

Report By:

National TAB
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SUITE 4210
CINCINNATI, OH 45246

NATIONAL

TAB

Comfort. Under control.

Report: REVIVE REPORT
Function: Test, Adjust, & Balance
Date: 03/10/2023

PROJECT

**02-20-23 FREDDY'S - MCDONOUGH, GA
(REVIVE)**

1410 HWY 20 W

MCDONOUGH , GA

Client

JRI Hospitality Management
621 Westport Blvd
Salina, KS 67401

National TAB

Project: 02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

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Summary

Purpose of the visit to Freddy's in McDonough GA was to address complaints of hood capture issues.

Arrived on site and talked to the manager. They explained that grease is accumulating throughout the building. The dining room floors are slippery with grease. They also showed grease that had accumulated on the ceilings and in the walk in coolers that has to be cleaned regularly.

Initial airflows were measured. The hood exhaust airflow was found to be at design. However the MUA airflow is very low (1072 CFM out of 2321 CFM). There was some minor grease accumulation on the bottom of the PSP at the hood. Pulled down the PSP and confirmed that the tops were clean and not clogged. RTU's 1 and 3 are low on flow. RTU-2 is within tolerance but on the low end. The outside air dampers for RTU's 1 and 2 were opened too much and bringing in a high ratio of outside air. Reduced some for better performance. Building pressure is currently very negative. Smoke capture was observed on both hoods. Hood serving the fryer has adequate capture unless the drive thru door is left open in which case there is some loss. The grill hood has significant smoke loss out the back of the hood and is the primary cause of grease throughout the space.

Recommendations:

1. The most significant issue causing smoke capture issues is the griddle not being centered under the hood. There is very little overhang over the side of the hood closest to the back door and this is where the smoke loss is occurring. The griddle cannot be moved due to adjacent table that is secured in place with large diameter conduit underneath. Next steps to resolving will require some collaboration to determine the next best step:
 - Not sure if feasible, but moving the table so that griddle can be moved over would be the best case scenario.
 - 2nd best option would be to install a full vertical endpanel or wall on backs of the hoods. Would require that the monitors be moved.
 - Cooking on griddles only on the half closest to the front of the store should also reduce smoke loss if possible with Operations.
 - A small (12"x24") perforated diffuser between the hood and wall behind the hood may help push smoke back into the hood. An accessible damper needs to be installed at the takeoff. Still will likely be some smoke loss so this method is not preferred. In this situation the return grilles will also need to be split and distributed throughout the kitchen to reduce the return air path.
2. The equipment on the roof is very dirty and appears to be impacting airflow. The MUA and RTU blower compartments have significant buildup in the blower wheels. The interior of the units are also very dirty and should be cleaned. Evaporator coils need to be thoroughly cleaned. Once these units are fully cleaned it's anticipated that airflow will increase.

3. Once the units are cleaned, recommend checking that the adjustable motor pulleys can be adjusted for balancing.
4. The kitchen RTU perforated diffusers are clogged with grease and need to be thoroughly cleaned or replaced.
5. The AC-PSP portion of the hoods are dirty and need to be dropped down and cleaned.
6. RTU-3 evaporator coil had frost forming likely due to the very low airflow on this unit. Once unit and diffusers are cleaned, anticipated airflow will increase and that the frosting will stop.
7. 4-way style diffusers in the kitchen need to be changed out for perforated style diffusers. 4-way diffusers near hoods can direct drafts at the hood and cause rollout issues.
8. Economizer for RTU-3 is not functional and needs to be repaired. It was found unplugged. Plugged in and heard the actuator moving but the damper did not move.
9. Drive thru air curtain and door are not functional and need to be repaired. The door is staying open and drafts from the window are traveling through the space making the smoke capture worse at the fryer and griddle.
10. RTU Outside air filter is dirty and needs to be cleaned.

