



TEST REPORT

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Report Number: 1052-14017

Report Issued: October 19, 2014 **Project No.:** 23942

Client: Showerstart LLC
15354 North 83rd Way Suite 102
Scottsdale, AZ 85260 **Contact:** Mr. Jason Swanson

Source of Samples: The samples were sent by Showerstart LLC and received by IAPMO R&T Lab in good condition on September 22, 2014.

Date of Testing: October 3, 2014 through October 16, 2014

Sample Description: Various showerheads
Models: *See Page 2*

Scope of Testing: The purpose of the testing was to determine if the samples tested of the showerheads met the applicable requirements of EPA WaterSense Specification for Showerheads (Version 1.0, March 4, 2010 Edition).

Conclusion: The samples tested of the showerheads, models as listed on Page 2, from Showerstart LLC COMPLIED with the applicable requirements of EPA WaterSense Specification for Showerheads (Version 1.0, March 4, 2010 Edition).

Note: Section 2.1 (ASME A112.18.1-2012/CSA B125.1-12 requirements) was tested under IAPMO R&T Lab report Nos. 1052-14015 and 1052-14016.

I understand that intentionally submitting false information to the U.S. government or its agent is a criminal violation of the False Statements Act, Title 18 U.S.C. section 1001.

By our signatures below we certify that all the testing and sample preparation for this report was performed under continuous, direct supervision of IAPMO R&T Lab, unless otherwise stated.

Tested by,

Simon Hadi, Test Technician

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Reviewed by,

Andy Ho, Manager, Fitting Testing

Model List:

Model No.	Description	Remark
EV3010-CP150-BP	1.5 gpm Single Function Showerhead	Bulk Package
EV3010-CP150-SB	1.5 gpm Single Function Showerhead	Shipper Box
EV3011-CP150-BP	1.5 gpm Single Function Showerhead with ShowerStart TSV	Bulk Package
EV3011-CP150-SB	1.5 gpm Single Function Showerhead with ShowerStart TSV	Shipper Box
EV3020-CP150-BP	1.5 gpm Multifunction Showerhead	Bulk Package
EV3020-CP150-SB	1.5 gpm Multifunction Showerhead	Shipper Box
EV3021-CP150-BP	1.5 gpm Multifunction Showerhead with ShowerStart TSV	Bulk Package
EV3021-CP150-SB	1.5 gpm Multifunction Showerhead with ShowerStart TSV	Shipper Box
EV3010-CP175-BP	1.75 gpm Single Function Showerhead	Bulk Package
EV3010-CP175-SB	1.75 gpm Single Function Showerhead	Shipper Box
EV3011-CP175-BP	1.75 gpm Single Function Showerhead with ShowerStart TSV	Bulk Package
EV3011-CP175-SB	1.75 gpm Single Function Showerhead with ShowerStart TSV	Shipper Box
EV3020-CP175-BP	1.75 gpm Multifunction Showerhead	Bulk Package
EV3020-CP175-SB	1.75 gpm Multifunction Showerhead	Shipper Box
EV3021-CP175-BP	1.75 gpm Multifunction Showerhead with ShowerStart TSV	Bulk Package
EV3021-CP175-SB	1.75 gpm Multifunction Showerhead with ShowerStart TSV	Shipper Box
EV3010-CP200-BP	2.0 gpm Single Function Showerhead	Bulk Package
EV3010-CP200-SB	2.0 gpm Single Function Showerhead	Shipper Box
EV3011-CP200-BP	2.0 gpm Single Function Showerhead with ShowerStart TSV	Bulk Package
EV3011-CP200-SB	2.0 gpm Single Function Showerhead with ShowerStart TSV	Shipper Box
EV3020-CP200-BP	2.0 gpm Multifunction Showerhead	Bulk Package
EV3020-CP200-SB	2.0 gpm Multifunction Showerhead	Shipper Box
EV3021-CP200-BP	2.0 gpm Multifunction Showerhead with ShowerStart TSV	Bulk Package
EV3021-CP200-SB	2.0 gpm Multifunction Showerhead with ShowerStart TSV	Shipper Box

Note: Each showerhead has two packaging methods (BP = Bulk Package and SB = Shipper Box).

