Report By:

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

Report: TAB Report

Function: Test, Adjust, & Balance

Date: 05/29/2025

Completed By: National TAB

PROJECT

05-26-25 CAVA WARWICK, RI

989 CENTERVILLE ROAD

WARWICK, RI 02886

Client

CAVA

702 H ST NW

2nd floor

Washington, DC 20001

National TAB

Project: 05-26-25 CAVA WARWICK, RI

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

- 1. RTUs On Incorrect Curbs
- Condensate Drains
- Grease Duct Not Secured to Curb
- Hood "Core #01 Fault"
- Humidity Sensors
- Incorrect Thermostats
- MAU Blower Access Door
- Remote Sensor Communication
- Rooftop Equipment Not Labeled

05-26-25 CAVA WARWICK, RI

Project Issue Information

Issue Name : 1. RTUs On Incorrect Curbs

Description : The "48FCD09" unit is serving the Dining Area and the "48FCDN12" unit is serving the Kitchen. Per the mechanical plans, the larger unit is supposed to serve the Dining Area. To achieve proper cooling of the space, these units will need to be swapped.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

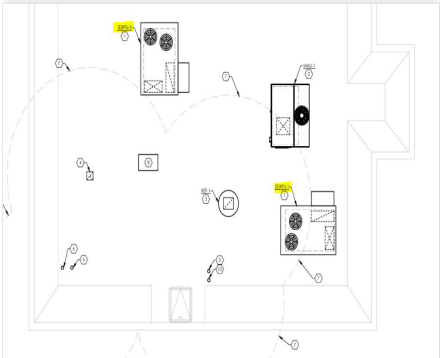
Status : Open

Priority : Urgent

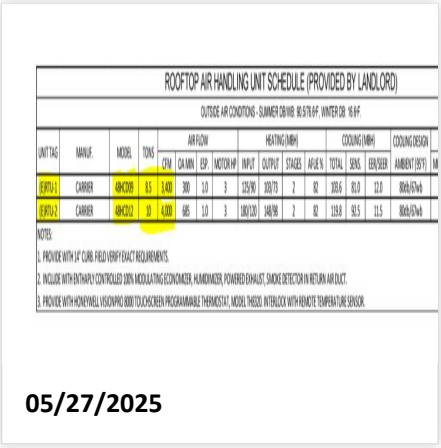
Asset Tag :

Originated Date : 05/27/2025 - Stephen Tassinaro - National TAB

Project Issue File Details



05/27/2025



05/27/2025

Project Issue Response Details

- **05/27/2025 National TAB - Stephen Tassinaro**
  - Currently both units will be balanced to 400CFM/Ton respectively. This will not match the designs shown on the mechanical plans since there is now 4000CFM in the kitchen instead of 3400CFM. And 3400CFM in the dining room, instead of the original 4000CFM. All diffusers will be proportionally balanced.

05-26-25 CAVA WARWICK, RI

Project Issue Information

Issue Name : Condensate Drains

Description : All condensate drains on the rooftop terminate immediately after the P-Traps. The RTU P-Traps do not match the drawing on M401.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Priority : Low

Asset Tag :

Originated Date : 05/29/2025 - Stephen Tassinaro - National TAB

Project Issue File Details

05/29/2025

05/29/2025

05/29/2025

05-26-25 CAVA WARWICK, RI

Project Issue Information

Issue Name : Grease Duct Not Secured to Curb

Description : Duct top plate flanges to the edges of the curb, but it is not secured. This allows for movement of the grease duct and grease will accumulate.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Priority : Medium

Asset Tag :

Originated Date : 05/29/2025 - Stephen Tassinaro - National TAB

Project Issue File Details

1. Open IMG_6278.mp4
   05/29/2025
2. Open IMG_6278.mp4
   05/29/2025

05/29/2025

05/29/2025

05-26-25 CAVA WARWICK, RI

Project Issue Information

Issue Name : Hood "Core #01 Fault"

Description : The kitchen hood HMI is displaying "Core #01 Fault". This did not effect the balancing of the hood.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Priority : InfoOnly

Asset Tag :

Originated Date : 05/27/2025 - Stephen Tassinaro - National TAB

Project Issue File Details

05/27/2025

05-26-25 CAVA WARWICK, RI

Project Issue Information

Issue Name :	Humidity Sensors		
Description :	There are no humidity sensors installed in the space. They are noted on M701, but locations are not shown. Recommend discussing with EOR to determine necessity and/or locations of these sensors.		
Created By :	National TAB	**Assigned To :**	National TAB - Will Turnbough
Status :	Open		
Priority :	InfoOnly	**Asset Tag :**	
Originated Date :	05/29/2025 - Stephen Tassinaro - National TAB		

