

# PHILIPS LIGHTOLIER

## Downlighting

### LyteCaster

6" Round downlight  
1500 Lumens



Project: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Cat.No: \_\_\_\_\_  
 Type: \_\_\_\_\_  
 Lamps: \_\_\_\_\_ Qty: \_\_\_\_\_  
 Notes: \_\_\_\_\_

Philips Lightolier LyteCaster LED Downlights feature a 3.5" luminaire height that conserves plenum space without compromising the 70° physical and reflected cutoff. The modular and interchangeable light engine allows for an easy future upgrade. The downlight is wet location listed and comes in 3 standard options.

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

#### Ordering guide: Frame-In kit

Example: L6RAE1

Series	Frame type	Dimming	Input voltage
<b>L6R</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L6R LyteCaster 6" Round	A AirSeal IC, New Construction, Screw AN AirSeal IC, New Construction, Nail	E ELV dimming	1 120V
		Z10 0-10V	U Universal

#### Ordering guide: Light engine

Example: L6R15827

Series	Lumens	CRI	CCT
<b>L6R</b>	<b>15</b>	<input type="checkbox"/>	<input type="checkbox"/>
L6R LyteCaster 6" Round	15 1500	8 80	27 2700K 30 3000K 35 3500K
		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: L6RDW

Series	Luminaire type	Finish
<b>L6R</b>	<input type="checkbox"/>	<input type="checkbox"/>
L6R LyteCaster 6" Round	D Open Downlight	D Clear diffuse (with white flange) W White (with white flange)
	B Baffle Downlight	W White (with white flange)

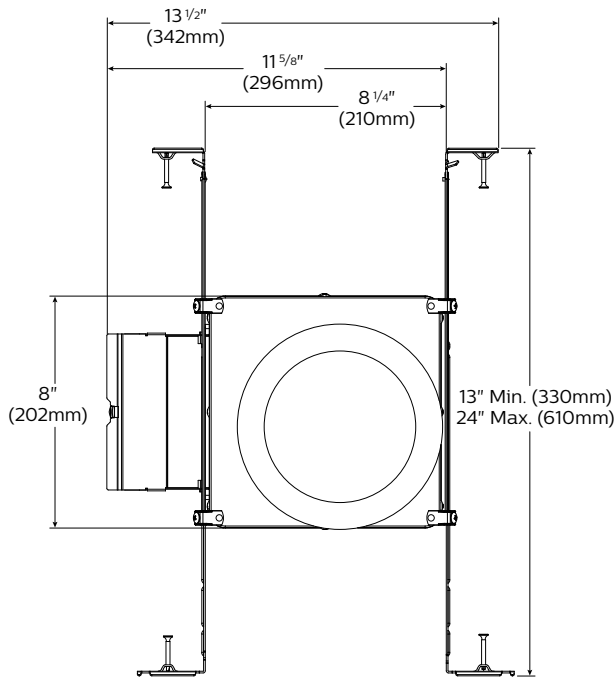


# L6R LyteCaster 6" Round

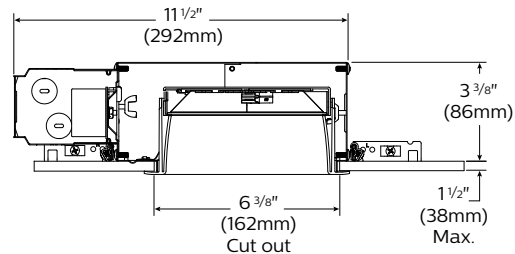
General purpose downlight, 1500 lumens

## Frame-in kit

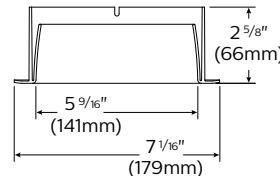
### Bottom view



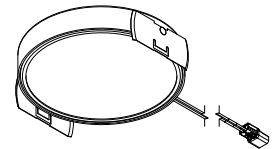
### Side view



### 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 Title 24, the International Energy Conservation Code, and Washington State Energy Code (Section 502.4). This helps to reduce 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 1/2" (38mm) 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:** 6 3/8" (162mm).

## Electrical

**Lifetime:** Expected lifetime 45,000 hours at L70 and backed by a 5-year limited warranty. (see Philips.com/warranties for details)

## Recommended dimmers

See LED-DIM Specification Sheet.

## Labels

IC/AirSeal Complies with Air Leakage.

