# RATIO OUTDOOR LUMINAIRE FAMILY

RATIO AREA/SITE

Hubbell Outdoor Lighting's Ratio area/site family is available in two sizes as well as a variety of outputs allowing you to customize your lighting design to meet application requirements. With a new spin on a classic rectilinear form, Ratio brings the traditional shoebox aesthetic into the next generation of LED lighting. Ratio features a dense optical array which provides reduced pixilation and increased visual comfort without compromising performance. Designed for sustained, long-term performance with advanced thermal management, an elegantly simple heat sink and industry leading surge protection.

VERSATILE MOUNTING
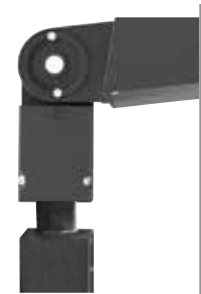
Knuckle

Mast Arm

Wall Mount

Universal Mounting

Universal mounting block for ease of installation. Compatible with drill patterns from 2.5" to 4.5"

Size	RAR1-80L	RAR1-160L	RAR2-320L	RAR2-480L
Lumens	3,000/6,000	9,000/12,000	15,000/21,000	24,000/30,000
Watts	25/50W	70/100W	110-165W	185-240W
LPW	120	129	136	136
Mounting	Arm & Knuckle	Arm & Knuckle	Arm & Knuckle	Arm & Knuckle
CCT	3K, 4K, 5K	3K, 4K, 5K	3K, 4K, 5K	3K, 4K, 5K
Distributions	II, III, IV, V	II, III, IV, V	II, III, IV, V	II, III, IV, V
IP Rating	IP66	IP66	IP66	IP66
Legacy Equivalence	100-175W	175-250W	250-400W	400-750W

RATIO AREA/SITE – PERFORMANCE

IES COMPARISON

The Ratio is available with four distinct distribution patterns to illuminate a variety of applications. Featuring Micro Strike Optics which maximizes target zone illumination with minimal losses at the house-side, reducing light trespass issues. This outstanding optic control simplifies layouts and installations, reducing pole count, energy consumption, lowers installation costs and improves visual acuity.

Parking Area										
Luminaire	Illuminance (Fc)					Output				
	Minimum	Average	Maximum	Avg/Min	Max/Min	Watts	Lumens	Pole Spacing	# Of Poles	Total Watts
RAR-2-480L-210-4K7-4 @ 25' MH	1.4	3.0	6.6	2.1	4.7	210	27,000	130'	4	840
Typical Area/Site Luminaire @ 25' MH	1.0	2.9	8.3	2.9	8.3	215	27,524	100'	6	1,290

Type II

Type III

Type IV

Type V

Typical Area/Site Luminaire
Type IV Distribution

260ft

124ft

Reduce fixture and pole count, improved uniformity, higher overall footcandles

Ratio
Type IV Distribution

260ft

124ft

Poor backlight control

BACKLIGHT CUTOFF

Micro Strike Optics maximize target illumination and uniformity while minimizing backlight.

Typical Area/Site Luminaire:
20-30% Backlight

Ratio:
9% Backlight

RATIO FLOOD

Hubbell Outdoor Lighting's Ratio flood series is available in five sizes as well as a variety of outputs allowing you to customize your lighting design to meet application requirements.

The Ratio flood series was designed in cohesion with the site/area products to provide a sleek yet timeless product family to be used throughout a site. Ratio features a dense optical array which provides reduced pixelation and increased visual comfort without compromising performance.

Designed for sustained, long-term performance with advanced thermal management and elegantly simple heat sink and industry leading surge protection. Scalable sizes, multiple beam spreads and interchangeable mountings make this an extremely versatile product family.

RLF1 ultra-compact the size of a hand.

VERSATILE FAMILY

From the ultra-compact RFL1 to the large RFL5, the Ratio family of floods provides lighting solutions for every flood lighting application large or small.

Visor
RFL4 – RFL5

Louver
RFL4 – RFL5

Trunnion Mount
RFL4 – RFL5

Knuckle Mount
RFL4 – RFL5

Knuckle Mount
RFL1 – RFL3

Trunnion Mount
RFL1 – RFL3

| Size	RFL1	RFL2	RFL3	RFL4	RFL5
Lumens	1,500	3,500	5,000/8,000	12,000/15,000	18,000/25,000/32,000
Watts	12.5W	25W	40/65W	95/120W	130/190/265W
LPW	120	130	125/144	125/130	125/130/140
Mounting	Knuckle	Knuckle, Trunnion	Knuckle, Trunnion	Knuckle, Trunnion	Knuckle, Trunnion
CCT	3K, 4K	3K, 4K, 5K	3K, 4K, 5K	3K, 4K, 5K	3K, 4K, 5K
Distributions	W	N, M, W	N, M, W	N, M, W	N, M, W
IP Rating	IP66	IP66	IP66	IP66	IP66
Legacy Equivalence	42W	100-150W	175-250W	250-400W	750W-1000W

