | 29  | 26  |     |
|                                   |                   | 28 to 45 Degrees  | 1         | 76                        | 76  | 76  | 76  | 74  | 65  | 56  | 50  | 44  |
|                                   |                   | 2   | 76        | 76                        | 76  | 72  | 62  | 53  | 47  | 41  | 37  |     |
|                                   | C                 | 0 to 6 Degrees  | 1         | 75                        | 75  | 75  | 66  | 56  | 48  | 42  | 37  | 33  |
|                                   |                   | 2   | 50        | 45                        | 41  | 35  | 30  | 26  | 22  | 20  | 17  |     |
|                                   |                   | 7 to 27 Degrees   | 1         | 61                        | 61  | 61  | 61  | 61  | 52  | 46  | 40  | 36  |
|                                   |                   | 2   | 52        | 47                        | 43  | 36  | 31  | 27  | 23  | 21  | 18  |     |
|                                   |                   | 28 to 45 Degrees  | 1         | 76                        | 75  | 72  | 61  | 52  | 45  | 40  | 35  | 31  |
|                                   |                   | 2   | 72        | 65                        | 60  | 51  | 43  | 38  | 33  | 29  | 26  |     |
| D                                 | 0 to 6 Degrees    | 1   | 75        | 72                        | 66  | 55  | 47  | 40  | 35  | 31  | 27  |     |
|                                   | 2                 | 42  | 38        | 35                        | 29  | 25  | 21  | 19  | 16  | 15  |     |     |
|                                   | 7 to 27 Degrees   | 1   | 61        | 61                        | 61  | 60  | 51  | 44  | 38  | 34  | 30  |     |
|                                   | 2                 | 43  | 39        | 36                        | 30  | 26  | 22  | 20  | 17  | 15  |     |     |
|                                   | 28 to 45 Degrees  | 1   | 73        | 66                        | 61  | 51  | 44  | 38  | 33  | 30  | 26  |     |
|                                   | 2                 | 60  | 55        | 50                        | 43  | 37  | 32  | 28  | 24  | 22  |     |     |

| RT8       | RT-[E] Mount Mini Plywood Only Installations<br>Maximum Mount Spacing in Inches |            |           |     |     |     |                           |     |     |     |     |     |    |
|-----------|---|------------|-----------|-----|-----|-----|---------------------------|-----|-----|-----|-----|-----|----|
|           | Landscape Orientation - ASCE 7-10   |            |           |     |     |     |                           |     |     |     |     |     |    |
| Snow Load | Exposure Category   | Roof Angle | Roof Zone | 110 | 115 | 120 | Basic Wind Speed, V (mph) |     |     |     |     |     |    |
|           |   |            |           |     |     |     | 130                       | 140 | 150 | 160 | 170 | 180 |    |
| 51-60 PSF | B   | 0 to 6     | 1         | 63  | 63  | 63  | 63                        | 63  | 63  | 61  | 53  | 47  |    |
|           |   | Degrees    | 2         | 63  | 63  | 60  | 50                        | 43  | 37  | 32  | 28  | 25  |    |
|           |   | 7 to 27    | 1         | 51  | 51  | 51  | 51                        | 51  | 51  | 51  | 51  | 51  | 51 |
|           |   | Degrees    | 2         | 51  | 51  | 51  | 51                        | 44  | 38  | 33  | 29  | 26  |    |
|           | C   | 28 to 45   | 1         | 64  | 64  | 64  | 64                        | 64  | 64  | 64  | 56  | 50  | 44 |
|           |   | Degrees    | 2         | 64  | 64  | 64  | 64                        | 62  | 53  | 47  | 41  | 37  |    |
|           |   | 0 to 6     | 1         | 63  | 63  | 63  | 63                        | 56  | 48  | 42  | 37  | 33  |    |
|           |   | Degrees    | 2         | 50  | 45  | 41  | 35                        | 30  | 26  | 22  | 20  | 17  |    |
|           | D   | 7 to 27    | 1         | 51  | 51  | 51  | 51                        | 51  | 51  | 51  | 46  | 40  | 36 |
|           |   | Degrees    | 2         | 51  | 47  | 43  | 36                        | 31  | 27  | 23  | 21  | 18  |    |
|           |   | 28 to 45   | 1         | 64  | 64  | 64  | 61                        | 52  | 45  | 40  | 35  | 31  |    |
|           |   | Degrees    | 2         | 64  | 64  | 60  | 51                        | 43  | 38  | 33  | 29  | 26  |    |
| 61-70 PSF | B   | 0 to 6     | 1         | 63  | 63  | 63  | 55                        | 56  | 40  | 35  | 31  | 27  |    |
|           |   | Degrees    | 2         | 42  | 38  | 35  | 29                        | 25  | 21  | 19  | 16  | 15  |    |
|           |   | 7 to 27    | 1         | 51  | 51  | 51  | 51                        | 51  | 44  | 38  | 34  | 30  |    |
|           |   | Degrees    | 2         | 43  | 39  | 36  | 30                        | 26  | 22  | 20  | 17  | 15  |    |
|           | C   | 28 to 45   | 1         | 64  | 64  | 61  | 51                        | 44  | 38  | 33  | 30  | 26  |    |
|           |   | Degrees    | 2         | 60  | 55  | 50  | 43                        | 37  | 32  | 28  | 24  | 22  |    |
|           |   | 0 to 6     | 1         | 54  | 54  | 54  | 54                        | 54  | 54  | 54  | 54  | 53  | 47 |
|           |   | Degrees    | 2         | 54  | 54  | 54  | 50                        | 43  | 37  | 32  | 28  | 25  |    |
|           | D   | 7 to 27    | 1         | 44  | 44  | 44  | 44                        | 44  | 44  | 44  | 44  | 44  | 44 |
|           |   | Degrees    | 2         | 44  | 44  | 44  | 44                        | 44  | 38  | 33  | 29  | 26  |    |
|           |   | 28 to 45   | 1         | 56  | 56  | 56  | 56                        | 56  | 56  | 56  | 50  | 44  |    |
|           |   | Degrees    | 2         | 56  | 56  | 56  | 56                        | 56  | 53  | 47  | 41  | 37  |    |
| C         | 0 to 6  | 1          | 54        | 54  | 54  | 54  | 54                        | 48  | 42  | 37  | 33  |     |    |
|           | Degrees   | 2          | 50        | 45  | 41  | 35  | 30                        | 26  | 22  | 20  | 17  |     |    |
|           | 7 to 27   | 1          | 44        | 44  | 44  | 44  | 44                        | 44  | 44  | 44  | 40  | 36  |    |
|           | Degrees   | 2          | 44        | 44  | 43  | 36  | 31                        | 27  | 23  | 21  | 18  |     |    |
|           | 28 to 45  | 1          | 56        | 56  | 56  | 56  | 52                        | 45  | 40  | 35  | 31  |     |    |
|           | Degrees   | 2          | 56        | 56  | 56  | 51  | 43                        | 38  | 33  | 29  | 26  |     |    |
|           | 0 to 6  | 1          | 54        | 54  | 54  | 54  | 47                        | 40  | 35  | 31  | 27  |     |    |
|           | Degrees   | 2          | 42        | 38  | 35  | 29  | 25                        | 21  | 19  | 16  | 15  |     |    |
| D         | 7 to 27   | 1          | 44        | 44  | 44  | 44  | 44                        | 44  | 44  | 38  | 34  | 30  |    |
|           | Degrees   | 2          | 43        | 39  | 36  | 30  | 26                        | 22  | 20  | 17  | 15  |     |    |
|           | 28 to 45  | 1          | 56        | 56  | 56  | 51  | 44                        | 38  | 33  | 30  | 26  |     |    |
|           | Degrees   | 2          | 56        | 55  | 50  | 43  | 37                        | 32  | 28  | 24  | 22  |     |    |

