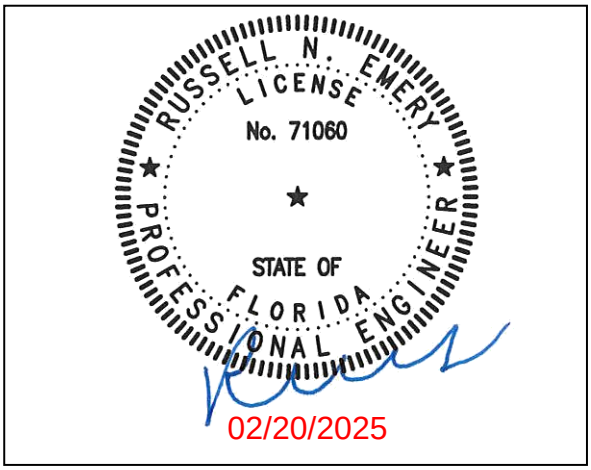
STRUCTURAL DOCUMENTATION LETTER
for
NANORACK PV MOUNTING SYSTEM
ON METAL ROOFS

STATE OF FLORIDA

PREPARED FOR:
SUNMODO CORP



SEALED BY:	**RUSSELL EMERY, P.E.**
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FIRM LICENSE #:	**NA**
PROJECT #:	**U2716.0365.221**
DATE:	**February 20, 2025**

LETTER EXPIRES ON 12/31/2026 AND IS SUBJECT TO ANNUAL REVIEW AND RENEWAL

Note:
The calculations presented in this package are intended for use by the client listed above. These calculations shall not be reproduced, reused, "card filed", sold to a third party, or altered in any way without the written authorization of Vector Structural Engineering, LLC and SunModo.

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Project Number: U2716-0365-221
May 16, 2024

SunModo Corp
14800 NE 65th St
Vancouver, WA 98682

REFERENCE: **NanoRack PV Mounting System – MRB Metal Roof Mount**

Per the request of SunModo, we have performed a review of the NanoRack PV Mounting system to provide guidance for typical residential installations. This review incorporates calculations and third-party load testing data to determine the number of mounts required per panel for a variety of environmental conditions. This document is applicable for the following components:

- MRB Metal Roof Mount – Part #: K50563-001
- (4) 1/4" Self-drilling Screws – Part #: B50009-006
- End Clamp Kit – Part #: K10521-BK1
- Mid Clamp Kit – Part #: K10520-001
- Module Hook Kit – Part #: K10525-001

Metal roofing panels shall be minimum 26 gauge Gr. 80 ksi or 24 gauge Gr. 50 ksi. Installations in roofing panels with less than 50 ksi tensile strength are not allowed. All components shall be installed in strict compliance with installation instructions provided by SunModo.

Design Criteria and Assumptions:

The following parameters, assumptions, limitations and code standards were used in the creation of this letter:

- **Building Codes:**
  - ASCE 7-22, Minimum Design Loads for Buildings and Other Structures
  - International Building Code, 2024 Edition
  - International Residential Code, 2024 Edition
  - Aluminum Design Manual, 2020 Edition
  - North American Specification for the Design of Cold-Formed Steel Structural Members, AISI S100-16
- **Building Assumptions and Limitations:**
  - Maximum Mean Roof Height, h: 30 ft
  - Risk Category: II
  - Roof Slope: 0 to 45 degrees
  - Enclosed and Partially Enclosed Buildings
  - Gable and Hip Roofs
  - h/b ≥ 0.8 for Hip Roofs

(Continued on next page)

Design Criteria and Assumptions (continued):

- **Environmental Assumptions and Limitations:**
  - Wind Speed: 90 – 190 mph
  - Ground Snow Load: 0 – 130 psf
  - Exposure Category: B, C & D
  - Topographic Factor, K_{zt}: 1.0
  - Ground Elevation Factor, K_e: 1.0
  - Wind Directionality Factor, K_d: 0.85
  - Snow Exposure Condition: Partially Exposed
  - Thermal Factor, C_t: 1.2
  - PV Modules are considered to be slippery and unobstructed

Design calculations for ASCE 7-22 installations are in accordance with Section 29.4.4, “Rooftop Solar Panels Parallel to the Roof Surface on Buildings of All Heights and Roof Slopes”.

