Report By:

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

Report: TAB Report

Function: Test, Adjust, & Balance

Date: 11/14/2024

Completed By: National TAB

PROJECT

11-11-24 WAWA #5452 ORLANDO, FL

8927 Futures Dr

Orlando, FL 32819

Client

Wawa

260 West Baltimore Pike

Wawa, PA 19063

National TAB

Project: 11-11-24 WAWA #5452 ORLANDO, 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

- All RTUs - No Turning Vanes
- EF-1 Missing Backdraft Damper
- Remote Sensor Wire Incorrect Type
- RTU Return Grille Sizing
- RTU-1 Broken Handle
- RTU-1 OA Hood Not Assembled

11-11-24 WAWA #5452 ORLANDO, FL

Project Issue Information

Issue Name : All RTUs - No Turning Vanes
Description : There are no turning vanes installed in any of the RTU supply drops.

Created By : National TAB
Assigned To : National TAB - Stephen Tassinaro
Status : Open
Priority : Urgent
Asset Tag :
Originated Date : 11/13/2024 - Stephen Tassinaro - National TAB

Project Issue File Details

11/13/2024

11/13/2024

11/13/2024

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Project Issue Information

Issue Name : EF-1 Missing Backdraft Damper
Description : There is no backdraft damper installed in the EF-1 drop.

Created By : National TAB
Assigned To : National TAB - Stephen Tassinaro
Status : Open
Priority : Medium
Asset Tag :
Originated Date : 11/13/2024 - Stephen Tassinaro - National TAB

Project Issue File Details

11/13/2024

Project Issue Response Details

- **11/15/2024 National TAB - Stephen Tassinaro**
  - Unable to confirm if backdraft damper was added when curb adapter was installed. Fan was jammed onto the curb adapter and NTi tech was unable to separate without risking damage to fan.

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Project Issue Information

Issue Name : Remote Sensor Wire Incorrect Type

Description : All remote sensors were ran with generic thermostat cable. Qty (2) 2-wire shielded cables are to be used for each temp/humidity sensor.

Created By : National TAB

Assigned To : National TAB - Stephen Tassinaro

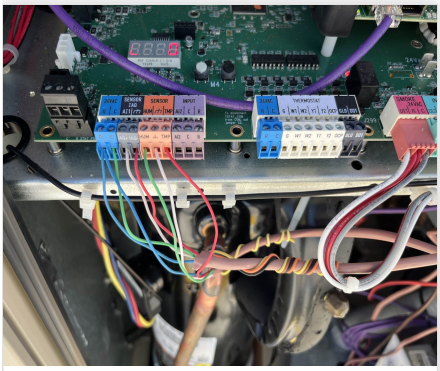
Status : Open

Priority : High

Asset Tag :

Originated Date : 11/13/2024 - Stephen Tassinaro - National TAB

Project Issue File Details



11/13/2024

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Project Issue Information

Issue Name : RTU Return Grille Sizing

Description : All RTUs call for G-1 return grilles. A G-1 air device is specified to have a 20"x20" neck and a face size of "NECK+3-3/4". The installed grilles are undersized and measure ~17"x17", with an open area of ~15.5"x15.5".

Created By : National TAB

Assigned To : National TAB - Stephen Tassinaro

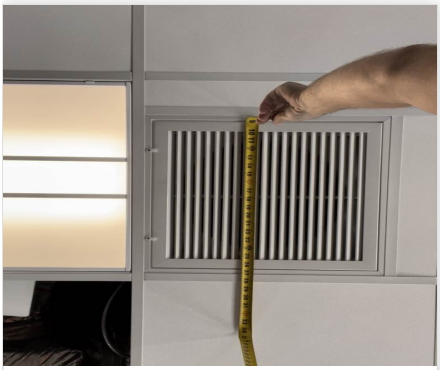
Status : Open

Priority : High

Asset Tag :

Originated Date : 11/14/2024 - Stephen Tassinaro - National TAB

Project Issue File Details



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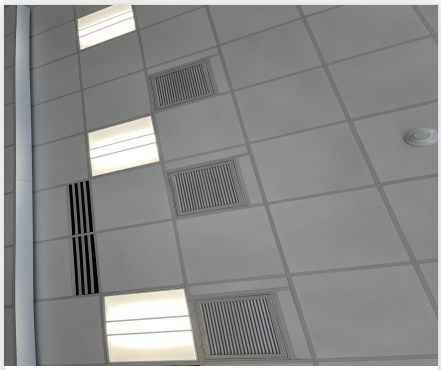


11/14/2024

11-11-24 WAWA #5452 ORLANDO, FL

Project Issue Information

Issue Name : RTU-1 Broken Handle

Description : RTU-1 has a broken handle on the filter access door. Recommend replacement.

