

## by (s) ignify

# **Floodlighting**

#### DuraForm

## FLDL large floodlight





Gardco DuraForm large floodlight provides seamless replacement of existing HID luminaires. This luminaire is available in three sizes (also see FLDS and FLDM), offers multiple lumen packages, and a complete array of optical distributions, making it an outstanding solution for all types of floodlighting applications from landscape and parks to industrial and infrastructure. Includes Service Tag, Signify's innovative way to provide assistance throughout the life of the product.

Project:	
Location:	
Cat.No:	
Туре:	
Lumens:	Qty:
Notes:	

## Ordering guide

#### example: FLDL-A20-740-A33-YOK-120-FS1-VPA-BK

Prefix		Config	<b>guration</b> (nomi	nal lumens)	Color Tempera	ture	Distribution				Mounting		Volt	tage
FLDL														
	DuraForm large	A15 A16	21,000 26,500		730 70CRI				und (NEMA 2x2) Spot (NEMA 3x		SFC Slip Fitter Mount wit (fits on 2-3/8" to 3"		120 208	
	A17 30,000 750 10 70CRI 5000K A18 36,500 (750 - Special,			NFL Narro	ow Floo ium Floo	od (NEMA 4x4) od (NEMA 5x5)	,	tenon, 6' or 1.83m co luminaire) SLF Slip Fitter Mount (fit		240 277 347	240V 277V			
		A19 A20 A21	35,300 39,000 42,500		Contac	. 140.01 9)	7X6 (NEM				2-3/8" to 3" O.D. ter wires through slip fit	ter)	480	480V
		A21 A22 A23 12	43,800				RMF Recta	angular	· Medium Flood r Narrow Flood	(NEMA 7x4)	YOK Yoke Mount (6' or 1.8 exits luminaire)	3m cord	HVU	
Options		AZS	33,300				KWP Kect	arigulai	Narrow Flood	(NEMA 7X5)				
Dimming	controls <sup>1</sup>			Fusing	Surge		Protection Hardware Options		Other Options		Fin	Finish		
none	dimmir	•	r standard)	FS1 7 S	eave blank Single Fuse (120		Surge Protector		Captive screws		Terminal Block, Service Tag, an Wiring Cover (standard)	BZ		Black Bronze
DALI 1, 2,	Lightir	ng Inter	essable face driver	FS2 7	277V, or 347V) Double Fuse	000	10kV / 10kA (standard)	.02	Tool-less entry latches		Factory-installed ANSI C136.15 2015 compliant label	oc		Medium Gray Optional Color
DLEA 1, 4	Acces	sible (fo	ls Externally or controls	2	208V, 240V, or 180V)	SP2	Protector 20kV / 10kA	Protector	Vandal Proof Access (bit included with	(bit	Cord length specified by custo for SFC or YOK (put length in fe place of "##" - example: C10 fo	et in		(specify optional color or RAL, contact factory)
FAWS 1, 4			Pole Fuse (208V 240V, or 480V)		(option)		luminaire)		cord, must be ordered same tir luminaire - factory installed) (6' cord standard)		10	Special Color (must supply		
										PCB <sup>2,5,6,7</sup> TT7 <sup>5,6,8</sup>	Photocontrol Button Tool-less NEMA Twist-lock 7-pi	1		color chip, requires factory quote)
										BAC <sup>11, 13</sup>	receptacle Meets the requirements of the Buy American Act of 1933 (BAA	МР		Marine Grade paint - must also specify one of the finish colors from list above [Ex: BK-MP] (requires factory quote)

- 1. Choose only 1 Dimming Controls option: either DALI or DLEA or FAWS.
- 2. Not available with 347V, 480V, or HVU.
- 3. Your specific required DALI profiles will be programmed at the factory. Contact factory for details.
- 4. 0-10V dimming driver standard.
- 5. Luminaire has 0-10V dimming wires exiting the luminaire for dimming controls by others. DLEA not available with PCB or TT7 - choose only 1 of the three options.
- 6. Choose either PCB or TT7 option
- 7. Must specify applicable specific input voltage, not available with UNV or HVU.
- 8. Use of photoelectric cell (by others) or shorting cap (by others) is required to ensure proper illumination.
- 9. Available with 120V or 277V only.
- 10. Must contact factory prior to ordering these items
- 11. Extended lead times apply. Contact factory for details.
- 12. A23 not available with FAWS (FAWS not compatible with 3  $\,$ drivers).
- 13. Failure to properly select the "BAC" suffix could result in you receiving product that is not BAA compliant product with no recourse for an RMA or refund. This BAC designation hereunder does not address (i) the applicability of, or availability of a waiver under, the Trade Agreements Act,

