LIGHTOLIER
by Signify

Provides a comfortable 60° cut-off to both the actual and reflected source. Utilizes a robust frame-in kit, light engine and reflector design that is designed for a wide variety of installation conditions with a plenum depth of 4-1⁄2".

Project:

Location:

Cat.No:

Type:

Lamps: Qty:

Notes:

Frame

(frame + trim = complete product)   example: 4SN

Series	Aperture	Installation		Options			
4 4-inch Non-IC	**S** Square	**N** New construction (Non-IC)		**—** Universal 120/277V (specify for Power Over Ethernet) **LC** Chicago Plenum **EM** Emergency[1]		**3** 347V (not compatible with ELV dimming) **3IP** 347V with Interact Pro (for use with 0-10V engines only) **IP** Interact Pro (for use with 0-10V engines only)	
		R Remodeler (Non-IC)		**—** Universal 120/277V (specify for Power Over Ethernet)		**3** 347V (not compatible with ELV dimming)	
		A AirSeal (IC)		**—** Universal 120/277V (specify for Power Over Ethernet)			

Trim

example: P4SDL20835CDZ10U

Series	Style	Lumen	CRI/CCT	Reflector	Flange	Dimming[7]		Voltage
P4S LyteProfile 4-inch Square	**DL** Downlight **LW** Lensed Wall Wash	**05** 500lm (0-10V only) **10** 1000lm **15** 1500lm **20** 2000lm **25** 2500lm	**827** 80CRI / 2700K **830** 80CRI / 3000K **835** 80CRI / 3500K **840** 80CRI / 4000K **850** 80CRI / 5000K	**CL** Specular clear **CC** Comfort clear **CD** Comfort clear diffuse **WH** White (matte)	**—** White (matte)	**Z10** 0-10V 1% **L** Lutron LDE1 EcoSystem (fade-to-black)		**U** Universal 120/277/347V
				BK Black (matte)	**—** White (matte) **B** Black (matte)	**P** Power over Ethernet (PoE)	**E** Ethernet 48 V DC	
						Only compatible with 1000 (10) to 2500 (25) lumen configurations		

Accessories

CAEM   Field instalable EM pack (for use with new construction frame only)
AMS   ActiLume multi-sensor (optional accessory for PoE configurations)
SWZDT   SpaceWise wireless controller with dwell time functionality (compatible with all 0-10V options, see SWZDT spec sheet)
SRAINT   InterAct Office Accessory (for use with Lightolier UniFrame 0-10V products)

1. Emergency (EM) frame includes emergency battery with ceiling and reflector mountable test switch (see page 2 for details and limitations). Integral emergency battery not compatible with Power over Ethernet configurations.
2. Consult factory for available Dali and 0-10V dimming to 0.1% availability.

Note: For reflector mounted test switch add "EM" to end of catalog code (example: P4SDL20835CDZ10UEM). Leave blank for ceiling mounted test switch.
Reflector mounted test switch requires above ceiling access and 1.25" max ceiling thickness for downlight only. See LED-EM spec sheet for more details.

IC INSULATION CONTACT   c(UL)us LISTED   WET LOCATION   RoHS COMPLIANT   ENERGY STAR   interact ready.

P4S LyteProfile 4"

Square Downlight & Lensed Wall Wash

Features

Optics
- Provides a 60° cutoff (physical and reflected)
- Wide beam distribution for general illumination
- Spun and anodized reflectors available in specular (clear), semi-specular (comfort clear and diffuse finishes. Also available in white and black painted finishes.

Quality of light
- Lumen Maintenance: L80 at 60,000 hours
- Color consistency: 3 SDCM
- 80 CRI minimum

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).
Including PoE frame 4.88" (124 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

Dimming

- Advance 0-10V 1% dimming
- Lutron Hi-lume EcoSystem H Series 1% dimming
- EldoLED ECOdrive Dali 1% dimming
- EldoLED SOLOdrive 0-10V 0.1% dimming
- EldoLED DMX POWERdrive

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.

Optical systems

Comfort throughout the space:
True 50° physical cutoff and 45° reflected cutoff

Quality of light:
2 SDCM ensures color consistency from fixture to fixture and over the luminaire's long lifetime.

