

Report By:

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



Report: Prelim Report
Function: Test, Adjust, & Balance
Date: 06/11/2025
Completed By: National TAB

PROJECT

06-09-26 CULVERS WEST CARROLLTON, OH

1100 Dixie Drive

West Carrollton, OH 45449

Client

Captive-Aire Region #60

National TAB

Project: 06-09-26 CULVERS WEST CARROLLTON, OH

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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)

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.

Kitchen Exhaust Hood & Associated Fans

Each 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.

General Exhaust Fans

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.

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 of $-0.02''$ wc to $+0.02''$ wc 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.

CheckList List

- STEP 5: FINAL DOCUMENTATION
- STEP 1: INITIAL SITE WALK THROUGH
- STEP 3: TEST, ADJUST AND BALANCE
- STEP 4: FINAL TESTS
- STEP 2: UNIT DATA AND EVAL



06-09-26 CULVERS WEST CARROLLTON, OH

CheckList Information

Name : STEP 5: FINAL DOCUMENTATION **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 06/06/2025 - Tara Metcalf - National TAB
Completed Date : 06/11/2025 - Jordan Best - National TAB

CheckList Item Details

FINAL DOCUMENTATION

Marked Data capture complete for all assets? Yes

Comment:

Picture file sent to processing team or uploaded? Yes

Comment:

Balance schedule complete and uploaded? Yes

Comment:

Prelim report generated and reviewed? Yes

Comment:



06-09-26 CULVERS WEST CARROLLTON, OH

CheckList Information

Name : STEP 1: INITIAL SITE WALK THROUGH **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 06/06/2025 - Tara Metcalf - National TAB
Completed Date : 06/11/2025 - Jordan Best - National TAB

CheckList Item Details

INITIAL SITE WALKTHROUGH

All diffusers and grilles are installed and match design? Yes

Comment:

All hood filters installed and accounted for? Yes

Comment:

Hoods are wired and have power? Yes

Comment:

Hood is free of alarms? Yes

Comment:

Thermostats have power? Yes

Comment:

Have trades/general contractor been notified about any issues and are they created on FaciliBuild?

Comment:

YES



06-09-26 CULVERS WEST CARROLLTON, OH

CheckList Information

Name : STEP 3: TEST, ADJUST AND BALANCE **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 06/06/2025 - Tara Metcalf - National TAB

Completed Date : 06/11/2025 - Jordan Best - National TAB

CheckList Item Details

TEST, ADJUST, AND BALANCE ALL EQUIPMENT:

DURING TESTING MAKE NOTE OF THE FOLLOWING:

Is space free of drafting? Yes

Comment:

Is space comfortable in all areas? Yes

Comment:

Is the space free of ventilation noise? Yes

Comment:

If deviations from design were necessary to resolve 1-3 what were they? Otherwise put "NA".

Comment:

NA



06-09-26 CULVERS WEST CARROLLTON, OH

CheckList Information

Name : STEP 4: FINAL TESTS **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 06/06/2025 - Tara Metcalf - National TAB

Completed Date : 06/11/2025 - Jordan Best - National TAB

CheckList Item Details

FINAL TESTS

HOOD CAPTURE TEST

List equipment turned on for testing

Comment:

NONE

List smoke candle type used

Comment:

S-102 45 SEC

Smoke test capture - Perimeter of hood

Comment:

100%

Smoke test capture - Top of cooking surface

Comment:

100%

WITNESS

Date test was completed

06/10/2025

Comment:

TAB tech name / Firm

Comment:

Corey Dick & Jordan Best / National TAB

Site super name / Firm

Comment:

Adam Pick / Mcon Construction

Owner representative name / Firm (if Applicable)

Comment:

NA

Building pressure at front & back doors (All Systems On)

Comment:

-0.0013" -0.0013"

ADDITIONAL

Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative)

Comment:

YES

Thermostats are programmed?

Yes

Comment:



06-09-26 CULVERS WEST CARROLLTON, OH

CheckList Information

Name : STEP 2: UNIT DATA AND EVAL **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 06/06/2025 - Tara Metcalf - National TAB

Completed Date : 06/11/2025 - Jordan Best - National TAB

CheckList Item Details

UNIT DATA AND EVALUATION WHILE GATHERING UNIT DATA CHECK THE FOLLOWING:

RTU's/AHU's

Economizers are assembled and functional? Yes

Comment:

DCV Max damper opening position is set to minimum? Yes

Comment:

Free cooling enthalpy set point set for lowest setting (Typically "D") Yes

Comment:

Motors are all operating below the FLA rating? Yes

Comment:

Are belts tight?

Comment:

NA

If direct drive unit is the speed controller working.