| RT9       | RT-[E] Mount Mini OSB Only Installations Cont.<br>Maximum Mount Spacing in Inches |                  |           |                           |     |     |     |     |     |     |     |     |
|-----------|---|------------------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
|           | Landscape Orientation - ASCE 7-10   |                  |           |                           |     |     |     |     |     |     |     |     |
| Snow Load | Exposure Category   | Roof Angle       | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |
|           |   |                  |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 0 PSF     | B   | 0 to 6 Degrees   | 1         | 96                        | 96  | 96  | 83  | 70  | 60  | 52  | 45  | 40  |
|           |   |                  | 2         | 62                        | 56  | 51  | 43  | 36  | 31  | 27  | 24  | 21  |
|           |   | 7 to 27 Degrees  | 1         | 96                        | 96  | 96  | 87  | 74  | 63  | 55  | 48  | 43  |
|           |   |                  | 2         | 62                        | 57  | 52  | 44  | 37  | 32  | 28  | 25  | 22  |
|           |   | 28 to 45 Degrees | 1         | 96                        | 93  | 85  | 72  | 62  | 54  | 47  | 42  | 37  |
|           |   |                  | 2         | 85                        | 77  | 71  | 60  | 52  | 45  | 39  | 35  | 31  |
|           | C   | 0 to 6 Degrees   | 1         | 82                        | 74  | 67  | 56  | 48  | 41  | 36  | 31  | 28  |
|           |   |                  | 2         | 42                        | 38  | 35  | 29  | 25  | 22  | 19  | 17  | 15  |
|           |   | 7 to 27 Degrees  | 1         | 86                        | 78  | 71  | 60  | 51  | 44  | 39  | 34  | 30  |
|           |   |                  | 2         | 43                        | 40  | 36  | 31  | 26  | 23  | 20  | 17  | 15  |
|           |   | 28 to 45 Degrees | 1         | 72                        | 66  | 60  | 51  | 44  | 38  | 33  | 30  | 26  |
|           |   |                  | 2         | 60                        | 55  | 50  | 42  | 36  | 32  | 28  | 24  | 22  |
| D         | 0 to 6 Degrees  | 1                | 68        | 61                        | 56  | 47  | 40  | 34  | 30  | 26  | 23  |     |
|           |   | 2                | 35        | 32                        | 29  | 25  | 21  | 18  | 16  | 14  | 12  |     |
|           | 7 to 27 Degrees   | 1                | 72        | 65                        | 59  | 50  | 43  | 37  | 32  | 28  | 25  |     |
|           |   | 2                | 36        | 33                        | 30  | 26  | 22  | 19  | 17  | 15  | 13  |     |
|           | 28 to 45 Degrees  | 1                | 61        | 55                        | 51  | 43  | 37  | 32  | 28  | 25  | 22  |     |
|           |   | 2                | 50        | 46                        | 42  | 36  | 31  | 27  | 23  | 21  | 18  |     |
| 1-10 PSF  | B   | 0 to 6 Degrees   | 1         | 93                        | 93  | 93  | 83  | 70  | 60  | 52  | 45  | 40  |
|           |   |                  | 2         | 62                        | 56  | 51  | 43  | 36  | 31  | 27  | 24  | 21  |
|           |   | 7 to 27 Degrees  | 1         | 84                        | 84  | 84  | 84  | 74  | 63  | 55  | 48  | 43  |
|           |   |                  | 2         | 62                        | 57  | 52  | 44  | 37  | 32  | 28  | 25  | 22  |
|           |   | 28 to 45 Degrees | 1         | 91                        | 88  | 85  | 72  | 62  | 54  | 47  | 42  | 37  |
|           |   |                  | 2         | 85                        | 77  | 71  | 60  | 52  | 45  | 39  | 35  | 31  |
|           | C   | 0 to 6 Degrees   | 1         | 82                        | 74  | 67  | 56  | 48  | 41  | 36  | 31  | 28  |
|           |   |                  | 2         | 42                        | 38  | 35  | 29  | 25  | 22  | 19  | 17  | 15  |
|           |   | 7 to 27 Degrees  | 1         | 84                        | 78  | 71  | 60  | 51  | 44  | 39  | 34  | 30  |
|           |   |                  | 2         | 43                        | 40  | 36  | 31  | 26  | 23  | 20  | 17  | 15  |
|           |   | 28 to 45 Degrees | 1         | 72                        | 66  | 60  | 51  | 44  | 38  | 33  | 30  | 26  |
|           |   |                  | 2         | 60                        | 55  | 50  | 42  | 36  | 32  | 28  | 24  | 22  |
| D         | 0 to 6 Degrees  | 1                | 68        | 61                        | 56  | 47  | 40  | 34  | 30  | 26  | 23  |     |
|           |   | 2                | 35        | 32                        | 29  | 25  | 21  | 18  | 16  | 14  | 12  |     |
|           | 7 to 27 Degrees   | 1                | 72        | 65                        | 59  | 50  | 43  | 37  | 32  | 28  | 25  |     |
|           |   | 2                | 36        | 33                        | 30  | 26  | 22  | 19  | 17  | 15  | 13  |     |
|           | 28 to 45 Degrees  | 1                | 61        | 55                        | 51  | 43  | 37  | 32  | 28  | 25  | 22  |     |
|           |   | 2                | 50        | 46                        | 42  | 36  | 31  | 27  | 23  | 21  | 18  |     |
| 11-20 PSF | B   | 0 to 6 Degrees   | 1         | 65                        | 65  | 65  | 65  | 65  | 60  | 52  | 45  | 40  |
|           |   |                  | 2         | 62                        | 56  | 51  | 43  | 36  | 31  | 27  | 24  | 21  |
|           |   | 7 to 27 Degrees  | 1         | 59                        | 59  | 59  | 59  | 59  | 58  | 55  | 48  | 43  |
|           |   |                  | 2         | 59                        | 57  | 52  | 44  | 37  | 32  | 28  | 25  | 22  |
|           |   | 28 to 45 Degrees | 1         | 69                        | 67  | 65  | 62  | 59  | 54  | 47  | 42  | 37  |
|           |   |                  | 2         | 69                        | 67  | 65  | 60  | 52  | 45  | 39  | 35  | 31  |
|           | C   | 0 to 6 Degrees   | 1         | 65                        | 65  | 65  | 56  | 48  | 41  | 36  | 31  | 28  |
|           |   |                  | 2         | 42                        | 38  | 35  | 29  | 25  | 22  | 19  | 17  | 15  |
|           |   | 7 to 27 Degrees  | 1         | 59                        | 59  | 59  | 57  | 51  | 44  | 39  | 34  | 30  |
|           |   |                  | 2         | 43                        | 40  | 36  | 31  | 26  | 23  | 20  | 17  | 15  |
|           |   | 28 to 45 Degrees | 1         | 62                        | 60  | 58  | 51  | 44  | 38  | 33  | 30  | 26  |
|           |   |                  | 2         | 60                        | 55  | 50  | 42  | 36  | 32  | 28  | 24  | 22  |
| D         | 0 to 6 Degrees  | 1                | 65        | 61                        | 56  | 47  | 40  | 34  | 30  | 26  | 23  |     |
|           |   | 2                | 35        | 32                        | 29  | 25  | 21  | 18  | 16  | 14  | 12  |     |
|           | 7 to 27 Degrees   | 1                | 59        | 58                        | 57  | 50  | 43  | 37  | 32  | 28  | 25  |     |
|           |   | 2                | 36        | 33                        | 30  | 26  | 22  | 19  | 17  | 15  | 13  |     |
|           | 28 to 45 Degrees  | 1                | 58        | 55                        | 51  | 43  | 37  | 32  | 28  | 25  | 22  |     |
|           |   | 2                | 50        | 46                        | 42  | 36  | 31  | 27  | 23  | 21  | 18  |     |