or (ii) the "Buy America" domestic content requirements imposed on states, localities, and other non-federal entities as a condition of receiving funds administered by the  $\label{lem:decomposition} \mbox{Department of Transportation or other federal agencies}.$ 

## **Connected lighting**

Interact City connector node provides the plug and play wireless communications technology to connect your floodlight to the Interact City lighting management system.

Accessory Ordering Code	Description
LLC	Interact City cellular technology connector node

Contact Signify for additional support when connected lighting or additional









# Large floodlight

## Accessories 16

**Dimensions** 

SFC

Luminaire weight: 36 lbs (16.3 kg)

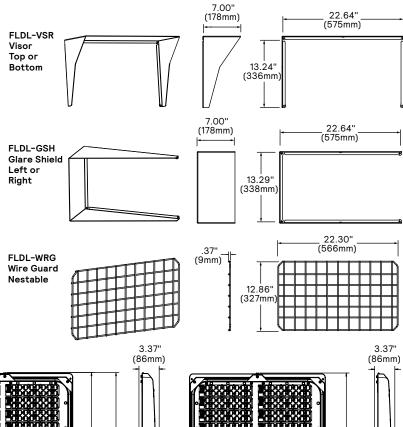
(ordered separately, field installed - mounting hardware included, uses dedicated mounting holes - do NOT remove lens)

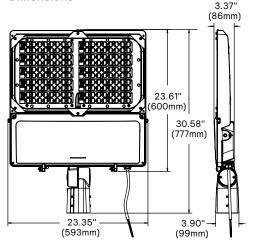
FLDL-VSR-(F) Visor, top or bottom, painted same finish to match luminaire (specify finish at placeholder F, can not be used with GSH)

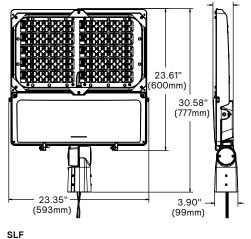
FLDL-GSH-(F) Glare Shield, left or right, painted same finish to match luminaire (specify finish at placeholder F, can not be used with VSR)

FLDL-WRG Wire Guard (nestable and can be used with either VSR or GSH)

16. Consult Signify to confirm whether specific accessories are BAA-compliant.





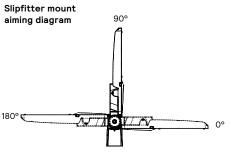


27.24" (692mm) O 23.38" 2.75' (594mm) (70mm) 24.49" (622mm)

Luminaire weight: 36 lbs (16.3 kg)

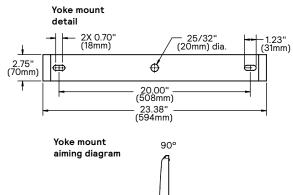
Luminaire weight: 43 lbs (19.5 kg)

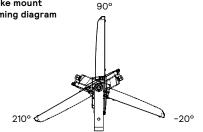
YOK



7-pin NEMA Twist Lock Receptacle option Aiming limited to 0-90° per ANSI C136.10

Effective Projected Area (EPA-ft²)									
Mounting	Single: 0° Aim	Single: 45° Aim	Single: 90° Aim						
SFC or SLF	0.269	2.218	6.202						
<b>УОК</b>	0.248	2.389	5.899						





7-pin NEMA Twist Lock Receptacle option Aiming limited to 0-90° per ANSI C136.10

# Large floodlight

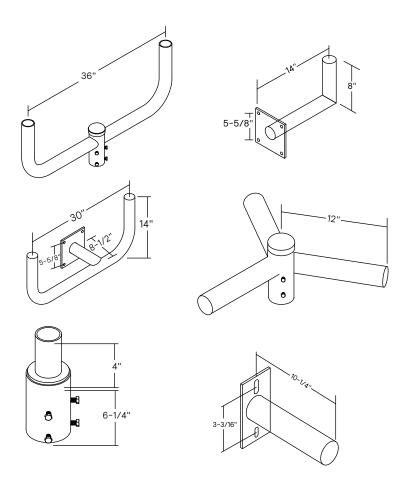
**DuraForm Accessories**<sup>1</sup> (ordered separately, field installed, specify finish at placeholder F)

#### **Mounting Accessories**

For wall and pole brackets, bullhorns, etc. see https://www.signify.com/en-us/products/outdoor-luminaires/poles-brackets/site-and-area-brackets/bullhorn-brackets#downloads for details.