Other issues that are not impacting hood performance but need to be addressed:

11. Condensate drains are not connected and water is pooling up on the roof.

See punchlist items on the following pages for more details/pictures.



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02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

Project Issue Information

Issue Name : 01 - Grill not centered

Description : Grill is not centered under the hood and is primary reason for the poor smoke capture. Island hood needs 12" of overhang on all sides. The only smoke loss is noted on the side without overhang.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Originated Date : 02/27/2023 - Will Turnbough - National TAB

Project Issue File Details



Grillright.jpeg



Grillleft.jpeg



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Project Issue Information

Issue Name : 02 - RTU/MUA are dirty

Description : Units are extremely dirty and need to be thoroughly cleaned. May require multiple cleanings. The condition is having a significant impact on airflow.

Created By : National TAB

Assigned To : National TAB - William Patton

Status : Open

Originated Date : 02/23/2023 - William Patton - National TAB

Project Issue File Details



RTU3FANCABINET.jpeg

Project Issue Response Details

- **03/10/2023** National TAB - Will Turnbough
 - Typical of all units



Blower1.jpeg



Blower2.jpeg



Rtu_compartment.jpeg



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02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

Project Issue Information

Issue Name : 03 - RTU adjustable motor pulleys

Description : Recommend ensuring that the adjustable motor pulleys for all RTU's can be adjusted so that airflows can be balanced. If they are found to be seized recommend breaking free or ordering a new identical pulley.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Originated Date : 03/10/2023 - Will Turnbough - National TAB



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02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

Project Issue Information

Issue Name : 04 - Diffusers throughout kitchen are dirty

Description : Recommend cleaning

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Originated Date : 02/27/2023 - Will Turnbough - National TAB

Project Issue File Details



Diffuser1.jpeg



Diffuser2.jpeg



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02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

Project Issue Information

Issue Name : 05 - ACSPS is dirty

Description : Recommend dropping the AC-ssp portion and cleaning the top and bottom of the perforated grilles.

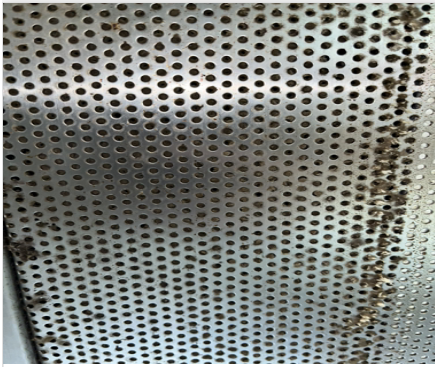
Created By : National TAB

Assigned To : National TAB - Will Turnbough

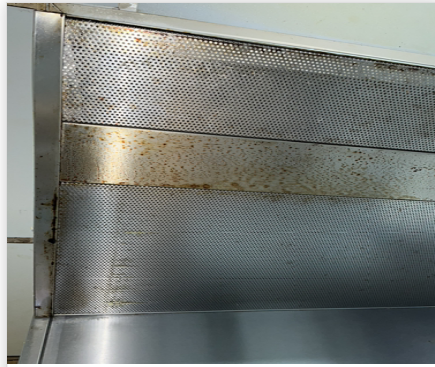
Status : Open

Originated Date : 03/10/2023 - Will Turnbough - National TAB

Project Issue File Details



Acsp.jpeg



Acsp2.jpeg



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02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

Project Issue Information

Issue Name : 06 - RTU3 coil

Description : RTU3 evaporator coil is starting to freeze. Likely due to low airflow

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Originated Date : 03/10/2023 - Will Turnbough - National TAB

Project Issue File Details



Rtu3coil.jpeg



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02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

Project Issue Information

Issue Name : 07 - 4 way diffusers

Description : Recommend changing 4 way diffusers in the kitchen to perforated style. 4 way diffusers near the hood cause drafts which result in poor hood capture

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Originated Date : 02/27/2023 - Will Turnbough - National TAB

Project Issue File Details



4ways.jpeg



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Project Issue Information

Issue Name : 08 - RTU3 Economizer

Description : Rtu3 economizer was found unplugged. Plugged in but damper didn't move. Recommend repair

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Originated Date : 03/10/2023 - Will Turnbough - National TAB

Project Issue File Details



Econ3.jpeg



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Project Issue Information

Issue Name : 09 - Drive thru door and air curtain not functional

Description : Door and air curtain need to be repaired to prevent air drafts when door is open. The draft travels thru the space and makes smoke capture worse on fryer and griddle.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Originated Date : 02/27/2023 - Will Turnbough - National TAB

Project Issue File Details



Driverthru.jpeg

Project Issue Response Details

- **02/27/2023 National TAB - Will Turnbough**
 - Video of fryer capture when the drive thru door is open and air curtain not operational
 1. [Open FryerVideo.MOV](#)



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02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

Project Issue Information

Issue Name : 10 - RTU-3 OA filter is dirty

Description : Recommend cleaning.

Created By : National TAB

Assigned To : National TAB - William Patton

Status : Open

Originated Date : 02/23/2023 - William Patton - National TAB

Project Issue File Details



RTU3FILTER.jpeg



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02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

Project Issue Information

Issue Name : 11 - CONDENSATE LINES

Description : Condensate drain lines found disconnected for all units. Recommend reconnecting. Water is pooling on the roof.

Created By : National TAB

Assigned To : National TAB - William Patton

Status : Open

Originated Date : 02/23/2023 - William Patton - National TAB

Project Issue File Details



CONDENSATE-RTU3.jpeg



CONDENSATE-RTU2.jpeg



CONDENSATE-RTU1.jpeg



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02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

CheckList Information

Name : TECH - SITE PICTURES **Status :** NotSubmitted
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB

CheckList Item Details

STORE FRONT



Storefront.jpeg

RTU-1



Rtu1.jpeg

RTU-2



Rtu2.jpeg

RTU-3



Rtu3.jpeg

KEF-1



Kef1.jpeg

KEF-2



Kef2.jpeg

MUA-1



Mua.jpeg

HOOD-1



Hood2.jpeg

HOOD-2

Notes/Comments :

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Project: 02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

System/Unit: AHU/RTU



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Asset: RTU1

AREA:DINING

Unit Data		
	Design	Actual
MFG	LENNOX	TRANE
Serial Num	-	14191727L
Model Num	KGA092S4B	YSC090F3RMA08H 101A1000000000 0C0000000000
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	15X36
Num Final Filter 1	-	4
Final Filter Size 1	-	16X24X2

Test Data		
	Design	Actual
SF CFM	3000	2465
RA CFM	2497	1820
OA CFM	503	645

Performance Data		
	Design	Actual

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

Motor Data		
	Design	Actual
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	3	3
Motor Rpm	-	1725/1425
Phase	3	3
Rated Voltage	208	208-230/4.7
Rated Amperage	-	9.4-9.2/4.6

Drive Data		
	Design	Actual
Motor Sheave Size	-	1VL44
Motor Bore Size	-	7/8"
Fan Sheave Size	-	AK56X
Fan Sheave Bore	-	1"
Belt CL Distance	-	10"
Num of Belts	-	1
Belt Size	-	AX32

Completed By: Will Turnbough

Notes:

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Project: 02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

System/Unit: AHU/RTU



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Asset: RTU2

AREA:DINING, RR

Unit Data		
	Design	Actual
MFG	LENNOX	TRANE
Serial Num	-	141911740L
Model Num	KGA092S4B	YSC090F3RMA08H1 01A10000000000 C00000000000
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	15X36"
Num Final Filter 1	-	4
Final Filter Size 1	-	16X25X2