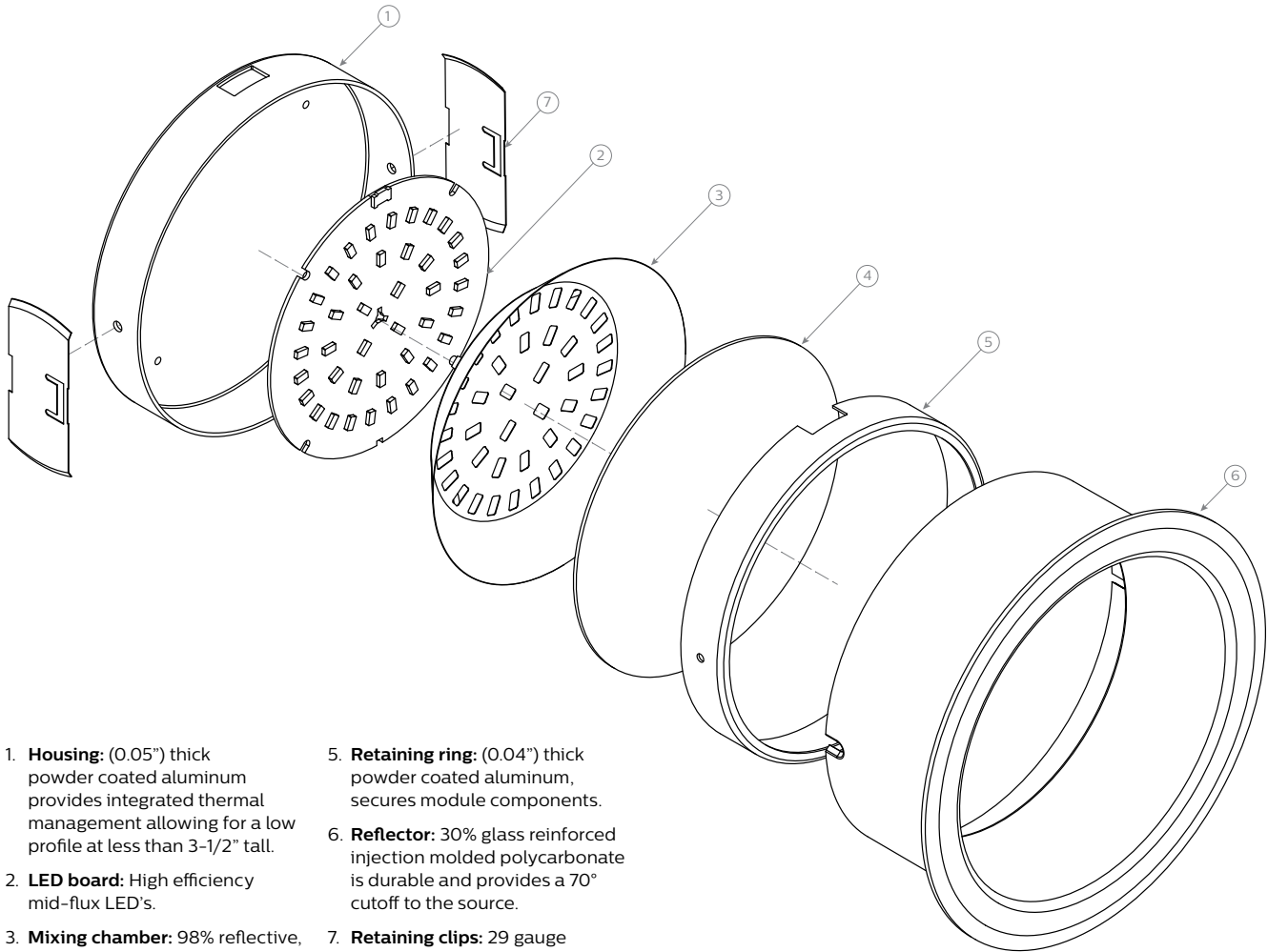
cULus Listed for ceiling or wall installation. Suitable for wet locations, covered ceiling mount only. Suitable for damp locations when wall mounted. Nonconductive flange suitable for shower light application.

This product complies with the requirements of the California Energy Commission regulated under Title 24, and has been listed in the Title 20 database.

# L6R LyteCaster 6" Round

General purpose downlight, 1500 lumens

## 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

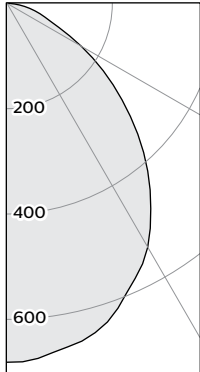
Screw / Nail Frame-in kit Electrical specifications	Input volts	Input freq.	Input current	LED drive current	Input power	LED power	THD factor	Power factor
L6RAE1	120V	50/60Hz	0.16A	545mA	19W	17W	<20%	>0.9
L6RAZ10U	120V	50/60Hz	0.16A	545mA	19W	15W	<10%	>0.9
	277V	50/60Hz	0.07A	545mA	19W	15W	<15%	>0.9

# L6R LyteCaster 6" Round

General purpose downlight, 1500 lumens

## 80 CRI, 1500 lumens

### Candela Curves



Angle	Mean CP	Lumens
0	681	
5	677	64
10	662	
15	647	182
20	616	
25	576	265
30	535	
35	476	298
40	416	
45	351	270
50	285	
55	223	199
60	163	
65	109	112
70	77	
75	55	58
80	34	
85	14	17
90	0	

### Single unit data

Height to Lighted Plane	Initial Center Beam Foot-Candles	Beam Dia. (ft)*
5'	27	6.0'
6'	19	7.2'
7'	14	8.4'
8'	11	9.6'
9'	8	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'	61.1	0.76
6'	40.1	0.50
7'	28.7	0.36
8'	23.9	0.30
9'	19.1	0.24

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	110	106	102	99	104	97	100	94	96	91	87	87	87	83	82	89	80	86	78	75	75
	2	101	94	88	83	92	82	89	80	86	78	75	75	75	71	71	82	70	80	69	77	68
	3	93	84	77	71	82	70	80	69	77	68	65	65	65	61	61	74	61	72	60	69	59
	4	86	75	67	61	74	61	72	60	69	59	56	56	56	53	53	67	53	65	53	63	52
	5	80	68	60	54	67	53	65	53	63	52	50	50	50	47	47	61	47	59	47	57	47
	6	74	62	53	47	61	47	59	47	57	47	44	44	44	42	42	56	42	54	42	53	42
	7	69	56	48	42	56	42	54	42	53	42	40	40	40	38	38	51	38	50	38	49	38
	8	64	52	44	38	51	38	50	38	48	37	36	36	36	35	35	47	35	46	34	45	34
	9	60	48	40	35	47	35	46	34	45	34	32	32	32	32	32	44	32	43	31	42	31
	10	57	44	37	32	44	32	43	31	42	31	30	30	30	30	30	44	32	43	31	42	31

Frame: L6RAE1  
Light engine: L6R15835  
Trim: L6RDW

Report no<sup>3</sup>: 462GFR

Output lumens: 1465lm  
Input Watts<sup>1</sup>: 17.1W  
Spacing Criterion: 1.2

Efficacy: 85.7lm/W  
CCT<sup>2</sup>: 3500K  
CRI: ≥80

### Zonal lumens & percentages

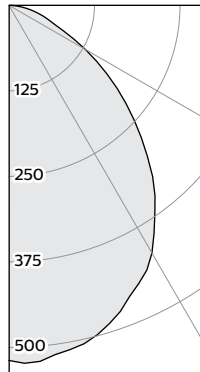
Zone	Lumens	%Luminaire
0-30	512	34.9%
0-40	809	55.2%
0-60	1279	87.3%
0-90	1465	100.0%

### CRI and CCT adjustment factors

90CRI 2700K: = 71%
80CRI 2700K: = 89%
80CRI 3000K: = 97%
80CRI 3500K: = 100%

## 90 CRI, 1145 lumens

### Candela Curves



Angle	Mean CP	Lumens
0	519	
5	522	49
10	511	
15	499	140
20	476	
25	449	207
30	418	
35	372	233
40	327	
45	274	211
50	223	
55	175	157
60	129	
65	87	89
70	61	
75	43	46
80	27	
85	12	13
90	0	

### Single unit data

Height to Lighted Plane	Initial Center Beam Foot-Candles	Beam Dia. (ft)*
5'	21	6.0'
6'	14	7.2'
7'	11	8.4'
8'	8	9.6'
9'	6	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'	47.7	0.78
6'	31.3	0.51
7'	22.4	0.37
8'	18.6	0.30
9'	14.9	0.24

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	110	106	102	99	104	97	100	94	96	91	87	87	87	83	82	89	80	86	78	74	74
	2	101	94	88	83	92	82	89	80	86	78	74	74	74	71	71	82	70	79	69	77	68
	3	93	84	76	71	82	70	79	69	77	68	64	64	64	61	61	74	61	71	60	69	59
	4	86	75	67	61	74	61	71	60	69	59	56	56	56	53	53	67	53	65	53	63	52
	5	80	68	60	54	67	53	65	53	63	52	50	50	50	47	47	61	47	59	47	57	46
	6	74	62	53	47	61	47	59	47	57	46	44	44	44	42	42	56	42	54	42	53	42
	7	69	56	48	42	56	42	54	42	53	42	40	40	40	38	38	51	38	50	38	48	37
	8	64	52	44	38	51	38	50	38	48	37	36	36	36	35	35	47	35	46	34	45	34
	9	60	48	40	34	47	34	46	34	45	34	32	32	32	32	32	44	32	43	31	42	31
	10	57	44	36	31	43	31	43	31	42	31	30	30	30	30	30	44	32	43	31	42	31

### Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	396	34.6%
0-40	629	54.9%
0-60	997	87.0%
0-90	1145	100.0%

Frame: L6RAE1  
Light engine: L6R15927  
Trim: L6RBW

Report no<sup>3</sup>: 509GFR

Output lumens: 1145lm  
Input Watts<sup>1</sup>: 17.6W  
Spacing Criterion: 1.2

Efficacy: 65.1lm/W  
CCT<sup>2</sup>: 2700K  
CRI: ≥90

1. Wattage: controlled to within ± 10%

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.

