

**TENDER ADDENDUM**
**ADDENDA À LA SOUMISSION**
**Lac Leamy – Parking Lot A-B Lighting Modifications**
**Lac Lemay - Mise à Niveau de l'éclairage des stationnements A-B**
**NR190**
**NR190**
**December 3, 2019**
**Le 3 décembre 2019**
**ADDENDUM NO: 1**
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The following shall be read in conjunction with and shall form an integral part of the Tender/Proposal and Contract Documents:

Ce qui suit doit être interprété comme faisant partie intégrante de la proposition/appel d'offres et des documents relatifs au contrat :

**Q1.** The product sheet of the LED1 luminaire is unreadable on the plan. We do not know what the model is;

**A1.** See attached 'ECF-S EcoForm FWC'.

**Q1.** La fiche de produit du luminaire DEL1 est illisible sur le plan. Nous ne pouvons pas savoir quel est le modèle;

**R1.** Voir annexe "ECF-S EcoForm FWC".

**Q2.** The tender refers to directional drilling. Can you specify where will these boreholes be located?

**A2.** Exit and entry points will be agreed to on site with the NCC Representative and the Contractor.

**Q2.** Dans le devis il est question de forage directionnel. Pouvez-vous spécifier à quels endroits seront ces forages?

**R2.** Les points de sortie et d'entrée seront convenus sur place avec le représentant de la CCN et l'entrepreneur.

**Q3.** Do you have a manufacturer for the 3 pulling manholes in parking lot A?

**A3.** As per the Tender Drawing E-2(A), Detail 2 the Manufacturer is Utility Structures Inc. (USI) Type 'E31A'.

**Q3.** Avez-vous un fabricant pour les 3 puits de tirage du stationnement A?

**R3.** Selon le plan d'appel d'offres E-2(A), Détail 2, le fabricant est Utility Structures Inc. (USI) Type "E31A".

**Q4.** Please confirm if the above-mentioned tender shall be submitted through the BSDQ as the work will take place in Quebec.

**A4.** The tender does not require to be submitted through BSDQ.

**Q4.** Stp confirmer si la soumission soit être soumise par l'entremise de BSDQ étant donné que les travaux auront lieu au Québec.

**R4.** La soumission n'a pas besoin d'être soumise par l'entremise de BSDQ.

***Nathalie Rheault***

Senior Contract Officer / Agent principal de contrats  
Procurement Services / Services de l'approvisionnement  
Corporate Services Branch / Direction des services généraux

**PHILIPS**



Site & Area

EcoForm

ECF-S wildlife



Project: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Cat.No: \_\_\_\_\_  
 Type: \_\_\_\_\_  
 Qty: \_\_\_\_\_  
 Notes: \_\_\_\_\_

The Philips Gardco EcoForm Gen-2 luminaire features narrow spectrum amber LEDs combined with special shielding, making it a wildlife friendly lighting solution. EcoForm features an innovative retrofit arm kit, simplifying site conversions to LED by eliminating the need to drill additional holes in most existing poles. Integral control systems available for further energy savings.

