

Report By:

National TAB
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SUITE 4210
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Report: TAB REPORT
Function: Test, Adjust, & Balance
Date: 12/12/2024
Completed By: National TAB

PROJECT

12-09-24 CHIPOTLE #5052 MONTICELLO, MN

779 CHELSEA RD EAST

MONTICELLO, MN 55362

Client

Chipotle Mexican Grill
610 Newport Center Drive, Suite 1100
Newport Beach, CA 92660

National TAB

Project: 12-09-24 CHIPOTLE #5052 MONTICELLO, MN

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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

- INFO ONLY: Grilles 2-1 and 2-2 Missing Dampers / 2-7 Diffuser Missing



12-09-24 CHIPOTLE #5052 MONTICELLO, MN

Project Issue Information

Issue Name : INFO ONLY: Grilles 2-1 and 2-2 Missing Dampers / 2-7 Diffuser Missing
Description : Grilles 2-1 and 2-2 are to have OBD dampers installed per schedule. These are not installed. Unable to dampen grilles and push air to diffuser 2-3 as result. 2-1 and 2-2 slightly above design, 2-3 slightly below. Not anticipated to cause any issues. Additionally, diffuser 2-7 still needs to be installed.

Created By : National TAB **Assigned To :** National TAB - Michael McDonnell

Status : Open

Priority : InfoOnly **Asset Tag :**

Originated Date : 12/12/2024 - Michael McDonnell - National TAB

Project Issue File Details



12/12/2024

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	3406	2900	2875	500	531	14.7%	15.6%						
RTU-2	DINING	4000	4088	3000	3046	1000	1042	25.0%	25.5%						
MUA-1	COOKLINE									1300	1348				
EF-1	KITCHEN HD											2550	2568		
EF-2	RESTROOMS													150	144
TOTALS		7400	7494	5900	5921	1500	1573			1300	1348	2550	2568	150	144

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2800	2921
TOTAL EXHAUST	2700	2712
NET AIRFLOW	100	209

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H2O)
FRONT	0.007
SIDE	0.005
REAR	0.005
AVERAGE	0.0057

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

- 01: RTU'S/AHU'S
- 02: EF'S
- 03: MUA
- 04: HOODS
- 05: FINAL TESTS



12-09-24 CHIPOTLE #5052 MONTICELLO, MN

CheckList Information

Name : 01: RTU'S/AHU'S **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 12/05/2024 - Brianna Biggs - National TAB

Completed Date : 12/12/2024 - Michael McDonnell - National TAB

CheckList Item Details

RTU's/AHU's

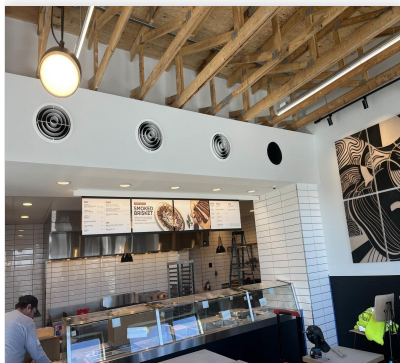
Thermostats installed and have power?	Yes
---------------------------------------	-----

Comment:

All diffusers and grilles are installed and match design?	No
---	----

Comment:

Diffuser 2-7 not yet installed. Waiting for shipment.



12/12/2024

Deflector plates are removed from 1x1 diffusers on the serve line (double check that this is specified on the diffuser schedule first)	Yes
--	-----

Comment:

Economizer blank plate is installed below the outside air intake (Trane only) (N/A = not applicable)

N/A

Comment:

Economizers are assembled and functional?

Yes

Comment:

DCV Max damper opening position is set to minimum?

Yes

Comment:

Free cooling enthalpy set point set for lowest setting (Typically "D")

Yes

Comment:

Motors are all operating below the FLA rating?

Yes

Comment:

Are belts tight?

N/A

Comment:

If direct drive unit is the speed controller working?

Yes

Comment:

Is gas piping installed and valves turned on?

Yes

Comment:

Unit free of noticeable noise and vibration

Yes

Comment:

Final outside air damper position is marked with permanent marker?

Yes

Comment:



12-09-24 CHIPOTLE #5052 MONTICELLO, MN

CheckList Information

Name : 02: EF'S **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 12/05/2024 - Brianna Biggs - National TAB

Completed Date : 12/12/2024 - Michael McDonnell - National TAB

CheckList Item Details

EF's

Rotation is correct?	Yes
-----------------------------	-----

Comment:

Belts are tight?	N/A
-------------------------	-----

Comment:

Viroguard installed on hood fan(s)?	Yes
--	-----

Comment:

Hinge kit installed installed on hood fan?	Yes
---	-----

Comment:

Installed during TAB

Lean fan back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?	Yes
--	-----

Comment:

Flex conduit is long enough so that fan can be completely tilted back?	Yes
---	-----

Comment:

There is no major leakage around base of fan?