RATIO FLOOD – PERFORMANCE

IES DISTRIBUTIONS

The Ratio flood series is available in three NEMA distribution patterns utilizing Micro Strike Optics for optimal performance.
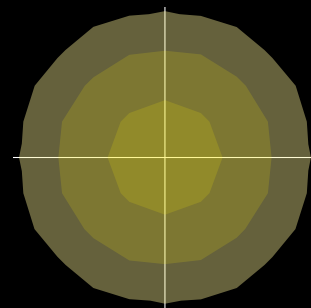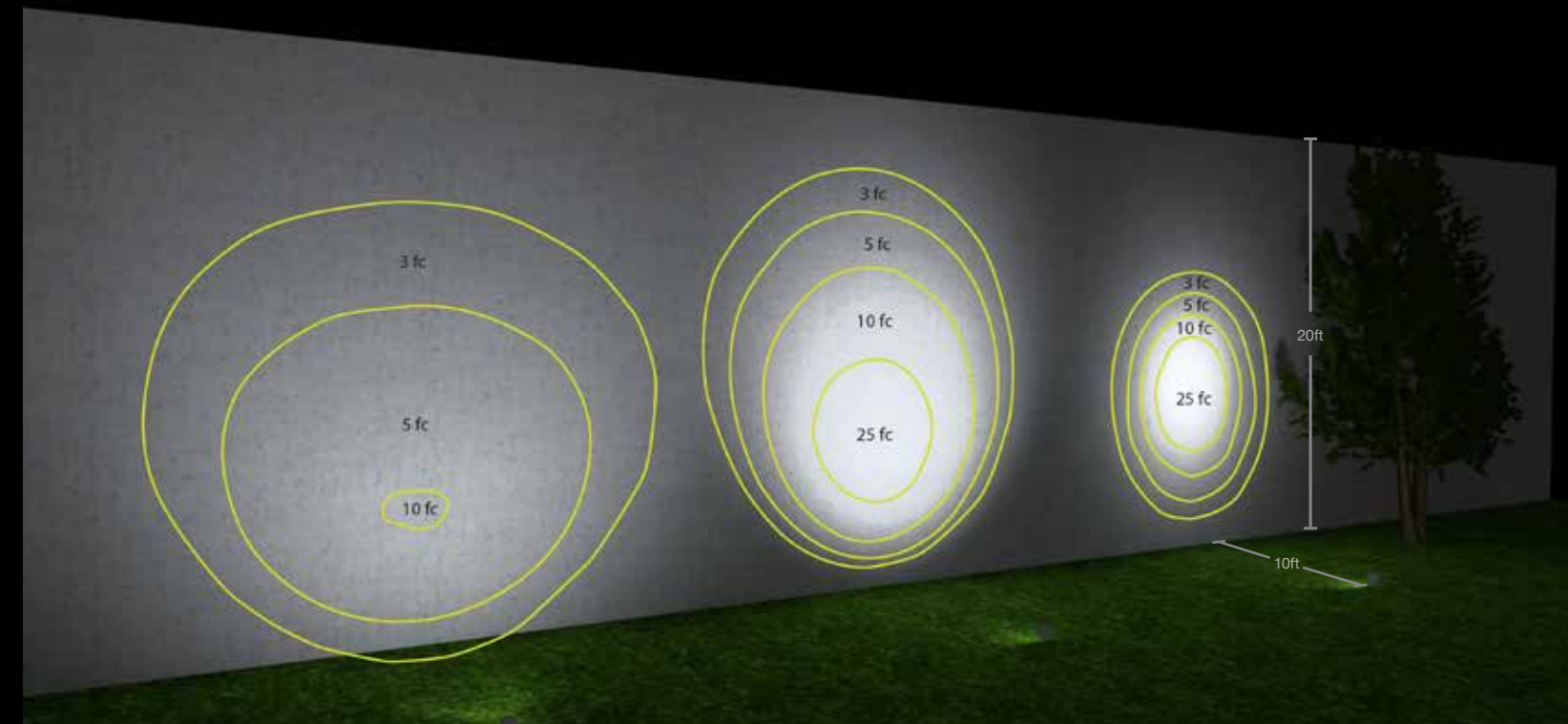
NEMA 6X6
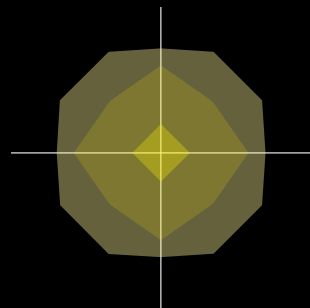
NEMA 4X4
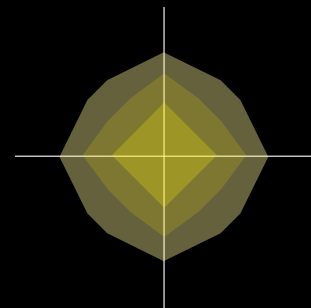
NEMA 2X2

SUPERIOR DESIGN

The Ratio flood series was specifically designed to shed water. The vented housing, in addition to cooling the fixture, also eliminates the ability for water to build up anywhere on the luminaire surface.

OPTICAL EXCELLENCE

All optical geometry is on the inside of the lens creating a smooth finish that limits debris build up on the external surface. The lens also has no external hardware allowing for even pressure on the gasket preventing water intrusion.
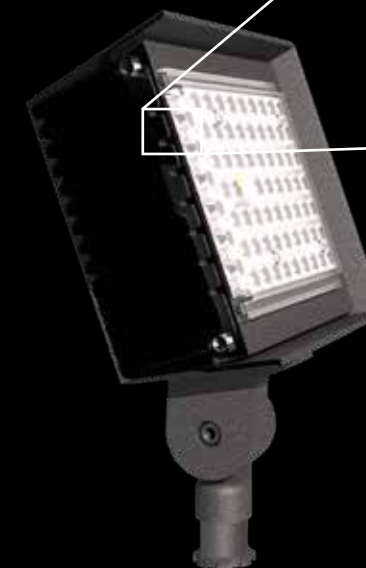
RATIO COMPREHENSIVE SOLUTIONS

Hubbell Outdoor Lighting provides comprehensive and coordinated solutions for a variety of exterior applications. A full line of luminaires are available with complementing shapes and styles that proportionally scale and add balance to the outdoor environment. Quality construction and industry leading performance complete the package. Control options featuring photocontrols, occupancy controls and NX Distributed Intelligence™ enable optimum energy savings and customization.
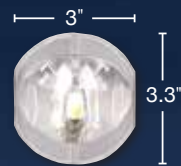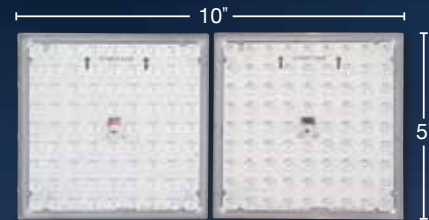

AREA/SITE

FLOOD

WALL

CANOPY

RATIO VISUAL COMFORT

Ratio's unique optical design combines visual uniformity with the precise distribution of a TIR optic. Five times the luminous surface area provides optimal light distribution plus visual comfort.

Competitor Optic (COB)

Micro Strike Optics

3"

3.3"

10"

5"

	Competitor Optic (COB)	Micro Strike Optics
Approximate Luminous Surface Area	10in^2	50in^2
Approximate Total Lumen Output	10,000	10,000
Lumens per inch^2	1,000	200
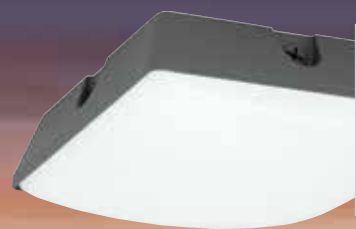
Lumasquare™

A specially designed acrylic lens provides blended, non-pixilated illumination for unprecedented visual comfort.
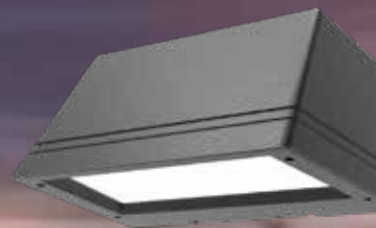
GeoPak™

Designed for optimal visual comfort and maximum performance, the low glare versions provide excellent illumination and uniformity with zero LED pixelation.

RATIO INTEGRATED CONTROLS

Controls in area/site applications save energy, extend luminaire life and allow customizable solutions. Sensors control light output based on area utilization and are used for energy savings and local code compliance.

