BeveLED® 2.1

PROJECT INFORMATION

PROJECT _____

_____

DATE _____

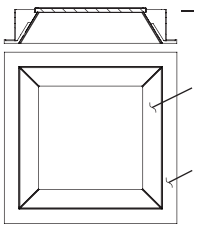
TYPE _____

3110
DOWNLIGHT

BeveLED 2.1 Recessed Downlight - BeveLED 2.1 is the most complete recessed LED downlight product family available from USAI Lighting, now with more BeveLED trim finishes, LED classic white color temperatures, innovative housing styles, and dimming driver options than before. With industry-leading performance, BeveLED 2.1 can provide a solution for any project - commercial, corporate and residential installations.

1" REGRESS DOWNLIGHT

1" Regress



3½" x 3½"
4½" x 4½"
5½" x 5½"

DELIVERED PERFORMANCE

BeveLED 2.1 1" REGRESS DOWNLIGHT	9 Watts		12 Watts		16 Watts		24 Watts		33 Watts		36 Watts	
Color Rendering Index	80+ CRI	90+ HIGH CRI	80+ CRI	90+ HIGH CRI	80+ CRI	90+ HIGH CRI	80+ CRI	90+ HIGH CRI	80+ CRI	90+ HIGH CRI	80+ CRI	90+ HIGH CRI
Lumens per Watt	100	74	93	73	93	72	86	67	77	62	100	78
Source Lumens	1150	900	1300	1025	1725	1350	2400	1875	3025	2350	4150	3250
Delivered Lumens	**850**	**675**	**1125**	**875**	**1475**	**1150**	**2050**	**1600**	**2600**	**2025**	**3450**	**2700**
Color Consistency	2-Step MacAdam Ellipse											

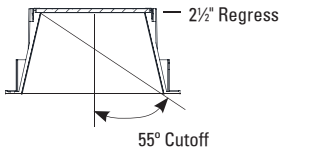
Performance based on 3000K

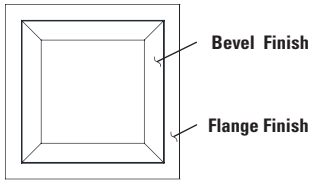
CCT MULTIPLIER	2200K	2700K		3000K		3500K	4000K
Color Rendering Index	80+ CRI	80+ CRI	90+ HIGH CRI	80+ CRI	90+ HIGH CRI	80+ CRI	80+ CRI
Multiplier for Lumen Output	0.72	0.94	0.78	1.00	.78	1.00	1.06

90+ CRI is not available for 2200K, 3500K, or 4000K

DEEP REGRESS DOWNLIGHT

Deep Regress





3½" x 3½"
4½" x 4½"
5½" x 5½"

DELIVERED PERFORMANCE

BeveLED 2.1 DEEP REGRESS DOWNLIGHT	9 Watts		12 Watts		16 Watts		24 Watts		33 Watts		36 Watts	
Color Rendering Index	80+ CRI	90+ HIGH CRI	80+ CRI	90+ HIGH CRI	80+ CRI	90+ HIGH CRI	80+ CRI	90+ HIGH CRI	80+ CRI	90+ HIGH CRI	80+ CRI	90+ HIGH CRI
Lumens per Watt	76	60	75	58	74	58	68	53	63	49	85	66
Source Lumens	1150	900	1300	1025	1725	1350	2400	1875	3025	2350	4150	3250
Delivered Lumens	**675**	**550**	**900**	**700**	**1175**	**925**	**1650**	**1275**	**2075**	**1625**	**2950**	**2300**
Color Consistency	2-Step MacAdam Ellipse											

Performance based on 3000K

CCT MULTIPLIER	2200K	2700K		3000K		3500K	4000K
Color Rendering Index	80+ CRI	80+ CRI	90+ HIGH CRI	80+ CRI	90+ HIGH CRI	80+ CRI	80+ CRI
Multiplier for Lumen Output	0.72	0.94	0.78	1.00	.78	1.00	1.06

90+ CRI is not available for 2200K, 3500K, or 4000K

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BeveLED®2.1

3110
DOWNLIGHT

1"REGRESS

DEEP REGRESS

ORDERING INFORMATION

HOW TO SPECIFY

Ordering Example: Specify trim code and housing code to order: **3110W - B1- S - 10 - LSTD4 - 9012 - C3 - 27KS - 50 - NC - 277V - DIML2 - CB27**

TRIM ORDERING INFORMATION

TRIM 3110 – OPTION _____ – BEVEL STYLE _____ – LENS _____ – FLANGE FINISH _____

1" REGRESS DOWNLIGHT

3110 Square Downlight 1" Regress

OPTION		BEVEL STYLE	
W	Wet location [1]	**B1**	1" Regress Bevel, Painted Die Cast Matches Flange Finish
EML	Integral Emergency Test Switch [2]	**AB1**	1" Regress Bevel, Black Anodized
TZ	6" TechZone ceiling compatible (NCSM only) N/A with 01 or 02 flange finishes.	**AC1**	1" Regress Bevel, Clear Matte Anodized

DEEP REGRESS DOWNLIGHT

3110 Square Downlight Deep Regress

OPTION		BEVEL STYLE	
W	Wet location [1]	**B2**	2-1/2" Regress Bevel, Painted Die Cast Matches Flange Finish
EML	Integral Emergency Test Switch [2]	**AB2**	2-1/2" Regress Bevel, Black Anodized
		AC2	2-1/2" Regress Bevel, Clear Matte Anodized

[1] Wet location, use with B1 and B2 trims only.

[2] See table on page 3.

LENS	FLANGE FINISH	
S	Solite (provided standard)	**01** Clear Matte (AC Bevel only)
F	Frosted	**02** Black Anodized (AB Bevel Only)
		10 White
		13 Statuary Bronze
		21 Black
		28 Metalized Grey
		RAL Custom Color (specify RAL #)

HOUSING ORDERING INFORMATION

HOUSING CODE LSTD4 – WATTAGE _____ – ENGINE CODE _____ – COLOR _____ – REFLECTOR _____ – HOUSING TYPE _____ – SELECT ONE VOLTAGE _____ – DIMMING DRIVER OPTIONS _____ – ACCESSORIES _____

LSTD4

WATTAGE	ENGINE CODE
9009 9W LED	**C3**
9012 12W LED	
9016 16W LED	
9024 24W LED	
9033 33W LED	
9036 36W LED	**E1**

See performance chart for precise lumen information.

COLOR	
22KS	2200K, 80+ CRI [3]
27KS	2700K, 80+ CRI
30KS	3000K, 80+ CRI
35KS	3500K, 80+ CRI
40KS	4000K, 80+ CRI
27KH	2700K, 90+ CRI
30KH	3000K, 90+ CRI

2 Step MacAdam ellipse is standard for all

[3] Not available with E1 light engine

1" REGRESS DOWNLIGHT

REFLECTOR		HOUSING TYPE	
25	25° beam	**FT**	Flat Housing New Construction
50	50° beam	**FTIC**	Flat Housing IC-Rated/Airtight (up to 16W maximum)
90	90° beam	**FTCP**	Flat Housing Chicago Plenum
		NCSM	New Construction Narrow Width
		NC	New Construction, all in one
		CP	Chicago Plenum
		IC	Insulation-Contact Rated / Airtight [4]

DEEP REGRESS DOWNLIGHT

REFLECTOR		HOUSING TYPE	
C25	25° beam Comfort Cutoff	**NC**	New Construction, all in one
C40	40° beam Comfort Cutoff	**CP**	Chicago Plenum
C70	70° beam Comfort Cutoff	**IC**	Insulation-Contact Rated / Airtight [4]

See emergency solutions chart for EM options with these housings

[4] Not available with E1 light engine

SELECT ONE VOLTAGE
120V
277V

For use with 120V or 277V

DIMMING DRIVER OPTIONS	
DIML2	0-10V dim, 10% (provided standard)
DIML4	Lutron A 3-wire/ECO, 1%
DIML4E	Lutron 5 ECO, 5% [5]
DIML4H	Lutron H ECO, 1% Fade [5]
DIML6A	EldoLED 0-10V, 0.1%, logarithmic / Lutron controls
DIML6B	EldoLED 0-10V Linear, 0.1%, linear controls
DIML6E	EldoLED 0-10V, 1%, logarithmic/Lutron controls
DIML6F	EldoLED 0-10V, 1%, linear controls
DIML7	EldoLED DALI, 0.1%
DIML8	EldoLED DMX, 0.1% [6, 7]

SELECT ONE VOLTAGE
120V

For use with 120V only

DIMMING DRIVER OPTIONS	
DIML3	Lutron A 2-wire, 1% 120V only
DIML19	Phase 2-wire dimming, 1% 120V only [5, 6, 8]

SELECT ONE VOLTAGE
347V

For use with 347V only

DIMMING DRIVER OPTIONS	
DIML15	0-10V dim, 1% 347 only

[5] N/A with 9W
[6] N/A with 33W
[7] N/A with FT, FTIC or FTCP housing
[8] N/A with E1 light engine

1" REGRESS DOWNLIGHT

ACCESSORIES	
CB27	27" C-Channel Bars
CB52	52" C-Channel Bars
EML	Emergency battery [9]
EMLW	Emergency battery, wet location [9]
TZ	6" TechZone ceiling compatible [10]

DEEP REGRESS DOWNLIGHT

ACCESSORIES	
CB27	27" C-Channel Bars
CB52	52" C-Channel Bars
EML	Emergency battery [9]
EMLW	Emergency battery, wet location [9]

[9] See emergency solutions chart for more details on EM options. Not available with 347V

[10] With NCSM housing only

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Revised 12/19/2017

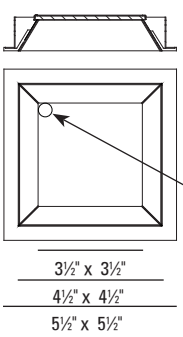
BeveLED 2.1

TRIM INFORMATION

3110
DOWNLIGHT

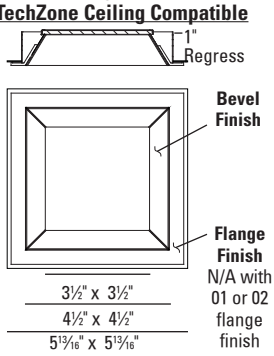
1" REGRESS DOWNLIGHT TRIMS

1" Regress



EM fixtures that are provided with an integral test switch are shipped with a hole in the glass lens for access. Refer to "EMERGENCY SOLUTIONS" chart to find out which fixtures have an integral test switch.