05-26-25 CAVA WARWICK, RI

Project Issue Information

Issue Name : Incorrect Thermostats

Description : The currently installed thermostats are not the correct model and do not have all the desired functions (occupancy, humidity, remote sensors, exc). The current thermostats are can schedule just temperature setpoints.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

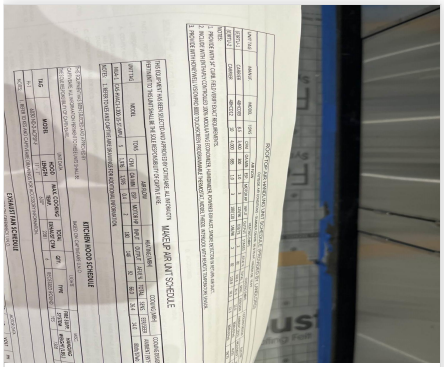
Status : Open

Priority : High

Asset Tag :

Originated Date : 05/28/2025 - Stephen Tassinaro - National TAB

Project Issue File Details



05/28/2025

05/28/2025

Project Issue Response Details

- **05/29/2025 National TAB - Stephen Tassinaro**
  - Both new and original thermostats do not have an OCC terminal. Default Carrier RTU setup puts unit into occupied mode whenever the blower is running.

- **05/29/2025 National TAB - Stephen Tassinaro**
  - One thermostat has been changed as of 5/29. MC to replace second thermostat 5/30.

05-26-25 CAVA WARWICK, RI

Project Issue Information

Issue Name : MAU Blower Access Door

Description : The MAU blower access door is stuck shut and not able to be opened without prying.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Priority : Low

Asset Tag :

Originated Date : 05/29/2025 - Stephen Tassinaro - National TAB

Project Issue File Details

05/29/2025

05-26-25 CAVA WARWICK, RI

Project Issue Information

Issue Name : Remote Sensor Communication

Description : The remote temperature sensors are not communicating with the thermostats. The stats are reading off their internal sensors only.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Priority : High

Asset Tag :

Originated Date : 05/28/2025 - Stephen Tassinaro - National TAB

Project Issue File Details

05/28/2025

Project Issue Response Details

- **05/29/2025 National TAB - Stephen Tassinaro**
  - New RTU 1 thermostat is communicating. RTU 2 is not. Recommend retest once new thermostat is installed as the sensor wiring appears to be OK.

05-26-25 CAVA WARWICK, RI

Project Issue Information

Issue Name :	Rooftop Equipment Not Labeled		
Description :	Each piece of equipment on the roof should be tagged for proper identification with tags sized and placed on the equipment for visual ease.		
Created By :	National TAB	**Assigned To :**	National TAB - Will Turnbough
Status :	Open		
Priority :	Low	**Asset Tag :**	
Originated Date :	05/29/2025 - Stephen Tassinaro - National TAB		

NATIONAL TAB

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HVAC SUPPLY		HVAC RETURN		HVAC OUTDOOR		OA %		HOOD MAKE-UP		HOOD EXHAUST		GENERAL EXH.	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU-1	KITCHEN	3400	3991	3100	3707	300	284	8.8%	7.1%						
RTU-2	DINING	4000	3428	3315	2760	685	668	17.1%	19.5%						
MUA-1	HOOD MUA									1976	1960				
KEF-1	HOOD FAN											2381	2388		
EF-2	RESTROOM													125	129
EF-3	RESTROOM													125	117
TOTALS		7400	7419	6415	6467	985	952			1976	1960	2381	2388	250	246

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2961	2912
TOTAL EXHAUST	2631	2634
NET AIRFLOW	330	278

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.002
SIDE	0.002
REAR	0.001
AVERAGE	**0.0017**

FINAL CHECKS

ACTUAL NET AIRFLOW COINCIDES WITH DESIGN: ✓

MEASURED PRESSURES COINCIDES WITH ACTUAL NET AIRFLOW: ✓

PRESSURE FALLS WITHIN IMC TOLERANCE OF +/-0.02" W.C. ✓

NOTES:

CheckList List

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

05-26-25 CAVA WARWICK, RI

CheckList Information

Name : FIV - EF'S **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 05/19/2025 - Tara Metcalf - National TAB

