Product Approval
USER: Public User

FL #	FL16624-R7
Application Type	Revision
Code Version	2020
Application Status	Approved
Comments	
Archived	☐
Product Manufacturer	GAF/LL Building Products, Inc sub of GAF
Address/Phone/Email	1 Campus Drive Parsippany, NJ 07054 (800) 766-3411 mstieh@gaf.com
Authorized Signature	Michael Stieh mstieh@gaf.com
Technical Representative	Steve Boehling
Address/Phone/Email	295 McKoy Road Burgaw, NC 28425 sboehling@gaf.com
Quality Assurance Representative	Enrique Morales
Address/Phone/Email	295 McKoy Road Burgaw, NC 28425 emorales@gaf.com
Category	Roofing
Subcategory	Roofing Accessories that are an Integral Part of the Roofing System
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer ☐ Evaluation Report - Hardcopy Received
Florida Engineer or Architect Name who developed the Evaluation Report	Robert Nieminen
Florida License	PE-59166
Quality Assurance Entity	UL LLC
Quality Assurance Contract Expiration Date	07/12/2025
Validated By	John W. Knezevich, PE ☑ Validation Checklist - Hardcopy Received
Certificate of Independence	FL16624_R7_COI_2022_01_COI_NIEMINEN.pdf

Referenced Standard and Year (of Standard)

Standard	Year
ASTM D1929	2016
ASTM D635	2014
ASTM G155	2013
TAS 100(A)	1995

Equivalence of Product Standards Certified By

Sections from the Code

Product Approval Method	Method 1 Option D
Date Submitted	08/11/2022
Date Validated	08/15/2022
Date Pending FBC Approval	08/17/2022
Date Approved	10/11/2022

Summary of Products

FL #	Model, Number or Name	Description
16624.1	GAF Master Flow® Attic Ventilation Products	Off-ridge, mechanical exhaust vents
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:** Refer to ER Section 5		**Installation Instructions** FL16624_R7_II_2022_08_11_FINAL_ER_GAF LLBP_FL16624-R7.pdf Verified By: Robert Nieminen PE-59166 Created by Independent Third Party: Yes **Evaluation Reports** FL16624_R7_AE_2022_08_11_FINAL_ER_GAF LLBP_FL16624-R7.pdf Created by Independent Third Party: Yes

Back Next

NEMO|etc.
Certificate of Authorization #32455
353 Christian Street, Unit #13
Oxford, CT 06478
(203) 262-9245

ENGINEER **EVALUATE** **TEST** **CONSULT**

EVALUATION REPORT BY FLORIDA P.E.

GAF/LL Building Products, Inc. ***subsidiary of GAF***
1 Campus Drive
Parsippany, NJ 07054
(800) 766-3411

Evaluation Report L46780.10.13-R7
FL16624-R7
Date of Issuance: 10/22/2013
Revision 7: 08/11/2022

SCOPE:
This Evaluation Report is issued under **Rule 61G20-3** and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code. The products described herein have been evaluated for compliance with the **7th Edition (2020) Florida Building Code** sections referenced herein.

DESCRIPTION: GAF Master Flow® Attic Ventilation Products

LABELING: Labeling shall be in accordance with the requirements of the Accredited Quality Assurance Agency noted herein.

CONTINUED COMPLIANCE: This Evaluation Report is valid until such time as the named product(s) changes, the referenced Quality Assurance or production facility location(s) changes, or Code provisions that relate to the product(s) change. Acceptance of our Evaluation Reports by the named client constitutes agreement to notify NEMO ETC, LLC of any changes to the product(s), the Quality Assurance or the production facility location(s). NEMO ETC, LLC requires a complete review of its Evaluation Report relative to updated Code requirements with each Code Cycle.

