

e-Lite 70

High Performance Window Film



Darwin Waterfront

energy efficiency



Project Task

Wharf One, new residential/commercial/retail buildings in the redevelopment of Darwin Waterfront.

Praecscius Financial Consultants, the new tenants of suite C301 and C308 contacted Chameleon Window Tinting, an accredited Energy Efficiency Installer Partner, looking for a window film solution with a focus on maximum light transmission and maximum heat rejection



Tropical

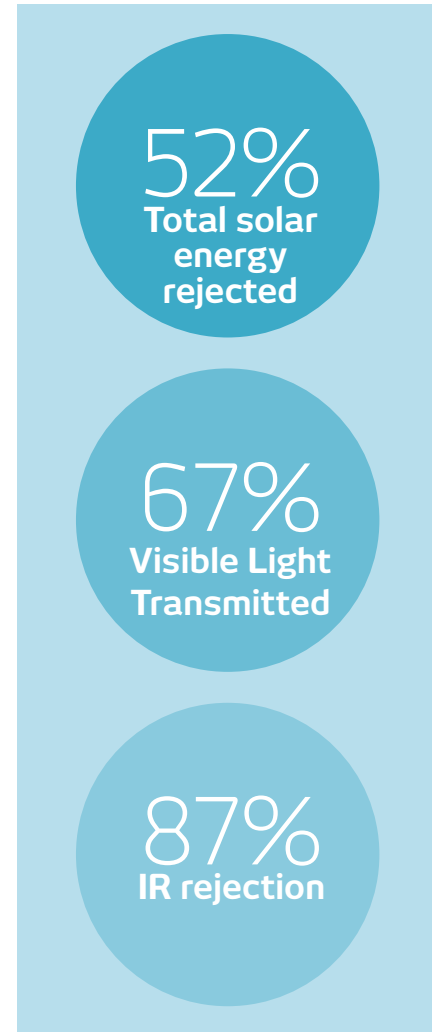


Solution

Hanita Pacific in conjunction with Chameleon Window Tinting proposed several films including Hanita Coatings' Argent series, OptiTune 40 and the new e-Lite 70.

e-Lite 70 stood out due to its high infrared rejection, minimal reduction of visible light and impressive energy savings potential.

e-Lite 70 Spectrally Selective Film



Visible light transmitted (%)	67
Visible light reflected (interior) (%)	14
Visible light reflected (exterior) (%)	16
Ultraviolet block (%)	99
Total solar energy reflected (%)	24
Total solar energy transmitted (%)	37
Total solar energy absorbed (%)	39
Shading coefficient	0.56
Glare reduction (%)	25
IR rejection (780-2500 nm) (%)	87
IR rejection (900-1000 nm) (%)	86
Emissivity	0.82
Solar heat gain coeff. (G-value)	0.48
Median U-value (winter)	1.03
Winter U-value (SI) W/(°K×m ²)	5.85
Summer solar heat gain reduction	0.46
Winter heat loss reduction (%)	1
Luminous efficacy constant	1.20
Total solar energy rejected (%)	52

Performance results are calculated on 3 mm glass using NFRC methodology and LBNL Window 5.2 software, and are subject to variations in process conditions within industry standards and are only intended for estimating purposes.



Outcome

The client was extremely satisfied with the outcome, and in particular, the retention of maximum light transmission, high heat rejection and almost invisible appearance.

The improved consistency of air temperature in the building now provides occupants with excellent comfort levels.

The client recommended e-Lite 70 to body corporate for installation on the entire complex.



Measurement & Verification

Measurement was conducted between 13/08/2012 - 27/08/2012 in suite C301.

Due to the building orientation and solar altitude at this time of year, the Sun is off glass at approximately 1.30pm.