Snow load calculations are performed in accordance with ASCE 7-22 Chapter 7.

Each site-specific installation shall be reviewed by the Engineer of Record (EOR) to ensure the site-specific design criteria are within the scope of this letter and the criteria listed above. Vector Structural Engineering, LLC assumes no responsibility for site-specific installations we have not reviewed.

Summary Tables and Instructions for Use:

The summary tables provided in this letter list the number of NanoRack mounts required per panel to resist both upward loading (wind) and downward loading (wind, snow, dead). Installations are not allowed in conditions requiring more than 8 mounts per panel. Configurations where this is the case have been blacked out in the attached tables. See below for descriptions of the various table sections.

- **PV Module Size:** The tables provided in this letter are applicable to PV modules with surface area up to and including that listed in the header for each table. The maximum panel size covered by this letter is 90"x50" (4,500 in^2).
- **Ground Snow Load, Pg:** This letter evaluates ground snow loads ranging from 0 to 130 psf, in 10 psf increments. Intermediate values of Pg (i.e. 25 psf), shall be rounded up to the next highest increment.
- **Sloped Roof Snow Load, Ps:** Ground snow loads are converted to sloped roof snow loads in accordance with ASCE 7-22 Chapter 7. The minimum roof slope for each range is used in the calculation of Ps for conservative purposes. **DISCLAIMER:** Certain Authorities Having Jurisdiction (AHJs) specify minimum roof snow loads that differ from the requirements of ASCE 7-22. In such situations, table values of Ps that comply with the AHJ requirements shall be used regardless of the site-specific ground snow load.
- **Unbalanced Snow Load:** Unbalanced roof snow loads in accordance with ASCE 7-22 Section 7.6 have been considered. See details below ("Roof Zones for Downward Loads") for additional information on the load combinations used.
- **Exposure Category:** Exposure categories are in accordance with ASCE 7-22 Section 26.7. EOR is responsible for ensuring appropriate exposure categories are selected for site-specific installations.
- **Roof Slope, θ:** Ranges for roof slope are selected from ASCE 7-22 Chapter 30. This letter is valid for roof slopes up to and including 45°.
- **Exposed Panels:** Exposed vs Non-Exposed panels are defined in ASCE 7-22 Section 29.4.4 and Figure 29.4-7. EOR is responsible for evaluating each site-specific installation to determine if a PV module is to be considered Exposed or Non-Exposed.
- **Requirements for Uplift Loads:** Roof zones are defined in ASCE 7-22 Chapter 30, Figures 30.3-2A-D (Gable Roofs) and Figures 30.3-2E-G (Hip Roofs). Controlling load combination for uplift loading is 0.6D + 0.6W per ASCE 7-22 Section 2.4.1.
- **Requirements for Gravity Loads:** Requirements for gravity loads are compared to the requirements for uplift loads to determine which loading condition controls. Controlling load combination for gravity loads is the worst case of 1.0D + 0.7S (un-balanced snow), 1.0D + 0.6W, and 1.0D + 0.45W + 0.525S (balanced snow) per ASCE 7-22 Section 2.4.1.

Mount Spacing Requirements:

The following guide for mount spacing shall be used to ensure applied loading is evenly distributed across all installed mounting brackets. Tolerance for mount spacing shall be considered as +/- 1 inch. The following figures are specific to installations utilizing long-side clamping. For installations utilizing short-side clamping, the module width (W) shall be substituted for module length (L) in the formulas shown.

