





High output lighting made for you

With Philips Gardco PowerForm LED site & area and floodlight luminaires, high output lighting doesn't have to mean high energy and maintenance costs. PowerForm provides your outdoor area with bright, uniform illumination while slashing energy and maintenance costs compared to traditional lighting technologies.

Now you can instill a **sense of security** and attract attention in any large area or **floodlighting application** without the hassle of frequent relamping or high utility bills.



PowerForm site & area 4 module with Standard Arm Mount (AR).



PowerForm floodlight 4 module with Slipfitter Mount (SF).



Powerful function in any form

PowerForm

Site & Area, Floodlighting

Powerful function

PowerForm LED high output luminaires combine pole mounted area luminaires and floodlights in one family for a consistent aesthetic look across your outdoor site.

A wide variety of sizes, lumen outputs, modules, optics and other features offer increased flexibility without under- or over-lighting the space. PowerForm's application-specific optics, such as automotive front row and airport apron, ensure that light is directed exactly where it is needed to maximize efficiency and minimize operating costs.

With the highest lumen output available on the market today, PowerForm can help you achieve optimal light levels with fewer luminaires compared to traditional 1000W HID solutions without compromising light quality or a sense of security for those in the area.



Attract customers while saving money

Yes, you can entice prospective customers without breaking the bank!

PowerForm's full illumination lets your inventory sparkle and shine at night without unnecessary light trespass. PowerForm area and site luminaires are available with a color rendering index (CRI) of 90, ensuring your inventory will look its best day and night. Longlasting, energy-efficient LED technology helps to significantly lower energy and maintenance costs compared to traditional lighting technologies, while optional programmable dimming and motion response sensors further enhance energy savings without compromising a sense of security.



Front secondary display:

Configuration: PFAS-184L-1A-NW-G1 Optical Distribution: 5W Orientation: 4@90 Average Fc: 26.2

Front Row:

Configuration: PFAS-184L-1A-NW Optical Distributions: AFR90 & AFR270 Orientation: 2@180 Average Fc: 74.3



Auto Dealership (Front Row configurations)

The IES recommends a 30Fc average to illuminate the front row on an auto dealership. PowerForm easily achieves this, and provides alternative solutions for those who desire higher light levels. The table below highlights four PowerForm configurations best suited to retrofit existing HID luminaires on the front row of a typical automobile dealership.

Luminaire	Optical Distribution	Orientation	Wattage (per luminaire)	Delivered Lumens (per luminaire)	Efficacy	Average FC	Max/Min Ratio
PFAS-92L-1A	AFR 90 & 270	2@180	337	31,020	92	32.7	4.02
PFAS-184L-700	AFR 90 & 270	2@180	418	47,690	114	50.4	4.00
PFAS-184L-1A	AFR 90 & 270	2@180	638	61,561	96	65.0	4.00
PFAS-276L-1A	AFR 90 & 270	2@180	942	92,873	99	98.1	4.01

Based on 25' mounting height and 50' spacing. The luminaires and optical distributions shown are examples. Confirm which PowerForm is right for you using a photometric layout of your application.

Keep them coming back for more

Set the tone for an enjoyable shopping experience even before customers enter the store.

PowerForm casts bright, uniform light across the entire parking lot, eliminating dark zones between poles, so that pedestrians and drivers feel a sense of security as they drive and walk throughout the area. While dimmable LED technology significantly reduces operating and maintenance expenses, the simple retrofit onto existing poles means that initial expenses are minimized, too. And as the number of luminaires can be reduced without compromising light quality, poles can be eliminated from the space to reduce clutter.