| RT9                               |                   | RT-[E] Mount Mini OSB Only Installations Cont.<br>Maximum Mount Spacing in Inches |           |                           |     |     |     |     |     |     |     |     |
|-----------------------------------|-------------------|---|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Landscape Orientation - ASCE 7-10 |                   |   |           |                           |     |     |     |     |     |     |     |     |
| Snow Load                         | Exposure Category | Roof Angle  | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |
|                                   |                   |   |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 21-30 PSF                         | B                 | 0 to 6 Degrees  | 1         | 57                        | 57  | 57  | 57  | 57  | 57  | 52  | 45  | 40  |
|                                   |                   | 2   | 57        | 56                        | 51  | 43  | 36  | 31  | 27  | 24  | 21  |     |
|                                   |                   | 7 to 27 Degrees   | 1         | 50                        | 50  | 50  | 50  | 50  | 50  | 49  | 47  | 43  |
|                                   |                   | 2   | 50        | 50                        | 50  | 44  | 37  | 32  | 28  | 25  | 22  |     |
|                                   |                   | 28 to 45 Degrees  | 1         | 61                        | 60  | 58  | 56  | 53  | 50  | 47  | 42  | 37  |
|                                   |                   | 2   | 61        | 60                        | 58  | 56  | 52  | 45  | 39  | 35  | 31  |     |
|                                   | C                 | 0 to 6 Degrees  | 1         | 57                        | 57  | 57  | 56  | 48  | 41  | 36  | 31  | 28  |
|                                   |                   | 2   | 42        | 38                        | 35  | 29  | 25  | 22  | 19  | 17  | 15  |     |
|                                   |                   | 7 to 27 Degrees   | 1         | 50                        | 50  | 50  | 50  | 48  | 44  | 39  | 34  | 30  |
|                                   |                   | 2   | 43        | 40                        | 36  | 31  | 26  | 23  | 20  | 17  | 15  |     |
|                                   |                   | 28 to 45 Degrees  | 1         | 56                        | 54  | 52  | 49  | 44  | 38  | 33  | 30  | 26  |
|                                   |                   | 2   | 56        | 54                        | 50  | 42  | 36  | 32  | 28  | 24  | 22  |     |
| D                                 | 0 to 6 Degrees    | 1   | 57        | 57                        | 56  | 47  | 40  | 34  | 30  | 26  | 23  |     |
|                                   | 2                 | 35  | 32        | 29                        | 25  | 21  | 18  | 16  | 14  | 12  |     |     |
|                                   | 7 to 27 Degrees   | 1   | 50        | 50                        | 49  | 48  | 43  | 37  | 32  | 28  | 25  |     |
|                                   | 2                 | 36  | 33        | 30                        | 26  | 22  | 19  | 17  | 15  | 13  |     |     |
|                                   | 28 to 45 Degrees  | 1   | 52        | 51                        | 49  | 43  | 37  | 32  | 28  | 25  | 22  |     |
|                                   | 2                 | 50  | 46        | 42                        | 36  | 31  | 27  | 23  | 21  | 18  |     |     |
| 31-40 PSF                         | B                 | 0 to 6 Degrees  | 1         | 44                        | 44  | 44  | 44  | 44  | 44  | 44  | 44  | 40  |
|                                   |                   | 2   | 44        | 44                        | 44  | 43  | 36  | 31  | 27  | 24  | 21  |     |
|                                   |                   | 7 to 27 Degrees   | 1         | 39                        | 39  | 39  | 39  | 39  | 39  | 39  | 39  | 38  |
|                                   |                   | 2   | 39        | 39                        | 39  | 39  | 37  | 32  | 28  | 25  | 22  |     |
|                                   |                   | 28 to 45 Degrees  | 1         | 52                        | 51  | 50  | 48  | 46  | 44  | 42  | 40  | 37  |
|                                   |                   | 2   | 52        | 51                        | 50  | 48  | 46  | 44  | 39  | 35  | 31  |     |
|                                   | C                 | 0 to 6 Degrees  | 1         | 44                        | 44  | 44  | 44  | 44  | 41  | 36  | 31  | 28  |
|                                   |                   | 2   | 42        | 38                        | 35  | 29  | 25  | 22  | 19  | 17  | 15  |     |
|                                   |                   | 7 to 27 Degrees   | 1         | 39                        | 39  | 39  | 39  | 39  | 38  | 37  | 34  | 30  |
|                                   |                   | 2   | 39        | 39                        | 36  | 31  | 26  | 23  | 20  | 17  | 15  |     |
|                                   |                   | 28 to 45 Degrees  | 1         | 48                        | 46  | 45  | 43  | 41  | 38  | 33  | 30  | 26  |
|                                   |                   | 2   | 48        | 46                        | 45  | 42  | 36  | 32  | 28  | 24  | 22  |     |
| D                                 | 0 to 6 Degrees    | 1   | 44        | 44                        | 44  | 44  | 40  | 34  | 30  | 26  | 23  |     |
|                                   | 2                 | 35  | 32        | 29                        | 25  | 21  | 18  | 16  | 14  | 12  |     |     |
|                                   | 7 to 27 Degrees   | 1   | 39        | 39                        | 39  | 39  | 38  | 37  | 32  | 28  | 25  |     |
|                                   | 2                 | 36  | 33        | 30                        | 26  | 22  | 19  | 17  | 15  | 13  |     |     |
|                                   | 28 to 45 Degrees  | 1   | 45        | 44                        | 43  | 40  | 37  | 32  | 28  | 25  | 22  |     |
|                                   | 2                 | 45  | 44        | 42                        | 36  | 31  | 27  | 23  | 21  | 18  |     |     |
| 41-50 PSF                         | B                 | 0 to 6 Degrees  | 1         | 36                        | 36  | 36  | 36  | 36  | 36  | 36  | 36  | 36  |
|                                   |                   | 2   | 36        | 36                        | 36  | 36  | 36  | 31  | 27  | 24  | 21  |     |
|                                   |                   | 7 to 27 Degrees   | 1         | 32                        | 32  | 32  | 32  | 32  | 32  | 32  | 32  | 32  |
|                                   |                   | 2   | 32        | 32                        | 32  | 32  | 32  | 32  | 28  | 25  | 22  |     |
|                                   |                   | 28 to 45 Degrees  | 1         | 43                        | 43  | 43  | 42  | 40  | 39  | 37  | 36  | 34  |
|                                   |                   | 2   | 43        | 43                        | 43  | 42  | 40  | 39  | 37  | 35  | 31  |     |
|                                   | C                 | 0 to 6 Degrees  | 1         | 36                        | 36  | 36  | 36  | 36  | 36  | 36  | 31  | 28  |
|                                   |                   | 2   | 36        | 36                        | 35  | 29  | 25  | 22  | 19  | 17  | 15  |     |
|                                   |                   | 7 to 27 Degrees   | 1         | 32                        | 32  | 32  | 32  | 32  | 32  | 32  | 31  | 30  |
|                                   |                   | 2   | 32        | 32                        | 32  | 31  | 26  | 23  | 20  | 17  | 15  |     |
|                                   |                   | 28 to 45 Degrees  | 1         | 42                        | 41  | 40  | 38  | 36  | 34  | 33  | 30  | 26  |
|                                   |                   | 2   | 42        | 41                        | 40  | 38  | 36  | 32  | 28  | 24  | 22  |     |
| D                                 | 0 to 6 Degrees    | 1   | 36        | 36                        | 36  | 36  | 36  | 34  | 30  | 26  | 23  |     |
|                                   | 2                 | 35  | 32        | 29                        | 25  | 21  | 18  | 16  | 14  | 12  |     |     |
|                                   | 7 to 27 Degrees   | 1   | 32        | 32                        | 32  | 32  | 32  | 32  | 31  | 28  | 25  |     |
|                                   | 2                 | 32  | 32        | 30                        | 26  | 22  | 19  | 17  | 15  | 13  |     |     |
|                                   | 28 to 45 Degrees  | 1   | 40        | 39                        | 38  | 36  | 34  | 32  | 28  | 25  | 22  |     |
|                                   | 2                 | 40  | 39        | 38                        | 36  | 31  | 27  | 23  | 21  | 18  |     |     |

