Downlighting

LIGHTOLIER

LyteProfile 4"







P4R Round Downlight & Wall Wash

LyteProfile downlights and wall washers provide a perfect balance of functionality with glare controlled The robust and versatile UniFrame frame-in kit makes changes and updates easy to manage and install. High optical efficiency reinforced with Accurender technology provides an optimum balance of performance and quality of light. Ideal for use in a variety of applications including open office, institutional, healthcare, and retail.

Standard luminaire: Complete luminaire = Frame + Engine + Trim + Accessories (optional) Flex install luminaire: Complete luminaires = Engine (F) + Trim + Accessories (optional)

Buy American Act of 1933 (BAA)** Compliant luminaire*: Complete luminaire = Frame-BAC + Engine/Trim-BAC (single line)

Frame Standard example: 4RN BAC Example: 4RN-BAC

Series 4	Aperture R	Installation	Options
4 Uniframe 4" Non-IC	R Round	N New construction (Non-IC)	Universal 120/277/347V Chicago Plenum Emergency, 6W Self-Test/Self-Diagnostic (not available for BAC) ¹
		R Remodeler (Non-IC)	- Universal 120/277/347V
		A AirSeal (IC)	- Universal 120/277/347V

Engine/Trim

Standard example: P4RDL20935WCDZ10U BAC example: P4RDL20935WCDZ10U-BAC

Series P4R	Style	Lumen	CRI/CCT	Beam	Reflector	Flange	Dimming / Options	Voltage	Optio	ons
P4R LyteProfile 4" round downlight	DL Downlight LW Lensed Wall Wash ² SL Shower light ³ (non-conductive lens)	05 500 lm 10 1000 lm 15 1500 lm 20 2000 lm ⁴ 25 2500 lm ⁴ 30 3000 lm ⁵ 35 3500 lm ⁵ 40 4000 lm ⁵	927 90CRI/2700K 930 90CRI/3000K 935 90CRI/3500K 940 90CRI/4000K 9D2W 3000-1800K (dim to warm) ⁶ 96T 2700-6500K (tunable white) ^{7,8}	N Narrow M Medium W Wide ²	CL Specular clear CC Comfort clear CD Comfort clear diffuse WH White (matte) BK Black (matte)	- White (matte) B Black (matte) P Polished (matches aperture) F Flangeless (requires CA4RFT) - White (matte) B Black (matte) F Flangeless	Z10 0-10V 1% Z10D20 0-10V 1% (dim to Off) (up to 3500Im) L1 Lutron LDE1 EcoSystem 1% (500Im not available) RA Integral Interac RF sensor (up to	t Pro	F IEM6	None Retrofit ¹¹ (not compatible with IEM6) Flex install (no frame required) ¹² Trim mounted EM test switch (for DL style only)
					WHAMF White (gloss antimicrobial) ⁹	requires CA4RFT) 9 - White (gloss) F Flangeless (requires CA4RFT) 9	E Forward & Reverse Phase (up to 2500lm)	1 120V	BAC	Meets the requirements of the Buy American Act of 1933 (BAA)*

Accessories

SWCS New or remodel construction, integral RADIO or remote (recessed or surface) sensing with 0-10v luminaires. See SWCS spec sheet 19 CAEM6 Field installable Bodine BSL6 6W battery pack with self-test/self-diagnostic for use with new construction frames, 120-277V CA4RFT Mud-in ring for use in 4" round flangeless trim installations (ordered with a flangeless (F) light engine) CAEM6TSCP Remote switch cover plate. Order with EM6 frame for remote mounted test switch (Required for LW and SL styles). C4RVPWH IP65 rated vandal proof matte white accessory mounts onto flangeless light engines (F) and non-IC (N) frame only 4RNSR 4" round/square non-IC frame with Flex (F) light engine (provides mechanical support for rough-in construction only, no junction box) LCEM6 Field installable Bodine BSL06 emergency battery pack (for Flex (F) light engine only, includes switch mounting plate) T347-75VA 347:120V step-down transformer for non-IC (N) frame only (see page 2 for details)

7920 4" sloped ceiling adapter (refer to SCA spec sheet for slope options). Must order 4RN frame and flanged trim.

- Emergency (EM6) frame is compatible with reflector mounted test switch when light engine is ordered with IEM6 (not compatible w/347V)
- 2. Lensed wall wash (LW) style only available with Wide (W) beam (2000lm max).
- 3. Shower light (SL) in only available with White (WH) reflector finish and Wide (W) beam. Not available with flangeless option.
- 4. Not available with AirSeal (A) frame.
- 5. Not available with AirSeal (A) frame. Available with CL, CC, and CD reflector finishes only. 6. Specify 9D2W with Z10U dimming only (up to 2000lm max).
- Not compatible with Z10D20 or 347V (3) options. Not available with wide (W) beam.
- Specify 96T with Z10U or RAU dimming only (up to 2000lm max). Not compatible with Z10D20 or 347V (3) options. Not available with wide (W) beam.
- The 500lm (05) option is not available.
- Consult factory with ETO request for antimicrobial reflector finish (WHAMF) and black (B) flange for all styles, and flangeless (F) for LW style
- Linear driver profile. See dimensional data following.
 Specify only with non-IC (N) frame, not for use with LC or EM6 options.

