

**Report By:**

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



**Report: Alara Preliminary TAB Report**

**Function: Test, Adjust, & Balance**

**Date: 04/18/2024**

**PROJECT**  
**CAS-Alara\_Rv1**

Madison Square Development

Cincinnati, OH 45227

**Client**

C&T DESIGN  
4025 PORT UNION RD.  
FAIRFIELD, OH 45014

# National TAB

Project: CAS-Alara\_Rv1

## Table Of Contents

<b>Section</b>	<b>Page #</b>
AHU/RTU	3
FAN - Exhaust	33
Supply Fan (OA) Hoods	36
AHU-Outside Air Fans	38
Kitchen Hood Type I	40

# National TAB

Project: CAS-Alara\_Rv1

System/Unit: AHU/RTU



Asset: AHU-1

AREA:MEZZANINE

Unit Data		
	Design	Actual
<b>MFG</b>	CARRIER	CARRIER
<b>Serial Num</b>	-	23U00008804
<b>Model Num</b>	42DHA22	42DHA20
<b>Configuration</b>	-	HORIZONTAL
<b>Num PreFilter 1</b>	-	2
<b>PreFilter Size 1</b>	-	22"X22"X1"

Motor Data		
	Design	Actual
<b>Phase</b>	3	3
<b>Rated Voltage</b>	460	480
<b>Rated Amperage</b>	2.4	2.4

Test Data		
	Design	Actual
<b>SF CFM</b>	2000	1981
<b>RA CFM</b>	1660	1981
<b>RL Voltage</b>	460	481
<b>RL Amperage</b>	2.4	2.0
<b>OA Damper Position</b>	-	[1]

Performance Data		
	Design	Actual
<b>Fan Suction SP</b>	-	0.56"
<b>Fan Discharge SP</b>	-	0.33"
<b>Fan Total SP</b>	-	0.89"

Completed By: Austin McFall on 01/16/2024

Notes:

[1] OUTSIDE AIR PROVIDE TO ALL AHU UNITS BY (2) OAF FANS WHICH IS INCLUDED IN REPORT FOR TOTAL OA.

Written By: Joe Hertenstein on 04/19/2024

# National TAB

Project: CAS-Alara\_Rv1

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-1/MEZZANINE

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM
1-1	MEZZANINE	CD-1	10	400				185
1-2	MEZZANINE	CD-1	10	400				529
1-3	MEZZANINE	CD-1	10	400				352
1-4	MEZZANINE	CD-1	10	400				451
1-5	MEZZANINE	CD-1	10	400				464
Total				2000		0	0	1981

# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: AHU/RTU



Asset: AHU-2

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008802
Model Num	42DHA22	42DHA16
Configuration	-	HORIZONTAL
Num PreFilter 1	-	2
PreFilter Size 1	-	22"X22"X1"

Motor Data		
	Design	Actual
Phase	3	3
Rated Voltage	460	480
Rated Amperage	2.4	2.4

Test Data		
	Design	Actual
SF CFM	1600	1651
RA CFM	1300	1651
RL Voltage	460	481
RL Amperage	2.4	2.0
OA Damper Position	-	[1]

Performance Data		
	Design	Actual
Fan Suction SP	-	0.59"
Fan Discharge SP	-	0.33"
Fan Total SP	-	0.92"

Completed By: Austin McFall on 01/16/2024

Notes:

[1] OUTSIDE AIR PROVIDE TO ALL AHU UNITS BY (2) OAF FANS WHICH IS INCLUDED IN REPORT FOR TOTAL OA.

Written By: Joe Hertenstein on 04/19/2024

# National TAB

Project: CAS-Alara\_Rv1

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-2/MEZZANINE

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM
2-1	MEZZANINE	CD-1	10	400				608
2-2	MEZZANINE	CD-1	10	400				667
2-3	MEZZANINE	CD-1	10	400				288
2-4	MEZZANINE	CD-1	10	400				88
Total				1600		0	0	1651

# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: AHU/RTU



Asset: AHU-3

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008805
Model Num	42DHA22	42DHA20
Configuration	-	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	22"X22"1"

Motor Data		
	Design	Actual
Phase	3	3
Rated Voltage	460	480
Rated Amperage	2.4	2.4

Test Data		
	Design	Actual
SF CFM	2000	1953
RA CFM	1660	1953
RL Voltage	460	481
RL Amperage	2.4	2.0
OA Damper Position	-	[1]

Performance Data		
	Design	Actual
Fan Suction SP	-	0.57"
Fan Discharge SP	-	0.39"
Fan Total SP	-	0.96"

Completed By: Austin McFall on 01/16/2024

Notes:

MISSING DIFFUSER 3-4. AIR DISTRIBUTED TO REMAINING AIR DEVICES.

