

# PHILIPS LIGHTOLIER

## Downlighting

### LyteCaster

5" 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: L5RAE1VA

Series	Lumens <sup>1</sup>	Frame type	Dimming	Input voltage	Version
<b>L5R</b>					<b>VA</b>
L5R LyteCaster 5" Round	<b>blank</b> 1000 <b>15</b> 1500	<b>A</b> AirSeal IC, New Construction, Screw <b>AN</b> AirSeal IC, New Construction, Nail	<b>E</b> ELV dimming <b>Z10</b> 0-10V	<b>1</b> 120V <b>U</b> Universal	<b>VA</b> Version A <sup>2</sup>
	<b>10</b> 1000 <b>15</b> 1500	<b>R</b> AirSeal IC, Remodeler			

### Ordering guide: Light engine

Example: L5R10827VA

Series	Lumens <sup>1</sup>	CRI	CCT	Version
<b>L5R</b>				<b>VA</b>
L5R LyteCaster 5" Round	<b>10</b> 1000 <b>15</b> 1500	<b>8</b> 80 <b>9</b> 90	<b>27</b> 2700K <b>30</b> 3000K <b>35</b> 3500K <b>40</b> 4000K	<b>VA</b> Version A <sup>2</sup>
			<b>27</b> 2700K	

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

### Ordering guide: Trim

Example: L5RDW

Series	Luminaire type	Finish
<b>L5R</b>		
L5R LyteCaster 5" Round	<b>D</b> Open Downlight	<b>D</b> Clear diffuse (with white flange) <b>W</b> White (with white flange)
	<b>B</b> Baffle Downlight	<b>W</b> 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.

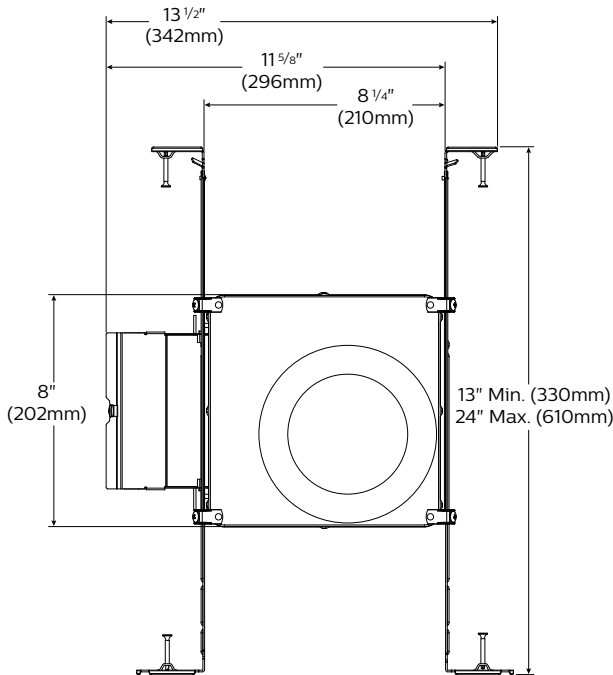


# L5R LyteCaster 5" Round

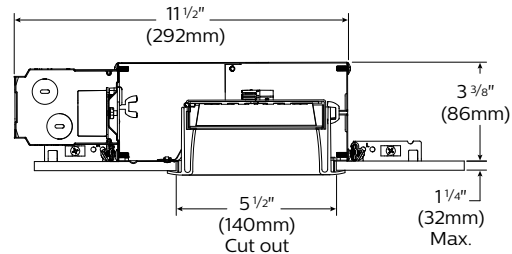
General purpose downlight

## New construction frame-in kit

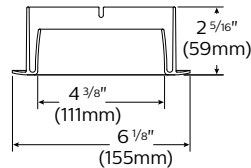
Bottom view



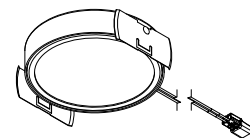
Side view



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), which complies with 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 1/4" (32mm) 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: 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:** 5 1/2" (140mm).

## 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

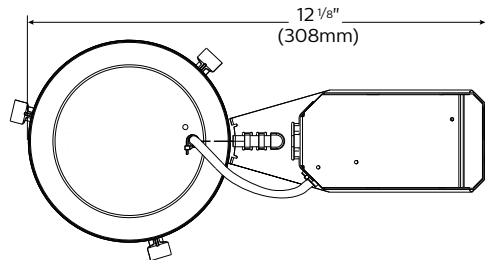
cULus Listed Type I.C., frames are suitable for damp location. Trims are cULus suitable for wet location (no shower lens unit required). Complies with Air Leakage. Energy Star certified.

# L5R LyteCaster 5" Round

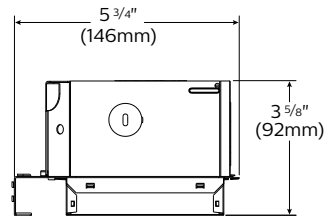
General purpose downlight

## Remodeler kit

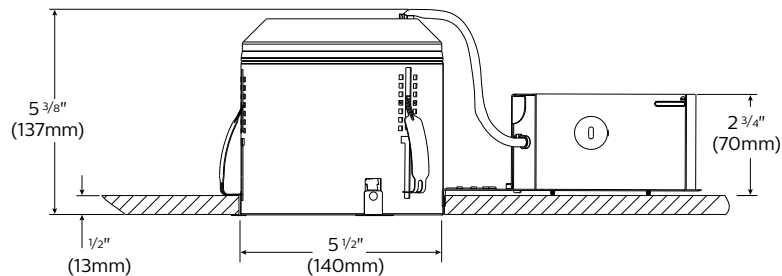
Bottom view



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:** 5 1/2" (140mm).

