

Incident Summary #II-1628835-2023 (#40977) (FINAL)

SUPPORTING INFORMATION	Incident Date	October 16, 2023	
	Location	Prince George	
	Regulated industry sector	Electrical - Low voltage electrical system (30V to 750V)	
	Impact	Qty injuries	0
		Injury description	None
		Injury rating	None
	Damage	Damage description	Fire damage to flooring, wall board, floor mounted custodial sink, lighting fixture and ceiling.
		Damage rating	Moderate
	Incident rating	Moderate	
Incident overview	<p>A fire was started in the custodial room of a portable school building when a thermoplastic lampholder, or “tombstone,” in a ceiling-mounted fluorescent lighting fixture overheated and caught fire. The lampholder material melted as it burned and dripped through holes in the fixture’s metal cover onto the plastic lens cover. This plastic lens cover then also caught fire and dripped burning plastic onto the floor, causing the floor to catch on fire as well.</p> <p>A school staff member noticed smoke coming from the portable, entered the adjacent school, and pulled the fire alarm. The fire department attended and extinguished the fire.</p>		
INVESTIGATION CONCLUSIONS	Site, system and components	<p>Site:</p> <ul style="list-style-type: none"> Custodial room in a detached portable school building. <p>Electrical Components:</p> <ul style="list-style-type: none"> Ceiling-mounted fluorescent lighting fixture with a single F32T8 linear fluorescent tube and a clear plastic lens cover. The fixture was CSA approved. Lighting fixture controlled by a wall-mounted light switch located by the door of the custodial room. 	
	Failure scenario(s)	<p>The fluorescent tube connects to the fixture via a thermoplastic pedestal lampholder at each end of the tube. The lampholder sockets contain spring-action metallic clips designed to lock the fluorescent tube into place to ensure secure electrical contact. Both the fluorescent tube and the lampholder were burned at one end of the fixture. The metallic contact surfaces in the burnt lampholder appear to have overheated, but not arced.</p> <p>The lighting tube may not have properly seated into the sockets of the lampholders as the tube must be inserted, then rotated into a fully engaged position. If not fully engaged the tube may still illuminate, but not make proper electrical contact with the metallic clips in the lampholder sockets.</p>	

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<p>Facts and evidence</p>	<ul style="list-style-type: none"> • The lighting fixture was burned at one end where the tube makes electrical contact with the socket of the lampholder. • The fixture was on site at the time of investigation. • The melted lampholder, charred metal cover, and burnt and melted lens cover were all damaged by the fire. <p>School district custodians are allowed to change fluorescent lighting tubes at the schools where they work.</p> <p>The electrical supervisor stated that he was not aware of any training for the custodians on how to change the fluorescent tubes of lighting fixtures.</p>
<p>Causes and contributing factors</p>	<p>This lighting fixture may have failed due to improper installation of the fluorescent lighting tube within the lampholder sockets.</p>



Image 1 - Label on the lighting fixture.



Image 2 - Burnt end of the fluorescent tube.

