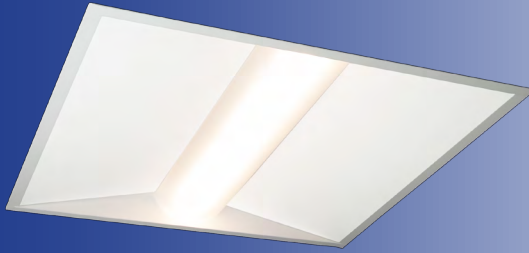


FORMFOCUS



Project: _____
 Location: _____
 Cat. #: _____
 Type: _____
 Quantity: _____

LED

FFL LED Lay-In

Features:

- High performance LED technology
- 0-10V dimming drivers standard
- Field replaceable LED boards and drivers
- Frosted diffuser optimized to balance efficiency and aesthetics
- Available in 2x2, 2x4, 1x4 and a wide variety of lumen outputs for maximum flexibility
- Low profile and lightweight housing allows for easy installation

Applications:

Suitable for most commercial and institutional applications

- Office
- Retail
- Classrooms
- Healthcare Facilities

Predicted L70 Lifetime:

- >90,000 hrs (calculated)
- >72,000 hrs (reported)
- 76% lumen maintenance @ 72,000 hrs (based on LM-80, TM-21 and in-situ laboratory testing)

Construction:

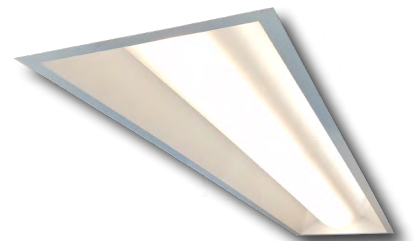
- Die-formed heavy-gauge cold rolled steel ballast housing with precision brake formed aluminum LED tray
- Frosted Acrylic Diffuser
- White enamel finish

Certifications:

- UL 1598 listed for US and Canada, suitable for damp locations
- DesignLights Consortium qualified on specific configurations (refer to DLC qualified products list for exact model numbers) <http://designlights.org/>

Warranty:

- 5 year limited system warranty
- see www.LumenFocus.com for complete warranty terms and conditions
- 10 year extended warranty available on specific models
(Not available on all models. Certain conditions apply. Consult factory or sales representative for details.)



Powered by:



EVERLINE
LED Technology

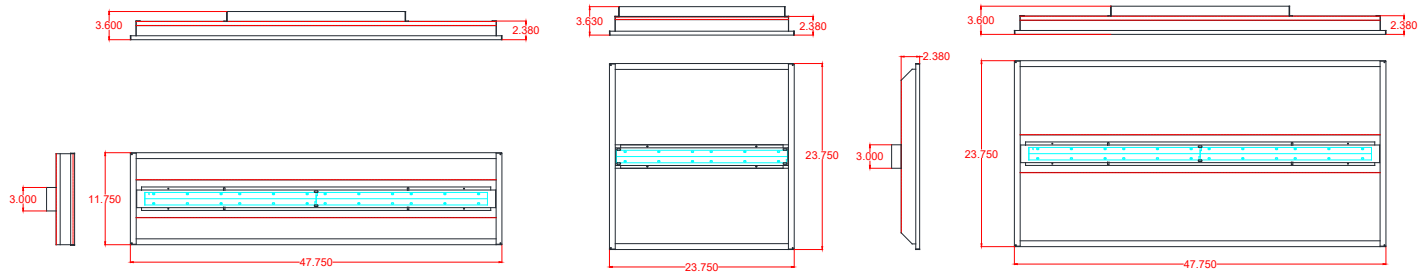
Ordering Guide:

example: FFL 24 MD UV FA 835

Series	Size	Output	Voltage	Shielding	CRI/CCT	-	Options
FFL				FA		-	
FFL	24 22 14	SL VL LW ML MD HI VH SH	UV 34	FA	830 835 840 850		Blank EXT10 SD ES1SR ES2SR W6 W10 EM1 F GC BAA