1" Regress - 6" TechZone Ceiling Compatible



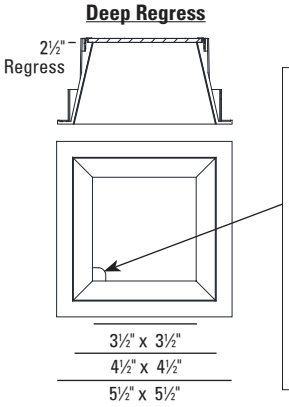
3110 - 1" Regress Emergency Solutions

Housing	EM SERVICE	Integral Test Switch	Remote Test Switch	Inverter By Others
FT, FTIC, FTCP	N/A			X
NCSM*	Above ceiling access required		X	X
NC	Through aperture	X		X
NC Wet Location	Through aperture		X	X
CP	N/A			X
IC	N/A			X

* NCSM + DIML8 cannot be offered with EM, 347V cannot be offered with EM

DEEP REGRESS DOWNLIGHT TRIM

Deep Regress



EM fixtures that are provided with an integral test switch are shipped with a hole in the glass lens for access. Refer to "EMERGENCY SOLUTIONS" chart to find out which fixtures have an integral test switch.

3110 - Deep Regress Emergency Solutions

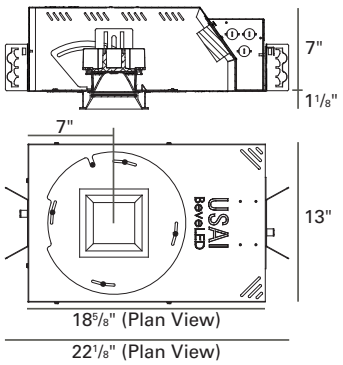
Housing	EM SERVICE	Integral Test Switch	Remote Test Switch	Inverter By Others
NC	Through aperture	X		X
NC Wet Location	Through aperture		X	X
CP	N/A			X
IC	N/A			X

* 347V cannot be offered with EM

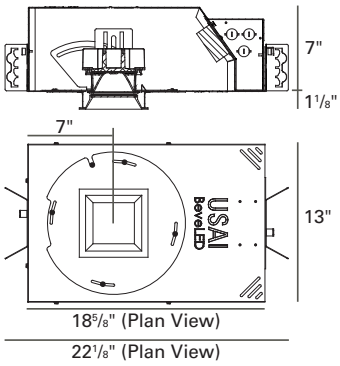
HOUSING INFORMATION

NC, IC AND CP HOUSINGS BELOW ARE FOR USE WITH 1" REGRESS TRIMS & DEEP REGRESS TRIMS

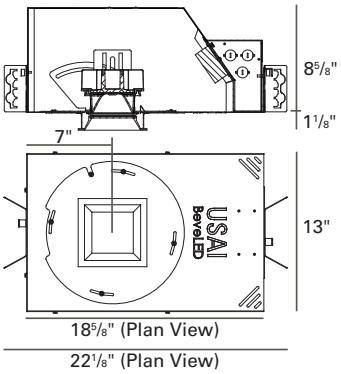
New Construction
Universal Style Housing - NC



Chicago Plenum (24W and less) - CP
IC / Airtight (24W and less) - IC

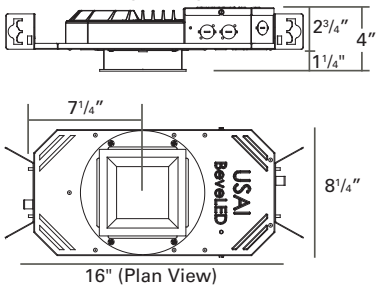


Chicago Plenum (33W and 36W) - CP
IC / Airtight (33W) - IC (not available with E1 light engine)

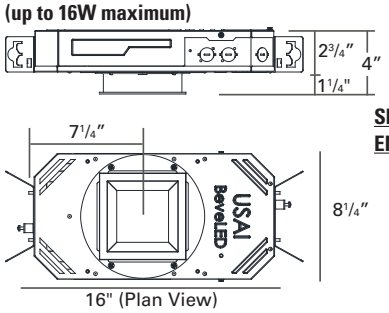


HOUSINGS BELOW ARE FOR USE WITH 1" REGRESS TRIMS ONLY (FT, FTIC, FTCP AND NCSM ARE NOT AVAILABLE FOR USE WITH DEEP REGRESS)

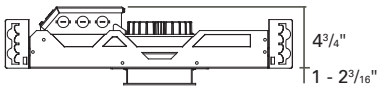
New Construction
Flat Housing - FT
Flat Housing Chicago Plenum - FTCP



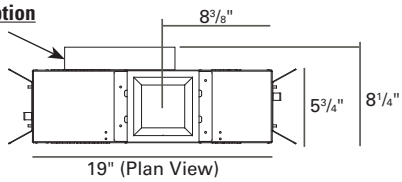
New Construction
Flat Housing IC-Rated /Airtight- FTIC
(up to 16W maximum)



New Construction - Narrow Width - NCSM
(Not for use with deep regress trims)



Shownwith EM option



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Revised 12/19/2017

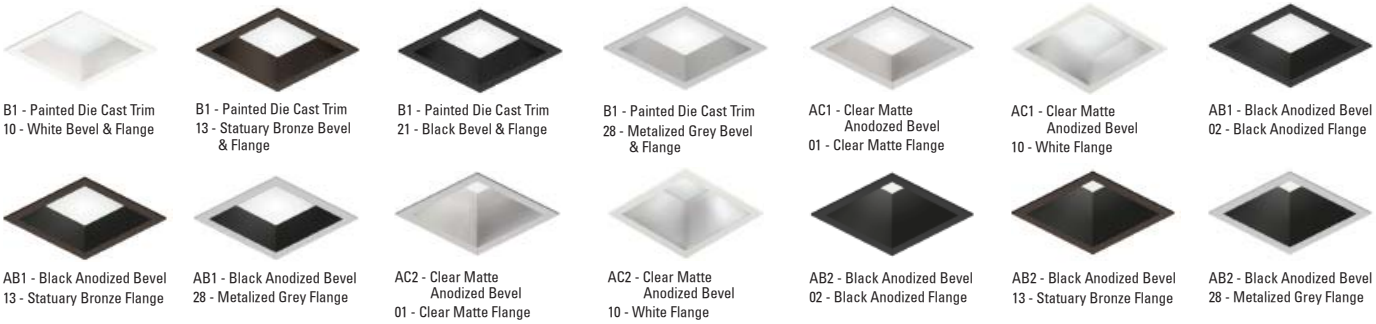
BeveLED®2.1

3110
DOWNLIGHT

SPECIFICATIONS

TRIM: 4-1/2" square aperture with a 1" regress or deep regress bevel and 1/2" flange, retained by two mounting clips. Die cast aluminum bevel is available in white, statuary bronze, black, and metalized gray painted finishes, with flange painted to match. Also available in black or clear matte anodized finishes, with self-finish or contrasting painted flange. Custom colors are available (provide RAL#). Trim is shipped with a solite lens provided standard.

Some examples of standard trim finish options for 3110 are shown below:



B1 - Painted Die Cast Trim
10 - White Bevel & Flange

B1 - Painted Die Cast Trim
13 - Statuary Bronze Bevel & Flange

B1 - Painted Die Cast Trim
21 - Black Bevel & Flange

B1 - Painted Die Cast Trim
28 - Metalized Grey Bevel & Flange

AC1 - Clear Matte Anodozed Bevel
01 - Clear Matte Flange

AC1 - Clear Matte Anodized Bevel
10 - White Flange

AB1 - Black Anodized Bevel
02 - Black Anodized Flange

AB1 - Black Anodized Bevel
13 - Statuary Bronze Flange

AB1 - Black Anodized Bevel
28 - Metalized Grey Flange

AC2 - Clear Matte Anodized Bevel
01 - Clear Matte Flange

AC2 - Clear Matte Anodized Bevel
10 - White Flange

AB2 - Black Anodized Bevel
02 - Black Anodized Flange

AB2 - Black Anodized Bevel
13 - Statuary Bronze Flange

AB2 - Black Anodized Bevel
28 - Metalized Grey Flange

FIELD REPLACEABLE LED LIGHT ENGINE: is serviceable through the aperture without tools. All USAI Lighting Classic White light engines feature industry leading color consistency within a 2-Step MacAdam's ellipse. 2200K is not available with E1 light engine.

FIELD REPLACEABLE DIMMING DRIVER: 0-10V, 100%-10% solid state electronic constant current DIML2 dimming driver with a high power factor provided standard and sources 2mA. Specify 120V or 277V. Driver complies with IEEEC62.41 surge protection. Multiple dimming driver options are available; some on-time delay may be experienced, depending on control system used.

EMERGENCY: Fixtures provided with an integral test switch are provided with a hole in the glass lens as per drawing. Fixtures provided with a remote test switch are provided with a 24" lead length for location of the test switch. Fixtures that have no USAI EM option may be connected to an inverter (by others) for emergency lighting. SPECIAL NOTE FOR NCSM HOUSING: DIML8 cannot be combined with EM options in NCSM housing. See emergency solutions chart for more information on EM test switches and servicing.

HOUSING: 1" regress fixture housing options are NC, IC, CP, FT, FTIC, FTCP and NCSM. DEEP regress fixture housing options are NC, IC, and CP only.

