**Report By:**

**National TAB**
**1329 E. KEMPER ROAD**
**SUITE 4210**
**CINCINNATI, OH 45246**

**Report: TAB Report**

**Function: Test, Adjust, & Balance**

**Date: 07/02/2024**

# PROJECT

## 06-24-24 CAVA MORENO VALLEY, CA

12510 DAY STREET

MORENO VALLEY, CA 92553

Client

CAVA

702 H ST NW

2nd floor

Washington, DC 20001

# National TAB

**Project: 06-24-24 CAVA MORENO VALLEY, CA**

## Table Of Contents

## Project Summary

The summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report is further detail about your building performance including recommendations, asset data, and pictures. Our focus is to work with the trades to remedy any issues or deficiencies during the actual field balancing and not after the balancing has occurred to achieve a positive environment and outcome. The level of success is determined by the availability of the trades, possible parts needed, or time constraints.

RTU's (Roof Top Units) w/ Diffusers
Each of the RTU's were measured at their terminal devices or via traverse to establish a total flow for that unit. Each RTU was adjusted to within tolerance of the engineer's design flow. Each outlet was then adjusted to within tolerance of the design flow. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. The outside air damper was adjusted until the airflow was within the design requirements. Any equipment that fell outside of that tolerance is noted throughout the report.

Kitchen Exhaust Hood & Associated Fans
Each kitchen exhaust fan was measured at the hood filter bay utilizing a velocity matrix and a manufacturer's correction factor. Each filter velocity is multiplied by the manufacturer's corrected area. The sum of these readings equals the total flow of the exhaust fans. The total flow of the exhaust was then adjusted to within tolerance of the design flow. . Any EF's that fell outside of this tolerance is noted throughout the report.

MUA (Make Up Air Unit) w/ PSP
Total flow for the MAU (Make-up Air Unit) unit was measured by readings taken at the discharge of the hood's perforated supply plenum. Readings taken with a velocity matrix were averaged and multiplied by a manufacturer's corrected area. Adjustments to the fan speed were made in order to bring the unit to within design tolerance. Any MUA's that fell outside of this tolerance is noted throughout the report.

General Exhaust Fans w/ Grilles
The general exhaust fans were measured by reading each air device with a flow hood. The total airflow for each fan is equivalent to the sum of these readings. Fan speed was then adjusted so that the airflow was within tolerance of design. Each terminal device was balanced to within tolerance of the design volume using the installed volume dampers. Any equipment that fell outside of this tolerance is noted throughout the report.

Final Building Tests
After completing the test and balance the final building pressure was measured. It was confirmed that the building pressure fell within acceptable tolerances of -0.02" wc to +0.02" wc and that the pressure measurement coincides with the actual and design net airflow. Any deviations from these standards are noted throughout the report.
The hood capture was tested at the perimeter of the hood and the cook top level with the equipment heat on to ensure satisfactory hood capture and containment.

## Issue List

- CONSTUCTION FILTERS INSTALLED
- EF-1 / EF-2 OUT OF DESIGN
- RESTROOM SUPPLY DIFFUSERS NO DAMPERS INSTALLED

## 06-24-24 CAVA MORENO VALLEY, CA

### Project Issue Information

**Issue Name :** CONSTUCTION FILTERS INSTALLED

**Description :** Construction filters are installed. Recommend replacing with standard pleated filters.

**Created By :** National TAB

**Assigned To :** National TAB - Will Turnbough

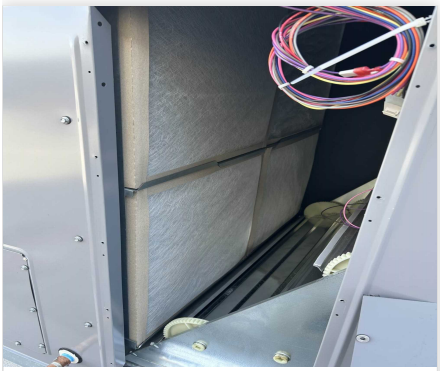
**Status :** Open

**Priority :** Low

**Asset Tag :**

**Originated Date :** 07/01/2024 - David Nicolas Sanchez - National TAB

Project Issue File Details



**IMG_0234**
**07/01/2024**

## 06-24-24 CAVA MORENO VALLEY, CA

### Project Issue Information

**Issue Name :** EF-1 / EF-2 OUT OF DESIGN

**Description :** EF-1 high on flow running at 163. EF-2 low on flow running at 133. Fans wired for single speed unable to adjust flow.

**Created By :** National TAB

**Assigned To :** National TAB - Will Turnbough

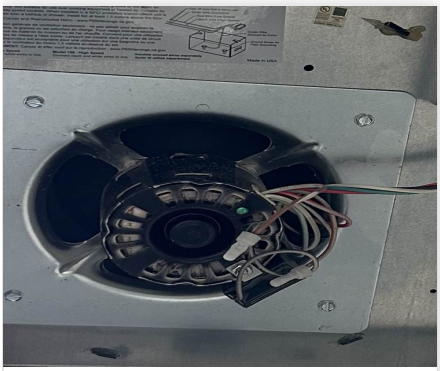
**Status :** Open

**Priority :** Low

**Asset Tag :**

**Originated Date :** 07/01/2024 - David Nicolas Sanchez - National TAB

Project Issue File Details



**IMG_0229**
**07/01/2024**

## 06-24-24 CAVA MORENO VALLEY, CA

### Project Issue Information

**Issue Name :** RESTROOM SUPPLY DIFFUSERS NO DAMPERS INSTALLED

**Description :** High flow on diffusers 2-12/ 2-13/ 2-14, dampers not installed to adjust airflow.

**Created By :** National TAB

**Assigned To :** National TAB - Will Turnbough

**Status :** Open

**Priority :** Low

**Asset Tag :**

**Originated Date :** 07/01/2024 - David Nicolas Sanchez - National TAB

Project Issue File Details

**IMG_0246**
**07/01/2024**

**IMG_0247**
**07/01/2024**

# National TAB

# Project: 06-24-24 CAVA MORENO VALLEY, CA

- Open BALANCE_SCHEDULE_LARGE_JOBS_COMPLETED.xlsx

# CheckList List

- TECH - SITE PICTURES

# 06-24-24 CAVA MORENO VALLEY, CA

## CheckList Information

| | | | |
|---|---|---|---|
| **Name :** | TECH - SITE PICTURES | **Status :** | Not Completed |
| **Assigned Organization :** | National TAB | **Asset :** | |
| **Requesting Organization :** | National TAB | | |
| **Created Date :** | 06/18/2024 - Brianna Biggs - National TAB | | |