Glass

6.6mm Pilkington toughened Green
Average pane: 1000mm x 2235mm

Air Conditioning

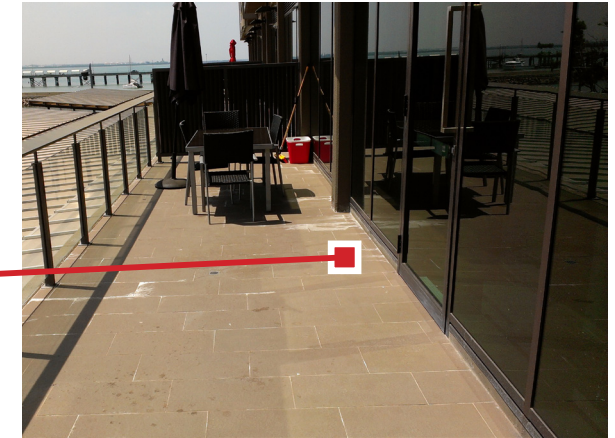
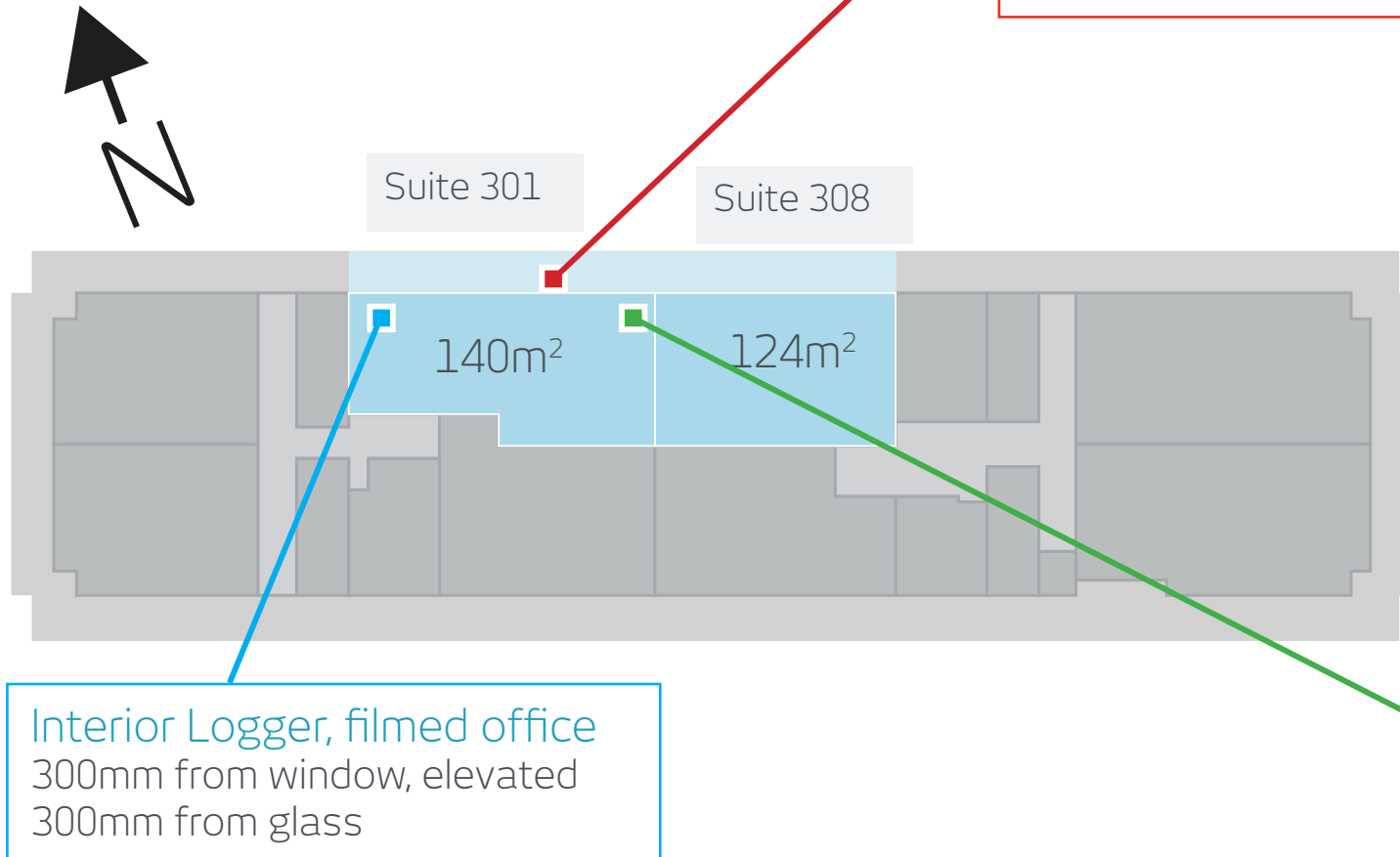
Fan coil unit

Set point temperature range is 21-24°C

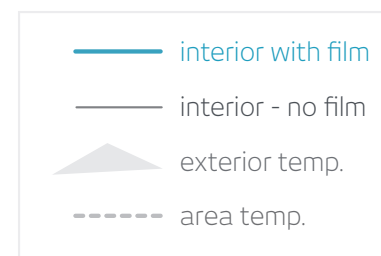
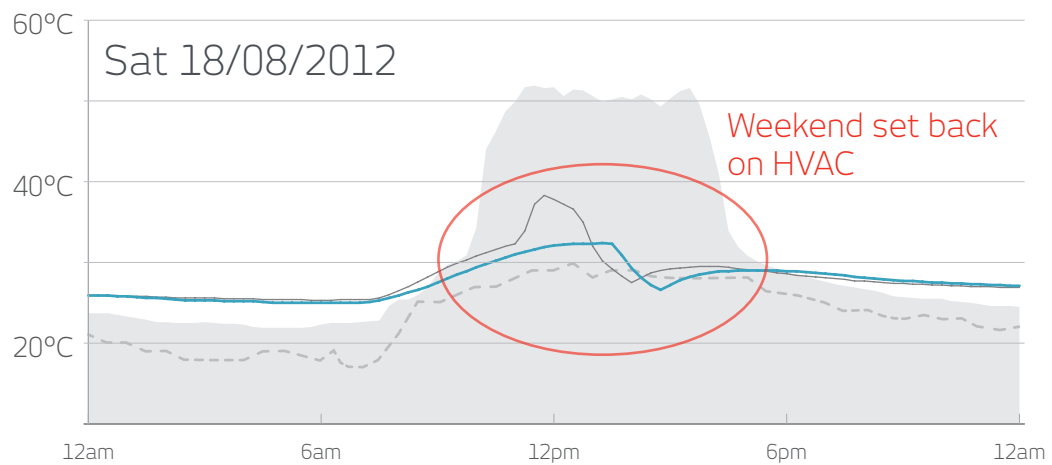
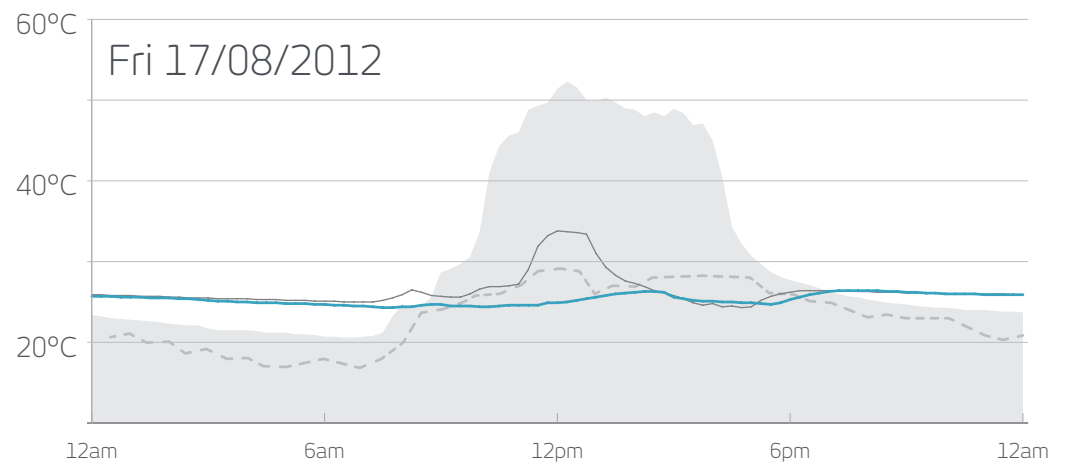
