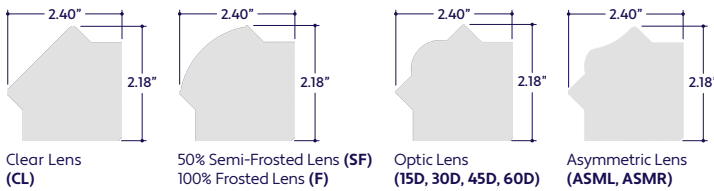


### GENERAL FEATURES

<b>Applications</b>	Indirect and Direct Lighting
<b>Lens</b>	Clear, Frosted, or Semi-Frosted
<b>Optics &amp; Asymmetric</b>	15°, 30°, 45°, 60° or Asymmetric Optics
<b>Length</b>	Built to Order See <b>Length Restrictions</b> Table for details
<b>Construction</b>	Aluminum Extrusion
<b>Weight</b>	1.11 lbs per Foot
<b>Mounting</b>	Mounting Clips (Sold Separately)
<b>Listing</b>	Dry or Damp Location UL1598, CSA C22.2#250.0 UL8750, CSA250 UL2108, 67.1.9, 60.4, CSA C22.2 #9
<b>Temperature Ratings</b>	Operating / Startup: -20° to 48°C (-4° to 120°F) Storage: -40° to 76°C (-40° to 170°F)

**Installation Link**

### END VIEWS / DIMENSIONS



### MINIMUM & MAXIMUM RUNS

Wattage	1.5W	2W	3W	4W	5W	6W	8W	10W	12W
<b>0-10V &amp; DALI Minimum Run</b>	4'	3'	2'	2'	2'	1'	1'	1'	1'
<b>0-10V &amp; DALI Maximum Run</b>	39'	27'	19'	14'	11'	9'	7'	6'	5'
<b>DMX Minimum Run</b>	4'	3'	2'	2'	2'	1'	1'	1'	1'
<b>DMX Maximum Run</b>	26'	18'	13'	9'	8'	6'	4'	4'	3'

### ELECTRICAL

<b>Dimming</b>	0-10V, DMX, DALI
<b>Luminaire Voltage</b>	120V - 277V (UNV)

### SPECIFY PRODUCT CODE | CHOOSE FROM DROP DOWNS

Series	Lens / Optics	Finish	BIOS LED	Watts per Foot	Dimming	Feed Point	Listing	Luminaire Voltage <sup>8</sup>	Luminaire Length	
<b>A1-ZENU-STN-BIOS</b>										
ZENU Standard BIOS Illuminated (A1-ZENU-STN-BIOS)	Clear Lens (CL)	Natural Silver (NA) <sup>2</sup>	BIOS Biological Static: 3500K Daytime <sup>3</sup> (BS-35K)	1.5 Watts (1.5W) 234 Lumens / ft <sup>6</sup>	0-10V (10V)	End Feed <sup>7</sup> (EF)	Indoor (DRY)	120 - 277V Line Voltage (UNV)	Specify Length in Feet & Inches Example: 7'8"	
	50% Semi-Frosted Lens (SF)	White (WH)		2 Watts (2W) 312 Lumens / ft <sup>6</sup>		Bottom Feed (BF)				
	100% Frosted Lens (F)	Satin (SA)		3 Watts (3W) 468 Lumens / ft <sup>6</sup>	DALI (DALI)	Side Feed (SF)	Outdoor (DAMP)			
	Asymmetric Lens Left (ASML)	Black (BK)	BIOS Biological Dynamic: 3500K Daytime - 3000K Evening <sup>4</sup> (BD-35K-30K)	4 Watts (4W) 624 Lumens / ft <sup>6</sup>	DMX-512 (DMX)					
	Asymmetric Lens Right <sup>1</sup> (ASMR)	Silver (SR)		5 Watts (5W) 780 Lumens / ft <sup>6</sup>						
				6 Watts (6W) 936 Lumens / ft <sup>6</sup>						
				8 Watts (8W) 1248 Lumens / ft <sup>6</sup>						
				10 Watts (10W) 1560 Lumens / ft <sup>6</sup>						
				12 Watts (12W) 1872 Lumens / ft <sup>6</sup>						
								15° Optics (15D)		
							30° Optics (30D)			
							45° Optics (45D)			
							60° Optics (60D)			

