

Report By:

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



Report: TAB Report
Function: Test, Adjust, & Balance
Date: 10/23/2025
Completed By: National TAB

PROJECT
03-09-26 QT #0588 OMAHA, NE

4212 S 84TH STR

OMAHA, NE

Client

QUIKTRIP
4705 SOUTH 129TH EAST AVENUE
TULSA, OK 74134

National TAB

Project: 03-09-26 QT #0588 OMAHA, NE

Table Of Contents

Section	Page #
Summary	3
Issues	4
Balance Schedule	13
Checklist	14
RTU-1	20
RTU-2	22
RTU-3	24
EF-1 - Exhaust	27
EF-2 - Hood Exhaust	29
Kitchen Hood Type I	31
EF-3 - Combi-Oven Exhaust	33
GRD Layout	35



Project Summary

Project Summary

The summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report are further details 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)

Each of the RTU's was measured with a flow hood to establish total flow. The total flow was then adjusted via the VFD so that airflow fell within design tolerances. All diffusers on the kitchen RTU were balanced to the engineer's design flow. The diffusers on the sales floor were only adjusted when there were noticeable issues present like drafting or dampers that were found completely closed. The Hoods On outside air rate was set by first establishing the typical QT set point at the Emerson controller and then making manually adjustments on the roof. The hoods off airflow setpoint was found by adjusting the damper position at the Emerson controller until the design airflow was achieved. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. After completion of TAB all overrides were released.

Kitchen Exhaust Hood & Associated Fans

The 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.

Restroom Exhaust Fans

The restroom exhaust fans were measured with a flow hood. The total flow was balanced for the fan with the exception of the new grille over the combi-oven, which was balanced to the listed design.

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. 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

- Doors
- EF-1: Damage
- EF-2: Air Leakage
- EF-3: Voltage/Amperage
- RT-1 and RT-2: Condenser Coil
- RT-1: Coil
- RT-2: Evaporator Coil
- RT-3: No Heat



03-09-26 QT #0588 OMAHA, NE

Project Issue Information

Issue Name : Doors
Description : The front doors of the store are not well sealed. This may affect the accuracy of the building pressure readings. Noting for clarity and awareness.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : InfoOnly **Asset Tag :**
Originated Date : 03/11/2026 - Kalen Kemp - National TAB

Project Issue File Details



03/11/2026



03-09-26 QT #0588 OMAHA, NE

Project Issue Information

Issue Name : EF-1: Damage
Description : EF-1 was found off upon arrival. Drive belt is cracked and missing chunks out of it. The cover is also heavily damaged and being held on with zip ties. Recommend replacing drive belt and cover. Unit left turned off.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Urgent **Asset Tag :** EF1
Originated Date : 03/10/2026 - Kalen Kemp - National TAB

Project Issue File Details



03/10/2026



03/10/2026



03/10/2026



03-09-26 QT #0588 OMAHA, NE

Project Issue Information

Issue Name : EF-2: Air Leakage
Description : There is air leakage at the base of EF2. The inlet of the fan slightly overhangs the curb cap. This is affecting fan performance and efficiency. Recommend reworking curb or installing new curb cap to properly seal fan base.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : High **Asset Tag :** EF2
Originated Date : 03/10/2026 - Kalen Kemp - National TAB

Project Issue File Details



03/11/2026



03/11/2026



03/11/2026



03-09-26 QT #0588 OMAHA, NE

Project Issue Information

Issue Name : EF-3: Voltage/Amperage
Description : Could not safely access amperage/voltage measurements for EF-3. We do not anticipate any amperage issues based on fan speed set point and performance on similar fans. Noting for clarity and awareness.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : InfoOnly **Asset Tag :** EF3
Originated Date : 03/11/2026 - Kalen Kemp - National TAB

Project Issue File Details



03/11/2026



03-09-26 QT #0588 OMAHA, NE

Project Issue Information

Issue Name : RT-1 and RT-2: Condenser Coil
Description : The condenser coils for RT-1 and RT-2 are damaged. Recommend service.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : **Medium** **Asset Tag :**
Originated Date : 03/11/2026 - Kalen Kemp - National TAB

