



# Food Service Technology Center Appliance Test Summary Report

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<b>Manufacturer</b>	Imperial
<b>Model</b>	ICVE-1
<b>Appliance</b>	Full-size convection oven - Electric

<b>Report Number</b>	5012.09.48
<b>Test Date</b>	September, 2009
<b>Tested By</b>	A.Spitz

## Purpose of Testing

This testing determined the energy input rate, preheat time and energy, idle energy rate, heavy/light-load cooking-energy efficiency, cooking uniformity and browning uniformity of the oven by applying ASTM F1496.

## Energy Input Rate

Test Voltage (V)	208
Rated Energy Input Rate (kW)	11.0
Measured Energy Input Rate (kW)	11.5
Difference (%)	4.4

## Preheat to 340°F

Duration (min)	8.75
Energy Consumption (kWh)	1.5
Preheat Rate (°F/min)	30.7

## Idle at 350°F

Idle Energy Rate (kW)	1.56
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## Heavy-Load Cooking Energy Efficiency <sup>a</sup>

Food Product	Russet Potatoes
Oven Temperature Set-point (°F)	350
Cook Time (min)	51.36
Cooking Energy Rate (Btu/h)	n/a
Cooking Energy Rate (kW)	7.08
Energy to Food (Btu/lb)	204
Energy to Appliance (Btu/lb)	285
Cooking-Energy Efficiency (%)	71.6 ± 2.1
Production Capacity (lb/hr)	84.8 ± 4.2

<sup>a</sup> based on a minimum of three test replicates.



## Imperial

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## Heavy-Load Potato Test Data

	Test #1	Test #2	Test #3
<b>Measured Values</b>			
Test Voltage (V)	208	208	208
Cook Time (min)	52.42	50.67	51.00
Electric Energy to Oven (kWh)	6.09	6.00	6.09
Initial Weight of Potatoes (lb)	72.385	72.705	72.505
Final Weight of Potatoes (lb)	89.805	89.630	89.935
Initial Temperature of Potatoes (°F)	72.4	73.5	72.5
Final Temperature of Potatoes (°F)	205.0	205.1	205.0
<b>Calculated Values</b>			
Sensible Heat (Btu)	8,062	8,034	8,065
Latent - Heat of Vaporization (Btu)	7,013	6,475	6,761
Total Energy to Food (Btu)	15,075	14,509	14,825
Energy to Food (Btu/lb)	208	200	205
Total Energy to Oven (Btu)	20,780	20,473	20,780
Energy per Pound of Food Cooked (Btu/lb)	287	282	287
Cooking-Energy Efficiency (%)	72.6	70.9	71.3
Cooking-Energy Rate (kW)	6.97	7.11	7.17
Production Capacity (lb/h)	82.9	86.1	85.3

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