Report By:

National TAB
1329 E. KEMPER ROAD
SUITE 4210
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Report: TAB REPORT

Function: Test, Adjust, & Balance

Date: 07/27/2023

PROJECT

04-17-23 NIKE CLEARANCE - TUCSON, AZ

5325 S CALLE SANTA CRUZ

TUCSON, AZ 85714

Client

Construction One (C1)

101 E. Town St

Suite 401

Columbus, OH 43215

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

Each of the RTU's were measured at their terminal devices utilizing a flow hood. The sum of these readings is equal to the total flow for that particular unit. The total flow of each RTU was then adjusted within tolerance of the specified design. Each terminal diffuser was balanced to within tolerance of the engineer's design volume utilizing the provided hand damper located at the takeoff of the main & branch trunk line(s). Any equipment that fell outside of this tolerance is noted throughout the report.

Variable Air Volume (VAV) Terminals

The VAV's were calibrated in a call for max cooling and the correction factors are reported on the individual asset. While in a call for full cooling, the individual air devices were then balanced within design tolerance. The VAVs were then stroked to minimum cool and the airflow values reported. The VAV was then stroked to heating and the airflow values reported. It was verified that there was a sufficient temp rise on each VAV.

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.

NATIONAL TAB

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HVAC SUPPLY		HVAC RETURN		HVAC OUTDOOR		OA %		HOOD MAKE-UP		HOOD EXHAUST		GENERAL EXH.	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU-1	OFFICES	1400	1395	1150	1141	250	254	17.9%	18.2%						
RTU-2	STORAGE	2250	2248	1550	1531	700	717	31.1%	31.9%						
RTU-3	SALES	2750	2771	1950	1952	800	819	29.1%	29.6%						
RTU-4	SALES	2750	2790	1950	1947	800	843	29.1%	30.2%						
RTU-5	SALES	2875	2764	2075	1929	800	835	27.8%	30.2%						
RTU-6	SALES	2750	2763	1950	1944	800	819	29.1%	29.6%						
RTU-7	SOLAR ZONE	3750	3808	3750	3628	0	180	0.0%	4.7%						
EF-1	RESTROOM													325	336
EF-2	IT CLOSET													1000	978
TOTALS		18525	18539	14375	14072	4150	4467			0	0	0	0	1325	1314

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	4150	4467
TOTAL EXHAUST	1325	1314
NET AIRFLOW	2825	3153

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.019
SIDE	-
REAR	0.016
AVERAGE	**0.0175**

FINAL CHECKS

ACTUAL NET AIRFLOW COINCIDES WITH DESIGN: ✓

MEASURED PRESSURES COINCIDES WITH ACTUAL NET AIRFLOW: ✓

PRESSURE FALLS WITHIN IMC TOLERANCE OF +/-0.02" W.C. ✓

NOTES:

CheckList List

- TECH - STEP 1: INITIAL WALKTHROUGH
- TECH - STEP 2: UNIT DATA AND EVAL
- TECH - STEP 3: TEST, ADJUST AND BALANCE
- TECH - STEP 4: FINAL TESTS

04-17-23 NIKE CLEARANCE - TUCSON, AZ

CheckList Information

Name :	TECH - STEP 1: INITIAL WALKTHROUGH	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	04/20/2023 - Brianna Biggs - National TAB		

CheckList Item Details

INITIAL SITE WALKTHROUGH

Review Plan Review Checklist, has it been signed off and meets our standards to start balancing? If not contact processor to ensure job is ready.

Comment:

YES

All diffusers and grilles are installed and match design?

Comment:

YES

Thermostats have power?

Comment:

YES

All HVAC units and fans and powered and operational?

Comment:

YES

VAV diffusers (if applicable) are powered and responding to adjustment at thermostat?

Comment:

YES

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

Comment:

N/A

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CheckList Information

Name :	TECH - STEP 2: UNIT DATA AND EVAL	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	04/20/2023 - Brianna Biggs - 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?

Comment:

YES

Motors are all operating below the FLA rating?

Comment:

YES

Are belts tight?

Comment:

YES

If direct drive unit is the speed controller working.

