

# PHILIPS LIGHTOLIER

## Downlighting

### LyteCaster

5" Round downlight  
1000 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: L5RAE1

| Series                           | Frame type   | Dimming                    | Input voltage         |
|----------------------------------|--|----------------------------|-----------------------|
| <input type="text" value="L5R"/> | <input type="text"/>   | <input type="text"/>       | <input type="text"/>  |
| L5R LyteCaster 5" Round          | A AirSeal IC, New Construction, Screw<br>AN AirSeal IC, New Construction, Nail | E ELV dimming<br>Z10 0-10V | 1 120V<br>U Universal |

#### Ordering guide: Light engine

Example: L5R10827

| Series                           | Lumens                          | CRI                  | CCT  |
|----------------------------------|---------------------------------|----------------------|--|
| <input type="text" value="L5R"/> | <input type="text" value="10"/> | <input type="text"/> | <input type="text"/>                         |
| L5R LyteCaster 5" Round          | 10 1000                         | 8 80<br>9 90         | 27 2700K<br>30 3000K<br>35 3500K<br>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: L5RDW

| Series                           | Luminaire type                         | Finish  |
|----------------------------------|--|---|
| <input type="text" value="L5R"/> | <input type="text"/>                   | <input type="text"/>  |
| L5R LyteCaster 5" Round          | D Open Downlight<br>B Baffle Downlight | D Clear diffuse (with white flange)<br>W White (with white flange)<br>W White (with white flange) |

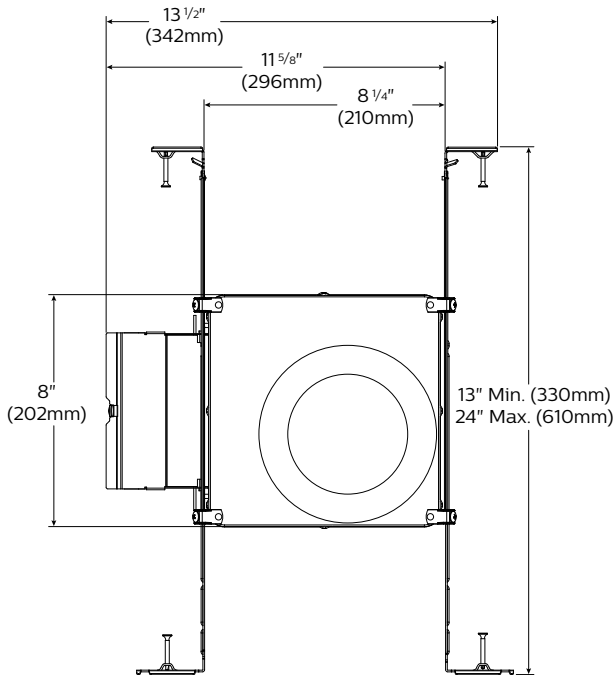


# L5R LyteCaster 5" Round

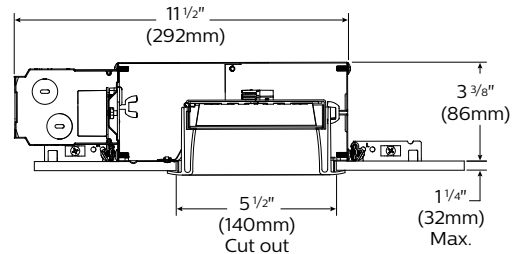
General purpose downlight, 1000 lumens

## Frame-in kit

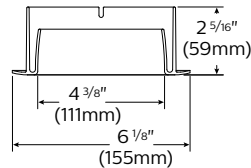
### Bottom view



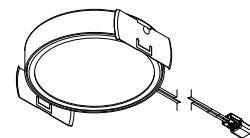
### Side view



### 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 1/4" (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 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.

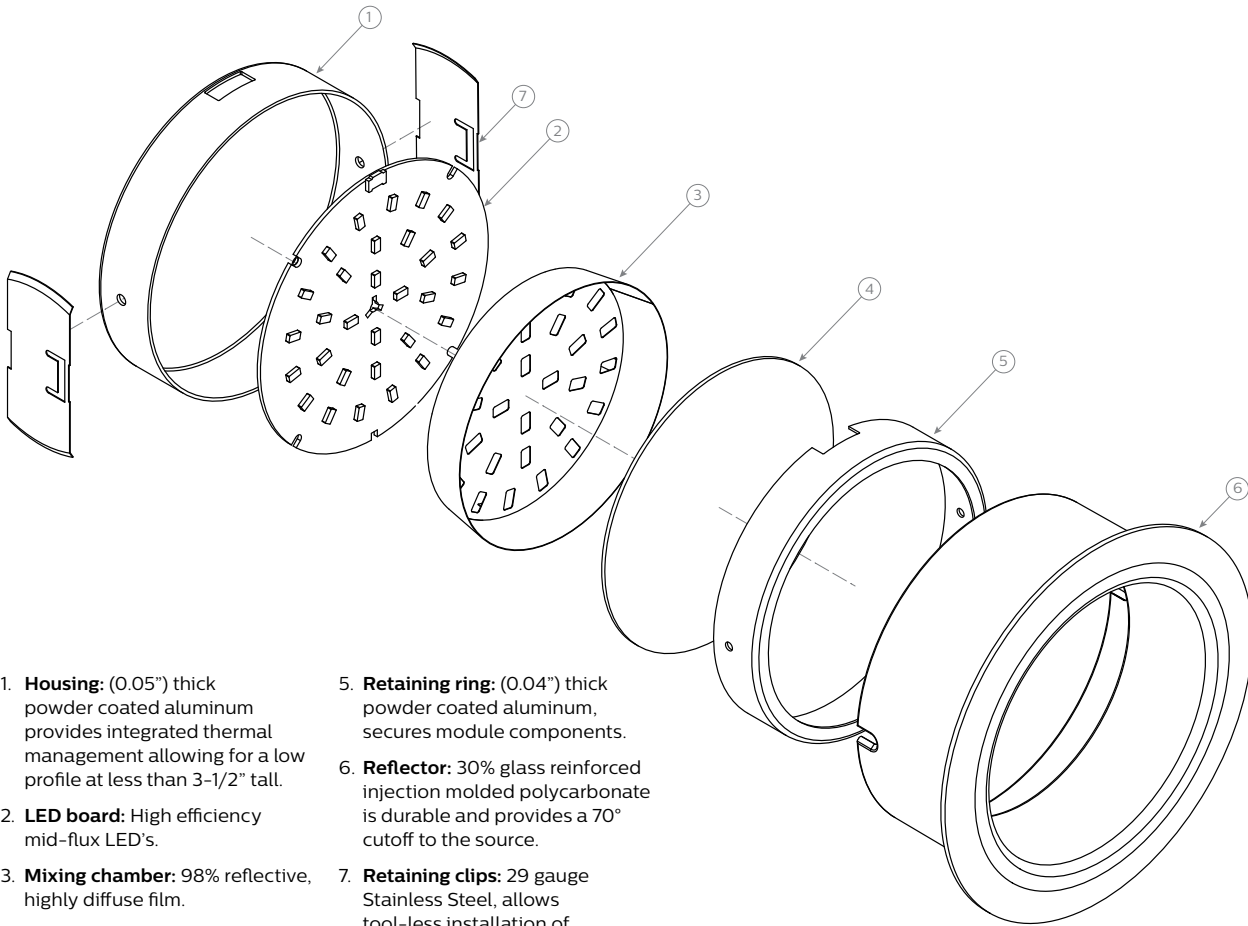
cULus Listed for ceiling or wall installation. Suitable for wet locations, covered ceiling mount only. Suitable for damp locations when wall mounted. Nonconductive flange suitable for shower light application.

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

# L5R LyteCaster 5" Round

General purpose downlight, 1000 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

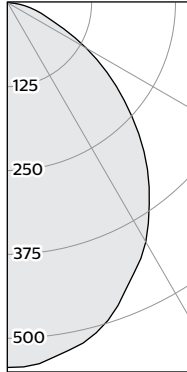
| Screw / Nail Frame-in kit<br>Electrical specifications | Input volts | Input freq. | Input current | LED drive current | Input power | LED power | THD factor | Power factor |
|--|-------------|-------------|---------------|-------------------|-------------|-----------|------------|--------------|
| <b>L5RAE1</b>  | 120V        | 50/60Hz     | 0.10A         | 400mA             | 13W         | 10W       | <20%       | >0.9         |
| <b>L5RAZ10U</b>  | 120V        | 50/60Hz     | 0.12A         | 400mA             | 14W         | 11W       | <10%       | >0.9         |
|  | 277V        | 50/60Hz     | 0.06A         | 400mA             | 14W         | 11W       | <15%       | >0.9         |