FIGURE 1: MOUNT SPACING FOR 4 PER PANEL CONFIGURATIONS:

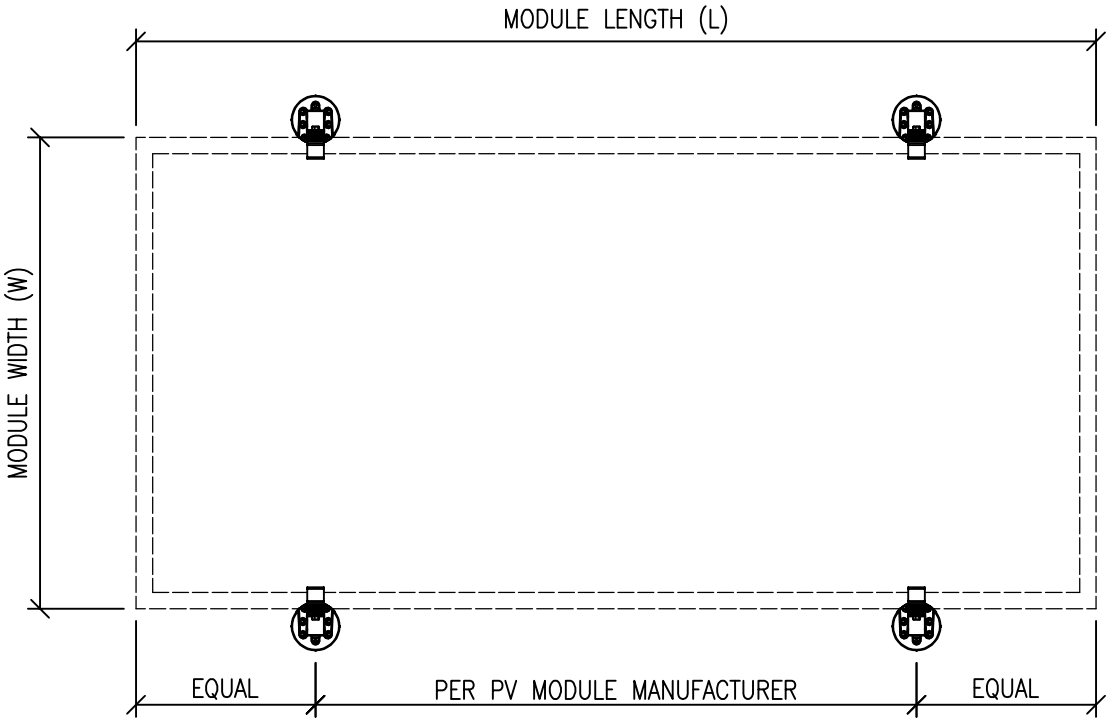


FIGURE 2: MOUNT SPACING FOR 6 PER PANEL CONFIGURATIONS:

