

# PHILIPS

## Linear Troffer

### EvoKit LED Retrofit Kit

2'x4'



Project: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Cat.No: \_\_\_\_\_  
 Type: \_\_\_\_\_  
 Lamps: \_\_\_\_\_ Qty: \_\_\_\_\_  
 Notes: \_\_\_\_\_

Philips EvoKit LED Retrofit Kit is an energy efficient LED alternative to traditional linear fluorescent troffers. Not only does it offer energy savings<sup>1</sup>, it also helps reduce maintenance costs due to its long lifetime. Simple construction helps decrease the installation time meaning you can have an LED solution in your ceiling in just minutes.

#### Ordering guide

Product Number	Description	Watts	Volts	Lumen Maintenance (Hrs.) <sup>2</sup>	Approx. Lumens <sup>3</sup>	CRI	Color Temperature (K)
<b>2'x4' Stock SKUs</b>							
501817	EvoKit 2x4 P 42L 39W 835 2 0-10 7 G2	39	120-277	70,000	4180	80	3500
501866	EvoKit 2x4 P 42L 39W 840 2 0-10 7 G2	39	120-277	70,000	4280	80	4000
501815	EvoKit 2x4 P 42L 39W 835 2 STEP 7 G2	39	120-277	70,000	4180	80	3500
501823	EvoKit 2x4 P 42L 39W 840 2 STEP 7 G2	39	120-277	70,000	4280	80	4000
501874	EvoKit 2x4 P 42L 40W 835 1 Mk10 7 G2	40	120	70,000	4180	80	3500
501882	EvoKit 2x4 P 42L 40W 840 1 Mk10 7 G2	40	120	70,000	4280	80	4000
501924	EvoKit 2x4 P 42L 42W 835 5 Mk10 7 G2	42	277	70,000	4180	80	3500
501940	EvoKit 2x4 P 42L 42W 840 5 Mk10 7 G2	42	277	70,000	4280	80	4000
<b>2'x4' Made to Order SKU's<sup>4</sup></b>							
502864	EvoKit 2x4 P 36L 33W 835 2 STEP 7 G2	33	120-277	70,000	3600	80	3500
502872	EvoKit 2x4 P 36L 33W 840 2 STEP 7 G2	33	120-277	70,000	3680	80	4000
502054	EvoKit 2x4 P 36L 34W 835 1 Mk10 7 G2	34	120	70,000	3600	80	3500
502062	EvoKit 2x4 P 36L 34W 840 1 Mk10 7 G2	34	120	70,000	3680	80	4000
502039	EvoKit 2x4 P 36L 36W 835 2 0-10 7 G2	36	120-277	70,000	3600	80	3500
502047	EvoKit 2x4 P 36L 36W 840 2 0-10 7 G2	36	120-277	70,000	3680	80	4000
502070	EvoKit 2x4 P 36L 36W 835 5 Mk10 7 G2	36	277	70,000	3600	80	3500
502088	EvoKit 2x4 P 36L 36W 840 5 Mk10 7 G2	36	277	70,000	3680	80	4000
501973	EvoKit 2x4 P 52L 51W 835 2 0-10 5 G2	51	120-277	50,000	5300	80	3500
501981	EvoKit 2x4 P 52L 51W 840 2 0-10 5 G2	51	120-277	50,000	5400	80	4000
502831	EvoKit 2x4 P 52L 52W 835 2 STEP 5 G2	52	120-277	70,000	5300	80	3500
502849	EvoKit 2x4 P 52L 52W 840 2 STEP 5 G2	52	120-277	70,000	5400	80	4000
501999	EvoKit 2x4 P 52L 52W 835 1 Mk10 5 G2	52	120	50,000	5300	80	3500
502005	EvoKit 2x4 P 52L 52W 840 1 Mk10 5 G2	52	120	50,000	5400	80	4000
502013	EvoKit 2x4 P 52L 53W 835 5 Mk10 5 G2	53	277	50,000	5300	80	3500
502021	EvoKit 2x4 P 52L 53W 840 5 Mk10 5 G2	53	277	50,000	5400	80	4000

See footnotes on page 3.



# EvoKit 2'x4' LED Retrofit Kit

## Application

- A highly efficient, visually comfortable, architecturally styled LED retrofit kit designed to replace recessed linear fluorescent troffers.
- Unique modular design offers refreshing new look in the ceiling when compared to traditional fluorescent luminaires.
- Single light bar combined with slanted troffer helps reflect light to reduce glare and provide uniform light distribution making it ideal for applications such as offices, schools, healthcare and retail.
- Excellent color rendering with a CRI above 80.
- Extremely high efficacies up to 110 lumens per watt.
- LEDs are an excellent source for use with controls since dimming or frequent switching does not degrade the performance or life of the source.
- Designed for use with Standard Grid (NEMA "G") or Narrow Grid (NEMA "NFG") ceiling T-Grids.
- High efficiency source and luminaire design help significantly reduce energy consumption and more easily comply with known energy codes.
- Helps meet regulation requirements such as ASHRAE 90.1 and Title 24 when matched with suitable controls.

## Construction/Finish

- Simple design allows for quick installation (under 4 minutes) in existing luminaire without the need to break the ceiling plenum.
- Constructed using galvanized steel which helps fight rust and makes for more durable product.
- Minimum depth of only 3" necessary to allow proper clearance and installation of the EvoKit.
- Retrofit kit is powder coated after fabrication with high quality, durable finish to ensure no unfinished edges and avoid future potential of corrosion.
- Components fit together easily without the need for tools during installation.

## Electrical

- Multiple driver options available
  - 0-10V dimming satisfies universal voltage requirements.
  - Mark10 leading edge dimming offers ability to dim without pulling neutral wires making it compatible with more existing systems.
  - Step dimming to 40%.
- 5 year limited warranty includes all components of the retrofit kit, including driver, LED board and nonelectrical components."
- Listed with UL and Design Lights Consortium to ensure quality performance and safety standards are met. High efficiency LEDs have a minimum 70,000 hour rated life (L<sub>70</sub>).

## Enclosure

- Diffuser requires no frames or fasteners and can be easily removed from below without tools if needed.

## Accessories

- Earthquake cables available for extra securement within the ceiling for areas prone to extreme conditions.
- Suitable for use with Philips 503441 emergency backup.
- Suitable for use with a wide range of control systems.
- Appropriate for new construction when used with standard listed lensed or parabolic troffers.

Product Number	Description
502435	EvoKit Accessory Earthquake Cable 317mm
502948	EvoKit 2x4 SpaceWise Accessory
502583	EvoKit 2x4 Replacement Lens
503441	EvoKit Field Installed Emergency Battery Backup

## SpaceWise Technology (SWZ) – To be purchased separately

- Optional SpaceWise automated wireless technology via the unique Philips Evokit SpaceWise Accessory provides integrated occupancy and daylight harvesting for additional control and energy savings. Requiring no system re-wiring, SpaceWise technology is ideal for retrofit applications.
- Occupancy and daylight sensors are integral to each luminaire. Luminaires in large rooms and open plan areas are grouped together up to a maximum of 50 using a handheld remote so room lighting turns on at first sign of occupancy.
- Upon first entry, grouped luminaires brighten up gently to a background level. Once occupants arrive at their workstations, luminaires in the immediate area brighten up to full illumination and will dim down when no presence is detected. Grouped luminaires will dim to off when no presence is detected in the group.
- Daylight sensing is automatic and re-calibration occurs daily when luminaires turn on.
- The SpaceWise Accessory, when combined in the field with any standard 0-10 dimmable Evokit, will transform the kit into a SpaceWise-enabled retrofit kit. There are two variations of the accessory, one for the Evokit 2x4 and one for the Evokit 2x2.



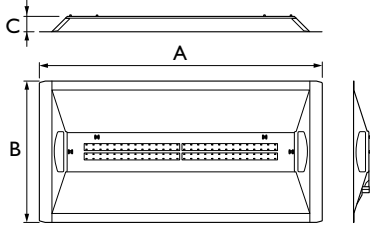
EvoKit			
Model	Initial Lumens	Input Power	Lumens per Watt
EvoKit 2x4 P 42L 39W 840 2 0-10 7 G2 (501866)	4280	40	107

EvoKit with Spacewise (SWZ)			
Model	Initial Lumens	Input Power Max Output (W)	Input Power Background Output (W)
High Power Setting (120/277V)	4280	40/41	14/15
Medium Power Setting (120/277V)	3766	36/36	13/14
Low Power Setting (120/277V)	3296	31/32	12/13

# EvoKit 2'x4' LED Retrofit Kit

## Dimensions

A Face Plate Length	B Face Plate Width	C Height
47.83"	23.9"	2.95"



## Energy Saving Solution – 2'x4'

Present Wattage	85 W
x Annual Operating Hours	4,380 hrs
	= 372,300 watt-hours
+1,000	= 372.3 kWh per year
x kWh rate of \$0.11	= \$40.95 per year
x 125 fixtures	= \$5,119.13 annual energy cost per space

Present Wattage	39 W
x Annual Operating Hours	4,380 hrs
	= 170,820 watt-hours
+1,000	= 170.82 kWh per year
x kWh rate of \$0.11	= \$18.79 per year
x 125 fixtures	= \$2,348.78 annual energy cost per space

**Total Estimated Annual Savings<sup>◇</sup> = \$2,770.35**

◇ Based on 125 fixtures per space operating 4,380 hours a year. 125 fixtures is roughly equivalent to a 10,000 square foot space. kWh rates will vary.

## 2'x4' EvoKit, P 36L 36W 835, 3595 delivered lumens

Catalog No.	
Test No.	6L
S/MH	1.2
Lamp Type	929000713713
Ballast	Mark7
Lumens/Watt	100
Input Watts	36

Comparative yearly lighting energy cost per 1000 lumens - \$2.40 based on 3000 hours and \$0.08/kWh

The photometric results were obtained in the Design Lights Consortium Test Lab which is NVLAP accredited by the National Institute of Standards and Technology

Photometric values based on tests performed in compliance with LM-79

Candlepower				
Angle	End	45	Cross	Back-45
0	1318	1318	1318	1318
5	1307	1313	1310	1310
10	1283	1288	1283	1284
15	1243	1247	1243	1244
20	1189	1192	1190	1189
25	1121	1126	1126	1123
30	1042	1048	1052	1045
35	953	963	974	960
40	858	873	891	870
45	758	781	811	780
50	658	690	733	690
55	559	604	655	605
60	461	521	574	522
65	369	442	487	439
70	286	358	392	351
75	200	270	275	258
80	124	172	150	153
85	57	69	29	47

### Coefficients of Utilization

#### EFFECTIVE FLOOR CAVITY REFLECTANCE 20 PER (pfc=0.20)

pcc	80			70			50	
	70	50	30	70	50	30	50	30
pw	118	118	118	115	115	115	111	111
RCR	108	103	98	105	101	96	96	93
0	97	90	82	94	88	81	83	79
1	89	79	69	86	77	68	73	68
2	81	69	60	80	68	59	66	58
3	75	61	53	72	60	53	58	52
4	69	56	46	68	55	46	53	46
5	65	51	41	63	50	41	48	40
6	59	46	38	58	46	38	45	36
7	56	42	34	55	41	34	40	34
8	53	40	32	51	39	30	38	30

### Light Distribution

Degrees	Lumens	% Luminaire	Average Luminance			
Angle	End	45°	Cross			
0-30	999	27.9	45	1490	1534	1594
0-40	1608	44.9	55	1353	1462	1587
0-60	2776	77.5	65	1214	1452	1601
0-90	3582	100	75	1073	1448	1475
			85	914	1102	468

## 2'x4' EvoKit, P 42L 39W 835, 4173 delivered lumens

Catalog No.	
Test No.	2L
S/MH	1.2
Lamp Type	929000713713
Ballast	Mark7
Lumens/Watt	107
Input Watts	39

Comparative yearly lighting energy cost per 1000 lumens - \$2.24 based on 3000 hours and \$0.08/kWh

The photometric results were obtained in the Design Lights Consortium Test Lab which is NVLAP accredited by the National Institute of Standards and Technology

Photometric values based on tests performed in compliance with LM-79

Candlepower				
Angle	End	45	Cross	Back-45
0	1530	1530	1530	1530
5	1517	1524	1520	1521
10	1490	1495	1489	1491
15	1443	1447	1442	1444
20	1380	1384	1381	1381
25	1301	1307	1307	1303
30	1209	1216	1221	1213
35	1107	1118	1130	1114
40	996	1013	1035	1010
45	880	906	942	905
50	764	801	851	801
55	649	701	761	703
60	535	605	667	606
65	429	513	566	510
70	332	416	455	407
75	232	313	319	300
80	144	199	174	177
85	67	80	34	54

### Coefficients of Utilization

#### EFFECTIVE FLOOR CAVITY REFLECTANCE 20 PER (pfc=0.20)

pcc	80			70			50	
	70	50	30	70	50	30	50	30
pw	118	118	118	115	115	115	111	111
RCR	108	103	98	105	101	96	96	93
0	97	90	82	94	88	81	83	79
1	89	79	69	86	77	68	73	68
2	81	69	60	80	68	59	66	58
3	75	61	53	72	60	53	58	52
4	69	56	46	68	55	46	53	46
5	65	51	41	63	50	41	48	40
6	59	46	38	58	46	38	45	36
7	56	42	34	55	41	34	40	34
8	53	40	32	51	39	30	38	30

### Light Distribution

Degrees	Lumens	% Luminaire	Average Luminance			
Angle	End	45°	Cross			
0-30	1159	27.9	45	1729	1780	1850
0-40	1867	44.9	55	1570	1697	1842
0-60	3223	77.5	65	1409	1685	1859
0-90	4158	100	75	1245	1681	1712
			85	1061	1279	543

# EvoKit 2'x4' LED Retrofit Kit

## 2'x4' EvoKit, P 52L 51W 835, 5297 delivered lumens

Catalog No. 2l  
 Test No. 1.2  
 S/MH 929000713713  
 Lamp Type Mark7  
 Ballast 103  
 Lumens/Watt 51  
 Input Watts

Comparative yearly lighting energy cost per 1000 lumens - \$2.33 based on 3000 hours and \$0.08/kWh

The photometric results were obtained in the Design Lights Consortium Test Lab which is NVLAP accredited by the National Institute of Standards and Technology

Photometric values based on tests performed in compliance with LM-79

### Candlepower

Angle	End	45	Cross	Back-45
0	1942	1942	1942	1942
5	1925	1935	1930	1930
10	1891	1897	1890	1892
15	1832	1837	1831	1833
20	1752	1756	1753	1752
25	1652	1658	1658	1654
30	1535	1544	1550	1539
35	1404	1419	1434	1414
40	1264	1285	1313	1282
45	1117	1151	1195	1148
50	969	1017	1080	1017
55	823	889	965	892
60	679	768	846	769
65	544	651	718	647
70	421	528	577	516
75	294	398	405	380
80	183	253	221	225
85	85	102	43	69

### Coefficients of Utilization

#### EFFECTIVE FLOOR CAVITY REFLECTANCE 20 PER (pfc=0.20)

pcc	80			70			50		
	pw	70	50	30	70	50	30	50	30
RCR									
0	118	118	118	115	115	115	111	111	111
1	108	103	98	105	101	96	96	93	93
2	97	90	82	94	88	81	83	79	79
3	89	79	69	86	77	68	73	68	68
4	81	69	60	80	68	59	66	58	58
5	75	61	53	72	60	53	58	52	52
6	69	56	46	68	55	46	53	46	46
7	65	51	41	63	50	41	48	40	40
8	59	46	38	58	46	38	45	36	36
9	56	42	34	55	41	34	40	34	34
10	53	40	32	51	39	30	38	30	30

### Light Distribution

Degrees	Lumens	% Luminaire
0-30	1471	27.9
0-40	2370	44.9
0-60	4090	77.5
0-90	5278	100

### Average Luminance

Angle	End	45°	Cross
45	2195	2260	2348
55	1993	2154	2338
65	1788	2138	2359
75	1580	2134	2173
85	1347	1624	690

### FOOTNOTES:

- 1) Please refer to the energy saving chart on page 3 for details.
  - 2)  $L_{70}$  72,000 hours @ 35°C based on TM21 and LM80.
  - 3) Based on photometric testing consistent with IES LM-79.
- \* "Made-To-Order" product is not kept in inventory. Minimum quantities will apply.  
 \*\* These products do not meet DLC criteria.  
 \*\*\* Please visit [www.philips.com/warranties](http://www.philips.com/warranties) for full details.
- † DLC requires the product to meet specific performance requirements regarding: lumen output, spacing criteria, lumens per watt, color temperature, CRI, lifetime and warranty.

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