## CheckList Item Details

| | |
|---|---|
| STORE FRONT | Yes |

**Comment:**


**IMG_0249**
**07/01/2024**

| | |
|---|---|
| RTU-1 | Yes |

**Comment:**

**IMG_0245**
**07/01/2024**

| | |
|---|---|
| RTU-2 | Yes |

**Comment:**

**IMG_0244**
**07/01/2024**

| | |
|---|---|
| KEF-1 | Yes |

**Comment:**

**IMG_0243**
**07/01/2024**

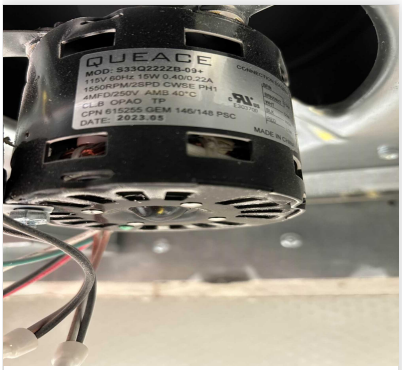
| | |
|---|---|
| EF-1 | Yes |

**Comment:**

**IMG_0229**
**07/01/2024**

| | |
|---|---|
| EF-2 | Yes |

**Comment:**




**IMG_0232**
**07/01/2024**

| | |
|---|---|
| MUA-1 | Yes |

**Comment:**

**IMG_0242**
**07/01/2024**

| | |
|---|---|
| HD-1 | Yes |

**Comment:**

**IMG_0248**
**07/01/2024**

# CheckList List

- FIV - EF'S
- FIV - HVAC DUCTWORK
- FIV - RTU'S
- FIV – HOODS
- FIV – MUA
- FPT - BUILDING PRESSURE AND HOOD CONTAINMENT
- FPT - KEF'S
- FPT - RTU's
- FPT – MUA

# 06-24-24 CAVA MORENO VALLEY, CA

## CheckList Information

**Name :** FIV - EF'S **Status :** Not Completed

**Assigned Organization :** National TAB **Asset :**

**Requesting Organization :** National TAB

**Created Date :** 06/18/2024 - Brianna Biggs - National TAB

### CheckList Item Details

| | |
|---|---|
| Unit Tag matches the design and submittal MFG and Model | Pass |
| **Comment:** | |
| Each exhaust fan is proper tagged for proper identification with tags sized and placed on the fan for visual ease | Pass |
| **Comment:** | |
| Fans are installed in the correct location and orientation | Pass |
| **Comment:** | |
| All packing, material and debris has been removed from the blower/wheel housing and the motor compartment | Pass |
| **Comment:** | |
| Fan wheels turn easily by hand (turn power off prior to testing) | Pass |
| **Comment:** | |
| Fans grease duct curb top plate is properly transitioned to the fan inlet and flush on top of the curb, sealed to the fan base to prevent leakage | Pass |
| **Comment:** | |

| | |
|---|---|
| Exhaust fans have external disconnects and are connected to allow full hinging of each exhaust fan | Pass |
| **Comment:** | |
| Fan is properly hinged and supported when hinged fully back for grease duct access (for Halton fans, ensure the base mounted disconnect is not hitting the fan base/curb when fully hinged back) | Pass |
| **Comment:** | |
| Grease cups are properly installed and connected to the fan base grease drain to prevent spilling outside of the grease cup | Pass |
| **Comment:** | |
| Exhaust fans are located 5ft from parapet wall and 10ft from any fresh air intake. | Pass |
| **Comment:** | |

# 06-24-24 CAVA MORENO VALLEY, CA

## CheckList Information

| | | | |
|---|---|---|---|
| **Name :** | FIV - HVAC DUCTWORK | **Status :** | Not Completed |
| **Assigned Organization :** | National TAB | **Asset :** | |
| **Requesting Organization :** | National TAB | | |
| **Created Date :** | 06/18/2024 - Brianna Biggs - National TAB | | |

## CheckList Item Details

**KVS - GREASE DUCT (HOOD SYSTEM)**

| | |
|---|---|
| Grease duct is sized and routed per plan | Pass |
| **Comment:** | |
| Grease duct is properly supported | Pass |
| **Comment:** | |
| Grease duct has code required negative pitch from fan inlet back to the hood riser connection | Pass |
| **Comment:** | |
| Grease duct has required clean-out doors installed, labeled, and accessible for removal/cleaning. Doors are located as required by code | Pass |
| **Comment:** | |
| Grease duct clean-out doors are secured using tool less fasteners and seal fully when hand tightened | Pass |
| **Comment:** | |
| Grease duct is centered in the curb and transitions as required to ensure the fan inlet is fully covered by the grease duct opening. Duct top plate flanges to the edges of the curb and is secured and flat so that the fan sits flush and square. | Pass |

**Comment:**

| | |
|---|---|
| Grease duct is wrapped if welded duct, or is double wall round duct? | Pass |

**Comment:**

**KVS - MUA DUCT (HOOD SYSTEM)**

| | |
|---|---|
| MUA duct is routed and sized as per plan | Pass |

**Comment:**

| | |
|---|---|
| MUA duct is properly supported | Pass |

**Comment:**

| | |
|---|---|
| MUA duct seams are sealed air tight using proper sealant and application for SMACNA pressure rating of duct systems | Yes |

**Comment:**

| | |
|---|---|
| MUA duct is externally insulated and taped to prevent vapor barrier from being breached | Pass |

**Comment:**

| | |
|---|---|
| MUA duct drop box and transitions are done to encourage laminar flow and avoid restrictions | Pass |

**Comment:**

| | |
|---|---|
| Branch take-off's have accessible dampers exposed for the TAB team to adjust each line as necessary | Pass |

