Project		**Catalog #**		**Type**	
Prepared by		**Notes**		**Date**	



Metalux

22GR LED

2' x 2' LED Troffer
General Recessed LED Troffer
For Use in Insulated Ceilings

Typical Applications
• Office • Schools • Residential • Hospitals • Retail Merchandising Areas

Interactive Menu

- Order Information page 2
- Photometric Data page 3
- Control Systems page 4
- VividTune™ Color Tuning Solutions page 5
- Product Warranty

Product Certification

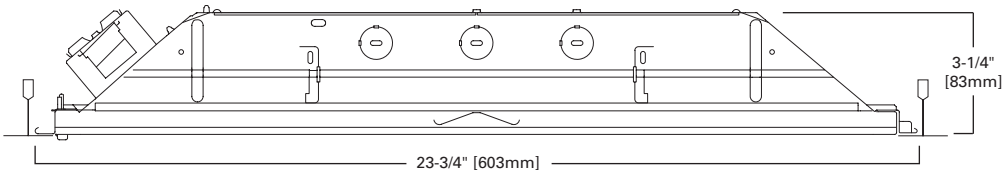
Product Features

Connected Systems · Bluetooth · VividTune · BAA · MWS Modular Wiring System CLICK HERE · Linear Disconnect Designed to provide safe and convenient means of disconnecting power · Rapid Response CLICK HERE

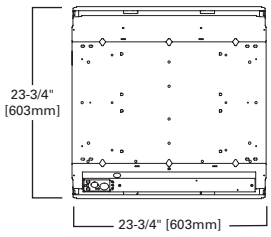
Top Product Features

- Available in 2' x 4', 2' x 2' and 1' x 4'
- Multiple lumen packages up to 18,000 in 2x4 and 9,000 in 2x2
- Up to 140 lm/W for maximum energy savings versus fluorescent troffers
- Correlated Color Temperatures 3000K, 3500K, 4000K and 5000K at 80 and 90 CRI
- Standard 0-10V continuous dimming driver
- Options to meet Buy American and other domestic preference requirements

Dimensional and Mounting Details

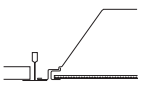


Mounting Data

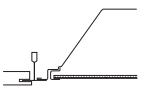


Ceiling Compatibility

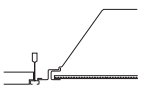
G
Grid/Lay-in
Standard



G
Concealed T



G
Slot Grid

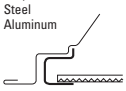


Ceiling Type	Trim Type
Exposed Grid	G
Concealed T	G
Slot Grid	G

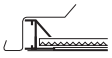
(Verify compatibility/ consult factory.)

Door Frames

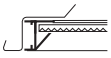
GR
Flat, White Steel Aluminum



GRFA
Flat, Extruded White Aluminum



GRRA
Deep, Regressed, Extruded Natural



Order Information

SAMPLE ORDER NUMBER: **22GR-LD5-27-F1-UNV-L835-CD1-U**

Domestic Preferences [1]	Rating	Width/Length	Trim Type	Series [3]	Door Frame	LED Type	LED Lumen Output [4]	Shielding
[Blank]=Standard **BAA**=Buy American Act **TAA**=Trade Agreements Act	**[Blank]**=Standard **ATW-SW4**=Chicago Rated	**22**=2' x 2'	**G**=Grid/Lay-in (Standard) [2] **G**=Concealed T **G**=Slot Grid	**R**=General Purpose Troffer	**Standard**=Flat White Steel Door (Leave Blank) [7] **FA**=Flush White Extruded Aluminum c/w Spring Latch **RA**=Regressed White Extruded Aluminum **FAN**=Flush Natural Anodized Extruded Aluminum **RAN**=Regressed Natural Anodized Extruded Aluminum **FAB**=Flush Black Extruded Aluminum **RAB**=Regressed Black Extruded Aluminum	**LD5**=LED 5.0	**20**=2000 [6] **24**=2400 [6] **28**=2800 **32**=3200 **36**=3600 **40**=4000 **43**=4300 **50**=5000 [5] **60**=6000 [5] **70**=7000 [5], [6] **85**=8500 [5], [6] **90**=9000 [5], [6]	**F1**=Pattern 12, Frosted Acrylic, 0.095" thick **F125**=Pattern 12, Frosted Acrylic, 0.125" thick **A**=Pattern 12, Clear Acrylic, 0.095" thick **A125**=Pattern 12, Clear Acrylic, 0.125" thick **A19/156**=Pattern 19, Clear Acrylic, 0.156" thick [25] **FGW080**=Frosted Smooth Acrylic, 0.080" thick
Notes (1) Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.			**Notes** (2) An EQ Grid Clip is recommended for all 9/16" ceiling systems.	**Notes** (3) DesignLights Consortium® Qualified and classified for DLC Standard, refer to www.designlights.org for details.	**Notes** (7) Only Standard door frames can support wireguard accessory.		**Notes** (4) Nominal lumen output. See table for actual values. (5) White tuning not available with this model. (6) Not compatible with WN driver.	**Notes** (25) A19/156 lens creates holographic effect on the surface of the lens.

Voltage [8]	Options	Emergency	CCT	Factory Wiring	Driver Type
347V=347 Volt [10] **UNV**=Universal Voltage 120-277 [9] **48V**=48 Volt Low-voltage (Class 2) [C] **120V**=120 Volt [11] **277V**=277 Volt [11]	**GL**=Single Element Fuse **GM**=Double Element Fuse	**EL7W**=7-watt 120V-277V emergency battery pack [12] **EL10W**=10-watt 120V-277V emergency battery pack [12] **EL14W**=14-watt 120V-277V emergency battery pack [12] **EL10WSD**=10W emergency battery pack with self-diagnostic installed [12], [26] **EL14WSD**=14W emergency battery pack with self-diagnostic installed [12], [26] **ELV7W**=Low-voltage system, 7-watt emergency battery pack [C] **ELV14W**=Low-voltage system, 14-watt emergency battery pack [C] **GTR2**=Bodine Generator Transfer Relay [13], [14] **ETRD**=Emergency Transfer Relay with dimming control [13]	**L830**=80CRI, 3000K **L835**=80CRI, 3500K **L840**=80CRI, 4000K **L850**=80CRI, 5000K **L930**=90CRI, 3000K **L935**=90CRI, 3500K **L940**=90CRI, 4000K **L950**=90CRI, 5000K **L83050**=80CRI 3000K-5000K White Tuning [15] **L93050**=90CRI 3000K-5000K White Tuning [15] **L82765**=80CRI 2700K-6500K White Tuning [15] **L92765**=90CRI 2700K-6500K White Tuning [15]	**A3/8-4/18GDIM**=3/8" Flex with 0-10V Dimming Leads Multiple other configurations available. See below for details. **A3/8-5/18GDIM**=Flex with 0-10V Dimming leads and Blue for alternate wiring. See below for details.	**CD**=0-10V Driver (10%-100% Dimming) **HCD**=0-10V Driver (1%-100% Dimming) **5LTD**=DALI Driver (5%-100% Dimming) [16] **5LTHD**=DALI Driver (1%-100% Dimming) **LV**=Low-voltage System Driver (0%-100% Dimming) [C] **SD**=Step Dimming Driver (50% or 100% Dimming) [16] **LH**=Lutron HiLume (LDE1 series) 1%-100% EcoSystem Driver with Soft-on Fade to Black dimming [F] **W2A**=White Tuning, 2 ch, Intensity and CCT Control [17] **SR**=Sensor-ready Driver (1%-100% Dimming)
Notes (8) Products also available in non-US voltages and frequencies for international markets. (9) Not available when specifying emergencies, voltage must be specific. (10) 347V is not available with the W2A driver. (11) Must specify voltage as 120V or 277V when ordering GTR2 option. (C) Consult WaveLinx Low-Voltage or DLVP system pages for additional details and compatibility.		**Notes** (12) Factory installed with integral test switch/indicator/laser test. For approximate delivered lumens multiply the lumens per watt of the desired fixture by the wattage of the emergency battery pack (100 lm/W x 7=700 lumens). IES-format photometry for luminaire under emergency operation available. Battery option increases total height by 1 inch. (13) Used to bypass local control during outage. Must be used in conjunction with UL 1008 device (provided by others). GTR2 option includes 2 relays on fixtures with dimming drivers. ETRD option only requires one relay when used on a dimming fixture. (14) Must specify voltage as 120V or 277V when ordering GTR2 option. (26) EL10WSD and EL14WSD not available with 347V. (C) Consult WaveLinx Low-Voltage or DLVP system pages for additional details and compatibility.	**Notes** (15) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with W2A.	**Flexible Metal Conduit Options** Flex options available for 0-10V dimming control, DALI dimming control, emergency and night light functions. 72-inch factory-installed and pre-wired to driver, fitted to luminaire housing access plate with 90° enclosed FMC connector. Not all options may be combined and installation ratings vary by type. **A3/8-4/18GDIM series notes:** Factory installed dimming option 3/8" flexible metal conduit with 2-#18 power and ground wires and 2-#18 UL-listed jacketed 0-10V +/- control wires. Meets UL 66, 83, 1479, 1569, 1581, 2556. NEC® 250.118, 300.22(C), 392, 396, 330, 501, 502, 503, 530, 504, 505, 518, 520, 530, 645, 72; Federal Specification A-A-59544 (formerly J-C-30B); all applicable OSHA and HUD Requirements. UL Classified 1-, 2-, and 3-hour through penetration with applicable fire stop product (not included). May be surface mounted, fished and/or embedded in plaster. Cable tray and approved raceway rated, install per NEC®; Environmental Air-Handling Space Installation per NEC® 300.22(C).	**Notes** (16) Step Dim (Bi Level) and DALI only available in 3600 lumen and above. (17) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with W2A. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (C) Consult WaveLinx Low-Voltage or DLVP system pages for additional details and compatibility. (F) Consult Marketplace Options - Lutron system pages for additional details and compatibility. Compatible only with driver series shown, and may require two or more drivers. Requires field commissioning to operate or dim. Contact Lutron at www.lutron.com

No.of Drivers	Options	Integrated Sensing Systems	Packaging
1=1 Driver **2**=2 Drivers	**PAF**=Painted After Fabrication **G1**=Gasket, Door Frame and Housing **G2**=G1 plus Gasket between Lens and Door **G3**=G1 and G2 plus Gasketing on Mounting Surface of Fixture Trims [18], [19]	**[Blank]**=No Sensor **WAA**=WaveLinx Wireless Integrated Sensor [20], [A] **WAB**=WaveLinx Lite Wireless Integrated Sensor [21], [B] **WLA**=Low-voltage Integrated Sensor [22], [C] **SVPD1**=0-10V Stand-alone Integrated Sensor [21], [D]	**U**=Unit Pack **PAL**=Job Pack, out of carton **PALC**=Job Pack, in carton
	Notes (18) Gasketing only available with aluminum door frame. (19) Gasketing minimum .125.	**Notes** (20) WAA sensor to be used with CD or W2A driver. (21) WAB and SVPD1 sensor to be used with CD driver. (22) WLA sensor to be used with LV driver. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (A) Consult WaveLinx system pages for additional details and compatibility. (B) WaveLinx Lite devices are not currently compatible with the WaveLinx Wireless Area Controller. Consult WaveLinx Lite system pages for additional details and compatibility. (C) Consult WaveLinx Low-Voltage or DLVP system pages for additional details and compatibility. (D) Consult SVPD series system pages for additional details and compatibility.	

Accessories [24]
EQ-CLIP-U=T-BAR Safety Earthquake Clips [23] **DF-22W-U**=2' x 2' Drywall Frame Kit **SK-22-WS**=2' x 2' Shallow Surface Mount Kit **SK-22-WT**=2' x 2' Tall Surface Mount Kit **ISHH-01**=Programming Remote for Integrated Sensor [D] **ISHH-02**=Personal Control Remote for Integrated Sensor [D]
Notes (23) An EQ Grid Clip is recommended for all 9/16" ceiling systems. (24) Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information. (D) For use with SVPD sensor only. Consult SVPD series system pages for additional details and compatibility.

Product Specifications

Construction
- Rigid housing is die formed of code gauge prime cold rolled steel
- Full length die-formed stiffeners and unibody endplate for added strength
- Innovative design provides superior lens brightness, uniformity and visual comfort
- Unibody endplates are securely attached with interlocking tabs and screws
- Four auxiliary fixture end suspension points provided
- Endplates have integral Grid-lock feature for safety and convenience

Controls
- Standard with 0-10V dimming driver (10% standard, 1% optional)
- WaveLinx wireless sensor compatible for standalone, controlled, connected, and IoT capability
- SVPD sensor compatible for standalone functionality
- Low-voltage sensor and driver compatible for WaveLinx Low-Voltage and DLVP applications
- DALI 2.0, Lutron, and step-dimming available

Electrical
- TM-21 life at 60,000 hours up to L88 and calculated L70 exceeds 162,000 hrs.
- Available in 3000K, 3500K, 4000K or 5000K with a minimum of 80 CRI
- Color accuracy ≤3-Step MacAdam ellipse (SDCM)
- Drivers available in 120-277V and 347V
- Tunable white options available with Cooper Lighting Solutions' VividTune

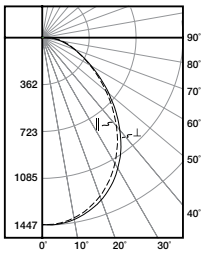
Emergency Battery Pack Option
- 120V-277V integral emergency battery pack comes in 7-watts, 10-watt, or 14-watts
- Self-diagnostic emergency battery available in 10 or 14-watts (NFPA 101® Life Safety Code®)
- Constant power to the LED system for controlled, predictable discharge
- Integrated test switch/indicator light visible from floor
- Min. 90-minute backup period for code compliance
- Integral emergency transfer relay available for generator equipped power systems

Frame/Optical Shielding
- Die formed, flat steel door with frosted #12 pattern acrylic prismatic lens
- Primary stocking skus come standard with robust .095 lens
- Other options available for maximum versatility

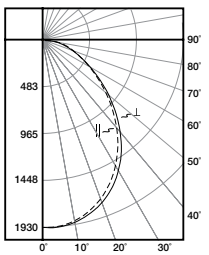
Compliance
- IC rated for insulation contact
- cULus listed for damp locations
- RoHS compliant
- Tested to IESNA LM-79 and LM-80
- Stated life per TM21 standards
- Can be used for State of California Title 24 high efficacy luminaire

Photometric Data

View IES files



22GR-LD5-32-F1UNV-L835-CD1-U
Electronic Driver
Linear LED 3500K
Spacing criterion: (II) 1.14 x mounting height, (⊥) 1.18 x mounting height
Lumens: 3268
Input Watts: 29.9W
Efficacy: 109.1 lm/W
Test Report: 22GRLD5-32-F1-UNVL835-CD1-U.IES



22GR-LD5-43-F1UNV-L835-CD1-U
Electronic Driver
Linear LED 3500K
Spacing criterion: (II) 1.14 x mounting height, (⊥) 1.18 x mounting height
Lumens: 4360
Input Watts: 40.1W
Efficacy: 108.7 lm/W
Test Report: 22GR-LD5-43-F1UNV-L835-CD1-U. IES

Energy and Performance Data

Stock or MTO	Catalog Logic (Rectilinear Shielding)	Delivered Lumens	Watts	Efficacy (lm/W)
MTO	22GR-LD5-20-F1-UNV-L835-CD1-U	2068	16.1	128
Stock	22GR-LD5-24-F1-UNV-L835-CD1-U	2459	19.2	128
MTO	22GR-LD5-28-F1-UNV-L835-CD1-U	2898	22.9	126
Stock	22GR-LD5-32-F1-UNV-L835-CD1-U	3268	29.9	109
MTO	22GR-LD5-36-F1-UNV-L835-CD1-U	3642	34.5	105
MTO	22GR-LD5-40-F1-UNV-L835-CD1-U	4098	38.8	106
Stock	22GR-LD5-43-F1-UNV-L835-CD1-U	4360	40.1	109
MTO	22GR-LD5-50-F1-UNV-L835-CD1-U	4929	40.4	122
MTO	22GR-LD5-60-F1-UNV-L835-CD1-U	5931	49.6	120
MTO	22GR-LD5-70-F1-UNV-L835-CD1-U	6991	64.2	109
MTO	22GR-LD5-85-F1-UNV-L835-CD1-U	8554	81.1	106
MTO	22GR-LD5-90-F1-UNV-L835-CD1-U	8991	86.0	105

Lumen Maintenance

Ambient Temperature	TM-21 Lumen Maintenance (60,000 hours)	Theoretical L70 (Hours)
25°C	> 88%	> 162,000

Lens Table

Approximate Lumen Multiplier	
F1	1.0
F125	1.0
A125	1.01
A	1.01
A19/156	.975
FGW080	.85

CCT Table

Approximate Color Temperature Multiplier	
5000K	1.016
4000K	1.016
3500K	1.0
3000K	.982
2700K	.930

Shipping Data

Catalog No.	Wt.	Pallet
22GR-LD5-32	10 lbs.	56

Control Systems

- WaveLinx Wireless
- WaveLinx Wired
- WaveLinx Lite
- DLVP
- VividTune

Connected Systems
CLICK HERE

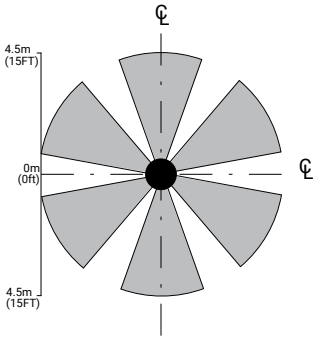
The GRLED with Integrated Sensor technology provides automatic energy savings without sacrificing performance. The GRLED delivers superior lighting with integrated occupancy and daylighting controls.

For standalone and controlled applications, the WaveLinx Lite integral sensor provides out-of-the-box functionality with no gateways required and factory startup is not needed.

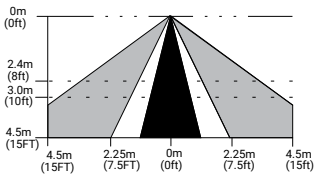
When more connectivity is required, the WaveLinx Wireless sensor meets modern code and utility requirements, delivers energy and cost savings, while enabling buildings to become smart buildings.

The WaveLinx Wireless Connected Lighting System combined with Trellix provides an open IoT platform and infrastructure that connects intelligent sensors leveraging the real-estate of the physical light fixture to solve higher complexity problems to deliver actionable insights through the aggregation of valuable data.

TOP VIEW:



SIDE VIEW:



***Note**: Installation of integrated sensors within 3-ft (1m) of HVAC air vents is not recommended. The pattern shown is intended solely as a general guide and is not to scale.*

Systems comparison chart

Cooper Lighting Solutions provides many lighting system solutions designed to satisfy code requirements and meet the unique needs of any project.









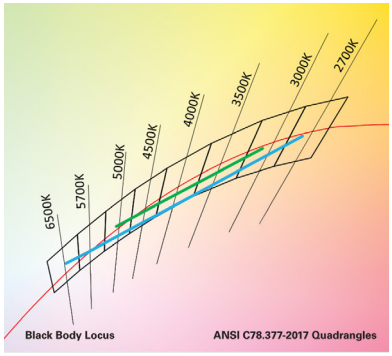
	Luminaire with standalone sensor	Standalone Spaces WaveLinx Lite	Networked Spaces WaveLinx Pro	Enterprise Trellix
Occupancy	Yes	Yes	Yes	Yes
Daylighting	Yes	Yes	Yes	Yes
Wallstations	–	Yes	Yes	Yes
Gateways	–	–	1 WAC	300 WACs
Devices (MAX)	–	50 per Area (1400 per site)	200 per WAC2	32,500 per Core Enterprise
Software	–	WaveLinx Lite Mobile App	WaveLinx Pro Mobile App	Trellix Core
Areas	–	28 per Site	50 per WAC2	up to 3,000
Zones	–	16 per Area	16 per Area	up to 9,000
Scheduling	–	–	Local	Global
VividTune™	–	–	Yes	Yes
Plug-Load Control	–	–	Yes	Yes
Low-Voltage Power	–	–	Yes	Yes
Integration	–	–	–	BACnet, API
Dashboards	–	–	–	Energy, Occupancy
Configuration	–	Installer	Technician	Technician / IT

SCALABILITY

VividTune color tuning solutions

22GR LED with VividTune Tunable White

VividTune tunable white luminaires from Cooper Lighting Solutions deliver high-quality light in a broad range of continuously variable color temperatures and intensities. Create a dynamic environment by adjusting the ambient light warmer or cooler to influence mood, support the task at hand, or create a dramatic ambience. The ability to control correlated color temperature and intensity separately using simple controls is the next evolution of LED lighting for the commercial, educational, healthcare and hospitality space. The unparalleled flexibility and number of available lighting environments enable users to find the right light with tunable white.



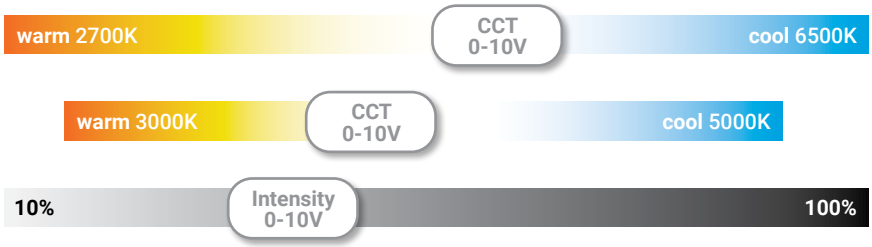
Performance Data*

Tunable White - Lumen Adjustment Factors (example only)				
CCT	3000K-5000K		2700K-6500K	
	80 CRI	90 CRI	80 CRI	90 CRI
2700K	-	-	0.905	0.773
3000K	0.932	0.767	0.931	0.804
3500K	0.986	0.838	0.964	0.844
4000K	1.036	0.905	0.984	0.871
4500K	1.045	0.921	1.002	0.894
5000K	1.045	0.921	1.016	0.911
6500K	-	-	1.031	0.936

2' x 2' GRLED - Example of Approximate Lumen Calculation			
	Standard Catalog #	VividTune 80 CRI Catalog #	VividTune 90 CRI Catalog #
CCT Setting	22GR-LD5-32-F1-UNV-L835-CD1-U	22GR-LD5-32-F1-UNV-L83050-W2A1-U	22GR-LD5-32-F1-UNV-L93050-W2A1-U
3000K	-	3046	2507
3500K	3268	3223	2740
4000K	-	3384	2959
4500K	-	3416	3010
5000K	-	3416	3010

Controlling VividTune Tunable White

VividTune luminaires make tunable white more accessible by using simple and familiar controls. From wall dimmers to wireless controls, VividTune tunable white luminaires are compatible with industry standard 0-10V dimming controls. A single 0-10V dimming input is used to control intensity (brightness) while a second 0-10V dimming input is used to adjust CCT. For suggested control configurations, go to www.cooperlighting.com for tunable white application guides.



Example of Lumen Adjustment Calculation

22GR-LD5-32-F1-UNV-L83050-W2A1-U at 80 CRI tuned to 3500K

Adjusted Lumen = published lm x adjusted lm factor

Adjusted Lumen = 3268 x 0.986

Adjusted Lumen = 3223 lm

** Lumen adjustment factors are for reference and may be different for each product selected. Refer to IES files for actual performance data on each.*

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www.cooperlighting.com

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Specifications and dimensions subject to change without notice.