

PHILIPS LIGHTOLIER

Downlighting

LyteCaster

4" Round downlight



Project: _____
 Location: _____
 Cat.No: _____
 Type: _____
 Lamps: _____ Qty: _____
 Notes: _____

Philips Lightolier LyteCaster LED Downlights are ideal general purpose downlighting solution, providing comfortable, quality light. Available in new construction and remodeler frame with interchangeable light engine that is offered in two lumen packages. The downlight is wet location listed and comes in 3 standard option.

Complete product = Frame-in kit + Light engine + Trim Order each separately

Ordering guide: Frame-In kit

Example: L4R10AE1VA

Series	Lumens ¹	Frame type	Dimming	Input voltage	Version
L4R					VA
L4R LyteCaster 4" Round	blank 650 10 1000	A AirSeal IC, New Construction, Screw AN AirSeal IC, New Construction, Nail	E ELV/Triac dimming Z10 0-10V	1 120V U Universal	VA Version A ²
	06 650 10 1000	R AirSeal IC, Remodeler			

Ordering guide: Light engine

Example: L4R10827VA

Series	Lumens ¹	CRI	CCT	Version
L4R				VA
L4R LyteCaster 4" Round	06 650 10 1000	8 80	27 2700K	VA Version A ²
			30 3000K	
			35 3500K 40 4000K	
		9 90	27 2700K	

Note: Lumen output is calculated based on 80 CRI and 3500K CCT. Please consult adjustment factors table on page 4 for other lumen outputs.

Ordering guide: Trim

Example: L4RDW

Series	Luminaire type	Finish
L4R		
L4R LyteCaster 4" Round	D Open Downlight	D Clear diffuse (with white flange) W White (with white flange)
	B Baffle Downlight	W White (with white flange)

- When ordering a Frame-in kit and a Light engine, the lumen package code must match.
- Version A (VA) frames and light engines are not compatible with previous versions.