STANDALONE CONTROLS FUNCTIONALITY

Occupancy Sensor
- Individual fixture control
- Dims product when space is not occupied

Photocontrol
- Individual fixture control
- Turns fixture on when sun sets

INTEGRATED CONTROLS

NX DISTRIBUTED INTELLIGENCE

Hubbell Controls Solutions' NX Distributed Intelligence™ platform delivers a lighting control solution capable of seamlessly connecting exterior and interior applications.

- Standalone or networked fixture control
- Astronomical time schedules
- BACnet building networking
- Connects with indoor wired, wireless or hybrid networks
- Wireless setup via app
- Occupancy Sensor option dims product when space is not occupied

7-Pin Receptacle
- Compatible with 3-pin, 5-pin or 7-pin photocontrols
- Turns fixture on when sun sets, off when sun rises
- Wireless networked solution
- For use with a variety of control platforms

*Additional accessories required.

ORDERING INFORMATION   ORDERING EXAMPLE: RFL1-4K

CATALOG DESCRIPTION	MOUNTING	DISTRIBUTION	WATTAGE	VOLTAGE	CCT	LUMENS	WEIGHT LBS. (KG)	FINISH
RAR-1-160L-100-4K7-4-UNV-ASQ-DB	Arm	Type III	100W	120-277V	4000K	12,000	14 (6)	Bronze
RAR-1-160L-100-4K7-4-UNV-ASQ-DB	Arm	Type IV	100W	120-277V	4000K	12,000	14 (6)	Bronze
RAR-2-320L-140-4K7-3-UNV-ASQ-DB	Arm	Type III	140W	120-277V	4000K	18,000	24 (11)	Bronze
RAR-2-320L-140-4K7-4-UNV-ASQ-DB	Arm	Type IV	140W	120-277V	4000K	18,000	24 (11)	Bronze
RAR-2-320L-165-4K7-3-UNV-ASQ-DB	Arm	Type III	165W	120-277V	4000K	21,000	24 (11)	Bronze
RAR-2-320L-165-4K7-4-UNV-ASQ-DB	Arm	Type IV	165W	120-277V	4000K	21,000	24 (11)	Bronze

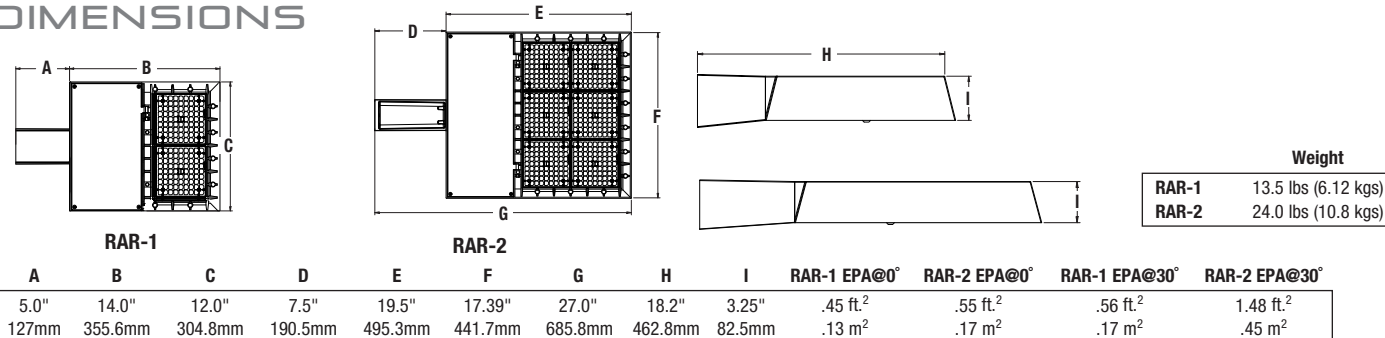## ORDERING INFORMATION   ORDERING EXAMPLE: RFL2-80L-3K7-FR-UNV-ASQ-BL-NXWE-BC

Ordering logic

SERIES	# LEDS WATTAGE		CCT/CRI		DISTRIBUTION		OPTICS ROTATION	VOLTAGE		MOUNTING SQUARE POLES	
RAR1 Ratio Area Size 1	80L-25	80 LEDs - 25w	3K7	3000K, 70 CRI	2	IES TYPE II	Blank for no rotation	UNV	Universal 120-277V	ASQ	Arm mount for square pole/flat surface
	80L-50	80 LEDs - 50w	4K7	4000K, 70 CRI	3	IES TYPE III	L Optic rotation left	347	347V	ASQU	Universal Arm mount for square pole/flat surface
RAR2 Ratio Area Size 2	160L-70	160 LEDs - 70w	5K7	5000K, 70 CRI	4	IES TYPE IV	R Optic rotation right	480	480V	**MOUNTING ROUND POLES**	
	160L-100	160 LEDs - 100w			5QW	TYPE V Wide				A_[1]	Arm mount for round pole
	320L-110	320 LEDs - 110w								A_U[1]	Universal arm mount for round point
	320L-140	320 LEDs - 140w								**MOUNTING OTHER**	
	320L-165	320 LEDs - 165w								WB	Wall bracket
	480L-185	480 LEDs - 185w								MAF	Mast Arm Fitter for 2-3/8" OD horizontal arm
	480L-210	480 LEDs - 210w								K	Knuckle
	480L-240	480 LEDs - 240w									