- 11. Retrofits select legacy Lightolier luminaires (see pages 2 for details). Z10 dimming only. Consult factory for other dimming options
- 12. Flex install requires light engine & trim only (up to 4000lm only) Accessory frames available. Not compatible with standard frames and associated options. Not available with Interact (RA) dimming and IEM6 trim.
- 13. Requires IRT9015 IR remote and Interact Pro App for commissioning (requires above ceiling access).
- * BAA compliance requires that BAC option be selected for each of frame, engine/trim. Frame and engine/trim will be ordered/shipped together. Accessories (optional) are not currently BAA-compliant.
- 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













Round Downlight & Lensed Wall Wash

Features

Optics

- · Provides a 60° cutoff (physical and reflected)
- Available in wide (80°), medium (65°), and narrow (55°) beam options.
- Spun and anodized reflectors available in specular (clear), semi-specular (comfort clear and diffuse finishes. Also available in white and black painted finishes.
- Consult factory for RAL finishes.

Quality of light

- · Color consistency: 2 SDCM
- 90 CRI minimum (Accurender)

Construction (New Construction)

- · Galvanized stamped steal for dry / plaster ceilings.
- Pre-installed telescoping mounting bars (13"-24")
- Frame accommodates C- channel, black iron, and 3/4" EMT for mounting distances greater than 24" between joists.
- Manufactured from 20 gage galvanized steel construction with rolled edge aperture to guide cutting tools for perfect hole cutting.

Max ceiling thickness is 1.5" (38 mm).

Patented install Mounting frame

- Pre-installed mounting bars allow for fast and tool-less install into T-grid & hat channel ceilings
- Close-cut aperture design eliminates an undesired gap between ceiling material and reflector.
- Simple plug-and-play connection between frame and light engine from below the ceiling allows for:
- · Easy upgrades
- · Technology changes
- · Repairs and troubleshooting

Retrofit

 Easily updates legacy LyteProfile LED downlights to the latest technology. Includes light engine, trim, and driver mounted on cover plate that mounts to previous generations of LyteProfile LED luminaires. Order with R option code at end of light engine/trim catalog number.

Dimming

- Advance 0-10v 1% (Z10) logarithmic curve is standard. Specify D2O for factory-set dimto-off function (consult factory for linear dimming curve).
- Lutron LDE1 (L1) EcoSystem 1%
- Electronic low voltage (E) offers forward or reverse phase dimming
- Dim to Warm (D2W): changes CCT from 3000– 1800K gradually as it dims. Use with Z10U dimming only. Fixture-to-fixture consistency of ≤3SDCM at 2700K & 3000K, & ≤5SDCM at 1800K
- Tunable white (6T): 2700K to 6500K CCT.
 Use with Z10U or RAU dimming only. Fixture-to-fixture consistency of ≤3SDCM at 2700K, 5000K, & 6500K CCT.

Light engine

Quick connect power pack allow for easy installation and replacement from below ceiling with no need for additional wiring. This allows for:

- Frame and ceiling installation to be performed while still finalizing details such as lumen packages, CCT and control type.
- Easy replacement of electronics at end of life with minimal wasted material and labor required.
- · Ease and upgradability of technology.

Flex engine (F)

- Frame-optional engine suited for new construction, remodel, and retrofit applications.
- 4RNSR new construction frame accessory available as required to support ceiling construction.
- All wiring is done on the integral j-box to the engine.

Options and Accessories

Sloped ceilings: Compatible with sloped ceiling adapters (see SCA spec sheet).

Flangeless mud-in ring: Use CA4RFT For use with flangless plaster installations.

Field Installed Emergency: Field install EM6 kit with Bodine BSL6 6W battery pack with self-test/self-diagnostic. Includes remote ceiling plate for test switch. To mount test switch to trim for new construction frame, order trim with IEM6 option code (e.g. C4RDLCCIEM6). Refer to Calculite-LyteProfile-EasyLyte Emergency Battery Pack specification sheet for more details.

- · CAEM6: For use with UniFrame frame in kits.
- · LCEM6: For use with Flex intall (F) light engines.

C4RVPWH: Includes machined aluminum ring painted white, gasketed for IP65 protection, and impact resistant polycarbonate lens (IK10). Locks in place with discrete setscrew (key included). Available also with antimicrobial finish (C4RVPWHAMF).

CAEM6TSCP: Ceiling cover plate for remote mounted EM6 test switch. 1/2" (25mm) hole, 4 3/8" (109mm) x 2 3/4" (69mm) rectangular. Includes two mounting screws. Required for lensed wall wash (LW) and shower light (SL) styles.

T347-75VA: Field installable 347:120V 75VA step-down transformer, attaches to knock out on frame junction box, for use with non-IC (N) or remodel (R) frames.