**Ordering guide**

example: ECF-S-64L-600-AM-G2-AR-5-120-FWC-MGY

Prefix	Number of LEDs	Drive Current	LED Color - Generation	Mounting	Distribution	Voltage	Options					Finish
							Dimming controls	Motion sensing	Photo-sensing	Electrical	Luminaire	
<b>ECF-S</b>			<b>AM-G2</b>									
<b>ECF-S EcoForm site and area, wildlife</b>	<b>32L</b> 32 LEDs (2 modules)  <b>48L</b> 48 LEDs (3 modules)  <b>64L</b> 64 LEDs (4 modules)	<b>400</b> 400mA  <b>600</b> 600mA	<b>AM-G2</b> Direct Amber, nominal 590nm narrow spectrum LED Generation 2	<b>AR</b> Arm Mount (standard) <sup>5</sup>  <i>The following mounting kits must be ordered separately (See accessories)</i> <b>WS</b> Wall mount with surface conduit rear entry permitted  <b>RAM</b> Retrofit arm mount kit <sup>5</sup>	<b>Type 2</b> 2 Type 2  <b>Type 3</b> 3 Type 3  <b>Type 4</b> 4 Type 4  <b>Type 5</b> 5 Type 5 <b>SW Type 5W</b>	<b>120</b> 120V <b>208</b> 208V <b>240</b> 240V <b>277</b> 277V <b>347</b> 347V <b>480</b> 480V <b>UNV</b> 120-277V (50/60Hz) <b>HVU</b> 347-480V (50/60Hz)	<b>DD</b> 0-10V External dimming (by others) <b>FAWS</b> Field Adjustable <sup>10</sup> <b>SW</b> Interface module for SiteWise <sup>8,9</sup>  <b>DynaDimmer:</b> Automatic Profile Dimming  <b>CS50</b> Safety 50% Dimming, 7 hours <sup>1</sup> <b>CM50</b> Median 50% Dimming, 8 hours <sup>1</sup> <b>CE50</b> Economy 50% Dimming, 9 hours <sup>1</sup>  <b>DA50</b> All Night 50% Dimming <sup>1</sup>  <b>CS30</b> Safety 30% Dimming, 7 hours <sup>1</sup> <b>CM30</b> Median 30% Dimming, 8 hours <sup>1</sup> <b>CE30</b> Economy 30% Dimming, 9 hours <sup>1</sup>  <b>DA30</b> All Night 30% Dimming <sup>1</sup>	<b>IMRI3</b> Integral with #3 lens <sup>4</sup>  <b>IMRI7</b> Integral with #7 lens <sup>4</sup>	<b>PCB</b> Photocontrol Button <sup>2,3</sup>  <b>TLRD5</b> Twist Lock Receptacle 5 Pin <sup>11</sup>  <b>TLRD7</b> Twist Lock Receptacle 7 Pin <sup>11</sup>  <b>TLRPC</b> Twist Lock Receptacle w/ Photocell <sup>2</sup>	<b>Fusing</b> <b>F1</b> Single (120, 277, 347VAC) <sup>2</sup>  <b>F2</b> Double (208, 240, 480VAC) <sup>2</sup>  <b>Pole Mount Fusing</b> <b>FP1</b> Single (120, 277, 347VAC) <sup>2</sup> <b>FP2</b> Double (208, 240, 480VAC) <sup>2</sup> <b>FP3</b> Canadian Double Pull (208, 240, 480VAC) <sup>2</sup>  <b>Surge Protection</b> (10kA standard) <b>SP2</b> Increased 20kA	Square Pole Adapter included in standard product  <b>TB</b> Terminal Block  <b>RPA</b> Round Pole Adapter (fits to 3"- 3.9" O.D. pole) <sup>5</sup>  <b>FWC</b> Wildlife Friendly External House side shield <sup>12</sup>	<b>Textured</b>  <b>BK</b> Black <b>WH</b> White <b>BZ</b> Bronze <b>DGY</b> Dark Gray <b>MGY</b> Medium Gray  <b>Customer specified</b>  <b>RAL</b> Specify optional color or RAL (ex: RAL7024)  <b>CC</b> Custom color (Must supply color chip for required factory quote)

- Available only on 120, 208, 240, and 277 (or UNV)
- Specify Voltage
- Not available with 347 or 480 voltage
- ECF-IMRI equipped with out-boarded sensor housing when voltage is HVU (347-480V)
- Mounts to a 4" round pole with adapter included for square poles.
- Not available with WS. RPAs provided with black finish standard
- Limited to a maximum of 45 degrees aiming above horizontal
- SW option is not available with any other control options with the exception of IMRI3 and IMRI7 motion response options
- Available only on 120V and 277V
- Not available with IMRI3, IMRI7, SW, and CS/CM/CE/DA (DynaDimmer).
- TLRD5/7 option not available with PCB or TLRPC. Max aiming angle 45°. Works with 3 or 5 pin NEMA photocell/dimming. Dimming will not be connected to NEMA receptacle if ordering with DD, CS/CM/CE/DA, and IMRI.
- External shield shipped with luminaire.

# ECF-S EcoForm wildlife

## Site & Area

### EcoForm Accessories (ordered separately, field installed)

#### Luminaire Accessories

<b>ECF-BD-G2</b>	Bird deterrent
<b>ECF-RAM-G2-(F)</b>	Retrofit Arm mount kit
<b>ECF-WS-G2-(F)</b>	Wall mount with surface conduit rear entry permitted

**EcoForm PTF2**  
(pole top fitter fits 23/8-21/2" OD x 4" depth tenon)

<b>PTF2-ECF-S/L-1-90-(F)</b>	1 luminaire at 90°
<b>PTF2-ECF-S/L-2-90-(F)</b>	2 luminaires at 90°
<b>PTF2-ECF-S/L-2-180-(F)</b>	2 luminaires at 180°
<b>PTF2-ECF-S/L-3-90-(F)</b>	3 luminaires at 90°
<b>PTF2-ECF-S/L-4-90-(F)</b>	4 luminaires at 90°
<b>PTF2-ECF-S/L-3-120-(F)</b>	3 luminaires at 120°

