

Day-Brite

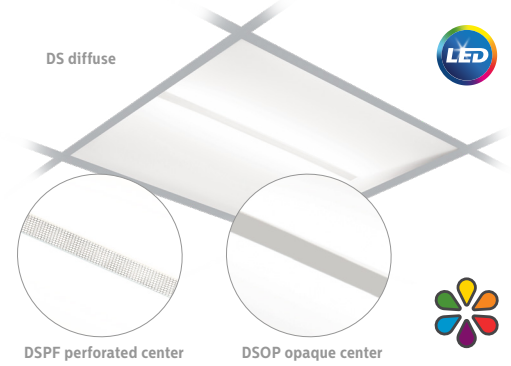


by @signify

Recessed

FormFlex 2x2

2FFX up to 4500 lumens



Day-Brite / CFI FormFlex recessed is a fully luminous aperture luminaire offering a diffuse, perforated, opaque, or linear prism center channel accent for unique aesthetic flexibility. FormFlex delivers high performing even illumination and high visual comfort. Its architectural style, coupled with controls options, makes FormFlex an ideal choice for applications such as office, institutional, and healthcare, where energy savings and customized effect are desired.

FormFlex now offers AccuRender technology for the highest color quality at the highest efficacy.

Ordering guide - standard & wireless controls

Standard configurations available with all choices, unless otherwise noted. Base configurations selections indicated by blue.

example: 2FFXG38L840-2-DS-UNV-DIM-SWZCS

Width	Family	Ceiling Type	Lumens (nominal delivered)	Efficacy	Color	Length	Center Diffuser	Voltage	Driver	Options
2	FFX	G			-	2	-	-	-	
2	2'	FFX FormFlex	G Grid	Base configuration 38B 3800	Blank Standard H ² High	830 80 CRI, 3000K 835 80 CRI, 3500K 840 80 CRI, 4000K 850 80 CRI, 5000K AccuRender ^{3,9} 930 90 CRI, 3000K 935 90 CRI, 3500K 940 90 CRI, 4000K	DS Diffuse (smooth) DSFP Diffuse perforated DSOP Diffuse opaque DSLPL Diffuse linear prism	UNV Universal Voltage, 120-277 volt 347 347V	DIM ¹ Dimming SDIM Step dimming to 40% input power LDE Lutron LDE5, 5% dimming LDEH Lutron LDE1, 1% dimming DALI DALI dimming	F1 3/8" flex, 3 wire 18 gauge 6' F2 3/8" flex, 4 wire 18 gauge 6' F1/D 3/8" twin flex, 3 wire 18 gauge 6' for dimmable luminaires F2/5W 3/8" single flex, 5 wire 18 gauge 6' for dimmable luminaires F2/6W 3/8" single flex, 6 wire 18 gauge 6' for dimmable and emergency luminaires GLR Fusing, fast blow BSL10LST ⁴ Bodine 10W selftesting battery pack BSL6LST ⁴ Bodine 6W selftesting battery pack DSC Quick driver disconnect CHIC ³ Chicago Plenum rated ER100 ^{4,6,7} UL924 listed sensor bypass relay, factory installed between driver & sensor

Ordering guide - PoE controls

example: 2FFXG38L840-2-DS-LV-POE-IAO

Width	Family	Ceiling Type	Lumens (nominal delivered)	Efficacy	Color	Length	Center Diffuser
2	FFX	G			-	2	-
2	2'	FFX FormFlex	G Grid	Standard configurations	Blank Standard	830 80 CRI, 3000K 835 80 CRI, 3500K 840 80 CRI, 4000K 850 80 CRI, 5000K	DS Diffuse (smooth) DSFP Diffuse perforated DSOP Diffuse opaque DSLPL Diffuse linear prism
Voltage		Driver		Options			
LV -		POE -					
LV Low voltage		POE Power over ethernet		EMPOE 600lm integral emergency driver and battery pack IAO Integral Interact Office daylighting and occupancy sensor, enables wireless connected lighting control IAOSB Interact Office advanced wired sensor bundle, integral SC2000 w/loT capabilities for enterprise scale projects			

Project: _____

Location: _____

Cat.No: _____

Type: _____

Lamps: _____ Qty: _____

Notes: _____

Footnotes

- Integral controls options dimmable to 5% via wireless wall switch. Non-controls options are 0-10v dimmable to 1% for Standard configurations, and to 10% for Base configurations.
- Specify only with -DIM driver option.
- CHIC option not provided with air return functionality.
- Not available with 347V.
- High efficacy option may only be ordered with Standard lumen configurations.
- Must be installed in conjunction with a UL1008 device.
- Must be ordered with an integral sensing option.
- AccuRender is 90CRI with R_a>50.
- Option is qualified as Engineered-to-Order (ETO) ready. Lead times and minimum order quantities may vary, please consult factory. (DLC Standard efficacy only)
- Must order IRT9015 Interact commissioning remote with each system order.

