Report By:

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

Report: TAB

Function: Test, Adjust, & Balance

Date: 04/03/2024

PROJECT

04-01-24 CAVA - BREA,CA

103 W IMPERIAL HWY

BREA, CA 92821

Client

CAVA

702 H ST NW

2nd floor

Washington, DC 20001

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.

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	3000	2976	2560	2525	440	451	14.7%	15.2%						
RTU-2	DINING	3000	3162	2560	2696	440	466	14.7%	14.7%						
MUA-1	COOKLINE									1976	1986				
KEF-1	KITCHEN HD											2381	2358		
EF-1	RESTROOM													120	127
EF-2	RESTROOM													120	121
TOTALS		6000	6138	5120	5221	880	917			1976	1986	2381	2358	240	248

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2856	2903
TOTAL EXHAUST	2621	2606
NET AIRFLOW	235	297

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.0017
SIDE	
REAR	0.0012
AVERAGE	**0.0015**

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

04-01-24 CAVA - BREA,CA

CheckList Information

Name :	FIV - EF'S	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/26/2024 - Brianna Biggs - National TAB		
Completed Date :	04/03/2024 - Zack Eismin - 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:	

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CheckList Information

Name :	FIV - HVAC DUCTWORK	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/26/2024 - Brianna Biggs - National TAB		
Completed Date :	04/03/2024 - Zack Eismin - 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.	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	Fail

Comment:

ROUND DIFFUSERS ARE MISSING FOR RTU-2

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:

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CheckList Information

Name :	FIV - RTU'S	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/26/2024 - Brianna Biggs - National TAB		
Completed Date :	04/03/2024 - Zack Eismin - 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)	N/A
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	N/A
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?	Pass
Comment:	

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CheckList Information

Name :	FIV – HOODS	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/26/2024 - Brianna Biggs - National TAB		
Completed Date :	04/03/2024 - Zack Eismin - 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.	Fail
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:	

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CheckList Information

Name :	FIV – MUA	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/26/2024 - Brianna Biggs - National TAB		
Completed Date :	04/03/2024 - Zack Eismin - 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	N/A
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	N/A

Comment:

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CheckList Information

Name :	FPT - BUILDING PRESSURE AND HOOD CONTAINMENT	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/26/2024 - Brianna Biggs - National TAB		
Completed Date :	04/03/2024 - Zack Eismin - National TAB		

CheckList Item Details

FINAL TESTS

HOOD CAPTURE TEST

List equipment turned on for testing

Comment:

NONE

List smoke candle type used

Comment:

45 SECONDS

Smoke test capture - Perimeter of hood (%)

Comment:

100%

Smoke test capture - Top of cooking surface (%)

Comment:

100%

WITNESS

Date test was completed	04/03/2024

Comment:

TAB tech name / Firm

Comment:

ZACK / NATIONAL TAB

Site super name / Firm

Comment:

GAGE / LEVICA BUILDERS

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:

0.0015"

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CheckList Information

Name :	FPT - KEF'S	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/26/2024 - Brianna Biggs - National TAB		
Completed Date :	04/03/2024 - Zack Eismin - 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: CORE FAULT	
Exhaust fans modulate to high speed when kitchen equipment is on and at cooking temperatures? If not, adjust modulation/offset down.	Pass
Comment:	

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CheckList Information

Name :	FPT - RTU's	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/26/2024 - Brianna Biggs - National TAB		
Completed Date :	04/03/2024 - Zack Eismin - 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)	Pass

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.

Comment:

Temperature tests

Outside air temperature / humidity

Comment:

68 °F 44%RH

Full cooling LAT/H

Comment:

35°F 40%RH

Full heating LAT/H

Comment:

111°F 35%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.	Pass
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:	

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CheckList Information

Name :	FPT – MUA	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/26/2024 - Brianna Biggs - National TAB		
Completed Date :	04/03/2024 - Zack Eismin - 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:

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CheckList Information

Name :	TECH - SITE PICTURES	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/26/2024 - Brianna Biggs - National TAB		
Completed Date :	04/03/2024 - Zack Eismin - National TAB		

CheckList Item Details

STORE FRONT

Comment:

20240403_091321
04/03/2024

RTU-1

Comment:

20240403_090709
04/03/2024

RTU-2

Comment:

20240403_090716
04/03/2024

KEF-1

Comment:

20240403_090719
04/03/2024

EF-1

Comment:

20240403_091154
04/03/2024

EF-2

Comment:

20240403_091114
04/03/2024

MUA-1

Comment:

20240403_090729
04/03/2024

HD-1

Comment:

20240403_091053
04/03/2024

National TAB

Project: 04-01-24 CAVA - BREA,CA

System/Unit: AHU/RTU

Asset: RTU1 AREA:KITCHEN

Unit Data		
	Design	**Actual**
MFG	TRANE	TRANE
Serial Num	-	240413584L
Model Num	WHC092	WHC092H3R0A2FK7E1A1B6
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	38X24
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2
Num Final Filter 2	-	
Final Filter Size 2	-	

Test Data		
	Design	**Actual**
SF CFM	3000	2976
SF RPM	-	912
RA CFM	2560	2525
OA CFM	440	451
RL Voltage	-	208/208/208
RL Amperage	-	2.76/2.76/2.81
SF Rotation	-	CCW
RA Damper Position	-	85%
Min OA Damper Position	-	15%
Min OA Damper Type	-	MOTORIZED
OA Enthalpy Setpt	-	E

Motor Data		
	Design	**Actual**
Motor MFG	-	NL
Frame	-	NL
Horsepower	2.75	2.75
Motor Rpm	-	NL
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	7.3

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.36"
Fan Suction SP	-	-0.61"
Fan Discharge SP	-	0.58"
Total ESP	1.0"	0.94"
Fan Total SP	-	1.19"

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

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

Completed By: Zack Eismin on 04/03/2024

National TAB

Project:04-01-24 CAVA - BREA,CA

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	BOH	SD2	8"	200	1	264	253	191	95.5
SGRD2	BOH	SD1	8"	500	1	421	384	467	93.4
SGRD3	BOH	SD1	3"	300	1	261	231	293	97.7
SGRD4	OFFICE	SD1	8"	125	1	239	214	133	106.4
SGRD5	OPEN KITCHEN	SD2	10"	245	1	444	220	257	104.9
SGRD6	OPEN KITCHEN	SD2	10"	207	1	489	221	209	101.0
SGRD7	OPEN KITCHEN	SD2	10"	207	1	436	191	198	95.7
SGRD8	OPEN KITCHEN	SD2	10"	207	1	506	226	216	104.3
SGRD9	OPEN KITCHEN	SD2	10"	207	1	480	189	191	92.3
SGRD10	HOOD 1	ACPSP	8"	802	5.04	307	727	821	102.4
Total				3000		3847	2856	2976	99.2%

National TAB

Project: 04-01-24 CAVA - BREA,CA

System/Unit: AHU/RTU

Asset: RTU2 AREA:DINING

Unit Data		
	Design	**Actual**
MFG	TRANE	TRANE
Serial Num	-	240911802L
Model Num	WHC092	WHC092H3R0A2FK7E1A1B6
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	38X24
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2
Num Final Filter 2	-	
Final Filter Size 2	-	

Test Data		
	Design	**Actual**
SF CFM	3000	3162
SF RPM	-	845
RA CFM	2560	2696
OA CFM	440	466
RL Voltage	-	208/108/209
RL Amperage	-	1.6/1.7/1.6
SF Rotation	-	CCW
RA Damper Position	-	85%
Min OA Damper Position	-	15%
Min OA Damper Type	-	MOTORIZED
OA Enthalpy Setpt	-	E

Motor Data		
	Design	**Actual**
Motor MFG	-	NL
Frame	-	NL
Horsepower	2.75	2.75
Motor Rpm	-	NL
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	7.3

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.33"
Fan Suction SP	-	-0.49"
Fan Discharge SP	-	0.24"
Total ESP	1.0"	0.57"
Fan Total SP	-	0.73"

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

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

Completed By: Zack Eismin on 04/03/2024

National TAB

Project:04-01-24 CAVA - BREA,CA

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	SD4	12"	410	1	703	432	432	105.4
SGRD2	DINING	SD4	12"	420	1	1003	452	452	107.6
SGRD3	DINING	SD4	12"	410	1	843	444	444	108.3
SGRD4	DINING	SD4	12"	410	1	414	421	421	102.7
SGRD5	DINING	SD4	12"	410	1	633	437	437	106.6
SGRD6	DINING	SD2	12"	410	1	555	415	415	101.2
SGRD7	DINING	SD2	12"	400	1	593	426	426	106.5
SGRD8	RESTROOM	SD3	6"	50	1	120	52	52	104.0
SGRD9	RESTROOM	SD3	6"	80	1	118	83	83	103.8
Total				3000		4982	3162	3162	105.4%