Comment:

N/A

Is gas piping installed and valves turned on?

Comment:

N/A

Unit free of noticeable noise and vibration

Comment:

YES

EF's

Rotation is correct?

Comment:

YES

Belts are tight?

Comment:

NA

Grease cup installed on hood fan

Comment:

NA

Hinge kit installed installed on hood fan?

Comment:

NA

Lean fan back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?

Comment:

NA

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

Comment:

NA

There is no major leakage around base of fan?

Comment:

NO

Is the motor operating below the motor FLA rating?

Comment:

YES

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

Comment:

YES

Unit free of noticeable noise and vibration?

Comment:

YES

DOCUMENTATION

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

Comment:

NA

04-17-23 NIKE CLEARANCE - TUCSON, AZ

CheckList Information

Name :	TECH - STEP 3: TEST, ADJUST AND BALANCE	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	04/20/2023 - Brianna Biggs - National TAB		

CheckList Item Details

TEST, ADJUST, AND BALANCE ALL EQUIPMENT:

DURING TESTING MAKE NOTE OF THE FOLLOWING:

Is space free of drafting?

Comment:

YES

Is space comfortable in all areas?

Comment:

YES

Is the space free of ventilation noise?

Comment:

YES

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

Comment:

NA

FABRIC DUCT STATIC PRESSURES (IF APPLICABLE)

Take static pressures near takeoff for each fabric duct once balancing is completed. Input this into the "VEL (1)" field on the diffuser asset. If not a fabric duct then, put "N/A" into the "VEL (1)" field instead.

Comment:

NA

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CheckList Information

Name : TECH - STEP 4: FINAL TESTS **Status :** Not Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 04/20/2023 - Brianna Biggs - National TAB

CheckList Item Details

FINAL TESTS

BUILDING PRESSURE

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

Comment:

FRONT +0.014 / BACK +0.016

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

CARRIER VFD PARAMETERS (IF APPLICABLE)

Use Carrier provided VFD cable to verify VFD speed parameters for each unit (Defaults - high speed = 60Hz, low speed = 40Hz). Can adjust high speed parameter for balancing but requires that the low speed is proportionally adjusted. Record VFD speeds on the individual assets

Comment:

YES

TEMPERATURES/HUMIDITIES

Measure temperatures/humidities for outside air (taken in shade), return air, and supply air for each HVAC unit during full cooling and input into appropriate fields on the individual asset

Comment:

YES

VAV DIFFUSERS (IF APPLICABLE)

Each VAV-diffuser is calibrated for max airflow?

Comment:

YES

Each VAV diffuser is set for minimum airflow? Record value in notes on the individual diffuser asset

Comment:

YES

National TAB

Project: 04-17-23 NIKE CLEARANCE - TUCSON, AZ

System/Unit: AHU/RTU

Asset: RTU1 AREA:OFFICES

Unit Data		
	Design	**Actual**
MFG	CARRIER	CARRIER
Serial Num	-	052CO9346
Model Num	50GCQN05A	50GCQN05A
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	281/4 "X14"X1"
Num Final Filter 1	-	2
Final Filter Size 1	-	16"X16"X2"
Num Final Filter 2	-	2
Final Filter Size 2	-	16"X16"X2"

Motor Data		
	Design	**Actual**
Motor MFG	-	BROAD-OCEAN
Frame	-	NA
Horsepower	-	800W
Motor Rpm	-	2170
Phase	-	1
Rated Voltage	-	208
Rated Amperage	-	6.30

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	DD
Motor Bore Size	-	DD
Fan Sheave Size	-	DD
Fan Sheave Bore	-	DD
Belt CL Distance	-	DD
Num of Belts	-	DD
Belt Size	-	DD

Electrical		
	Design	**Actual**
VFD Min Setpt	-	40 Hz
VFD Max Setpt	-	60 Hz

Test Data		
	Design	**Actual**
SF CFM	1400	1395
SF RPM	-	2197
RA CFM	-	1141
OA CFM	-	254
RL Voltage	-	207
RL Amperage	-	3.78
SF Rotation	-	CCW
RA Damper Position	-	95%
Min OA Damper Position	-	5%
Min OA Damper Type	-	BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.20"
Fan Suction SP	-	-0.35"
Fan Discharge SP	-	0.19"
Total ESP	-	0.39"
OA Temp (db/wb)	-	93.7/88.66
RA Temp (db/wb)	-	74.6/66.7
SA Temp (db/wb)	-	60.8/56.3

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES

Diffuser Supply (GRD)

RTU1/OFFICES

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	RM 300	CSD-2	24X24	200	1	170		204	102.0
SGRD2	RM 300	CSD-2	24X24	200	1	165		200	100.0
SGRD3	RM 300	CSD-2	24X24	200	1	185		198	99.0
SGRD4	RM 300	CSD-2	24X24	200	1	171		201	100.5
SGRD5	RM 310	CSD-1	24X24	150	1	157		146	97.3
SGRD6	RM 320	CSD-1	24X24	250	1	196		253	101.2
SGRD7	RM 160	CSD-3	10X10	100	1	85		96	96.0
SGRD8	RM 410	CSD-3	10X10	50	1	56		48	96.0
SGRD9	RM 400	CSD-3	10X10	50	1	62		49	98.0
Total				1400		1247	0	1395	99.64%

National TAB

Project: 04-17-23 NIKE CLEARANCE - TUCSON, AZ

System/Unit: AHU/RTU

Asset: RTU2 AREA:STORAGE

Unit Data		
	Design	**Actual**
MFG	CARRIER	CARRIER
Serial Num	-	5122870262
Model Num	50HCQD08D	50HCQD08D
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	35"X18"X1"
Num Final Filter 1	-	2
Final Filter Size 1	-	20"X20"X2"
Num Final Filter 2	-	2
Final Filter Size 2	-	20"X20"X2"

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56Hz
Horsepower	-	2.4
Motor Rpm	-	1670
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	6.70

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	IVL444
Motor Bore Size	-	5/8
Fan Sheave Size	-	AFD74
Fan Sheave Bore	-	1"
Belt CL Distance	-	161/2
Num of Belts	-	1
Belt Size	-	A48

Electrical		
	Design	**Actual**
VFD Min Setpt	-	40.0Hz
VFD Max Setpt	-	60.0Hz

Test Data		
	Design	**Actual**
SF CFM	2250	2248
SF RPM	-	1688
RA CFM	-	1531
OA CFM	-	717
RL Voltage	-	207
RL Amperage	-	4.37
SF Rotation	-	CCW
RA Damper Position	-	90%
Min OA Damper Position	-	10%
Min OA Damper Type	-	BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.26"
Fan Suction SP	-	-0.53"
Fan Discharge SP	-	0.24"
Total ESP	-	0.50"
OA Temp (db/wb)	-	93.7/88.6
RA Temp (db/wb)	-	74.9/65.6
SA Temp (db/wb)	-	61.3/56.8

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES

National TAB

Project:04-17-23 NIKE CLEARANCE - TUCSON, AZ

AHU/RTU

Diffuser Supply (GRD)

RTU2/STORAGE

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	STORAGE	CSD-2	24X24	225	1	233		223	99.1
SGRD2	STORAGE	CSD-2	24X24	225	1	216		226	100.4
SGRD3	STORAGE	CSD-2	24X24	225	1	243		223	99.1
SGRD4	STORAGE	CSD-2	24X24	225	1	232		227	100.9
SGRD5	STORAGE	CSD-2	24X24	225	1	192		225	100.0
SGRD6	STORAGE	CSD-2	24X24	225	1	187		220	97.8
SGRD7	STORAGE	CSD-2	24X24	150	1	179		154	102.7
SGRD8	STORAGE	CSD-2	24X24	250	1	243		249	99.6
SGRD9	STORAGE	CSD-2	24X24	200	1	119		198	99.0
SGRD10	STORAGE	CSD-2	24X24	150	1	188		152	101.3
SGRD11	STORAGE	CSD-2	24X24	150	1	200		151	100.7
Total				2250		2232	0	2248	99.91%

