



G&G

INDUSTRIAL LIGHTING

ENGINEERED FOR THE EXTREMES

Mission-Critical Lighting Solutions for Transit Infrastructure

Purpose-built lighting for the conditions
that cause conventional fixtures to fail.

**IP66
IP68**
CERTIFIED

**EMI
SILENT**



MADE IN USA
BAA & BABAA
COMPLIANT

ggled.net/transit

RTX Series
REM Montreal Mount Royal Tunnel

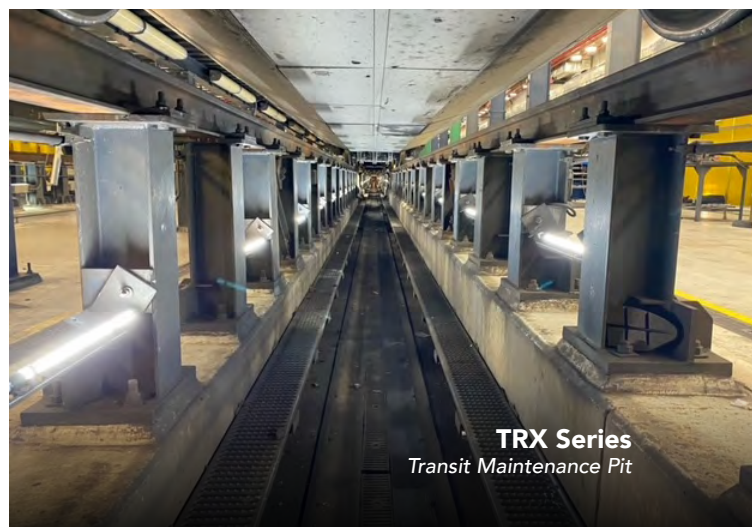




RTX Series
REM ADM Airport Tunnel



RTX Series
Metropolitan Transportation Authority (NYC):
Long Island Rail Road Access Portal



TRX Series
Transit Maintenance Pit



TRX Series
Transit Maintenance Pit

Choose Your Solution

Transit Infrastructure Application Guide

Use this quick-reference guide to compare environments and select the optimal G&G lighting system for your specific application.

	Rail Tunnels	Maintenance Pits
Environmental Considerations	Structural confines with extreme humidity, ambient brake dust, high-voltage power surges, and severe 3G vibration from passing trains.	Confined, high-liability spaces collecting pools of water, oils, lubricants, and aggressive cleaning chemicals.
Operational Risks of Traditional Lighting	Fixture failures leading to dark emergency egress corridors, water ingress/short circuits, yellowing lenses, and high-risk, expensive track-access coordination for maintenance.	Conventional gaskets drying out or rotting, toxic fumes, tool impact damage, and worker slips or injuries due to dangerous blind spots.
Desired Outcomes	Continuous passenger egress safety, reliable emergency illumination, EMI silence (MIL-STD-461E compliant) to protect transit signaling, and zero-maintenance longevity.	Uniform, high-lumen under-car visibility to speed up turn times, ultra-slim profiles that fit flush into recesses clear of machinery, and robust chemical resistance.
Recommended G&G Solutions	RTX (The Direct-AC Tunnel Fixture): Driverless IP68 linear luminaire built to survive extreme harsh environments. Includes quick-disconnect latching clips for toolless replacement. RTX+ (Bi-Level Illumination & Safety Mode): Intelligent lighting with integrated lithium-ion battery backup (up to 4 hours) and high-output OSHA Work Light Mode to eliminate temporary string lighting.	TRX (The Heavy Industrial Pit Light): Low-profile, driverless, linkable linear asset. Features a gasketless, seamless co-extruded IP68/IP69K shell and daisy-chain efficiency up to 790 feet. HLX (Hazardous Locations Linear): Uncompromising safety for unventilated pits. Fully certified for Class I, Div 2 and Class II, Div 2 hazardous locations, outfitted with heavy-duty mining-grade cabling.



