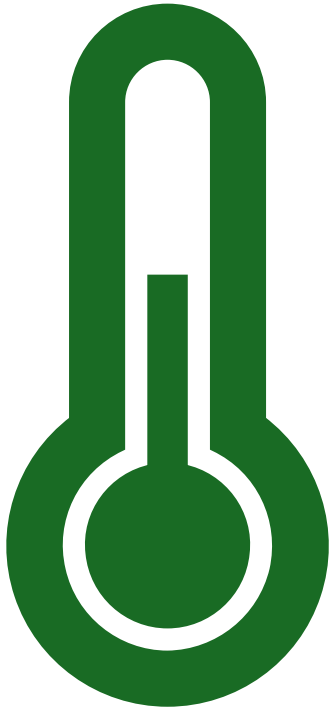
Aerofoil Installation Case Study

Portland, Oregon - December 2025

Install and analysis completed by Hayden Beck.

Please contact Hayden@MPHglobal.com for questions on this report



Summary

- 32 Aerofoils installed over 28 linear feet of refrigeration at this site
  - HillPhoenix O5DMH8
  - Case run has had issues maintaining product temperature
- 2-Day average in-cabinet temperature reduction by up to 1.74°F
  - Average change of 1.31°F
  - Overnight thermal image changes of up to 3.8 °F
- Aisle temperatures were seen to increase by up to 2.3°F overnight, with potential for further change
- Store personnel on-site liked the look and could feel the airflow difference with the Aerofoil

What is Aerofoil Technology?

Aerodynamic designs developed in partnership with Williams Formula One

Doubles as price tag holder

Direct cold air back into the fridge as it passes each shelf

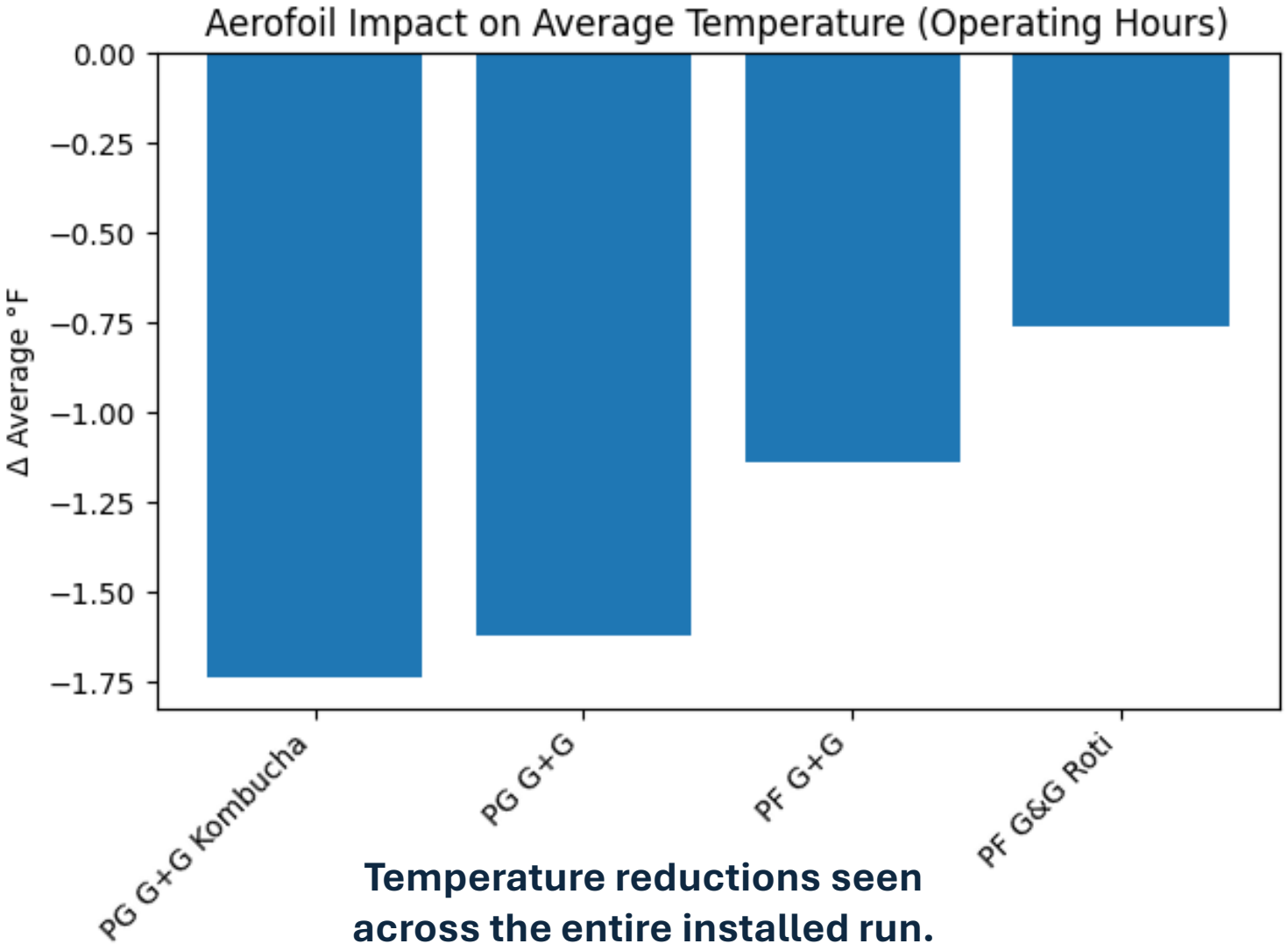
Prevent cold air spill from open fridges

Reduced heat-load over cooling coils

Standard Cabinets

Aerofoil Installed

- This run was 28 linear feet long with noted issues of maintaining product temperatures

