

DESCRIPTION

GRLED is a lensed troffer series. This high quality luminaire is dedicated to 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 options and accessories for application versatility.

The GRLED series features efficiency, quality and performance. The series is an excellent choice for commercial office spaces, schools, hospitals or retail merchandising areas.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Construction

Rigid housing is die formed of code gauge prime cold rolled steel and features full length die-formed stiffeners and unibody endplate for added strength. Side flanges are hemmed. 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. KO's for continuous row wiring. Endplates have integral Grid-lock feature for safety and convenience.

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.

Electrical

Long-Life LED system coupled with electrical driver to deliver optimal performance. LED's available in 3000K, 3500K, 4000K and 5000K with a CRI ≥ 85. Projected life is 60,000 hours at 90% lumen output. cULus listed. Electronic drivers are available for 120-277V applications. A 0-10V dimming driver is standard.

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 code-compliance. 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. See ordering information for details.

Finish

Multistage, iron phosphate pretreatment ensures maximum bonding and rust inhibition. Housing and driver cover finished with new 90% reflective white enamel for superior performance. "PAF" Painted After Fabrication option also available.

Hinging/Latching

Positive spring loaded steel latches with baked white enamel finish. Safety-lock T-hinges allow hinging and latching either side.

Frame/Optical Shielding

Die formed, flat steel door with frost #12 pattern acrylic prismatic lens offering the balance of rigidity and light stability. All stocking skus come standard with robust - .125 lens.

Compliance

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

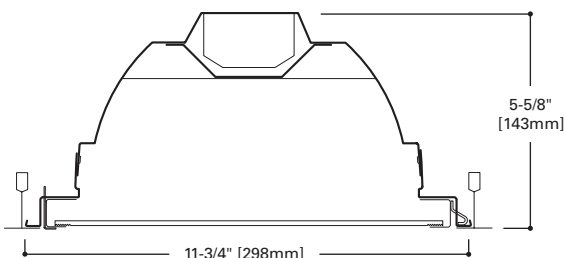


14GR LED LED

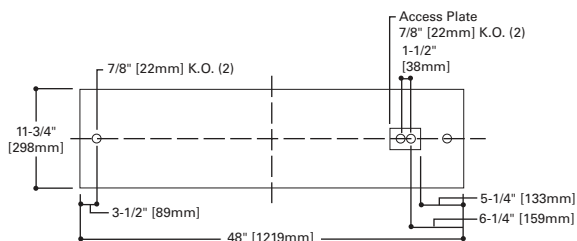
1' X 4' LED TROFFER

General Recessed LED Troffer

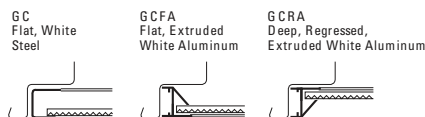
For Use in Insulated Ceilings



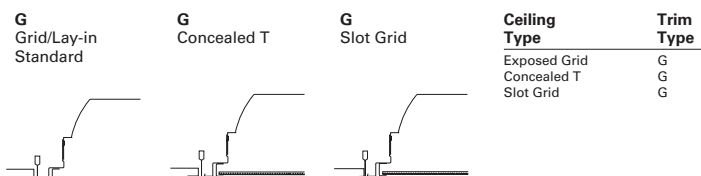
MOUNTING DATA



DOOR FRAMES



CEILING COMPATIBILITY



WATTAGE

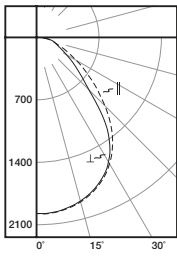
Lumens Package	Wattage
2000	20W
2400	23W
2800	28W
3200	33W
3600	38W
4000	45W
4300	56W

LINEAR DISCONNECT

Safe and convenient means of disconnecting power



PHOTOMETRICS



14GR-LD4-43-A-UNV-L835-CD1-U

Dimming Driver
 Linear LED 3500K
 Spacing criterion:
 (||) 1.2 x mounting
 height, (⊥) 1.2 x
 mounting height
 Lumens: 4306
 Input Watts: 50.3W
 Efficacy: 85.6 lm/W
 Test Report:
 14GR-LD4-43-A-
 UNV-L835-CD1-U.
 IES

Candlepower

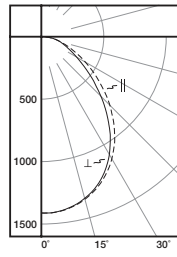
Angle	Along	45°	Across ⊥
0	1973	1973	1973
5	1975	1960	1970
10	1950	1938	1943
15	1909	1892	1898
20	1844	1827	1832
25	1755	1738	1739
30	1636	1619	1612
35	1484	1457	1424
40	1299	1266	1152
45	1083	1042	831
50	873	769	639
55	680	563	503
60	514	404	387
65	381	274	302
70	275	188	246
75	203	150	208
80	151	127	160
85	79	68	94
90	0	0	0

Coefficients of Utilization

rc rw RCR	Effective floor cavity reflectance																	
	80%			70%			50%			30%			10%			0%		
	70	50	30	70	50	30	70	50	30	70	50	30	70	50	30	0		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	94	88	83	99	92	86	82	88	84	80	85	81	78	82	79	76	74
3	93	84	76	71	91	82	75	70	79	74	69	77	72	68	74	70	66	64
4	86	75	67	61	84	74	67	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	54	48	72	61	53	47	59	52	47	58	51	47	56	51	46	44
7	69	57	48	43	67	56	48	43	54	47	42	53	47	42	52	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	43	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	35	44	39	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	31	30

Zonal Lumen Summary

Zone	Lumens	% Fixture
0-30	1526	35.4
0-40	2431	56.5
0-60	3719	86.4
0-90	4306	100.0
0-180	4306	100.0



14GR-LD4-32-F1-UNV-L835-CD1-U

Dimming Driver
 Linear LED 3500K
 Spacing criterion:
 (||) 1.2 x mounting
 height, (⊥) 1.2 x
 mounting height
 Lumens: 3170
 Input Watts: 32.12W
 Efficacy: 98.7 LPW
 Test Report:
 14GR-LD4-32-F1-
 UNV-L835-CD1-U.
 IES

Candlepower

Angle	Along	45°	Across ⊥
0	1412	1412	1412
5	1410	1401	1408
10	1388	1379	1383
15	1349	1339	1341
20	1294	1280	1280
25	1219	1205	1196
30	1129	1110	1089
35	1025	995	962
40	903	864	818
45	777	730	676
50	642	595	542
55	522	471	422
60	408	362	327
65	307	272	254
70	226	201	199
75	160	148	156
80	108	103	109
85	57	53	60
90	0	0	0

Coefficients of Utilization

rc rw RCR	Effective floor cavity reflectance																	
	80%			70%			50%			30%			10%			0%		
	70	50	30	70	50	30	70	50	30	70	50	30	70	50	30	0		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	88	85
2	101	93	87	81	98	91	85	80	88	83	78	84	80	77	81	78	75	73
3	92	83	75	69	90	81	74	68	78	72	67	75	70	66	73	69	65	63
4	85	74	66	59	83	73	65	59	70	64	58	68	62	58	66	61	57	55
5	79	67	58	52	77	66	58	52	64	57	51	62	55	51	60	54	50	48
6	73	60	52	46	71	60	52	46	58	51	45	56	50	45	55	49	45	43
7	68	55	47	41	66	54	47	41	53	46	41	51	45	40	50	44	40	38
8	64	51	43	37	62	50	42	37	49	42	37	47	41	36	46	41	36	34
9	60	47	39	34	58	46	39	33	45	38	33	44	38	33	43	37	33	31
10	56	43	36	31	55	43	35	31	42	35	30	41	35	30	40	34	30	28

Zonal Lumen Summary

Zone	Lumens	% Fixture
0-30	1067	33.7
0-40	1687	53.2
0-60	2671	84.3
0-90	3170	100
0-180	3170	100

ORDERING INFORMATION

SAMPLE NUMBER: 14GR-LD4-27-F1-UNV-L835-CD1-U

<p>Rating Blank=Standard ATW-SW4=Chicago Rated</p>	<p>LED Type LD4=LED 4.0</p>	<p>Voltage ⁽²⁾ UNV=Universal Voltage 120-277 ⁽³⁾</p>	<p>Driver Type CD=0-10V Dimming Driver (10% - 100% Dimming) HCD=0-10V Dimming Driver (1% - 100% Dimming) SD=Step-Dim Driver ⁽⁶⁾ 5LTD=FiFth Light DALI Driver (10% - 100% Dimming) ⁽⁸⁾</p>	<p>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 ^{(6), (7)}</p>	<p>Packaging U=Unit Pack PALC=Palleted Fixtures In Carton</p>
<p>Width / Length 14=1' x 4'</p>	<p>LED Lumens Output ⁽⁵⁾ 20=2000 24=2400 28=2800 32=3200 36=3600 40=4000 43=4300</p>	<p>Options GL=Single Element Fuse GM=Double Element Fuse</p> <p>Emergency EL7W=7-watt, 120V-277V emergency battery pack installed ⁽⁴⁾ EL14W=14-watt 120V-277V emergency battery pack installed ⁽⁴⁾</p> <p>GTD2=Bodine Generator Transfer Device ⁽¹⁰⁾ ETS2=OTA Emergency Transfer Switch ⁽¹⁰⁾</p>	<p>Number of Drivers 1=1 Driver</p>	<p>ACCESSORIES EQ-CLIP-U=T-BAR Safety Earthquake Clips ⁽¹⁾ DF-14-WU=1' x 4' Drywall Frame Kit</p>	
<p>Trim Type G=Grid/Lay-in (Standard) ⁽¹⁾ G=Concealed T G=Slot Grid</p>	<p>Shielding F1=A12 .125 HP (Standard) A=A12 .095 A125=A12 .125 A19/156=#19 Pattern Acrylic (.156" Thick)</p>	<p>CCT L830=3000K L835=3500K L840=4000K L850=5000K</p> <p>Flex Multiple Configurations Available</p>			
<p>Series ⁽⁹⁾ R=General Purpose Troffer</p>					
<p>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</p>					

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 lm/W x 7-700 lumens). IES-format photometry for luminaire under emergency operation available. ⁽⁵⁾Nominal lumen output. ⁽⁶⁾Gasketing only available with aluminum door frame. ⁽⁷⁾Gasketing minimum .125. ⁽⁸⁾Step Dim (Bi Level) and DALI only available in 3200 lumen and above. ⁽⁹⁾DesignLights Consortium™ Qualified and classified for DLC Standard, refer to www.designlights.org for details. ⁽¹⁰⁾Used to transfer fixture to secondary power source for life-safety operation. When used with a dimming fixture, two devices are required to ensure control is disabled while operating under emergency power.

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

SHIPPING DATA

Catalog No.	Wt.	Pallet
14GR-LD4-32	10 lbs.	33
14GR-LD4-43	10 lbs.	33

ENERGY AND PERFORMANCE DATA BY CATALOG NUMBER

Stock or MTO*	Catalog Logic	Delivered Lumens	Watts	Efficacy (lm/W)
MTO	14GR-LD4-20-F1-UNV-L8XX-CD1-U	2084	20.10	103.68
MTO	14GR-LD4-24-F1-UNV-L8XX-CD1-U	2432	23.78	102.27
MTO	14GR-LD4-28-F1-UNV-L8XX-CD1-U	2804	28.13	99.68
MTO	14GR-LD4-32-F1-UNV-L8XX-CD1-U	3212	33.15	96.89
MTO	14GR-LD4-36-F1-UNV-L8XX-CD1-U	3598	38.86	92.59
MTO	14GR-LD4-40-F1-UNV-L8XX-CD1-U	4016	45.31	88.63
MTO	14GR-LD4-43-F1-UNV-L8XX-CD1-U	4310	50.43	85.47

*Stocked in both 3500K and 4000K. Made to order (MTO) requires a typical four week lead time.