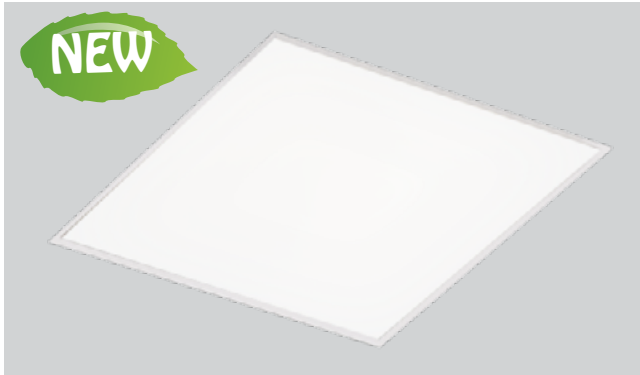




* For list of qualified DLC fixture, please consult factory



2000 LUMENS	3000 LUMENS	4000 LUMENS	5000 LUMENS
20 WATT	30 WATT	39 WATT	50 WATT
According to DLC Test Results	According to DLC Test Results	According to DLC Test Results	

The FPL1-LED flat led panel are DLC Listed, delivers high Lumen of exceptional 85+ CRI light while achieving about 100 lumens per watt. It is available in 4000k,5000k DLC CCT options and has 0-10V dimming, which is perfect for new construction applications or retrofitting existing fluorescent troffer fixtures with recessed installation,widely used in office spaces, major retail stores, education,government, healthcare, and hospitality

LED CHIP - Use approved LM-80 SMD packing,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 - Proprietary optical system utilizes a unique combination of reflective and refractive optical components to achieve a uniform, comfortable appearance. Use guide plate laser high density pixels to shine, and has the light even, high lum maintenance, shiny surface, no shelter Angle, and no glare, 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.

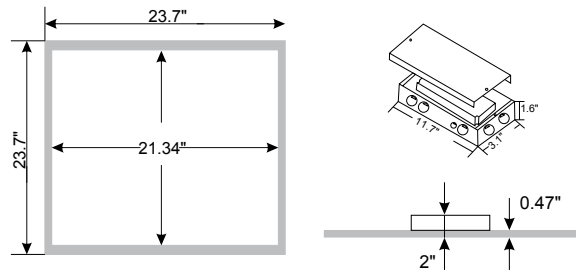
MAINTENANCE - LED engines and driver can be accessed through the bottom by removing hinged door frame and driver box cover. LED engines are removable and upgradable even after fixture installation. Fixture can be regularly and safely wiped down to ensure optimal fixture performance.

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



LED
2'X2'
FPL1

Flat LED Panel Luminaire

Ordering Information: Example: 22-FPL1-LED-4000L-DIM10-MVOLT-30K-80

FIXTURE SIZE	SERIES	TYPE	LUMENS	DIMMING	VOLTAGE	CCT	CRI	EMERGENCY	OTHER OPTIONS
22 - 2' X 2'	FPL1-Oracle Flat LED Panel	LED	2000L - (2000 lumens) 3000L - (3000 lumens) 4000L - (4000 lumens) 5000L - (5000 lumens)	DIM10 - 0-10V Dimming DIMST - Step Dimming LUTH - Lutron Hilume OS-OTI - Osram Optotronic 0-10V Dimming w/ Auxiliary Output	MVOLT 347* * Consult factory for details	30K - (3000K) 35K - (3500K) 40K - (4000K) 50K - (5000K)	85	0-EMG-LED	22-FPL1-LED-SMK - Surface Mount Kit FS-355 - Line Voltage Motion Sensor LMFC-011 - Digital On/Off/0-10V Dimming Fixture Controller CLM-WCM - Osram Connected Lighting Module w/ Wireless Control Module

CONTROL OPTIONS



Controls Installed on the Fixture



LMFC-011

Fixture Will be Shipped Legrand Wattstopper DLM Enabled with LMFC-011 Module Controller Installed on the Fixture. Fixtures will be compatible with Legrand Wattstopper DLM Load Controllers, DLM Sensors, DLM Switches, DLM Remote Control, and DLM Configuration tool.