[1] OUTSIDE AIR PROVIDE TO ALL AHU UNITS BY (2) OAF FANS WHICH IS INCLUDED IN REPORT FOR TOTAL OA.

Written By: Joe Hertenstein on 04/19/2024

# National TAB

Project: CAS-Alara\_Rv1

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-3/MEZZANINE

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM
3-1	MEZZANINE	CD-1	10	325		292		292
3-2	MEZZANINE	CD-1	10	325		410		410
3-3	MEZZANINE	CD-1	10	325		412		412
3-4	MEZZANINE	CD-1	10	325				
3-5	MEZZANINE	CD-1	6	350		476		476
3-6	MEZZANINE	CD-2	6	25		23		23
3-7	MEZZANINE	CD-2	6	50		51		51
3-8	MEZZANINE	SD-2	6	50		54		54
3-9	MEZZANINE	SD-2	6	50		53		53
3-10	MEZZANINE	CD-2	6	75		91		91
3-11	MEZZANINE	SD-2	6	50		45		45
3-12	MEZZANINE	SD-2	6	50		46		46
Total				2000		1953	0	1953

# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: AHU/RTU



Asset: AHU-4

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008806
Model Num	42DHA22	42DHA20
Configuration	-	HORIZONTAL
Num PreFilter 1	-	2
PreFilter Size 1	-	22"x22"x1"

Motor Data		
	Design	Actual
Horsepower	-	1
Phase	3	3
Rated Voltage	460	480
Rated Amperage	2.4	1.75

Test Data		
	Design	Actual
SF CFM	2000	2620
RA CFM	1650	2620
OA CFM	350	0
RL Voltage	460	NOT ACCESSIBLE
RL Amperage	1.75	NOT ACCESSIBLE

Performance Data		
	Design	Actual
Fan Suction SP	-	NOT ACCESSIBLE
Fan Discharge SP	-	NOT ACCESSIBLE
Total ESP	1.0	NOT ACCESSIBLE

Completed By: Gabe Merk on 04/18/2024

Notes:

[1] OUTSIDE AIR PROVIDE TO ALL AHU UNITS BY (2) OAF FANS WHICH IS INCLUDED IN REPORT FOR TOTAL OA.

Written By: Joe Hertenstein on 04/19/2024

# National TAB

Project: CAS-Alara\_Rv1

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-4/MEZZANINE

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM
4-1		CD-1	12	400		531		531
4-2		CD-1	12	400		480		480
4-3		CD-1	12	400		545		545
4-4		CD-1	12	400		520		520
4-5		CD-1	12	400		544		544
Total				2000		2620	0	2620

# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: AHU/RTU



Asset: AHU-5

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008803
Model Num	42DHA22	42DHA16
Configuration	-	HORIZONTAL
Num PreFilter 1	-	2
PreFilter Size 1	-	22"X22"X1"

Motor Data		
	Design	Actual
Phase	3	3
Rated Voltage	460	460
Rated Amperage	2.4	2.4

Test Data		
	Design	Actual
SF CFM	1600	1578
RA CFM	1160	1578
OA CFM	440	0
RL Voltage	460	480
RL Amperage	2.4	2.0
OA Damper Position	-	[1]

Performance Data		
	Design	Actual
Fan Suction SP	-	0.50"
Fan Discharge SP	-	0.31"
Fan Total SP	-	0.81"

Completed By: Austin McFall on 01/16/2024

Notes:

AHU 5 NOT RUNNING TO TAKE DIFFUSER READINGS AS OF 4/18/24

[1] OUTSIDE AIR PROVIDE TO ALL AHU UNITS BY (2) OAF FANS WHICH IS INCLUDED IN REPORT FOR TOTAL OA.