Wired Controls Options

Interact Office Wired (PoE):

- PoE based IoT connected lighting solution for large enterprises that span across multiple floors, buildings and require multiple gateways.
- Use Interact Office software and insights to increase building efficiency, achieve building wide integration and optimize space through occupancy analytics.
- Supports advanced IoT Apps on Personal Control, Space Management, wayfinding, room/desk reservation and offers open APIs for light control and data exchange.
- PoE lighting controller is accessible from below.
- Integral sensor option for occupancy sensing (PIR) and/or daylight harvesting available for additional energy savings.
- Optional integral emergency controller and battery pack provides 600lm nominal output.
- Test switch and indicator light mounted on side of chassis on one end.
- Emergency battery has a 3 month pre-installed shelf life, and must be stored and installed in environments of 20C to 30C (-4F to 86F) ambient, and 45-85% relative humidity.
- For more information on Interact Office Wired, visit: www.interact-lighting.com/office or www.usa.lighting.philips.com/systems/systemareas/offices.

Interact Office Wired (PoE), Static White and Tunable White:

- 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 Zigbee Green Power wall dimmer and wireless Occupancy or Daylight & Occupancy sensors available.
- Use Interact Office software and insights to increase building efficiency, achieve building wide integration and optimize space through occupancy analytics.
- Supports advanced IoT Apps on wayfinding, room/desk reservation and offers open APIs
- Requires compatible Interact Office Gateway and internet connectivity for commissioning.
- For more information on Interact Office Wireless, visit: www.interact-lighting.com/office or www.usa.lighting.philips.com/systems/systemareas/offices.

Interact Pro (IAP)

- Interact Pro brings the power of connected lighting to small and medium businesses without the complexity usually associated with connected lighting.
- Interact Pro includes an app, a portal and a broad portfolio of wireless Luminaires, lamps and retrofit kits all working on the same system.
- Commissioning via Interact Pro App (Android or iPhone).
- Prepare commissioning remotely via Interact Pro portal.
- Requires compatible Interact Pro Gateway and internet connectivity for commissioning.
- Compatible with UID8451/10 ZigBee Greenpower wireless dimmer switch.
- Compatible with wireless Occ sensor (OCC SENSOR IA CM IP42 WH 10/1) or wireless Day/Occ sensor (OCC MULTI SENSOR IA CM WH 10/1).
- For more information on Interact Pro visit: www.interact-lighting.com/pro.
- For more information on Interact Ready visit: www.philips.com/interact-ready.

Power over Ethernet

Powered via Philips PoE lighting controller: complies with FCC rules per Title 47 part 15 (Class A) for EMI / RFI (conducted & radiated). PoE lighting controller accessible from below ceiling.

Rated life: 60,000 hrs at 80% lumen maintenance based on IES LM-80-08 and TM-21-11.

Emergency

For reflector mounted test switch add "EM" to end of the catalog code (example: P4SDL20835CDZ10UEM). Leave blank for ceiling mounted test switch.

Reflector mounted test switch requires above ceiling access and 1.25" max ceiling thickness for downlight only. See LED-EM spec sheet for more details.

ENERGY STAR® exceptions

- 500lm configurations
- Black finishes
- PoE drivers

Labels and Listings

- cULus listed for wet locations
- CCEA (frames with *LC suffix)
- ENERGY STAR® certified
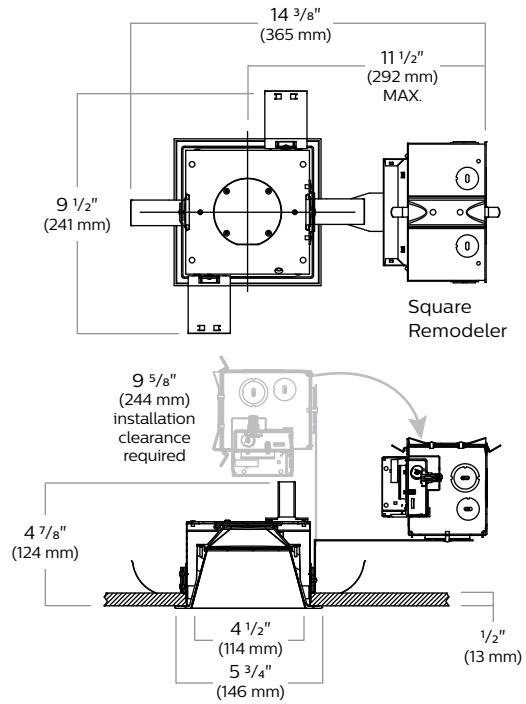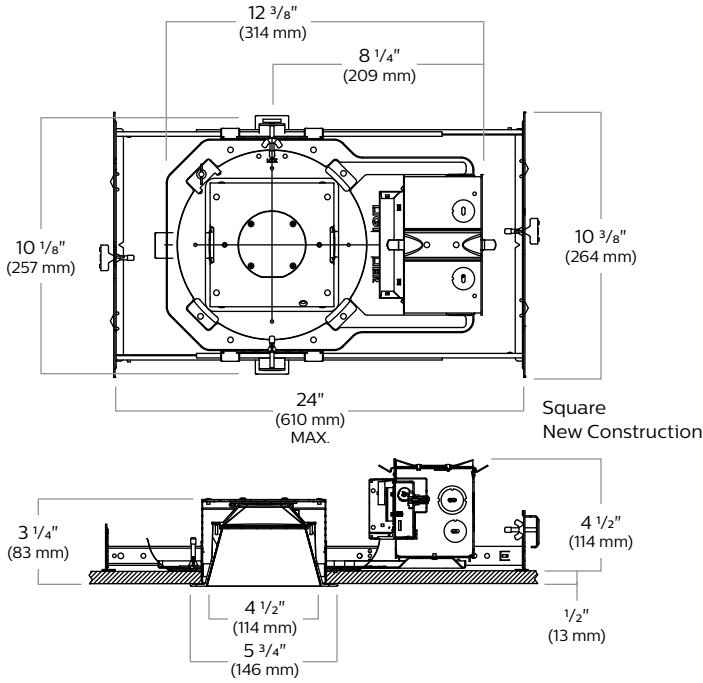- RoHS certified