Switches



LMSW-105 LMDM-101

Remote



LMRH-105

Configuration tool



LMCT-100-2

Plug Load Controllers

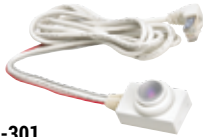


LMPL-101 LMPL-201

Sensors



LMDC-100 LMLS-400 LMLS-500



FD-301

Fixture Will be Shipped with Legrand Wattstopper FD-301 (Integrated Daylight Dimming Photosensor) installed and FS-PP-V2 Fixture Power Pack.



FS-PP-V2



FSP-202

Fixture Will be Shipped with Legrand Wattstopper FSP-202 (multi-level control based on motion and/or daylight contribution) installed.



FSP-212

Fixture Will be Shipped with Legrand Wattstopper FSP-212 (multi-level control based on motion and/or daylight contribution) installed.

LED

Control Options



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

Controls Installed on the Fixture



SRB

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.



PHILIPS-XSR + SNS200-CMP

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



ZBT-S1AWH ZBT-S2AWH

Illumra Wireless Switches



Philips Field App

CONTROL OPTIONS

EASYFIT

by EnOcean

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.

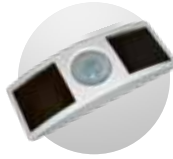


LEDRU
LED Relay Zone
Controller 0-10V



LEDDU
LED Zone
Controller 0-10V

Controls Provided by EnOcean



EOSCU
Occupancy Sensor
Ceiling Mount



EOSWU
Occupancy Sensor
Wall Mount



ELLSU
Daylight Sensor
Ceiling Mount



ESRPU/EDRP
Wall Switches



LEVITON
Wall Switches
902 MHz category



NWC 300U
Navigan Wireless
Commissioner

enlighted

Enlighted Smart Sensors features digital motion, ambient light, and temperature sensing, the device provides autonomous fixture-level control

Controls Installed on the Fixture



CU-E3-1R + SU-4E-00

Fixture Will be Shipped with Enlighted CU-E3-1R Control Unit Power Pack installed and SU-4E-00 Sensor provided (to be installed remotely). Fixture May be Controlled with Enlighted Gateway, Energy Manager or Enlighted Room Controller WS-2-00

CU-E3-1R



Fixture Will be Shipped Sensor Ready with Enlighted CU-E3-1R Control Unit Power Pack. Fixture will be compatible with Enlighted SU-4E-00 Sensor which can be Added in the Field Remote Mounting. Fixture May be Controlled with Enlighted Gateway, Energy Manager or Enlighted Room Controller WS-2-00

PHILIPS-XSR



Fixture Will be Shipped Sensor Ready with PHILIPS-XSR driver. Fixtures will be compatible with Enlighted CS-D2 Two-wire sensor which can be Added in the Field for Remote Mounting. Fixture May be Controlled with Enlighted Gateway, Energy Manager or Enlighted Room Controller WS-2-00.

Controls Provided by Enlighted

WS-2-00
Enlighted Room
Controller



Gateway



Switch



Programmable with Laptop



PoE Network Switch



Energy Manager

LED

Control Options

CONTROL OPTIONS



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.



FCJS-ECO
Individual
Fixture Control

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.

Controls Provided by Lutron



Lutron
App



Vive Wireless Hub



DayLight
Sensor



Ceiling Mount
Occupancy Sensor



Ceiling Mount
Occupancy/Daylight
Sensor



Wall Mount
Occupancy Sensor



Wall Mount
Switch



Pico
Remote



Fixture will be shipped with Leviton ZL027-N0W power control module installed on the fixture. Fixtures will be compatible with Leviton ZL00J-D0W sensor control module which can be added in the field for remote mounting. Fixture must be controlled with Leviton Intellect Keypad Room Controller, or Leviton Neuron App.