Written By: Joe Hertenstein on 04/19/2024

# National TAB

Project: CAS-Alara\_Rv1

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-5/MEZZANINE

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM
5-1	MEZZANINE	CD-1	10	400				
5-2	MEZZANINE	CD-1	10	400				
5-3	MEZZANINE	CD-1	10	400				
5-4	MEZZANINE	CD-1	10	400				
Total				1600		0	0	0

# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: AHU/RTU



Asset: AHU-6

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008807
Model Num	42DHA22	42DHA20
Configuration	-	HORIZONTAL
Num PreFilter 1	-	2
PreFilter Size 1	-	22"X22"X1"

Motor Data		
	Design	Actual
Phase	3	3
Rated Voltage	460	480
Rated Amperage	2.4	2.4

Test Data		
	Design	Actual
SF CFM	2000	2423
RA CFM	1600	2423
RL Voltage	460	481
RL Amperage	2.4	2.2
OA Damper Position	-	[1]

Performance Data		
	Design	Actual
Fan Suction SP	-	0.56"
Fan Discharge SP	-	0.37"
Fan Total SP	-	0.93"

Completed By: Austin McFall on 01/16/2024

Notes:

[1] OUTSIDE AIR PROVIDE TO ALL AHU UNITS BY (2) OAF FANS WHICH IS INCLUDED IN REPORT FOR TOTAL OA.

Written By: Joe Hertenstein on 04/19/2024

# National TAB

Project: CAS-Alara\_Rv1

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-6/MEZZANINE

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM
6-1	MEZZANINE	CD-1	10	500		502		502
6-2	MEZZANINE	CD-1	10	500		637		637
6-3	MEZZANINE	CD-1	10	500		661		661
6-4	MEZZANINE	CD-1	10	500		623		623
Total				2000		2423	0	2423

# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: AHU/RTU



Asset: AHU-7

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008808
Model Num	42DHA22	42DHA22
Configuration	-	HORIZONTAL
Num PreFilter 1	-	2
PreFilter Size 1	-	20.25"X21.75"X4"

Motor Data		
	Design	Actual
Horsepower	-	1.5
Phase	3	3
Rated Voltage	460	480
Rated Amperage	2.8	2.2

Test Data		
	Design	Actual
SF CFM	2400	1438
RA CFM	1920	1438
RL Voltage	480	503/497/502
RL Amperage	2.2	1.3/1.1/1.3

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.26"
Fan Discharge SP	-	0.43"
Total ESP	1.0	0.69

Completed By: Gabe Merk on 04/18/2024

Notes:

AHU DESIGNED FOR 2200 CFM  
 DIFFUSER TOTAL IS 2400 CFM  
 INITIAL READINGS WITHOUT RETURN GRILLES  
 FINAL READINGS WITH RETURN GRILLES. FACE DAMPERS OPENED 100%  
 DUCTWORK ABOVE HARD CEILING WITH NO ACCESS.

Written By: on

# National TAB

Project: CAS-Alara\_Rv1

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-7/MEZZANINE

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM
7-1	GROUND FLOOR DINING	LD-1	10	400		271		228
7-2	GROUND FLOOR DINING	LD-1	10	400		208		173
7-3	GROUND FLOOR DINING	LD-1	10	400		414		421
7-4	GROUND FLOOR DINING	LD-1	10	400		99		91
7-5	GROUND FLOOR DINING	LD-1	10	400		106		122
7-6	GROUND FLOOR DINING	LD-1	10	400		265		403
Total				2400		1363	0	1438

# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: AHU/RTU



Asset: AHU-8

AREA:GROUND LEVEL KITCHEN

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008099
Model Num	42DHA22	42CEA12
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	22"X22"X1"

Motor Data		
	Design	Actual
Phase	1	1
Rated Voltage	208	115
Rated Amperage	-	N/A

Test Data		
	Design	Actual
SF CFM	1200	996
RA CFM	860	996
RL Voltage	208	124
RL Amperage	-	1.9

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.27"
Fan Discharge SP	-	0.19"
Total ESP	1.0	0.45"

Completed By: Gabe Merk on 04/18/2024

Notes:

UNIT IN HIGH FAN SPEED.

LOW AIRFLOW TO DIFFUSER 1. NO OBSTRUCTIONS, NO DAMPER.