SWCS: Interact Ready System Bridge Accessory. Requires IRT9015 IR remote and Interact Pro App for commissioning. Refer to SWCS spec sheet for details.

Emergency

Bodine BSL6 6W battery pack with self-test/ diagnostic functionality. Factory or field mounted to frame.

- For trim with integral emergency test switch, order light engine with IEM6 option (ex: P4RDL20935WCDZ10UIEM6). DL style only.
- For remote ceiling mounted test switch, order standard light engine (ex: P4RDL20935WCDZ10U).
 Optional accessory ceiling mounting plate available (CAEM6TSCP) for remote mounted test switch
- Refer to Calculite-LyteProfile-EasyLyte
 Emergency Battery Pack specification sheet
 for more details
- Tunable white (96T) with EM6 frame option wired for emergency lighting on 6500K CCT circuit.
- · CEC Title 24 JA8 Certified.

Performance & Construction

- Soft focus acrylic lens minimizes pixilated glare from LED source, shapes light beam to desired effect, mixes light sources for homogeneous color temperature, and mitigates color over angle deviations.
- · Lumen Maintenance: L80 @ 60,000 hours.
- 347V light engines are Z10 dimming only and include dedicated 347V driver. For 347V non-Z10 dimming, order T347-75VA field-installable stepdown transformer accessory.

Labels and Listings

- · cULus listed for wet locations
- · CCEA (frames with *LC suffix)
- ENERGY STAR® certified (except 500lm configurations & Black finishes)
- RoHS certified
- Red List Declare label certified, ID SIG-0021 (View full Declare label)

Warranty



5 year limited warranty Visit Signify.com/warranties for more information on Signify's standard 5-year limited warranty on complete luminaire systems.

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Interact Standalone Gateway Gateway + IoT Dimming, grouping, and zoning Bluetooth and ZigBee enabled Motion sensing and daylight harvesting Integration with 0-10V and phase dimming fixtures Code compliance Granular dimming and dwell time Correlated color temperature (CCT) tuning by switch Support for sensor-based Tunable White luminaires New Y Energy reporting and monitoring

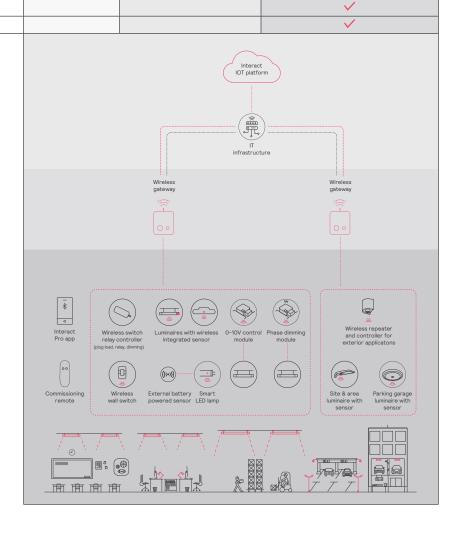
Currently supported maximum system size

Scheduling
Demand response
BMS integration (BACnet)
Floor plan visualization
loT sensors for wellness
loT Apps for productivity

To be able to design the lighting system correctly for the customer, it is important to know the prime characteristics of the system, its possibilities and limitations.

System level	
Total number of gateways	Unlimited
Total number of devices	200 per network
Luminaires with integrated sensors	150
Smart TLEDS	150
Zones + groups	64
Total number of ZGP devices (sensors and switches)	50
Sensors	30
Switches	50

Group level					
Recommended number of lights	40 (maximum 150)				
Number of ZGP devices	5				
Number of scenes	16				



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Wireless controls options

Interact

- SWZCS is a connected sensor with integral occupancy and daylight sensing and supports wireless mesh connectivity.
- The sensor works in the standalone mode (similar to SpaceWise) when configured without a gateway or in a cloud connected mode if a compatible gateway is used.
- Interact includes an App, a portal and a broad portfolio of wireless luminaires, lamps and retrofit kits all working on the same system.
- Startup is implemented via Interact Pro App (Android or iPhone) & BlueTooth connectivity.
 The App provides flexibility to choose between a gateway or non gateway mode for setup.
- Setup with the gateway requires wired internet access to the gateway. It is possible to add a gateway at a later point.
- Prepare project configuration steps remotely and use IRT9015 remote on-site to identify and group devices together.