FT, FTIC, FTCP and NCSM housings are not available with DEEP regress trims. All-Ways Square® (covered by US Pat. No: US 7,832,889) housing allows alignment of square aperture (up to 20° rotation) after housing installation and prior to finish ceiling installation. Fabricated of 20 ga. galvanized steel with thru wire J-box, 4 in 4 out at min. 90°C, #12 AWG thru branch circuit wiring. FTIC housing is IC-rated up to 16W maximum. IC-rated housings for use with 9W, 12W, and 16W light engines only are rated for direct contact with spray foam insulation of R-42 or less. IC rated housing is Not available with E1 light engine. NCSM with TZ option is compatible with 6" TechZone ceiling systems. When using DIML8, NCSM housing can NOT be used with thru-branch circuit wiring.

MOUNTING: Butterfly brackets and adjustable nailer bars with integral nails provided. Nailer bars are extendible from 14" to 24" centers. C-channel bars are optionally available for acoustical ceiling applications.

MAXIMUM CEILING THICKNESS: As noted on housing drawings.

CEILING CUT OUT: 5-1/16" x 5-1/16"

WARRANTY: Based on IESNA LM80-2008, BeveLED 2.1 has a 50,000 hour rated life at 70% lumen maintenance (L70). USAI Lighting Warranty covers replacement parts for 5 years from date of shipment.

LISTINGS: Dry/Damp. Wet location option available with B1 trim only. NRTL/CSA-US tested to UL standards. IBEW union made. Energy Star Qualified under Luminaires Specification V2.0. Please see Energy Star website for exact model #s included in the listing. Please note that the following options are not Energy Star qualified: 22KS, 27KH, and 30KH light engines; E1 light engines; B-13, B-21, and AB trim styles; Frosted lens and EM options. CEC/ Title 24 Compliant up to 16W maximum. See CEC website for exact models included.

NOTES:

- Not for use in corrosive environment.
- Use of pressure washer voids warranty.

PHOTOMETRICS: Consult factory or website for IES files. Tested in accordance with IESNA LM79.

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Revised 12/19/2017

DELIVERED PERFORMANCE

3110 / 3311 16W 30KS 25° 1" Regress

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50			30			10			0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.13	1.10	1.08	1.06	1.11	1.08	1.06	.94	1.04	1.02	1.01	1.01	.99	.98	.97	.96	.95	.93
2	1.08	1.03	.99	.95	1.05	1.01	.97	.87	.98	.95	.92	.95	.92	.90	.92	.90	.88	.86
3	1.02	.96	.91	.87	1.00	.94	.90	.81	.92	.88	.84	.89	.86	.83	.87	.84	.82	.80
4	.97	.89	.84	.80	.95	.88	.83	.76	.86	.82	.78	.84	.80	.77	.82	.79	.76	.75
5	.92	.84	.78	.74	.91	.83	.77	.71	.81	.76	.73	.79	.75	.72	.78	.74	.71	.70
6	.88	.79	.73	.69	.86	.78	.72	.67	.76	.72	.68	.75	.71	.67	.74	.70	.67	.65
7	.84	.74	.68	.64	.82	.74	.68	.63	.72	.67	.64	.71	.67	.63	.70	.66	.63	.62
8	.80	.70	.64	.60	.78	.70	.64	.59	.69	.63	.60	.68	.63	.60	.67	.62	.59	.58
9	.76	.67	.61	.57	.75	.66	.60	.56	.65	.60	.56	.64	.60	.56	.63	.59	.56	.55
10	.73	.63	.58	.54	.72	.63	.57	.53	.62	.57	.53	.61	.57	.53	.60	.56	.53	.52

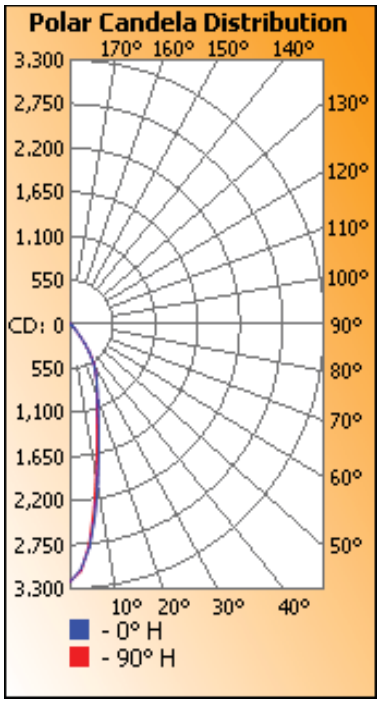
Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	1,001.9	67.6%
0-40	1,309.7	88.3%
0-60	1,450.7	97.9%
60-90	31.7	2.1%
70-100	12.1	0.8%
90-120	0	0%

Illuminance at a Distance

	Center Beam fc	Beam Width	
2.0ft	804.4 fc	0.9 ft	0.9 ft
4.0ft	201.1 fc	1.9 ft	1.7 ft
6.0ft	89.4 fc	2.8 ft	2.6 ft
8.0ft	50.3 fc	3.8 ft	3.5 ft
10.0ft	32.2 fc	4.7 ft	4.3 ft
12.0ft	22.3 fc	5.6 ft	5.2 ft
14.0ft	16.4 fc	6.6 ft	6.1 ft
16.0ft	12.6 fc	7.5 ft	6.9 ft

Vert. Spread: 26.4°
Horiz. Spread: 24.5°



3110 / 3311 33W 30KS 25° 1" Regress

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50			30			10			0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.13	1.10	1.08	1.06	1.11	1.08	1.06	.94	1.04	1.02	1.01	1.01	.99	.98	.97	.96	.95	.93
2	1.08	1.03	.99	.95	1.05	1.01	.97	.87	.98	.95	.92	.95	.92	.90	.92	.90	.88	.86
3	1.02	.96	.91	.87	1.00	.94	.90	.81	.92	.88	.84	.89	.86	.83	.87	.84	.82	.80
4	.97	.89	.84	.80	.95	.88	.83	.76	.86	.82	.78	.84	.80	.77	.82	.79	.76	.75
5	.92	.84	.78	.74	.91	.83	.77	.71	.81	.76	.73	.79	.75	.72	.78	.74	.71	.70
6	.88	.79	.73	.69	.86	.78	.72	.67	.76	.72	.68	.75	.71	.67	.74	.70	.67	.65
7	.84	.74	.68	.64	.82	.74	.68	.63	.72	.67	.64	.71	.67	.63	.70	.66	.63	.62
8	.80	.70	.64	.60	.78	.70	.64	.59	.69	.63	.60	.68	.63	.60	.67	.62	.59	.58
9	.76	.67	.61	.57	.75	.66	.60	.56	.65	.60	.56	.64	.60	.56	.63	.59	.56	.55
10	.73	.63	.58	.54	.72	.63	.57	.53	.62	.57	.53	.61	.57	.53	.60	.56	.53	.52

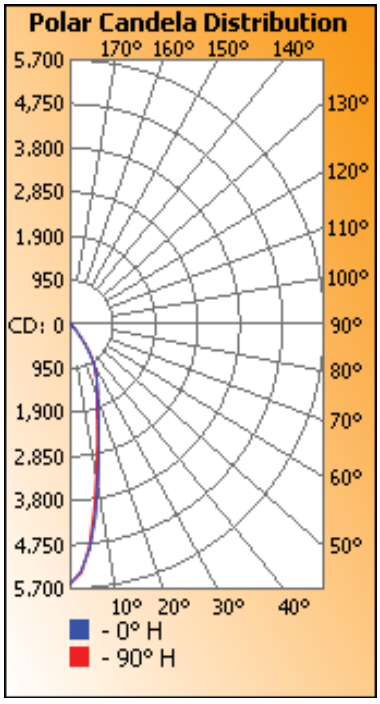
Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	1,745.5	67.6%
0-40	2,281.6	88.3%
0-60	2,527.3	97.9%
60-90	55.3	2.1%
70-100	21.0	0.8%
90-120	0	0%

Illuminance at a Distance

	Center Beam fc	Beam Width	
2.0ft	1,401.4 fc	0.9 ft	0.9 ft
4.0ft	350.4 fc	1.9 ft	1.7 ft
6.0ft	155.7 fc	2.8 ft	2.6 ft
8.0ft	87.6 fc	3.8 ft	3.5 ft
10.0ft	56.1 fc	4.7 ft	4.3 ft
12.0ft	38.9 fc	5.6 ft	5.2 ft
14.0ft	28.6 fc	6.6 ft	6.1 ft
16.0ft	21.9 fc	7.5 ft	6.9 ft

Vert. Spread: 26.4°
Horiz. Spread: 24.5°



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DELIVERED PERFORMANCE

3110 / 3311 16W 30KS 50° 1" Regress

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50			30			10			0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.13	1.10	1.07	1.05	1.11	1.08	1.06	.93	1.04	1.02	1.00	1.00	.99	.97	.97	.96	.94	.93
2	1.07	1.02	.98	.94	1.05	1.00	.96	.86	.97	.94	.91	.94	.91	.89	.91	.89	.87	.85
3	1.01	.94	.89	.85	.99	.93	.88	.80	.90	.86	.83	.88	.84	.82	.86	.83	.80	.79
4	.96	.88	.82	.78	.94	.87	.81	.74	.84	.80	.76	.82	.78	.75	.81	.77	.74	.73
5	.91	.82	.76	.71	.89	.81	.75	.69	.79	.74	.70	.77	.73	.70	.76	.72	.69	.67
6	.86	.77	.70	.66	.84	.76	.70	.64	.74	.69	.65	.73	.68	.65	.71	.67	.64	.63
7	.82	.72	.66	.61	.80	.71	.65	.60	.70	.65	.61	.69	.64	.60	.67	.63	.60	.58
8	.77	.68	.61	.57	.76	.67	.61	.56	.66	.60	.57	.65	.60	.56	.64	.59	.56	.55
9	.74	.64	.57	.53	.72	.63	.57	.53	.62	.57	.53	.61	.56	.53	.60	.56	.53	.51
10	.70	.60	.54	.50	.69	.60	.54	.49	.59	.54	.50	.58	.53	.50	.57	.53	.50	.48