| RT9                               |                   | RT-[E] Mount Mini OSB Only Installations Cont.<br>Maximum Mount Spacing in Inches |           |                           |     |     |     |     |     |     |     |     |    |    |
|-----------------------------------|-------------------|---|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|----|----|
| Landscape Orientation - ASCE 7-10 |                   |   |           |                           |     |     |     |     |     |     |     |     |    |    |
| Snow Load                         | Exposure Category | Roof Angle  | Roof Zone | Basic Wind Speed, V (mph) |     |     |     |     |     |     |     |     |    |    |
|                                   |                   |   |           | 110                       | 115 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |    |    |
| 51-60 PSF                         | B                 | 0 to 6 Degrees  | 1         | 30                        | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30 |    |
|                                   |                   |   | 2         | 30                        | 30  | 30  | 30  | 30  | 30  | 27  | 24  | 21  |    |    |
|                                   |                   | 7 to 27 Degrees   | 1         | 27                        | 27  | 27  | 27  | 27  | 27  | 27  | 27  | 27  | 27 | 27 |
|                                   |                   |   | 2         | 27                        | 27  | 27  | 27  | 27  | 27  | 27  | 27  | 25  | 22 |    |
|                                   |                   | 28 to 45 Degrees  | 1         | 37                        | 37  | 37  | 37  | 36  | 35  | 33  | 32  | 31  |    |    |
|                                   |                   |   | 2         | 37                        | 37  | 37  | 37  | 36  | 35  | 33  | 32  | 31  |    |    |
|                                   | C                 | 0 to 6 Degrees  | 1         | 30                        | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 28 |    |
|                                   |                   |   | 2         | 30                        | 30  | 30  | 29  | 25  | 22  | 19  | 17  | 15  |    |    |
|                                   |                   | 7 to 27 Degrees   | 1         | 27                        | 27  | 27  | 27  | 27  | 27  | 27  | 27  | 27  | 27 |    |
|                                   |                   |   | 2         | 27                        | 27  | 27  | 27  | 26  | 23  | 20  | 17  | 15  |    |    |
|                                   |                   | 28 to 45 Degrees  | 1         | 37                        | 36  | 36  | 34  | 33  | 31  | 30  | 28  | 26  |    |    |
|                                   |                   |   | 2         | 37                        | 36  | 36  | 34  | 33  | 31  | 28  | 24  | 22  |    |    |
|                                   | D                 | 0 to 6 Degrees  | 1         | 30                        | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 26  | 23 |    |
|                                   |                   |   | 2         | 30                        | 30  | 29  | 25  | 21  | 18  | 16  | 14  | 12  |    |    |
|                                   |                   | 7 to 27 Degrees   | 1         | 27                        | 27  | 27  | 27  | 27  | 27  | 27  | 27  | 26  | 25 |    |
|                                   |                   |   | 2         | 27                        | 27  | 27  | 26  | 22  | 19  | 17  | 15  | 13  |    |    |
| 28 to 45 Degrees                  |                   | 1   | 36        | 35                        | 34  | 32  | 31  | 29  | 28  | 25  | 22  |     |    |    |
|                                   |                   | 2   | 36        | 35                        | 34  | 32  | 31  | 27  | 23  | 21  | 18  |     |    |    |
| 61-70 PSF                         | B                 | 0 to 6 Degrees  | 1         | 26                        | 26  | 26  | 26  | 26  | 26  | 26  | 26  | 26  | 26 |    |
|                                   |                   |   | 2         | 26                        | 26  | 26  | 26  | 26  | 26  | 26  | 24  | 21  |    |    |
|                                   |                   | 7 to 27 Degrees   | 1         | 23                        | 23  | 23  | 23  | 23  | 23  | 23  | 23  | 23  | 23 |    |
|                                   |                   |   | 2         | 23                        | 23  | 23  | 23  | 23  | 23  | 23  | 23  | 23  | 22 |    |
|                                   |                   | 28 to 45 Degrees  | 1         | 32                        | 32  | 32  | 32  | 32  | 31  | 30  | 29  | 28  |    |    |
|                                   |                   |   | 2         | 32                        | 32  | 32  | 32  | 32  | 31  | 30  | 29  | 28  |    |    |
|                                   | C                 | 0 to 6 Degrees  | 1         | 26                        | 26  | 26  | 26  | 26  | 26  | 26  | 26  | 26  | 26 |    |
|                                   |                   |   | 2         | 26                        | 26  | 26  | 26  | 25  | 22  | 19  | 17  | 15  |    |    |
|                                   |                   | 7 to 27 Degrees   | 1         | 23                        | 23  | 23  | 23  | 23  | 23  | 23  | 23  | 23  | 23 |    |
|                                   |                   |   | 2         | 23                        | 23  | 23  | 23  | 23  | 23  | 23  | 20  | 17  | 15 |    |
|                                   |                   | 28 to 45 Degrees  | 1         | 32                        | 32  | 32  | 31  | 30  | 29  | 27  | 26  | 25  |    |    |
|                                   |                   |   | 2         | 32                        | 32  | 32  | 31  | 30  | 29  | 27  | 24  | 22  |    |    |
|                                   | D                 | 0 to 6 Degrees  | 1         | 26                        | 26  | 26  | 26  | 26  | 26  | 26  | 26  | 26  | 23 |    |
|                                   |                   |   | 2         | 26                        | 26  | 26  | 25  | 21  | 18  | 16  | 14  | 12  |    |    |
|                                   |                   | 7 to 27 Degrees   | 1         | 23                        | 23  | 23  | 23  | 23  | 23  | 23  | 23  | 23  | 23 |    |
|                                   |                   |   | 2         | 23                        | 23  | 23  | 23  | 22  | 19  | 17  | 15  | 13  |    |    |
|                                   |                   | 28 to 45 Degrees  | 1         | 32                        | 31  | 31  | 30  | 28  | 27  | 26  | 25  | 22  |    |    |
|                                   |                   |   | 2         | 32                        | 31  | 31  | 30  | 28  | 27  | 23  | 21  | 18  |    |    |

**Combining Rafter and Deck-Only Mounts:**

It is permissible to combine rafter and deck-only mounting as shown in appendix B, at the end of this letter. In summary, the rafter-to-deck spacing shall be the average of the rafter spacing and deck-only (OSB or Plywood Only) spacing.