For restroom fan(s) is the back draft damper installed and can it fully open? Yes

Comment:

Unit free of noticeable noise and vibration? Yes

Comment:

MUA

Rotation is correct? N/A

Comment:

Gas piping is installed and valves are in on position? N/A

Comment:

Heater tested and is functional? N/A

Comment:

Internal motorized damper is fully opening? N/A

Comment:

Motor is operating below the FLA rating? N/A

Comment:

Unit free of noticeable noise and vibration? N/A

Comment:

HOODS

Kitchen equipment installed in proper places? Yes

Comment:

Can kitchen equipment be turned on for final smoke test? No

Comment:

DOCUMENTATION

Have trades/general contractor been notified about any issues and are they created on FaciliBuild?

Yes

Comment:

Issue List

- Gap in Filter Bank Hoods 1 and 2
- RTU-2 Diffuser 1



06-09-26 CULVERS WEST CARROLLTON, OH

Project Issue Information

Issue Name : Gap in Filter Bank Hoods 1 and 2
Description : Hoods 1 and 2 have a small opening on either end of the filter bank when all filters are installed. Recommend securing a piece of metal (similar to what hood is constructed from) over the gap to ensure unit functions as designed. Gap was taped over during testing.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : High **Asset Tag :**
Originated Date : 06/10/2025 - Jordan Best - National TAB

Project Issue File Details



06/10/2025



06-09-26 CULVERS WEST CARROLLTON, OH

Project Issue Information

Issue Name : RTU-2 Diffuser 1
Description : Diffuser 1 for RTU-2 is below design due to the flex being kinked. In order to reach the specified spot in the ceiling grid, the flex had to be pulled through small spaces in between trusses. This is pinching and linking the flex and reducing the amount of air that exits the diffuser.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : High **Asset Tag :**
Originated Date : 06/10/2025 - Jordan Best - National TAB

Project Issue File Details



National TAB

Project: 06-09-26 CULVERS WEST CARROLLTON, OH

System/Unit: AHU/RTU



Asset: RTU1

AREA: DINING

Unit Data		
	Design	Actual
MFG	LENNOX	CAPTIVE-AIRE
Serial Num	-	7272747
Model Num	ENLIGHT	CAS-HVAC3-1.300-24-20T
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	4
OA Filter Size 1	-	16"X25"X2"
Num Final Filter 1	-	8
Final Filter Size 1	-	20"X25"X2"

Motor Data		
	Design	Actual
Motor MFG	-	TECO WESTINGHOUSE
Frame	-	215T
Horsepower	-	10
Motor Rpm	-	1755
Phase	3	3
Rated Voltage	208	230
Rated Amperage	-	24.3

Test Data		
	Design	Actual
SF CFM	6150	6262
SF RPM	-	1638
RA CFM	4400	4530
OA CFM	1750	1732
RL Voltage	-	184 VFD
RL Amperage	-	24.1 VFD
SF Rotation	-	CCW
SF System SetPt	-	56 HZ
Min OA Damper Position	-	4.3 VDC
Min OA Damper Type	-	MOTORIZED
OA Enthalpy Setpt	-	DEFAULT

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.50" HMI
Fan Discharge SP	-	0.51" HMI

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

Completed By: Jordan Best on 06/11/2025

Unit Data - PHOTO LOG



06/10/2025

National TAB

Project:06-09-26 CULVERS WEST CARROLLTON, OH

AHU/RTU



Diffuser Supply (GRD)

RTU1/DINING

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	ENTRY	SD3	8"	150	1	138	149	163	108.7
SGRD2	DINING	SD1	8"	150	1	102	185	151	100.7
SGRD3	DINING	SD1	8"	150	1	156	119	164	109.3
SGRD4	DINING	SD1	8"	150	1	129	141	156	104.0
SGRD5	DINING	SD1	8"	150	1	143	149	146	97.3
SGRD6	DINING	SD1	8"	150	1	150	185	165	110.0
SGRD7	DINING	SD1	8"	150	1	149	168	163	108.7
SGRD8	DINING	SD1	8"	150	1	174	193	164	109.3
SGRD9	DINING	SD1	8"	150	1	95	112	139	92.7
SGRD10	DINING	SD1	8"	150	1	161	185	140	93.3
SGRD11	DINING	SD1	8"	150	1	159	184	151	100.7
SGRD12	DINING	SD1	8"	150	1	183	133	162	108.0
SGRD13	DINING	SD1	8"	150	1	133	207	147	98.0
SGRD14	DINING	SD1	8"	150	1	145	190	138	92.0
SGRD15	DINING	SD1	8"	150	1	167	188	140	93.3
SGRD16	DRINKS	SD1	8"	300	1	323	371	329	109.7
SGRD17	ENRY	SD1	8"	150	1	200	238	163	108.7
SGRD18	DINING	SD1	8"	500	1	373	452	485	97.0
SGRD19	DINING	SD1	12"	200	1	223	253	218	109.0
SGRD20	CUST ORDER AREA	SD1	12"	450	1	418	426	447	99.3
SGRD21	CUST SERV	SD1	10"	350	1	266	264	351	100.3
SGRD22	CUST SERV	SD1	10"	350	1	53	311	335	95.7
SGRD23	CUST SERV	SD1	10"	350	1	200	259	325	92.9
SGRD24	CUST SERV	SD1	10"	350	1	225	266	341	97.4
SGRD25	DINING	SD1	8"	150	1	194	219	164	109.3
SGRD26	DINING	SD1	12"	450	1	322	349	489	108.7
SGRD27	DINING	SD4	8"	150	1	177	204	164	109.3
SGRD28	DINING	SD4	8"	150		225	231	162	108.0
Total				6150		5383	6331	6262	101.82%