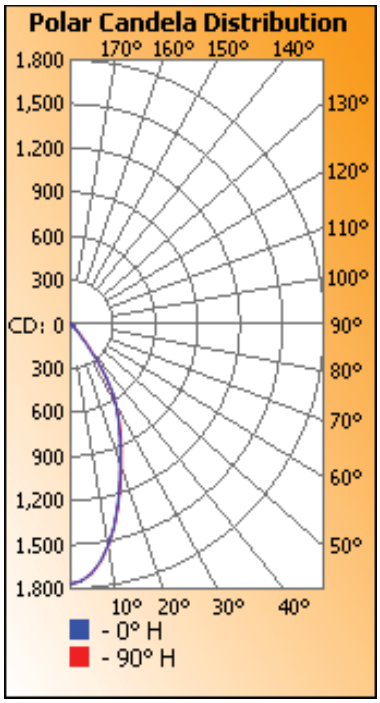
Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	927.0	64.5%
0-40	1,252.7	87.2%
0-60	1,402.0	97.6%
60-90	34.9	2.4%
70-100	13.1	0.9%
90-120	0	0%

Illuminance at a Distance

	Center Beam fc	Beam Width	
2.0ft	443.6 fc	1.7 ft	1.8 ft
4.0ft	110.9 fc	3.5 ft	3.5 ft
6.0ft	49.3 fc	5.2 ft	5.3 ft
8.0ft	27.7 fc	6.9 ft	7.1 ft
10.0ft	17.7 fc	8.6 ft	8.9 ft
12.0ft	12.3 fc	10.4 ft	10.6 ft
14.0ft	9.1 fc	12.1 ft	12.4 ft
16.0ft	6.9 fc	13.8 ft	14.2 ft

Vert. Spread: 46.7°
Horiz. Spread: 47.8°



3110 / 3311 33W 30KS 50° 1" Regress

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50			30			10			0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.13	1.10	1.07	1.05	1.11	1.08	1.06	.93	1.04	1.02	1.00	1.00	.99	.97	.97	.96	.94	.93
2	1.07	1.02	.98	.94	1.05	1.00	.96	.86	.97	.94	.91	.94	.91	.89	.91	.89	.87	.85
3	1.01	.94	.89	.85	.99	.93	.88	.80	.90	.86	.83	.88	.84	.82	.86	.83	.80	.79
4	.96	.88	.82	.78	.94	.87	.81	.74	.84	.80	.76	.82	.78	.75	.81	.77	.74	.73
5	.91	.82	.76	.71	.89	.81	.75	.69	.79	.74	.70	.77	.73	.70	.76	.72	.69	.67
6	.86	.77	.70	.66	.84	.76	.70	.64	.74	.69	.65	.73	.68	.65	.71	.67	.64	.63
7	.82	.72	.66	.61	.80	.71	.65	.60	.70	.65	.61	.69	.64	.60	.67	.63	.60	.58
8	.77	.68	.61	.57	.76	.67	.61	.56	.66	.60	.57	.65	.60	.56	.64	.59	.56	.55
9	.74	.64	.57	.53	.72	.63	.57	.53	.62	.57	.53	.61	.56	.53	.60	.56	.53	.51
10	.70	.60	.54	.50	.69	.60	.54	.49	.59	.54	.50	.58	.53	.50	.57	.53	.50	.48

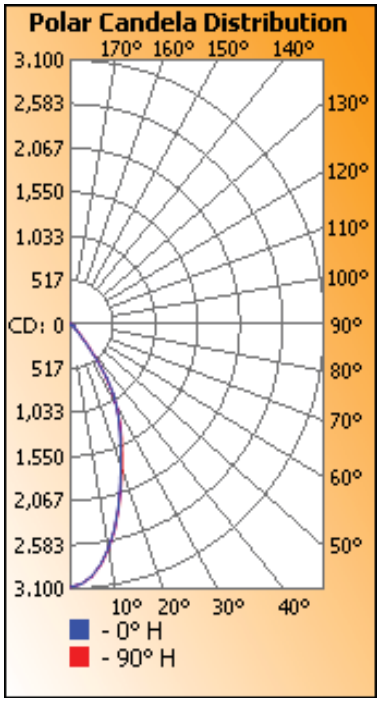
Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	1,615.0	64.5%
0-40	2,182.4	87.2%
0-60	2,442.6	97.6%
60-90	60.8	2.4%
70-100	22.8	0.9%
90-120	0	0%

Illuminance at a Distance

	Center Beam fc	Beam Width	
2.0ft	772.8 fc	1.7 ft	1.8 ft
4.0ft	193.2 fc	3.5 ft	3.5 ft
6.0ft	85.9 fc	5.2 ft	5.3 ft
8.0ft	48.3 fc	6.9 ft	7.1 ft
10.0ft	30.9 fc	8.6 ft	8.9 ft
12.0ft	21.5 fc	10.4 ft	10.6 ft
14.0ft	15.8 fc	12.1 ft	12.4 ft
16.0ft	12.1 fc	13.8 ft	14.2 ft

Vert. Spread: 46.7°
Horiz. Spread: 47.8°



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DELIVERED PERFORMANCE

3110 / 3311 16W 30KS 90° 1" Regress

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50			30			10			0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.11	1.07	1.04	1.01	1.09	1.05	1.02	.89	1.01	.99	.96	.97	.95	.93	.94	.92	.91	.89
2	1.03	.96	.91	.86	1.01	.95	.89	.79	.91	.87	.83	.88	.84	.81	.85	.82	.80	.78
3	.95	.87	.80	.74	.93	.85	.79	.69	.82	.77	.72	.80	.75	.71	.77	.73	.70	.68
4	.88	.78	.71	.65	.86	.77	.70	.62	.74	.68	.64	.72	.67	.63	.70	.66	.62	.60
5	.82	.71	.63	.57	.80	.70	.62	.55	.68	.61	.56	.66	.60	.56	.64	.59	.55	.53
6	.76	.64	.56	.51	.74	.63	.56	.49	.62	.55	.50	.60	.54	.50	.59	.53	.49	.47
7	.71	.59	.51	.45	.69	.58	.51	.44	.57	.50	.45	.55	.49	.45	.54	.48	.44	.43
8	.66	.54	.46	.41	.65	.53	.46	.40	.52	.45	.41	.51	.45	.40	.50	.44	.40	.38
9	.62	.50	.42	.37	.61	.49	.42	.36	.48	.41	.37	.47	.41	.37	.46	.41	.36	.35
10	.58	.46	.39	.34	.57	.46	.39	.33	.45	.38	.34	.44	.38	.33	.43	.37	.33	.32

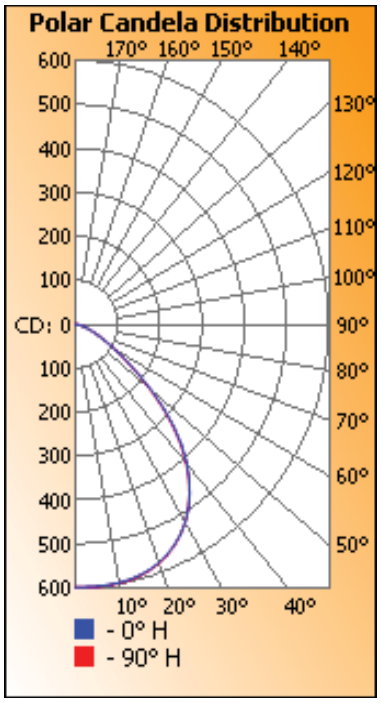
Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	480.2	37.3%
0-40	779.3	60.5%
0-60	1,198.0	92.9%
60-90	91.0	7.1%
70-100	28.0	2.2%
90-120	0	0%

Illuminance at a Distance

	Center Beam fc	Beam Width	
2.0ft	148.9 fc	4.3 ft	4.2 ft
4.0ft	37.2 fc	8.5 ft	8.4 ft
6.0ft	16.5 fc	12.8 ft	12.6 ft
8.0ft	9.3 fc	17.0 ft	16.8 ft
10.0ft	6.0 fc	21.3 ft	21.0 ft
12.0ft	4.1 fc	25.6 ft	25.2 ft
14.0ft	3.0 fc	29.8 ft	29.4 ft
16.0ft	2.3 fc	34.1 ft	33.6 ft

Vert. Spread: 93.6°
Horiz. Spread: 92.8°



3110 / 3311 33W 30KS 90° 1" Regress

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50			30			10			0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.11	1.07	1.04	1.01	1.09	1.05	1.02	.89	1.01	.99	.96	.97	.95	.93	.94	.92	.91	.89
2	1.03	.96	.91	.86	1.01	.95	.89	.79	.91	.87	.83	.88	.84	.81	.85	.82	.80	.78
3	.95	.87	.80	.74	.93	.85	.79	.69	.82	.77	.72	.80	.75	.71	.77	.73	.70	.68
4	.88	.78	.71	.65	.86	.77	.70	.62	.74	.68	.64	.72	.67	.63	.70	.66	.62	.60
5	.82	.71	.63	.57	.80	.70	.62	.55	.68	.61	.56	.66	.60	.56	.64	.59	.55	.53
6	.76	.64	.56	.51	.74	.63	.56	.49	.62	.55	.50	.60	.54	.50	.59	.53	.49	.47
7	.71	.59	.51	.45	.69	.58	.51	.44	.57	.50	.45	.55	.49	.45	.54	.48	.44	.43
8	.66	.54	.46	.41	.65	.53	.46	.40	.52	.45	.41	.51	.45	.40	.50	.44	.40	.38
9	.62	.50	.42	.37	.61	.49	.42	.36	.48	.41	.37	.47	.41	.37	.46	.41	.36	.35
10	.58	.46	.39	.34	.57	.46	.39	.33	.45	.38	.34	.44	.38	.33	.43	.37	.33	.32

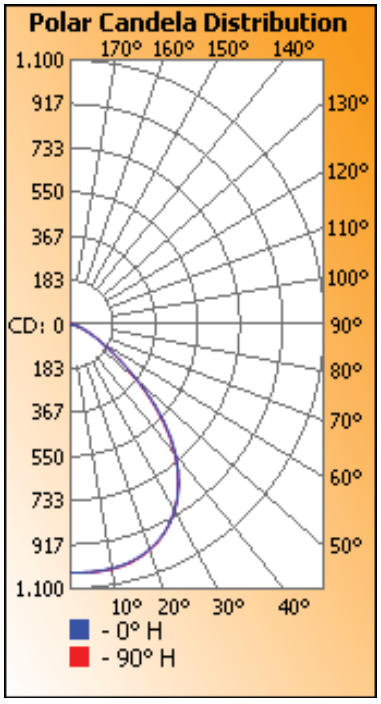
Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	836.5	37.3%
0-40	1,357.7	60.5%
0-60	2,087.1	92.9%
60-90	158.6	7.1%
70-100	48.8	2.2%
90-120	0	0%