Size:	24	2'x4'	CRI/CCT:	830	80 CRI / 3000K
	22	2'x2'		835	80 CRI / 3500K
	14	1'x4'		840	80 CRI / 4000K
				850	80 CRI / 5000K
Lumen Output:	SL	Super Low	Options:	Blank	None
	VL	Very Low		EXT10	10 yr extended warranty <i>(Not available on all models. Certain conditions apply. Consult factory or sales representative for details.)</i>
	LW	Low			
	ML	Medium Low <i>(available in 2x4 only)</i>			
	MD	Medium		SD	Step Dimming
	HI	High		ES1SR	Philips EasySense Occupancy/Daylight sensor with basic grouping <i>(120-277V only)</i>
	VH	Very High <i>(available in 2x4 only)</i>		ES2SR	Philips EasySense Occupancy/Daylight sensor with advanced grouping <i>(120-277V only)</i>
	SH	Super High <i>(available in 2x4 only)</i>			
Voltage:	UV	120-277V		W6	6' Whip
	34	347V		W10	10' Whip
Shielding:				EM1	Emergency Kit - 12W 1200 nominal lumens <i>(120-277V / 0°C-50°C ambient)</i>
				F	Fuse
				GC	Grid Clip
				BAA	Buy American Act Compliant

Schematic:



Performance Chart:

Catalog #	Watts	Lumens (830)	LPW (830)	Lumens (835)	LPW (835)	Lumens (840)	LPW (840)	Lumens (850)	LPW (850)
FFL 24 SL UV FA xxx	25	3069	121.3	3117	123.2	3223	127.4	3352	132.5
FFL 24 VL UV FA xxx	28	3720	132.9	3779	134.9	3907	139.6	4064	145.1
FFL 24 LW UV FA xxx	33	4256	129.0	4323	131.0	4470	135.5	4649	140.9
FFL 24 ML UV FA xxx	36	4559	126.6	4630	128.6	4788	133.0	4980	138.3
FFL 24 MD UV FA xxx	46	5753	125.1	5844	127.0	6043	131.4	6285	136.6
FFL 24 HI UV FA xxx	52	6778	130.3	6884	132.4	7119	136.9	7404	142.4
FFL 24 VH UV FA xxx	60	7547	125.8	7666	127.8	7928	132.1	8245	137.4
FFL 24 SH UV FA xxx	69	8681	125.1	8818	127.1	9119	131.4	9484	136.7
FFL 22 SL UV FA xxx	18	2219	122.6	2254	124.5	2331	128.8	2424	133.9
FFL 22 VL UV FA xxx	25	2894	116.2	2940	118.1	3040	122.1	3162	127.0
FFL 22 LW UV FA xxx	32	3769	117.8	3828	119.6	3959	123.7	4117	128.7
FFL 22 MD UV FA xxx	37	4578	124.7	4655	126.8	4809	131.0	4953	135.0
FFL 22 HI UV FA xxx	50	5751	114.8	5842	116.6	6041	120.6	6283	125.4
FFL 14 SL UV FA xxx	18	2247	124.8	2283	126.8	2360	131.1	2455	136.4
FFL 14 VL UV FA xxx	25	2949	120.4	2996	122.3	3098	126.5	3222	131.5
FFL 14 LW UV FA xxx	28	3663	130.8	3721	132.9	3848	137.4	4002	142.9
FFL 14 MD UV FA xxx	36	4489	124.7	4559	126.7	4715	131.0	4904	136.2
FFL 14 HI UV FA xxx	50	6045	121.9	6140	123.8	6350	128.0	6604	133.1

Photometric Data:

FFL 24 SL UV FA 830

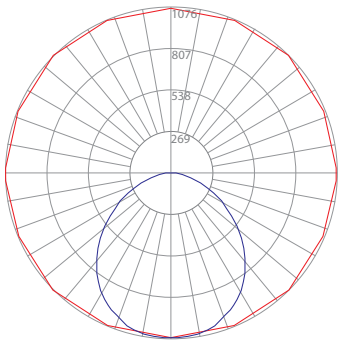
Test No.: LLIA000690-002
Luminaire Lumens: 3,069 lm
Luminaire Watts: 25.3W
Efficacy: 121.3 LPW
Spacing Criterion (0-180): 1.26
Spacing Criterion (90-270): 1.28

Luminance Data (cd/sq.m)			
Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1426	1543	1604
55	1256	1475	1573
65	1043	1385	1526
75	805	1347	1532
85	561	1592	1088