Table Notes for Tables RT1 to RT9 – Tabulated values are based on the following criteria:

1. Building mean roof height = 30 ft maximum.
2. Risk Category = II.
3. Solar panel maximum allowable tributary (trib.) widths = 40 inches for Landscape tables, 68 inches for Portrait 60 Cell tables & 77.5 inches for Portrait 72 Cell tables.
  - a. Please note that other PV panels may be used, eg. 90 cell panels, provided they do not exceed the maximum allowable tributary width for the given table used for installation.
  - b. It is acceptable to reduce the maximum span shown in the tables for larger tributary widths by the following equation: “New Max. Span” = “Table Max. Span” x “Table Trib. Width” / “New Trib. Width”; eg. If “New Trib. Width” = 44 inches, you can use the Landscape Tables (40 inch Trib. Width), but you will need to reduce the span as follows: “New Max. Span” = “Table Max. Span” x “40 inches” / “44 inches”. So if the “Table Max. Span” = 96 inches the “New Max. Span” = “96 inches” x “40 inches” / “44 inches” = “87 inches”.
4. Solar panel & rail dead load = approximately 4.0 psf.
5. ASCE 7-10.
6. OSB shall be 24/16 APA rated sheathing minimum (7/16” thick).
7. Plywood shall be 32/16 APA rated sheathing minimum (15/32” thick).
8. Sheathing shall be free of defects including, but not limited to water damage and delamination.
9. Roof rafters or trusses spaced at 24” on center maximum.
10. PV panels must be supported per the manufacturer’s required orientation, location and/or spacing.
11. The mounts may be installed through a maximum of 2 layers of composite asphalt roof shingles or maximum 20 gage metal decking provided the metal is predrilled as wood screws are not designed to penetrate the metal decking.
12. Maximum height from bottom of base mount to L-Foot attachment 3 ¼”. Ref. Exhibit ‘A’ detail 1.

Our analysis assumes that the connections and associated hardware are installed in a workmanlike manner in accordance with the RT-Mini Mount Installation Manual and generally accepted standards of construction practice. It is the responsibility of the contractor to verify that the strength of the roof framing meets the minimum properties used in the tests and can safely support the maximum imposed loads stated within this document. Starling Madison Lofquist, Inc. and Roof Tech assume no liability beyond what is specifically shown in this letter. Additional information is available at the Roof Tech web site, <http://www.roof-tech.us/>.

Please feel free to contact me at your convenience if you have any questions.

Respectfully yours,

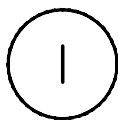
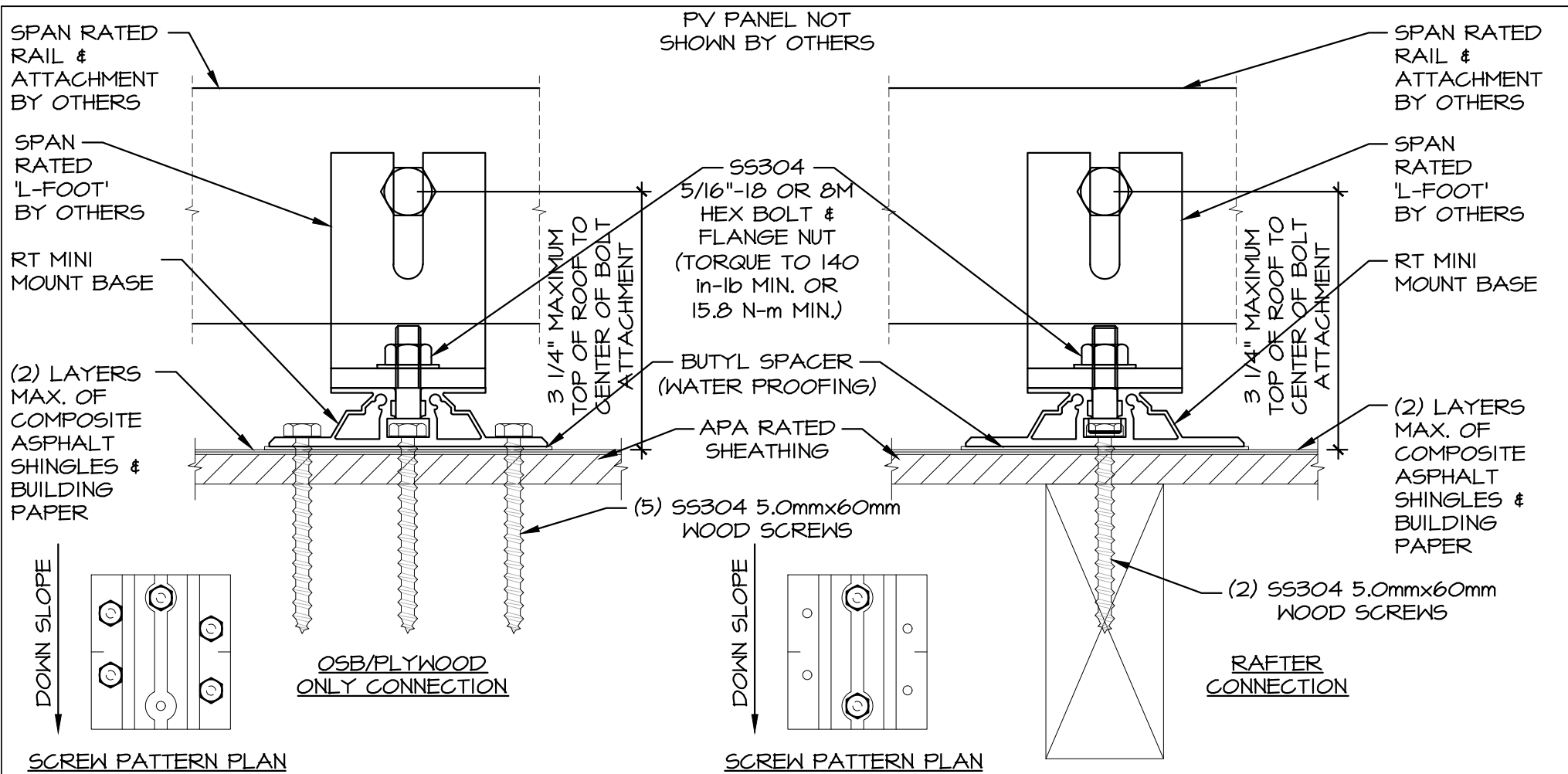
6-9-2022



Exp. 5-31-2023

Andrew Huseman, P.E.  
Licensed Professional Engineer

Jesse Light, P.E., S.E.  
Principal (VP) / Sr. Structural Engineer



'RAIL OPTION' - RAIL AND 'L-FOOT' ORIENTATION

SCALE: N.T.S.



Starling Madison Lofquist, Inc.

3600 E University Dr, Suite 1400

Phoenix, Arizona 85034

(602) 438-2500

fax. (602) 438-2505

Consulting Structural and Forensic Engineers

DRAWN BY: J.S.

DATE: 6-9-22

DESIGNED BY: J.L.