ADVERTISEMENT: The Florida Product Approval Number (FL#) preceded by the words "NEMO P.E. Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

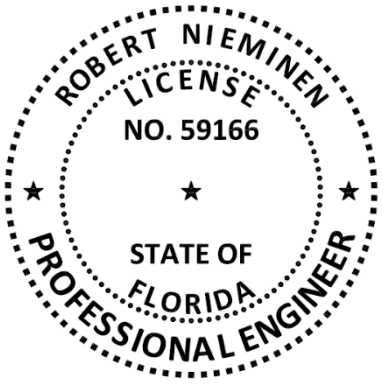
INSPECTION: Upon request, a copy of this entire Evaluation Report shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This Evaluation Report consists of pages 1 through 6.

Prepared by:

Digitally signed by Robert Nieminen
Date: 2022.08.11 '11:50:46 -04'00

This item has been digitally signed and sealed by Robert Nieminen, P.E.
Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.
Robert Nieminen, Florida P.E. 59166, FBC ANE1983
NEMO ETC, LLC, Florida CA #32455



CERTIFICATION OF INDEPENDENCE:
1. NEMO ETC, LLC does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. NEMO ETC, LLC is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the evaluation reports are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.
5. This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

ROOFING COMPONENT EVALUATION:

1. SCOPE:

Product Category: Roofing
Sub-Category: Roofing Accessories that are an Integral Part of the Roofing System
Product Approval Method: Method 1, Option D – Codified Material, Evaluation by Engineer
Compliance Statement: **GAF Master Flow® Attic Ventilation Products**, as produced by **LL Building Products, Inc., subsidiary of GAF**, have demonstrated compliance with the following sections of the **7th Edition (2020) Florida Building Code**. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.

2. CODE SECTIONS:

SECTION	PROPERTY	STANDARD	YEAR
1523.6.5.2.13	Wind Driven Rain	TAS 100(A)	1995
2606.4	Rate of burning	ASTM D635	2014
2606.4	Self-ignition temperature	ASTM D1929	2016
2615.2	Weatherometer	ASTM G155	2013

3. REFERENCES:

ENTITY	EXAMINATION	REFERENCE	DATE
ATI (TST1558)	ASTM D635 / D1929	D8532.01-106-18	2014-07-10
GAF	Traceability	Declaration	2022-07-11
PRI (TST 5878)	Wind Driven Rain	LLB-027-02-01	2015-01-23
PRI (TST 5878)	Wind Driven Rain	LLB-027-02-01 (extension)	2016-01-28
PRI (TST5878)	Physical Properties / Weatherometer	GAF-138-02-06	2008-06-06
PRI (TST5878)	Wind Driven Rain	LLB-019-02-01	2013-07-12
PRI (TST5878)	Wind Driven Rain	GAF-739-02-01	2016-11-30
UL, LLC (QUA9625)	Quality Control	Service Confirmation	2022-07-12
UL, LLC (QUA9625)	Quality Control	Florida BCIS	Current

4. PRODUCT DESCRIPTION:

	PRODUCT	PLANT(S)	DESCRIPTION	PUBLISHED NFVA[1]
4.1	Master Flow® GreenMachine™ High-Power Solar and Dual Powered Roof Vents	Burgaw, NC	Off-ridge, solar powered mechanical roof exhaust vents with a base and hood of polymer-injection mold fabrication (Section 10, Figure 3). The Solar Powered Model (PRSOLAR2) is designed to operate only when exposed to sunlight. The Dual Powered Model (PRHYBRID2) is designed to operate when exposed to sunlight and includes electrical (house-powered) back-up	750 CFM airflow (solar operation) 900 CFM airflow (AC operation)
4.2	Master Flow® GreenMachine™ Solar and Dual Powered Roof Vents	Burgaw, NC	Off-ridge, solar powered mechanical roof exhaust vent with a 0.020-inch thick galvanized steel base and hood (Section 10, Figure 4). The Solar Powered Model (ERVSOLAR) is designed to operate only when exposed to sunlight. The Dual Powered Model (ERVHYBRID) is designed to operate when exposed to sunlight and includes electrical (house-powered) back-up.	525 CFM airflow (solar operation) 750 CFM airflow (AC operation)
4.3	Master Flow® Power Attic Vent ERV4 – Roof Mount	Burgaw, NC	Off-ridge, powered mechanical roof exhaust vent with a 0.020-inch thick galvanized steel base and hood (Section 10, Figure 4) and a 1/12 horsepower motor. Includes thermostat or an optional humidistat/thermostat (ERV4HT).	1,000 CFM airflow