Warranty

5 year limited warranty
Visit Signify.com/warranties for more information on Signify's standard 5-year limited warranty on complete luminaire systems.
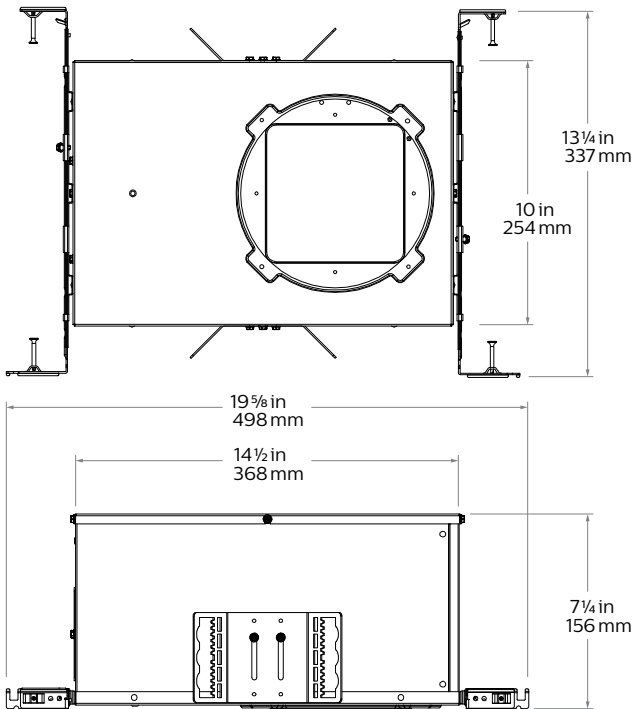
P4S   LyteProfile 4"

Square Downlight & Lensed Wall Wash

Dimensions

12 ³/₈" (314 mm)
8 ¼" (209 mm)
10 ¹/₈" (257 mm)
10 ³/₈" (264 mm)
24" (610 mm) MAX.
Square New Construction
3 ¼" (83 mm)
4 ½" (114 mm)
4 ½" (114 mm)
5 ³/₄" (146 mm)
½" (13 mm)

14 ³/₈" (365 mm)
11 ½" (292 mm) MAX.
9 ½" (241 mm)
Square Remodeler
9 ⁵/₈" (244 mm) installation clearance required
4 ⁷/₈" (124 mm)
4 ½" (114 mm)
5 ³/₄" (146 mm)
½" (13 mm)

AirSeal (A)

13 ¼ in 337 mm
10 in 254 mm
19 ⁵/₈ in 498 mm
14 ½ in 368 mm
7 ¼ in 156 mm

Electrical

Product	Input Volts	Input Freq.	Input Current (A)	Input Power (W)
P4*05*Z10U	120	50/60Hz	0.06	7
	277		0.029	7
P4*10*Z10U	120	50/60Hz	0.122	11
	277		0.038	10
P4*15*Z10U	120	50/60Hz	0.13	15
	277		0.063	16
P4*20*Z10U	120	50/60Hz	0.175	21
	277		0.078	21
P4*25*Z10U	120	50/60Hz	0.22	26
	277		0.099	27