**Comment:**

| | |
|---|---|
| Flex duct (if used) is supported and straight with no more than one (1) hard 90 degree elbow and less than 5ft in total length | Pass |

**Comment:**

| | |
|---|---|
| Connection to the hood MUA plenum is secured and foil taped to prevent air leakage | Pass |

**Comment:**

**RESTROOM DUCT**

| | |
|---|---|
| Restroom duct is routed and sized per plan | Pass |
| **Comment:** | |
| Restroom duct is properly supported | Pass |
| **Comment:** | |
| Duct seams are sealed | Yes |
| **Comment:** | |
| Dampers are accessible to TAB team for balancing | Pass |
| **Comment:** | |
| Flex duct (if used) is supported and straight with no more than one (1) hard 90 degree elbow and less than 5ft in total length | Pass |
| **Comment:** | |
| Duct is secured to exhaust register | Pass |
| **Comment:** | |
| Gravity damper is installed, opens and closes freely, and is sealed to prevent air leakage | Pass |
| **Comment:** | |
| Duct to curb transition is centered and sized to ensure it covers the entire fan inlet. Curb top plate is flush and secured to the ends of the curb. | Pass |
| **Comment:** | |
| **HVAC DUCT** | |
| Kitchen and Dining room duct is routed and sized as per plan | Pass |
| **Comment:** | |
| Ducts are properly supported | Pass |
| **Comment:** | |
| Ductwork is externally insulated | Yes |

**Comment:**

| | |
|---|---|
| Duct seams are sealed air tight using proper sealant and application for SMACNA pressure rating of duct systems | Pass |

**Comment:**

| | |
|---|---|
| Ducts are securely insulated as per specificatins and foil taped to prevent air barrier from being breached | Pass |

**Comment:**

| | |
|---|---|
| Takeoffs are installed to serve required terminal diffusers and are equipped with accessible dampers for TAB team access and can be opened or closed fully with no impingements | Pass |

**Comment:**

| | |
|---|---|
| Flex duct (if used) is supported and straight with no more than one (1) hard 90 degree elbow and less than 5ft in total length | Pass |

**Comment:**

| | |
|---|---|
| Takeoff to diffuser is installed securely to prevent slippage and air leakage | Pass |

**Comment:**

| | |
|---|---|
| All diffuser neck or opening sizes are installed as planned | Pass |

**Comment:**

| | |
|---|---|
| Supply and Return duct transitions to top of RTU curb, sized to full width and length of opening and is flashed fully to the sides of the curb. | Pass |

**Comment:**

# 06-24-24 CAVA MORENO VALLEY, CA

## CheckList Information

**Name :** FIV - RTU'S **Status :** Not Completed

**Assigned Organization :** National TAB **Asset :**

**Requesting Organization :** National TAB

**Created Date :** 06/18/2024 - Brianna Biggs - National TAB

## CheckList Item Details

| | |
|---|---|
| **RTU IDENTIFICATION, ORIENTATION & LOCATION** | |
| Each RTU is tagged for proper identification with tags sized and placed on the fan for visual ease | Pass |
| **Comment:** | |
| Identify and ensure the RTU label information and size is correct | Pass |
| **Comment:** | |
| Ensure proper location of unit | Pass |
| **Comment:** | |
| Ensure orientation of curb & RTU is per plan | Pass |
| **Comment:** | |
| Ensure Packing in the blower compartment has been removed | Pass |
| **Comment:** | |
| **RTU - INSTALLATION DETAILS** | |
| With disconnect switch "off" spin the indoor and outdoor fan wheel's by hand and ensure they spin freely | Pass |

| | |
|---|---|
| **Comment:** | |
| Ensure Roof Curb is fully flashed by roofing material and secured and curb is level | Pass |
| **Comment:** | |
| Inspect the interior of the supply heat exchange compartment and return air compartment - validate that the duct is flashed and sealed to the top of the curb to prevent leakage or short cycling | Pass |
| **Comment:** | |
| Hail guards installed on outdoor condenser coils | Pass |
| **Comment:** | |
| **RTU - ACCESSORIES** | |
| Power connected & disconnect installed | Pass |
| **Comment:** | |
| Gas line connected per specification (size, painting, supports, shut-off valves, traps) | Pass |
| **Comment:** | |
| OA hood & filters installed | Pass |
| **Comment:** | |
| Economizer wired to control board | Pass |
| **Comment:** | |
| Evaporator coil filters are properly installed with specified MERV rating | Pass |
| **Comment:** | |
| Economizer damper is installed properly | Pass |
| **Comment:** | |
| Economizer OA temperature / enthalpy sensors installed and wired | Pass |

| | |
|---|---|
| **Comment:** | |
| Thermostat and humidity (if applicable) control wires wired to RTU terminals | Pass |
| **Comment:** | |
| Condensate drain installed per specification | Pass |
| **Comment:** | |
| Condensate line drains away from unit to a approved roof drain | Pass |
| **Comment:** | |
| Belts are tight? | N/A |
| **Comment:** | |
| Pulleys aligned? | N/A |
| **Comment:** | |
| MERV rated filters are installed and are clean? | Fail |
| **Comment:** | |

# 06-24-24 CAVA MORENO VALLEY, CA

## CheckList Information

**Name :** FIV – HOODS **Status :** Not Completed

**Assigned Organization :** National TAB **Asset :**

**Requesting Organization :** National TAB

**Created Date :** 06/18/2024 - Brianna Biggs - National TAB

## CheckList Item Details

**HOOD INSTALLATION DETAILS**

| | |
|---|---|
| Kitchen hoods tags match design and submitted information | Pass |
| **Comment:** | |
| Kitchen hoods are hung Level using 1/2" threaded rod | Pass |
| **Comment:** | |
| Kitchen hoods are supported using beam clamps and/or Unistrut per required structural and local AHJ requirements | Pass |
| **Comment:** | |
| Kitchen hoods are hung level front to back and side to side | Pass |
| **Comment:** | |
| Kitchen hoods are hung at 80" AFF | Pass |
| **Comment:** | |
| Kitchen Hoods are flush against the wall along the bottom and each of it's side walls. | Pass |
| **Comment:** | |