Project Issue File Details



03/11/2026



03/11/2026



03-09-26 QT #0588 OMAHA, NE

Project Issue Information

Issue Name : RT-1: Coil
Description : The evaporator coil for RT-1 has minor damage.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Low **Asset Tag :** RT-1
Originated Date : 03/10/2026 - Kalen Kemp - National TAB

Project Issue File Details



03/10/2026



03/10/2026

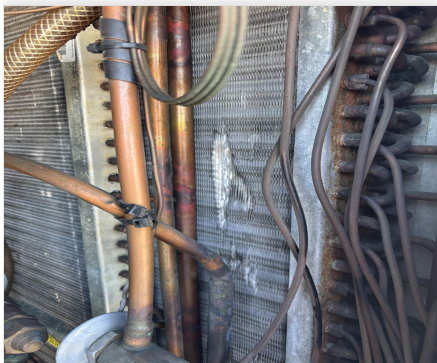


03-09-26 QT #0588 OMAHA, NE

Project Issue Information

Issue Name : RT-2: Evaporator Coil
Description : The evaporator coil is dirty on the filter side. There is also some damage on the fan side of this coil. This is affecting unit performance and efficiency. Recommend service.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Medium **Asset Tag :** RT-2
Originated Date : 03/10/2026 - Kalen Kemp - National TAB

Project Issue File Details



03/10/2026



03/10/2026



03/10/2026



03-09-26 QT #0588 OMAHA, NE

Project Issue Information

Issue Name : RT-3: No Heat
Description : RT-3 is not going into heating. The RTU is designed for 100% outside air. This is causing the RTU to dump cold air from the outside down into the space making it uncomfortable for workers and food to get cold quicker. Recommend service.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : High **Asset Tag :** RT-3
Originated Date : 03/11/2026 - Kalen Kemp - National TAB

Project Issue File Details



03/11/2026

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HOOD ON OA		HOOD OFF OA		HOOD ON EXHAUST		HOOD OFF EXHAUST	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU 1	RR/WORKROOM	400	431	400	431				
RTU-2	SALES	725	752	725	752				
RTU-3	BOH/KITCHEN	1350	1349	0	0				
EF-1	RESTROOMS					675	0	675	0
EF-2	KITCHEN HD					1350	1298	0	0
EF-3	COMBI OVEN					150	147	150	147
TOTALS		2475	2532	1125	1183	2175	1445	825	147

HOODS ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2475	2532
TOTAL EXHAUST	2175	1445
NET AIRFLOW	300	1087

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.0154
SIDE	0.0127
REAR	N/A
AVERAGE	0.0141

HOODS OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1125	1183
TOTAL EXHAUST	825	147
NET AIRFLOW	300	1036

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.0088
SIDE	0.0122
REAR	N/A
AVERAGE	0.0105

NOTES:

CheckList List

- 01: RTU's/AHU's
- 02: Exhaust Fans
- 03: Hoods
- 04: Final Tests



03-09-26 QT #0588 OMAHA, NE

CheckList Information

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

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 10/09/2025 - Trinity Dodds - National TAB

Completed Date : 03/11/2026 - Kalen Kemp - National TAB

CheckList Item Details

RTU's/AHU's

Evaporator coils are clean?	Fail
------------------------------------	------

Comment:

See punchlist

Condenser coils are clean?	Fail
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Comment:

See punchlist

Gas piping is installed and valves are turned on?	Pass
--	------

Comment:

Unit free of noticeable noise and vibration	Pass
--	------

Comment:



03-09-26 QT #0588 OMAHA, NE

CheckList Information

Name : 02: Exhaust Fans **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 10/09/2025 - Trinity Dodds - National TAB
Completed Date : 03/11/2026 - Kalen Kemp - National TAB

CheckList Item Details

EF's

Hinge kit installed installed on hood fan? Pass

Comment:

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

Comment:

No major leakage around the fan base Fail

Comment:

There is minor leakage at the base of the fan. Causing the fan speed to be set higher to achieve design airflow.