Completed Date : 05/29/2025 - Stephen Tassinaro - National TAB

CheckList Item Details

Unit Tag matches the design and submittal MFG and Model	Pass
Comment: Data labels match prints	
Each exhaust fan is proper tagged for proper identification with tags sized and placed on the fan for visual ease	Fail
Comment: No tags	
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:	

05-26-25 CAVA WARWICK, RI

CheckList Information

Name :	FIV - HOODS	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	05/19/2025 - Tara Metcalf - National TAB		
Completed Date :	05/29/2025 - Stephen Tassinaro - 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:	

05-26-25 CAVA WARWICK, RI

CheckList Information

Name :	FIV - HVAC DUCTWORK	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	05/19/2025 - Tara Metcalf - National TAB		
Completed Date :	05/29/2025 - Stephen Tassinaro - 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: Duct runs directly from hood to curb.	
Grease duct has code required negative pitch from fan inlet back to the hood riser connection	N/A
Comment: N/A	
Grease duct has required clean-out doors installed, labeled, and accessible for removal/cleaning. Doors are located as required by code	N/A
Comment:	
Grease duct clean-out doors are secured using tool less fasteners and seal fully when hand tightened	N/A
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.	Fail
Comment: Top plate is not secured to the curb.	
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	N/A
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	N/A
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: Sealed with draw band.	
Dampers are accessible to TAB team for balancing	N/A
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.	N/A
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:	

05-26-25 CAVA WARWICK, RI

CheckList Information

Name :	FIV - MUA	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	05/19/2025 - Tara Metcalf - National TAB		
Completed Date :	05/29/2025 - Stephen Tassinaro - National TAB		

CheckList Item Details

MUA Tag information matches design and submittal criteria	Pass
Comment: Data label matches specs	
MUA Fan has a permanent tag for identification located on the unit located and sized for visual ease	Fail
Comment: Not tagged	
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	Fail
Comment: Blower door stuck shut cannot verify	
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	N/A
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	Fail
Comment: Condensate drain terminates after P-trap	
Refrigeration line sets are installed and connected properly with adequate supports per specifications	N/A
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)	N/A
Comment:	
Condenser hail guards are installed (if applicable)	N/A
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)	N/A
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:

05-26-25 CAVA WARWICK, RI

CheckList Information

Name :	FIV - RTU'S	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	05/19/2025 - Tara Metcalf - National TAB		
Completed Date :	05/29/2025 - Stephen Tassinaro - 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	Fail
Comment: Not tagged.	
Identify and ensure the RTU label information and size is correct	Fail
Comment: Units on wrong curbs.	
Ensure proper location of unit	Fail
Comment: Units on wrong curbs.	
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	Fail
Comment: No hail guards. No note regarding hail guards located on plans.	
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	Fail
Comment: Drains installed but not per specs.	
Condensate line drains away from unit to a approved roof drain	Fail
Comment: See above.	
Belts are tight?	N/A
Comment:	
Pulleys aligned?	N/A
Comment:	
MERV rated filters are installed and are clean?	Pass
Comment:	

05-26-25 CAVA WARWICK, RI

CheckList Information

Name :	FPT - BUILDING PRESSURE AND HOOD CONTAINMENT	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	05/22/2025 - Tara Metcalf - National TAB		
Completed Date :	05/29/2025 - Stephen Tassinaro - National TAB		

CheckList Item Details

FINAL TESTS

HOOD CAPTURE TEST

List equipment turned on for testing

Comment:

None

List smoke candle type used

Comment:

45s Smoke Emitter

Smoke test capture - Perimeter of hood (%)

Comment:

100%

Smoke test capture - Top of cooking surface (%)

Comment:

100%

WITNESS

Date test was completed	05/29/2025

Comment:

TAB tech name / Firm

Comment:

Stephen Tassinaro / NTi

Site super name / Firm

Comment:

N/A

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

05-26-25 CAVA WARWICK, RI

CheckList Information

Name :	FPT - KEF'S	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	05/19/2025 - Tara Metcalf - National TAB		
Completed Date :	05/29/2025 - Stephen Tassinaro - 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?	Fail

Comment:

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

Comment:

Cooking equipment startups not yet complete. Tested function with a lighter and the fans turned on. Currently temperature offset is set to 15F. This can be lowered if the hood does not turn on quick enough after cooking equipment is turned on.

05-26-25 CAVA WARWICK, RI

CheckList Information

Name :	FPT - MUA	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	05/19/2025 - Tara Metcalf - National TAB		
Completed Date :	05/29/2025 - Stephen Tassinaro - 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:

05-26-25 CAVA WARWICK, RI

CheckList Information

Name :	FPT - RTU's	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	05/19/2025 - Tara Metcalf - National TAB		
Completed Date :	05/29/2025 - Stephen Tassinaro - 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%	Fail
Comment:	
No humidity setting on thermostat.	
Occupied Fan = On	Fail

Comment:

RTU 1: Yes (New Thermostat installed) // RTU 2: No (New thermostat to be installed after TAB) Fan auto/on not set through scheduling. Only adjusted via the “Fan” option on Home Screen.

Unoccupied Time = 12:00AM	Pass

Comment:

Unoccupied Heat setpoint = 60	Pass

Comment:

Occupied Cooling setpoint = 80	Pass

Comment:

Unoccupied Fan = Auto	Fail

Comment:

RTU 1: Yes (New Thermostat installed) // RTU 2: No (New thermostat to be installed after TAB) Fan auto/on not set through scheduling. Only adjusted via the “Fan” option on Home Screen.

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

Comment:

RTU 1: Calibrated / RTU 2: Unable to calibrate this type of thermostat. Stat to be replaced after TAB is complete.

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

Comment:

CONTROL WIRING VALIDATION

Economizer Dry Bulb sensor wired	Pass

Comment:

Economizer Dry Bulb sensor operational	Pass

Comment:

OCP/OCC terminal wired correctly	Fail

Comment:

Units always in occupied when there is demand with current wiring. (No OCC wire from thermostats to units)

Thermostat Wired correctly (R,C,Y1,Y2,W1,W2)	Pass
Comment:	
Humidity Sensor Wired correctly	Fail
Comment: No humidity sensors	
CALIBRATION & PROGRAMMING	
RTU OA DB StPt, Reading Accuracy (+/- 2 degrees / 10 minute time to calibrate to actual reading)	Pass
Comment: RTU 1: 62F / 62.6F // RTU 2: 61F / 60.9F	
RTU MAT StPt, Reading Accuracy (+/- 2 degrees / 10 minute time to calibrate to actual reading)	N/A
Comment: No MAT reading on Siemens controllers. Controller does display LAT which was tested as follows: RTU1: 72F / 70.1F // RTU 2: 63F / 62.2F	
RTU MAT Low StPt	
Comment: 45F	
RTU Low T Lockout	
Comment: 45F	
Economizer set to 28 BTU/lb enthalpy setpoint.	Pass
Comment:	
Temperature tests	
Outside air temperature / humidity	
Comment: 64.4F / 67.3% RH	
Full cooling LAT/H	

Comment:

RTU 1: 52.4F / 75.4% RH // RTU 2: 50.8F / 72.5% RH

Full heating LAT/H

Comment:

RTU 1: 95.9F / 35.7% RH // RTU 2: 103.0F / 52.1% RH

OUTDOOR AIR / RELIEF DAMPER

If power exhaust installed, set point is higher than the OA damper setpoint	N/A

Comment:

If power exhaust installed, open the OA damper above the power exhaust setpoint and ensure that the power exhaust turns on	N/A

Comment:

If relief damper is installed, ensure that it is installed properly and can open freely.	N/A

Comment:

OCCUPANCY VALIDATION

Place the thermostat in "unoccupied" - Does the OA damper close fully	Fail

Comment:

No OCC wires.

Stage cooling and Heating in "unoccupied" - Does the unit properly stage and does the OA damper remain closed	Fail

Comment:

No OCC wires.

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)	N/A

Comment:

National TAB

Project: 05-26-25 CAVA WARWICK, RI

System/Unit: AHU/RTU

Asset: RTU1 AREA:KITCHEN

Unit Data		
	Design	**Actual**
MFG	CARRIER	CARRIER
Serial Num	-	4424P65710
Model Num	48HCD09	48FCDN12B3A5A8W0A0
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	35X19.5
Num Final Filter 1	-	4
Final Filter Size 1	-	20X20X2

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	-	N/L
Motor Rpm	-	N/L
Phase	3	3
Rated Voltage	208	208/230
Rated Amperage	-	12.6