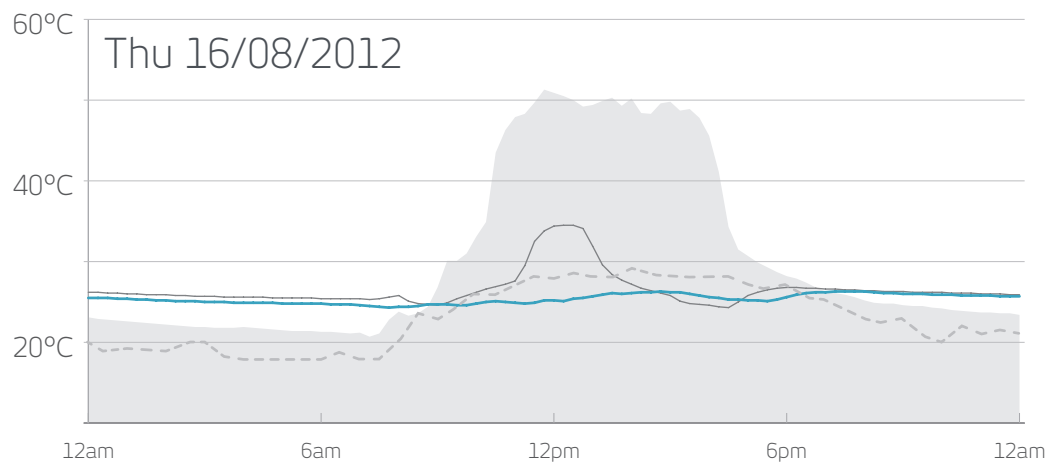
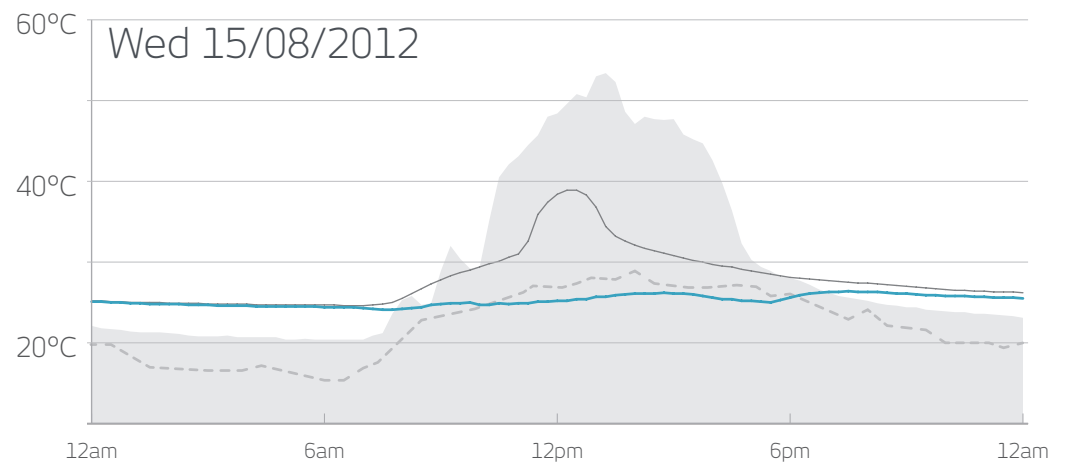
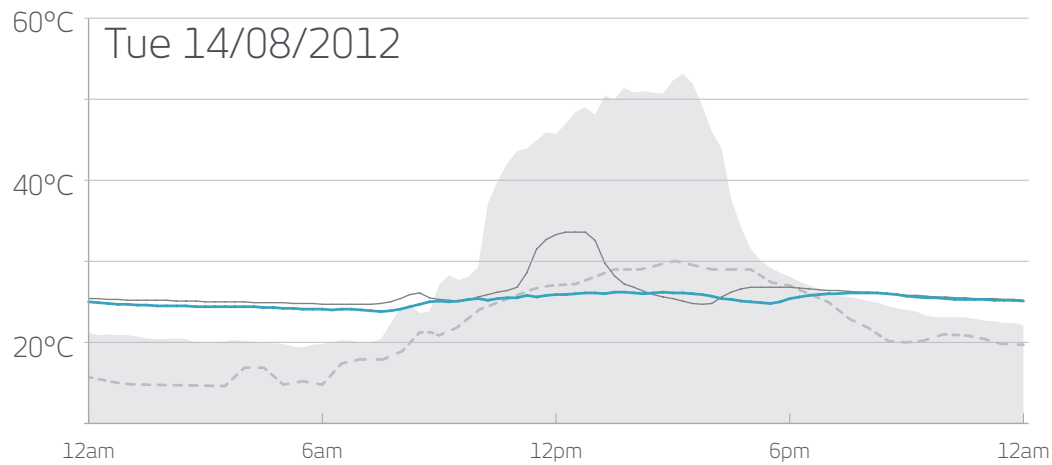


Loggers

Temperature loggers were placed in the office over a 2 week period to measure the effect of e-Lite 70.

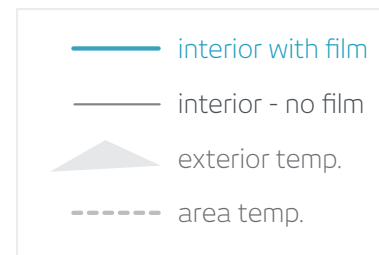
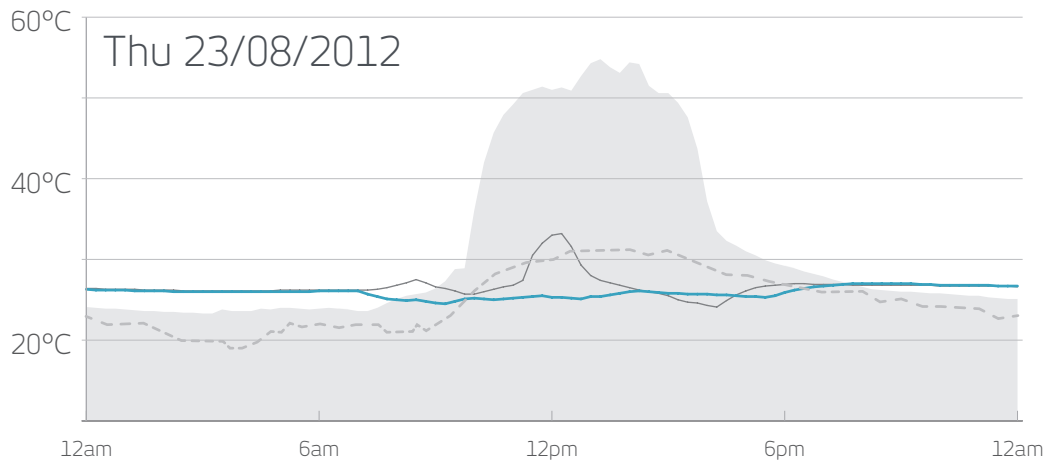
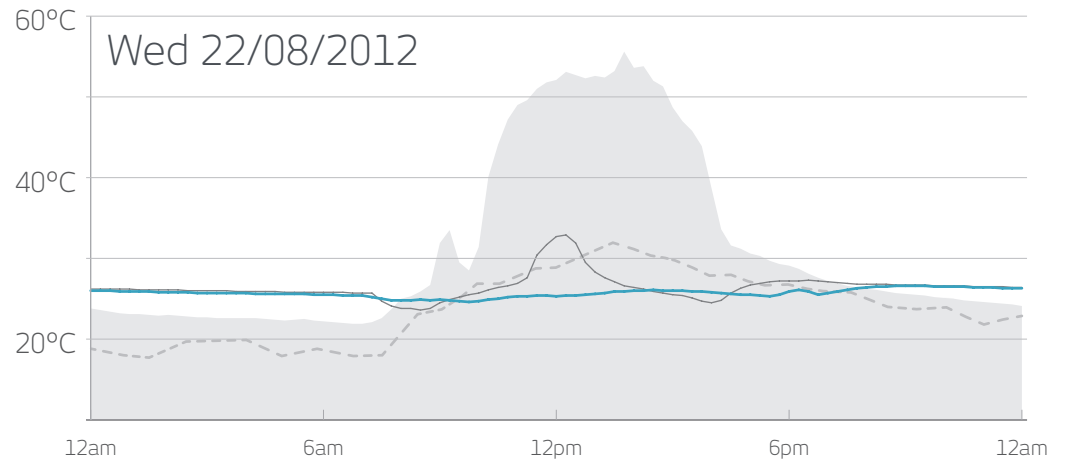
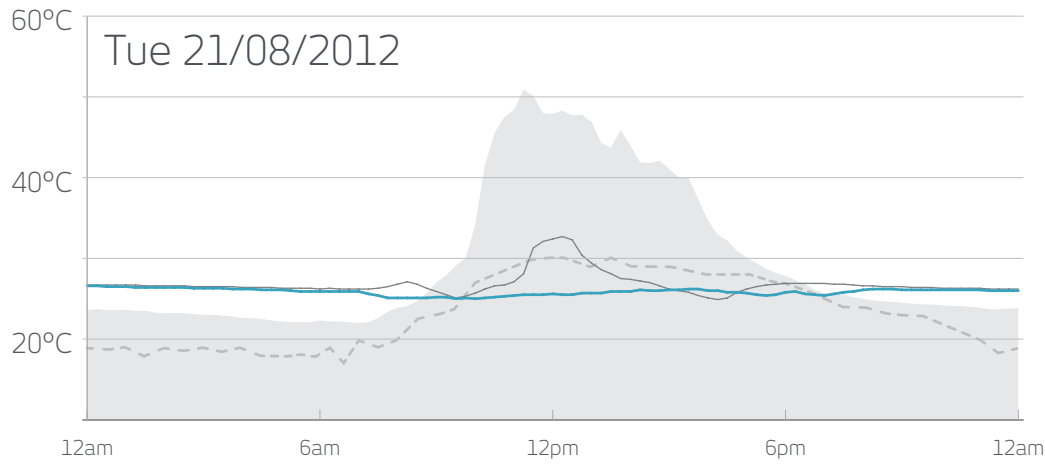
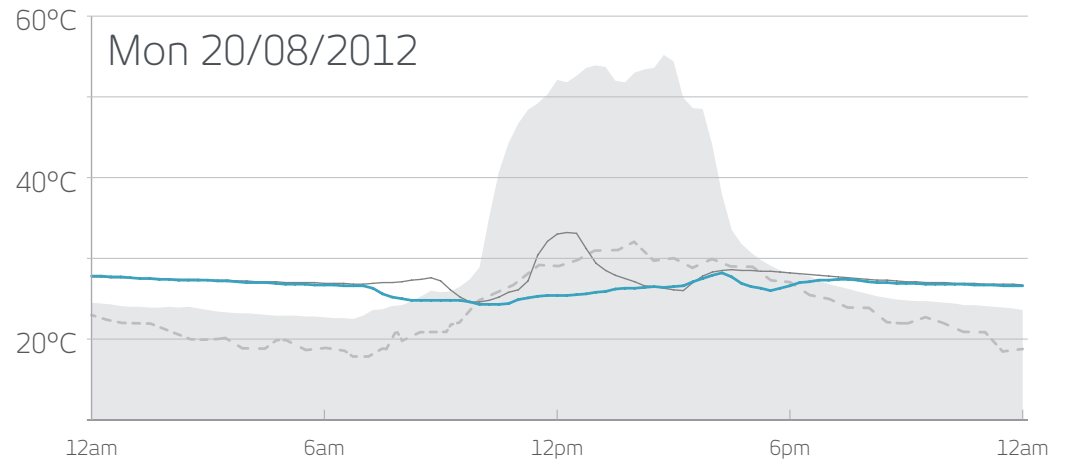
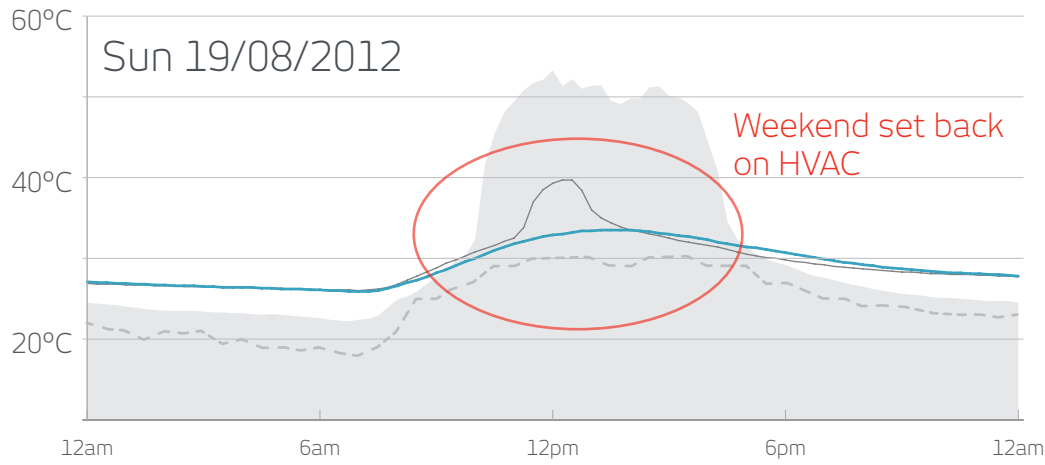


Interior Logger, no film
300mm from window, floor
level, elevated on 50mm timber

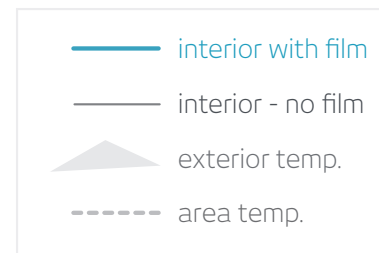
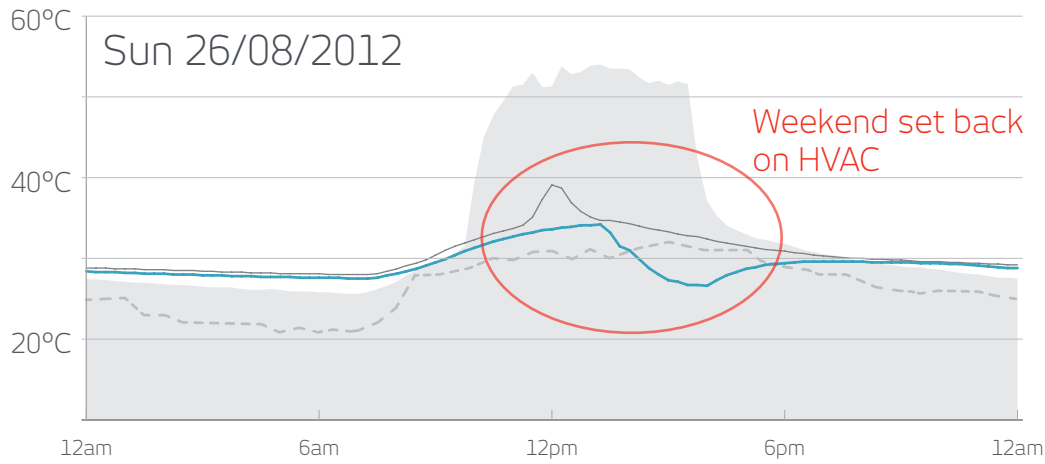
