Report By:

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

Report: TAB REPORT

Function: Test, Adjust, & Balance

Date: 11/12/2024

Completed By: National TAB

PROJECT

10-28-24 WAWA #5412 PLANTATION, FL

100 S PINE ISLAND RD

PLANTATION, FL 33324

Client

Wawa

260 West Baltimore Pike

Wawa, PA 19063

National TAB

Project: 10-28-24 WAWA #5412 PLANTATION, FL

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.

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.

Ceiling Exhaust Fans

The ceiling exhaust fans were measured using a flow hood. If speed adjustment was provided, the fan speed was adjusted to within design tolerance. 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 and that the pressure measurement coincides with the actual and design net airflow. Any deviations from these standards are noted throughout the report.

Issue List

- Diffusers 1-5 and 1-6 - Low Flow
- EF1 - Low Flow
- EF1 - No Dampers Installed
- No Turning Vanes
- RTU-2 Returns - No Dampers Installed

10-28-24 WAWA #5412 PLANTATION, FL

Project Issue Information

Issue Name : Diffusers 1-5 and 1-6 - Low Flow

Description : Diffusers 1-5 and 1-6 (Associates and Office) are currently outputting 119 CFM and 92 CFM, respectively (79% and 61% design). Dampers are fully opened. Airflow increases slightly when straightening flex duct. Recommend mechanical inspection.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Priority : High

Asset Tag : SGRD5

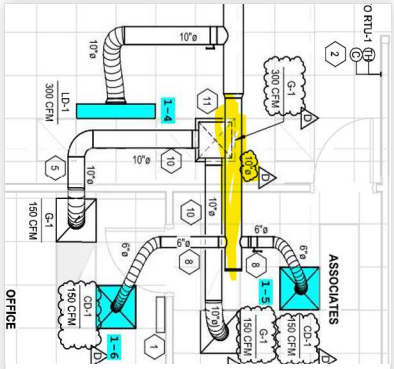
Originated Date : 10/29/2024 - Mark Johnson - National TAB

Project Issue Response Details

- **11/12/2024 National TAB - Stephen Tassinaro**
  - Duct size remains 8". No adjustments made to these diffusers.

- **10/30/2024 National TAB - Mark Johnson**
  - Branch duct serving these two diffusers is undersized (8” - required is 10”). This is likely the cause of their low flow. Recommend installing correct duct size.

10/30/2024



10/30/2024

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Project Issue Information

Issue Name : EF1 - Low Flow

Description : EF1 is currently outputting a total exhaust flow of 955 CFM (87% design). Fan is set to maximum speed. A likely cause is the gravity damper; it is installed too close to the fan and cannot stay fully open. Recommend moving gravity damper per page M3.0, Detail 7.

Created By :	National TAB	**Assigned To :**	National TAB - Will Turnbough
Status :	Open		
Priority :	Urgent	**Asset Tag :**	EF1
Originated Date :	10/30/2024 - Mark Johnson - National TAB		

Project Issue File Details

10/30/2024

Project Issue Response Details

- **11/12/2024 National TAB - Stephen Tassinaro**
  - Backdraft damper was moved down slightly, enabling it to fully open. However there is significant leakage around the curb. NTi tech taped the fan to the curb to temporarily create a seal, this increased airflow to 1055CFM/1100CFM (96% of design).

11/12/2024

11/12/2024

11/12/2024

10-28-24 WAWA #5412 PLANTATION, FL

Project Issue Information

Issue Name : EF1 - No Dampers Installed

Description : There are no dampers installed for exhaust diffusers. See page M1.0 Key Note 9.

Created By :	National TAB	**Assigned To :**	National TAB - Will Turnbough
Status :	Open		
Priority :	Urgent	**Asset Tag :**	EF1
Originated Date :	10/30/2024 - Mark Johnson - National TAB		

Project Issue File Details

10/30/2024

Project Issue Response Details

- **11/12/2024 National TAB - Stephen Tassinaro**
  - Dampers are still missing from EGRD1-2 and 1-3. Unable to complete diffuser balance.