Test Data		
	Design	Actual
SF CFM	3000	2750
RA CFM	2497	1985
OA CFM	503	765

Performance Data		
	Design	Actual

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

Motor Data		
	Design	Actual
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	3	3
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	208	208-230/460
Rated Amperage	-	9.4-9.2/4.6

Drive Data		
	Design	Actual
Motor Sheave Size	-	1VL44
Motor Bore Size	-	7/8"
Fan Sheave Size	-	AK56
Fan Sheave Bore	-	1"
Belt CL Distance	-	10
Num of Belts	-	1
Belt Size	-	AX32

Completed By: Will Turnbough

Notes:

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Project: 02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

System/Unit: AHU/RTU



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Asset: RTU3

AREA:KITCHEN

Unit Data		
	Design	Actual
MFG	LENNOX	TRANE
Serial Num	-	14910603D
Model Num	KGA150S4B	YSD150F36LA03H001A 1000000000000 00000000
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	15X47.75
Num Final Filter 1	-	6
Final Filter Size 1	-	20X25X2

Test Data		
	Design	Actual
SF CFM	5000	2683
SF RPM	-	767
RA CFM	4626	2280
OA CFM	374	403
RL Voltage	-	213/212/212
RL Amperage	-	5.6/5.8/5.3

Motor Data		
	Design	Actual
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	5	3
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	208	208-230/460
Rated Amperage	-	9.4-9.2/4.6

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.26
Fan Suction SP	-	-0.33
Fan Discharge SP	-	0.14
Total ESP	1.0"	0.40"
Fan Total SP	-	0.57"

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

Drive Data		
	Design	Actual
Motor Sheave Size	-	1VP44
Motor Bore Size	-	7/8"
Fan Sheave Size	-	BK90
Fan Sheave Bore	-	1
Belt CL Distance	-	TENSIONER
Num of Belts	-	1
Belt Size	-	BX62

Completed By: Will Turnbough

Notes:

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Project: 02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

System/Unit: FAN - Exhaust



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Asset: KEF1

AREA:KEH-2

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	NCA16HPFA	NCA16HPFA
Serial Num	-	1889993
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	2076	1983
RL Voltage	-	212/212/213
RL Amperage	-	2.9/2.9/2.8

Motor Data		
	Design	Actual
Horsepower	1.0	1
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	3.3

Drive Data		
	Design	Actual

Completed By: Will Turnbough

Notes:

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Project: 02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: KEF2

AREA:KEH-1

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	NCA8FA	NCA8FA
Serial Num	-	1889993
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	825	899
RL Voltage	-	123
RL Amperage	-	6.5

Motor Data		
	Design	Actual
Horsepower	0.5	0.5
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	8

Drive Data		
	Design	Actual

Completed By: Will Turnbough

Notes:

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Project: 02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

System/Unit: FAN - Supply



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Asset: MUA-1

AREA:

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	A1-D.250-G10	A1-D.250-G10
Serial Num	-	1889993
Type	MUA	MUA
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	2321	1072
SF RPM	1109	957
Motor RPM	-	1777
RL Voltage	-	211/211/212
RL Amperage	-	2.5/2.2/2.3

Motor Data		
	Design	Actual
Motor MFG	-	Century
Frame	-	J56
Horsepower	1.5	1.0
Motor Rpm	-	1725
Phase	3	3
Voltage (rated)	208	200-230/460
Amperage (rated)	-	3.4-3.6/1.8
Service Factor	-	1.25

General		
	Design	Actual
Fan Rotation Correct	-	YES

Drive Data		
	Design	Actual
Motor Sheave Size	-	1VL40
Motor Bore Size	-	5/8"
Fan Sheave Size	-	AK54
Fan Sheave Bore	-	3/4"
Belt CL Distance	-	15 5/8"
Num of Belts	-	1
Belt Size	-	AX40

Gas Heat		
	Design	Actual
Heater Operates (y/n)	-	YES
Flame Status (pass/fail)	-	PASS
Inlet Air Temp SetPt	55	50
Discharge Air Temp SetPt	60	55
Air Flow Switch SP Actual	-	.22