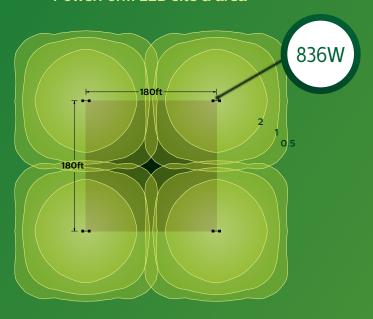


Typical retail parking lot

1000W Pulse Start Metal Halide

4320W 180ft

PowerForm LED site & area





1000W Pulse Start Metal Halide

PowerForm LED site & area



^{*} Based on 1000W PSMH luminaire (1080W) and PowerForm site & area (PFAS-184L-700mA).

Certainty for precious cargo

Safely navigating a constant flow of passengers or goods is complex enough, so why add the unnecessary stress of high utility bills?

PowerForm has a variety of mounting options and optical distributions to ensure a sense of security throughout any outdoor area, such as airport terminals, parking lots, docks and piers.

PowerForm's Airport Apron optics, available in the floodlight configuration, are designed to address the specific needs of this application, minimizing spill light and glare, and may be aimed to achieve cut off requirements.







Airport Apron Optics

PowerForm's advanced Airport apron optics (AIRP) are surrounded with high quality construction materials and skillful engineering that are synonymous with Philips Gardco, ensuring many years of reliable, low maintenance operation.

The AIRP optic provides an extremely wide horizontal pattern that can light large areas smoothly and uniformly to meet stringent airport apron lighting requirements. It is designed to achieve high levels of uniform horizontal illumination up to approximately 300' out from the terminal which reaches the end of most commercial planes. The AIRP optic limits stray uplight and helps to minimize glare for planes approaching the gates while providing good visibility for maintenance crews. When aiming the PowerForm Flood with the AIRP only minor tilting of 25° to 45° is necessary to maximize coverage and limit vertical footcandle levels away from the apron.

Do more with less

Now you can save money while achieving energy efficiency targets.

Energy savings

PowerForm brings the intrinsic energy savings of LED technology, which lowers utility bills and reduces payback periods. These long-lasting luminaires also require less frequent maintenance, decreasing costs even further compared to traditional HID technologies.

Modular housing

PowerForm's modular housing provides a full range of scalable solutions in one family, allowing you to use only what you need. Additionally, with industry-leading high output illumination of over 95,000 lumens, you can potentially use fewer luminaires compared to HID.

Control functions

PowerForm's programmable dimming, motion response, preplanned maintenance and other control functions further optimize energy savings and extend the luminaire's life while maintaining a sense of security throughout your site.



This is an ROI example you can achieve by retrofiting 68 HID luminaires with PowerForm



71%

Annual savings over HID



50%

Fewer luminaires* than existing HID



2.43

Payback in years*



Reduce lighting cost and increase energy savings by combining **PowerForm** with connected lighting solutions

Save **energy** and **money** with your new **area and flood** solution!

* Based on comparison between 1000W PSMH luminaires (at 1080W) and PFAS-276L-700-NW (at 618W) with an energy rate of \$0.1045/KWh. National average energy rates and other assumptions apply.

Site & Area, Floodlighting

Do more with less

Controls



Luminaire solutions

Basic. Autonomous. Affordable.

Simple, individual outdoor lighting dimming and management without the need for remote access.

- · 0-10V Dimming
- · Dual Circuit Control
- · Dynadimmer Stand-alone Dimming Profile
- · Dynadimmer with Motion Response Override
- · Programmable Motion Response

Programmable Motion Response

Programmable Motion Response maximizes your outdoor lighting energy savings while supporting security efforts. Upon easy installation, Programmable Motion Response dims PowerForm luminaires to 25% light output, increases to 100% light output only when motion is detected, and returns to the original low output after five minutes. Settings are easily changed at the luminaire with an optional wireless hand held programmer.

Dynadimmer

Dynadimmer dims the luminaire's light output according to preprogrammed or customized dimming schedules to reduce light pollution and energy consumption without compromise.



Site solutions

Intermediate. Informative. Flexible.

Wirelessly manage as a single system or as separate groups within a site. Monitor and respond to real time energy usage and track data trends with a web-based connected lighting system.

· Wireless controls system

Wireless controls system

Integrating wireless controls with PowerForm luminaires allows you to manage the entire site, independent lighting groups or individual luminaires local or remotely. Based on a high density mesh network and with the easy to use web-based portal, you can conveniently access and manage your lighting network remotely. Wireless controls can be combined with Site & Area, pedestrian, and parking garage luminaires as well, for a completely connected outdoor solution.

For more information

Visit us at **www.philips.com/luminaires** for more on Philips stand-alone and connected outdoor lighting solutions, and select Controls Outdoor, or request our outdoor lighting solutions brochure.

PowerForm site & area **PFAS**



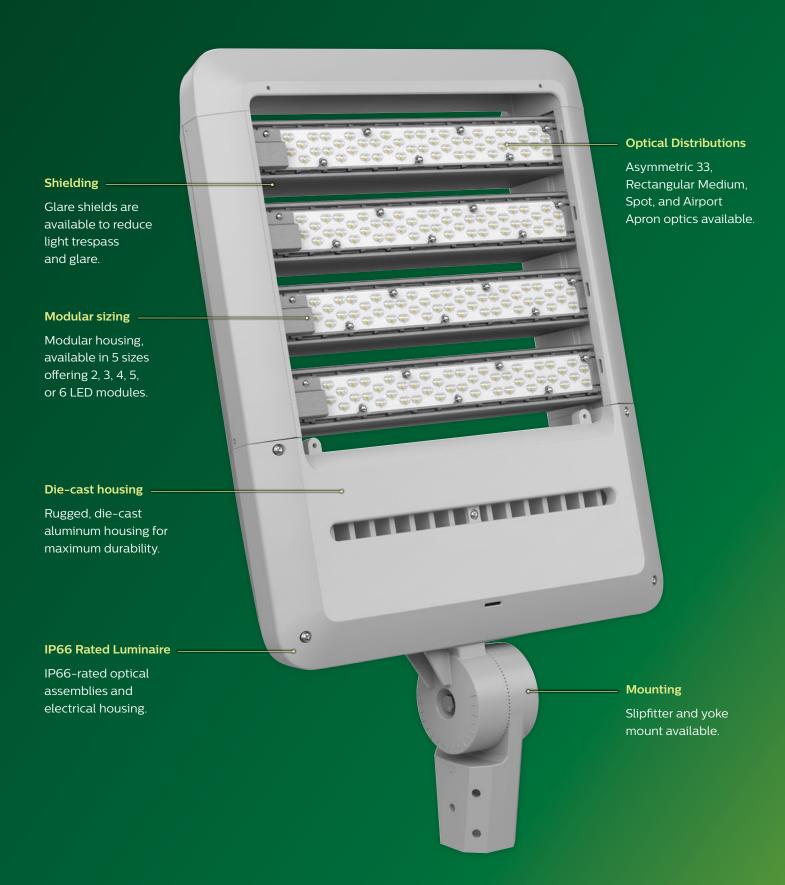
PowerForm

Site & Area

PFAS Configurations



PowerForm floodlight luminaires **PFF**



PFF Configurations



700 mA, 614 W, 72300-78000 lms 1A, 935 W, 94000-101400 lms



5 module luminaire

700 mA, 514 W, 60200-64900 lms 1A, 781 W, 78000-84100 lms



4 module luminaire

700 mA, 414 W, 48200-52000 lms 1A, 633 W, 62300-67200 lms



3 module luminaire

700 mA, 321W, 36000-38800 lms 1A, 481W, 46700-50400 lms



2 module luminaire

700 mA, 228 W, 22100-23800 lms 1A, 335 W, 31400-33800 lms

Mountings



Arm mount

PowerForm site & area's standard arm features an elongated bolt mounting pattern with key slot feature to aid in ease of mounting. Designed to fit a large number of existing pole drillings.



Slipfitter mount

PowerForm's structural, cast aluminum slipfitter is available with both site & area and flood luminaires. Designed to mount to a 2" (2 3/8" O.D.) pipe tenon. A single hex head bolt is tightened to secure the luminaire's tilt. Incremental 12° tick marks are provided to allow for precise aiming and to facilitate the alignment of multiple luminaires in 4° increments.



Splice connections can be made inside the slipfitter's dedicated UL-recognized splice compartment. Simply remove the access cover and make all of your wiring connections. No auxiliary junction box is required, allowing for luminaire at-grade wiring.





Yoke mount

When fixture locations do not allow for tenon style mounting or the need to mount a floodlight is an afterthought, bolting the product in place using a durable and adjustable yoke mount system provides the perfect solution. PowerForm's yoke mount option allows you to mount the product in place using appropriate mounting hardware.



PowerForm

Site & Area, Floodlighting

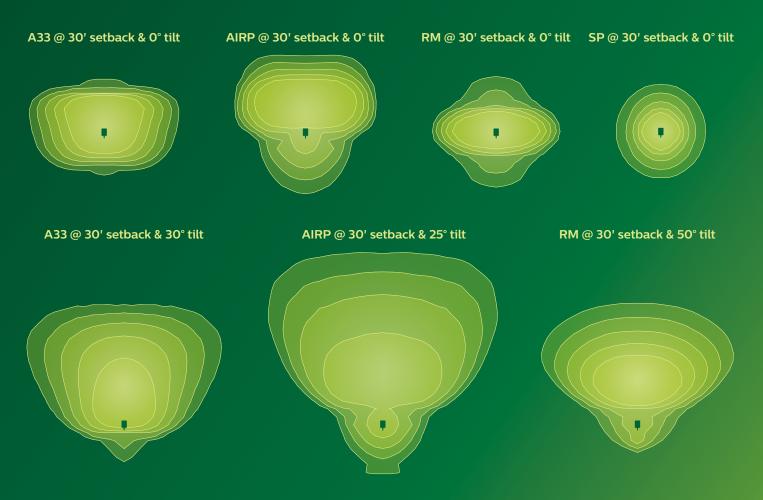
Mountings & Distributions

Optical distributions

PFAS Site & area luminaires

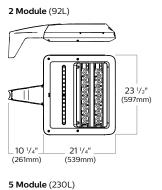


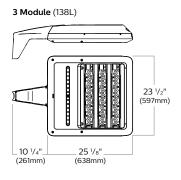
PFF Floodlight luminaires

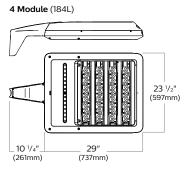


PFAS Site & area luminaires

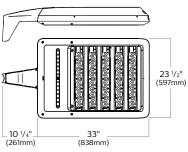
Dimensions – Standard Arm Mount (AR)

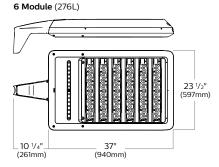






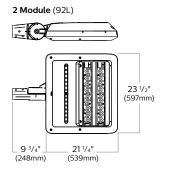


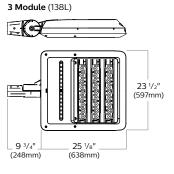




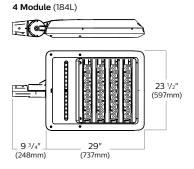
No. of Modules	Effec	tive Projected (EPA-ft2) ¹	Weight of single luminaire	
δŘ	Single	Twin@180	3 or 4	PFAS
2	0.560	1.120	1.457	48 lbs (21.8 kg)
3	0.647 1.294		1.631	59 lbs (26.8 kg)
4	0.739	1.478	1.816	68 lbs (30.8 kg)
5	0.836	1.672	2.009	78 lbs (35.4 kg)
6	0.938	1.876	2.214	86 lbs (39.0 kg)

Dimensions – Slipfitter Mount (SF)

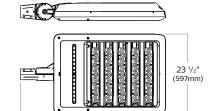




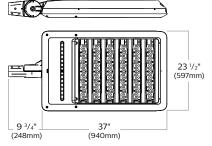
6 Module (276L)







33" (838mm)



No. of Modules	Effec	tive Projected (EPA-ft2) ¹	l Area		with Slipf on horizon	Weight of single luminaire		
	Single	Twin@180	3 or 4	0° Aim	45° Aim	90° Aim	PFAS SF	
	2	0.560	1.120	1.457	0.560	1.913	2.706	58 lbs (26.3 kg)
	3	0.647	1.294	1.631	0.647	2.311	3.269	68 lbs (30.8 kg)
	4	0.739	1.478	1.816	0.739	2.681	3.792	78 lbs (35.4 kg)
	5	0.836	1.672	2.009	0.836	3.021	4.273	88 lbs (39.9 kg)
	6	0.938	1.876	2.214	0.938	3.337	4.720	98 lbs (44.5 kg)

- Applies to values as shown for quantity of single, twin at 180, three or four luminaires; all with 0 deg aiming at horizontal.
 Applies to single PFAS luminaire with (SF) slipfitter mount at following angles when mounted on a horizontal tenon. 0° is horizontal to ground when mounted on a horizontal tenon. 90° is vertical to ground when mounted on a horizontal tenon.

9 3/4"

5 Module (230L)

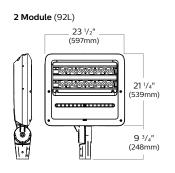
PowerForm

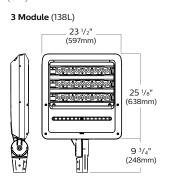
Site & Area, Floodlighting

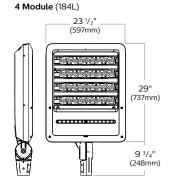
Dimensions

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Dimensions – Slipfitter Mount (SF)

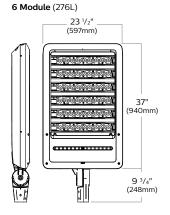








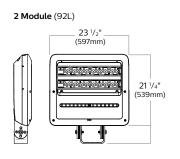
5 Module (230L) 23 1/2" (597mm) 33" (838mm) 9 3/4" (248mm)

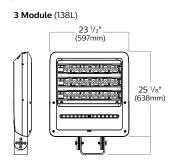


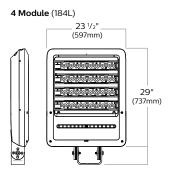
sa	Effective	Weight of			
후	Single:	Single:	Single:	single luminaire	
No. of Modules	0° Aim	45° Aim	90° Aim	PFF SF	
2	0.560	1.913	2.706	52 lbs (23.6 kg)	
3	0.647	2.311	3.269	62 lbs (28.1 kg)	
4	0.739	2.681	3.792	72 lbs (32.7 kg)	
5	0.836	3.021	4.273	81 lbs (36.7 kg)	
6	0.938	3.337	4.720	91 lbs (41.3 kg)	

Note: Applies to single PFF luminaire with (SF) Slipfitter mount at the following angles: 0° is horizontal to ground, 90° is perpendicular to the ground as shown in drawings.

Dimensions – Yoke Mount (YK)

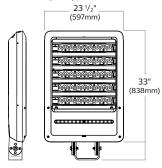


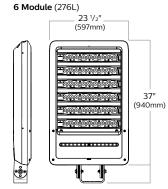






5 Module (230L)





es	Effective	Weight of				
동	Single:	Single:	Single:	single luminaire		
No. of Modules	0° Aim	45° Aim	90° Aim	PFF YK		
2	0.509	1.833	2.593	56 lbs (25.4 kg)		
З	0.596	2.232	3.156	66 lbs (29.9 kg)		
4	0.688	2.601	3.679	76 lbs (34.5 kg)		
5	0.786	2.942	4.161	86 lbs (39 kg)		
6	0.887	3.257	4.607	94 lbs (42.6 kg)		

Note: Applies to single PFF luminaire with (YK) Yoke mount at the following angles: 0° is horizontal to ground, 90° is perpendicular to the ground as shown in drawings.