10-28-24 WAWA #5412 PLANTATION, FL

Project Issue Information

Issue Name : No Turning Vanes

Description : There are no turning vanes installed in the supply drops for any of the 3 RTUs.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Priority : Urgent

Asset Tag :

Originated Date : 11/11/2024 - Stephen Tassinaro - National TAB

Project Issue File Details

11/11/2024

11/11/2024

11/11/2024

10-28-24 WAWA #5412 PLANTATION, FL

Project Issue Information

Issue Name : RTU-2 Returns - No Dampers Installed

Description : The return grilles for RTU 2 are missing dampers and cannot be balanced. Recommend installing per mechanical plans (refer to page M1.0, Key Note 9).

Created By :	National TAB	**Assigned To :**	National TAB - Will Turnbough
Status :	Open		
Priority :	High	**Asset Tag :**	RTU2
Originated Date :	10/30/2024 - Mark Johnson - National TAB		

Project Issue File Details

10/30/2024

Project Issue Response Details

- **11/12/2024 National TAB - Stephen Tassinaro**
  - Return diffusers 3 thru 5, dampers still could not be located. MC tech stated they would need to return to install at a later date. Returns not balanced at this time.

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	RETAIL	3400	3316	2790	2722	610	594	17.9%	17.9%						
RTU-2	FOOD SERVICE	4000	4034	3350	3412	650	622	16.3%	15.4%						
RTU-3	RETAIL	3000	2930	2600	2540	400	390	13.3%	13.3%						
EF-1	FOOD SERVICE/RR													1100	1055
EF-2	WATER SVC RM													60	62
TOTALS		10400	10280	8740	8674	1660	1606			0	0	0	0	1160	1117

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1660	1606
TOTAL EXHAUST	1160	1117
NET AIRFLOW	500	489

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.004
SIDE	0.004
REAR	0.004
AVERAGE	**0.004**

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: LENNOX SETUP PARAMETERS
- 03: SENSOR WIRING (LENNOX)
- 04: EF'S
- 05: CLOSEOUT CHECKS

10-28-24 WAWA #5412 PLANTATION, FL

CheckList Information

Name :	01: RTU's/AHU's	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/28/2024 - Brianna Biggs - National TAB		

CheckList Item Details

RTU's/AHU's

All diffusers and grilles are installed and match design?	Pass
Comment:	
Clean filters installed?	Pass
Comment:	
Economizers are assembled and functional?	Pass
Comment:	
Motors are all operating below the FLA rating?	Pass
Comment:	
Are belts tight?	N/A
Comment: Direct Drive	
If direct drive unit is the speed controller working?	Pass

Comment:

Is gas piping installed and valves turned on?	N/A

Comment:

Electric Heating

Condensate drains are installed?	Pass

Comment:

Unit free of noticeable noise and vibration	Pass

Comment:

Final outside air damper position is marked with permanent marker?	Pass

Comment:

No alarms present?	Pass

Comment:

Any noticeable duct leakage?	Pass

Comment:

Total supply and OA flows are balanced within +/-5% and supply & return diffusers within +/-10%?	Fail

Comment:

Total flows within 5%, however due to missing dampers not all diffusers are balanced.

IN TEST MODE, TEST THE FOLLOWING:

Cooling mode is operational? Record EAT/LAT for each unit:	Pass

Comment:

RTU 1: EAT=69°F, LAT=56°F; RTU 2: EAT=67°F, LAT=56°F; RTU 3: EAT=69°F, LAT=56°F

Heating mode is operational? Record EAT/LAT for each unit:	Pass

Comment:

RTU 1: EAT=70°F, LAT=69°F (STAGE 1 ONLY); RTU 2: N/A; RTU 3: EAT=72°F, LAT=73°F (STAGE 1 ONLY)