Written By: Joe Hertenstein on 04/19/2024

# National TAB

Project: CAS-Alara\_Rv1

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-8/GROUND LEVEL KITCHEN

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM
8-1	GROUND LEVEL KITCHEN	CD-3	12	400		34		77
8-2	GROUND LEVEL KITCHEN	CD-3	12	400		253		456
8-3	GROUND LEVEL KITCHEN	CD-3	12	400		229		463
Total				1200		516	0	996

# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: AHU/RTU



Asset: AHU-9

AREA:GROUND LEVEL

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008100
Model Num	42DHA22	42CEA12
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	24"X24"X1"

Motor Data		
	Design	Actual
Phase	1	1
Rated Voltage	208	120
Rated Amperage	-	N/A

Test Data		
	Design	Actual
SF CFM	1200	890
RA CFM	900	890
RL Voltage	208	125
RL Amperage	-	1.8

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.15"
Fan Discharge SP	-	0.23"
Total ESP	1.0	0.38"

Completed By: Gabe Merk on 04/18/2024

Notes:  
UNIT IN HIGH SPEED. RETURN FILTER REMOVED FOR FINAL MEASUREMENT.

Written By: Joe Hertenstein on 04/19/2024

# National TAB

Project: CAS-Alara\_Rv1

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-9/GROUND LEVEL

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM
9-1	GROUND LEVEL	CD-1	6	150		112		123
9-2	GROUND LEVEL	LD-1	6	100		158		91
9-3	GROUND LEVEL	CD-1	6	150		93		120
9-4	GROUND LEVEL	CD-1	6	150		113		106
9-5	GROUND LEVEL	CD-1	6	150		91		109
9-6	GROUND LEVEL	CD-1	6	150		116		121
9-7	GROUND LEVEL	CD-1		150		72		90
9-8	GROUND LEVEL	CD-1	6	150		120		130
Total				1150		875	0	890

# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: AHU/RTU



Asset: AHU-10

AREA:GROUND LEVEL

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008095
Model Num	42DHA22	42CEA10
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	20"X20"X1"

Motor Data		
	Design	Actual
Phase	1	NA
Rated Voltage	208	NA
Rated Amperage	-	NA

Test Data		
	Design	Actual
SF CFM	900	790
RA CFM	900	790
RL Voltage	208	125
RL Amperage	-	1.8

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.08"
Fan Discharge SP	-	0.40"
Total ESP	1.0	0.48"

Completed By: Gabe Merk on 04/18/2024

Notes:  
Diffusers installed do not match drawings. 10-3 is not sized properly to give 300cfm flow.

Written By: on

# National TAB

Project: CAS-Alara\_Rv1

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-10/GROUND LEVEL

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM
10-1	GROUND LEVEL		5.5"x11"	300		372		308
10-2	GROUND LEVEL		5.5"x11"	300		368		330
10-3	GROUND LEVEL		3.5"x5"	300				152
Total				900		740	0	790

# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: AHU/RTU



Asset: AHU-11

AREA:MEZZANINE DINING

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008096
Model Num	42DHA22	42CEA10
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	20"X20"X1"

Motor Data		
	Design	Actual
Phase	1	1
Rated Voltage	208	208
Rated Amperage	-	N/A

Test Data		
	Design	Actual
SF CFM	900	771
RA CFM	500	771
RL Voltage	208	NOT ACCESSIBLE
RL Amperage	-	NOT ACCESSIBLE

Performance Data		
	Design	Actual
Fan Suction SP	-	NOT ACCESSIBLE
Fan Discharge SP	-	NOT ACCESSIBLE
Total ESP	1.0	NOT ACCESSIBLE

Completed By: Gabe Merk on 04/18/2024

Notes:  
Face dampers fully open.

Written By: on

# National TAB

Project: CAS-Alara\_Rv1

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-11/MEZZANINE DINING

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM
11-1	MEZZANINE DINING	SD-1	10	300		115		225
11-2	MEZZANINE DINING	SD-1	10	300		172		316
11-3	MEZZANINE DINING	SD-1		300		136		230
Total				900		423	0	771

Completed By: Gabe Merk on 04/18/2024

# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: AHU/RTU



Asset: AHU-12

AREA:MEZZANINE KITCHEN

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	2300008101
Model Num	42DHA22	42CEA12
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	22"X22"X1"