National TAB

Project: 04-17-23 NIKE CLEARANCE - TUCSON, AZ

System/Unit: AHU/RTU

Asset: RTU3 AREA:SALES

Unit Data		
	Design	**Actual**
MFG	CARRIER	CARRIER
Serial Num	-	4922P1873
Model Num	50HCQD12D	50HCQD12D
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	251/2"X221/2"X1"
Num Final Filter 1	-	3
Final Filter Size 1	-	18"X24"X2"
Num Final Filter 2	-	3
Final Filter Size 2	-	18"X24"X2"

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56Hz
Horsepower	-	209
Motor Rpm	-	1735
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	8.10

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VL40
Motor Bore Size	-	7/8"
Fan Sheave Size	-	AK84
Fan Sheave Bore	-	1 3/16"
Belt CL Distance	-	20 3/4"
Num of Belts	-	1
Belt Size	-	A57

Electrical		
	Design	**Actual**
VFD Min Setpt	-	40.0Hz
VFD Max Setpt	-	60.0Hz

Test Data		
	Design	**Actual**
SF CFM	2750	2771
SF RPM	-	1748
RA CFM	-	1952
OA CFM	-	819
RL Voltage	-	207
RL Amperage	-	6.08
SF Rotation	-	CCW
RA Damper Position	-	90%
Min OA Damper Position	-	10%
Min OA Damper Type	-	BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.11"
Fan Suction SP	-	-0.49"
Fan Discharge SP	-	0.80"
Total ESP	-	0.91"
OA Temp (db/wb)	-	93.7/88.6
RA Temp (db/wb)	-	74.1/65.3
SA Temp (db/wb)	-	61.4/56.1

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES

National TAB

Project:04-17-23 NIKE CLEARANCE - TUCSON, AZ

AHU/RTU

Diffuser Supply (GRD)

RTU3/SALES

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	SALES	FABRIC	12"	750	0.79	965	762	762	101.6
SGRD2	SALES	FABRIC	16"	2000	1.40	1435	2009	2009	100.5
Total				2750		2400	2771	2771	100.76%

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Project: 04-17-23 NIKE CLEARANCE - TUCSON, AZ

System/Unit: AHU/RTU

Asset: RTU4 AREA:SALES

Unit Data		
	Design	**Actual**
MFG	CARRIER	CARRIER
Serial Num	-	4922P11874
Model Num	50HCQD12D	50HCQD12D
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	251/2"X221/2X1"
Num Final Filter 1	-	3
Final Filter Size 1	-	18"X24"X2"
Num Final Filter 2	-	3
Final Filter Size 2	-	18"X24"X2"

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	-	2.9
Motor Rpm	-	1735
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	8.10

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	IVL40
Motor Bore Size	-	7/8
Fan Sheave Size	-	AK84
Fan Sheave Bore	-	1 3/16"
Belt CL Distance	-	20 3/4
Num of Belts	-	1
Belt Size	-	A57

Electrical		
	Design	**Actual**
VFD Min Setpt	-	40.0HZ
VFD Max Setpt	-	60.0HZ

Test Data		
	Design	**Actual**
SF CFM	2750	2790
SF RPM	-	1753
RA CFM	-	1947
OA CFM	-	843
RL Voltage	-	207
RL Amperage	-	6.17
SF Rotation	-	CCW
RA Damper Position	-	90%
Min OA Damper Position	-	10%
Min OA Damper Type	-	BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.25
Fan Suction SP	-	-0.47
Fan Discharge SP	-	+0.55"
Total ESP	-	0.80"
OA Temp (db/wb)	-	93.7/88.6
RA Temp (db/wb)	-	74.3/65.6'
SA Temp (db/wb)	-	61.80/56.3'

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES

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AHU/RTU

Diffuser Supply (GRD)

RTU4/SALES

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	SALES	FABRIC	12"	750	0.79	949	749	749	99.9
SGRD2	SALES	FABRIC	16"	2000	1.40	1458	2041	2041	102.1
Total				2750		2407	2790	2790	101.45%