Product	Input Volts	Input Freq.	Input Current (A)	Input Power (W)
P4*10*LU	120	50/60Hz	0.094	10
	277		0.047	10
P4*15*LU	120	50/60Hz	0.134	15
	277		0.07	15
P4*20*LU	120	50/60Hz	0.176	21
	277		0.086	21
P4*25*LU	120	50/60Hz	0.23	27
	277		0.106	28

P4RDL20835CLZ10U • 20W LED, 80 CRI, 3500 K

Candela Curves
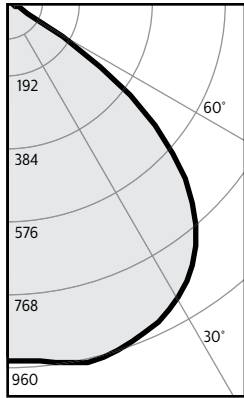
Angle	Mean CP	Lumens
0	937	
5	940	90
10	956	
15	960	271
20	941	
25	921	424
30	886	
35	836	520
40	759	
45	652	495
50	498	
55	289	250
60	54	
65	20	24
70	12	
75	6	7
80	3	
85	1	1
90	0	

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	37	7.0'
6'	26	8.4'
7'	19	9.8'
8'	15	11.2'
9'	12	12.6'

* 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'	90.3	0.87
6'	59.3	0.57
7'	42.3	0.41
8'	35.3	0.34
9'	28.2	0.27

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

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method – Effective floor reflectance = 20%										
0	119	119	119	119	116	116	111	111	106	106	100
1	112	108	105	103	106	101	102	98	98	95	90
2	104	98	93	88	96	87	93	85	90	84	80
3	97	88	82	77	87	76	84	75	82	74	71
4	90	80	73	67	79	67	76	66	74	65	62
5	83	72	65	59	71	59	69	58	68	58	55
6	77	66	58	53	65	52	63	52	62	52	49
7	72	60	53	47	59	47	58	47	57	46	44
8	67	55	48	42	55	42	53	42	52	42	40
9	63	51	43	38	50	38	49	38	48	38	36
10	59	47	40	35	46	35	46	35	45	35	33

(Room Cavity Ratio on left axis)

Report[1]: 1550GFR

Output lumens:	2082 lms	Efficacy:	105.7 lm/w
Spacing Criterion:	1.4	CCT[3]:	3500 K
Beam Angle:	99°	CRI:	80 min
Input Watts[2]:	19.7 W		

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	785	37.7%
0-40	1306	62.7%
0-60	2050	98.5%
0-90	2082	100.0%

CRI and CCT adjustment factors

90 CRI 2700K = 84%
80 CRI 2700K = 100%
80 CRI 3000K = 100%
80 CRI 3500K = 105%
80 CRI 4000K = 109%

P4RLW20835CLZ10U • 20W LED, 80 CRI, 3500 K

Candela Curve

Room side   Wall side
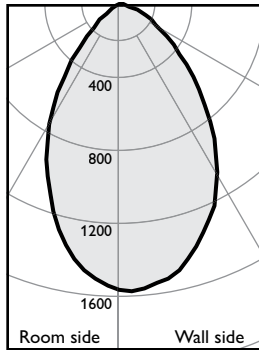
Report[1]: 1559GFR

Efficacy:	104.6 lm/w
Output lumens:	2060 lms
Input watts[2]:	19.7 W
CRI:	80 min
CCT[3]:	3500K

Multiple unit data
Footcandles on wall

Distance from ceiling in feet	2' from wall 3' on ctr.		
1	38	25	38
2	64	51	64
3	59	54	59
4	47	45	47
5	36	36	36
6	28	28	28
7	23	23	23
8	19	19	19
9	16	16	16
10	14	14	14
12	11	11	11
14	10	10	10

Multiple unit data
Footcandles on wall

Distance from ceiling in feet	3' from wall 3' on ctr.		
1	14	12	14
2	30	29	30
3	39	38	39
4	40	39	40
5	36	36	36
6	32	31	32
7	27	27	27
8	23	23	23
9	20	20	20
10	17	17	17
12	14	14	14
14	12	12	12

Multiple unit data
Footcandles on wall

Distance from ceiling in feet	3' from wall 4' on ctr.		
1	12	9	9
2	25	20	20
3	32	28	28
4	31	30	30
5	28	27	27
6	24	24	24
7	21	21	21
8	18	18	18
9	16	15	15
10	14	14	14
12	11	11	11
14	10	10	10

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.

The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract.