DDB UNLIMITED®

An ISO 9001 Certified company

# Solar Load & Enclosure Color

Made in America

Believing in American Craftsmanship

Choosing the right color for an outdoor enclosure in high ambient geographical locations is important to the life expectancy of internal equipment; internal equipment should be rated significantly higher than expected solar and internal heat loads. Solar loading must be considered when selecting both the color of the enclosure and cooling solution. A typical solar load for an enclosure in the USA, can produce 97w of heat per square foot on the outside of an enclosure.

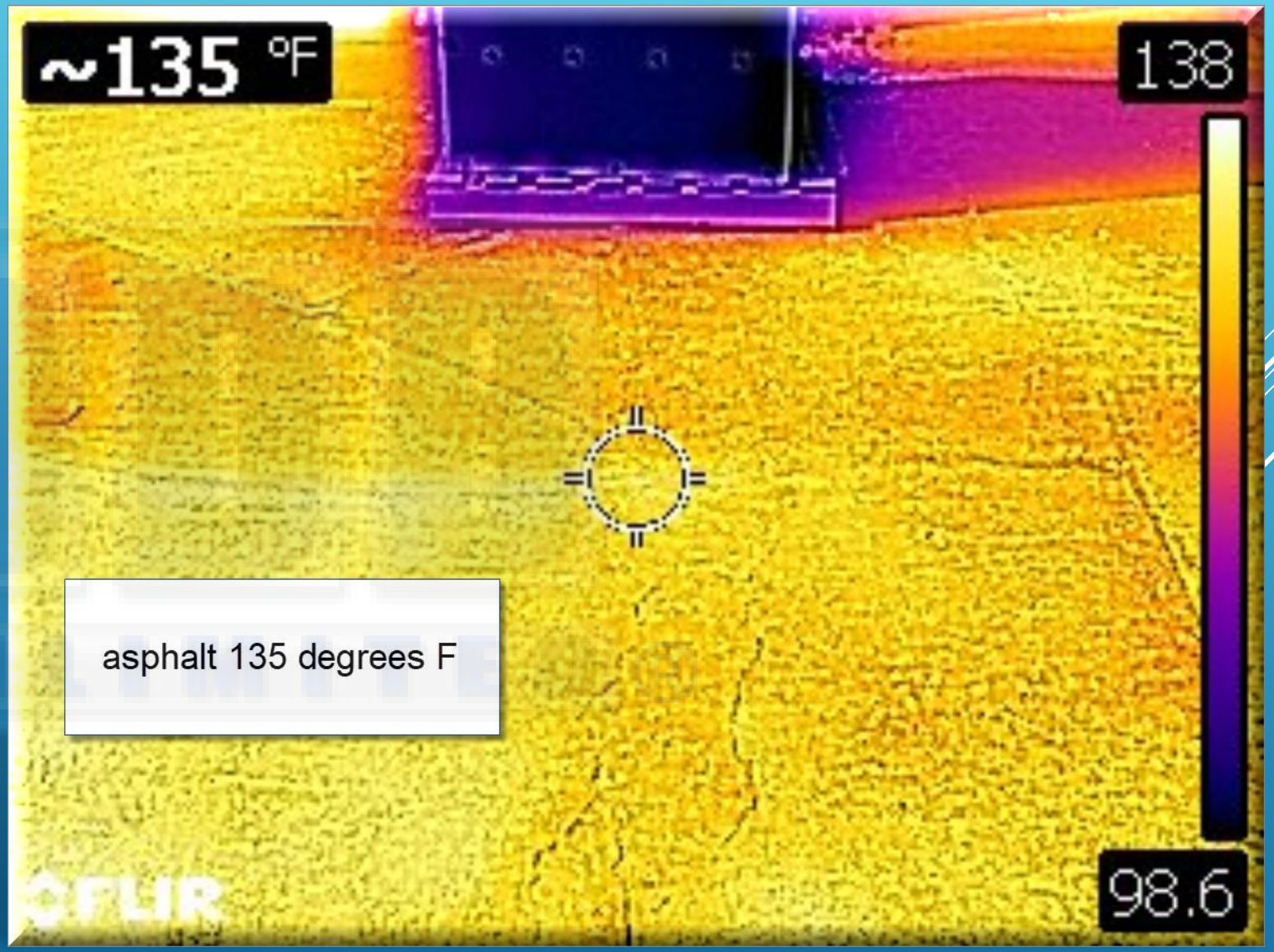
DDB UNLIMITED
An ISO 9001 Certified company

# Solar Load test conditions

Made in America
Believing in American Craftsmanship

Test Date: August 5th, 2019
Geographic location: Pauls Valley, Oklahoma, USA
Ambient Temperature: 97 degrees F
Test time: 9am – 4pm
Material: 5052-H32 AL
Enclosure sizes: 78"H x 34"D x 25"W
Enclosures tested:
1. Aluminum finish,
2. cream powder coat,
3. white powder coat

