

# PHILIPS LIGHTOLIER

## Downlighting

### LyteCaster LED

5" Square 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 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 and the luminaire is wet location listed. Square trims are compatible with the round new construction frame-in kit and high lumen light engines.

#### Frame-In kit

example: L4R10AE1VA

Series	Lumens	Frame type	Dimming / Voltage	Version <sup>1</sup>
<b>L5R</b>				<b>VA</b>
<b>L5R</b> LyteCaster LED 5" Round	— 1000lm (Must be used with L5R10 light engine) <b>15</b> 1500lm (Must be used with L5R15 light engine)	<b>A</b> AirSeal IC, New Construction, Screw <b>AN</b> AirSeal IC, New Construction, Nail	<b>E1</b> ELV/Triac dimming with 120V <b>Z10U</b> 0-10V with Universal 120V/277V	<b>VA</b> Version A
	<b>10</b> 1000lm (Must be used with L5R10 light engine)	<b>R</b> AirSeal IC, Remodeler		

#### Light engine

example: L5R10827VA

Series	Lumens	CRI / CCT	Version <sup>1</sup>
<b>L5R</b>			<b>VA</b>
<b>L5R</b> LyteCaster LED 5" Round	<b>10</b> 1000lm <b>15</b> 1500lm	<b>827</b> 80 CRI / 2700K CCT	<b>VA</b> Version A
		<b>830</b> 80 CRI / 3000K CCT	
		<b>835</b> 80 CRI / 3500K CCT	
		<b>840</b> 80 CRI / 4000K CCT	
		<b>927</b> 90 CRI / 2700K CCT	
		<b>930</b> 90 CRI / 3000K CCT	



Open Downlight  
(white)



Baffle Downlight  
(white)



Open Downlight  
(clear diffuse)

#### Trim

example: L5SDD

Series	Luminaire type	Finish
<b>L5S</b>		
<b>L5R</b> LyteCaster LED 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)

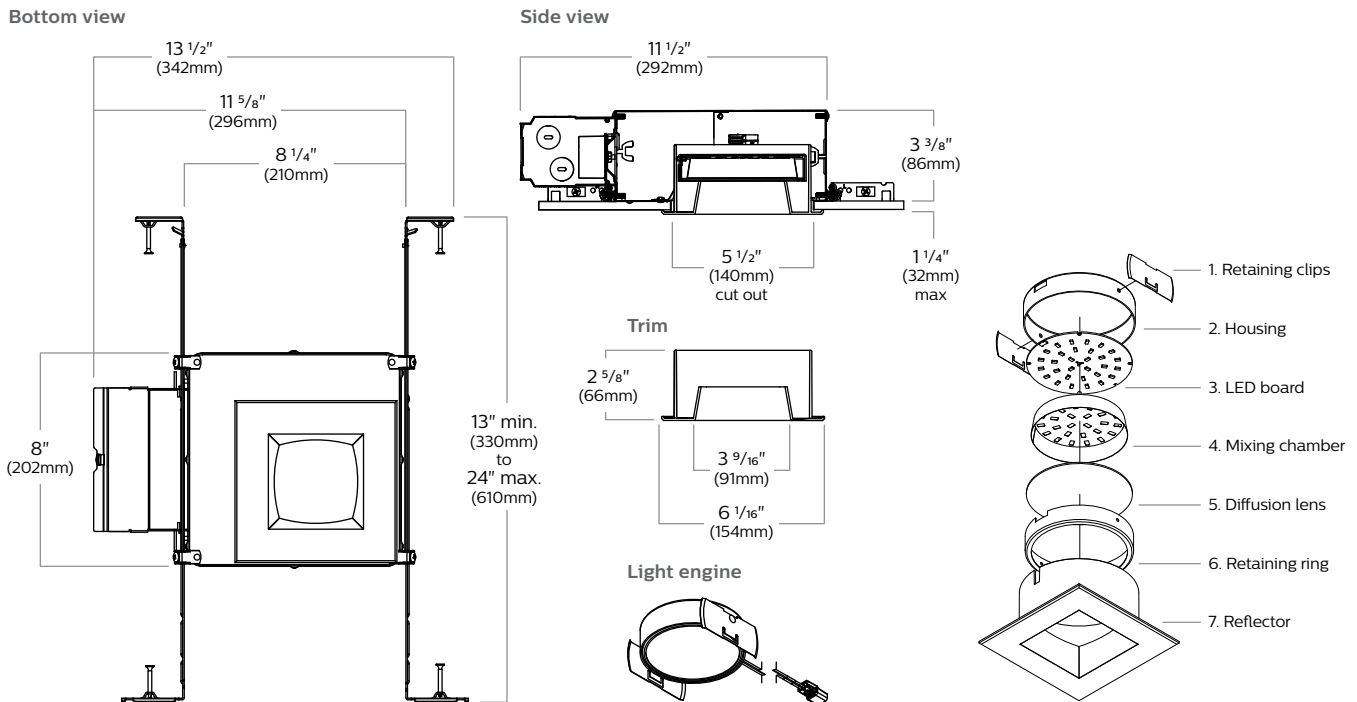
1. Version A (VA) frames and light engines are not compatible with previous versions.



