

Report By:

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



Report: TAB REPORT
Function: Test, Adjust, & Balance
Date: 06/27/2025
Completed By: National TAB

PROJECT

Palisades Episc School Classrooms (Charlotte, NC)

13120 Grand Palisades Pkwy

Charlotte, NC 28278

Client

Action Mechanical Inc.

PO Box 7325

CHARLOTTE, NC 28241

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

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CERTIFICATION

PROJECT: Palisades Episc School Classrooms (Charlotte, NC)

The data presented in this report is a record of system measurements and final adjustments that have been obtained in accordance with the current edition of the NEBB *Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems*. Any variances from design quantities, which exceed NEBB tolerances, are noted in the Test-Adjust-Balance Report Project Summary.

The air distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

NEBB TAB FIRM: National TAB-Southeast

REGISTRATION NO: 3755

CERTIFIED BY: J. Scott Springer 23312

DATE: 6/27/2025

The hydronic distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

NEBB TAB FIRM: National TAB-Southeast

REGISTRATION NO: 3755

CERTIFIED BY: J. Scott Springer 23312

DATE: _____

Submitted and Certified by:

NEBB TAB FIRM: National TAB-Southeast

TAB PROFESSIONAL: J. Scott Springer

SIGNATURE: 

REGISTRATION NO: 3755 (NTAB) / 23312

CERTIFICATION EXP: 12/31/2025





National TAB

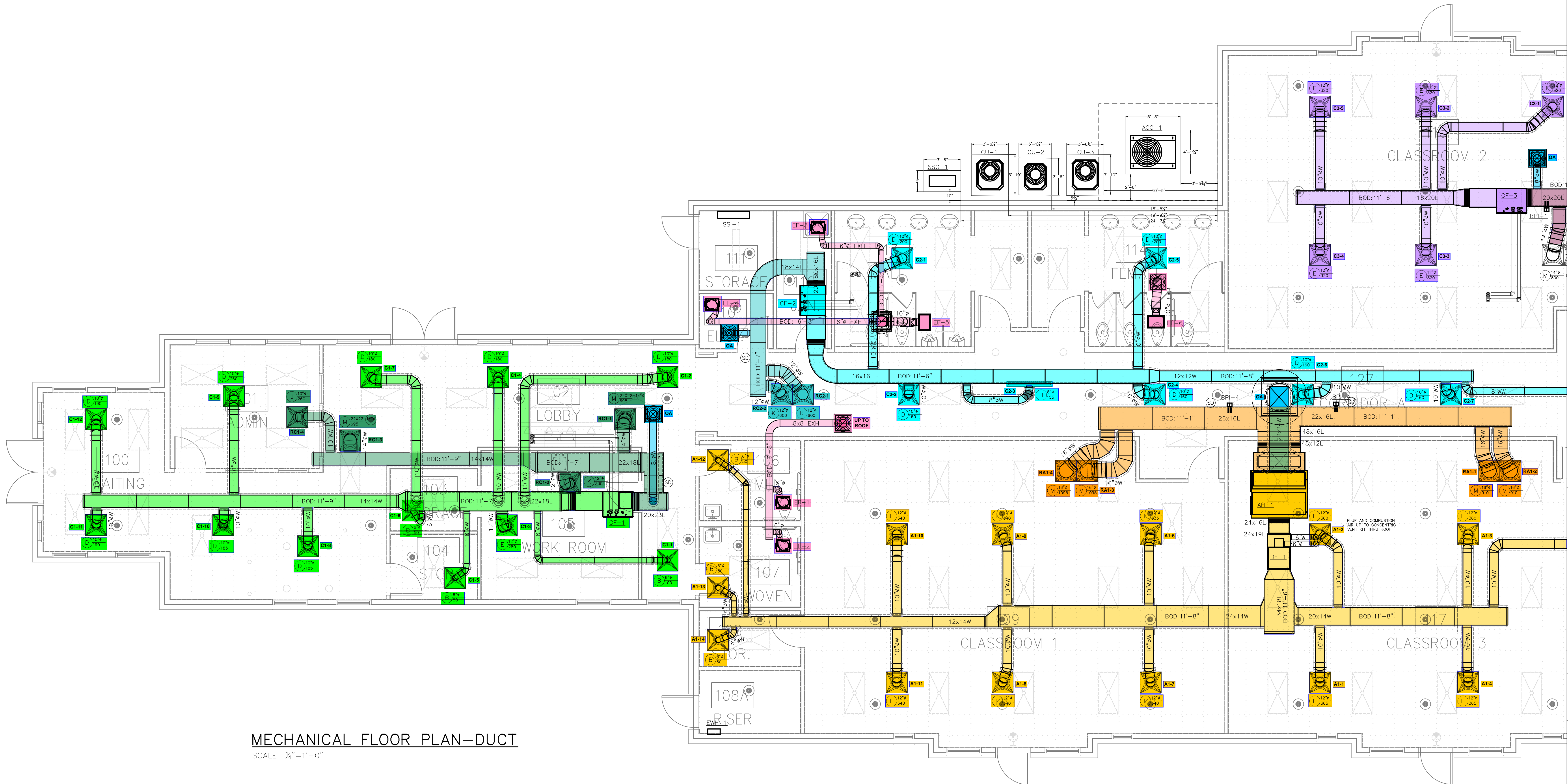
Testing, Adjusting, and Balancing Equipment