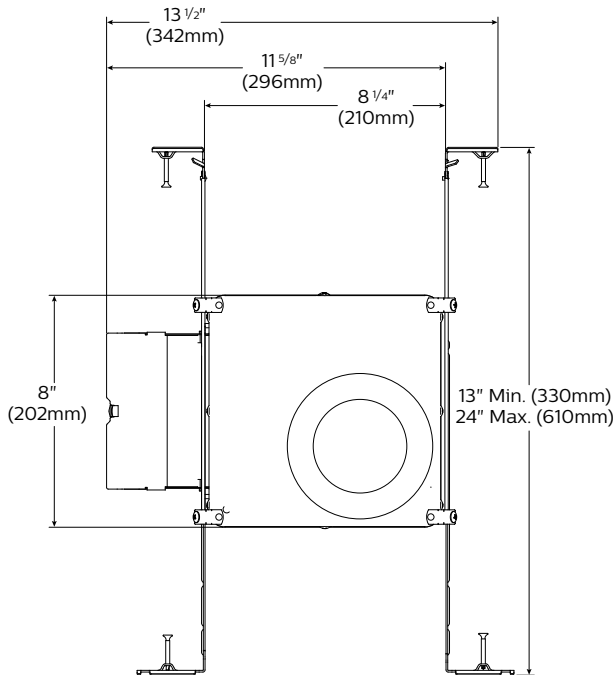


L4R LyteCaster 4" Round

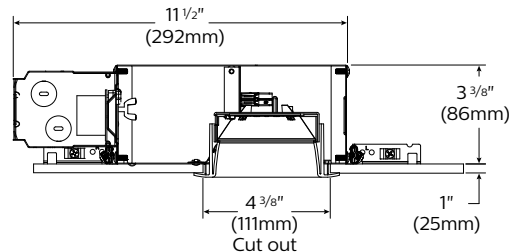
General purpose downlight

New construction frame-in kit

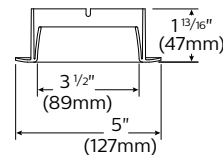
Bottom view



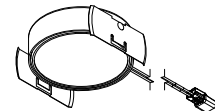
Side view



Downlight trim



Light engine



Features

- Housing:** .026" galvanized steel. UL listed for direct contact with thermal insulation. Airseal® housing minimizes air leakage to less than 2 CFM at 1.57PSF (or 75PA), the International Energy Conservation Code, and Washington State Energy Code (Section 502.4). This reduces heat loss and condensation in ceiling. Access door for inspection of junction box.
- Lower frame and top cover:** .026" galvanized steel. Accommodates ceilings up to 1" (25mm) thick. 3/8" (9.5mm) deep integral lip with four notches at 90° apart to simplify alignment. Locks into position along length of mounting bars with locking screws.
- Junction Box:** 2.5" X 5 3/8" X 2" (27 cu. in.) .032" galvanized steel. UL listed 90° supply conductors. Rated for branch circuit wiring supplying connected luminaires (daisy chaining).
- Retaining clips:** Permit easy and fast installation of light engine/trim.
- Mounting bars:** .059" galvanized steel. Bars pivot for easy attachment and wire-in below ceiling line. Bars extend to accommodate 16" (406mm) to 24" (610mm) O.C. joist spacing. Bars can accommodate 12" (305mm) O.C. joist spacing after a slight field modification (see Instruction sheet). Features integral self tapping phillips/square drive screws for secure attachment to wood or metal construction. Also available with integral nails. Attaches to T-bar ceilings without the need of accessories. Bars installed on shortest dimension of frame, but can be easily repositioned 90 degrees from original position.
- Driver: ELV /Triac:** 120V, 50/60Hz. RoHS compliant, Class 2 power supply. Complies with FCC rules per Title 47 Part 15 (Class B) for EMI /RFI (conducted & radiated). Class A sound rating.
0-10V: 120/277V, 50/60Hz. RoHS compliant, Class 2 power supply. Complies with FCC rules per Title 47 Part 15 (Class A) for EMI /RFI (conducted & radiated). Class A sound rating.
- Ceiling cutout:** 4 3/8" (111mm).

Electrical

Lifetime: Expected lifetime 50,000 hours and backed by a 5-year warranty. (see Philips.com/warranties for details)

Recommended dimmers

See LED-DIM Specification Sheet.

Labels

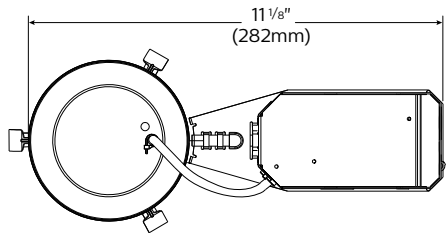
cULus Listed Type I.C., frames are suitable for damp location. Trims are cULus suitable for wet location (no shower lens unit required). Complies with Air Leakage. Energy Star certified.

L4R LyteCaster 4" Round

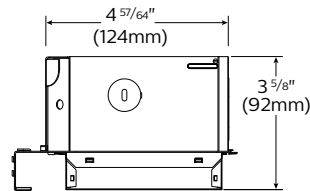
General purpose downlight

Remodeler kit

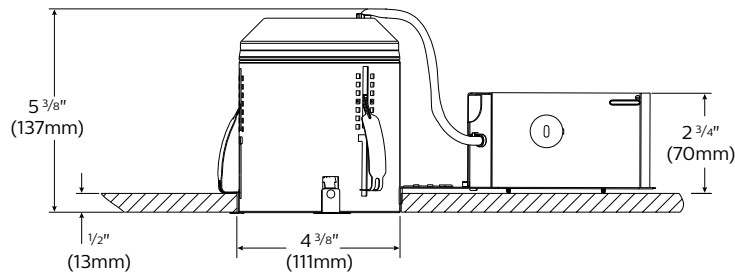
Bottom view



Side view



Side view



Features

- Housing:** .032 Aluminum. UL listed for direct contact with thermal insulation. Integral retaining spring secures housing to ceilings up to 2" thick. Removable for access to junction box and ceiling plenum. 5 1/2" maximum for use in 2" x 6" joist construction and shallow plenum applications. Airseal® housing minimizes air leakage to less than 2 CFM at 1.57PSF (or 75PA), which complies with the International Energy Conservation Code, and Washington State Energy Code (Section 502.4). This reduces heat loss and condensation in ceiling.
- Junction Box:** 2 1/2" x 2 1/2" x 4 7/8" (29 cu in.) .031" galvanized steel. UL listed for 90°C supply conductors. Rated for branch circuit wiring supplying connected fixtures.
- Retaining clips:** Permit easy and fast installation of light engine/trim.
- Driver: ELV /Triac:** 120V, 50/60Hz. RoHS compliant, Class 2 power supply. Complies with FCC rules per Title 47 Part 15 (Class B) for EMI/RFI (conducted & radiated). Class A sound rating.
0-10V: 120/277V, 50/60Hz. RoHS compliant, Class 2 power supply. Complies with FCC rules per Title 47 Part 15 (Class A) for EMI/RFI (conducted & radiated). Class A sound rating.
- Ceiling cutout:** 4 3/8" (111mm).

Electrical

Lifetime: Expected lifetime 50,000 hours and backed by a 5-year warranty. (see Philips.com/warranties for details)

Recommended dimmers

See LED-DIM Specification Sheet.