Ordering logic (CONT'D)

COLOR		CONTROL OPTIONS NETWORK		OPTIONS	
BL	Black	NXWE	NX Wireless Enabled (module + radio)	BC	Backlight Control
DB	Dark Bronze	NXSPW_F[2]	NX Wireless, PIR Occ. Sensor, Daylight Harvesting	SF	Single Fuse
GT	Graphite	NXSP_F[2]	NX, PIR Occ. Sensor, Daylight Harvesting	DF	Double Fuse
GYS	Gray Smooth	**CONTROL OPTIONS OTHER**		TB	Terminal Block
PS	Platinum Silver	SCP-_F[3]	Programmable occupancy sensor	2PF	2 power feed with 2 drivers
WH	White	7PR	7-Pin twist lock receptacle		
CC	Custom Color	7PR-SC	7-Pin receptacle with shorting cap		
		7PR-MD_F[3]	Low voltage sensor for 7PR		
		7PR-TL	7-Pin PCR with photocontrol		

[1] Replace "__" with "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
[2] Replace "__" with "14" for up to 14' mounting height, "30F" for 15-30' mounting height
[3] Replace "__" with "8" for up to 8' mounting height, "40F" for 9-40' mounting height

DIMENSIONS

		RAR-1	RAR-2
Weight		13.5 lbs (6.12 kgs)	24.0 lbs (10.8 kgs)

A	B	C	D	E	F	G	H	I	RAR-1 EPA@0°	RAR-2 EPA@0°	RAR-1 EPA@30°	RAR-2 EPA@30°
5.0" 127mm	14.0" 355.6mm	12.0" 304.8mm	7.5" 190.5mm	19.5" 495.3mm	17.39" 441.7mm	27.0" 685.8mm	18.2" 462.8mm	3.25" 82.5mm	.45 ft.² .13 m²	.55 ft.² .17 m²	.56 ft.² .17 m²	1.48 ft.² .45 m²

ACCESSORIES/REPLACEMENT PARTS - Order Separately

| Catalog Number	Description
☐ RARRPA3DB	Round pole adapter 3.5" TO 4.13"
☐ RARA3UDB	Universal mount for square pole or round pole 3.5" to 4.13"
☐ RARBC80L	Ratio blacklight ctrl 80L
☐ RARBC160L	Ratio blacklight ctrl 160L
☐ RARBC320L	Ratio blacklight ctrl 320L
☐ RARBC480L	Ratio blacklight ctrl 320L

ACCESSORIES/REPLACEMENT PARTS - Order Separately

Catalog Number	Description
☐ RAR-ASQU-XX	Universal arm mount for square pole/flat surface
☐ RAR-A_U-XX	Universal arm mount for round poles
☐ RAR-RPA_-XX	Round pole adapter
☐ TPLBARA3	Twin parallel luminaire bracket
☐ SETA2	4" square pole top tenon adapter, 2 3/8" OD slipfitter
☐ RETA2	4" round pole top tenon adapter; 2 3/8" OD slipfitter for max. Four fixtures (90°); order 4" round pole adapters separately
☐ TETA2	Three-sided pole top tenon adapter, 2 3/8" OD slipfitter
☐ SPIKE	Bird Deterrent
☐ RARWB-XX	Wall Bracket - use with Mast Arm Fitter

[1] Replace "_" with "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole

CONTROLS ACCESSORIES - Order Separately

Catalog Number	Description
☐ SW7PR	SiteSync™ on fixture module via 7PR
☐ SWUSB	SiteSync™ Software on USB
☐ SWTAB	SiteSync™ Windows Tablet
☐ SWBRG	SiteSync™ Wireless Bridge Node
☐ SWFC	SiteSync™ Field Commission Service
☐ SCPREMOTE	Order at least one per project location to program and control
☐ WIR-RME-L	wiSCAPE™ external control node; use with 7PR
☐ NXOFM-1R1D-UNV	NX external control node; use with 7PR

MOUNTING
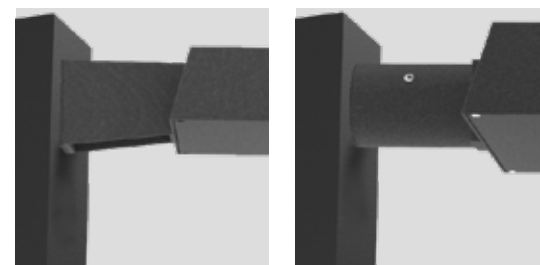
Arm Mount – Fixture ships with integral arm for ease of installation. Compatible with Hubbell Outdoor #2 drill pattern.
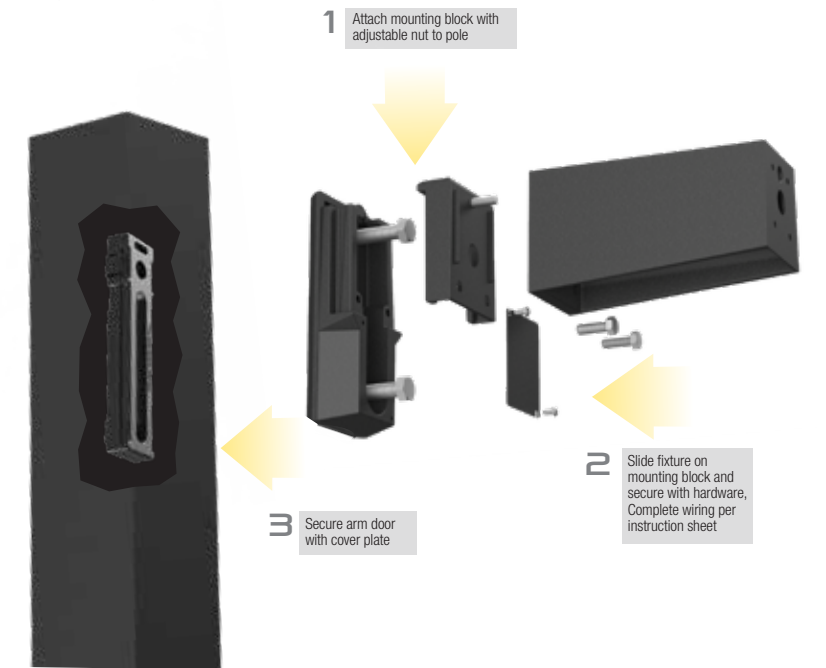
MAF – Fits 2-3/8" OD arms Roadway applications.
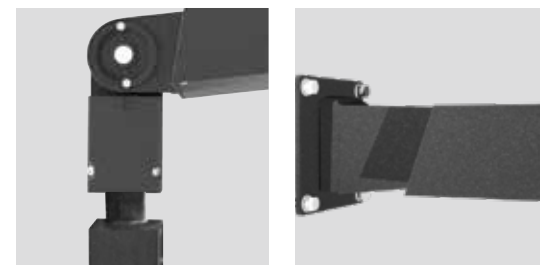
Knuckle – Knuckle mount 15° aiming angle increments for precise aiming and control, fits 2-3/8" tenons or pipes.

Wall Mount – Wall mount bracket designed for building mount applications.

UNIVERSAL MOUNTING BLOCK

Universal mounting block for ease of installation. Compatible with drill patterns from 2.5" to 4.5"

1 Attach mounting block with adjustable nut to pole

2 Slide fixture on mounting block and secure with hardware, Complete wiring per instruction sheet

3 Secure arm door with cover plate

FINISH OPTIONS

| BL Black Textured | DB Dark Bronze Textured | GYS Gray Smooth | GT Graphite Textured | PS Platinum Silver Smooth | WH White Textured |
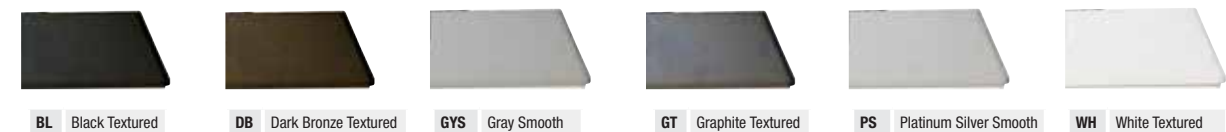
RATIO FLOOD ORDERING INFORMATION

STOCK — ORDERING INFORMATION

CATALOG DESCRIPTION	MOUNTING	DISTRIBUTION	WATTAGE	VOLTAGE	CCT	LUMENS	WEIGHT LBS. (KG)	FINISH
RFL1-3K	Knuckle	Wide	15W	120-277V	3000K	1,500	1.25 (.57)	Bronze
RFL1-4K	Knuckle	Wide	15W	120-277V	4000K	1,500	1.25 (.57)	Bronze

