#### 2' X 4' FLAT LED PANEL







3000 LUMENS 30 WATT According to DLC Test Results

4000 LUMENS 40 WATT According to DLC Test Results

5000 **LUMENS** 50 WATT According to DLC Test Results 6000 **LUMENS** 60 WATT

The FPL1-LED flat led panel is DLC listed, delivers an exceptional 85+ CRI, while achieving approximately 115 lumens per watt. It is available in 3000K, 3500K, 4000K and 5000K CCT options and has 0-10V dimming, which is perfect for new construction applications or retrofitting existing fluorescent troffer fixtures with recessed installations, widely used in office spaces, major retail stores, education, government, healthcare, and hospitality.

**LED CHIP** - Tested and approved under LM-80 SMD standards. Active color management maintains superior color consistency over time and temperature. Every fixture is tuned as a complete system to the optimal color point before shipment, ensuring fixture-to-fixture color consistency.

**HEAT SINK** - The source and radiator distribution in fixture around, heat source distribution placed solve heat concentration, quantity of heat conduction of each other and radiation, effective to solve thermal management system design of the cooling. This enables the LEDs to consistently run cooler, providing significant boosts to lifetime, efficacy, and color consistency.

OPTICAL SYSTEM - The proprietary optical system utilizes a unique combination of reflective and refractive optical components to achieve a uniform, aesthetically pleasing appearance. Use of a guide plate laser allows high density pixels to shine, creating an even illumination with no glare, while maintaining high efficacy.

THERMAL MANAGEMENT - LED light engines are attached directly to the housing which keeps the engines cool. Our advanced thermal management system allows the light output of the LED engines to be maintained at 70% of initial lumens at 83,000 hours of operation.

**DIMMING** - The FPL1-LED comes standard with 0-10V dimming on either 120 or 277V. Dimmable down to 1% of initial lumens. Also available in Lutron dimming options. Consult factory for dimmer compatibility.

**ELECTRICAL** - Powered by high-quality, constant-current power LED drivers which are rated for 50 to 60Hz at 120-277V input, produce less than 20% THD, and have a power factor of .90 to 1.00.

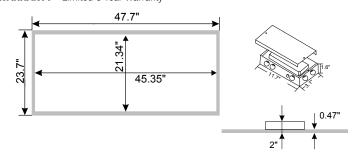
**MAINTENANCE** - LED engines and driver can be accessed through the bottom by removing hinged door frame and driver box cover. LED engines are removable and upgradable even after fixture installation. Fixture can be regularly and safely wiped down to ensure optimal fixture performance.

**OPTIONS** - Fixtures can be shipped pre-installed with daylight harvesting controls, occupancy sensors, and/or power pack. Available manufacturer options include Leviton, Wattstopper, Hubble Automation, and others.

QUALITY CONTROL - Every fixture is turned on and rigorously tested by our QC Department before shipping.

**LISTING** - UL/C-UL listed to US and Canadian standards. Listed for Damp Location

**WARRANTY** - Limited 5 Year Warranty





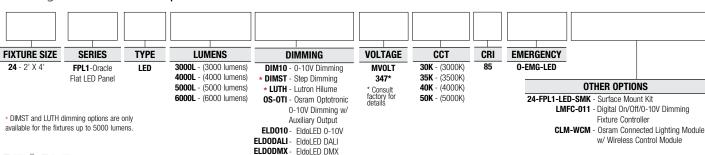








#### Ordering Information: Example: 24-FPL1-LED-4000L-DIM10-MVOLT-30K-85



2'X4' **FPL1** 

Flat LED Panel Luminaire

### **CONTROL OPTIONS**

## EASYFIT-

## Controls Options to be Installed on the Fixture

Self-powered sensors and switches, combined with LED fixture controllers and a commissioning tool, permit easy configuration, intelligent local control, and seamless integration into building automation systems.



**LEDRU** LED Relay Zone Controller 0-10V



LED Zone Controller 0-10V

#### Controls Provided by EnOcean



**EOSCU** Occupancy Sensor Ceiling Mount



ESRPU/ EDRPU Wall Switches



**EOSWU** Occupancy Sensor Wall Mount



**LEVITON**Wall Switches
902 MHz category



**ELLSU**Daylight Sensor
Ceiling Mount



**NWC 300U** Navigan Wireless Commissioner

#### PHILIPS EasySense

Philips EasySense sensors provide luminaire-level control with Occupancy sensing, Daylight harvesting, and Field task tuning.

## Controls Installed on the Fixture



#### SRR

Fixture will be Shipped Sensor Ready with SRB Bridge . Fixture will be Compatible with EasySense Sensor SNS200-CMP which can be Added in the Field for Remote Mounting. Fixture May Only be Controlled with Philips Field App or Wireless Switches or any 0-10V. Wall Box Dimmer.



