

Report By:

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

NATIONAL

TAB

Comfort. Under control.

Report: PRELIM REPORT
Function: Test, Adjust, & Balance
Date: 05/01/2023

PROJECT

Boot Barn #435 (Florence, KY)

7856 Connector Dr

Florence, KY 41042

Client

Champion Commercial HVAC

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Project: Boot Barn #435 (Florence, KY)

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National TAB

Project: Boot Barn #435 (Florence, KY)
System/Unit: AHU/RTU



Comfort. Under control.

Asset: RTU-1

AREA:

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Serial Num	-	4411G50346
Model Num	NA	50TC-D14A2A5
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	17"X23"
Num PreFilter 1	-	4
PreFilter Size 1	-	20"X20"X2"

Test Data		
	Design	Actual
SF CFM	4375	5512
SF RPM	-	1670
RA CFM	3890	5025
OA CFM	485	487
RL Voltage	208	210/209/210.6
RL Amperage	-	6.60/7.02/6.94
OA Damper Position	-	7%

Motor Data		
	Design	Actual
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	-	3.7
Motor Rpm	-	1725
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	10.3
Service Factor	-	1.15

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.70"
Fan Suction SP	-	-1.24"
Fan Discharge SP	-	0.21"
Total ESP	-	1.94"
Fan Total SP	-	1.45"

Drive Data		
	Design	Actual
Motor Sheave Size	-	4.75"
Motor Bore Size	-	0.75"
Motor Sheave SetPt	-	5 TURNS OUT
Fan Sheave Size	-	7"
Fan Sheave Bore	-	0.9375"
Belt CL Distance	-	18"
Num of Belts	-	1
Belt Size	-	A49

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Notes: Motor pulley is fully minimized, not able to reduce CFM any further without a pulley change.

Date: 05/05/2023

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Project: Boot Barn #435 (Florence, KY)

AHU/RTU



Comfort. Under control.

Diffuser Supply (GRD)

RTU-1/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
1-1		A	19X19	3775		4909	130.0
1-2		C	20X4	300		308	102.7
1-3		C	20X4	300		295	98.3

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Project: Boot Barn #435 (Florence, KY)
System/Unit: AHU/RTU



Comfort. Under control.

Asset: RTU-2

AREA:RR

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Serial Num	-	3911G50425
Model Num	NA	50TC-D08A2A5
Configuration	-	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	17"X23"
Num PreFilter 1	-	4
PreFilter Size 1	-	20"X20"X2"

Test Data		
	Design	Actual
SF CFM	2625	2661
SF RPM	-	732
RA CFM	2140	2123
OA CFM	485	538
RL Voltage	208	210/209.9/211.4
RL Amperage	-	4.64/5.04/4.69
OA Damper Position	-	15%

Motor Data		
	Design	Actual
Motor MFG	-	MARATHON
Frame	-	56Y
Horsepower	-	2.9
Motor Rpm	-	1725
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	8.4
Service Factor	-	1.15

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.20"
Fan Suction SP	-	-0.65"
Fan Discharge SP	-	0.26"
Total ESP	-	0.85"
Fan Total SP	-	0.91"

Drive Data		
	Design	Actual
Motor Sheave Size	-	4.5"
Motor Bore Size	-	0.75"
Motor Sheave SetPt	-	5 TURNS OUT
Fan Sheave Size	-	8"
Fan Sheave Bore	-	0.9375"
Belt CL Distance	-	17.5"
Num of Belts	-	1
Belt Size	-	A52

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Project: Boot Barn #435 (Florence, KY)

AHU/RTU



Comfort. Under control.

Diffuser Supply (GRD)

RTU-2/RR

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
2-1	MAIN STORE	B	22"X8"	345	319	319	92.5
2-2	MANAGERS OFFICE	D	20"X20"	120	120	120	100.0
2-3	BACK ROOM	C	24"X12"	300	330	330	110.0
2-4	BACK ROOM	C	24"X12"	300	322	322	107.3
2-5	BACK ROOM	C	24"X12"	300	328	328	109.3
2-6	BACK HALL	G	12"X12"	80	87	87	108.8
2-7	BACK HALL	F	12"X12"	200	184	184	92.0
2-8	MAIN STORE	B	22"X8"	350	319	319	91.1
2-9	MAIN STORE	B	22"X8"	250	28	258	103.2
2-10	RR	EX	NA	50	50	50	100.0
2-11	RR	EX	NA	50	58	58	116.0
2-12	JANITOR	G	NA	90	97	97	107.8
2-13	EX	EX	12"X12"	210	189	189	90.0

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Project: Boot Barn #435 (Florence, KY)
System/Unit: AHU/RTU



Comfort. Under control.

Asset: RTU-3

AREA:

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Serial Num	-	4411G50347
Model Num	NA	50TC-D14A2A5
Configuration	-	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	17"X23"
Num PreFilter 1	-	4
PreFilter Size 1	-	20"X20"X2"

Test Data		
	Design	Actual
SF CFM	4375	4232
SF RPM	-	877
RA CFM	3890	3730
OA CFM	485	502
RL Voltage	208	206.8/208.5/208.7
RL Amperage	-	7.69/8.06/7.09
OA Damper Position	-	5%

Motor Data		
	Design	Actual
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	-	3.7
Motor Rpm	-	1725
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	10.3
Service Factor	-	1.15

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.83"
Fan Suction SP	-	-0.28"
Fan Discharge SP	-	0.17"
Total ESP	-	1.11"
Fan Total SP	-	0.45"

Drive Data		
	Design	Actual
Motor Sheave Size	-	4"
Motor Bore Size	-	0.75"
Motor Sheave SetPt	-	5 TURNS OUT
Fan Sheave Size	-	7"
Fan Sheave Bore	-	0.9375"
Belt CL Distance	-	17"
Num of Belts	-	1
Belt Size	-	A49

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Project: Boot Barn #435 (Florence, KY)

AHU/RTU



Comfort. Under control.

Diffuser Supply (GRD)

RTU-3/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3-1		A	19X19	4375	4232	4232	96.7

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Project: Boot Barn #435 (Florence, KY)
 System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF-1

AREA:RR

Unit Data		
	Design	Actual
MFG	NA	BROAN
Model Num	NA	EXISTING
Type	NA	CEILING

Test Data		
	Design	Actual
CFM	70	33

Motor Data		
	Design	Actual

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Project: Boot Barn #435 (Florence, KY)
 System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF-2

AREA:RR

Unit Data		
	Design	Actual
MFG	NA	BROAN
Model Num	NA	EXISTING
Serial Num	-	NA
Type	-	CEILING

Test Data		
	Design	Actual
CFM	70	31

Motor Data		
	Design	Actual

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Project: Boot Barn #435 (Florence, KY)
System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF-3

AREA: JANITOR

Unit Data		
	Design	Actual
MFG	NA	BROAN
Model Num	NA	(EXISTING
Type	NA	CEILING

Test Data		
	Design	Actual
CFM	30	36

Motor Data		
	Design	Actual

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