Electrical energy saving lighting improvements proposal for:

Town of Milford Birch Street Fire Station

21 Birch Street Milford, MA 01757



May 27, 2022

Prepared by:







May 27, 2022

Deputy Chief Mike Detore Town of Milford 21 Birch Street Milford, MA 01757

Dear Deputy Chief Detore,

Energy Conservation is pleased to provide you with this proposal for energy saving lighting improvements at the Milford Fire Station located at 21 Birch Street. This proposal includes incentive contribution provided through the National Grid Municipals Program and includes the retrofit of existing lighting systems with new LED technology systems, as is indicated in the attached summary.

Town of Milford MA	National Grid Application Number	Total cost	National Grid Incentive	Net cost to the Town of Milford	Estimated Annual kWh Savings	Estimated Annual Electrical \$ Savings	Annual Fixture	Total Annual Estimated Savings	Simple payback period (in years)
Birch St. Fire Station	13673446	\$ 45,660	\$ 6,352	\$ 39,308	26,400	\$ 5,016	\$ 470	\$ 5,486	7.17

Projected annual savings resulting from the proposed improvements is \$5,016. The net cost to the Town of Milford is \$39,308 after a National Grid incentive of \$6,352.

The proposed new light emitting diode (LED) lighting systems will dramatically save maintenance costs – the life of the new LED systems is 200,000 hours versus the life of 23,000 hours of the existing fluorescent systems in the Birch St. Fire Station. The existing fluorescent lamps currently used in the Birch St. Fire Station cove contain mercury and will be eliminated in the scope of the proposed improvements.

All removed equipment will be disposed of properly. Manifests for all disposals will be provided to you for your records. Warranty on the installed LED systems is five years. Labor warranty is one-year on workmanship of installation.

Energy Conservation shall assign to the Town of Milford all rights to all warranties from the manufacturers or otherwise with respect to the lighting equipment purchased by the Town of Milford from Energy Conservation.

Energy Conservation agrees to procure and maintain, at the sole cost and expense of Energy Conservation, with a reputable and financially responsible insurance carrier or carriers, property damage and public liability insurance in the amount of not less than \$1,000,000 workers compensation in the amount set forth by each state and a crime rider in the amount of not less than \$250,000.

Energy Conservation further agrees to name the Town of Milford as additional insureds and to provide the Town of Milford with an insurance certificate as evidence of such coverage. In the event of cancellation or material modification of any policy, written notice of such cancellation or modification shall be given to the Town of Milford at least thirty (30) days prior to such cancellation or modification as to each policy.

Energy Conservation represents and warrants that the installation of all of the lighting equipment by Energy Conservation or its subcontractors shall be performed in a professional and workmanlike manner by qualified personnel and in accordance with all federal, state and municipal laws, rules and regulations and the policies and procedures of the Town of Milford.

We thank you for this opportunity and look forward to working with you in both saving energy and improving the quality of lighting at the Milford Birch St. Fire Station.

The net cost to the Town of Milford in the amount of \$39,308 shall be paid to Energy Conservation upon completion of the project. The total National Grid incentive amount of \$6,352 shall be paid to Energy Conservation upon completion of the projects with payments made at the completion of the project and inspection by National Grid to confirm that all intended work was completed.

Christinker L'Allin	
Christopher J. Collins President, Energy Conservation	Accepted:Town of Milford
May 27, 2022	
Date	Title
	Date

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Energy Saving Lighting Improvements for: Milford Fire Station 21 Birch Street Milford, MA 01757

Line Number	Space Description	Existing system description	Existing Quantity	Proposed Retrofit - New system description	Proposed Quantity	Total kWh Savings
1	Vestibule	6 Inch Recessed Downlight	4	Retrofit 6in Downlight 7w 650/1k Lm	4	304
2	Hallway	6 Inch Recessed Downlight	25	Retrofit 6in Downlight 7w 650/1k Lm	25	2,276
3	Office	2 x 4 Recessed Troffer	15	15 Retrofit 2x4 Kit 20w		4,423
4	Closet	2 x 4 Recessed Troffer	2	Retrofit 2x4 Kit 20w	2	54
5	Hallway	8' Strip Fixture	11	Retrofit LBE-LO 4' 2-Lamp 12w	11	2,289
6	Hallway	4' Strip Fixture	1	Retrofit LBE-LO 4' 1-Lamp 6w	1	104
7	Classroom	8' Suspended Direct-Indirect Fixture	4	Retrofit Type C 4ft 2L 30w	8	498
8	Classroom	4' Suspended Direct-Indirect Fixture	2	Retrofit Type C 4ft 2L 30w	2	139
9	Classroom	6 Inch Recessed Downlight	3	Retrofit 6in Downlight 7w 650/1k Lm	3	112
10	Closet	4' Strip Fixture	2	Retrofit LBE-LO 4' 1-Lamp 6w	2	41
11	Gym	2 x 4 Recessed Troffer	6	Retrofit 2x4 Kit 20w	6	1,167
12	Stairwell	Ceiling Surface Mount	1	New Drum 11in 10w Adj CCT/Lm		65
13	Restroom	4' Strip Fixture	5	Retrofit LBE-LO 4 ¹ 1-Lamp 6w		298
14	Closet	A-Lamp	3	Retrofit Philips A19 Screw In		65
15	Office	6 Inch Recessed Downlight	8	Retrofit 6in Downlight 7w 650/1k Lm		728
16	Hallway	4 Inch Recessed Can	10	Retrofit 4in Downlight 7w 650/1k Lm	10	347
17	Closet	4' Strip Fixture	1	Retrofit LBE-LO 4' 1-Lamp 6w	1	10
18	Electric Room	4' Strip Fixture	8	Retrofit LBE-LO 4' 1-Lamp 6w	8	77
19	Conference Room	4 Inch Recessed Can	7	Retrofit 4in Downlight 7w 650/1k Lm	7	135
20	Conference Room	6 Inch Recessed Downlight	8	Retrofit 6in Downlight 7w 650/1k Lm	8	405
21	Conference Room	A-Lamp	1	Retrofit Philips A19 Screw In	1	130
22	Stairwell	6 Inch Recessed Downlight	2	Retrofit 6in Downlight 7w 650/1k Lm	2	152
23	Dormitory	2 x 4 Recessed Troffer	4	Retrofit 2x4 Kit 20w	4	0
24	Restroom	6 Inch Recessed Downlight	1	Retrofit 6in Downlight 7w 650/1k Lm	1	52
25	Resource Room	2 x 4 Recessed Troffer	2	Retrofit 2x4 Kit 20w		0
26	Locker Room	6 Inch Recessed Downlight	4	Retrofit 6in Downlight 7w 650/1k Lm	4	606
27	Locker Room	4' Strip Fixture	3	Retrofit LBE-LO 4' 1-Lamp 6w	3	206





Energy Saving Lighting Improvements for: Milford Fire Station 21 Birch Street Milford, MA 01757

Line Number	Space Description	Existing system description	Existing Quantity	Proposed Retrofit - New system description	Proposed Quantity	Total kWh Savings
28	Locker Room	1 x 4 Recessed Troffer	9	Retrofit LBE-LO 4' 2-Lamp 12w	9	1,236
29	Locker Room	2 x 4 Recessed Troffer	4	Retrofit 2x4 Kit 20w		778
30	Electric Room	4' Strip Fixture	1	Retrofit LBE-LO 4' 1-Lamp 6w	1	20
31	Common Area	2 x 2 Recessed Troffer	6	Retrofit 2x2 Kit 10w	6	1,301
32	Common Area	2' Under Counter-Cabinet	1	New 18in 8W Undercabinet Fixture	1	39
33	Office	4 Inch Recessed Can	9	Retrofit 4in Downlight 7w 650/1k Lm	9	312
34	Garage	6 Inch Recessed Downlight	2	Retrofit 6in Downlight 7w 650/1k Lm		75
35	Garage	4 Inch Recessed Can	6	Retrofit 4in Downlight 7w 650/1k Lm		85
36	Storage	1 x 4 Recessed Troffer	2	Retrofit LBE-LO 4' 2-Lamp 12w		38
37	Garage	Suspended High Bay Fixture	20	New High Bay 90w 4k 12.5k lm		3,133
38	Garage	4' Wrap Fixture	2	Retrofit LBE-LO 4' 2-Lamp 12w		171
39	Mechanical Room	4' Strip Fixture	3	Retrofit LBE-LO 4' 1-Lamp 6w	3	29
40	Mechanical Room	8' Strip Fixture	1	Retrofit LBE-LO 4' 2-Lamp 12w	1	19
41	Storage	8' Strip Fixture	4	Retrofit LBE-LO 4' 2-Lamp 12w	4	77
42	Storage	4' Strip Fixture	5	Retrofit LBE-LO 4' 1-Lamp 6w		48
43	Storage	8 Inch Recessed Downlight	6	Retrofit 8in Downlight 7w 650/1k Lm		50
44	Exterior	6 Inch Recessed Downlight	3	Retrofit 6in Downlight 7w 650/1k Lm		276
45	Exterior	Wall Pack - Exterior	4	New Wallpack 30w 7900lm 4k	4	4,030
			231		235	26,400

Total Project Cost	\$45,660
National Grid Estimated Incentive	\$6,352
Town of Milford Net Cost	\$39,308
Annual Electric Cost Savings	\$5,016
Annual Fixture Maintenance Savings	\$470
Annual Cost Savings	\$5,486
Simple Payback in years	7.17





Line	Area Location	Existing System Description	Existing Quantity	Proposed System Description
1	Entry Vest	6 Inch Recessed Downlight	2	Retrofit 6in Downlight 7w 650/1k Lm
2	Top Stair	6 Inch Recessed Downlight	15	Retrofit 6in Downlight 7w 650/1k Lm
3	Department Clerk	2 x 4 Recessed Troffer	4	Retrofit 2x4 Kit 20w
4	Closet Off	2 x 4 Recessed Troffer	2	Retrofit 2x4 Kit 20w
5	Hall Back	8' Strip Fixture	5	Retrofit LBE-LO 4' 2-Lamp 12w
6	Hall Back	4' Strip Fixture	1	Retrofit LBE-LO 4' 1-Lamp 6w
7	Classroom	8' Suspended Direct-Indirect Fixture	4	Retrofit Type C 4ft 2L 30w
8	Classroom	4' Suspended Direct-Indirect Fixture	2	Retrofit Type C 4ft 2L 30w
9	Classroom	6 Inch Recessed Downlight	3	Retrofit 6in Downlight 7w 650/1k Lm
10	A/V Closet	4' Strip Fixture	1	Retrofit LBE-LO 4' 1-Lamp 6w
11	Gym	2 x 4 Recessed Troffer	6	Retrofit 2x4 Kit 20w
12	Stair Down	Ceiling Surface Mount	1	New Drum 11in 10w Adj CCT/Lm
13	Womens Restroom	4' Strip Fixture	1	Retrofit LBE-LO 4' 1-Lamp 6w
14	Mens Restroom	4' Strip Fixture	1	Retrofit LBE-LO 4' 1-Lamp 6w
15	Fire Prevention	2 x 4 Recessed Troffer	2	Retrofit 2x4 Kit 20w
16	Closet Off	A-Lamp	1	Retrofit Philips A19 Screw In
17	Public Fire Safety ED	6 Inch Recessed Downlight	1	Retrofit 6in Downlight 7w 650/1k Lm
18	Public Fire Safety ED	2 x 4 Recessed Troffer	3	Retrofit 2x4 Kit 20w





Line	Area Location	Existing System Description	Existing Quantity	Proposed System Description
19	Office Hall	8' Strip Fixture	5	Retrofit LBE-LO 4' 2-Lamp 12w
20	Office Hall	4 Inch Recessed Can	3	Retrofit 4in Downlight 7w 650/1k Lm
21	Stock Room	4' Strip Fixture	1	Retrofit LBE-LO 4' 1-Lamp 6w
22	Deputy Chief	6 Inch Recessed Downlight	1	Retrofit 6in Downlight 7w 650/1k Lm
23	Deputy Chief	2 x 4 Recessed Troffer	2	Retrofit 2x4 Kit 20w
24	Electric Room	4' Strip Fixture	1	Retrofit LBE-LO 4' 1-Lamp 6w
25	Photo Lab	A-Lamp	2	Retrofit Philips A19 Screw In
26	Conference Room	4 Inch Recessed Can	7	Retrofit 4in Downlight 7w 650/1k Lm
27	Conference Room	6 Inch Recessed Downlight	8	Retrofit 6in Downlight 7w 650/1k Lm
28	Conference Room	A-Lamp	1	Retrofit Philips A19 Screw In
29	Fire Chief	6 Inch Recessed Downlight	6	Retrofit 6in Downlight 7w 650/1k Lm
30	Fire Chief	2 x 4 Recessed Troffer	2	Retrofit 2x4 Kit 20w
31	Restroom Off	4' Strip Fixture	1	Retrofit LBE-LO 4' 1-Lamp 6w
32	Closet Off	4' Strip Fixture	1	Retrofit LBE-LO 4' 1-Lamp 6w
33	Mid Stair	6 Inch Recessed Downlight	2	Retrofit 6in Downlight 7w 650/1k Lm
34	Hall	6 Inch Recessed Downlight	10	Retrofit 6in Downlight 7w 650/1k Lm
35	Female Bunks	2 x 4 Recessed Troffer	1	Retrofit 2x4 Kit 20w
36	Restroom Off	6 Inch Recessed Downlight	1	Retrofit 6in Downlight 7w 650/1k Lm





Line	Area Location	Existing System Description	Existing Quantity	Proposed System Description
37	Restroom Off	4' Strip Fixture	1	Retrofit LBE-LO 4' 1-Lamp 6w
38	Resource Room	2 x 4 Recessed Troffer	2	Retrofit 2x4 Kit 20w
39	Mens Locker	6 Inch Recessed Downlight	4	Retrofit 6in Downlight 7w 650/1k Lm
40	Mens Locker	4' Strip Fixture	3	Retrofit LBE-LO 4' 1-Lamp 6w
41	Mens Locker	1 x 4 Recessed Troffer	1	Retrofit LBE-LO 4' 2-Lamp 12w
42	Mens Locker	2 x 4 Recessed Troffer	4	Retrofit 2x4 Kit 20w
43	Mens Bunks	2 x 4 Recessed Troffer	3	Retrofit 2x4 Kit 20w
44	Electric Room	4' Strip Fixture	1	Retrofit LBE-LO 4' 1-Lamp 6w
45	Open Area	4 Inch Recessed Can	7	Retrofit 4in Downlight 7w 650/1k Lm
46	Shift Commander	2 x 4 Recessed Troffer	2	Retrofit 2x4 Kit 20w
47	Living Room	2 x 2 Recessed Troffer	6	Retrofit 2x2 Kit 10w
48	Living Room	2' Under Counter-Cabinet	1	New 18in 8W Undercabinet Fixture
49	Vestibule	6 Inch Recessed Downlight	2	Retrofit 6in Downlight 7w 650/1k Lm
50	Dispatch	4 Inch Recessed Can	9	Retrofit 4in Downlight 7w 650/1k Lm
51	Restroom Off	4' Strip Fixture	1	Retrofit LBE-LO 4' 1-Lamp 6w
52	Pole	6 Inch Recessed Downlight	2	Retrofit 6in Downlight 7w 650/1k Lm
53	Pole	4 Inch Recessed Can	6	Retrofit 4in Downlight 7w 650/1k Lm
54	EMT Room	1 x 4 Recessed Troffer	2	Retrofit LBE-LO 4' 2-Lamp 12w





Line	Area Location	Existing System Description	Existing Quantity	Proposed System Description
55	Lockers	1 x 4 Recessed Troffer	8	Retrofit LBE-LO 4' 2-Lamp 12w
56	Garage	Suspended High Bay Fixture	20	New High Bay 90w 4k 12.5k lm
57	Garage	4' Wrap Fixture	2	Retrofit LBE-LO 4' 2-Lamp 12w
58	Boiler	4' Strip Fixture	2	Retrofit LBE-LO 4' 1-Lamp 6w
59	Air Supply	8' Strip Fixture	1	Retrofit LBE-LO 4' 2-Lamp 12w
60	Air Supply	4' Strip Fixture	1	Retrofit LBE-LO 4' 1-Lamp 6w
61	Fire Alarm	4' Strip Fixture	3	Retrofit LBE-LO 4' 1-Lamp 6w
62	Hall to Generator	8' Strip Fixture	1	Retrofit LBE-LO 4' 2-Lamp 12w
63	Storage	8' Strip Fixture	2	Retrofit LBE-LO 4' 2-Lamp 12w
64	Storage	4' Strip Fixture	1	Retrofit LBE-LO 4' 1-Lamp 6w
65	Generator	4' Strip Fixture	4	Retrofit LBE-LO 4' 1-Lamp 6w
66	Laundry	4' Strip Fixture	4	Retrofit LBE-LO 4' 1-Lamp 6w
67	Hose Storage	8' Strip Fixture	2	Retrofit LBE-LO 4' 2-Lamp 12w
68	Hose Tower	8 Inch Recessed Downlight	6	Retrofit 8in Downlight 7w 650/1k Lm
69	Exterior	6 Inch Recessed Downlight	3	Retrofit 6in Downlight 7w 650/1k Lm
70	Exterior	Wall Pack - Exterior	4	New Wallpack 30w 7900lm 4k

Lumination® LED Luminaires

LRX Series | LED Downlights

Project name	
Date	
Type	

Product Description:

The Lumination® LRX Series LED downlights are the ideal retrofit solution for traditional downlight fixtures. They install in just minutes into most 4-inch, 6-inch, 8-inch, 10-inch, and 12-inch rough-in frames and bring a fresh look to the space. Unlike plug-in LED lamps, the LRX downlight gives you a new power supply and 50,000 hour life rating, so that you won't have to worry about compatibility or maintenance issues with the original ballasts. All downlights in the LRX family utilize a non-conductive polycarbonate trim perfect for wet rated applications. The LRX can also be used for new construction applications (see Installation Guide for more information).

Input Voltage: 120 - 277V, 120V (Phase Dimming)

Standard Dimming Controls: 0-10V down to 10%, Forward Phase Dim to 10%

CCT: 3000K, 3500K, 4000K (other CCTs available, see ordering notes)

CRI: 82 (90 available, see ordering notes) **Lifetime Rating:** L85 @ 50,000 Hours **Input Frequency (Hz):** 50/60Hz

Power Factor: >0.9

Mounting Options: Spring clips clamp on to existing frame **Weight:** Up to 4.6lb (weight may vary depending on size).