Fixture will be Shipped Sensor Ready with PHILIPS-XSR driver and EasySense SNS200-CMP Sensor which is Included to be Remote Mounted. Fixture May Only be Controlled with Philips Field App or Wireless Switches



SRB + SNS200-CMP



Fixture Will be Shipped Sensor Ready with PHILIPS SRB Bridge and EasySense SNS200-CMP Sensor which is Included to be Remote Mounted. Fixture May Only be Controlled with Philips Field App or Wireless Switches or any 0-10V. Wall Box Dimmer.

#### **Controls Provided by Philips**



Illumra Wireless Switches



Philips Field App

### **CONTROL OPTIONS**

#### **OLUTRON**

#### Controls Installed on the Fixture



**FCJS-010** Individual Fixture Control

Fixture Will be Shipped LUTRON VIVE Enabled with LUTRON FCJS-010 0-10V Control Module Installed on the Fixture. Fixtures will be compatible with Lutron FC-SENSOR Occupancy/ Daylight Sensor or FC-VSENSOR Vacancy/Daylight Sensor which can be Added in the Field for Remote Mounting. Fixture May be Controlled with any Vive control systems. Fixtures must be ordered with a 0-10V. Driver.



Fixture Will be Shipped LUTRON VIVE Enabled with LUTRON FCJS-ECO EcoSystem Control Module Control Module Installed on the Fixture. Fixtures will be compatible with Lutron FC-SENSOR Occupancy/Daylight Sensor or FC-VSENSOR Vacancy/Daylight Sensor which can be Added in the Field for Remote Mounting. Fixture May be Controlled with any Vive control systems. Fixtures must be ordered with a Lutron Driver.



TOTAL LUMINAIRE EFFICACY: 107

TOTAL LUMINAIRE EFFICACY: 115

Candela Tabulation

Candala Tabulation

Zone	Lumens	%Lamp	%Fixt
0-30°	1577.99	26.20	26.20
0-40⁰	2592.47	43.00	43.00
0-60⁰	4626.62	76.80	76.80
0-90⁰	5977.1	99.20	99.20
0-180⁰	6028.06	100.00	100.00

Angle In Degrees	Average 0°	Average 45°	Average 90°
45°	2676	2609	2581
55°	2615	2542	2503
65⁰	2495	2397	2353
75⁰	2255	2143	2105
85⁰	1904	1767	1694

Candela Tabulation					
	<u>0</u>	<u>45</u>	90		
0	2034.262	2034.262	2034.262		
5	2022.370	2019.360	2019.640		
15	1958.620	1946.460	1942.370		
25	1832.490	1811.040	1801.880		
35	1648.600	1617.170	1605.300		
45	1407.590	1372.240	1357.610		
55	1115.670	1084.650	1067.850		
65	784.310	753.580	739.920		
75	434.160	412.710	405.320		
85	123.450	114.550	109.810		
90	7.810	7.090	11.490		

0-180 1.28 90-270 1.26 Diagonal

Spacing Criteria

Coefficients of Utilization - Zonal Cavity Method Effective Floor Cavity Reflectance 20% = PF

	RC		80	0%			70	0%			50%			30%			10%		0%
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
ROOM CAVITY RATIO	0 1 2 3 4 5 6 7 8 9	119 108 98 89 82 75 69 64 60 56	119 103 90 79 69 62 56 50 46 42 39	119 99 83 70 60 53 47 42 37 34 31	119 95 77 64 54 46 40 35 31 28 26	116 105 95 87 79 73 67 62 58 54	116 101 88 77 68 61 55 50 45 42 38	116 97 81 69 60 52 46 41 37 34 31	116 93 76 63 53 46 40 35 31 28 26	111 96 84 74 65 59 53 48 44 40 37	111 93 79 67 58 51 45 40 36 33	111 90 74 62 52 45 39 35 31 28 25	106 92 81 71 63 56 51 46 43 39	106 90 76 65 57 50 44 40 36 33	106 87 72 60 52 45 39 35 31 28 25	101 89 77 68 61 54 49 45 41 38	101 86 74 63 55 49 43 39 35 32 29	101 84 70 59 51 44 39 34 31 28 25	99 82 68 57 49 42 36 32 29 26 23

RC - Ceiling Cavity Reflectance

Zonal Lumone Summary

## EFFICACY: **118** Lm/w

#### 24-FPL1-LED-5000L-DIM10-MV0LT-40K-80

WATTAGE: 52.4

# Candle Power Distribution (Candelas) 935 1402 109

Zonai Lumens Summary						
Zone	Lumens	%Lamp	%Fixt			
0-30°	1458.82	26.10	26.10			
0-40°	2401.23	43.00	43.00			
0-60⁰	4297.57	76.90	76.90			
0-90°	5547.12	99.20	99.20			
0-180⁰	5590.75	100.00	100.00			