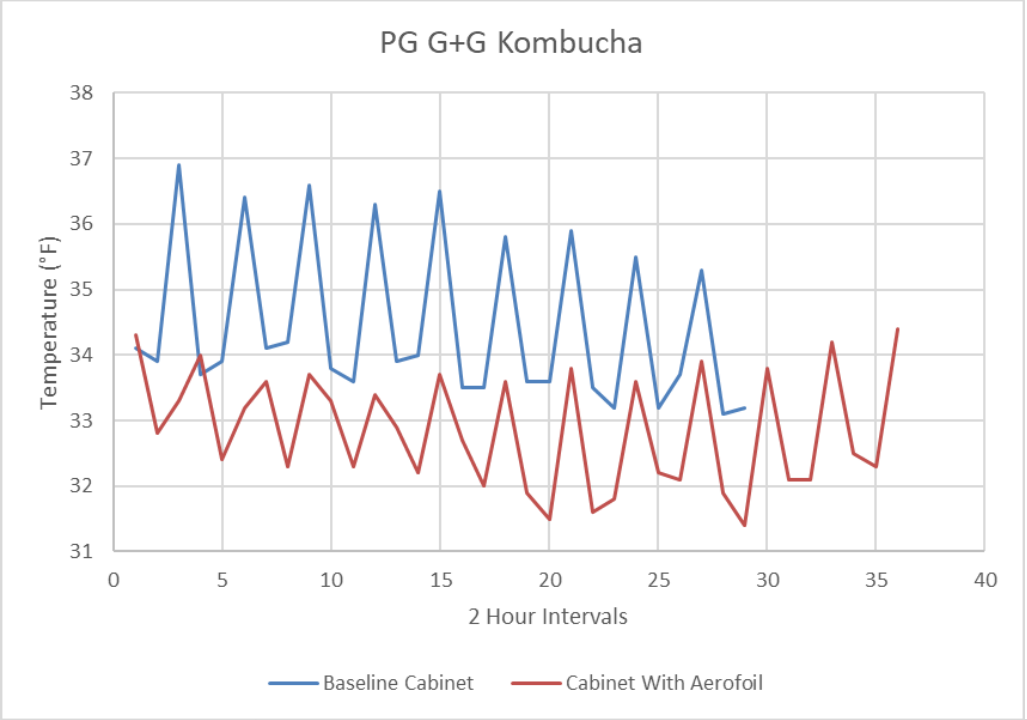


Temperature reductions seen across the entire installed run.

Graph on left:
Temperature difference is between a two-day average of cabinet temperatures with Aerofoil, subtracted by a two-day average of baseline cabinet temperatures.
Using Store's Monitoring Temperature Data

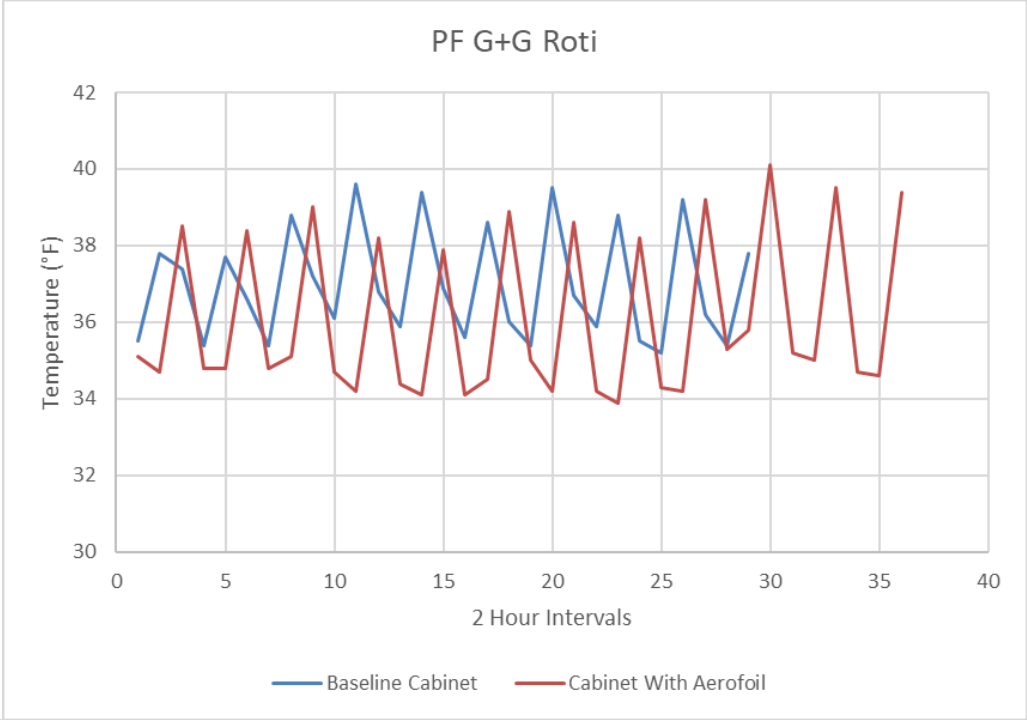
Table Below:
Temperature minimum and maximums as well. (Blue indicating temperature reductions, red indicating temperature increase).
Minimums lowered by **up to 1.6°F.**
Maximums lowered by **up to 3.2°F.**

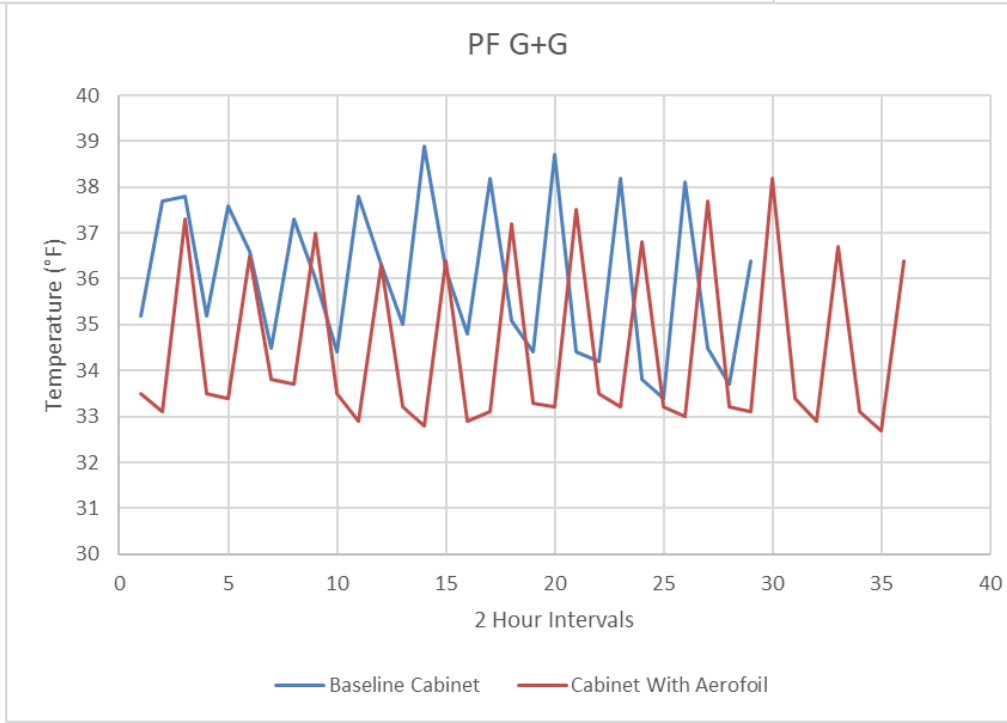
Sensor	Baseline Avg °F	Aerofoil Avg °F	Δ Avg °F	Baseline Max °F	Aerofoil Max °F	Δ Max °F	Baseline Min °F	Aerofoil Min °F	Δ Min °F
PG G+G Kombucha	34.43	32.86	-1.58	42.7	39.5	-3.2	31.7	30.3	-1.4
PG G+G	34.17	32.53	-1.64	46.3	44.9	-1.4	29.6	28.5	-1.1
PF G+G	36.00	34.53	-1.47	49.4	47.2	-2.2	31.7	31.2	-0.5
PF G&G Roti	36.95	36.09	-0.85	47.9	49.2	1.3	34.4	32.8	-1.6