National TAB

Project: 04-17-23 NIKE CLEARANCE - TUCSON, AZ

System/Unit: AHU/RTU

Asset: RTU5 AREA:SALES

Unit Data		
	Design	**Actual**
MFG	CARRIER	CARRIER
Serial Num	-	4922P11875
Model Num	50HCQD12D	50HCQD12D
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	251/2"X221/2"X1"
Num Final Filter 1	-	3
Final Filter Size 1	-	18"X24"X2"
Num Final Filter 2	-	3
Final Filter Size 2	-	18"X24"X2"

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56Hz
Horsepower	-	2.9
Motor Rpm	-	1735
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	8.10

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VL40
Motor Bore Size	-	7/8
Fan Sheave Size	-	AK84
Fan Sheave Bore	-	1 3/16"
Belt CL Distance	-	20 3/4"
Num of Belts	-	1
Belt Size	-	A57

Electrical		
	Design	**Actual**
VFD Min Setpt	-	40.0Hz
VFD Max Setpt	-	60.0Hz

Test Data		
	Design	**Actual**
SF CFM	2875	2764
SF RPM	-	1741
RA CFM	-	1929
OA CFM	-	835
RL Voltage	-	207
RL Amperage	-	5.99
SF Rotation	-	CCW
RA Damper Position	-	90%
Min OA Damper Position	-	10%
Min OA Damper Type	-	BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.25"
Fan Suction SP	-	-0.47"
Fan Discharge SP	-	0.55"
Total ESP	-	0.80"
OA Temp (db/wb)	-	93.7/88.6
RA Temp (db/wb)	-	74.9/66.0
SA Temp (db/wb)	-	62.3/57.1

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES

National TAB

Project:04-17-23 NIKE CLEARANCE - TUCSON, AZ

AHU/RTU

Diffuser Supply (GRD)

RTU5/SALES

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	110	CSD-4	20"	125	1	313		122	97.6
SGRD2	120	CSD-4	20"	125	1	284		120	96.0
SGRD3	130	CSD-4	20"	125	1	284		121	96.8
SGRD4	140	CSD-4	20"	125	1	258		120	96.0
SGRD5	150	CSD-4	20"	125	1	255		124	99.2
SGRD6	SALES	FABRIC	14"	1500	1	887		1438	95.9
SGRD7	SALES	FABRIC	12"	750	1	505	1344	719	95.9
Total				2875		2786	1344	2764	96.14%

National TAB

Project: 04-17-23 NIKE CLEARANCE - TUCSON, AZ

System/Unit: AHU/RTU

Asset: RTU6 AREA:SALES

Unit Data		
	Design	**Actual**
MFG	CARRIER	CARRIER
Serial Num	-	4922P11876
Model Num	50HCQD12D	50HCQD12D
Type	RTU	RTU
Configuration	VERTICAL	VERTTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	251/2"X221/2"X1"
Num Final Filter 1	-	3
Final Filter Size 1	-	18"X24"X2"
Num Final Filter 2	-	3
Final Filter Size 2	-	18"X24"X2"

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	-	2.9
Motor Rpm	-	1735
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	8.10

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	IVL40
Motor Bore Size	-	7/8"
Fan Sheave Size	-	AK84
Fan Sheave Bore	-	1 3/16
Belt CL Distance	-	20 3/4
Num of Belts	-	1
Belt Size	-	A57

Electrical		
	Design	**Actual**
VFD Min Setpt	-	40.0HZ
VFD Max Setpt	-	60.0HZ

Test Data		
	Design	**Actual**
SF CFM	2750	2763
SF RPM	-	1739
RA CFM	-	1944
OA CFM	-	819
RL Voltage	-	207
RL Amperage	-	5.94
SF Rotation	-	CCW
RA Damper Position	-	90%
Min OA Damper Position	-	10%
Min OA Damper Type	-	BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.24
Fan Suction SP	-	-0.48
Fan Discharge SP	-	+0.50
Total ESP	-	0.74
OA Temp (db/wb)	-	93.7/88.6
RA Temp (db/wb)	-	74.3/65.8
SA Temp (db/wb)	-	61.9/56.4

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES

National TAB

Project:04-17-23 NIKE CLEARANCE - TUCSON, AZ

AHU/RTU

Diffuser Supply (GRD)