ZL027-N0W
Power control module



ZL00J-D0W
Sensor control module

Leviton Keypad



ZLDNK-1W



ZLDNK-2W



ZLDNK-4W



ZLDNK-8W

Intellect™ Keypad Room
Controller (Required)

Leviton App



Neuron App

LED

Control Options

PHOTOMETRY DATA

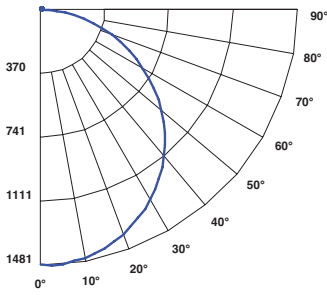
22-FPL1-LED-4000L-DIM10-MVOLT-40K-80

WATTAGE: 40.4

LUMENS: 4372

TOTAL LUMINAIRE EFFICACY: 108

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-30°	1146.41	26.20	26.20
0-40°	1884.21	43.10	43.10
0-60°	3366.37	77.00	77.00
0-90°	4333.00	99.10	99.10
0-180°	4372.04	100.00	100.00

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0°	Average 45°	Average 90°
45°	3846	3731	3673
55°	3745	3613	3542
65°	3552	3405	3322
75°	3246	3065	2945
85°	2803	2569	2388

Candela Tabulation

	0	45	90
0	1471.71	1471.71	1471.71
5	1476.44	1465.11	1458.82
15	1426.62	1408.18	1397.94
25	1330.95	1305.14	1292.02
35	1191.29	1161.79	1146.49
45	1011.60	981.42	965.98
55	798.93	770.93	755.77
65	558.36	535.26	522.15
75	312.46	295.03	283.55
85	90.86	83.28	77.40
90	7.20	6.08	4.66

Spacing Criteria

0-180	1.28
90-270	1.24
Diagonal	1.40

EFFICACY: 108 LM/W

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 20% = PF

RC	RW	80%				70%				50%				30%				10%				0%			
		70%	50%	30%	10%	70%	50%	30%	10%	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	101	101	101	99	99	99	99	99			
1	108	103	99	95	105	101	97	93	97	93	90	92	90	87	89	87	85	82	82	82	82	82			
2	98	90	83	77	95	88	81	76	84	79	74	81	76	72	77	74	70	68	68	68	68	68			
3	89	79	70	64	87	77	69	63	74	67	62	71	65	61	68	63	59	57	57	57	57	57			
4	82	70	61	54	79	68	60	53	65	58	52	63	57	52	61	55	51	49	49	49	49	49			
5	75	62	53	46	73	61	52	46	59	51	45	56	50	45	55	49	44	42	42	42	42	42			
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	49	43	39	37	37	37	37	37			
7	64	50	42	35	62	50	41	35	48	40	35	46	40	35	45	39	34	32	32	32	32	32			
8	60	46	37	32	58	45	37	31	44	36	31	43	36	31	41	35	31	29	29	29	29	29			
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26	26	26	26	26			
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	35	29	25	23	23	23	23	23			

RC - Ceiling Cavity Reflectance

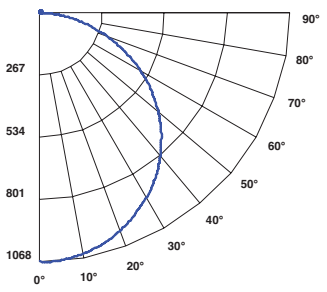
22-FPL1-LED-3000L-DIM10-MVOLT-40K-80

WATTAGE: 31.3

LUMENS: 3214

TOTAL LUMINAIRE EFFICACY: 103

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-30°	830.03	25.80	25.80
0-40°	1369.42	42.60	42.60
0-60°	2457.88	76.50	76.50
0-90°	3184.84	99.10	99.10
0-180°	3214.35	100.00	100.00

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0°	Average 45°	Average 90°
45°	2766	2778	2786
55°	2702	2715	2723
65°	2559	2583	2598
75°	2343	2362	2399
85°	1987	2039	2122