Exception: All UPS Upsweep - contact factory to confirm compatibility.

Exception: SBRKT-PTN-L1-5-WA-(F) Parapet Tenon bracket cannot be used with any FLDL versions due to their EPAs – too high.



Examples shown are not to scale – see SBRKT spec sheet for all available brackets

 ${\it 1. Consult Signify to confirm whether specific accessories are BAA-compliant.}\\$ 

# Large floodlight

**Optical Distribution Diagrams** 

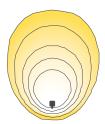
#### SPT Spot 12° Round (NEMA 2x2)



20' or 6.10m setback, 0° tilt

Applications include: flags, tighter spotlighting, accenting, taller columns, tighter scalloping, taller structures / monuments / statues, tallest

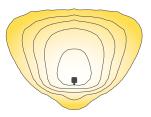
#### MFL Medium Flood (NEMA 5x5)



30' or 9.14m mounting height, 45° tilt

Applications include: area lighting, storage yards, transportation terminals, trailer lots, utility substations, prison yards, ports, industrial sites, fence perimeters and borders, facades, structures / monuments / statues.

## A33 Asymmetric 33° Flood (NEMA 6x5)



30' or 9.14m mounting height, 30° tilt

Applications include: area lighting, storage yards, transportation terminals, utility sub-stations, large facades, wall washing, large structures / monuments / statues, trees with large canopies.

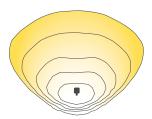
## RSP Rectangular Spot (NEMA 3X3)



15' or 4.57m setback, 0° tilt

Applications include: flags, spotlighting, accenting, columns, scalloping, structures / monuments / statues, taller trees.

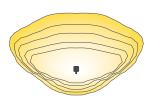
#### WFL Wide Flood (NEMA 6x6)



30' or 9.14m mounting height, 45° tilt

Applications include: area lighting, storage yards, transportation terminals, trailer lots, utility substations, prison yards, ports, industrial sites, fence perimeters and borders, large facades.

#### RMF Rectangular Medium Flood (NEMA 7x4)



10' or 3.05m setback, 30° tilt

Applications include: building entrances and exits, security lighting, checkpoints and inspection stations, signs, ornamental trees and shrubs

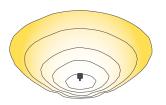
#### NFL Narrow Flood (NEMA 4x4)



30' or 9.14m mounting height, 45° tilt

Applications include: area lighting, storage yards, transportation terminals, trailer lots, utility substations, prison yards, ports, industrial sites, facades, structures / monuments / statues.

#### 7x6 (NEMA 7x6)



30' or 9.14m mounting height, 45° tilt

Applications include: area lighting, utility sub-stations, fence perimeters and borders, large and taller facades, wall grazing, signs (especially larger and taller ones).

### RNF Rectangular Narrow Flood (NEMA 7x5)



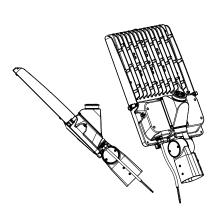
15' or 4.57m setback, 45° tilt

Applications include: facades, wall grazing, signs (especially larger and more rectangular)

## Additional drawings

### 7-pin Twist Lock Receptacle Option

Aiming limited to 0-90° per ANSI C136.10 (NOTE: available on ALL mountings - SFC shown for illustrative purposes only)