Drive Data	
	Actual
Motor Sheave SetPt	DIRECT DRIVE

Test Data		
	Design	**Actual**
SF CFM	3400 (4000)	3991
SF RPM	-	1998
RA CFM	3700	3707
OA CFM	300	284
RL Voltage	-	208/208/207
RL Amperage	-	7.5/7.2/7.4
SF Rotation	-	CORRECT
SF System SetPt	-	8.63VDC
RA Damper Position	-	6.8V
Min OA Damper Position	-	3.2V
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	28BTU

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.96”
Fan Suction SP	-	-1.43”
Fan Discharge SP	-	1.06”
Total ESP	1.00"	2.02" [2]
Fan Total SP	-	2.49"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

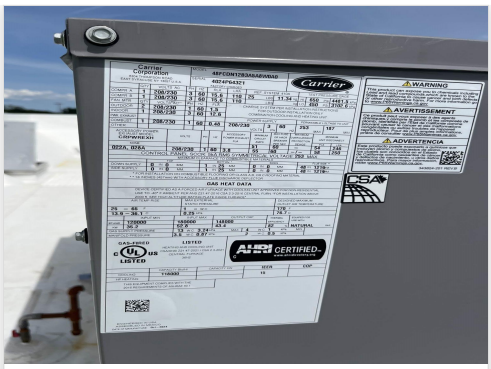
Completed By: Stephen Tassinaro on 05/29/2025

Notes:
[1] [1] 3400 Design CFM (4000 Adjusted CFM) - Due to incorrect unit being installed on this curb.
[2] Static pressures above design. Likely due in part to the incorrect unit being on this curb and airflow is higher than originally designed. Once units are swapped, pressures can be re-evaluated.
[3] ACPSP Readings (FPM): 163, 105, 116, 226, 215, 134, 122, 197 = 770CFM. Fan law increase to 869CFM.

Written By: Stephen Tassinaro on 05/29/2025

Unit Data - PHOTO LOG

05/29/2025



05/29/2025

National TAB

Project:05-26-25 CAVA WARWICK, RI

AHU/RTU

Diffuser Supply (GRD)

RTU1/KITCHEN

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	KITCHEN	L1	10"	300	1	333	304	343	114.3
SGRD2	KITCHEN	L1	10"	325	1	271	318	359	110.5
SGRD3	KITCHEN	L1	10"	325	1	287	336	379	116.6
SGRD4	KITCHEN	L1	10"	325	1	289	356	402	123.7
SGRD5	KITCHEN	ACPSP	149X6	728	4.84	644	770	869	119.4
SGRD6	KITCHEN	D1	10"	200	1	401	205	231	115.5
SGRD7	KITCHEN	D1	10"	265	1	285	287	324	122.3
SGRD8	KITCHEN	D1	10"	265	1	267	299	337	127.2
SGRD9	KITCHEN	D1	10"	265	1	294	277	313	118.1
SGRD10	KITCHEN	D1	10"	350	1	376	385	434	124.0
Total				3348		3447	3537	3991	119.21%

Completed By: Stephen Tassinaro on 05/29/2025

National TAB

Project: 05-26-25 CAVA WARWICK, RI

System/Unit: AHU/RTU

Asset: RTU2 AREA:DINING

Unit Data		
	Design	**Actual**
MFG	CARRIER	CARRIER
Serial Num	-	4424P65710
Model Num	48HCD12	48FCDN09B3A5A8W0A0
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	35X19.5
Num Final Filter 1	-	4
Final Filter Size 1	-	20X20X2

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	-	N/L
Motor Rpm	-	N/L
Phase	3	3
Rated Voltage	208	208/230
Rated Amperage	-	7.5

Drive Data	
	Actual
Motor Sheave SetPt	DIRECT DRIVE

Test Data		
	Design	**Actual**
SF CFM	4000 (3400)	3428
SF RPM	-	1489
RA CFM	2715	2760
OA CFM	685	668
RL Voltage	-	206/206/207
RL Amperage	-	3.7/3.4/3.4
SF Rotation	-	CORRECT
SF System SetPt	-	6.42VDC
RA Damper Position	-	4.8V
Min OA Damper Position	-	5.2V
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	28BTU

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.47”
Fan Suction SP	-	-0.90”
Fan Discharge SP	-	0.19”
Total ESP	1.00"	0.66"
Fan Total SP	-	1.09"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

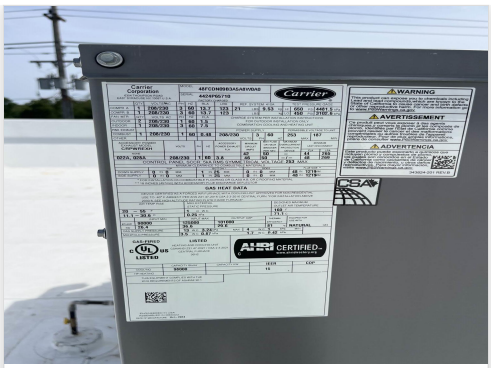
Completed By: Stephen Tassinaro on 05/29/2025

Notes:
[1] 4000 Design CFM (3400 Adjusted CFM) - Due to incorrect unit being installed on this curb.