**EcoForm PTF3**  
(pole top fitter fits 3-31/2" OD x 6" depth tenon)

<b>PTF3-ECF-S/L-1-90-(F)</b>	1 luminaire at 90°
<b>PTF3-ECF-S/L-2-90-(F)</b>	2 luminaires at 90°
<b>PTF3-ECF-S/L-2-180-(F)</b>	2 luminaires at 180°
<b>PTF3-ECF-S/L-3-90-(F)</b>	3 luminaires at 90°
<b>PTF3-ECF-S/L-4-90-(F)</b>	4 luminaires at 90°
<b>PTF3-ECF-S/L-3-120-(F)</b>	3 luminaires at 120°

**EcoForm PTF4**  
(pole top fitter fits 31/2-4" OD x 6" depth tenon)

<b>PTF4-ECF-S/L-1-90-(F)</b>	1 luminaire at 90°
<b>PTF4-ECF-S/L-2-90-(F)</b>	2 luminaires at 90°
<b>PTF4-ECF-S/L-2-180-(F)</b>	2 luminaires at 180°
<b>PTF4-ECF-S/L-3-90-(F)</b>	3 luminaires at 90°
<b>PTF4-ECF-S/L-4-90-(F)</b>	4 luminaires at 90°
<b>PTF4-ECF-S/L-3-120-(F)</b>	3 luminaires at 120°

(F) = Specify finish

### Predicted Lumen Depreciation Data

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. L70 is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L70 hours limited to 6 times actual LED test hours

Ambient Temperature °C	Driver mA	Calculated L70 Hours	L70 per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	up to 600 mA	>100,000 hours	>60,000 hours	>88%

### LED Wattage and Lumen Values

#### Unshielded

Ordering Code	Total LEDs	LED Current (mA)	Dominant Wavelength (nm)	Average System Watts	Type 2			Type 3			Type 4			Type 5			Type SW		
					Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating
<b>ECF-S-32L-400-AM-G2-x</b>	32	400	596	32	2,092	66	B1-U0-G1	2,047	65	B1-U0-G1	2,141	68	B1-U0-G1	2,259	72	B2-U0-G0	2,187	69	B2-U0-G1
<b>ECF-S-32L-600-AM-G2-x</b>	32	600	596	48	2,449	51	B1-U0-G1	2,396	50	B1-U0-G1	2,507	52	B1-U0-G1	2,645	55	B2-U0-G1	2,560	53	B2-U0-G1
<b>ECF-S-48L-400-AM-G2-x</b>	48	400	596	47	3,120	66	B1-U0-G1	3,052	64	B1-U0-G1	3,193	67	B1-U0-G1	3,369	71	B2-U0-G1	3,261	69	B2-U0-G1
<b>ECF-S-48L-600-AM-G2-x</b>	48	600	596	72	3,650	50	B1-U0-G1	3,571	49	B1-U0-G1	3,736	52	B1-U0-G1	3,943	54	B3-U0-G1	3,816	53	B3-U0-G1
<b>ECF-S-64L-400-AM-G2-x</b>	64	400	596	62	4,106	67	B1-U0-G1	4,017	65	B1-U0-G1	4,202	68	B1-U0-G1	4,434	72	B3-U0-G1	4,292	70	B3-U0-G1
<b>ECF-S-64L-600-AM-G2-x</b>	64	600	596	94	4,805	51	B1-U0-G1	4,701	50	B1-U0-G1	4,918	52	B1-U0-G2	5,190	55	B3-U0-G1	5,023	54	B3-U0-G1

#### Shielded

Ordering Code	Total LEDs	LED Current (mA)	Dominant Wavelength (nm)	Average System Watts	2-FWC		3-FWC		4-FWC		5-FWC		5W-FWC	
					Lumen Output	Efficacy (LPW)								
<b>ECF-S-32L-400-AM-G2-x</b>	32	400	596	32	680	22	665	21	696	22	734	23	710	22
<b>ECF-S-32L-600-AM-G2-x</b>	32	600	596	48	795	16	778	16	814	17	859	18	831	17
<b>ECF-S-48L-400-AM-G2-x</b>	48	400	596	48	1,013	21	991	21	1,037	22	1,094	23	1,059	22
<b>ECF-S-48L-600-AM-G2-x</b>	48	600	596	73	1,186	16	1,160	16	1,213	17	1,281	18	1,239	17
<b>ECF-S-64L-400-AM-G2-x</b>	64	400	596	62	1,334	22	1,305	21	1,365	22	1,441	23	1,394	23
<b>ECF-S-64L-600-AM-G2-x</b>	64	600	596	94	1,561	17	1,527	16	1,598	17	1,686	18	1,632	17

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.

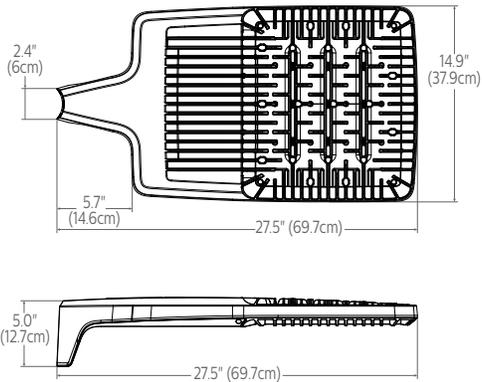
# ECF-S EcoForm wildlife

## Site & Area

### Dimensions

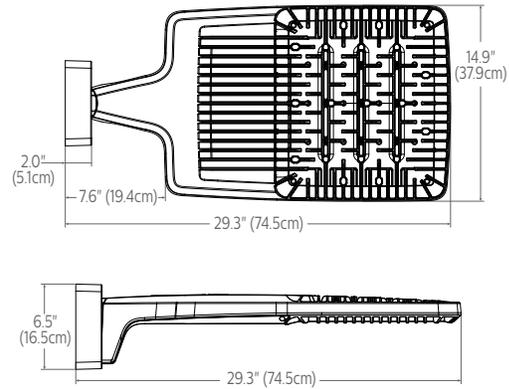
#### Standard Arm (AR)

Weight: 22 Lbs (9.9 Kg) EPA: 0.21ft<sup>2</sup> (.019m<sup>2</sup>)



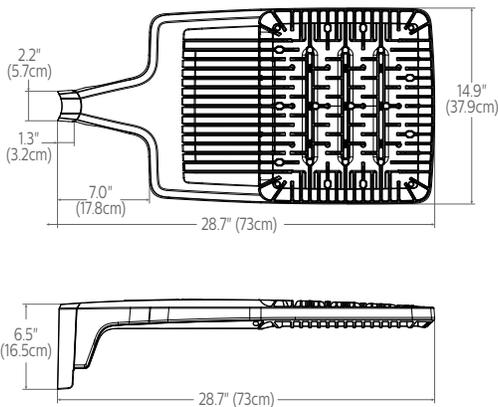
#### Wall (WS)

Weight: 27 Lbs. (12. 2Kg) EPA: 0.27ft<sup>2</sup> (.025m<sup>2</sup>)



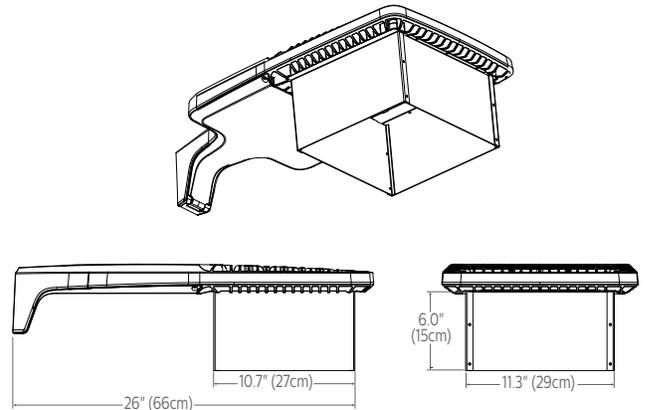
#### Retrofit Arm (RAM)

Weight: 24 Lbs (10.9 Kg) EPA: 0.24ft<sup>2</sup> (.022m<sup>2</sup>)

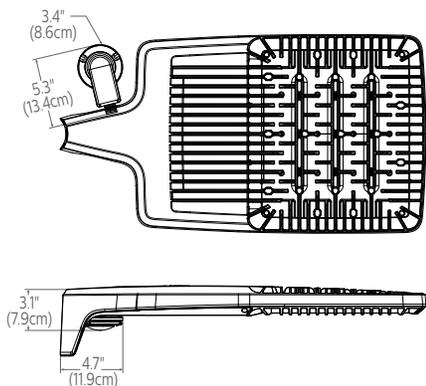


#### Wildlife Friendly External House side shield (FWC)

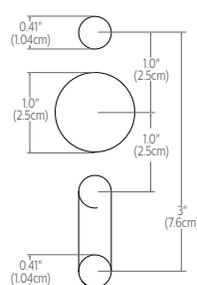
Weight: 23 Lbs (10.4 Kg) EPA: 1.0ft<sup>2</sup> (.093m<sup>2</sup>)



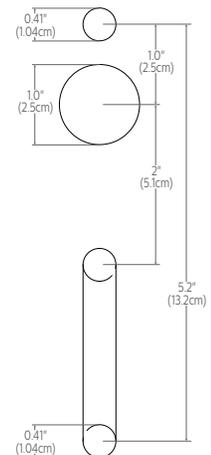
#### Outboard IMR-HVU sensor



#### Standard Arm (AR) drill pattern



#### Retrofit Arm (RAM) drill pattern



# ECF-S EcoForm wildlife

## Site & Area

### Specifications

#### Housing

One piece die cast aluminum housing with integral arm and separate, self retained hinged, one piece die cast door frame.

#### IP Rating

LED light engine rated IP66. Driver compartment rated to IP65.

#### Vibration resistance

Luminaire is tested and rated 3G over 100,000 cycles conforming to standards set forth by ANSI C136.31-2010. Testing includes vibration in three axes, all performed on the same luminaire.

#### Light Engine

Light engine comprises of a module of 16-LED aluminum metal clad board fully sealed with optics offered in multiples of 2, 3 and 4 modules or 32, 48 and 64 LEDs. Module is RoHS compliant. Direct Amber LED is narrow spectrum with dominant wavelength at 596 nm (peak wavelength at 601 nm). LED light engine is rated IP66 in accordance to Section 9 of IEC 60598-1.

#### LED Thermal management

The housing design allows the one piece housing to provide excellent thermal management critical to long LED system life.

#### Optical systems

Type 2, 3, 4, 5 and 5W.

#### Mounting

Standard luminaire arm mounts to 4" round poles. Can also be used with 5" O.D. poles. Square pole adapter included with every luminaire. Round Pole Adapter (RPA) required for 3-3.9" poles.

#### Control options

**0-10V dimming (DD):** Access to 0-10V dimming leads supplied through back of luminaire (for secondary dimming controls by others). Cannot be used with other control options.

**SiteWise (SW):** SiteWise system includes a controller fully integrated in the luminaire that enables the luminaires to communicate with a dimming signal transmitter cabinet located on site using Philips patented central dimming technology. A locally accessible mobile app allows users to access the system and set functionalities such as ON/OFF, dimming levels and scheduling. SiteWise is available with motion response options in order to bring the light back to 100% when motion is detected. Cannot be used with other control options or photocell options. Additional functionalities are available such as communication with indoor lighting and connection to BMS systems. Complete information on the control system can be found on the SiteWise website at [philips.com/sitewise](http://philips.com/sitewise).

**Field Adjustable Wattage Selector (FAWS):** Luminaire equipped with the ability to manually adjust the wattage in the field to reduce total luminaire lumen output and light levels. Comes pre-set to the highest position at the lumen output selected. Use chart below to estimate reduction in lumen output desired. Cannot be used with other control options or motion response.

FAWS Position	Percent of Typical Lumen Output
1	25%
2	50%
3	55%
4	65%
5	75%
6	80%
7	85%
8	90%
9	95%
10	100%

**Note:** Typical value accuracy +/- 5%

**Automatic Profile Dimming (CS/CM/CE/CA):** Standard dimming profile of 30% or 50% provide flexibility towards energy savings goals while optimizing light levels during specific dark hours. When used in combination with not programmed motion response it overrides the controller's schedule when motion is detected. After 5 minutes with no motion, it will return to the automatic dimming profile schedule. Automatic dimming profile scheduled with the following settings:

- **CS50/CS30:** Security for 7 hours night duration (Ex., 11 PM - 6 AM)
- **CM50/CM30:** Median for 8 hours night duration (Ex., 10 PM - 6 AM)
- **CE50/CE30:** Economy for 9 hours night duration (Ex., 9 PM - 6 AM)
- **CA50/CA30:** for all night (during all dark hours)

Cannot be used with other control options. .

#### Motion response options

**Bi-Level Infrared Motion Response (BL-IMRI):** Motion Response module is mounted integral to luminaire factory pre-programmed to 50% dimming when not ordered with other control options. P50-IMRI is set/operates in the following fashion: The motion sensor is set to a constant 50%. When motion is detected by the PIR sensor, the luminaire returns to full power/light output. Dimming on low is factory set to 50% with 5 minutes default in "full power" prior to dimming back to low. When no motion is detected for 5 minutes, the motion response system reduces the wattage by 50%, to 50% of the normal constant wattage reducing the light level. Other dimming settings can be provided if different dimming levels are required. This can also be done with FSIR-100 Wireless Remote Programming Tool (contact Technical Support for details).

**Infrared Motion Response with Other Controls:** When used in combination with other controls (Automatic Dimming Profile and SiteWise), motion response device will simply override controller's schedule with the added benefits of a combined dimming profile and sensor detection. In this configuration, the motion response device cannot be re-programmed with FSIR-100 Wireless Remote Programming Tool. The profile can only be re-programmed via the controller.

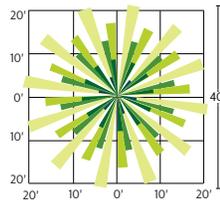
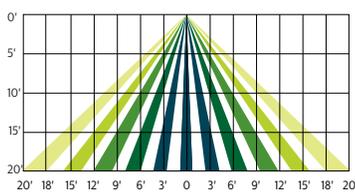
# ECF-S EcoForm wildlife

## Site & Area

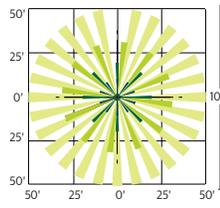
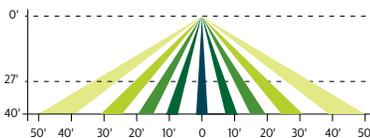
### Specifications (continued)

**Infrared Motion Response Lenses (IMRI3/IMRI7):** Infrared Motion Response Integral module is available with two different sensor lens types to accommodate various mounting heights and occupancy detection ranges. Lens #3 (IMRI3) is designed for mounting heights up to 20' with a 40' diameter coverage area. Lens #7 is designed for higher mounting heights up to 40' with larger coverage areas up to 100' diameter coverage area. See charts for approximate detection patterns:

**IMRI3 Luminaire or remote mount controller with #3 lens**



**IMRI7 Luminaire or remote mount controller with #7 lens**



### Electrical

**Twist-Lock Receptacle (TLRD5/TLRD7/TLRPC):** Twist Lock Receptacle with 5 pins enabling dimming or with 7 pins with additional functionality (by others) can be used with a twist-lock photoelectric cell or a shorting cap. Dimming Receptacle Type B (5-pin) and Type D-24 (7-pin) in accordance to ANSI C136.41. Can be used with Philips or third-party control system. Receptacle located on top of luminaire housing. When specifying receptacle with twistlock photoelectric cell, voltage must be specified.

**Driver:** Driver efficiency (>90% standard). 120-480V available (restrictions apply). Open/short circuit protection. Optional 0-10V dimming to 10% power. RoHS compliant.

**Button Photocontrol (PCB):** Button style design for internal luminaires mounting applications. The photocontrol is constructed of a high impact UV stabilized polycarbonate housing. Rated voltage of 120V or 208-277V with a load rating of 1000 VA. The photocell will turn on with 1-4Fc of ambient light.

**Surge protection (SP1/SP2):** Each luminaire is provided as standard with 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, and in accordance with DOE MSSLC Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High test level 10kV/10kA. Optional twice the IEEE C62.41.2-2002 C-High recommendation (22KA) is available for additional protection.

### Retrofit Arm Mount

EcoForm features an innovative retrofit arm kit. When specified with the retrofit arm (RAM) option, EcoForm seamlessly simplifies site conversions to LED by eliminating the need for additional pole drilling on most existing poles. RAM will be boxed separately.

### Listings

UL/cUL listed to the UL 1598 standard, suitable for Wet Locations. Suitable for use in ambients from -40° to 40°C (-40° to 104°F). The quality systems of this facility have been registered by UL to the ISO 9001 series standards. Florida Wildlife Certified.

### Finish

Each standard color luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish. Standard colors include bronze (BZ), black (BK), white (WH), dark gray (DGY), and medium gray (MGY). Consult factory for specs on optional or custom colors.

### Warranty

EcoForm luminaires feature a 5 year limited warranty. See [philips.com/warranties](http://philips.com/warranties) for complete details and exclusions.