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Primary Standard: EPA WaterSense Specification for Showerheads (Version 1.0, March 4, 2010 Edition), sections tested / evaluated:

- 2.0 General Requirements
- 3.0 Water-Efficiency Criteria
- 4.0 Spray Force Criteria
- 5.0 Spray Coverage Criteria
- 6.0 Marking

Test Results: All tests and evaluations were conducted per the written procedures specified in the specification.

EPA WaterSense Specification for Showerheads (Version 1.0, March 4, 2010 Edition)

2.0 General Requirements – COMPLIED

2.1 The showerheads were tested to and conformed the applicable requirements in ASME A112.18.1-2012/CSA B125.1-12. Refer to IAPMO R&T Lab test report Nos. 1052-14015 and 1052-14016 for details.

2.2 For EV3020 and EV3021 Series: The showerheads had more than one mode and all modes met the maximum flow rate requirement outlined in Section 3.1.1 and at least one of the modes, as specified by the manufacturer, met all of the requirements outlined in this specification.

NOT APPLICABLE for EV3010 and EV3011 Series – The showerheads had only one mode.

2.3 The showerheads were not packaged, marked, or provided with instructions directing the user to an alternative water-use setting that would override the maximum flow rate, as established by the specification. The instruction related to the maintenance of the product, including changing or cleaning the showerhead components, directed the user on how to return the product to its intended maximum flow rate.

3.0 Water-Efficiency Criteria – COMPLIED

3.1 The flow rate of the showerheads was tested in accordance with the procedures in ASME A112.18.1-2012/CSA B125.1-12 and met the following criteria:

3.1.1 The manufacturer specified a maximum flow rate value (rated flow) of the showerheads and this specified value was equal to or less than 2.0 gpm (7.6 L/min).

Model	Maximum Specified Flow Rate
EV3010-CP150 & EV3011-CP150 (Single Function)	1.5 gpm (5.7 L/min)
EV3020-CP150 & EV3021-CP150 (Multi Function)	
EV3010-CP175 & EV3011-CP175 (Single Function)	1.75 gpm (6.6 L/min)
EV3020-CP175 & EV3021-CP175 (Multi Function)	
EV3010-CP200 & EV3011-CP200 (Single Function)	2.0 gpm (7.6 L/min)
EV3020-CP200 & EV3021-CP200 (Multi Function)	

3.1.2 The maximum flow rate (highest value) obtained through testing at flowing pressures of 20, 45 and 80 ± 1 psi did not exceed the maximum flow rate value specified in Section 3.1.1, when evaluated in accordance with 10 CFR 430 Subpart F, Appendix B, Step 6(b). See following tables.

Finding: (Maximum Finding Flow Rate for Section 3.1.2)

Model EV3010-CP150 – Single Mode

Sample ID	Max. Measured Flow Rate (gpm)		
	20 psi	45 psi	80 psi
1	1.31	1.34	1.32
2	1.31	1.33	1.30
3	1.30	1.37	1.34
4	1.31	1.36	1.34

Flowing Pressure	Max. Specified Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)
20 psi	1.5	1.5	1.5	1.3
45 psi	1.5	1.5	1.5	1.4
80 psi	1.5	1.5	1.5	1.3

Model EV3011-CP150 – Single Mode

Sample ID	Max. Measured Flow Rate (gpm)		
	20 psi	45 psi	80 psi
1	1.29	1.36	1.34
2	1.18	1.28	1.22
3	1.29	1.32	1.30
4	1.27	1.32	1.32

Flowing Pressure	Max. Specified Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)
20 psi	1.5	1.6	1.4	1.3
45 psi	1.5	1.6	1.4	1.3
80 psi	1.5	1.6	1.4	1.3