Coefficients Of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC		80				70					50			30	
RW		70	50	30	10	70	50	30	10	50	30	10	50	30	10
0		119	119	119	119	116	116	116	116	111	111	111	106	106	106
1		108	103	99	95	106	101	97	94	97	94	91	93	90	88
2		98	90	83	77	96	88	82	76	85	79	75	81	77	73
3		90	79	71	64	87	77	70	64	74	68	62	72	66	61
4		82	70	61	54	80	69	60	54	66	59	53	64	57	52
5		75	62	53	47	73	61	53	46	59	52	46	57	51	45
6		70	56	47	41	68	55	47	41	53	46	40	52	45	40
7		65	51	42	36	63	50	42	36	49	41	36	47	40	35
8		60	47	38	32	59	46	38	32	45	37	32	43	37	32
9		56	43	34	29	55	42	34	29	41	34	29	40	33	28
10		53	39	31	26	51	39	31	26	38	31	26	37	30	26

Tested in accordance with IES standards utilizing absolute photometry per LM-79-08



Zonal Lumen Summary		
Zone	Lumens	%Fixt
0-20	392.22	12.80
0-30	833.42	27.20
0-40	1364.28	44.50
0-60	2396.40	78.10
0-80	2992.48	97.50
0-90	3069.12	100.00
90-120	0.00	0.00
90-130	0.00	0.00
90-150	0.00	0.00
90-180	0.00	0.00
0-180	3069.12	100.00

FFL LED Lay-In

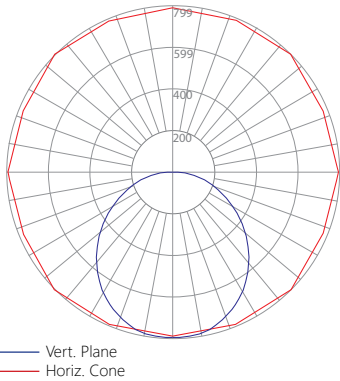


Photometric Data:

FFL 22 SL UV FA 830

Test No.: LLIA000686-001A-R01
Luminaire Lumens: 2,219 lm
Luminaire Watts: 18.1W
Efficacy: 122.6 LPW
Spacing Criterion (0-180): 1.22
Spacing Criterion (90-270): 1.30

Luminance Data (cd/sq.m)				
Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg	
45	2110	2302	2473	
55	1843	2189	2433	
65	1527	2060	2375	
75	1198	1993	2404	
85	857	1972	1413	



Zonal Lumen Summary

Zone	Lumens	%Fixt
0-20	288.34	13.00
0-30	610.73	27.50
0-40	996.34	44.90
0-60	1740.86	78.40
0-80	2170.05	97.80
0-90	2219.40	100.00
90-120	0.00	0.00
90-130	0.00	0.00
90-150	0.00	0.00
90-180	0.00	0.00
0-180	2219.40	100.00

Coefficients Of Utilization - Zonal Cavity Method Effective Floor Cavity Reflectance 0.20

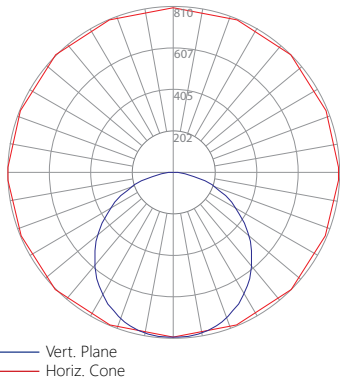
RC			80				70				50			30	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	
1	109	104	99	95	106	101	97	94	97	94	91	93	91	88	
2	99	90	83	78	96	88	82	77	85	79	75	82	77	73	
3	90	79	71	64	87	78	70	64	75	68	63	72	66	62	
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	
6	70	57	48	41	68	56	47	41	54	46	40	52	45	40	
7	65	51	42	36	63	50	42	36	49	41	36	47	41	36	
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	
10	53	40	32	26	52	39	31	26	38	31	26	37	31	26	

Tested in accordance with IES standards utilizing absolute photometry per LM-79-08

FFL 14 SL UV FA 830

Test No.: LLIA000690-004
Luminaire Lumens: 2,247 lm
Luminaire Watts: 18.0W
Efficacy: 124.8 LPW
Spacing Criterion (0-180): 1.26
Spacing Criterion (90-270): 1.30

Luminance Data (cd/sq.m)				
Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg	
45	2377	2561	2655	
55	2105	2440	2577	
65	1759	2258	2428	
75	1369	2011	1396	
85	929	961	547	



Zonal Lumen Summary

Zone	Lumens	%Fixt
0-20	295.36	13.10
0-30	627.90	27.90
0-40	1028.43	45.80
0-60	1806.01	80.40
0-80	2217.45	98.70
0-90	2246.91	100.00
90-120	0.00	0.00
90-130	0.00	0.00
90-150	0.00	0.00
90-180	0.00	0.00
0-180	2246.91	100.00