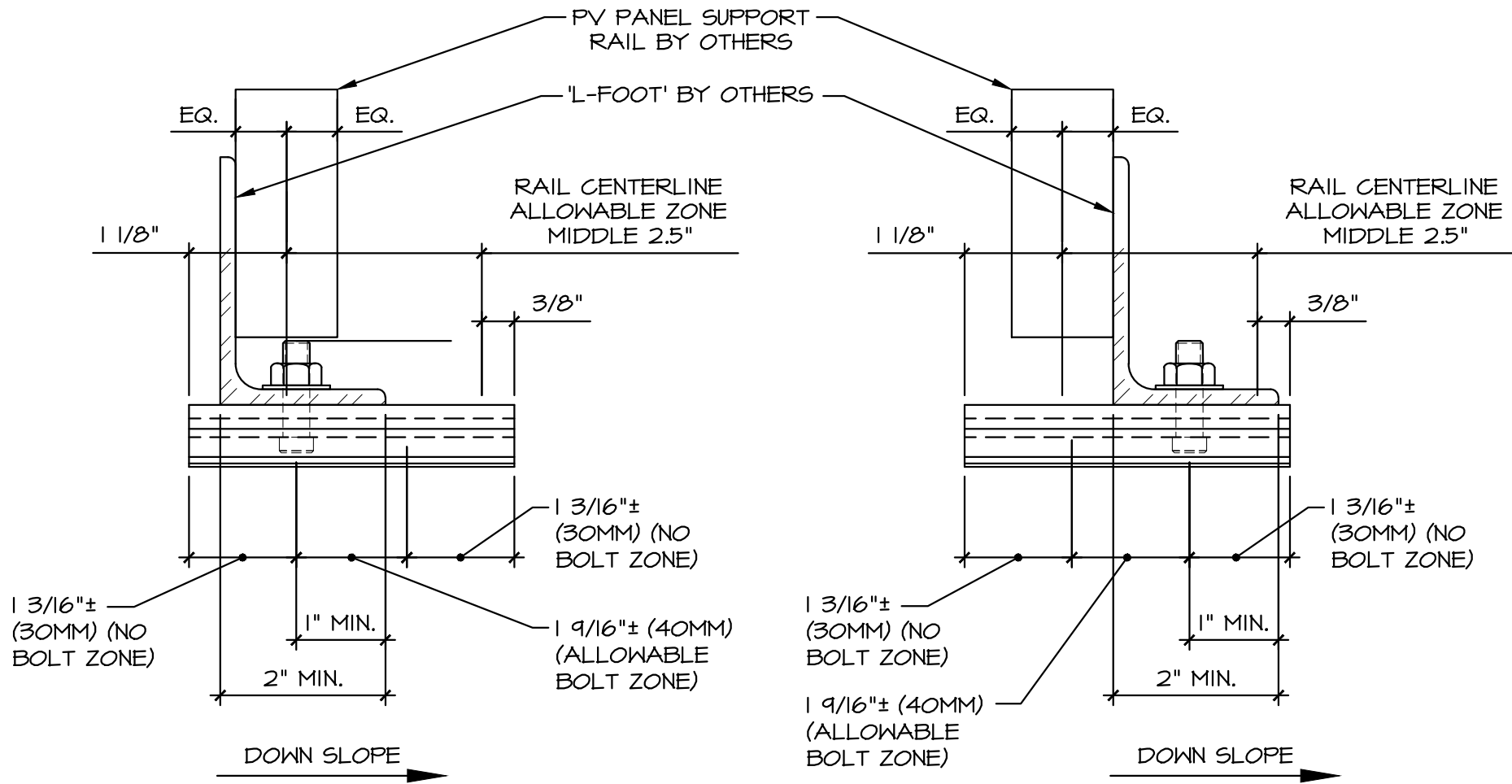
JOB NO: 471-22

ROOF TECH  
RT-MINI MOUNT + RAIL  
STRUCTURAL ANALYSIS

ROOF TECH, INC.  
10620 TREENA ST., SUITE 230  
SAN DIEGO, CA 92131

EXHIBIT A

1 OF 4



2
'RAIL OPTION' - RAIL AND 'L-FOOT' ORIENTATION

SCALE: N.T.S.



Consulting Structural and Forensic Engineers

Starling Madison Lofquist, Inc.

3600 E University Dr, Suite A-1400

Phoenix, Arizona 85034

(602) 438-2500

fax. (602) 438-2505

DRAWN BY: J.S.

DATE: 6-9-22

DESIGNED BY: J.L.

JOB NO: 471-22

ROOF TECH  
RT-MINI MOUNT + RAIL  
STRUCTURAL ANALYSIS

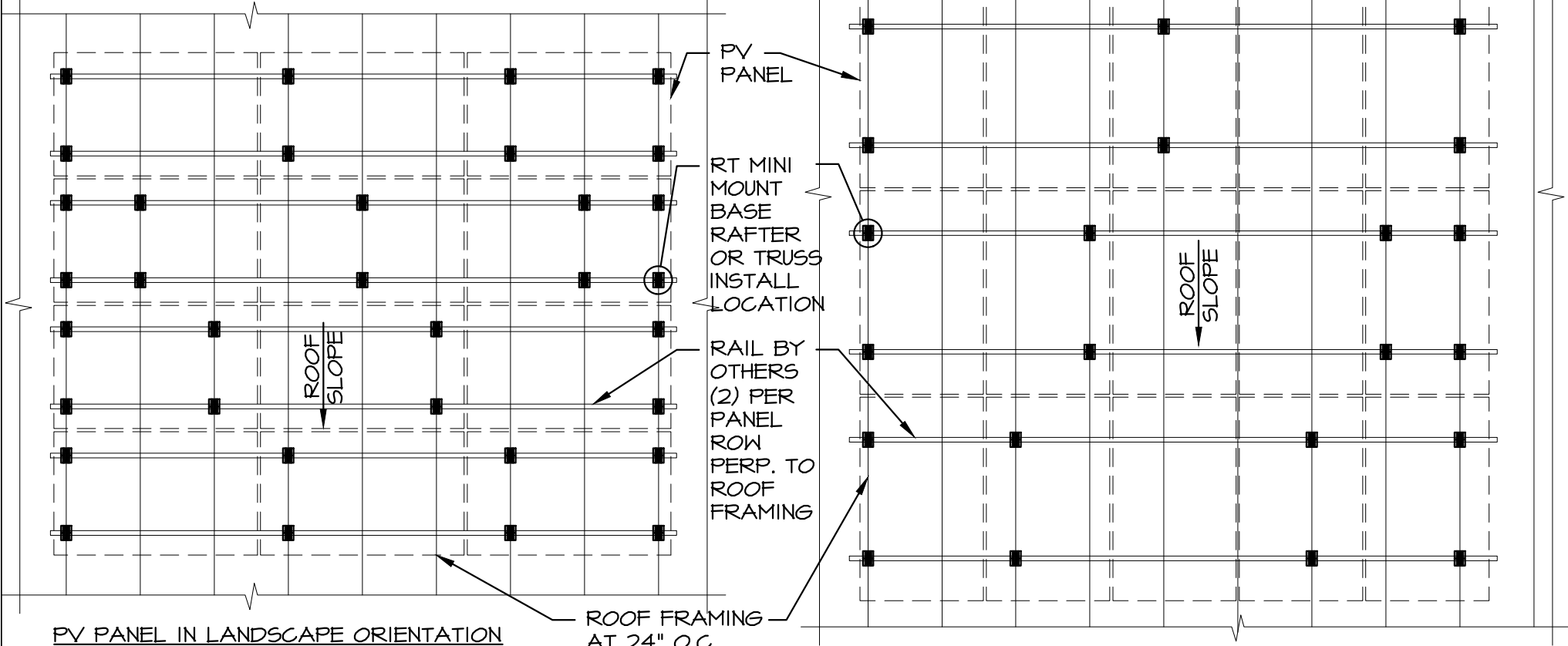
ROOF TECH, INC.  
10620 TREENA ST., SUITE 230  
SAN DIEGO, CA 92131

EXHIBIT A

2 OF 4



NOTE: RT MINI MOUNT BASE TO BE ORIENTED WITH LONG DIRECTION DOWN ROOF SLOPE AS SHOWN. SKIP LOAD ROOF WHERE POSSIBLE TO EVENLY DISTRIBUTE LOAD TO ROOF FRAMING. THERMAL EXPANSION RAIL SPLICES AT MANUFACTURER'S RECOMMENDATIONS OR AT 14 FOOT O.C. MAXIMUM.