| | |
|---|---|
| Caulk is applied (less than 1/8" thick) from the hood against all wall surfaces or between connecting side to side hoods to prevent grease accumulation inside any crevice. | Pass |
| **Comment:** | |
| There are no penetrations into the hood canopy other than fire system nozzles | Pass |
| **Comment:** | |
| The hood is in "As New" condition with no visible damage, rust, pitting, or other blemishes | Pass |
| **Comment:** | |
| All protective film has been peeled away from the wall or other areas of impingement to assure it can be easily and fully removed prior to cleaning. | Pass |
| **Comment:** | |
| **HOOD ACCESSORIES** | |
| End panels are installed | Pass |
| **Comment:** | |
| Hood filters are installed | Pass |
| **Comment:** | |
| Grease cups are installed | Pass |
| **Comment:** | |
| Ceiling Wrappers are installed and the ceiling grid is fixed to the top of the ceiling wrappers | Pass |
| **Comment:** | |
| Hood control panel has been identified and is located as per plan, is accessible, and contains all components and temperature sensors to meet local interlock (normal and abnormal conditions) and heat auto on/off functionality. | Pass |
| **Comment:** | |

# 06-24-24 CAVA MORENO VALLEY, CA

## CheckList Information

**Name :** FIV – MUA **Status :** Not Completed

**Assigned Organization :** National TAB **Asset :**

**Requesting Organization :** National TAB

**Created Date :** 06/18/2024 - Brianna Biggs - National TAB

### CheckList Item Details

| | |
|---|---|
| MUA Tag information matches design and submittal criteria | Pass |
| **Comment:** | |
| MUA Fan has a permanent tag for identification located on the unit located and sized for visual ease | Pass |
| **Comment:** | |
| MUA is installed in the proper location and orientation | Pass |
| **Comment:** | |
| MUA intake is a minimum 10ft from any exhaust, roof vent or dirty air source | Pass |
| **Comment:** | |
| Blower compartment and internal heater area is free of packing material, debris, and dirt | Pass |
| **Comment:** | |
| Blower wheel turns freely by hand (turn power off prior to testing) | Pass |
| **Comment:** | |
| All MUA compartment and control doors are fully accessible, minimum 36" clearance for service allowing the doors to fully open without restriction | Pass |

**Comment:**

| | |
|---|---|
| MUA Electrical disconnect is external to the unit and properly wired | Pass |

**Comment:**

| | |
|---|---|
| Outdoor air awning is installed and fitted with proper OA mesh filters | Pass |

**Comment:**

| | |
|---|---|
| Condensate drain is installed (for cooling MUA's) with proper traps, clean-outs, and drain away from the unit to an acceptable roof drain | Pass |

**Comment:**

| | |
|---|---|
| Refrigeration line sets are installed and connected properly with adequate supports per specifications | Pass |

**Comment:**

| | |
|---|---|
| Condenser is installed away from any grease producing exhaust fans and located as per roof plan | Pass |

**Comment:**

| | |
|---|---|
| Condenser's electrical disconnect is external to the unit and properly wired (if applicable) | Pass |

**Comment:**

| | |
|---|---|
| Condenser hail guards are installed (if applicable) | Pass |

**Comment:**

| | |
|---|---|
| All Condenser compartment and control doors are fully accessible, minimum 36" clearance for service allowing the doors to fully open without restriction (if applicable) | Pass |

**Comment:**

| | |
|---|---|
| Gas line is installed per specification and properly supported | Pass |

**Comment:**

| | |
|---|---|
| Gas line is installed per specification and properly supported and contains maintenance shut-off valve, trap, and regulator (if line pressure requires it). MUA is equipped with inlet gas pressure gauge to validate incoming gas pressure is suitable | Pass |

**Comment:**

# 06-24-24 CAVA MORENO VALLEY, CA

## CheckList Information

| | | | |
|---|---|---|---|
| **Name :** | FPT - BUILDING PRESSURE AND HOOD CONTAINMENT | **Status :** | Not Completed |
| **Assigned Organization :** | National TAB | **Asset :** | |
| **Requesting Organization :** | National TAB | | |
| **Created Date :** | 06/18/2024 - Brianna Biggs - National TAB | | |

## CheckList Item Details

**FINAL TESTS**

**HOOD CAPTURE TEST**

List equipment turned on for testing

**Comment:**

None

List smoke candle type used

**Comment:**

CE0163 45 second 150CF

Smoke test capture - Perimeter of hood (%)

**Comment:**

98%

Smoke test capture - Top of cooking surface (%)

**Comment:**

100%

**WITNESS**

| | |
|---|---|
| Date test was completed | 06/26/2024 |

**Comment:**

TAB tech name / Firm

**Comment:**

David Nicolas Sanchez / NTi

Site super name / Firm

**Comment:**

William Cherry / KDC

Owner representative name / Firm (if Applicable)

**Comment:**

N/A

**BUILDING PRESSURE**

Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative)

**Comment:**

Yes

# 06-24-24 CAVA MORENO VALLEY, CA

## CheckList Information

**Name :** FPT - KEF'S **Status :** Not Completed

**Assigned Organization :** National TAB **Asset :**

**Requesting Organization :** National TAB

**Created Date :** 06/18/2024 - Brianna Biggs - National TAB

## CheckList Item Details

| | |
|---|---|
| Exhaust fans wheel rotation is correct | Pass |
| **Comment:** | |
| TAB firm has balanced the exhaust fans to proper design levels | Pass |
| **Comment:** | |
| All motor and electrical readings are below the full load rating of each fan | Pass |
| **Comment:** | |
| Exhaust Fans do not have any unusual noise or vibration while operating | Pass |
| **Comment:** | |
| Smoke and Grease from exhaust fans appear to properly elevate above the parapet wall and off the roof. | Pass |
| **Comment:** | |
| Hoods have been started up by the manufacturers rep? | Pass |
| **Comment:** | |
| Hoods free of alarms? | Pass |

**Comment:**

| | |
|---|---|
| Exhaust fans modulate to high speed when kitchen equipment is on and at cooking temperatures? If not, adjust modulation/offset down. | Pass |