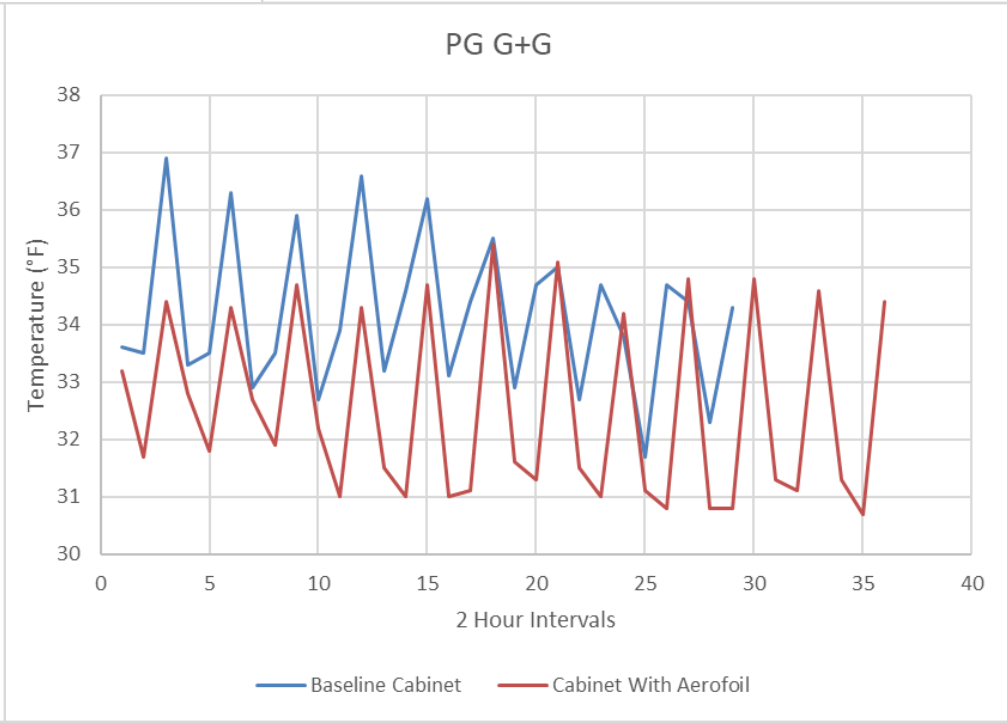


All temperature plots from data analysis conducted.

Visibly notable differences at all 4 locations.