Written By: Stephen Tassinaro on 05/27/2025

Unit Data - PHOTO LOG

05/29/2025



05/29/2025

National TAB

Project:05-26-25 CAVA WARWICK, RI

AHU/RTU

Diffuser Supply (GRD)

RTU2/DINING

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	DINING	R1	16"	300	0.66	322	285	240	80.0
SGRD2	DINING	R1	16"	350	0.66	407	388	327	93.4
SGRD3	DINING	R1	16"	300	0.66	294	288	243	81.0
SGRD4	DINING	R1	16"	350	0.66	322	338	286	81.7
SGRD5	DINING	R1	16"	300	0.66	299	304	257	85.7
SGRD6	DINING	R1	16"	300	0.66	269	310	262	87.3
SGRD7	DINING	R1	16"	300	0.66	298	313	264	88.0
SGRD8	DINING	R1	16"	300	0.66	361	293	247	82.3
SGRD9	DINING	R1	16"	300	0.66	341	317	268	89.3
SGRD10	DINING	R1	16"	300	0.66	416	331	279	93.0
SGRD11	DINING	R1	16"	300	0.66	298	321	270	90.0
SGRD12	DINING	R1	16"	300	0.66	231	276	233	77.7
SGRD13	DINING	D2	6"	50	1	119	48	41	82.0
SGRD14	DINING	D2	6"	100	1	123	105	89	89.0
SGRD15	DINING	D2	6"	100	1	114	96	81	81.0
SGRD16	DINING	D2	6"	50	1	110	49	41	82.0
Total				4000		4324	4062	3428	85.7%

Completed By: Stephen Tassinaro on 05/29/2025

Asset	Notes	Date	Written By
SGRD12	Airflow turbulent. Diffuser in close proximity to the supply drop & 90 degree transition. Damper s queaking.	05/28/2025	Stephen Tassinaro

National TAB

Project: 05-26-25 CAVA WARWICK, RI

System/Unit: FAN - Exhaust

Asset: EF2 AREA:RESTROOM FAN

Unit Data		
	Design	**Actual**
MFG	GREENHECK	LOREN COOK
Model Num	SP-A290	GEMINI 180
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

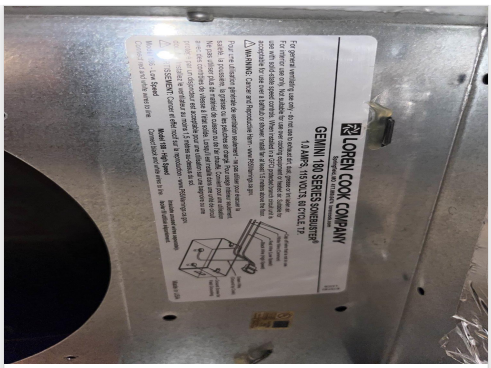
Motor Data		
	Design	**Actual**
Motor MFG	-	QUEACE
Frame	-	N/L
Horsepower	1.00	50W
Motor Rpm	-	1350
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	1.0
Service Factor	-	N/L

Test Data		
	Design	**Actual**
CFM	125	129
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER
RL Voltage	-	119
RL Amperage	-	0.67