**Comment:**

# 06-24-24 CAVA MORENO VALLEY, CA

## CheckList Information

**Name :** FPT - RTU's **Status :** Not Completed

**Assigned Organization :** National TAB **Asset :**

**Requesting Organization :** National TAB

**Created Date :** 06/18/2024 - Brianna Biggs - National TAB

## CheckList Item Details

**THERMOSTAT PROGRAMMING AND CALIBRATION**

| | |
|---|---|
| Time is correct on the thermostats | Pass |
| **Comment:** | |
| Occupied Time = 7:30 AM | Pass |
| **Comment:** | |
| Occupied Heat setpoint = 68 | Pass |
| **Comment:** | |
| Occupied Cooling setpoint = 72 | Pass |
| **Comment:** | |
| Dehumidification Setpoint = 55% | Pass |
| **Comment:** | |
| Occupied Fan = On | Pass |
| **Comment:** | |
| Unoccupied Time = 12:00AM | Pass |

**Comment:**

| | |
|---|---|
| Unoccupied Heat setpoint = 60 | Pass |

**Comment:**

| | |
|---|---|
| Occupied Cooling setpoint = 80 | Pass |

**Comment:**

| | |
|---|---|
| Unoccupied Fan = Auto | Pass |

**Comment:**

| | |
|---|---|
| Actual measured temperature is within +/-1 degree of temperature displayed on thermostat. If not calibrate the sensor | Pass |

**Comment:**

| | |
|---|---|
| Actual measured RH is within +/-3 % of displayed RH at RTU or thermostat. If not calibrate the sensor | Pass |

**Comment:**

**CONTROL WIRING VALIDATION**

| | |
|---|---|
| Economizer Dry Bulb sensor wired | Pass |

**Comment:**

| | |
|---|---|
| Economizer Dry Bulb sensor operational | Pass |

**Comment:**

| | |
|---|---|
| OCP/OCC terminal wired correctly | Pass |

**Comment:**

| | |
|---|---|
| Thermostat Wired correctly (R,C,Y1,Y2,W1,W2) | Pass |

**Comment:**

| | |
|---|---|
| Humidity Sensor Wired correctly | Pass |

**Comment:**

**CALIBRATION & PROGRAMMING**

| | |
|---|---|
| RTU OA DB StPt, Reading Accuracy (+/- 2 degrees / 10 minute time to calibrate to actual reading) | N/A |

**Comment:**

| | |
|---|---|
| RTU MAT StPt, Reading Accuracy (+/- 2 degrees / 10 minute time to calibrate to actual reading) | N/A |

**Comment:**

RTU MAT Low StPt

**Comment:**

N/A

RTU Low T Lockout

**Comment:**

N/A

| | |
|---|---|
| Economizer set to 28 BTU/lb enthalpy setpoint. | Pass |

**Comment:**

**Temperature tests**

Outside air temperature / humidity

**Comment:**

Full cooling LAT/H

**Comment:**

Full heating LAT/H

**Comment:**

**OUTDOOR AIR / RELIEF DAMPER**

| | |
|---|---|
| If power exhaust installed, set point is higher than the OA damper setpoint | Pass |

| | |
|---|---|
| **Comment:** | |
| If power exhaust installed, open the OA damper above the power exhaust setpoint and ensure that the power exhaust turns on | Pass |
| **Comment:** | |
| If relief damper is installed, ensure that it is installed properly and can open freely. | |
| **Comment:** | |
| **OCCUPANCY VALIDATION** | |
| Place the thermostat in "unoccupied" - Does the OA damper close fully | Pass |
| **Comment:** | |
| Stage cooling and Heating in "unoccupied" - Does the unit properly stage and does the OA damper remain closed | Pass |
| **Comment:** | |
| Place the thermostat in "Occupied" - Does the OA damper open to the TAB preset minimum position in High speed | Pass |
| **Comment:** | |
| Place the thermostat in "Occupied" - Does the OA damper open to the TAB preset minimum position in Low speed (if applicable) | Pass |
| **Comment:** | |

# 06-24-24 CAVA MORENO VALLEY, CA

## CheckList Information

**Name :** FPT – MUA **Status :** Not Completed

**Assigned Organization :** National TAB **Asset :**

**Requesting Organization :** National TAB

**Created Date :** 06/18/2024 - Brianna Biggs - National TAB

### CheckList Item Details

| | |
|---|---|
| TAB firm has balanced the MUA to within proper design limits | Pass |
| **Comment:** | |
| Blower wheel rotation is correct | Pass |
| **Comment:** | |
| MUA does not have any unusual noise or vibration while operating | Pass |
| **Comment:** | |
| Motor and electrical measurements are below the full load rating | Pass |
| **Comment:** | |
| Startup has been completed by the manufacturers rep? | Pass |
| **Comment:** | |
| Heater tested and is functional? | Pass |
| **Comment:** | |
| Cooling is tested and is functional? | Yes |
| **Comment:** | |

# National TAB

**Project: 06-24-24 CAVA MORENO VALLEY, CA**

## System/Unit: AHU/RTU

**Asset: RTU1** AREA:DINING

| Unit Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MFG** | CARRIER | CARRIER |
| **Serial Num** | - | 4523P76477 |
| **Model Num** | 50FCQM12 | 50FCQM12 |
| **Type** | RTU | RTU |
| **Configuration** | VERTICAL | VERTICAL |
| **Num OA Filters 1** | - | 1 |
| **OA Filter Size 1** | - | 35.5X18 |
| **Num Final Filter 1** | - | 4 |
| **Final Filter Size 1** | - | 20X20X2 |

| Motor Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor MFG** | - | NL |
| **Frame** | - | NL |
| **Horsepower** | - | NL |
| **Motor Rpm** | - | NL |
| **Phase** | 3 | 3 |
| **Rated Voltage** | 208 | 208 |
| **Rated Amperage** | - | 6.4 |

| Drive Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor Sheave Size** | - | DD |
| **Motor Bore Size** | - | DD |
| **Motor Sheave SetPt** | - | DD |
| **Fan Sheave Size** | - | DD |
| **Fan Sheave Bore** | - | DD |
| **Belt CL Distance** | - | DD |
| **Num of Belts** | - | DD |
| **Belt Size** | - | DD |
| **Belt Alignment** | - | DD |

| Test Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **SF CFM** | 4000 | 4101 |
| **SF RPM** | - | 1810 |
| **RA CFM** | 3375 | 3501 |
| **OA CFM** | 625 | 600 |
| **RL Voltage** | - | 203 |
| **RL Amperage** | - | 4.28 |
| **SF Rotation** | - | CCW |
| **SF System SetPt** | - | C |
| **RA Damper Position** | - | 95% |
| **Min OA Damper Position** | - | 5% |
| **Min OA Damper Type** | - | ECONOMIZER |
| **OA Enthalpy Setpt** | - | 8.3V |

| Performance Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MA Plenum SP** | - | -0.57” |
| **Fan Suction SP** | - | -1.18” |
| **Fan Discharge SP** | - | 0.56” |
| **Total ESP** | 1.0" | 1.13” |
| **Fan Total SP** | - | 1.74” |

| General | | |
|---|---|---|
| | **Design** | **Actual** |
| **Fan Rotation Correct** | - | YES |
| **Unit Filters Clean** | - | YES |
| **Condensate Drain Installed** | - | YES |

Completed By: David Nicolas Sanchez on 06/26/2024

# National TAB

**Project:06-24-24 CAVA MORENO VALLEY, CA**

## AHU/RTU

### Diffuser Supply (GRD)

**RTU1/DINING**

| Asset | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Asset Name** | **Location** | **Type** | **Size** | **DESIGN CFM** | **AK** | **CFM(1)** | **CFM(2)** | **FINAL CFM** | **% to design** |
| SGRD1 | DINING | SD4 | 16X6 | 340 | 0.63 | 449 | 381 | 381 | 112.1 |
| SGRD2 | DINING | SD4 | 16X6 | 200 | 0.63 | 263 | 294 | 294 | 147.0 |
| SGRD3 | DINING | SD4 | 16X6 | 200 | 0.63 | 356 | 240 | 240 | 120.0 |
| SGRD4 | DINING | SD4 | 16X6 | 340 | 0.63 | 231 | 323 | 323 | 95.0 |
| SGRD5 | DINING | SD4 | 16X6 | 200 | 0.63 | 333 | 210 | 210 | 105.0 |
| SGRD6 | DINING | SD4 | 16X6 | 340 | 0.63 | 273 | 329 | 329 | 96.8 |
| SGRD7 | DINING | SD4 | 16X6 | 340 | 0.63 | 350 | 343 | 343 | 100.9 |
| SGRD8 | DINING | SD4 | 16X6 | 340 | 0.63 | 354 | 343 | 343 | 100.9 |
| SGRD9 | DINING | SD4 | 16X6 | 200 | 0.55 | 333 | 301 | 242 | 121.0 |
| SGRD10 | DINING | SD4 | 16X6 | 300 | 0.55 | 144 | 233 | 292 | 97.3 |
| SGRD11 | DINING | SD4 | 16X6 | 200 | 0.55 | 187 | 223 | 218 | 109.0 |
| SGRD12 | DINING | SD4 | 16X6 | 300 | 0.55 | 134 | 193 | 229 | 76.3 |
| SGRD13 | DINING | SD4 | 16X6 | 200 | 0.55 | 135 | 206 | 215 | 107.5 |
| SGRD14 | DINING | SD4 | 16X6 | 300 | 0.55 | 185 | 195 | 204 | 68.0 |
| SGRD15 | DINING | SD4 | 16X6 | 200 | 0.55 | 336 | 273 | 238 | 119.0 |
| Total | | | | 4000 | | 4063 | 4087 | 4101 | 102.52% |

**Completed By: David Nicolas Sanchez on 06/26/2024**

| Asset | Notes | Date | Written By |
|---|---|---|---|
| SGRD1 | Damper set to fully closed. | 07/02/2024 | David Nicolas Sanchez |
| SGRD2 | Damper set to fully closed. | 07/02/2024 | David Nicolas Sanchez |
| SGRD3 | Damper set to fully open, unable to achieve design airflow. | 07/02/2024 | David Nicolas Sanchez |
| SGRD9 | Damper set to fully closed, unable to achieve design airflow. | 07/02/2024 | David Nicolas Sanchez |
| SGRD12 | Damper set to fully open, unable to achieve design airflow. | 07/02/2024 | David Nicolas Sanchez |
| SGRD14 | Damper set to fully open, unable to achieve design airflow. | 07/02/2024 | David Nicolas Sanchez |
| SGRD15 | Damper set to fully closed, unable to achieve design airflow. | 07/02/2024 | David Nicolas Sanchez |

# National TAB

**Project: 06-24-24 CAVA MORENO VALLEY, CA**

## System/Unit: AHU/RTU

**Asset: RTU2** AREA:KITCHEN

| Unit Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MFG** | CARRIER | CARRIER |
| **Serial Num** | - | 4523P76476 |
| **Model Num** | 50FCQM12 | 50FCQM12 |
| **Type** | RTU | RTU |
| **Configuration** | VERTICAL | VERTICAL |
| **Num OA Filters 1** | - | 1 |
| **OA Filter Size 1** | - | 35.5X18 |
| **Num Final Filter 1** | - | 4 |
| **Final Filter Size 1** | - | 20X20X2 |

| Motor Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor MFG** | - | NL |
| **Frame** | - | NL |
| **Horsepower** | - | NL |
| **Motor Rpm** | - | NL |
| **Phase** | 3 | 3 |
| **Rated Voltage** | 208 | 208 |
| **Rated Amperage** | - | 6.4 |

| Drive Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor Sheave Size** | - | DD |
| **Motor Bore Size** | - | DD |
| **Motor Sheave SetPt** | - | DD |
| **Fan Sheave Size** | - | DD |
| **Fan Sheave Bore** | - | DD |
| **Belt CL Distance** | - | DD |
| **Num of Belts** | - | DD |
| **Belt Size** | - | DD |
| **Belt Alignment** | - | DD |

| Test Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **SF CFM** | 4000 | 4240 |
| **SF RPM** | - | 1802 |
| **RA CFM** | 3650 | 3900 |
| **OA CFM** | 350 | 340 |
| **RL Voltage** | - | 208 |
| **RL Amperage** | - | 3.57 |
| **SF Rotation** | - | CCW |
| **SF System SetPt** | - | C |
| **RA Damper Position** | - | 97% |
| **Min OA Damper Position** | - | 3% |
| **Min OA Damper Type** | - | ECONOMIZER |
| **OA Enthalpy Setpt** | - | 9.3V |

| Performance Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MA Plenum SP** | - | -0.93” |
| **Fan Suction SP** | - | -1.58” |
| **Fan Discharge SP** | - | 0.74” |
| **Total ESP** | 1.0" | 1.67” |
| **Fan Total SP** | - | 2.33” |

| General | | |
|---|---|---|
| | **Design** | **Actual** |
| **Fan Rotation Correct** | - | YES |
| **Unit Filters Clean** | - | YES |
| **Condensate Drain Installed** | - | YES |

Completed By: David Nicolas Sanchez on 06/26/2024

# National TAB

**Project:06-24-24 CAVA MORENO VALLEY, CA**

## AHU/RTU

### Diffuser Supply (GRD)

**RTU2/KITCHEN**

| Asset | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Asset Name** | **Location** | **Type** | **Size** | **DESIGN CFM** | **AK** | **CFM(1)** | **CFM(2)** | **FINAL CFM** | **% to design** |
| SGRD1 | OPEN KITCHEN | SD3 | 8" | 200 | 1 | 177 | 241 | 238 | 119.0 |
| SGRD2 | OPEN KITCHEN | SD3 | 8" | 200 | 1 | 124 | 175 | 188 | 94.0 |
| SGRD3 | OPEN KITCHEN | SD3 | 8" | 200 | 1 | 95 | 81 | 110 | 55.0 |
| SGRD4 | OPEN KITCHEN | SD3 | 8" | 200 | 1 | 140 | 212 | 216 | 108.0 |
| SGRD5 | KITCHEN HOOD | ACPSP | 140X6 | 776 | 4.43 | 630 | 819 | 806 | 103.9 |
| SGRD6 | KITCHEN | SD1 | 12" | 400 | 1 | 124 | 146 | 402 | 100.5 |
| SGRD7 | BOH | SD1 | 12" | 400 | 1 | 302 | 451 | 384 | 96.0 |
| SGRD8 | BOH | SD1 | 12" | 440 | 1 | 169 | 244 | 427 | 97.0 |
| SGRD9 | BOH | SD1 | 12" | 400 | 1 | 113 | 157 | 392 | 98.0 |
| SGRD10 | BOH | SD1 | 12" | 400 | 1 | 633 | 914 | 396 | 99.0 |
| SGRD11 | OFFICE | SD1 | 8" | 150 | 1 | 123 | 179 | 141 | 94.0 |
| SGRD12 | CORRIDOR | SD2 | 6" | 90 | 1 | 103 | 158 | 149 | 165.6 |
| SGRD13 | RESTROOM | SD2 | 6" | 50 | 1 | 169 | 258 | 235 | 470.0 |
| SGRD14 | RESTROOM | SD2 | 6" | 90 | 1 | 95 | 144 | 156 | 173.3 |
| Total | | | | 3996 | | 2997 | 4179 | 4240 | 106.11% |

**Completed By: David Nicolas Sanchez on 06/26/2024**

| Asset | Notes | Date | Written By |
|---|---|---|---|
| SGRD1 | Damper not accessible, unable to achieve design airflow. | 07/02/2024 | David Nicolas Sanchez |
| SGRD3 | Damper not accessible, unable to achieve design airflow. | 07/02/2024 | David Nicolas Sanchez |
| SGRD12 | Damper not installed, unable to achieve design airflow. | 07/02/2024 | David Nicolas Sanchez |
| SGRD13 | Damper not installed, unable to achieve design airflow. | 07/02/2024 | David Nicolas Sanchez |
| SGRD14 | Damper not installed, unable to achieve design airflow. | 07/02/2024 | David Nicolas Sanchez |

# National TAB

**Project: 06-24-24 CAVA MORENO VALLEY, CA**

## System/Unit: FAN - Exhaust

**Asset: EF1** AREA:RESTROOM

| Unit Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MFG** | GREENHECK | LOREN COOK |
| **Model Num** | SP-150 | S33Q302ZB-10 |
| **Serial Num** | - | 615256 |
| **Type** | CEILING | CEILING |
| **Configuration** | VERTICAL | VERTICAL |

| Motor Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor MFG** | - | LOREN COOK |
| **Frame** | - | NL |
| **Horsepower** | 171W | 16W |
| **Motor Rpm** | - | 1100 |
| **Phase** | 1 | 1 |
| **Voltage (rated)** | 115 | 115 |
| **Amperage (rated)** | - | 0.51 |
| **Service Factor** | - | NL |

| Test Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **CFM** | 120 | 163 |
| **Fan RPM** | 886 | DD |
| **Fan Rotation** | - | CCW |
| **Motor RPM** | - | DD |
| **System SetPt** | - | SINGLE SPEED |
| **RL Voltage** | - | NA |
| **RL Amperage** | - | NA |
| **Total ESP** | 0.5" | NA |
| **Fan Inlet SP** | - | NA |
| **Fan Discharge SP** | - | NA |

Completed By: David Nicolas Sanchez on 06/26/2024

# National TAB

**Project: 06-24-24 CAVA MORENO VALLEY, CA**

## System/Unit: FAN - Exhaust

**Asset: EF2** AREA:RESTROOM

| Unit Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MFG** | GREENHECK | LOREN COOK |
| **Model Num** | SP-A290 | S33Q222ZB-09 |
| **Serial Num** | - | 615255 |
| **Type** | CEILING | CEILING |
| **Configuration** | VERTICAL | VERTICAL |

| Motor Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor MFG** | - | LOREN COOK |
| **Frame** | - | NL |
| **Horsepower** | 81W | 15W |
| **Motor Rpm** | - | 1550 |
| **Phase** | 1 | 1 |
| **Voltage (rated)** | 115 | 115 |
| **Amperage (rated)** | - | 0.4 |
| **Service Factor** | - | NL |

| Test Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **CFM** | 150 | 133 |
| **Fan RPM** | 926 | DD |
| **Fan Rotation** | - | CCW |
| **Motor RPM** | - | DD |
| **System SetPt** | - | SINGLE SPEED |
| **RL Voltage** | - | NA |
| **RL Amperage** | - | NA |
| **Total ESP** | 0.5" | NA |
| **Fan Inlet SP** | - | NA |
| **Fan Discharge SP** | - | ATM |

