

DATE: _____ LOCATION: _____
 TYPE: _____ PROJECT: _____
 CATALOG #: _____

RATIO Series

AREA/SITE LIGHTER

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as retail, commercial and campus parking lots
- Featuring Micro Strike Optics which maximizes target zone illumination with minimal losses at the house-side, reducing light trespass issues
- Visual comfort standard
- Compact and lightweight design with low EPA
- 3G rated for high vibration applications including bridges and overpasses
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™ and 7-Pin with networked controls
- Best in class surge protection available



CONTROL TECHNOLOGY



SPECIFICATIONS

CONSTRUCTION

- Rectilinear form mimics the traditional shoebox form factor keeping a similar but updated style and appearance, ideal for retrofit applications
- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with powder coat paint finish

OPTICS

- Entire optical aperture illuminates to create a larger luminous surface area resulting in a low glare appearance without sacrificing optical performance
- 80, 160, 320 or 480 midpower LEDs
- 3000K, 4000K or 5000K (70 CRI) CCT
- Zero uplight at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Standard square arm mount, compatible with B3 drill pattern
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option or accessory for square and round poles.
- Knuckle arm fitter option available for 2-3/8" OD tenon. Max tilt of 60 degrees with 4 degree adjustable increments. (Restrictions apply for 7-pin options)

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40°C to 40°C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised

CONTROLS

- Photo control, occupancy sensor and wireless available for complete on/off and dimming control
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- 0-10V dimming leads available for use with control devices (provided by others, must specify lead length)
- SiteSync™ wireless control system is available via 7-pin See ordering information and details at: www.hubbellighting.com/sitesync
- NX Distributed Intelligence™ available with in fixture wireless control module, features dimming and occupancy sensor



RELATED PRODUCTS

- [Airo](#)
 [Cimarron LED](#)
 [Ratio Family](#)

CONTROLS (CONT'D)

- wiSCAPE® available with in fixture wireless control module, features dimming and occupancy sensor via 7-pin

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified, with some Premium Qualified configurations. Please refer to the DLC website for specific product qualifications at www.designlights.org)
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient temperatures
- 3G rated for ANSI C136.31 high vibration applications
- Fixture is IP66 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt

WARRANTY

- 5 year limited warranty
- See [HLI Standard Warranty](#) for additional information

KEY DATA	
Lumen Range	3,000–32,000
Wattage Range	25–227
Efficacy Range (LPW)	118–155
Fixture Projected Life (Hours)	L70>36K
Weights lbs. (kg)	13.5–24 (6.1–10.9)

RATIO SERIES

AREA/SITE LIGHTER

ORDERING GUIDE

Example: RAR1-80L-25-3K7-2-UNV-ASQ-BL-NXWE-BC

CATALOG #

ORDERING INFORMATION

Series	# LEDs - Wattage	CCT/CRI	Distribution	Optics Rotation	Voltage
RAR1 Ratio Area Size 1	80L-25 25W - 3,000 Lumens	3K7 3000K, 70 CRI 4K7 4000K, 70 CRI 5K7 5000K, 70 CRI	2 IES TYPE II 3 IES TYPE III 4W IES TYPE IV 5QW IES TYPE V	Blank for no rotation L Optic rotation left R Optic rotation right	UNV Universal 120-277V 120 120V 208 208V 240 240V 277 277V 347 347V 480 480V
	80L-50 50W - 6,000 Lumens				
	160L-70 70W - 9,000 Lumens				
	160L-100 100W - 12,000 Lumens				
RAR2 Ratio Area Size 2	320L-110 110W - 15,000 Lumens				
	320L-140 140W - 18,000 Lumens				
	320L-165 165W - 21,000 Lumens				
	480L-185 185W - 24,000 Lumens				
	480L-210 210W - 27,000 Lumens				
	480L-240 240W - 30,000 Lumens				