Completed By: Stephen Tassinaro on 05/28/2025

Unit Data - PHOTO LOG

05/28/2025

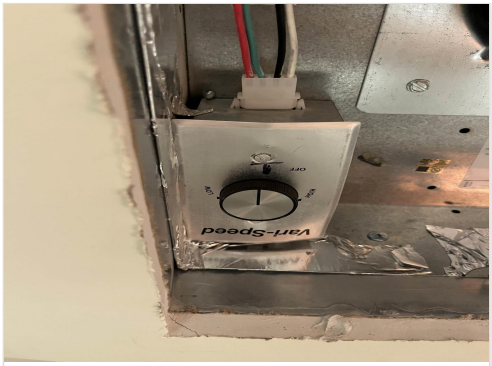


05/28/2025

Motor Data - PHOTO LOG

05/28/2025

Test Data - PHOTO LOG



05/28/2025

National TAB

Project: 05-26-25 CAVA WARWICK, RI

System/Unit: FAN - Exhaust

Asset: EF3 AREA:RESTROOM FAN

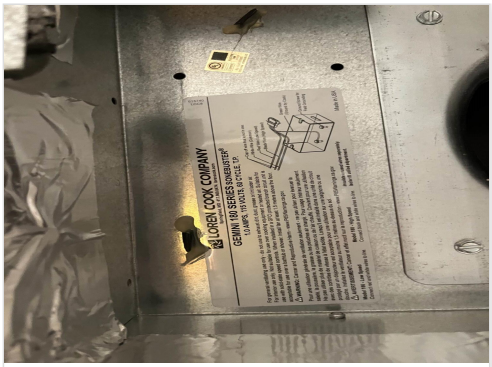
Unit Data		
	Design	**Actual**
MFG	GREENHECK	LOREN COOK
Model Num	SP-A290	GEMINI 180
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	QUEACE
Frame	-	N/L
Horsepower	-	50W
Motor Rpm	-	1350
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	1.0
Service Factor	-	N/L

Test Data		
	Design	**Actual**
CFM	125	117
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER
RL Voltage	-	120
RL Amperage	-	0.72

Completed By: Stephen Tassinaro on 05/29/2025

Unit Data - PHOTO LOG



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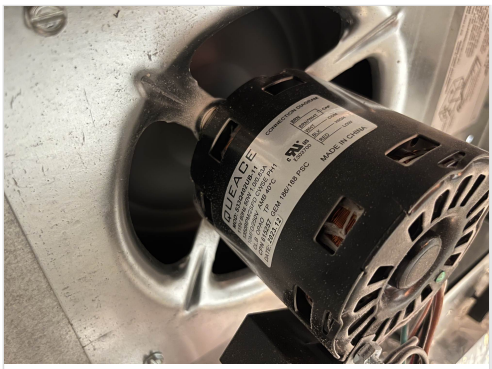
Motor Data - PHOTO LOG



05/28/2025

Test Data - PHOTO LOG

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National TAB

Project: 05-26-25 CAVA WARWICK, RI

System/Unit: FAN - Exhaust

Asset: KEF1 AREA:HOOCD FAN

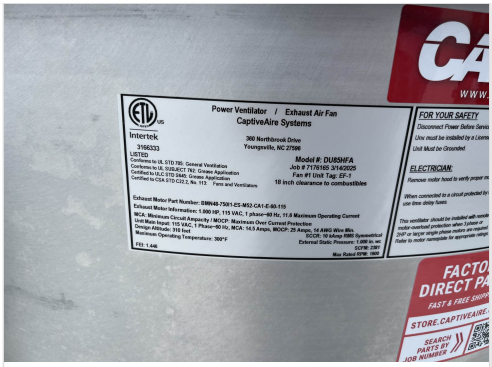
Unit Data		
	Design	**Actual**
MFG	GREENHECK	CAPTIVE AIRE
Model Num	DU180HFA	DU85HFA
Serial Num	-	7176165
Type	UPBLAST/CEILING	CENTRIFUGAL
Configuration	VERTICAL	UPBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	TELCO INTERCON
Frame	-	48
Horsepower	1.00	1.0
Motor Rpm	1572	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	11.6
Service Factor	-	N/L

Test Data		
	Design	**Actual**
CFM	2381	2388
Fan RPM	-	1350
Fan Rotation	-	CCW
Motor RPM	-	1350
System SetPt	-	75% ECM
RL Voltage	-	119
RL Amperage	-	9.6
Total ESP	1.00"	0.85”
Fan Inlet SP	-	-0.85”
Fan Discharge SP	-	ATM

Completed By: Stephen Tassinaro on 05/29/2025

Unit Data - PHOTO LOG



05/29/2025

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Motor Data - PHOTO LOG

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National TAB

Project: 05-26-25 CAVA WARWICK, RI

System/Unit: FAN - Supply

Asset: MUA1 AREA:HOOD MUA

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	ECON AIR
Model Num	CAS-HVAC1-I.200-15-5T-MPU	EARTU1-I.200-15-5T-MPU
Serial Num	-	7276165
Type	MUA	MUA
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	[1]
Frame	-	[1]
Horsepower	2.00	2.0
Motor Rpm	1976	[1]
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	6.1
Service Factor	-	[1]

