

November 24, 2021

Royal St. Andrews
C/O Randy Peachey
555 S Gulfstream Ave.
Sarasota, Florida 34236

Electrical—Lightning Protection

—Surge Protection—Fuel Management Systems—Instrumentation—Controls—Fluorescent Lamp Recycling—EC 13006634

Randy,

On November 22, 2021 Windemuller Technical Services completed an Infrared Inspection of Royal St. Andrew's electrical distribution system. The electrical distribution was inspected using a Flir Systems model EXX75 Thermal Imaging System. All of the information that has been gathered during the scan is accurate to the time we were doing the scan. All data has also been stored on a flash drive for further review.

Included in this report is a listing of 1 item that requires action. This "Hot Spot" that we identified was classified as Priority 1 – Corrective measures required as schedule permits.

Overall, the electrical system is in good condition. Only finding one level 1. "Hot Spot", is evidence that your preventative maintenance is working. We would have expected to find more problems due to the age of the building and the harsh saltwater environment.

Recommendations

- (1) The survey results and recommendations should be given to the maintenance department or a qualified electrical contractor. An outage should be scheduled and repairs should be made.
- (2) Annual infrared survey should be conducted on the electrical distribution. Our experience shows that the most common failure of electrical components is due to loose or corroded electrical connections. Infrared surveys are a valuable tool in detecting these adverse conditions. Electrical distribution equipment, bus ducts, cable runs, and electrical panels should all be inspected.

Results Of Inspection

(November 2021)

Time	Photo	Location	Equipment	Description	Priority
12:25	1	Unit 205	Panel	Connection	1

If you have any questions concerning this report please contact my office at (941) 355-8822.

Sincerely,



Jesse Elmore
Certified Level I Thermographer



I-Scan

Infrared Scanning Report

November 22, 2021



**Royal St. Andrews
555 S. Gulfstream Ave.
Sarasota, Florida 34236**

Submitted by:

**Jesse Elmore
Windemuller Technical Services, Inc.
(941) 355-8822**



Introduction

The infrared inspection provides valuable information concerning your facility. The results of the inspection of your facility are presented in the following qualitative report. This report provides complete documentation of the exceptions (abnormal conditions) located in the inspection. Using an evaluation technique, we are able to provide a proposed priority for addressing the exceptions. This evaluation technique prioritizes the repairs according to the cost effectiveness and the severity of the problem.

How Infrared Thermography Works

Infrared imaging allows the inspector to “see” the heat radiated from your equipment in real time; similar to the way a video camera “sees” visible light. In black and white thermograms (pictures of heat), white is hot and black is cold unless otherwise noted. When thermograms are in color, white and red areas are *hot*, while the black and blue areas are *cool*.

Repair Priority Ratings

Each exception is given a Subjective Repair Priority Rating, based on a qualified *opinion* of how important the potential problem is to the safe and profitable operation of your overall system.

The Inspection Summary section of this report explains how to use the repair priority rating to assist you in determining how quickly you need to investigate and correct the potential problems.

Overheating can cause premature deterioration and costly unplanned failure of your equipment. Over heated connectors, conductors and components will not improve over time. Unless corrective action is taken, the temperature and the rate of deterioration will increase in time.

No one can predict when a failure will occur. As a result, we suggest that you use the repair priority ratings as a guide, but that you investigate and correct every potential problem as soon as possible.

Delta-T Criteria

The Delta-T Criteria is an evaluation tool for measuring heat indexes. The infrared scan compares the exception temperatures to the temperature of a defined reference. The reference is typically the ambient air temperature, a similar component under the same conditions or the maximum allowable temperature of the component. The summaries in this report use the following reference for Delta-T evaluations:

N.E.T.A. Maintenance Testing Specifications* for electrical equipment

- I. 1 to 3 °C degrees: possible deficiency — warrants investigation (34 to 38 °F degrees)
- II. 4 to 15 °C degrees: indicates deficiency — repair as time permits (39 to 59 °F degrees)
- III. 16 °C degrees and above: indicates major deficiency — repair immediately (60 °F degrees and above)

* N.E.T.A. is the National Electrical Testing Association

Certification #:

251293



LEVEL I

CERTIFIED THERMOGRAPHER

THIS CERTIFIES THAT

Jesse Elmore

HAS SUCCESSFULLY COMPLETED ALL REQUIREMENTS FOR ITC CERTIFICATION

ISSUE DATE: March 01, 2021

EXPIRATION DATE: March 01, 2025

Ronald Officer
Certified Instructor

Infrared Training Center
www.infraredtraining.com | info@infraredtraining.com

24 ITC CERTIFICATION
RENEWAL CREDITS

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LEVEL I



Name:

Jesse Elmore

Certification Number:

251293

Expiration:

March 01, 2025

CERTIFIED INFRARED THERMOGRAPHER



reddot award 2017
best of the best

FLIR Exx-Series

Advanced Thermal Imaging Cameras
for Electrical and Mechanical Applications

FLIR E75, E85, and E95 cameras offer the superior resolution and range performance needed to quickly identify hot spots and discover potential points of failure in electrical distribution and mechanical systems. With up to 161,472 pixel resolution and a larger, more vibrant LCD screen than any other pistol-grip thermal camera, the Exx-Series makes it easier than ever to diagnose problems – even at a distance. Avoid costly shutdowns and lost production time through regular predictive maintenance routines with these rugged, intuitive cameras.

Improve Plant Reliability

Equipment failures are costly and can impact on-time delivery, so it's important to have the right tools to find potential problems before they happen.

- High-resolution infrared detectors, up to 464 x 348, for crisp, detailed images
- Wide temperature ranges: -40°C to 120°C, 0°C to 650°C, 300°C up to 1500°C (E95)
- Superior spot-size performance for accurate temperature measurements on smaller, more distant targets
- Laser-assisted autofocus for precise identification of hot spots, even in cluttered scenes

Increase Plant Safety

The Exx-Series improves plant safety by helping you diagnose and report electrical problems before they result in fire or damage.

- Detect temperature differences down to 30 mK for immediate identification of failing components
- Interchangeable lenses, from wide angle to telephoto, offer complete coverage of near and far targets
- Lenses auto-calibrate with camera for the most precise temperature readings
- MSX® image enhancement adds the depth and detail to image

Designed to Make Your Work Easier

FLIR designed the E75, E85, and E95 to make your work faster, safer, and more efficient.

- Rapid-response touch screen with intuitive new user interface
- Convenient menu buttons allow for one-handed operation
- New folder and naming structure that makes finding images easier
- Connect over Wi-Fi to mobile devices or via METERLiNK® to FLIR clamps and multimeters

Key Features:

- 320 x 240 – 464 x 348 true native resolution
- Laser-assisted autofocus
- Wide temperature ranges, up to 1500°C
- Vibrant, 4" optically-bonded PCAP touchscreen with 160° viewing angle
- Wi-Fi, METERLiNK® connectivity
- Streamlined reporting features
- FLIR's industry-leading 2-5-10 warranty