ORDERING INFORMATION CONTINUED

Mounting	Color	Control Options Network	Options		
ASQ Arm mount for square pole/flat surface	BL Black textured DB Dark bronze textured GT Graphite textured GYS Light gray smooth PS Platinum silver smooth WH White textured CC Custom color	NXWE NX Wireless Enabled (module + radio) NXSPW_F NX Wireless, PIR Occ. Sensor, Daylight Harvesting ² NXSP_F NX, PIR Occ. Sensor, Daylight Harvesting ²	BC Backlight control CD Continuous dimming F Fusing (must specify voltage) TB Terminal block 2PF 2 power feed with 2 drivers ³		
ASQU Universal arm mount for square pole/flat surface					
Mounting Round Poles		Control Options Other			
A_ Arm mount for round pole ¹		SCP-40F Programmable occupancy sensor ⁴			
A_U Universal arm mount for round pole ¹		7PR 7-Pin twist lock receptacle			
Mounting Other		7PR-SC 7-Pin receptacle with shorting cap			
WB Wall bracket		7PR-MD40F Low voltage sensor for 7PR			
MAF Mast arm fitter for 2-3/8" OD horizontal arm		7PR-TL 7-Pin PCR with photocontrol			
K Knuckle					

Notes:

- 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 Not available with 80 LED versions
- 4 At least one SCPREMOTE required to program SCP motion sensor

STOCK ORDERING INFORMATION

Catalog Number	Lumens	Wattage	LED Count	CCT/CRI	Voltage	Distribution	Mounting	Finish
RAR1-100-4K-3	12,000	100W	160L	4000K/70CRI	120-277V	Type 3	Square Arm	Bronze
RAR1-100-4K-4W	12,000	100W	160L	4000K/70CRI	120-277V	Type 4W	Square Arm	Bronze
RAR2-140-4K-3	18,000	140W	320L	4000K/70CRI	120-277V	Type 3	Square Arm	Bronze
RAR2-140-4K-4W	18,000	140W	320L	4000K/70CRI	120-277V	Type 4W	Square Arm	Bronze
RAR2-165-4K-3	21,000	165W	320L	4000K/70CRI	120-277V	Type 3	Square Arm	Bronze
RAR2-165-4K-4W	21,000	165W	320L	4000K/70CRI	120-277V	Type 4W	Square Arm	Bronze

RATIO SERIES

AREA/SITE LIGHTER

OPTIONS AND ACCESSORIES - STOCK (ORDERED SEPARATELY)

Catalog Number	Description
<input type="checkbox"/> RARRPA3DB	Round pole adapter 3.5" to 4.13" for ASQ arm, 3.5" to 4.13" OD pole, dark bronze finish
<input type="checkbox"/> RARA3UDB	Universal mount for square pole or round pole 3.5" to 4.13", dark bronze finish
<input type="checkbox"/> RARBC80L	Ratio blacklight control 80L
<input type="checkbox"/> RARBC160L	Ratio blacklight control 160L
<input type="checkbox"/> RARBC320L	Ratio blacklight control 320L
<input type="checkbox"/> RARBC480L	Ratio blacklight control 480L

ACCESSORIES AND REPLACEMENT PARTS - MADE TO ORDER

Catalog Number	Description
<input type="checkbox"/> RAR-ASQU-XX	Universal arm mount for square pole/flat surface ²
<input type="checkbox"/> RAR-A_U-XX	Universal arm mount for round poles ^{1,2}
<input type="checkbox"/> RAR-RPA_-XX	Round pole adapter ^{1,2}
<input type="checkbox"/> SETAVP-XX	4" square pole top tenon adapter, 2 3/8" OD slipfitter ²
<input type="checkbox"/> RETAVP-XX	4" round pole top tenon adapter; 2 3/8" OD slipfitter for max. Four fixtures (90o); order 4" round pole adapters separately ²
<input type="checkbox"/> BIRD-SPIKE-3	Ratio size 1 bird deterrent/spikes
<input type="checkbox"/> BIRD-SPIKE-4	Ratio size 2 bird deterrent/spikes
<input type="checkbox"/> RARWB-XX	Wall bracket - use with Mast Arm Fitter or Knuckle ²

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 "XX" with desired color/paint finish

CONTROLS

Control Options

Standalone

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 Serve
SCPREMOTE	Order at least one per project location to program and control

Networked – Wireless

WIR-RME-L	wiSCAPE External Fixture Module ^{1,2}
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NX Networked – Wireless

NXOFM-1R1D-UNV	NX Wireless, Daylight Harvesting, BLE, 7 pin twisted lock
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Notes:

- 1 Works with external networked photosensor
- 2 wiSCAPE Gateway required for system programming