Dehumidification mode is operational? (Feel dehumidification coil with your hand. Is it hot?) Record EAT/LAT for each unit:	Pass

Comment:

RTU 1: EAT=70°F, LAT=69°F; RTU 2: EAT=71°F, LAT=73°F; RTU 3: EAT=71°F, LAT=69°F

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CheckList Information

Name :	02: LENNOX SETUP PARAMETERS	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/28/2024 - Brianna Biggs - National TAB		

CheckList Item Details

UNIT ID CONFIGURATIONS	
BACNET CONFIGURATION: GO TO SETTINGS>GENERAL>CONFIGURATION ID1 POSITION 5 SET TO "N".	Pass
Comment:	
NETWORK CONFIGURATION: GO TO SETUP>NETWORK INTEGRATION, SET TO BACNET IP	Pass
Comment:	
CONTROL MODE: SET CONTROL MODE TO ROOM SENSOR: CO2, TEMP & HUMIDITY (PER UNIT, AS NEEDED).	Pass
Comment:	
INDIVIDUAL PARAMETER CONFIGURATIONS (MECHANICAL CONTRACTOR TO DEFINE / AS APPLICABLE):	
PARAMETER 105 DEHUMID MODE: 7 NO CONDITIONS	Pass
Comment:	
PARAMETER 106 DEHUMID SETPOINT: 50, THIS IS A CENTERED SET POINT (+/-)	Yes
Comment:	

PARAMETER 107 DEHUMID DEADBAND: 3 (DEFAULT) THIS IS THE ACTUAL +/- VALUE	Pass
Comment:	
PARAMETER 117 CO2 DAMPER MAX OPEN: 50%	Pass
Comment:	
PARAMETER 118 CO2 START OPEN PPM: 1500	Pass
Comment:	
PARAMETER 119 CO2 MAX OPEN PPM: 1500	Pass
Comment:	
PARAMETER 137 OCCHET SET POINT: 68 (BACK UP)	Pass
Comment:	
PARAMETER 131 SET TO THE SAME % AS THE MINMIUM OA DAMPER SETPOINT	Pass
Comment:	
PARAMETER 139 OCC COOLING SET POINT: 72 (BACK UP)	Pass
Comment:	
PARAMETER 154 OCC BLOWER MODE: ON-CONTINUOUS 1	Pass
Comment:	
CFM VALUES / MSAV FAN SPEEDS (AIR BALANCER TO DEFINE / IF APPLICABLE):	
OA DAMPER SET TO SAME POSITION IN ALL FAN SPEEDS?	Pass
Comment:	
ALL FAN SPEEDS SET TO THE SAME CFM VALUE (ENTER SETPOINTS BELOW)	Pass
Comment:	
HEAT CFM VALUE: PER THE HVAC SCHEDULE	Pass

Comment:

HIGH COOL CFM VALUE: THE HIGH COOL CFM VALUE	Pass

Comment:

LOW COOL CFM VALUE: MATCH THE HIGH COOL CFM VALUE	Pass

Comment:

VENTILATION CFM VALUE: MATCH THE HIGH COOL CFM VALUE	Pass

Comment:

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CheckList Information

Name :	03: SENSOR WIRING (LENNOX)	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/28/2024 - Brianna Biggs - National TAB		
Completed Date :	10/30/2024 - Mark Johnson - National TAB		

CheckList Item Details

COMBINATION TEMPERATURE/HUMIDITY SENSOR

Sensors are installed where shown on the drawing?	Pass
Comment:	
2 conductor shielded cable has one wire landed to Vin, one to GND, and the shield wire is not connected.	Pass
Comment:	
For second shielded cable, one wire is landed to Vout and the shield wire is not connected.	Pass
Comment:	
Verify that the CORE or Prodigy controller is sensing a relative humidity (record the reading)	Pass
Comment:	

RTU 1: 58%; RTU 2: 63%; RTU 3: 62%

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CheckList Information

Name : 04: EF'S **Status :** Not Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 10/28/2024 - Brianna Biggs - National TAB

CheckList Item Details

EF's

Rotation is correct?	Pass
Comment:	
Belts are tight (if applicable)?	N/A
Comment: Direct Drive	
Speed controller installed and functional (if applicable)?	Pass
Comment:	
There is no major leakage around base of fan?	Fail
Comment: EF-1 leakage at curb. Temporarily resolved using tape for TAB purposes.	
Is the motor operating below the motor FLA rating?	Pass
Comment:	
Back draft damper installed and can it fully open?	Pass

Comment:	
Unit free of noticeable noise and vibration?	Pass
Comment:	
Total exhaust flow balanced within +/-5% and grilles are within +/-10%?	Fail
Comment: Exhaust grilles cannot be fully balanced due to missing dampers.	

10-28-24 WAWA #5412 PLANTATION, FL

CheckList Information

Name :	05: CLOSEOUT CHECKS	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/28/2024 - Brianna Biggs - National TAB		

CheckList Item Details

SPACE COMFORT	
Is space free of drafting?	Pass
Comment:	
Is space comfortable in all areas?	Pass
Comment:	
Is the space free of ventilation noise?	Pass
Comment:	
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: 10-28-24 WAWA #5412 PLANTATION, FL

System/Unit: AHU/RTU

Asset: RTU1 AREA:RETAIL

Unit Data		
	Design	**Actual**
MFG	LENNOX	LENNOX
Serial Num	-	5623G05415
Model Num	LCT102H4E	LCT102H4EC1Y
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	23x14
Num Final Filter 1	-	4
Final Filter Size 1	-	20x25x2

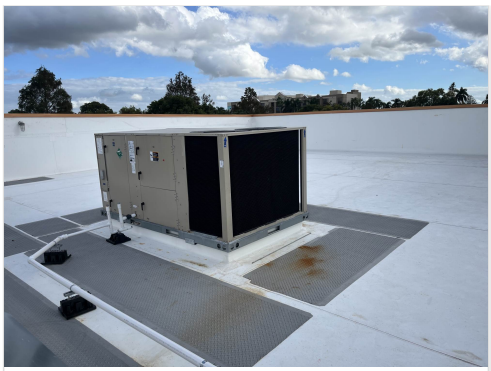
Motor Data		
	Design	**Actual**
Motor MFG	-	EBMPAPST
Frame	-	NL
Horsepower	3.75	3.8
Motor Rpm	-	2200
Phase	3	3
Rated Voltage	208	200-240
Rated Amperage	-	8.7
Service Factor	-	NL

Drive Data	
	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

Test Data		
	Design	**Actual**
SF CFM	3400	3316
SF RPM	-	1342
MOTOR RPM	-	1342
RA CFM	2790	2722
OA CFM	610	594
RL Voltage	-	211/212/214
RL Amperage	-	2.7/2.6/2.4
SF System SetPt	-	61%
OA Damper Position	-	32%
OA Damper Type	-	SINGLE BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.22”
Fan Suction SP	-	-0.56”
Fan Discharge SP	-	0.43”
Total ESP	0.5"	0.65"
Fan Total SP	-	0.99"

Unit Data - PHOTO LOG



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Completed By: Stephen Tassinaro on 11/12/2024

Diffuser Supply (GRD)

RTU1/RETAIL

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	RETAIL	LD1	10"	315	1	433	314	303	96.2
SGRD2	RETAIL	LD1	10"	300	1	324	299	285	95.0
SGRD3	RETAIL	LD1	10"	300	1	354	299	274	91.3
SGRD4	RETAIL	LD1	10"	300	1	303	274	283	94.3
SGRD5	ASSOCIATES	CD1	6"	150	1	118	119	124	82.7
SGRD6	OFFICE	CD1	6"	150	1	97	92	102	68.0
SGRD7	RETAIL	LD1	10"	300	1	277	276	323	107.7
SGRD8	RETAIL	LD1	10"	315	1	329	330	340	107.9
SGRD9	RETAIL	LD1	10"	290	1	240	251	271	93.4
SGRD10	DELIVERY VESTIBULE	CD1	8"	200	1	164	173	188	94.0
SGRD11	RETAIL	LD1	10"	290	1	279	282	312	107.6
SGRD12	RETAIL	LD1	10"	290	1	348	291	317	109.3
SGRD13	MENS RESTROOM	CD3	6"	50	1	99	53	46	92.0
SGRD14	WOMENS RESTROOM	CD3	6"	50	1	75	53	53	106.0
SGRD15	REAR VESTIBULE	CD3	6"	100	1	118	131	95	95.0
Total				3400		3558	3237	3316	97.53%

Completed By: Stephen Tassinaro on 11/12/2024

Asset	Notes	Date	Written By
SGRD5	Branch duct serving these two diffusers is undersized (8” - required is 10”).	11/12/2024	Stephen Tassinaro
SGRD6	Branch duct serving these two diffusers is undersized (8” - required is 10”).	11/12/2024	Stephen Tassinaro

National TAB

Project: 10-28-24 WAWA #5412 PLANTATION, FL

System/Unit: AHU/RTU

Asset: RTU2 AREA:FOOD SERVICE

Unit Data		
	Design	**Actual**
MFG	LENNOX	LENNOX
Serial Num	-	5623K05305
Model Num	LCT120H4E	LCT120H4EN1Y
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	23x14
Num Final Filter 1	-	4
Final Filter Size 1	-	20x25x2

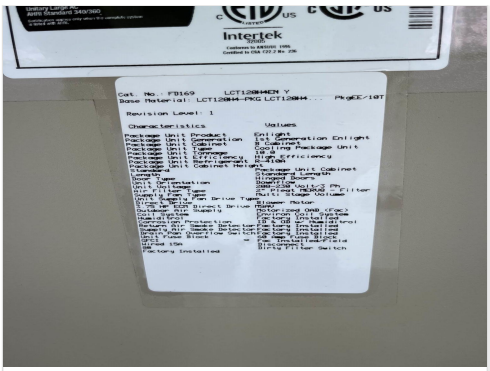
Motor Data		
	Design	**Actual**
Motor MFG	-	EBMPAPST
Frame	-	NL
Horsepower	3.75	3.8
Motor Rpm	-	2200
Phase	3	3
Rated Voltage	208	200-240
Rated Amperage	-	8.7
Service Factor	-	NL

Drive Data	
	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

Test Data		
	Design	**Actual**
SF CFM	4000	4034
SF RPM	-	1584
MOTOR RPM	-	1584
RA CFM	3350	3412
OA CFM	650	622
RL Voltage	-	211/212/214
RL Amperage	-	3.6/3.6/3.6
SF System SetPt	-	72%
OA Damper Position	-	54%
OA Damper Type	-	SINGLE BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.25”
Fan Suction SP	-	-0.64”
Fan Discharge SP	-	0.47”
Total ESP	0.5"	0.72"
Fan Total SP	-	1.11"

Unit Data - PHOTO LOG



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Completed By: Stephen Tassinaro on 11/12/2024

Diffuser Supply (GRD)

RTU2/FOOD SERVICE

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	FOOD SERVICE	LD1	10"	300	1	444	335	296	98.7
SGRD2	FOOD SERVICE	LD1	10"	300	1	352	290	296	98.7
SGRD3	FOOD SERVICE	LD1	10"	300	1	232	247	318	106.0
SGRD4	FOOD SERVICE	LD1	10"	300	1	412	381	288	96.0
SGRD5	FOOD SERVICE #2	LD1	12"	500	1	661	495	510	102.0
SGRD6	FOOD SERVICE #2	LD1	12"	500	1	344	426	512	102.4
SGRD7	FOOD SERVICE #2	LD1	12"	500	1	593	531	523	104.6
SGRD8	FOOD SERVICE #2	LD1	12"	500	1	468	539	512	102.4
SGRD9	DRY STORAGE	LD1	8"	250	1	257	266	256	102.4
SGRD10	ELECTRICAL	CD1	12"	550	1	455	530	523	95.1
Total				4000		4218	4040	4034	100.85%

Diffuser Ret/Exh (GRD)

RTU2/FOOD SERVICE

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1	RETAIL	G1	14"	800	1	711	711	711	88.9
EGRD2	FOOD SERVICE	G1	12"	585	1	896	896	896	153.2
EGRD3	FOOD SERVICE	G1	12"	585	1	434	434	434	74.2
EGRD4	FOOD SERVICE	G1	12"	580	1	591	591	591	101.9
EGRD5	FOOD SERVICE	G1	14"	800	1	516	516	516	64.5
Total				3350		3148	3148	3148	93.97%

Completed By: Stephen Tassinaro on 11/12/2024

Asset	Notes	Date	Written By
EGRD3	Return diffusers 3 thru 5, dampers could not be located. MC tech stated they would need to retu rn to install at a later date. Returns not balanced at this me.	11/12/2024	Stephen Tassinaro

National TAB

Project: 10-28-24 WAWA #5412 PLANTATION, FL

System/Unit: AHU/RTU

Asset: RTU3 AREA:RETAIL

Unit Data		
	Design	**Actual**
MFG	LENNOX	LENNOX
Serial Num	-	5623F06019
Model Num	LCT092H4E	LCT092H4EC1Y
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	23x14
Num Final Filter 1	-	4
Final Filter Size 1	-	20x25x2

Motor Data		
	Design	**Actual**
Motor MFG	-	EBMPAPST
Frame	-	NL
Horsepower	3.75	3.8
Motor Rpm	-	2200
Phase	3	3
Rated Voltage	208	200-240
Rated Amperage	-	8.7
Service Factor	-	NL

Drive Data	
	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

Test Data		
	Design	**Actual**
SF CFM	3000	2930
SF RPM	-	1254
MOTOR RPM	-	1254
RA CFM	2600	2540
OA CFM	400	390
RL Voltage	-	211/212/214
RL Amperage	-	2.3/2.2/2.0
SF System SetPt	-	57%
OA Damper Position	-	31%
OA Damper Type	-	SINGLE BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.31”
Fan Suction SP	-	-0.58”
Fan Discharge SP	-	0.27"
Total ESP	0.5"	0.58"
Fan Total SP	-	0.85"

Unit Data - PHOTO LOG

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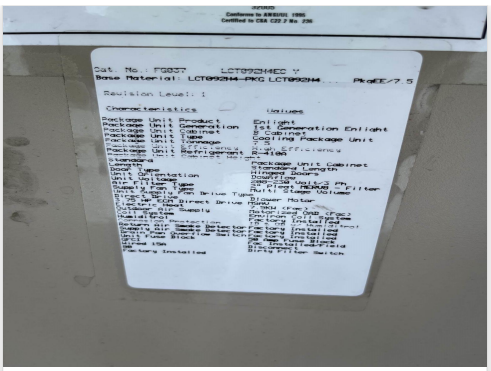

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Completed By: Stephen Tassinaro on 11/12/2024

Diffuser Supply (GRD)

RTU3/RETAIL

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	FRONT VESTIBULE	CD2	12"	590	1	716	591	610	103.4
SGRD2	RETAIL	LD1	10"	300	1	385	328	291	97.0
SGRD3	RETAIL	LD1	10"	300	1	377	319	289	96.3
SGRD4	COFFEE/SPECIALTY BEV.	LD1	10"	325	1	388	327	300	92.3
SGRD5	COFFEE/SPECIALTY BEV.	LD1	10"	325	1	406	340	303	93.2
SGRD6	COFFEE/SPECIALTY BEV.	LD1	10"	325	1	397	325	304	93.5
SGRD7	COFFEE/SPECIALTY BEV.	LD1	10"	325	1	267	222	301	92.6
SGRD8	WASHROOM	LD1	8"	230	1	307	249	245	106.5
SGRD9	WASHROOM	LD1	8"	230	1	266	188	235	102.2
SGRD10	TRASH ROOM	CD1	6"	50	1	178		52	104.0
Total				3000		3687	2889	2930	97.67%