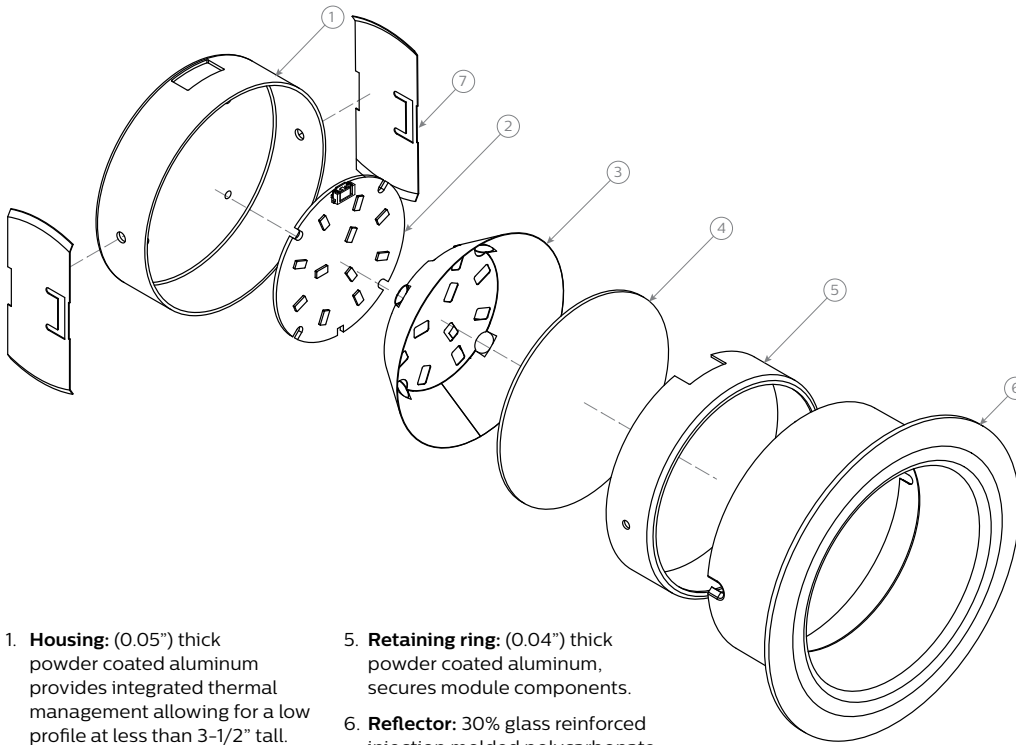
Labels

cULus Listed Type I.C., frames are suitable for damp location. Trims are cULus suitable for wet location (no shower lens unit required). Complies with Air Leakage. Energy Star certified.

L4R LyteCaster 4" Round

General purpose downlight

Reflector: Round downlight



1. **Housing:** (0.05") thick powder coated aluminum provides integrated thermal management allowing for a low profile at less than 3-1/2" tall.
2. **LED board:** High efficiency mid-flux LED's.
3. **Mixing chamber:** 98% reflective, highly diffuse film.
4. **Diffusion lens:** (0.06") thick acrylic opal lens provides an even source of illumination.
5. **Retaining ring:** (0.04") thick powder coated aluminum, secures module components.
6. **Reflector:** 30% glass reinforced injection molded polycarbonate is durable and provides a 70° cutoff to the source.
7. **Retaining clips:** 29 gauge Stainless Steel, allows tool-less installation of light engine to trim.

Electrical specifications

Frame-in kit / Remodeler

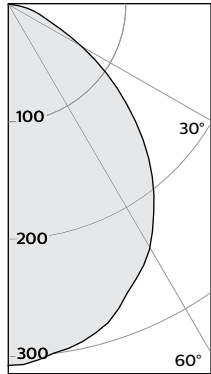
	Lumens	Input volts	Input freq.	Input current	LED drive current	Input power	LED power	THD factor	Power factor
L4RAE1VA / L4R06RE1VA	650	120V	50/60Hz	0.07A	220mA	7W	6W	<20%	>0.9
L4RAZ10UVA / L4R06RZ10UVA	650	120V	50/60Hz	0.07A	220mA	8W	6W	<10%	>0.9
		277V	50/60Hz	0.04A	220mA	8W	5W	<10%	>0.9
L4R10AE1VA / L4R10RE1VA	1000	120V	50/60Hz	0.09A	220mA	11W	9W	<20%	>0.9
L4R10AZ10UVA / L4R10R10UVA	1000	120V	50/60Hz	0.14A	220mA	12W	9W	<5%	>0.96
		277V	50/60Hz	0.06A	220mA	12W	9W	<10%	>0.96