[1] *Net Free Ventilation Area reported herein is as published by the manufacturer at the time of evaluation. The report user should verify current published data at the time of design and/or permitting to the satisfaction of the Authority Having Jurisdiction.*

	PRODUCT	PLANT(S)	DESCRIPTION	PUBLISHED NFVA[1]
4.4	Master Flow® Power Attic Vent ERV5 – Roof Mount	Burgaw, NC	Off-ridge, powered mechanical roof exhaust vent with a 0.020-inch thick galvanized steel base and hood (Section 10, Figure 4) and a 1/12 horsepower motor. Includes thermostat or an optional humidistat/thermostat (ERV5HT).	1,250 CFM airflow
4.5	Master Flow® Power Attic Vent ERV6 – Roof Mount	Burgaw, NC	Off-ridge, powered mechanical roof exhaust vent with a 0.020-inch thick galvanized steel base and hood (Section 10, Figure 4) and a 1/5 horsepower motor. Includes thermostat or an optional humidistat/thermostat (ERV6HT).	1,500 CFM airflow
4.6	Master Flow® High Capacity Dome Vent – HCD144	Burgaw, NC	Off-ridge, static roof exhaust vent with a 0.020-inch thick galvanized steel base and hood (Section 10, Figure 4)	144 in^2
4.7	Master Flow® EZ Cool™ Plug-in Power Attic Vent (EZCR1 and EZCQCR1)	Burgaw, NC	Off-ridge, powered mechanical roof exhaust vent with a 0.020-inch thick galvanized steel base and hood (Section 10, Figure 4) and a motor with thermostat.	1,050 CFM airflow

5. LIMITATIONS:

5.1 This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

5.2 This Evaluation Report is not for use in FBC High Velocity Hurricane Zone jurisdictions (i.e., Broward and Miami-Dade Counties).

5.3 This Evaluation Report pertains to above-deck roof components. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction.

5.4 The minimum slope is 2:12.

5.5 **Wind Classification:**

5.5.1 When installed in accordance with GAF standard attachment procedures, installation is limited to maximum 33 ft mean roof height in Exposure B or C conditions. Refer to FBC 1609 or FBCR Chapter 3 for design wind speeds and exposure categories.

5.6 **GAF Master Flow® Attic Ventilation Products** are for use with asphalt-composition shingle roofs only.

5.7 Installation shall result in minimum net free ventilation area requirements set forth in **FBC 1203.2**.

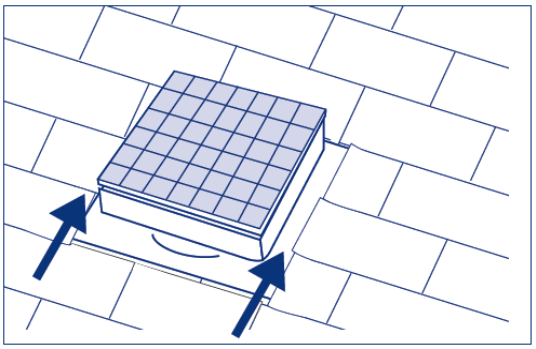
6. INSTALLATION:

6.1 **GAF Master Flow® Attic Ventilation Products** shall be installed in accordance with **GAF** published installation requirements subject to the Limitations set forth in Section 5 herein and the specifics noted below.

6.1.1 The specifics herein pertain to attachment of the vent to the roof deck, as tested, to meet wind load requirements at mean roof height less than or equal to 33 ft. Refer to published installation requirements for other important aspects of the installation.

6.2 Master Flow® GreenMachine™ High-Power Solar and Dual Powered Roof Vents:

6.2.1 After locating, measuring, marking, cutting-out and testing the position, remove the unit from the test position and apply ASTM C920 urethane sealant such as Henkel PL® or Sonneborne® NP-1™ at the perimeter of the underside of the unit's horizontal flange. Apply sealant in two ¼-inch diameter continuous beads around the entire perimeter; the first approximately 1-inch from the vent stack wall; the second approximately 1-inch from the flange edge. Align the unit over the cut-out and slide into place with the top half of the flange beneath shingles and the bottom half of the flange atop shingles. Ensure that the arrow marked on the flange points up towards the roof peak. Ensure complete contact between the sealant and the roof deck at the top half and between the sealant and the shingles at the bottom half.