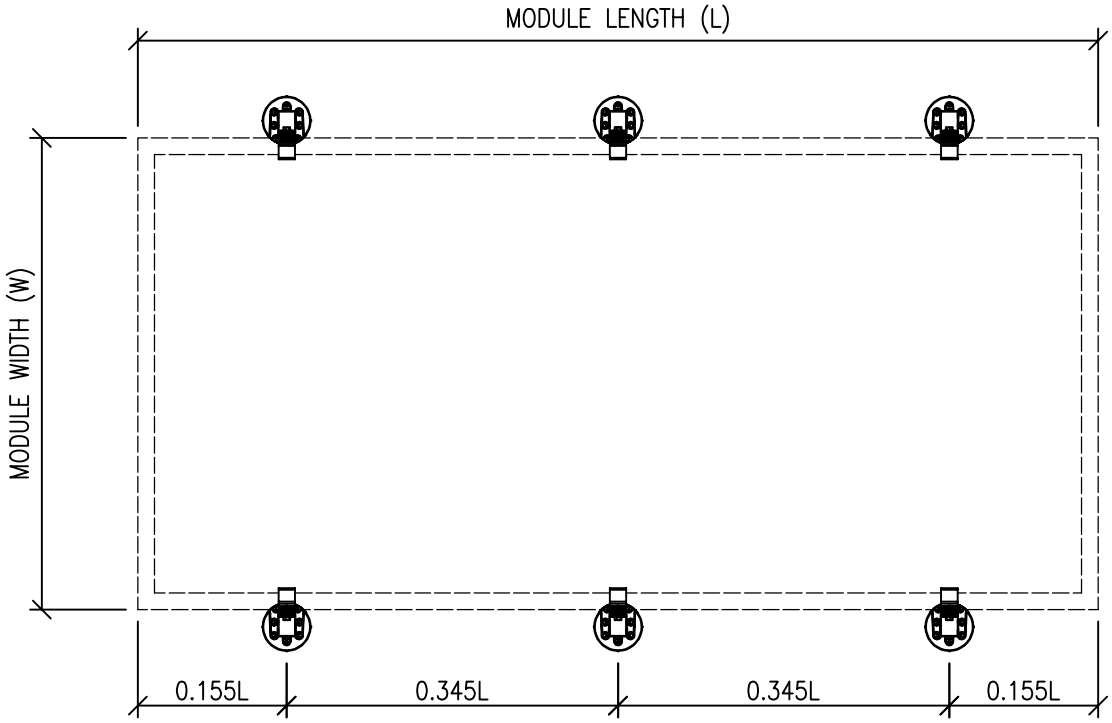
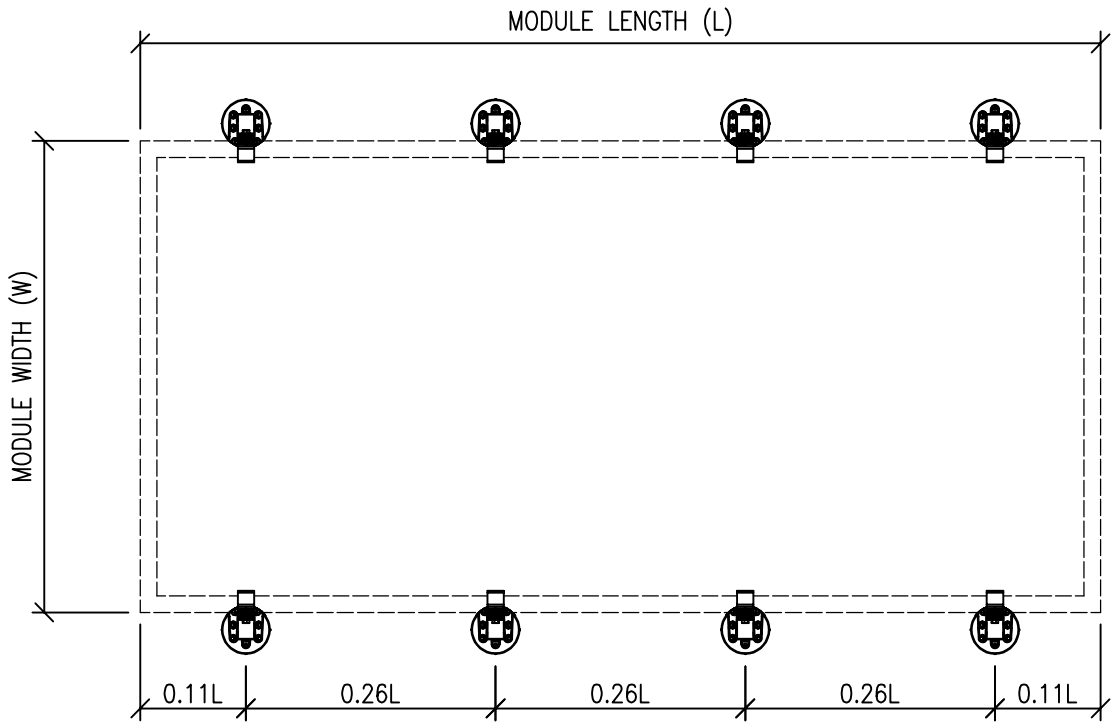


FIGURE 3: MOUNT SPACING FOR 8 PER PANEL CONFIGURATIONS:



Limitations:

The following items are not included in the scope of this review:

- **PV Modules:** PV modules shall be installed in accordance with manufacturer's and EOR's instructions. It is the responsibility of the EOR to determine the adequacy of PV modules installed with the NanoRack product per the guidance provided in this letter.
- **Roof Framing:** The adequacy of roof framing to support PV installations is to be determined by the project EOR on a case-by-case basis.