Yes

Comment:

Is the motor operating below the motor FLA rating?

Yes

Comment:

For restroom fan(s) is the back draft damper installed and can it fully open?

Yes

Comment:



12/12/2024

Unit free of noticeable noise and vibration?

Yes

Comment:



12-09-24 CHIPOTLE #5052 MONTICELLO, MN

CheckList Information

Name : 03: MUA **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 12/05/2024 - Brianna Biggs - National TAB
Completed Date : 12/12/2024 - Michael McDonnell - National TAB

CheckList Item Details

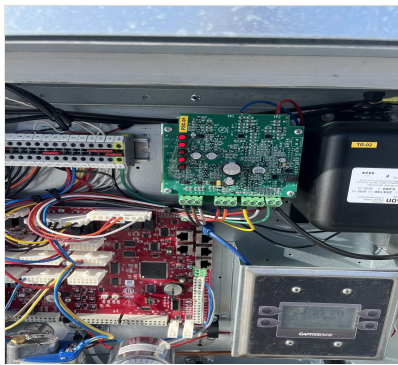
MUA

Rotation is correct? Yes

Comment:

Gas piping is installed and valves are in on position? Yes

Comment:



12/12/2024

Internal motorized damper is fully opening? Yes

Comment:

Motor is operating below the FLA rating?

Yes

Comment:

Unit free of noticeable noise and vibration?

Yes

Comment:



12-09-24 CHIPOTLE #5052 MONTICELLO, MN

CheckList Information

Name : 04: HOODS **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 12/05/2024 - Brianna Biggs - National TAB

Completed Date : 12/12/2024 - Michael McDonnell - National TAB

CheckList Item Details

HOODS

All hood filters installed and accounted for?	Yes
---	-----

Comment:

Hoods are wired and have power?	Yes
---------------------------------	-----

Comment:

Hood is free of alarms?	Yes
-------------------------	-----

Comment:

Hood is free of damage?	Yes
-------------------------	-----

Comment:

Quarter or full vertical end panels are installed if specified?	Yes
---	-----

Comment:



12-09-24 CHIPOTLE #5052 MONTICELLO, MN

CheckList Information

Name : 05: FINAL TESTS **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 12/05/2024 - Brianna Biggs - National TAB

Completed Date : 12/12/2024 - Michael McDonnell - National TAB

CheckList Item Details

FINAL CHECKS

Is space free of drafting? Yes

Comment:

Is space comfortable in all areas? Yes

Comment:

Is the space free of ventilation noise? Yes

Comment:

List kitchen equipment turned on for testing Yes

Comment:

List smoke candle type used

Comment:

45 Second Smoke Emitter

HOOD CAPTURE TEST

Smoke test capture % - Perimeter of hood

Comment:

100%

Smoke test capture % - Top of cooking surface

Comment:

100%

WITNESS

Date test was completed

12/11/2024

Comment:

TAB tech name / Firm

Comment:

Michael McDonnell/ National TAB

Site super name / Firm

Comment:

Gerry / Severco

Owner representative name / Firm (if Applicable)

Comment:

NA

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)

Pass

Comment:

National TAB

Project: 12-09-24 CHIPOTLE #5052 MONTICELLO, MN

System/Unit: AHU/RTU



Asset: RTU1

AREA: KITCHEN

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	0524P63207
Model Num	48FCFN09D3M5	48FCFN09D3M5
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	-	NL
Horsepower	-	NL
Motor Rpm	-	NL
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	7.5

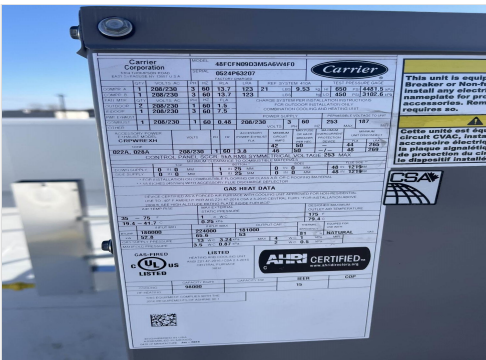
Test Data		
	Design	Actual
SF CFM	3400	3406
SF RPM	-	1838
RA CFM	2900	2875
OA CFM	500	531
RL Voltage	-	206/206/206
RL Amperage	-	4.9/5.0/4.8
SF Rotation	-	CORRECT
SF System SetPt	-	7.8 VDC
RA Damper Position	-	MECHANICALLY LINKED
Min OA Damper Position	-	3.35 V (16%)
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	ES5

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.79"
Fan Suction SP	-	-1.12"
Fan Discharge SP	-	0.52"
Total ESP	0.80"	1.31"
Fan Total SP	-	1.64"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES, CONSTRUCTION FILTERS INSTALLED
Condensate Drain Installed	YES

Completed By: Michael McDonnell on 12/12/2024

Unit Data - PHOTO LOG



12/12/2024



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Project: 12-09-24 CHIPOTLE #5052 MONTICELLO, MN

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	BACK	CD1	10"	350	1.0	379	333	354	101.1
SGRD2	BACK	CD1	10"	350	1.0	400	383	363	103.7
SGRD3	BACK	CD1	8"	150	1.0	263	248	151	100.7
SGRD4	KITCHEN	CD2	8"	250	1.0	201	207	228	91.2
SGRD5	KITCHEN	CD2	8"	250	1.01	182	168	231	92.4
SGRD6	KITCHEN	CD2	8"	250	1.0	240	229	259	103.6
SGRD7	KITCHEN	CD2	8"	250	1.0	189	216	233	93.2
SGRD8	KITCHEN	CD1	12"	425	1.0	529	510	431	101.4
SGRD9	KITCHEN	CD1	12"	425	1.0	474	454	430	101.2
SGRD10	HOOD	ACPSP	165X6	700	5.23	936	902	726	103.7
Total				3400		3793	3650	3406	100.18%

Completed By: Michael McDonnell on 12/11/2024

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Project: 12-09-24 CHIPOTLE #5052 MONTICELLO, MN

System/Unit: AHU/RTU



Asset: RTU2

AREA:DINING

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	0424P62816
Model Num	48FCFN12D3M5	48FCFN12D3M5
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	-	NL
Horsepower	-	NL
Motor Rpm	-	NL
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	12.6

Test Data		
	Design	Actual
SF CFM	4000	4088
SF RPM	-	1590
RA CFM	3000	3046
OA CFM	1000	1042
RL Voltage	-	206/206/206
RL Amperage	-	4.2/4.2/4.1
SF Rotation	-	CORRECT
SF System SetPt	-	6.8 VDC
RA Damper Position	-	MECHANICALLY LINKED
Min OA Damper Position	-	5.0 V (36%)
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	ES5

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.62"
Fan Suction SP	-	-0.88"
Fan Discharge SP	-	0.45"
Total ESP	.5	1.07"
Fan Total SP	-	1.33"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES, CONSTRUCTION FILTERS INSTALLED
Condensate Drain Installed	YES

Completed By: Michael McDonnell on 12/12/2024

Notes:

[1] DAMPERS MISSING ON DIFFUSERS 2-1 AND 2-2. NOT ANTICIPATED TO CAUSE ANY ISSUE. UNIT SERVES SINGLE OPEN AREA.

Written By: Michael McDonnell on 12/12/2024

Unit Data - PHOTO LOG



12/12/2024



12/12/2024

National TAB

Project: 12-09-24 CHIPOTLE #5052 MONTICELLO, MN

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	SR2	6"	400	1.0	705	548	518	129.5
SGRD2	DINING	SR2	6"	500	1.0	795	618	604	120.8
SGRD3	DINING	SR1	14"	800	1.0	838	651	694	86.8
SGRD4	DINING	SR1	14"	700	1.0	806	627	689	98.4
SGRD5	DINING	SR1	14"	600	1.0	765	595	605	100.8
SGRD6	DINING	SR1	14"	500	1.0	608	473	484	96.8
SGRD7	DINING	SR1	14"	450	1.0	706	549	442	98.2
SGRD8	Bathroom	CD3	6"	50	1.0	80	62	52	104.0
Total				4000		5303	4123	4088	102.2%

Completed By: Michael McDonnell on 12/12/2024

Asset	Notes	Date	Written By
SGRD1	[1] ABOVE DESIGN DUE TO MISSING DAMPER, NOT ANTICIPATED TO CAUSE ISSUE.	12/12/2024	Michael McDonnell
SGRD2	[1] ABOVE DESIGN DUE TO MISSING DAMPER, NOT ANTICIPATED TO CAUSE ISSUE.	12/12/2024	Michael McDonnell
SGRD3	[1] UNABLE TO INCREASE AIRFLOW DUE TO MISSING DAMPERS ON SYSTEM, NOT ANTICIPATED TO CAUSE ANY ISSUE.	12/12/2024	Michael McDonnell

National TAB

Project: 12-09-24 CHIPOTLE #5052 MONTICELLO, MN

System/Unit: FAN - Exhaust



Asset: EF2

AREA:BATHROOMS

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DR12HFA	DR12HFA
Serial Num	-	6861468
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Horsepower	0.25	0.25
Motor Rpm	-	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	2.9