Completed By: David Nicolas Sanchez on 06/26/2024

# National TAB

**Project: 06-24-24 CAVA MORENO VALLEY, CA**

## System/Unit: FAN - Exhaust

**Asset: KEF1** AREA:

| Unit Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MFG** | CAPTIVEAIRE | CAPTIVEAIRE |
| **Model Num** | DU85HFA | DU85HFA |
| **Serial Num** | - | 6654187 |
| **Type** | UPBLAST | UPBLAST |
| **Configuration** | VERTICAL | VERTICAL |

| Motor Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor MFG** | - | TELCO GREEN |
| **Frame** | - | NL |
| **Horsepower** | 1 | 1 |
| **Motor Rpm** | - | 1800 |
| **Phase** | 1 | 1 |
| **Voltage (rated)** | 115 | 115 |
| **Amperage (rated)** | - | 11.4 |
| **Service Factor** | - | NL |

| Test Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **CFM** | 2381 | 2169 |
| **Fan RPM** | 1574 | 1548 |
| **Fan Rotation** | - | CW |
| **Motor RPM** | - | 1548 |
| **System SetPt** | - | 85% |
| **RL Voltage** | - | 113 |
| **RL Amperage** | - | 11.41 |
| **Total ESP** | 1.0" | -0.57 |
| **Fan Inlet SP** | - | -0.57 |
| **Fan Discharge SP** | - | ATM |

Completed By: David Nicolas Sanchez on 06/26/2024

# National TAB

**Project: 06-24-24 CAVA MORENO VALLEY, CA**

## System/Unit: FAN - Supply

**Asset: MUA1** AREA:COOKLINE

| Unit Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MFG** | CAPTIVEAIRE | CAPTIVEAIRE |
| **Model Num** | A2-20D-MPU | A2-20D-MPU |
| **Serial Num** | - | 6654187 |
| **Type** | MUA | MUA |
| **Configuration** | VERTICAL | VERTICAL |

| Motor Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor MFG** | - | TECO |
| **Frame** | - | 145T |
| **Horsepower** | 1 | 1 |
| **Motor Rpm** | - | 1150 |
| **Phase** | 3 | 3 |
| **Voltage (rated)** | 208 | 230 |
| **Amperage (rated)** | - | 3.44 |
| **Service Factor** | - | 1.15 |

| Gas Heat | | |
|---|---|---|
| | **Design** | **Actual** |
| **Heater Operates (y/n)** | - | Y |
| **Flame Status (pass/fail)** | - | PASS |
| **Inlet Air Temp SetPt** | 55 | 55 |
| **Discharge Air Temp SetPt** | 60 | 60 |
| **Air Flow Switch SP Actual** | - | 0.30" |

| Test Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **CFM** | 1976 | 1938 |
| **SF RPM** | 1041 | 1150 |
| **Motor RPM** | - | 1150 |
| **SF System SetPt** | - | 60.1HZ |
| **RL Voltage** | - | 189@VFD |
| **RL Amperage** | - | 3.2@VFD |
| **Total ESP** | - | N/A |
| **Fan Discharge SP** | - | ATM |

| General | | |
|---|---|---|
| | **Design** | **Actual** |
| **Fan Rotation Correct** | - | YES |

Completed By: David Nicolas Sanchez on 06/24/2024

# National TAB

**Project: 06-24-24 CAVA MORENO VALLEY, CA**

## System/Unit: Kitchen Hood Type I

**Asset: HD1** AREA:

| Unit Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MFG** | CAPTIVEAIRE | CAPTIVEAIRE |
| **Model Num** | 6030 ND-2-ACPSP-F | 6030 ND-2-ACPSP-F |
| **Job / Serial Num** | - | 6654187 |
| **Type** | TYPE I CANOPY | TYPE I CANOPY |
| **Hood length** | 127" | 127" |
| **Hood Width** | 60" | 60" |
| **Supply Plenum Type** | - | ACPSP |
| **Supply Plenum Width** | 14" | 14" |
| **Supply Plenum Length** | 140" | 140" |

| Test Data Exhaust | | |
|---|---|---|
| | **Design** | **Actual** |
| **Filter Type** | CAPTRATE SOLO | CAPTRATE SOLO |
| **Filter Size 1** | 16X20 | 16X20 |
| **Filter Qty 1** | 7 | 7 |
| **Filter AK factor size 1** | 2.08 | 2.08 |
| **Filter Total AK Area** | 14.56 | 14.56 |
| **Filter1 FPM** | - | 149 |
| **Filter2 FPM** | - | 153 |
| **Filter3 FPM** | - | 157 |
| **Filter4 FPM** | - | 148 |
| **Filter5 FPM** | - | 150 |
| **Filter6 FPM** | - | 153 |
| **Filter7 FPM** | - | 137 |
| **Filter Ave FPM(corr)** | - | 149 |
| **CFM** | 2381 | 2169 |

| Cooking Equipment | | |
|---|---|---|
| | **Design** | **Actual** |
| **Item 1** | - | OVEN |
| **Item 2** | - | STOVE |
| **Item 3** | - | GRIDDLE |
| **Item 4** | - | FRYER |

| Test Data Supply | | |
|---|---|---|
| | **Design** | **Actual** |
| **Total AK Area** | 13.61 | 13.61 |
| **Kv factor (Vel)** | 0.89 | 0.89 |
| **Num of Readings** | - | 8 |
| **Reading1 FPM** | - | 208 |
| **Reading2 FPM** | - | 179 |
| **Reading3 FPM** | - | 175 |
| **Reading4 FPM** | - | 155 |
| **Reading5 FPM** | - | 138 |
| **Reading6 FPM** | - | 133 |
| **Reading7 FPM** | - | 134 |
| **Reading8 FPM** | - | 162 |
| **Ave FPM(corr)** | - | 160 |
| **CFM** | 1976 | 1938 |

Completed By: David Nicolas Sanchez on 06/24/2024