Model EV3020-CP150 – Tested in Outer Spray Mode

Sample ID	Max. Measured Flow Rate (gpm)		
	20 psi	45 psi	80 psi
1	1.29	1.31	1.28
2	1.39	1.34	1.31
3	1.28	1.30	1.28
4	1.32	1.32	1.30

Model EV3020-CP150 – Tested in Outer Spray Mode (Continued):

Flowing Pressure	Max. Specified Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)
20 psi	1.5	1.6	1.4	1.3
45 psi	1.5	1.5	1.5	1.3
80 psi	1.5	1.5	1.5	1.3

Model EV3021-CP150 – Tested in Outer Spray Mode

Sample ID	Max. Measured Flow Rate (gpm)		
	20 psi	45 psi	80 psi
1	1.25	1.27	1.21
2	1.17	1.19	1.16
3	1.21	1.28	1.32
4	1.26	1.31	1.36

Flowing Pressure	Max. Specified Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)
20 psi	1.5	1.6	1.4	1.2
45 psi	1.5	1.6	1.4	1.3
80 psi	1.5	1.7	1.3	1.3

Model EV3010-CP175 – Single Mode

Sample ID	Max. Measured Flow Rate (gpm)		
	20 psi	45 psi	80 psi
1	1.46	1.54	1.52
2	1.46	1.50	1.47
3	1.43	1.52	1.47
4	1.36	1.55	1.53

Flowing Pressure	Max. Specified Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)
20 psi	1.75	1.8	1.7	1.4
45 psi	1.75	1.8	1.7	1.5
80 psi	1.75	1.8	1.7	1.5

Model EV3011-CP175 – Single Mode

Sample ID	Max. Measured Flow Rate (gpm)		
	20 psi	45 psi	80 psi
1	1.45	1.48	1.48
2	1.38	1.46	1.42
3	1.52	1.56	1.54
4	1.40	1.49	1.48

Model EV3011-CP175 – Single Mode (Continued):

Flowing Pressure	Max. Specified Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)
20 psi	1.75	1.8	1.7	1.4
45 psi	1.75	1.8	1.7	1.5
80 psi	1.75	1.8	1.7	1.5

Model EV3020-CP175 – Tested in Outer Spray Mode

Sample ID	Max. Measured Flow Rate (gpm)		
	20 psi	45 psi	80 psi
1	1.55	1.57	1.60
2	1.57	1.56	1.58
3	1.54	1.54	1.56
4	1.56	1.54	1.56

Flowing Pressure	Max. Specified Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)
20 psi	1.75	1.8	1.7	1.6
45 psi	1.75	1.8	1.7	1.6
80 psi	1.75	1.8	1.7	1.6

Model EV3021-CP175 – Tested in Outer Spray Mode

Sample ID	Max. Measured Flow Rate (gpm)		
	20 psi	45 psi	80 psi
1	1.38	1.50	1.53
2	1.41	1.50	1.51
3	1.46	1.53	1.58
4	1.39	1.51	1.57

Flowing Pressure	Max. Specified Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)
20 psi	1.75	1.8	1.7	1.4
45 psi	1.75	1.8	1.7	1.5
80 psi	1.75	1.8	1.7	1.6

Model EV3010-CP200 – Single Mode

Sample ID	Max. Measured Flow Rate (gpm)		
	20 psi	45 psi	80 psi
1	1.51	1.78	1.81
2	1.52	1.80	1.84
3	1.52	1.83	1.87
4	1.46	1.76	1.78

Model EV3010-CP200 – Single Mode (Continued):

Flowing Pressure	Max. Specified Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)
20 psi	2.0	2.1	1.9	1.5
45 psi	2.0	2.1	1.9	1.8
80 psi	2.0	2.1	1.9	1.8

Model EV3011-CP200 – Single Mode

Sample ID	Max. Measured Flow Rate (gpm)		
	20 psi	45 psi	80 psi
1	1.63	1.78	1.88
2	1.68	1.82	1.90
3	1.68	1.80	1.93
4	1.72	1.86	1.93