Conclusions:

Vector Structural Engineering, LLC (VSE) has determined that if the NanoRack product is installed in accordance with SunModo's installation instructions and the requirements listed in this letter, then the installation will be structurally adequate to support the design loads listed in this letter.

This conclusion is based on calculations performed by our office, as well as third-party load testing. Supporting calculations and test reports may be provided upon request.

VSE (or the EOR) shall supply a site-specific approval letter, signed and sealed by a licensed Professional Engineer (PE), for each site-specific installation to confirm the proper interpretation and application of this letter. This letter is not valid for site-specific installations unless accompanied by a site-specific approval letter.

We hope this meets your needs. If you have any further questions regarding this matter, please call this office at your convenience.

Very truly yours,
VECTOR STRUCTURAL ENGINEERING, LLC

TABLE 1:
SUMMARY TABLE FOR INSTALLATIONS PER ASCE 7-22 ON GABLE ROOFS WITH MAXIMUM MODULE SURFACE AREA OF 3120 IN SQ

VECTOR ENGINEERS

NUMBER OF REQUIRED NANORACK MOUNTS PER MODULE

ASCE 7-22 GABLE ROOFS (ASD), MAXIMUM MODULE SIZE: 3120 SQ IN

				Wind speed (mph) →	90 mph			95 mph			100 mph			105 mph			110 mph			115 mph			120 mph			130 mph			140 mph			150 mph			160 mph			170 mph			180 mph			190 mph		
Pg (psf)[1]	Exposure Category	Roof Slope, θ (°)	Ps (psf)[1]	Roof Zone[2] →	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 120	B	0 ≤ θ ≤ 7	100.80	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	4	6	4	6	8
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6
		7 < θ ≤ 20	100.80	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	4	6	8	4	6	8
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6
		20 < θ ≤ 27	91.73	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	4	6	6
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
		27 < θ ≤ 45	78.62	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	C	0 ≤ θ ≤ 7	100.80	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	4	6	4	6	8	4	6	8	6	6	8	6	8	
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	4	6	4	4	6	4	6	6
		7 < θ ≤ 20	100.80	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	8	4	6	8	6	6	8	6	8		6	8	
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	4	6	4	6	6	4	6	8
		20 < θ ≤ 27	91.73	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6	4	6	6	4	6	8	4	8	8	6	8	
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	4	6	6
		27 < θ ≤ 45	78.62	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	6	6	8
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	D	0 ≤ θ ≤ 7	90.72	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	4	6	4	6	8	4	6	8	6	6		6	8		6	8	
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	4	6	4	6	8	4	6	8
		7 < θ ≤ 20	90.72	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	8	4	6	8	6	8		6	8		6	8		8					
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	4	6	8	4	6	8	6	6	8
		20 < θ ≤ 27	82.56	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	6	6	4	6	6	4	6	8	4	8	8	6	8		6	8	
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	4	6	8	4	6	8	6	6	8
		27 < θ ≤ 45	70.76	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	6	6	6	6	6	8	6	8	8
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				Wind speed (mph) →	90 mph			95 mph			100 mph			105 mph			110 mph			115 mph			120 mph			130 mph			140 mph			150 mph			160 mph			170 mph			180 mph			190 mph		
Pg (psf)[1]	Exposure Category	Roof Slope, θ (°)	Ps (psf)[1]	Roof Zone[2] →	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 130	B	0 ≤ θ ≤ 7	109.20	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		7 < θ ≤ 20	109.20	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		20 < θ ≤ 27	99.37	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		27 < θ ≤ 45	85.18	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	C	0 ≤ θ ≤ 7	109.20	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	6	8	6	8	
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		7 < θ ≤ 20	109.20	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	8		6	8		6	8		8					
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8
		20 < θ ≤ 27	99.37	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	8	8	6	8		6	8	
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		27 < θ ≤ 45	85.18	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	D	0 ≤ θ ≤ 7	98.28	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	6		6	8		6	8	
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8
		7 < θ ≤ 20	98.28	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	8		6	8		6	8		8					
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8
		20 < θ ≤ 27	89.43	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	8	8	6	8		6	8	
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8
		27 < θ ≤ 45	76.66	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