6.2.2 Fasten the horizontal flange to the min. 15/32-inch thick, 4-ply APA 32/16 span rated plywood roof deck using 12 ga, min. 1.25-inch long galvanized ring shank roofing nails at the guide-marks on the flange, located at all four corners and 4-inch o.c. at the perimeter. Finish by sealing exposed nail heads and sealing-down any raised shingles at the top half of the flange using the urethane sealant noted above.

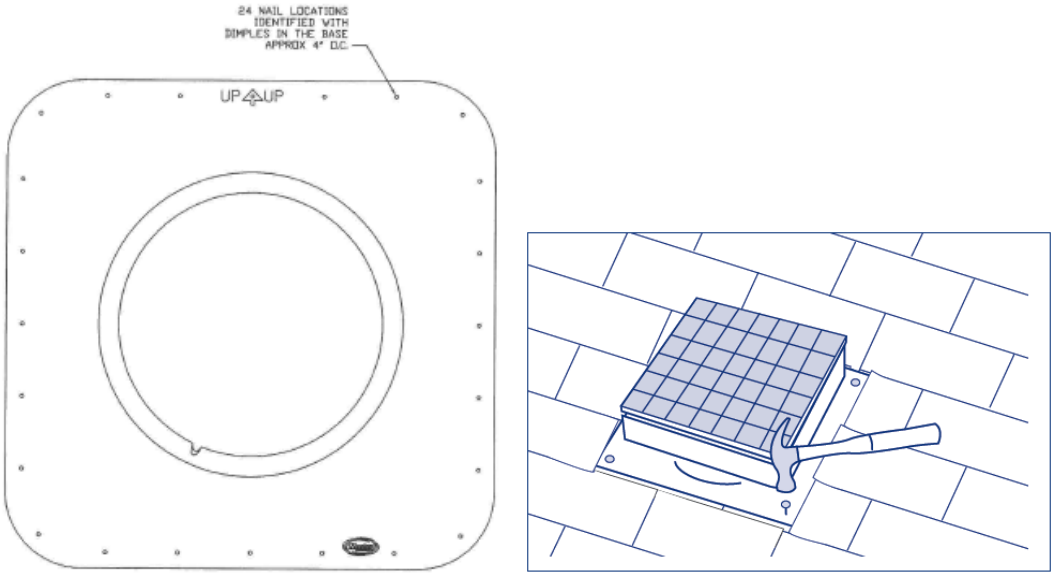


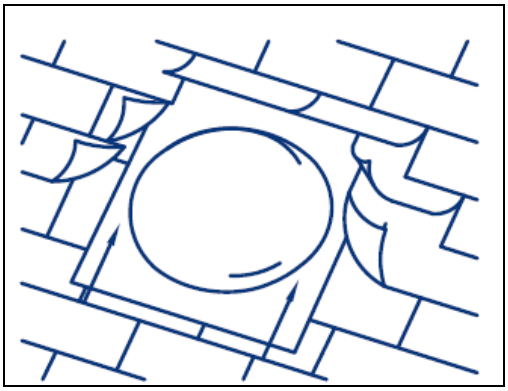
Figure 1: Nailing Schedule

6.3 Master Flow® GreenMachine™ Solar Powered Roof Vent (ERVSOLAR), Master Flow® GreenMachine™ Dual Powered Roof Vent (ERVHYBRID), Master Flow® Power Attic Vent – Roof Mount ERV4, ERV5 or ERV6, Master Flow® High Capacity Dome Vent – HCD144 or Master Flow® EZ Cool™ Plug-in Power Attic Vent (EZCR1 and EZCQCR1):

6.3.1 After locating, marking, cutting and preparing the opening in accordance with **GAF** published requirements, apply ASTM C920 sealant to the to the underside of the vent's base unit as follows:

- ✓ One ½-inch wide bead around the inner perimeter, located ¾-inch from the circular throat.
- ✓ One ½-inch wide bead around the outer perimeter, located ¾-inch from the outside edges.