Flowing Pressure	Max. Specified Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)
20 psi	2.0	2.1	1.9	1.7
45 psi	2.0	2.1	1.9	1.8
80 psi	2.0	2.0	2.0	1.9

Model EV3020-CP200 – Tested in Outer Spray Mode

Sample ID	Max. Measured Flow Rate (gpm)		
	20 psi	45 psi	80 psi
1	1.68	1.83	1.89
2	1.60	1.80	1.86
3	1.35	1.68	1.76
4	1.62	1.82	1.92

Flowing Pressure	Max. Specified Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)
20 psi	2.0	2.3	1.7	1.6
45 psi	2.0	2.1	1.9	1.8
80 psi	2.0	2.1	1.9	1.9

Model EV3021-CP200 – Tested in Outer Spray Mode

Sample ID	Max. Measured Flow Rate (gpm)		
	20 psi	45 psi	80 psi
1	1.47	1.73	1.86
2	1.49	1.75	1.90
3	1.50	1.71	1.89
4	1.50	1.74	1.90

Model EV3021-CP200 – Tested in Outer Spray Mode (Continued):

Flowing Pressure	Max. Specified Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)
20 psi	2.0	2.0	2.0	1.5
45 psi	2.0	2.0	2.0	1.7
80 psi	2.0	2.0	2.0	1.9

3.1.3 The minimum flow rate, determined through testing at a flowing pressure of 20 ± 1 psi and when evaluated in accordance with 10 CFR 430 Subpart F, Appendix B, Step 6(a), was not less than 60% of the maximum flow rate value specified in Section 3.1.1. See following tables.

3.1.4 The minimum flow rate (lowest value) obtained through testing at flowing pressures of 45 and 80 ± 1 psi was not less than 75% of the maximum flow rate value specified in Section 3.1.1, when evaluated in accordance with 10 CFR 430 Subpart F, Appendix B, Step 6(a). See following tables.

Finding: (For Sections 3.1.3 and 3.1.4)

Model EV3010-CP150 – Single Mode

Flowing Pressure	Min. Allowable Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)	Actual % of Max. Specified Flow Rate
20 psi	0.9	0.9	0.9	1.3	86.7%
45 psi	1.1	1.2	1.1	1.4	93.3%
80 psi	1.1	1.2	1.1	1.3	86.7%

Model EV3011-CP150 – Single Mode

Flowing Pressure	Min. Allowable Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)	Actual % of Max. Specified Flow Rate
20 psi	0.9	1.0	0.8	1.3	86.7%
45 psi	1.1	1.2	1.1	1.3	86.7%
80 psi	1.1	1.2	1.0	1.3	86.7%

Model EV3020-CP150 – Tested in Outer Spray Mode

Flowing Pressure	Min. Allowable Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)	Actual % of Max. Specified Flow Rate
20 psi	0.9	1.0	0.8	1.3	86.7%
45 psi	1.1	1.2	1.1	1.3	86.7%
80 psi	1.1	1.2	1.1	1.3	86.7%

Model EV3021-CP150 – Tested in Outer Spray Mode

Flowing Pressure	Min. Allowable Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)	Actual % of Max. Specified Flow Rate
20 psi	0.9	1.0	0.8	1.2	80.0%
45 psi	1.1	1.2	1.0	1.3	86.7%
80 psi	1.1	1.3	1.0	1.3	86.7%

Model EV3010-CP175 – Single Mode

Flowing Pressure	Min. Allowable Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)	Actual % of Max. Specified Flow Rate
20 psi	1.1	1.1	1.0	1.4	80.0%
45 psi	1.3	1.3	1.3	1.5	85.7%
80 psi	1.3	1.4	1.2	1.5	85.7%

