CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2015
DateRun:	06/13/2015
Experimenters:	James Keats
ClientType:	Cleaning Equipment Mfr
ProjectNumber:	Project #1
Substrates:	Vinyl Composite Tiles
PartType:	Coupon
Contaminants:	Food
Cleaning Methods:	Mechanical Agitation
Analytical Methods:	Visual
Purpose:	Evaluate beginning, middle, and end effectiveness of iRobot cleaning pad.

Experimental Procedure:

Procedure iRobot unit: Apply soil to 4' X 4' clean vinyl floor, spreading 1g of soil onto even numbered tiles with a swab and odd tiles by dripping 1g of soil onto them (16g per floor). No drying is required for the Vinaigrette. Attach a cleaning pad to the Braava unit and completely fill with water. Then place the Braava unit onto the floor. Turn on the Braava unit, and begin the cleaning cycle. At intervals of 10 seconds, take a picture of the floor. Once the cycle is complete, empty any water still in the Braava unit and dispose of the pad.

Pictures are taken periodically to compare effectiveness of cleaning pad over time. This will allow beginning, middle, and end cleaning to be visually evaluated.

To evaluate total soil removal, a visual observation will be made. This observation will be an estimation of the % soil removed from each tile by observing the amount of soil removed by a paper towel. Each tile will be wiped with a paper towel in a circular motion until the entire tile has been wiped. Also a control paper towel will be prepared by wiping off 1g of soil. In addition to this rating, observers will also be asked to rate the overall cleanliness of the floor from 1-5 (1 being no soil remaining).

Tile numbers

4	5	6	7
3	14	15	8
2	13	16	9
1	12	11	10

^^^

Braava unit starts here.

Results:

The floor was soiled and cleaned once.

- Found that the Braava unit stopped its cleaning cycle after ~37 minutes.

Percent removal Trial 1

(Ex: 95% means that 5% of the tile was covered in contaminant.)

Observer 1 – rating: 2

90%	87%	85%	90%
90%	90%	85%	90%
90%	90%	90%	95%
90%	90%	90%	90%

Observer 3 – rating: 2.5

80%	90%	80%	95%
75%	70%	70%	70%
70%	70%	80%	80%
70%	80%	75%	85%

Observer 2 – rating: 2.5

90%	90%	90%	90%
85%	90%	85%	85%
85%	85%	90%	90%
80%	85%	85%	85%

Summary:

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Substrates:	Vinyl Composite Tiles				
Contaminants:	Food				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
iRobot	iRobot Braava unit	100	0.00	☐	
Water	Water	100	0.00	☑	

Conclusion: Pad seemed clean consistently across entire floor. While the Braava unit did not clean as well as a manual wipe, the difference in cleanliness was less than the difference in the Coke trials. Along with this, the Braava unit took significantly longer to remove the vinaigrette than the coke, and did not miss sections of the floor.