ALL-LITE
ARCHITECTURAL PRODUCTS

model **EFD-437-FL**
extruded aluminum louver
4" deep • 37½° drainable blade

Application

The EFD-437-FL louver is designed to prevent water penetration in non-wind-driven rain applications by collecting water in frame and blade gutters and channeling it into downspouts and away from airflow paths. The design is engineered and tested to withstand extreme loads, debris impact, and cyclic fatigue associated with the severe weather effects of hurricanes (Florida Building Code approval No. FL32509). The EFD-437-FL is AMCA 540 listed, making it ideally suited for use in hurricane-prone and windborne debris regions as per the International Building Code. In addition, the EFD-437-FL is a UL Classified Windstorm Rated Assembly with design pressures up to 250 psf (depending on section size).

Standard Construction

Material: Mill finish 6063 extruded aluminum.

Frame: 4" deep × 0.081" thick (102 × 2.1) channel.

Blades: 0.081" (2.1) thick horizontal drainable style.

Screen: ½" × 0.063" (12.7 × 1.6) expanded and flattened aluminum.

Mullion: Visible.

Minimum Size: 12" × 12" (305 × 305)

Maximum Size: Single section: 60" × 120" (1524 × 3048)
Multiple section: Unlimited width × 120" (3048)
60" (1524) × unlimited height

Shipping Weight (approximate): 3.5 lbs/ft² (26 kg/m²)

Installation Hardware: Standard continuous angles and associated fasteners (anchors to substrate by others - refer to installation instructions)

Options

- ☐ Factory finish:
  - ☐ High Performance Fluoropolymer - 100% resin Newlar®/ 70% resin Kynar®
  - ☐ Baked Enamel
  - ☐ Clear or Color Anodized, Class 1
  - ☐ Prime Coat
- ☐ Flange frame:
- ☐ 1½" (38) flange frame
- ☐ Alternate bird or insect screens.
- ☐ Insulated or non-insulated blank-off panels.
- ☐ Filter racks.
- ☐ Head and/or sill flashing.
- ☐ Burglar bars:
  - ☐ Shipped loose
  - ☐ Shipped mounted

Ratings

Free Area: [48" × 48" (1219 × 1219) unit]: 8.9 ft² (0.82 m²)
55.3%

Performance @ Beginning Point of Water Penetration
Free Area Velocity: 1,029 fpm (5.23 m/s)
Air Volume Delivered: 9,105 cfm (4.30 m³/s)
Pressure Loss: 0.16 in.wg. (39 Pa)

CLASSIFIED UL R39429

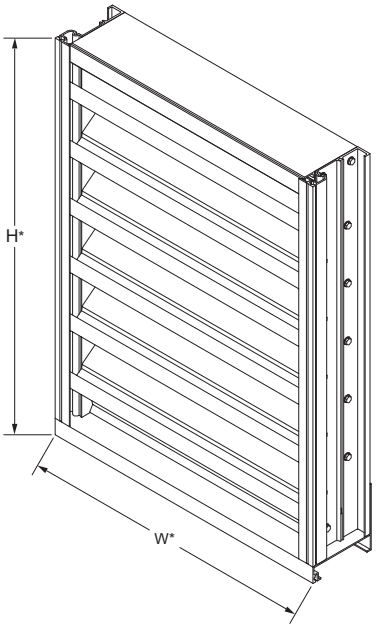
Velocity @ 0.15 in.wg. Pressure Loss: 1,012 fpm (5.14 m/s)

AMCA 540 (impact resistance, Basic protection) listed.

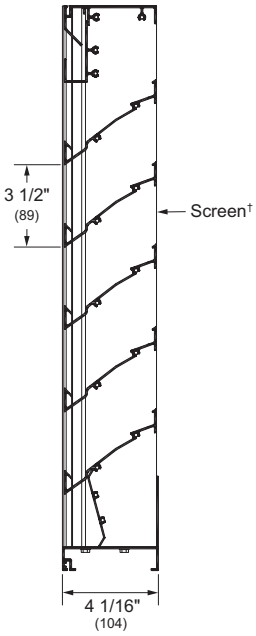
Florida Building Code Approval (2020-FBC): No. FL32509

Tested and qualified per TAS 201, TAS 202, and TAS 203
Approved for use within the High Velocity Hurricane Zone (HVHZ)