TABLE NOTES:
1: Pg IS THE DESIGN GROUND SNOW LOAD. Ps IS THE DESIGN SLOPED ROOF SNOW LOAD. REFER TO PAGE 5 FOR ADDITIONAL INFORMATION.
2: ROOF ZONES ARE IN ACCORDANCE WITH ASCE 7-22 FIGURES 30.3-2A-D. SEE PAGE 5 FOR ADDITIONAL INFORMATION.
3: INSTALLATION IS NOT ALLOWED IN CONDITIONS CORRESPONDING WITH TABLE VALUES THAT ARE BLACKED OUT.

TABLE 2:
SUMMARY TABLE FOR INSTALLATIONS PER ASCE 7-22 ON GABLE ROOFS WITH MAXIMUM MODULE SURFACE AREA OF 4500 IN SQ

NUMBER OF REQUIRED NANORACK MOUNTS PER MODULE

ASCE 7-22 GABLE ROOFS (ASD), MAXIMUM MODULE SIZE: 4500 SQ IN

				Wind speed (mph) →	90 mph			95 mph			100 mph			105 mph			110 mph			115 mph			120 mph			130 mph			140 mph			150 mph			160 mph			170 mph			180 mph			190 mph		
Pg (psf)[1]	Exposure Category	Roof Slope, θ (°)	Ps (psf)[1]	Roof Zone[2] →	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 80	B	0 ≤ θ ≤ 7	67.20	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	8	4	6	8	6	6	8
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	4	6	4	4	6
		7 < θ ≤ 20	67.20	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	4	6	8	6	6	8	6	8	
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	6	6	4	6	6	4	6	6
		20 < θ ≤ 27	61.15	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	6	6	4	6	6	4	6	8	4	6	8	4	6	8
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6
		27 < θ ≤ 45	52.42	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	6	6	6	6	6	6
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	C	0 ≤ θ ≤ 7	67.20	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	4	6	8	6	6	8	6	8		6	8		8		
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	4	6	8	4	6	8
		7 < θ ≤ 20	67.20	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	4	6	8	4	6	8	6	8		6	8		8					
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	4	6	8	4	6	8
		20 < θ ≤ 27	61.15	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	6	6	4	6	8	4	6	8	4	8	8	6	8		6		
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	6	6	4	6	6	4	6	8			
		27 < θ ≤ 45	52.42	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	6	6	6	6	6	6	6	6	6
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	D	0 ≤ θ ≤ 7	60.48	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	4	6	4	6	6	4	6	8	6	6	8	6	8		6	8		8			8		
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	8	4	6	8	6	6	8	6	8	
		7 < θ ≤ 20	60.48	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	4	6	4	6	6	4	6	8	6	6	8	6	8		8			8					
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	4	6	8	6	6	8	6	8	
		20 < θ ≤ 27	55.04	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	4	6	8	4	6	8	6	8		6	8		6					
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	8	4	8	8	4	8	8
		27 < θ ≤ 45	47.17	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	6	6	6	6	8	6	6	8	8	8		8	8	
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	6	6	6	6	6	6	6	8			