Motor Data		
	Design	Actual
Phase	1	1
Rated Voltage	208	120
Rated Amperage	-	N/A

Test Data		
	Design	Actual
SF CFM	1200	1075
RA CFM	760	1075
RL Voltage	120	120
RL Amperage	-	2.5

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.15"
Fan Discharge SP	-	0.29"
Total ESP	1.0	0.44"

Completed By: Gabe Merk on 04/18/2024

Notes:

DIFFUSER 8 DAMPER FULLY OPEN UNABLE TO REACH DESIRED AIRFLOW. OUTDOOR AIR NOT REACHING UNIT

Written By: Joe Hertenstein on 04/19/2024

# National TAB

Project: CAS-Alara\_Rv1

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-12/MEZZANINE KITCHEN

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM
12-1	MEZZANINE KITCHEN	CD-3	6	150		137		146
12-2	MEZZANINE KITCHEN	CD-3	6	150		118		132
12-3	MEZZANINE KITCHEN	CD-3	6	150		146		135
12-4	MEZZANINE KITCHEN	CD-3	6	150		125		132
12-5	MEZZANINE KITCHEN	CD-3	6	150		101		137
12-6	MEZZANINE KITCHEN	CD-3	6	150		108		130
12-7	MEZZANINE KITCHEN	CD-3	6	150		55		146
12-8	MEZZANINE KITCHEN	CD-3	6	150		113		117
Total				1200		903	0	1075

# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: AHU/RTU



Asset: AHU-13

AREA:MEZZANINE DINING

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008097
Model Num	42DHA22	42CEA10
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	20"X20"X1"

Motor Data		
	Design	Actual
Phase	1	NA
Rated Voltage	208	NA
Rated Amperage	-	NA

Test Data		
	Design	Actual
SF CFM	900	742
RA CFM	550	742
RL Voltage	208	125
RL Amperage	-	1.2

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.27"
Fan Discharge SP	-	0.10
Total ESP	1.0	0.37"

Completed By: Gabe Merk on 04/18/2024

# National TAB

Project: CAS-Alara\_Rv1

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-13/MEZZANINE DINING

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM
13-1	MEZZANINE DINING	SD-1	8	250		199		208
13-2	MEZZANINE DINING	SD-1	8	200		177		168
13-3	MEZZANINE DINING	SD-1	8	200		178		181
13-4	MEZZANINE DINING	SD-1	8	250		188		185
Total				900		742	0	742

# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: AHU/RTU



Asset: AHU-14

AREA:MEZZANINE DINING

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008098
Model Num	42DHA22	42CEA10
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	20"X20"X1"

Motor Data		
	Design	Actual
Phase	1	1
Rated Voltage	208	120
Rated Amperage	-	N/A

Test Data		
	Design	Actual
SF CFM	900	
RA CFM	420	255
RL Voltage	208	125
RL Amperage	-	0.6

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.12"
Fan Discharge SP	-	0.13"
Total ESP	1.0	0.25"

Completed By: Gabe Merk on 04/18/2024

Notes:

CONNECTED LOAD NEED TO BE VERIFIED WITH MC TO VERIFY EXACT FINAL SUPPLY AIRFLOW FOR ENTIRE UNIT.

Wired for low speed only

Written By: Joe Hertenstein on 04/19/2024

# National TAB

Project: CAS-Alara\_Rv1

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-14/MEZZANINE DINING

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM
14-1	MEZZANINE	CD-2	6	100		177		91
14-2	MEZZ RR	CD-2	6	50		142		55
14-3	MEZZANINE RR	CD-2	6	100		86		109
Total				250		405	0	255

# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: AHU/RTU



Asset: AHU-15

AREA:GROUND LEVEL KITCHEN

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008094
Model Num	42DHA22	42CEA08
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	22"X22"X1"

Motor Data		
	Design	Actual
Phase	1	1
Rated Voltage	208	120
Rated Amperage	-	N/A

Test Data		
	Design	Actual
SF CFM	625	510
RA CFM	500	510
RL Voltage	208	124
RL Amperage	-	0.9

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.20"
Fan Discharge SP	-	0.10"
Total ESP	1.0	0.30"

Completed By: Gabe Merk on 04/18/2024

# National TAB

Project: CAS-Alara\_Rv1

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-15/GROUND LEVEL KITCHEN

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM
15-1	GROUND LEVEL KITCHEN	CD-3	10	300		234		210
15-2	GROUND LEVEL KITCHEN	CD-3	10	325		337		300
Total				625		571	0	510

# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: FAN - Exhaust



Asset: EF2

AREA:ROOF

Unit Data		
	Design	Actual
<b>MFG</b>	GREENHECK	CAPTIVEAIRE
<b>Model Num</b>	CSP-A700-QD	KB25
<b>Serial Num</b>	-	5280528
<b>Type</b>	-	PCU

Test Data		
	Design	Actual
<b>CFM</b>	9843	9500
<b>RL Voltage</b>	-	499/500/506
<b>RL Amperage</b>	-	15.8/15.7/15.0
<b>Total ESP</b>	3.200	2.00"

Motor Data		
	Design	Actual
<b>Motor MFG</b>	-	MARATHON
<b>Frame</b>	-	256TC
<b>Horsepower</b>	20.00	20
<b>Motor Rpm</b>	-	3537
<b>Phase</b>	3	3
<b>Voltage (rated)</b>	460	460
<b>Amperage (rated)</b>	-	23.4
<b>Service Factor</b>	-	1.15

Completed By: Gabe Merk on 04/18/2024

Notes:  
EXH VFD set to 51Hz

Written By: on

# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: FAN - Exhaust



Asset: EF-1

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	CSP-A700-QD	CSP-A700-QD
Serial Num	-	23375448
Type	INLINE	INLINE

Test Data		
	Design	Actual
CFM	425	679
RL Voltage	-	124
RL Amperage	-	2.7
Total ESP	0.7	0.35"

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Horsepower	149W	1/7
Motor Rpm	1100	1100
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	3.3

Completed By: Gabe Merk on 03/07/2024

Notes:

Single speed fan, no dampers.

Written By: on

# National TAB

Project: CAS-Alara\_Rv1

## FAN - Exhaust



### Diffuser Ret/Exh (GRD)

#### EF-1/MEZZANINE

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
E1-1	EG-1	6			110	110	110	-
E1-2	EG-1	6			148	148	148	-
E1-3	EG-1	6			135	135	135	-
E1-4	EG-2	6			153	153	153	-
E1-5	EG-1	6			133	133	133	-
Total			0		679	679	679	0%



# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: FAN - Supply

Asset: HMUA-MPU1

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	NOT ACCESSIBLE	CAPTIVEAIRE
Model Num	NOT ACCESSIBLE	A4-D.1000-30D
Serial Num	-	5481748

Test Data		
	Design	Actual
CFM	7910	8210
RL Voltage	-	499/496/500
RL Amperage	-	5.7/5.7/5.8
Total ESP	-	N/A

Motor Data		
	Design	Actual
Motor MFG	-	WEG
Frame	-	213/5T
Horsepower	5.00	5.0
Motor Rpm	1060	1170
Phase	3	3
Voltage (rated)	460	460
Amperage (rated)	-	6.83
Service Factor	-	1.25

Completed By: Gabe Merk on 04/18/2024



# National TAB

Project: CAS-Alara\_Rv1

## FAN - Supply

Diffuser Supply (GRD)

### HMUA-MPU1/MEZZANINE

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM
M1-1	HD-3	DUCT	12X24	2310				1613
M1-2	HD-1	DUCT	20X20	2960				3255
M1-3	HD-2	DUCT	20X18	2640				3342
Total				7910		0	0	8210



# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: FAN - Supply

Asset: OAF-1

AREA:GROUND LEVEL AHU-15

Unit Data		
	Design	Actual
MFG	NOT ACCESSIBLE	NOT ACCESSIBLE
Model Num	NOT ACCESSIBLE	NOT ACCESSIBLE
Serial Num	-	NOT ACCESSIBLE

Motor Data		
	Design	Actual
Motor MFG	-	NOT ACCESSIBLE
Frame	-	NOT ACCESSIBLE
Horsepower	1.5	NOT ACCESSIBLE
Motor Rpm	1112	NOT ACCESSIBLE
Phase	3	NOT ACCESSIBLE
Voltage (rated)	460	NOT ACCESSIBLE
Amperage (rated)	-	NOT ACCESSIBLE
Service Factor	-	NOT ACCESSIBLE