IC Rating: Non-IC Rated

Limited Warranty: 5 years system

Operating Temperature: -10° C to $+40^{\circ}$ C (no EMBB) 0° C to $+25^{\circ}$ C (with EMBB)

Files Available: LM79, LM80, IES

Listings: culture

UL and cUL Listed.
Suitable for wet locations, indoor covered ceilings only







Ordering Information:

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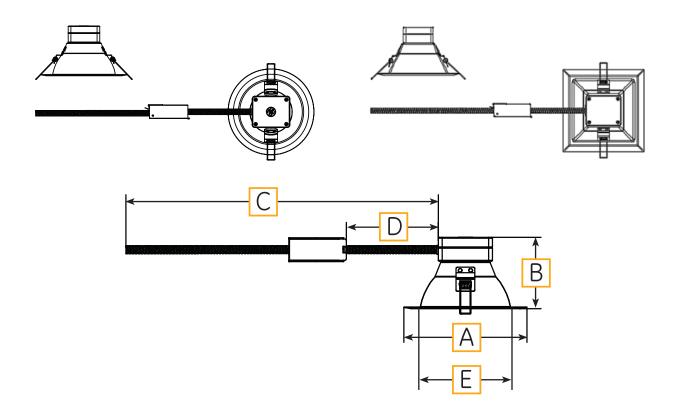
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PRODUCT FAMILY	SHAPE/SIZE	LUMENS	CRI	ССТ	DIMMING	OPTIONS	
LRX = Lumination® RX Series Downlight	R4 = 4" Round Retrofit Downlight S4 = 4" Square Retrofit Downlight	10 ¹ = 1000lm/650lm		30 = 3000K 35 = 3500K 40 = 4000K	MD = 0-10V Dimming PH ^{3,6} = 120V Forward Phase Dimmable	BLANK = None EL ⁴ = EMBB Ready	
	R6 = 6" Round Retrofit Downlight S6 = 6" Square Retrofit Downlight	10 ¹ = 1000lm/650lm 18 = 1800lm	For additional CRI and CCT options see ordering note 6.				
	R8 = 8" Round Retrofit Downlight S8 = 8" Square Retrofit Downlight	30 ⁸ = 3000lm				allow fi 2. 4000ln 3. Forwar Shapes 4. Must o	
	R10 ^{4,8} = 10" Round Retrofit Downlight	30 ⁸ = 3000lm 60 ⁸ = 4000/5000/6000lm				comple 5. The sto	
	R124,8 = 12" Round	60 ⁸ = 4000/5000/6000lm				see pa	

Additional Ordering Notes:

- 1. 1000lm/650lm models feature a selectable lumen package to allow field adjustments to light output. See page 7 for details.
- 2. 4000lm/3000lm model only available with phase dimming.
- 3. Forward Phase Dimming available in Round and Square Shapes for 4000lm or lower in 8inch or small sizes.
- 4. Must order "EL" option + LRXEMBBKIT (sold separately) for complete EMBB solution. EL not available for 10inch or 12inch.
- The standard trim is white. Colored trim options are available, see page 4 for details.
- MTO Products: 90 CRI in 6"and 8" for 27K and 3K only; Additional CCTs of 2700K and 5000K; PH Dimming Option in SQUARE shape. Check manufacturer for lead time and minimum order quantities quote.
- Attach to existing frame or install with new frame kit (ordered separately) per UL.
- 10inch and 12inch 3000lm & 4000/5000/6000lm only for MD=0-10V dimming.



Retrofit Downlight



Square Shape

4-inch:

A= 5.75" (146 mm) B= 3.74" (95 mm)

D = 6'' (152.4 mm)

E = Ceiling Cutout Min: 4" for ceiling thickness ≤ 10mm;

4.2" for ceiling thickness > 10mm

6-inch:

A=7.75" (196.8mm) B=4.5" (114.2mm)

C=24" (609.6mm)

D=6" (152.4mm)

E = Ceiling Cutout Min: 5.6"

8-inch:

A=9.75" (247.6mm)

B=5.1" (129.4mm) C=24" (609.6mm)

D=6" (152.4mm)

E = Ceiling Cutout Min: 7.6"

Round Shape

4-inch:

A = 5.6'' (142.3 mm)

B = 3.74'' (95 mm)

C = 24'' (609.6 mm)

D = 6'' (152.4 mm)

E = Ceiling Cutout Min: 4.4"

6-inch:

A = 7.75'' (196.8 mm)

B = 4.5" (114.2 mm) C = 24.0" (609.6 mm)

D = 6'' (152.4 mm)

E = Ceiling Cutout Min: 5.7"

8-inch:

A = 9.75" (247.6 mm)

B = 5.1'' (129.4 mm)

C = 24.0" (609.6 mm)

D = 6'' (152.4 mm)

E = Ceiling Cutout Min: 7.7"

10-inch:

A = 12" (305 mm) B = 5.8" (148.2 mm)

C = 24.0'' (609.6 mm)

D = 6'' (152.4 mm)

E = Ceiling Cutout Min: 9.7"

12-inch:

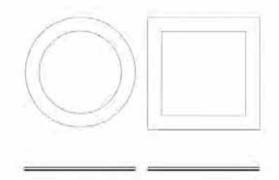
A = 14" (355 mm) B = 6.23" (158.2 mm) C = 24.0" (609.6 mm)

D = 6'' (152.4 mm)

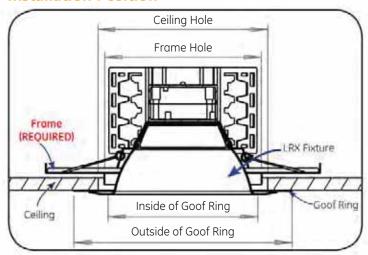
E = Ceiling Cutout Min: 11.7"

Accessories: Lumination® LRX Series - Remodel (Goof) Rings

The essential accessory for any project, the goof ring helps to cover openings in the ceiling with a trim that blends with the existing LRX trim. Goof rings are available in white only. Verify the existing opening and LRX fixture to order the correct goof ring, details shown in the table below. Always verify proper installation per the Installation Guide.



Installation Position



Note: Please check the compatibility of the goof ring and the fixture by referring to the table below.

A. For Retrofit

GOOF RING SKU	GOOF RING DESCRIPTION	GOOF RING SHAPE	SUITABLE FIXTURE	SUITABLE FRAME	FRAME HOLE	INSIDE OF GOOF RING	OUTSIDE OF GOOF RING	CEILING HOLE (MIN.)	CEILING HOLE (MAX.)
				DIMENSIONS (IN.)	SIZE (IN.)	SIZE (IN.)	SIZE (IN.)	SIZE (IN.)	SIZE (IN.)
93114516	GRRX4R6PTWT	ROUND	LRXR4XXXXXXX	12.60 X 7.64 X 3.54	4.20-4.70	4.48	7.09	5.20	6.69
93114517	GRRX4S6PTWT	SQUARE	LRXS4XXXXXXX	12.60 X 7.64 X 3.54	4.20-4.90	4.48	7.09	5.20	6.19
93114518	GRRX6R8PTWT	ROUND	LRXR6XXXXXXX	12.60 X 7.64 X 3.54	5.91-6.50	6.18	9.00	6.50	8.60
93114519	GRRX6S8PTWT	SQUARE	LRXS6XXXXXXX	13.35 X 11.34 X 3.54	5.95-7.50	6.22	8.98	7.50	8.08
93114520	GRRX8R10PTWT	ROUND	LRXR8XXXXXXX	15.55 X 11.34 X 3.54	7.68-8.27	7.87	10.50	8.27	10.10
93114521	GRRX8S10PTWT	SQUARE	LRXS8XXXXXXX	13.35 X 11.34 X 3.54	7.95-9.50	8.23	10.98	9.50	10.08
93114522	GRRX8R12PTWT	ROUND	LRXR8XXXXXXX	15.55 X 11.34 X 3.54	7.68-8.27	7.87	12.99	10.10	12.59
93114523	GRRX8S12PTWT	SQUARE	LRXS8XXXXXXX	13.35 X 11.34 X 3.54	7.95-9.50	8.23	12.99	10.58	12.09

B. For New Construction

GOOF RING SKU	GOOF RING DESCRIPTION	GOOF RING SHAPE	SUITABLE FIXTURE	SUITABLE FRAME	INSIDE OF GOOF RING	OUTSIDE OF GOOF RING	CEILING HOLE (MIN.)	CEILING HOLE (MAX.)
					SIZE (IN.)	SIZE (IN.)	SIZE (IN.)	SIZE (IN.)
93114516	GRRX4R6PTWT	ROUND	LRXR4XXXXXXX	FRAME4RXXXX	4.48	7.09	5.20	6.69
93114517	GRRX4S6PTWT	SQUARE	LRXS4XXXXXXX	FRAME4SXXXX	4.48	7.09	5.20	6.19
93114518	GRRX6R8PTWT	ROUND	LRXR6XXXXXXX	FRAME6RXXXX	6.18	9.00	6.50	8.60
93114519	GRRX6S8PTWT	SQUARE	LRXS6XXXXXXX	FRAME6SXXXX	6.22	8.98	7.50	8.08
93114520	GRRX8R10PTWT	ROUND	LRXR8XXXXXXX	FRAME8RXXXX	7.87	10.50	8.27	10.10
93114521	GRRX8S10PTWT	SQUARE	LRXS8XXXXXXX	FRAME8SXXXX	8.23	10.98	9.50	10.08
93114522	GRRX8R12PTWT	ROUND	LRXR8XXXXXXX	FRAME8RXXXX	7.87	12.99	10.10	12.59
93114523	GRRX8S12PTWT	SQUARE	LRXS8XXXXXXX	FRAME8SXXXX	8.23	12.99	10.58	12.09

Accessories: Lumination® LRX Series

PRODUCT DESCRIPTION	MATERIAL DESCRIPTION	MATERIAL	NOTES
EMERGENCY BATTERY BACKUP KIT (7W)	LRXEMBBKIT07	93043031	7 WATT EMBB QUICK CONNECT KIT (MUST HAVE FIXTURE WITH "EL" OPTION)
EMERGENCY BATTERY BACKUP KIT (10W)	LRXEMBBKIT10	93043540	10 WATT EMBB QUICK CONNECT KIT (MUST HAVE FIXTURE WITH "EL" OPTION)
4" NEW CONSTRUCTION ROUND FRAME KIT	FRAME4R	93090208	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS
6" NEW CONSTRUCTION ROUND FRAME KIT	FRAME6R	93025091	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS
8" NEW CONSTRUCTION ROUND FRAME KIT	FRAME8R	93025092	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS
10" NEW CONSTRUCTION ROUND FRAMEKIT	FRAME10R	93124880	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS
12" NEW CONSTRUCTION ROUND FRAME KIT	FRAME12R	93124881	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS
4" NEW CONSTRUCTION SQUARE FRAME KIT	FRAME4S	93090209	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS
6" NEW CONSTRUCTION SQUARE FRAME KIT	FRAME6S	93045426	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS
8" NEW CONSTRUCTION SQUARE FRAME KIT	FRAME8S	93045427	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS
347V KIT	LRX347V277	93036250	347V TRANSFORMER QUICK CONNECT KIT
DAINTREE CONTROLS ACCESSORY KIT	LCACBAVTQUNGALV	93057194	SEE LCA KIT LITERATURE & INSTALL GUIDE, DOES NOT INCLUDE SENSOR
SENSOR ACCESSORY KIT - DAINTREE ENTERPRISE	LSAATZFM6	93098473	SEE LSA KITS LITERATURE & INSTALL GUIDE
SENSOR ACCESSORY KIT - DAINTREE ONE & EZ CONNECT	LSAATT/T1FM6	93098472	SEE LSA KITS LITERATURE & INSTALL GUIDE
HANGER BAR, C-CHANNEL, 25-1/4" (Boxed Pair)	BH3	93110306	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS
UL DIRECT MOUNT KIT	LRX-EXTD-KIT-01	93120622	RECOMMENDED FOR CEILING APPLICATIONS WITHOUT EXISTING FRAME KIT (4 IN. & 6 IN. ONLY)

Accessories: Lumination® LRX Series Colored Round Trim Options:

	PRODUCT DESCRIPTION	MATERIAL DESCRIPTION	MATERIAL	LUMEN OUTPUT
0	LRXR6 ROUND 6" TRIM INSERT, BLACK	LRXR6TRIMBL	93059501	70%
0	LRXR6 ROUND 6" TRIM INSERT, SILVER	LRXR6TRIMSV	93059502	90%
0	LRXR8 ROUND 8" TRIM INSERT, BLACK (NOT AVAILABLE IN 3000LM)	LRXR8TRIMBL	93059503	70%
0	LRXR8 ROUND 8" TRIM INSERT, SILVER (NOT AVAILABLE IN 3000LM)	LRXR8TRIMSV	93059504	85%

Photometric Data: Lumination® LRX Series Downlights

Performance Summary:

0-10V Dimming

NOMINAL LUMENS			1800	3000	4000	5000	6000
Delivered Lumens-LRX*4	700	1020	N/A	N/A	N/A	N/A	N/A
Delivered Lumens-LRX*6	700	1050	1900	N/A	N/A	N/A	N/A
Delivered Lumens-LRX*8	750	1200	2000	3300	N/A	N/A	N/A
Delivered Lumens-LRXR10	N/A	N/A	N/A	3180	4600	5400	6200
Delivered Lumens-LRXR12	N/A	N/A	N/A	N/A	4650	5450	6250
System Input Power (W)	8.5	13	22	35	41	49	59.5
System Efficacy (LPW)	88	92	91	94	112	110	104

Forward Phase Dimming

NOMINAL LUMENS			1800	3000	4000
Delivered Lumens-LRXR4	620	990	N/A	N/A	N/A
Delivered Lumens-LRXR6	660	1060	1820	N/A	N/A
Delivered Lumens-LRXR8	710	1140	1960	3180	4080
System Input Power (W)	7	11	19	29	41
Sustem Efficacu (LPW)	101	103	103	109	99

^{*} LPW based off of LRXR8 delivered lumens

Delivered Lumen Multipliers

ССТ	MULTIPLIERS
4000K	1
3500K	0.98
3000K	0.94

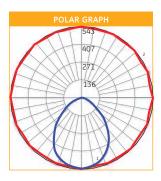
4" Round LRX (EX: LRXR410830MD)

LUMINANCE DATA (CD/SQ.M)					
Angle	0°	90°			
45°	44163	43507	44576		
55°	31383	30998	31794		
65°	19283	19142	19599		
75°	12977	12649	12986		
85°	6327	6456	8002		

ZONAL LUMEN SUMMARY						
	Lumens					
0-10	50.98					
10-20	143.53					
20-30	208.85					
30-40	226.68					
40-50	194.68					
50-60	131.45					
60-70	66.78					
70-80	29.04					
80-90	6.9					
90-100	0.04					
100-110	0.04					
110-120	0.03					
120-130	0.02					
130-140	0.02					
140-150	0.02					
150-160	0.02					
160-170	0.01					
170-180	0.00					

							COE	FFICIEN	TS OF L	ITILIZAT	ION							
RC		80	%			70	%			50%			30%			10%		0%
RW		50%	30%	10%	70%	50%	30%		50%					10%		30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59
5	81	70	62	56	79	69	62	56	67	60	55	65	59	55	63	58	54	52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44	42
8	66	54	46	41	65	53	46	40	52	45	40	51	44	40	49	44	40	38
9	62	50	42	37	61	49	42	37	48	41	37	47	41	37	46	40	36	35
10	58	46	39	34	57	46	38	34	45	38	34	44	38	33	43	37	33	32

	ZONAL LUMEN SUMMARY						
Zone		% of Lamp	% of Fixture				
0-20	194.51	N.A.	18.4				
0-30	403.36	N.A.	38.1				
0-40	630.04	N.A.	59.5				
0-60	956.17	N.A.	90.3				
0-80	1052	N.A.	99.3				
0-90	1058.9	N.A.	100				



Photometric Data: Lumination® LRX Series Downlights

6" Round LRX (EX: LRXR610830MD)

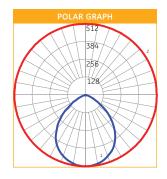
ZONAL LUMEN SUMMARY						
Zone	Lumens					
0-10°	48.26					
10-20°	135.99					
20-30°	199.14					
30-40°	221.96					
40-50°	188.12					
50-60°	118.95					
60-70°	54.04					
70-80°	25.47					
80-90°	7.78					
90-100°	0.06					
100-110°	0.02					
110-120°	0.03					
120-130°	0.03					
130-140°	0.04					
140-150°	0.05					
150-160°	0.05					
160-170°	0.03					
170-180°	0.01					

							COEFFI	CIENTS	OF UTIL	IZATIO	٧							
RC		80'	%				1%			50%			30%			10%		0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88
2	103	96	90	85	100	94	89	85	91	86	83	87	84	81	85	82	79	77
3	95	86	79	74	93	85	78	73	82	76	72	79	75	71	77	73	69	68
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60
5	82	70	63	57	80	69	62	57	67	61	56	66	60	55	64	59	55	53
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	59	53	49	47
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	48	44	43
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	39
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35
10	59	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32

NOTE: Floor Cavity Reflectance : 20%

ZONAL LUMEN SUMMARY							
		% of Fixture					
0-20°	184.25	18.40					
0-30°	383.39	38.30					
0-40°	605.34	60.50					
0-60°	912.41	91.20					
0-80°	991.92	99.20					
0-90°	999.70	100.00					

LUMINANCE DATA (CANDELA/m²)							
	0°	45°					
45°	17519	17519	17519				
55°	11682	11682	11682				
65°	6286	6286	6286				
75°	4723	4723	4723				
85°	4000	4000	4000				



8" Round LRX (EX: LRXR818830MD)

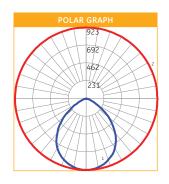
LUMEN SUMMARY
Lumens
87.00
245.00
357.94
405.72
355.72
213.19
84.35
37.58
10.61
0.07
0.14
0.29
0.44
0.54
0.55
0.48
0.31
0.10

							COEFFI	CIENTS	OF UTIL	IOITASI.	١							
RC		809	%			70	%			50%			30%			10%		0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%		10%				50%		10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	88
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79	78
3	95	87	80	74	93	85	79	74	82	77	72	80	75	71	77	73	70	68
4	88	78	71	65	86	77	70	65	75	68	64	72	67	63	70	66	62	60
5	82	71	63	57	80	70	63	57	68	61	56	66	60	56	64	59	55	53
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45	43
8	67	54	47	41	65	54	46	41	52	46	41	51	45	41	50	45	41	39
9	62	50	43	38	61	50	42	38	49	42	37	47	41	37	47	41	37	35
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32

NOTE: Floor Cavity Reflectance : 20%

701	ZONAL LUNEN CUMMARU							
20N	ZONAL LUMEN SUMMARY							
Zone		% of Fixture						
0-20°	332.00	18.40						
0-30°	689.94	38.30						
0-40°	1095.66	60.90						
0-60°	1664.57	92.50						
0-80°	1786.51	99.20						
0-90°	1797.12	99.80						

LUMINANCE DATA (CANDELA/m²)							
	0°	45°	90°				
45°	8251	8251	8251				
55°	4433	4433	4433				
65°	1645	1645	1645				
75°	827	827	827				
85°	263	263	263				







Ovation Series Retrofit Kit

Prefix: KVN24

The Ovation Series LED Retrofit system has been developed to dramatically improve existing recessed troffer performance using Solid State Lighting (SSL) technologies. The Ovation retrofit series provides an attractive, energy efficient architectural look which has been specifically designed to upgrade existing fluorescent recessed troffer style fixtures. Comfortable, low glare, uniform lighting is attributed to this style of retrofit. Typical applications for this type of product are interior spaces where finished ceilings and walls exist. Applications Include:















- ${\bf \cdot Commercial/Corporate\ Office\ Spaces}$
- Retail Spaces, Public Spaces and Airports
- Schools, Colleges and Universities
- · Hospitals, Government Facilities and Military Bases



project: fixture type: catalog #: quantity:

KVN

PREFIX/

SERIES

KVN - Ovation

Series Retrofit

Kit

24

SI7E

24 - 2x4

N

OPTICS

N - Normal

OUTPUT* **L015** - 1500 L020 - 2000 L030 - 3000 **L040** - 4000

L050 - 5000 **L060** - 6000 **L070** - 7000 L080 - 8000 L090 - 9000 L100 - 10000 **L110** - 11000 **L120** - 12000 Lxxx - Custom (Specify)

DRIVER

UNV - Universal Voltage (120v - 277v) (60 Hz)

120 - 120v **277** - 277v DRIVER

DM - 0-10v Low Voltage Dimming (10% - 100%) (Standard)

LV - Line Voltage Dimming *Specify Voltage (120v or 277v)

COLOR

C27 - 2700 K* C30 - 3000 K* **C35** - 3500 K C40 - 4000 K **C50** - 5000 K*

*Special Order Only

LENS (DIFFUSER)

AF - Frosted Linear Prism Acrylic Lens (Standard)

CS - Custom (Specify)

RETROFIT

E - Value Engineered AR - Air Return Slots

SNS200 - Wireless Sensor

Occupancy
Vacancy
Daylight Harvesting
Task Tuning
Advanced Grouping

(Philips EasySense)

SNS300 - Wireless Sensor/ Use with Networks

Lighting Control Systems Building Management

Systems (BMS)

(Philips EasySense)

EM - Emergency Battery Pack ³

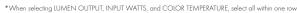
RENOVA Products Listed on the DLC Qualified Product List (QPL)

See page 4 for complete list.



DLC Application Category #14 "Integrated Retrofit Kits for 2x4 Luminaires"

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions



^{**} Color Temperature affects Input Watts. All Input Watts shown are based on 4000 K. Add approx. 1 watt to catalog number (Input Watts) for 3500 K configuration.



NOTE THE FOLLOWING: Fluorescent lamps contain small amounts of mercury. Such lamps are labeled "Contains Mercury" and / or with the symbol "Hg." Lamps that contain mercury must be disposed of in accordance with local requirements. Information regarding lamp recycling and disposal can be found at www.lamprecycle.org

PRIOR TO RETROFITTING THE EXISTING FLUORESCENT FIXTURE, PLEASE



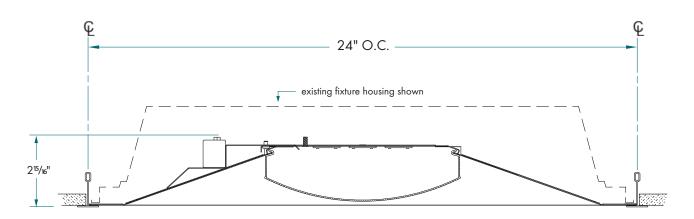
^{*}Standard "EM" option to be NiCd Battery @ 1000 Lumens @ 90 min. duration (standard). Consult factory for all available options. tt KVN24 Series Retrofit Kit has a lumen output range from 1500 through 18000 depending on driver/board configuration. Consult factory for correct catalog number on all custom configured lighting products.

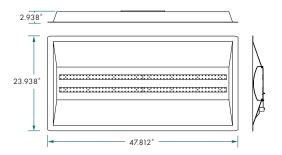
Prefix: KVN24



Ovation Series Retrofit Kit

KVN 2x4 Cross Section





CONSTRUCTION

- Precision die-formed from 22 gage cold rolled steel.
- Mechanically fastened / resistance welded.
- Consult factory for all options or any modifications needed.

FINISH

 High Reflectance Matte White polyester powder coat baked enamel for extreme durability and superior fixture efficiency. Total Reflectance = 97%.

LED's/OPTICS

- High performance LED boards manufactured specifically for interior lighting. LED boards feature the most current mid-power LEDs for maximum performance, efficiency and longevity.
- Standard color temperatures offered as standard are 3500K and 4000K. Consult factory for all other color temperature options. 80 CRI (Minimum). RoHS Compliant.
- Always consult factory for the latest developments and improvements concerning LEDs and Optics.

DRIVERS

- Electronic, constant current type. Universal voltage (120v-277v).
- O-10v dimmable. 10-100% (Standard) / 0-100% (Optional).
- Step-Dim driver is optional.
- Suitable for dry and damp locations.
- UL Recognized Class 2, RoHS Compliant.

LENS (DIFFUSER)

- Extruded from 100% clear, virgin acrylic.
- Extruded linear ribs provide clean, aesthetic architectural look.

MOUNTING

 Retrofit kit is designed to be mounted into an existing prismatic or parabolic troffer installed into a standard grid (NEMA "G") or narrow grid (NEMA "NFG") ceiling T-grids. Consult factory for all other special mounting conditions.

ELECTRICAL

- Retrofit kits are UL/CUL Class II listed and labeled.
- LM80 performance for 50,000+ hours
- Bi-Level dimming option allows 50% power for compliance with common energy codes.
- Driver disconnect provided where required to comply with US & Canadian codes.

QUALITY CONTROL

 All retrofit kits are designed, fabricated, painted, assembled, tested, packaged and shipped from RENOVA's manufacturing facility in Mansfield, MA (USA).

WARRANTY

 5-year limited warranty. Please refer to RENOVA's website at www.renova.com/sales/warranties for the latest warranty terms and conditions.

NOTES:

LED Drivers have adjustable output capability. A wide range of input watts/lumen output can be adjusted up or down on all models to suit a particular application. Always consult factory for the latest information.

Photometric data, IES files and all other information is available on request.

RENOVA products are constantly being improved; therefore the information shown is subject to change without notice. Always consult your lighting representative or RENOVA Lighting Systems. Inc. for the latest information.





Ovation Series Retrofit Kit

Prefix: KVN24



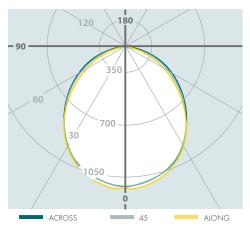
Catalog #: L-KVN24-WN-L30-UNV-30DM-W23-208-C40-AF

Photometric Test Report #: 10551935-803985

Delivered Lumens: 3075 Efficacy (Lumens/Watt): 129.7 Power: 23.68w @ 120 VAC Power Factor: 0.996 Current THD: 5.23% CRI: 82.6 CCT: 3921 K

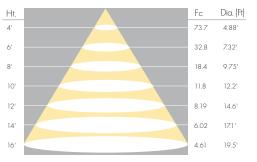
LED Life: 50,000+ hrs

Candela Distribution Polar Plot



Spacing/Mounting Height: 1.2 SC (Along): 1.2 SC (Across): 1.2

Cone of Light Tabulation



	Coefficients of Utilizations (%) Effective Floor Cavity Reflectance 20 Per (pfc=0.20)								
သ			80			70		5	0
š		70	50	30	70	50	30	50	30
	0	119	119	119	116	116	116	111	111
	1	110	105	101	107	103	100	99	96
	2	101	94	87	99	92	86	88	83
	3	93	83	75	90	81	75	79	73
	4	86	75	67	84	73	66	<i>7</i> 1	64
RCR	5	<i>7</i> 9	67	59	77	66	58	64	57
	6	<i>7</i> 3	60	52	<i>7</i> 1	59	51	58	51
	7	67	54	46	66	53	45	52	45
	8	62	49	41	61	48	41	47	40
	9	58	45	37	57	44	37	43	36
	10	54	41	33	53	40	33	39	32

Luminance Summary CD./SQ.M.

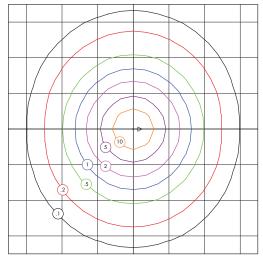
Angle	Along	45.0	Across
45	1645	1689	1 <i>7</i> 05
55	1420	1526	1583
65	1167	1383	1524
75	910	1320	1495
85	644	1092	1057

Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	904	29.39
0-40	1459	47.45
0-60	2469	80.32
0-90	3075	100.00
40-90	1616	52.55
60-90	605	19.68
90-180	0	0
0-180	3075	100.00

Horizontal Footcandles

Mounting Height = 8"-0' A.F.F. Maximum Calculated Value = 18.43 Fc



Grid Lines in Units of Mounting Height







Ovation Series Retrofit Kit

Prefix: KVN24



KVN Series LED Luminaires Listed on the DLC Qualified Products List (QPL)

RENOVA Catalog Number	Delivered Lumens	Input Watts	Lumens per Watt	DLC – QPL Classification
KVN24-N-[L015 to L070]-UNV-DM- C35-AF-SNS[2,3]00-[BLANK, EM, AR]	1500-7004	Varies by Output	14453	Premium
KVN24-N-[L015 to L070]-UNV-DM- C35-AF-SNS[2,3]00-[BLANK, EM, AR]	1500-7004	Varies by Output	142.59	Premium
KVN24-N-L030-UNV-DM-C35-AF-xx	2886	22.19	130.10	Standard
KVN24-N-L030-UNV-DM-C40-AF-xx	2966	22.19	133.67	Standard
KVN24-N-L040-UNV-DM-C35-AF-xx	3799	29.24	129.92	Standard
KVN24-N-L040-UNV-DM-C40-AF-xx	3771	29.20	129.14	Standard
KVN24-N-L050-UNV-DM-C35-AF-xx	5586	41.09	135.95	Standard
KVN24-N-L050-UNV-DM-C40-AF-xx	<i>57</i> 41	41.09	139.72	Standard
KVN24-N-L060-UNV-DM-C35-AF-xx	5808	48.49	119.78	Standard
KVN24-N-L060-UNV-DM-C40-AF-xx	5969	48.49	123.10	Standard
KVN24-N-L070-UNV-DM-C35-AF-xx	6492	55.86	116.22	Standard
KVN24-N-L070-UNV-DM-C40-AF-xx	6672	55.86	119.45	Standard
KVN24-N-L080-UNV-DM-C35-AF-xx	7391	65.38	113.05	Standard
KVN24-N-L080-UNV-DM-C40-AF-xx	<i>7</i> 596	65.38	116.19	Standard
KVN24-N-L090-UNV-DM-C35-AF-xx	8729	68.55	127.34	Standard
KVN24-N-L090-UNV-DM-C40-AF-xx	8971	68.55	130.87	Standard



-

View

Notes

Manufacturer: RENOVA Lighting Systems, Inc.

Brand: Ovation

Technical Requirements Version: 5

Date Qualified: 03/21/2017 Product ID: P2E4B7C6

Categorization

Main: Indoor Retrofit Kit

General Application: Troffer

Primary Use: Linear Retrofit Kits for 2x4 Luminaires

System Type: AC

Classification: Standard Is Parent Product: No DLC Family Code: FFFHVK

Listing Status: Listed

Reported Data i

Control Features

Version History

Family Data

Light Output: i 2966.17 lm

Wattage: i 22.19 W

Efficacy (AC): i 133.67 lm/W

Power Factor: i 0.97

CCT: i 3979 K CRI (Ra): 83.8

Total Harmonic Distortion: i 7.37 %

















BEAM ANGLE RATED

the ultimate LED retrofit kit

RemPhos' LBE (LEDBARKIT External-Drive) universal retrofit kit for linear fluorescent luminaires is the perfect retrofit solution. Delivers better long-term reliability, longer life (10yr warranty), controllability (standard 0-10V dimmable; Dim-to-Off; 12V Aux Standard) and faster paybacks (since Utility incentives are typically higher), when compared to LED tubes. Designed to easily fit into existing T5/T8/T12 linear fluorescent fixtures. Fast, one-person installation.



SIMPLE INSTALLATION

Convert existing fixtures fast with magnets on the back of the light bars that allow hands-free placement (self-drilling screws are pre-captivated on each magnetic bracket for fast & secure install). Electrical quick connects for simple, error-free power connections.

FITS BETWEEN THE SOCKETS

No need to remove existing T5/T8/T12 sockets. The LEDBAR is sized to fit in between the existing sockets, further reducing install time.

MAXIMUM VERSATILITY

Standard lengths along with multiple lamp/driver combinations (1L,2L,3L,4L) provides a fit for any application.

MANY LIGHT OUTPUT CHOICES flexion

Systems available from 6W (800LM) all the way to 80W (13,000LM). Standard 10V drivers now include FlexWatt that allows you to chose the exact lumen/wattage package needed. See ordering guide for available lumen packages.

STANDARD 10V DIMMABLE DRIVER W/ 12V AUX; DIM TO OFF

SUITABLE FOR DRY & DAMP LOCATIONS

UL 1598C CLASSIFIED RETROFIT KIT LISTED & PERFORMANCE QPL LISTED

10 YEAR WARRANTY, L70 >100,000HRS (10)

OPTIONAL "BAA" BUY AMERICA ACT

BAA compliant (ARRA Section 1605) models available, assembled in our state-of-the-art Middleton, MA facility.

CUSTOM BRACKET DESIGNS AVAILABLE

Stream line your retrofit project with custom profesional brackets to reduce install time and variation of install

CONTROLS/MOTION SENSORS (OPTIONAL)

Contact our engineering team to help choose the best sensor/control for your application.



NEW WITH THE LBE-G2

	RemPhos LBE G2	RemPhos LBE G1	Competitor
PERFOR	MANCE		
Higher output option to match T5HO	٧	X	٧
8W option to replace T8 32W FL	٧	X	X
FlexWatt driver standard	٧	X	X
Dim-to-off driver standard	٧	X	x
2-switch step-dim driver option	٧	X	X
1-switch step-dim driver option	✓	X	٧
Compatibility with low cost 12V DC controls	٧	X	X
Optional FlexColor adjustable CCT light bars	٧	X	X
DLC Premium at 130-150LPW	✓	٧	٧
Low cost emergency battery backup	٧	X	٧
CONSTR	UCTION		
Metal case LED driver	٧	X	X (plastic)
Aluminum heatsink for thermal dissipation of LEDs	٧	٧	X (plastic)
Removable, adjustable metal magnetic brackets	√	X	X (plastic)
Pre-captured self-drilling screws on brackets	٧	X	X
Various "custom-shop" brackets available	٧	X	X
RELIAE	BILITY		
10-year warranty	٧	٧	٧
100,000hr L70 LED lifetime	٧	٧	X (70,000hr)
OTH	IER		
BAA Assembly option	√ (Middleton, MA)	√ (Middleton, MA)	X (TAA)
Local USA factory support for changes to schedule	٧	٧	X

HIGHER OUTPUT TO MATCH T5HO

Previous generation could only be powered up to 20W for the 4ft bar. G2 can be powered at up to 25W for the 4ft bar to match the foot candles of a T5HO FL lamp. All light bars are over 150LPW, with AC wall efficiencies including the driver from 130-145LPW.

SINGLE CCT AVAILABLE

4FT: 25W Max, 3FT: 12W Max, 2FT: 12W Max, 1FT: 8W Max



now significantly more wattage choices to allow you to select exactly what lumen/wattage package is needed to maximize energy savings.

OPTIONAL FLEXCOLOR PLEXCOLOR

Select between three color temperatures using a slide switch. 4FT: 20W Max

DIM-TO-OFF SENSOR READY DRIVERS STANDARD

12V auxiliary power and 10V dimming wires are standard in every kit. Allows for easy interface with dimming switches and control systems.

VARIOUS CONTINUOUS AND STEP-DIM DRIVER OPTIONS.

We want to help you choose the lowest cost, easiest to implement method to dim our retrofit kits. While low voltage 10V dimming is a great approach, often it requires running new wiring. Therefore, we have line voltage phase dimming driver options, 2-switch stepdim driver options (to work with existing inbound/outbound wall switches), and 1-switch step-dim driver options (using 1 existing wall switch change brightness between pre-selected levels of 50%/100% for example).

LESS WATTS TO REPLACE YOUR FLUORESCENT LAMPS

Previously G1 was 10W to replace 32W T8 FL, now with G2 10W or even 8W can be used for deeper energy savings. ordering guide for available systems.

METAL, LINEAR BALLAST SHAPED LED DRIVERS

Previous G1 were plastic cases. New G2 are rigid metal cases, rugged and easy to mount. Thinner height to fit into even the most compact existing ballast compartments..

REMOVABLE, ADJUSTABLE METAL MAGNETIC MOUNTING BRACKETS

Previous G1 had plastic end caps which accepted self-drilling screws and fixed magnets. G2 has an innovative bracket that can be slid anywhere on the bar, so that the screws can be mounted in various places depending on what is fastest/easiest for the install.

LOWER COST EMERGENCY BATTERY BACKUP

VARIOUS BRACKETS AVAILABLE FROM OUR "CUSTOM-SHOP"

Have a direct/indirect pendant hungfixture and want a fast way to mount bars pointing up and down? No problem, we have asolution. Have a wide-body vapor tight where you want 6 bars mounted together along with amotion sensor on a single pan? No problem, we have a solution. Let our engineers help design abracket/mounting system that makes installation faster and easier for you.



DIMMING OPTIONS

10V – Standard driver is controlled with 0-10V wall dimmer or 0-10V advanced control system. (Standard driver has Aux power [12V – 50mA]; Dim-to-Off)

LVD – 120-277V TRIAC / AC Phase cut dimming (Driver) – Traditional AC modulated dimming. Compatible with forward or reverse phase cut dimming. CFL/LED compatible dimmer required.

1STEP – Single Switch Step-Dimming (Module to be used with LBE 10V kits) Quick flip [ON-OFF-ON] to toggle between step dimming. [30% - 60% - 100%]

2STEP – Double Switch Step-Dimming (Driver) Use 2 switches to control dimming steps in logical way. Designed to retrofit fluorescent in-board / out-board set-up. [30% - 60% - 100%]

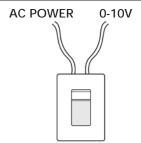
DIMMING EXPANDED

10V (STANDARD DRIVER)

0-10V DIM (Dim-to-off) (Aux 12V; mA)

(0-10V use with wall dimmer or 0-10V

Advanced Control)



LVD (OPTIONAL DRIVER)

120-277V TRIAC (PHASE CUT)
(CFL/LED Compatible dimmer required)



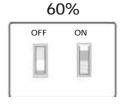
1STEP (OPTIONAL CONTROL MODULE)

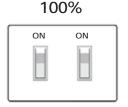
SINGLE SWITCH STEP DIM MODULE (Use w/ standard LBE crontol ready driver) Quick flip [ON-OFF-ON] to toggle between step dimming. [30% - 60% - 100%]



2STEP -(OPTIONAL DRIVER) 2 SWITCH (Fluorescent in-board / outboard retrofit)









OPTIONAL MOUNTING BRACKETS - ORDERED SEPARATELY

Used when mounting to an uneven fixture surface or to match heights to driver channel when de-lamping

SHORT BRIDGE



RP-LBE-G1-SHORTBRIDGE-10P



RP-LBE-G1-TALLBRIDGE-10P

SHORT BRIDGE

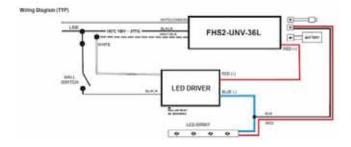


TALL BRIDGE

OPTIONAL EMERGENCY BACKUP

A simple, effective solution when battery backup functionality is required. 500 lumen, 90-minute standard; specify EMG suffix in part number.
Contact us for other backup times and lumen packages.





KEY PRODUCT INFORMATION

- SIMPLE INSTALLATION
- FITS BETWEEN THE SOCKETS
- MAXIMUM VERSATILITY
- MANY LIGHT OUTPUT CHOICES
- CONTOL READY 10V DIMMABLE DRIVER
- SUITABLE FOR DRY & DAMP LOCATIONS
- UL 1598C CLASSIFIED RETROFIT KIT LISTED & PERFORMANCE QPL LISTED
- 10 YEAR WARRANTY, L70 > 100,000HRS
- OPTIONAL "BAA" BUY AMERICA ACT
- CUSTOM RETROFIT SOLUTIONS AVAILABLE
- OPTIONAL MOTION SENSOR/CONTROL READY









HOW TO EASILY ADD OCCUPANCY SENSING AND DAYLIGHT CONTROL TO YOUR FIXTURE

Choose one of the control options below which best fits your needs. Any of these options can be easily installed under the existing glass or plastic fixture lens. These controls will allow the LED Barkit to adjust it's light level depending on occupancy or daylight levels, acheiving greater energy savings.

PART #	DETAILS
HNS 111	Remote mounted antenna can be screwed to outside of ballast cover. Can be mounted behind glass or plastic lens. Adjusts for occupancy and daylight. Optional remote control to adjust settings.

ADVANCED WIRELESS CONTROL



we partner with magnum, whon, Philips, Luzon and other intelligent wireless lighting control systems. Allows for occupancy sensing, daylight harvesting, grouping, scheduling, high-end trim and more. Adjust settings via iPhone/Android apps. Contact us for

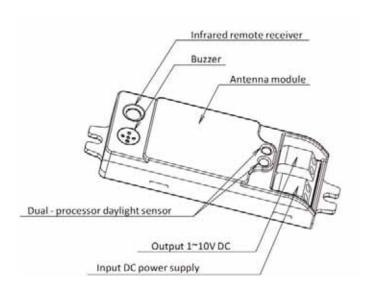
CONTACT US FOR ORDERING CODES

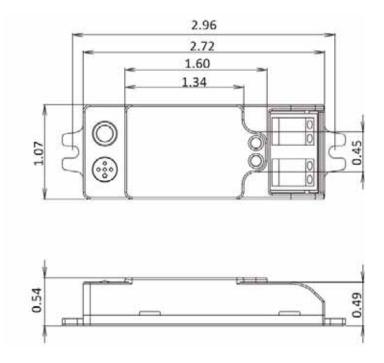
*If satisfied with LBE default settings, remote control is not needed. If settings need to be changed, optional remote control (IR12), is required.



SENSOR OPTIONS: OCC / OCCLR

- -OCC Standard high/low motion sensor -Remote IR12
- -OCCLR Limited range high/low motion sensor -Remote IR12



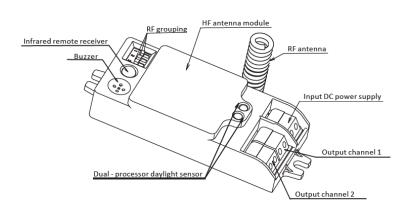


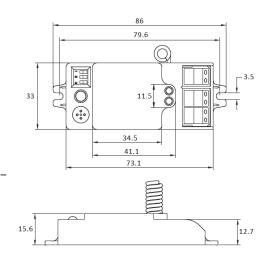
- occupancy sensor w/ daylight hold-off
- •powered by 12V DC LED driver from fixture provided by the LED power supply
- high frequency radar occupancy sensor
- infared remote control available (sold separately)
- •uses less than 0.1W in standby mode



SENSOR OPTIONS: OCCRF (SIMPLE GROUPING SENSOR)

-OCCRF Simple grouping high/low motion sensor -Remote IR13





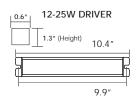
- •simple grouping motion sensor w/ daylight hold-off
- •powered by 12V DC provided by the LED power supply
- •max 150 ft grouping range
- •ideal for stairways, parking garages and hallways
- •grouping by remote or dip switch (infared remote control sold separately)
- •uses less than 0.1W in standby mode



LED BAR DIMENSIONS

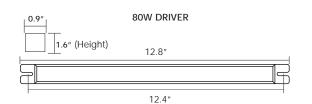
O.9" 1FT = 10.2" 2FT = 21.65" 3FT = 34.25" 4FT = 44.37"

SPECIFICATION GUIDE OUTPUT MODEL RP-LBE-G2-DRV-12W RP-LBE-G2-DRV-12W-HV RP-LBE-G2-DRV-25W RP-LBE-G2-DRV-25W-HV RP-LBE-G2-DRV-45W RP-LBE-G2-DRV-45W-HV RP-LBE-G2-DRV-80W RP-LBE-G2-DRV-80W-HV LED OUTPUT CHANNEL(S) Single Channel LED OUTPUT CURRENT - SELECTABLE (MA) 100/150/190/230 100/150/190/230 290/350/390/490 290/350/390/490 580/680/780/880 580/680/780/880 1000/1160/1370/1570 1000/1160/1370/1570 30-48V 30-48V LED DC VOLTAGE RANGE 30-48V 30-48V 30-48V 30-48V 30-48V 30-48V RATED POWER (MAX) 12W 12W 25W 25W 45W 45W 80W 80W AUX VOLTAGE SOURCE 12V/50mA 12V/50mA 12V/50mA 12V/50mA 12V/50mA 12V/50mA 12V/50mA 12V/50mA **INPUT** 120-277VAC 120-347VAC 120-277VAC 120-347VAC 120-277VAC 120-347VAC 120-277VAC 120-347VAC **VOLTAGE RANGE** FREQUENCY RANGE 50~60HZ POWER FACTOR (TYP) >0.9 >0.9 >0.9 >0.9 >0.9 >0.9 >0.9 >0.9 0.70 @ 120V AC CURRENT (MAX) 0.15A @ 120V 0 15Δ @ 120V 0 22 @ 120V 0.22 @ 120V 0 38 @ 120V 0.38 @ 120V 0 70 @ 120V LEAKAGE CURRENT <0.75mA <0.75mA <0.75mA <0.75mA <0.75mA <0.75mA <0.75mA <0.75mA INRUSH CURRENT 50A @ 277V THD < 0.20 <0.20 <0.20 < 0.20 <0.20 <0.20 <0.20 < 0.20 **PROTECTION** OVER CURRENT 105~125% Protection type: Shut down output voltage LED SHORT CIRCUIT A short condition on any of output shall cause no damage to the power supply. The unit shall recover and function automatically as soon as the short condition is removed. LED OPEN CIRCUIT An open condition on any of output shall cause no damage to the power supply. The unit shall recover and function automatically as soon as the open condition is removed. OVER VOLTAGE 105~125% Protection type: Shut down output voltage SAFTEY LIL 8750 CLASS 2 CLASS P **ENVIRONMENT** WORKING TEMP -20C to 50C WORKING HUMIDITY < 90% RH STORAGE TEMP -20C to 80C STORAGE HUMIDITY < 90% RH TEMP COEFFICIENT 0.03%/°C (0~40°C)





10~500Hz, 2G 12Min / 1cycle, period for 72min each along X, Y, Z axes





VIBRATION



ORDERING DIRECTIONS (SEE ORDERING GUIDE ON NEXT PAGE)

- A) Choose your desired total system wattage and lumen output.
- B) Choose your desired LEDBAR length (1,2, 3 or 4FT) and QTY of LED-BAR(s) per driver from column C.
- D) Order system part # (a system will include 1pc LED driver + LEDBAR(s). Substitute "XX" in the 8XX for your desired CCT. 35 (3500K), 40 (4000K) and 50 (5000K) are standard color temps. 27 (2700K), 30 (3000K), 65 (6500K) are custom colors and are special order.
- E) The wattage of each LEDBAR in the system.
- F) The lumen output of each LEDBAR in the system.

If the system you want is not currently a listed part #, please contact us for a letter to send to your Utility for custom incentive approval.

CAUTION! MAX WATTAGES PER LEDBAR

1FT: 7.5W 2FT: 12.5W 3FT: 12.5W 4FT: 25W



If you require BAA (ARRA Section 1605) add -BAA at end of part number.

For BAA projects, please contact our projects quotations team.

STANDARD COLOR TEMPS AVAILABLE

300K, 3500K, 4000K, 5000K

SPECIAL ORDER COLOR TEMPS AVAILABLE

2700K, 3000K, 6500K, RED, GREEN, BLUE, AMBER

ORDERING EXAMPLE

A 20W/2700LM system is desired utilizing 2pcs of 2FT LEDBAR in 4000K running off 1pc of driver. For this system you would order:

SYSTEM: RP-LBE-G2-20W-2FT-2L-8XX-10V (All kits include driver)

TOTAL SYSTEM WATTAGE: 20W

TOTAL SYSTEM LUMEN OUTPUT: **2700LM** LENGTH OF LED BAR: **2FT** (actual 21.65in)

OF LED BARS: 2pcs

WATTAGE PER LED BAR: 10W LUMENS PER LED BAR: 1350LM

PERFORMANCE LISTED KIT PART #:RP-LBE-G2-20W-2FT-2L-8XX-10V

PERFORMANCE QPL PRODUCT CODE: XXXXXX

PART NUMBER BUILDER

MFR	PRODUCT	GENERATION	WATTAGE	LENGTH	# OF LAMPS	COLOR	DIMMING	OPTIONS
RP	LBE	G2	W		L	8XX		
			MSI 10 12 15 MS 18 20	1FT 2FT 3FT 4FT	1L 2L 3L 4L	8 = 80+ CRI XX = CCT 30 = 3000K 35 = 3500K 40 = 4000K 50 = 5000K	10V LVD 1 Step 2 Step	EMG HV (120-347V) BAA OCC OCCLR (Limited Range) HNS111
			25 30 35 40					Light Efficient Des

50 60

70

80

LIGHT EFFICIENT DESIGN HEADQUARTERS 188 S. Northwest Highway • Cary, IL 60013
INNOVATION & MANUFACTURING CENTER 30 Log Bridge Road, Building 200 • Middleton, MA 01949
847.380.3540 • led-llc.com
12.07.20 Information is subject to change without notice.

	DADT //	DADO DEC DONIES	DADIENCE	TOTAL LUNATION	DEDECORMANIOS CATECORY	DEDECE: *****
	PART #	BARS PER DRIVER	BAR LENGTH	TOTAL LUMENS*	PERFORMANCE CATEGORY	PERFORMANCE CODE
	RP-LBE-G2-6W-1FT-1L-8XX-10V	1	1FT	930		
	RP-LBE-G2-6W-1FT-2L-8XX-10V	2	1FT	900		
3	RP-LBE-G2-6W-2FT-1L-8XX-10V	1	2FT	936		
	RP-LBE-G2-6W-3FT-1L-8XX-10V	1	3FT	894		
	RP-LBE-G2-6W-4FT-1L-8XX-10V	1	4FT	756		
	RP-LBE-G2-8W-1FT-1L-8XX-10V	1	1FT	1240		
	RP-LBE-G2-8W-1FT-2L-8XX-10V	2	1FT	1190		
3	RP-LBE-G2-8W-2FT-1L-8XX-10V	1	2FT	1288		
	RP-LBE-G2-8W-3FT-1L-8XX-10V	1	3FT	1264		
	RP-LBE-G2-8W-4FT-1L-8XX-10V	1	4FT	1232		
	DD LDE 00 40W 45T0L 0W 40W		457	4550		
	RP-LBE-G2-10W-1FT-2L-8XX-10V	2	1FT	1550		
	RP-LBE-G2-10W-1FT-3L-8XX-10V	3	1FT	1488		
2	RP-LBE-G2-10W-2FT-1L-8XX-10V	1	2FT	1640		
٠.	RP-LBE-G2-10W-2FT-2L-8XX-10V	2	2FT	1440		
	RP-LBE-G2-10W-3FT-1L-8XX-10V	1	3FT	1640		
	RP-LBE-G2-10W-4FT-1L-8XX-10V	1	4FT	1630		
	RP-LBE-G2-12W-1FT-2L-8XX-10V	2	1FT	1860		
	RP-LBE-G2-12W-1FT-3L-8XX-10V	3	1FT	1786		
	RP-LBE-G2-12W-2FT-1L-8XX-10V	1	2FT	1968		
	RP-LBE-G2-12W-2FT-2L-8XX-10V	2	2FT	1728	Troffer	Pending
7	RP-LBE-G2-12W-2FT-3L-8XX-10V	3	2FT	1728	Troffer	Pending
	RP-LBE-G2-12W-3FT-1L-8XX-10V	1	3FT	1992		Ü
	RP-LBE-G2-12W-3FT-2L-8XX-10V	2	3FT	1788	Troffer	Pending
	RP-LBE-G2-12W-4FT-1L-8XX-10V	1	4FT	1956		3
	RP-LBE-G2-12W-4FT-2L-8XX-10V	2	4FT	1848	Troffer	Pending
	RP-LBE-G2-15W-1FT-2L-8XX-10V	2	1FT	2325		
	RP-LBE-G2-15W-1FT-3L-8XX-10V	3	1FT	2232		
	RP-LBE-G2-15W-2FT-2L-8XX-10V	2	2FT	2340		
>	RP-LBE-G2-15W-2FT-3L-8XX-10V	3	2FT	2160	Troffer	Pending
200	RP-LBE-G2-15W-3FT-1L-8XX-10V	1	3FT	2505		
	RP-LBE-G2-15W-3FT-2L-8XX-10V	2	3FT	2370		
	RP-LBE-G2-15W-3FT-3L-8XX-10V	3	3FT	2235	Troffer	Pending
	RP-LBE-G2-15W-4FT-1L-8XX-10V	1	4FT	2505		
	RP-LBE-G2-15W-4FT-2L-8XX-10V	2	4FT	2310		
	RP-LBE-G2-18W-1FT-3L-8XX-10V	3	1FT	2790		
	RP-LBE-G2-18W-1FT-4L-8XX-10V	4	1FT	2678		
	RP-LBE-G2-18W-2FT-2L-8XX-10V	2	2FT	2898		
	RP-LBE-G2-18W-2FT-3L-8XX-10V	3	2FT	2592	Troffer	Pending
	RP-LBE-G2-18W-2FT-4L-8XX-10V	4	2FT	2592	Troffer	Pending
8	RP-LBE-G2-18W-3FT-2L-8XX-10V	2	3FT	2844	nonei	, and the second
=	RP-LBE-G2-18W-3FT-3L-8XX-10V	3	3FT	2682	Troffer	Pending
	RP-LBE-G2-18W-3FT-4L-8XX-10V	4	3FT	2682	Troffer	Pending
		1	4FT	3024	lioliei	ranang
	RP-I RE-G2-18\M-4FT-11-8XX-10\/					
	RP-LBE-G2-18W-4FT-1L-8XX-10V RP-LBE-G2-18W-4FT-2L-8XX-10V	2	4FT	2934		

^{*}Bar lumens shown



	ORDERING GUIDE					
	PART #	BARS PER DRIVER	BAR LENGTH	TOTAL LUMENS*	PERFORMANCE CATEGORY	PERFORMANCE CODE
	RP-LBE-G2-20W-1FT-3L-8XX-10V	3	1FT	3100		
	RP-LBE-G2-20W-1FT-4L-8XX-10V	4	1FT	2976		
	RP-LBE-G2-20W-2FT-2L-8XX-10V	2	2FT	3220		
	RP-LBE-G2-20W-2FT-3L-8XX-10V	3	2FT	2880	Troffer	Pending
	RP-LBE-G2-20W-2FT-4L-8XX-10V	4	2FT	2880	Troffer	Pending
20W	RP-LBE-G2-20W-3FT-2L-8XX-10V	2	3FT	3280		
	RP-LBE-G2-20W-3FT-3L-8XX-10V	3	3FT	3160	Troffer	Pending
	RP-LBE-G2-20W-3FT-4L-8XX-10V	4	3FT	3160	Troffer	Pending
	RP-LBE-G2-20W-4FT-1L-8XX-10V	1	4FT	3360		
	RP-LBE-G2-20W-4FT-2L-8XX-10V	2	4FT	3260		
	RP-LBE-G2-20W-4FT-3L-8XX-10V	3	4FT	3080	Troffer	Pending
	RP-LBE-G2-25W-1FT-4L-8XX-10V	4	1FT	3875		
	RP-LBE-G2-25W-2FT-3L-8XX-10V	3	2FT	4025	Troffer	Pending
	RP-LBE-G2-25W-2FT-4L-8XX-10V	4	2FT	3900	Troffer	Pending
>	RP-LBE-G2-25W-3FT-3L-8XX-10V	3	3FT	4100	Troffer	Pending
25W	RP-LBE-G2-25W-3FT-4L-8XX-10V	4	3FT	3950	Troffer	Pending
	RP-LBE-G2-25W-4FT-1L-8XX-10V	1	4FT	4175		
	RP-LBE-G2-25W-4FT-2L-8XX-10V	2	4FT	4175		
	RP-LBE-G2-25W-4FT-3L-8XX-10V	3	4FT	3850	Troffer	Pending
	RP-LBE-G2-25W-4FT-4L-8XX-10V	4	4FT	3850	Troffer	Pending
	RP-LBE-G2-30W-2FT-3L-8XX-10V	3	2FT	4920	Troffer	Pending
	RP-LBE-G2-30W-2FT-4L-8XX-10V	4	2FT	4830	Troffer	Pending
	RP-LBE-G2-30W-3FT-3L-8XX-10V	3	3FT	4980	Troffer	Pending
30W	RP-LBE-G2-30W-3FT-4L-8XX-10V	4	3FT	4740	Troffer	Pending
m	RP-LBE-G2-30W-4FT-2L-8XX-10V	2	4FT	5040		ŭ
	RP-LBE-G2-30W-4FT-3L-8XX-10V	3	4FT	4890		
	RP-LBE-G2-30W-4FT-4L-8XX-10V	4	4FT	4620		
	RP-LBE-G2-35W-2FT-3L-8XX-10V	3	2FT	5740	Troffer	Danding
	RP-LBE-G2-35W-2FT-4L-8XX-10V	4	2FT	5635	Troffer	Pending
	RP-LBE-G2-35W-3FT-3L-8XX-10V	3	3FT	5810	Troffer	Pending
35W	RP-LBE-G2-35W-3FT-4L-8XX-10V	4	3FT	5740	Troffer	Pending Pending
35	RP-LBE-G2-35W-4FT-2L-8XX-10V	2	4FT	5880		rending
	RP-LBE-G2-35W-4FT-3L-8XX-10V	3	4FT	5705		
	RP-LBE-G2-35W-4FT-4L-8XX-10V	4	4FT	5390		
	RP-LBE-G2-40W-2FT-4L-8XX-10V	4	2FT	6560	Troffer	Pending
>	RP-LBE-G2-40W-3FT-4L-8XX-10V	4	3FT	6560	Troffer	Pending
40W	RP-LBE-G2-40W-4FT-2L-8XX-10V	2	4FT	6680		
	RP-LBE-G2-40W-4FT-3L-8XX-10V	3	4FT	6680		
	RP-LBE-G2-40W-4FT-4L-8XX-10V	4	4FT	6520		

^{*}Bar lumens shown



	ORDERING GUIDE					
	PART #	BARS PER DRIVER	BAR LENGTH	TOTAL LUMENS*	PERFORMANCE CATEGORY	PERFORMANCE CODE
	RP-LBE-G2-45W-2FT-4L-8XX-10V	4	2FT	7380	Troffer	Pending
_	RP-LBE-G2-45W-3FT-4L-8XX-10V	4	3FT	7470	Troffer	Pending
45W	RP-LBE-G2-45W-4FT-2L-8XX-10V	2	4FT	7425		
,	RP-LBE-G2-45W-4FT-3L-8XX-10V	3	4FT	7515		
	RP-LBE-G2-45W-4FT-4L-8XX-10V	4	4FT	7335		
>	RP-LBE-G2-50W-4FT-2L-8XX-10V	2	4FT	8200		
50W	RP-LBE-G2-50W-4FT-3L-8XX-10V	3	4FT	8400		
_,	RP-LBE-G2-50W-4FT-4L-8XX-10V	4	4FT	8400		
ow	RP-LBE-G2-60W-4FT-3L-8XX-10V	3	4FT	10,080		
OVV	RP-LBE-G2-60W-4FT-4L-8XX-10V	4	4FT	10,080		
ow	RP-LBE-G2-70W-4FT-3L-8XX-10V	3	4FT	11,690		
OVV	RP-LBE-G2-70W-4FT-4L-8XX-10V	4	4FT	11,760		
ow	RP-LBE-G2-80W-4FT-4L-8XX-10V	4	4FT	13,360		

^{*}Bar lumens shown

WHY USE THE LBE?

- More efficient because the higher efficiency optics, LEDs and drivers we use in these products provide higher lumens per watt and less wattage compared to LED tubes.
- More reliable because of the significant amount of aluminum that we use as a heat sink on the back of the LEDBAR to properly dissipate heat and keep the electronics cooler than LED tubes.
- More universal fit because our bars are designed to fit in between the sockets of either T5 or T8 fixtures. That
 means that you can specify a "4ft" LEDBAR for ANY T5 or T8 style fixture whether it be a troffer, a vapor tight, a
 pendant, a strip etc.
- Less liability because you will be getting rid of the old fluorescent tube sockets that often can lead to future
 issues such as arcing, early failure or even fire, all issues that have occurred in LED tube installations.
- Better piece of mind because the LEDBARKIT family comes standard with a 10-year system warranty. For
 example, something goes wrong with a UL Type A LED tube install, the contractor ends up arguing with the LED
 tube manufacturer, the ballast manufacturer and the socket manufacturer to see who is at blame. By
 purchasing the LEDBARKIT system, RemPhos/Light Efficient Design provides a single, easy point of contact for
 the system warranty.



View

Notes

Manufacturer: Light Efficient Design

Brand: REMPHOS OR LIGHT EFFICIENT DESIGN

Technical Requirements Version: 5

Date Qualified: 01/11/2021 Product ID: PX817GIG

Categorization

Main: Indoor Retrofit Kit

General Application: Linear Ambient

Primary Use: Retrofit Kits for Direct Linear Ambient Luminaires

System Type: AC

Classification: Premium
Is Parent Product: No

DLC Family Code: BBBFQC

Listing Status: Listed

Reported Data i

Control Features

Version History

Family Data

Light Output: i 1812.5 lm

Default Light Output: i 919.1 lm

Minimum Reported Light Output: 915 Im Maximum Reported Light Output: 1824.1 Im

Wattage: i 11.5 W

Default Wattage: i 5.7 W Voltage Range: i 100 - 277 V Efficacy (AC): i 157.5 lm/W Power Factor: i 0.941

CCT: i 4000 K CRI (Ra): 82.7

Total Harmonic Distortion: i 11.8 %

View

Notes

Manufacturer: Light Efficient Design

Brand: REMPHOS OR LIGHT EFFICIENT DESIGN

Technical Requirements Version: 5

Date Qualified: 01/11/2021 Product ID: PP924MAB

Categorization

Main: Indoor Retrofit Kit

General Application: Linear Ambient

Primary Use: Retrofit Kits for Direct Linear Ambient Luminaires

System Type: AC

Classification: Premium Is Parent Product: No

DLC Family Code: BBBFQC

Listing Status: Listed

Reported Data i

Control Features

Version History

Family Data

Light Output: i 1860 lm

Default Light Output: i 934 lm

Minimum Reported Light Output: 930 Im
Maximum Reported Light Output: 1872.8 Im

Wattage: i 11.5 W

Default Wattage: i 5.7 W Voltage Range: i 100 - 277 V Efficacy (AC): i 161.7 lm/W Power Factor: i 0.941

CCT: i 4000 K CRI (Ra): 82.7

Total Harmonic Distortion: i 11.9 %

View

Notes

Manufacturer: Light Efficient Design

Brand: REMPHOS OR LIGHT EFFICIENT DESIGN

Technical Requirements Version: 5

Date Qualified: 01/11/2021 Product ID: P5QXPXX0

Categorization

Main: Indoor Retrofit Kit

General Application: Linear Ambient

Primary Use: Retrofit Kits for Direct Linear Ambient Luminaires

System Type: AC

Classification: Premium Is Parent Product: No

DLC Family Code: BBBFQC

Listing Status: Listed

Reported Data i

Control Features

Version History

Family Data

Light Output: i 1861.7 lm

Default Light Output: i 933.3 lm

Minimum Reported Light Output: 929.7 lm Maximum Reported Light Output: 1877.3 lm

Wattage: i 11.4 W

Default Wattage: i 5.6 W Voltage Range: i 100 - 277 V Efficacy (AC): i 162.5 lm/W Power Factor: i 0.941

CCT: i 4000 K CRI (Ra): 83

Total Harmonic Distortion: i 12 %

TYPE C T5/T8 0-10V RETROFIT FOR LINEAR FLUORESCENT LUMINAIRES



















SENSOR READY

VOLTAGE

PWR FACTOR/THD

RATED LIFE

retrofit

RemPhos' Type C T5/T8 0-10V universal retrofit kit for linear fluorescent luminaires is a simple, efficient retrofit solution. Delivers long-term reliability, long life, controllability (standard 0-10V dimmable; Dim-to-Off; 12V Aux Standard) and significant energy savings when compared to fluorescent tubes. Designed to easily retrofit existing T5/T8/T12 linear fluorescent fixtures. Fast, one-person installation.



SIMPLE INSTALLATION

Replace ballast with driver and replace lamps.

MAXIMUM VERSATILITY

Standard lengths along with multiple lamp/driver combinations (1L,2L,3L,4L) provides a fit for any application.

MANY LIGHT OUTPUT CHOICES

Systems available in 6W (800LM) all the way to 80W (11,000LM). See ordering guide for available systems.

STANDARD 10V DIMMABLE DRIVER W/ 12V AUX; DIM TO OFF

VARIOUS CONTINUOUS AND STEP-DIM DRIVER OPTIONS.

We want to help you choose the lowest cost, easiest to implement method to dim our retrofit kits. While low voltage 10V dimming is a great approach, often it requires running new wiring. Therefore, we have line voltage phase dimming driver options, 2-switch stepdim driver options (to work with existing inbound/outbound wall switches), and 1-switch step-dim driver options (using 1 existing wall switch change brightness between pre-selected levels of 50%/100% for example).

METAL, LINEAR BALLAST-SHAPED LED DRIVERS

Rigid metal cases are rugged and easy to mount. Thin height allows a perfect fit into even the most compact existing ballast compartments.

LOWER COST EMERGENCY BATTERY BACKUP

SUITABLE FOR DRY & DAMP LOCATIONS

UL 1598C CLASSIFIED RETROFIT KIT LISTED & PERFORMANCE QPL LISTED

5 YEAR WARRANTY, L70 >50,000HRS

OPTIONAL "BAA" BUY AMERICA ACT



Compliant models available, assembled in our state-of-the-art Middleton, MA assembly center.

CONTROLS/MOTION SENSORS (OPTIONAL)

Contact our engineering team to help choose the best sensor/ control for your application.

T8HO OUTPUT TO MATCH T5HO

Need more light? Try our T8HO 4-foot configurations and skip the switchover to T5HO sockets

FLEXWATT STANDARD

Each driver has 4 adjustable wattage choices. With FlexWatt, there are now significantly more wattage choices to allow you to select exactly what lumen/wattage package is needed to maximize energy savings.

DIM-TO-OFF DRIVERS STANDARD

12V auxiliary power and 10V dimming wires are standard in every kit. Allows for easy interface with dimming switches and control systems.



DIMMING OPTIONS

10V – Standard driver is controlled with 0-10V wall dimmer or 0-10V advanced control system. (Standard driver has Aux power [12V – 50mA]; Dim-to-Off)

LVD – 120-277V TRIAC / AC Phase cut dimming (Driver) – Traditional AC modulated dimming. Compatible with forward or reverse phase cut dimming. CFL/LED compatible dimmer required.

1STEP – Single Switch Step-Dimming (Module to be used with LBE 10V kits) Quick flip [ON-OFF-ON] to toggle between step dimming. [30% - 60% - 100%]

2STEP – Double Switch Step-Dimming (Driver) Use 2 switches to control dimming steps in logical way. Designed to retrofit fluorescent in-board / out-board set-up. [30% - 60% - 100%]

DIMMING OPTIONS

10V (STANDARD DRIVER)

0-10V DIM (Dim-to-off) (Aux 12V; mA)

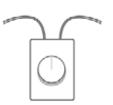
(0-10V use with wall dimmer or 0-10V

Advanced Control)



120-277V TRIAC (PHASE CUT)

(CFL/LED Compatible dimmer required)



0-10V

AC POWER



1STEP (OPTIONAL CONTROL MODULE)

SINGLE SWITCH STEP DIM MODULE (Use w/ standard LBE crontol ready driver) Quick flip [ON-OFF-ON] to toggle between

step dimming. [30% - 60% - 100%]

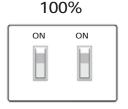


2STEP -(OPTIONAL DRIVER) 2 SWITCH (Fluorescent in-board / outboard retrofit)



60%

OFF ON





HOW TO EASILY ADD OCCUPANCY SENSING AND DAYLIGHT CONTROL TO YOUR FIXTURE

Choose one of the control options below which best fits your needs. Any of these options can be easily installed under the existing glass or plastic fixture lens. These controls will allow the LED Barkit to adjust it's light level depending on occupancy or daylight levels, acheiving greater energy savings.



CONTACT US FOR ORDERING CODES

*If satisfied with default settings, remote control is not needed. If settings need to be changed, optional remote control (IR12), is required.

KEY PRODUCT INFORMATION

- SIMPLE INSTALLATION
- MAXIMUM VERSATILITY
- MANY LIGHT OUTPUT CHOICES
- CONTROL READY 10V DIMMABLE DRIVER
- SUITABLE FOR DRY & DAMP LOCATIONS
- UL 1598C CLASSIFIED RETROFIT KIT LISTED & PERFORMANCE QPL LISTED (PENDING)
- 5 YEAR WARRANTY, L70 > 50,000HRS
- OPTIONAL "BAA" BUY AMERICA ACT
- CUSTOM RETROFIT SOLUTIONS AVAILABLE
- OPTIONAL MOTION SENSOR/CONTROL READY

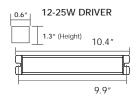




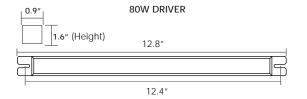




CDECIEICATIO	N CHIDE							
SPECIFICATIO	N GUIDE							
OUTPUT								
MODEL	RP-LBE-G2-DRV-12W	RP-LBE-G2-DRV-12W-HV	RP-LBE-G2-DRV-25W	RP-LBE-G2-DRV-25W-HV	RP-LBE-G2-DRV-45W	RP-LBE-G2-DRV-45W-HV	RP-LBE-G2-DRV-80W	RP-LBE-G2-DRV-80W-H
LED OUTPUT CHANNEL(S)	Single Channel	Single Channel	Single Channel	Single Channel	Single Channel	Single Channel	Single Channel	Single Channel
LED OUTPUT CURRENT - SELECTABLE	E (MA) 110/150/190/23	110/150/190/230	290/350/390/490	290/350/390/490	580/680/780/880	580/680/780/880	1075/1250/1475/1650	1075/1250/1475/165
LED DC VOLTAGE RANGE	30-48V	30-48V	30-48V	30-48V	30-48V	30-48V	30-48V	30-48V
RATED POWER (MAX)	12W	12W	25W	25W	45W	45W	80W	80W
AUX VOLTAGE SOURCE	12V/50mA	12V/50mA	12V/50mA	12V/50mA	12V/50mA	12V/50mA	12V/50mA	12V/50mA
INPUT								
VOLTAGE RANGE	120-277VAC	120-347VAC	120-277VAC	120-347VAC	120-277VAC	120-347VAC	120-277VAC	120-347VAC
FREQUENCY RANGE	50~60HZ							
POWER FACTOR (TYP)	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9
AC CURRENT (MAX)	0.15A @ 120V	0.15A @ 120V	0.22 @ 120V	0.22 @ 120V	0.38 @ 120V	0.38 @ 120V	0.70 @ 120V	0.70 @ 120V
LEAKAGE CURRENT	<0.75mA	<0.75mA	<0.75mA	<0.75mA	<0.75mA	<0.75mA	<0.75mA	<0.75mA
INRUSH CURRENT	50A @ 277V	50A @ 277V	50A @ 277V	50A @ 277V	50A @ 277V	50A @ 277V	50A @ 277V	50A @ 277V
THD	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
PROTECTION								
OVER CURRENT	105~125% Prof	tection type: Shut down output	voltage					
LED SHORT CIRCUIT	A short conditio	n on any of output shall cause	no damage to the power sup	oply. The unit shall recover and	function automatically as so	oon as the short condition is re	moved.	
LED OPEN CIRCUIT	An open conditi	ion on any of output shall cause	e no damage to the power s	upply. The unit shall recover and	d function automatically as	soon as the open condition is r	emoved.	
OVER VOLTAGE	105~125% Prof	tection type: Shut down output	voltage					
SAFTEY	UL8750 CLASS	2 CLASS P						
ENVIRONMENT								
WORKING TEMP	-20C to 50C							
WORKING HUMIDITY	< 90% RH							
STORAGE TEMP	-20C to 80C							
STORAGE HUMIDITY	< 90% RH							
TEMP COEFFICIENT	0.03%/°C (0~	40°C)						
VIBRATION	105004- 20	G 12Min / 1cycle, period f	or 72min each along X	V 7 aves				











ORDERING DIRECTIONS (SEE ORDERING GUIDE ON NEXT PAGE)

- A) Choose your desired total system wattage and lumen output.
- B) Choose your desired lamp length type (T5 or T8), (2, 3 or 4FT) and QTY per driver.
- C) Order system part # (a system will include 1pc LED driver + lamp(s). Substitute "XX" in the 8XX for your desired CCT. 30 (3000K), 35 (3500K), 40 (4000K) and 50 (5000K) are available color temps.

If the system you want is not currently a listed part #, please contact us for a letter to send to your Utility for custom incentive approval.

CAUTION! MAX WATTAGE SETTING PER LAMP

<u>T5 T8</u> T: 15 10

3FT: 15 12

4FT: 25 25



If you require BAA (ARRA Section 1605) add -BAA at end of part number.

-For BAA projects contact our projects quotation team.

STANDARD COLOR TEMPS AVAILABLE

3000K, 3500K, 4000K, 5000K

ORDERING EXAMPLE

A 20W/2900LM system is desired utilizing 2pcs of 2FT T8 lamp in 4000K running off 1pc of driver. For this system you would order:

SYSTEM: RP-T8C-G2-20W-2FT-2L-840-10V (All kits include driver)

TOTAL SYSTEM WATTAGE: 20W

TOTAL SYSTEM LUMEN OUTPUT: 2900LM

LENGTH OF T8 LAMP: 2FT

OF LAMPS: 2pcs

WATTAGE PER LAMP: 10W LUMENS PER LAMP: 1450LM

PERFORMANCE LISTED KIT PART #:RP-T8C-G2-20W-2FT-2L-840-10V

PERFORMANCE QPL PRODUCT CODE: XXXXXX

PART NUMBER BUILDER

KI NUWI	SEK BUILDEK							
MFR	PRODUCT	GENERATION	WATTAGE	LENGTH	# OF LAMPS	COLOR	DIMMING	OPTIONS
RP		G2	W			8XX		
	T5C T8C		6 8 10 12 15 18 20 25	2FT 3FT 4FT	1L 2L 3L 4L	8 = 80+ CRI XX = CCT 30 = 3000K 35 = 3500K 40 = 4000K 50 = 5000K	10V LVD 1 Step 2 Step	EMG HV (120-347V) BAA
			30 35 40		Re	mPh	S by Liahi	t Efficient De

50 60

70

80

Remphos by Light Efficient Design

LIGHT EFFICIENT DESIGN HEADQUARTERS 188 S. Northwest Highway • Cary, IL 60013 INNOVATION & MANUFACTURING CENTER 30 Log Bridge Road, Building 200 • Middleton, MA 01949

847.380.3540 • led-IIc.com 02.25.21 Information is subject to change without notice.

PAGE 5

	ORDERING GUIDE					
	PART #	LAMPS PER DRIVER	LAMP LENGTH (FT)	TOTAL LUMENS	PERFORMANCE CATEGORY	PERFORMANCE COD
	RP-T5C-G2-6W-2FT-1L-8XX-10V	1	2	792		
15	RP-T5C-G2-6W-3FT-1L-8XX-10V	1	3	792		
	RP-T5C-G2-6W-4FT-1L-8XX-10V	1	4	846		
	RP-T8C-G2-6W-2FT-1L-8XX-10V	1	2	864		
<u>8</u>	RP-T8C-G2-6W-3FT-1L-8XX-10V	1	3	828		
	RP-T8C-G2-6W-4FT-1L-8XX-10V	1	4	858		
	RP-T5C-G2-8W-2FT-1L-8XX-10V	1	2	1056		
15	RP-T5C-G2-8W-3FT-1L-8XX-10V	1	3	1056		
-	RP-T5C-G2-8W-4FT-1L-8XX-10V	1	4	1128		
	RP-T8C-G2-8W-2FT-1L-8XX-10V	1	2	1152		
ω	RP-T8C-G2-8W-3FT-1L-8XX-10V	1	3	1104		
18	RP-T8C-G2-8W-4FT-1L-8XX-10V	1	4	1144		
	KF-100-GZ-0VV-41 1-1L-0XX-10V	1	4	1144		
	RP-T5C-G2-10W-2FT-1L-8XX-10V	1	2	1320		
T2	RP-T5C-G2-10W-2FT-2L-8XX-10V	2	2	1320		
	RP-T5C-G2-10W-3FT-1L-8XX-10V	1	3	1320		
	RP-T5C-G2-10W-4FT-1L-8XX-10V	1	4	1410		
	RP-T8C-G2-10W-2FT-1L-8XX-10V	1	2	1440		
8 1	RP-T8C-G2-10W-2FT-2L-8XX-10V	2	2	1440		
-	RP-T8C-G2-10W-3FT-1L-8XX-10V	1	3	1380		
	RP-T8C-G2-10W-4FT-1L-8XX-10V	1	5	1430		
	RP-T5C-G2-12W-2FT-1L-8XX-10V	1	2	1584		
	RP-T5C-G2-12W-2FT-2L-8XX-10V	2	2	1584		
	RP-T5C-G2-12W-2FT-3L-8XX-10V	3	2	1584		
T2	RP-T5C-G2-12W-3FT-1L-8XX-10V	1	3	1584		
	RP-T5C-G2-12W-3FT-2L-8XX-10V	2	3	1584		
	RP-T5C-G2-12W-4FT-1L-8XX-10V	1	4	1692		
	RP-T5C-G2-12W-4FT-2L-8XX-10V	2	4	1692		
	RP-T8C-G2-12W-2FT-2L-8XX-10V	2	2	1728		
	RP-T8C-G2-12W-2FT-3L-8XX-10V	3	2	1728		
	RP-T8C-G2-12W-3FT-1L-8XX-10V	1	3	1656		
28	RP-T8C-G2-12W-3FT-2L-8XX-10V	2	3	1656		
	RP-T8C-G2-12W-4FT-1L-8XX-10V	1	4	1716		
	RP-T8C-G2-12W-4FT-2L-8XX-10V	2	4	1716		
	RP-T5C-G2-15W-2FT-2L-8XX-10V	2	2	1980		
	RP-T5C-G2-15W-2FT-3L-8XX-10V	3	2	1980		
	RP-T5C-G2-15W-3FT-1L-8XX-10V	3 1	3	1980		
T2	RP-T5C-G2-15W-3FT-2L-8XX-10V		3	1980		
-	RP-T5C-G2-15W-3FT-3L-8XX-10V	2	3	1980		
	RP-T5C-G2-15W-3F1-3L-6AX-10V	3 1	3 4	2115		
	RP-T5C-G2-15W-4FT-1L-6AX-10V	•	•	2115		
	RP-T8C-G2-15W-4F1-2L-8XX-10V	2	4	2160		
	RP-T8C-G2-15W-2FT-2L-8XX-10V	2	2	2160		
	RP-T8C-G2-15W-2FT-3L-8XX-10V RP-T8C-G2-15W-3FT-1L-8XX-10V			2070		
8		1	3	2070		
-	RP-T8C-G2-15W-3FT-2L-8XX-10V RP-T8C-G2-15W-3FT-3L-8XX-10V	2	3	2070		
	KE-18U-U2-19VV-3E1-31-8XX-10V	3	3	2070		
	RP-T8C-G2-15W-4FT-1L-8XX-10V	1	4	2145		



N	NG GUIDE					
		LAMPS PER DRIVER	LAMP LENGTH (FT)	TOTAL LUMENS	PERFORMANCE CATEGORY	PERFORMANCE COD
C-C	-G2-18W-2FT-2L-8XX-10V	2	2	2376		
C-C	-G2-18W-2FT-3L-8XX-10V	3	2	2376		
C-C	-G2-18W-2FT-4L-8XX-10V	4	2	2376		
7-0	-G2-18W-3FT-2L-8XX-10V	2	3	2376		
	-G2-18W-3FT-3L-8XX-10V	3	3	2376		
	-G2-18W-3FT-4L-8XX-10V	4	3	2376		
	-G2-18W-4FT-1L-8XX-10V	1	4	2538		
	-G2-18W-4FT-2L-8XX-10V	2	4	2538		
	-G2-18W-4FT-3L-8XX-10V	3	4	2538		
	-G2-18W-2FT-2L-8XX-10V	2	2	2592		
	-G2-18W-2FT-3L-8XX-10V	3	2	2592		
	-G2-18W-2FT-4L-8XX-10V	4	2	2592		
	-G2-18W-3FT-2L-8XX-10V	2	3	2484		
	-G2-18W-3FT-3L-8XX-10V	3	3	2484		
	-G2-18W-3FT-4L-8XX-10V	4	3	2484		
	-G2-18W-4FT-1L-8XX-10V	1	4	2574		
	-G2-18W-4FT-2L-8XX-10V	2	4	2574		
	-G2-18W-4FT-3L-8XX-10V	3	4	2574		
, (02 10W 41 1 3E 0XX 10V	3	4	2071		
`C	-G2-20W-2FT-2L-8XX-10V	2	2	2640		
	-G2-20W-2FT-3L-8XX-10V	3	2	2640		
	-G2-20W-2FT-4L-8XX-10V	4	2	2640		
	-G2-20W-3FT-2L-8XX-10V	2	3	2640		
	-G2-20W-3FT-3L-8XX-10V	3	3	2640		
	-G2-20W-3FT-4L-8XX-10V	4	3	2640		
	-G2-20W-4FT-1L-8XX-10V	1	4	2820		
	-G2-20W-4FT-2L-8XX-10V	2	4	2820		
	-G2-20W-4FT-3L-8XX-10V	3	4	2820		
	-G2-20W-2FT-2L-8XX-10V	2	2	2880		
	-G2-20W-2FT-3L-8XX-10V	3	2	2880		
	-G2-20W-2FT-4L-8XX-10V	4	2	2880		
	-G2-20W-3FT-2L-8XX-10V	2	3	2760 2760		
	-G2-20W-3FT-3L-8XX-10V	3	3			
	-G2-20W-3FT-4L-8XX-10V	4	3	2760		
	-G2-20W-4FT-1L-8XX-10V	1	4	2860		
	-G2-20W-4FT-2L-8XX-10V	2	4	2860		
)-(-G2-20W-4FT-3L-8XX-10V	3	4	2860		
` (-G2-25W-2FT-3L-8XX-10V	3	2	3300		
	-G2-25W-2FT-4L-8XX-10V	4	2	3300		
	-G2-25W-3FT-3L-8XX-10V					
	-G2-25W-3FT-4L-8XX-10V	3 4	3	3300 3300		
			4	3525		
	-G2-25W-4FT-1L-8XX-10V	1	•	3525		
	-G2-25W-4FT-2L-8XX-10V	2	4	3525		
	-G2-25W-4FT-3L-8XX-10V	3	4			
	-G2-25W-4FT-4L-8XX-10V	4	4	3525		
	-G2-25W-2FT-3L-8XX-10V	3	2	3600		
	-G2-25W-2FT-4L-8XX-10V	4	2	3600		
	-G2-25W-3FT-3L-8XX-10V	3	3	3450		
	-G2-25W-3FT-4L-8XX-10V	4	3	3450		
	-G2-25W-4FT-1L-8XX-10V	1	4	3575		
	-G2-25W-4FT-2L-8XX-10V	2	4	3575		
	-G2-25W-4FT-3L-8XX-10V	3	4	3575		
	-G2-25W-4F1-3L-8XX-10V -G2-25W-4FT-4L-8XX-10V	3 4	4	3575 3575		



	PART #	LAMPS PER DRIVER	LAMP LENGTH (FT)	TOTAL LUMENS	PERFORMANCE CATEGORY	PERFORMANCE CODE
	RP-T5C-G2-30W-2FT-3L-8XX-10V	3	2	3960		
	RP-T5C-G2-30W-2FT-4L-8XX-10V	4	2	3960		
	RP-T5C-G2-30W-3FT-3L-8XX-10V	3	3	3960		
T5	RP-T5C-G2-30W-3FT-4L-8XX-10V	4	3	3960		
	RP-T5C-G2-30W-4FT-2L-8XX-10V	2	4	4230		
	RP-T5C-G2-30W-4FT-3L-8XX-10V	3	4	4230		
	RP-T5C-G2-30W-4FT-4L-8XX-10V	4	4	4230		
	RP-T8C-G2-30W-2FT-3L-8XX-10V	3	2	4320		
	RP-T8C-G2-30W-2FT-4L-8XX-10V	4	2	4320		
	RP-T8C-G2-30W-3FT-3L-8XX-10V	3	3	4140		
18 18	RP-T8C-G2-30W-3FT-4L-8XX-10V	4	3	4140		
	RP-T8C-G2-30W-4FT-2L-8XX-10V	2	4	4290		
	RP-T8C-G2-30W-4FT-3L-8XX-10V	3	4	4290		
	RP-T8C-G2-30W-4FT-4L-8XX-10V	4	4	4290		
	RP-T5C-G2-35W-2FT-3L-8XX-10V	3	2	4620		
	RP-T5C-G2-35W-2FT-4L-8XX-10V	4	2	4620		
	RP-T5C-G2-35W-3FT-3L-8XX-10V	3	3	4620		
15	RP-T5C-G2-35W-3FT-4L-8XX-10V	4	3	4620		
	RP-T5C-G2-35W-4FT-2L-8XX-10V	2	4	4935		
	RP-T5C-G2-35W-4FT-3L-8XX-10V	3	4	4935		
	RP-T5C-G2-35W-4FT-4L-8XX-10V	4	4	4935		
	RP-T8C-G2-35W-2FT-4L-8XX-10V	4	2	5040		
	RP-T8C-G2-35W-3FT-3L-8XX-10V	3	3	4830		
8	RP-T8C-G2-35W-3FT-4L-8XX-10V	4	3	4830		
-	RP-T8C-G2-35W-4FT-2L-8XX-10V	2	4	5005		
	RP-T8C-G2-35W-4FT-3L-8XX-10V	3	4	5005		
	RP-T8C-G2-35W-4FT-4L-8XX-10V	4	4	5005		
	DD 750 00 40W 057 W 0W 10W			5000		
	RP-T5C-G2-40W-2FT-4L-8XX-10V	4	2	5280		
10	RP-T5C-G2-40W-3FT-4L-8XX-10V	4	3	5280		
T5	RP-T5C-G2-40W-4FT-2L-8XX-10V	2	4	5640		
	RP-T5C-G2-40W-4FT-3L-8XX-10V	3	4	5640		
	RP-T5C-G2-40W-4FT-4L-8XX-10V	4	4	5640		
	RP-T8C-G2-40W-2FT-4L-8XX-10V	4	2	5760 5520		
00	RP-T8C-G2-40W-3FT-4L-8XX-10V RP-T8C-G2-40W-4FT-2L-8XX-10V	4	3	5720		
T8		2	4	5720		
	RP-T8C-G2-40W-4FT-3L-8XX-10V RP-T8C-G2-40W-4FT-4L-8XX-10V	4	4	5720		
	111 - 10C - G2 - 40 W - 41 1 - 4E - 0XX - 10 W	4	4	3720		
	RP-T5C-G2-45W-2FT-4L-8XX-10V	4	2	5940		
	RP-T5C-G2-45W-3FT-4L-8XX-10V	4	3	5940		
T5	RP-T5C-G2-45W-4FT-2L-8XX-10V	2	4	6345		
,-	RP-T5C-G2-45W-4FT-3L-8XX-10V	3	4	6345		
	RP-T5C-G2-45W-4FT-4L-8XX-10V	4	4	6345		
	RP-T8C-G2-45W-3FT-4L-8XX-10V	4	3	6210		
~	RP-T8C-G2-45W-4FT-2L-8XX-10V	2	4	6435		
T8	RP-T8C-G2-45W-4FT-3L-8XX-10V	3	4	6435		
	RP-T8C-G2-45W-4FT-4L-8XX-10V	4	4	6435		



	1	ORDERING GUIDE					
	•	PART #	LAMPS PER DRIVER	LAMP LENGTH (FT)	TOTAL LUMENS	PERFORMANCE CATEGORY	PERFORMANCE CODE
		RP-T5C-G2-50W-4FT-2L-8XX-10V	2	4	7050		
	T5	RP-T5C-G2-50W-4FT-3L-8XX-10V	3	4	7050		
>		RP-T5C-G2-50W-4FT-4L-8XX-10V	4	4	7050		
50W		RP-T8C-G2-50W-4FT-2L-8XX-10V	2	4	7150		
	T8	RP-T8C-G2-50W-4FT-3L-8XX-10V	3	4	7150		
		RP-T8C-G2-50W-4FT-4L-8XX-10V	4	4	7150		
		RP-T5C-G2-60W-4FT-3L-8XX-10V	3	4	8460		
>	T5	RP-T5C-G2-60W-4FT-4L-8XX-10V	4	4	8460		
W09	œ	RP-T8C-G2-60W-4FT-3L-8XX-10V	3	4	8580		
	T8	RP-T8C-G2-60W-4FT-4L-8XX-10V	4	4	8580		
>	T5	RP-T5C-G2-80W-4FT-4L-8XX-10V	4	4	11280		
80W	&	RP-T8C-G2-80W-4FT-4L-8XX-10V	4	4	11440		





















future-proof & flexible drums



- Choose from 5 fixture styles with multiple diameters.
- Flexible: FlexWatt allows you to select between 4 wattages & FlexColor between 3 colors... all in the same fixture!
- Future-proof: Powered by easily replaceable & upgradeable LEDCR G2 light engine.
- Optional emergency battery back-up and/or control options.











ORDER CONTROL READY. BASIC CONTROL OR LG ADVANCED CONTROL

DEFAULT CONFIGURATIONS

PART #	UPC	DESCRIPTION	WATTAGE	LUMENS	LPW	CCT (K)
RP-DRU-11N-14L-40K-WC-G2-A	844006022617	11IN UTILITY DRUM	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000
RP-DRU-11N-14L-40K-WC-G2-OC1-A	844006022631	11IN UTILITY DRUM WITH HIGH/LOW MOTION SENSOR	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000
RP-DRU-14N-14L-40K-WC-G2-A	844006022624	14IN UTILITY DRUM	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000
RP-DRU-14N-14L-40K-WC-G2-OC1-A	844006022648	14IN UTILITY DRUM WITH HIGH/LOW MOTION SENSOR	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000
RP-DRD-14N-14L-40K-WC-G2-A	844006040673	14IN DESIGNER DRUM	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000
RP-DRD-14N-14L-40K-WC-G2-OC1-A	844006040680	14IN DESIGNER DRUM WITH HIGH/LOW MOTION SENSOR	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000
RP-DRD-18N-14L-40K-WC-G2-A	844006040697	18IN DESIGNER DRUM	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000
RP-DRD-18N-14L-40K-WC-G2-OC1-A	844006040703	18IN DESIGNER DRUM WITH HIGH/LOW MOTION SENSOR	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000

Default setting are above in bold. See pages 2 and 3 for additional styles, lumen packages, color temperatures and options.













PART NUMBER BUILDER

MFR	PRODUCT	SIZE	LUMENS	COLOR	FUNCTION	GEN	OPTIONS	REV-A
RP					WC	G2		
	DRU=UTILITY DRUM DRD=DESIGNER DRUM DRO=OUTDOOR DRUM DRT=TOUGH DRUM DRG=GLASS DRUM	11N/14N 14N/18N 12N 13N 15N N = INCHES	8L 14L 23L 31L	30K = 3000K, 85CRI 35K = 3500K, 85CRI 40K = 4000K, 85CRI	WC= FlexWatt + FlexColor		OCC=high/low motion sensor * EMG=90 min emergency battery backup † LVD=120-277V line voltage dimmimg.	

ORDERING EXAMPLE

RP-DRU-11N-8L-830-WC-G2

Default lumen package (wattage and CCT) are shown below in bold. There are two ways to achieve a non-default lumen package and/or CCT:

1. You can easily adjust in field via our FlexWatt and FlexColor internal switches. 2. Have us adjust the FlexWatt and FlexColor at the factory for an additional charge.

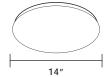
EFFICIENCY/ELECTRICAL DATA

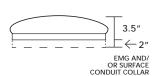
		CCT SELECTION	
LUMEN SELECTION	830	835	840
8L	780LM, 6W	780LM, 6W	816LM, 6W
14L	1370LM, 10W	1440LM, 10W	1370LM, 10W
23L	2256LM, 16W	2240LM, 16W	2352LM, 16W
31L	2970LM, 22W	3080LM, 22W	3124LM, 22W

ORDERING GUIDE (Default part numbers listed below. Please Use the part number builder for additional configurations.)

DRU - UTILITY DRUM 11" OR 14"







- Flexible lens made from high transmission, UV blocking acrylic plastic.
- Thick metal, white painted base.
- Lens attaches to metal base via twist lock no tools required.
- Available in 11in and 14in diameters.

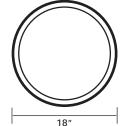
CA:	E QUICK	ENERGY							
QT	/ SHIP	STAR	DEFAULT PART #	UPC	DESCRIPTION	WATTAGE	LUMENS	LPW	CCT (K)
1	•	•	RP-DRU-11N-14L-40K-WC-G2-A	844006022617	11IN UTILITY DRUM	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000
1	•	•	RP-DRU-11N-14L-40K-WC-G2-OC1-A	844006022631	11IN UTILITY DRUM WITH HIGH/LOW MOTION SENSOR	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000
1	•	•	RP-DRU-14N-14L-40K-WC-G2-A	844006022624	14IN UTILITY DRUM	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000
1	•	•	RP-DRU-14N-14L-40K-WC-G2-OC1-A	844006022648	14IN UTILITY DRUM WITH HIGH/LOW MOTION SENSOR	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000

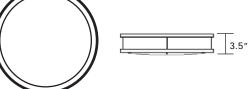
Default lumen package (wattage and CCT) are bold.



DRD - DESIGNER DRUM 14" OR 18"







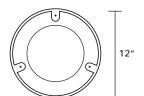
- · Flexible lens made from high transmission, UV blocking acrylic plastic.
- Thick metal base, brushed nickle plated base, trim rings and hardware.
- · Available in 14.5in and 18in diameters.
- · Contact us for custom paint colors such as white, brass or bronze.

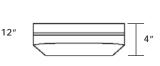
CAS	E QUICK	ENERGY							
QTY	SHIP	STAR	DEFAULT PART #	UPC	DESCRIPTION	WATTAGE	LUMENS	LPW	CCT (K)
1	•	•	RP-DRD-14N-14L-40K-WC-G2-A	844006040673	14IN DESIGNER DRUM	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000
1	•	•	RP-DRD-14N-14L-40K-WC-G2-OC1-A	844006040680	14IN DESIGNER DRUM WITH HIGH/LOW MOTION SENSOR	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000
1	•	•	RP-DRD-18N-14L-40K-WC-G2-A	844006040697	18IN DESIGNER DRUM	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000
1	•	•	RP-DRD-18N-14L-40K-WC-G2-OC1-A	844006040703	18IN DESIGNER DRUM WITH HIGH/LOW MOTION SENSOR	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000

Default lumen package (wattage and CCT) are bold.

DRO - OUTDOOR DRUM 12"







- Vandal resistant and watertight/wet-rated.
- · Strong rigid lens made from high transmission, UV blocking polycarbonate
- Strong white polycarbonate base.
- · Available in 12in diameter.

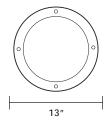
CASE	QUICK	ENERGY							
QTY	SHIP	STAR	DEFAULT PART #	UPC	DESCRIPTION	WATTAGE	LUMENS	LPW	CCT (K)
1	•	•	RP-DRO-12N-14L-40K-WC-G2	844006015763	12IN OUTDOOR DRUM	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000
1	•	•	RP-DRO-12N-14L-40K-WC-G2-OC1	844006019983	12IN OUTDOOR DRUM WITH HIGH/LOW MOTION SENSOR	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000

Default lumen package (wattage and CCT) are bold.



DRT - TOUGH DRUM 13"







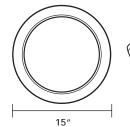
- · Vandal resistant and watertight/wet-rated.
- Strong rigid lens made from high transmission, UV blocking polycarbonate.
- Thick metal, black painted base, trim rings and hardware.
- Available in 13in diameter. Contact us for custom paint colors such as white, brass or bronze.

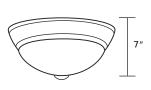
CASE	CASE QUICK ENERGY								
QTY	SHIP	STAR	DEFAULT PART #	UPC	DESCRIPTION	WATTAGE	LUMENS	LPW	CCT (K)
1	•	•	RP-DRT-13N-14L-40K-WC-G2	844006015794	13IN TOUGH DRUM	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000
1	•		RP-DRT-13N-14L-40K-WC-G2-OC1	844006010492	13IN TOUGH DRUM WITH HIGH/LOW MOTION SENSOR	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000

Default lumen package (wattage and CCT) are bold.

DRG - GLASS DRUM 15"







- · Diffused glass lens.
- Brushed aluminum finished base and hardware.
- Available in 15in diameter. Contact us for custom paint colors such as white, brass or bronze.

C	CASE QUICK ENERGY			'						
C	ΣΤΥ	SHIP	STAR	DEFAULT PART #	UPC	DESCRIPTION	WATTAGE	LUMENS	LPW	CCT (K)
	1	•	•	RP-DRG-15N-14L-40K-WC-G2	844006010508	15IN GLASS DRUM	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000
	1	•		RP-DRG-15N-14L-40K-WC-G2-OC1	844006010515	15IN GLASS DRUM WITH HIGH/LOW MOTION SENSOR	6/ 10 /16/22	780-3124	130-142	3000/3500/ 4000

Default lumen package (wattage and CCT) are bold.





HOW DOES IT WORK?

Our exclusive LED driver is designed to operate at 90%+ efficiency at each wattage setting. Standard drivers would have much lower efficiency as low as 60% and would result in poor performance and reduced efficacy.

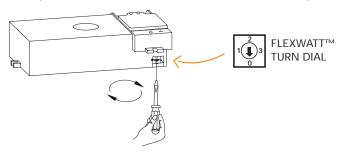
WHAT ARE THE WATTAGE CHOICES?

Please reference this table and the ordering guide on the last page of the cut sheet.

FLEXWATT TURN DIAL POSITION						
STYLE 0 1 2 3						
LEDCR	6W (8L)	10W (14L)	16W (23L)	22W (31L)		
LEDSR	6W (8L)	10W (14L)	12W (17L)	15W (21L)		

HOW EASY IS IT TO SET?

Simply slide off the driver door, adjust the 4-position turn dial with a small, flat-head screw driver, and replace the door. Quick and easy. Can be "locked-out" to prevent field-adjustability if desired.





HOW DOES IT WORK?

We select the highest efficacy, multiple color LED diodes from quality suppliers, and mount them on the same circuit board. A proprietary LED binning process ensures color consistency between fixtures. The FlexColor technology controller ensures the correct color is selected, every time.

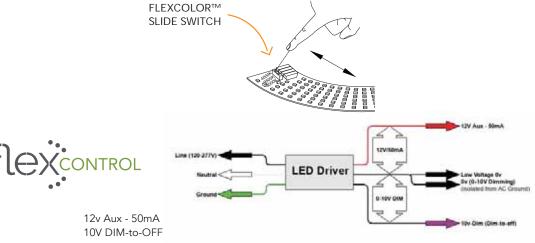
WHAT ARE THE COLOR CHOICES?

3000k, 3500k and 4000k. Please reference this table and the ordering guide on the last page of the cut sheet.

FLEXCOLOR SLIDE SWITCH POSITION					
TOP	MIDDLE	BOTTOM			
3000K	3500K	4000K			

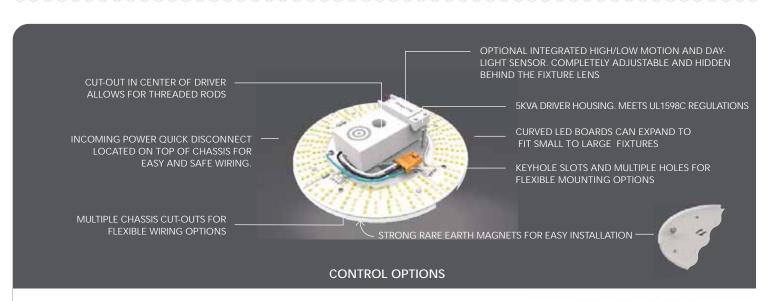
HOW EASY IS IT TO SET?

Adjust the 3-position slide switch with your finger. Quick and easy. Can be "locked-out" to prevent field-adjustability if desired.





Available from Major Electronix | sales@majorelectronix.com | 800-966-2345 | www.productsforautomation.com





All LEDCR/SR models come standard as factory enabled to add controls at the factory, in the field or at a later date. Driver comes with 10V dimming and 12V DC power wiring.

BASIC CONTROL



Integrated high frequency, high/low motion and daylight sensor. Can be mounted behind glass or plastic lens. Purchase optional remote control to adjust settings.

> ORDERING CODES SENSOR = OCC / RC = HNSIII REMOTE

ADVANCED WIRELESS CONTROL







We partner with Magnum, avi-on, Philips, Lutron and other intelligent wireless lighting control systems. Allows for occupancy sensing, daylight harvesting, grouping, scheduling, high-end trim and more. Adjust settings via iPhone/Android apps. Corract us for

CONTACT US FOR ORDERING CODES

EASILY RETROFIT THESE FIXTURE STYLES, AND MORE!



LEDCR-G2-9IN/SURFACE MOUNT



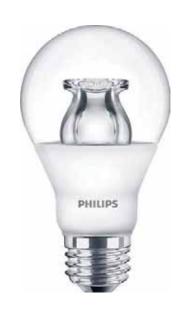
LEDCR-G2-9IN/SURFACE MOUNT



LEDSR-G2-9IN/SCONCE







A-Shape LED

6A19/LED/827-22/CL/DIM 120V

Philips A-shape Dimmable LED lamps are the smart LED alternative to standard incandescents. The unique lamp design provides omi-directional light with excellent dimming performance.

Product data

General Information	
Cap-Base	E26 [Single Contact Medium Screw]
EU RoHS compliant	Yes
Nominal Lifetime (Nom)	25000 h
Switching Cycle	50000X
Technical Type	6-40W
Light Technical	
Color Code	822-827 [tunable warm white]
Luminous Flux (Nom)	480 lm
Color Designation	Warm Glow(WG)
Correlated Color Temperature (Nom)	- K
Luminous Efficacy (rated) (Nom)	80.00 lm/W
Color Consistency	ANSI 2700K
Color Rendering Index (Nom)	80
LLMF At End Of Nominal Lifetime (Nom)	70 %
Operating and Electrical	
Input Frequency	60 Hz
Power (Nom)	6 W
Lamp Current (Nom)	60 mA
Wattage Equivalent	40 W
Starting Time (Nom)	0.5 s
Warm Up Time to 60% Light (Nom)	0.5 s

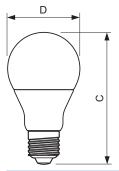
Power Factor (Nom)	0.7
Voltage (Nom)	120 V
Temperature	
T-Case Maximum (Nom)	85 ℃
Controls and Dimming	
Dimmable	Yes
Mechanical and Housing	
Bulb Finish	Clear
Approval and Application	
Energy Efficiency Label (EEL)	Not applicable
Energy Saving Product	Yes
Suitable For Accent Lighting	No
Energy Consumption kWh/1000 h	6 kWh
Energy Certifications	Energy Star
Product Data	
Order product name	6A19/LED/827-22/CL/DIM 120V
EAN/UPC - Product	046677462512
Order code	929001215104
Numerator - Quantity Per Pack	1
·	

Datasheet, 2020, August 24 data subject to change

A-Shape LED

Numerator - Packs per outer box	10
Material Nr. (12NC)	929001215104
Net Weight (Piece)	0.076 kg

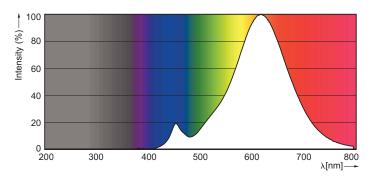
Dimensional drawing

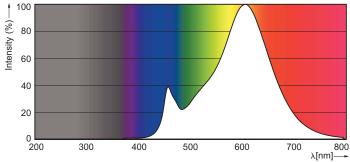


SS Clear Bulb A19 CL 6W-40W 450lm 330D E26D

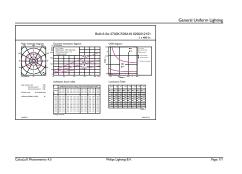
Product D C 6A19/LED/827-22/CL/DIM 120V 62 mm 111 mm

Photometric data

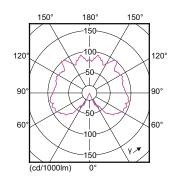




Scene Switch Bulb 9.5W-60W A19 2200K 120V ND



LEDBulb 6-40W A19 E26 450lm CL



LED 827 CL

LEDBulb 6-40W A19 E26 450lm CL





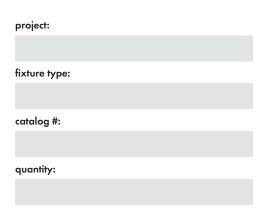
Ovation Series Retrofit Kit

Prefix: KVN22

The Ovation Series LED Retrofit system has been developed to dramatically improve existing recessed troffer performance using Solid State Lighting (SSL) technologies. The Ovation retrofit series provides an attractive, energy efficient architectural look which has been specifically designed to upgrade existing fluorescent recessed troffer style fixtures. Comfortable, low glare, uniform lighting is attributed to this style of retrofit. Typical applications for this type

- of product are interior spaces where finished ceilings and walls exist. Applications Include:
- ${\bf \cdot Commercial/Corporate\ Office\ Spaces}$ • Retail Spaces, Public Spaces and Airports
- Schools, Colleges and Universities
- · Hospitals, Government Facilities and Military Bases





ARRA

ORDERING GUIDE

KVN 22 Ν PRFFIX/ LUMEN DRIVER DRIVER COLOR OPTICS LENS SIZE SERIES OUTPUT* VOLTAGE TYPE TFMP (DIFFUSER) C27 - 2700 K* KVN - Ovation I 015 - 1500 IINV - Universal DM - 0-10v Low Voltage AF - Frosted Linear **22**- 2X2 N - Normal Dimming (10% - 100%) C30 - 3000 K* Prism Acrylic Lens L020 - 2000 Voltage (120v - 277v) Series Retrofit C35 - 3500 K (Standard) (Standard) Kit **L030** - 3000 LV - Line Voltage C40 - 4000 K **L040** - 4000 (60 Hz) CS - Custom (Specify) C50 - 5000 K* **L050** - 5000 **120** - 120v Dimming *Specify 1060 - 6000 Voltage (120v **277** - 277v **L070** - 7000 *Special Lxxx - Custom Order Only

RENOVA Products Listed on the DLC Qualified Product List (QPL)

See page 4 for complete list.

- st When selecting LUMEN OUTPUT, INPUT WATTS, and COLOR TEMPERATURE, select all within one row
- **Color Temperature affects Input Watts. All Input Watts shown are based on 4000 K. Add approx. 1 watt to catalog number (Input Watts) for 3500 K configuration.
- [†]Standard "EM" option to be NiCd Battery @ 1000 Lumens @ 90 min. duration (standard). Consult factory for all available options.

(Specify)

†† KVN22 Series Retrofit Kit has a lumen output range from 1500 through 7500 depending on driver/board configuration. Consult factory for correct catalog number on all custom configured lighting products.



DLC Application Category #14 "Integrated Retrofit Kits for 2x2 Luminaires"

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions are avalified.

RETROFIT

Occupancy

(Philips EasySense)

Vacancy Daylight Harvesting Task Tuning Advanced Grouping

E - Value Engineered

SNS200 - Wireless Sensor

SNS300 - Wireless Sensor/ Use with Networks Lighting Control Systems Building Management Systems (BMS) (Philips EasySense)

EM - Emergency Battery Pack *

AR - Air Return Slots

PRIOR TO RETROFITTING THE EXISTING FLUORESCENT FIXTURE, PLEASE



Fluorescent lamps contain small amounts of mercury. Such lamps are labeled "Contains Mercury" and / or with the symbol "Hg." Lamps that contain mercury must be disposed of in accordance with local requirements. Information regarding lamp recycling and disposal can be found at www.lamprecycle.org.

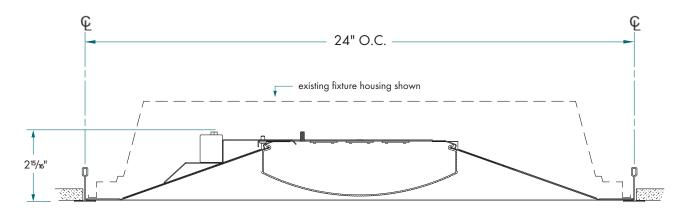


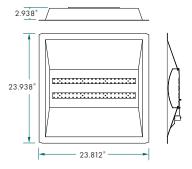
Prefix: KVN22



Ovation Series Retrofit Kit

KVN 2x2 Cross Section





CONSTRUCTION

- Precision die-formed from 22 gage cold rolled steel.
- Mechanically fastened / resistance welded.
- Consult factory for all options or any modifications needed.

FINISH

 High Reflectance Matte White polyester powder coat baked enamel for extreme durability and superior fixture efficiency. Total Reflectance = 97%.

LED's/OPTICS

- High performance LED boards manufactured specifically for interior lighting. LED boards feature the most current mid-power LEDs for maximum performance, efficiency and longevity.
- Standard color temperatures offered as standard are 3500K and 4000K. Consult factory for all other color temperature options. 80 CRI (Minimum). RoHS Compliant.
- Always consult factory for the latest developments and improvements concerning LEDs and Optics.

DRIVERS

- Electronic, constant current type. Universal voltage (120v-277v).
- O-10v dimmable. 10-100% (Standard) / 0-100% (Optional).
- Step-Dim driver is optional.
- Suitable for dry and damp locations.
- UL Recognized Class 2, RoHS Compliant.

LENS (DIFFUSER)

- Extruded from 100% clear, virgin acrylic.
- Extruded linear ribs provide clean, aesthetic architectural look.

MOUNTING

 Retrofit kit is designed to be mounted into an existing prismatic or parabolic troffer installed into a standard grid (NEMA "G") or narrow grid (NEMA "NFG") ceiling T-grids. Consult factory for all other special mounting conditions.

ELECTRICAL

- Retrofit kits are UL/CUL Class II listed and labeled.
- LM80 performance for 50,000+ hours
- Bi-Level dimming option allows 50% power for compliance with common energy codes.
- Driver disconnect provided where required to comply with US & Canadian codes.

QUALITY CONTROL

 All retrofit kits are designed, fabricated, painted, assembled, tested, packaged and shipped from RENOVA's manufacturing facility in Mansfield, MA (USA).

WARRANTY

 5-year limited warranty. Please refer to RENOVA's website at www.renova.com/sales/warranties for the latest warranty terms and conditions.

NOTES:

IED Drivers have adjustable output capability. A wide range of input watts/lumen output can be adjusted up or down on all models to suit a particular application. Always consult factory for the latest information

Photometric data, IES files and all other information is available on request.

RENOVA products are constantly being improved; therefore the information shown is subject to change without notice. Always consult your lighting representative or RENOVA Lighting Systems. Inc. for the latest information.





Ovation Series Retrofit Kit

Prefix: KVN22

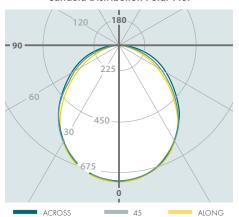


Catalog #: KVN22-N-L020-UNV-DM-C40-AF Photometric Test Report #: 10551935-803984

Delivered Lumens: 2029 Efficacy (Lumens/Watt): 121.5 Power: 16.73w @ 120 VAC Power Factor: 0.991 Current THD: 5.13% CRI: 82.7

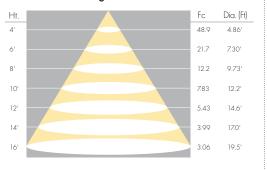
CCT: 3924 K LED Life: 50,000+ hrs

Candela Distribution Polar Plot



Spacing/Mounting Height: 1.2 SC (Along): 1.2 SC (Across): 1.2

Cone of Light Tabulation



	Coefficients of Utilizations (%) Effective Floor Cavity Reflectance 20 Per (pfc=0.20)								
bcc			80			70		5	0
š		70	50	30	70	50	30	50	30
	0	119	119	119	116	116	116	111	111
	1	110	105	101	107	103	100	99	96
	2	101	94	87	99	92	86	88	83
	3	93	83	<i>7</i> 6	90	81	75	<i>7</i> 9	73
	4	86	75	67	84	73	66	<i>7</i> 1	64
RCR	5	79	67	59	77	66	58	64	57
	6	73	60	52	<i>7</i> 1	59	51	58	51
	7	67	54	46	66	53	46	52	45
	8	63	49	41	61	49	41	47	40
	9	58	45	37	57	44	37	43	36
	10	54	41	33	53	40	33	39	33

Luminance Summary CD./SQ.M.

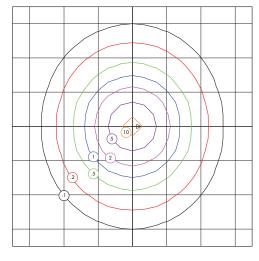
Angle	Along	45.0	Across
45	2272	2413	2469
55	1941	2171	2312
65	1584	1954	2237
75	1242	1834	2187
85	828	1480	1567

Zonal Lumen Summary

Zone	Lumens	% Luminaire	
0-30	599	29.52	
0-40	966	47.63	
0-60	1633	80.49	
0-90	2029	100.00	
40-90	1063	52.37	
60-90	396	19.51	
90-180	0	0	
0-180	2029	100.00	

Horizontal Footcandles

Mounting Height = 8"-0' A.F.F. Maximum Calculated Value = 12.23 Fc



Grid Lines in Units of Mounting Height









Ovation Series Retrofit Kit

Prefix: KVN22



KVN Series LED Luminaires Listed on the DLC Qualified Products List (QPL)

RENOVA Catalog Number	Delivered Lumens	Input Watts	Lumens per Watt	DLC - QPL Classification
KVN22-N-[L015 to L060]-UNV-DM- C35-AF-SNS[2,3]00-[BLANK, EM, AR]	1500-6116	Varies by Output	128.60	Premium
KVN22-N-[L015 to L060]-UNV-DM- C35-AF-SNS[2,3]00-[BLANK, EM, AR]	1500-6116	Varies by Output	130.34	Premium
KVN22-N-L020-UNV-DM-C35-AF-xx	1870	15.39	121.51	Standard
KVN22-N-L020-UNV-DM-C40-AF-xx	1826	15.37	118.8	Standard
KVN22-N-L030-UNV-DM-C35-AF-xx	2760	23.39	118.00	Standard
KVN22-N-L030-UNV-DM-C40-AF-xx	2836	23.39	121.28	Standard
KVN22-N-L040-UNV-DM-C35-AF-xx	3674	32.41	113.36	Standard
KVN22-N-L040-UNV-DM-C40-AF-xx	3776	32.41	116.51	Standard
KVN22-N-L050-UNV-DM-C35-AF-xx	4697	39.64	118.49	Standard
KVN22-N-L050-UNV-DM-C40-AF-xx	4827	39.64	121.78	Standard
KVN22-N-L060-UNV-DM-C35-AF-xx	5533	48.35	114.44	Standard
KVN22-N-L060-UNV-DM-C40-AF-xx	5686	48.35	117.62	Standard



Model# KVN22-N-L020-UNV-DM-C40-AF-XX

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View

Notes

Manufacturer: RENOVA Lighting Systems, Inc.

Brand: Ovation

Technical Requirements Version: 5

Date Qualified: 03/21/2017 Product ID: PT13XJK6

Categorization

Main: Indoor Retrofit Kit General Application: Troffer

Primary Use: Linear Retrofit Kits for 2x2 Luminaires

System Type: AC

Classification: Standard Is Parent Product: No DLC Family Code: FFFHVK

Listing Status: Listed

Reported Data i

Control Features

Version History

Family Data

Light Output: i 1826 lm Wattage: i 15.37 W

Efficacy (AC): i 118.8 lm/W Power Factor: i 0.95

CCT: i 3979 K CRI (Ra): 83.8

Total Harmonic Distortion: i 10.6 %

LED Task Star PRO Color CHANGEABLE

LTSPRO is constructed with aluminum housing and a matte polycarbonate diffuser. This sleek fixture features edge lit technology which means no hot spots on the polished marble or granite counter top.









Features

- 50,000 hours life
- Adjustable to 3 color temperatures: 2700K, 3300K and 4000K (warm white to cool white)
- Dimmable with most ELV dimmers
- · Comes with High / Low Switch
- · Low power consumption
- Edge Lit technology eliminates hot spots smooth luminance
- Fast and easy installation quick connects, captive mounting holes
- · Comes with cord and plug as well as knockouts for hardwire
- · 3/8" connector provided
- · Shallow profile conceals fixture
- Linkable up to 400 watts. Each fixture ships with 8" jumper cable and end-to-end connector
- 90 CRI the best in the business!
- Available in 6 sizes 9", 12", 18", 24", 32" and 40"
- · cETLus and Energy Star listed
- 3 year limited warranty

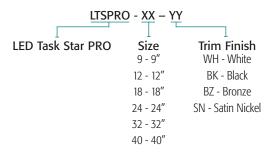
Applications

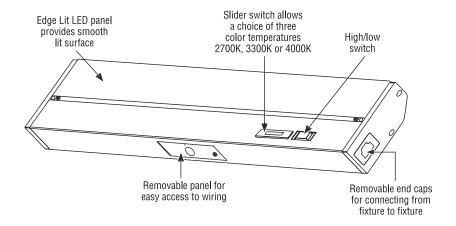
- · Under cabinet task light
- · Over cabinet accent light
- · Display cases and exhibits
- Merchandising
- · Indirect accent light
- · Wall units and bars
- · Office work stations

Specifications

Specifications			
Input Voltage	120V AC		
Power Consumption	9" = 3W 12" = 5W 18" = 8W 24" = 12W 32" = 16W 40" = 20W		
Power Factor	0.95		
LEDs	Epistar		
LED Life	50,000 hours		
CCT	2700K – 4000K		
Lumen Output	9" = 150 - 200 Lumens 12" = 250 - 300 Lumens 18" = 380 - 450 Lumens 24" = 650 - 700 Lumens 32" = 850 - 900 Lumens 40" = 950 - 1000 Lumens		
CRI	> 90		
Cover Finish	Extruded Aluminum housing / High impact PC plastic end caps / Matte white polycarbonate diffuser		
Appearance Size (L x W x H)	9" – 9" x 3.5" x 1" (22.9 x 8.9 x 2.5cm) 12" – 12" x 3.5" x 1" (30.5 x 8.9 x 2.5cm) 18" – 18" x 3.5" x 1" (45.7 x 8.9 x 2.5cm) 24" – 24" x 3.5" x 1" (61.0 x 8.9 x 2.5cm) 32" – 32" x 3.5" x 1" (81.3 x 8.9 x 2.5cm) 40" – 40" x 3.5" x 1" (101.6 x 8.9 x 2.5cm)		
Approvals	cETLus listed and Energy Star rated		

Product Codes





Accessories (ordered separately)



LTSPRO-J-12* 12" jumper cable LTSPRO-J-18* 18" jumper cable LTSPRO-J-24* 24" jumper cable LTSPRO-J-32* 32" jumper cable



LTSPRO-PC-72*
72" replacement power cord and plug



LTSPRO-JB
Hardwire junction box for LTSPRO fixtures - allows for direct wiring installation, eliminating the visible household wire. Add (-BK) at the end of part number for black finish.



RC-01 3/8" Romex connector

Replacement Parts

LTSPRO-SW-BK (HI-OFF-LOW) Replacement Rocker Switch, Black

LTSPRO-SW-WH (HI-OFF-LOW) Replacement Rocker Switch, White

^{*} NOTE: add (-BK) at the end of part number for black cable.

^{**}Each fixture ships with one 8" jumper cable, one end-to-end connector and one 3/8" Romex connector.



HIGH BAY HBLX4 SERIES

Features & Benefits

Advanced Thermal Management Aluminum Allow with White Powder Coat Finish

Avaiable in 1x2, 2x2 and 2x4 Configurations

Lumen Packages up to 50,500 lm; Efficacy up to 142 lm/W

PIR Sensor and Emergency Battery Optional

Aircraft Cable Included, Pendant Mount Upon Request

UL Listed for Damp Location

Estimated 100,000-hour LED lifespan

10-Year Limited Warranty

90W&130W



180W&210W



L130W&L180W



270W&300W&370W



Housing



Threaded Conduit

Support wires coming from the hole for easier wire connections.

Motion Sensor

Optional PIR Sensor allows for security and energy saving.

Technical Parameters

Power	Light Output	Power Input	Operating Temperature	Efficacy
90W - 370W	12,600 lm - 50,500 lm	120-277V, 347/480V	-40°F - 131°F	Up to 142 lm/W

Color Temperature	CRI	Certifications	Motion Sensor	Driver
4000K, 5000K	80 CRI	DLC Premium	Bi-Level PIR Sensor	1-10V Dimming

Emergency Battery	Mounting	Finish	
16W, 2,000 lm, 90 min	Chain, Pendant	White	

Note: 0-10V Dimming Driver Available Upon Request

Performance Data

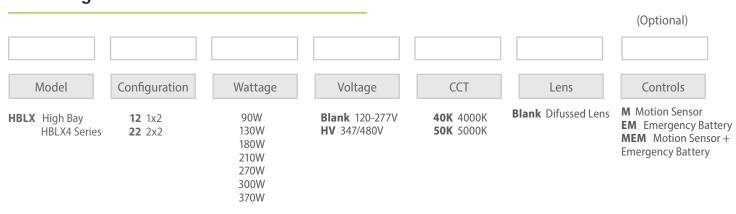
5000K				
LED Watts	Size	Lumens	LPW	
90W	1x2FT	12,600 lm	140 lm/W	
130W	1x2FT	18,500 lm	142 lm/W	
180W	2x2FT	25,200 lm	140 lm/W	
210W	2x2FT	29,000 lm	138 lm/W	
270W	2x4FT	37,000 lm	137 lm/W	
300W	2x4FT	41,500 lm	138 lm/W	
370W	2x4FT	50,500 lm	136 lm/W	

	4000K					
LED Watts	Size	Lumens	LPW			
90W	1x2FT	12,600 lm	140 lm/W			
130W	1x2FT	18,500 lm	142 lm/W			
180W	2x2FT	25,200 lm	140 lm/W			
210W	2x2FT	29,000 lm	138 lm/W			
270W	2x4FT	37,000 lm	137 lm/W			
300W	2x4FT	41,500 lm	138 lm/W			
370W	2x4FT	50,500 lm	136 lm/W			



Ordering Information

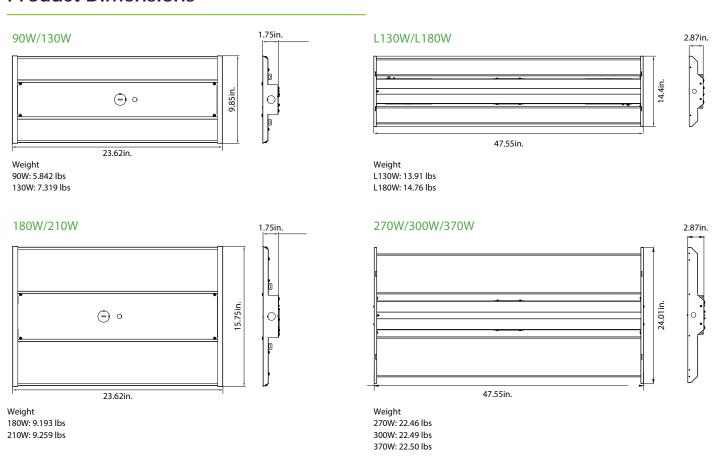
Example: HBLX4-22-180W-50K



Note:

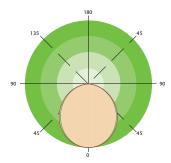
- 1. 1x2 = 90W, 130W
- 2. 2x2 = 180W, 210W
- 3. 2x4 = 270W, 300W, 370W
- 4. Emergency Battery not Available while the Voltage is 347/480V

Product Dimensions



Photometrics

General



DLC Listed Models

System Watt	Voltage	ССТ	DLC NO	DLC Classification
130W	120-277V	5000K	HBLX4-12-130W-50K-[Blank, M, EM, MEM]	Premium
130W	120-277V	4000K	HBLX4-12-130W-40K-[Blank, M, EM, MEM]	Premium
180W	120-277V	4000K	HBLX4-22-180W-40K-[Blank, M, EM, MEM]	Premium
210W	120-277V	4000K	HBLX4-22-210W-40K-[Blank, M, EM, MEM]	Premium

Note: Only Above Models are Currently DLC Listed



View

Notes

Manufacturer: Arcadia Lighting, LLC

Brand: ARCADIA

Technical Requirements Version: 5.1

Date Qualified: 05/24/2021 Product ID: P4ESY60P

Categorization

Main: Indoor Luminaires

General Application: High-Bay

Primary Use: High-Bay Luminaires for Commercial and Industrial Buildings

System Type: AC

Classification: Premium Is Parent Product: Yes

DLC Family Code: EEEGEG

Listing Status: Listed

Tested Data i

Reported Data i

Control Features

Version History

Family Data

Light Output: i 12566.3 lm

Wattage: i 89.32 W

Voltage Range: i 120 - 480 V Efficacy (AC): i 140.69 lm/W Power Factor: i 0.9382

CCT: i 4163 K Duv: -0.0027 CRI (Ra): 85.7

R9: 21 IES Rf: 85 IES Rg: 96

IES Rcs,h1: -11 %

Total Harmonic Distortion: i 8.59 %

View

Notes

Manufacturer: Arcadia Lighting, LLC

Brand: ARCADIA

Technical Requirements Version: 5.1

Date Qualified: 11/18/2020 Product ID: PLK9D9511UNH

Categorization

Main: Indoor Luminaires

General Application: High-Bay

Primary Use: High-Bay Luminaires for Commercial and Industrial Buildings

System Type: AC

Classification: Premium Is Parent Product: No

DLC Family Code: WWWXKP

Listing Status: Listed

Reported Data i

Control Features

Version History

Light Output: i 18500 lm

Default Light Output: i 18500 Im

Wattage: i 130 W

Default Wattage: i 130 W Voltage Range: i 120 - 480 V Efficacy (AC): i 142 lm/W Power Factor: i 0.9

CCT: i 4000 K CRI (Ra): 80 R9: 20 IES Rf: 85 IES Rg: 96

IES Rcs,h1: -11 %

Total Harmonic Distortion: i 15 %

Family Data



WALL PACK WPTCX SERIES

Features & Benefits

Die-Cast Aluminum on Front and Back Housing

Built-In Level for Easy and Accurate Installation

Polycarbonate Optical Lens with UV Stabilizers

Pre-Installed Photocell Button Available

Ambients from -40 F° to 104° F

UL Listed for Wet Locations

5-Year Limited Warranty













Housing

or deterioration over years.



Technical Parameters

Power	Light Output	Power Input	Operating Temperature	Efficacy
30W - 125W	3,550 lm -15,000 lm	120-277V, 347/480V	-40°F- 104°F	Up to 117 lm/W

Certifications	Photocell	CRI	Color Temperature	Finish
UL, DLC Standard	Button	70 CRI	4000K, 5000K	DB, W, B

Performance Data

5000K					
LED Watts	Lumens	LPW			
30W	3,600 lm	120 lm/W			
40W	5,100 lm	128 lm/W			
65W	7,900 lm	122 lm/W			
90W	10,500 lm	117 lm/W			
125W	15,000 lm	120 lm/W			

4000K				
LED Watts	Lumens	LPW		
30W	3,550 lm	118 lm/W		
40W	5,000 lm	125 lm/W		
65W	7,800 lm	120 lm/W		
90W	10,000 lm	111 lm/W		
125W	14,500 lm	116 lm/W		

Ordering Information Example: WPTCX-65W-50K

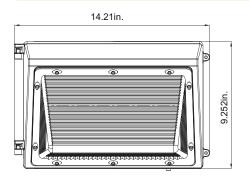
(Optional) Model Wattage Voltage CCT Finish Controls Blank Dark Bronze P Photocell WPTCX Wall Pack 30W **Blank** 120-277V **40K** 4000K **W** White **HV** 347/480V TCX Series 40W **50K** 5000K **B** Black 65W 90W 125W

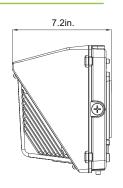
Note:

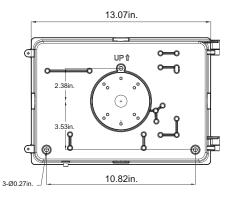
1. 30W is Limited to 120-277V Input.



Product Dimensions

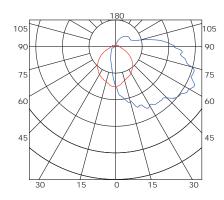






Weight 30W: 6.327lb 40W: 6.525lb 65W: 6.724lb 90W: 7.319lb 125W: 8.157lb

Photometrics



DLC Listed Models

System Watt	Voltage	CCT	DLC NO	DLC Classification
30W	120-277V	4000K	WPTCX-30W-40K-[Blank]-[Blank,P]	Standard
30W	120-277V	5000K	WPTCX-30W-50K-[Blank]-[Blank,P]	Standard
40W	120-277V	4000K	WPTCX-40W-40K-[Blank]-[Blank,P]	Standard
40W	120-277V	5000K	WPTCX-40W-50K-[Blank]-[Blank,P]	Standard
65W	120-277V	4000K	WPTCX-65W-40K-[Blank][P]	Standard
65W	120-277V	5000K	WPTCX-65W-50K-[Blank][P]	Standard
90W	120-277V	4000K	WPTCX-90W-40K-[Blank][P]	Standard
90W	120-277V	5000K	WPTCX-90W-50K-[Blank][P]	Standard

Note: Only Above Models are Currently DLC Listed



Model# WPTCX-30W-50K-[Blank]-[Blank,P]

- 12

View

Notes

Manufacturer: Arcadia Lighting, LLC

Brand: ARCADIA

Technical Requirements Version: 5

Date Qualified: 02/20/2019 Product ID: PLQ5BYQO4NPC

Categorization

Main: Outdoor Luminaires

General Application: Low Output

Primary Use: Outdoor Non-Cutoff and Semi-Cutoff Wall-Mounted Area

Luminaires

System Type: AC

Classification: Standard Is Parent Product: No

DLC Family Code: CCCGMJ

Listing Status: Listed

Reported Data i

Control Features

Version History

Family Data

Light Output: i 3600 lm

Wattage: i 30 W

Efficacy (AC): i 120 lm/W Power Factor: i 0.9

CCT: i 5000 K CRI (Ra): 70

Total Harmonic Distortion: i 15 %

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View

Notes

Manufacturer: Arcadia Lighting, LLC

Brand: ARCADIA

Technical Requirements Version: 5

Date Qualified: 10/04/2018
Product ID: P02TKEI6

Categorization

Main: Outdoor Luminaires

General Application: Mid Output

Primary Use: Outdoor Non-Cutoff and Semi-Cutoff Wall-Mounted Area

Luminaires

System Type: AC

Classification: Standard Is Parent Product: No

DLC Family Code: HAHIYJ

Listing Status: Listed

Reported Data i

Control Features

Version History

Family Data

Light Output: i 7900 lm

Wattage: i 65 W

Efficacy (AC): i 122 lm/W Power Factor: i 0.9

CCT: i 5000 K CRI (Ra): 70

Total Harmonic Distortion: i 15 %

View

Notes

Manufacturer: Arcadia Lighting, LLC

Brand: ARCADIA

Technical Requirements Version: 5

Date Qualified: 12/19/2018 Product ID: PLLS1QQ4J38A

Categorization

Main: Outdoor Luminaires

General Application: High Output

Primary Use: Outdoor Non-Cutoff and Semi-Cutoff Wall-Mounted Area

Luminaires

System Type: AC

Classification: Standard Is Parent Product: No DLC Family Code: IIIMSO

Listing Status: Listed

Reported Data i

Control Features

Version History

Family Data

Light Output: i 10500 lm

Wattage: i 90 W

Efficacy (AC): i 117 lm/W Power Factor: i 0.9

CCT: i 5000 K CRI (Ra): 80

Total Harmonic Distortion: i 15 %