PHILIPS
LIGHTOLIER

Downlighting

LyteCaster

5" Round adjustable

New construction

Remodeler

Project:

Location:

Cat.No:

Type:

Lamps: Qty:

Notes:

Philips Lightolier LyteCaster LED Adjustable Downlight is a low cost solution for slope ceiling and wall washing applications that features 30° tilt. Available in shallow new construction frame and IC remodeler. The downlight is damp location listed and interchangeable light engine/trim is available in 2 lumen packages.

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

Frame-In kit

Example: L5RAE1VA

Series	Lumens[1]	Frame type	Dimming / Voltage	Version
L5R				VA
L5R LyteCaster 5" Round	**—** 1000 lm **15** 1500 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]
	10 1000 lm **15** 1500 lm	**R** AirSeal IC, Remodeler		

Light engine / Trim

Example: L5RA10827WVA

Series	Lumens[1]	CRI / CCT	Finish	Version
L5RA				VA
L5RA LyteCaster 5" Round Adjustable	**10** 1000 lm **15** 1500 lm	**827** 80 CRI / 2700K CCT **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	**W** White (with white flange)	**VA** Version A[2]

1. When ordering a Frame-in kit and a Light engine, the lumen package code must match.
2. Version A (VA) frames and light engines are not compatible with previous versions.

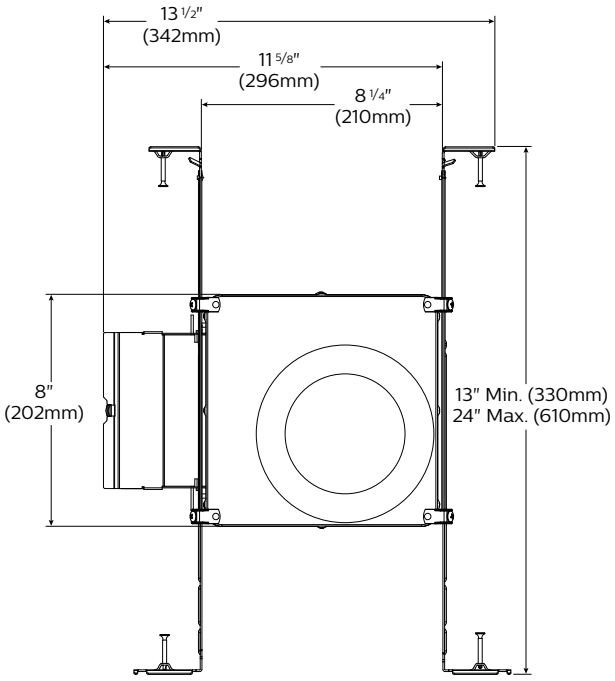
Note: Lumen output is calculated based on 80 CRI and 3500K CCT.
Please consult adjustment factors table on page 5 for other lumen outputs.

L5RA LyteCaster 5″ Round adjustable

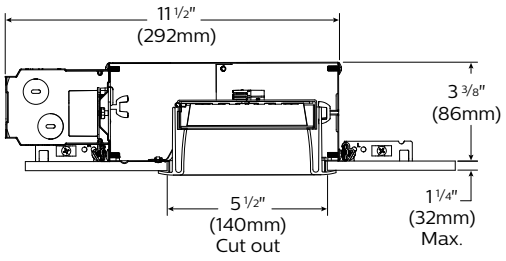
General purpose downlight

New construction frame-in kit

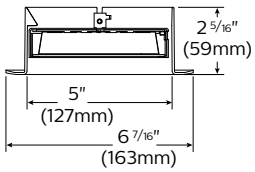
Bottom view



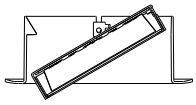
Side view



Downlight trim



Light engine



Features

1. **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.
2. **Lower frame and top cover:** .026″ galvanized steel. Accommodates ceilings up to 1 ¼″ (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.
3. **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).
4. **Retaining clips:** Permit easy and fast installation of light engine/trim.
5. **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.
6. **Ceiling cutout:** 5 ½″ (140mm).

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.

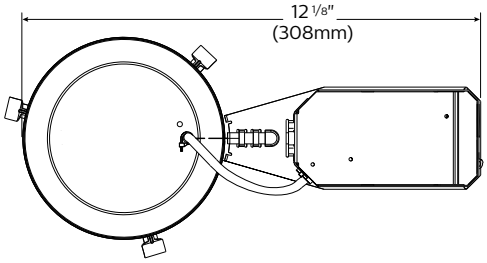
Energy Star certified.

L5RA LyteCaster 5" Round adjustable

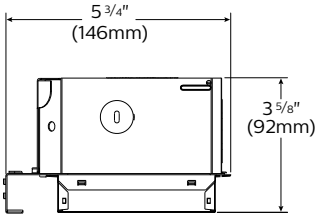
General purpose downlight

Remodeler kit

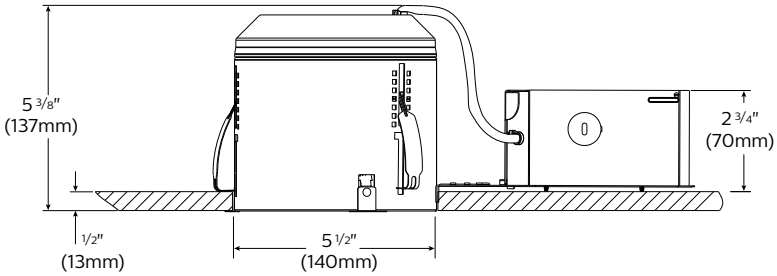
Bottom view



Side view



Side view



Features

1. **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 ½" 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
2. **Junction Box:** 2 ½" x 2 ½" x 4 ⅞" (29 cu in.) .031" galvanized steel. UL listed for 90°C supply conductors. Rated for branch circuit wiring supplying connected fixtures.
3. **Retaining clips:** Permit easy and fast installation of light engine/trim.
4. **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.
5. **Ceiling cutout:** 5 ½" (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.

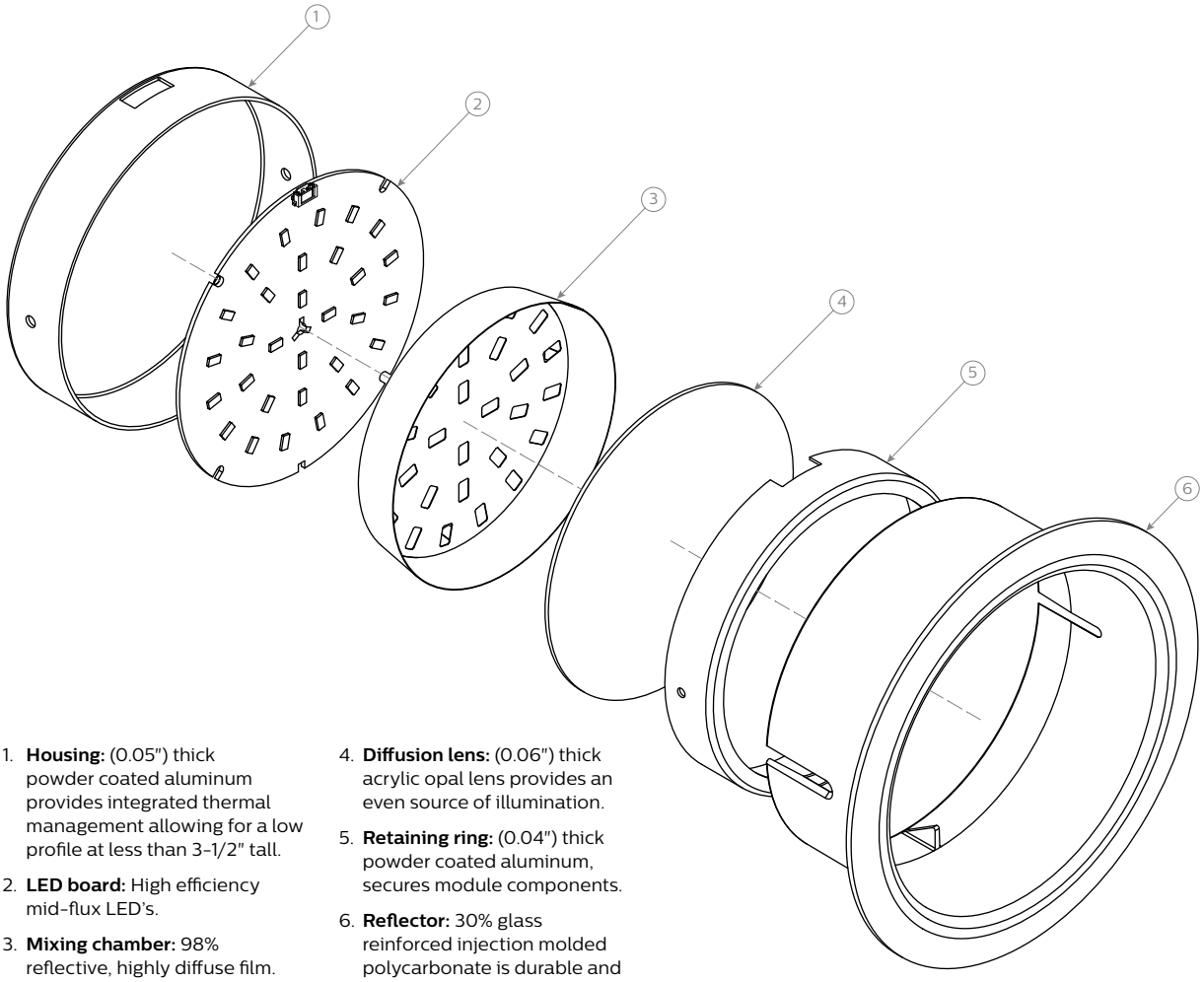
Labels

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.

L5RA LyteCaster 5" Round adjustable

General purpose downlight

Reflector: Round adjustable



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 30° tilt.

Electrical specifications

Frame-in kit / Remodeler

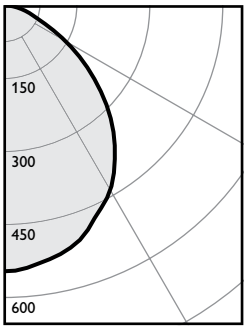
	Lumens	Input volts	Input freq.	Input current	LED drive current	Input power	LED power	THD factor	Power factor
L5RAE1VA / L5R10RE1VA	1000	120V	50/60Hz	0.10A	260mA	12W	10W	<20%	>0.9
L5RAZ10UVA / L5R10RZ10UVA	1000	120V	50/60Hz	0.11A	260mA	13W	11W	<10%	>0.9
		277V	50/60Hz	0.06A	260mA	13W	11W	<15%	>0.9
L5R15AE1VA / 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

L5RA LyteCaster 5″ Round adjustable

General purpose downlight

Downlight, 1000lm Engine, 102.6 lm/w (downlight photometry shown)

Candela Curve



Frame:
L5RAE1VA, L5RAZ10UVA, L5R10RE1VA, L5R10RZ10UVA
Engine: **L5R10835VA**
Trim: **L5RDW**

Output lumens:	1190 lms
Input watts:	11.6 W
CRI:	80 min
CCT[1]:	3500K
Spacing Crit.:	1.2

Zonal summary

Zone	Lumens	%Luminaire
0-30	408	34.3%
0-40	649	54.5%
0-60	1036	87.1%
0-90	1190	100.0%

Angle	Mean CP	Lumens
0	546	
5	541	51
10	529	
15	515	145
20	490	
25	459	212
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 diameter (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′ x 38′ x 10′ Room, Workplane 2.5′ above floor, 80/50/20% Reflectances

Efficacy: 102.6 lm/w
Report[2]: 685GFR

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	99	94	96	91	87
2	101	94	88	83	92	82	89	80	85	78	74
3	93	84	76	70	82	70	79	69	77	67	64
4	86	75	67	61	74	60	71	60	69	59	56
5	80	68	59	53	67	53	65	52	63	52	49
6	74	61	53	47	60	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	41	31	29

Room Cavity Ratio

CRI and CCT adjustment factors

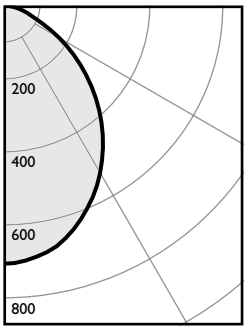
90CRI 2700K =	71%
90CRI 3000K =	81%
80CRI 2700K =	89%
80CRI 3000K =	97%
80CRI 3500K =	100%
80CRI 4000K =	102%

Reflector finish adjustment factors

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

Downlight, 1500lm Engine, 95.1 lm/w (downlight photometry shown)

Candela Curve



Frame:
L5R15AZ10UVA, L5R15AE1VA, L5R15RZ10UVA, L5R15RE1VA
Engine: **L5R15835VA**
Trim: **L5RDW**

Output lumens:	1494 lms
Input watts:	15.7 W
CRI:	80 min
CCT[1]:	3500K
Spacing Crit.:	1.1

Zonal summary

Zone	Lumens	%Luminaire
0-30	516	34.5%
0-40	811	54.3%
0-60	1295	86.7%
0-90	1494	100.0%

Angle	Mean CP	Lumens
0	703	
5	697	66
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 diameter (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′ x 38′ x 10′ Room, Workplane 2.5′ above floor, 80/50/20% Reflectances

Efficacy: 95.1 lm/w
Report[2]: 879GFR

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	99	94	96	91	87
2	101	94	88	83	92	82	89	80	85	78	74
3	93	84	76	70	82	70	79	69	77	67	64
4	86	75	67	61	74	60	71	60	69	59	56
5	80	68	59	53	67	53	64	52	63	52	49
6	74	61	53	47	60	47	59	46	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

Room Cavity Ratio

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_ANSLG 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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