Completed By: Will Turnbough

Notes:

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Project: 02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

System/Unit: Kitchen Hood Type I



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Asset: HD1

AREA:

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5424 ND-2-ACPSP-F	5424 ND-2-ACPSP-F
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	52	52
Hood Width	54"	54
Supply Plenum Type	-	PSP
Supply Plenum Width	14"	14
Supply Plenum Length	52"	52

Test Data Supply		
	Design	Actual
Total AK Area	5.05	5.05
Kv factor (Vel)	0.89	0.89
Reading1 FPM	-	89
Reading2 FPM	-	61
Reading3 FPM	-	66
Reading4 FPM	-	82
Ave FPM(corr)	-	67
CFM	660	338

Test Data Exhaust		
	Design	Actual
Filter Type	SS BAFFLE	SS BAFF
Filter Size 1	20X16	20X16
Filter Qty 1	3	3
Filter AK factor size 1	2.08	2.08
Filter Total AK Area	6.24	6.24
Filter1 FPM	-	137
Filter2 FPM	-	146
Filter3 FPM	-	148
Filter Ave FPM(corr)	-	144
CFM	825	899

Cooking Equipment		
	Design	Actual
Item 1	-	FRYERS

Completed By: Will Turnbough

Notes:

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Project: 02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

System/Unit: Kitchen Hood Type I



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Asset: HD2

AREA:FRONT

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	8424-NDI-ACSP-FB	8424-NDI-ACSP-FB
Type	TYPE I ISLAND	TYPE I ISLAND
Hood length	72	72
Hood Width	84	84
Supply Plenum Type	-	PSP
Supply Plenum Width	14	14
Supply Plenum Length	74	74

Test Data Supply		
	Design	Actual
Total AK Area	7.19	14.39
Kv factor (Vel)	0.89	0.89
Reading1 FPM	-	71
Reading2 FPM	-	52
Reading3 FPM	-	57
Reading4 FPM	-	63
Reading5 FPM	-	19
Reading6 FPM	-	47
Reading7 FPM	-	72
Reading8 FPM	-	51
Reading9 FPM	-	44
Reading10 FPM	-	78
Reading11 FPM	-	68
Reading12 FPM	-	60
Ave FPM(corr)	-	51
CFM	1660	734

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO	CAPTRARE SOLO
Filter Size 1	16X16	16X16
Filter Qty 1	8	8
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	12.96	12.96
Filter1 FPM	-	151
Filter2 FPM	-	155
Filter3 FPM	-	149
Filter4 FPM	-	150
Filter5 FPM	-	148
Filter6 FPM	-	153
Filter7 FPM	-	161
Filter8 FPM	-	158
Filter Ave FPM(corr)	-	153
CFM	2076	1983

Cooking Equipment		
	Design	Actual
Item 1	-	GRIDDLE

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Notes:

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Project: 02-20-23 FREDDY'S - MCDONOUGH, GA (REVIVE)

System/Unit: Kitchen Hood Type I



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Asset: PSP1

AREA:FRONT

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Supply Plenum Type	ACPSP	
Supply Plenum Width	14"	
Supply Plenum Length	74"	

Test Data Supply		
	Design	Actual
AK factor	7.19	
Kv factor (Vel)	0.89	
Num of Readings	-	
Reading1 FPM	-	
Reading2 FPM	-	
Reading3 FPM	-	
Reading4 FPM	-	
Reading5 FPM	-	
Reading6 FPM	-	
Reading7 FPM	-	
Reading8 FPM	-	
Reading9 FPM	-	
Reading10 FPM	-	
Reading11 FPM	-	
Reading12 FPM	-	
Reading13 FPM	-	
Reading14 FPM	-	
Ave FPM(corr)	-	
CFM	410	

Completed By: Brianna Biggs

Notes: