

PHILIPS LIGHTOLIER

Downlighting

LyteCaster

4" Round downlight



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

Complete Product =
 Frame-in kit + Light engine + Trim
 (order each separately)

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.

Frame-In kit

Example: L4R10AE1VA

Series	Lumens ¹	Frame type	Dimming / Voltage	Version
L4R				VA
L4R LyteCaster 4" Round	— 650 lm 10 1000 lm	A AirSeal IC, New Construction, Screw AN AirSeal IC, New Construction, Nail	E1 ELV/Triac dimming with 120V Z10U 0-10V with Universal 120V/277V	VA Version A ²
	06 650 lm 10 1000 lm	R AirSeal IC, Remodeler		

Light engine

Example: L4R10930VA

Series	Lumens ¹	CRI / CCT	Version
L4R			VA
L4R LyteCaster 4" Round	06 650 lm 10 1000 lm	827 80 CRI / 2700K CCT	VA Version A ²
		830 80 CRI / 3000K CCT	
		835 80 CRI / 3500K CCT	
		840 80 CRI / 4000K CCT	
		927 90 CRI / 2700K CCT	
		930 90 CRI / 3000K CCT	

Note: Lumen output is calculated based on 80 CRI and 3500K CCT.
 Please consult adjustment factors table on page 5 for other lumen outputs.

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.

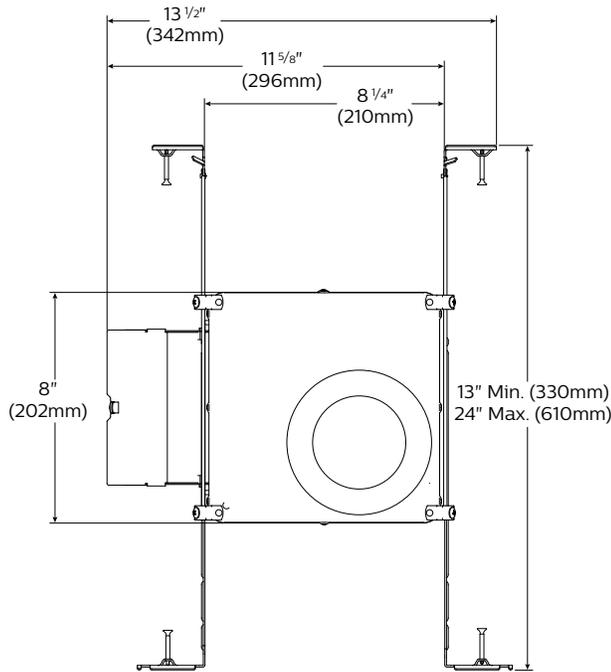


L4R LyteCaster 4" Round

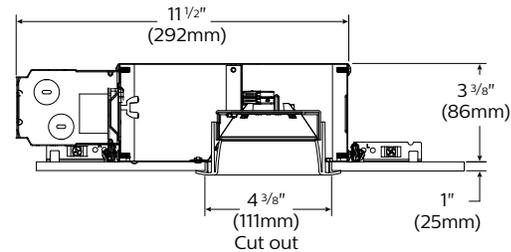
General purpose downlight

New construction frame-in kit

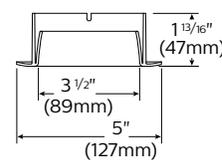
Bottom view



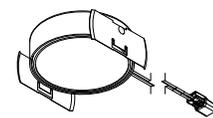
Side view



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° from original position.
- 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)

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.

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).

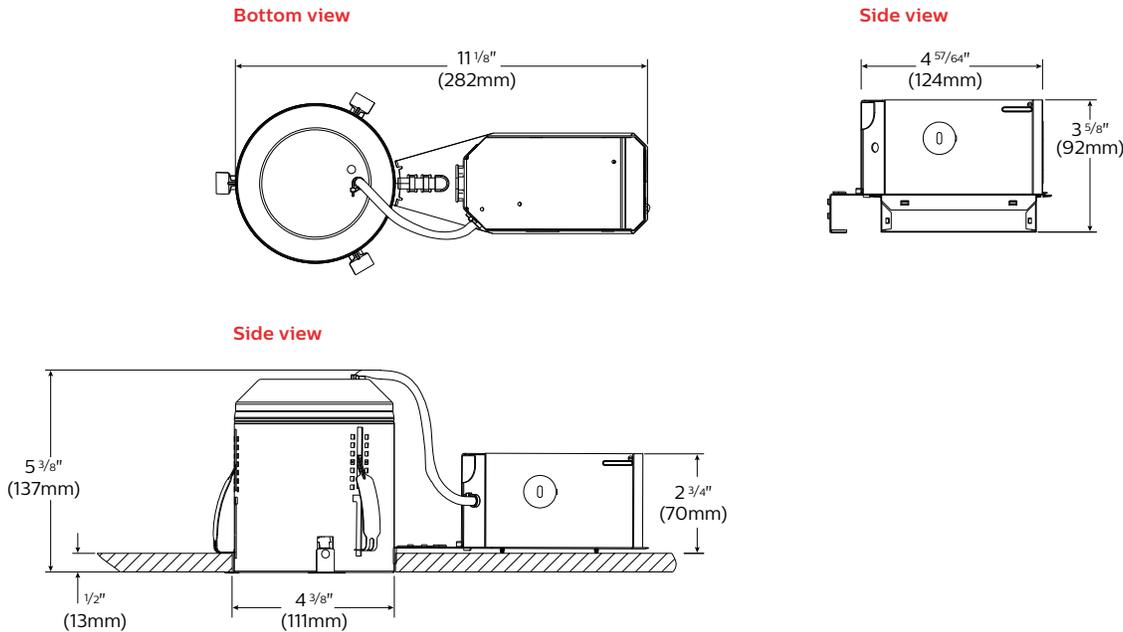
Complies with Air Leakage.

Energy Star certified.

L4R LyteCaster 4" Round

General purpose downlight

Remodeler kit



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.
- 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)

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.

Recommended dimmers

See LED-DIM Specification Sheet.

Labels

cULus Listed Type I.C., frames are suitable for damp location.

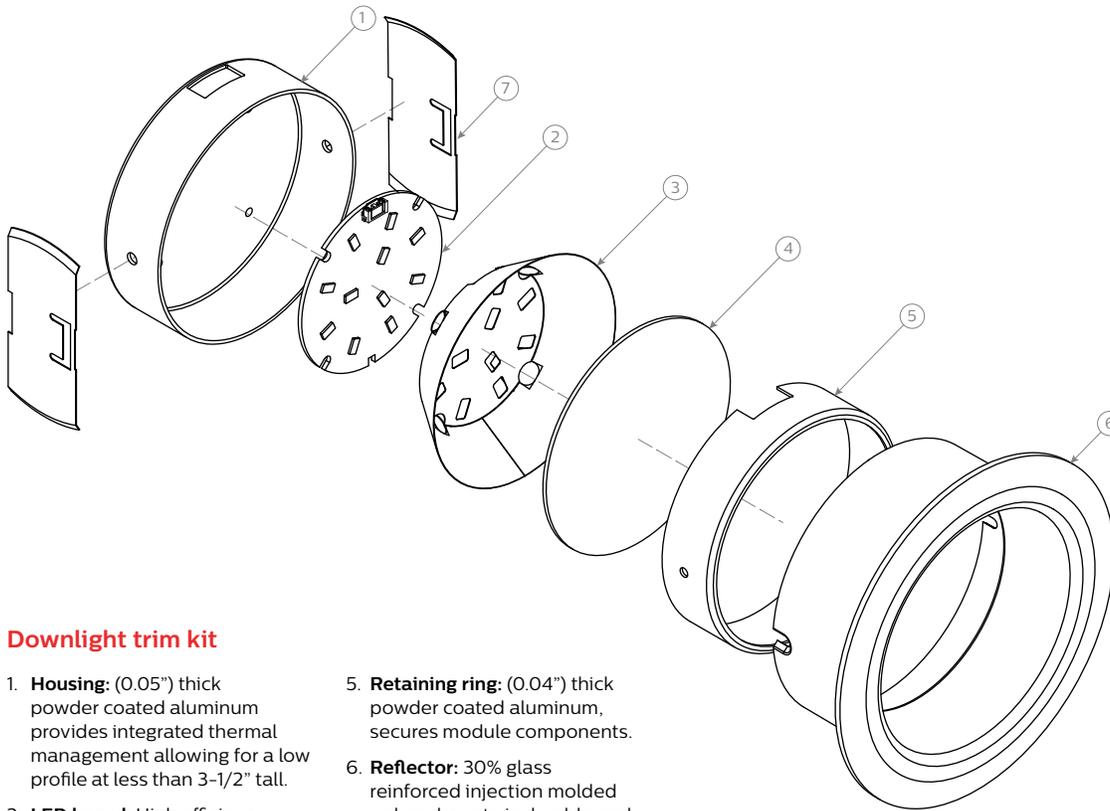
Trims are cULus suitable for wet location (no shower lens unit required).