Completed By: Jordan Best on 06/10/2025

National TAB

Project: 06-09-26 CULVERS WEST CARROLLTON, OH

System/Unit: AHU/RTU



Asset: RTU2

AREA:KITCHEN

Unit Data		
	Design	Actual
MFG	LENNOX	CAPTIVE-AIRE
Serial Num	-	7272747
Model Num	ENLIGHT	CAS-HVAC3-1.250-24-20T
Type	RTU	RTU
Configuration	VERTIC AL	VERTICAL
Num OA Filters 1	-	4
OA Filter Size 1	-	16"X25"X2"
Num Final Filter 1	-	8
Final Filter Size 1	-	20"X25"X2"

Test Data		
	Design	Actual
SF CFM	6150	6046
SF RPM	-	1608
RA CFM	4450	4357
OA CFM	1700	1689
RL Voltage	-	170 VFD
RL Amperage	-	24.2 VFD
SF Rotation	-	CCW
SF System SetPt	-	55 HZ
Min OA Damper Position	-	4.1 VDC
Min OA Damper Type	-	MOTORIZED
OA Enthalpy Setpt	-	DEFAULT

Motor Data		
	Design	Actual
Motor MFG	-	TECO WESTINGHOUSE
Frame	-	215T
Horsepower	-	10
Motor Rpm	-	1755
Phase	3	3
Rated Voltage	208	230
Rated Amperage	-	24.3

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.4"
Fan Discharge SP	-	0.31"

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

Completed By: Jordan Best on 06/11/2025

Unit Data - PHOTO LOG



06/10/2025

National TAB

Project:06-09-26 CULVERS WEST CARROLLTON, OH

AHU/RTU



Diffuser Supply (GRD)

RTU2/KITCHEN

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SUNDAE SERV	SD1	12"	600	1	216	289	444	74.0
SGRD2	SUNDAE SERV	SD1	12"	600	1	283	400	619	103.2
SGRD3	KITCHEN	SD5	8"	200	1	184	235	216	108.0
SGRD4	KITCHEN	SD5	12"	375	1	315	390	379	101.1
SGRD5	KITCHEN	SD5	12"	400	1	484	704	396	99.0
SGRD6	KITCHEN	SD5	12"	400	1	263	374	439	109.8
SGRD7	KITCHEN	SD5	10"	250	1	184	258	249	99.6
SGRD8	KITCHEN	SD5	10"	275	1	253	401	277	100.7
SGRD9	KITCHEN	SD5	8"	125	1	158	204	135	108.0
SGRD10	KITCHEN	SD5	6"	75	1	102	161	79	105.3
SGRD11	KITCHEN	SD5	6"	350	1	393	569	362	103.4
SGRD12	KITCHEN	SD5	6"	350	1	325	480	328	93.7
SGRD13	KITCHEN	SD5	6"	350	1	190	300	368	105.1
SGRD14	UTILITY ROOM	SD1	12"	600	1	288	413	581	96.8
SGRD15	KITCHEN	SD1	12"	600	1	278	379	544	90.7
SGRD16	DOOR	SD1	12"	600	1	351	510	630	105.0
Total				6150		4267	6067	6046	98.31%

Completed By: Jordan Best on 06/11/2025

National TAB

Project: 06-09-26 CULVERS WEST CARROLLTON, OH

System/Unit: FAN - Exhaust



Asset: EF1

AREA:MOP ROOM

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	CFA 100CA	CFA 100CA
Serial Num	-	7272747
Type	INLINE	INLINE
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	75	81
Fan Rotation	-	CCW
System SetPt	-	FIXED SPEED
Fan Discharge SP	-	ATM

Motor Data		
	Design	Actual
Motor MFG	-	BROAN
Horsepower	.116	.116
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	1.1

Completed By: Corey Dick on 06/10/2025

Unit Data - PHOTO LOG



06/10/2025

National TAB

Project: 06-09-26 CULVERS WEST CARROLLTON, OH

System/Unit: FAN - Exhaust



Asset: PRV 1

AREA:RESTROOM

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DR12HFA	DR12HFA
Serial Num	-	7272747
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Horsepower	.250	0.25
Motor Rpm	1369	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	2.9

Test Data		
	Design	Actual
CFM	375	370
Fan RPM	-	1373
Fan Rotation	-	CCW
Motor RPM	-	1373
System SetPt	-	69
Total ESP	.50"	0.24"
Fan Inlet SP	-	-0.24"
Fan Discharge SP	-	ATM

Unit Data - PHOTO LOG



06/10/2025

National TAB

Project:06-09-26 CULVERS WEST CARROLLTON, OH

FAN - Exhaust



Diffuser Ret/Exh (GRD)

PRV 1/RESTROOM

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD1	RESTROOM	EG1	8X8	150	1	103	138	138	92.0
EGRD2	RESTROOM	EG1	8X8	150	1	169	158	158	105.3
EGRD3	RESTROOM	EG1	8X8	75	1	134	74	74	98.7
Total				375		406	370	370	98.67%

Completed By: Jordan Best on 06/11/2025

National TAB

Project: 06-09-26 CULVERS WEST CARROLLTON, OH

System/Unit: FAN - Exhaust



Asset: PRV2

AREA:GRILL HOOD

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DU85HFA	DU85HFA
Serial Num	-	7272747
Type	UPBLAST/CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	1500	1510
Fan RPM	-	1008
Fan Rotation	-	CCW
Motor RPM	-	1008
System SetPt	-	50%
RL Voltage	-	118.6
RL Amperage	-	3.9
Total ESP	1.412"	0.57
Fan Inlet SP	-	-0.57"
Fan Discharge SP	-	ATM

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Horsepower	1	1
Motor Rpm	1406	1500
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	11.6

Completed By: Jordan Best on 06/10/2025

Unit Data - PHOTO LOG



06/10/2025

National TAB

Project: 06-09-26 CULVERS WEST CARROLLTON, OH

System/Unit: FAN - Exhaust



Asset: PRV3

AREA:FRYER HOOD

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DU85HFA	DU85HFA
Serial Num	-	7272747
Type	UPBLAST/CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Horsepower	1	1.0
Motor Rpm	1348	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	11.6

Test Data		
	Design	Actual
CFM	1500	1547
Fan RPM	-	985
Fan Rotation	-	CCW
Motor RPM	-	985
System SetPt	-	49%
RL Voltage	-	118.8
RL Amperage	-	4.1
Total ESP	1.250"	0.48"
Fan Inlet SP	-	-0.48"
Fan Discharge SP	-	ATM

Completed By: Jordan Best on 06/10/2025

Unit Data - PHOTO LOG



06/10/2025

National TAB

Project: 06-09-26 CULVERS WEST CARROLLTON, OH

System/Unit: Kitchen Hood Type I



Asset: HD1

AREA:FRYER

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	3347 BD-2	3347 BD-2
Job / Serial Num	-	7272747
Type	TYPE I - LOW PROXIMITY	TYPE I CANOPY
Hood length	84"	84"
Hood Width	33"	33"

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO FILTER	CAPTRATE SOLO FILTER
Filter Size 1	16"X16"	16"X16"
Filter Qty 1	5	5
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	8.10	8.10
Filter1 FPM	-	196
Filter2 FPM	-	207
Filter3 FPM	-	199
Filter4 FPM	-	182
Filter5 FPM	-	175
Filter Ave FPM(corr)	-	191
CFM	1500	1547

Cooking Equipment	
	Actual
Item 1	FRYER

Completed By: Jordan Best on 06/11/2025

Unit Data - PHOTO LOG



06/11/2025

National TAB

Project: 06-09-26 CULVERS WEST CARROLLTON, OH

System/Unit: Kitchen Hood Type I



Asset: HD2

AREA:GRILL HOOD

Unit Data		
	Design	Actual
MFG	CAPTIVAIRE	CAPTIVAIRE
Model Num	3347 BD-2	3347 BD-2
Job / Serial Num	-	7272747
Type	TYPE I - LOW PROXIMITY	TYPE I CANOPY
Hood length	66"	66"
Hood Width	33"	33"

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO FILTER	CAPTRATE SOLO FILTER
Filter Size 1	16"X16"	16"X16"
Filter Qty 1	4	4
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	6.48	6.48
Filter1 FPM	-	239
Filter2 FPM	-	243
Filter3 FPM	-	205
Filter4 FPM	-	245
Filter Ave FPM(corr)	-	233
CFM	1500	1510

Cooking Equipment	
	Actual
Item 1	GRILL

Completed By: Corey Dick on 06/09/2025

Unit Data - PHOTO LOG



06/11/2025