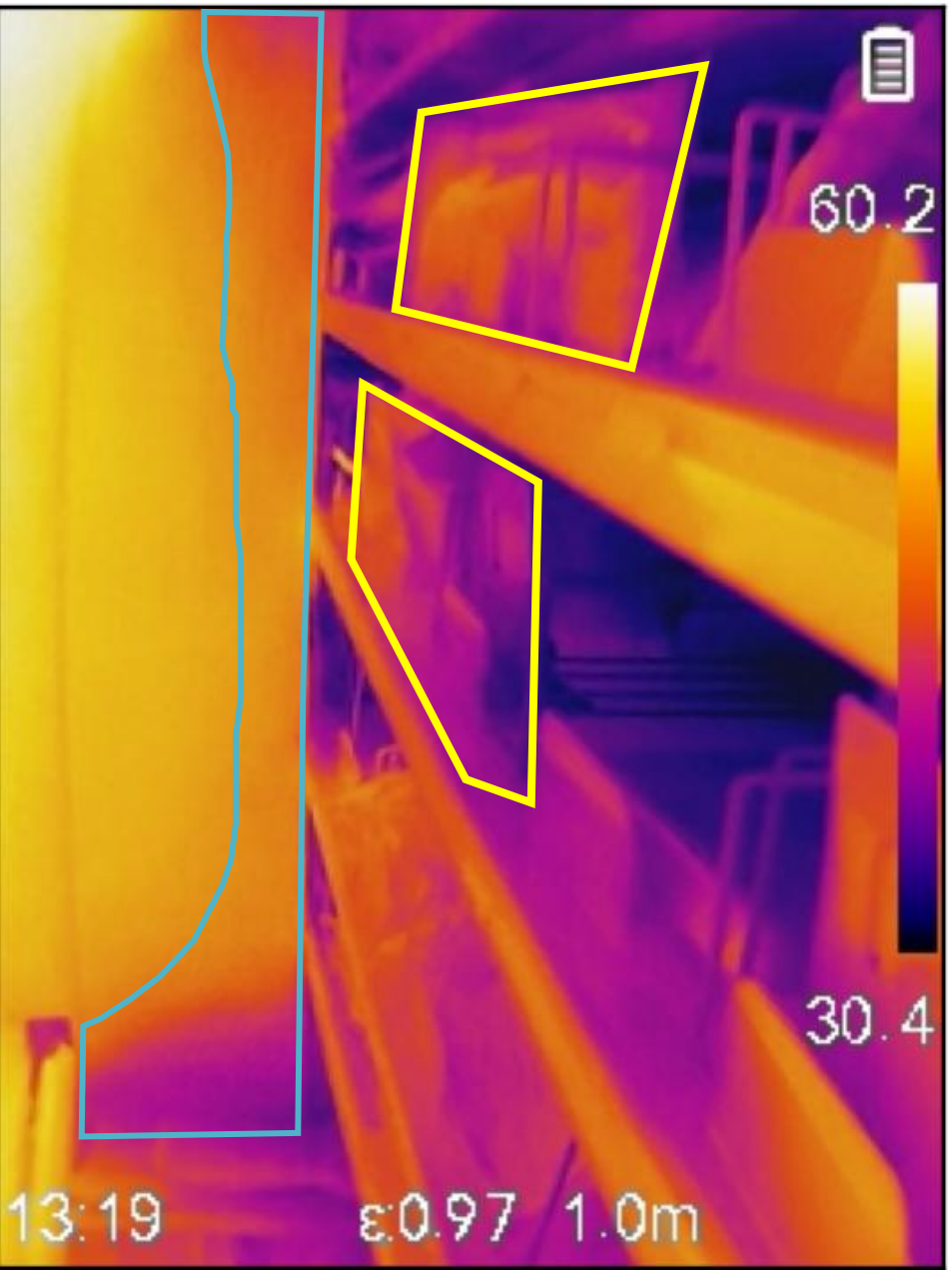




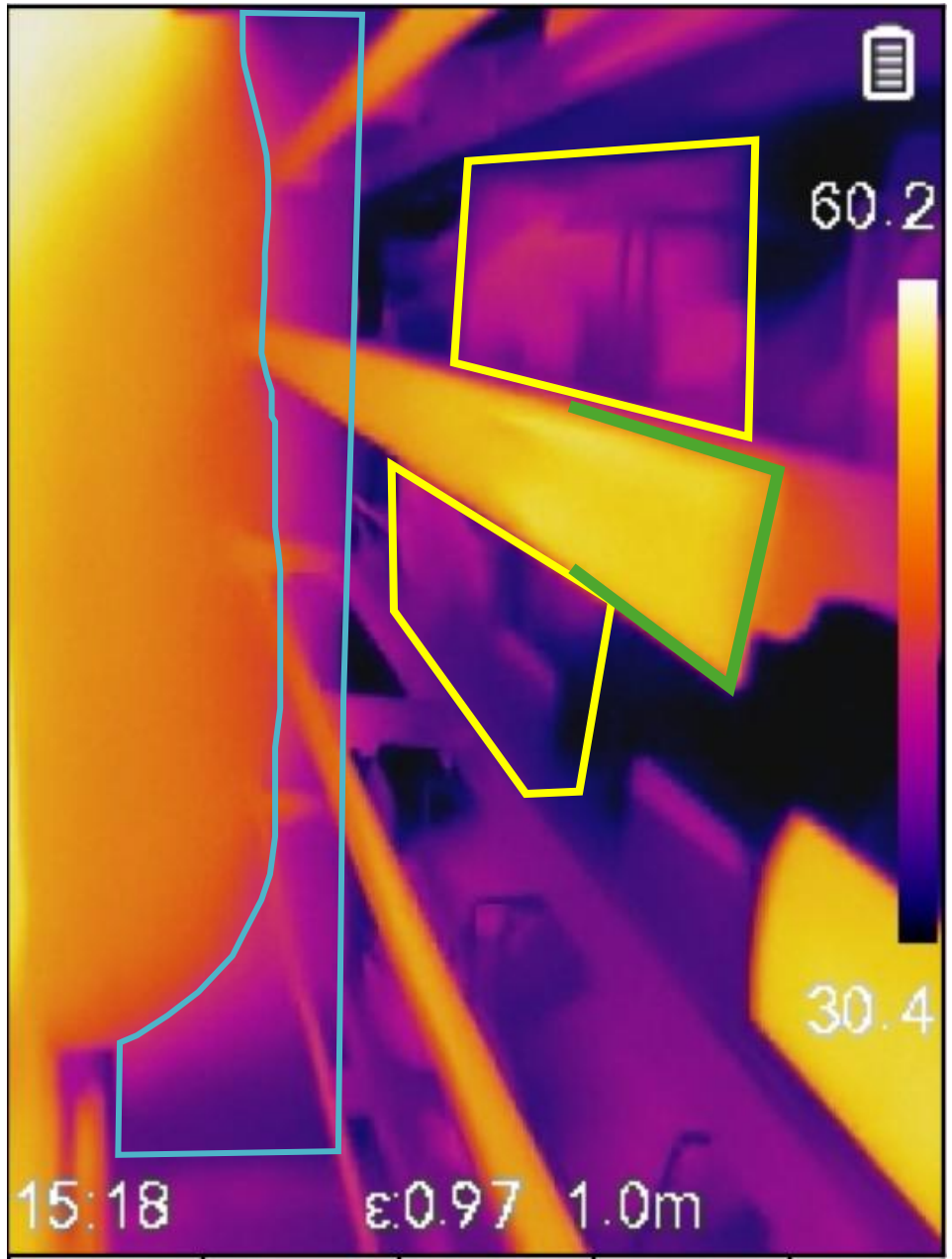


Thermal Images – What to Look For

Without Aerofoil



With Aerofoil



Aerofoils

The Aerofoils have been installed on the images to the right, sitting just off the shelf-edge.

Air Curtain

The darkening colors along the thermal wall behind the point of the Aerofoils illustrates the reduced temperatures.

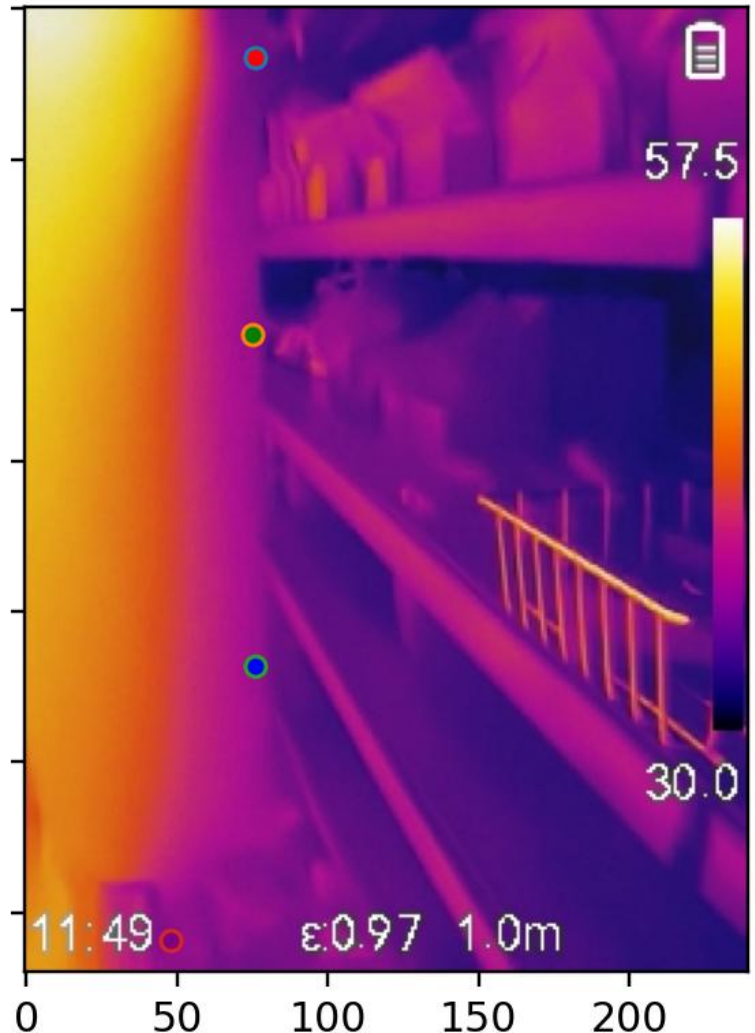
Products

Within the shelves, the darkening of colors shows lower product temperatures due to the developed air curtain.

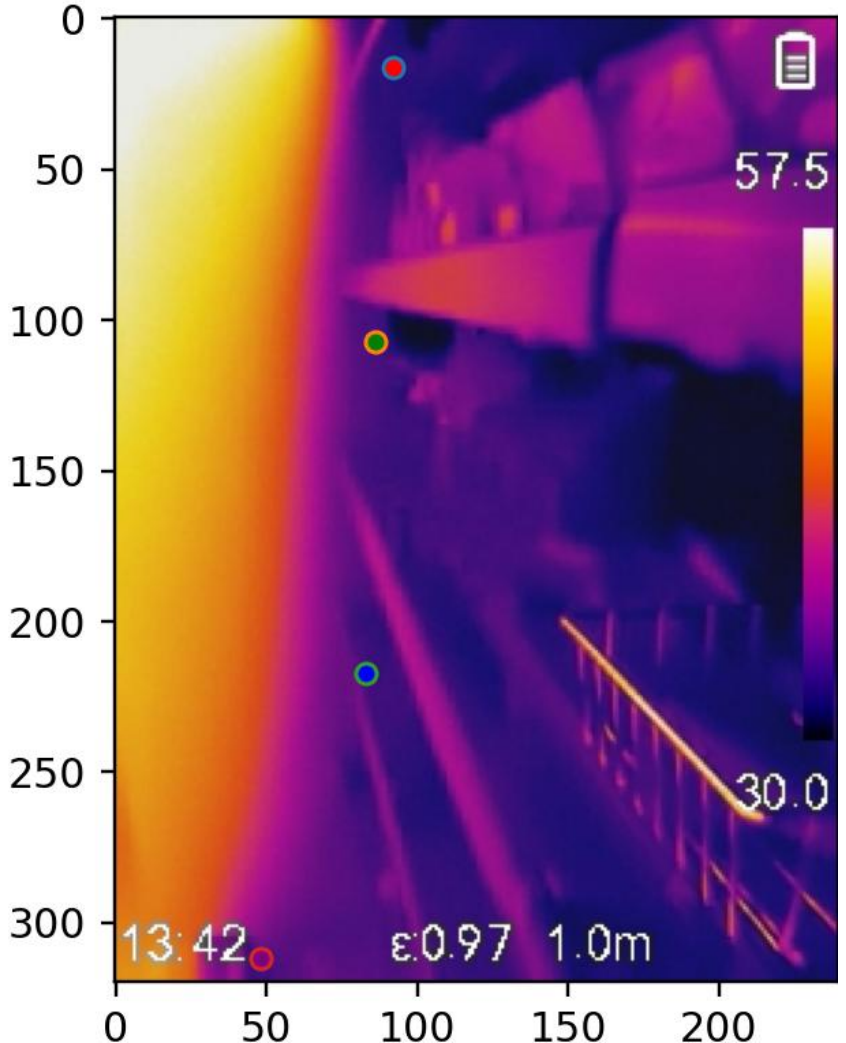
Deli (PF G+G ROTI) – Side View

Air Curtain Temperature Reduction

Without Aerofoil



With Aerofoil



Temperature Reduction:

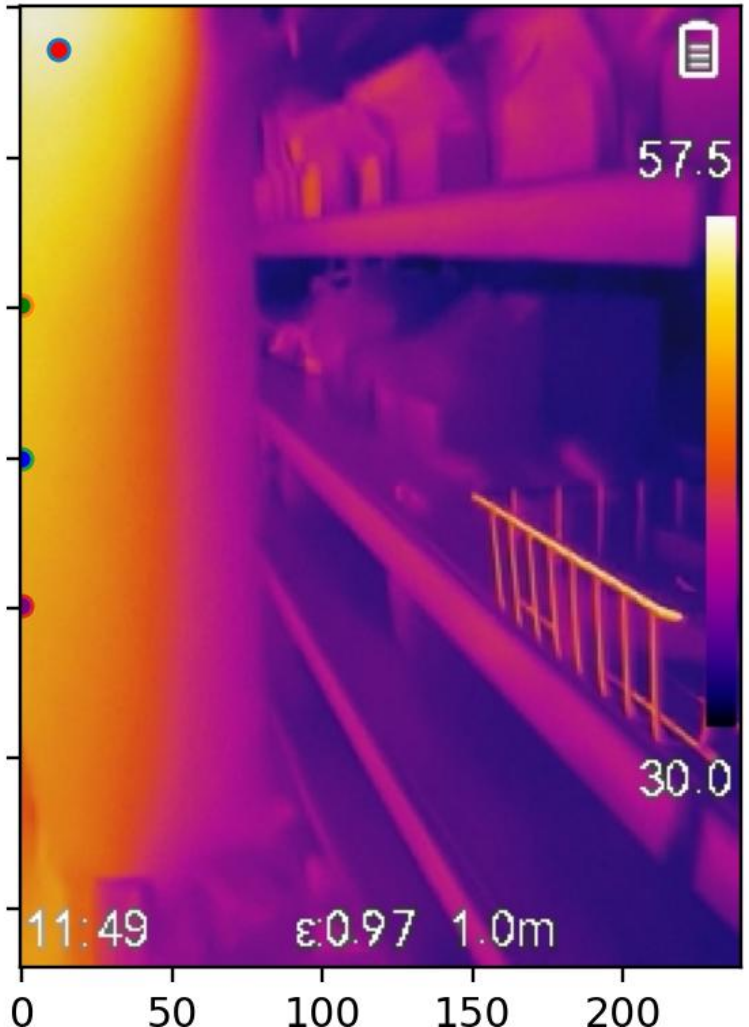
Point 1:	-3.1°F
Point 2:	-3.2°F
Point 3:	-3.8°F
Point 4:	-1.9°F

Note the established air curtain by the darkening of colors along the wall due to the Aerofoils

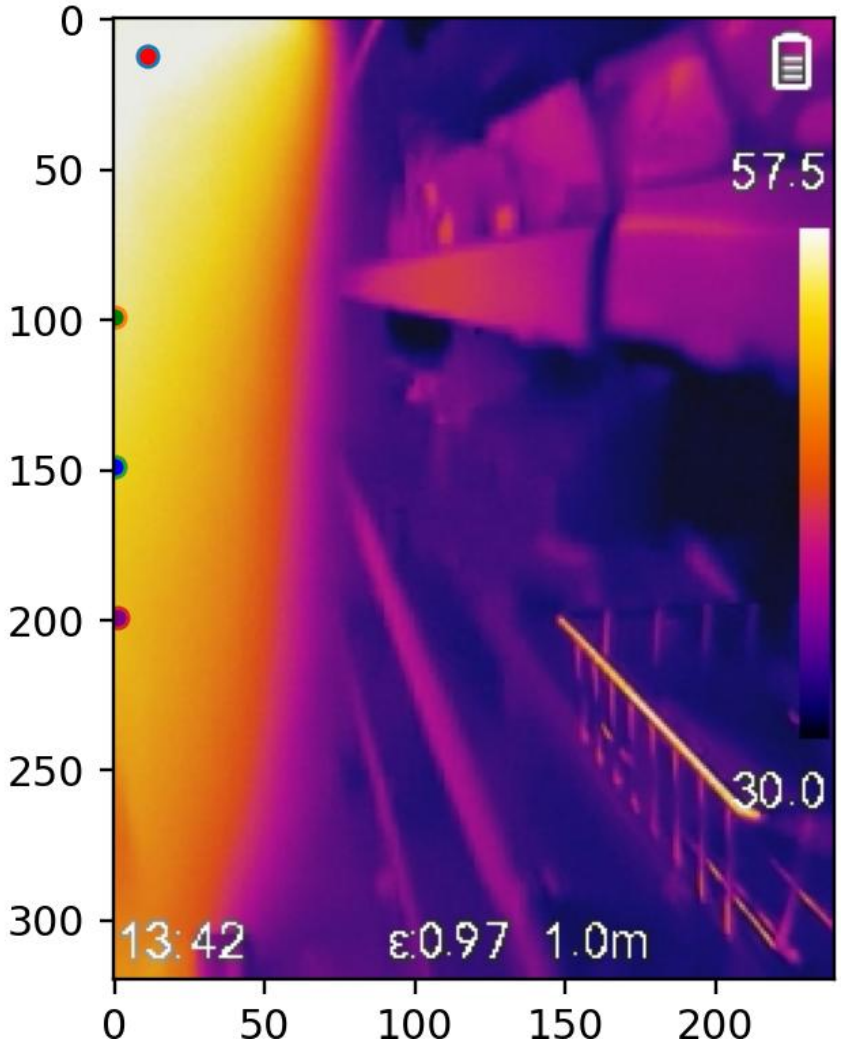
Deli (PF G+G ROTI) – Side View

Aisle Temperature **Increase With Aerofoil**

Without Aerofoil



With Aerofoil



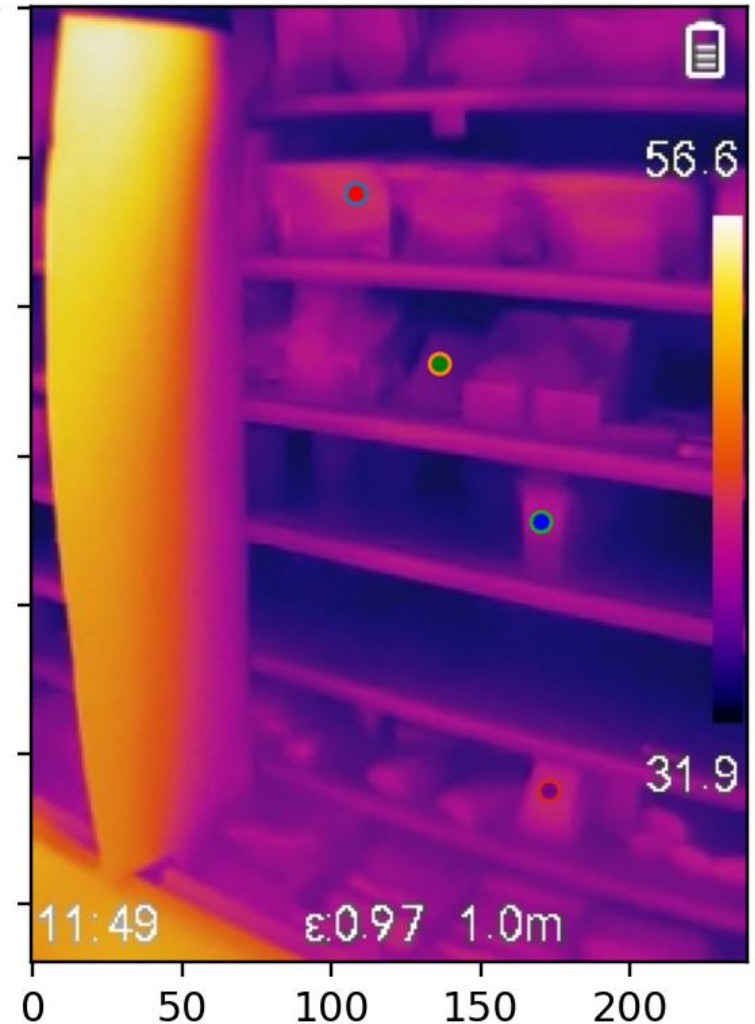
Temperature	Increase:
Point 1:	0.8°F
Point 2:	2.3°F
Point 3:	1.7°F
Point 4:	1.9°F

Due to the fact the cold air is retained in the cabinet better, the aisle temperatures are seen to **increase** with brighter colors outside the cabinet

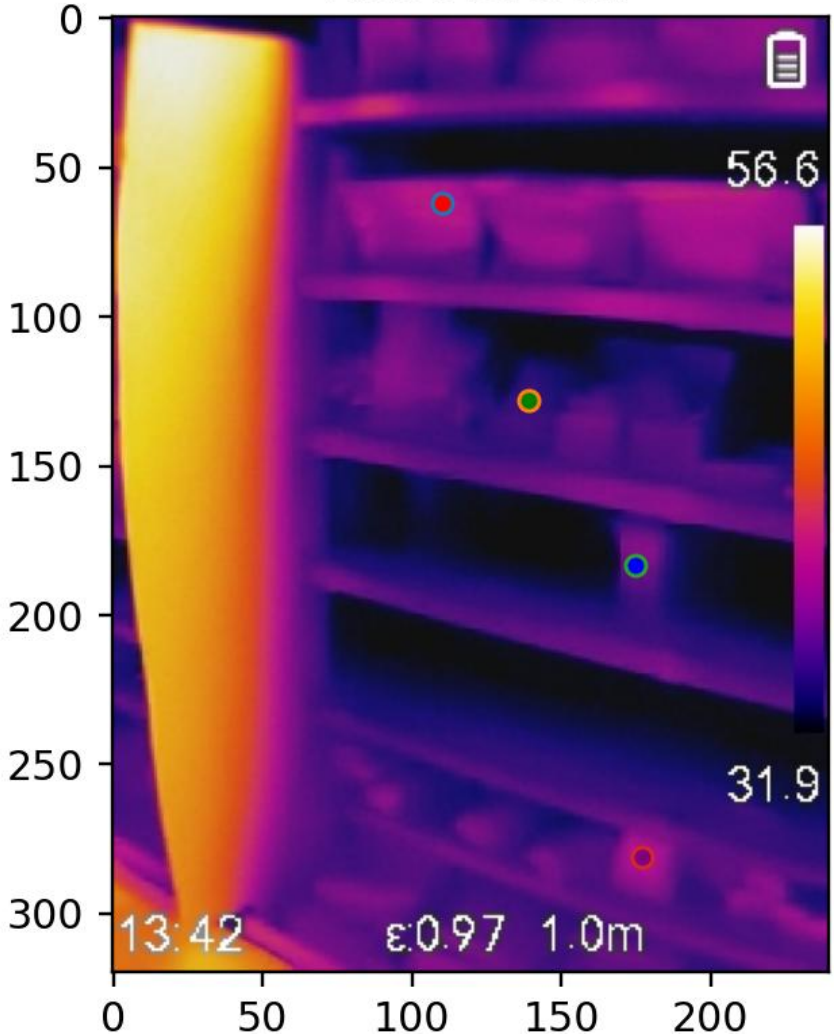
Deli (PF G+G ROTI) – Angle View

Product Temperature Reduction

Without Aerofoil



With Aerofoil



Temperature Reduction:

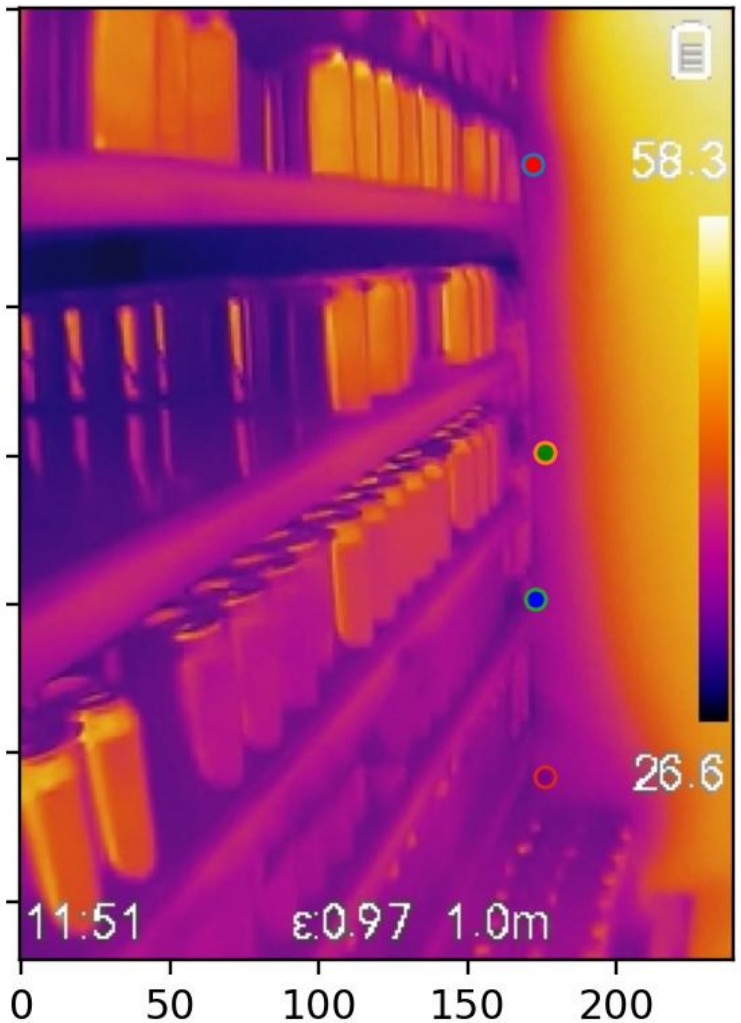
Point 1:	-1.7°F
Point 2:	-2.4°F
Point 3:	-2.5°F
Point 4:	-1.3°F

Note the reduced product temperatures by the darkening of colors within the cabinet

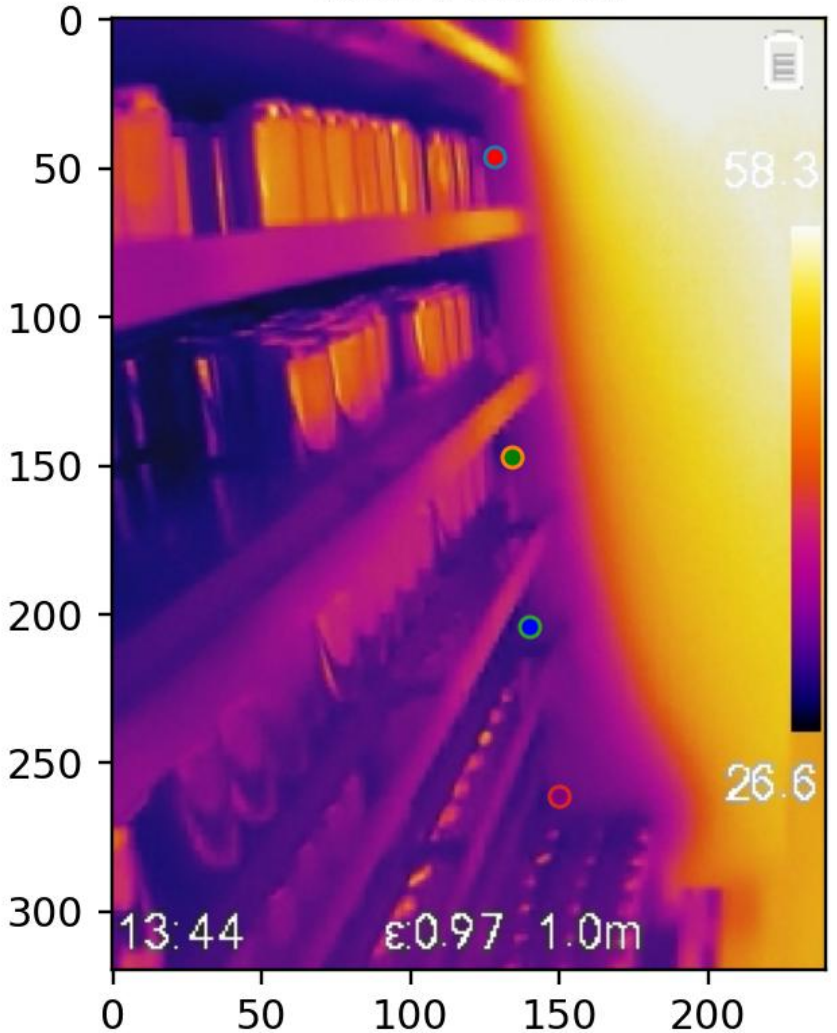
Soda (PG G+G Kombucha) – Side View

Air Curtain Temperature Reduction

Without Aerofoil



With Aerofoil



Temperature Reduction:

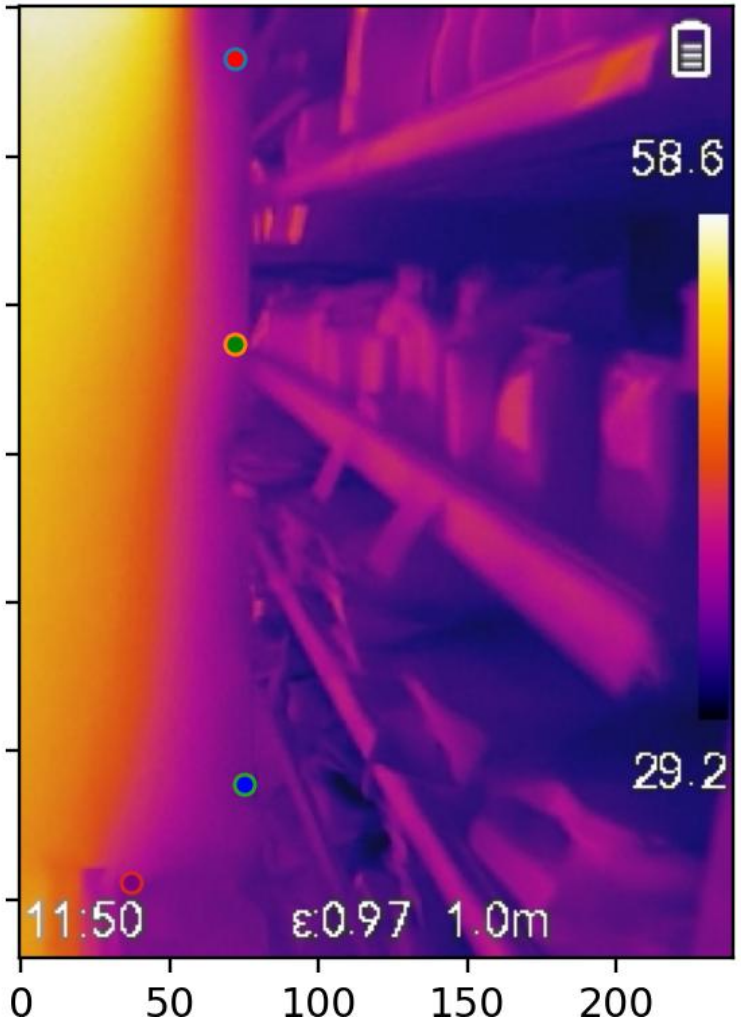
Point 1:	-1.2°F
Point 2:	-3.8°F
Point 3:	-3.8°F
Point 4:	-2.4°F

Note the established air curtain by the darkening of colors along the wall due to the Aerofoils

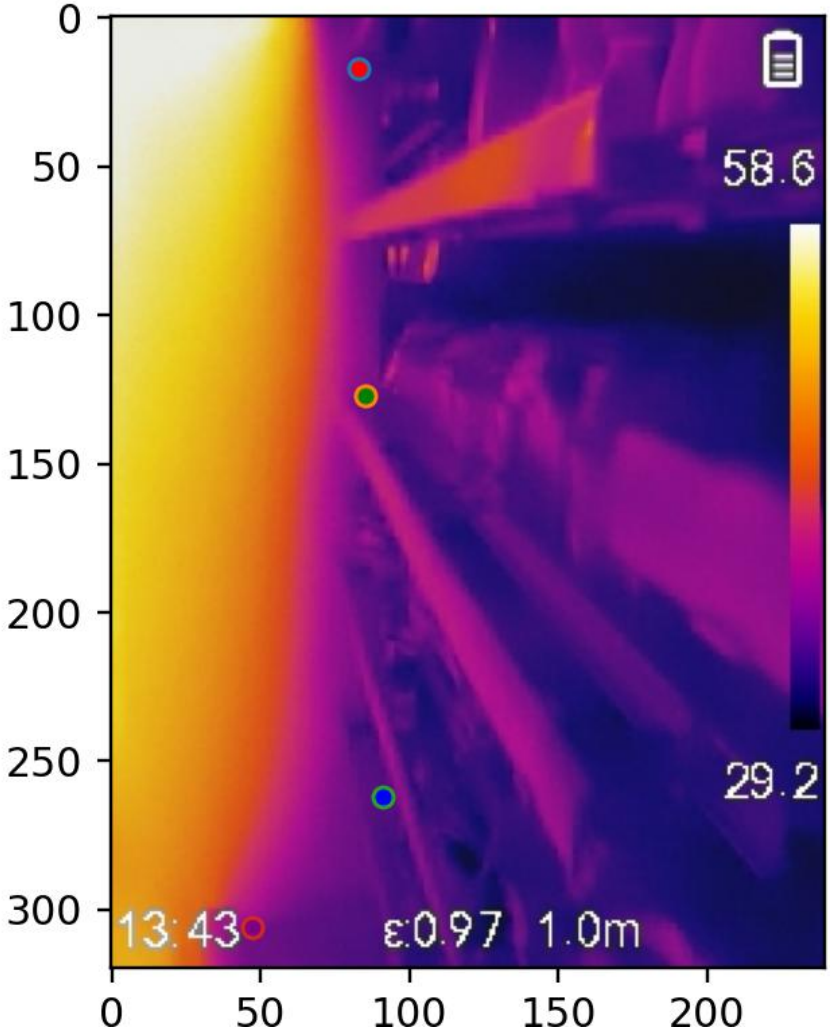
Pizza (PG G+G) – Side View

Air Curtain Temperature Reduction

Without Aerofoil



With Aerofoil



Temperature Reduction:

Point 1:	-2.3°F
Point 2:	-2.0°F
Point 3:	-1.2°F
Point 4:	-1.3°F

Note the established air curtain by the darkening of colors along the wall due to the Aerofoils