

Report By:

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



Report: PRELIMINARY TAB REPORT

Function: Test, Adjust, & Balance

Date: 10/17/2024

Completed By: National TAB

PROJECT

10-14-24 ULTA 1697 SELMA, NC

Eastfield Crossing

Selma , NC 27576

Client

Rectenwald Brothers Construction

National TAB

Project: 10-14-24 ULTA 1697 SELMA, NC

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Issue List

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- RTU-3 missing damper on supply diffuser SGRD2 & 7
- RTU-4 outside filters not properly installed

10-14-24 ULTA 1697 SELMA, NC

Project Issue Information

Issue Name : EF-1 not installed
Description : EF-1 is not installed. Unable to balance the fan. It should be installed on 10/18.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Urgent **Asset Tag :** EF1
Originated Date : 10/14/2024 - Jearod Ferrette - National TAB

Project Issue File Details



10/17/2024



10-14-24 ULTA 1697 SELMA, NC

Project Issue Information

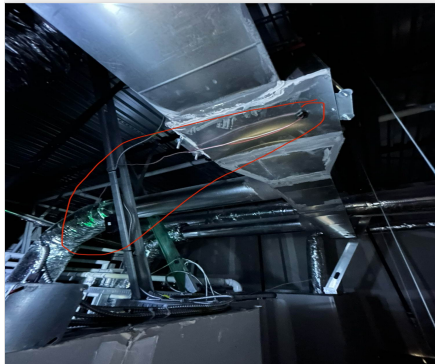
Issue Name : EF-2 Dampers not installed
Description : EF-2 dampers are not installed. However the airflows are proportional so they likely will not be required.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Low **Asset Tag :** EF2
Originated Date : 10/17/2024 - Will Turnbough - National TAB

10-14-24 ULTA 1697 SELMA, NC

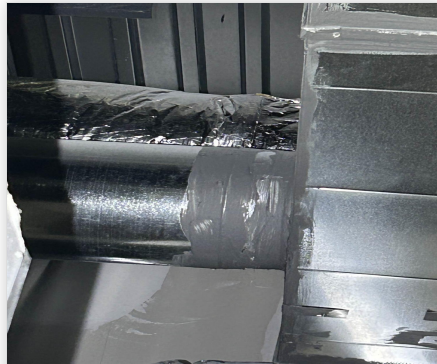
Project Issue Information

Issue Name : EF-2 Restroom fan unable to access
Description : EF-2 speed controller is located above hard ceiling and is inaccessible. Unable to reach from other side with ladder due to piping obstructing access. The unit is running at 117% of design.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : High **Asset Tag :**
Originated Date : 10/14/2024 - Jearod Ferrette - National TAB

Project Issue File Details



10/14/2024



10/14/2024

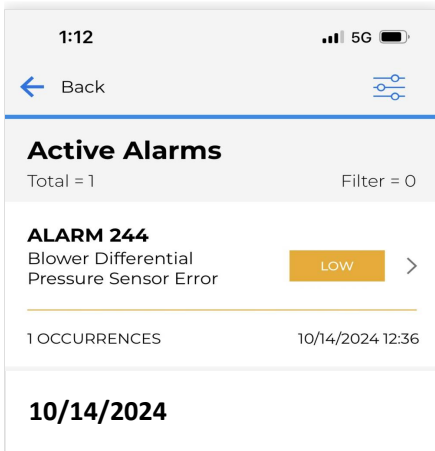


10-14-24 ULTA 1697 SELMA, NC

Project Issue Information

Issue Name : RTU -4 airflow is 149% of design
Description : RTU-4 airflow is 149% of design. Unable to slow unit down with the CORE controller. There is an alarm code 244 (Blower differential pressure sensor error) that appears to be preventing speed adjustment.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : High **Asset Tag :** RTU4
Originated Date : 10/14/2024 - Jearod Ferrette - National TAB

Project Issue File Details



10-14-24 ULTA 1697 SELMA, NC

Project Issue Information

Issue Name : RTU-1 airflow is 84% of design
Description : RTU-1 airflow is 84% of design. The pulley cannot be increased further without the belt sitting too high up on the pulley. A pulley change is recommended.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : High **Asset Tag :** RTU1
Originated Date : 10/15/2024 - Jearod Ferrette - National TAB

Project Issue File Details



10/15/2024

10-14-24 ULTA 1697 SELMA, NC

Project Issue Information

Issue Name : RTU-2 airflow is 72% of design
Description : RTU-2 airflow is 72% of design (3435 CFM at diffusers) with motor at FLA. The duct is installed as 24"x18" inner dimensions but plans show 30"x20". Duct traversed as 3819 CFM. Velocity is 1273 FPM which is high. There is also an additional 90 degree transition installed. A larger motor would be required to achieve design.

Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein

Status : Open

Priority : Urgent **Asset Tag :** RTU2

Originated Date : 10/15/2024 - Jearod Ferrette - National TAB

Project Issue File Details



10/17/2024



10/17/2024



10/15/2024

10-14-24 ULTA 1697 SELMA, NC

Project Issue Information

Issue Name : RTU-2 diffuser 24 damper is closed
Description : Damper for diffuser 24 is closed and not accessible. There is a shelf that is directly underneath the damper. Damper is also installed on the top of the duct. It needs to be opened and a face accessible opposed blade damper is recommended in case further balancing is required.

Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein

Status : Open

Priority : Low **Asset Tag :** RTU2

Originated Date : 10/15/2024 - Jearod Ferrette - National TAB

Project Issue File Details



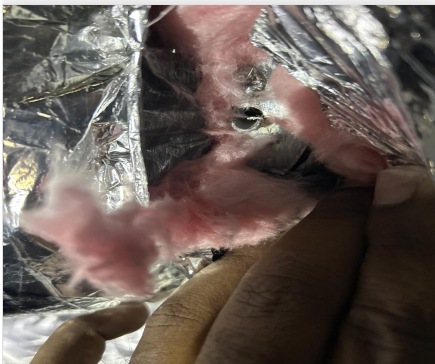
10/15/2024

10-14-24 ULTA 1697 SELMA, NC

Project Issue Information

Issue Name : RTU-3 missing damper on supply diffuser SGRD2 & 7
Description : Missing supply damper on RTU-3 SGRD 2 & SGRD 7. Needs to be installed to complete balancing.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : High **Asset Tag :** RTU3
Originated Date : 10/15/2024 - Jearod Ferrette - National TAB

Project Issue File Details



10/15/2024

10-14-24 ULTA 1697 SELMA, NC

Project Issue Information

Issue Name : RTU-4 outside filters not properly installed
Description : RTU 4 outside filters are not properly installed. Being held by tape.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Medium **Asset Tag :** RTU4
Originated Date : 10/14/2024 - Jearod Ferrette - National TAB

Project Issue File Details



10/14/2024



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Project: 10-14-24 ULTA 1697 SELMA, NC

System/Unit: AHU/RTU



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Asset: RTU1

AREA:

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5622J03502
Model Num	LGM156U4E	LGM156U4E
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	3
OA Filter Size 1	-	14X23
Num Final Filter 1	-	6
Final Filter Size 1	-	24X24X2

Motor Data		
	Design	Actual
Motor MFG	-	INTERLINK
Frame	-	56HZ
Horsepower	3HP	3HP
Motor Rpm	1750	1750
Phase	3	3
Rated Voltage	460V	460V
Rated Amperage	4A	4A

Drive Data	
	Actual
Motor Sheave Size	3-5/8
Motor Bore Size	7/8
Motor Sheave SetPt	2 TURNS OUT
Fan Sheave Size	BK95
Fan Sheave Bore	1-1/8
Belt CL Distance	21-1/4
Num of Belts	1
Belt Size	BX59
Belt Alignment	YES

Test Data		
	Design	Actual
SF CFM	4500	3843
SF RPM	-	664
RA CFM	3600	2970
OA CFM	900	873
RL Voltage	-	474/475/477
RL Amperage	-	3.41 @ VFD
SF Rotation	-	CCW
RA Damper Position	-	62%
Min OA Damper Position	-	38%
Min OA Damper Type	-	ECON
OA Enthalpy Setpt	-	5

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.42"
Fan Suction SP	-	-0.66"
Fan Discharge SP	-	0.30"
Total ESP	1.00	0.72"
Fan Total SP	-	0.96"

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

Completed By: Jearod Ferrette on 10/16/2024

Notes:

THIS UNIT IS RUNNING AT 3.4 AMPS AT 2 TURNS OUT ON THE PULLEY. CANNOT INCREASE SPEED FURTHER WITHOUT BELT SITTING TOO HIGH ON THE PULLEY. PULLEY CHANGE IS REQUIRED

Written By: Will Turnbough on 10/17/2024

Unit Data - PHOTO LOG



10/16/2024



10/16/2024



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Project:10-14-24 ULTA 1697 SELMA, NC

AHU/RTU



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Diffuser Supply (GRD)

RTU1/

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	VESTIBLE	SD-1	12"	350	1	352	352	352	100.6
SGRD2	VESTIBLE	SD-1	12"	370	1	390	390	390	105.4
SGRD3	VESTIBLE	SD-1	12"	350	1	181	181	181	51.7
SGRD4	VESTIBLE	SD-1	12"	365	1	349	349	349	95.6
SGRD5	VESTIBLE	SD-1	12"	365	1	361	361	361	98.9
SGRD6	VESTIBLE	SD-1	12"	350	1	328	328	328	93.7
SGRD7	VESTIBLE	SD-1	12"	350	1	321	321	321	91.7
SGRD8	VESTIBLE	SD-1	12"	200	1	57	57	57	28.5
SGRD9	VESTIBLE	SD-1	12"	365	1	185	185	185	50.7
SGRD10	VESTIBLE	SD-1	12"	365	1	345	345	345	94.5
SGRD11	VESTIBLE	SD-1	12"	350	1	343	343	343	98.0
SGRD12	VESTIBLE	SD-1	12"	350	1	329	329	329	94.0
SGRD13	VESTIBLE	SD-1	12"	370	1	312	312	312	84.3
Total				4500		3853	3853	3853	85.62%



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Project: 10-14-24 ULTA 1697 SELMA, NC

System/Unit: AHU/RTU



Asset: RTU2

AREA:

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5622K03089
Model Num	LGM156U4M	LGM156U4M
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	3
OA Filter Size 1	-	14X23
Num Final Filter 1	-	6
Final Filter Size 1	-	24X24X2

Motor Data		
	Design	Actual
Motor MFG	-	INTERLINK
Frame	-	56HZ
Horsepower	3HP	3HP
Motor Rpm	1750	1750
Phase	3	3
Rated Voltage	460V	460V
Rated Amperage	4A	4A

Drive Data	
	Actual
Motor Sheave Size	3-5/8
Motor Bore Size	7/8
Motor Sheave SetPt	3 TURNS OUT
Fan Sheave Size	BK72
Fan Sheave Bore	1-1/8
Belt CL Distance	21-1/4
Num of Belts	1
Belt Size	BX55
Belt Alignment	YES

Test Data		
	Design	Actual
SF CFM	4800	3435
SF RPM	-	736
RA CFM	3745	2347
OA CFM	1055	1088
RL Voltage	-	476/477/476
RL Amperage	-	4.2 @ VFD
SF Rotation	-	CCW
RA Damper Position	-	70%
Min OA Damper Position	-	30%
Min OA Damper Type	-	ECON
OA Enthalpy Setpt	-	5

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.44"
Fan Suction SP	-	-0.71"
Fan Discharge SP	-	0.30"
Total ESP	1.00"	0.74"
Fan Total SP	-	1.01"

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

Completed By: Jearod Ferrette on 10/16/2024

Notes:

DUCT IS INSTALLED AS SMALLER THAN DESIGNED AND AN ADDITIONAL 90 DEGREE ELBOW IS INSTALLED.

Written By: Will Turnbough on 10/17/2024



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Project:10-14-24 ULTA 1697 SELMA, NC

AHU/RTU



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Diffuser Supply (GRD)

RTU2/

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SALES	SD1	8"	200	1	140	140	140	70.0
SGRD2	SALES	SD1	8"	200	1	144	144	144	72.0
SGRD3	SALES	SD1	8"	200	1	145	145	145	72.5
SGRD4	SALES	SD1	8"	200	1	129	129	129	64.5
SGRD5	SALES	SD1	8"	200	1	156	156	156	78.0
SGRD6	SALES	SD1	8"	200	1	134	134	134	67.0
SGRD7	SALES	SD1	8"	200	1	141	141	141	70.5
SGRD8	SALES	SD1	8"	200	1	159	159	159	79.5
SGRD9	SALES	SD1	8"	200	1	103	103	103	51.5
SGRD10	SALES	SD1	8"	200	1	176	176	176	88.0
SGRD11	SALES	SD1	8"	200	1	147	147	147	73.5
SGRD12	SALES	SD1	8"	200	1	146	146	146	73.0
SGRD13	SALES	SD1	8"	200	1	146	146	146	73.0
SGRD14	SALES	SD1	8"	200	1	158	158	158	79.0
SGRD15	SALES	SD1	8"	200	1	146	146	146	73.0
SGRD16	SALES	SD1	8"	200	1	139	139	139	69.5
SGRD17	SALES	SD1	8"	200	1	157	157	157	78.5
SGRD18	SALES	SD1	8"	200	1	160	160	160	80.0
SGRD19	SALES	SD1	8"	200	1	166	166	166	83.0
SGRD20	SALES	SD1	8"	200	1	165	165	165	82.5
SGRD21	SALES	SD1	8"	200	1	149	149	149	74.5
SGRD22	SALES	SD1	8"	200	1	154	154	154	77.0
SGRD23	SALES	SD1	8"	200	1	142	142	142	71.0
SGRD24	SALES	SD1	8"	200	1	33	33	33	16.5
Total				4800		3435	3435	3435	71.56%



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Project: 10-14-24 ULTA 1697 SELMA, NC
System/Unit: AHU/RTU



Asset: RTU3

AREA:

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5622J06858
Model Num	LGM120U4E	LGM120U4E
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	14X23
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	Actual
Motor MFG	-	NL
Frame	-	NL
Horsepower	3.75HP	3.75HP
Motor Rpm	NL	NL
Phase	3	3
Rated Voltage	460V	460V
Rated Amperage	NL	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
Belt Alignment	DD

Test Data		
	Design	Actual
SF CFM	3200	3241
SF RPM	-	2940
RA CFM	2375	2347
OA CFM	825	901
RL Voltage	-	478/477/477
RL Amperage	-	1.1/1.3/1.2
SF Rotation	-	CCW
RA Damper Position	-	71%
Min OA Damper Position	-	29%
Min OA Damper Type	-	ECON
OA Enthalpy Setpt	-	5

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.11"
Fan Suction SP	-	-0.67"
Fan Discharge SP	-	0.53"
Total ESP	1.00"	0.64"
Fan Total SP	-	1.2"

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

Completed By: Jearod Ferrette on 10/16/2024

Notes:
RTU-3 SUPPLY DIFFUSERS ARE MISSING DAMPERS ON SGRD 3 AND SGRD 7.

Written By: Will Turnbough on 10/17/2024



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Project:10-14-24 ULTA 1697 SELMA, NC

AHU/RTU



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Diffuser Supply (GRD)

RTU3/

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SALES	SD1	10"	275	1	362	333	273	99.3
SGRD2	SALES	SD1	10"	275	1	412	372	393	142.9
SGRD3	SALES	SD1	10"	275	1	343	315	244	88.7
SGRD4	SALON	SD1	10"	350	1	321	287	308	88.0
SGRD5	SALON	SD1	10"	350	1	306	277	293	83.7
SGRD6	SALES	SD1	10"	275	1	285	257	273	99.3
SGRD7	SALES	SD1	10"	275	1	371	340	348	126.5
SGRD8	SALES	SD1	10"	275	1	360	332	346	125.8
SGRD9	RR	SD1	6"	75	1	81	81	88	117.3
SGRD10	CORRIDOR	SD1	8"	100	1	183	168	172	172.0
SGRD11	RR	SD1	6"	75	1	101	92	92	122.7
SGRD12	CLOSET	SD1	12"	600	1	426	392	411	68.5
Total				3200		3551	3246	3241	101.28%



National TAB

Project: 10-14-24 ULTA 1697 SELMA, NC

System/Unit: AHU/RTU



Asset: RTU4

AREA:

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5623C07665
Model Num	LGM048U4E	LGM048U4E
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	14.5x28
Num Final Filter 1	-	4
Final Filter Size 1	-	20X20X2

Motor Data		
	Design	Actual
Motor MFG	-	NL
Frame	-	NL
Horsepower	1.5	1.5
Motor Rpm	NL	NL
Phase	3	3
Rated Voltage	460	460
Rated Amperage	2.3	2.3

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
Belt Alignment	DD

Test Data		
	Design	Actual
SF CFM	1200	1796
SF RPM	-	2243
RA CFM	1000	1536
OA CFM	200	260
RL Voltage	-	478/476/477
RL Amperage	-	1.21/1.41/1.23
SF Rotation	-	CCW
RA Damper Position	-	66%
Min OA Damper Position	-	34%
Min OA Damper Type	-	ECON
OA Enthalpy Setpt	-	5

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.32"
Fan Suction SP	-	-0.42"
Fan Discharge SP	-	0.52"
Total ESP	1.00"	0.84"
Fan Total SP	-	0.94"

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

Completed By: Jearod Ferrette on 10/16/2024

Notes:
RTU-4 IN ALARM CODE 244 (BLOWER DIFFERENTIAL PRESURE SENSOR ERROR) UNABLE TO SLOW UNIT DOWN.

Written By: Will Turnbough on 10/17/2024



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Project:10-14-24 ULTA 1697 SELMA, NC

AHU/RTU



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Diffuser Supply (GRD)

RTU4/

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SALON	SD1	10"	250	1	369	369	405	162.0
SGRD2	SALON	SD1	10"	250	1	372	372	416	166.4
SGRD3	SALON	SD2	8"	200	1	207	207	206	103.0
SGRD4	SALON	SD1	10"	250	1	509	509	368	147.2
SGRD5	SALON	SD1	10"	250	1	366	366	401	160.4
Total				1200		1823	1823	1796	149.67%



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Project: 10-14-24 ULTA 1697 SELMA, NC
 System/Unit: FAN - Exhaust



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Asset: EF1

AREA:

Unit Data		
	Design	Actual
MFG	LOREN COOK	LOREN COOK
Model Num	150ACEB	150ACEB
Serial Num	-	
Type	ROOF	
Configuration	VERTICAL	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	1	
Voltage (rated)	120	
Amperage (rated)	-	
Service Factor	-	

Drive Data	
	Actual
Motor Sheave Size	
Motor Bore Size	
Motor Sheave SetPt	
Fan Sheave Size	
Fan Sheave Bore	
Belt CL Distance	
Num of Belts	
Belt Size	

Test Data		
	Design	Actual
CFM	1750	
Fan RPM	-	
Fan Rotation	-	
Motor RPM	-	
RL Voltage	-	
RL Amperage	-	
Suction ESP	-	
Discharge ESP	-	
Total ESP	0.50"	



National TAB

Project: 10-14-24 ULTA 1697 SELMA, NC
System/Unit: FAN - Exhaust



Asset: EF2

AREA:

Unit Data		
	Design	Actual
MFG	LOREN COOK	LOREN COOK
Model Num	GNVF-500	GNVF-500
Serial Num	-	NL
Type	INLINE	INLINE
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	NL
Frame	-	NL
Horsepower	NL	NL
Motor Rpm	NL	NL
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	NL
Service Factor	-	NL

Test Data		
	Design	Actual
CFM	300	351
Fan RPM	-	
Fan Rotation	-	CCW
Motor RPM	-	
System SetPt	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.50"	
Fan Inlet SP	-	
Fan Discharge SP	-	Atmosphere

Notes:

NO ACCESS TO EF-2 CONTROLS TO SLOW UNIT DOWN. DAMPERS ARE NOT INSTALL. FAN IS 117% TOTAL AIRFLOW OF DESIGN. THE FAN CAN BE BALANCED TO DESIGN ONCE AN ACCESSILBE SPEED CONTROLLER IS INSTALLED.

Written By: Jearod Ferrette on 10/16/2024



National TAB

Project:10-14-24 ULTA 1697 SELMA, NC

FAN - Exhaust



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Diffuser Ret/Exh (GRD)

EF2/

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD1	RR	EAG1	10X10	150	1.0	178	178	178	118.7
EGRD2	RR	EAG1	10X10	150	1.0	173	173	173	115.3
Total				300		351	351	351	117%

STAGING
103

SALES
101

B8
COAT CLOSET
106
WASHER/
DRYER
107
1
M-2
RESTROOM 2
108
RESTROOM 1
109
B7
CORRIDOR
110