Find problems quickly and eliminate costly plant shutdowns



Streamlined data collection and sharing speeds analysis and repairs



One-handed operation with convenient buttons helps maintain workplace safety

Specifications

Features By Camera	E75	E85	E95
IR Resolution	320 x 240	384 x 288	464 x 348
Object Temperature Range	-20°C to 120°C (-4°F to 248°F) 0°C to 650°C (32°F to 1200°F) Optional 300°C to 1000°C (572°F to 1830°F)	-20°C to 120°C (-4°F to 248°F) 0°C to 650°C (32°F to 1200°F) 300°C to 1200°C (572°F to 2192°F)	-20°C to 120°C (-4°F to 248°F) 0°C to 650°C (32°F to 1200°F) 300°C to 1500°C (572°F to 2732°F)
Time-lapse (Infrared)	No	No	10 sec to 24 hours
Measurement Features by Camera			
Area Measurement Information	No	Yes	Yes
Spotmeter	1 in live mode	3 in live mode	3 in live mode
Area	No	3 in live mode	3 in live mode
Common Features	Exx-Series		
Detector Type and Pitch	Uncooled microbolometer, 17 µm		
Thermal Sensitivity/NETD	< 0.03°C @ 30°C (86°F)		
Spectral Range	7.5 - 14.0 µm		
Image Frequency	30 Hz		
Field of View (FOV)	24° x 18° (17 mm lens), 42° x 32° (10 mm lens), 14° x 10° (29 mm lens)		
F-Number	f/1.3, f/1.1		
Lens Identification	Automatic		
Focus	Continuous, one-shot laser distance meter (LDM), one-shot contrast, manual		
Digital Zoom	1-4x continuous		
Image Presentation and Modes			
Display	4", 640 x 480 optically-bonded PCAP touchscreen, with 400 cd/m² surface brightness		
Digital Camera	5 MP, 53° x 41° FOV		
Color Palettes	Iron, Gray, Rainbow, Arctic, Lava, Rainbow HC		
Image Modes	Infrared, visual, MSX®, Picture-in-Picture		
Picture-in-Picture	Resizable and movable		
MSX®	Embosses visual details on full resolution thermal image		
UltraMax™	Super-resolution process quadruples pixel count, activated in FLIR Tools+		
Measurement and Analysis			
Accuracy	±2°C (±3.6°F) or ±2% of reading for ambient temperature 15°C to 35°C (59°F to 95°F) and object temperature above 0°C (32°F)		
Alarms	Moisture alarm, insulation alarm, measurement alarms		
Color Alarm (Isotherm)	Above/below/interval/condensation/insulation		
Laser Distance Measurement	Yes, on-screen		
Measurement Presets	No measurement, center spot, hot spot, cold spot, User Preset 1, User Preset 2		
Compass, GPS	Yes; automatic GPS image tagging		
METERLINK®	Yes; several readings		
Image Storage			
Storage Media	Removable SD card (8 GB)		
Image File Format	Standard radiometric JPEG, measurement data included		
Video Recording and Streaming			
Radiometric IR Video Recording	Real-time radiometric recording (.csq)		
Non-Radiometric IR or Visual Video	H.264 to memory card		
Radiometric IR Video Streaming	Yes, over UVC or Wi-Fi		
Non-Radiometric IR Video Streaming	H.264 or MPEG-4 over Wi-Fi MJPEG over UVC or Wi-Fi		
Communication Interfaces	USB 2.0, Bluetooth, Wi-Fi		
Video Out	DisplayPort over USB Type-C		
Additional Data			
Battery Type	Li-ion battery, charged in camera or on separate charger		
Battery Operating Time	Approx. 2.5 hours at 25°C (77°F) ambient temperature and typical use		
Operating Temperature Range	-15°C to 50°C (5°F to 122°F)		
Storage Temperature Range	-40°C to 70°C (-40°F to 158°F)		
Shock/Vibration/Encapsulation, Safety	25 g / IEC 60068-2-27, 2 g / IEC 60068-2-6, IP 54 / IEC 60529; EN/UL/CSA/PSE 60950-1		
Weight/Dimensions w/o Lens	1 kg (2.2 lbs), 27.8 x 11.6 x 11.3 cm (11.0 x 4.6 x 4.4 in)		
Box Contents			
Packaging	Infrared camera with lens, battery (2 ea), battery charger with power supply, front lens and light protection, straps (hand and wrist), lanyards, lens caps (front and rear), lens cleaning cloth, 15 W3 A power supply, printed documentation, 8 GB SD card, Torx screwdriver, cables (USB 2.0 A to USB Type-C, USB Type-C to HDMI, USB Type-C to USB Type-C)		

Specifications are subject to change without notice.

For the most up-to-date specs, go to www.support.flir.com

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NASDAQ: FLIR

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Thermographic Inspection

Royal St. Andrews



By:

Jesse Elmore

Thermographic Equipment:

Flir ThermaCAM EXX75

November 22, 2021

WINDEMULLER TECHNICAL SERVICES

EC13006634

1611 Northgate Blvd. Sarasota, Fl. 34234

Phone (941) 355-8822 Fax (941) 359-1219

Customer: Royal St. Andrews

Date: 11/22/2021

Page 1

TIME	REPORT	LOCATION	EQUIPMENT	DESCRIPTION
9:18		1 st Floor Mechanical Room	APT Distribution Panel	
9:20			House Distribution Panel	
9:21			Sauna Panel	
9:21			Outside Light Panel	
9:24			Manager Apt. Disconnect	
9:24			Photocell Panel	
9:41		1 st Floor	Panel E	
9:42			Kitchen Panel	
9:50			Office Panel	
10:02		2 nd Floor	MDP	
10:03			Unit Disconnects	
10:10		3 rd Floor	MDP	
10:11			Unit Disconnects	
10:12			Panel	
10:23		4 th Floor	MDP	
10:24			Unit Disconnects	
10:37		6 th Floor	MDP	
10:39			Unit Disconnects	
10:45		7 th Floor	MDP	