<sup>1</sup> Default Asymmetric Direction is Right (ASMR) if unspecified.  
<sup>2</sup> Default finish is Natural Silver (NA) if left blank.  
<sup>3</sup> BIOS Biological Static available in standard 3500K Daytime CCT. Consult factory for other color temperature options.  
<sup>4</sup> BIOS Biological Dynamic available in standard 3500K Daytime - 3000K Evening CCT gamut. Consult factory for other color temperature options.  
<sup>5</sup> BIOS Biological Tunable available in standard 3500K Daytime - 2700K Evening CCT gamut. Consult factory for other color temperature options.  
<sup>6</sup> Lumens per Foot based on 35K CCT LED. Example: 156 Lumens x 4 Watts = 624 Initial Lumens per Foot.  
<sup>7</sup> Default feed point is End Feed (EF) if left blank.  
<sup>8</sup> Integral Drivers are sized based on wattage per length. Example: 10' x 3 Watts per Foot = 30 Watts. Driver will be sized based on 30 Watts.



### LAMP FEATURES

Lamp Type	BIOS SkyBlue™ LEDs
CRI	> 80
Efficacy*	156 Lumens per Watt

Note: Efficacy is based on Biological Static (BIOS-BS-35K) with Clear Lens (CL).

### LAMP SPECIFICATIONS

Lamp Number	Description	Efficacy (Lumens per Watt)	L70 LED Life
BIOS-BS-35K	Biological Static: 3500K Daytime	156	
BIOS-BD-35K-30K	Biological Dynamic: 3500K Daytime - 3000K Evening	156	60,000 hrs.
BIOS-BT-35K-27K	Biological Tunable: 3500K Daytime - 2700K Evening	156	

Note: Efficacy is based on 35K CCT LED with Clear Lens (CL).

Note: To calculate Lumens per Foot, multiply Efficacy by Watts per Foot.

Example: 156 Lumens per Watt x 4 Watts per Foot = 624 Lumens per Foot.

### FEED POINTS



End Feed (EF)



Bottom Feed (BF)



Side Feed (SF)

Note: Account for the cordgrip dimensions when measuring.  
Add 0.15" for (EF).  
Add 0.55" for (BF) and (SF).

### LENS / OPTICS APPEARANCE



Clear Lens (CL)  
Visible Diode Image  
0% Loss Factor



50% Semi-Frosted Lens (SF)  
Slight Diode Image  
12.5% Loss Factor



100% Frosted Lens (F)  
No Diode Image: Line of Light  
25% Loss Factor

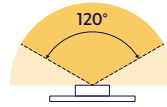


Asymmetric Lens (ASM)  
Slight Diode Image  
18% Loss Factor

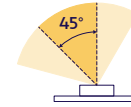


Optic Lens (15D, 30D, 45D, 60D)  
Slight Diode Image  
18% Loss Factor

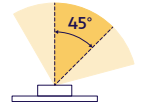
### BEAM ANGLES



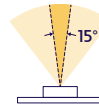
120° x 120° Beam  
Clear Lens (CL)  
50% Semi-Frosted Lens (SF)  
100% Frosted Lens (F)



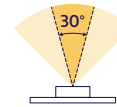
45° x 60° Beam  
Asymmetric Lens Left (ASML)



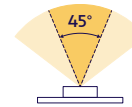
45° x 60° Beam  
Asymmetric Lens Right (ASMR)



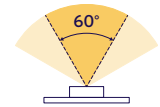
15° x 60° Beam  
Optic Lens (15D)