Created By : National TAB

Assigned To : National TAB - Stephen Tassinaro

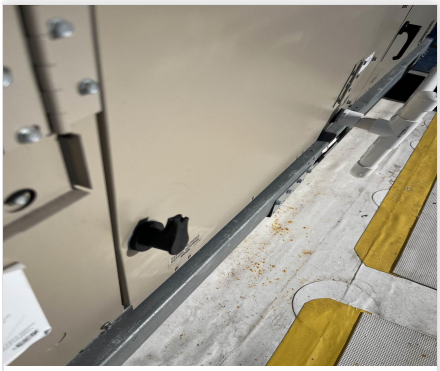
Status : Open

Priority : Low

Asset Tag :

Originated Date : 11/13/2024 - Stephen Tassinaro - National TAB

Project Issue File Details



11/13/2024

11-11-24 WAWA #5452 ORLANDO, FL

Project Issue Information

Issue Name : RTU-1 OA Hood Not Assembled

Description : The outside air hood is not assembled on RTU-1. NTi tech temporarily removed the panel in front of the outside air damper to reduce restriction on the unit. The hood assembly will need to be installed to accurately set the outside air on this RTU.

Created By : National TAB

Assigned To : National TAB - Stephen Tassinaro

Status : Open

Priority : Urgent

Asset Tag :

Originated Date : 11/13/2024 - Stephen Tassinaro - National TAB

Project Issue File Details

11/13/2024

11/13/2024

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	3462	2790	2852	610	*610*	17.9%	17.6%						
RTU-2	FOOD SERVICE	5000	5006	4100	4068	900	938	18.0%	18.7%						
RTU-3	RETAIL	3000	3026	2460	2477	540	549	18.0%	18.1%						
EF-1	FOOD SERVICE													1550	1605
EF-2	WATER SRV RM													60	59
TOTALS		11400	11494	9350	9397	2050	2097			0	0	0	0	1610	1664

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2050	2097
TOTAL EXHAUST	1610	1664
NET AIRFLOW	440	433

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.004
SIDE	0.003
REAR	0.003
AVERAGE	**0.0033**

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:

Actual RTU-1 outdoor air value is unkown at this time due to a lack of outside air hood assembly. The damper is functional and has been set to an average value based on other Wawa locations.

CheckList List

- 01: RTU's/AHU's
- 02: LENNOX SETUP PARAMETERS
- 03: SENSOR WIRING (LENNOX
- 04: EF'S
- 05: CLOSEOUT CHECKS
- SMOKE DETECTOR TESTING

11-11-24 WAWA #5452 ORLANDO, FL

CheckList Information

Name :	01: RTU's/AHU's	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	11/13/2024 - Brianna Biggs - National TAB		

CheckList Item Details

RTU's/AHU's

All diffusers and grilles are installed and match design?	Pass
Comment: Note: Return grilles appear to be smaller than shown on air device schedule. Recommend confirming with Wawa/Engineer.	
Clean filters installed?	Pass
Comment:	
Economizers are assembled and functional?	Pass
Comment: Economizers functional, but RTU-1 outside air hood is not assembled.	
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 Heat

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:

RTU 1: FAIL - Outside air not able to be balanced due to lack of hood assembly.

No alarms present?	Pass

Comment:

Any noticeable duct leakage?	Pass

Comment:

No noticeable duct leakage

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

Comment:

RTU 1:FAIL - See note above.

IN TEST MODE, TEST THE FOLLOWING:

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

Comment:

RTU 1: 71F/55F // RTU 3: 72F/56F // RTU 2: 68F/55F

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

Comment:

RTU 1: 76F/82F // RTU 3: 75F/77F // RTU 2 - No Heat

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

Comment:

RTU 1: 76F/73F // RTU 3: 72F/66F // RTU 2: 69F/68F - Reheat coil warm for all tests

11-11-24 WAWA #5452 ORLANDO, FL

CheckList Information

Name :	02: LENNOX SETUP PARAMETERS	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	11/13/2024 - 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:

Set to 1200PPM per controls specifications.

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:

RTU 1 will need parameter set once OA is finalized.

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:

RTU 1: 58% / RTU 2: 90% / RTU 3: 59%

HIGH COOL CFM VALUE: THE HIGH COOL CFM VALUE	Pass

Comment:

RTU 1: 58% / RTU 2: 90% / RTU 3: 59%

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

Comment:

RTU 1: 58% / RTU 2: 90% / RTU 3: 59%

VENTILATION CFM VALUE: MATCH THE HIGH COOL CFM VALUE	Pass

Comment:

RTU 1: 58% / RTU 2: 90% / RTU 3: 59%

11-11-24 WAWA #5452 ORLANDO, FL

CheckList Information

Name :	03: SENSOR WIRING (LENNOX	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	11/13/2024 - Brianna Biggs - 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.	Fail
Comment: Single thermostat cable used for all sensors	
For second shielded cable, one wire is landed to Vout and the shield wire is not connected.	Fail
Comment:	
Verify that the CORE or Prodigy controller is sensing a relative humidity (record the reading)	Pass
Comment: RTU 1: 59% / RTU 2: 55% / RTU 3: 56%	

11-11-24 WAWA #5452 ORLANDO, FL

CheckList Information

Name :	04: EF'S	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	11/13/2024 - Brianna Biggs - National TAB		

CheckList Item Details

EF's

Rotation is correct?	Pass
Comment:	
Belts are tight (if applicable)?	Pass
Comment:	
Speed controller installed and functional (if applicable)?	Pass
Comment:	
There is no major leakage around base of fan?	Pass
Comment:	
Is the motor operating below the motor FLA rating?	Pass
Comment:	
Back draft damper installed and can it fully open?	Fail

Comment:

EF-1 no backdraft damper installed

Unit free of noticeable noise and vibration?	Pass

Comment:

Total exhaust flow balanced within +/-5% and grilles are within +/-10%?	Pass

Comment:

11-11-24 WAWA #5452 ORLANDO, FL

CheckList Information

Name :	05: CLOSEOUT CHECKS	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	11/13/2024 - 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:	

There is a hum from the return grilles on RTU-2. Potentially due to their smaller size. Not expected to be heard over store music.

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:	

11-11-24 WAWA #5452 ORLANDO, FL

CheckList Information

Name :	SMOKE DETECTOR TESTING	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	11/13/2024 - Brianna Biggs - National TAB		

CheckList Item Details

MANUFACTURER

Comment:

SYSTEM SENSOR

MODEL #

Comment:

LD4S

DESIGN PRESSURE RANGE

Comment:

0.01" - 1.11"

ACTUAL PRESSURE RANGE

Comment:

RTU 1: 0.12" / RTU 2: 0.18" / RTU 3: 0.08"

National TAB

Project: 11-11-24 WAWA #5452 ORLANDO, FL

System/Unit: AHU/RTU

Asset: RTU1 AREA:

Unit Data		
	Design	**Actual**
MFG	LENNOX ENLIGHT	LENNOX ENLIGHT
Serial Num	-	5624D06270
Model Num	LCT102H4E	LCT102H4EG1Y
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	*
OA Filter Size 1	-	*
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	**Actual**
Horsepower	3.75	3.8
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	8.7

Drive Data	
	Actual
Motor Sheave SetPt	DD

Test Data		
	Design	**Actual**
SF CFM	3400	3462
SF RPM	-	1298
RA CFM	2790	*
OA CFM	610	*
RL Voltage	-	212/213/213
RL Amperage	-	2.3/2.2/2.3
SF System SetPt	-	59%
OA Damper Position	-	35%
OA Damper Type	-	SINGLE BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	*
Fan Suction SP	-	*
Fan Discharge SP	-	*

Completed By: Stephen Tassinaro on 11/14/2024

Notes:
* Outside air hood not installed. Outside air damper set to a reasonable starting point but will need to be adjusted once hood assembly is installed. Static pressures to be taken once outside air is finalized.

Written By: Stephen Tassinaro on 11/14/2024

Unit Data - PHOTO LOG

11/18/2024

11/18/2024

11/18/2024

National TAB

Project:11-11-24 WAWA #5452 ORLANDO, FL

AHU/RTU

Diffuser Supply (GRD)

RTU1/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
RTU1-SGRD1	RETAIL	LD1	10"	300	1	461	365	330	110.0
RTU1-SGRD2	RETAIL	LD1	10"	300	1	439	378	282	94.0
RTU1-SGRD3	RETAIL	LD1	10"	300	1	325	327	285	95.0
RTU1-SGRD4	ASSOCIATES	CD1	8"	150	1	199	186	149	99.3
RTU1-SGRD5	OFFICE	CD1	8"	150	1	184	192	157	104.7
RTU1-SGRD6	RETAIL	LD1	10"	300	1	383	383	314	104.7
RTU1-SGRD7	RETAIL	LD1	10"	310	1	397	392	331	106.8
RTU1-SGRD8	RETAIL	LD1	10"	310	1	357	455	314	101.3
RTU1-SGRD9	RETAIL	LD1	10"	285	1	303	365	313	109.8
RTU1-SGRD10	RETAIL	LD1	10"	285	1	303	292	301	105.6
RTU1-SGRD11	DELIVERY VESTIBULE	CD1	8"	200	1	200	218	181	90.5
RTU1-SGRD12	RETAIL	LD1	10"	285	1	375	384	296	103.9
RTU1-SGRD13	WOMENS RR	CD3	6"	50	1	71	96	47	94.0
RTU1-SGRD14	REAR VESTIBULE	CD3	6"	100	1	111	77	91	91.0
RTU1-SGRD15	MENS RR	CD3	6"	75	1	86	94	71	94.7
Total				3400		4194	4204	3462	101.82%

Completed By: Stephen Tassinaro on 11/14/2024

National TAB

Project: 11-11-24 WAWA #5452 ORLANDO, FL

System/Unit: AHU/RTU

Asset: RTU2 AREA:

Unit Data		
	Design	**Actual**
MFG	LENNOX ENLIGHT	LENNOX ENLIGHT
Serial Num	-	5624B06853
Model Num	LCT150H4E	LCT150H4EN1Y
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	23.25X14
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	**Actual**
Horsepower	3.75	3.8
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	8.7

Drive Data	
	Actual
Motor Sheave SetPt	DD

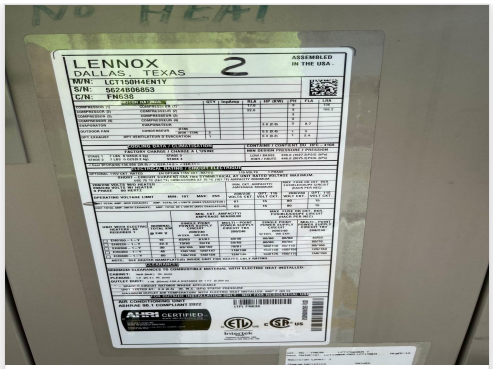
Test Data		
	Design	**Actual**
SF CFM	5000	5006
SF RPM	-	1977
RA CFM	4100	4068
OA CFM	900	938
RL Voltage	-	212/213/214
RL Amperage	-	7.3/7.4/7.5
SF System SetPt	-	90%
OA Damper Position	-	39%
OA Damper Type	-	SINGLE BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.73”
Fan Suction SP	-	-1.30”
Fan Discharge SP	-	0.72”
Total ESP	0.5"	1.45"
Fan Total SP	-	2.02"

Completed By: Stephen Tassinaro on 11/14/2024

Unit Data - PHOTO LOG

11/18/2024



11/18/2024

11/18/2024

Diffuser Supply (GRD)

RTU2/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
RTU2-SGRD1	FOOD SERVICE 1	LD1	12"	500	1	537	484	525	105.0
RTU2-SGRD2	FOOD SERVICE 1	LD1	12"	500	1	467	480	520	104.0
RTU2-SGRD3	FOOD SERVICE 1	LD1	12"	500	1	396	438	475	95.0
RTU2-SGRD4	FOOD SERVICE 2	LD1	12"	500	1	452	505	547	109.4
RTU2-SGRD5	FOOD SERVICE 2	LD1	12"	500	1	300	448	486	97.2
RTU2-SGRD6	FOOD SERVICE 2	LD1	12"	500	1	470	434	471	94.2
RTU2-SGRD7	WASH ROOM	CD1	12"	500	1	455	477	518	103.6
RTU2-SGRD8	WASH ROOM	CD1	10"	375	1	323	348	377	100.5
RTU2-SGRD9	WASH ROOM	CD1	12"	500	1	485	463	502	100.4
RTU2-SGRD10	STAGING	CD1	6"	75	1	130	65	70	93.3
RTU2-SGRD11	ELECTRICAL ROOM	CD1	12	550	1	369	475	515	93.6
Total				5000		4384	4617	5006	100.12%

Diffuser Ret/Exh (GRD)

RTU2/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
RTU2-EGRD1	BACK OF HOUSE	G1	14"	900	1	1137	852	954	106.0
RTU2-EGRD2	FOOD SERVICE	G1	14"	800	1	734	732	820	102.5
RTU2-EGRD3	FOOD SERVICE	G1	14"	800	1	631	689	772	96.5
RTU2-EGRD4	FOOD SERVICE	G1	14"	800	1	668	715	801	100.1
RTU2-EGRD5	FOOD SERVICE	G1	14"	800	1	439	638	721	90.1
Total				4100		3609	3626	4068	99.22%

Completed By: Stephen Tassinaro on 11/14/2024

National TAB

Project: 11-11-24 WAWA #5452 ORLANDO, FL

System/Unit: AHU/RTU

Asset: RTU3 AREA:

Unit Data		
	Design	**Actual**
MFG	LENNOX ENLIGHT	LENNOX ENLIGHT
Serial Num	-	5624C06195
Model Num	LCT092H4E	LCT092H4EG1Y
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	23.25X14
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	**Actual**
Horsepower	3.75	3.8
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	8.7

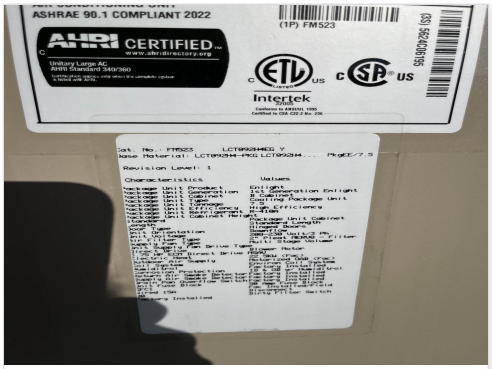
Drive Data	
	Actual
Motor Sheave SetPt	DD

Test Data		
	Design	**Actual**
SF CFM	3000	3026
SF RPM	-	1275
RA CFM	2460	2477
OA CFM	540	549
RL Voltage	-	214/213/214
RL Amperage	-	2.2/2.3/2.2
SF System SetPt	-	58%
OA Damper Position	-	35%
OA Damper Type	-	SINGLE BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.38”
Fan Suction SP	-	-0.59”
Fan Discharge SP	-	0.40”
Total ESP	0.5"	0.78"
Fan Total SP	-	0.99"

Completed By: Stephen Tassinaro on 11/14/2024

Unit Data - PHOTO LOG



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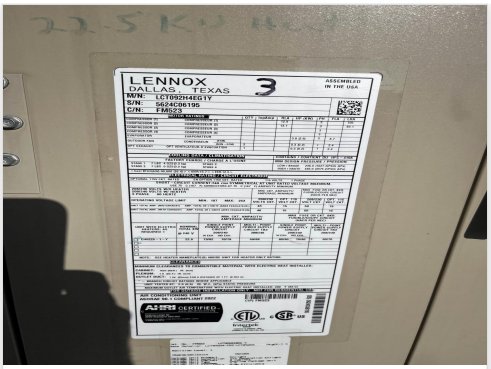

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National TAB

Project:11-11-24 WAWA #5452 ORLANDO, FL

AHU/RTU

Diffuser Supply (GRD)

RTU3/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
RTU3-SGRD1	FRONT VESTIBULE	CD2	12"	500	1	651	705	513	102.6
RTU3-SGRD2	RETAIL	LD1	10"	350	1	441	475	355	101.4
RTU3-SGRD3	RETAIL	LD1	10"	350	1	579	493	341	97.4
RTU3-SGRD4	RETAIL	LD1	10"	300	1	453	524	304	101.3
RTU3-SGRD5	COFFEE/SPECIALTY BEVERAGE	LD1	10"	300	1	470	415	312	104.0
RTU3-SGRD6	COFFEE/SPECIALTY BEVERAGE	LD1	10"	300	1	398	434	323	107.7
RTU3-SGRD7	COFFEE/SPECIALTY BEVERAGE	LD1	10"	300	1	536	414	292	97.3
RTU3-SGRD8	RETAIL	LD1	10"	300	1	345	399	299	99.7
RTU3-SGRD9	RETAIL	LD1	10"	300	1	392	528	287	95.7
Total				3000		4265	4387	3026	100.87%