Scope: The test is applies to Solar Loading only
Test Tools: Temperature Data Loggers, Thermal camera



# Solar Load test results – Internal Temperature

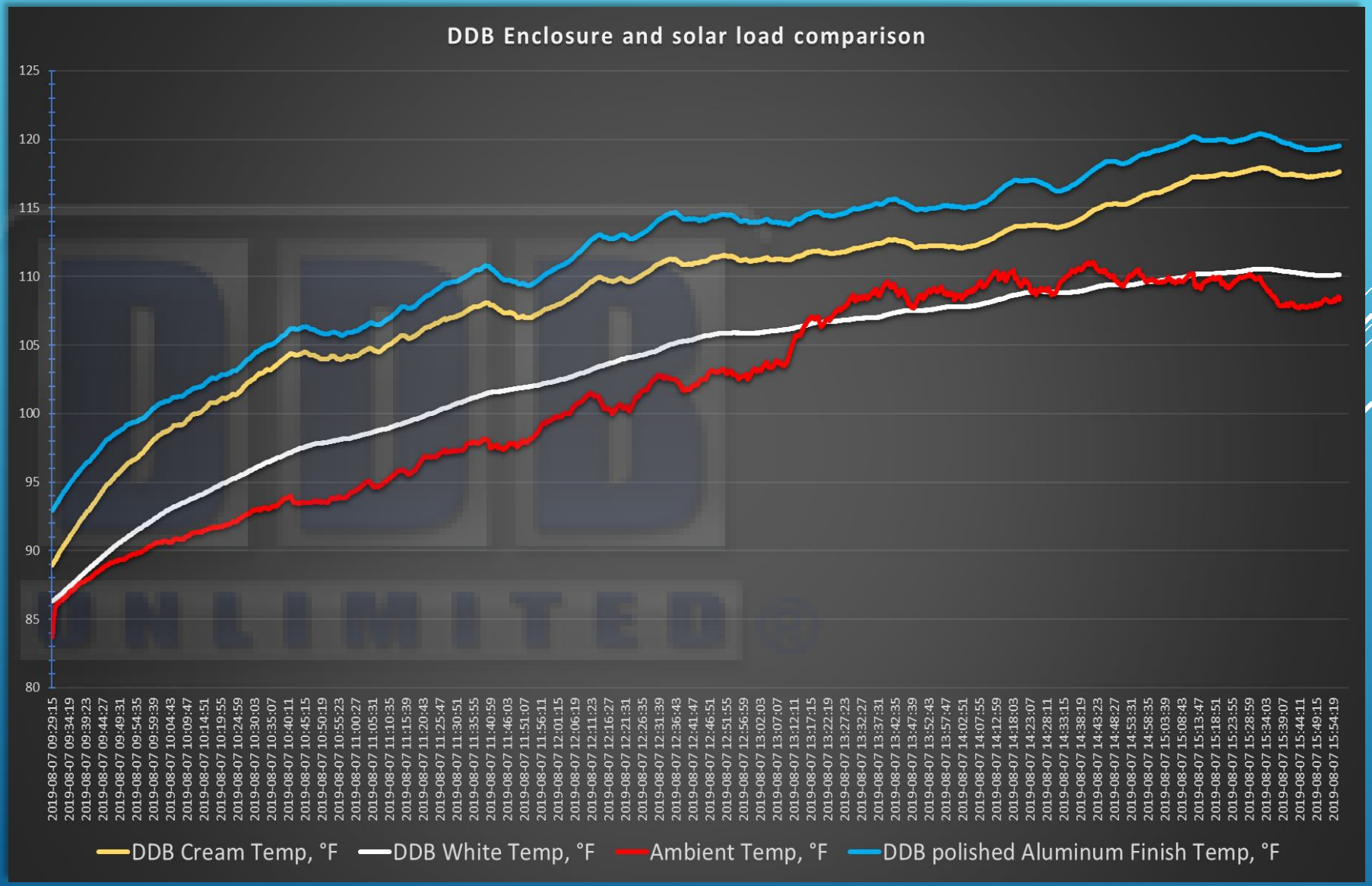
DDB UNLIMITED®
An ISO 9001 Certified company

Made in America
Believing in American Craftsmanship

The DDB, unpainted, aluminum finish had the highest internal temperatures, topping out at over 120° F

DDB Cream powder coat topped out at 118° F

DDB White, powder coat tested significantly lower than both the aluminum and cream finishes, topping out at 111° F.