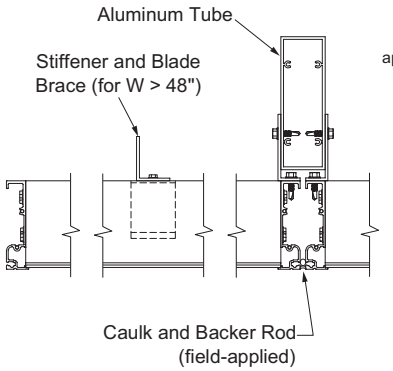
Design Load: up to 250 psf (12.0 kPa), depending on section size
(See back page for section sizes)



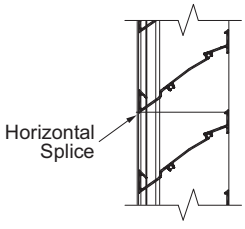
Model **EFD-437-FL**
(standard)
*Louver dimensions furnished approximately 1/2" (13) undersize.



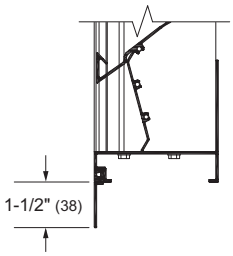
Vertical Section
†Screen adds approximately 3/16" (5) to louver depth.



Visible Vertical Mullion
(standard)



Horizontal Mullion
(standard)



Flange Frame
(optional)

Certified Ratings:
All-Lite certifies that the model EFD-437-FL shown herein is licensed to bear the AMCA seal. The ratings shown are based on test and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings seal applies to air performance and water penetration ratings.

IMPACT RESISTANT LOUVER
Basic Protection

See www.AMCA.org for all certified or listed products

This label does not signify AMCA airflow performance certification.

Certified Ratings:
All-Lite certifies that the model EFD-437-FL shown herein is approved to bear the AMCA Listing Label. The ratings shown are based on tests and procedures performed in accordance with AMCA publications and comply with the requirements of the AMCA Listing Label Program. The AMCA Listing Label applies to Impact resistance.

Information is subject to change without notice or obligation.

NOTE: Dimensions in parentheses ( ) are millimeters.

ALL-LITE 5101 Blue Mound Road, Fort Worth, Texas 76106 www.alllite.com

Performance Data

Free Area (ft^2)

Width (Inches)

Height (Inches)	12	18	24	30	36	42	48	54	60
12	**0.2**	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3
18	0.5	**0.7**	1.0	1.3	1.5	1.8	2.1	2.3	2.6
24	0.8	1.2	**1.7**	2.2	2.6	3.1	3.6	3.9	4.4
30	1.1	1.7	2.4	**3.0**	3.7	4.3	5.0	5.4	6.1
36	1.3	2.1	2.9	3.7	**4.5**	5.3	6.1	6.7	7.5
42	1.6	2.6	3.5	4.5	5.4	**6.4**	7.3	8.1	9.0
48	1.9	3.1	4.2	5.4	6.5	7.7	**8.9**	9.7	10.9
54	2.2	3.5	4.8	6.1	7.4	8.7	10.1	**11.0**	12.4
60	2.4	3.9	5.3	6.8	8.2	9.7	11.1	12.2	**13.6**
66	2.7	4.4	6.0	7.7	9.3	11.0	12.6	13.8	15.5
72	3.0	4.9	6.7	8.5	10.3	12.2	14.0	15.3	17.2
78	3.3	5.3	7.3	9.2	11.2	13.2	15.2	16.6	18.6
84	3.6	5.7	7.8	10.0	12.1	14.2	16.4	18.0	20.1
90	3.9	6.2	8.5	10.9	13.2	15.5	17.9	19.6	22.0
96	4.1	6.6	9.1	11.6	14.1	16.6	19.1	21.0	23.4
102	4.4	7.0	9.6	12.3	14.9	17.5	20.1	22.1	24.7
108	4.7	7.5	10.3	13.2	16.0	18.8	21.6	23.8	26.6
114	5.0	8.0	11.0	14.0	17.0	20.0	23.0	25.3	28.3
120	5.3	8.4	11.6	14.7	17.9	21.0	24.2	26.6	29.7

Design Load (psf)

	Section Height (inches)	Section Width (Inches)								
		12	18	24	30	36	42	48	54	60
Single-Section Wide	≤120	250	250	227	182	152	130	114	101	87
Multi-Section Wide	≤72	250	250	227	182	152	130	114	101	87
	84	250	250	213	171	143	122	107	95	86
	96	250	248	187	150	125	107	94	83	75
	108	231	220	166	133	111	95	83	74	67
	120	208	198	149	120	100	86	75	67	60