National TAB

Project: 04-01-24 CAVA - BREA,CA

System/Unit: FAN - Exhaust

Asset: EF1 AREA:RESTROOM

Unit Data		
	Design	**Actual**
MFG	GREENHECK	LOREN COOK
Model Num	SP-150	GEMINI 140
Serial Num	-	NL
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	QUEACE
Frame	-	NL
Horsepower	171W	NL
Motor Rpm	-	1550
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	0.4
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	120	127
Fan RPM	886	1550
Fan Rotation	-	CCW
Motor RPM	-	1550
System SetPt	-	MAX
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	0.5"	0.34"
Fan Inlet SP	-	ATM
Fan Discharge SP	-	0.34"

Completed By: Zack Eismin on 04/02/2024

National TAB

Project: 04-01-24 CAVA - BREA,CA

System/Unit: FAN - Exhaust

Asset: EF2 AREA:RESTROOM

Unit Data		
	Design	**Actual**
MFG	GREENHECK	LOREN COOK
Model Num	SP-150	GEMINI 140
Serial Num	-	NL
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	QUEACE
Frame	-	NL
Horsepower	171W	NL
Motor Rpm	-	1550
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	0.4
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	120	121
Fan RPM	886	1550
Fan Rotation	-	CCW
Motor RPM	-	1550
System SetPt	-	MAX
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	0.5"	0.37"
Fan Inlet SP	-	ATM
Fan Discharge SP	-	0.37"

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National TAB

Project: 04-01-24 CAVA - BREA,CA

System/Unit: FAN - Exhaust

Asset: KEF1 AREA:KITCHEN HOOD

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DU85HFA	DU85HFA
Serial Num	-	6095564
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	TELCO GREEN
Frame	-	NL
Horsepower	1	1
Motor Rpm	-	1900
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	11.6
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	2381	2358
Fan RPM	1543	1748
Fan Rotation	-	CCW
Motor RPM	-	1748
System SetPt	-	92%
RL Voltage	-	120
RL Amperage	-	11.4
Total ESP	1.0"	1.22"
Fan Inlet SP	-	-1.22"
Fan Discharge SP	-	ATM

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National TAB

Project: 04-01-24 CAVA - BREA,CA

System/Unit: FAN - Supply

Asset: MUA1 AREA:COOKLINE

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	A1-15D-MPU	A1-15D-MPU
Serial Num	-	6095564
Type	MUA	MUA
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	TECO
Frame	-	145T
Horsepower	1.5	1.5
Motor Rpm	-	1745
Phase	3	3
Voltage (rated)	208	230/460
Amperage (rated)	-	5.64/2.82
Service Factor	-	1.15

Gas Heat		
	Design	**Actual**
Heater Operates (y/n)	-	N/A
Flame Status (pass/fail)	-	N/A
Inlet Air Temp SetPt	55	N/A
Discharge Air Temp SetPt	60	N/A
Air Flow Switch SP Actual	-	N/A

Test Data		
	Design	**Actual**
CFM	1976	1986
SF RPM	1913	1902
Motor RPM	-	1902
SF System SetPt	-	65.4HZ
RL Voltage	-	208/208/209
RL Amperage	-	3.78
Total ESP	-	NA
Fan Discharge SP	-	NA

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

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National TAB

Project: 04-01-24 CAVA - BREA,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	-	6095564
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	127"	127"
Hood Width	60"	60"
Supply Plenum Type	-	PERFORATED
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	-	143
Filter2 FPM	-	146
Filter3 FPM	-	163
Filter4 FPM	-	169
Filter5 FPM	-	175
Filter6 FPM	-	176
Filter7 FPM	-	162
Filter Ave FPM(corr)	-	162
CFM	2381	2358

Cooking Equipment		
	Design	**Actual**
Item 1	-	BROILER
Item 2	-	STOVE RANGE
Item 3	-	FLAT TOP GRILL
Item 4	-	FRYER
Item 5	-	

Test Data Supply		
	Design	**Actual**
Total AK Area	13.61	13.61
Kv factor (Vel)	0.89	0.89
Num of Readings	-	10
Reading1 FPM	-	189
Reading2 FPM	-	155
Reading3 FPM	-	129
Reading4 FPM	-	170
Reading5 FPM	-	161
Reading6 FPM	-	167
Reading7 FPM	-	185
Reading8 FPM	-	145
Reading9 FPM	-	142
Reading10 FPM	-	205
Reading11 FPM	-	
Reading12 FPM	-	
Reading13 FPM	-	
Reading14 FPM	-	
Ave FPM(corr)	-	164
CFM	1976	1986

Completed By: Zack Eismin on 04/02/2024