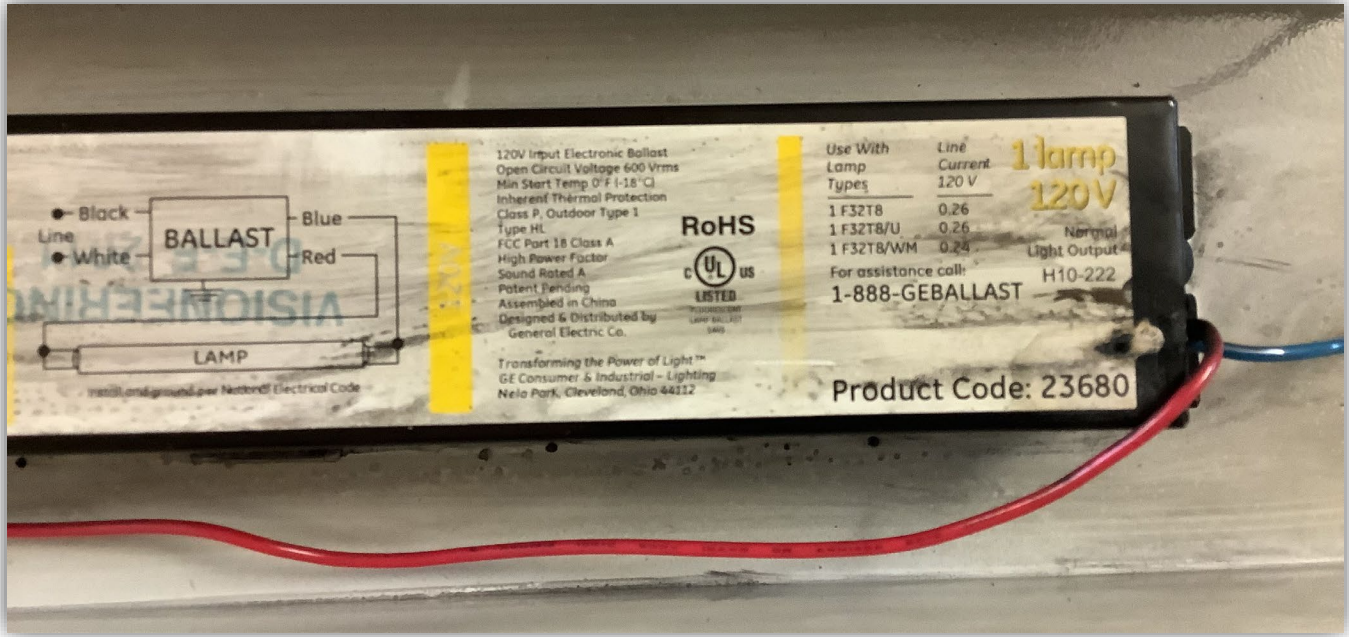


Image 3 - Electronic ballast inside the fixture.

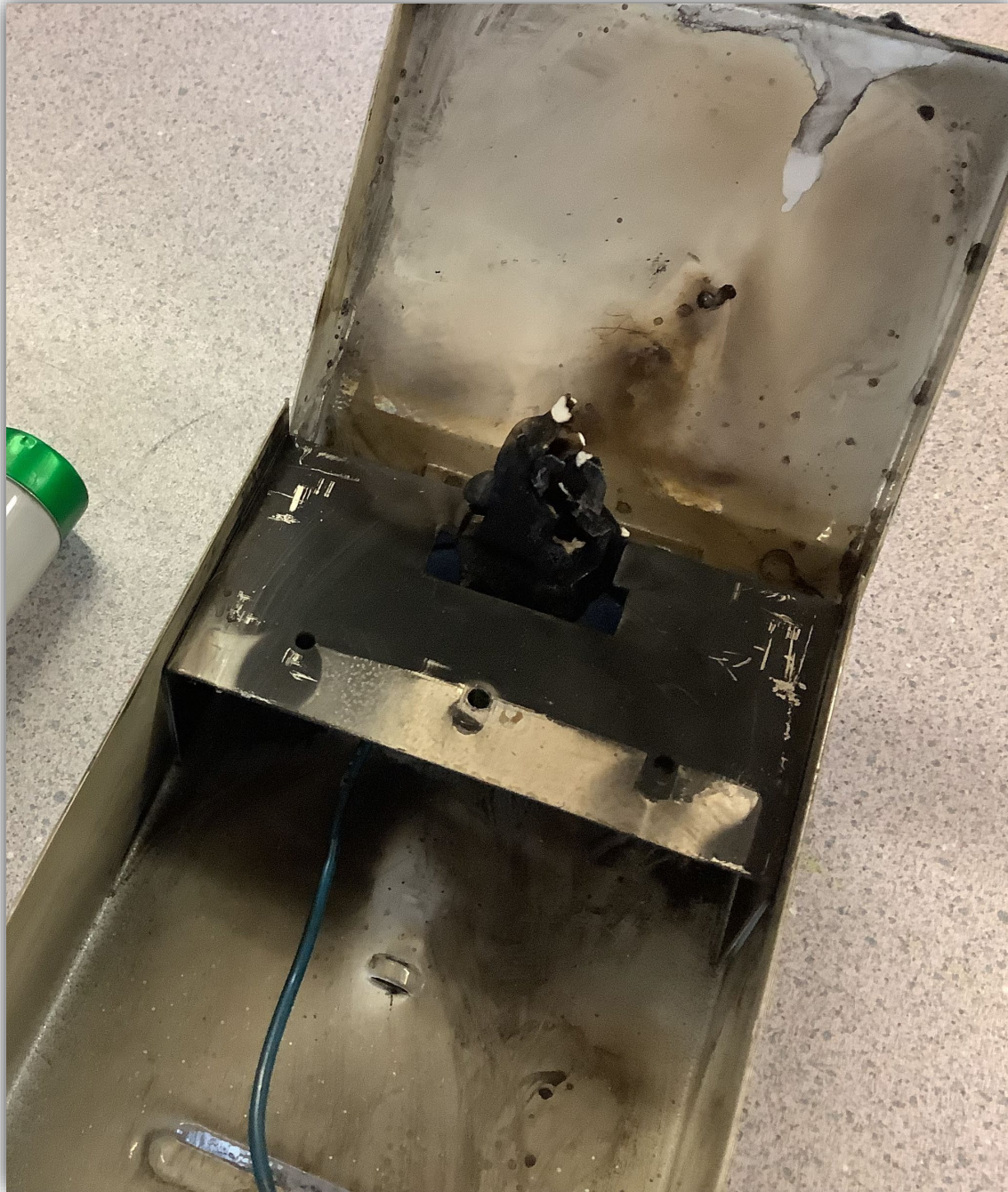


Image 4 - Burnt tombstone socket.

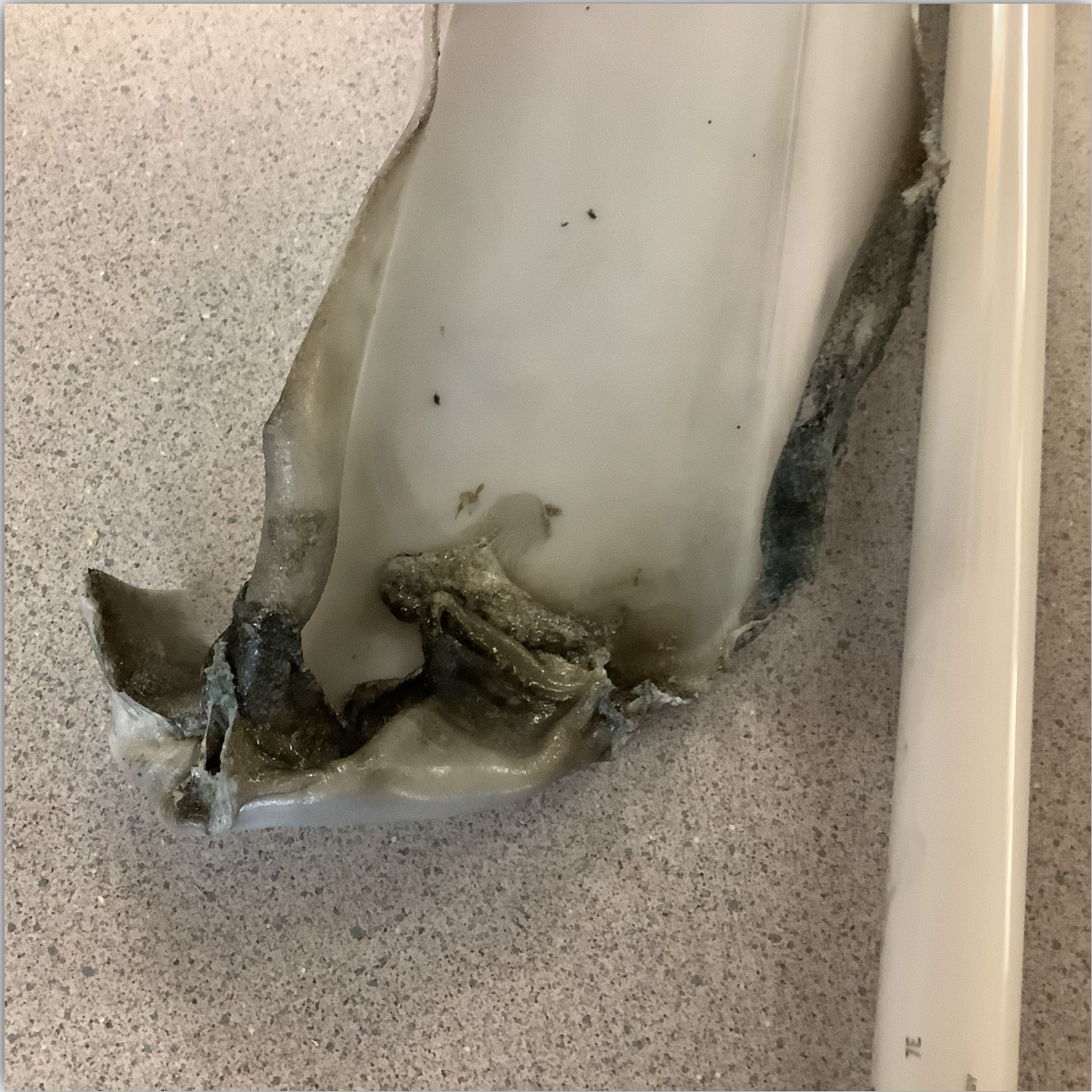


Image 5 - Burnt and melted lens cover.