

# NANOSquare Surface

## 0.95" Compact Linear LED Surface Mount



### Features & Benefits

#### Exceptional Performance

Up to 1,000 lm/ft, 135 lm/W efficacy

#### Wide Range of LED Selections

Static, Tunable White, and Dim-to-Warm

#### Designed with Options

Wide choice of SmartOptic® lenses, beam distributions, 80/90/95+ CRI, 2200K to 5000K CCT, and 0-10V, DALI, DMX, and TRIAC dimming

#### Patented Innovations

Fusion® Optix Inside with unique SmartBeam® capabilities

#### Proprietary Optical Components

Provides excellent light distribution and high-transmission

#### Committed to Sustainability

Declare Listed and Red Free List materials

#### Compliance

UL Listed, Dry and Damp Locations

#### 5-Year Warranty

Standard 5-year warranty, 50,000 hours

Designed & Built in  
**BOSTON**

**Declare**



### FIXTURE ORDERING

Project Name

#### 1) FIXTURE DESIGN

Fixture Type

PRODUCT	LENGTH	FINISH	END CAP	OPTIC (DIRECT ONLY)
<b>NSQ95-S</b>				
0.95" Compact	12 12"	<b>MWH</b> Matte White (RAL9003)	<b>E1</b> Flat End Cap	<b>OFL</b> Flush Lens
Linear LED	24 24"	<b>MBK</b> Matte Black (RAL9005)		<b>ONC</b> Nano Cavity Optics
Surface Mount	48 48"	<b>MGR</b> Matte Gray (RAL7001)		<b>ONBWH</b> Nano Baffle, White
	72 72"	<b>CAE</b> Clear Anodized Effect		<b>ONBBK</b> Nano Baffle, Black
	96 96"	<b>RAL_</b> Specify RAL#		
	120 120"			
	<b>X_</b> Specify X', Y''			

#### 2) LED LIGHT ENGINE

CRI	CCT	DIRECT BEAM PATTERN	DIRECT OUTPUT
<b>S80</b> Std. 80 CRI	<b>22</b> 2200K	<b>DLAM</b> Lambertian	<b>35</b> 350 lm/ft
<b>S90</b> Std. 90 CRI	<b>27</b> 2700K	<b>DBW90</b> Batwing 90°	<b>50</b> 500 lm/ft
<b>HE80</b> High-Eff. 80 CRI	<b>30</b> 3000K	<b>DBW60</b> Batwing 60°	<b>75</b> 750 lm/ft
<b>HE90</b> High-Eff. 90 CRI	<b>35</b> 3500K	<b>DDA70</b> Double Asymmetric 70°	<b>100</b> 1,000 lm/ft
<b>HD95</b> High-Def. 95 CRI	<b>40</b> 4000K	<b>DA5025</b> Asymmetric 50° at 25° Tilt	<b>X_</b> Specify lm/ft
<b>SUN</b> Full SunLike	<b>50</b> 5000K	<b>DA4005</b> Asymmetric 40° at 5° Tilt	
<b>SBIOS</b> Static BIOS	<b>3022D</b> 3000K to 2200K Dim-to-Warm	<b>DM55</b> Medium 55°	
<b>DBIOS</b> Dynamic BIOS	<b>3527D</b> 3500K to 2700K Dim-to-Warm	<b>DN40</b> Narrow 40°	
<b>TBIOS</b> Tunable White BIOS	<b>X_</b> Specify CCT	<b>DNCO45</b> Nano Cavity Optics 45°	
		<b>DNCO35</b> Nano Cavity Optics 35°	
		<b>DNCO25</b> Nano Cavity Optics 25°	
		<b>X_</b> Specify Beam	

#### 3) FIXTURE POWER & CONTROLS

LINE VOLTAGE (DC)	REMOTE DRIVER (POWER)	EMERGENCY BACKUP	REMOTE DRIVER BOX <sup>1</sup>	CONTROL SYSTEM <sup>3</sup>
<b>UNV</b> 120/277V	<b>FDND</b> Factory Non-Dimming	<b>NN</b> Not Needed	<b>RLDB<sup>2</sup></b> Remote Linear Driver Box (driver included by default)	<b>NN</b> Not Needed
<b>347</b> 347V	<b>FD01</b> Factory 0-10V 1% Dim	<b>EMC</b> Emergency Circuit	<b>RX2D<sup>2</sup></b> Optional Remote XBox2 Driver, Up to 2 Drivers	<b>LUT</b> Lutron
	<b>FD10</b> Factory 0-10V 10% Dim	<b>EMB</b> Emergency Battery (Remote)	<b>RX3D<sup>2</sup></b> Optional Remote XBox3 Driver, Up to 3 Drivers	<b>COO</b> Cooper
	<b>FDDA</b> Factory DALI 0.1% Dim	<b>X_</b> Specify Backup	<b>RX5D<sup>2</sup></b> Optional Remote XBox5 Driver, Up to 5 Drivers	<b>CAS</b> Casambi
	<b>FDDX</b> Factory DMX Dim			<b>X_</b> Specify Control System
	<b>FDTR</b> Factory TRIAC Dim			
	<b>LD01</b> Lutron Hi-Lume 1% Dim			
	<b>LD05</b> Lutron 5-Series 5% Dim			
	<b>ED00</b> eldoLED 0-10V 0.1% Dim			
	<b>ED01</b> eldoLED 0-10V 1% Dim			
	<b>EDDA</b> eldoLED DALI 0.1% Dim			
	<b>X_</b> Specify Driver			

#### 4) FIXTURE MOUNTING & CONNECTIONS

MOUNTING TYPE	POWER CORD	MOUNTING KIT
<b>DJ</b> Drywall/J-Box Mount	<b>P48WH</b> 48" White Cord (Ø 1/8")	<b>SSMB</b> Stainless Steel Surface Mounting Bracket
<b>T1</b> 9/16" Flat T-Bar Mount	<b>P48BK</b> 48" Black Cord (Ø 1/8")	
<b>T2</b> 9/16" Bolt Slot T-Bar Mount	<b>P96WH</b> 96" White Cord (Ø 1/8")	
<b>T3</b> 15/16" Flat T-Bar Mount	<b>P96BK</b> 96" Black Cord (Ø 1/8")	

Footnotes: <sup>1</sup> Remote distance is dependent on driver type, up to 100' (30.5 m). <sup>2</sup> Creates a clean and organized power solution for multiple fixture installations.

<sup>3</sup> The control system and driver must be compatible.

Project Name

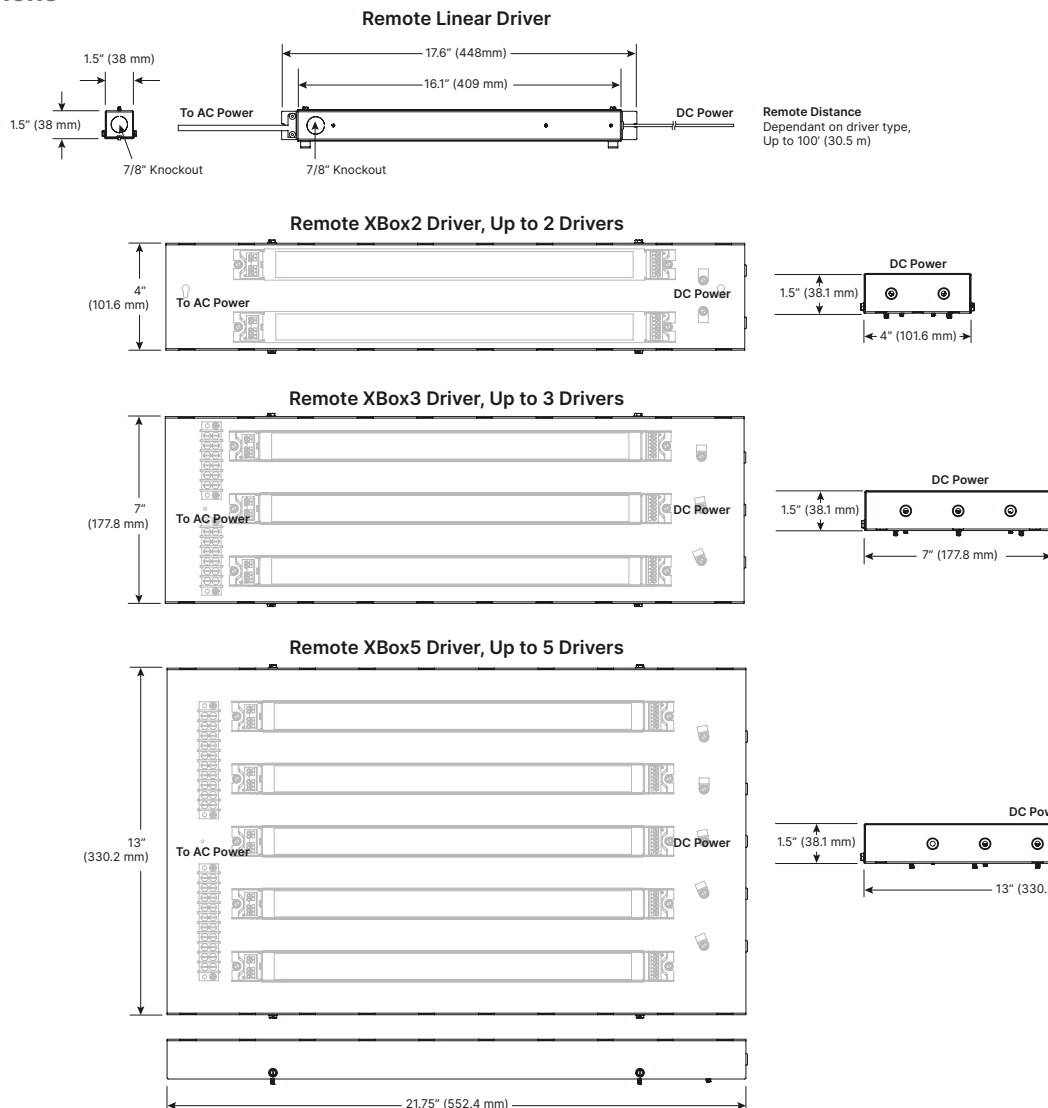
Fixture Type

Project Name
Fixture Type

NOTES

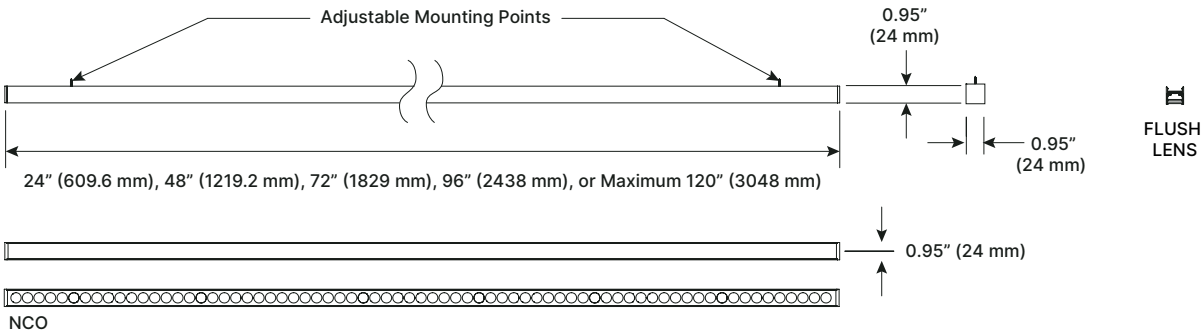
## REMOTE DRIVER BOX

### Dimensions



FIXTURE DESIGN

Dimensions




To download BIM (Revit) Files, please click or scan the QR Code.

Length


Length Options 12", 24", 48", 72", 96", 120" nominal, or custom within 3"

Finish


Housing Colors (Matte Finish)




White (RAL9003)




Black (RAL9005)



Gray (RAL7001)



Clear Anodized Effect



Custom RAL

Housing Material 6063-T5 extruded, recycled aluminum

Mounting Brackets Sheet metal

End Cap

End Cap Options Flat

End Cap Material Machined or cast aluminum

Optic

Lens Options Flush, Nano Cavity Optics, and Nano Baffle

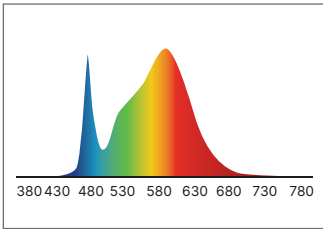
Lens Material Patented SmartOptics® made from Acrylic (PMMA)

Voltage

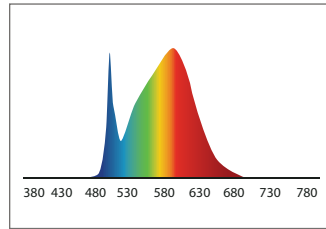
Fixture Voltage (AC) Factory Selected, 33V Constant Current, 24V Constant Voltage, and 48V Constant Voltage

## LED SELECTION GUIDE

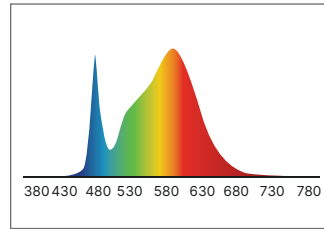
**S80: Standard 80+ CRI**



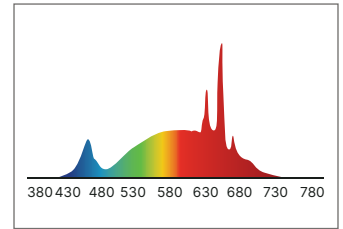
**S90: Standard 90+ CRI**



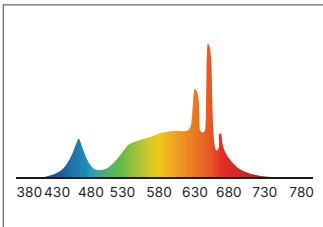
**HE80: High-Efficiency 80+ CRI**



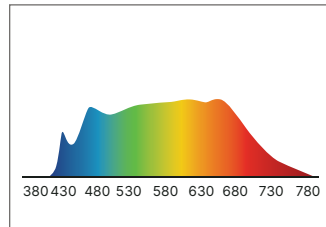
**HE90: High-Efficiency 90+ CRI**



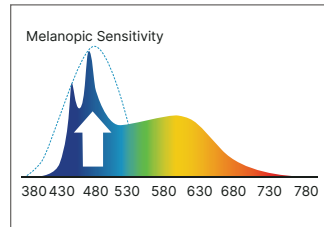
**HD95: High-Definition 95+ CRI**



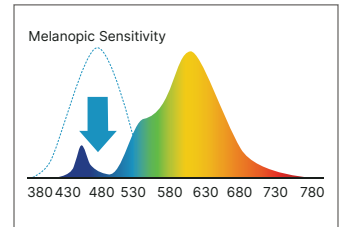
**SUN: Full Spectrum "SunLike"**



**HCD: Human Centric Day**



**HCN: Human Centric Night**



### Static White Light (LED Light Engine Only)

CODE	DESCRIPTION	TYPICAL LED DATA							
		CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	M/P Ratio	LPW
S80	Standard 80 CRI	3500K	82.5	7.8	84	96.7	82.5	0.51	190
S90	Standard 90 CRI	3500K	91	54.3	89.3	98.9	89.2	0.55	175
HE80	High Efficiency 80 CRI	3500K	82.1	5.9	83	94.2	81.2	0.52	210
HE90	High Efficiency 90 CRI	3500K	92.2	90	90.7	103.8	92.1	0.56	190
HD95	High Definition 95 CRI	3500K	97.1	95	–	–	–	0.70	163
SUN	Full Spectrum SunLike®	3500K	95	85	–	–	–	–	130
HCD	Human Centric Day	4000K	83	95	–	–	–	0.92	155
HCN	Human Centric Night	2700K	80	–	–	–	–	0.44	134

### LPW Efficacy Conversion Chart

CODE	CCT SELECTED							
	2200K	2700K	3000K	3500K	4000K	5000K	5700K	6500K
S80	–	0.91	0.96	1.00	1.04	1.11	1.11	1.11
S90	–	0.91	0.96	1.00	1.04	1.11	1.11	1.11
HE80	–	0.96	0.99	1.00	1.03	1.04	1.03	1.03
HE90	–	0.91	0.96	1.00	1.04	1.11	N/A	N/A
HD95	–	0.91	0.96	1.00	1.04	1.11	1.03	1.04
SUN95	–	0.90	0.92	1.00	1.01	1.07	1.04	1.05
HCD	–	N/A	0.96	1.00	1.04	1.04	1.04	1.04
HCN	–	0.87	0.96	1.00	1.04	N/A	N/A	N/A

## BIOS TECHNOLOGY

### Choosing Your BIOS Solution

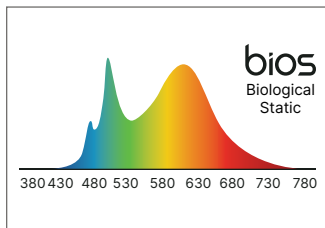
BIOS is offered in four Circadian LED Solutions with BIOS SkyBlue Technology — Biological Static, Biological Dynamic, Biological Tunable, and Biological Dim-to-Warm. BIOS SkyBlue™ Technology includes a blue peak at 490nm that provides an effective daytime circadian signal using standard architectural color temperatures.

**bios**

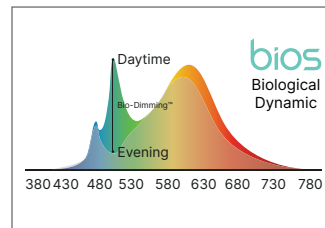
To learn more about BIOS Technology, please click or scan the QR Code.



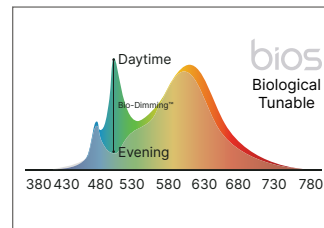
**BIOS Static**



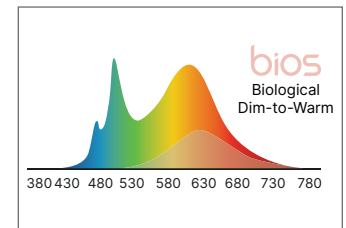
**BIOS Dynamic**



**BIOS Tunable**



**BIOS Dim-to-Warm**



#### Daytime

No color change when dimmed

Spaces that operate during daytime hours — 7am and 7pm

#### Daytime & Evening

500K shift when dimmed

Spaces that operate overnight — after 7pm and before 7am

#### Daytime & Evening

Dims to 2700K

Spaces that operate with overnight shifts — after 7pm and before 7am

#### Daytime & Evening

Dims from cool to warm

Spaces where people sleep — after 7pm and before 7am

### Circadian and Human Centric Light

CODE	DESCRIPTION	BIO-DIMMING MODULE TECHNOLOGY GUIDE					
		Driver	Driver Voltage	CCT	Requires BIO-Dimming Module	Lighting Control	BIOS SkyBlue (490nm)
SBIOS	BIOS Static	DIM1	0-10V Dimming to 1% Dim-to-Dark	No CCT Change	No	Intensity Dimming Control Only	Always Present
DBIOS	BIOS Dynamic	BIODIM1	0-10V Intensity Dimming to 1% Dim-to-Dark	500K Shift	Yes	Intensity Dimming & Spectrum Change Controlled Together	Removed with BIO-Dimming
DBIOS-2	BIOS Dynamic (Two Channel)				No	Intensity Dimming & Spectrum Change Controlled Separately	Removed by Adjusting "Spectrum Channel"
TBIOS	BIOS Tunable	ATW / DTW	0-10V Control of Intensity & CCT on Separate 2 Channels / DALI Control of Intensity & CCT on Separate 2 Channels	Dims to 2700K	Yes	Intensity Dimming & Spectrum Change Controlled Together	Removed with BIO-Dimming
TBIOS-2	BIOS Tunable (Two Channel)				No	Intensity Dimming & Spectrum Change Controlled Separately	Removed by Adjusting "Spectrum Channel"
DWBIOS	BIOS Dim-to-Warm	-	-	Dims to 2200K	Yes	Intensity Dimming & Spectrum Change Controlled Together	Removed with BIO-Dimming
DWBIOS-2	BIOS Dim-to-Warm (Two Channel)				No	Intensity Dimming & Spectrum Change Controlled Separately	Removed by Adjusting "Spectrum Channel"

SMARTBEAM® TECHNOLOGY

The Ultimate Control of Lighting Distributions

SmartBeam makes it easy to specify the exact light required for any architectural space. Available in every XICO product; it is now possible to create truly tailored and engaging lighting that transform spaces, improves visual comfort, and saves energy.

To learn more about our SmartBeam Technology, please click or scan the QR Code.



FIXTURE POWER & CONTROLS

Input Voltage

Voltages120/277V and 347V

Emergency Backup

Backup TypesEmergency Circuit, Emergency Battery (Remote), and other emergency backups are available

WiringTypically the Emergency Backup is wired to 48” sections

Partners

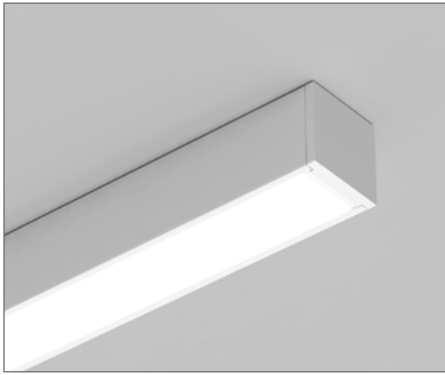


Control Systems

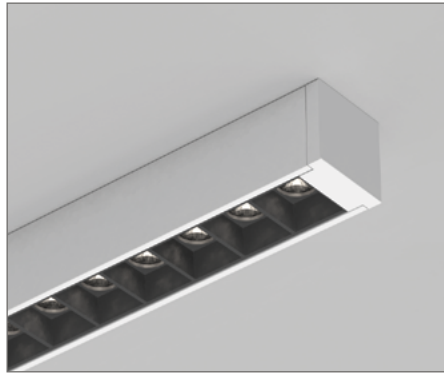
Other	Factory Non-Dimming, Factory 0-10V 1% Dim, Factory 0-10V 10% Dim, Factory DALI 0.1% Dim, Factory DMX Dim, Factory TRIAC Dim, eldoLED 0-10V 0.1% Dim, eldoLED 0-10V 1% Dim, eldoLED DALI 0.1% Dim, and other drivers are available, consult factory (not all integral)
Lutron	Hi-Lume 1% Dimming and 5-Series 5% Dimming
Cooper	Compatible driver
Casambi (wireless)	Compatible driver

XBox

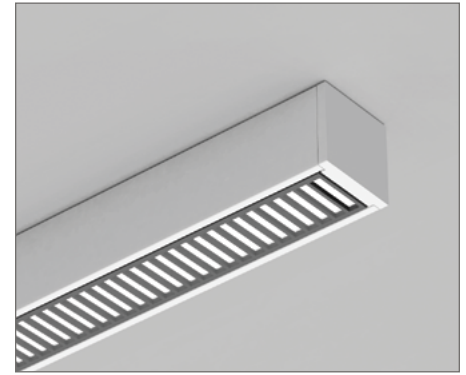
Remote Driver Boxes (Optional)	To create a clean and organized power solution for multiple fixture installations see our Xbox Specification Guide. Reach out to a XICO Sales Representative to discuss you projects needs.
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Flush Lens



Nano Cavity Optics



Nano Baffle

## FIXTURE MOUNTING & CONNECTIONS

### Mounting Type

#### T-Bar Mount

Installs into a ceiling grid system and mount on to, or replace, typical T-Bar elements. Available with a range of accessories, mounts and inserts that provide easy customization of visual appearance and performance enhancements.

#### Surface Mount

Installs onto a surface. Available with a range of accessories, mounts and inserts that provide easy customization of visual appearance and performance enhancements.

### Power Cord

#### 24" Cable Kit

White and Black

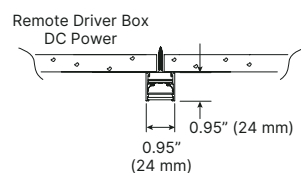
### Mounting Kit

#### Surface Mounting Bracket

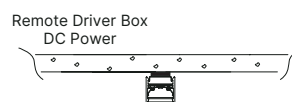
Stainless Steel

### Mounting Options

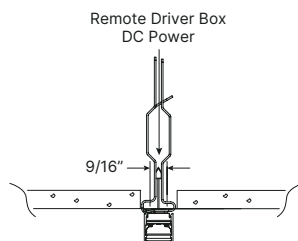
#### SMC - Surface Mount Clip



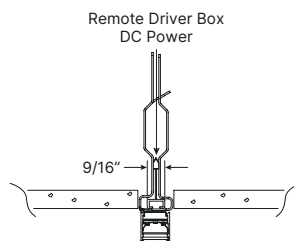
#### SMM - Surface Mount Magnet



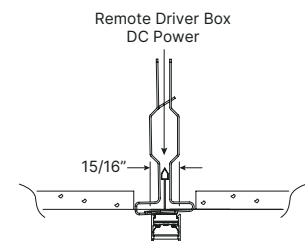
#### TC1 - 9/16" Flat T-Bar Mount Clip



#### TC2 - 9/16" Bolt Slot T-Bar Mount Clip



#### TC3 - 15/16" Flat T-Bar Mount Clip

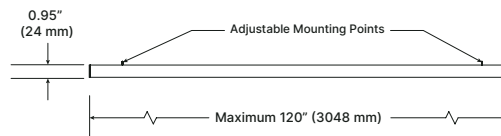




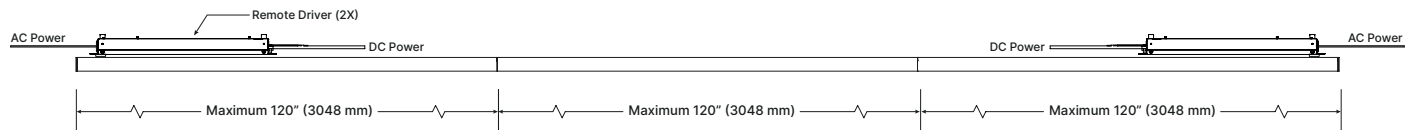
## Standard Lengths & Continuous Runs

Maximum length of one fixture is 120". Longer runs can be produced by joining sections. Customer approval of shop drawings is required prior to build of any non-standard length order.

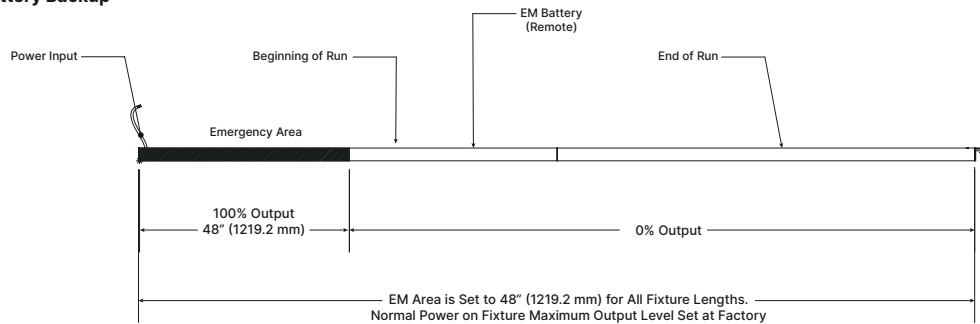
**Single Fixture**



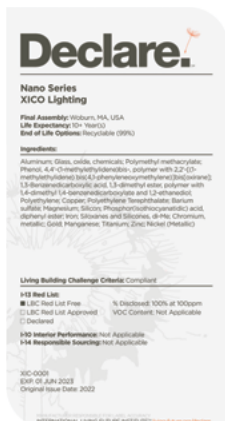
**Standard Continuous Run**



**Emergency Battery Backup**



## STANDARDS & CERTIFICATIONS



### Declare Listed

Declare labels provide a quick and reliable way to make choices about the environmental footprint and safety of the product. Declare is internationally recognized and the labels can be found on the product, product packaging, or company website. Visit [xicoled.com](http://xicoled.com) for Declare Listed details.



### Red List Free

An industry standard certification for LED lighting products based on the International Living Future Institute (ILFI). These products only use materials based on the “Red List of Toxic Chemicals” (a list of chemicals and materials known to be hazardous to people and/or the Earth) that are safe, healthy, and environmentally sustainable.

## Certifications

### Compliance

BAA & TAA compliant in-house manufacturing in Boston, MA with North American supply chain

### Certifications



### Sustainability

Declare Listed and Red List Free

### Packaging

Low carbon, environmentally conscious packaging and shipping methods

## Environmental Suitability

### IP Rating

Suitable for Dry and Damp Locations, indoor use only

### Recyclable

SmartOptics and all powder coated and anodized parts are fully recyclable at end of life

## Reliability

### Manufacturing

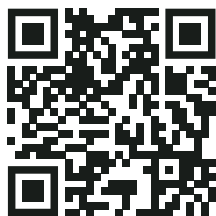
All XICO products and associated optics and LED engines are assembled at our factory in Woburn, MA

### Quality Assurance

Each product is engineered reliability and quality assurance tested

## Warranty & Terms

### 5-YR Warranty



### Business Terms



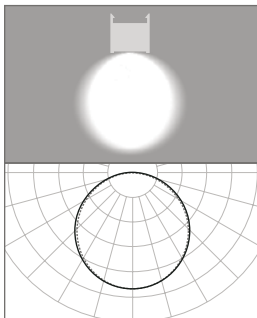
For details on our warranty and business terms, please click or scan the QR Code.

OPTIC	BEAM PATTERN										
	DLAM	DBW90	DBW60	DDA70	DA5025	DA4005	DM55	DN40	DNCO45	DNCO35	DNCO25
Flush Lens	●	●	●	●	●	●	●	●			
Nano Baffle	●	●	●	●	●	●	●	●			
Nano Cavity Optics (NCO)									●	●	●

## DIRECT PHOTOMETRICS

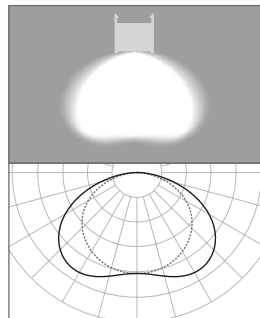
### Static White Light

**DLAM:** Lambertian



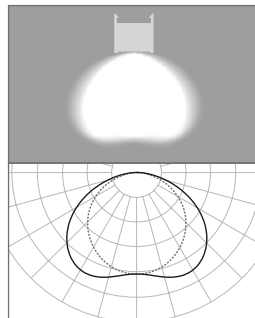
**Length** 48"  
**LED** HE80  
**CRI/CCT** 80+/3500K  
**Lumens** 3,000  
**lm/ft** 765  
**Watts** 27  
**W/ft** 7  
**LPW** 111

**DBW90:** Batwing 90°



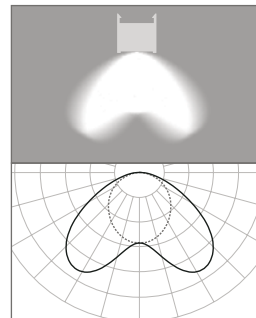
**Length** 48"  
**LED** HE80  
**CRI/CCT** 80+/3500K  
**Lumens** 3,000  
**lm/ft** 750  
**Watts** 24  
**W/ft** 6  
**LPW** 123

**DBW60:** Batwing 60°



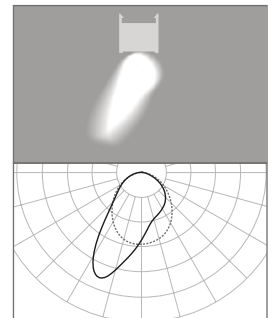
**Length** 48"  
**LED** HE80  
**CRI/CCT** 80+/3500K  
**Lumens** 3,000  
**lm/ft** 744  
**Watts** 24  
**W/ft** 6  
**LPW** 123

**DDA70:** Double Asymmetric 70°



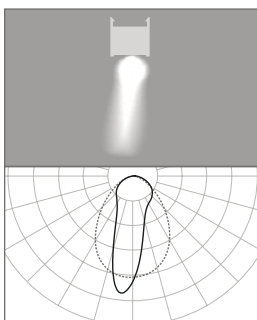
**Length** 48"  
**LED** HE80  
**CRI/CCT** 80+/3500K  
**Lumens** 3,000  
**lm/ft** 760  
**Watts** 25  
**W/ft** 6  
**LPW** 123

**DA5025:** Asymmetric 50° at 25° Tilt



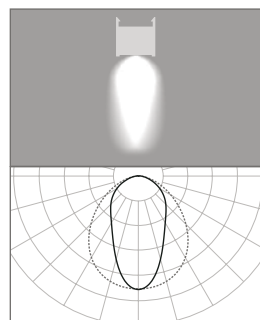
**Length** 48"  
**LED** HE80  
**CRI/CCT** 80+/3500K  
**Lumens** 3,000  
**lm/ft** 749  
**Watts** 23  
**W/ft** 6  
**LPW** 130

**DA4005:** Asymmetric 40° at 5° Tilt



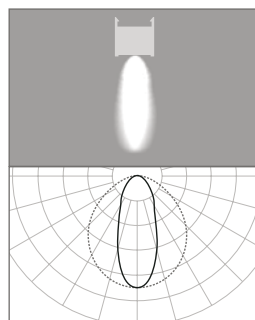
**Length** 48"  
**LED** HE80  
**CRI/CCT** 80+/3500K  
**Lumens** 3,000  
**lm/ft** 738  
**Watts** 23  
**W/ft** 6  
**LPW** 128

**DM55:** Medium 55°



**Length** 48"  
**LED** HE80  
**CRI/CCT** 80+/3500K  
**Lumens** 3,000  
**lm/ft** 742  
**Watts** 23  
**W/ft** 6  
**LPW** 129

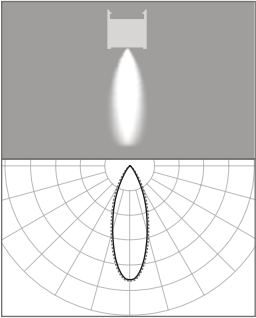
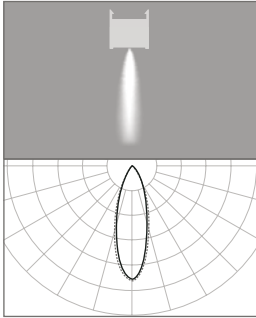
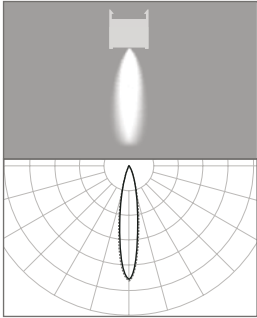
**DN40:** Narrow 40°



**Length** 48"  
**LED** HE80  
**CRI/CCT** 80+/3500K  
**Lumens** 3,000  
**lm/ft** 746  
**Watts** 26  
**W/ft** 6  
**LPW** 116

DIRECT PHOTOMETRICS (cont.)

Static White Light

<b>DNCO45:</b> Nano Cavity Optic 45°	<b>DNCO35:</b> Nano Cavity Optic 35°	<b>DNCO25:</b> Nano Cavity Optic 25°
		
<b>Length</b> 48"	<b>Length</b> 48"	<b>Length</b> 48"
<b>LED</b> HE80	<b>LED</b> HE80	<b>LED</b> HE80
<b>CRI/CCT</b> 80+/3500K	<b>CRI/CCT</b> 80+/3500K	<b>CRI/CCT</b> 80+/3500K
<b>Lumens</b> 3,000	<b>Lumens</b> 3,000	<b>Lumens</b> 3,000
<b>lm/ft</b> 750	<b>lm/ft</b> 749	<b>lm/ft</b> 750
<b>Watts</b> 37	<b>Watts</b> 37	<b>Watts</b> 37
<b>W/ft</b> 9	<b>W/ft</b> 9	<b>W/ft</b> 9
<b>LPW</b> 82	<b>LPW</b> 82	<b>LPW</b> 82

## PATENTS & TRADEMARKS



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### Utility Patents

<b>United States</b>	US11543582, US11520097, US11512466, US11441749, US11396751, US11333822, US11163104, US11156762, US10852466, US10068447, US8953926, US8948564, US8911099, US8876348, US8794812, US8783898, US8761565, US8750671, US8721152, US8619363, US8430548, US8408775, US8249408, US8231256, US8177408, US8033706, US8033674, US7991257, US7914192, US7784954, US7758227, US7722224, US7542635, US7453636, US7453635, US7431489, US7408707, US7278775, US6369944, US6346311, US6123877, US5932342, US5837346, US20220373144, US20220372752, US20220364708, US20220357006, US20220357005, US20220342141, US20220290432, US20220206210A1, US20220171119A1, US20220171115A1, US20220162856A1, US20220162853A1, US20220146063A1, US20220137287, US20210301991A1, US20200355345A1, US20200217071A1, US20220333765A1, US20220228366A1, US20220196906A1, US20220010554A1, US20080043490A1, US20060290253A1, US20060215958A1, US20120321247, US20120250330, US20120099204
<b>Canada</b>	CA2702600, CA2702685, CA2702690
<b>France</b>	FREP0800658
<b>Germany</b>	DEEP0800658
<b>Great Britain</b>	GB2492541, GB2492542, GBEP0800658, GB2492398
<b>Japan</b>	JP03958359
<b>Netherlands</b>	NLEP0800658
<b>Taiwan</b>	FTW360813B
<b>European Patent Organization</b>	EP0843203, EP0843203

### Design Patents

<b>United States</b>	USD719282, USD717973, USD669606, USD669608, USD669609, USD669614, USD663056
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### The Patent Corporation Treaty

<b>World Intellectual Property Organization</b>	WO2015200268
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### Trademarks

<b>United States</b>	US6672871, US6397231, US6373493, US6257728, US6190558, US6190559, US6142905, US6114408, US6038234, US6025279, US6060740, US6257729, US5856164, US5734112, US5543304, US5309290, US5309315, US4691124, US4640751
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