STOCK — ORDERING INFORMATION

CATALOG DESCRIPTION	MOUNTING	DISTRIBUTION	WATTAGE	VOLTAGE	CCT	LUMENS	WEIGHT LBS. (KG)	FINISH
RFL2-44L-25-4K-W-U-K-DB*	Knuckle	Wide	25W	120-277V	3000K	3,000	3.7 (1.68)	Bronze
RFL2-44L-25-5K-W-U-K-DB*	Knuckle	Wide	25W	120-277V	4000K	3,000	3.7 (1.68)	Bronze
RFL3-90L-40-4K-W-U-K-DB*	Knuckle	Wide	40W	120-277V	4000K	5,000	5.5 (2.5)	Bronze
RFL3-90L-40-5K-W-U-K-DB*	Knuckle	Wide	40W	120-277V	5000K	5,000	5.5 (2.5)	Bronze
RFL3-90L-40-5K-W-U-K-DB*	Knuckle	Wide	40W	120-277V	5000K	5,000	5.5 (2.5)	Bronze
RFL3-90L-65-4K-W-U-K-DB*	Knuckle	Wide	65W	120-277V	4000K	8,000	5.5 (2.5)	Bronze
RFL3-90L-65-5K-W-U-K-DB*	Knuckle	Wide	65W	120-277V	5000K	8,000	5.5 (2.5)	Bronze

*Also available with Photocontrol

## ORDERING INFORMATION — ORDERING EXAMPLE: RFL2-44-25-4K7-M-UNV-K-DB

Ordering logic

SERIES	# LEDS	WATTS	CCT/CRI	DISTRIBUTION	VOLTAGE	MOUNTING	COLOR	CONTROL OPTIONS
RFL2 Ratio Flood Size 2	**44** 44 LEDs	**25** 3,000 lm	**3K7** 3000K, 70 CRI	**N** Narrow, 2x2	**UNV** Universal 120-277	**K** Knuckle	**BL** Black	**CD** Continuous Dimmable
RFL3 Ratio Flood Size 3	**90** 90 LEDs	**40** 5,000 lm	**4K7** 4000K, 70 CRI	**M** Medium Flood, 4x4			**DB** Dark Bronze	**PC** Button Photocontrol
		65 7,000 lm	**5K7** 5000K, 70 CRI	**W** Wide Flood, 6x6			**GT** Graphite	
							GYS Gray Smooth	
							PS Platinum Silver	
							WH White	

ACCESSORIES/REPLACEMENT PARTS - Order Separately

| Catalog Number	Description
☐ S-302	Slipfits 1 1/2" or 2" pipe (1.9" OD or 2 3/8" OD) with 1/2" N.P.S.M. hub; Gray
☐ S-302-M51	Slipfits 1 1/2" or 2" pipe (1.9" OD or 2 3/8" OD) with 1/2" N.P.S.M. hub; Bronze
☐ S-302-M52	Slipfits 1 1/2" or 2" pipe (1.9" OD or 2 3/8" OD) with 1/2" N.P.S.M. hub; White
☐ TRN-XX¹	Trunnion adapter for 1/2" threaded knuckle mount

¹ Specify finish color to match fixture, e.g. DB - Bronze.

DIMENSIONS
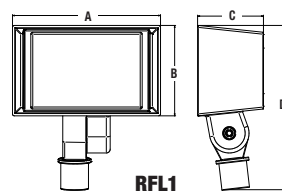
RFL1

A	B	C	D
4.5"	2.7"	2.0"	5.0"
114 mm	69 mm	51 mm	127 mm

Weight	
RFL1	1.25 lbs (0.57 kgs)

RFL2   **RFL3**
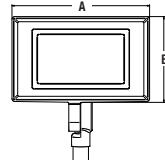
A	B	C	D	E
7.5"	4.7"	2.9"	7.9"	9.8"
191mm	119mm	74mm	201mm	249mm

F	G	H	RFL2 EPA(Front/Side)	RFL3 EPA(Front/Side)
6.0"	2.9"	9.3"	0.34ft² / 0.17ft²	0.97ft² / 0.20ft²
152mm	74mm	236mm		

Weight	
RFL2	3.7 lbs (1.68 kgs)
RFL3	5.5 lbs (2.50 kgs)