# Large floodlight

LED Wattage and Lumen Values - 3000K

		Average		SPT		NFL		MFL		W	FL	7:	x6
Ordering Code	Color Temp.	System Watts	Wattage Label	Lumen Output	Efficacy (LPW)								
FLDL-A15-730	3000	155	160	21,075	136	20,025	129	20,875	135	20,872	135	20,298	131
FLDL-A16-730	3000	212	210	26,695	126	25,365	120	26,442	125	26,438	125	25,711	121
FLDL-A17-730	3000	242	240	29,988	124	28,494	118	29,704	123	29,699	123	28,882	119
FLDL-A18-730	3000	322	320	36,717	114	34,888	108	36,368	113	36,363	113	35,363	110
FLDL-A19-730	3000	281	280	35,345	126	33,584	119	35,009	124	35,004	124	34,042	121
FLDL-A20-730	3000	323	320	39,197	121	37,245	115	38,826	120	38,820	120	37,752	117
FLDL-A21-730	3000	365	370	42,776	117	40,645	112	42,370	116	42,364	116	41,199	113
FLDL-A22-730	3000	352	350	43,862	125	41,677	119	43,446	124	43,440	124	42,245	120
FLDL-A23-730	3000	459	460	53,928	117	51,241	112	53,417	116	53,408	116	51,940	113

### LED Wattage and Lumen Values - 4000K & 5000K

		Average		SPT		NFL		MFL		WFL		7:	x6
Ordering Code	Color Temp.	System Watts	Wattage Label*	Lumen Output	Efficacy (LPW)								
FLDL-A15-740 and -750	4000 and 5000	155	160	23,040	149	21,892	141	22,821	147	22,818	147	22,190	143
FLDL-A16-740 and -750	4000 and 5000	212	210	29,165	138	27,712	131	28,888	136	28,884	136	28,090	133
FLDL-A17-740 and -750	4000 and 5000	242	240	32,787	135	31,154	129	32,476	134	32,471	134	31,578	130
FLDL-A18-740 and -750	4000 and 5000	322	320	40,130	125	38,131	118	39,750	124	39,744	124	38,651	120
FLDL-A19-740 and -750	4000 and 5000	281	280	38,638	137	36,713	131	38,271	136	38,265	136	37,213	132
FLDL-A20-740 and -750	4000 and 5000	323	320	42,831	133	40,697	126	42,424	131	42,418	131	41,252	128
FLDL-A21-740 and -750	4000 and 5000	365	370	46,760	128	44,431	122	46,317	127	46,310	127	45,036	124
FLDL-A22-740 and -750	4000 and 5000	352	350	47,957	136	45,568	130	47,502	135	47,495	135	46,189	131
FLDL-A23-740 and -750	4000 and 5000	459	460	58,944	128	56,008	122	58,385	127	58,376	127	56,771	124

### LED Wattage and Lumen Values - 3000K

		Average		RS	RSP		RMF		RNF		A33	
Ordering Code	Color Temp.	System Watts	Wattage Label	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	
FLDL-A15-730	3000	155	160	19,046	123	18,994	123	19,300	125	19,541	126	
FLDL-A16-730	3000	212	210	24,112	114	24,046	113	24,433	115	24,739	117	
FLDL-A17-730	3000	242	240	27,096	112	27,022	111	27,457	113	27,800	115	
FLDL-A18-730	3000	322	320	33,173	103	33,081	103	33,614	104	34,034	106	
FLDL-A19-730	3000	281	280	31,934	114	31,846	113	32,359	115	32,764	117	
FLDL-A20-730	3000	323	320	35,406	110	35,309	109	35,877	111	36,326	113	
FLDL-A21-730	3000	365	370	38,651	106	38,544	106	39,165	107	39,655	109	
FLDL-A22-730	3000	352	350	39,634	113	39,525	112	40,162	114	40,664	116	
FLDL-A23-730	3000	459	460	48,727	106	48,592	106	49,375	108	49,992	109	

Values from photometric tests performed in accordance with IESNA LM-79 and are representative of the configurations shown. Actual performance may vary due to installation and environmental variables, LED and driver tolerances, and field measurement considerations. It is highly recommended to confirm performance with a photometric layout.

NOTE: Some data may be scaled based on tests of similar (but not identical) luminaires. Contact factory for configurations not shown. IES files available with VSR Visor or GSH Glare Shield Accessories - see website. \* Wattage Label per ANSI C136.15-2015. Consult factory for other labelling needs.

## LED Wattage and Lumen Values - 4000K & 5000K

		Average		RS	SP	RMF		RNF		A:	33
Ordering Code	Color Temp. Syster		System Label Label		Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)	Lumen Output	Efficacy (LPW)
FLDL-A15-740 and -750	4000 and 5000	155	160	20,817	134	20,760	134	21,095	136	21,358	138
FLDL-A16-740 and -750	4000 and 5000	212	210	26,354	124	26,282	124	26,705	126	27,040	128
FLDL-A17-740 and -750	4000 and 5000	242	240	29,616	122	29,535	122	30,011	124	30,385	125
FLDL-A18-740 and -750	4000 and 5000	322	320	36,258	113	36,158	112	36,740	114	37,199	116
FLDL-A19-740 and -750	4000 and 5000	281	280	34,904	124	34,808	124	35,368	126	35,811	127
FLDL-A20-740 and -750	4000 and 5000	323	320	38,699	120	38,593	120	39,214	122	39,704	123
FLDL-A21-740 and -750	4000 and 5000	365	370	42,246	116	42,129	116	42,807	117	43,343	119
FLDL-A22-740 and -750	4000 and 5000	352	350	43,320	123	43,201	123	43,897	125	44,446	126
FLDL-A23-740 and -750	4000 and 5000	459	460	53,259	116	53,111	116	53,967	118	54,641	119

### Field Adjustable Wattage Selector (FAWS) Multiplier Chart

FAWS Position	Typical Delivered Lumens Multiplier	Typical System Wattage Multiplier	Wattage		Typical Delivered Lumens Multiplier	Typical System Wattage Multiplier
1	0.31	0.28		6	0.83	0.81
2	0.53	0.50		7	0.89	0.87
3	0.62	0.58		8	0.92	0.91
4	0.70	0.67		9	0.96	0.95
5	0.78	0.75		10	1.00	1.00

Note: Actual performance may vary due to LED and driver tolerances.

## **Predicted Lumen Depreciation Data**

Ambient	Drive	Calculated	L <sub>70</sub> per	Lumen Maintenance
Temperature °C	current	L70 Hours	TM-21	% at 60,000 hrs
25°C	up to 1050 mA	>100,000 hours	>36,000 hours	>98%

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions.  $L_{70}$  is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published  $L_{70}$  hours limited to 6 times actual LED test hours

# Large floodlight

**Specifications** 

#### Housing and Door

Made of low copper die cast Aluminum alloy (A360) for high resistance to corrosion. A hinged removable door opens to provide access to electronic components and to a terminal block. Door is secured to prevent accidental dropping or disengagement. Captive flanged hex head screws with slotted drive provide access to electrical components and are compatible with 1/4" flat blade screwdriver.

#### Mounting

Up tilt aiming and down tilt aiming possible with all of the mounting options. Top edge of casting includes aiming sight for daytime aiming (see instructions).

cULus Listed as suitable for mounting within 4' or 1.2m of the ground.

SFC: Adjustable Slip Fitter with 6' (1.83m) of AWG 16–3 SEOOW cord (or AWG 16–5 if DLEA external control options are selected) exiting the luminaire through IP66 rated cord seal. Customer–specified length or different cord type available – contact factory. Slip Fitter made of low copper die cast Aluminum alloy (A360) for high resistance to corrosion, adjustable knuckle has 5 degree aiming increments with integral interlocking teeth and bolt to secure aiming in place, integral cast–in aiming marks. Fits on a range of tenons from 2–3/8" to 3" (60.3mm to 76.2mm) O.D.

**SLF**: Same Adjustable Slip Fitter as SFC but with AWG 16-3 wires (or AWG 16-5 if DLEA external control options are selected) exiting through the Slip Fitter. Integral splice compartment for field wiring with cULus Wet Location rated access cover with seal around entire perimeter.

YOK: Adjustable Yoke with 6' (1.83m) of AWG 16-3 SEOOW cord (or AWG 16-5 if DLEA external control options are selected) exiting the luminaire through IP66 rated cord seal. Customer-specified length or different cord type available - contact factory. Yoke made of high strength steel, galvanized and painted for high resistance to corrosion, fully adjustable (no minimum aiming increments) with bolts to secure aiming in place, integral aiming marks.

