Metalux

DESCRIPTION

GRLED is a recessed lensed troffer series which offers a high quality luminaire designed with the latest solid state lighting and electronic driver technology for optimal performance and energy efficiency. The GRLED is compatible with all of today's popular ceiling systems and is available with a number of shielding options and accessories for application versatility.

The GRLED series features efficiency, quality and performance. The series is an excellent choice for use in a variety of indoor spaces such as offices, schools, residential, hospitals or retail merchandising areas.

Catalog #	Туре
Project	
Comments	Date
Prepared by	

SPECIFICATION FEATURES

Construction

Rigid housing is die formed of code gauge prime cold rolled steel and features full length dieformed stiffeners and unibody endplate for added strength. Side flanges are hemmed for safe handling. 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. Drivers and internal components are accessible from below the ceiling and LED modules include plug-in low voltage connectors.

Controls

The GRLED is equipped standard with a 0-10V continuous dimming driver that works with any standard 0-10V control/dimmer. Combine with energy-saving products like occupancy sensors, daylighting controls, and lighting relay panels to maximize energy savings. Fixtures may have integrated Eaton control systems such as the SPVD series and the LumaWatt Pro series.

Electrical

Long-Life LED system coupled with electrical driver to deliver optimal performance. LED's available in 3000K, 3500K, 4000K or 5000K with a minimum of 80 CRI. Projected life at 70% lumen maintenance is nearly 200,000 hours with TM21 rating up to L90 >60,000 hours. Electronic drivers are cULus recognized and available for 120-277V and 347V applications. Standard dimming is 0-10V to 10% with 1%, step and Fifth Light DALI dimming options available.

Emergency Battery Pack Option Optional 120V-277V integral emergency battery pack is available in 7-watts or 14-watts to meet critical life-safety lighting requirements. The 90-minute batteries provide constant power to the LED system, ensuring codecompliance. A test switch/indicator button can be tested safely from the ground using a laser pointer, while the patented EZ Key prevents accidental discharge of the battery during construction. Generator Transfer Device (GTD) and other emergency options available - see ordering information for details.

Frame/Optical Shielding

Die formed, flat steel door with frosted #12 pattern acrylic prismatic lens offering the balance of rigidity and light stability. Primary stocking skus come standard with robust - .125 lens with other options available for maximum versatility.

Compliance

Modules are UL recognized components and indoor luminaires are cULus listed for 25°C ambient environments. Fixtures are suitable for direct insulation contact and are damp location listed. RoHS compliant. LED components comply with IESNA LM-79 and LM-80 standards. DesignLights Consortium™ Qualified and classified for both DLC Standard and DLC Premium, refer to www. designlights.org for details.



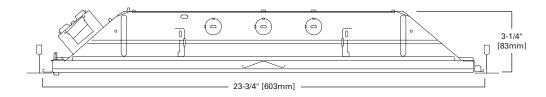
22GR

2' X 2' LED TROFFER

General Recessed LED Troffer For Use in Insulated Ceilings







MOUNTING DATA DOOR FRAMES Flat, White Flat, Extruded White Aluminum 23-3/4 CEILING COMPATIBILITY Ceiling Trim 23-3/4" [603mm] Grid/Lay-in Concealed T Slot Grid Type Type Standard Exposed Grid G Concealed T Slot Grid (Verify compatibility/ consult factory.)

WATTAGE

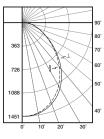
Lumens	
Package	Watts
2000	16W
2400	20W
2800	24W
3200	28W
3600	32W
4000	39W
4300	40W



Safe and convenient means of disconnecting power



PHOTOMETRICS



22GR-LD5-32-F1-UNV-L835-CD1-U

Electronic Driver Linear LED 3500K Spacing criterion: (II) 1.14 x mounting height, (⊥) 1.18 x mounting height Lumens: 3277 Input Watts: 27.7W Efficacy: 118.3 lm/W Test Report:

22GR-LD5-32-F1-

UNV-L835-CD1-U.

IES

Candlenower

Candiepower									
Angle	Along II	45°	Across \bot						
0	1447	1447	1447						
5	1438	1436	1445						
10	1407	1409	1422						
15	1357	1363	1381						
20	1288	1299	1320						
25	1203	1218	1243						
30	1099	1116	1145						
35	985	1003	1031						
40	862	876	902						
45	730	749	767						
50	606	615	634						
55	490	493	512						
60	390	385	398						
65	304	295	303						
70	235	220	227						
75	182	162	166						
80	130	112	112						
85	72	61	60						
90	0	0	0						

22GR-LD5-43-F1-UNV-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-F1-UNV-L835-CD1-U. IES

459 Angle Along II Across 1 1965 1965 1915 1910 1923 1873 1875 1892 1806 1813 1718 1729 1759 1601 1619 1655 1463 1485 1522 1312 1331 1374 1145 1164 1200 994 1024 806 821 850 659 517 513

391

217

80

407

151

402

242

173

80

90

Candlepower

Coefficients of Utilization

483

Coei	Coefficients of Ottilization																	
	Effe	ectiv	e flo	or cavi	ty ref	lecta	nce	20%	,									
rc		8	0%			7	0%			509	%		30%	0		10%	6	0%
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85
	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	74	72
3 4 5	92	82	74	68	90	81	73	68	78	72	67	75	70	65	72	68	64	62
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54
5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	49	47
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42
7	68	55	46	40	66	54	46	40	52	45	40	51	45	40	50	44	39	38
	63	50	42	36	62	49	42	36	48	41	36	47	41	36	46	40	36	34
9	59	46	38	33	58	46	38	33	45	38	33	43	37	33	42	37	32	31
10	56	43	35	30	54	42	35	30	41	35	30	40	34	30	40	34	30	28

Zonal Lumen Summary

Zone	Lumens	% Fixture
0-30	1439	33.0
0-40	2273	52.1
0-60	3634	83.4
0-90	4360	100.0
0-180	4360	100.0

Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	4416	4502	4638
55	3652	3679	3791
65	3046	2963	3084
75	2994	2685	2722
85	3527	2940	2903

Packaging

SVPD1=Integrated occupancy

and daylight dimming sensor,

SWPD1=WaveLinx Wireless

Wireless sensor system (10)

Wireless sensor system

Connected Lighting (WCL) system

LWIPD1=Integrated LumaWatt Pro

LWTPD1=Tile mounted LumaWatt Pro

U=Unit Pack

PALC=Palletized

Fixtures In Carton

Coefficients of Utilization

	Effe	ectiv	e floo	or cav	ity ref	ecta	nce	20	1%									
rc		8	0%			7	0%			509	%		30%	6		10%	6	0%
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85
0 1 2 3 4 5 6 7	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	72
3	92	82	74	68	90	81	73	68	78	72	67	75	70	65	72	68	64	62
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54
- 5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	49	47
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42
7	68	55	46	40	66	54	46	40	52	45	40	51	45	40	50	44	39	38
8	63	50	42	36	62	50	42	36	48	41	36	47	41	36	46	40	36	34
9	59	46	38	33	58	46	38	33	45	38	33	43	37	33	42	37	32	31
10	56	43	35	30	54	42	35	30	41	35	30	40	34	30	40	34	30	28

Zonal Lumen Summary

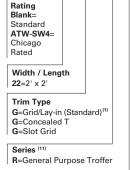
Lumens	% Fixture	
1082	33.0	
1709	52.2	
2732	83.4	
3277	100.0	
3277	100.0	
	1082 1709 2732 3277	1082 33.0 1709 52.2 2732 83.4 3277 100.0

Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	3306	3392	3474
55	2736	2753	2859
65	2304	2235	2296
75	2252	2005	2054
85	2646	2241	2205

ORDERING INFORMATION

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



Door Frame

Standard=Flat White Steel Door (Leave Blank)

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

LED Type Voltage (2) 347=347 Volts LD5=LED 5.0 UNV=Universal LED Lumen Output (9)

20=2000 24=2400 **28**=2800

32=3200 **36**=3600 **40**=4000 **43**=4300

Shielding F1=A12 .125 HP (Standard) **A**=A12 .095 A125=A12 .125

A19/156=#19 Pattern Acrylic (.156" Thick)

Transfer Switch (8 CCT L830=3000K L835=3500K **L840**=4000K L850=5000K

Voltage 120-277 (3) Options

GL=Single Element Fuse **GM**=Double Element Fuse

Emergency EL7W=7-watt, 120V-277V emergency battery pack installed (4) EL14W=14-watt 120V-277V

emergency battery pack installed (4) GTD2=Bodine Generator Transfer Device (8) ETS2=IOTA Emergency

Multiple Configurations Available

Driver Type CD=0-10V Dimming Driver

(10% - 100% Dimming) HCD=0-10V Dimming Driver (1% - 100% Dimming) SD=Step-Dim Driver (7) **5LTD**=Fifth Light DALI Driver (10% - 100% Dimming) (7) SR=Sensor Ready (1% - 100% Dimming) (10)

Number of Drivers 1=1 Driver

Options

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 (5), (6)

ACCESSORIES

EQ-CLIP-U=T-BAR Safety Earthquake Clips $^{(1)}$ **DF-22-W**=2' x 2' Drywall Frame Kit

ISHH-01=Programming Remote for Integrated Sensor ISHH-02=Personal Control Remote for Integrated Sensor

Sensors

NOTES: (1) An EQ Grid Clip is recommended for all 9/16" ceiling systems. (2) Products also available in non-US voltages and frequencies for international markets.

(3) Not available when specifying emergencies, voltage must be specific. (4) 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 Im/W x 7=700 lumens). IES-format photometry for luminaire under emergency operation available. (3) Gasketing only available with aluminum door frame. (4) Gasketing minimum. 125. (7) Step-Dim (Bi-Level) and Fifth Light (DALI) only available for 4000 lumen and up. (4) Use to transfer fixture to secondary power source for life-safety operation. When used with a dimning fixture, two devices are required to ensure control is disabled while operating under emergency power. (8) Nominal lumen output. See table for actual values. (10) SR driver required for LWIPD1 only. (11) DesignLights Consortium (2) Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.

Specifications & dimensions subject to change without notice. Consult your Eaton Representative for availability and ordering information.

SHIPPING DATA

Catalog No.	Wt.	Palle
22GR-LD4-32	10 lbs.	56



ENERGY AND PERFORMANCE DATA BY CATALOG NUMBER

Stock or MTO*	Catalog Logic	Delivered Lumens	Watts	Efficacy (LPW)
MTO	22GR-LD5-20-F1-UNV-L835-CD1-U	2045	16.3	125
Stock	22GR-LD5-24-F1-UNV-L835-CD1-U	2467	19.9	123
MTO	22GR-LD5-28-F1-UNV-L835-CD1-U	2883	23.8	121
Stock	22GR-LD5-32-F1-UNV-L835-CD1-U	3277	27.6	118
MTO	22GR-LD5-36-F1-UNV-L835-CD1-U	3655	31.7	115
MTO	22GR-LD5-40-F1-UNV-L835-CD1-U	4098	38.8	105
Stock	22GR-LD5-43-F1-UNV-L835-CD1-U	4360	40.1	108

^{*}Stocked in 3500K and 4000K others are MTO.

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