PV PANEL IN LANDSCAPE ORIENTATION

ROOF FRAMING AT 24" O.C.

PV PANEL IN PORTRAIT ORIENTATION

### PARTIAL FRAMING PLAN (RAFTER INSTALLATION)

3

SCALE: N.T.S.



Consulting Structural and Forensic Engineers

Starling Madison Lofquist, Inc.

3600 E University Dr, Suite A-1400  
 Phoenix, Arizona 85034  
 (602) 438-2500  
 fax. (602) 438-2505

DRAWN BY: J.S.  
 DESIGNED BY: J.L.

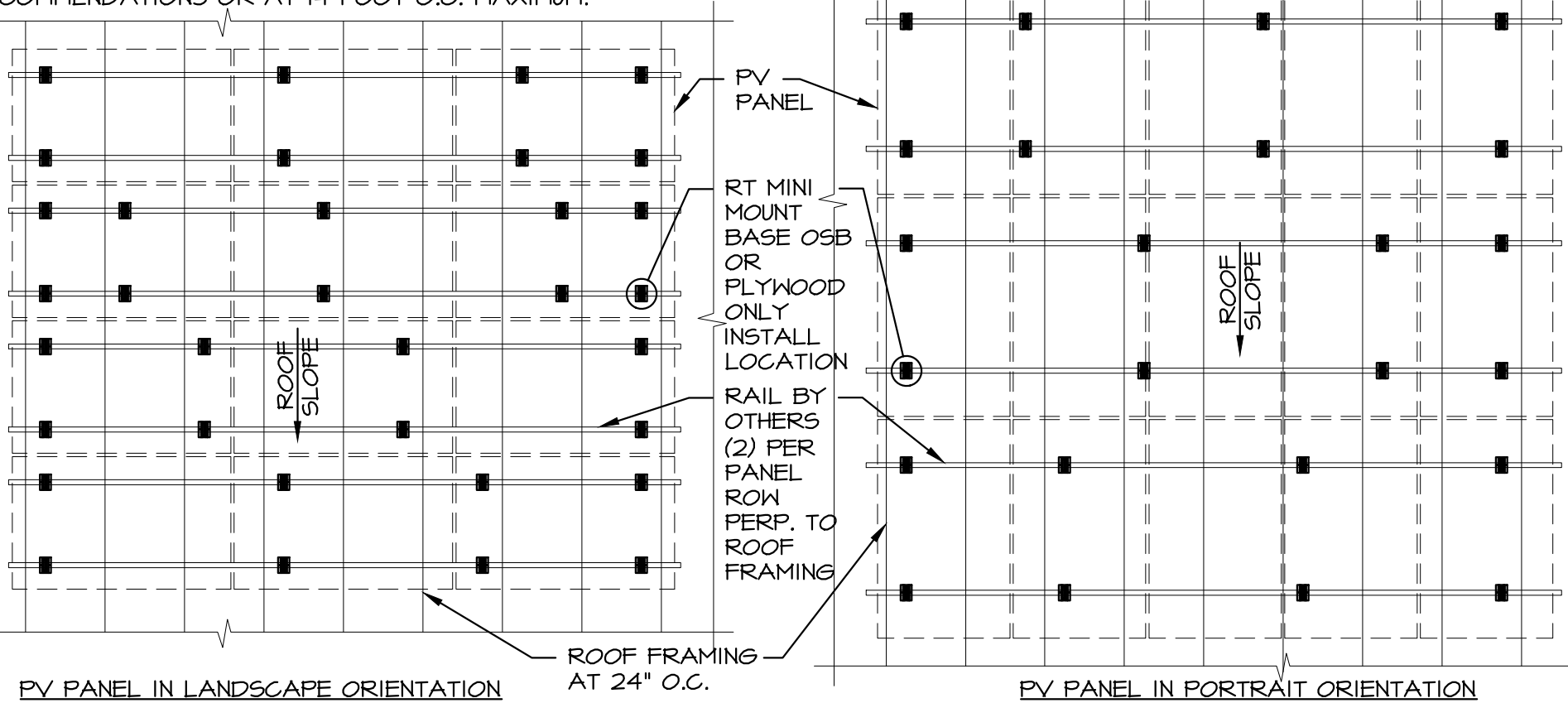
DATE: 6-9-22  
 JOB NO: 471-22

ROOF TECH  
 RT-MINI MOUNT + RAIL  
 STRUCTURAL ANALYSIS

ROOF TECH, INC.  
 10620 TREENA ST., SUITE 230  
 SAN DIEGO, CA 92131

EXHIBIT A  
 3 OF 4

NOTE: RT MINI MOUNT BASE TO BE ORIENTED WITH LONG DIRECTION DOWN ROOF SLOPE AS SHOWN. SKIP LOAD ROOF WHERE POSSIBLE TO EVENLY DISTRIBUTE LOAD TO ROOF FRAMING. THERMAL EXPANSION RAIL SPLICES AT MANUFACTURER'S RECOMMENDATIONS OR AT 14 FOOT O.C. MAXIMUM.



**PARTIAL FRAMING PLAN  
(OSB/PLYWOOD ONLY INSTALLATION)**

4

SCALE: N.T.S.



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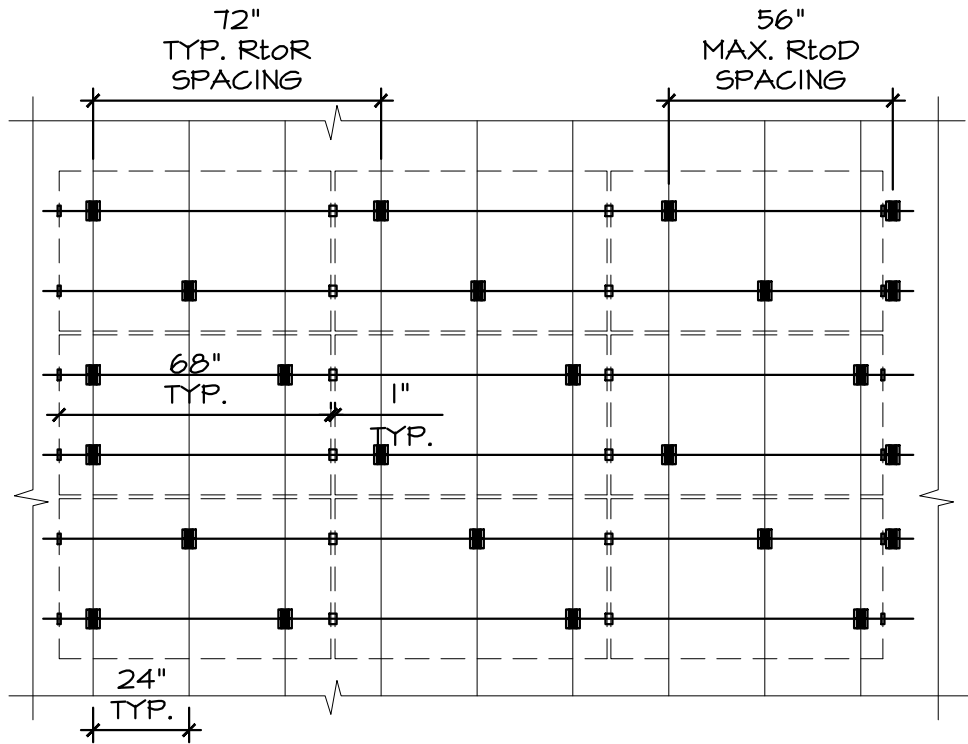
DRAWN BY: J.S.  
DESIGNED BY: D.H.