Compatible with:

- SWS200 & UID8465 wireless scene switch
- Battery powered IP42 presence sensor OCC sensor IA CM WH 10/1
- Battery powered IP42 presence & daylight sensor OCC-DL sensor IA CM IP42 WH
- LCN3110: battery powered IP65 presence sensor, OCC sensor IA CM IP65W
- LCN3120: battery powered IP65 presence & daylight sensor, OCC-DL sensor IA CM IP65 WH
- For more information on Interact visit: interact-lighting.com/interactproscalablesystem

Radio only sensor (RA or RADIO)

- Integral RA or RADIO only sensor simply enables wireless mesh connectivity to the luminaire without any occupancy or daylight sensing.
- Ideal for applications where sensing functionality is managed by other Interact devices and the luminaire only needs to have wireless connectivity.
- Interact includes an App, a portal and a broad portfolio of wireless luminaires, lamps and retrofit kits all working on the same system.
- Startup is implemented via Interact Pro App (Android or iPhone) & Bluetooth connectivity.
 The App provides flexibility to choose between a gateway or non-gateway mode for setup.
- Setup with the gateway requires wired internet access to the gateway. It is possible to add a gateway at a later point.
- Prepare project configuration steps remotely, identify and group devices together onsite.
- Compatible with SWS200 and UID8465 wireless scene switch, wireless Occ sensor (OCC SENSOR IA CM IP42 WH 10/1) and wireless Day/Occ sensor (OCC MULTI SENSOR IA CM WH 10/1).
- For more information on Interact visit: interact-lighting.com/interactproscalablesystem

SWCS Accessory

 Recessed Interact accessory for use in new construction or remodel construction for use with 0-10v luminaires. Available for integral RADIO, or remote sensing in either recessed or surface mounting. Refer to spec sheet for more details. https://www.usa.lighting.philips.com/ api/assets/v1/file/Signify/content/SWCS-ESS/ SWCS_Specification_Sheet.pdf

Sensor bundle (IAOSB or SB)

- A wireless IoT connected lighting solution for large enterprises that span across multiple floors, buildings and require multiple gateways.
- View all your projects under one dashboard and easily compare insights from multiple projects in one view.
- Compatible with SWS200 wireless scene switch, wireless Occ sensor (OCC SENSORIA CM IP42 WH 10/1) and wireless Day/Occ sensor (OCC MULTI SENSOR IA CM WH 10/1) and wireless Occupancy or Daylight & Occupancy sensors available. Use Interact software and insights to increase building efficiency, achieve building wide integration and optimize space through occupancy analytics.
- IAOSB or SB option in addition to occupancy and daylights sensing supports advanced IoT capabilities, such as people estimation analysis, desk level temperature & humidity sensing, noise classification, and BLE beacon.
- Requires compatible Gateway and internet connectivity for commissioning.
- For more information, visit: interact-lighting.com/interactproscalablesystem

Emergency Options (ER100)

- Power Sensing (factory default) –
 Recommended UL924 option requires unswitched
 power sense line, absence of voltage on the
 normal circuit triggers luminaire to 100% output.
- Power Interruption Detection (field option) –
 Detects AC power interruption >30ms triggers
 90 minute emergency mode with luminaire at
 100% output.

Interact supported sensor option codes across Genlyte product lines

	Evokit	Day-Brite	Ledalite	Lightolier
ZigBee + Bluetooth + Sensing	SWZCS	SWZCS	CS	SBA accessory (external)
ZigBee + Bluetooth	RADIO	RADIO	RA	RA
ZigBee + Bluetooth + Sensing + Environmental data	IAOSB	IAOSB	SB	SB
ZigBee + Highbay + Sensing	-	SWZCSH	-	-

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AccuRender Technology (CRI 90+)

The right light brings colors to life. Our new AccuRender technology helps ensure colors are rendered more accurately and consistently, while doing so as efficiently as CRI 80 products.



Standard CRI 80

Good color rendering and high efficacy



Standard CRI 90

Better color rendering and low efficacy



AccuRender

Best color rendering,
color preference and high efficacy

Achieve color balance

Best in class color consistency:

· Promote aesthetic harmony

in your space with ≤ 2 SDCM

Enjoy design flexibility

Full range of products and options:

- Available soon in across Lightolier portfolio for application flexibility
- Multiple color temperatures (CCTs) and lumen packages offered

Promote savings

High efficacy, with no penalty:

- Energy efficacy compares well to conventional 80 CRI
- Up to 25% more energy savings vs competitor 90 CRI¹
- · Helps meet Title 24 requirements

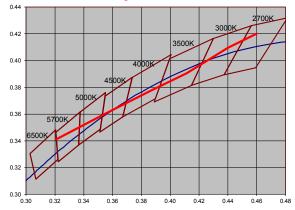
Show your true colors

High color rendering:

- True to life colors to help energize your environment and render better flesh tones critical for healthcare hospitality and retail applications.
- R_a up to 94 CRI
 R_f up to 92 TM-30
 R_g up to 67 CRI
 R_{f,m} up to 91 TM-30
 G_a up to 99 CRI
 R_g up to 100 TM-30

G_a up to 99 CRI R₉ up to 100 TM-30 C₉ up to 94 CRI R_{cs,h1} up to -5% TM-30

Tunable white binning chart



Dim-to-Warm: CCT vs Dimmed level 3200 3000 2800 2600 2400 2200 2000 1800 1600 2% 30% 50% 75% 100% Dimming level

Round Downlight & Lensed Wall Wash

Electrical - Static White

Input frequency of 50/60Hz, Power Factor @ Max Load >0.9

	Input	Input	Input	LED Drive	Input	LED	THD	Power
	Volts	Frea.	Current	Current	Power	Power	Factor @	Factor@
Product	(V)	(Hz)	(A)	(A)	(W)	(W)	Max Load	Max Load
	120V	50/60	0.041A	0.12A	4.9W	3.9W	<10%	>0.9
P4RDL05_Z10U/3	277V	50/60	0.019A	0.12A	5.1W	3.9W	<30%	>0.9
	347V	50/60	0.017A	0.12A	5.8W	3.9W	<30%	>0.9
	120V	50/60	0.070A	0.20A	8.3W	6.8W	<10%	>0.9
P4RDL10_Z10U/3	277V	50/60	0.031A	0.20A	8.6W	6.8W	<20%	>0.9
	347V	50/60	0.028A	0.20A	9.7W	6.8W	<30%	>0.9
	120V	50/60	0.102A	0.30A	12.2W	10.2W	<10%	>0.9
P4RDL15_Z10U/3	277V	50/60	0.044A	0.30A	12.3W	10.2W	<10%	>0.9
	347V	50/60	0.040A	0.30A	14.0W	10.2W	<25%	>0.9
	120V	50/60	0.134A	0.40A	16.1W	13.6W	<10%	>0.9
P4RDL20_Z10U/3	277V	50/60	0.058A	0.40A	16.2W	13.6W	<10%	>0.9
	347V	50/60	0.052A	0.40A	17.9W	13.6W	<20%	>0.9
	120V	50/60	0.175A	0.53A	21.0W	17.9W	<10%	>0.9
P4RDL25_Z10U/3	277V	50/60	0.076A	0.53A	21.1W	17.9W	<10%	>0.9
	347V	50/60	0.064A	0.53A	22.3W	17.9W	<20%	>0.9
	120V	50/60	0.208A	0.63A	25.0W	21.3W	<10%	>0.9
P4RDL30_Z10U/3	277V	50/60	0.091A	0.63A	25.1W	21.3W	<10%	>0.9
	347V	50/60	0.077A	0.63A	26.6W	21.3W	<20%	>0.9
	120V	50/60	0.247A	0.75A	29.7W	25.5W	<10%	>0.9
P4RDL35_Z10U/3	277V	50/60	0.107A	0.75A	29.7W	25.5W	<10%	>0.9
	347V	50/60	0.087A	0.75A	30.4W	25.5W	<20%	>0.9
	120V	50/60	0.288A	0.88A	34.6W	29.8W	<10%	>0.9
P4RDL40_Z10U/3	277V	50/60	0.125A	0.88A	34.6W	29.8W	<10%	>0.9
	347V	50/60	0.102A	0.88A	35.4W	29.8W	<20%	>0.9

Electrical - Dim-to-Warm (9D2W)

Input frequency of 50/60Hz, Power Factor @ Max Load >0.9

	Input Volts	Input Freq.	Input Current	LED Drive Current	Input Power	LED Power	THD Factor @	Power Factor @
Product	(V)	(Hz)	(A)	(A)	(W)	(W)	Max Load	Max Load
P4RDL059D2W_Z10U	120V	50/60	0.067A	0.175	8.1W	6.3W	<15%	>0.9
P4RDL059D2W_Z10U	277V	50/60	0.031A	0.175	8.6W	6.3W	<25%	>0.8
P4RDL109D2W_Z10U	120V	50/60	0.118A	0.315	14.2W	11.3W	<10%	>0.9
P4RDL109D2W_Z10U	277V	50/60	0.055A	0.315	15.1W	11.3W	<20%	>0.9
P4RDL159D2W_Z10U	120V	50/60	0.161A	0.450	19.3W	16.2W	<10%	>0.9
P4RDL159D2W_Z10U	277V	50/60	0.074A	0.450	20.5W	16.2W	<20%	>0.9
P4RDL209D2W_Z10U	120V	50/60	0.212A	0.600	25.4W	21.6W	<10%	>0.9
P4RDL209D2W_Z10U	277V	50/60	0.094A	0.600	26.0W	21.6W	<10%	>0.9

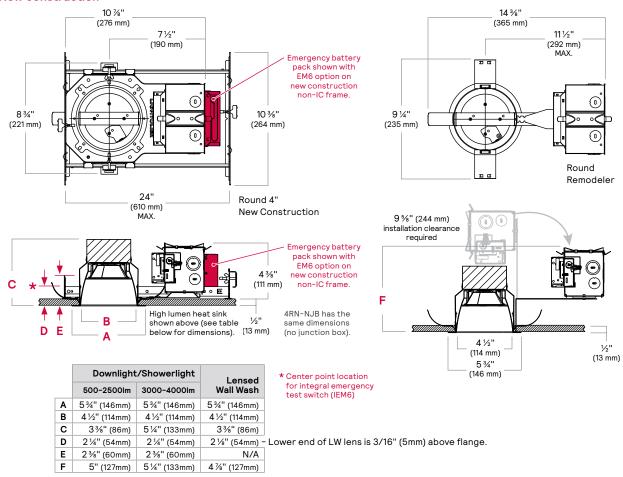
Electrical - Tunable White (96T)

Input frequency of 50/60Hz, Power Factor @ Max Load >0.9

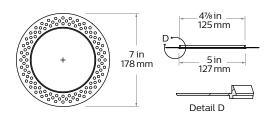
	Input Volts	Input Freq.	Input Current	LED Drive Current	Input Power	LED Power	THD Factor @	Power Factor @
Product	(V)	(Hz)	(A)	(A)	(W)	(W)	Max Load	Max Load
P4RDL0596T_Z10U	120V	50/60	0.044A	0.114	5.3W	4.1W	<15%	>0.9
P4RDL0596T_Z10U	277V	50/60	0.020A	0.114	5.6W	4.1W	<25%	>0.8
P4RDL1096T_Z10U	120V	50/60	0.088A	0.235	10.6W	8.5W	<10%	>0.9
P4RDL1096T_Z10U	277V	50/60	0.041A	0.235	11.3W	8.5W	<20%	>0.9
P4RDL1596T_Z10U	120V	50/60	0.131A	0.362	15.7W	13.0W	<10%	>0.9
P4RDL1596T_Z10U	277V	50/60	0.060A	0.362	16.7W	13.0W	<20%	>0.9
P4RDL2096T_Z10U	120V	50/60	0.178A	0.497	21.3W	17.9W	<10%	>0.9
P4RDL2096T_Z10U	277V	50/60	0.079A	0.497	21.8W	17.9W	<10%	>0.9

Round Downlight & Lensed Wall Wash

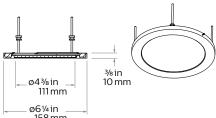
New construction



Flangeless mud-in ring (CA4RFT) accessory

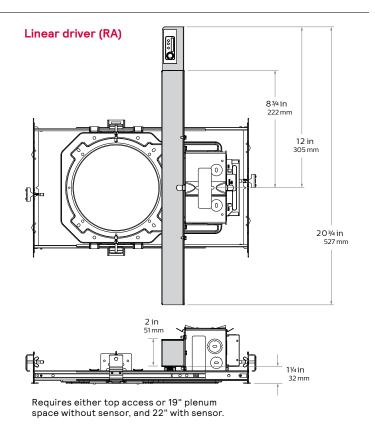


Vandal Proof (VP) accessory

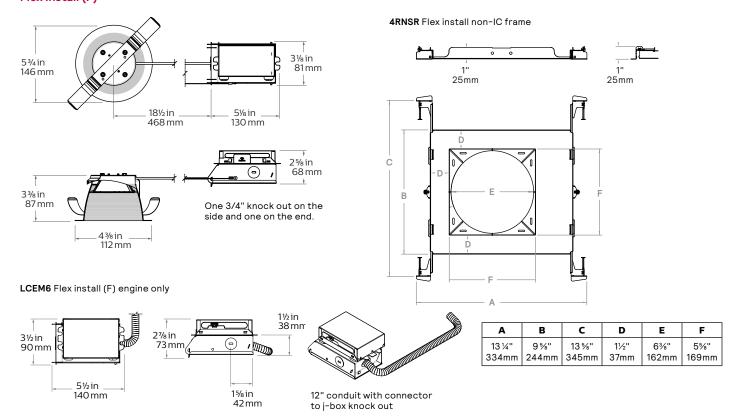


Round Downlight & Lensed Wall Wash

AirSeal (A) / Chicago plenum (LC) 13¼ in 337mm 7¾ in 197 mm 11¼ in 286 mm Round 4" AirSeal 6⅓ in 156 mm



Flex Install (F)



Round Downlight & Lensed Wall Wash

Reflectors



Specular clear (CL): Most specular and most efficient finish, delivers maximum photometric performance but can produce a mirror image effect of the interior space.



Comfort clear (CC): Semi-specular finish that softens the light at the source of the reflector and creates a subtle, even luminance from the reflector cone.



Comfort clear diffuse (CD): Slightly diffuse clear finish, which eliminates iridescence and reduces the mirror image effect inherent with a specular finish.



Vandal proof (VP): Provides an elegant solution for vandal resistant needs. One piece machined aluminum ring with impact resistant clear lens. Flangeless (F) flange must be ordered. Provides the luminaire with an IK10 impact and IP65 rating.



White (-): (matte) Brightest aperture when illuminated and provides the smoothest transition to most ceilings when off (white is only available with a white flange).



Black (BK): Painted matte finish that provides the lowest aperture brightness possible and reduces source identification in a ceiling significantly.



Shower light (SL): Wet location rated shower light applicable in any installation requiring dead front trims, interior or exterior non-corrosive applications, or where a diffused lens at the ceiling is required (non-conductive).

Flanges



White (-): (matte) Provides the smoothest transition to ceilings when off.



Black (BK): Painted matte finish that provides the lowest aperture brightness possible.



Polished (P): (matches aperture) Produces a continuous look throughout the reflector (aperture matching).