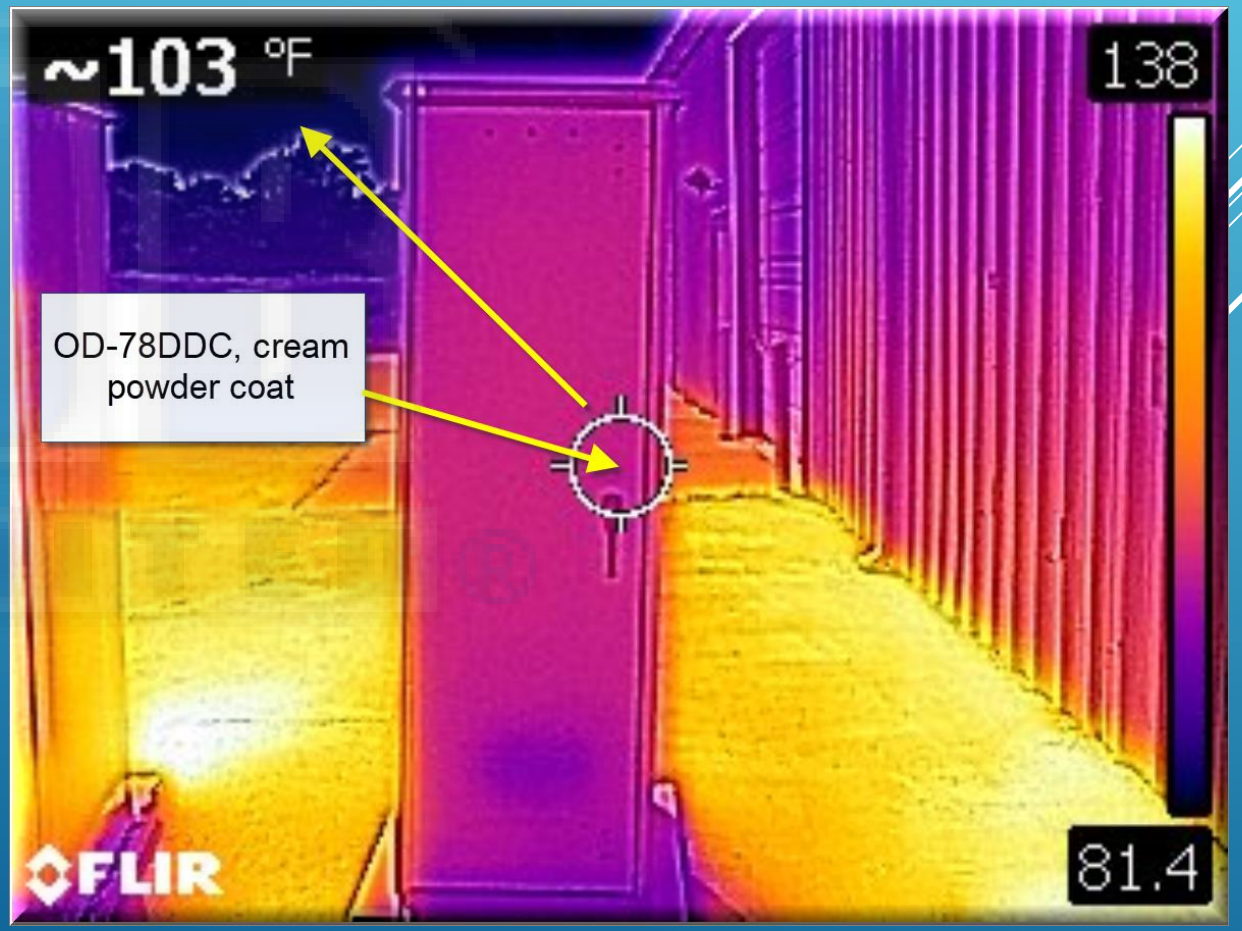


# Solar Load exterior temperatures – DDB Cream

DDB UNLIMITED
An ISO 9001 Certified company

Made in America
Believing in American Craftsmanship

The larger the surface area, the greater solar absorption; even out of direct sunlight, the side of the enclosure is 2 degrees hotter than the front of the enclosure, which was exposed to direct sunlight throughout the morning, having been orientated east to west.

# Solar Load test results – DDB Polished Aluminum

DDB UNLIMITED
An ISO 9001 Certified company

Made in America
Believing in American Craftsmanship

The DDB polished aluminum finish, has the highest amount of solar absorption. The thermal camera also shows the affects from the solar absorption reflectivity, radiating from the side of the enclosures, even though it was not exposed to direct sunlight! The coolest areas of the enclosure are under the Alumishield on top and around the open, 3R, Ventilation louvers on the bottom of the door.


DDB UNLIMITED
An ISO 9001 Certified company

# Solar Load test results – DDB White

Made in America
Believing in American Craftsmanship

The DDB White, had the best solar reflectivity and the least amount of solar absorption; at certain points during the day, maintained an external temperature that was lower than the ambient temperature near the asphalt where the data was being recorded for the test.