

# WAFER/4 DL

recessed shallow LED downlight

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## FEATURES

- **WAFER/4 DL is a 4" aperture, high efficacy, LED downlight** with a recess depth of only 4".
- **Luminaire employs an internal 'twist and lock' lens** to produce an initial beam-spread of either 32° or 60°. To allow beam-spread to be changed in installed luminaires, internal lenses are available as accessories.
- **Luminaire may be ordered standard (- DL) for maximum efficacy and spacing ratio - or - with a plastic diffuser (- DG)**, mounted atop reflector, to maximize beam uniformity and obscure appearance of LED.
- **Luminaire is powered by one of a number of Cree Chip on board LED's.** See below for wattages and efficacies.
- **External reflectors are available in three clear natural aluminum colors** – semi-specular (C), slightly diffuse (V) or fully diffuse (EC) – as well as champagne gold, black Alzak® and specular white enamel. Other finishes are available on special order.
- **Optional housing design for residential installation** in wood joist ceilings (- RI).
- **WAFER/4 DL includes a pair of mounting bars** (3/4" x 27" C channel). Specialty bars for wood and T-bar installations are also available.
- **For more information, [click here](#).**

## APPLICATIONS

Luminaire is listed as an inherently protected luminaire for Damp Location. Luminaire is RoHS compliant, is suitable for use in a fire rated ceiling. Removal of the external reflector allows access to the LED module and junction box.

For instal-from-below, see [PRESTO WAFER/4 DL](#)

For IC-rated, see [EPIC WAFER/4 DL](#)

For Chicago Plenum, see [CHP WAFER/4 DL](#)

## PRODUCT CODE

For complete product code, list basic unit and select one item from each following box.

<b>Basic Unit</b>	
no diffuser .....	standard installation design ..... W4-CLT-DL
with diffuser .....	standard installation design ..... W4-CLT-DG

<b>Internal Lens</b> <i>Choose one.</i>	
32° initial beam-spread .....	..... - 32D
60° initial beam-spread .....	..... - 60D

<b>Light Source Output</b> (Lumens)	
800 lumens / CRI 90+ .....	2700K & 3000K only ..... - L08H
1000 lumens .....	2700K & 3000K only ..... - L10H
1200 lumens .....	2700K & 3000K only ..... ZGOMAG ..... - L12H
1500 lumens .....	2700K & 3000K only ..... ZGOMAG ..... - L15H
1000 lumens / CRI 80+ .....	..... - L10S
1200 lumens .....	..... - L12S
1500 lumens .....	ZGOMAG ..... - L15S
1800 lumens .....	ZGOMAG ..... - L18S

<b>Driver</b>	
dimnable to 1% by a 0-10V dimmer on 120 Or 277-volt service .....	- DMV
dimnable to 5% by either an incandescent or electronic low voltage dimmer only; 120-volt service only .....	- DMP
dimnable to 1% by a 2-wire Lutron compatible dimmer .....	- DMILU
dimnable to 1% SoftOn/FadeToBlack by a Lutron EcoSystem control ...	- ECO-LU
eldoLED 0-10V (Logarithmic) driver dimmable to 0.1% with a 0-10V dimmer .....	- DVOELG
eldoLED 0-10V (Linear) driver dimmable to 0.1% with a 0-10V dimmer .....	- DVOELN
eldoLED driver dimmable to 0.1% with DALI control system .....	- DA0-EL
Moons' driver dimmable to 0.1% by DMX controllers .....	- DX0-MN
dimmable to 0.1% by a Zigbee wireless network (Daintree, Encelium or Wink); wireless range 50' through standard walls; available with four models only (see box above) .....	- ZGOMAG

<b>Light Color</b>	
2700 K.....	- 27K
3000 K.....	- 30K
3500 K.....	- 35K
4000 K.....	- 40K

External Reflector Color & Trim	DL Model (no diffuser)		DG Model (with diffuser)	
	Overlap	Trim Flush*	Overlap	Trim Flush*
Semi-specular Clear	DL-COL	DL-CTF	DG-COL	DG-CTF
Slightly diffuse Clear	DL-VOL	DL-VTF	DG-VOL	DG-VTF
Fully diffuse Clear	DL-ECOL	DL-ECTF	DG-ECOL	DG-ECTF
Champagne Gold	DL-GOL	DL-GTF	DG-GOL	DG-GTF
Black	DL-BOL	DL-BTF	DG-BOL	DG-BTF
White	DL-WOL	DL-WTF	DG-WOL	DG-WTF

Standard reflector flange continues reflector finish. White painted flanges and custom painted flanges are available on special order. Add WF (white flange) or CCF (custom color flange).  
\*Trim Flush reflector trim requires the use of a **plaster ring** Accessory (see below).