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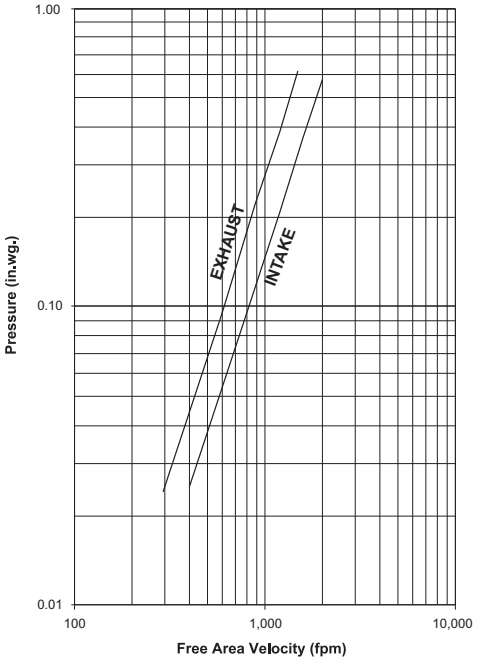
Pressure Loss

(Data corrected to standard air desnity)



Louver Test Size = 48" x 48" (1219 x 1219)

Pressure loss tested in accordance with Figure 5.5 of AMCA Standard 500-L.

Water Penetration

AMCA defines the beginning point of water penetration as the free area velocity at the intersection of a simple linear regression of test data and the line of 0.01 ounces of water per square foot of free area and is measured through a 48" × 48" louver during a 15 minute period. The AMCA water penetration test provides a method for comparing louver models and designs as to their efficiency in resisting the penetration of rainfall under specific lab conditions. All-Lite recommends that intake louvers are selected with a reasonable margin of safety below the beginning point of water penetration in order to avoid unwanted penetration during severe storm conditions.

Selection Criteria

Follow the steps listed below to calculate the louver size needed to satisfy the required air volume while minimizing the adverse effects of water penetration and pressure loss.

1. Determine the Free Area Velocity (FAV) at the maximum allowable pressure loss using the *Pressure Loss* chart to the left. While job conditions vary, typically, the maximum allowable pressure loss should not exceed 0.15 in.wg., and the FAV for 0.15 in.wg. pressure loss is listed on the front page of this sheet.

2. **Intake Applications** If the FAV at the Beginning Point of Water Penetration (shown below) is less than the FAV from step 1, then use the FAV at the Beginning Point of Water Penetration in step 3, otherwise use the FAV from step 1.

   Exhaust Applications Use the FAV from step 1 in step 3.

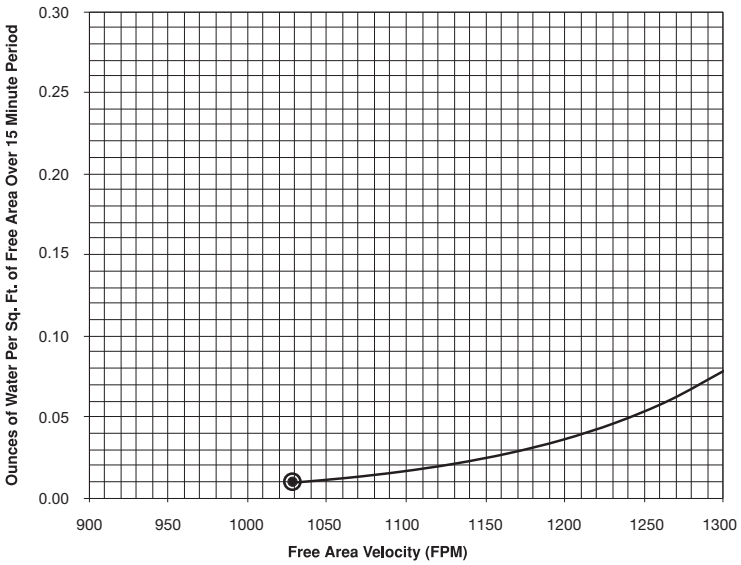
3. Calculate the total louver square footage required using the following equation.

   _____ cfm ÷ _____ fpm= _____ ft^2
   Required Air Volume | FAV | Required Louver (Free-Area) Size in ft^2

4. Using the *Free Area* chart above, select a louver width and height that yields a free area ft^2 greater than or equal to the required louver size calculated in step 3.

Water Penetration

Beginning Point of Water Penetration = 1029 fpm



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