STOCK — ORDERING INFORMATION

CATALOG DESCRIPTION	MOUNTING	DISTRIBUTION	WATTAGE	VOLTAGE	CCT	LUMENS	WEIGHT LBS. (KG)	FINISH
RFL4-176L-120-5K-W-U-K-DB**	Knuckle	Wide	120W	120-277V	5000K	15,000	16.0 (7.26)	Bronze
RFL4-176L-120-4K-W-U-K-DB**	Knuckle	Wide	120W	120-277V	4000K	15,000	16.0 (7.26)	Bronze
RFL5-360L-265-5K-W-U-K-DB**	Knuckle	Wide	265W	120-277V	5000K	32,000	25.7 (11.66)	Bronze
RFL5-360L-265-4K-W-U-K-DB**	Knuckle	Wide	265W	120-277V	4000K	32,000	25.7 (11.66)	Bronze
TRN-RFL – Trunnion Kit								

**Also available with Trunnion

ORDERING INFORMATION — ORDERING EXAMPLE: RFL4-176-95-4KL-M-UNV-K-GYS

Ordering logic

SERIES	# LEDS	WATTS	CCT/CRI	DISTRIBUTION	VOLTAGE	MOUNTING	COLOR
RFL4 Ratio Flood Size 4	**176** 176 LEDs	**95** 12,000 lm	**3K7** 3000K, 70 CRI	**N** Narrow, 2x2	**UNV** Universal 120-277	**K** Knuckle	**BL** Black
		120 15,000 lm	**4K7** 4000K, 70 CRI	**M** Medium Flood, 4x4	**120** 120V	**T** Trunnion	**DB** Dark Bronze
RFL5 Ratio Flood Size 5	**360** 360 LEDs	**130** 18,000 lm	**5K7** 5000K, 70 CRI	**W** Wide Flood, 6x6	**208** 208V		**GT** Graphite
		190 25,000 lm			**240** 240V		**GYS** Gray Smooth
		265 32,000 lm			**277** 277V		**PS** Platinum Silver
					347 347V		**WH** White
					480 480V		

Ordering logic (CONT'D)

CONTROL OPTIONS		OPTIONS	
NXWE	NX Wireless Enabled (module + radio)	**SP**	Surge Protector
NXSPW_F¹	NX Wireless, PIR Occ. Sensor, Daylight Harvesting	**F**	Fusing
NXSP_F²	NX, PIR Occ. Sensor, Daylight Harvesting	**PCL**	Polycarbonate Lens

| CONTROL OPTIONS OTHER	
SCP-_F²	Programmable occupancy sensor
7PR	7-Pin twist lock receptacle
7PR-SC	7-Pin receptacle with shorting cap
7PR-MD_F²	Low voltage sensor for 7PR
7PR-TL	7-Pin PCR with photocontrol

¹ Replace "__" with "14" for up to 14' mounting height, "30F" for 15-30' mounting height
² Replace "__" with "8" for up to 8' mounting height, "40F" for 9-40' mounting height

ACCESSORIES/REPLACEMENT PARTS - Order Separately

Catalog Number	Description
☐ RFL4-TV	Top Visor - RFL4
☐ RFL4-FL	Louver - RFL4
☐ RFL5-TV	Top Visor - RFL5
☐ RFL5-FL	Louver - RFL5

See www.HubbellLighting.com for mounting bracket information.

DIMENSIONS

RFL4   **RFL5**
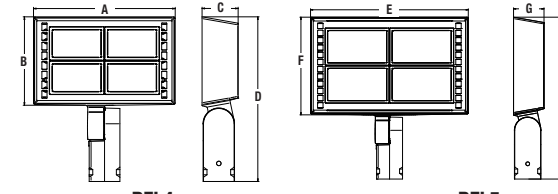
A	B	C	D	E
13.8"	8.6"	3.5"	16.0"	18.1"
351mm	218mm	89mm	406mm	460mm

F	G	H	RFL4 EPA(Front/Side)	RFL5 EPA(Front/Side)
11.2"	3.5"	18.6"	1.24ft² / 0.43ft²	2.00ft² / 0.50ft²
152mm	89mm	472mm		

Weight	
RFL4	16 lbs (7.26 kgs)
RFL5	25.7 lbs (11.66 kgs)

HUBBELL Lighting

ALERA LIGHTING

ARCHITECTURAL AREA LIGHTING

BEACON PRODUCTS

COLUMBIA LIGHTING

COMPASS

DUAL-LITE

HUBBELL CONTROL SOLUTIONS

HUBBELL INDUSTRIAL LIGHTING

HUBBELL OUTDOOR LIGHTING

KIM LIGHTING

KURT VERSEN

LITECONTROL

PRESCOLITE

HUBBELL Outdoor Lighting