# L5S LyteCaster LED 5" Square

## General purpose downlight

### Dimensions



### 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" (25mm) thick. Deep integral lip is 3/8" (9.5mm) 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).

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

**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.

**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.

### Energy Star

Product family has Energy Star certification with all new construction frame and 80CRI option with remodeler frame. 90CRI is an exception across the board.

### 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.

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.

### Labels

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

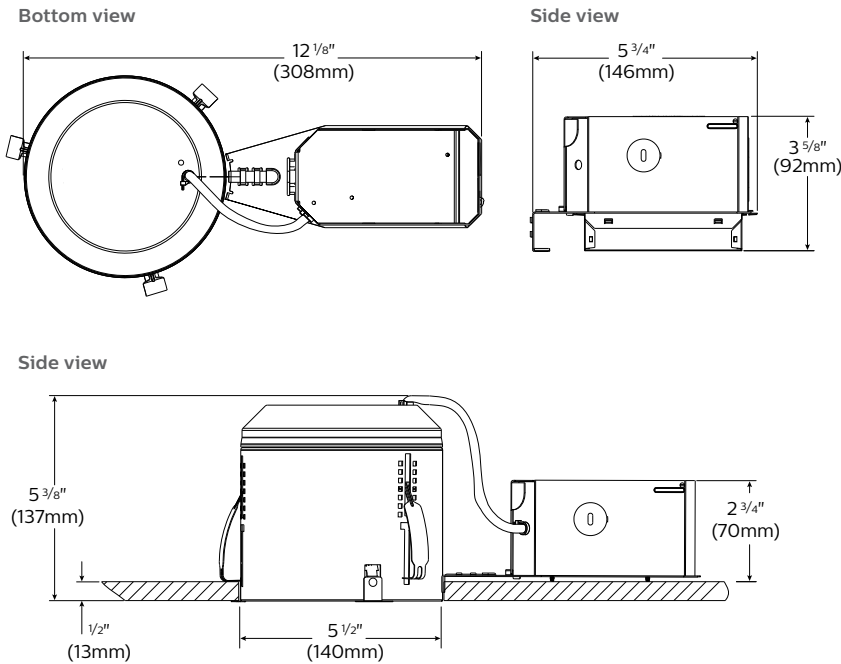
Trims are cULus suitable for wet location.

Complies with Air Leakage.

# L5S LyteCaster LED 5" Square

## General purpose downlight

### Remodeler kit dimensions



### 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. 5.5" 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:** 2.5" x 2.5" x 4.875" (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:** 6.375" (162mm).

### 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.

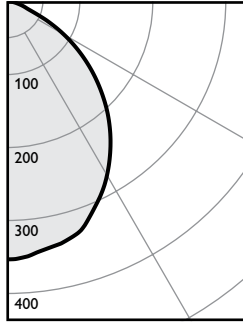
ENERGY STAR® certified.