Accessories (order separately)

- FSF422 - 2'x2' surface mount field installation kit (field assembled)
- FMA22 - 2'x2' "F" mounting frame for NEMA "F" ceiling
- FFXDSPF22L - 2'x2' FormFlex replacement lens w/white perforated channel
- FFXDSP22L - 2'x2' FormFlex replacement lens w/opaque channel
- FFXDSL22L - 2'x2' FormFlex replacement lens w/linear prism channel

SWZCS accessories (order separately)

- IRT9015 - handheld remote for grouping and configuration (at least one remote required for any SWZCS installation).



interact ready.

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Application

- Ideal for modern offices, institutional, retail, and healthcare applications.
- Modern architectural styling to complementary space.
- Full width luminous lens provides smooth brightness and high visual comfort.
- Directs a controlled amount of light to higher angles to eliminate "cave effect" without creating glare.
- Available in standard efficacy and high efficacy (H) configurations up to 130lm/W.
- 80 CRI minimum source provides a balanced spectral power distribution.
- AccuRender 90 CRI source provides preferred color quality.
- Suitable for use with NEMA G (15/16") and NFG (9/16") suspended t-grid ceilings. NEMA F flange ceilings require the FMA22 accessory (ordered separately).
- Lens center channel provides aesthetic options that allow for unique visual elements in the space.

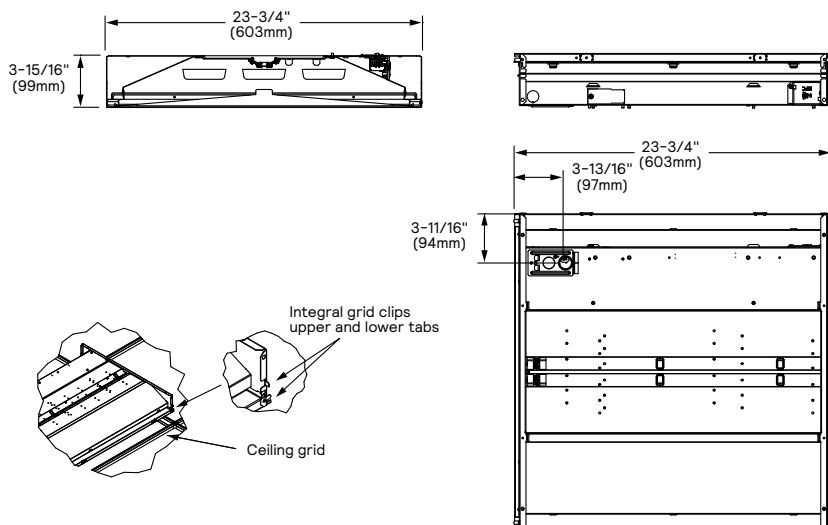
Construction/Finish

- Robust and durable dieformed embossed steel housing and end caps.
- Molded one-piece acrylic diffuser may be removed without tools for access to LED boards and driver(s).
- Unique spring retainers ensure the diffuser is centered in the housing opening at all times.
- T-bar grid clips are built into luminaire end caps for quick and easy installation, no extra parts.

Energy data

Configuration	Nominal CCT/ CRI	Flux (lm)	Input Power (W)	Efficacy (LPW)	DLC
2FFXG38B835	3500K/80	3782	34	111	Standard
2FFXG38B840	4000K/80	3899	34	114	Standard
2FFXG30L835	3500K/80	2950	26	113	Standard
2FFXG30L840	4000K/80	3041	26	117	Standard
2FFXG30LH835	3500K/80	2996	24	125	Standard
2FFXG30LH840	4000K/80	3089	24	131	Premium
2FFXG38L835	3500K/80	3787	34	111	Standard
2FFXG38L840	4000K/80	3904	34	115	Standard
2FFXG38LH835	3500K/80	3780	30	126	Premium
2FFXG38LH840	4000K/80	3897	30	131	Premium
2FFXG45L835	3500K/80	4413	40	110	Standard
2FFXG45L840	4000K/80	4549	40	113	Standard
2FFXG45LH835	3500K/80	4526	36	126	Premium
2FFXG45LH840	4000K/80	4666	36	130	Premium

Dimensions



- Air return functionality is standard for all configurations. See air flow and noise data on page 4.
- Sheetmetal componets are multi-stage phosphate treated for maximum corrosion resistance and finish coat is high reflectance baked white enamel.
- Integral louvers on housing ends allow air from the heated space to return to a pressurized plenum.

Electrical

- Driver and LED board are accessible from below by easy removal of lens.
- Non-controls Base configurations 0-10V dimmable to 10%.
- Non-controls Standard configurations 0-10V dimmable to 1%.
- Standard configurations with controls options dimmable via wireless switches (see below).
- Predicted L70 lumen maintenance up to 87,000 hours at 25°C ambient for all configurations.
- Emergency battery packs accessible from above. To estimate lumen output in emergency mode, multiply emergency pack wattage by luminaire efficacy, then by 1.10.
- The GTD/E option is used to bypass wall switches and allow luminaire operation on auxiliary power. Generator transfer requires installation in conjunction with a UL1008 listed device.
- The GTD/SNSR option is used to bypass integrated sensor control in the event of utility power loss. Generator transfer requires installation in conjunction with a UL1008 listed device.
- Compliance to CAN ICES-005-A/ NEB-005-A and FCC Part 15-A.

Validation

- cETLus listed for use in damp locations
- When ordered with -WL option code, suitable for use in wet locations with covered ceilings
- Rated for direct contact with insulation (IC)
- CCEA Chicago Plenum listed
- FlexForm luminaires are Designlights Consortium® qualified. Please see the DLC QPL list for exact catalog numbers, www.designlights.org/QPL

Environment

- Rated for dry or damp locations in operating ambient temperatures 0-30°C (32-86°F). Many luminaire components, such as reflectors, refractors, lenses, sockets, lampholders, and LEDs are made from various types of plastics which can be adversely affected by airborne contaminants. If sulfur based chemicals, petroleum based products, cleaning solutions, or other contaminants are expected in the intended area of use, consult factory for compatibility. Not suitable for natatorium environments.

Warranty

- 5 year manufacturer's limited warranty. Visit signify.com/warranties for complete warranty information.

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Wireless Controls Options

SpaceWise DT (SWZDT)

- Standalone daylight and occupancy sensing with advanced grouping, wireless mesh networking and dwell time.
- Commissioning via compatible Android phone and Philips Field App
- Dimming via compatible Zigbee wireless wall switch only (see link below for details)
- Register for the commissioning app at <http://registration.componentcloud.philips.com/appregistration/>
- Integral sensing options may not be combined
- For more information including recommended switches, refer to the following: –
SWZDT – www.usa.lighting.philips.com/systems/lighting-systems/spacewise

Emergency Options (ER100)

- Power Sensing (Factory default) – Recommended UL924 option requires unswitched power sense line, absence of voltage on the normal circuit triggers luminaire to 100% output
- Power Interruption Detection (Field option) – Detects AC power interruption >30ms triggers 90 minute emergency mode with luminaire at 100% output

Interact Pro scalable sensor for Foundation, Advanced & Enterprise tiers (SWZCS and an evolution of SpaceWise)

- SWZCS is a connected sensor with integral occupancy and daylight sensing and supports wireless mesh connectivity.
- The sensor works in the Foundation mode (similar to SpaceWise) when configured without a gateway or in an Interact Pro Advanced or Enterprise mode if a compatible gateway is used.
- Interact Pro includes an App, a portal and a broad portfolio of wireless luminaires, lamps and retrofit kits all working on the same system.
- Startup is implemented via Interact Pro App (Android or iPhone) & BlueTooth connectivity. The App provides flexibility to choose between a gateway or non gateway mode for setup.
- Setup with the gateway requires wired internet access to the gateway. It is possible to add a gateway at a later point.
- Prepare project configuration steps remotely and use IRT9015 remote onsite to identify and group devices together.
- Compatible with:
 - SWS200 wireless scene switch
 - Battery powered IP42 presence sensor OCC sensor IA CM WH 10/1
 - Battery powered IP42 presence & daylight sensor OCC-DL sensor IA CM IP42 WH
 - LCN3110: Battery powered IP65 presence sensor, OCC sensor IA CM IP65WH
 - LCN3120: Battery powered IP65 presence & daylight sensor, OCC-DL sensor IA CM IP65 WH
- For more information on Interact Pro visit: www.interact-lighting.com/interactproscalablesystem

Radio only sensor (RADIO)

- Integral RADIO only sensor simply enables wireless mesh connectivity to the luminaire without any occupancy or daylight sensing.
- Ideal for applications where sensing functionality is managed by other Interact devices and the luminaire only needs to have wireless connectivity.

Interact Pro scalable sensor bundles for Enterprise tier

- IAOSB option in addition to occupancy and daylight sensing supports advanced IoT capabilities such as people estimation analysis, desk level temperature & humidity sensing, noise classification, and BLE beacon.
- Compatible with SWS200 wireless scene switch and Interact Ready wireless battery powered sensors.
- Use Interact software and insights to increase building efficiency, achieve building wide integration and optimize space through occupancy analytics.
- Requires compatible Gateway and internet connectivity for commissioning.
- For more information, visit: www.interact-lighting.com/office or www.usa.lighting.philips.com/systems/system-areas/offices

Wired Controls Options

Interact Office Wired (PoE)

- PoE based IoT connected lighting solution for large enterprises that span across multiple floors, buildings and require multiple gateways.
- Use Interact software and insights to increase building efficiency, achieve building wide integration and optimize space through occupancy analytics.
- IAOSB option in addition to occupancy and daylight sensing supports advanced IoT capabilities such as people estimation analysis, desk level temperature & humidity sensing, noise classification, and BLE beacon.
- PoE lighting controller is accessible from below.
- Integral sensor option for occupancy sensing (PIR) and/or daylight harvesting available for additional energy savings.
- Optional integral emergency controller and battery pack provides 600lm nominal output. Test switch and indicator light mounted on side of chassis on one end.
- Emergency battery has a 3 month pre-installed shelf life, and must be stored and installed in environments of 20C to 30C (-4F to 86F) ambient, and 45-85% relative humidity.
- For more information, visit: www.interact-lighting.com/office or www.usa.lighting.philips.com/systems/system-areas/offices

Energy Data (PoE)

Configuration	Nominal CCT/CRI	Flux (lm)	DC Power (W)*	Efficacy (LPW)
2FFXG30L840	4000K/80	3047	24	125
2FFXG38L840	4000K/80	3888	32	122
2FFXG45L840	4000K/80	4612	39	117

*DC power supply

2FFX FormFlex recessed 2x2

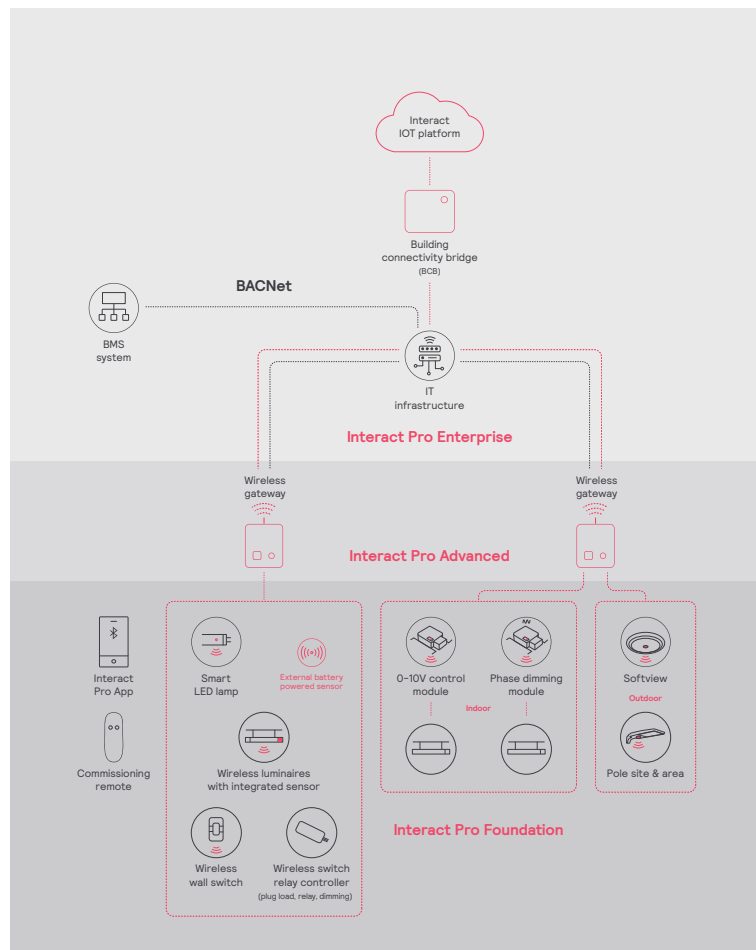
up to 4500 lumens

Interact Pro scalable system			
	Foundation	Advanced	Enterprise
Dimming, grouping, and zoning	✓	✓	✓
Bluetooth and ZigBee enabled	✓	✓	✓
Motion sensing and daylight harvesting	✓	✓	✓
Integration with 0-10V and phase dimming fixtures	✓	✓	✓
Code compliance	✓	✓	✓
Granular dimming and dwell time	✓	✓	✓
Energy reporting and monitoring		✓	✓
Scheduling		✓	✓
Demand response		✓	✓
BMS integration (BACnet)			✓
Floor plan visualization			✓
IoT sensors for wellness			✓
IoT Apps for productivity			✓

Currently supported maximum system size

To be able to design the lighting system correctly for the customer, it is important to know the prime characteristics of the system, its possibilities and limitations.

System level	
Total number of gateways	Unlimited
Total number of devices	200 per network
• luminaires with integrated sensors	150
• smart TLEDs	150
Total number of ZGP devices (sensors and switches)	50
• sensors	30
• switches	50
• zones and groups	64
Group level	
Recommended number of lights	40 (recommended 25)
Number of ZGP devices	5
Number of scenes	16



2FFX FormFlex recessed 2x2

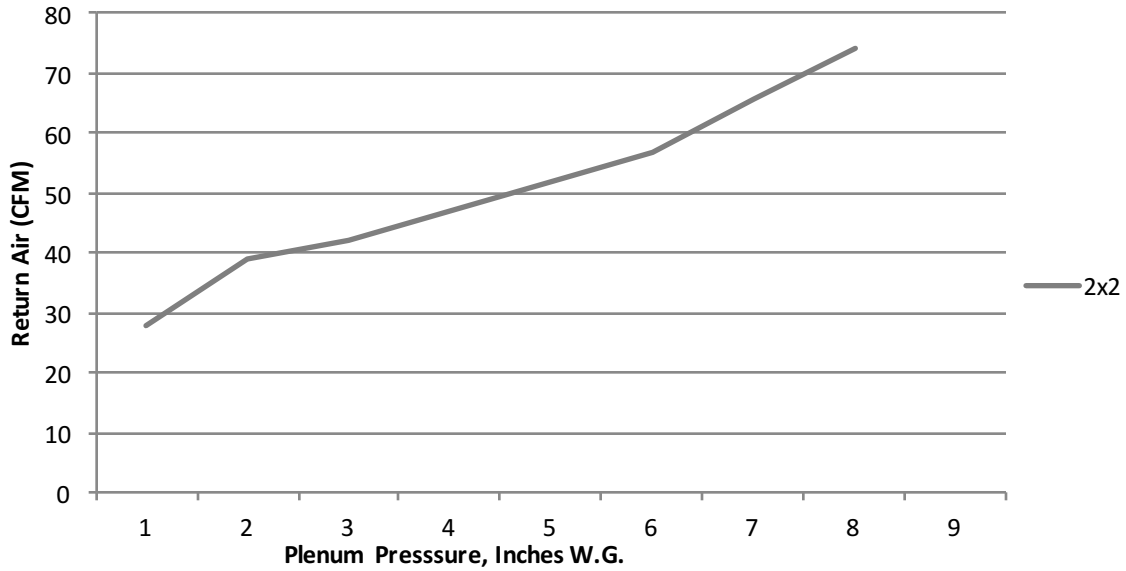
up to 4500 lumens

Air return



Integral louvers on housing ends allow air from the heated space to return to a pressurized plenum.

Return Air Data



2x2 Return Air - noise criteria

	1	2	3	4	5	6	7	8
CFM	28	39	42	47	52	57	65.5	74
NC (dB)	<15	26	31	33	38	42	44	46

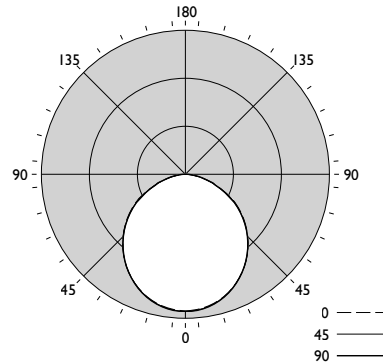
2FFX FormFlex recessed 2x2

up to 4500 lumens

Photometry

2FFXG38B840-2-DS-UNV-DIM

Luminaire Lumens	3900
Luminaire Efficacy Rating (LER)	114
Total Luminaire Watts	34.3
Spacing Criterion (0-180)	1.23



	Candela Distribution					Flux
	0	22.5	45	67.5	90	Lumens
0	1427	1427	1427	1427	1427	
5	1413	1417	1421	1423	1423	135
15	1357	1360	1363	1365	1365	384
25	1250	1251	1252	1252	1252	577
35	1101	1101	1100	1100	1100	688
45	919	918	915	915	914	706
55	714	709	704	703	702	631
65	473	486	464	460	459	461
75	237	236	232	229	230	248
85	52	53	60	61	63	69
90	6	4	7	12	20	

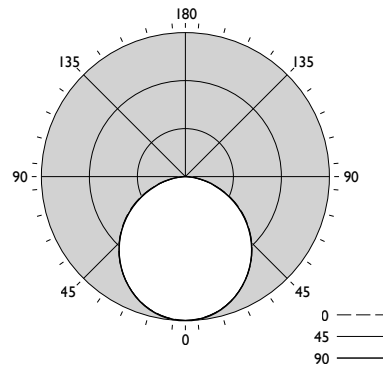
Zonal Lumen Summary			
Zone	Lumens	%Fixture	%Lamp
0-30	1096	28.1%	28.1%
0-40	1784	45.7%	45.7%
0-60	3121	80.0%	80.0%
0-90	3899	100.0%	100.0%
0-180	3900	100.0%	100.0%

Avg. Luminance (cd/m²)			
	0	90	180
0	4686	4686	4686
5	4660	4684	4692
15	4615	4633	4640
25	4529	4536	4539
35	4415	4412	4409
45	4266	4250	4244
55	4087	4030	4018
65	3678	3602	3565
75	3001	2944	2919
85	1971	2254	2370

Coefficients of Utilization %											
Pc---	80				70			50			0
Pw---	70	50	30	10	70	50	30	50	30	10	0
RCR											
0	119	119	119	119	116	116	116	111	111	111	100
1	109	104	100	96	106	102	98	98	94	92	84
2	99	91	84	79	97	89	83	86	80	76	70
3	90	80	72	65	88	78	71	75	69	64	59
4	83	71	62	55	81	70	61	67	60	54	51
5	76	63	54	48	74	62	54	60	53	47	44
6	70	57	48	42	68	56	48	54	47	41	38
7	65	52	43	37	64	51	43	49	42	36	34
8	61	47	39	33	59	47	38	45	38	33	30
9	57	43	35	30	55	43	35	42	34	29	27
10	53	40	32	27	52	40	32	39	32	27	25

2FFXG38L840-2-DS-UNV-DIM

Luminaire Lumens	3905
Luminaire Efficacy Rating (LER)	115
Total Luminaire Watts	33.9
Spacing Criterion (0-180)	1.24



	Candela Distribution					Flux
	0	22.5	45	67.5	90	Lumens
0	1399	1399	1399	1399	1399	
5	1389	1389	1391	1394	1395	132
15	1335	1335	1336	1339	1340	377
25	1231	1230	1231	1232	1232	567
35	1088	1086	1086	1086	1085	679
45	912	910	908	908	907	701
55	711	706	703	702	701	629
65	490	485	479	476	474	475
75	256	256	251	247	263	268
85	58	59	67	66	64	75
90	7	11	9	8	6	

