



Food Service Technology Center Appliance Test Summary Report

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Manufacturer	Eloma
Model / Serial Number	Genius T10-11 / 103747
Appliance	Combination Oven – Electric
Cavity Dimensions (WxDxH)	20" x 28" x 33"

Report Number	501311027
Test Date	July, 2011
Tested By	M. Karsz

Purpose of Testing

This testing determined the energy input rate, preheat time and energy, idle energy rate, heavy-load cooking-energy efficiency in convection and steam modes by applying ASTM F2861.

Energy Input Rate ^a

Voltage (V)	208
Rated Energy Input Rate (kW)	18.0
Measured Energy Input Rate (kW)	18.0
Difference (%)	0.0

^a Measured during combi mode preheat

Preheat and Idle

	Convection	Steam
Preheat		
Final Preheat Temperature (°F)	341	210
Duration (min)	5.72	5.58
Electric Preheat Energy (kWh)	1.54	1.24
Preheat Rate (°F/min)	46.9	24.9
Water Consumption (gal)	0.0	1.0
Idle		
Electric Idle Energy Rate (kW)	1.56	6.65
Average Cavity Temperature (°F)	352	213
Water Consumption Rate (gal/h)	16.3	21.2



**Eloma Genius T10-11
Combination Oven**

Heavy-Load Cooking Energy Efficiency ^a

	Convection	Steam
Food Product	Russet Potatoes	Red Potatoes
Cavity Temperature (°F)	350	212
Cook Time (min)	41.86	27.05
Water Consumption Rate (gal/h)	16.1	16.7
Electric Energy Rate (kW)	9.59	10.67
Energy to Food (Btu/lb)	241	106
Energy to Oven (Btu/lb)	350	228
Cooking-Energy Efficiency (%)	70.1 ± 1.0	48.7 ± 0.9
Production Capacity (lb/h)	93.5 ± 2.5	159.7 ± 7.3

^a based on a minimum of three test replicates

Eloma

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Preheat and Idle – Combi Mode

Preheat	
Final Preheat Temperature (°F)	342
Duration (min)	9.08
Electric Preheat Energy (kWh)	2.55
Preheat Rate (°F/min)	29.8
Water Consumption (gal)	14.0
Idle	
Electric Idle Energy Rate (kW)	6.17
Average Cavity Temperature (°F)	351
Water Consumption Rate (gal/h)	18.5

Heavy-Load Russet Potato (Perforated Shallow Quarter-size Pans) Test Data

	Run #1	Run #2	Run #3
Measured Values			
Number of Pans	9	9	9
Total Potato Count	135	135	135
Cook Time (min)	41.83	42.33	41.42
Electric Energy Consumption (Wh)	6,705	6,735	6,630
Initial Weight of Potatoes (lb)	65.255	65.255	65.255
Final Weight of Potatoes (lb)	56.490	56.360	56.790
Initial Temperature of Potatoes (°F)	73.0	71.8	72.2
Final Temperature of Potatoes (°F)	205	205	205
Weight of Stainless Steel Pans (lb)	19.600	19.870	19.575
Water Consumption (gal)	11.1	11.7	10.9
Calculated Values			
Sensible Heat (Btu)	7,235	7,301	7,279
Latent – Heat of Vaporization (Btu)	8,502	8,628	8,211
Total Energy to Food (Btu)	15,737	15,929	15,490
Energy to Food (Btu/lb)	241	244	237
Energy to Pans (Btu)	285	291	286
Total Energy to Oven (Btu)	22,901	23,004	22,628
Energy to Oven (Btu/lb)	351	353	347
Cooking-Energy Efficiency (%)	70.0	70.5	69.7
Cooking Energy Rate (kW)	9.62	9.55	9.60
Production Capacity (lb/h)	93.6	92.5	94.5
Water Consumption (gal/h)	15.9	16.6	15.8

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Heavy-Load Red Potato (Perforated Deep Quarter-size Pans) Test Data

	Run #1	Run #2	Run #3
Measured Values			
Number of Pans	9	9	9
Total Potato Count	450	450	450
Test Time (min)	27.58	26.58	27.00
Electric Energy Consumption (Wh)	4,680	4,830	4,920
Initial Weight of Potatoes (lb)	72.000	72.000	72.000
Final Weight of Potatoes (lb)	72.165	72.125	72.095
Initial Temperature of Potatoes (°F)	75.1	71.9	70.8
Final Temperature of Potatoes (°F)	195	195	195
Weight of Stainless Steel Pans (lb)	23.660	23.660	23.665
Water Consumption (gal)	7.8	7.3	7.5
Calculated Values			
Sensible Heat (Btu)	7,511	7,711	7,780
Total Energy to Food (Btu)	7,511	7,711	7,780
Energy to Food (Btu/lb)	104	107	108
Energy to Pans (Btu)	312	320	323
Total Energy to Oven (Btu)	15,973	16,485	16,792
Energy to Oven (Btu/lb)	222	229	233
Cooking-Energy Efficiency (%)	49.0	48.7	48.3
Cooking Energy Rate (kW)	10.18	10.90	10.93
Production Capacity (lb/h)	156.6	162.5	160.0
Water Consumption (gal/h)	17.0	16.5	16.7

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