Coefficients Of Utilization - Zonal Cavity Method Effective Floor Cavity Reflectance 0.20

RC			80				70				50			30	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	
1	109	104	100	97	106	102	98	95	98	95	92	94	91	89	
2	99	91	84	79	97	89	83	78	86	81	76	82	78	74	
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	
5	76	63	55	48	74	62	54	48	60	53	47	58	52	47	
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	
8	61	47	39	33	59	47	38	33	45	38	33	44	37	32	
9	57	43	35	30	55	43	35	30	42	34	29	41	34	29	
10	53	40	32	27	52	39	32	27	38	31	27	38	31	27	

Tested in accordance with IES standards utilizing absolute photometry per LM-79-08

FFL LED Lay-In



FormFocus available with Philips EasySense Sensors:

- Simple, cost effective way to add controls to every luminaire in order to maximize energy savings and address code-compliance strategies
- Occupancy sensing, daylight harvesting, and task tuning in one device
- Reduces installation time and eliminates the need to wire sensors outside the fixture in the ceiling
- Title 20 compliant
- Enables auto-off/manual-on and auto-off/partial-on application
- Easy field configuration from floor via smartphone with Easysense App
- Factory can pre-set max light levels



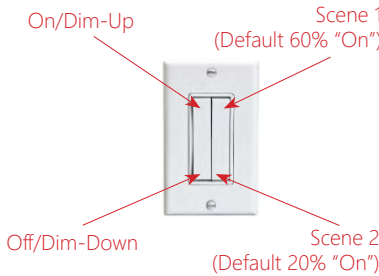
ES1SR (EasySense Fixture-Mount Sensor SNS102 with Philips SR Xitanium driver)

- Independent per-fixture control: Occupancy, Daylight Harvesting, Task Tuning
- Basic grouping to Illumra #ZBT-S1AWH wireless wall switch
 - Single Rocker Self-Powered Light Switch
 - Up to 40 sensors can be grouped to a single switch
 - Functions: On/Off, Dim-Up/Dim-Down

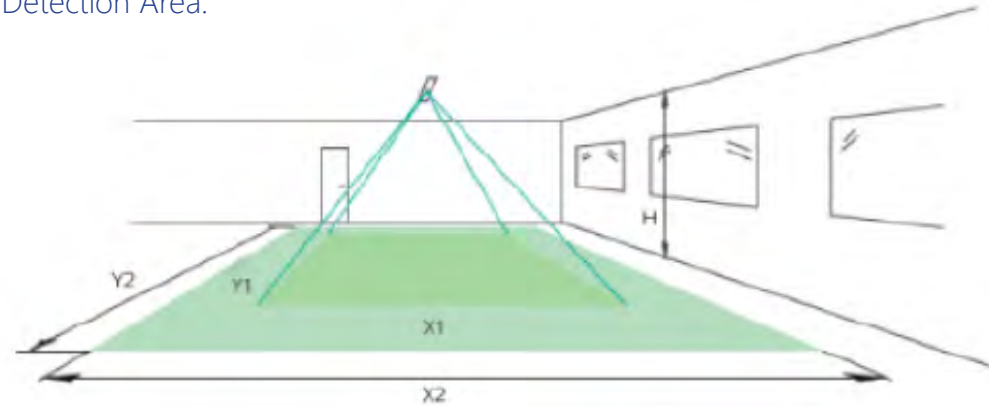


ES2SR (EasySense Fixture-Mount Sensor SNS200 with Philips SR Xitanium driver)

- Independent per-fixture control: Occupancy, Daylight Harvesting, Task Tuning
- Occupancy Sharing
 - Fixtures within a group can be programmed to remain at prescribed light levels so long as occupancy is detected anywhere in the group
- Scene Setting
- Advanced grouping to Illumra #ZBT-S2AWH wireless wall switch
 - Dual Rocker Self-Powered Light Switch
 - Up to 40 sensors can be grouped to a single switch
 - Functions: On/Off, Dim-Up/Dim-Down, Scene 1, Scene 2
- DLC listed



Detection Area:



Height	Minor Movement		Major Movement	
H	X1	Y1	X2	Y2
10'	12'	9'	18'	12'

Longer dimension of detection area (X1, X2) is parallel to longer dimension of EasySense

- Minor movement (person moving $\leq 3.0'$ per second)
- Major movement (person moving $\geq 3.0'$ per second)