# **UF Report**

2025-10-01 to 2025-10-16

# **■** Executive Summary

Robot deployment during 2025-10-01 to 2025-10-16 processed 47.0 total tasks, covering 248,946.0 square feet with 41.2 total running hours.

2

**Total Robots** 

248,946.0

Sq Ft Cleaned

vs last: -18730.0 sq ft

80.3%

Coverage

vs last: -6.8%

41.2

Total Running Hours vs last: -24.9 hrs 1.8

Avg Daily Running Hours per Robot (hrs/robot)

vs last: -0.6 hrs/robot

13/17

Days with Tasks vs last: -3.0 days

### 19.7 kWh

Energy Used vs last: -8.7 kWh

## **6** Key Achievements

- 47.0 total tasks processed during reporting period
- 248,946.0 square feet cleaned across all locations
- 2.0 robots actively deployed and monitored
- 52.0 charging sessions during the period

### individual Robot Performance

**Key Metrics: Utilization:** Working hours / Uptime hours × 100. Measures productive time efficiency. **Health Score:** Overall robot health (0-100) based on availability (40%), task success (20%), efficiency (20%), mode performance (10%), and battery health (10%).

Robot ID	Location	Total Tasks	Tasks Completed	Total Area Cleaned	Average Coverage	Days with Tasks	Running Hours	Utilization	Health Score
811135422060228	Building 43 Marston Science Library	28	19	162,705 sq ft	75.6%	13	30.5 hrs	7.5%	80.4 (Good)
811135422060216	Building 205 Dental Science	19	15	86,241 sq ft	91.1%	9	10.7 hrs	2.6%	95.7 (Excellent)

# individual Robot ROI Breakdown

Investment and ROI analysis per robot based on lease model and operational savings.

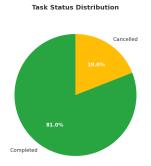
Robot ID	Months Deployed	Total Investment	Cumulative Savings	ROI
811135422060216	3	\$4,500.00	\$2,236.65	49.7%
811135422060228	3	\$4,500.00	\$2,429.40	54.0%

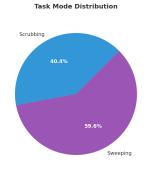
# Task & Schedule Performance

# **Task Management Efficiency**

Task tracking across all facilities: 47 total tasks with 23,128 sq ft total coverage and 52.6 minutes average task duration.

Metric	Total	Completed	In Progress	Average Duration
All Facilities	47	34	0	52.6 min (vs last: -4.9 min)





### **Task Efficiency by Location**

Daily task performance showing running hours and coverage efficiency patterns for each location. Each chart displays actual operational data to identify location-specific performance trends.





# **Facility-Specific Performance**

# **Building 205 Dental Science**

## **Building 43 Marston Science Library**

Performance metrics for Building 205 Dental Science:

Performance metrics for Building 43 Marston Science

19 total tasks, 86,241 sq ft total area cleaned, 91.1% average coverage, 8049.9 sq ft/hour time efficiency, and 1.5 sq ft/fl oz water efficiency.

Library: 28 total tasks, 162,705 sq ft total area cleaned, 75.6% average coverage, 5334.9 sq ft/hour time efficiency, and 0.0 sq ft/fl oz water efficiency.

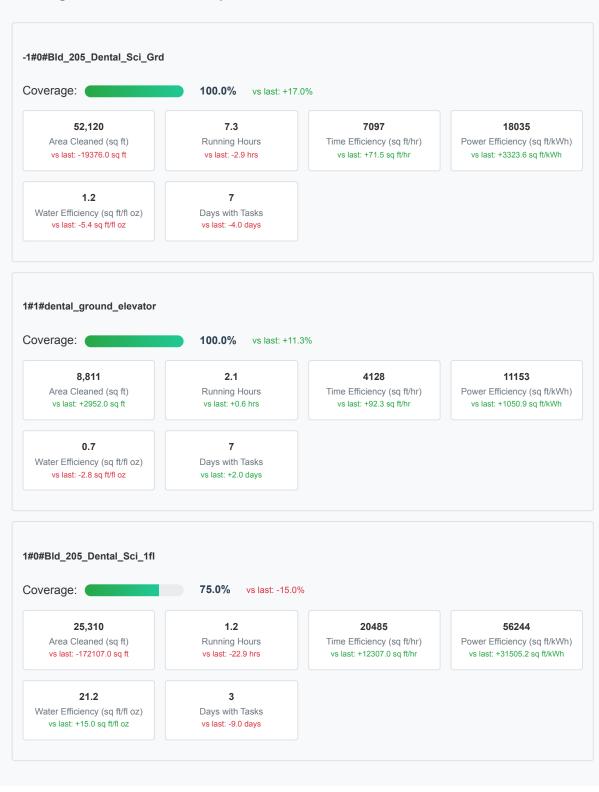
Metric	Performance	vs Last Period
Total Area Cleaned	86,241 sq ft	-188531.0 sq ft
Average Coverage	91.1%	+3.1%
Running Hours	10.7 hours	-25.1 hrs
Time Efficiency	8049.9 sq ft/hr	+368.0 sq ft/hr
Power Efficiency	20,882 sq ft/kWh	+407.0 sq ft/kWh
Water Efficiency	1.5 sq ft/fl oz	-4.7 sq ft/fl oz

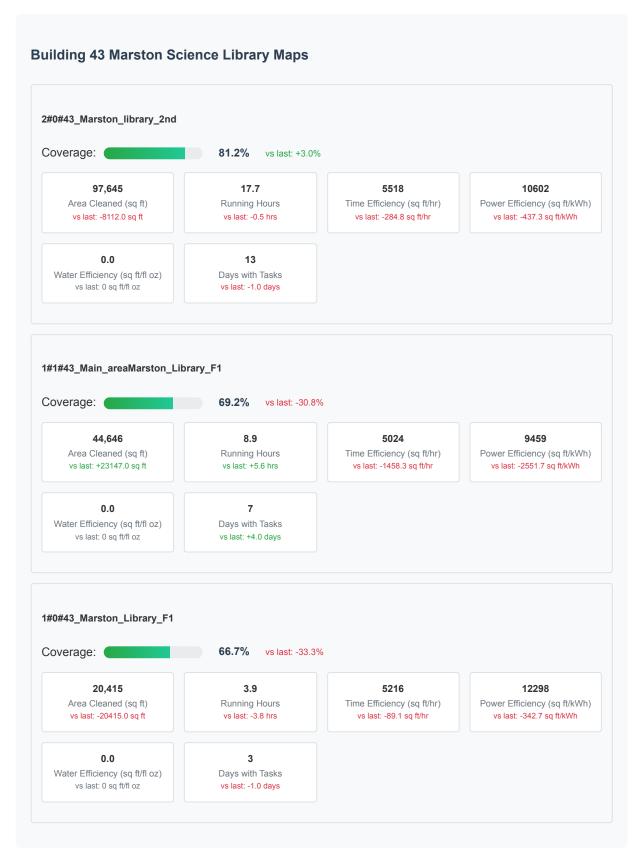
Metric	Performance	vs Last Period
Total Area Cleaned	162,705 sq ft	-13080.0 sq ft
Average Coverage	75.6%	-10.1%
Running Hours	30.5 hours	+0.2 hrs
Time Efficiency	5334.9 sq ft/hr	-463.0 sq ft/hr
Power Efficiency	10,437 sq ft/kWh	-1290.0 sq ft/kWh
Water Efficiency	0.0 sq ft/fl oz	0 sq ft/fl oz

# **Map-Specific Performance**

Coverage: (actual area / planned area) × 100. Area Cleaned: sum of actual cleaned area converted to sq ft. Running Hours: sum of task durations converted from seconds. Power Efficiency: area cleaned / energy consumption. Time Efficiency: area cleaned / running hours. Water Efficiency: area cleaned / water consumption. Days with Tasks: unique dates when tasks occurred.

### **Building 205 Dental Science Maps**



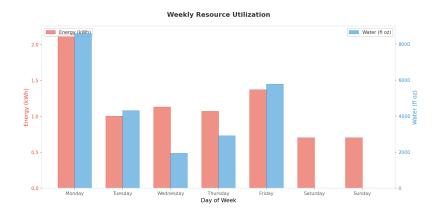


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# **Resource Utilization & Efficiency**

#### **Resource Performance**

energy efficiency, and 554 sq ft per gallon water efficiency.



### **Energy Usage by Facility**

- Building 205 Dental Science: 4.1 kWh (vs last: -9.3 kWh)
- Building 43 Marston Science Library: 15.6 kWh (vs last: +0.6 kWh)

### Water Usage by Facility

- Building 205 Dental Science: 57549 fl oz (vs last: +13244.0 fl oz)
- Building 43 Marston Science Library: 0 fl oz (vs last: 0 fl oz)

# **a** Robot Health & Utilization Analysis

Comprehensive health and utilization metrics for each robot, including uptime/downtime analysis and component-level health scores.

### Metric Definitions

**Utilization:** Working hours / Uptime hours × 100. Indicates how efficiently the robot's available time is used for productive tasks.

**Availability:** Percentage of time robot is online and available (weight: 40%)

**Task Success:** Percentage of successfully completed tasks (weight: 20%)

**Efficiency:** Task efficiency score based on performance metrics (weight: 20%)

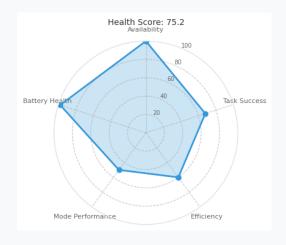
**Mode Performance:** Performance in different cleaning modes like sweeping/scrubbing (weight: 10%)

Battery Health: Battery State of Health (SOH)

percentage (weight: 10%)

### Robot 811135422060228 (Building\_43\_Marston\_Library) - Health: 80.4 (Good) | Utilization: 7.5%

#### **Health Score Breakdown**



#### **Time Distribution**

#### Uptime vs Downtime



### Working vs Idle vs Charging

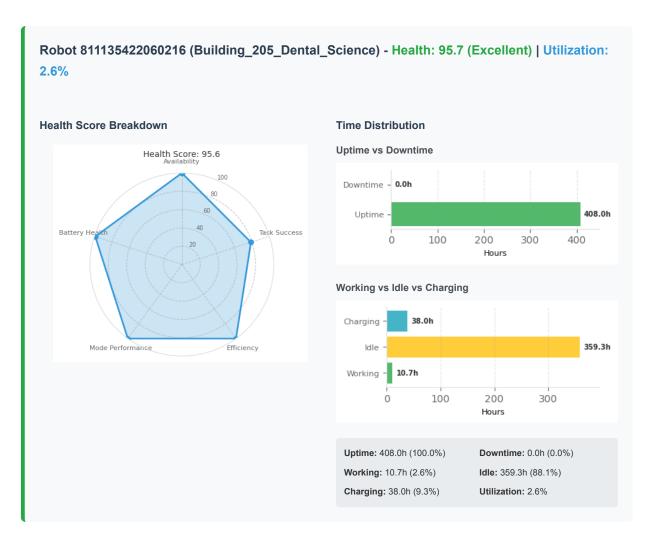


**Uptime:** 408.0h (100.0%)

Downtime: 0.0h (0.0%)

**Working:** 30.5h (7.5%) **Charging:** 250.2h (61.3%)

Idle: 127.3h (31.2%)
Utilization: 7.5%



# Financial Performance

Financial analysis based on actual resource usage: \$0.00/sq ft average cost per square foot, \$0.00 total operational cost, 31.1 hours saved compared to manual cleaning, and \$777.96 in realized savings.

Operational Metric	Value	vs Previous Period	Notes
Cost per Sq Ft	\$0.00/sq ft	0	Operational efficiency (water + energy cost per area)
Total Operational Cost	\$0.00	0	Robot operational cost this period
ROI	51.8%	+8.0%	Return on Investment (cumulative savings ÷ total investment × 100)
Total Investment	\$9,000.00	N/A	Cumulative lease investment (\$1500/month per robot)
Cost Efficiency Improvement	100.0%	+0.0%	Efficiency improvement vs manual cleaning
Water Cost	\$0.00	0	Water resource cost component
Energy Cost	\$0.00	0	Energy resource cost component

### **ROI Calculation Method**

ROI Formula: Cumulative Savings ÷ Total Investment × 100

Investment: \$1,500/month per robot × months elapsed (rounded up for billing)

Cumulative Savings: All-time savings from first robot task to end of reporting period



## **Financial Impact Summary**

\$777.96

Manual Cleaning Cost vs last: -630.0

\$9,335.47

Annual Projected Savings

vs last: -7560.4

\$1,555.35/month

Monthly Savings Rate

vs last: +240.4

\$777.96

Savings Realized vs last: -630.0

\$4,666.05

Cumulative Savings vs last: +721.2

31.1 hrs

Hours Saved vs Manual vs last: -25.2 hrs

5.8 months

Payback Period
vs last: 0 months

Financial calculations based on actual resource usage, lease model, and human cleaning speed benchmarks.

# **Charging Sessions Performance**

Charging patterns and battery management during the reporting period: 52 total sessions, 375.9 minutes average duration, and 29.8% average power gain per session.

**52** 

Total Charging Sessions vs last: +26.0 sessions

### 375.9 min

Avg Charging Duration vs last: +22.8 min

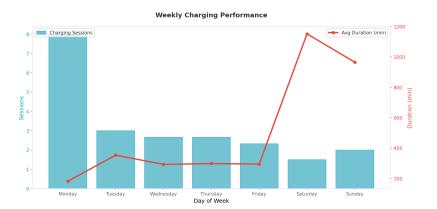
89.9 min

Median Charging Duration
vs last: -137.1 min

+29.8%

Avg Power Gain per Session vs last: +6.9% +26.5%

Median Power Gain per Session vs last: +20.0%



# **Charging Patterns by Location**

Location	Total Sessions	Avg Duration	Median Duration	Avg Power Gain	Median Power Gain
Building 205 Dental Science	9 vs last: -6.0 sessions	455.6 min vs last: +247.1 min	0.3 min vs last: -215.1 min	+12.2% vs last: -1.3%	+0.0% vs last: -2.0%
Building 43 Marston Science Library	43 vs last: +32.0 sessions	366.1 min vs last: -175.1 min	99.2 min vs last: -283.3 min	+33.5% vs last: -2.3%	+36.0% vs last: -8.0%

# **©** Conclusion

2025-10-01 To 2025-10-16 performance summary: 72.3% task completion rate across 2.0 robot(s), 47.0 tasks completed, 248,946.0 sq ft cleaned, 52.0 charging sessions, and 51.8% return on investment.

## **UF Report**

Period: 2025-10-01 to 2025-10-16

Robots Included: 2

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