L4R LyteCaster 4" Round

General purpose downlight

80 CRI, 650 lumens

Candela Curves



Angle	Mean CP	Lumens
0	307	
5	303	29
10	297	
15	289	81
20	275	
25	258	119
30	241	
35	216	135
40	191	
45	162	125
50	132	
55	103	92
60	74	
65	49	50
70	33	
75	24	25
80	15	
85	6	7
90	0	

Single unit data

Height to Lighted Plane	Initial Center Beam Foot-Candles	Beam Dia. (ft)*
5'	12	6.0'
6'	9	7.2'
7'	6	8.4'
8'	5	9.6'
9'	4	10.8'

* 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'	27.6	0.31
6'	18.1	0.20
7'	13.0	0.14
8'	10.8	0.12
9'	8.6	0.10

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%											
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
	1	110	106	102	99	104	97	100	94	96	91	87
	2	101	94	88	83	92	82	89	80	86	78	75
	3	93	84	77	71	82	70	80	69	77	68	65
	4	86	75	67	61	74	61	72	60	69	59	56
	5	80	68	60	54	67	53	65	53	63	52	50
	6	74	62	53	47	61	47	59	47	57	46	44
	7	69	56	48	42	55	42	54	42	53	42	39
	8	64	52	44	38	51	38	50	38	48	38	36
	9	60	48	40	35	47	34	46	34	45	34	32
	10	57	44	37	32	44	31	43	31	42	31	29

Frame: L4RAE1VA / L4RAZ10UVA / L4R06RE1VA / L4R06RZ10UVA
 Light engine: L4R06835VA
 Trim: L4RDW

Report no³: 659GFR

Output lumens: 662.8lm
 Input Watts: 6.9W
 Spacing Criterion: 1.2

Efficacy: 96.1lm/W
 CCT²: 3500K
 CRI: ≥80

Zonal lumens & percentages

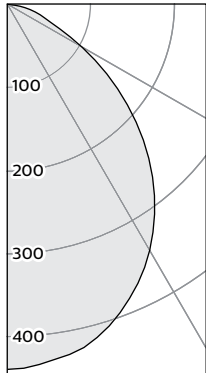
Zone	Lumens	%Luminaire
0-30	229	34.5%
0-40	364	54.9%
0-60	581	87.6%
0-90	663	100.0%

CRI and CCT adjustment factors

90CRI 2700K: = 0.71
80CRI 2700K: = 0.89
80CRI 3000K: = 0.97
80CRI 3500K: = 1.00

80 CRI, 1000 lumens

Candela Curves



Angle	Mean CP	Lumens
0	438	
5	434	41
10	427	
15	414	117
20	394	
25	370	170
30	341	
35	307	192
40	270	
45	230	177
50	187	
55	145	130
60	104	
65	69	70
70	47	
75	34	36
80	21	
85	9	10
90	0	

Single unit data

Height to Lighted Plane	Initial Center Beam Foot-Candles	Beam Dia. (ft)*
5'	18	6.0'
6'	12	7.2'
7'	9	8.4'
8'	7	9.6'
9'	5	10.8'

* 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'	39.3	0.46
6'	25.8	0.30
7'	18.4	0.22
8'	15.4	0.18
9'	12.3	0.14

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%											
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
	1	110	106	102	99	104	97	100	94	96	92	87
	2	101	94	88	83	92	82	89	80	86	78	75
	3	93	84	77	71	82	70	80	69	77	68	65
	4	86	75	67	61	74	61	72	60	69	59	57
	5	80	68	60	54	67	53	65	53	63	52	50
	6	74	62	53	48	61	47	59	47	57	47	44
	7	69	56	48	42	56	42	54	42	53	42	40
	8	64	52	44	38	51	38	50	38	49	38	36
	9	60	48	40	35	47	35	46	34	45	34	32
	10	57	44	37	32	44	32	43	31	42	31	30

Frame: L4R10AE1VA / L4R10AZ10UVA / L4R10RE1VA / L4R10RZ10UVA
 Light engine: L4R10835VA
 Trim: L4RDW

Report no³: 774GFR

Output lumens: 941.7lm
 Input Watts: 10.4W
 Spacing Criterion: 1.2

Efficacy: 90.6lm/W
 CCT²: 3500K
 CRI: ≥80

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	328	34.8%
0-40	519	55.1%
0-60	826	87.7%
0-90	942	100.0%

CRI and CCT adjustment factors

90CRI 2700K: = 0.71
80CRI 2700K: = 0.89
80CRI 3000K: = 0.97
80CRI 3500K: = 1.00

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

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