LUMENS: **5591** 

Angle In Degrees	Average 0°	Average 45°	Average 90°
45°	2455	2390	2365
55°	2397	2320	2291
65°	2276	2198	2166
75⁰	2050	1969	1937
85⁰	1709	1619	1608

Luminance Data (cd/sq.m)

Cand	eia Tabulatioi	1	
	<u>0</u>	45	90
0	1867.845	1867.845	1867.845
5	1863.210	1855.830	1854.330
15	1802.730	1786.210	1781.300
25	1685.070	1660.210	1651.200
35	1513.610	1482.190	1470.310
45	1291.570	1257.290	1244.160
55	1022.620	990.090	977.670
65	715.560	691.100	680.850
75	394.620	379.110	372.990
85	110.810	104.990	104.240
90	6.560	6.500	10.660

#### Spacing Criteria

1.28 1.26 90-270 Diagonal 1.40

EFFICACY: 107 LM/W

## Coefficients of Utilization - Zonal Cavity Method Effective Floor Cavity Reflectance 20% = PF

50% 50% 30% 30% 10% 50% 30% 30% 10% 50% 30% 10% 87 72 61 52 45 39 34 31 28 87 74 63 55 49 43 39 35 32 1 2 3 4 5 6 7 8 9 108 98 89 82 75 69 64 60 56 103 90 79 69 62 56 50 46 42 99 83 70 60 53 47 42 37 34 95 77 64 54 46 40 35 31 28 105 95 87 79 73 67 62 58 54 101 88 77 68 61 55 50 45 41 97 81 69 60 52 46 41 37 34 93 76 63 53 46 40 35 31 28 97 84 74 65 59 53 48 44 40 93 79 67 58 51 45 40 36 33 90 74 62 52 45 39 35 31 28 90 76 65 57 50 44 40 36 32 89 77 68 61 54 49 45 41 38 82 68 57 49 42 36 32 29 26 ROOM CAVITY RATIO

#### 24-FPL1-LED-4000L-DIM10-MV0LT-40K-80

WA

١I	TAGE:	41.5	

Candle Power Distribution (Candelas)					
	90°				
400	80°				
799	60°				
1199	50°				
1598	30°				

Zonal Lumens Summary					
Zone	Lumens	%Lamp	%Fixt		
0-30⁰	1245.6	26.10	26.10		
0-40°	2050.1	42.90	42.90		
0-60°	3671.17	76.90	76.90		
0-90°	4738.36	99.30	99.20		
0-180°	4775.06	100.00	100.00		

**LUMENS: 4775** 

Angle Degre	In Average es 0°	Average 45°	Average 90°
45°	2111	2064	2035
55⁰	2065	2005	1969
65⁰	1970	1899	1853
75⁰	1807	1718	1662
85⁰	1542	1427	1369

Luminance Data (cd/sq.m)

	0	45	90
0	1594.868	1594.868	1594.868
5	1593.790	1588.060	1585.600
15	1544.100	1532.360	1526.630
25	1445.030	1427.270	1417.440
35	1299.500	1276.960	1263.580
45	1110.520	1085.520	1070.370
55	880.920	855.370	840.070
65	619.200	597.040	582.430
75	347.990	330.710	320.000
85	99.980	92.490	88.730
90	5.810	4.630	5.080

#### Spacing Criteria

0-180 1.30 90-270 1.26 Diagonal 1.40

## EFFICACY: 115 LM/W

## Coefficients of Utilization - Zonal Cavity Method Effective Floor Cavity Reflectance 20% = PF

WWW.ORACLELIGHTING.COM > TEL: (323) 888-1973 > FAX: (323) 888-1977

	RC	80%				70%				50%				30%			10%		
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
ROOM CAVITY RATIO	5 6 7 8 9	119 108 98 89 82 75 69 64 60 56	119 103 90 79 69 62 56 50 46 42 39	119 99 83 70 60 53 47 42 37 34 31	119 95 77 64 54 46 40 35 31 28 26	116 105 95 87 79 73 67 62 58 54	116 101 88 77 68 61 55 50 45 41 38	116 97 81 69 60 52 46 41 37 34 31	116 93 76 63 53 46 40 35 31 28 25	111 97 84 74 65 59 53 48 44 40 37	111 93 79 67 58 51 45 40 36 33 30	111 90 74 62 52 45 39 35 31 28 25	106 92 81 71 63 56 51 46 42 39 36	106 90 76 65 57 50 44 40 36 32 30	106 87 72 60 52 45 39 34 31 28 25	101 89 77 68 61 54 49 45 41 38 35	101 87 74 63 55 49 43 39 35 32 29	101 85 70 59 51 44 39 34 31 28 25	99 82 68 57 49 42 36 32 29 26