Unit is free of noise and vibration Pass

Comment:

Notes/Comments :

Restroom EF is heavily damaged. Recommend service.

Date :03/11/2026



03-09-26 QT #0588 OMAHA, NE

CheckList Information

Name : 03: Hoods **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 10/09/2025 - Trinity Dodds - National TAB
Completed Date : 03/11/2026 - Kalen Kemp - National TAB

CheckList Item Details

HOODS

Hood is free of alarms? Pass

Comment:

Hood is free of damage? Pass

Comment:

End panels are installed per prototype? Fail

Comment:

End panels could not be installed due to locations of kitchen equipment.



03-09-26 QT #0588 OMAHA, NE

CheckList Information

Name : 04: Final Tests **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 10/09/2025 - Trinity Dodds - National TAB

Completed Date : 03/24/2026 - Kalen Kemp - National TAB

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

Fyers (2), Pizza Oven (2)

List smoke candle type used

Comment:

NA, Smoke candle broke. Used paper to create smoke. Unable to test with RT-3 off.

Smoke test capture % - Perimeter of hood

Comment:

90% Smoke Capture (Lost smoke at back 2 feet on left side of hood above pizza ovens)

Smoke test capture % - Top of cooking surface

Comment:

100% Smoke Capture

WITNESS

Date test was completed

03/11/2026

Comment:

TAB tech name / Firm

Comment:

Kalen Kemp / National TAB

Site super name / Firm

Comment:

Sam Snyder / Snyder Construction; Kari Heinrich / QT Projects

Owner representative name / Firm (if Applicable)

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: 03-09-26 QT #0588 OMAHA, NE

System/Unit: AHU/RTU

Asset: RT-1

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	99JKGE312
Model Num	24275 RK-06-2-E0-221:00000AG0H0000B
Num OA Filters 1	1
OA Filter Size 1	28.5X
Num Final Filter 1	4
Final Filter Size 1	16X20X2"

Motor Data	
	Actual
Motor MFG	MARATHON
Frame	56HZ-70
Horsepower	1.0
Motor Rpm	1725
Phase	3
Rated Voltage	208-230/460
Rated Amperage	3.5-3.6/1.8

Drive Data	
	Actual
Motor Sheave Size	4.125"
Motor Bore Size	0.875"
Motor Sheave SetPt	2.5 TURNS OUT
Fan Sheave Size	5.25"
Fan Sheave Bore	1"
Belt CL Distance	17"
Num of Belts	1
Belt Size	B-44

Test Data		
	Design	Actual
SF CFM	2000	1984
SF RPM	-	1651
OA CFM (Hoods On)	400	431
OA CFM (Hoods Off)	400	431
RL Voltage	-	209/210/209
RL Amperage	-	3.13/3.09/3.17
VFD Max SetPt	-	N/A (BELT DRIVEN)
VFD Min SetPt	-	N/A (BELT DRIVEN)
OA Damper Position (Hoods On)	-	5" OPEN
OA Damper Position (Hoods Off)	-	5" OPEN

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.35"
Fan Suction SP	-	-0.58"
Fan Discharge SP	-	0.34"
Total ESP	-	0.69"
Fan Total SP	-	0.92"

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

Completed By: Kalen Kemp on 03/23/2026

Notes:

- DAMAGE TO COIL. RECOMMEND SERVICE
- MOTOR RPM: 1745

Written By: Kalen Kemp on 03/10/2026

Unit Data - PHOTO LOG



03/10/2026



03/10/2026



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Project: 03-09-26 QT #0588 OMAHA, NE

System/Unit: AHU/RTU

Asset: RT-2

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	99JKGK421
Model Num	RK-13-2-E0- 222:0000AG0H0000B
Num OA Filters 1	1
OA Filter Size 1	28.5X
Num Final Filter 1	6
Final Filter Size 1	16X20X2"

Motor Data	
	Actual
Motor MFG	MARATHON
Frame	56HZ-95
Horsepower	3.0
Motor Rpm	1725
Phase	3
Rated Voltage	200-230/460
Rated Amperage	9.5-9.2/4.6