Completed By: Stephen Tassinaro on 11/14/2024

National TAB

Project: 11-11-24 WAWA #5452 ORLANDO, FL

System/Unit: FAN - Exhaust

Asset: EF1 AREA:

Unit Data		
	Design	**Actual**
MFG	GREENHECK	CAPTIVE AIRE
Model Num	G-160	DR85HFA
Serial Num	-	6823753
Type	DOWNBLAST	CENTRIFUGAL
Configuration	VERTICAL	DOWNBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	TELCO GREEN
Frame	-	48
Horsepower	3/4	0.75
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	8.9

Test Data		
	Design	**Actual**
CFM	1550	1605
Fan RPM	700	1341
Fan Rotation	-	CORRECT
Motor RPM	-	1341
System SetPt	-	70%
RL Voltage	-	120
RL Amperage	-	7.9
Total ESP	0.250"	*
Fan Inlet SP	-	*
Fan Discharge SP	-	ATM

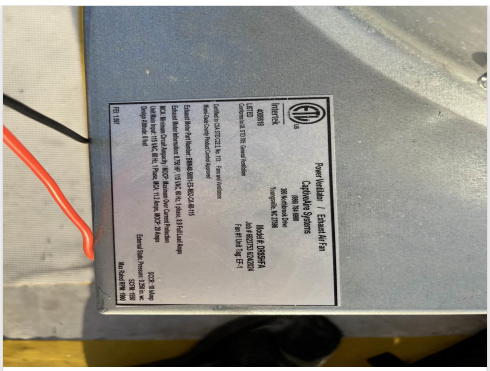
Completed By: Stephen Tassinaro on 11/14/2024

Notes:
*Fan jammed onto curb adapter and could not be lifted to take static pressure measurement.

Written By: Stephen Tassinaro on 11/14/2024

Unit Data - PHOTO LOG

11/18/2024



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National TAB

Project:11-11-24 WAWA #5452 ORLANDO, FL

FAN - Exhaust

Diffuser Ret/Exh (GRD)

EF1/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EF1-EGRD1	FOOD SERVICE #2	G-1	10"	400	1	231	269	374	93.5
EF1-EGRD2	FOOD SERVICE #2	G-1	12"	500	1	328	401	529	105.8
EF1-EGRD3	FOOD SERVICE #2	G-1	10"	300	1	271	244	325	108.3
EF1-EGRD4	STAGING	G-1	8"	100	1	185	80	107	107.0
EF1-EGRD5	MENS RR	G-3	6"	100	1	96	96	109	109.0
EF1-EGRD6	MENS RR	G-3	6"	50	1	91	91	52	104.0
EF1-EGRD7	WOMENS RR	G-3	6"	100	1	88	88	109	109.0
Total				1550		1290	1269	1605	103.55%

National TAB

Project: 11-11-24 WAWA #5452 ORLANDO, FL

System/Unit: FAN - Exhaust

Asset: EF2 AREA:

Unit Data		
	Design	**Actual**
MFG	GREENHECK	CAPTIVE AIRE
Model Num	CSP-B110	SIF9DD
Serial Num	-	5823753
Type	INLINE	INLINE
Configuration	HORIZONTAL	HORIZONTAL

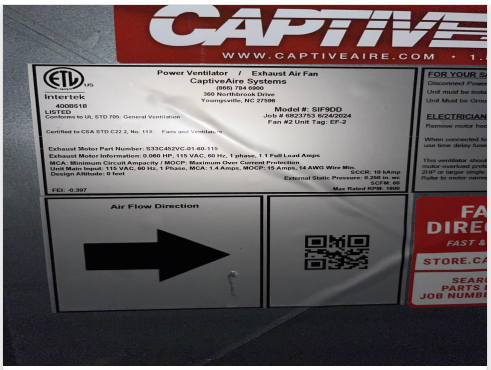
Motor Data		
	Design	**Actual**
Horsepower	21W	0.060
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	1.1

Test Data		
	Design	**Actual**
CFM	60	59
Fan RPM	584	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER
Total ESP	0.125"	0.05”
Fan Inlet SP	-	-0.04”
Fan Discharge SP	-	0.01”

Completed By: Stephen Tassinaro on 11/14/2024

Unit Data - PHOTO LOG

11/18/2024



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