## OPTIONS *Specify by adding to the basic unit.*

<b>Housing designed for residential installation</b> (see next page) including a pair of mounting bars (extendable to 20") for use between wood joists. ....	- RI
<b>Milwork trim detail</b> consists of an aperture collar (see below) and a Trim Flush (TF) external reflector (see above).	
milled aluminum aperture collar .....	- M
white aperture collar.....	- MWH
black aperture collar.....	- MBL
custom color aperture collar .....	- MCC
<b>Remote emergency battery pack</b> including two components – battery pack and plate with test switch and light – to be mounted adjacent to luminaire; for use in accessible ceilings; <i>not available with residential housing (-RI)</i> .....	- RX

## EXTRA INTERNAL LENSES *Specify as separate line items.*

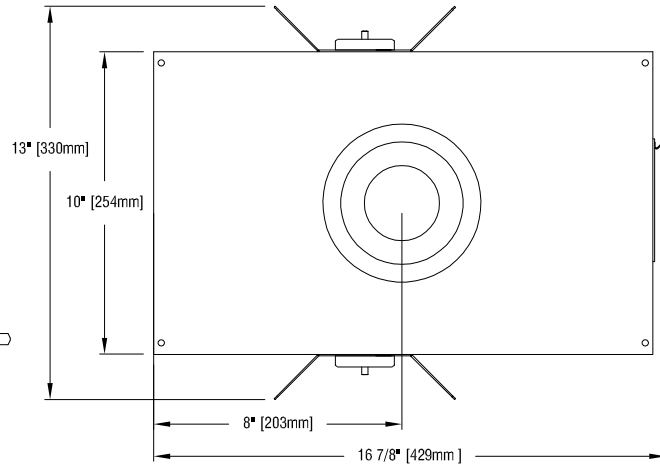
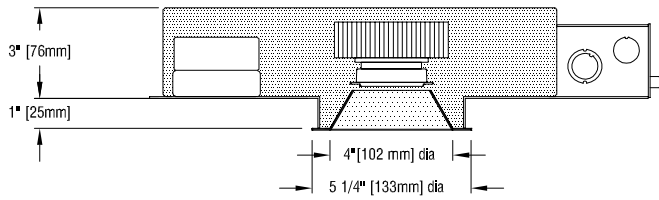
<b>32° internal lens</b> .....	CIT-LENS32-70
<b>60° internal lens</b> .....	CIT-LENS60-70

## ACCESSORIES *Specify as a separate line item.*

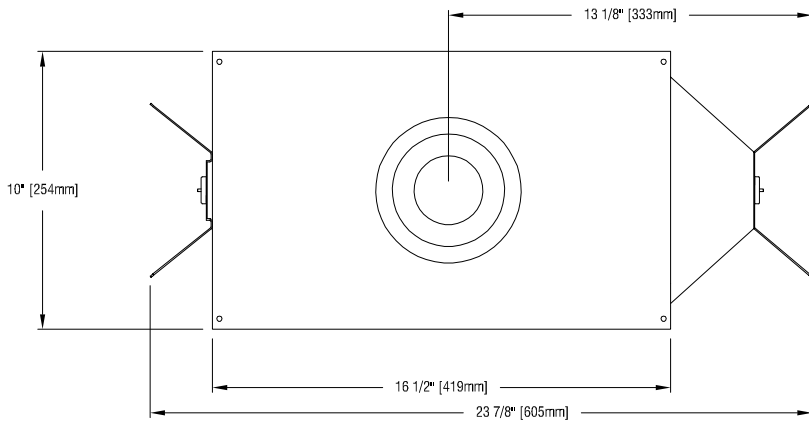
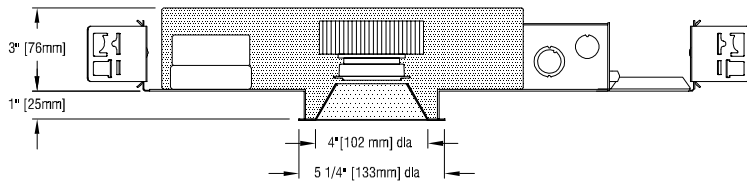
<b>Plaster ring</b> allows use of 4 7/8" OD Trim Flush (-TF) reflector in sheetrock ceiling; 5 3/16" dia hole required .....	TF RING/4
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## STANDARD INSTALLATION DESIGN

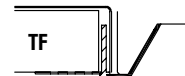
Requires ceiling opening of  $4 \frac{5}{16}$ " (125mm) for Overlap Detail.  
 Requires ceiling opening of  $5 \frac{3}{16}$ " (132mm) for Trim Flush Detail.  
 Requires minimum ceiling opening of  $5 \frac{1}{16}$ " (129mm) for Millwork Trim Detail.