## 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.

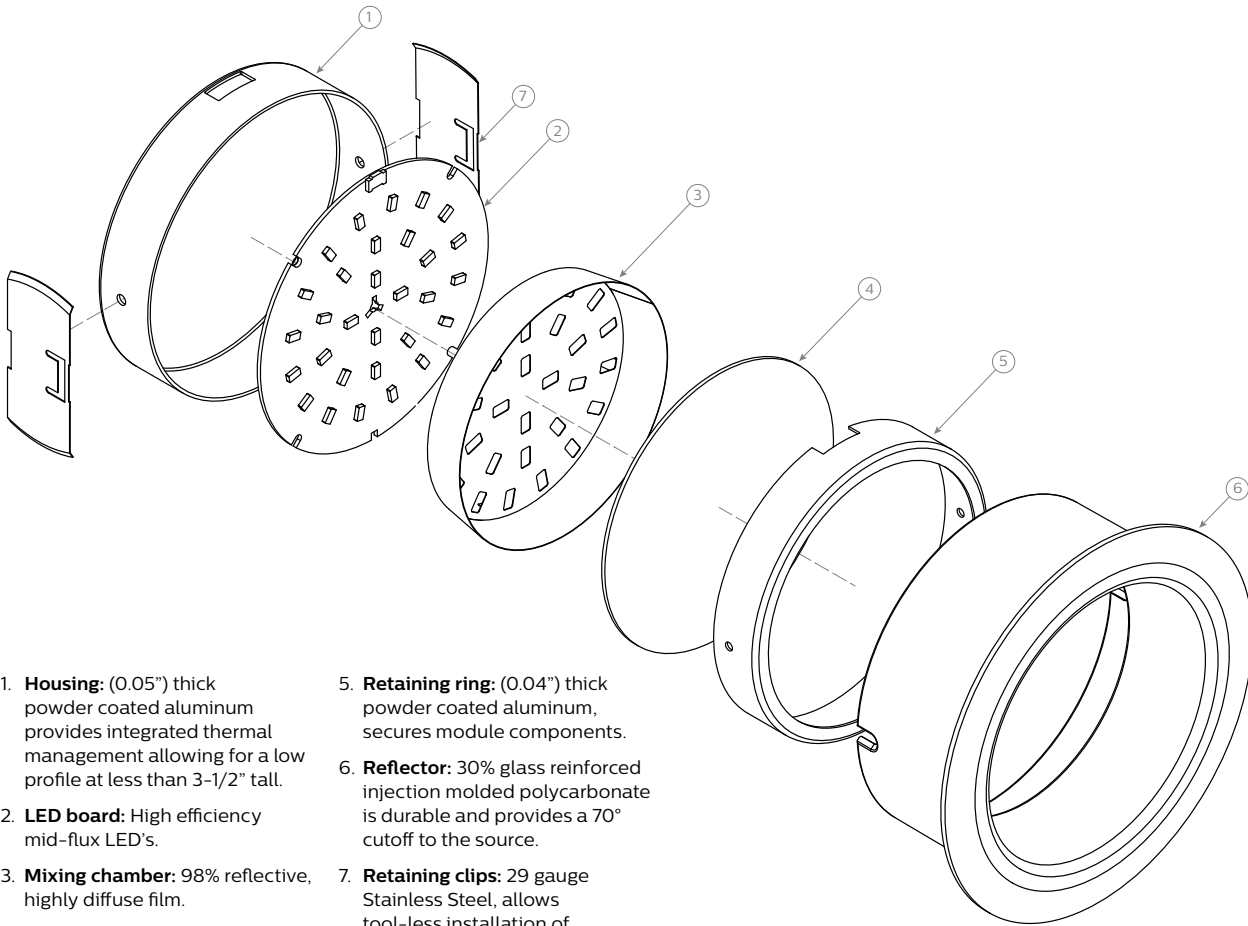
## Labels

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.

# L5R LyteCaster 5" 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
L5RAE1VA / L5R10RE1VA	1000	120V	50/60Hz	0.10A	260mA	12W	10W	<20%	>0.9
L5RAZ10UVA / L5R10RZ10UVA	1000	120V	50/60Hz	0.11A	260mA	13W	11W	<10%	>0.9
		277V	50/60Hz	0.06A	260mA	13W	11W	<15%	>0.9
L5R15AE1VA / L5R15RE1VA	1500	120V	50/60Hz	0.16A	375mA	15W	13W	<20%	>0.9
L5R15AZ10UVA / L5R15RZ10UVA	1500	120V	50/60Hz	0.26A	375mA	16W	13W	<10%	>0.95
		277V	50/60Hz	0.11A	375mA	16W	13W	<15%	>0.95

# L5R LyteCaster 5" Round

## General purpose downlight

### 80 CRI, 1000 lumens

Candela Curves	Angle	Mean CP	Lumens
	0	546	
	5	541	
	10	529	
	15	515	
	20	490	145
	25	459	
	30	429	
	35	385	241
	40	340	
	45	289	222
	50	236	
	55	184	165
	60	135	
	65	91	93
	70	63	
	75	45	48
	80	28	
	85	12	13
	90	0	

Single unit data		
Height to Lighted Plane	Initial Center Beam Foot-Candles	Beam Dia. (ft)*
5'	22	6.0'
6'	15	7.2'
7'	11	8.4'
8'	9	9.6'
9'	7	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'	49.5	0.51
6'	32.5	0.34
7'	23.2	0.24
8'	19.3	0.20
9'	15.5	0.16