Complies with Air Leakage.

Energy Star certified.

L4R LyteCaster 4" Round

General purpose downlight



Downlight trim kit

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

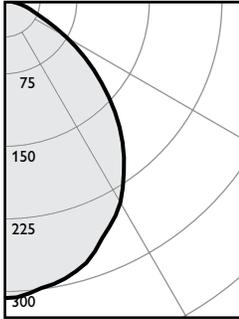
Frame-in kit / Remodeler	Lumens	Input volts	Input freq.	Input current	LED drive current	Input power	LED power	THD factor	Power factor
L4RAE1VA / L4R06RE1VA	650	120V	50/60Hz	0.07A	220mA	7W	6W	<20%	>0.9
L4RAZ10UVA / L4R06RZ10UVA	650	120V	50/60Hz	0.07A	220mA	8W	6W	<10%	>0.9
		277V	50/60Hz	0.04A	220mA	8W	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

Downlight, 650lm Engine, 96.1 lm/w

Candela Curve



Frame:
**L4RAE1VA, L4RAZ10UVA,
 L4R06RE1VA, L4R06RZ10UVA**
 Engine: **L4R06835VA**
 Trim: **L4RDW**

Output lumens: 662.8 lms
 Input watts: 6.9 W
 CRI: 80 min
 CCT¹: 3500K
 Spacing Crit.: 1.2

Zonal summary

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

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 diameter (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' x 38' x 10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Efficacy: 96.1 lm/w
 Report#: 659GFR

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
	70	50	30	10	50	10	50	10	50	10	0
Wall	70	50	30	10	50	10	50	10	50	10	0

RCR Zonal cavity method - Effective floor reflectance = 20%

Room Cavity Ratio	80%				70%		50%		30%		0%
	70	50	30	10	50	10	50	10	50	10	0
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

CRI and CCT adjustment factors

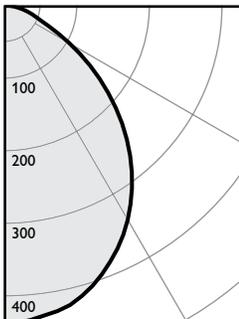
90CRI 2700K = 71%
 90CRI 3000K = 81%
 80CRI 2700K = 89%
 80CRI 3000K = 97%
 80CRI 3500K = 100%
 80CRI 4000K = 102%

Reflector finish adjustment factors

CL = 100%
 CC = 97%
 D = 88%
 W = 79%

Downlight, 1000lm Engine, 90.6 lm/w

Candela Curve



Frame:
**L4R10AE1VA, L4R10AZ10UVA,
 L4R10RE1VA, L4R10RZ10UVA**
 Engine: **L4R10835VA**
 Trim: **L4RDW**

Output lumens: 941.7 lms
 Input watts: 10.4 W
 CRI: 80 min
 CCT¹: 3500K
 Spacing Crit.: 1.2

Zonal summary

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

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 diameter (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' x 38' x 10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Efficacy: 90.6 lm/w
 Report#: 774GFR

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
	70	50	30	10	50	10	50	10	50	10	0
Wall	70	50	30	10	50	10	50	10	50	10	0

RCR Zonal cavity method - Effective floor reflectance = 20%

Room Cavity Ratio	80%				70%		50%		30%		0%
	70	50	30	10	50	10	50	10	50	10	0
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	55	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

CRI and CCT adjustment factors

90CRI 2700K = 71%
 90CRI 3000K = 81%
 80CRI 2700K = 89%
 80CRI 3000K = 97%
 80CRI 3500K = 100%
 80CRI 4000K = 102%

Reflector finish adjustment factors

CL = 100%
 CC = 97%
 D = 88%
 W = 79%

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