| Function | | Range | Minimum Accuracy | Instrument Information | Calibration Date | Date Due |
|-------------|-----------------------------------|---------------------------|------------------------------|--------------------------------------|------------------|------------|
| AIR | AIR PRESSURE | 0 in wg to 10 in wg | 2% +/- 0.001 in wg | Shortridge ADM-880C S/N M05066 | 10/15/2024 | 10/15/2025 |
| | AIR VELOCITY INSTRUMENT | 50 fpm to 3900 fpm | +/- 5 % +/- 7 fpm | Shortridge ADM-880C S/N M05066 | 10/15/2024 | 10/15/2025 |
| | DIRECT HOOD READING | 100 cfm to 2000 cfm | +/- 3 % +/- 7 cfm | Shortridge Flow Hood | 10/15/2024 | 10/15/2025 |
| TEMPERATURE | AIR METER | -20 F to 240 F | +/- .5 % 2 F | Cooper ATKINS - SRH77A S/N 081820093 | 10/15/2024 | 10/15/2025 |
| | AIR PROBE | -20 F to 240 F | +/- .5 % 2 F | Cooper ATKINS - PD1388 7-6 S/N 5028 | 10/15/2024 | 10/15/2025 |
| | IMMERSION METER | -20 F to 240 F | +/- .5 % 2 F | Cooper ATKINS - SRH77A S/N 081820093 | 10/15/2024 | 10/15/2025 |
| | IMMERSION PROBE | -20 F to 240 F | +/- .5 % 2 F | Cooper ATKINS - PD1388 7-6 S/N 1075 | 10/15/2024 | 10/15/2025 |
| | CONTACT METER | -20 F to 240 F | +/- .5 % 2 F | Cooper ATKINS - SRH77A S/N 081820093 | 10/15/2024 | 10/15/2025 |
| | CONTACT PROBE | -20 F to 240 F | +/- .5 % 2 F | Cooper ATKINS - PD1388 7-6 S/N 4011 | 10/15/2024 | 10/15/2025 |
| HUMIDITY | HUMIDITY PROBE | 10 % RH to 90 % RH | 3% of reading | Cooper ATKINS - SRH77A S/N 090315046 | 10/15/2024 | 10/15/2025 |
| ELECTRICAL | VOLTAGE MEASUREMENT | 0 VAC to 600 VAC | 2 % reading +/- 5 digits | Dwyer CM-1 - S/N 190800099 | 10/15/2024 | 10/15/2025 |
| | AMPERAGE MEASUREMENT | 0 Amperers to 100 Amperes | 2 % reading +/- 5 digits | Dwyer CM-1 - S/N 190800099 | 10/15/2024 | 10/15/2025 |
| ROTATION | ROTATION MEASUREMENT | 60 rpm to 5000 rpm | 2 % reading 2 rpm | Dwyer TAC-L - S/N S1100123 | 10/15/2024 | 10/15/2025 |
| HYDRONIC | PRESSURE MEASUREMENT | -30 in Hg to 200 psi | ±2% of reading +/- 1 psi | Shortridge HDM 250 - S/N W25059 | 6/18/2025 | 6/18/2026 |
| | DIFFERENTIAL PRESSURE MEASUREMENT | 0 psi - 80 psi | ±2% of reading +/- 1 psi | Shortridge HDM 250 - S/N W25059 | 6/18/2025 | 6/18/2026 |
| DALT | DUCT LEAKAGE | -10" - +10" wc | ±1% of reading +/- 0.004" wc | Kanomax DALT 6900 S/N: 080439 | 3/7/2025 | 3/7/2026 |

Abbreviation List

| | |
|--|---|
| A = Area (ft ²) | S.F. = Service Factor |
| AHU = Air Handling Unit | SF = Supply Fan |
| A _k = Effective Area | SP = Static Pressure |
| BHP = Brake Horsepower (IP) HP | SR = Supply Register |
| Btu = British Thermal Unit | T = Temperature |
| Btu/h = Btuh = BTUH = BTU/Hour | T _{ma} = Mixed Air Temperature |
| CL = Center Distance (used in belt formula) | T _{oa} = Outside Air Temperature |
| CD = Ceiling Diffuser | T _{ra} = Return Air Temperature |
| CF = Correction Factor | H = Head (in wc, ft wc, psi) |
| CFM = Volumetric Flow: Cubic Feet Per Minute | h = Enthalpy |
| CO ₂ = Carbon Dioxide | HP = Horsepower |
| CO = Carbon Monoxide | hr = Hour |
| C _v = Flow Constant | K _v = Flow constant (SI) |
| d = Diameter (in.) IP | kW = Kilowatt = 1000 Watts |
| Δ = Difference or Change (Final - Initial) | LAT = Leaving Air Temperature |
| DB = Dry Bulb | lb = Pounds |
| EA = Exhaust Air | LWT = Leaving Water Temperature |
| EAT = Entering Air Temperature | ma = Mixed Air |
| EF = Exhaust Fan | MIN = Minimum |
| Eff = Efficiency | MAX = Maximum |
| EG = Exhaust Grille | N/A = Not Applicable |
| ESP = External Static Pressure | NA = No Access |
| EWT = Entering Water Temperature | NL = Not Listed |
| °F = Degrees Fahrenheit, °F | NPSHA = Net Positive Suction Head Available |
| FPB = Fan Powered Box | NS = Not Specified |
| FLA = Full Load Amps | OA = Outside Air |
| fpm = Feet per Minute (fpm) | OAT = Outside Air Temperature |
| ft = Foot | PD = Sheave Pitch Diameter |
| gal = Gallons | P.D. = Pressure Drop |
| GPM = Gallons Per Minute (GPM) | PF = Power Factor |
| h = Enthalpy (BTU/lb dry air) | SG = Supply Grille |
| P = Pressure | SR = Supply Register |
| ppm = parts per million | TP = Total Pressure |
| psi = Pounds Per Square Inch | T _{ra} = Return Air Temperature |
| psid = PSI Differential | TS = Tip Speed (fpm) IP, (m/s) SI |
| r = Radius (in) | TSP = Total Static Pressure |
| % _{ra} = % of Return Air | V = Velocity |
| RA = Return Air | VAV = Variable Air Volume |
| RAT = Return Air Temperature | VD = Volume Damper |
| RF = Return Fan | VFD = Variable Frequency Drive |
| RG = Return Grille | W = Watt |
| RH = Relative Humidity | WB = Wet Bulb |
| RPM = Revolutions Per Minute | wg = wc = water gauge = water column |
| RTU = Roof Top Unit | WHP = Water Horsepower (IP) |
| SA = Supply Air | ω = Humidity Ratio |



MECHANICAL FLOOR PLAN-DUCT
SCALE: 1/4" = 1'-0"

Palisades Episcopal High School
13120 Grand Palisades Parkway
Charlotte, NC

GENERAL CONTRACTOR:
Metrolina
○ PRELIMINARY - NOT FOR CONSTRUCTION
○ FOR CONSTRUCTION
● SHOP DRAWINGS
○ AS-BUILT DRAWINGS

| REVISIONS | DATE |
|-----------|------|
| | |
| | |
| | |
| | |

DRAWN BY: RJM
CHECKED BY: RJM
PROJECT: 24-777
DATE: xx/xx/xxxx
SHEET: 1 OF: 4

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

System/Unit: Split Sys Furnace



Asset: AH-1

AREA:109,117

| Unit Data | | |
|--------------------|---------------|-----------------|
| | Design | Actual |
| MFG | TRANE | TRANE |
| Model Num | S9V2C100U4VSA | TWE12041BAA07B1 |
| Serial Num | - | 23303216BA |
| Configuration | HORIZONTAL | HORIZONTAL |
| Filter Size Size 1 | - | 16X25X1 |

| Motor Data | | |
|------------|--------|---------|
| | Design | Actual |
| Motor MFG | - | CENTURY |
| Frame | - | 56HZ |
| Horsepower | - | 2 |
| Motor Rpm | - | 1725 |
| Phase | - | 1 |
| Voltage | - | 208 |
| Amperage | - | 10.50 |

| Test Data | | |
|-------------------|--------|--------|
| | Design | Actual |
| SF CFM | 4000 | 3833 |
| Motor Speed SetPt | - | 60 Hz |
| RL Voltage | 208 | 208 |
| RL Amperage | 10.5 | 10.50 |
| RA CFM | 3635 | 3464 |
| OA CFM | 365 | 369 |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Suction ESP | - | -0.37" |
| Discharge ESP | - | 0.16" |
| Total ESP | 0.40 | 0.53" |

Completed By: Antonio Flores-De La Cruz on 06/26/2025

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

Split Sys Furnace



Diffuser Supply (GRD)

AH-1/109,117

| Asset | | | | | | | |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| SGRD1 | 117 | E | 12 | 365 | 263 | 329 | 90.1 |
| SGRD2 | 117 | E | 12 | 360 | 330 | 347 | 96.4 |
| SGRD3 | 117 | E | 12 | 360 | 366 | 343 | 95.3 |
| SGRD4 | 117 | E | 12 | 365 | 355 | 354 | 97.0 |
| SGRD5 | 117 | E | 12 | 365 | 315 | 357 | 97.8 |
| SGRD6 | 109 | E | 10 | 335 | 309 | 320 | 95.5 |
| SGRD7 | 109 | E | 10 | 340 | 287 | 337 | 99.1 |
| SGRD8 | 109 | E | 10 | 340 | 312 | 323 | 95.0 |
| SGRD9 | 109 | E | 10 | 340 | 332 | 327 | 96.2 |
| SGRD10 | 109 | E | 10 | 340 | 308 | 313 | 92.1 |
| SGRD11 | 109 | E | 10 | 340 | 308 | 333 | 97.9 |
| SGRD12 | 16 | A | 6 | 50 | 100 | 50 | 100.0 |
| SGRD13 | 107 | B | 6 | 50 | 106 | 50 | 100.0 |
| SGRD14 | 108 | A | 6 | 50 | 114 | 50 | 100.0 |
| Total | | | | 4000 | 3805 | 3833 | 95.82% |

Diffuser Ret/Exh (GRD)

AH-1/109,117

| Asset | | | | | | | | |
|------------|----------|------|------|------------|----|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | FINAL CFM | % to design |
| EGRD1 | 117 | M | 16 | 910 | 1 | 745 | 936 | 102.9 |
| EGRD2 | 117 | M | 16 | 910 | 1 | 563 | 927 | 101.9 |
| EGRD3 | 109 | M | 16 | 1095 | 1 | 663 | 798 | 72.9 |
| EGRD4 | 109 | M | 16 | 1095 | 1 | 769 | 772 | 70.5 |
| Total | | | | 4010 | | 2740 | 3433 | 85.61% |

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

System/Unit: Split Sys Furnace



Asset: AH-2

AREA:121,125

| Unit Data | | |
|--------------------|---------------|-----------------|
| | Design | Actual |
| MFG | TRANE | TRANE |
| Model Num | S9V2C100U4VSA | TWE09041BAA07B1 |
| Serial Num | - | 24221805BA |
| Configuration | HORIZONTAL | HORIZONTAL |
| Filter Size Size 1 | - | 16X25X1 |

| Motor Data | | |
|------------|--------|----------|
| | Design | Actual |
| Motor MFG | - | MARATHON |
| Frame | - | 56H |
| Horsepower | - | 1.5 |
| Motor Rpm | - | 1725 |
| Phase | - | 1 |
| Voltage | - | 208 |
| Amperage | - | 7.50 |

| Test Data | | |
|-------------------|--------|--------|
| | Design | Actual |
| SF CFM | 3000 | 2984 |
| Motor Speed SetPt | - | 60 Hz |
| RL Voltage | 208 | 208 |
| RL Amperage | 7.5 | 6.4 |
| RA CFM | 2650 | 2621 |
| OA CFM | 350 | 363 |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Suction ESP | - | -0.51" |
| Discharge ESP | - | 0.11" |
| Total ESP | 0.40 | 0.62" |

Completed By: Antonio Flores-De La Cruz on 06/25/2025

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

Split Sys Furnace



Diffuser Supply (GRD)

AH-2/121,125

| Asset | | | | | | | |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| SGRD1 | 121 | E | 12 | 300 | 173 | 294 | 98.0 |
| SGRD2 | 121 | E | 12 | 300 | 252 | 296 | 98.7 |
| SGRD3 | 121 | E | 12 | 300 | 223 | 310 | 103.3 |
| SGRD4 | 121 | E | 12 | 300 | 255 | 311 | 103.7 |
| SGRD5 | 121 | E | 12 | 300 | 247 | 290 | 96.7 |
| SGRD6 | 125 | E | 12 | 300 | 176 | 299 | 99.7 |
| SGRD7 | 125 | E | 12 | 300 | 223 | 292 | 97.3 |
| SGRD8 | 125 | E | 12 | 300 | 203 | 325 | 108.3 |
| SGRD9 | 125 | E | 12 | 300 | 212 | 296 | 98.7 |
| SGRD10 | 125 | E | 12 | 300 | 234 | 271 | 90.3 |
| Total | | | | 3000 | 2198 | 2984 | 99.47% |

Diffuser Ret/Exh (GRD)

AH-2/121,125

| Asset | | | | | | | | |
|------------|----------|------|------|------------|----|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | FINAL CFM | % to design |
| EGRD1 | | M | 16 | 800 | 1 | 598 | 654 | 81.8 |
| EGRD2 | 121 | M | 16 | 800 | 1 | 616 | 666 | 83.3 |
| EGRD3 | 125 | M | 16 | 800 | 1 | 459 | 650 | 81.3 |
| EGRD4 | 125 | M | 16 | 800 | 1 | 525 | 651 | 81.4 |
| Total | | | | 3200 | | 2198 | 2621 | 81.91% |

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

System/Unit: Split Sys Furnace



Asset: AH-3

AREA:120,123

| Unit Data | | |
|--------------------|---------------|-----------------|
| | Design | Actual |
| MFG | TRANE | TRANE |
| Model Num | S9V2C100U4VSA | TWE09041BAA07B1 |
| Serial Num | - | 23302438BA |
| Configuration | HORIZONTAL | HORIZONTAL |
| Filter Size Size 1 | - | 16X25X1 |

| Motor Data | | |
|------------|--------|----------|
| | Design | Actual |
| Motor MFG | - | MARATHON |
| Frame | - | 56H |
| Horsepower | - | 1.5 |
| Motor Rpm | - | 1725 |
| Phase | - | 1 |
| Voltage | - | 208 |
| Amperage | - | 7.5 |

| Test Data | | |
|-------------------|--------|--------|
| | Design | Actual |
| SF CFM | 3000 | 2970 |
| Motor Speed SetPt | - | 60 Hz |
| RL Voltage | 208 | 208 |
| RL Amperage | 7.5 | 5.6 |
| RA CFM | 2650 | 2614 |
| OA CFM | 350 | 356 |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Suction ESP | - | -0.43" |
| Discharge ESP | - | 0.19" |
| Total ESP | 0.40 | 0.62" |

Completed By: Antonio Flores-De La Cruz on 06/25/2025

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

Split Sys Furnace



Diffuser Supply (GRD)

AH-3/120,123

| Asset | | | | | | | |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| SGRD1 | 120 | E | 12 | 300 | 228 | 302 | 100.7 |
| SGRD2 | 120 | E | 12 | 300 | 285 | 302 | 100.7 |
| SGRD3 | 120 | E | 12 | 300 | 256 | 292 | 97.3 |
| SGRD4 | 120 | E | 12 | 300 | 316 | 300 | 100.0 |
| SGRD5 | 120 | E | 12 | 300 | 275 | 302 | 100.7 |
| SGRD6 | 123 | E | 12 | 300 | 241 | 303 | 101.0 |
| SGRD7 | 123 | E | 12 | 300 | 245 | 290 | 96.7 |
| SGRD8 | 123 | E | 12 | 300 | 208 | 274 | 91.3 |
| SGRD9 | 123 | E | 12 | 300 | 238 | 315 | 105.0 |
| SGRD10 | 123 | E | 12 | 300 | 273 | 290 | 96.7 |
| Total | | | | 3000 | 2565 | 2970 | 99% |

Diffuser Ret/Exh (GRD)

AH-3/120,123

| Asset | | | | | | | | |
|------------|----------|------|------|------------|----|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | FINAL CFM | % to design |
| EGRD1 | 120 | M | 16 | 800 | 1 | 541 | 666 | 83.3 |
| EGRD2 | 120 | M | 16 | 800 | 1 | 553 | 662 | 82.8 |
| EGRD3 | 123 | M | 16 | 800 | 1 | 444 | 621 | 77.6 |
| EGRD4 | 123 | M | 16 | 800 | 1 | 551 | 665 | 83.1 |
| Total | | | | 3200 | | 2089 | 2614 | 81.69% |

Completed By: Antonio Flores-De La Cruz on 06/24/2025

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

System/Unit: Split Sys Furnace



Asset: CF-1

AREA:

| Unit Data | | |
|--------------------|---------------|-----------------|
| | Design | Actual |
| MFG | TRANE | TRANE |
| Model Num | S9V2C100U4VSA | S9X1D120U5PSBAB |
| Serial Num | - | 24234MY7KG |
| Configuration | HORIZONTAL | HORIZONTAL |
| Filter Size Size 1 | - | [1] |

| Motor Data | | |
|------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | NA |
| Frame | - | NA |
| Horsepower | - | 1 |
| Motor Rpm | - | NA |
| Phase | - | 1 |
| Voltage | - | 115 |
| Amperage | - | 14.1 |

| Test Data | | |
|-------------------|--------|-------------|
| | Design | Actual |
| SF CFM | 2030 | 1905 |
| Motor Speed SetPt | - | SPEED TAP 9 |
| RL Voltage | 115 | 120 |
| RL Amperage | 14.1 | 6.7 |
| RA CFM | 1890 | 1759 |
| OA CFM | 140 | 146 |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Suction ESP | - | -0.18" |
| Discharge ESP | - | 0.15" |
| Total ESP | 0.50 | 0.33" |

Completed By: Antonio Flores-De La Cruz on 06/25/2025

Notes:

[1] NO FILTER WAS INSTALLED TO DOCUMENT

Written By: Antonio Flores-De La Cruz on 06/26/2025

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

Split Sys Furnace



Diffuser Supply (GRD)

CF-1/

| Asset | | | | | | | |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| SGRD1 | CORR | B | 6 | 100 | 85 | 91 | 91.0 |
| SGRD2 | 102 | D | 10 | 180 | 173 | 173 | 96.1 |
| SGRD3 | 105 | E | 12 | 280 | 252 | 261 | 93.2 |
| SGRD4 | 102 | D | 10 | 180 | 163 | 173 | 96.1 |
| SGRD5 | 104 | B | 6 | 50 | 50 | 51 | 102.0 |
| SGRD6 | 103 | B | 6 | 50 | 50 | 51 | 102.0 |
| SGRD7 | 102 | D | 10 | 180 | 156 | 174 | 96.7 |
| SGRD8 | 100 | D | 10 | 185 | 156 | 172 | 93.0 |
| SGRD9 | 101 | D | 10 | 260 | 235 | 242 | 93.1 |
| SGRD10 | 100 | D | 10 | 185 | 162 | 173 | 93.5 |
| SGRD11 | 100 | D | 10 | 190 | 161 | 172 | 90.5 |
| SGRD12 | 100 | D | 10 | 190 | 161 | 172 | 90.5 |
| Total | | | | 2030 | 1804 | 1905 | 93.84% |

Diffuser Ret/Exh (GRD)

CF-1/

| Asset | | | | | | | | |
|------------|----------|------|------|------------|----|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | FINAL CFM | % to design |
| EGRD1 | 102 | M | 14 | 695 | 1 | 657 | 619 | 89.1 |
| EGRD2 | 105 | K | 12 | 330 | 1 | 398 | 291 | 88.2 |
| EGRD3 | 102 | M | 14 | 695 | 1 | 379 | 620 | 89.2 |
| EGRD4 | 101 | J | 10 | 260 | 1 | 178 | 229 | 88.1 |
| Total | | | | 1980 | | 1612 | 1759 | 88.84% |

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

System/Unit: Split Sys Furnace



Asset: CF-2

AREA:

| Unit Data | | |
|--------------------|---------------|-----------------|
| | Design | Actual |
| MFG | TRANE | TRANE |
| Model Num | S9V2C100U4VSA | S9V2B080U4PSBDA |
| Serial Num | - | 23404LHTKG |
| Configuration | HORIZONTAL | HORIZONTAL |
| Filter Size Size 1 | - | [1] |

| Motor Data | | |
|------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | NA |
| Frame | - | NA |
| Horsepower | - | 0.75 |
| Motor Rpm | - | NA |
| Phase | - | 1 |
| Voltage | - | 115 |
| Amperage | - | 12.6 |

| Test Data | | |
|-------------------|--------|----------|
| | Design | Actual |
| SF CFM | 1355 | 1361 |
| Motor Speed SetPt | - | MED-HIGH |
| RL Voltage | 115 | 120 |
| RL Amperage | 12.6 | 5.2 |
| RA CFM | 1255 | 1258 |
| OA CFM | 100 | 103 |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Suction ESP | - | -0.16" |
| Discharge ESP | - | 0.12" |
| Total ESP | 0.50 | 0.28" |

Completed By: Antonio Flores-De La Cruz on 06/25/2025

Notes:

[1] NO FILTER WAS INSTALLED TO DOCUMENT

Written By: Antonio Flores-De La Cruz on 06/26/2025

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

Split Sys Furnace



Diffuser Supply (GRD)

CF-2/

| Asset | | | | | | | |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| SGRD1 | 113 | D | 10 | 200 | 151 | 204 | 102.0 |
| SGRD2 | CORR A | D | 10 | 160 | 181 | 162 | 101.3 |
| SGRD3 | CORR A | H | 8 | 155 | 82 | 152 | 98.1 |
| SGRD4 | CORR A | D | 10 | 160 | 176 | 158 | 98.8 |
| SGRD5 | 114 | D | 10 | 200 | 195 | 204 | 102.0 |
| SGRD6 | CORR A | D | 10 | 160 | 207 | 163 | 101.9 |
| SGRD7 | CORR A | D | 10 | 160 | 228 | 162 | 101.3 |
| SGRD8 | CORR A | H | 8 | 160 | 97 | 156 | 97.5 |
| Total | | | | 1355 | 1317 | 1361 | 100.44% |

Diffuser Ret/Exh (GRD)

CF-2/

| Asset | | | | | | | | |
|------------|----------|------|------|------------|----|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | FINAL CFM | % to design |
| EGRD1 | 127 | K | 12 | 600 | 1 | 625 | 635 | 105.8 |
| EGRD2 | 127 | K | 12 | 600 | 1 | 548 | 623 | 103.8 |
| Total | | | | 1200 | | 1173 | 1258 | 104.83% |

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

System/Unit: Split Sys Furnace



Asset: CF-3

AREA:114

| Unit Data | | |
|--------------------|---------------|-----------------|
| | Design | Actual |
| MFG | TRANE | TRANE |
| Model Num | S9V2C100U4VSA | S9V2C100U5PSBDA |
| Serial Num | - | 23332UFJKG |
| Configuration | HORIZONTAL | HORIZONTAL |
| Filter Size Size 1 | - | [1] |

| Motor Data | | |
|------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | NA |
| Frame | - | NA |
| Horsepower | - | 0.75 |
| Motor Rpm | - | NA |
| Phase | - | 1 |
| Voltage | - | 115 |
| Amperage | - | 12.9 |

| Test Data | | |
|-------------------|--------|----------|
| | Design | Actual |
| SF CFM | 1600 | 1659 |
| Motor Speed SetPt | - | MED-HIGH |
| RL Voltage | 115 | 120 |
| RL Amperage | 12.9 | 5.6 |
| RA CFM | 1425 | 1497 |
| OA CFM | 175 | 162 |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Suction ESP | - | -0.15" |
| Discharge ESP | - | 0.13" |
| Total ESP | 0.50 | 0.28" |

Completed By: Antonio Flores-De La Cruz on 06/25/2025

Notes:

[1] FILTER NOT INSTALLED. UNABLE TO DOCUMENT FILTER SIZE

Written By: Antonio Flores-De La Cruz on 06/24/2025

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

Split Sys Furnace



Diffuser Supply (GRD)

CF-3/114

| Asset | | | | | | | |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| SGRD1 | 115 | E | 12 | 320 | 356 | 334 | 104.4 |
| SGRD2 | 115 | E | 12 | 320 | 432 | 334 | 104.4 |
| SGRD3 | 115 | E | 12 | 320 | 375 | 335 | 104.7 |
| SGRD4 | 115 | E | 12 | 320 | 63 | 335 | 104.7 |
| SGRD5 | 115 | E | 12 | 320 | 437 | 321 | 100.3 |
| Total | | | | 1600 | 1663 | 1659 | 103.69% |

Diffuser Ret/Exh (GRD)

CF-3/114

| Asset | | | | | | | | |
|------------|----------|------|------|------------|----|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | FINAL CFM | % to design |
| EGRD1 | 115 | M | 14 | 800 | 1 | | 742 | 92.8 |
| EGRD2 | 115 | M | 14 | 800 | 1 | | 755 | 94.4 |
| Total | | | | 1600 | | 0 | 1497 | 93.56% |

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

System/Unit: Split Sys Furnace



Asset: CF-4

AREA: CORR B & C

| Unit Data | | |
|--------------------|---------------|-----------------|
| | Design | Actual |
| MFG | TRANE | TRANE |
| Model Num | S9V2C100U4VSA | S9V2C100U4VSADA |
| Serial Num | - | 23324KJ5KG |
| Configuration | HORIZONTAL | HORIZONTAL |
| Filter Size Size 1 | - | [1] |

| Motor Data | | |
|------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | NA |
| Frame | - | NA |
| Horsepower | - | 1 |
| Motor Rpm | - | NA |
| Phase | - | 1 |
| Voltage | - | 115 |
| Amperage | - | 12.6 |

| Test Data | | |
|-------------------|--------|--------|
| | Design | Actual |
| SF CFM | 1380 | 1410 |
| Motor Speed SetPt | - | MED |
| RL Voltage | 115 | 120 |
| RL Amperage | 12.6 | 5.2 |
| RA CFM | 1280 | 1307 |
| OA CFM | 100 | 103 |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Suction ESP | - | -0.15" |
| Discharge ESP | - | 0.14" |
| Total ESP | 0.50 | 0.29" |

Completed By: Antonio Flores-De La Cruz on 06/25/2025

Notes:

[1] NO FILTER WAS INSTALLED TO DOCUMENT

Written By: Antonio Flores-De La Cruz on 06/26/2025

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

Split Sys Furnace



Diffuser Supply (GRD)

CF-4/CORR B & C

| Asset | | | | | | | |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| SGRD1 | CORR B | C | 8 | 175 | 190 | 170 | 97.1 |
| SGRD2 | CORR B | H | 8 | 155 | 112 | 153 | 98.7 |
| SGRD3 | CORR B | C | 8 | 175 | 147 | 178 | 101.7 |
| SGRD4 | CORR B | C | 8 | 175 | 159 | 176 | 100.6 |
| SGRD5 | CORR C | C | 8 | 175 | 160 | 181 | 103.4 |
| SGRD6 | CORR C | C | 8 | 175 | 169 | 175 | 100.0 |
| SGRD7 | CORR C | C | 8 | 175 | 146 | 188 | 107.4 |
| SGRD8 | CORR C | C | 8 | 175 | 147 | 189 | 108.0 |
| Total | | | | 1380 | 1230 | 1410 | 102.17% |

Diffuser Ret/Exh (GRD)

CF-4/CORR B & C

| Asset | | | | | | | | |
|------------|----------|------|------|------------|----|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | FINAL CFM | % to design |
| EGRD1 | 128 | M | 14 | 700 | 1 | 659 | 659 | 94.1 |
| EGRD2 | 128 | M | 14 | 700 | 1 | 610 | 648 | 92.6 |
| Total | | | | 1400 | | 1269 | 1307 | 93.36% |

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

System/Unit: Split Sys Furnace



Asset: CF-5

AREA:131 CLASS 9

| Unit Data | | |
|--------------------|---------------|-----------------|
| | Design | Actual |
| MFG | TRANE | TRANE |
| Model Num | S9V2C100U4VSA | S9V2C100U4VSADA |
| Serial Num | - | 23324JXHKG |
| Configuration | HORIZONTAL | HORIZONTAL |
| Filter Size Size 1 | - | [1] |

| Motor Data | | |
|------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | NA |
| Frame | - | NA |
| Horsepower | - | 0.75 |
| Motor Rpm | - | NA |
| Phase | - | 1 |
| Voltage | - | 120 |
| Amperage | - | 12.9 |

| Test Data | | |
|-------------------|--------|----------|
| | Design | Actual |
| SF CFM | 1600 | 1565 |
| Motor Speed SetPt | - | MED-HIGH |
| RL Voltage | 120 | 120 |
| RL Amperage | 12.9 | 5.6 |
| RA CFM | 1440 | 1401 |
| OA CFM | 160 | 164 |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Suction ESP | - | -0.21" |
| Discharge ESP | - | 0.08" |
| Total ESP | 0.50 | 0.29" |

Completed By: Antonio Flores-De La Cruz on 06/25/2025

Notes:

[1] NO FILTER WAS INSTALLED TO DOCUMENT

Written By: Antonio Flores-De La Cruz on 06/25/2025

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

Split Sys Furnace



Diffuser Supply (GRD)

CF-5/131 CLASS 9

| Asset | | | | | | | |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| SGRD1 | 131 | E | 12 | 320 | 213 | 315 | 98.4 |
| SGRD2 | 131 | E | 12 | 320 | 267 | 308 | 96.3 |
| SGRD3 | 131 | E | 12 | 320 | 259 | 318 | 99.4 |
| SGRD4 | 131 | E | 12 | 320 | 280 | 306 | 95.6 |
| SGRD5 | 131 | E | 12 | 320 | 276 | 318 | 99.4 |
| Total | | | | 1600 | 1295 | 1565 | 97.81% |

Diffuser Ret/Exh (GRD)

CF-5/131 CLASS 9

| Asset | | | | | | | | |
|------------|----------|------|------|------------|----|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | FINAL CFM | % to design |
| EGRD1 | 131 | M | 16 | 800 | 1 | 630 | 678 | 84.8 |
| EGRD2 | 131 | M | 16 | 800 | 1 | 698 | 723 | 90.4 |
| Total | | | | 1600 | | 1328 | 1401 | 87.56% |

Completed By: Antonio Flores-De La Cruz on 06/25/2025

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

System/Unit: Split Sys Furnace



Asset: CF-6

AREA:130 CLASS 8

| Unit Data | | |
|--------------------|---------------|-----------------|
| | Design | Actual |
| MFG | TRANE | TRANE |
| Model Num | S9V2C100U4VSA | S9V2C100U4VSADA |
| Serial Num | - | 23302S1NKG |
| Configuration | HORIZONTAL | HORIZONTAL |
| Filter Size Size 1 | - | [1] |

| Motor Data | | |
|------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | NA |
| Frame | - | NA |
| Horsepower | - | 0.75 |
| Motor Rpm | - | NA |
| Phase | - | 1 |
| Voltage | - | 115 |
| Amperage | - | 12.9 |

| Test Data | | |
|-------------------|--------|----------|
| | Design | Actual |
| SF CFM | 1600 | 1620 |
| Motor Speed SetPt | - | MED-HIGH |
| RL Voltage | 115 | 120 |
| RL Amperage | 12.9 | 5.5 |
| RA CFM | 1440 | 1457 |
| OA CFM | 160 | 163 |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Suction ESP | - | -0.19" |
| Discharge ESP | - | 0.08" |
| Total ESP | 0.50 | 0.27" |

Completed By: Antonio Flores-De La Cruz on 06/25/2025

Notes:

[1] FILTER NOT INSTALLED TO DOCUMENT

Written By: Antonio Flores-De La Cruz on 06/25/2025

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

Split Sys Furnace



Diffuser Supply (GRD)

CF-6/130 CLASS 8

| Asset | | | | | | | |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| SGRD1 | 130 | E | 12 | 320 | 211 | 323 | 100.9 |
| SGRD2 | 130 | E | 12 | 320 | 276 | 331 | 103.4 |
| SGRD3 | 130 | E | 12 | 320 | 258 | 314 | 98.1 |
| SGRD4 | 130 | E | 12 | 320 | 292 | 326 | 101.9 |
| SGRD5 | 130 | E | 12 | 320 | 298 | 326 | 101.9 |
| Total | | | | 1600 | 1335 | 1620 | 101.25% |

Diffuser Ret/Exh (GRD)

CF-6/130 CLASS 8

| Asset | | | | | | | | |
|------------|----------|------|------|------------|----|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | FINAL CFM | % to design |
| EGRD1 | 130 | M | 16 | 800 | 1 | 740 | 741 | 92.6 |
| EGRD2 | 130 | M | 16 | 800 | 1 | 630 | 716 | 89.5 |
| Total | | | | 1600 | | 1370 | 1457 | 91.06% |

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

System/Unit: FAN - Exhaust



Asset: EF-1

AREA:106

| Unit Data | | |
|------------|---------|---------|
| | Design | Actual |
| MFG | Cook | COOK |
| Model Num | NA | GC-146 |
| Serial Num | - | NL |
| Type | CEILING | CEILING |

| Test Data | | |
|-------------|--------|--------|
| | Design | Actual |
| CFM | 100 | 91 |
| RL Voltage | 115 | 115 |
| RL Amperage | 0.313 | 0.313 |
| Total ESP | 0.14 | 0.09" |

| Motor Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | QUEACE |
| Frame | - | NL |
| Horsepower | 35W | 15W |
| Motor Rpm | 894 | 1550 |
| Phase | - | 1 |
| Voltage (rated) | - | 115 |
| Amperage (rated) | - | 0.313 |
| Service Factor | - | 1 |

Completed By: Antonio Flores-De La Cruz on 06/26/2025

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

System/Unit: FAN - Exhaust



Asset: EF-2

AREA:107

| Unit Data | | |
|------------|--------|---------|
| | Design | Actual |
| MFG | Cook | COOK |
| Model Num | NA | GC-146 |
| Serial Num | - | NL |
| Type | - | CEILING |

| Test Data | | |
|-------------|--------|--------|
| | Design | Actual |
| CFM | 100 | 108 |
| RL Voltage | 115 | 120 |
| RL Amperage | 0.313 | 0.313 |
| Total ESP | 0.14 | 0.12" |

| Motor Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | QUEACE |
| Frame | - | NL |
| Horsepower | 35W | 15W |
| Motor Rpm | 894 | 1550 |
| Phase | - | 1 |
| Voltage (rated) | - | 115 |
| Amperage (rated) | - | 0.313 |
| Service Factor | - | 1 |

Completed By: Antonio Flores-De La Cruz on 06/26/2025

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

System/Unit: FAN - Exhaust



Asset: EF-3

AREA:112

| Unit Data | | |
|------------|--------|---------|
| | Design | Actual |
| MFG | Cook | COOK |
| Model Num | NA | GC-146 |
| Serial Num | - | NL |
| Type | - | CEILING |

| Test Data | | |
|-------------|--------|--------|
| | Design | Actual |
| CFM | 100 | 110 |
| RL Voltage | 115 | 120 |
| RL Amperage | 0.313 | 0.313 |
| Total ESP | 0.14 | 0.09" |

| Motor Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | QUEACE |
| Frame | - | NL |
| Horsepower | 35W | 15W |
| Motor Rpm | 894 | 1550 |
| Phase | - | 1 |
| Voltage (rated) | - | 115 |
| Amperage (rated) | - | 0.313 |
| Service Factor | - | 1 |

Completed By: Antonio Flores-De La Cruz on 06/26/2025

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

System/Unit: FAN - Exhaust



Asset: EF-4

AREA:110

| Unit Data | | |
|------------|---------|---------|
| | Design | Actual |
| MFG | Cook | COOK |
| Model Num | NA | GC-146 |
| Serial Num | - | NL |
| Type | CEILING | CEILING |

| Test Data | | |
|-------------|--------|--------|
| | Design | Actual |
| CFM | 100 | 109 |
| RL Voltage | 115 | 120 |
| RL Amperage | 0.313 | 0.313 |
| Total ESP | 0.14 | 0.12" |

| Motor Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | QUEACE |
| Frame | - | NL |
| Horsepower | 35W | 15W |
| Motor Rpm | 894 | 1550 |
| Phase | - | 1 |
| Voltage (rated) | - | 115 |
| Amperage (rated) | - | 0.313 |
| Service Factor | - | 1 |

Completed By: Antonio Flores-De La Cruz on 06/26/2025

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

System/Unit: FAN - Exhaust



Asset: EF-5

AREA:113

| Unit Data | | |
|------------|--------|---------|
| | Design | Actual |
| MFG | Cook | COOK |
| Model Num | NA | GCC-542 |
| Serial Num | - | NL |
| Type | - | CEILING |

| Test Data | | |
|-------------|--------|--------|
| | Design | Actual |
| CFM | 300 | 357 |
| RL Voltage | 115 | 120 |
| RL Amperage | 0.99 | 0.99 |
| Total ESP | 0.15 | 0.17" |

| Motor Data | | |
|------------------|--------|----------|
| | Design | Actual |
| Motor MFG | - | MCMILLAN |
| Frame | - | NL |
| Horsepower | 102W | 0.0625 |
| Motor Rpm | 1318 | 1550 |
| Phase | - | 1 |
| Voltage (rated) | - | 115 |
| Amperage (rated) | - | 0.99 |
| Service Factor | - | 1 |

Completed By: Antonio Flores-De La Cruz on 06/26/2025

Notes:
2 SPEED MOTOR. ON LOW SPEED, CFM VALUE WAS 190 CFM. LEFT ON HIGH SPEED

Written By: Antonio Flores-De La Cruz on 06/26/2025

National TAB

Project: Palisades Episc School Classrooms (Charlotte, NC)

System/Unit: FAN - Exhaust



Asset: EF-6

AREA:114

| Unit Data | | |
|------------|---------|---------|
| | Design | Actual |
| MFG | Cook | COOK |
| Model Num | NA | GCC-542 |
| Serial Num | - | NL |
| Type | CEILING | CEILING |

| Test Data | | |
|-------------|--------|--------|
| | Design | Actual |
| CFM | 300 | 356 |
| RL Voltage | 115 | 120 |
| RL Amperage | 0.99 | 0.99 |
| Total ESP | 0.15 | 0.19" |

| Motor Data | | |
|------------------|--------|----------|
| | Design | Actual |
| Motor MFG | - | MCMILLAN |
| Frame | - | NL |
| Horsepower | 102W | 0.0625 |
| Motor Rpm | 1318 | 1550 |
| Phase | - | 1 |
| Voltage (rated) | - | 115 |
| Amperage (rated) | - | 0.99 |
| Service Factor | - | 1 |

Completed By: Antonio Flores-De La Cruz on 06/26/2025

Notes:
2 SPEED MOTOR. ON LOW SPEED, CFM VALUE WAS 190 CFM. LEFT ON HIGH SPEED

Written By: Antonio Flores-De La Cruz on 06/26/2025