Model EV3011-CP175 – Single Mode

Flowing Pressure	Min. Allowable Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)	Actual % of Max. Specified Flow Rate
20 psi	1.1	1.1	1.0	1.4	80.0%
45 psi	1.3	1.4	1.2	1.5	85.7%
80 psi	1.3	1.4	1.2	1.5	85.7%

Model EV3020-CP175 – Tested in Outer Spray Mode

Flowing Pressure	Min. Allowable Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)	Actual % of Max. Specified Flow Rate
20 psi	1.1	1.1	1.0	1.6	91.4%
45 psi	1.3	1.3	1.3	1.6	91.4%
80 psi	1.3	1.3	1.3	1.6	91.4%

Model EV3021-CP175 – Tested in Outer Spray Mode

Flowing Pressure	Min. Allowable Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)	Actual % of Max. Specified Flow Rate
20 psi	1.1	1.1	1.0	1.4	80.0%
45 psi	1.3	1.3	1.3	1.5	85.7%
80 psi	1.3	1.4	1.2	1.6	91.4%

Model EV3010-CP200 – Single Mode

Flowing Pressure	Min. Allowable Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)	Actual % of Max. Specified Flow Rate
20 psi	1.2	1.3	1.1	1.5	75.0%
45 psi	1.5	1.6	1.4	1.8	90.0%
80 psi	1.5	1.6	1.4	1.8	90.0%

Model EV3011-CP200 – Single Mode

Flowing Pressure	Min. Allowable Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)	Actual % of Max. Specified Flow Rate
20 psi	1.2	1.3	1.1	1.7	85.0%
45 psi	1.5	1.6	1.4	1.8	90.0%
80 psi	1.5	1.5	1.5	1.9	95.0%

Model EV3020-CP200 – Tested in Outer Spray Mode

Flowing Pressure	Min. Allowable Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)	Actual % of Max. Specified Flow Rate
20 psi	1.2	1.5	0.9	1.6	80.0%
45 psi	1.5	1.6	1.4	1.8	90.0%
80 psi	1.5	1.6	1.4	1.9	95.0%

Model EV3021-CP200 – Tested in Outer Spray Mode

Flowing Pressure	Min. Allowable Flow Rate (EPS)	Upper Limit (UCL ₁)	Lower Limit (LCL ₁)	Mean (X ₁)	Actual % of Max. Specified Flow Rate
20 psi	1.2	1.2	1.2	1.5	75.0%
45 psi	1.5	1.5	1.5	1.7	85.0%
80 psi	1.5	1.5	1.5	1.9	95.0%

4.0 Spray Force Criteria – COMPLIED

4.1 The spray force of the showerheads was tested in accordance with the procedures outlined in Appendix A and met the following criteria:

4.1.1 The minimum spray force was not less than 2.0 ounces at a pressure of 20 ± 1 psi at the inlet when water was flowing.

Finding:

Model	Test Mode	Spray Force	Status
EV3010-CP150	Single	> 2.0 ounces	Passed
EV3011-CP150	Single	> 2.0 ounces	Passed
EV3020-CP150	Outer Spray	> 2.0 ounces	Passed
EV3021-CP150	Outer Spray	> 2.0 ounces	Passed
EV3010-CP175	Single	> 2.0 ounces	Passed
EV3011-CP175	Single	> 2.0 ounces	Passed
EV3020-CP175	Outer Spray	> 2.0 ounces	Passed
EV3021-CP175	Outer Spray	> 2.0 ounces	Passed
EV3010-CP200	Single	> 2.0 ounces	Passed
EV3011-CP200	Single	> 2.0 ounces	Passed
EV3020-CP200	Outer Spray	> 2.0 ounces	Passed
EV3021-CP200	Outer Spray	> 2.0 ounces	Passed

5.0 Spray Coverage Criteria – COMPLIED

5.1 The spray coverage of the showerheads was tested in accordance with the procedures outlined in Appendix B and met the following criteria:

5.1.1 The total combined maximum volume of water collected in the 2- and 4- inch annular rings did not exceed 75% of the total volume of water collected, and;

5.1.2 The total combined minimum volume of water collected in the 2-, 4-, and 6-inch annular rings was not less than 25% of the total volume of water collected.