Drive Data		
	Design	Actual
Motor Sheave Size	-	NOT ACCESSIBLE
Motor Bore Size	-	NOT ACCESSIBLE
Fan Sheave Size	-	NOT ACCESSIBLE
Fan Sheave Bore	-	NOT ACCESSIBLE
Belt CL Distance	-	NOT ACCESSIBLE NOT ACCESSIBLE
Num of Belts	-	NOT ACCESSIBLE
Belt Size	-	NOT ACCESSIBLE

Test Data		
	Design	Actual
CFM	3030	1390
SF RPM	1112	NOT ACCESSIBLE
RL Voltage	-	NOT ACCESSIBLE
RL Amperage	-	NOT ACCESSIBLE
Suction ESP	-	NOT ACCESSIBLE
Discharge ESP	-	NOT ACCESSIBLE
Total ESP	1.0	NOT ACCESSIBLE
Brake Horse Power	-	NOT ACCESSIBLE

**Notes:**

Initial CFM traversed for 930 fan was backwards. Final CFM 1390.

Written By: on



# National TAB

Project: CAS-Alara\_Rv1

## System/Unit: FAN - Supply

Asset: OAF-2

AREA:MEZZANINE AHU-12

Unit Data		
	Design	Actual
MFG	NOT ACCESSIBLE	CARRIER
Model Num	NOT ACCESSIBLE	42DHA22NRGNYYYYWAJ
Serial Num	-	23U00008808

Motor Data		
	Design	Actual
Motor MFG	-	NOT ACCESSIBLE
Frame	-	NOT ACCESSIBLE
Horsepower	1.0	NOT ACCESSIBLE
Motor Rpm	1048	NOT ACCESSIBLE
Phase	3	NOT ACCESSIBLE
Voltage (rated)	460	NOT ACCESSIBLE
Amperage (rated)	-	NOT ACCESSIBLE
Service Factor	-	NOT ACCESSIBLE

Drive Data		
	Design	Actual
Motor Sheave Size	-	NOT ACCESSIBLE
Motor Bore Size	-	NOT ACCESSIBLE
Fan Sheave Size	-	NOT ACCESSIBLE
Fan Sheave Bore	-	NOT ACCESSIBLE
Belt CL Distance	-	NOT ACCESSIBLE
Num of Belts	-	NOT ACCESSIBLE
Belt Size	-	NOT ACCESSIBLE

Test Data		
	Design	Actual
CFM	2460	1714
SF RPM	1048	NOT ACCESSIBLE
RL Voltage	-	NOT ACCESSIBLE
RL Amperage	-	NOT ACCESSIBLE
Suction ESP	-	NOT ACCESSIBLE
Discharge ESP	-	NOT ACCESSIBLE
Total ESP	1.0	NOT ACCESSIBLE
Brake Horse Power	-	NOT ACCESSIBLE

Notes:  
Initial traverse reading 823 fan Direction fixed final CFM 1714.

Written By: on

# National TAB

Project: CAS-Alara\_Rv1



## System/Unit: Kitchen Hood Type I

Asset: CHARHD-2

AREA:KITCHEN 100

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5418 SND-2	5418 SND-2
Job / Serial Num	-	5280528
Type	TYPE I CANOPY	TYPE 1 CANOPY
Hood length	192	192
Hood Width	54	54
Supply Plenum Type	-	PSP
Supply Plenum Width	16	16
Supply Plenum Length	192	192

Test Data Exhaust		
	Design	Actual
Filter Type	CAPRATE SOLO	CAPRATE SOLO
Filter Size 1	16X16	16X16
Filter Qty 1	12	12
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	19.44	19.44
Filter1 FPM	-	160
Filter2 FPM	-	154
Filter3 FPM	-	156
Filter4 FPM	-	172
Filter5 FPM	-	159
Filter6 FPM	-	141
Filter7 FPM	-	151
Filter8 FPM	-	147
Filter9 FPM	-	150
Filter10 FPM	-	168
Filter11 FPM	-	183
Filter12 FPM	-	162
Filter Ave FPM(corr)	-	258
CFM	3296	3090

Cooking Equipment		
	Design	Actual
Item 1	-	Gas stove
Item 2	-	Sink
Item 3	-	Flat top grill
Item 4	-	Char Broiler