Flangeless (F): (flush-mount) Creates a flush, virtually seamless transition from aperture to ceiling.



Mud-in ring (FT): Low profile, machined aluminum mud-in ring provides a raised rib to plaster up to and a 3/16" flange thickness. The ring is attached to the ceiling material as opposed to the frame-in kit to avoid conduction of heat and vibration which can cause yellowing or cracking of the plaster.

Round Downlight & Lensed Wall Wash

Adjustment Factors

Finish	CRI/CCT	Lumens	
CL =100%	90CRI 4000K = 106%	4000lm =200%	2000lm = 100%
CC = 86%	90CRI 3500K = 104%	3500lm = 175%	1500lm = 75%
CD = 91%	90CRI 3000K = 100%	3000lm = 150%	1000lm = 50%
WH = 90%	90CRI 2700K = 96%	2500lm = 125%	500 Im = 25%
BK = 54%			

Downlight, Narrow beam, 19W LED, 90CRI, 3000 K

750 60° 750 30°

Zonal lumens 8	& percentages	Angle	Mean CP	Lms
Zone Lumen	s %Luminaire	0	2912	
0-30 147 0-40 183 0-60 196 0-90 196 Report¹: P4RDL20930I	8 93.4% 5 99.8% 8 100.0%	5 10 15 20 25 30 35 40 45 50 55 60	2718 2288 1855 1664 1608 1135 561 214 115 85	114 318 448 461 343
Output Lms:	1968 lms	65	5 2	204
Input Watts ² :	18.6 W	70 75	1 1	117
Efficacy: CCT ³ :	105.81m/w 3000K	80 85	0	66
CRI: Beam Angle: Spacing Crit.:	90 min 54° 0.66	90	ő	20

Single unit data

	Initial center beam foot-candles	Beam dia. (ft)*			
5'	116	3.3'			
6'	81	4.0'			
7'	59	4.6'			
8'	46	5.3'			
9'	36	5.9'			
*D					

^{*}Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center bear foot-candles	n Watts per sq.ft.
5'	90.0	0.82
6'	59.0	0.54
7'	42.0	0.39
8'	35.0	0.32
9'	28.0	0.26

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling		80%		70%		50%		30%		0%		
Wa	II	70	50	30	10	50	10	50	10	50	10	0
RC	R	Zon	al cav	ity m	ethod	- Eff	ectiv	e floo	r refl	ectar	ce = :	20%
	0	119	119	119	119	116	116	111	111	106	106	100
0	1	114	111	109	106	109	105	105	101	101	98	94
Ĕ	2	108	103	100	96	102	95	99	93	96	91	88
20	3	103	97	92	88	95	87	93	86	90	85	82
ΞΞ	4	98	91	85	81	89	81	87	80	85	79	76
e S	5	93	85	79	75	84	75	82	74	81	73	71
Room Cavity Ratio	6	89	80	74	70	79	70	78	69	76	69	67
O	7	84	75	69	65	75	65	73	65	72	64	63
8	8	80	71	65	61	71	61	69	61	68	61	59
	9	77	67	61	58	67	57	66	57	65	57	56
	10	73	64	58	54	63	54	63	54	62	54	53

Downlight, Medium beam, 19W LED, 90 CRI, 3000 K

500 60° 1000 30°

Zonal lu	mens &	percentages	Angle	Mean CP	Lms
Zone l	Lumens	%Luminaire	0	1925	
0-30 0-40 0-60 0-90		89.5% 99.8%	5 10 15 20 25 30 35 40 45 50 55 60	1857 1739 1580 1465 1449 1235 745 361 192 122 35 6	173 446 653 468 160 41
Output Input W Efficacy CCT ³ : CRI: Beam A Spacing	/atts²: y: .ngle:	1944 lms 18.6 W 104.5 lm/w 3000 K 90 min 66° 1.06	65 70 75 80 85 90	2 1 1 0 0	3 1 0

Single unit data

Height to lighted plane	foot-candles	Beam dia. (ft)*
5'	77	5.3'
6'	53	6.4'
7'	39	7.4'
8'	30	8.5'
9'	24	9.5'

^{*}Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq.ft.
5'	88.0	0.82
6'	58.0	0.54
7'	41.0	0.39
8'	25.0	0.32
9'	27.0	0.26

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

ling		80)%		70	%	50%		30)%	0%
II	70	50	30	10	50	10	50	10	50	10	0
R	Zon	al cav	ity m	ethod	l – Eff	ective	e floo	r refl	ectan	ce = 2	20%
0	119	119	119	119	116	116	111	111	106	106	100
1	113	110	108	106	108	104	104	101	100	98	93
2	107	102	98	95	101	94	97	91	94	90	86
3	102	95	90	86	94	85	91	84	88	82	79
4	96	88	82	78	87	78	85	77	83	76	73
5	91	82	76	72	81	71	79	71	78	70	68
6	86	77	70	66	76	66	74	65	73	65	63
7	81	72	65	61	71	61	70	60	68	60	58
8	77	67	61	57	67	56	65	56	64	56	54
9	73	63	57	53	63	53	62	52	61	52	51
10	70	59	53	49	59	49	58	49	57	49	47
	1 2 3 4 5 6 7 8	70 R Zon 0 119 1 113 2 107 3 102 4 96 5 91 6 86 7 81 8 77 9 73	To To To To To To To To	70 50 30 R Zonal cavity m 0 119 119 119 11 113 110 108 2 107 102 98 3 102 95 90 4 96 88 82 5 91 82 76 6 86 77 70 7 81 72 65 8 77 67 61 9 73 63 57	To To To To To To To To	1			1		