Finding: (For Sections 5.1.1 and 5.1.2)

Model EV3010-CP150 – Single Mode

Volume of Water in Each Ring (gallons)				Total Collected Volume (gallons)	Total Recorded Flow (gallons)	%
2"	4"	6"	8" - 20"			Difference
0.209	0.451	0.631	0.004	1.30	1.30	0.0%

Percent of Water in Each Annular Ring					
2"	4"	6"	8" - 20"	Total % in 2"and 4" Rings	Total % in 2", 4" and 6" Rings
16.1%	34.8%	48.7%	0.3%	51.0%	99.7%

Model EV3011-CP150 – Single Mode

Volume of Water in Each Ring (gallons)				Total Collected Volume (gallons)	Total Recorded Flow (gallons)	%
2"	4"	6"	8" - 20"			Difference
0.145	0.588	0.569	0.000	1.30	1.31	0.8%

Percent of Water in Each Annular Ring					
2"	4"	6"	8" - 20"	Total % in 2"and 4" Rings	Total % in 2", 4" and 6" Rings
11.2%	45.2%	43.7%	0.0%	56.3%	100.0%

Model EV3020-CP150 – Tested in Outer Spray Mode

Volume of Water in Each Ring (gallons)				Total Collected Volume (gallons)	Total Recorded Flow (gallons)	%
2"	4"	6"	8" - 20"			Difference
0.030	0.733	0.502	0.000	1.27	1.28	0.8%

Percent of Water in Each Annular Ring					
2"	4"	6"	8" - 20"	Total % in 2"and 4" Rings	Total % in 2", 4" and 6" Rings
2.4%	58.0%	39.7%	0.0%	60.3%	100.0%

Model EV3021-CP150 – Tested in Outer Spray Mode

Volume of Water in Each Ring (gallons)				Total Collected Volume (gallons)	Total Recorded Flow (gallons)	%
2"	4"	6"	8" - 20"			Difference
0.064	0.594	0.571	0.000	1.23	1.24	0.8%

Percent of Water in Each Annular Ring					
2"	4"	6"	8" - 20"	Total % in 2"and 4" Rings	Total % in 2", 4" and 6" Rings
5.2%	48.3%	46.5%	0.0%	53.5%	100.0%

Model EV3010-CP175 – Single Mode

Volume of Water in Each Ring (gallons)				Total Collected	Total Recorded	%
2"	4"	6"	8" - 20"	Volume (gallons)	Flow (gallons)	Difference
0.140	0.546	0.767	0.007	1.46	1.47	0.7%

Percent of Water in Each Annular Ring					
2"	4"	6"	8" - 20"	Total % in 2"and 4" Rings	Total % in 2", 4" and 6" Rings
9.6%	37.4%	52.5%	0.5%	47.0%	99.5%

Model EV3011-CP175 – Single Mode

Volume of Water in Each Ring (gallons)				Total Collected	Total Recorded	%
2"	4"	6"	8" - 20"	Volume (gallons)	Flow (gallons)	Difference
0.200	0.508	0.742	0.000	1.45	1.46	0.7%

Percent of Water in Each Annular Ring					
2"	4"	6"	8" - 20"	Total % in 2"and 4" Rings	Total % in 2", 4" and 6" Rings
13.8%	35.0%	51.2%	0.0%	48.8%	100.0%

Model EV3020-CP175 – Tested in Outer Spray Mode

Volume of Water in Each Ring (gallons)				Total Collected	Total Recorded	%
2"	4"	6"	8" - 20"	Volume (gallons)	Flow (gallons)	Difference
0.110	0.959	0.431	0.000	1.50	1.51	0.7%

Percent of Water in Each Annular Ring					
2"	4"	6"	8" - 20"	Total % in 2"and 4" Rings	Total % in 2", 4" and 6" Rings
7.4%	63.9%	28.7%	0.0%	71.3%	100.0%