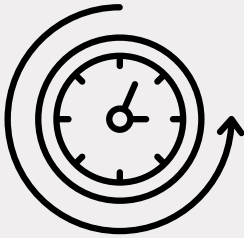
TRX Series
Rail Maintenance Pit

G&G's Transit Expertise

G&G develops purpose-built lighting systems for infrastructure environments where moisture, vibration, corrosion, restricted access and electrical interference challenge conventional fixtures. Mass transit environments are punishing, demanding continuous operation amid relentless moisture, corrosive atmospheres, steel dust, and constant heavy vibration.

We approach transit engineering application-first, by studying the environmental threats of tunnels and maintenance pits before selecting materials or designing circuitry. The result is a portfolio of LED solutions that stay brilliantly lit where legacy systems flicker, degrade, and fail.

The Problems We Solve



REDUCES LIGHTING-RELATED DOWNTIME

Unexpected lighting failures force track closures and halt maintenance schedules. G&G's driverless engineering removes the #1 point of failure, keeping lines operational with an extended long life.



REDUCES HIGH-RISK MAINTENANCE

Changing out failed fixture components in a rail tunnel or a dark pit requires specialized labor, track access coordination, and costly disruptions. G&G delivers zero-maintenance, extreme long life performance and quick swap solutions.



SECURES WORKER SAFETY & COMPLIANCE

Poor visibility in transit pits and emergency egress tunnels violates safety mandates and risks severe injury. We deliver crisp, uniform illumination to protect critical service personnel.



SIMPLIFIES REMOTE ACCESS CHALLENGES

Hard-to-reach infrastructure fixtures make physical access expensive. G&G's ultra-reliable, plug-and-play connections drastically reduce the need to service the fixture again.



MINIMIZES TOTAL LIFECYCLE COSTS

Prioritizes long-term system performance to support long service life and reduce total cost of ownership (TCO).



Linear Light For

Maintenance Pits

Notable clients:

- Walmart
- Amtrak
- East Coast Truck & Trailer

Features that matter:

IP68
IP69K
CERTIFIED

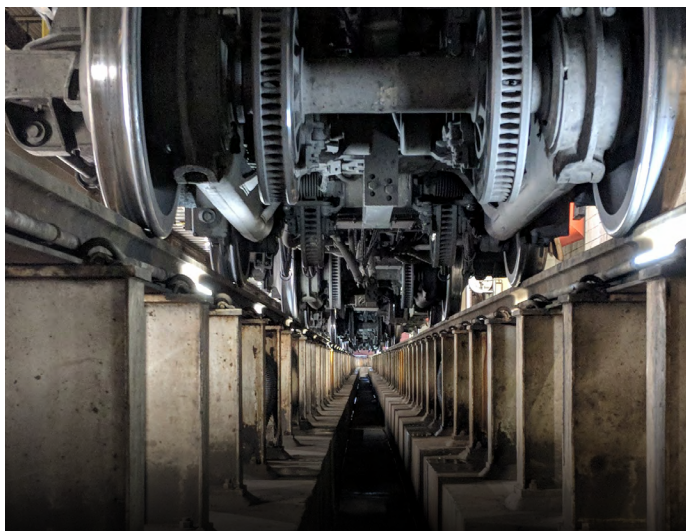
DIRECT AC
DRIVERLESS

KEY PRODUCTS

- TRX (for pits with ventilation)
- HLX (for pits without ventilation)

Safer, More Productive Maintenance Pits

Maintenance pits are hazardous, high-liability areas. They collect pools of water, debris, oils, lubricants, and aggressive cleaning chemicals. Standard vapor tight fixtures leak at the gaskets, trap toxic fumes, shatter under tool impacts, and leave dangerous blind spots for technicians. G&G's solutions transform the space. Our ultra-slim 1" linear profiles fit completely flush into tight pit recesses, staying clear of heavy tools and machinery. By delivering high-lumen, uniform light aimed right where technicians inspect and service critical assemblies, we maximize precision, speed up turn times, and safeguard personnel from slips and injuries.