				Wind speed (mph) →	90 mph			95 mph			100 mph			105 mph			110 mph			115 mph			120 mph			130 mph			140 mph			150 mph			160 mph			170 mph			180 mph			190 mph		
Pg (psf)[1]	Exposure Category	Roof Slope, θ (°)	Ps (psf)[1]	Roof Zone[2] →	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 130	B	0 ≤ θ ≤ 7	109.20	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	6	8
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		7 < θ ≤ 20	109.20	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	8	
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		20 < θ ≤ 27	99.37	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	6	8
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		27 < θ ≤ 45	85.18	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	C	0 ≤ θ ≤ 7	109.20	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	8		6	8		8		
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	6	8
		7 < θ ≤ 20	109.20	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	8		6	8		8					
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	6	8	6	6	8	
		20 < θ ≤ 27	99.37	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	8	8	6	8	
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		27 < θ ≤ 45	85.18	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	D	0 ≤ θ ≤ 7	98.28	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	8		6	8		8			8		
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	8		6	8	
		7 < θ ≤ 20	98.28	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	8		8			8					
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	8		6	8	
		20 < θ ≤ 27	89.43	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	8		6	8		6		
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	8	8		
		27 < θ ≤ 45	76.66	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	8	8		8	8				
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8

TABLE NOTES:
1: Pg IS THE DESIGN GROUND SNOW LOAD. Ps IS THE DESIGN SLOPED ROOF SNOW LOAD. REFER TO PAGE 5 FOR ADDITIONAL INFORMATION.
2: ROOF ZONES ARE IN ACCORDANCE WITH ASCE 7-22 FIGURES 30.3-2A-D. SEE PAGE 5 FOR ADDITIONAL INFORMATION.
3: INSTALLATION IS NOT ALLOWED IN CONDITIONS CORRESPONDING WITH TABLE VALUES THAT ARE BLACKED OUT.

TABLE 3:
SUMMARY TABLE FOR INSTALLATIONS PER ASCE 7-22 ON HIP ROOFS WITH MAXIMUM MODULE SURFACE AREA OF 3120 IN SQ

VECTOR ENGINEERS

NUMBER OF REQUIRED NANORACK MOUNTS PER MODULE

ASCE 7-22 HIP ROOFS (ASD), MAXIMUM MODULE SIZE: 3120 SQ IN

		Wind speed (mph) →		90 mph			95 mph			100 mph			105 mph			110 mph			115 mph			120 mph			130 mph			140 mph			150 mph			160 mph			170 mph			180 mph			190 mph		
Pg (psf)[1]	Exposure Category	Roof Slope, θ (°)	Ps (psf)[1]	Roof Zone[2] →		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 120	B	7 < θ ≤ 20	100.80	Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6	4	6	6
				Non-Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
		20 < θ ≤ 27	91.73	Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
				Non-Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
		27 < θ ≤ 45	78.62	Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6
				Non-Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	C	7 < θ ≤ 20	100.80	Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6	4	6	6	4	6	6	6	6	8	6	8	8
				Non-Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	6	6	6
		20 < θ ≤ 27	91.73	Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6	4	6	6	4	6	6	4	6	6
				Non-Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
		27 < θ ≤ 45	78.62	Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	6	6	6
				Non-Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6
	D	7 < θ ≤ 20	90.72	Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6	4	6	6	6	6	6	6	8	8	6	8	8	6	8	
				Non-Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6	4	6	6	4	6	6	
		20 < θ ≤ 27	82.56	Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6	4	6	6	6	8	8	6	8	8
				Non-Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6	4	6	6
		27 < θ ≤ 45	70.76	Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	4	6	8	6	6	8	6	6	8
				Non-Exposed		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	4	6	4	4	6

		Wind speed (mph) →		90 mph			95 mph			100 mph			105 mph			110 mph			115 mph			120 mph			130 mph			140 mph			150 mph			160 mph			170 mph			180 mph			190 mph		
Pg (psf)[1]	Exposure Category	Roof Slope, θ (°)	Ps (psf)[1]	Roof Zone[2] →		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 130	B	7 < θ ≤ 20	109.20	Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
				Non-Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		20 < θ ≤ 27	99.37	Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
				Non-Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		27 < θ ≤ 45	85.18	Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
				Non-Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	C	7 < θ ≤ 20	109.20	Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	8	8	6	8	8
				Non-Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		20 < θ ≤ 27	99.37	Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
				Non-Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		27 < θ ≤ 45	85.18	Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8
				Non-Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	D	7 < θ ≤ 20	98.28	Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	8	6	8	8	6	8	
				Non-Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		20 < θ ≤ 27	89.43	Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	8
				Non-Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		27 < θ ≤ 45	76.66	Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	6	8	6
				Non-Exposed		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