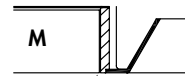
## RESIDENTIAL INSTALLATION DESIGN (-RI)



## EXTERNAL REFLECTOR TRIM DETAILS



TF RING/4



COLLAR

– see below for photometric reports –

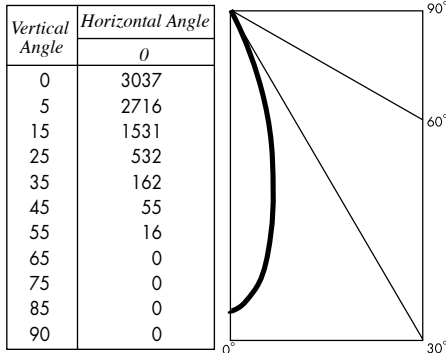


## PHOTOMETRIC REPORT with 32° lens (tested per IESNA LM-79-2008)

**UL** Verification Services Report No. 11827425.10. Original test report furnished upon request.

Luminaire ..... recessed LED round downlight with semi-specular clear aluminum external reflector (NO DIFFUSER)  
 Light Source ..... Cree CXB1310 LED with 32° beam spread integral lens, 2700K CCT, 90 CRI, 1200 lumens  
 Spacing Criteria ..... 0.5

### CANDLEPOWER DISTRIBUTION (Candela)



### LUMINANCE DATA

Vertical Angle	Candela/m <sup>2</sup>
45	9591
55	3427
65	32
75	0
85	0

### ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture
0 - 40°	1018	94.2
0 - 60°	1081	100.0
0 - 90°	1082	100.0
90 - 180°	0	0.0

### LUMINAIRE LIGHT OUTPUT AND EFFICACY

LED Light Engine	Luminaire Light Output	Luminaire Efficacy (lms/watt)	System Wattage	RX Light Output (90 min. run)
800 Lumens 90 CRI	703*	78*	9	454*
1000 Lumens 90 CRI	843*	84*	10	454*
1200 Lumens 90 CRI	1081	83	13	454*
1500 Lumens 90 CRI	1265*	74*	17	454*
1000 Lumens 80 CRI	876*	97*	9	551*
1200 Lumens 80 CRI	1038*	104*	10	551*
1500 Lumens 80 CRI	1297*	100*	13	551*
1800 Lumens 80 CRI	1557*	92*	17	551*

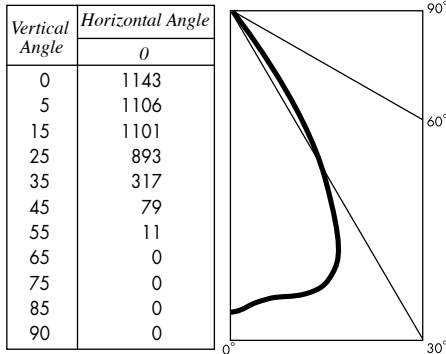
\*estimated values

## PHOTOMETRIC REPORT with 60° lens (tested per IESNA LM-79-2008)

**UL** Verification Services Report No. 11827425.09. Original test report furnished upon request.

Luminaire ..... recessed LED round downlight with semi-specular clear aluminum external reflector (NO DIFFUSER)  
 Light Source ..... Cree CXB1310 LED with 60° beam spread integral lens, 2700K CCT, 90 CRI, 1200 lumens  
 Spacing Criteria ..... 1.0

### CANDLEPOWER DISTRIBUTION (Candela)



### LUMINANCE DATA

Vertical Angle	Candela/m <sup>2</sup>
45	13830
55	2267
65	13
75	0
85	0

### ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture
0 - 40°	1017	93.0
0 - 60°	1093	100.0
0 - 90°	1093	100.0
90 - 180°	0	0.0

### LUMINAIRE LIGHT OUTPUT AND EFFICACY

LED Light Engine	Luminaire Light Output	Luminaire Efficacy (lms/watt)	System Wattage	RX Light Output (90 min. run)
800 Lumens 90 CRI	710*	79*	9	459*
1000 Lumens 90 CRI	853*	85*	10	459*
1200 Lumens 90 CRI	1093	84	13	459*
1500 Lumens 90 CRI	1279*	75*	17	459*
1000 Lumens 80 CRI	885*	98*	9	557*
1200 Lumens 80 CRI	1049*	105*	10	557*
1500 Lumens 80 CRI	1312*	101*	13	557*
1800 Lumens 80 CRI	1574*	93*	17	557*

\*estimated values

## STANDARD DMV DRIVER INFORMATION (UL Class 2, dry and damp location)

Voltage	120	277
Input Watts (I08H/L10H/L12H/L15H/L10S/L12S/L15S/L18S)	9/10/13/17/9/10/13/17	9/10/13/17/9/10/13/17
Input Current (A) (I08H/L10H/L12H/L15H/L10S/L12S/L15S/L18S)	08/08/11/14/08/08/11/14	03/04/05/06/03/04/05/06
Output Current (mA)	350-700	350-700
Min. Power Factor	.99	.99
Operating Temperature Range (F)	-13 to 122	-13 to 122

## LIGHT OUTPUT MULTIPLIER

LED Light Engine	Light Output Multiplier
800 Lumens 90 CRI	0.65*
1000 Lumens 90 CRI	0.78*
1200 Lumens 90 CRI	1
1500 Lumens 90 CRI	1.17*
1000 Lumens 80 CRI	0.81*
1200 Lumens 80 CRI	0.96*
1500 Lumens 80 CRI	1.20*
1800 Lumens 80 CRI	1.44*

\*estimated values

## REFLECTOR COLOR MULTIPLIERS

Slightly diffuse clear (V)	1
Fully diffuse clear (EC)	.90
Champagne gold clear (G)	1
Specular white (W)	.70
Black (B)	.40