Case Study

Amtrak Pits

Albany-Rensselaer, NY

Amtrak Operations Perfected

THE CHALLENGE

Amtrak's critical rail service pits required an extremely rugged, compact lighting solution capable of withstanding chemical exposure and heavy washdowns without failing or overcrowding the tight workspace.

THE G&G SOLUTION

Implementation of our TRX Driverless Linear fixtures.

THE OUTCOME

Crisp, uniform under-car visibility that maximized worker safety, streamlined routine inspections, and delivered a zero-maintenance layout that keeps Amtrak trains on schedule.

FEATURES THAT MATTERED

- Corrosion Resistant: Withstands repeated exposure to oil and harsh chemicals
- IP68 Rated: Protection against water and dust intrusion
- Impact Resistant: IK07 impact certified
- Low-Profile: Compact 1" round housing
- Driverless: Direct AC connection reduces risk of failure
- Quick Connect: Daisy chain for long runs of fixtures
- Aimable: Rotate and adjust to shine light where needed

The G&G TRX is the only reliable pit lighting solution I have ever encountered. Its low profile linear design gets the light where it is needed without getting in the way. Its driverless technology and IP68 quick disconnect allow for easy installation and maintenance. It is by far the best fixture for harsh pit conditions I have ever installed!

*- John Tull, Director of Infrastructure,
Facility Solutions Group*





Low-Profile, High-Output Driverless Linear

The ultimate space-saving, linkable asset for non-classified service bays and heavy industrial pits.



Zero-Maintenance Driverless Design

Connects directly to AC line voltage without an LED driver or electrolytic capacitors, for extreme reliability and lifetime.

Low-Profile, Aimable Housing

Small form factor tucks away easily in space-constrained area while rounded design can be aimed for precision light placement under the vehicle.

Daisy-Chain Efficiency

Quick-connect cabling allows engineers to link runs up to 790 feet on a single power drop (TRX2-277V with 8' jumpers), drastically dropping installation labor costs.

Gasket-less, Seamless Shell

Patented co-extrusion means no seals or gaskets to dry out, rot, or leak. Impervious to water, dust, and harsh degreasers (IP68/IP69K).



TRX PERFORMANCE SUMMARY

Available Lengths: 2, 4, and 8 foot fixtures

Dimensions: Length Varies, Width 1.25" x Height 1.75"

Delivered Light Output: Up to 8,000 Lumens

Maximum Run Length: Up to 790'

Efficacy: Up to 125 LPW

Lifetime: 100,000 Hours at 25°C

Warranty: 5 Years

Temperature Rating: Operable in temperatures -40°C to 55°C

Voltage: 120 or 277 VAC Input (Contact factory for 347V)

Surge Protection: Built-in 4KV



**CLASS-1
DIV-2
RATED**

**CLASS-2
DIV-2
RATED**

**IP68
IP69K
CERTIFIED**

**IK10
IMPACT
CERTIFIED**

**NEMA
4X**

**DIRECT AC
DRIVERLESS**



**BAA
BABAA
COMPLIANT**

Hazardous Location Driverless Linear

Uncompromising safety for unventilated maintenance pits where combustible fuel gases, lubricants, and airborne hazards aggregate. Class I, Div 2 and Class II, Div 2 rated.



Zero-Maintenance, Driverless Design

By driving LEDs directly from AC line voltage, we eliminate short-lived electrolytic capacitors, ensuring the fixture outlasts the infrastructure.

Heavy-Duty, Quick-Connect Cabling

Heavy-duty cabling and push-and-click connectors make fixtures easy to install and daisy-chain for long linear runs.

Superior Ingress Protection & Chemical Resistance

Seamless polymeric outer shell provides IP68/IP69K ingress protection and is specialized for superior chemical resistance.

Single piece enclosure requires no assembly and protects against intrusion of moisture, dust, and other combustibles.

Classified Location Listings

Fully certified for Class I, Div 2 (Groups A-D) and Class II, Div 2 (Groups E-G) with a safe T4 temperature rating.



HLX PERFORMANCE SUMMARY

Available Lengths: 2, 4, and 8 foot fixtures

Dimensions: Length Varies, Width 1.25" x Height 1.75"

Delivered Light Output: Up to 8,000 Lumens

Maximum Run Length: Up to 208' of light

Efficacy: Up to 125 LPW

Lifetime: 100,000 Hours at 25°C

Warranty: 5 Years

Temperature Rating: Operable in temperatures -40°C to 55°C

Voltage: 120 or 277 VAC Input

Surge Protection: Built-in 4KV

Linear Light For **Rail Tunnels**

Notable clients:

- Amtrak
- Metropolitan Transportation Authority (MTA) (New York City)
- REM (Réseau Express Métropolitain)

Features that matter:

EMI **IK10** NEMA **3G**
SILENT **IMPACT** **4X** **VIBRATION**
CERTIFIED

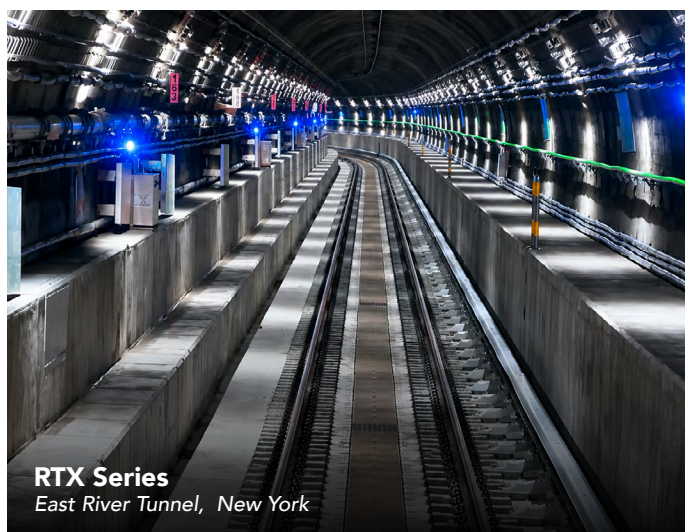
RTX Series
REM Montreal Mount Royal Tunnel

KEY PRODUCTS

- RTX
- RTX+

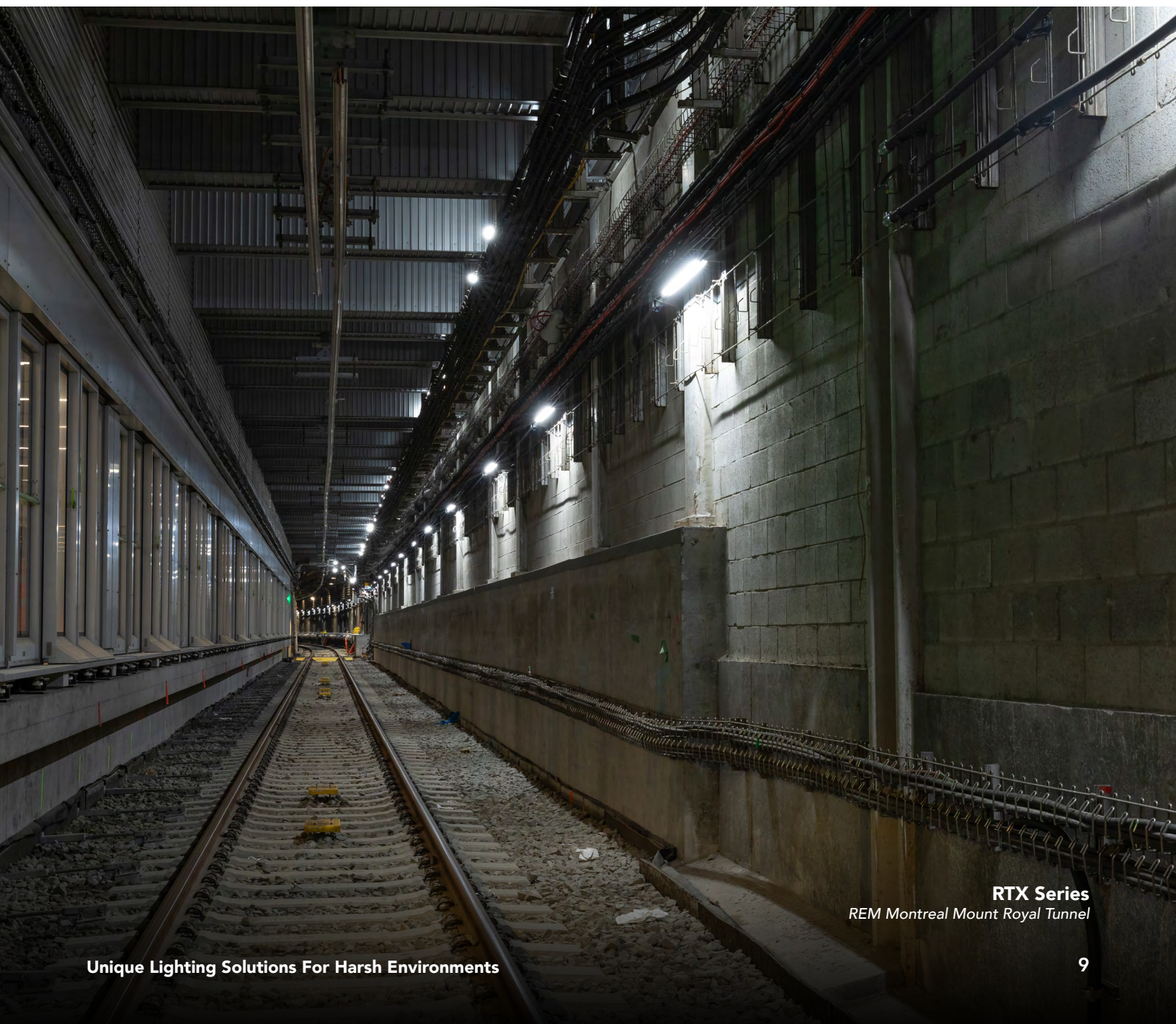
Uncompromising Visibility for Critical Corridors

Rail tunnels are grueling environments defined by high humidity, ambient brake dust, power surges, and severe vibration from passing trains. Legacy fixtures short out, yellow, and succumb to moisture ingress. G&G's low-profile tunnel lighting systems are designed for efficient installation using quick-latch hangers or compatible cable-management systems, helping fixtures remain clear of the dynamic envelope. Engineered for moisture, vibration and demanding tunnel conditions, these systems provide dependable illumination for passenger egress, inspections and maintenance activities.





RTX Series
Metropolitan Transportation Authority (NYC): Long Island Rail Road Access Portal



RTX Series
REM Montreal Mount Royal Tunnel



IP66
IP68
CERTIFIED

IK10
IMPACT
CERTIFIED

NEMA
4X

DIRECT AC
DRIVERLESS

EMI
SILENT

3G
VIBRATION

BAA
BABAA
COMPLIANT

Driverless Linear Tunnel Luminaire

Engineered explicitly for the structural confines of transit tunnels. By removing the traditional driver, the RTX survives extreme thermal shifts and voltage spikes that instantly fry standard industrial lights.



Permanently Sealed IP68 Protection

Totally immune to continuous water inundation and high-pressure washdowns.

Performance Metric

Up to 5,000 lumens of continuous, unyielding light with a 100,000-hour rated life.

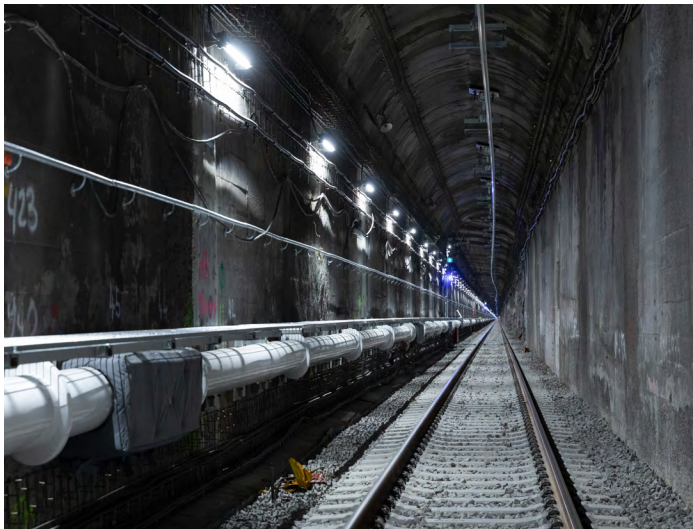


Toolless Module Replacement

If an external incident damages a module, it snaps out via quick-disconnect latching clips for instant, tool-free replacement.

EMI Silent

Compliant to MIL-STD-461E RE102 EMI testing.



RTX PERFORMANCE SUMMARY

Dimensions: Length 4', Width 7" x Height 4"

Delivered Light Output: Up to 5,000 Lumens

Illuminance: 290 FC at 3'

Efficacy: Up to 160 LPW

Lifetime: 100,000 Hours L70 at 25°C

Warranty: 5 Years

Temperature Rating: Operable in temperatures -40°C to 55°C

CCT: 5000K & 4000K (Contact factory for custom CCT)

Voltage: 120, 277, or 347 VAC Input

Surge Protection: Built-in 4KV



**IP66
IP68**
CERTIFIED

**IK10
IMPACT**
CERTIFIED

NEMA
4X

3G
VIBRATION

**BAA
BABAA**
COMPLIANT

Intelligent Bi-Level & Emergency Tunnel Lighting

Ultimate compliance and flexibility for transit operators who need both everyday emergency egress lighting and intense work-plane visibility.



Integrated Lithium-Ion Battery Backup

Self-testing emergency backup provides up to 4 hours of uninterrupted emergency illumination with a 7-to-10 year battery life expectancy.

Replaceable IP68 LED Module

Sealed IP68 LED / battery module with waterproof quick disconnect and latching clips for fast replacement—no tools required.



Integrated Wiring Box

Easily terminate any of the various wiring types used in today's tunnel environment.

OSHA Work Light Mode

Instantly switches to high-output mode to meet OSHA's strict 5 footcandle minimum at 30-foot fixture spacing, completely eliminating the need for temporary, dangerous string lighting during track maintenance.



RTX+ PERFORMANCE SUMMARY

Delivered Light Output: Up to 8,000 Lumens

Efficacy: 135 LPW

CCT: 5000K & 4000K (Contact factory for custom CCT)

Lifetime: 100,000 Hours L70 at 25°C

Warranty: 5 Years

Temperature Rating: Operable in temperatures -20°C to 55°C

Lens: Diffused (standard)

Mounting: Wall or rack mount, adjustable tilt

Voltage: 120-277, 347, 480 VAC Input

Surge Protection: Built-in 4KV

The Driverless Revolution

Eliminating Transit's Weakest Link

THE ENGINEERING GAP

Traditional LED fixtures rely on switched-mode drivers with fragile electrolytic capacitors, the primary failure point in harsh environments. Independent accelerated-life testing by the U.S. Department of Energy (DOE) and the LED Systems Reliability Consortium (LSRC) confirms that heat, vibration, and power surges accelerate electrolyte depletion in these capacitors, leading to premature fixture failure long before the LED source itself degrades.

THE DIRECT-AC ADVANTAGE

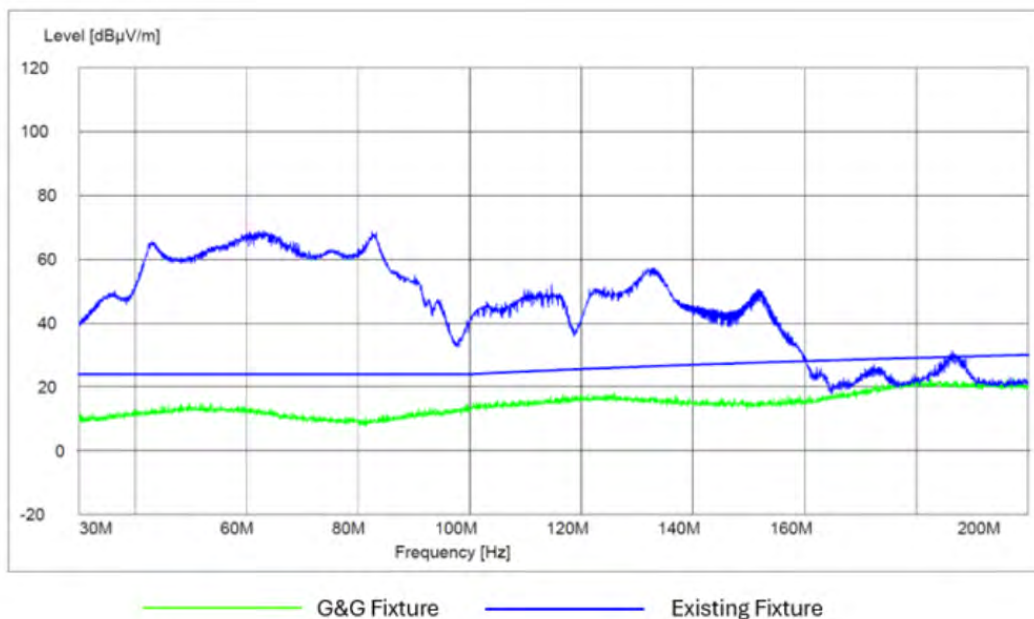
G&G replaces the conventional driver with solid-state Direct-AC architecture. By utilizing a full-wave rectifier and MOSFETs for real-time current regulation, we eliminate the transformers,

PFC stages, and electrolytic capacitors that define the traditional 'driver' failure mode. This solid-state approach delivers unmatched reliability and consistent performance in high-heat and high-vibration infrastructure.

EMI SILENT CERTIFICATION

Mass transit environments are saturated with mission-critical signaling, train control, and passenger communications. Unlike conventional drivers that generate high-frequency switching noise, G&G fixtures are fully compliant with rigorous MIL-STD-461E RE102 EMI testing. This ensures absolute electromagnetic silence, preventing interference with the sensitive control systems that keep transit lines running.

The following graph demonstrates a Field-Tested, Not Just Lab-Rated application. In the Holland Tunnel, G&G's fixture ran 10+ dB under the MIL-STD-461E RE102 limit across the full test sweep while the incumbent fixture it replaced exceeded that same limit by up to 40 dB in the Very High Frequency (VHF) band used by rail signaling and communications. This proves the assertion that our Direct AC boards are electromagnetically silent in an RF-congested tunnel application.



Case Study

Holland Tunnel

New York, NY

Mastering the Historic Holland Tunnel Infrastructure

THE CHALLENGE

One of the world's most heavily trafficked corridors required a lighting modernization that could endure constant vehicle emissions, harsh chemical washdowns, extreme vibration, and strict space restrictions without requiring frequent, disruptive maintenance shutdowns.

THE G&G SOLUTION

Implementation of custom-engineered, low-profile G&G Direct-AC linear tunnel fixtures, offering ingress protection and a driverless architecture. A key reason G&G won the contract was its EMI-Silent Direct-AC technology, which eliminated RF emissions to ensure electromagnetic silence. This was critical for protecting the tunnel's sensitive communications infrastructure and ensuring ongoing operations.

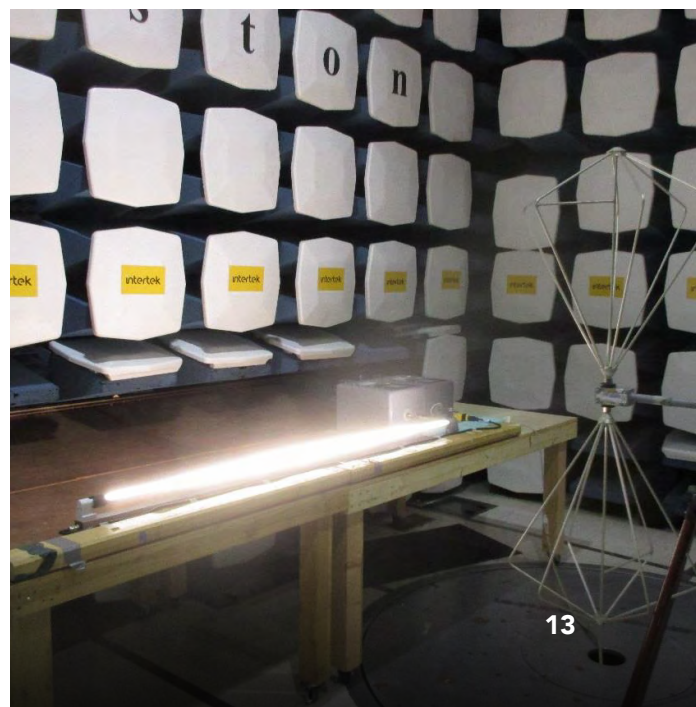
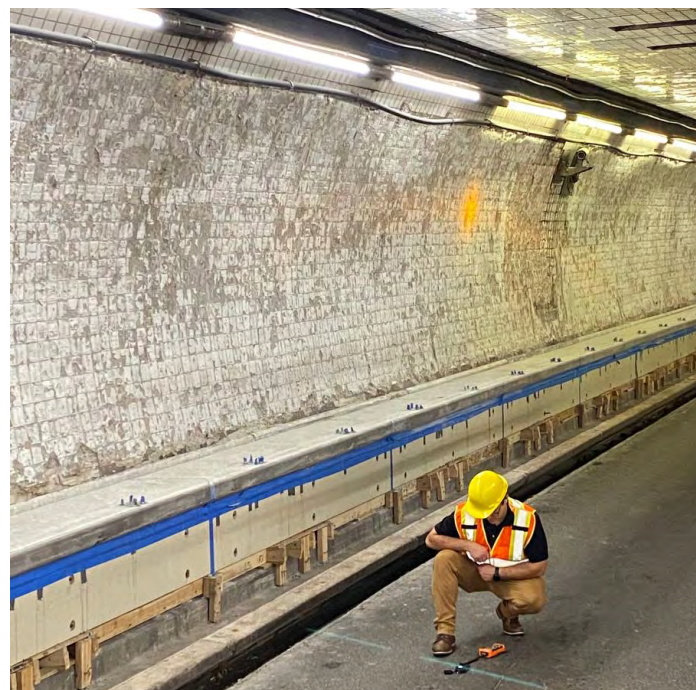
THE OUTCOME

Energy-efficient visibility that met rigorous historic structural mandates, secured code compliance, and drastically reduced maintenance-related traffic closures.

FEATURES THAT MATTERED

- **EMI Silent:** No more issues with radio or cellular communications
- **Energy Efficient:** Project paid for itself in energy savings alone
- **Durable with a Long Life:** It has been five years since installed, and not one fixture has been replaced
- **Quick Connect:** Daisy chain for long runs of fixtures
- **Impact Resistant:** IK07 impact certified
- **Low-Profile:** Was able to fit where the previous fixture was held

Unique Lighting Solutions For Harsh Environments





American Built. Engineered for Transit.



G&G Industrial Lighting proudly guarantees compliance with the Buy American Act (BAA) and the Build America, Buy American Act (BABAA). Manufactured solely at our state-of-the-art facility in Upstate New York, our supply chains and materials prioritize domestic sourcing. When federal funding demands strict compliance, G&G protects your agency from procurement risks.

PARTNER WITH G&G TO SPEC YOUR NEXT TRANSIT PROJECT

*Don't leave infrastructure
visibility to chance.*

Contact our dedicated transit engineering team for complimentary lighting layouts, comprehensive spec reviews, and physical on-site product demonstrations.

G&G

INDUSTRIAL LIGHTING

10 Hermes Road, Malta, NY 12020

800.285.6780 sales@ggled.net

ggled.net