30° x 60° Beam  
Optic Lens (30D)

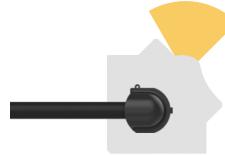


45° x 60° Beam  
Optic Lens (45D)

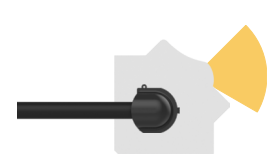


60° x 60° Beam  
Optic Lens (60D)

### OPTICS ORIENTATION



Asymmetric Lens Right (ASMR)  
with Side Feed (SF)

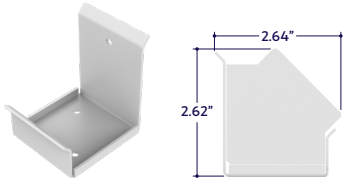


Asymmetric Lens Left (ASML)  
with Side Feed (SF)

Note: Refer to the above diagrams to understand optics orientation in relation to the power feed.

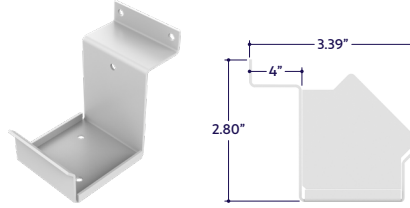
**MOUNTING OPTIONS (Sold Separately)**

**Note:** Mounting clips are only available in Natural Silver Finish, unless otherwise specified.



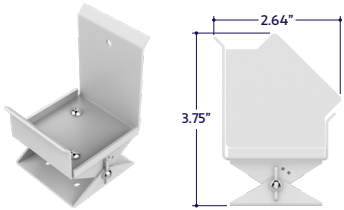
Part #	Qty.
A1-ZENU-STN-MC-1	

**Note:** Use 1 mounting clip per 2', rounded up.  
 Click on image to see cut sheet for additional details.



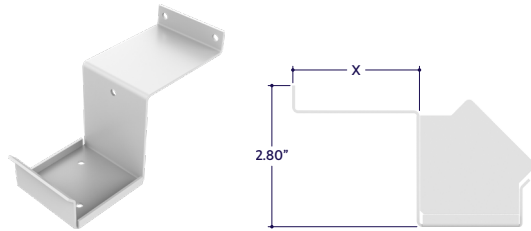
Part #	Qty.
A1-ZENU-STN-MC-2	

**Note:** Use 1 mounting clip per 2', rounded up.  
 Click on image to see cut sheet for additional details.



Part #	Qty.
A1-ZENU-STN-MC-3	