Candela Tabulation

	0	45	90
0	1063.022	1063.022	1063.022
5	1059.200	1058.800	1057.020
15	1023.040	1023.860	1022.630
25	954.840	956.340	956.340
35	855.450	857.640	858.870
45	727.500	730.640	732.690
55	576.470	579.340	580.990
65	402.300	406.110	408.430
75	225.580	227.360	230.910
85	64.430	66.100	68.780
90	7.430	6.690	6.810

Spacing Criteria

0-180	1.28
90-270	1.28
Diagonal	1.40

EFFICACY: 103 LM/W

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 20% = PF

RC	RW	80%				70%				50%				30%				10%				0%			
		70%	50%	30%	10%	70%	50%	30%	10%	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	101	101	101	99	99	99	99	99			
1	108	103	99	95	105	101	97	93	96	93	90	92	90	87	88	86	84	82	82	82	82	82			
2	98	90	82	77	95	88	81	76	84	78	74	80	76	72	77	73	70	68	68	68	68	68			
3	89	79	70	63	87	77	69	63	74	67	61	71	65	60	68	63	59	57	57	57	57	57			
4	82	69	60	53	79	68	59	53	65	58	52	63	56	51	60	55	50	48	48	48	48	48			
5	75	62	53	46	73	61	52	45	58	51	45	56	50	44	54	48	44	42	42	42	42	42			
6	69	55	46	40	67	54	46	40	53	45	39	51	44	39	49	43	38	36	36	36	36	36			
7	64	50	41	35	62	49	41	35	48	40	35	46	39	34	45	39	34	32	32	32	32	32			
8	60	46	37	31	58	45	37	31	44	36	31	42	36	31	41	35	30	28	28	28	28	28			
9	56	42	34	28	54	41	33	28	40	33	28	39	32	28	38	32	27	25	25	25	25	25			
10	52	39	31	25	51	38	30	25	37	30	25	36	30	25	35	29	25	23	23	23	23	23			

RC - Ceiling Cavity Reflectance

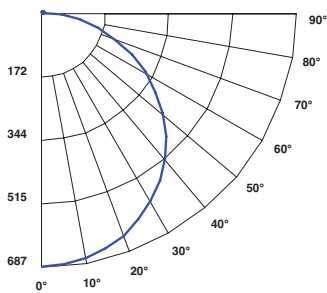
22-FPL1-LED-2000L-DIM10-MVOLT-40K-80

WATTAGE: 20.2

LUMENS: 2072

TOTAL LUMINAIRE EFFICACY: 103

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-30°	536.48	25.90	25.90
0-40°	881.95	42.60	42.60
0-60°	1576.01	76.10	76.10
0-90°	2054.97	99.30	99.20
0-180°	2071.77	100.10	100.00

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0°	Average 45°	Average 90°
45°	1794	1782	1764
55°	1754	1738	1711
65°	1700	1671	1628
75°	1610	1579	1508
85°	1564	1540	1412

Candela Tabulation

	0	45	90
0	687.094	687.094	687.094
5	683.460	684.830	685.140
15	661.180	661.670	661.700
25	617.710	616.970	615.600
35	553.900	551.240	549.030
45	471.880	468.800	463.930
55	374.230	370.720	364.960
65	267.250	262.620	255.960
75	154.980	152.040	145.180
85	50.690	49.910	45.780
90	6.850	6.830	5.140

Spacing Criteria

0-180	1.28
90-270	1.28
Diagonal	1.40

EFFICACY: 103 LM/W

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 20% = PF

RC	RW	80%				70%				50%				30%				10%				0%			
		70%	50%	30%	10%	70%	50%	30%	10%	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	101	101	101	99	99	99	99	99			
1	108	103	99	94	105	101	97	93	96	93	90	92	89	87	88	86	84	82	82	82	82	82			
2	98	89	82	76	95	87	81	75	84	78	73	80	76	72	77	73	70	68	68	68	68	68			
3	89	78	70	63	87	77	69	62	73	67	61	71	65	60	68										