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3M™ Sun Control Film Trial Shopping Centre Skylight QLD.



Background to Trial

- Skylight Heat Load issue at Shopping Centre in Queensland.
- BTU Data loggers were installed to different panels in the same location to monitor Solar Heat Gain through the Skylight.
- 3M Silver 15 External RE15SIARXL* was applied to several skylight panels including above the BTU meter. The Second BTU meter was left with normal Skylight glass.
- These BTU meters were left running over the duration of the trial from 18th Aug to 26th Sept 2009. The Following data was logged over several weeks**.

* External 3M Film chosen as Access to Internal glass very difficult.

**3M did have an issue with a BTU meter and we only recovered the Data from the Eastern side of the Mall (the morning heat issue). We believe that the Afternoon (Western side panel) heat issue would be greater.

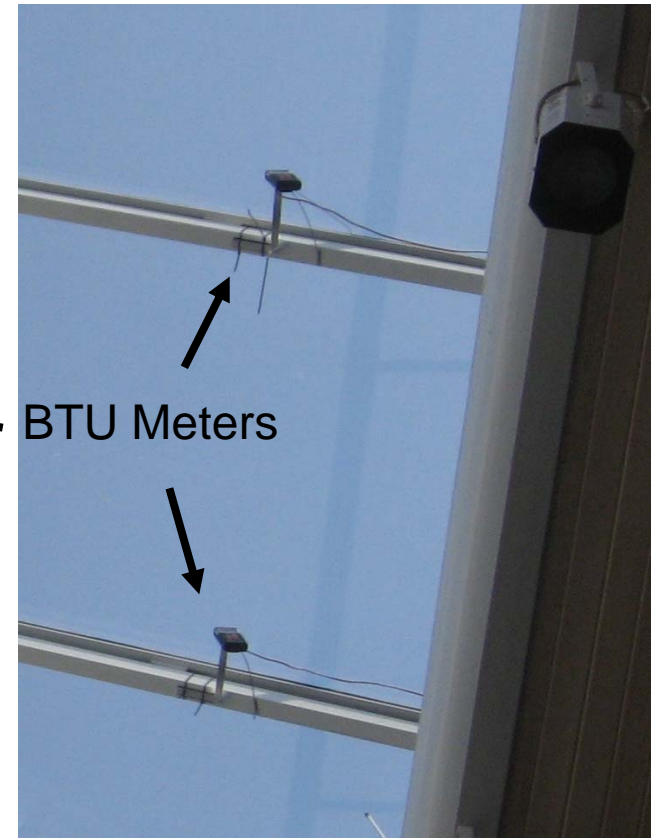


BTU Meter Location under Skylight

Western Side



Eastern Side

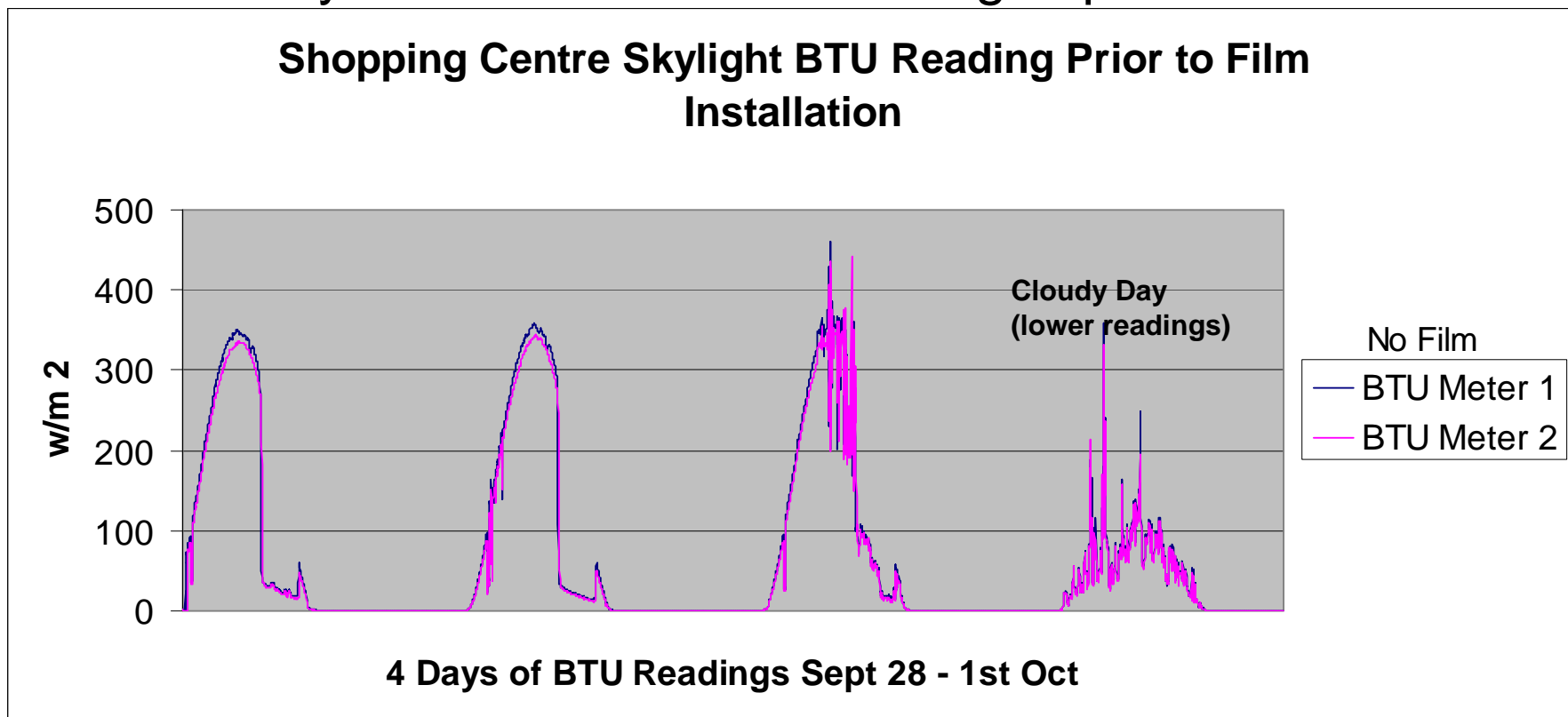


3M BTU meters monitor the energy penetration differences from panels with no film and 3M film.



BTU Meter Reading Prior to Film Installation

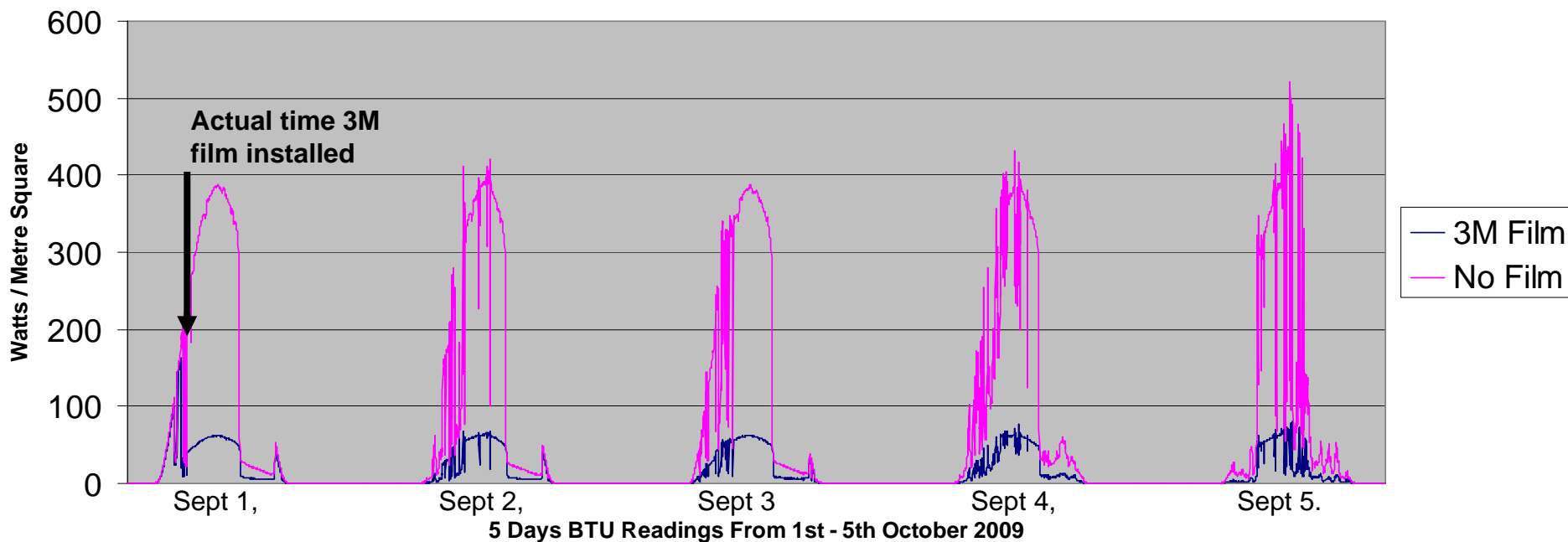
No 3M Solar Control Window film on Skylight for first 4 days of the BTU meters being in place.