**Note:** Use 1 mounting clip per 2', rounded up.  
 Click on image to see cut sheet for additional details.



Part #	Length	Qty.
A1-ZENU-STN-MC-4-		

**Note:** Use 1 mounting clip per 2', rounded up.  
 Click on image to see cut sheet for additional details.

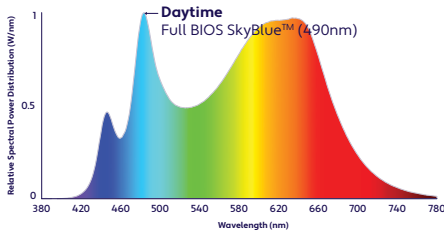
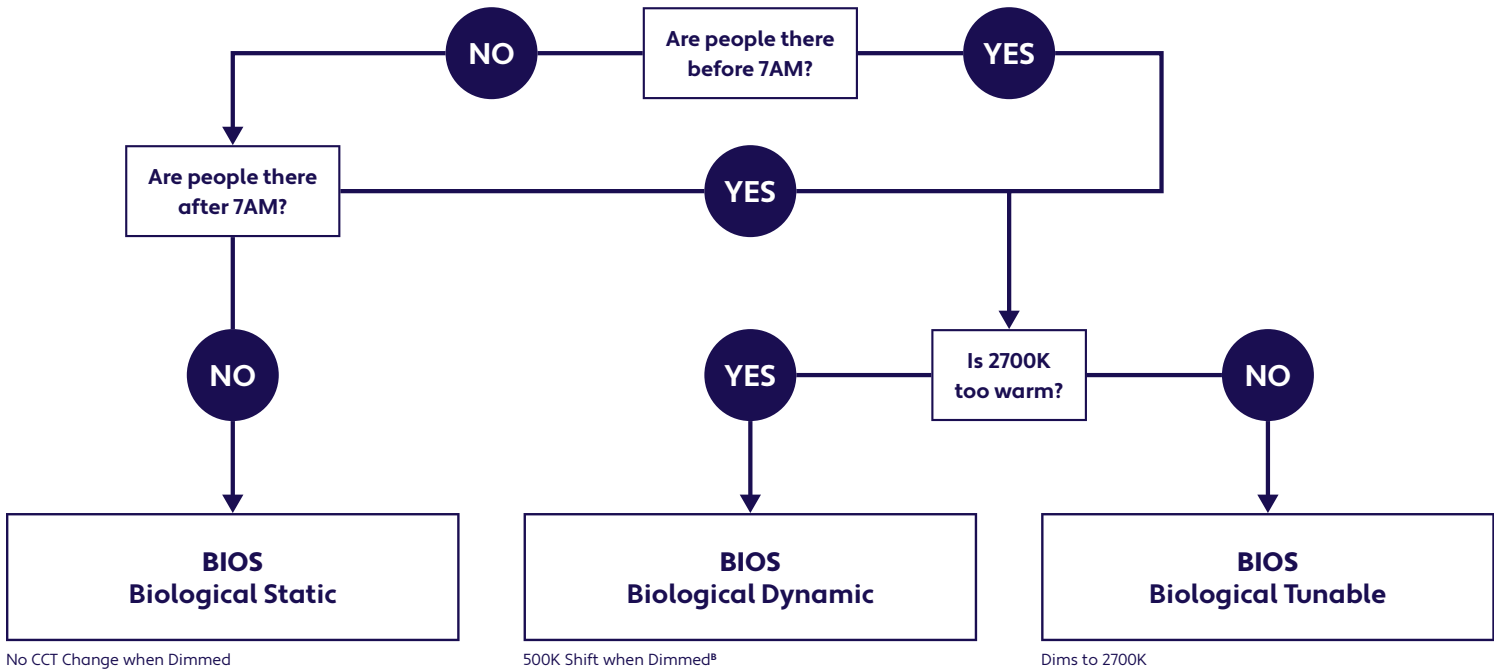
## DELIVERED MELANOPIC RATIOS

BIOS Solution / Nominal CCT / Product Code	Spectral Mode	CRI	R9	Daytime Spectrum Melanopic Ratio* (M/P)	
				m-EER	m-DER
BIOS Biological Static: 3500K Daytime (BIOS-BS-35K)	Daytime Solution	80+	> 90	≥ 0.80	≥ 0.72
BIOS Biological Dynamic: 3500K Daytime - 3000K Evening (BIOS-BD-35K-30K)	Daytime + Evening Solution	80+	> 90	≥ 0.70	≥ 0.63
BIOS Biological Tunable: 3500K Daytime - 2700K Evening (BIOS-BT-35K-27K)	Daytime + Evening Solution	80+	> 90	≥ 0.80	≥ 0.72

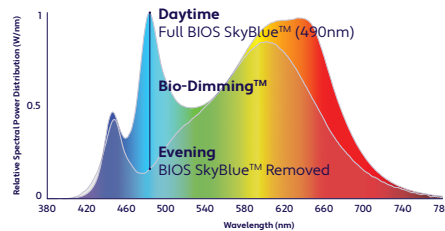
\*Melanopic ratios are provided in two forms: (m-EER) which is calculated using the WELL v2 methodology and the corresponding CIE melanopic Daylight Equivalent Ratio, (m-DER).

## CHOOSING YOUR BIOS SOLUTION

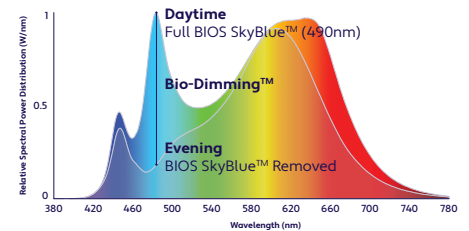
ALUZ offers four different BIOS Circadian LED Solutions – Biological Static, Biological Dynamic, and Biological Tunable White. Use the decision tree below to identify when and where to use BIOS Wellness LED Lighting Solutions .



**Daytime Solution**  
 (Offices, Medical / Dental Offices)  
 Spaces in operation during daytime hours, between 7AM and 7PM.



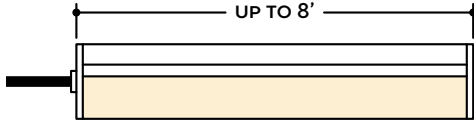
**Daytime + Evening Solution**  
 (Hospitals)  
 Spaces in operation overnight, after 7PM and before 7AM. CCT color shift in the evening not preferred.  
 (<sup>B</sup>3000K dims to 2700K)



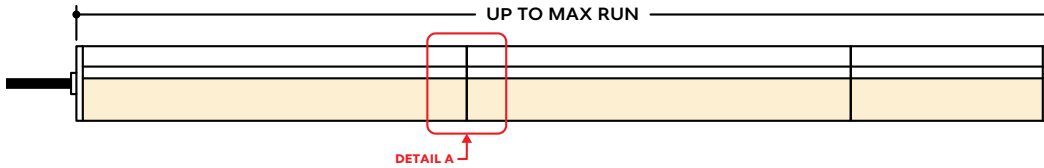
**Daytime + Evening Solution**  
 (Offices, Shiftwork)  
 Spaces in operation overnight, after 7PM and before 7AM and people do not sleep there. CCT color shift in the evening not preferred.

## DESIGN GUIDELINES

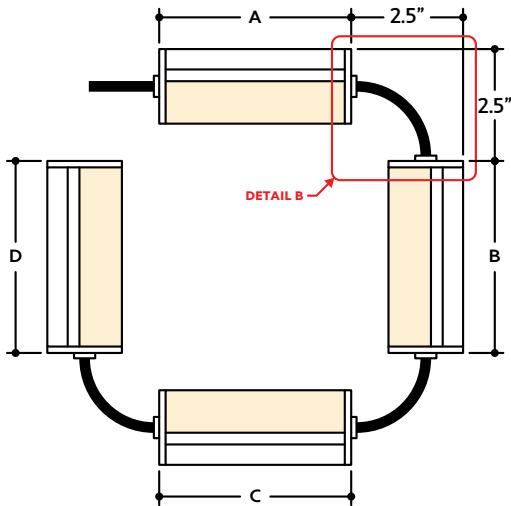
### Individual Fixture



### Continuous Run (Dry Location)



### Run with Square Layout (Dry Location)



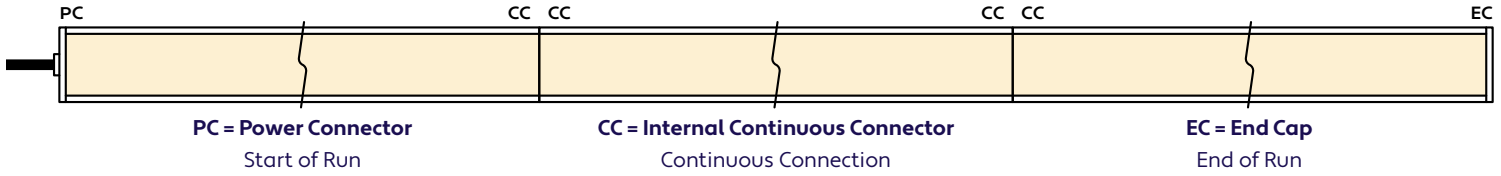
## KEY

- Detail A** **Continuous Connection (Dry Location):** Luminaire segments connect using internal continuous connectors, leaving no gaps between segments, with a mounting clip holding the two segments together. Refer to installation instructions for additional information.
- Detail B** **Dry Jumper Cable:** Used to span a corner or traverse a gap or obstacle in the installation area.

**Note:** Drawings not to scale. Product may differ from examples shown.

## CONNECTION SEQUENCE

### Dry Location

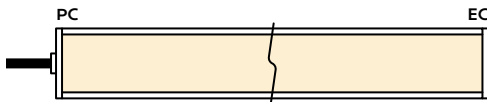


- Specifying a layout is not required to place an order.
- Configuration code applies to full length ordered and will be built per the Continuous Run models on Design Guidelines.
- Connector type subject to change based on availability and listing. Refer to Design Guidelines for details.

## HOW TO SPECIFY CONFIGURATIONS

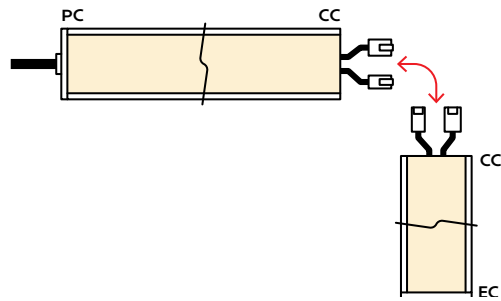
### Example: 20' Straight Run

- 1x A1-ZENU-STN-BIOS-CL-NA-BS-35K-10W-10V-EF-DRY-UNV-9'-PC-EC



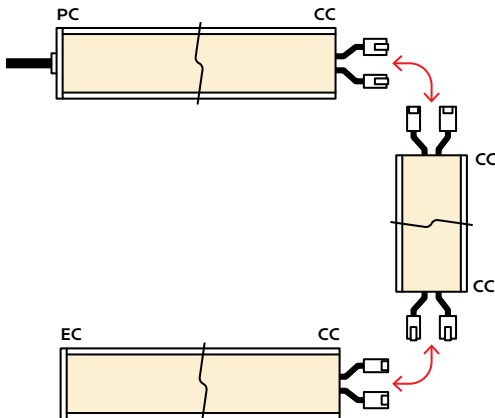
### Example: 25' L-Shaped Run

- 1x A1-ZENU-STN-BIOS-CL-NA-BS-35K-10W-10V-EF-DRY-UNV-6'-PC-CC
- 1x A1-ZENU-STN-BIOS-CL-NA-BS-35K-10W-10V-EF-DRY-UNV-7'-CC-EC



### Example: 30' U-Shaped Run

- 1x A1-ZENU-STN-BIOS-CL-NA-BS-35K-10W-10V-EF-DRY-UNV-6'-PC-CC
- 1x A1-ZENU-STN-BIOS-CL-NA-BS-35K-10W-10V-EF-DRY-UNV-7'-CC-CC
- 1x A1-ZENU-STN-BIOS-CL-NA-BS-35K-10W-10V-EF-DRY-UNV-6'-CC-EC



### Example: 28' Rectangle Shaped Run

- 1x A1-ZENU-STN-BIOS-CL-NA-BS-35K-10W-10V-EF-DRY-UNV-5'-PC-CC
- 1x A1-ZENU-STN-BIOS-CL-NA-BS-35K-10W-10V-EF-DRY-UNV-3'-CC-CC
- 1x A1-ZENU-STN-BIOS-CL-NA-BS-35K-10W-10V-EF-DRY-UNV-5'-CC-CC
- 1x A1-ZENU-STN-BIOS-CL-NA-BS-35K-10W-10V-EF-DRY-UNV-3'-CC-EC