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	1	2	3	4	5	6	7	8	9	10	119	119	119	119	116	116	111	111	106	106	100
	1	2	3	4	5	6	7	8	9	10	11	110	106	102	99	104	97	99	94	96	91	87
	2	3	4	5	6	7	8	9	10	11	12	101	94	88	83	92	82	89	80	85	78	74
	3	4	5	6	7	8	9	10	11	12	13	93	84	76	70	82	70	79	69	77	67	64
	4	5	6	7	8	9	10	11	12	13	14	86	75	67	61	74	60	71	60	69	59	56
	5	6	7	8	9	10	11	12	13	14	15	80	68	59	53	67	53	65	52	63	52	49
	6	7	8	9	10	11	12	13	14	15	16	74	61	53	47	60	47	59	47	57	46	44
	7	8	9	10	11	12	13	14	15	16	17	69	56	48	42	55	42	54	42	52	41	39
	8	9	10	11	12	13	14	15	16	17	18	64	51	43	38	51	38	49	38	48	37	35
	9	10	11	12	13	14	15	16	17	18	19	60	47	40	34	47	34	46	34	45	34	32
	10	11	12	13	14	15	16	17	18	19	20	56	44	36	31	43	31	42	31	41	31	29

Frame: L5RAE1VA / L5RAZ10UVA / L5R10RE1VA / L5R10RZ10UVA  
 Light engine: L5R10B35VA  
 Trim: L5RDW

Report no<sup>3</sup>: 685GFR

Output lumens: 1190lm	Efficacy: 102.6lm/W
Input Watts: 11.6W	CCT <sup>2</sup> : 3500K
Spacing Criterion: 1.2	CRI: ≥80

### Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	408	34.3%
0-40	649	54.5%
0-60	1036	87.1%
0-90	1190	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, 1500 lumens

Candela Curves	Angle	Mean CP	Lumens
	0	703	
	5	697	
	10	682	
	15	656	185
	20	619	
	25	576	265
	30	527	
	35	474	296
	40	417	
	45	357	275
	50	295	
	55	234	209
	60	175	
	65	120	121
	70	81	
	75	57	60
	80	35	
	85	15	17
	90	0	

Single unit data		
Height to Lighted Plane	Initial Center Beam Foot-Candles	Beam Dia. (ft)*
5'	28	5.5'
6'	20	6.6'
7'	14	7.7'
8'	11	8.8'
9'	9	9.9'

\* 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'	62.1	0.70
6'	40.8	0.46
7'	29.1	0.33
8'	24.3	0.27
9'	19.4	0.22

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	1	2	3	4	5	6	7	8	9	10	119	119	119	119	116	116	111	111	106	106	100
	1	2	3	4	5	6	7	8	9	10	11	110	106	102	99	104	97	99	94	96	91	87
	2	3	4	5	6	7	8	9	10	11	12	101	94	88	83	92	82	89	80	85	78	74
	3	4	5	6	7	8	9	10	11	12	13	93	84	76	70	82	70	79	69	77	67	64
	4	5	6	7	8	9	10	11	12	13	14	86	75	67	61	74	60	71	60	69	59	56
	5	6	7	8	9	10	11	12	13	14	15	80	68	59	53	67	53	64	52	63	52	49
	6	7	8	9	10	11	12	13	14	15	16	74	61	53	47	60	47	59	46	57	46	44
	7	8	9	10	11	12	13	14	15	16	17	69	56	48	42	55	42	54	42	52	41	39
	8	9	10	11	12	13	14	15	16	17	18	64	51	43	38	51	38	49	38	48	37	35
	9	10	11	12	13	14	15	16	17	18	19	60	47	40	34	47	34	46	34	45	34	32
	10	11	12	13	14	15	16	17	18	19	20	56	44	36	31	43	31	42	31	42	31	29

Frame: L5R15AZ10UVA / L5R15AE1VA / L5R15RZ10UVA / L5R15RE1VA  
 Light engine: L5R15B35VA  
 Trim: L5RDW

Report no<sup>3</sup>: 879GFR

Output lumens: 1494lm	Efficacy: 95.1lm/W
Input Watts: 15.7W	CCT <sup>2</sup> : 3500K
Spacing Criterion: 1.1	CRI: ≥80

### Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	516	34.5%
0-40	811	54.3%
0-60	1295	86.7%
0-90	1494	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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