Model EV3021-CP175 – Tested in Outer Spray Mode

Volume of Water in Each Ring (gallons)				Total Collected	Total Recorded	%
2"	4"	6"	8" - 20"	Volume (gallons)	Flow (gallons)	Difference
0.134	0.705	0.634	0.000	1.47	1.48	0.7%

Percent of Water in Each Annular Ring					
2"	4"	6"	8" - 20"	Total % in 2"and 4" Rings	Total % in 2", 4" and 6" Rings
9.1%	47.8%	43.0%	0.0%	57.0%	100.0%

Model EV3010-CP200 – Single Mode

Volume of Water in Each Ring (gallons)				Total Collected	Total Recorded	%
2"	4"	6"	8" - 20"	Volume (gallons)	Flow (gallons)	Difference
0.167	0.657	0.886	0.000	1.71	1.72	0.6%

Model EV3010-CP200 – Single Mode (Continued):

Percent of Water in Each Annular Ring					
2"	4"	6"	8" - 20"	Total % in 2"and 4" Rings	Total % in 2", 4" and 6" Rings
9.8%	38.4%	51.8%	0.0%	48.2%	100.0%

Model EV3011-CP200 – Single Mode

Volume of Water in Each Ring (gallons)				Total Collected	Total Recorded	%
2"	4"	6"	8" - 20"	Volume (gallons)	Flow (gallons)	Difference
0.212	0.729	0.838	0.013	1.79	1.80	0.6%

Percent of Water in Each Annular Ring					
2"	4"	6"	8" - 20"	Total % in 2"and 4" Rings	Total % in 2", 4" and 6" Rings
11.9%	40.7%	46.8%	0.7%	52.5%	99.3%

Model EV3020-CP200 – Tested in Outer Spray Mode

Volume of Water in Each Ring (gallons)				Total Collected	Total Recorded	%
2"	4"	6"	8" - 20"	Volume (gallons)	Flow (gallons)	Difference
0.083	0.766	0.886	0.000	1.73	1.74	0.6%

Percent of Water in Each Annular Ring					
2"	4"	6"	8" - 20"	Total % in 2"and 4" Rings	Total % in 2", 4" and 6" Rings
4.8%	44.2%	51.1%	0.0%	48.9%	100.0%

Model EV3021-CP200 – Tested in Outer Spray Mode

Volume of Water in Each Ring (gallons)				Total Collected	Total Recorded	%
2"	4"	6"	8" - 20"	Volume (gallons)	Flow (gallons)	Difference
0.066	0.749	0.867	0.000	1.68	1.70	1.2%

Percent of Water in Each Annular Ring					
2"	4"	6"	8" - 20"	Total % in 2"and 4" Rings	Total % in 2", 4" and 6" Rings
3.9%	44.5%	51.5%	0.0%	48.5%	100.0%

6.0 Marking – COMPLIED (Per manufacturer’s provided marking drawings and package artworks)

6.1 The products will be marked with the maximum flow rate value in gpm and L/min as specified by the manufacturer, verified through testing and in compliance with this specification.

6.2 The product packaging will be marked with the maximum flow rate value in gpm and L/min as specified by the manufacturer, verified through testing and in compliance with this specification.

6.3 The product packaging will be marked with the minimum flow rate value in gpm and L/min at 45 psi, calculated in Section 3.1.4 as 75 percent of the manufacturer's specified maximum flow rate value, verified through testing and in compliance with this specification.

6.4 The flow rate marking will be in gpm and L/min in 2 or 3 digit resolutions.

Photographs of Samples Tested:



EV3010 Series (1.5, 1.75 & 2.0 gpm)



EV3020 Series (1.5, 1.75 & 2.0 gpm)



EV3011 Series (1.5, 1.75 & 2.0 gpm)



EV3021 Series (1.5, 1.75 & 2.0 gpm)