#### IP Rating

IP66 rated luminaire in all aiming positions including up tilt aiming per ANSI C136.37 with seal around entire perimeter of the lens and seal around entire perimeter of the electrical / driver compartment.

#### Light Engine

Composed of 5 main components: Heat Sink, Lens, LED Module, Optical System, Driver. Electrical components are RoHS compliant. LEDs tested by ISO 17025 2005 accredited lab in accordance with IESNA LM-80 guidelines in compliance with EPA ENERGY STAR, extrapolations in accordance with IESNA TM-21. Metal core board ensures greater heat transfer and longer lifespan.

**Heat Sink:** Housing acts as heat sink, designed to ensure high efficacy and superior cooling by natural convection air flow always close to LEDs and driver(s) optimizing their efficiency and life. Product does not use any cooling device with moving parts (only passive cooling).

**Lens:** Made of soda-lime clear tempered glass flat lens, mechanically assembled and sealed onto the housing heat sink forming IP66 seal. NOTE: Lens is not designed to be removable (if removed impacts IP66 seal).

 $\textbf{IK Rating:} \ \ \textbf{IKO9} \ \textbf{high impact resistance rating for luminaire lens}.$ 

**LED Module:** Composed of high performance white LEDs. Color temperature as per ANSI/NEMA bin 3000K nominal (3045K +/-175K) or 4000K nominal (3985K +/- 275K), both CRI 70 min. 75 Typical.

**Optical System:** Composed of high performance UV stabilized optical grade polymer refractor lenses to achieve desired distribution optimized to get maximum spacing, target lumens and a superior lighting uniformity. Performance shall be tested per LM-63, LM-79 and TM-15 (IESNA) certifying its photometric performance.

**Driver:** High power factor of 90% min. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277 or 347 to 480 VAC rated for both application line to line or line to neutral, Class I, THD of 20% max. The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction. Standard built in driver surge protection of 2.5kV (min). Driver enables setting LED drive current to meet your specific total wattage consumption, lumen output and/or efficacy needs - ETO Specials, contact factory.

#### **Integrated Features**

Please note that these integrated features always come with this luminaire standard at no additional cost.

0-10V dimming driver included as standard, dimming leads pre-wired to Dimming Controls option except when DLEA external controls options are selected.

SP1: Surge protection device tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground. Enhanced surge protection device SP2 20kV/10kA available as an option. Surge protection device wired in parallel so that if it fails open the luminaire will remain lit/powered on.

Service Tag: Each individual luminaire is uniquely identifiable, thanks to the Service tag application. With a simple scan of a QR code you gain instant access to the luminaire configuration, making installation and maintenance operations faster and easier, no matter what stage of the luminaire's lifetime. Just download the app and register your product right away.

For more details visit: philips.com/servicetag

**Terminal Block:** 3-position. Accepts wires from #2AWG to #14AWG, rated 600V, 85A.

Wiring Cover: Cosmetic cover over LED board wiring. Painted same finish to match luminaire

#### Controls Options

Please note that other controls can be integrated as ETO Specials - contact factory

**DALI:** Pre-set driver compatible with the DALI Digitally Addressable Lighting Interface control system.

**DLEA:** 0-10V dimming driver's dimming wires are externally accessible for connecting dimming controls by others.

FAWS: Field Adjustable Wattage Selector, pre-set to the highest position, can be easily switched in the field to the required position. This reduces total luminaire wattage consumption and reduces the light level – see the FAWS multiplier chart for more details.

Note: It is not recommended to use FAWS with other dimming or controls; if you do, set the switch to position 10 (maximum output) to enable the other dimming or controls. Switching FAWS to any position other than 10 will disable the other dimming or controls.

### **Connected Lighting**

Interact City connector node provides the plug and play wireless communications technology to connect your floodlight to the Interact City lighting management system. With Interact you can remotely manage, monitor and control all city lighting, from roads and streets, to parks and plazas, and bridges from one single system. Connected lighting enables capabilities including, accurate on/off switching, dimming control, fault reporting and integration with other systems to enable condition-based lighting. Interact provides you with a robust and scalable infrastructure to further reduce energy consumption, improve operations, and turn lighting into a connected network for your smart city journey.