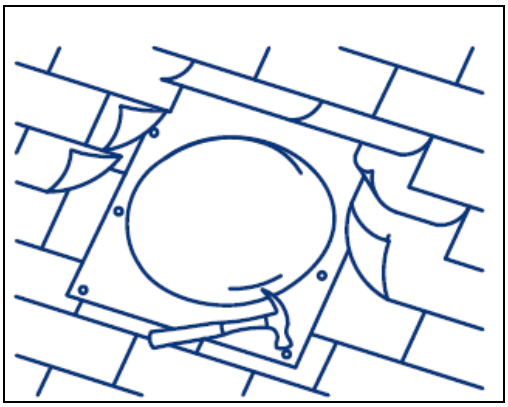
Slide the vent up under the top shingles, with the arrow on the flashing pointing up-slope. Leave the lower portion of the vent flashing on top of the shingles.



6.3.2 Fasten the base flange to the min. 15/32-inch thick APA span rated plywood roof deck using twenty (20) minimum 12 ga, min. 1.5-inch long corrosion resistant roofing nails as follows:

- ✓ 1-inch from the base edge, at all four corners and 5.75-inch o.c. at the perimeter.
- ✓ 1-inch from the base unit throat at 90° around the circular opening.

Finish by sealing exposed nail heads and sealing-down any raised shingles at the top half of the flange using the roofing cement or urethane sealant noted above.



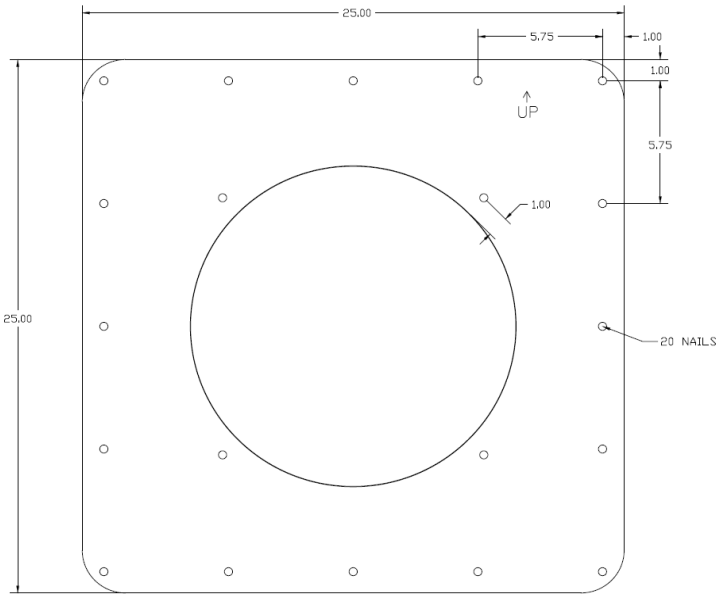


Figure 2: Nailing Schedule

7. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or Authority Having Jurisdiction to properly evaluate the installation of this product.

8. MANUFACTURING PLANTS:

Contact the named QA entity for manufacturing facilities covered by **F.A.C. Rule 61G20-3** QA requirements. Refer to Section 4 herein for products and production locations having met codified material standards.

9. QUALITY ASSURANCE ENTITY:

UL, LLC. – QUA9625; (360) 817-5512; bsai.inspections@ul.com

10. DRAWINGS:

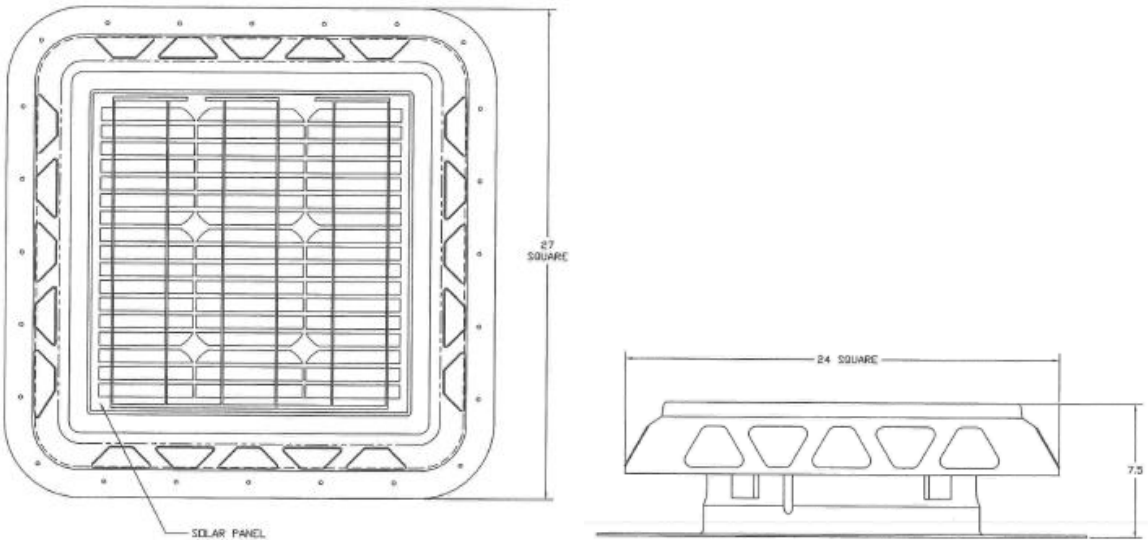


Figure 3: Master Flow® GreenMachine™ High-Power Solar and Dual Powered Roof Vents

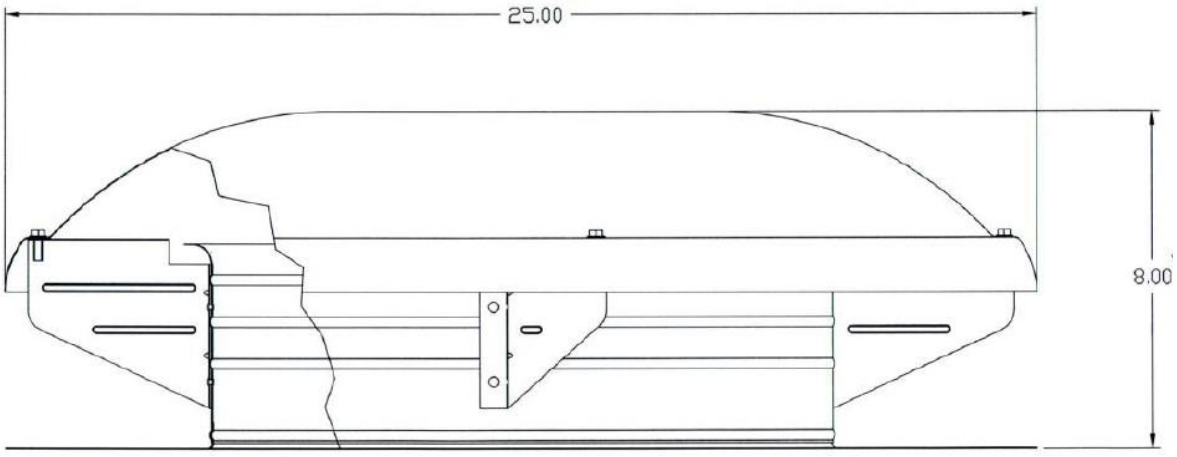


Figure 4: Master Flow® GreenMachine™ Solar Powered Roof Vent (ERVSOLAR), Master Flow® GreenMachine™ Dual Powered Roof Vent (ERVHYBRID), Master Flow® Power Attic Vent – Roof Mount ERV4, ERV5 or ERV6, Master Flow® High Capacity Dome Vent – HCD144 or Master Flow® EZ Cool™ Plug-in Power Attic Vent (EZCR1 and EZCQCR1)

- END OF EVLAUATION REPORT -