RATIO SERIES

AREA/SITE LIGHTER

PERFORMANCE DATA

Description	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 80 CRI)				
				Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
RAR1	25	25.4	2	3438	135	1	0	1	3445	136	1	0	1	3240	128	1	0	1
			3	3460	136	1	0	1	3467	136	1	0	1	3260	128	1	0	1
			4W	3406	134	1	0	1	3412	134	1	0	1	3209	126	1	0	1
			5QW	3483	137	2	0	1	3490	137	2	0	1	3282	129	2	0	1
	50	49.8	2	6310	127	1	0	2	6323	127	1	0	2	5946	120	1	0	2
			3	6349	128	1	0	2	6362	128	1	0	2	5983	120	1	0	2
			4W	6233	125	1	0	2	6245	126	1	0	2	5873	118	1	0	2
			5QW	6392	129	3	0	1	6405	129	3	0	1	6023	121	3	0	1
	70	68.4	2	9486	139	1	0	2	9505	139	1	0	2	8938	131	1	0	2
			3	9544	140	1	0	2	9563	140	1	0	2	8993	131	1	0	2
			4W	9395	137	1	0	2	9414	138	1	0	2	8853	129	1	0	2
			5QW	9608	140	4	0	2	9628	141	4	0	2	9054	132	4	0	2
	100	90.0	2	11976	133	2	0	2	12000	133	2	0	2	11285	125	2	0	2
			3	12050	134	2	0	2	12074	134	2	0	2	11354	126	2	0	2
			4W	11861	132	2	0	2	11885	132	2	0	2	11177	124	2	0	2
			5QW	12131	135	4	0	2	12155	135	4	0	2	11431	127	4	0	2
RAR2	110	100.3	2	15326	153	2	0	3	15357	153	2	0	3	14442	144	2	0	3
			3	15421	154	2	0	3	15452	154	2	0	3	14531	145	2	0	3
			4W	15180	151	2	0	2	15210	152	2	0	2	14304	143	2	0	2
			5QW	15525	155	4	0	2	15556	155	4	0	2	14629	146	4	0	2
	140	133.2	2	19395	146	2	0	3	19434	146	2	0	3	18276	137	2	0	3
			3	19515	147	2	0	3	19554	147	2	0	3	18389	138	2	0	3
			4W	19210	144	2	0	3	19248	145	2	0	3	18101	136	2	0	3
			5QW	19647	148	5	0	3	19686	148	5	0	3	18513	139	5	0	3
	165	153.6	2	21651	141	3	0	3	21695	141	3	0	3	20402	133	3	0	3
			3	21785	142	3	0	3	21828	142	3	0	3	20527	134	3	0	3
			4W	21444	140	3	0	3	21487	140	3	0	3	20206	132	3	0	3
			5QW	21932	143	5	0	3	21976	143	5	0	3	20666	135	5	0	3
	185	174.5	2	26046	149	3	0	3	26098	150	3	0	3	24543	141	3	0	3
			3	26207	150	3	0	3	26259	150	3	0	3	24694	142	3	0	3
			4W	25797	148	3	0	4	25849	148	3	0	4	24308	139	3	0	4
			5QW	26384	151	5	0	3	26437	152	5	0	3	24861	143	5	0	3
	210	198.2	2	28848	145	3	0	4	28906	146	3	0	4	27184	137	3	0	4
			3	29027	146	3	0	4	29085	147	3	0	4	27351	138	3	0	4
			4W	28572	144	3	0	4	28630	144	3	0	4	26924	136	3	0	4
			5QW	29222	147	5	0	4	29281	148	5	0	4	27536	139	5	0	4
	240	226.9	2	32087	141	3	0	4	32151	142	3	0	4	30235	133	3	0	4
			3	32285	142	3	0	4	32350	143	3	0	4	30422	134	3	0	4
			4W	31780	140	3	0	4	31844	140	3	0	4	29946	132	3	0	4
			5QW	32503	143	5	0	4	32568	144	5	0	4	30627	135	5	0	4

* Lumen values are from photometric test performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown. Actual performance may differ as a result of end-user environment and application.

RATIO SERIES

AREA/SITE LIGHTER

ELECTRICAL DATA

# OF LEDS	Nominal Wattage	Input Voltage	Oper. Current (Amps)	System Power (Watts)
RAR1	25	120	0.21	25.4
		208	0.12	
		240	0.11	
		277	0.09	
	50	120	0.42	49.8
		208	0.24	
		240	0.21	
		277	0.18	
	70	120	0.57	68.4
		208	0.33	
		240	0.29	
		277	0.25	
100	120	0.75	90.0	
	208	0.43		
	240	0.38		
	277	0.32		
RAR2	110	120	0.84	100.3
		208	0.48	
		240	0.42	
		277	0.36	
	140	120	1.11	133.2
		208	0.64	
		240	0.56	
		277	0.48	
	165	120	1.28	153.6
		208	0.74	
		240	0.64	
		277	0.55	
	185	120	1.45	174.5
		208	0.84	
		240	0.73	
		277	0.63	
	210	120	1.65	198.3
		208	0.95	
		240	0.83	
		277	0.72	
	240	120	1.89	226.9
		208	1.09	
		240	0.95	
		277	0.82	

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0° C	32° F	1.03
10° C	50° F	1.01
20° C	68° F	1.00
25° C	77° F	1.00
30° C	86° F	0.99
40° C	104° F	0.98
50° C	122° F	0.97

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

PROJECTED LUMEN MAINTENANCE

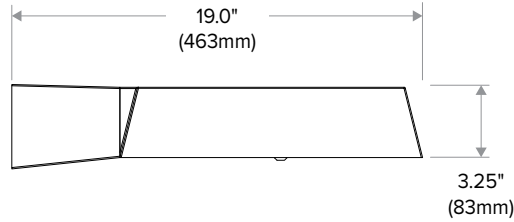
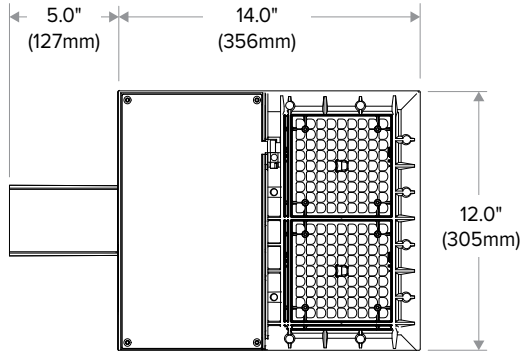
Ambient Temperature	OPERATING HOURS					
	0	25,000	TM-21-11 L90 36,000	50,000	100,000	L70 (Hours)
25°C / 77°F	1.00	0.97	0.95	0.93	0.86	238,000
40°C / 104°F	0.99	0.96	0.95	0.93	0.85	225,000

RATIO SERIES

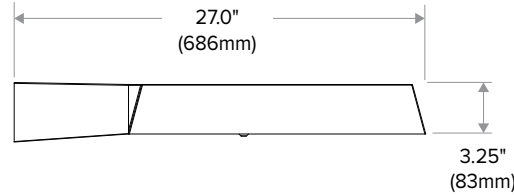
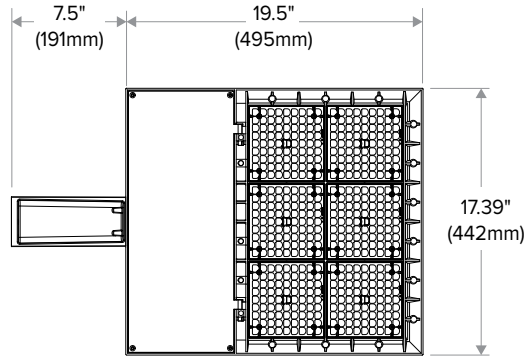
AREA/SITE LIGHTER

DIMENSIONS

RAR1

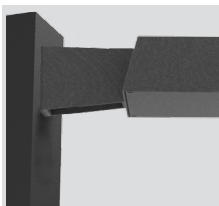


RAR2

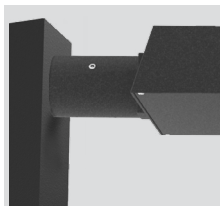


ADDITIONAL INFORMATION

MOUNTING



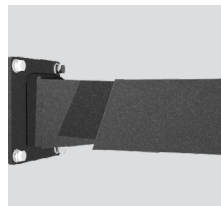
Arm Mount – Fixture ships with integral arm for ease of installation. Compatible with Hubbell Outdoor B3 drill pattern.



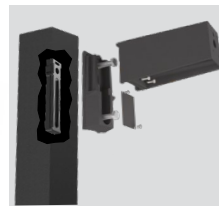
MAF – Fits 2-3/8" OD arms Roadway applications.



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

SITESYNC 7-PIN MODULE



SW7PR

- SiteSync features in a new form
- Available as an accessory for new construction or retrofit applications (with existing 7-Pin receptacle)
- Does not interface with occupancy sensors

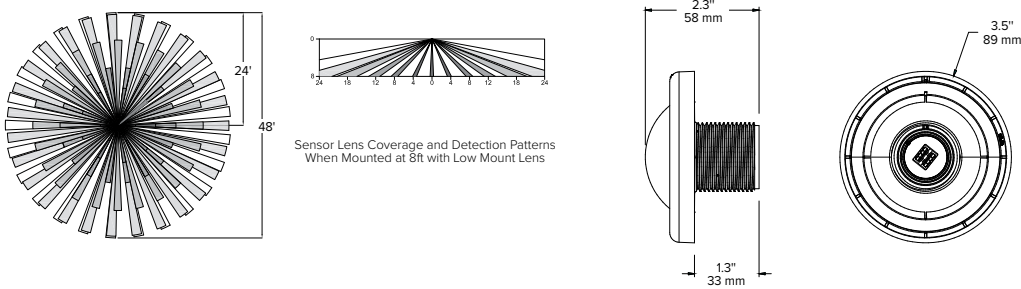


RATIO SERIES

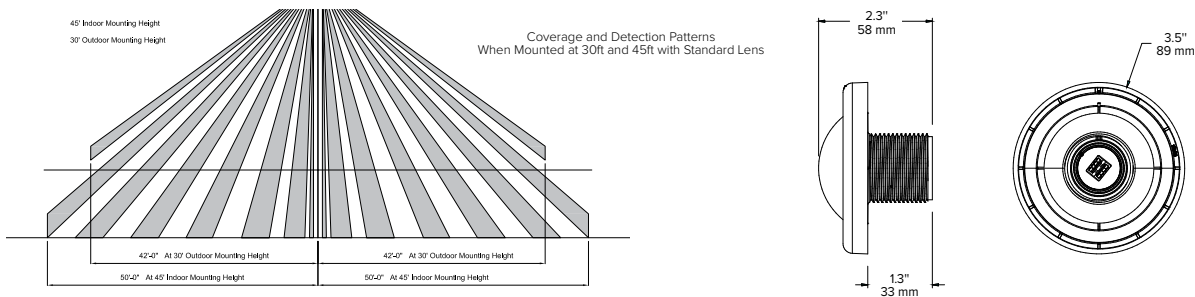
AREA/SITE LIGHTER

ADDITIONAL INFORMATION (CONT'D)

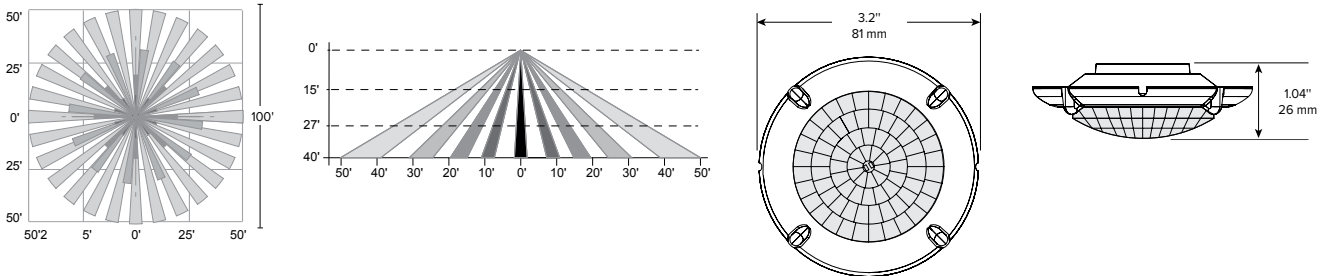
NXSP-14F



NXSP-30F



SCP-40F



RAR1 EPA

RAR-1	
EPA at 0°	EPA at 30°
.45ft. ² .13m ²	.56ft. ² .17m ²

RAR2 EPA

RAR-2	
EPA at 0°	EPA at 30°
.55ft. ² .17m ²	1.48ft. ² .45m ²

SHIPPING

Catalog Number	G.W(kg)/CTN	Carton Dimensions		
		Length Inch (cm)	Width Inch (cm)	Height Inch (cm)
RAR1	15 (6.8)	20.75 (52.7)	15.125 (38.4)	6.9375 (17.6)
RAR2	19 (8.6)	25 (63.5)	15.125 (38.4)	6.9375 (17.6)

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