DATE: 6-9-22  
JOB NO: 471-22

ROOF TECH  
RT-MINI MOUNT + RAIL  
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10620 TREENA ST., SUITE 230  
SAN DIEGO, CA 92131

EXHIBIT A  
4 OF 4



## LANDSCAPE EXAMPLE:

### DESIGN CRITERIA:

- ASCE 7-10
- 70 PSF GROUND SNOW LOAD
- 130 MPH WIND SPEED
- 7-27 DEGREE ROOF ANGLE
- WIND EXPOSURE 'C'
- ROOF ZONE 2
- 60 OR 72 CELL PV PANELS (60 CELL SHOWN)
- RAFTER AND OSB DECKING ONLY  
COMBINED INSTALLATION  
NOTE: SIMILAR PROCEDURE FOR PLYWOOD DECKING ONLY

RAFTER-TO-RAFTER (RtoR) = 89 (in)

DECKING-TO-DECKING (DtoD) = 23 (in)

$RtoD = \text{RAFTER-TO-DECKING} = [(RtoR)+(DtoD)]/2$

$RtoD = [89in+23in]/2=56in \text{ MAX.}$

PLEASE NOTE: CHECK WITH PV PANEL MANUFACTURER FOR ALLOWABLE SUPPORT LOCATIONS FOR THE PROJECT SPECIFIC DESIGN LOADS. SUPPORT LOCATIONS SHOWN MAY NOT BE ALLOWED FOR ALL PV PANELS.

## PARTIAL FRAMING PLAN AND EXAMPLE CALCULATION (COMBINED RAFTER-TO-DECKING ONLY LANDSCAPE INSTALL)

SCALE: 1/4"=1'-0"



Consulting Structural and Forensic Engineers

Starling Madison Lofquist, Inc.

3600 E University Dr, Suite A-1400

Phoenix, Arizona 85034

(602) 438-2500

fax. (602) 438-2505

DRAWN BY: J.L.

DATE: 6-9-22

DESIGNED BY: J.L.

JOB NO: 471-22

ROOF TECH  
RT-MINI MOUNT + RAIL  
STRUCTURAL ANALYSIS

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10620 TREENA ST., SUITE 230  
SAN DIEGO, CA 92131

EXHIBIT B

1 OF 2

# PORTRAIT EXAMPLE:

## DESIGN CRITERIA:

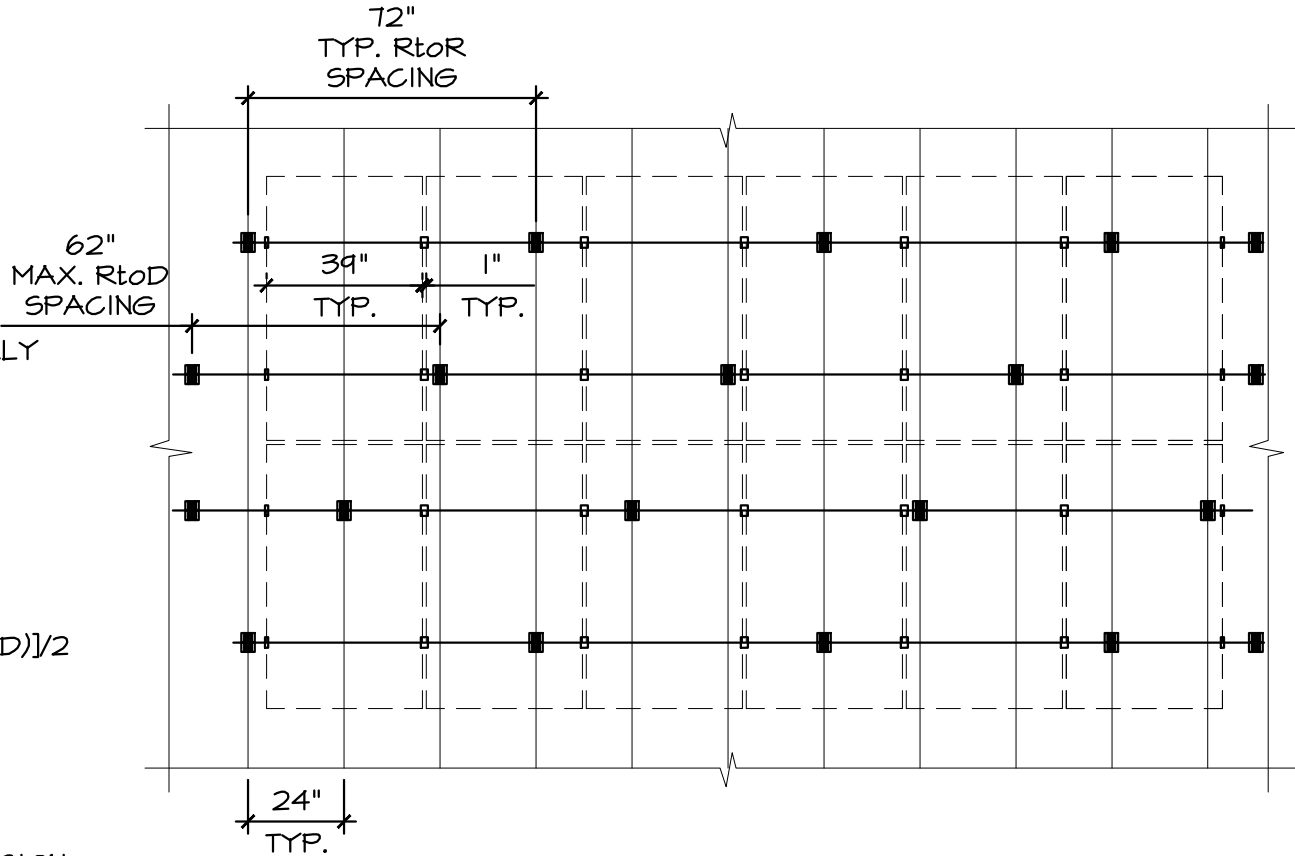
- ASCE 7-10
- 10 PSF GROUND SNOW LOAD
- 120 MPH WIND SPEED
- 7-27 DEGREE ROOF ANGLE
- WIND EXPOSURE 'D'
- ROOF ZONE I
- 72 CELL PV PANEL
- RAFTER AND PLYWOOD DECKING ONLY  
COMBINED INSTALLATION  
NOTE: SIMILAR PROCEDURE FOR  
OSB DECKING ONLY

RAFTER-TO-RAFTER (RtoR) = 88 (in)  
DECKING-TO-DECKING (DtoD) = 36 (in)

$$RtoD = \text{RAFTER-TO-DECKING} = [(RtoR)+(DtoD)]/2$$

$$RtoD = [88\text{in}+36\text{in}]/2=62\text{in MAX.}$$

PLEASE NOTE: CHECK WITH PV PANEL  
MANUFACTURER FOR ALLOWABLE SUPPORT  
LOCATIONS FOR THE PROJECT SPECIFIC DESIGN  
LOADS. SUPPORT LOCATIONS SHOWN MAY NOT BE  
ALLOWED FOR ALL PV PANELS.



## PARTIAL FRAMING PLAN AND EXAMPLE CALCULATION (COMBINED RAFTER-TO-DECKING ONLY PORTRAIT INSTALL)

2

SCALE: 1/4"=1'-0"



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Forensic Engineers

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2 OF 2