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Page 2

TIME	REPORT	LOCATION	EQUIPMENT	DESCRIPTION
10:47		7 th Floor	Unit Disconnects	
10:48			Panel	
10:59		1 st Floor Mechanical Room	Outside Lighting Panel	
11:10		9 th Floor	MDP	
11:11			Unit Disconnects	
11:18		10 th Floor	MDP	
11:19			Unit Disconnects	
11:27		12 th Floor	MDP	
11:28			Unit Disconnects	
11:29			Panel	
11:38		14 th Floor	MDP	
11:39			Unit Disconnects	
11:48		15 th Floor	MDP	
11:49			Unit Disconnects	
12:05		Roof	Elevator 1 Disconnects	
12:06			Elevator 2 Disconnects	
12:13		Unit 1401	Panel	
12:25	1	Unit 205	Panel	Breaker 15 is warming up possible loose connection

A Qualitative Infrared Thermographic Survey of Electrical System Components

Report Date	11/22/2021	Report # /Time	#1 / 12:25PM
Company	Windemuller Technical Services (941) 355-8822	Customer	Royal St. Andrews
Address	1611 Northgate Blvd. Sarasota, Florida 34234	Site Address	555 S Gulfstream Ave Sarasota, FL 34236
Thermographer	Jesse Elmore Certified Level I Thermographer	Contact Person	Randy Peachy
Location	Unit 205	Equipment	Panel

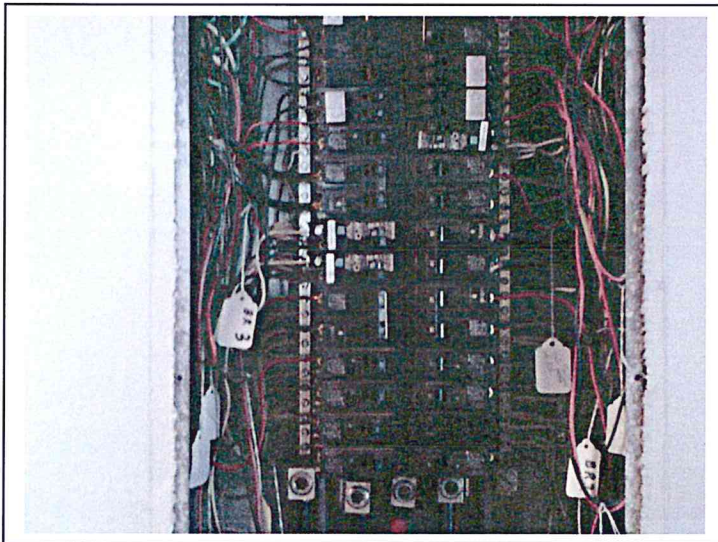
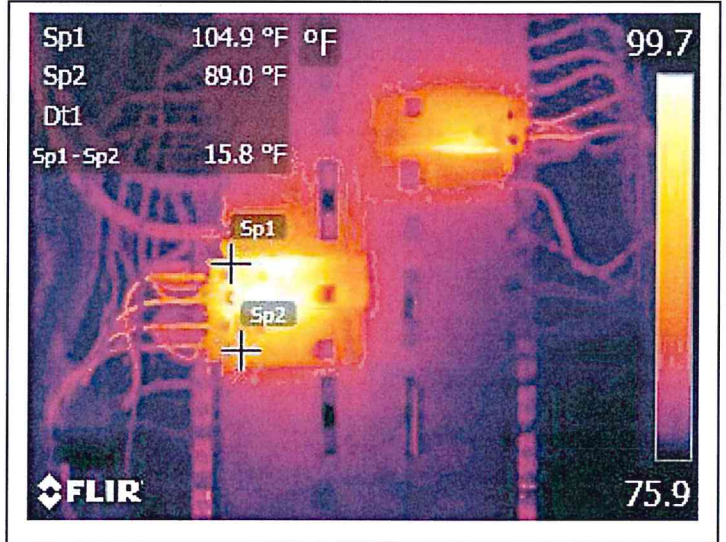