# L5R LyteCaster 5" Round

General purpose downlight, 1000 lumens

## 80 CRI, 1000 lumens

### Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 544     |        |
| 5     | 540     |        |
| 10    | 526     |        |
| 15    | 509     | 143    |
| 20    | 480     |        |
| 25    | 445     | 205    |
| 30    | 412     |        |
| 35    | 368     | 230    |
| 40    | 324     |        |
| 45    | 276     | 213    |
| 50    | 227     |        |
| 55    | 180     | 161    |
| 60    | 135     |        |
| 65    | 93      | 94     |
| 70    | 62      |        |
| 75    | 43      | 46     |
| 80    | 26      |        |
| 85    | 11      | 13     |
| 90    | 0       |        |

### Single unit data

| Height to Lighted Plane | Initial Center Beam Foot-Candles | Beam Dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 22                               | 5.5'            |
| 6'                      | 15                               | 6.6'            |
| 7'                      | 11                               | 7.7'            |
| 8'                      | 9                                | 8.8'            |
| 9'                      | 7                                | 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'                | 48.1                             | 0.58              |
| 6'                | 31.6                             | 0.38              |
| 7'                | 22.5                             | 0.27              |
| 8'                | 18.8                             | 0.23              |
| 9'                | 15.0                             | 0.18              |

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  | 99 | 94  | 96 | 91 | 87  | 87  | 87  | 83  | 82  | 89  | 80  | 85  | 78  | 74  |     |
|                   | 2   | 101 | 94  | 88  | 83  | 92  | 82  | 89 | 80  | 85 | 78 | 74  | 74  | 74  | 70  | 79  | 69  | 69  | 67  | 67  | 64  |     |
|                   | 3   | 93  | 84  | 76  | 70  | 82  | 70  | 79 | 69  | 77 | 67 | 64  | 64  | 64  | 61  | 67  | 59  | 47  | 57  | 46  | 44  |     |
|                   | 4   | 86  | 75  | 67  | 61  | 74  | 60  | 71 | 60  | 69 | 59 | 56  | 56  | 56  | 53  | 53  | 65  | 52  | 63  | 52  | 49  |     |
|                   | 5   | 80  | 68  | 59  | 53  | 67  | 53  | 65 | 52  | 63 | 52 | 49  | 49  | 49  | 47  | 47  | 59  | 47  | 57  | 46  | 44  |     |
|                   | 6   | 74  | 61  | 53  | 47  | 61  | 47  | 59 | 47  | 57 | 46 | 44  | 44  | 44  | 42  | 42  | 54  | 42  | 52  | 41  | 39  |     |
|                   | 7   | 69  | 56  | 48  | 42  | 55  | 42  | 54 | 42  | 52 | 41 | 39  | 39  | 39  | 38  | 38  | 49  | 38  | 48  | 37  | 35  |     |
|                   | 8   | 64  | 51  | 43  | 38  | 51  | 38  | 49 | 38  | 48 | 37 | 35  | 35  | 35  | 34  | 34  | 46  | 34  | 45  | 34  | 32  |     |
|                   | 9   | 60  | 47  | 40  | 34  | 47  | 34  | 46 | 34  | 45 | 34 | 32  | 32  | 32  | 31  | 31  | 42  | 31  | 42  | 31  | 29  |     |
|                   | 10  | 57  | 44  | 36  | 31  | 43  | 31  | 42 | 31  | 42 | 31 | 29  | 29  | 29  | 29  | 29  | 42  | 31  | 42  | 31  | 29  |     |

Frame: L5RAE1  
Light engine: L5R10835  
Trim: L5RDW

Report no<sup>3</sup>: 461GFR

Output lumens: 1156lm  
Input Watts: 13.1W  
Spacing Criterion: 1.1

Efficacy: 88.2lm/W  
CCT<sup>2</sup>: 3500K  
CRI: ≥80

### Zonal lumens & percentages

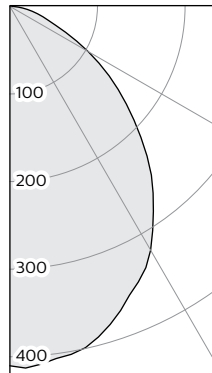
| Zone | Lumens | %Luminaire |
|------|--------|------------|
| 0-30 | 399    | 34.6%      |
| 0-40 | 629    | 54.5%      |
| 0-60 | 1003   | 86.8%      |
| 0-90 | 1156   | 100.0%     |

