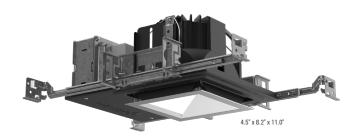
# IVO™ 4" Square Wall Wash **New Construction**

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New construction housing shown. Please see pages 5-6 for full set of dimensional drawings

## Flange Styles







Flangeless



Flangeless in Millwork

#### **Reflector Colors**











Anti-Microbial





**Feature Set** 

- Perfect Color™ consistency within ½-step MacAdam Ellipse
- · Exceptional color rendering with 80 CRI, 90 CRI, or 95 CRI minimum
- · Asymmetric Wall Wash distribution enables uniformity from floor to ceiling.
- Batwing shape left-to-right widens beam coverage on the wall and reduces scalloping.
- Up to 90% lumen maintenance at 55,000 hours
- Wet Location standard, covered ceiling
- Easy installation and servicing with snap-in Driver

#### **Distribution / Beam Angles**



## **Superior Perfomance\***

Nominal Lumens	05LM	07LM	10LM	15LM	20LM	25LM	30LM	35LM	40LM	45LM
Delivered Lumens	323	482	650	975	1291	1605	1793	2174	2491	2779
Wattage	5.1	7.3	9.8	15.0	20.5	26.8	29.7	34.4	41.8	45.3
Lumens per Watt	63	66	66	65	63	60	60	63	60	61
*Based on 3500K 80CRI LW AR LSS										

#### **IVO 4" Square Product Family**



Downlight

Lensed WW







Wall Cylinder













Luminaire Type:	
Catalog Number:	

#### EXAMPLE: IVO4SQ WW 10LM 35K 80CRI MVOLT MIN10 ZT NCH LW AR LSS F

Series		Function	Lumen	Packages	Kelvir	Temperature	Color Re	endering Index	Dimmin	g Level	Voltage	
IVO4SQ	4" Square Recessed	WW Wall Wash	05LM <sup>1</sup> 07LM 10LM 15LM 20LM 25LM 30LM 35LM 40LM <sup>16</sup> 45LM <sup>17</sup>	500 Lumens 750 Lumens 1000 Lumens 1500 Lumens 2000 Lumens 2500 Lumens 3000 Lumens 4000 Lumens 4500 Lumens	27K 30K 35K 40K 50K	2700K 3000K 3500K 4000K 5000K	80CRI 90CRI <sup>2</sup> 95CRI <sup>2</sup>	80+ CRI 90+ CRI 95+ CRI	MIN10 MIN1 DARK	Min 10% Dim Level Min 1% Dim Level Min 0.1% Dim Level, Dim-to-Dark	MVOLT 120 347 <sup>3</sup>	Multi-Volt input, 120V-277V 120V input 347V input

Control Input		Emergency Option		Housin	Housing Style	
DMX° DMX DALI° DALI-2 NLIGHT Wired con NLTAIR2 Wireless C NLIGHTER Wired con operation NLTAIREM2 Wireless C	0-10V mming (Forward/Reverse) (120V only)  ntrols by nLight controls by nLight Air ntrols by nLight with UL924 listed emergency	(Blank) E7Ws E7WR <sup>7,8</sup> E10Ws E10WRs GTD <sup>8,11</sup>	No Emergency Pack 10TA 7W Emergency battery pack, Constant Power, Title 20 compliant, integrated test switch. 10TA 7W Emergency battery pack, Constant Power, Title 20 compliant, remote test switch. 10TA 10W Emergency battery pack, Constant Power, Title 20 compliant, integrated test switch. 10TA 10W Emergency battery pack, Constant Power, Title 20 compliant, remote test switch. 10TA 10W Emergency battery pack, Constant Power, Title 20 compliant, remote test switch. 10TA 10W Emergency battery pack, Constant Power, Title 20 compliant, remote test switch. 10TA 10W Emergency battery pack, Constant Power, Title 20 compliant, remote test switch. 10TA 10W Emergency battery pack, Constant Power, Title 20 compliant, remote test switch. 10TA 10W Emergency battery pack, Constant Power, Title 20 compliant, remote test switch. 10TA 10W Emergency battery pack, Constant Power, Title 20 compliant, remote test switch. 10TA 10W Emergency battery pack, Constant Power, Title 20 compliant, remote test switch. 10TA 10W Emergency battery pack, Constant Power, Title 20 compliant, remote test switch. 10TA 10W Emergency battery pack, Constant Power, Title 20 compliant, remote test switch. 10TA 10W Emergency battery pack, Constant Power, Title 20 compliant, remote test switch. 10TA 10W Emergency battery pack, Constant Power, Title 20 compliant, remote test switch. 10TA 10W Emergency battery pack, Constant Power, Title 20 compliant, remote test switch.	NCH ICAT CP	Non-IC Housing (new construction only) IC/Airtight Housing (new construction only) 1500 lm max Chicago Plenum CCEA (new construction only)	

Options Trim Style		Trim Color		Trim Finish		Flange Style		
SF WL	Single Fuse, specify 120 or 277 Wet Location	LW Lensed Wall Wash	AR BR GR PR WTR BZR <sup>11,15</sup> WMR <sup>11</sup> WRAMF <sup>11</sup> TRALTBD <sup>12</sup> TCPC	Clear Metallized Black (painted) Gold Metallized Pewter Metallized Wheat Metallized Dark Bronze (painted) Soft White Matte (painted) White Gloss with Anti-Microbial (painted) Trim RAL # TBD (TBD for pricing only) Trim Custom Paint Color TBD (TBD for pricing only)	LD LSS	Matte Diffuse Semi Specular	F FL FLM <sup>18</sup> FBL <sup>13</sup> FWR <sup>14</sup> FRALTBD <sup>12</sup> FCPC	Self Flanged (color matches trim) Flangeless (Drywall) Flangeless Millwork Flange Only Black Flange Only White Flange Only RAL Flange Only Custom Paint Color

#### **ORDERING NOTES**

- 1. 05LM only available with ELV or ZT. Not available with 347V.
- 2. 90CRI not available with 50K, 95CRI not available with 35K, 40K or 50K.
- $3. \quad 347 \ only \ available \ with \ ZT \ and \ MIN1 \ or \ MIN10. \ 40LM \ max. \ Not \ available \ with \ nLight \ or \ Emergency \ options.$
- 4. ZT is not available with DARK.
- $5. \quad \hbox{ELV only available with MIN1 and 120V}.$
- ${\bf 6.}\quad {\bf DMX\ and\ DALI\ are\ only\ available\ with\ DARK.}$
- 7. E7WR is not available with CP housings.
- 8. E7W and E7WR and not available with ICAT.
- 9. E10W, E10WR and GTD not available with ICAT or CP.
- 10. GTD only available with NCH and ZT, ELV, or EZT.
- 11. Not available with Trim Finishes.

- Replace with applicable RAL number and finish when ready to order. See <u>RAL BROCHURE</u> for available color options.
- 13. For use with different reflector flange color only (i.e AR, BZR, GR, PR, WTR, WR, WMR, WRAMF). Not available with BR (black reflector) or FL or FLM (flangeless) options.
- For use with different reflector flange color only (i.e AR, BR, BZR, GR, PR, WTR). Not available with WR, WMR, WRAMF (white reflector) or FL or FLM (flangeless) options.
- 15. Corrosion Resistant Powder Coat.
- 16. 40LM and CP requires Marked Spacing.
- 17. 45LM and NCH requires Marked Spacing.
- FLM requires Millwork Ceiling Cutout Template accessory, IVO\*FLMKIT. Millwork Router Bit accessory, IVOFLMBIT, is optional or use similar. Millwork Adapter is included.

## ACCESSORIES — order as separate catalog numbers (shipped separately)

**GRASQ4-6IVO** Square goof ring adaptor, 4" ID, 6.5" OD

 CTAIVODL20
 Trim ceiling thickness adaptors for 1-1/4" to 2" thick ceilings and  $\le 30$ LM (includes set of two for one trim).

 CTAIVODL27
 Trim ceiling thickness adaptors for 2" to 2-3/4" thick ceilings and  $\le 30$ LM (includes set of two for one trim).

 CTAIVODL30
 Trim ceiling thickness adaptors for 2-3/4" to 3" thick ceilings and  $\le 30$ LM (includes set of two for one trim).

IVO4SQFLMKIT IVO 4" Square Flangeless in Millwork Ceiling Cutout Template (min. 1 required per install)

IVOFLMBIT IVO Flangeless in Millwork Straight Router Bit, ¼" Shank with Bearing (optional)

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#### **New Construction Dimensions**

- Dimensions in inches [millimeters] are overall width and height (including mounting hardware Butterfly Brackets / Hanger Bars), length excludes extendable Hanger Bars.
- ½" clearance on all sides from non-combustible materials for non-IC applications required, unless marked spacing is noted otherwise.
- nLight Air Antenna extends 1.5" off the end of the j-box (lengthwise).
- · Ceiling cutout for Flanged or Flangeless Trim is 5.0"
- · Fixture with Marked Spacing require the following clearances (min): 24" center-to-center, 12" center to side building member, 2" overhead to building member
- · Hanger Bars are extendable from 8.5" to 24".



**Non-IC Housing (NCH)** For 35LM to 40LM 6.9" [175mm] 8.1' 0.5" 11 0" [207mm] [12.7mm] [279mm] 2x1.5 7.3 [38.1mm] [184mm]

Chicago Plenum, New Construction Housing (CP)

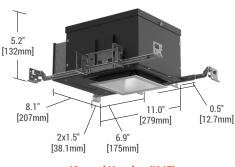
For 30LM to 35LM

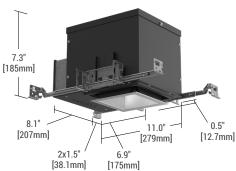


**Chicago Plenum Housing (CP)** For 05LM to 25LM

7.3" 8.1' 0.5" 11.0" [207mm] [279mm] 2x1.5"

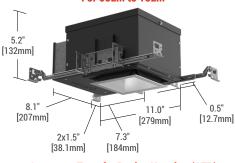
Chicago Plenum Housing (CP) For 40LM - MARKED SPACING 24" x 12" x 2"





7.3" [185mm] 0.5" 11.0" [207mm] [12.7mm] [279mm] 2x1.5" 6.9" [38.1mm] [175mm]

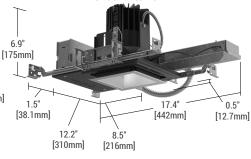
IC rated Housing (ICAT) For 05LM to 15LM



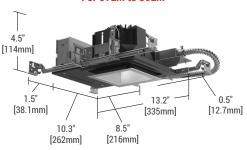
**Non-IC Housing (NCH)** with E7Wx, E10Wx Emergency Battery For 07LM to 30LM



**Non-IC Housing (NCH)** with E7Wx, E10Wx Emergency Battery For 35LM to 45LM



**Generator Transfer Device Housing (GTD)** For 07LM to 30LM





**Generator Transfer Device Housing (GTD)** 

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## **Trim Style and Flange Option**

- · Dimensions in inches [millimeters]
- · Orient Wall Wash Trim with lens facing the wall.









Wall Wash Flange Outer Dimension:	□ 5.5"	[140]
Wall Wash Flangeless/Millwork Outer Dimension:	□ 4.8"	[121]
Wall Wash Inner Dimension:	□ 4.3"	[109]

#### **Trim Color**



Clear Anodized



Wheat Anodized (WTR)



Soft White Matte Painted (WMR)



Dark Bronze Gloss Painted (BZR)



Black Anodized



White Anti-Microbial Gloss Painted (WRAMF)



Gold Anodized (GR)



Parabolic Flanged shown.

# **Optical Finish**







Clear Anodized shown.

Note: These colors were carefully reproduced to give as true a depiction as possible of the finished product color. Some colors, however, may vary slightly from actual appearance due to display/printing variations and limitations. Please contact a Gotham representative for an Architectural Color Chip Kit (GCOLORS KIT), consisting of Powder-Coated and Plated Finishes.

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#### Flangeless Installation

Gotham's flangeless option utilizes a micro-thin polymer mud ring that minimizes the amount of drywall compound required to finish the ceiling. The end result is a virtually undetectable flangeless downlight installation.

The polymer mud ring is installed independent of the of the recessed frame, therefore floating with the ceiling. This innovation minimizes any surface cracks during reflector installation, ceiling movement and any future service to the recessed frame, wiring, electronics, etc.



Partially finished mud ring, showing crosssection detail.



An IVO downlight requires only approximately 3" of plaster to finish.



IVO with flangeless trim

## Flangeless Millwork Installation

IVO's Flangeless in Millwork solution makes installation easy and precise. First, cut a hole in the Wood Ceiling using the Millwork Cutout Template (sold separately). Second, once Housing and ceiling are mounted in place, insert sheet metal Millwork Adapter (provided) lining up edge of tab with bottom of ceiling. Third, secure in place using finishing nails (provided) then remove tabs from Millwork Adapter. Last, install Trim!



Insert Millwork Adapter into precision-cut hole.



Secure with finishing nails.



Insert Trim and Module.

	Dimming Level		Control Input	Dimming Level	Driver Dim Curve	Recommended Control Dim Curve
SI	MIN10	+	ZT	100% to 10%	Linear	Linear/Logarithmic
ation	MINTU		EZT	100% to 10%	Linear	Linear/Logarithmic
ıfiguı		+	ZT	100% to 1%	Linear	Linear/Logarithmic
Dimming Configurations	MIN1	+	EZT	100% to 1%	Linear	Linear/Logarithmic
ming		+	ELV	100% to 1%*	n/a	n/a
Dim		+	EZT	100% to 0.1%	Logarithmic	Linear
	DARK	+	DMX	100% to 0.1%	Square	Linear
		+	DALI	100% to 0.1%	Logarithmic	Linear
ELV/ NA::-	Dii II d		1 11 1	P. 1 1		

\* ELV Minimum Dimming level depends on dimmer and dimmer load

	Dimming Level		Control Input	Dimming Level	Control Provided	Driver Provided
		+	NLIGHT	100% to 10%	NIO EZDXA	eldoLED ECOdrive
	MIN10	+	NLIGHTER	100% to 10%	NIO EZDCL ER	eldoLED ECOdrive
tions	IVIINTO	+	NLTAIR2	100% to 10%	RIO EZDL G2	eldoLED ECOdrive
gural		+	NLTAIREM2	100% to 10%	RIO EZDL EM G2	eldoLED ECOdrive
Niight Configurations		+	NLIGHT	100% to 1%	NIO EZDXA	eldoLED ECOdrive
ght 0	MIN1	+	NLIGHTER	100% to 1%	NIO EZDCL ER	eldoLED ECOdrive
			+	NLTAIR2	100% to 1%	RIO EZDL G2
Embedded		+	NLTAIREM2	100% to 1%	RIO EZDL EM G2	eldoLED ECOdrive
Embe		+	NLIGHT	100% to 0.1%	NIO EZDXA	eldoLED SOLOdrive
	DARK	+	NLIGHTER	100% to 0.1%	NIO EZDCL ER	eldoLED SOLOdrive
	DAKK	+	NLTAIR2	100% to 0.1%	RIO EZDL G2	eldoLED SOLOdrive
		+	NLTAIREM2	100% to 0.1%	RIO EZDL EM G2	eldoLED SOLOdrive

How to Estimate Delivered Lumens in Emergency Mode

Delivered Lumens = 1.25 x P x LPW

P = Output Power/Wattage of Emergency Battery Driver (E7WR\* = 7W, E10WR\* = 10W, E15WR\* = 15W)

LPW = Lumen per Watt rating of luminaire based on Ordering Code selections



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#### **Optical System**

- · Asymmetric Wall Wash distribution enables uniformity from floor to ceiling.
- Batwing distribution left-to-right widens beam coverage on the wall and reduces scalloping.
- · Recommended for 1-to-1 wall to on-center spacing.

#### **LED Light Engine**

- Perfect Color™ consistency within ½-step MacAdam Ellipse using proprietary pick and place algorithm
- 90% lumen maintenance at 55,000 hours.
- Available in 80, 90, or 95 CRI. 90CRI has R9 greater than 50, 95 CRI has R9 greater than 80.

#### Trims

- Trims are field changeable via twist-lock (tool-free).
- Trims are available in 9 colors and 3 surface finishes (standard)
- · Custom RAL and Paint colors available upon request.
- · Wall Wash and Downlight Trims are designed to be interchangeable.

#### **Electrical**

- 120, 347, or Multi-Volt (MVOLT) 120-277 VAC input at 50/60 Hz
- Power Factor > 85%
- · Input wires 18 AWG, 600V minimum, copper
- · Fixtures are ROHS compliant

#### EMI/RFI

• EMI/RFI per FCC Title 47 CFR, Part 15, Class A rated standard.

#### Controls (Optional)

- Luminaire can be equipped with interface for nLight wired, allowing it to communicate over an nLight network. Couple with nLight-enabled sensors, power packs, or WallPods using CAT-5 cabling to create an nLight Control Zone. Link Control Zone to a Gateway directly or via a Bridge for remote status monitoring and control using SensorView software.
- Luminaire can be equipped with interface for nLight Air, allowing it to communicate over the wireless nLight control platform. Can be paired to other luminaires and wall switches through CLAIRITY+, a mobile app, which allows individual fixture control.

#### **Dimming**

- Luminaire Is capable of continuous dimming without perceivable flicker (stroboscopic) as measured by flicker index (ASNI/IES RP-16-10).
- Available dimming ranges include: 100%-10% (MIN10), 100%-1% (MIN1), and 100%-0.1% (DARK) of rated lumen output.
- Available with smooth shut off function from minimum dimming level to 0%.
- EldoLED drivers (EZT, DALI) conform to IEEE P1789 standards.
- Drivers are inaudible in 24dB environment and stable even when input voltage conditions experience typical commercial environment fluctuations.

#### **Emergency Battery (Optional)**

- Luminaires equipped with battery pack (E7W, E10W, E15W) comply with NFPA 101 (Life Safety Code) and deliver constant light output for a duration of 90 minutes minimum with AC power loss.
- · Emergency battery is CEC T20 compliant.

#### Installation

- Patent-pending Wire-Form Mounting Springs with custom profile facilitates effortless installation, maintains tension across various ceiling thicknesses, and ensures a snug-fit of the trim to the ceiling with no sag.
- Plug-in Driver design allows for quick and easy installation and servicing.
- Light Engine, Driver, Housing, and Trim can be installed tool-free.
- Ceiling Thickness Adapters available for 1.25" to 3" thick ceilings.

#### Construction

- Access to Light Engine, Driver, and branch circuit conductors is available from below the ceiling without the use of tools.
- Universal Mounting Butterfly Brackets can adjust vertically 2.5" and accept various mounting bars including ¾" and 1-1/2" C Channel, ½" or ¾" Flat Strap, ½" Conduit, and ½" Angle Bars, as well as standard Hanger Bars (included).
- · Hanger Bars are extendable from 8.5" to 24".
- Luminaire is constructed with 20 gauge min cold-rolled steel, galvanized steel, and aluminum.

#### Listings

- · Fixtures are CSA certified to meet US and Canadian standards.
- Fixtures are NOM certified to meet Mexican standards
- All fixtures are manufactured in strict accordance with the appropriate and current requirements of the "Standards for Safety" per UL.
- · Wet Location standard, covered ceiling

#### **Photometrics**

- All photometry is conducted by IESNA standard LM-79-08 in an accredited lab.
- LEDs are tested to LM-80 standards. Lumen maintenance is calculated via TM-21.

## Warranty

 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: <a href="www.acuitybrands.com/support/warranty/terms-and-conditions">www.acuitybrands.com/support/warranty/terms-and-conditions</a>

#### Note:

- Actual performance may differ as a result of end-user environment and application.
- All values are design or typical values, measured under laboratory conditions at 25 °C.
- The product images shown are for illustration purposes only and may not be an exact representation of the product.

# 4 Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provided consistent color appearance and out-of-the-box control capability with simple commissioning when used with Acuity Brands controls products.

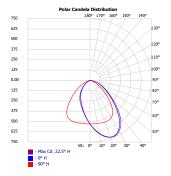
All configurations of this luminaire are calibrated and tested meet the Acuity Brands' specification for chromatic consistency - including color rendering, color fidelity and color temperature tolerance around standard CIE chromaticity coordinates.

To learn more about A+, visit www.acuitybrands.com/aplus.



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# LW Lensed Wall Wash IVO4SQ WW 20LM 35K 80CRI LW AR LSS



Wattage: 20.5, Lumens: 1291.5, LPW: 63, S/MH: 1.62, Test No: 24-833-1P151

Candela Summary					
0°	528				
10°	658				
20°	736				
30°	699				
40°	540				
50°	345				
60°	210				
70°	119				
80°	48				
90°	0				

Zonal Lumen Summary							
Zone	Lumens	%					
0-30	441.8	34.2%					
0-40	730.3	56.5%					
0-60	1157.5	89.6%					
0-90	1281.5	100.0%					

Cone of Light							
Mounting Height	Initial FC	Beam Diameter (ft)					
Height	Center Beam	Horizontal	Vertical				
8'	8.25	17.1	9.6				
10'	5.28	21.3	12				
12'	3.67	25.6	14.4				
14'	2.69	29.9	16.8				
16'	2.06	34.1	19.2				

CRI/CCT Multiplier Table								
CRI	CCT	Multiplier						
	2700K	0.92						
	3000K	0.96						
80	3500K	1.00						
	4000K	1.01						
	5000K	1.04						
	2700K	0.80						
90	3000K	0.85						
90	3500K	0.85						
	4000K	0.89						
95	2700K	0.68						
95	3000K	0.75						

Reflector Finish Multiplier		
Trim Color	Optical Finish	Multiplier
AR	LSS	1.00
AR	LS	1.06
AR	LD	0.97
GR	LSS	0.97
GR	LS	0.98
GR	LD	0.92
PR	LSS	0.97
PR	LS	0.97
PR	LD	0.90
BR	LSS	0.68
BR	LS	0.68
BR	LD	0.68
WTR	LSS	0.87
WTR	LS	0.89
WTR	LD	0.87
WR		1.03
WMR		1.03
WRAMF		1.04
BZR		0.68

see xxx@acuitybrands.com for more IES files





# Single Lighting Controls Platform for Indoor & Outdoor Spaces

nLight° is your networked lighting controls platform, for indoor and outdoor applications, providing wired or wireless options. Scaling from room to campus-wide applications, it is the one platform that grows with your business today and tomorrow; to seamlessly address energy cost optimization, building code compliance, improved occupant comfort, and much more. nLight also interfaces with DALI°, BACnet°, DMX and additional third-party devices.

# nLightcontrols.com

# Wired Embedded Controls

# IVO Series 1. Install the luminaires with embedded controls 2. Install the nLight Wired wall switch 3. Connect the luminaires using standard CAT-5e cables and

# **Wireless Embedded Controls**







- IVO Series
- 1. Install the luminaires with embedded controls
- 2. Install the nLight AIR battery-powered wall switch
- Use CLAIRITY+ mobile app to pair the fixtures with the wall switch and if desired, customize the sensor settings





nLight rPODBA 2P DX

Mobile Device

## **UL924 Sequence of Operation**

the controls devices will

automatically discover each

other and work (plug and play)

The below information applies to all nLight AIR devices with an EM option.

- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds
- Using the CLAIRITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.