Illuminance at a Distance

	Center Beam fc	Beam Width	
2.0ft	259.4 fc	4.3 ft	4.2 ft
4.0ft	64.9 fc	8.5 ft	8.4 ft
6.0ft	28.8 fc	12.8 ft	12.6 ft
8.0ft	16.2 fc	17.0 ft	16.8 ft
10.0ft	10.4 fc	21.3 ft	21.0 ft
12.0ft	7.2 fc	25.6 ft	25.2 ft
14.0ft	5.3 fc	29.8 ft	29.4 ft
16.0ft	4.1 fc	34.1 ft	33.6 ft

Vert. Spread: 93.6°
Horiz. Spread: 92.8°



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USAI Lighting

DIMMING DRIVER COMPATIBILITY SELECTION GUIDE
D2 / DIML2

DIMMING DRIVER WIRING SCHEMES:

NOTES:
Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

IMPORTANT SAFETY INSTRUCTIONS - SAVE THESE INSTRUCTIONS

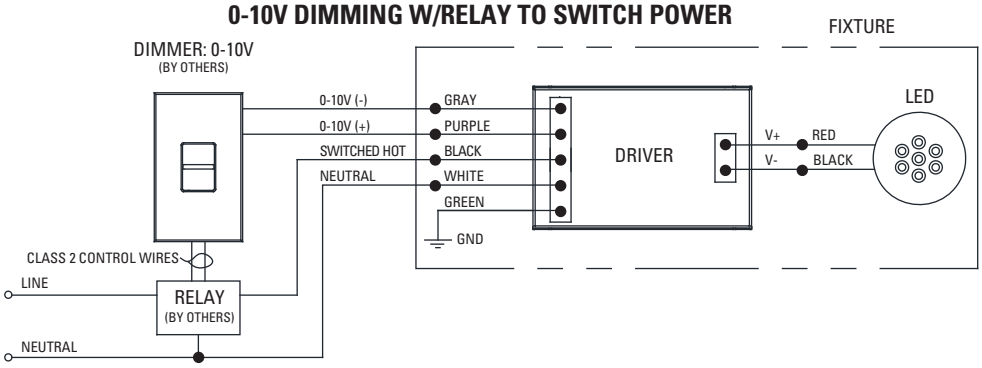
1. Keep these instructions in a safe place for future reference.
2. Only qualified electricians in accordance to local codes should install these fixtures.
3. De-energize the electrical circuit at the circuit breaker prior to installation process or servicing.
4. Make sure all connections are in accordance with the National Electrical Code and any local regulations.
5. Cap any wires not used separately (not together).

D2 / DIML2 LED: 0-10V Dimming Driver Wiring (Dims down to 10%)

D2 / DIML2 Dimmer Compatibility Chart				
Manufacturer	Product	Part Number	Dimmed Light Output Range	Qty Fixtures Per Dimmer*
120V / 277V				Use source current per fixture specification sheet to determine number of fixtures per dimmer. Max number of fixtures is limited by dimmer load rating.
Crestron	iLux dimmer expansion module	CLS-EXP-DIMFLV	100% - 10%	
Crestron	DIN Rail dimmer	DIN-4DIMFLV4	100% - 10%	
Crestron	DIN Rail analog output module	DIN-A08	100% - 10%	
Crestron	8 Channel dimmer module	GLX-DIMFLV8	100% - 10%	
Crestron	8 Channel dimmer module	GLXP-DIMFLV8	100% - 10%	
Leviton	IllumaTech dimmer	IP710-DLX	100% - 10%	
Lightolier (Philips)	Vega	V2000FAMU	100% - 10%	
Lutron	Diva	DVTV-XX	100% - 10%	

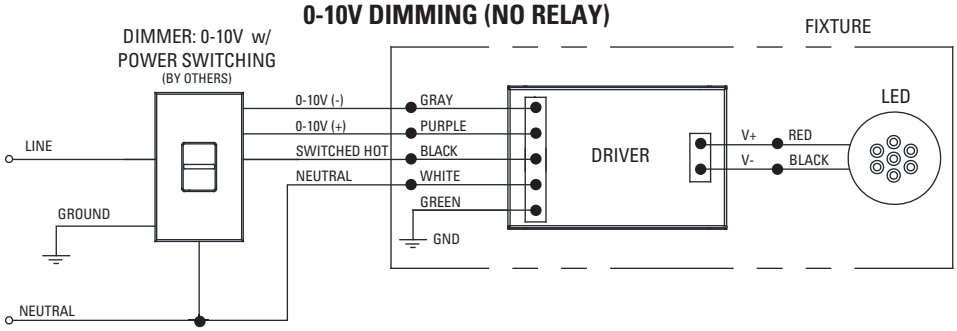
* NOTE: Refer to dimmer manufacturer's documentation for installation instructions and circuit details.

D2 / DIML2
0-10V DIMMING W/RELAY TO SWITCH POWER



NOTE:
If switched, non-dimming operation is desired, cap off purple and gray wires individually at installation. Do NOT cap purple and gray wires together.

D2 / DIML2
0-10V DIMMING (NO RELAY)



NOTE:
If switched, non-dimming operation is desired, cap off purple and gray wires individually at installation. Do NOT cap purple and gray wires together.

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I2-264-2 Revised 03/22/2017

USAI Lighting

DIMMING DRIVER COMPATIBILITY SELECTION GUIDE
D3 / DIML3

DIMMING DRIVER WIRING SCHEMES:

NOTES:
Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

IMPORTANT SAFETY INSTRUCTIONS - SAVE THESE INSTRUCTIONS

1. Keep these instructions in a safe place for future reference.
2. Only qualified electricians in accordance to local codes should install these fixtures.
3. De-energize the electrical circuit at the circuit breaker prior to installation process or servicing.
4. Make sure all connections are in accordance with the National Electrical Code and any local regulations.
5. Cap any wires not used separately (not together).

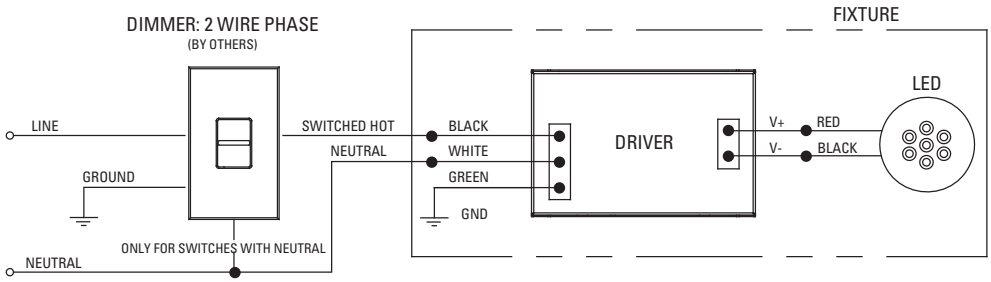
D3 / DIML3 LED: Lutron Hi-Lume A-Series 2 Wire Fwd Phase (with neutral) / LED Dimming Driver Wiring (Dims down to 1%) 120V

D3 / DIML3 Dimmer Compatibility Chart

Manufacturer	Product	Part Number	Dimmed Light Output Range	Qty Fixtures Per Dimmer* Fixture Wattage	
120V Only				39W and Less	40W - 80W
ETC	Sensor+ Cabinet	ELV10	100% - 1%	1 – 26	1 – 13
ETC	Unison DRd Cabinet	ELV10	100% - 1%	1 – 26	1 – 13
Lutron	Maestro Wireless® 600W dimmer	MRF2-6ND-120-	100% - 1%	1 – 8	1 – 4
Lutron	Maestro Wireless® 1000W dimmer	MRF2-10ND-120-	100% - 1%	1 – 13	1 – 6
Lutron	HomeWorks® QS adaptive dimmer	HQRD-6NA-	100% - 1%	1 – 8	1 – 4
Lutron	HomeWorks® QS 600W dimmer	HQRD-6ND-	100% - 1%	1 – 8	1 – 4
Lutron	HomeWorks® QS 1000 W dimmer	HQRD-10ND-	100% - 1%	1 – 13	1 – 6
Lutron	Caseta Wireless® Pro 1000W dimmer	PD-10NXD-	100% - 1%	1 – 13	1 – 6
Lutron	Stanza® dimmer	SZ-6ND-	100% - 1%	1 – 8	1 – 4
Lutron	RadioRA® 2 adaptive dimmer	RRD-6NA-	100% - 1%	1 – 8	1 – 4
Lutron	RadioRA® 2 1000 W dimmer	RRD-10ND-	100% - 1%	1 – 6	1 – 3
Lutron	myRoom DIN power module	MQSE-4A1-D	100% - 1%	1 – 6	1 – 3
Lutron	HomeWorks® QS wallbox power module	HQRJ-WPM-6D-120-	100% - 1%	1 – 26	1 – 13
Lutron	Homeworks® DIN power module	LQSE-4A1-D	100% - 1%	1 – 6	1 – 3
Lutron	HomeWorks® wallbox power module	HWI-WPM-6D-120	100% - 1%	1 – 26	1 – 13
Lutron	GRAFIK Eye® QS control unit	QSGR-, QSGRJ-	100% - 1%	1 – 26	1 – 13
Lutron	GRAFIK Eye® 3000 control unit	GRX-3100-, GRX-3500-	100% - 1%	1 – 26	1 – 13
Lutron	RPM-4U module	HW-RPM-4U-120, LP-RPM-4U-120	100% - 1%	1 – 26	1 – 13
Lutron	RPM-4A module	HW-RPM-4A-120, LP-RPM-4A-120	100% - 1%	1 – 26	1 – 13
Lutron	GP dimming panels	Various	100% - 1%	1 – 26	1 – 13
Lutron	Ariadni CL 250W dimmer	AYCL-253P-	100%-1%	1 – 8	1 – 4
Lutron	Diva CL 250W dimmer	DVCL-253P-, DVSCCL-253P-	100%-1%	1 – 8	1 – 4
Lutron	Grafik T CL or RF CL dimmer	GT-250M-, GTJ-250M-	100%-1%	1 – 8	1 – 4
Lutron	Nova T CL 250W dimmer	NTCL-250-	100%-1%	1 – 10	1 – 5

* NOTE: Refer to dimmer manufacturer's documentation for installation instructions and circuit details.

