



# Food Service Technology Center Appliance Test Summary Report

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<b>Manufacturer</b>	Garland
<b>Model</b>	MCOE5
<b>Appliance</b>	Half-size convection oven - Electric

<b>Report Number</b>	5012.08.55
<b>Test Date</b>	October, 2006
<b>Tested By</b>	G. Sorensen

## Purpose of Testing

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

## Energy Input Rate

Rated Energy Input Rate (kW)	8.0
Measured Energy Input Rate (kW)	7.7
Difference (%)	4.3

## Preheat to 350°F

Duration (min)	6.2
Electric Energy Consumption (kWh)	0.780
Preheat Rate (°F/min)	43.7

## Idle at 350°F

Idle Energy Rate (kW)	1.49
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## Heavy-Load Cooking Energy Efficiency <sup>a</sup>

Food Product	Russet Potatoes
Cook Time (min)	46.9
Cooking Energy Rate (kW)	5.31
Energy to Food (Btu/lb)	249
Energy to Appliance (Btu/lb)	383
Cooking-Energy Efficiency (%)	65.1 ± 1.6
Production Capacity (lb/hr)	47.3 ± 5.4

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



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## Heavy-Load Potato Test Data

	Test #1	Test #2	Test #3
<b>Measured Values</b>			
Number of Potatoes	75	75	75
Cook Time (min)	46.3	46.0	48.3
Electric Energy to Oven (kWh)	4.080	4.120	4.240
Initial Weight of Potatoes (lb)	36.655	37.000	37.215
Final Weight of Potatoes (lb)	31.520	31.760	31.835
Initial Temperature of Potatoes (°F)	73.0	71.7	71.7
Final Temperature of Potatoes (°F)	205.0	205.0	205.0
<b>Calculated Values</b>			
Sensible Heat (Btu)	4,064	4,143	4,167
Latent - Heat of Vaporization (Btu)	4,981	5,083	5,219
Total Energy to Food (Btu)	9,045	9,226	9,386
Energy to Food (Btu/lb)	247	249	252
Total Energy to Oven (Btu)	13,925	14,062	14,471
Energy per Pound of Food Cooked (Btu/lb)	380	380	389
Cooking-Energy Efficiency (%)	65.0	65.6	64.9
Cooking-Energy Rate (kW)	5.29	5.37	5.27
Production Capacity (lb/h)	47.5	48.3	46.2

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