Test Data Supply		
	Design	Actual
Total AK Area	21.33	21.33
Kv factor (Vel)	1.63	0.92
Num of Readings	-	12
Reading1 FPM	-	193
Reading2 FPM	-	198
Reading3 FPM	-	216
Reading4 FPM	-	167
Reading5 FPM	-	224
Reading6 FPM	-	151
Reading7 FPM	-	166
Reading8 FPM	-	176
Reading9 FPM	-	118
Reading10 FPM	-	152
Reading11 FPM	-	145
Reading12 FPM	-	138
Ave FPM(corr)	-	157
CFM	2640	3342

Completed By: Gabe Merk on 04/18/2024

Notes:  
TAG STATES HOOD 1

Written By: Joe Hertenstein on 04/19/2024

# National TAB

Project: CAS-Alara\_Rv1



## System/Unit: Kitchen Hood Type I

Asset: MEZZHD-3

AREA:MEZZANINE KITCHEN

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5418 SND-2	5412 SND-2
Job / Serial Num	-	5280528
Type	TYPE I CANOPY	TYPE 1 CANOPY
Hood length	167	167
Hood Width	54	54
Supply Plenum Type	-	PSP
Supply Plenum Width	16	16
Supply Plenum Length	167	167

Test Data Supply		
	Design	Actual
Total AK Area	18.56	18.56
Kv factor (Vel)	1.63	0.92
Num of Readings	-	9
Reading1 FPM	-	94
Reading2 FPM	-	92
Reading3 FPM	-	101
Reading4 FPM	-	94
Reading5 FPM	-	85
Reading6 FPM	-	96
Reading7 FPM	-	124
Reading8 FPM	-	92
Reading9 FPM	-	72
Ave FPM(corr)	-	87
CFM	2310	1613

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	16X16	16X16
Filter Qty 1	10	10
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	16.20	16.20
Filter1 FPM	-	153
Filter2 FPM	-	153
Filter3 FPM	-	173
Filter4 FPM	-	180
Filter5 FPM	-	179
Filter6 FPM	-	189
Filter7 FPM	-	180
Filter8 FPM	-	184
Filter9 FPM	-	176
Filter10 FPM	-	161
Filter Ave FPM(corr)	-	280
CFM	2867	2802

Cooking Equipment		
	Design	Actual
Item 1	-	OVEN
Item 2	-	FLAT TOP
Item 3	-	GRIDDLE
Item 4	-	GAS STOVE
Item 5	-	FRYER

Completed By: Gabe Merk on 04/18/2024

# National TAB

Project: CAS-Alara\_Rv1



## System/Unit: Kitchen Hood Type I

Asset: PREPHD-1

AREA:KITCHEN 100

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5418 SND-2	5418 SND-2
Job / Serial Num	-	5280528
Type	TYPE I CANOPY	TYPE 1 CANOPY
Hood length	192	192
Hood Width	54	54
Supply Plenum Type	-	PSP
Supply Plenum Width	16	16
Supply Plenum Length	192	192

Test Data Supply		
	Design	Actual
Total AK Area	21.33	21.33
Kv factor (Vel)	1.63	0.92
Num of Readings	-	12
Reading1 FPM	-	129
Reading2 FPM	-	131
Reading3 FPM	-	153
Reading4 FPM	-	128
Reading5 FPM	-	190
Reading6 FPM	-	173
Reading7 FPM	-	114
Reading8 FPM	-	178
Reading9 FPM	-	185
Reading10 FPM	-	210
Reading11 FPM	-	185
Reading12 FPM	-	214
Ave FPM(corr)	-	153
CFM	2960	3255

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	16X16	16X16
Filter Qty 1	12	9
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	19.44	14.58
Filter1 FPM	-	255
Filter2 FPM	-	262
Filter3 FPM	-	261
Filter4 FPM	-	247
Filter5 FPM	-	235
Filter6 FPM	-	225
Filter7 FPM	-	235
Filter8 FPM	-	236
Filter9 FPM	-	BLANK
Filter10 FPM	-	BLANK
Filter11 FPM	-	BLANK
Filter12 FPM	-	271
Filter Ave FPM(corr)	-	401
CFM	3680	3608

Cooking Equipment		
	Design	Actual
Item 1	-	Fryer
Item 2	-	Prep table
Item 3	-	Flat top grill
Item 4	-	Prep table

Completed By: Gabe Merk on 04/18/2024

Notes:  
TAG SAYS HOOD 3

Written By: on