D3 / DIML3
2 WIRE PHASE DIMMING



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DIMMING DRIVER COMPATIBILITY SELECTION GUIDE
D4 / DIML4

DIMMING DRIVER WIRING SCHEMES:

NOTES:
Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

IMPORTANT SAFETY INSTRUCTIONS - SAVE THESE INSTRUCTIONS

1. Keep these instructions in a safe place for future reference.
2. Only qualified electricians in accordance to local codes should install these fixtures.
3. De-energize the electrical circuit at the circuit breaker prior to installation process or servicing.
4. Make sure all connections are in accordance with the National Electrical Code and any local regulations.
5. Cap any wires not used separately (not together).

D4 / DIML4 LED: Lutron Hi-Lume A-Series LED Driver with 3-Wire FL Control / LED Dimming Driver Wiring (Dims down to 1%)

D4 / DIML4 3-Wire Dimmer Compatibility Chart

Manufacturer	Product	Part Number	Dimmed Light Output Range	Qty Fixtures Per Control* Fixture Wattage	
120V Only				39W and Less	40W - 80W
ETC	Sensor+ Cabinet	D20 Dimming module	100% - 1%	1–53	1–26
ETC	Unison DRd Cabinet	D20F Dimming module	100% - 1%	1–53	1–26
Lutron	Nova T	NTF-10-	100%–1%	1–41	1 – 20
Lutron	Nova T	NTF-103P-	100%–1%	1–20	1 – 10
Lutron	Nova	NF-10-	100%–1%	1–41	1 – 20
Lutron	Nova	NF-103P-	100%–1%	1–20	1 – 10
Lutron	Vareo	VF-10-	100%–1%	1–20	1 – 10
Lutron	Skylark	SF-10P-, SF-103P-	100%–1%	1–20	1 – 10
Lutron	Diva	DVF-103P-, DVSCF-103P-	100%–1%	1–20	1 – 10
Lutron	Ariadni	AYF-103P-	100%–1%	1–20	1 – 10
Lutron	Vierti	VTF-6A-	100%–1%	1–15	1 – 7
Lutron	Maestro	MAF-6AM-, MSCF-6AM-	100%–1%	1–15	1 – 7
Lutron	Maestro Wireless	MRF2-F6AN-DV-	100%–1%	1–15	1 – 7
Lutron	RadioRA 2	RRD-F6AN-DV-	100%–1%	1–15	1 – 7
Lutron	HomeWorks QS	HQRD-F6AN-DV	100%–1%	1–15	1 – 7
Lutron	Interfaces	PHPM-3F-120, PHPM-3F-DV	100%–1%	1–41	1 – 20
Lutron	GP Dimming Panels	Various	100%–1%	1–41	1 – 20
277V Only				40W and Less	41W - 80W
ETC	Sensor+ Cabinet	D20 Dimming module	100% - 1%	1–53	1–26
ETC	Unison DRd Cabinet	D20F Dimming module	100% - 1%	1–53	1–26
Lutron	Nova T	NTF-10-277-	100%–1%	1–44	1 – 22
Lutron	Nova T	NTF-103P-277-	100%–1%	1–33	1 – 16
Lutron	Nova	NF-10-277-	100%–1%	1–44	1 – 22
Lutron	Nova	NF-103P-277-	100%–1%	1–33	1 – 16
Lutron	Skylark	SF-12P-277-, SF-12P-277-3	100%–1%	1–33	1 – 16
Lutron	Diva	DVF-103P-277-, DVSCF-103P-277-	100%–1%	1–33	1 – 16
Lutron	Ariadni	AYF-103P-277-	100%–1%	1–44	1 – 22
Lutron	Vierti	VTF-6A-	100%–1%	1–33	1 – 16
Lutron	Maestro	MAF-6AM-277-, MSCF-6AM-277-	100%–1%	1–20	1 – 10
Lutron	Maestro Wireless	MRF2-F6AN-DV-	100%–1%	1–33	1 – 16
Lutron	RadioRA 2	RRD-F6AN-DV-	100%–1%	1–33	1 – 16
Lutron	HomeWorks QS	HQRD-F6AN-DV	100%–1%	1–33	1 – 16
Lutron	Interfaces	PHPM-3F-DV	100%–1%	1–88	1 – 44
Lutron	GP Dimming Panels	Various	100%–1%	1–88	1 – 44

* NOTE: Number of fixtures may be higher if wattage is less than maximum values shown. Refer to dimmer manufacturer's documentation for installation instructions and circuit details.

DIML4 wiring diagrams continued on next page

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DIMMING DRIVER COMPATIBILITY SELECTION GUIDE
D4 / DIML4 Continued

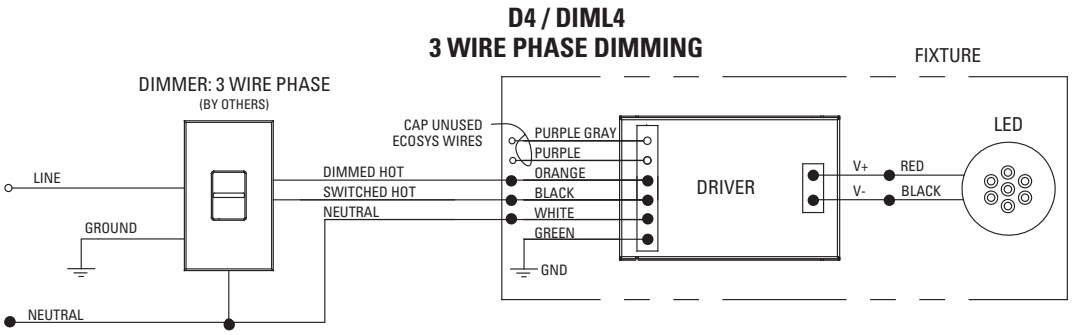
DIMMING DRIVER WIRING SCHEMES:

NOTES:
Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

IMPORTANT SAFETY INSTRUCTIONS - SAVE THESE INSTRUCTIONS

1. Keep these instructions in a safe place for future reference.
2. Only qualified electricians in accordance to local codes should install these fixtures.
3. De-energize the electrical circuit at the circuit breaker prior to installation process or servicing.
4. Make sure all connections are in accordance with the National Electrical Code and any local regulations.
5. Cap any wires not used separately (not together).

D4 / DIML4 LED: Lutron Hi-Lume A-Series LED Driver with 3-Wire FL Control / LED Dimming Driver Wiring (Dims down to 1%)

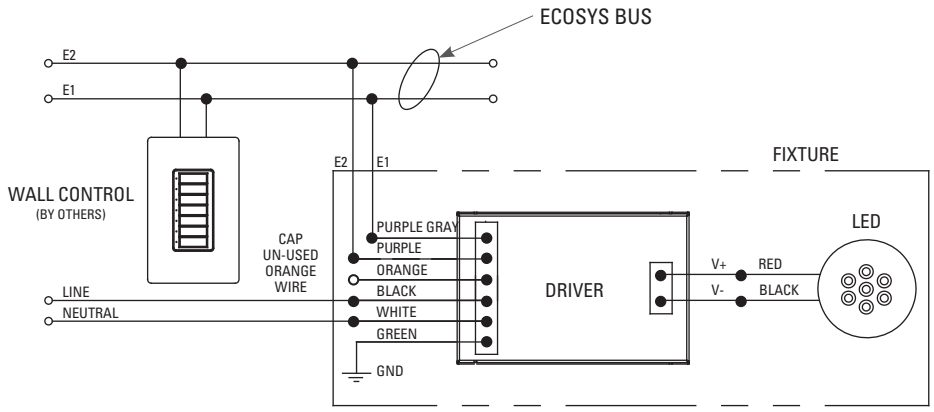


D4 / DIML4 LED: Lutron Hi-Lume A-Series LED Driver with EcoSystem Control / LED Dimming Driver Wiring (Dims down to

D4 / DIML4 EcoSystem Dimmer Compatibility Chart

Manufacturer	Product	Part Number	Dimmed Light Output Range	Qty Fixtures Per Control* Fixture Wattage	
120V / 277V				39W and Less	40W - 80W
Lutron	PowPak dimming module	RMJ-ECO32-DV-B	100%–1%	1–32	1 – 16
Lutron	Energi Savr Node	QSN-1ECO-S, QSN-2ECO-S	100%–1%	1–64	1 – 32
Lutron	GRAFIK Eye QS (120V ONLY)	QSGRJ- E, QSGR- E	100%–1%	1–64	1 – 32
Lutron	Quantum	Various	100%–1%	1–64	1 – 32

* NOTE: Number of fixtures may be higher if wattage is less than maximum values shown. Refer to dimmer manufacturer's documentation for installation instructions and circuit details.



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DIMMING DRIVER COMPATIBILITY SELECTION GUIDE
D4E / DIML4E and D4H /DIML4H

DIMMING DRIVER WIRING SCHEMES:

NOTES:
Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

IMPORTANT SAFETY INSTRUCTIONS - SAVE THESE INSTRUCTIONS

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5. Cap any wires not used separately (not together).