Photo Image



Thermal Image

Radiometric Data

Camera Model	FLIR E-75	Hot spot temperature	104.9 Degrees F.
Image Date	11/22/2021	Cold spot temperature	89 Degrees F.
Image Name	FLIR 8816	Delta T (difference)	15.8 Degrees F.
Image Time	12:25PM	Ambient Temperature	Degrees F.
Emissivity	0.98	Relative Humidity	%
Object Distance (approx.)	3.0 Ft.	Fault Rating	

Classification Table

1. Repair Next Maintenance	X	2. Repair as Schedule Permits	3. Urgent attention required
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Analysis

Breaker 15 is warming up, may indicate a loose connection.

Recommendation

Recommend shutting off power and tightening the lug to manufacturer's specifications, then restoring power.

A Qualitative Infrared Thermographic Survey of Electrical System Components

Report Date	11/22/2021	Report # /Time	#2 / 11:39AM
Company	Windemuller Technical Services (941) 355-8822	Customer	Royal St. Andrews
Address	1611 Northgate Blvd. Sarasota, Florida 34234	Site Address	555 S Gulfstream Ave Sarasota, FL 34236
Thermographer	Jesse Elmore Certified Level I Thermographer	Contact Person	Randy Peachy
Location	14 th Floor	Equipment	Unit 1503 Disconnect

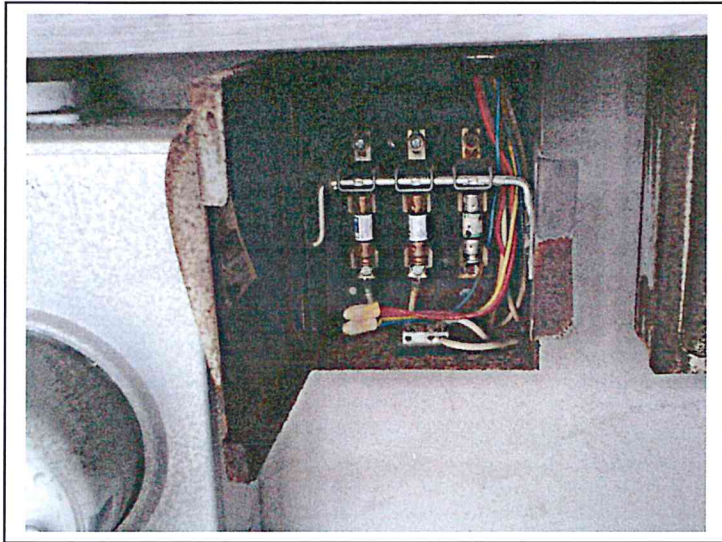
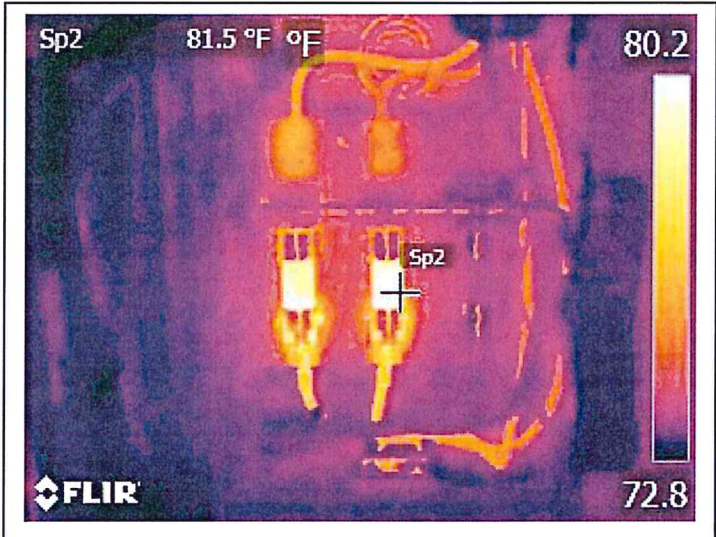


Photo Image



Thermal Image

Radiometric Data

Camera Model	FLIR E-75	Hot spot temperature	81.5 Degrees F.
Image Date	11/22/2021	Cold spot temperature	Degrees F.
Image Name	FLIR 8806	Delta T (difference)	Degrees F.
Image Time	11:39AM	Ambient Temperature	Degrees F.
Emissivity	0.98	Relative Humidity	%
Object Distance (approx.)	3.0 Ft.	Fault Rating	

Classification Table

1. Repair Next Maintenance	2. Repair as Schedule Permits	3. Urgent attention required
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Analysis

No problems found.