TABLE NOTES:
1: Pg IS THE DESIGN GROUND SNOW LOAD. Ps IS THE DESIGN SLOPED ROOF SNOW LOAD. REFER TO PAGE 5 FOR ADDITIONAL INFORMATION.
2: ROOF ZONES ARE IN ACCORDANCE WITH ASCE 7-22 FIGURES 30.3-2A-D. SEE PAGE 5 FOR ADDITIONAL INFORMATION.
3: INSTALLATION IS NOT ALLOWED IN CONDITIONS CORRESPONDING WITH TABLE VALUES THAT ARE BLACKED OUT.

TABLE 4:
SUMMARY TABLE FOR INSTALLATIONS PER ASCE 7-22 ON HIP ROOFS WITH MAXIMUM MODULE SURFACE AREA OF 4500 IN SQ

NUMBER OF REQUIRED NANORACK MOUNTS PER MODULE

ASCE 7-22 HIP ROOFS (ASD), MAXIMUM MODULE SIZE: 4500 SQ IN

				Wind speed (mph) →	90 mph			95 mph			100 mph			105 mph			110 mph			115 mph			120 mph			130 mph			140 mph			150 mph			160 mph			170 mph			180 mph			190 mph		
Pg (psf)[1]	Exposure Category	Roof Slope, θ (°)	Ps (psf)[1]	Roof Zone[2] →	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 80	B	7 < θ ≤ 20	67.20	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6	4	6	6	4	6	6	6	6	8
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6
		20 < θ ≤ 27	61.15	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6	4	6	6
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
		27 < θ ≤ 45	52.42	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	C	7 < θ ≤ 20	67.20	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6	4	6	6	6	6	8	6	8	8	6	8	8	8		
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	4	6	4	6	6	4	6	6	6	6
		20 < θ ≤ 27	61.15	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6	4	6	6	4	6	6	6	6	6	6	8	8
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6	6
		27 < θ ≤ 45	52.42	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	4	6	8	6	6	8
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	4	6
	D	7 < θ ≤ 20	60.48	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	6	6	4	6	6	6	6	8	6	8	8	6	8		8			8		
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	6	6	4	6	6	6	6	8	8	8
		20 < θ ≤ 27	55.04	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6	4	6	6	4	6	6	6	8	8	6	8	8	8	8	8
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6	4	6	6	4	6	6
		27 < θ ≤ 45	47.17	Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	6	6	8	6	6	8	6	8	
				Non-Exposed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	4	6	6	4	6	8

				Wind speed (mph) →	90 mph			95 mph			100 mph			105 mph			110 mph			115 mph			120 mph			130 mph			140 mph			150 mph			160 mph			170 mph			180 mph			190 mph		
Pg (psf)[1]	Exposure Category	Roof Slope, θ (°)	Ps (psf)[1]	Roof Zone[2] →	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 130	B	7 < θ ≤ 20	109.20	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		20 < θ ≤ 27	99.37	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		27 < θ ≤ 45	85.18	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	C	7 < θ ≤ 20	109.20	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	8	8	6	8	8	6		
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		20 < θ ≤ 27	99.37	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	8
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		27 < θ ≤ 45	85.18	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	6	8	6	6	8	
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	D	7 < θ ≤ 20	98.28	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	8	8	6	8		8			8		
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	8	8
		20 < θ ≤ 27	89.43	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	8
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		27 < θ ≤ 45	76.66	Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8	6	6	8	6	8		6	8		
				Non-Exposed	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	8

TABLE NOTES:
1: Pg IS THE DESIGN GROUND SNOW LOAD. Ps IS THE DESIGN SLOPED ROOF SNOW LOAD. REFER TO PAGE 5 FOR ADDITIONAL INFORMATION.
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3: INSTALLATION IS NOT ALLOWED IN CONDITIONS CORRESPONDING WITH TABLE VALUES THAT ARE BLACKED OUT.