# L5S LyteCaster LED 5" Square

## General purpose downlight

### Downlight, 1500lm Engine, 68.9 lm/w

#### Candela Curve



Frame: **L5R15AE1VA**  
Engine: **L5R15835VA**  
Trim: **L5SDW**

Output lumens: 1012.1 lms  
Input watts: 14.7 W  
CRI: 80 min  
CCT<sup>1</sup>: 3500K  
Spacing Crit.: 1.2  
Beam Angle: 94°

#### Zonal summary

Zone	Lumens	%Luminaire
0-30	354	34.9%
0-40	560	55.3%
0-60	895	88.4%
0-90	1012	100.0%

Angle	0°	45°	Lumens
0	469	469	44
5	465	465	
10	455	455	
15	446	444	125
20	427	428	
25	397	408	184
30	366	371	
35	329	330	206
40	291	288	
45	250	244	191
50	207	200	
55	164	158	144
60	120	117	
65	76	79	78
70	41	48	
75	28	28	31
80	17	17	
85	8	8	9
90	0	0	

#### Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	19	6.0'
6'	13	7.2'
7'	10	8.4'
8'	7	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'	42.4	0.65
6'	27.8	0.43
7'	19.9	0.31
8'	16.6	0.25
9'	13.3	0.20

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

**Efficacy: 68.9 lm/w**  
Report<sup>2</sup>: 1131GFR

#### 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%										
0	119	119	119	119	116	116	111	111	106	106	100
1	110	106	103	99	104	98	100	95	96	92	87
2	102	95	89	84	93	83	89	81	86	79	75
3	94	84	77	71	83	71	80	70	77	68	65
4	87	76	68	62	74	61	72	60	70	60	57
5	80	68	60	54	67	54	65	53	63	53	50
6	74	62	54	48	61	48	59	47	58	47	44
7	69	57	48	43	56	43	54	42	53	42	40
8	65	52	44	38	51	38	50	38	49	38	36
9	60	48	40	35	47	35	46	35	45	34	32
10	57	44	37	32	44	32	43	32	42	31	30

#### CRI and CCT adjustment factors

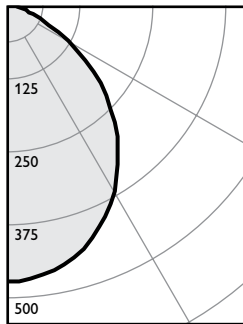
90CRI 2700K = 71%  
90CRI 3000K = 81%  
80CRI 2700K = 89%  
80CRI 3000K = 97%  
80CRI 3500K = 100%  
80CRI 4000K = 102%

#### Reflector finish adjustment factors

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

### Downlight, 1500lm Engine, 86.8 lm/w

#### Candela Curve



Frame: **L5R10RE1VA**  
Engine: **L5R10835VA**  
Trim: **L5SDW**

Output lumens: 1016 lms  
Input watts: 11.7 W  
CRI: 80 min  
CCT<sup>1</sup>: 3500K  
Spacing Crit.: 1.2  
Beam Angle: 94°

#### Zonal summary

Zone	Lumens	%Luminaire
0-30	353	34.7%
0-40	559	55.0%
0-60	898	88.4%
0-90	1016	100.0%

Angle	0°	45°	Lumens
0	472	472	44
5	468	468	
10	460	460	
15	446	448	126
20	423	425	
25	397	397	183
30	366	365	
35	331	329	206
40	292	290	
45	251	249	193
50	208	205	
55	164	163	146
60	120	122	
65	79	84	82
70	47	52	
75	33	33	36
80	20	20	
85	9	9	10
90	0	0	

#### Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	19	6.0'
6'	13	7.2'
7'	10	8.4'
8'	7	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'	42.8	0.52
6'	28.1	0.34
7'	20.1	0.24
8'	16.7	0.20
9'	13.4	0.16

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

**Efficacy: 86.8 lm/w**  
Report<sup>2</sup>: 1259GFR

#### 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%										
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	79	69	77	68	65
4	86	75	67	61	74	61	71	60	69	59	56
5	80	68	60	53	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	52	41	39
8	64	51	43	38	51	38	49	38	48	37	35
9	60	47	40	34	47	34	46	34	45	34	32
10	56	44	36	31	43	31	42	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%

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.

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