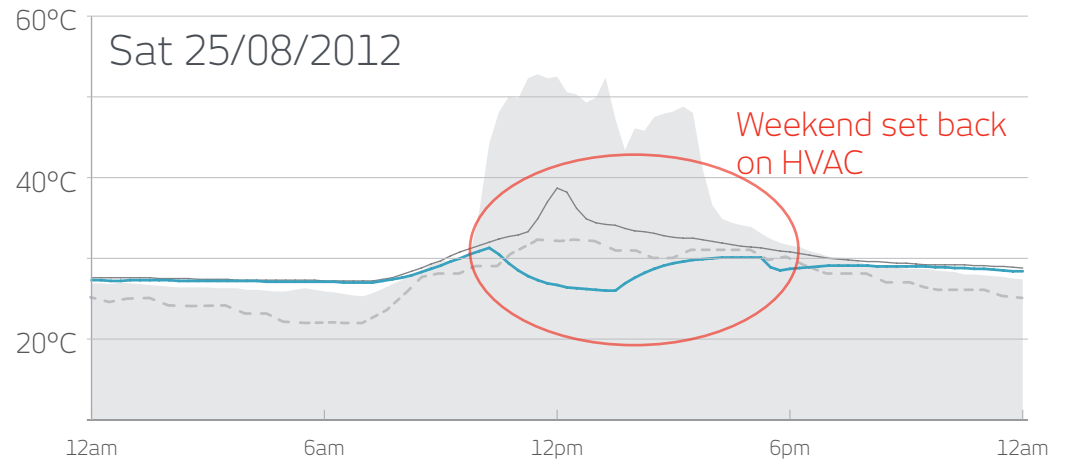
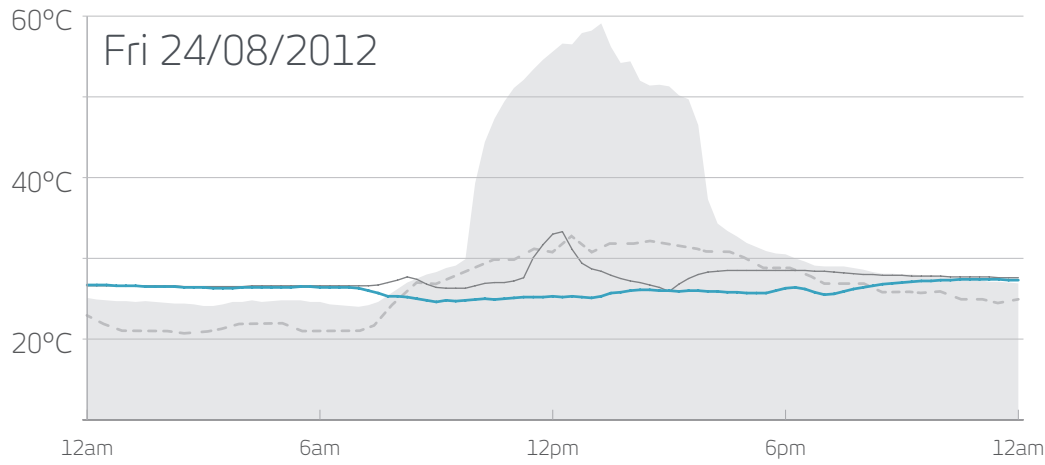


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