### CRI and CCT adjustment factors

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

## 90 CRI, 890 lumens

### Candela Curves



| Angle | Mean CP | Lumens |
|-------|---------|--------|
| 0     | 410     |        |
| 5     | 410     |        |
| 10    | 404     |        |
| 15    | 395     | 110    |
| 20    | 373     |        |
| 25    | 347     | 160    |
| 30    | 321     |        |
| 35    | 287     | 179    |
| 40    | 252     |        |
| 45    | 215     | 163    |
| 50    | 176     |        |
| 55    | 139     | 123    |
| 60    | 103     |        |
| 65    | 70      | 71     |
| 70    | 47      |        |
| 75    | 33      | 35     |
| 80    | 20      |        |
| 85    | 9       | 11     |
| 90    | 0       |        |

### Single unit data

| Height to Lighted Plane | Initial Center Beam Foot-Candles | Beam Dia. (ft)* |
|-------------------------|----------------------------------|-----------------|
| 5'                      | 16                               | 6.0'            |
| 6'                      | 11                               | 7.2'            |
| 7'                      | 8                                | 8.4'            |
| 8'                      | 6                                | 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'                | 37.1                             | 0.63              |
| 6'                | 24.3                             | 0.41              |
| 7'                | 17.4                             | 0.30              |
| 8'                | 14.5                             | 0.25              |
| 9'                | 11.6                             | 0.20              |

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  | 99 | 94  | 96 | 91 | 87  | 87  | 87  | 83  | 82  | 89  | 80  | 85  | 78  | 74  |     |
|                   | 2   | 101 | 94  | 88  | 83  | 92  | 82  | 89 | 80  | 85 | 78 | 74  | 74  | 74  | 70  | 79  | 69  | 69  | 67  | 67  | 64  |     |
|                   | 3   | 93  | 84  | 76  | 70  | 82  | 70  | 79 | 69  | 77 | 67 | 64  | 64  | 64  | 61  | 67  | 59  | 47  | 57  | 46  | 44  |     |
|                   | 4   | 86  | 75  | 67  | 61  | 74  | 61  | 71 | 60  | 69 | 59 | 56  | 56  | 56  | 53  | 53  | 65  | 52  | 63  | 52  | 49  |     |
|                   | 5   | 80  | 68  | 59  | 53  | 67  | 53  | 65 | 52  | 63 | 52 | 49  | 49  | 49  | 47  | 47  | 59  | 47  | 57  | 46  | 44  |     |
|                   | 6   | 74  | 61  | 53  | 47  | 61  | 47  | 59 | 47  | 57 | 46 | 44  | 44  | 44  | 42  | 42  | 54  | 42  | 52  | 41  | 39  |     |
|                   | 7   | 69  | 56  | 48  | 42  | 55  | 42  | 54 | 42  | 52 | 41 | 39  | 39  | 39  | 38  | 38  | 49  | 38  | 48  | 37  | 35  |     |
|                   | 8   | 64  | 51  | 43  | 38  | 51  | 38  | 49 | 38  | 48 | 37 | 35  | 35  | 35  | 34  | 34  | 46  | 34  | 45  | 34  | 32  |     |
|                   | 9   | 60  | 47  | 40  | 34  | 47  | 34  | 46 | 34  | 45 | 34 | 32  | 32  | 32  | 31  | 31  | 42  | 31  | 42  | 31  | 29  |     |
|                   | 10  | 57  | 44  | 36  | 31  | 43  | 31  | 42 | 31  | 42 | 31 | 29  | 29  | 29  | 29  | 29  | 42  | 31  | 42  | 31  | 29  |     |

### Zonal lumens & percentages

| Zone | Lumens | %Luminaire |
|------|--------|------------|
| 0-30 | 308    | 34.6%      |
| 0-40 | 487    | 54.7%      |
| 0-60 | 774    | 86.9%      |
| 0-90 | 891    | 100.0%     |

Frame: L5RAE1  
Light engine: L5R10927  
Trim: L5RBW

Report no<sup>3</sup>: 508GFR

Output lumens: 891lm  
Input Watts: 14.2W  
Spacing Criterion: 1.2

Efficacy: 62.7lm/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.

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