Drive Data	
	Actual
Motor Sheave Size	4.125"
Motor Bore Size	0.875"
Motor Sheave SetPt	2.5 TURNS OUT
Fan Sheave Size	4.25"
Fan Sheave Bore	1"
Belt CL Distance	24.75"
Num of Belts	1
Belt Size	BX-58

Test Data		
	Design	Actual
SF CFM	4300	4012
SF RPM	-	1367
OA CFM (Hoods On)	725	752
OA CFM (Hoods Off)	725	752
RL Voltage	-	209/210/209
RL Amperage	-	6.95/7.01/6.90
VFD Max SetPt	-	N/A
VFD Min SetPt	-	N/A
OA Damper Position (Hoods On)	-	5.625" OPEN
OA Damper Position (Hoods Off)	-	5.625" OPEN

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.49"
Fan Suction SP	-	-1.04"
Fan Discharge SP	-	0.53"
Total ESP	-	1.02"
Fan Total SP	-	1.57"

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

Completed By: Kalen Kemp on 03/11/2026

Notes:

- DIRTY EVAPORATOR COIL. RECOMMEND CLEANING.
- DISCONNECT SWITCH IS BYPASSED.

Written By: Kalen Kemp on 03/10/2026

Unit Data - PHOTO LOG



03/10/2026



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Project: 03-09-26 QT #0588 OMAHA, NE

System/Unit: AHU/RTU

Asset: RT-3

AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	201403-ANGJ35011
Model Num	RN-010-8-0-FB09-3L9
Num OA Filters 1	1
OA Filter Size 1	17X26.5"
Num Final Filter 1	4
Final Filter Size 1	16X20X2"

Motor Data	
	Actual
Motor MFG	NA (DIRECT DRIVE)
Frame	NA
Horsepower	1.0
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	4.6

Test Data		
	Design	Actual
SF CFM	1350	1349
SF RPM	-	NA
OA CFM (Hoods On)	1350	1349
OA CFM (Hoods Off)	0	0
RL Voltage	-	207/208/207
RL Amperage	-	1.89
VFD Max SetPt	-	46.0 Hz
VFD Min SetPt	-	24.0 Hz
OA Damper Position (Hoods On)	-	100% OPEN
OA Damper Position (Hoods Off)	-	0% OPEN

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.07"
Fan Suction SP	-	-0.23"
Fan Discharge SP	-	0.18"
Total ESP	-	0.25"
Fan Total SP	-	0.41"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	NO
Condensate Drain Installed	YES

Completed By: Kalen Kemp on 03/11/2026

Notes:

- EMERSON DOES NOT CONTROL OA DAMPER POSITION. OA DAMPER POSITION SET MANUALLY. LEFT IN HOOD ON POSITION (100% OPEN)
- UNIT IS NOT ACTIVATING HEAT MODE. SET TO OFF ON EMERSON. RECOMMEND SERVICE.

Written By: Kalen Kemp on 03/11/2026



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Project:03-09-26 QT #0588 OMAHA, NE

AHU/RTU

Diffuser Supply (GRD)

RT-3/BOH/KITCHEN

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SERVICE AREA	RS	12"	675	1.0	752	689	689	102.1
SGRD2	SERVICE ARE	RS	12"	675	1.0	715	660	660	97.8
Total				1350		1467	1349	1349	99.93%

Completed By: Kalen Kemp on 03/11/2026



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Project: 03-09-26 QT #0588 OMAHA, NE

System/Unit: FAN - Exhaust

Asset: EF1

AREA:RESTROOMS

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	120C2B
Serial Num	-	009S5673320000007010999
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Test Data		
	Design	Actual
CFM	675	0

Motor Data		
	Design	Actual
Motor MFG	-	DAYTON
Frame	-	48
Horsepower	-	0.25
Motor Rpm	-	1725
Phase	-	1
Voltage (rated)	-	115/208-230
Amperage (rated)	-	4.7/2.3/2.2
Service Factor	-	1.35

Drive Data	
	Actual
Motor Sheave MFG	NL
Motor Sheave Size	3.875"
Motor Bore Size	0.875"
Motor Sheave SetPt	0 TURNS OUT
Fan Sheave MFG	MASKA
Fan Sheave Size	4"
Fan Sheave Bore	0.75"
Belt CL Distance	6"
Num of Belts	1
Belt MFG	NL
Belt Size	4L-240
Belt Tension (deflection)	N/A
Belt Alignment Verified	INCORRECT

Completed By: Kalen Kemp on 03/23/2026

- Notes:
- UNIT FOUND OFF UPON ARRIVAL.
 - FAN COVER IS HEAVILY DAMAGED. CONNECTED TO THE BASE WITH ZIP TIES.
 - DRIVE BELT IS WORN AND CRACKED. MISSING CHUNKS OUT OF IT.

Written By: Kalen Kemp on 03/10/2026



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Project: 03-09-26 QT #0588 OMAHA, NE

System/Unit: FAN - Exhaust

Asset: EF2

AREA: KITCHEN HD

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	7662102
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN (DD)
Frame	-	48
Horsepower	0.5	0.5
Motor Rpm	-	1800
Phase	1	1
Voltage (rated)	208	208
Amperage (rated)	-	3.8
Service Factor	-	NL

Test Data		
	Design	Actual
CFM	1350	1298
Fan RPM	-	1340
Fan Rotation	-	CCW
Motor RPM	-	1340
System SetPt	-	59.8 Hz
RL Voltage	-	207
RL Amperage	-	3.23
Total ESP	0.75"	1.01"
Fan Inlet SP	-	-1.01"
Fan Discharge SP	-	ATM

Completed By: Kalen Kemp on 03/10/2026

Notes:
-RPM DATA RETRIEVED FROM MOTOR SPEED CONTROLLER IN MOTOR COMPARTMENT.

Written By: Kalen Kemp on 03/10/2026

Unit Data - PHOTO LOG



03/10/2026



03/10/2026



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Project: 03-09-26 QT #0588 OMAHA, NE

System/Unit: Kitchen Hood Type I

Asset: HD1

AREA:GRIDDLE

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	6030ND-2-F	6030ND-2-F
Job / Serial Num	-	7662102
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	108"	108"
Hood Width	60"	60"

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO FILTER	CAPTRATE SOLO
Filter Size 1	20X16	20X16"
Filter Qty 1	6	6
Filter AK factor size 1	2.08	2.08
Filter Total AK Area	12.48	12.48
Filter1 FPM	-	105
Filter2 FPM	-	113
Filter3 FPM	-	111
Filter4 FPM	-	100
Filter5 FPM	-	97
Filter6 FPM	-	98
Filter Ave FPM(corr)	-	104
CFM	1350	1298

Cooking Equipment	
	Actual
Item 1	FRYER (2)
Item 2	PIZZA OVEN (2)

Completed By: Kalen Kemp on 03/10/2026



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Project: 03-09-26 QT #0588 OMAHA, NE

System/Unit: FAN - Exhaust

Asset: EF3

AREA:COMBI OVEN

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	SIFIODD-SS
Serial Num	-	7662102
Type	INLINE	INLINE
Configuration	VERTICAL	HORIZONTAL

Motor Data		
	Design	Actual
Motor MFG	-	NA (DD)
Frame	-	NA
Horsepower	0.3	0.25
Motor Rpm	-	1800
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	2.9
Service Factor	-	NA

Test Data		
	Design	Actual
CFM	150	147
Fan RPM	-	409
Fan Rotation	-	CORRECT
Motor RPM	-	409
System SetPt	-	32%
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	-	0.057"
Fan Inlet SP	-	-0.051"
Fan Discharge SP	-	0.006"

Completed By: Kalen Kemp on 03/23/2026

Notes:

- COULD NOT ACCESS MOTOR. MOTOR DATA RETRIEVED FROM UNIT TAG.
- COULD NOT SAFELY ACCESS VOLTAGE/AMPERAGE READING. WE DO NOT ANTICIPATE ANY AMPERAGE ISSUES BASED ON THE MOTOR SPEED SET POINT.

Written By: Kalen Kemp on 03/11/2026

Unit Data - PHOTO LOG