RE15SIARXL Trial Summary

Area between the curves is the energy stopped from entering the Mall

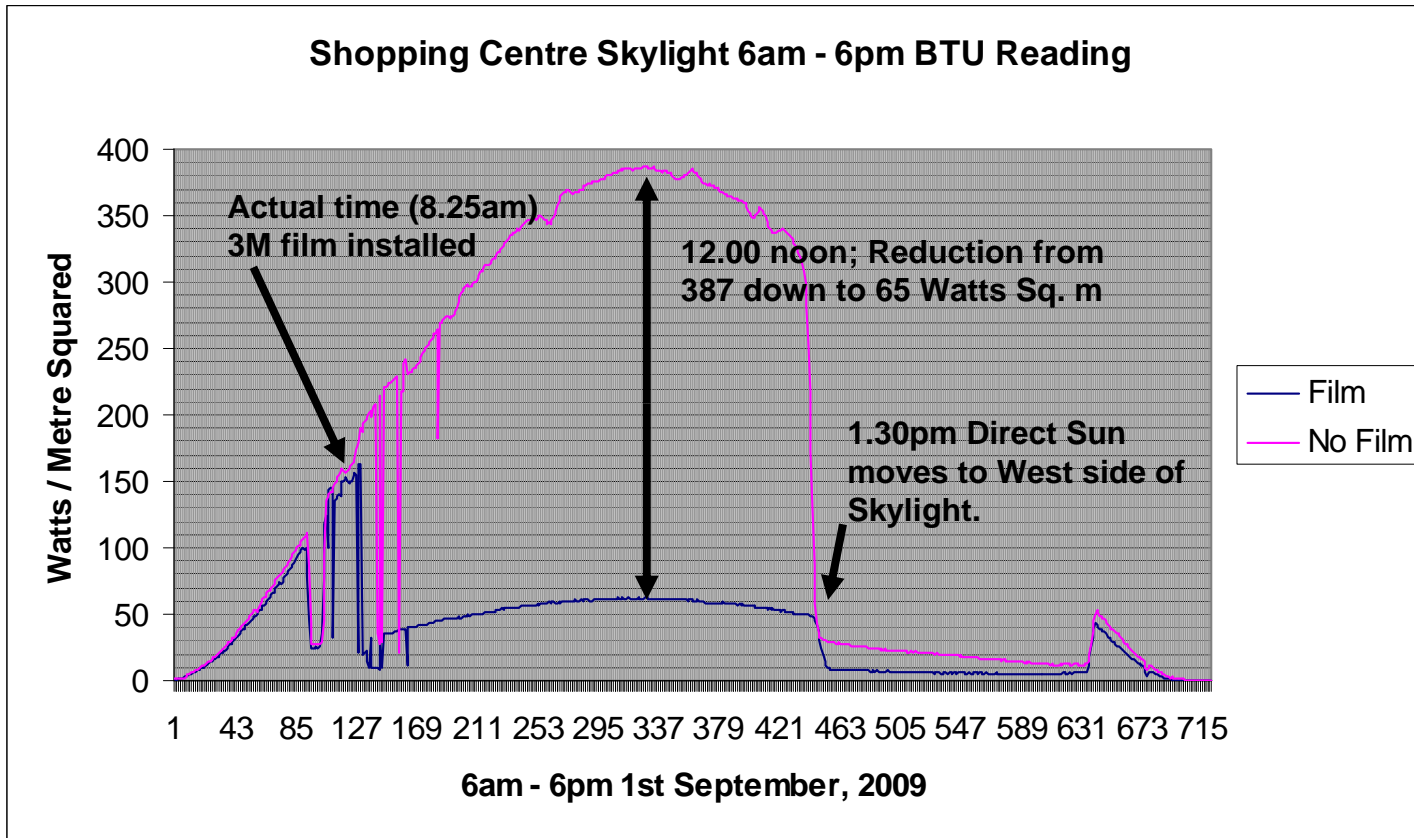
Shopping Centre Skylight: BTU Readings With/Without Film



- The BTU meters installed from the Western side Failed to down load their Stored Data (Software issues..)



RE15SIARXL Trial Summary



- This Single Day reading shows the reduction in Watts per Sq/m on the Day the 3M film was installed at Shopping Mall



RE15SIARXL Trial Summary

- Greater Thermal Comfort for occupants
 - *Peak heat Load reduction of up to 335 W/m² over several hours.*
- Reduction in Energy usage

Estimated Glass Opening Area (m ²)	1000
Peak reading without film (W/m ²)	406
Peak reading with film (W/m ²)	65.2

Peak heat inflow without film (kW)	400
Peak heat inflow with film (kW)	65
Heat inflow reduced by film (kW)	335



**Equivalent to removing 335
x 1000 Watt bar heaters**



Summary of 3M Differentiators



■ Marketplace Leadership

- *Only recognized brand*
- *Proven reputation and trust earned over 100+ years of existence*
- *Strong financial stability giving an unsurpassed warranty*
- *Invented this business in 1966 and made the majority of significant advances*

■ Technical Capability

- *Leading edge technology developed by investing \$5 billion in R&D over last 5 years*

■ Product Offering

- *Best safety film pound for pound (Ultra & PET series)*
- *Best dual-reflective solar film (Night Vision series)*
- *Best daylighting film (Prestige series)*