Zonal Lumen Summary			
Zone	Lumens	%Fixture	%Lamp
0-30	1077	27.6%	27.6%
0-40	1756	45.0%	45.0%
0-60	3086	79.0%	79.0%
0-90	3904	100.0%	100.0%
0-180	3905	100.0%	100.0%

Avg. Luminance (cd/m²)			
	0	90	180
0	4495	4495	4495
5	4480	4487	4501
15	4442	4445	4457
25	4365	4364	4368
35	4266	4260	4257
45	4146	4124	4120
55	3984	3936	3927
65	3722	3643	3605
75	3174	3113	3268
85	2135	2452	2348

Coefficients of Utilization %											
Pc---	80				70			50			0
Pw---	70	50	30	10	70	50	30	50	30	10	0
RCR											
0	119	119	119	119	116	116	116	111	111	111	100
1	109	104	100	96	106	102	98	97	94	91	84
2	99	91	84	78	96	89	82	85	80	75	70
3	90	80	71	65	88	78	70	75	68	63	59
4	82	70	62	55	80	69	61	67	59	54	51
5	76	63	54	47	74	62	53	60	52	46	43
6	70	57	48	41	68	56	47	54	46	41	38
7	65	51	43	36	63	51	42	49	41	36	33
8	60	47	38	32	59	46	38	45	37	32	30
9	56	43	35	29	55	42	35	41	34	29	27
10	53	40	32	26	52	39	32	38	31	26	24

2FFX FormFlex recessed 2x2

up to 4500 lumens

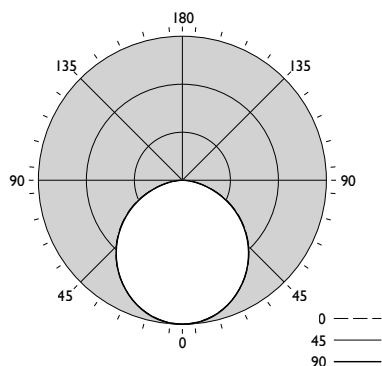
2FFXG38LH840-2-DS-UNV-DIM

Luminaire Lumens	3898
Luminaire Efficacy Rating (LER)	131
Total Luminaire Watts	29.8
Spacing Criterion (0-180)	1.24

	Candela Distribution					Flux
	0	22.5	45	67.5	90	Lumens
0	1399	1399	1399	1399	1399	
5	1390	1389	1391	1394	1396	132
15	1335	1335	1336	1339	1339	377
25	1231	1229	1229	1230	1231	567
35	1087	1085	1084	1085	1084	679
45	912	909	907	907	906	700
55	710	707	703	701	700	629
65	489	485	479	476	474	475
75	254	253	248	247	245	265
85	57	60	66	66	63	74
90	6	7	10	8	5	

Zonal Lumen Summary			
Zone	Lumens	%Fixture	%Lamp
0-30	1076	27.6%	27.6%
0-40	1754	45.0%	45.0%
0-60	3083	79.1%	79.1%
0-90	3897	100.0%	100.0%
0-180	3898	100.0%	100.0%

Avg. Luminance (cd/m ²)			
	0	90	180
0	4496	4496	4496
5	4482	4488	4501
15	4441	4443	4455
25	4363	4359	4364
35	4266	4253	4253
45	4145	4121	4115
55	3976	3937	3924
65	3719	3642	3607
75	3154	3074	3046
85	2095	2418	2311



Coefficients of Utilization %													
Pc---	80				70				50				0
Pw---	70	50	30	10	70	50	30	50	30	10	10	0	
RCR													
0	119	119	119	119	116	116	116	111	111	111	111	100	
1	109	104	100	96	106	102	98	97	94	91	84	84	
2	99	91	84	78	96	89	82	85	80	75	70	70	
3	90	80	71	65	88	78	70	75	68	63	59	59	
4	82	70	62	55	80	69	61	67	59	54	50	50	
5	76	63	54	47	74	62	53	60	52	46	43	43	
6	70	57	48	41	68	56	47	54	46	41	38	38	
7	65	51	43	36	63	51	42	49	41	36	33	33	
8	60	47	38	32	59	46	38	45	37	32	30	30	
9	56	43	35	29	55	42	35	41	34	29	27	27	
10	53	40	32	27	52	39	32	38	31	26	24	24	



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