PFAS Site & area luminaires



Ordering guide*

example: PFAS-184L-1A-NW-G1-AR-5W-120-PCB-F1-BZ

	Number	Drive	LED Color -				Options			
Luminaire	of LEDs	Current	Generation	Mounting	Distribution	Voltage	Controls	Electrical	Luminaire	Finish
PFAS										
PFAS PowerForm Area Site	92L 92 LEDs (2 modules) 138L 138 LEDs (3 modules) 184L 184 LEDs (4 modules) 230L 230 LEDs (5 modules) 276L 276 LEDs (6 modules)	700 700mA 1A 1Amp	NW-G1 Neutral White 4000K, 70 CRI Generation 1 NW90-G1 Neutral White 4000K, 90 CRI Generation 1	AR Arm Mount SF Slipfitter Mount (fits to 2³/s" O.D. tenon)	2 Type 2 3 Type 3 4 Type 4 5W Type 5W AFR Auto Front Row AFR-90 Auto Front Row, Rotated 90° AFR-270 Auto Front Row, Rotated 270°	120 120V 208 208V 240 240V 277 277V 347 347V 480 480V UNV 120-277V (50/60Hz) HVU 347-480V (50/60Hz)	DD 0-10V Dimming Driver DCC Dual Circuit Control DynaDimmer: Automatic Profile Dimming CS50 Safety 50% Dimming, 7 hours CM50 Median 50% Dimming, 8 hours CE50 Economy 50% Dimming, 9 hours DA50 All Night 50% Dimming Photoelectric/Receptacle Systems (Twist Lock Receptacle) PCB Photocontrol Button TLRD5 Twist Lock Receptacle 5 Pin TLRD7 Twist Lock Receptacle 7Pin TLRD7 Twist Lock Receptacle W/Photocell Infrared Motion Response Systems IMR13 Integral with #3 lens IMR14 Integral with #3 lens IMR15 Integral with #7 lens Pole Mounted Infrared Motion Response Systems with DynaDimmer CS50-IMRO with Safety 50% Dimming CM50-IMRO with Median 50% Dimming CE50-IMRO with Economy 50% Dimming CE50-IMRO with Economy 50% Dimming CE50-IMRO with Economy 50% Dimming Wireless Controls LLC3 Module with #3 lens LLC3 Module with #3 lens LLC4 Module with #4 lens	TB Terminal Block Fusing F1 Single (120, 277, 347VAC) F2 Double (208, 240, 480VAC) F3 Canadian Double Pull (208, 240, 480VAC) Pole Mount Fusing FP1 Single (120, 277, 347VAC) FP2 Double (208, 240, 480VAC) FP3 Canadian Double Pull (208, 240, 480VAC) Surge Protection SP2 20KV 10KA 120-277VAC SP2HV 20KV 10KA 347-480VAC	SPA Square Pole Adapter HIS Internal Housing Side Shield	Textured BK Black WH White BZ Bronze DGY Dark Gray MGY Medium Gray Customer specified RAL Specify optional color or RAL (ex: OC-LGP or OC-RAL7024) CC Custom color (Must supply colo chip for required factory quote)

Accessories* (ordered separately, field installed)

Controls Accessories Pole Mount Motion Sensors		Shielding Accessories Internal house Side shields		Mounting Accessories	
				PowerForm PTF2 (pole top fitter fits 2 ³ / ₈ -2 ¹ / ₂ " OD x 4" depth tenon)	
MS-A-120V	120V Input	HIS-PFAS-92	92 LEDs (2 modules)	PTF2-PFAS-1-90-(F)	1 luminaire at 90°
MS-A-277V	277V Input	HIS-PFAS-138	138 LEDs (3 modules)	PTF2-PFAS-2-90-(F)	2 luminaires at 90°
Wireless con	trole	HIS-PFAS-184	184 LEDs (4 modules)	PTF2-PFAS-2-180-(F)	2 luminaires at 180°
Remote mou		HIS-PFAS-230	230 LEDs (5 modules)	PTF2-PFAS-3-90-(F)	3 luminaires at 90°
	#2 lens	HIS-PFAS-276	276 LEDs (6 modules)	PTF2-PFAS-4-90-(F)	4 luminaires at 90°
LLCR2-(F) LLCR3-(F)	#3 lens	External Shield Aut	o Front Row 90° or 270°	PTF2-PFAS-3-120-(F)	3 luminaires at 120°
LLCR4-(F)	#4 lens	AFRES-PFAS-92	92 LEDs (2 modules)	PowerForm PTF3 (pole t	op fitter fits 3-31/2" OD x 6" depth tenon)
		AFRES-PFAS-138	138 LEDs (3 modules)	PTF3-PFAS-1-90-(F)	1 luminaire at 90°
		AFRES-PFAS-184	184 LEDs (4 modules)	PTF3-PFAS-2-90-(F)	2 luminaires at 90°
		AFRES-PFAS-230	230 LEDs (5 modules)	PTF3-PFAS-2-180-(F)	2 luminaires at 180°
		AFRES-PFAS-276	276 LEDs (6 modules)	PTF3-PFAS-3-90-(F)	3 luminaires at 90°
				PTF3-PFAS-4-90-(F)	4 luminaires at 90°
				PTF3-PFAS-3-120-(F)	3 luminaires at 120°
				PowerForm PTF4 (pole t	cop fitter fits $3^{1/2}$ -4" OD x 6" depth tenon)
				PTF4-PFAS-1-90-(F)	1 luminaire at 90°
				PTF4-PFAS-2-90-(F)	2 luminaires at 90°
				PTF4-PFAS-2-180-(F)	2 luminaires at 180°
				PTF4-PFAS-3-90-(F)	3 luminaires at 90°
				PTF4-PFAS-4-90-(F)	4 luminaires at 90°
				DEE4 DE44 D 404 (T)	21 : 14200

PTF4-PFAS-3-120-(F) 3 luminaires at 120°

^{*} Prior to ordering, consult specification sheets on www.philips.com/luminaires for the most current information, notes, and exclusions. Specify finish at placeholder F.

PFF Floodlight luminaires





PowerForm
Site & Area,
Floodlighting
Specifications

Ordering guide*

example: PFF-184L-1A-NW-G1-YK-SP-120-PCB-F1-BZ

	Number	Drive	LED Color -				Options		
Luminaire	of LEDs	Current	Generation	Mounting	Distribution	Voltage	Controls	Electrical	Finish
PFF			NW-G1						
PFF PowerForm Flood	92L 92 LEDs (2 modules) 138 L 138 LEDs (3 modules) 184 L 184 LEDs (4 modules) 230 LEDs (5 modules) 276 LEDs (6 modules)	700 700mA 1A 1Amp	NW-G1 Neutral White 4000K, 70CRI Generation 1	SF Slipfitter Mount (fits to 2³/s" O.D. tenon) YK Yoke Mount	A33 Asymmetric 33° Flood RM Rectangular Medium Flood SP Spot (12° round) AIRP Airport Apron Flood	120 120V 208 208V 240 240V 277 277V 347 347V 480 480V UNV 120-277V (50/60Hz) HVU 347-480V (50/60Hz)	DD 0-10V Dimming Driver DynaDimmer: Automatic Profile Dimming CS50 Safety 50% Dimming, 7 hours CM50 Median 50% Dimming, 8 hours CE50 Economy 50% Dimming, 9 hours DA50 All Night 50% Dimming Photoelectric/Receptacle Systems (Twist Lock Receptacle) PCB Photocontrol Button TLRD5 Twist Lock Receptacle 5 Pin TLRD7 Twist Lock Receptacle 7Pin TLRPC Twist Lock Receptacle w/Photocell Pole Mounted Infrared Motion Response Systems with DynaDimmer CS50-IMRO with Safety 50% Dimming CM50-IMRO with Median 50% Dimming CM50-IMRO with Median 50% Dimming DA50-IMRO with All Night 50% Dimming Wireless Controls LLC3 Module with #3 lens LLC4 Module with #4 lens	Fusing F1 Single (120, 277, 347VAC) F2 Double (208, 240, 480VAC) F3 Canadian Double Pull (208, 240, 480VAC) Pole Mount Fusing FP1 Single (120, 277, 347VAC) FP2 Double (208, 240, 480VAC) FP3 Canadian Double Pull (208, 240, 480VAC) Surge Protection SP2 20KV 10KA 120-277VAC SP2HV 20KV 10KA 347-480VAC	Textured BK Black WH White BZ Bronze DGY Dark Gray MGY Medium Gray Customer specified RAL Specify optiona color or RAL (ex: OC-LGP or OC-RAL7024) CC Custom color (Must supply col chip for required factory quote)

Accessories* (ordered separately, field installed)

Controls Accessories	Shielding Accessories	Mounting Acces	sories				
Pole Mount Motion Sensors	Glare shields	SM-18-(F)	18" Stanchion Mount	Bullhorns (requires pole top tenon of 4			
MS-A-120V 120V Input	GS-PFF-92 92 LEDs (2 modules)	Wall Brackets (2	Wall Brackets (23/8" round tenon)		OD x 6" depth x 0.226" thick)		
MS-A-277V 277V Input Wireless controls Remote mount modules	GS-PFF-138 138 LEDs (3 modules) GS-PFF-184 184 LEDs (4 modules) GS-PFF-230 230 LEDs (5 modules)	WRAB-(F) WRABH-14-(F) WVT-2-(F)	12" Wall Offset, Right Angle (55/8" depth) 14.5" Wall Offset, Right Angle (55/8" depth) Vertical Tenon (6" depth)	GMD103M-PFF-(F) Triple Mour GMD104M-PFF-(F) Quad Mour GMY103M-PFF-(F) Triple Mour GMX104M-PFF-(F) Quad Mour GMD115M-PFF-(F) Five Mount	Twin Mount 180° Triple Mount 180° Quad Mount 180°		
LLCR2-(F) #2 lens LLCR3-(F) #3 lens	GS-PFF-276 276 LEDs (6 modules)		on Reducer Brackets (2 ³ / ₈ " round tenon)		Triple Mount 120°		
LLCR4-(F) #4 lens		SPTR-4-(F) SPTR-5-(F)	Mounts over 4" sq. pole (4" depth) Mounts over 5" sq. pole (4" depth)		Five Mount 180° (requires pole top		
		Round Pole Ten	on Reducer Brackets (23/8" round tenon)		tenon 0.318" thick)		
		RPTR-4-(F)	Mounts over 4" dia. pole (4" depth)	_			
		RPTR-5-(F)	Mounts over 5" dia. pole (4" depth)				

^{*} Prior to ordering, consult specification sheets on www.philips.com/luminaires for the most current information, notes, and exclusions. Specify finish at placeholder F.

Driving towards your goals

See how Philips Gardco PowerForm LED high output area and flood luminaires can help you to send the right message in an efficient manner. Contact your local Philips Sales Representative for a personalized demonstration or visit **www.philips.com/powerform** for additional information.