Recommendation

A Qualitative Infrared Thermographic Survey of Electrical System Components

Report Date	11/22/2021	Report # /Time	#3 / 11:48AM
Company	Windemuller Technical Services (941) 355-8822	Customer	Royal St. Andrews
Address	1611 Northgate Blvd. Sarasota, Florida 34234	Site Address	555 S Gulfstream Ave Sarasota, FL 34236
Thermographer	Jesse Elmore Certified Level I Thermographer	Contact Person	Randy Peachy
Location	15 th Floor	Equipment	MDP

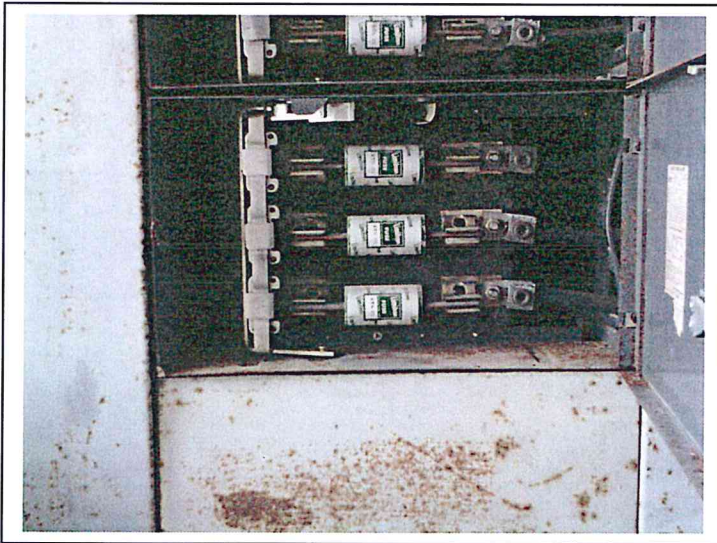
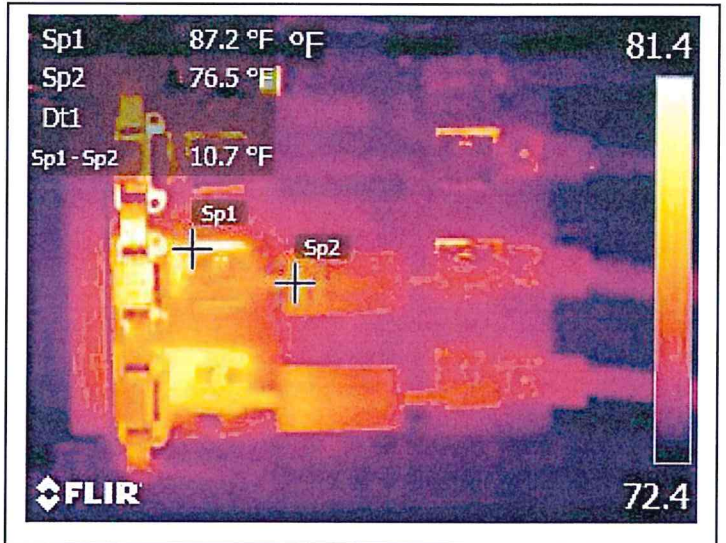


Photo Image



Thermal Image

Radiometric Data

Camera Model	FLIR E-75	Hot spot temperature	87.2 Degrees F.
Image Date	11/22/2021	Cold spot temperature	76.5 Degrees F.
Image Name	FLIR 8809	Delta T (difference)	10.7 Degrees F.
Image Time	11:48AM	Ambient Temperature	Degrees F.
Emissivity	0.98	Relative Humidity	%
Object Distance (approx.)	3.0 Ft.	Fault Rating	

Classification Table

1. Repair Next Maintenance	2. Repair as Schedule Permits	3. Urgent attention required
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Analysis

No problems found.

Recommendation