Gas Heat		
	Design	**Actual**
Heater Operates (y/n)	-	YES
Flame Status (pass/fail)	-	PASS
Inlet Air Temp SetPt	-	55
Discharge Air Temp SetPt	-	60

Test Data		
	Design	**Actual**
CFM	1976	1960
SF RPM	-	[1]
Motor RPM	-	[1]
SF System SetPt	-	43.6Hz
RL Voltage	-	113V VFD
RL Amperage	-	3.8A VFD
Fan Discharge SP	-	0.26”

General	
	Actual
Fan Rotation Correct	YES

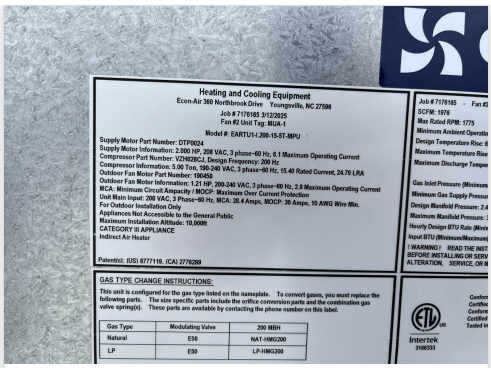
Completed By: Stephen Tassinaro on 05/29/2025

Notes:
[1] BLOWER ACCESS DOOR NOT OPENING. STUCK SHUT.

Written By: Stephen Tassinaro on 05/29/2025

Unit Data - PHOTO LOG

05/29/2025



05/29/2025

National TAB

Project: 05-26-25 CAVA WARWICK, RI

System/Unit: Kitchen Hood Type I

Asset: HD1 AREA:KITCHEN HOOD

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	6030 ND-2-ACPSP-F	6030 ND-2
Job / Serial Num	-	7176165
Type	TYPE I - CANPOPY	TYPE I - CANPOPY
Hood length	127"	127"
Hood Width	60"	60"
Supply Plenum Type	-	ACPSP
Supply Plenum Width	14"	14"
Supply Plenum Length	140"	139"

Test Data Exhaust		
	Design	**Actual**
Filter Type	CAPTRATE SOLO FILTER	CAPTRATE SOLO FILTER
Filter Size 1	20X16	20X16
Filter Qty 1	7	7
Filter AK factor size 1	2.08	2.08
Filter Total AK Area	14.56	14.56
Filter1 FPM	-	169
Filter2 FPM	-	168
Filter3 FPM	-	167
Filter4 FPM	-	173
Filter5 FPM	-	170
Filter6 FPM	-	146
Filter7 FPM	-	153
Filter Ave FPM(corr)	-	164
CFM	2381	2388

Cooking Equipment	
	Actual
Item 1	OVEN
Item 2	STOVE
Item 3	GRIDDLE
Item 4	FRYER

Test Data Supply		
	Design	**Actual**
Total Area	13.51	13.51
Kv factor (Vel)	0.89	0.89
Num of Readings	-	6
Reading1 FPM	-	141
Reading2 FPM	-	151
Reading3 FPM	-	130
Reading4 FPM	-	175
Reading5 FPM	-	172
Reading6 FPM	-	207
Ave FPM(corr)	-	163
CFM	1976	1960

Completed By: Stephen Tassinaro on 05/27/2025

Unit Data - PHOTO LOG

05/29/2025


2-7
2-5
2-3
2-6
2-4
2-2
2-1
2-8
2-9
2-10
2-11
2-12
2-14
2-13
2-15
2-16
1-1
1-2
1-3
1-4
1-5 ACPSP
1-6
1-7
1-8
1-9
1-10
AC-1
AC-2
22"Ø SA
20"Ø SA
16"Ø SA
14"Ø SA
24"Ø SA
24/22 RA
20/26 SA
L1-10"Ø 325
L1-10"Ø 300
10"Ø SA
18/12 SA
18/18 SA
28/6 SA
18/18 OA
22/16 SA
26/18 SA
26/18 RA
18/18 RA
10/12 SA
14/12 SA
D2-6"Ø 100
D2-6"Ø 50
6"Ø SA
8"Ø SA
8/8 EA
10/10 EA
EF-2
EF-3
D1-10"Ø 350
D1-10"Ø 265
D1-10"Ø 200
G2 4000
G1 1700
RTU-1
RTU-2
TYP.