Completed By: Stephen Tassinaro on 11/11/2024

National TAB

Project: 10-28-24 WAWA #5412 PLANTATION, FL

System/Unit: FAN - Exhaust

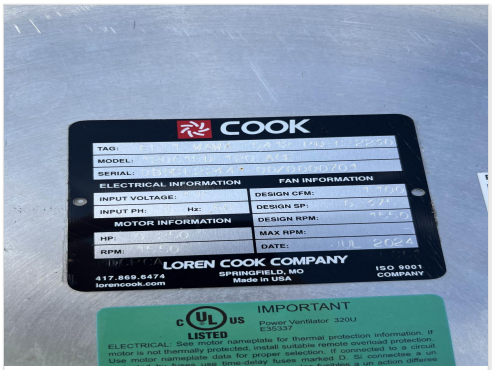
Asset: EF1 AREA:FOOD SERVICE/ RESTROOM

Unit Data		
	Design	**Actual**
MFG	LOREN COOK	LOREN COOK
Model Num	ACED-120C15D	120C15D
Serial Num	-	089SL22441
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	QUEACE
Frame	-	NL
Horsepower	1/4	1/4
Motor Rpm	-	1550/1300
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.3
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	1100	1055
Fan RPM	1550	1550
Fan Rotation	-	CCW
Motor RPM	-	1550
System SetPt	-	MAX
RL Voltage	-	120
RL Amperage	-	3.2
Fan Discharge SP	-	ATM

Unit Data - PHOTO LOG



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Completed By: Stephen Tassinaro on 11/12/2024

National TAB

Project:10-28-24 WAWA #5412 PLANTATION, FL

FAN - Exhaust

Diffuser Ret/Exh (GRD)

EF1/FOOD SERVICE/ RESTROOM

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1	FOOD SERVICE	G1		500	1	168	308	339	67.8
EGRD2	FOOD SERVICE	G1		300	1	188	350	373	124.3
EGRD3	TRASH ROOM	G1	6"	100	1	61	132	155	155.0
EGRD4	MENS RESTROOM	G3	6"	100	1	47	92	105	105.0
EGRD5	WOMENS RESTROOM	G3	6"	100	1	26	73	83	83.0
Total				1100		490	955	1055	95.91%

Completed By: Stephen Tassinaro on 11/12/2024

Asset	Notes	Date	Written By
EGRD2	Damper not installed.	11/12/2024	Stephen Tassinaro
EGRD3	Damper not installed.	11/12/2024	Stephen Tassinaro

National TAB

Project: 10-28-24 WAWA #5412 PLANTATION, FL

System/Unit: FAN - Exhaust

Asset: EF2 AREA:

Unit Data		
	Design	**Actual**
MFG	LOREN COOK	LOREN COOK
Model Num	GN-148	GEMINI 140 SERIES
Serial Num	-	NL
Type	INLINE	INLINE
Configuration	HORIZONTAL	HORIZONTAL

Motor Data		
	Design	**Actual**
Motor MFG	-	QUEACE
Frame	-	NL
Horsepower	28W	15W
Motor Rpm	-	1550
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	0.40/0.22
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	60	62
Fan RPM	685	DD
Fan Rotation	-	CW
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER
RL Voltage	-	120
Total ESP	0.25'	0.033"
Fan Inlet SP	-	-0.018”
Fan Discharge SP	-	0.015”

Unit Data - PHOTO LOG

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Completed By: Stephen Tassinaro on 11/11/2024