- 1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
- 2. Wattage: controlled to within 5%
- 3. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

Round Downlight & Lensed Wall Wash

Adjustment Factors

Finish	CRI/CCT	Lumens	
CL =100%	90CRI 4000K = 106%	4000lm =200%	2000lm = 100%
CC = 86%	90CRI 3500K = 104%	3500lm = 175%	1500lm = 75%
CD = 91%	90CRI 3000K = 100%	3000lm = 150%	1000lm = 50%
WH = 90%	90CRI 2700K = 96%	2500lm = 125%	500 Im = 25%
BK - 54%			

Downlight, Wide beam, 19W LED, 90 CRI, 3000 K

Candela Curves 60° 300 900

,,									
Zonal lumens & percentage	es	Angle	Mean CP	Lms					
Zone Lumens %Luminair	е	0	997						
0-30 875 49.8 0-40 1422 81.0 0-60 1752 99.8 0-90 1756 100.0	% %	5 10 15 20 25 30 35 40 45 50	983 996 1049 1048 1045 1052 919 584 332 185	94 296 485 547 266					
Report ¹ : P4RDL20930WCLZ10U.ies	;	55 60	56 9	64					
Output Lms: 1756 lms Input Watts ² : 16.1W Efficacy: 109.1 lm/w CCT ³ : 3000 K CRI: 90 min Beam Angle: 82°	_	65 70 75 80 85 90	3 1 1 0 0	3 1 0					
Spacing Crit.: 1.42									

Single unit data

	Initial center beam foot-candles	Beam dia. (ft)*					
5'	40	7.1'					
6'	28	8.5'					
7'	20	9.9'					
8'	16	11.4'					
9'	12	12.8'					
*Beam diameter is where foot-can-							

dles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center bean foot-candles	n Watts per sq.ft.
5'	78.0	0.71
6' 7'	51.0 37.0	0.47 0.33
8'	31.0	0.28
9'	20.0	0.22

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Cei	ling		80% 70% 50%		1%	30%		0%				
Wal	I	70	50	30	10	50	10	50	10	50	10	0
RCI	7	Zon	al cav	ity m	ethod	- Eff	ectiv	e floo	r refl	ectar	ce = :	20%
	0	119	119	119	119	116	116	111	111	106	106	100
0	1	113	110	107	104	107	103	103	99	100	96	92
Ratio	2	106	100	96	92	99	91	95	89	92	87	83
20	3	100	92	86	82	91	81	88	80	85	79	76
Room Cavity	4	93	85	78	73	83	73	81	72	79	71	69
à	5	87	78	71	66	77	66	75	65	73	64	62
Ö	6	82	72	65	60	71	60	69	59	68	59	57
Ö	7	77	66	59	54	65	54	64	54	63	54	52
8	8	72	61	54	50	61	50	59	49	58	49	47
	9	68	57	50	45	56	45	55	45	54	45	43
	10	64	53	46	42	53	42	52	42	51	42	40

Lensed Wall Wash, Wide beam, 19W LED, 90 CRI, 3000 K

Candela Curve 425 850 275 1700

Room side



Input Watts2: 19.0W 103.5 lm/w Efficacy: CCT3: 3000K CRI: 90 min

Multiple unit data Footcandles on wall

	2' from wall 2' on ctr.					
1 1	41	41	41			
e 2 3	73 74	74 76	73 74			
u. b	61	63	61			
Distance from ceiling in feet 7 0 6 8 2 9 9 7 7 8 6 7	46	48	46			
ပို့ 6	34	36	34			
E 7	26	27	26			
8 J	20	21	20			
ပို့ 9	16	17	16			
10 پ ړ	13	14	13			
≝ 12	11	11	11			
14	9	10	9			

Multiple unit data Footcandles on wall

	3' from wall 3' on ctr.						
_ 1	12	11	12				
0 2	26	25	26				
<u>-</u> 3	34	33	34				
Distance from ceiling in feet 5 0 6 8 2 9 5 7	36	35	36				
<u>≒</u> 5	32	33	32				
ပ္ 6	27	28	27				
E 7	23	23	23				
₽ 8	19	19	19				
ပို 9	15	16	15				
<u>ت</u> 10	13	13	13				
<u>s</u> 12	11	11	11				
14	9	10	9				
		'	1				

- 1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
- 2. Wattage: controlled to within 5%

Wall side

3. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.