RTU6/SALES

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	SALES	FABRIC	16"	2000	1.4	1437	2012	2012	100.6
SGRD2	SALES	FABRIC	12"	750	0.79	951	751	751	100.1
Total				2750		2388	2763	2763	100.47%

National TAB

Project: 04-17-23 NIKE CLEARANCE - TUCSON, AZ

System/Unit: AHU/RTU

Asset: RTU7 AREA:SOLAR ZONE

Unit Data		
	Design	**Actual**
MFG	CARRIER	TRANE
Serial Num	-	230211727L
Model Num	50HCQD08D	WSC120H3RO
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	36 1/4"X15"X1"
Num Final Filter 1	-	2
Final Filter Size 1	-	20"X25"X2"
Num Final Filter 2	-	2
Final Filter Size 2	-	20"X25"X2"

Motor Data		
	Design	**Actual**
Motor MFG	-	NA
Frame	-	NA
Horsepower	-	2.75
Motor Rpm	-	1725
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	7.30

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	DD
Motor Bore Size	-	DD
Fan Sheave Size	-	DD
Fan Sheave Bore	-	DD
Belt CL Distance	-	DD
Num of Belts	-	DD
Belt Size	-	DD

Electrical		
	Design	**Actual**
VFD Min Setpt	-	NA
VFD Max Setpt	-	NA

Test Data		
	Design	**Actual**
SF CFM	3750	3808
SF RPM	-	1748
RA CFM	-	3628
OA CFM	-	180
RL Voltage	-	207
RL Amperage	-	4.86
SF Rotation	-	CCW
RA Damper Position	-	100%
Min OA Damper Position	-	0%
Min OA Damper Type	-	BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.20"
Fan Suction SP	-	-0.40"
Fan Discharge SP	-	0.53"
Total ESP	-	0.73"
OA Temp (db/wb)	-	93.7/88.6
RA Temp (db/wb)	-	73.8/65.1
SA Temp (db/wb)	-	61.3/56.3

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES

National TAB

Project:04-17-23 NIKE CLEARANCE - TUCSON, AZ

AHU/RTU

Diffuser Supply (GRD)

RTU7/SOLAR ZONE

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	SALES	FABRIC	22"	3750	2.64	1442	3808	3808	101.5
Total				3750		1442	3808	3808	101.55%

National TAB

Project: 04-17-23 NIKE CLEARANCE - TUCSON, AZ

System/Unit: FAN - Exhaust

Asset: EF1 AREA:RESTROOM

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	G-080-VG	G-080-VG
Serial Num	-	21486249
Type	-	CENTRIFUGAL
Configuration	-	DOWNBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	VARI-GREEN
Frame	-	NA
Horsepower	-	1/10
Motor Rpm	-	300-1750
Phase	-	1
Voltage (rated)	-	120
Amperage (rated)	-	1080
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	325	336
Fan RPM	-	1413
Fan Rotation	-	CLOCKWISE
Motor RPM	-	1413
System SetPt	-	8
RL Voltage	-	124
RL Amperage	-	0.97
Total ESP	-	0.36"
Fan Inlet SP	-	0.36"
Fan Discharge SP	-	ATM

National TAB

Project: 04-17-23 NIKE CLEARANCE - TUCSON, AZ

System/Unit: FAN - Exhaust

Asset: EF2 AREA:IT CLOSET

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SQ-100VG	SQ-100VG
Serial Num	-	21493475
Type	-	CENTRIFUGAL
Configuration	-	INLINE

Motor Data		
	Design	**Actual**
Motor MFG	-	VARI-GREEN
Frame	-	NA
Horsepower	-	1/12
Motor Rpm	-	950
Phase	-	1
Voltage (rated)	-	120
Amperage (rated)	-	3.90
Service Factor	-	1.0

Test Data		
	Design	**Actual**
CFM	1000	978
Fan RPM	-	950
Fan Rotation	-	CLOCKWISE
Motor RPM	-	950
System SetPt	-	10
RL Voltage	-	124
RL Amperage	-	1.47
Total ESP	-	0.09
Fan Inlet SP	-	0.09"
Fan Discharge SP	-	ATM