For more details visit: https://www.interact-lighting.com/ en-us/what-is-possible/interact-city

# Large floodlight

Specifications (continued)

#### **Luminaire Options**

SP2: 20kV / 10kA surge protection device that provides extra protection beyond the standard SP1 10kV/10kA level. Surge protection device wired in parallel so that if it fails open the luminaire will remain lit/powered on.

TT7\*: Tool Less orientable twist-lock receptacle with 7 pins enabling dimming, can be used with an Interact City node, a twist-lock photoelectric cell or a shorting cap.

\* Use of photoelectric cell or shorting cap is required to ensure proper illumination.

Note: Additional hardware will be required to utilize the additional 2 pins
on this recent cale.

**API:** Factory Installed NEMA label, ANSI C136.15-2015 compliant, identifies LED source and wattage, affixed to luminaire at factory. Consult factory for other labeling needs.

**FS1:** Fusing, single (120, 277 or 347VAC) installed in electrical compartment

FS2: Fusing, double (208, 240 or 480VAC) installed in electrical compartment

FS3: Fusing, Canadian Double Pole (208, 240 or 480VAC) installed in electrical compartment.

**TOL:** Tool Free access 316 stainless steel latches provide a high resistance to corrosion. Latches operable while wearing protective electrical gloves.

**VPA:** Vandal Proof hardware to prevent access to internal components, 316 stainless steel, complete with Ceramic primer seal to reduce seizing of the parts, also offers a high resistance to corrosion. Bit included with luminaire.

PCB: Photocell Button (a.k.a. button photoeye).

#### Luminaire Useful Life

Refer to IES files for energy consumption and delivered lumens for each option. Based on ISTMT in situ thermal testing in accordance with UL1598 and UL8750, exclusive Signify System Reliability Tool, Advance driver data and LED manufacturer LM-80/TM-21 data, expected to reach 100,000 + hours with  $\rm L_{70}$  lumen maintenance @ 25°C. Luminaire Useful Life accounts for LED lumen maintenance AND all of these additional factors including: LED color shift, LED life, driver life, PCB substrate, solder joints, on/off cycles, burning hours and corrosion.

#### Wiring

#2-#14 AWG wires from the primary circuit, located inside the housing. Due to the inrush current that occurs with electronic drivers, recommend using a time-delay or slow blow fuse to avoid unwanted fuse blowing (false tripping) that can occur with normal or fast acting fuses.

#### Hardware and Seals

All exposed hardware shall be high-grade 316 stainless steel and ceramic coated for superior corrosion resistance and to prevent galvanic corrosion, and shall be captive. All seals and sealing devices are made and/or lined with EPDM and/or silicone and/or rubber.

#### Finish

Color in accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with  $\pm$  1 mils/24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard. The standard finishes achieve a minimum scribe rating of 8 per ASTM D1654 after a minimum of 5000 hours salt spray in accordance with testing performed per ASTM B117 standard.

When Marine Grade paint option is selected, an additional step of anodizing castings is done prior to applying the MG paint. This increases corrosion resistance even further and results in a higher minimum scribe rating of 10 after a minimum of 5000 hours salt spray.

#### **LED Products Manufacturing Standard**

The electronic components sensitive to electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with IEC61340-5-1 and ANSI/ESD S20.20 standards so as to eliminate ESD events that could decrease the useful life of the product.

#### Vibration Resistance

Luminaire meets the ANSI C136.31-2018 specifications, tested by independent lab over 100,000 cycles in all three axes: Normal for both Slip Fitters, Bridge/Overpass for Yoke.

#### **Certifications and Compliance**

cULus Listed for Canada and USA, per UL1598 and UL8750, including suitable for mounting within 4' or 1.2m of the ground. Configurations are DesignLights Consortium qualified, consult DLC QPL Qualified Products List for more details. Luminaire complies with or exceeds the following ANSI C136 standards: .2, .3, .10, .15, .21, .22, .24, .25, .31, .32, .37, .41. Entire luminaire is rated for operation in ambient temperature of -40°C (-40°F) up to +50°C (+122°F). Controls options enable compliance with Outdoor lighting energy codes including ASHRAE 90.1, California Title 24, and IECC.

#### **Limited Warranty**

10-year limited warranty.

See signify.com/warranties for details and restrictions.



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