Test Data		
	Design	Actual
CFM	150	144
Fan RPM	-	890
Fan Rotation	-	CCW, CORRECT
Motor RPM	-	890
System SetPt	-	48%
RL Voltage	-	NR
RL Amperage	-	NR
Total ESP	0.60"	0.19"
Fan Inlet SP	-	-0.19"
Fan Discharge SP	-	ATM

Completed By: Michael McDonnell on 12/12/2024

Unit Data - PHOTO LOG



12/12/2024

National TAB

Project: 12-09-24 CHIPOTLE #5052 MONTICELLO, MN

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF2/BATHROOMS

Asset										
Asset Name	Model Num	MFG	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EF2-EGRD1	NA	NA	ER1	12X12	75	1.0	126	75	75	100.0
EF2-EGRD2	NA	NA	ER1	12X12	75	1.0	120	69	69	92.0
Total					150		246	144	144	96%

Completed By: Michael McDonnell on 12/12/2024

National TAB

Project: 12-09-24 CHIPOTLE #5052 MONTICELLO, MN

System/Unit: FAN - Exhaust



Asset: KEF1

AREA:HD-1

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DU180HFA	DU180HFA
Serial Num	-	6861468
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	2550	2568
Fan RPM	-	1100
Fan Rotation	-	CCW, CORRECT
Motor RPM	-	1100
System SetPt	-	56.4 HZ
RL Voltage	-	122 @VFD
RL Amperage	-	5.4 @ VFD
Total ESP	1.2	0.81"
Fan Inlet SP	-	-0.81"
Fan Discharge SP	-	ATM

Motor Data		
	Design	Actual
Motor MFG	-	WEG
Frame	-	182/4T
Horsepower	2	2.0
Motor Rpm	-	1170
Phase	3	3
Voltage (rated)	208	230
Amperage (rated)	-	6.44
Service Factor	-	1.25

Completed By: Michael McDonnell on 12/12/2024

Unit Data - PHOTO LOG



12/12/2024

National TAB

Project: 12-09-24 CHIPOTLE #5052 MONTICELLO, MN

System/Unit: FAN - Supply



Asset: MAU1

AREA:HOOD

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	A1-D.250-15D	A1-D.250-15D
Serial Num	-	6861468
Type	MAU	MAU
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TECO WESTINGHOUSE
Frame	-	143T
Horsepower	1	1.0
Motor Rpm	-	1740
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	2.90
Service Factor	-	1.15

Gas Heat		
	Design	Actual
Heater Operates (y/n)	-	YES
Flame Status (pass/fail)	-	PASS
Inlet Air Temp SetPt	-	55
Discharge Air Temp SetPt	-	60
Air Flow Switch SP Actual	-	0.36"

Test Data		
	Design	Actual
CFM	1300	1348
SF RPM	-	1546
Motor RPM	-	1546
SF System SetPt	-	53.3 HZ
RL Voltage	-	149 @ VFD
RL Amperage	-	2.6 @ VFD
Total ESP	-	0.52"
Fan Discharge SP	-	0.52"

General	
	Actual
Fan Rotation Correct	YES

Completed By: Michael McDonnell on 12/12/2024

Unit Data - PHOTO LOG



12/12/2024

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Project: 12-09-24 CHIPOTLE #5052 MONTICELLO, MN

System/Unit: Kitchen Hood Type I



Asset: HD1

AREA:COOKLINE

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5424 ND-2-ACPSP-F	5424 ND-2-ACPSP-F
Job / Serial Num	-	6861468
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	153"	153"
Hood Width	54"	54"
Supply Plenum Type	-	ACPSP
Supply Plenum Width	9"	9"
Supply Plenum Length	165"	165"

Test Data Supply		
	Design	Actual
Total Area	10.31	10.31
Kv factor (Vel)	0.81	0.81
Num of Readings	-	153
Reading1 FPM	-	148
Reading2 FPM	-	157
Reading3 FPM	-	169
Reading4 FPM	-	147
Reading5 FPM	-	134
Reading6 FPM	-	185
Reading7 FPM	-	167
Reading8 FPM	-	193
Ave FPM(corr)	-	130.77
CFM	700	1348

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE	CAPTRATE SOLO
Filter Size 1	16x16	16X16
Filter Qty 1	9	9
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	14.58	14.58
Filter1 FPM	-	162
Filter2 FPM	-	167
Filter3 FPM	-	178
Filter4 FPM	-	204
Filter5 FPM	-	197
Filter6 FPM	-	192
Filter7 FPM	-	170
Filter8 FPM	-	162
Filter9 FPM	-	153
Filter Ave FPM(corr)	-	176.11
CFM	1	2568

Cooking Equipment	
	Actual
Item 1	PLANCHA
Item 2	STOVE
Item 3	RICE COOKER
Item 4	FRYER

Completed By: Michael McDonnell on 12/12/2024

Unit Data - PHOTO LOG



12/12/2024