D4E / DIML4E LED: Lutron 5 Series EcoSystem LED Driver / LED Dimming Driver Wiring (Dims down to 5%)

D4E / DIML4E EcoSystem Dimmer Compatibility Chart

Manufacturer	Product	Part Number	Dimmed Light Output Range	Qty Fixtures Per Control* Fixture Wattage	
120V / 277V				39W and Less	40W - 80W
Lutron	PowPak dimming module	RMJ-ECO32-DV-B	100%–5%	1–32	1 – 16
Lutron	Energi Savr Node	QSN-1ECO-S, QSN-2ECO-S	100%–5%	1–64	1 – 32
Lutron	GRAFIK Eye QS (120V ONLY)	QSGRJ- E, QSGR- E	100%–5%	1–64	1 – 32
Lutron	Quantum	Various	100%–5%	1–64	1 – 32

* NOTE: Number of fixtures may be higher if wattage is less than maximum values shown. Refer to dimmer manufacturer's documentation for installation instructions and circuit details.

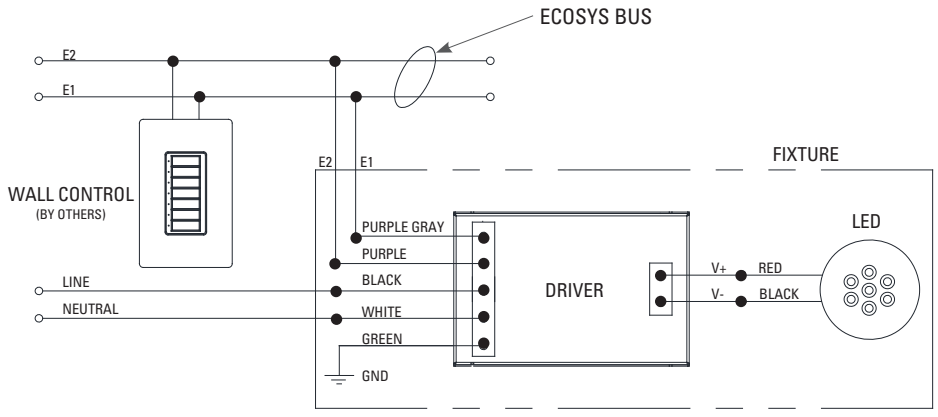
D4H / DIML4H LED: Lutron H Series EcoSystem LED Driver with Fade to Black (dims down to 1%)

D4H / DIML4H EcoSystem Dimmer Compatibility Chart

Manufacturer	Product	Part Number	Dimmed Light Output Range	Qty Fixtures Per Control* Fixture Wattage	
120V / 277V				39W and Less	40W - 80W
Lutron	PowPak dimming module	RMJ-ECO32-DV-B	100%–1%	1–32	1 – 16
Lutron	Energi Savr Node	QSN-1ECO-S, QSN-2ECO-S	100%–1%	1–64	1 – 32
Lutron	GRAFIK Eye QS (120V ONLY)	QSGRJ- E, QSGR- E	100%–1%	1–64	1 – 32
Lutron	Quantum	Various	100%–1%	1–64	1 – 32

* NOTE: Number of fixtures may be higher if wattage is less than maximum values shown. Refer to dimmer manufacturer's documentation for installation instructions and circuit details.

D4E / DIML4E and D4H / DIML 4H EcoSystem CONTROLS



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DIMMING DRIVER COMPATIBILITY SELECTION GUIDE
D6A / DIML6A and D6E / DIML6E
D6B / DIML6B and D6F / DIML6F

IMPORTANT SAFETY INSTRUCTIONS - SAVE THESE INSTRUCTIONS

1. Keep these instructions in a safe place for future reference.
2. Only qualified electricians in accordance to local codes should install these fixtures.
3. De-energize the electrical circuit at the circuit breaker prior to installation process or servicing.
4. Make sure all connections are in accordance with the National Electrical Code and any local regulations.
5. Cap any wires not used separately (not together).

D6A / DIML6A and D6E / DIML6E LED Dimming Compatibility Table

D6A / DIML6A and D6E / DIML6E are linearly programmed dimming drivers for use with logarithmic-style dimming controls (e.g., Lutron and others listed in the table below)
D6A / DIML6A = EldoLED SOLOdrive 0-10V control dims from 100% to 0.1%
D6E / DIML6E = EldoLED ECOdrive 0-10V control dims from 100% to 1%

D6A / DIML6A and D6E / DIML6E Dimmer Compatibility Chart

Manufacturer	Product	Part Number	Dimmed Light Output Range			Qty Fixtures Per Dimmer*
120V & 277V			DIML6A		6E	Refer to manufacturer's dimmer load rating for maximum and minimum fixture quantities per dimmer. Enlighted compatible.
Lutron	Diva	DVTV/NFTV with PP-20	99% -	0.1%	1%	
Lutron	Nova T	NTFTV with PP-20	99% -	0.1%	1%	
Lutron	Energi Savr Node	QSN-4T16-S	100% -	0.1%	1%	
Lutron	GP Dimming Panels	TVM2 Module	99% -	0.1%	1%	
Lutron	Interfaces	GRX-TVI w/ GRX3503	100% -	0.1%	1%	
Sensor Switch	nIO	nIO EZ	100% -	0.1%	1%	
enlighted	Control Unit	CU-3E-1R	100% -	0.1%	1%	

* NOTE: Refer to dimmer manufacturer's documentation for installation instructions and circuit details.

D6B / DIML6B and D6F / DIML6F LED Dimming Compatibility Table

D6B / DIML6B and D6F / DIML6F are logarithmic-programmed dimming drivers for use with linear-style dimming controls (e.g., Crestron, non-Lutron and others listed below)
D6B / DIML6B = EldoLED SOLOdrive 0-10V control dims from 100% to 0.1% D6F / DIML6F = EldoLED ECOdrive 0-10V control dims from 100% to 1%

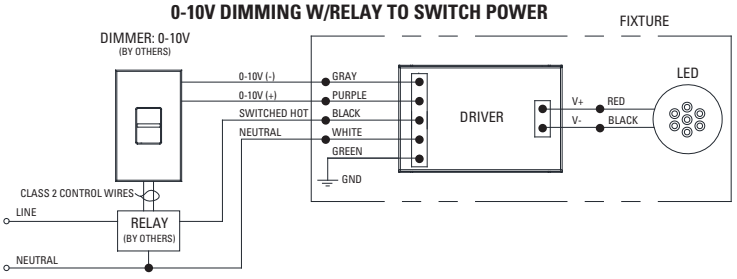
D6B / DIML6B and D6F / DIML6F Dimmer Compatibility Chart

Manufacturer	Product	Part Number	Dimmed Light Output Range			Qty Fixtures Per Dimmer*
120V & 277V			DIML6B		6F	Refer to manufacturer's dimmer load rating for maximum and minimum fixture quantities per dimmer. Enlighted compatible.
Bush-Jaeger	Electronic potentiometer	2112U-101	100% -	0.1%	1%	
Jung	Electronic potentiometer	240-10	100% -	0.1%	1%	
Leviton	Iluma Tech dimmer	IP710-DLX	100% -	0.1%	1%	
Lightolier (Philips)	Momentum (120V ONLY)	ZP600FAM120	100% -	0.1%	1%	
Merten	Electronic potentiometer	5729	100% -	0.1%	1%	
Pass & Seymour	Titan	CD4FB-W	100% -	0.1%	1%	
Watt Stopper	Miro	DCLV1	100% -	0.1%	1%	
Synergy	Wallbox Dimmers	ISD BC	100% -	0.1%	1%	
ABB	i-bus	SD/S 2.16.1	100% -	0.1%	1%	
Crestron	Modules	GLX-DIMFLV8, GLXP-DIMFLV8	100% -	0.1%	1%	
Crestron	Green Light	GLPAC-DIMFLV4-, GLPAC-DIMFLV8-	100% -	0.1%	1%	
Crestron	Green Light Power Pack	GLPP-DIMFLVEX-PM, GLPP-1DIMFLV2EX-PM, GLPP-1DIMFLV3EX-PM	100% -	0.1%	1%	
Crestron	DIN Rail Analog Output Module	DIN-A08	100% -	0.1%	1%	
Crestron	DIN Rail 0-10V Fluorescent Dimmer	DIN-4DIMFLV4	100% -	0.1%	1%	
Crestron	iLux 0-10V Dimmer Expansion Module	CLS-EXP-DIMFLV	100% -	0.1%	1%	
enlighted	Control Unit	CU-3E-1R	100% -	0.1%	1%	

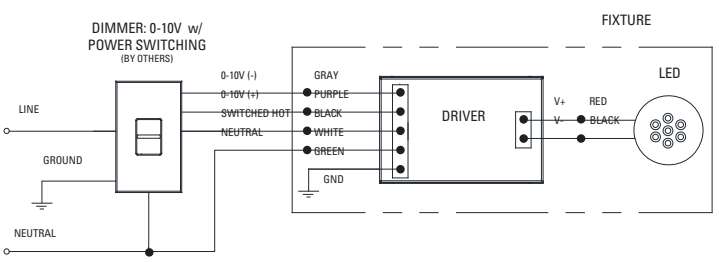
DIMMING DRIVER WIRING SCHEMES:

NOTES: Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

D6 / DIML6
0-10V DIMMING W/RELAY TO SWITCH POWER



0-10V DIMMING (NO RELAY)



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DIMMING DRIVER COMPATIBILITY SELECTION GUIDE
D7 / DIML7 and D7E

DIMMING DRIVER WIRING SCHEMES:

NOTES:
Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

IMPORTANT SAFETY INSTRUCTIONS - SAVE THESE INSTRUCTIONS

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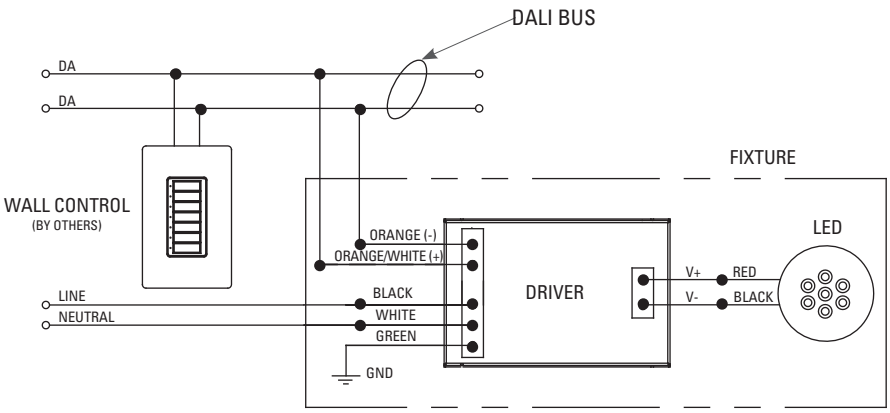
2. Only qualified electricians in accordance to local codes should install these fixtures.
3. De-energize the electrical circuit at the circuit breaker prior to installation process or servicing.
4. Make sure all connections are in accordance with the National Electrical Code and any local regulations.
5. Cap any wires not used separately (not together).

D7 / DIML7 and D7E Dimming Driver Wiring

D7 / DIML7 and D7E are linearly programmed dimming drivers.
D7 / DIML7 = EldoLED SOLOdrive DALI control dims from 100% to 0.1%
D7E = EldoLED ECOdrive DALI control dims from 100% to 1%

D7 / DIML7 / D7E
DALI CONTROLS



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USAI Lighting

DIMMING DRIVER COMPATIBILITY SELECTION GUIDE
D8 / DIML8 and D8E

DIMMING DRIVER WIRING SCHEMES:

NOTES:
Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

IMPORTANT SAFETY INSTRUCTIONS - SAVE THESE INSTRUCTIONS

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4. Make sure all connections are in accordance with the National Electrical Code and any local regulations.
5. Cap any wires not used separately (not together).

D8 / DIML8 and D8E Dimming Driver Wiring

D8 / DIML8 and D8E are linearly programmed dimming drivers.
D8 / DIML8 = EldoLED POWERdrive DMX control dims from 100% to 0.1%
D8E = EldoLED POWERdrive DMX control dims from 100% to 1%

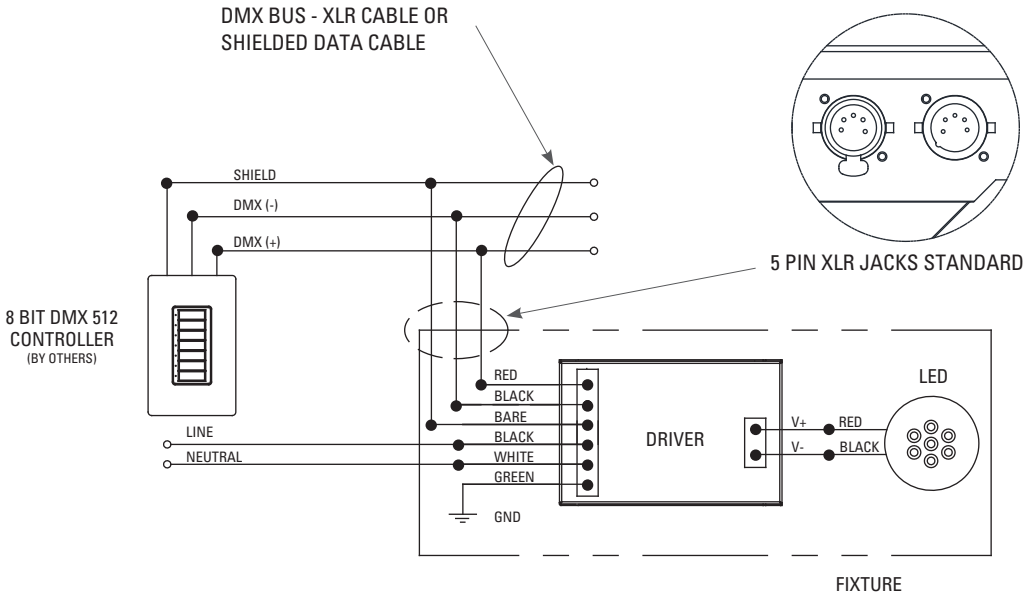
DMX BUS - XLR CABLE OR
SHIELDED DATA CABLE

The data cable used must meet the following requirements:

- type: shielded, 2-conductor twisted pair
- maximum capacitance between conductors: 30 pF/ft
- maximum capacitance between conductor and shield: 55 pF/ft
- maximum resistance: 0.02 ohms/ft
- normal impedance: 100-140 ohms
- conductive core: 24 AWG is recommended

If 3-wire data cables are preferred, we suggest a Belden 9841 or equivalent cable which meets the specifications for EIA RS-485 applications. Do not use standard microphone cables: they cannot transmit DMX512 data reliably over long distances. NOTE: DMX link termination device (by others) should be used on last fixture in line on a circuit to avoid signal loss.

D8 / DIML8 / D8E
DMX CONTROLS



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DIMMING DRIVER COMPATIBILITY SELECTION GUIDE
D15 / DIML15

DIMMING DRIVER WIRING SCHEMES:

NOTES:
Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

IMPORTANT SAFETY INSTRUCTIONS - SAVE THESE INSTRUCTIONS

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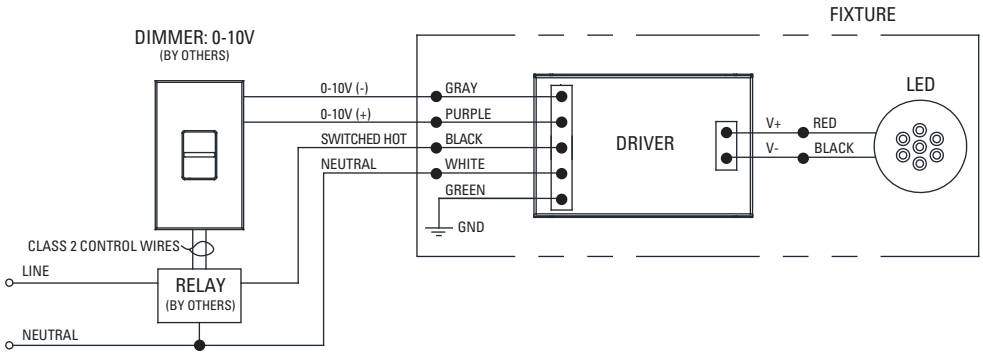
3. De-energize the electrical circuit at the circuit breaker prior to installation process or servicing.
4. Make sure all connections are in accordance with the National Electrical Code and any local regulations.
5. Cap any wires not used separately (not together).

D15 / DIML15 LED: 0-10V, 347V Dimming Driver Wiring (Dims down to 1%) 347V Only

D15 / DIML15 Dimmer Compatibility Chart			
Manufacturer	Product	Dimmed Light Output Range	Qty Fixtures Per Dimmer*
347			Use source current per fixture specification sheet to determine number of fixtures per dimmer. Max number of fixtures is limited by dimmer load rating.
Acuity	Synergy ISD-BC	100% - 1%	
Douglas Lighting	WPN-5721, WPN-5822	100% - 1%	
Hubbell	Light Hawk2 LHD-IRS3-N347-xx	100% - 1%	
Leviton	Illumatech IP710-DLZ with 347V relay	100% - 1%	
Leviton	Centura Fluorescent Control System	100% - 1%	
Lutron	Nova NFTV-* dimmer plus 347V relay	100% - 1%	
Lutron	Diva DVTV-* dimmer plus 347V relay	100% - 1%	

* NOTE: Refer to dimmer manufacturer's documentation for installation instructions and circuit details.

D15 / DIML15
0-10V DIMMING W/RELAY TO SWITCH POWER



NOTE:
If switched, non-dimming operation is desired, cap off purple and gray wires individually at installation. Do NOT cap purple and gray wires together.

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I2-264-15 Revised 03/22/2017

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DIMMING DRIVER COMPATIBILITY SELECTION GUIDE
D19 / DIML19

DIMMING DRIVER WIRING SCHEMES:

NOTES:
Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

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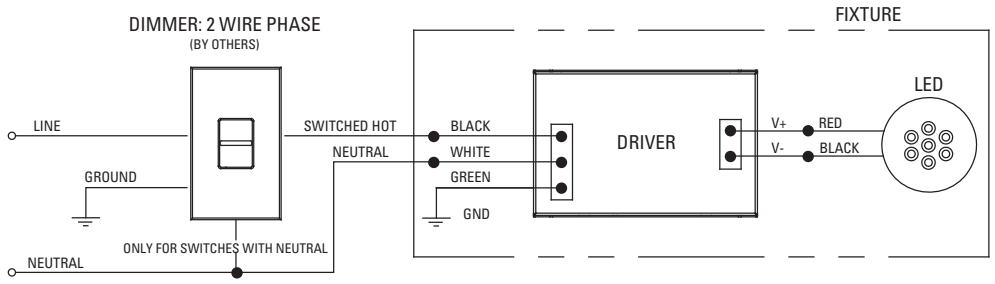
3. De-energize the electrical circuit at the circuit breaker prior to installation process or servicing.
4. Make sure all connections are in accordance with the National Electrical Code and any local regulations.
5. Cap any wires not used separately (not together).

D19 / DIML19 LED: Hatch XTC series or equivalent - Forward and Reverse Phase Dimming Driver. Dims down to 1% contingent upon dimmer specification and load. 120V only.

D19 / DIML19
2 WIRE PHASE DIMMING



D19 / DIML19 Dimmer Compatibility Chart

120V ONLY		
Forward Phase / TRIAC Dimming		
Manufacturer	Product	Qty Fixtures Per Dimmer
Leviton	IPL06-10Z	Use fixture wattage per fixture specification sheet to determine number of fixtures per dimmer. Max number of fixtures is limited by dimmer load rating.
	6613-xxx	
Lutron	S-600P	
	S-603P	
	DV-600P	
	DV-603P	
	DVSC-603P	
	CT-600P	
	CT-603P	

120V ONLY		
Reverse Phase / ELV Dimming		
Manufacturer	Product	Qty Fixtures Per Dimmer
Leviton	6615	Use fixture wattage per fixture specification sheet to determine number of fixtures per dimmer. Max number of fixtures is limited by dimmer load rating.
	IPE04-xxx	
Lutron	NTELV-300	
	NTELV-600	
	SELV-300P	
	SELV-303P	
	DVELV-300P	
	DVELV-303P	

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I2-264-19 Revised 03/22/2017