Hornet® HP Elbow

3.5" Round Adj Pull-Down

amerlux
A Delta Group Company

Features

Tiny. Powerful. Unobtrusive. The Hornet HP family delivers strong, focused, dimmable beams of light with consistent color and punch. This year's Hornet HP technology enhancements feature advanced crisp whites, expanded color ranges, top efficiency, and impressive new dimming options. These highlights characterize the brand new Hornet HP Elbow Downlight–small in size, but BIG on power. Hornet HP Downlights. Lighting with a twist.

Product Overview

Type:	**Round** Adjustable Pull-Down Accent & Display
Wattage:	13, 18, 20
Lumen Output:	1,369 max; 76 Lm/W (spot optic)
CBCP:	12,215 max (spot optic)
Color Temp:	2200K, 2700K, 3000K, 3500K, 4000K, CRISP
CRI:	83 typ. (2700K, 3000K, 3500K, 4000K) 90+ typ. (2200K, 2700K, 3000K) CrispWhite (18W max) & 3K Class A available
Dimming:	TRIAC & ELV (120/277VAC) - 5% Dim Lutron Hi-lume® H Series/EcoSystem - 1% dim with soft on, fade to black, 120/277VAC 0-10V dimming, 1% Dim DALI (120/277VAC) - 1% Dim

PROJECT:

TYPE:

Fixture Summary *(see following pages for more information)*

Performance Chart

Watts	Delivered Lumens	LPW	CBCP	Color Temp
13	972	75	8,673	3000K-83
18	1,205	67	10,749	3000K-83
20	1,369	68	12,215	3000K-83

Data is based on 3000K-83 , 120V IES files available on website
Data is based on Spot optic
See pages 5-6 for other beam spreads

Electrical Data

	13W		18W		20W	
	System Watts	Amps	System Watts	Amps	System Watts	Amps
120V	13	0.11	18	0.15	20	0.17
277V	13	0.05	18	0.06	20	0.07

Electronic constant current LED driver
All wattages include 2W thermal protector

c SP us

5 year limited warranty
AMERLUX LED

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PROJECT: **TYPE:**

Housing/Frame Ordering Information

_____.T.____.____.____.____.____

1 2 3 4 5 6

1 Model

For New Construction

HDL-HP-R-NC-A17† (New Construction)
HDL-HP-R-CP-A17† (Chicago Plenum (CCEA) housing)
HDL-HP-R-IC-A17† (Insulated Ceiling/air tight, 13W & 18W only)

For Existing Ceilings

HDL-HP-R-REM-A17† (Remodeler)

2 Style

T - trimmed

3 Wattage

13
18
20 (not available for use with IC housing)

4 Voltage

120
277
120/277 (for use with IC housing only)

5 Driver (for non-dimming, select LE/TE option)

LE/TE - TRIAC/ELV dimming
HILUME-H-ECO - Lutron Hi-lume® H Series, EcoSystem, 1% dim with soft on, fade to black
0-10V - 0-10V dimming, 1% dim
DALI - DALI dimming, 1% dim

6 Options/Accessories

EM - emergency battery pack with remote test switch (not available for use with REM, CP or IC options)

Trim Ordering Information

HDL-HP-EB-A17.T.____.____.____

1 2 3 4 5

1 Model

HDL-HP-EB-A17†

2 Style

T - trimmed

3 Finish

MW - matte white
MB - matte black
SLV - silver

4 Beam Spreads

SP - spot, 15°
NF - narrow flood, 20°
MFL - medium flood, 24°
FL - flood, 28°
WF - wide flood, 45°
VWF - very wide flood, 60°
LS - linear spread, 60° x 10°

5 Color Temp

83 CRI	90+ CRI	
27 - 2700K-83	**229** - 2200K-90+	**CRISP** - CrispWhite (18W max)
30 - 3000K-83	**279** - 2700K-90+	**3CLA** - 3K Class A
35 - 3500K-83	**309** - 3000K-90+	
40 - 4000K-83	**359** - 3500K-90+	
	409 - 4000K-90+	

† The "A" refers to the sequential revision in a year and "XX" refers to the year of update. Updates coincide with improved performance while not changing the overall fixture aesthetic and are reflected in the published performance data. Please contact your Amerlux representative for explanations of changes.

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PROJECT: **TYPE:**

Specifications

Application
Retail and commercial accent and display lighting

Construction
20 ga. galvanized steel frame
18 ga. galvanized steel splice housing and hanger brackets (not for Remodeler version)
Die-cast optical housing and trim
Die-cast heatsink

Optical
Pull-down adjustable, 60° max tilt, 356° rotation
Beam spreads: Spot, 15°; Narrow Flood, 20°; Medium Flood, 24°; Flood, 28°; Wide Flood, 45° Very Wide Flood, 60°; Linear Spread, 60° x 10°

LED
Color Temp Options:
2200K, 2700K, 3000K, 3500K, 4000K
CRI: 83 typ. (2700K, 3000K, 3500K, 4000K)
90+ typ. (2200K, 2700K, 3000K, 3500K, 4000K)
CrispWhite* LED available, 18W max
Class A** 3000K (high CRI, high gamut)
R9 Values: 11 (83 CRI), 55 (92 CRI)
Binning: 3 MacAdam (SDCM)
Life: 50,000+ hrs, > 70% of initial lumens at 50,000 hrs

**CrispWhite:* CrispWhite Technology delivers the warmth of colors expected from a high 90 CRI solution but also creates the natural crisp white color that is pleasing to the eye. It creates the most impactful lighting ever available, by revealing the richest whites and vibrant colors that pop.

***Class A LED:* Class A LED's have a CRI > 80 and a GAI > 80. CRI defines color "Naturalness" and GAI defines color "Saturation." Both being high delivers rich colors and pure whites.

Electrical
Wattage: 13, 18, 20
Electronic constant current LED driver, 120/277VAC input
This product complies with IEEE C62.41 for surge endurance up to 2.5KV. Amerlux® recommends using additional surge protection with this unit (supplied by others), surge and over voltage damage is not covered under warranty.

Driver
LE/TE - Leading Edge, TRIAC, forward phase/Trailing Edge, ELV, reverse phase
0-10V, Lutron and DALI systems also available
See pages 8-9 for more dimming information

Finish
Powder coat paint
Consult factory for custom finishes

Mounting
For use in grid or sheetrock ceilings, 1" thick max
26" Hanger bars included (except for Remodeler versions)
Consult factory for hanger bars greater than 26"

Certifications
CSA damp as tested to UL 1598 standards
IC/AT rated (optional)

Warranty
5 year limited warranty

Emergency Battery Pack (EM)
Powers fixture at 5.1 watts (approx. 400 Lm) for 90 minutes (not for use with REM, CP or IC/AT versions)

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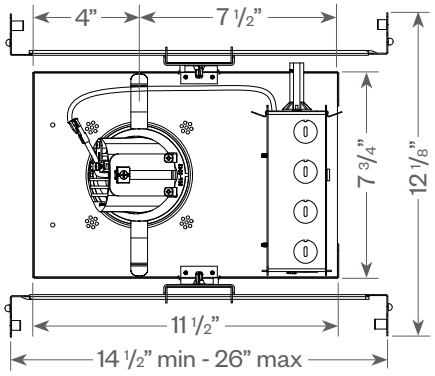
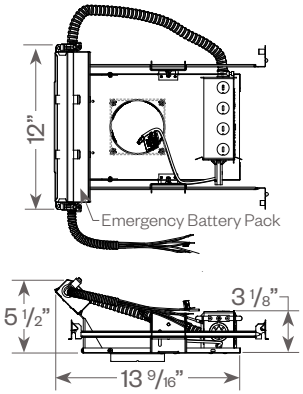
PROJECT: **TYPE:**

Hornet HP Elbow

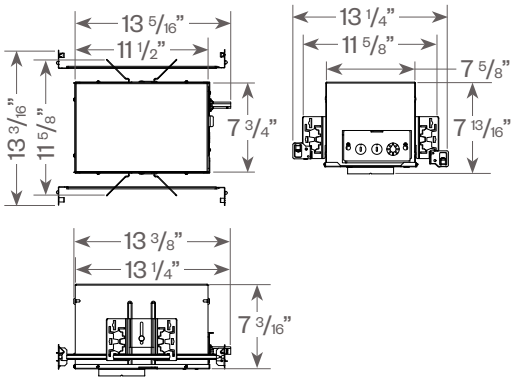


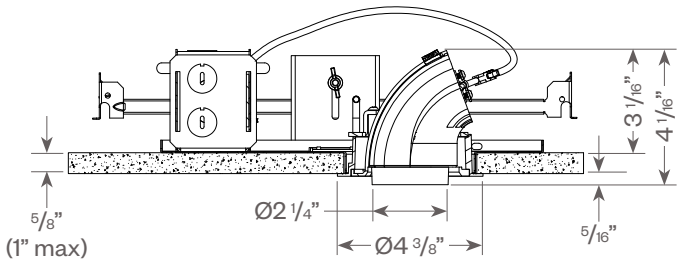
Ceiling cut out: 4" dia.

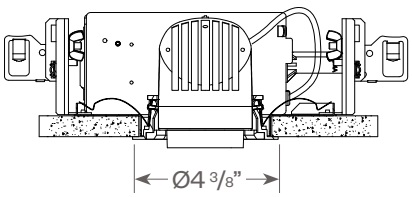
Frame with Emergency Battery Pack

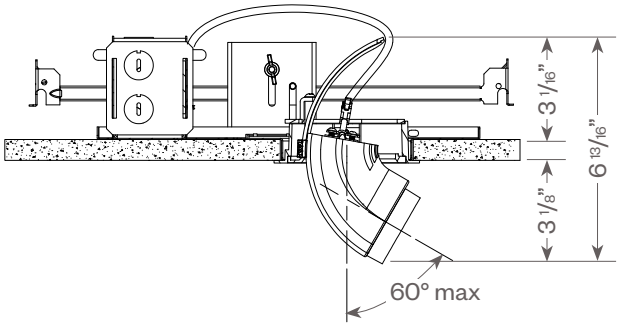


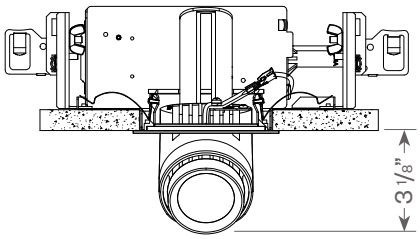
Optional CP or IC/AT housing











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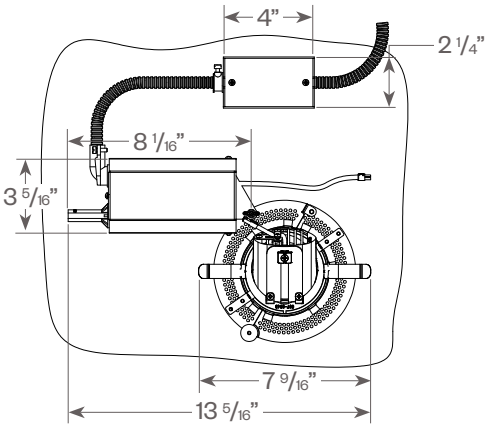
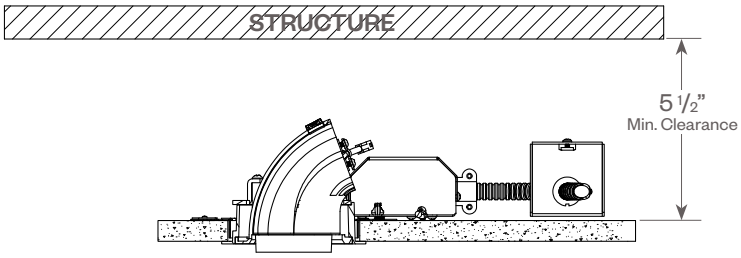
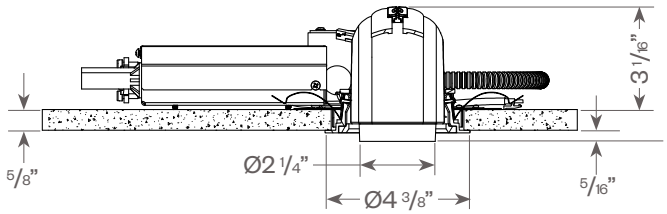
PROJECT: **TYPE:**

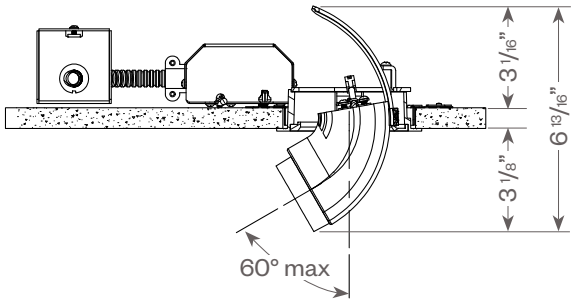
Hornet HP Elbow Remodeler





Ceiling cut out: 4" dia.





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PROJECT: **TYPE:**

FIXTURE DATA: (Complete photometric data (.ies format) available upon request)

MULTIPLYING FACTORS: (Multiplying Factor is based on 3000K-83 120V IES file on website)

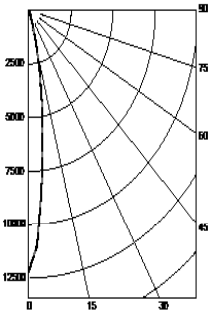
Wattage:	13W	18W	20W
Factor:	0.65	0.90	1.0

CCT:	2700K-83	3000K-83	3500K-83	4000K-83
Factor:	0.96	1.0	1.02	1.04

CCT:	2200K-90+	2700K-90+	3000K-90+	3500K-90+	4000K-90+	CRISP	3CLA
Factor:	0.71	0.80	0.83	0.87	0.90	0.65	0.75

20W LED, 3000K (For FL & WF data see page 6)

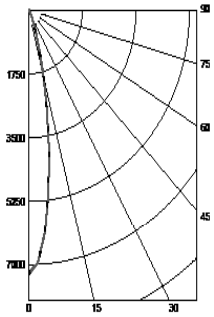
Spot (SP) Distribution, 15°
LTL #855377
Lumens: 1,369



Candelas at Nadir

Deg	Candela
0	12215
5	8436
15	1705
25	204
35	77
45	26

Narrow Flood (NF) Distribution, 22°
LTL#860527
Lumens: 1,307



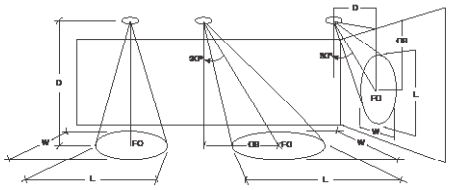
Candelas at Nadir

Deg	Candela
0	7252
5	6128
15	1841
25	309
35	93
45	41

Application Data:

Notes and Definitions:

Beam spread is to 50% center beam candlepower (CBCP).
D=Distance to floor or wall.
FC=Footcandles on floor or wall at center beam aiming location.
L=Effective Visual Beam length in feet (50% of maximum footcandle level).
W=Effective Visual Beam width in feet (50% of maximum footcandle level).
CB=Distance across or down to center beam location.



0° Aiming Angle Horizontal Footcandles

30° Aiming Angle Horizontal Footcandles

30° Aiming Angle Vertical Footcandles

60° Aiming Angle Vertical Footcandles

	0° Aiming Angle Horizontal Footcandles				30° Aiming Angle Horizontal Footcandles					30° Aiming Angle Vertical Footcandles					60° Aiming Angle Vertical Footcandles				
	D	FC	L	W	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
Spot	5.0'	484	1.4	1.4	5.0'	313	1.8	1.5	3.0	3.0'	178	3.0	1.6	5.0	3.0'	630	1.6	1.1	2.0
	7.5'	216	2.0	2.0	7.5'	136	2.8	2.4	4.0	4.0'	105	3.8	2.1	6.0	4.0 '	450	1.6	1.3	2.0
	10.0'	122	2.7	2.7	10.0'	76	3.7	3.2	6.0	5.0'	67	4.8	2.7	8.0	5.0'	298	2.0	1.6	3.0
	12.5'	78	3.4	3.4	12.5'	46	4.8	4.2	7.0	6.0'	47	5.9	3.2	9.0	6.0'	200	2.4	1.9	3.0
Narrow Flood	D	FC	L	W	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	5.0'	289	1.7	1.7	5.0'	187	2.4	2.1	3.0	3.0'	127	3.3	1.8	4.0	3.0'	422	1.9	1.3	2.0
	7.5'	129	2.8	2.8	7.5'	86	3.5	3.1	4.0	4.0'	70	4.4	2.7	6.0	4.0'	298	1.9	1.5	2.0
	10.0'	73	3.6	3.6	10.0'	47	4.7	4.1	5.0	5.0'	47	5.3	3.2	7.0	5.0'	181	2.5	2.1	3.0
	12.5'	47	4.5	4.5	12.5'	31	5.8	5.2	7.0	6.0'	32	6.7	3.9	8.0	6.0'	133	2.8	2.5	3.0

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PROJECT: **TYPE:**

FIXTURE DATA: (Complete photometric data (.ies format) available upon request)

MULTIPLYING FACTORS: (Multiplying Factor is based on 3000K-83 120V IES file on website)

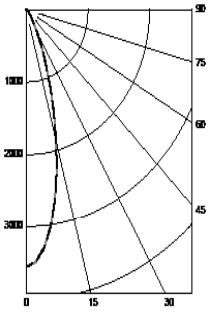
Wattage:	13W	18W	20W
Factor:	0.65	0.90	1.0

CCT:	2700K-83	3000K-83	3500K-83	4000K-83
Factor:	0.96	1.0	1.02	1.04

CCT:	2200K-90+	2700K-90+	3000K-90+	3500K-90+	4000K-90+	CRISP	3CLA
Factor:	0.71	0.80	0.83	0.87	0.90	0.65	0.75

20W LED, 3000K (For SP & NF data see page 5)

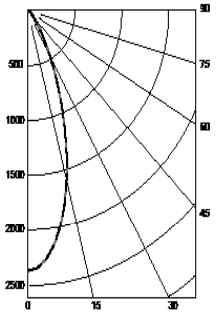
Flood (FL) Distribution, 28°
LTL # 860528
Lumens: 1,285



Candelas at Nadir

Deg	Candela
0	3551
5	3304
15	1861
25	612
35	156
45	57

Wide Flood (WF) Distribution, 45°
LTL # 860529
Lumens: 1,278

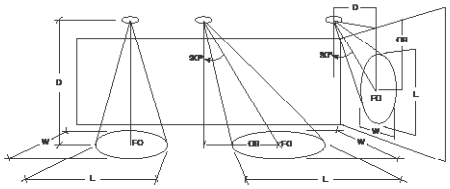


Candelas at Nadir

Deg	Candela
0	2369
5	2268
15	1592
25	754
35	251
45	82

Application Data:

Notes and Definitions:
Beam spread is to 50% center beam candlepower (CBCP).
D=Distance to floor or wall.
FC=Footcandles on floor or wall at center beam aiming location.
L=Effective Visual Beam length in feet (50% of maximum footcandle level).
W=Effective Visual Beam width in feet (50% of maximum footcandle level).
CB=Distance across or down to center beam location.



0° Aiming Angle Horizontal Footcandles

	D	FC	L	W
Flood	5.0'	142	2.7	2.7
	7.5'	63	3.9	3.9
	10.0'	36	5.2	5.2
	12.5'	23	6.5	6.5
Wide Flood	5.0'	95	3.2	3.2
	7.5'	42	4.8	4.8
	10.0'	24	6.4	6.4
	12.5'	15	8.0	8.0

30° Aiming Angle Horizontal Footcandles

	D	FC	L	W	CB
Flood	5.0'	92	3.4	3.1	3.0
	7.5'	43	4.9	4.4	4.0
	10.0'	25	6.4	5.8	5.0
	12.5'	16	8.0	7.2	6.0
Wide Flood	5.0'	67	3.9	3.4	2.0
	7.5'	30	5.7	5.3	3.0
	10.0'	17	7.6	7.1	4.0
	12.5'	11	9.6	8.9	5.0

30° Aiming Angle Vertical Footcandles

	D	FC	L	W	CB
Flood	3.0'	75	3.8	2.7	4.0
	4.0'	44	4.9	3.3	5.0
	5.0'	29	6.1	4.1	6.0
	6.0'	20	7.4	5.1	7.0
Wide Flood	3.0'	63	3.7	2.8	3.0
	4.0'	36	4.9	3.7	4.0
	5.0'	23	6.1	4.8	5.0
	6.0'	16	7.5	5.7	6.0

60° Aiming Angle Vertical Footcandles

	D	FC	L	W	CB
Flood	3.0'	232	2.3	1.7	2.0
	4.0'	154	2.7	2.4	2.0
	5.0'	95	3.4	3.0	2.0
	6.0'	69	3.8	3.5	3.0
Wide Flood	3.0'	180	2.4	2.0	1.0
	4.0'	105	3.2	2.9	2.0
	5.0'	69	3.8	3.5	2.0
	6.0'	47	4.7	4.3	3.0

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PROJECT: **TYPE:**

DIMMING COMPATIBILITY:
Amerlux® Hornet fixtures are compatible with all major dimming protocols prevalent in the United States. Please see below for general compatibilities and wiring diagrams. Amerlux recommends testing your unique dimming configuration as the exact full configuration (Dimmer, Fixture Quantity, Voltage, etc) may affect dimming performance.

--- NOTE: INFORMATION BELOW IS FOR WIRED DIMMERS ONLY. FOR WIRELESS DIMMERS, CONSULT FACTORY ---

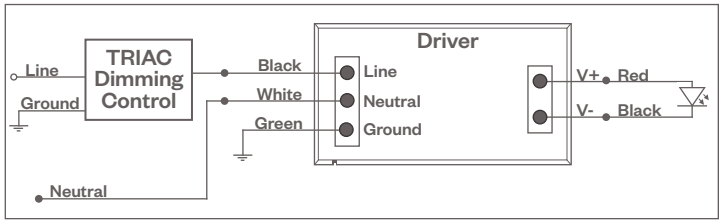
TRIAC (Forward Phase) DIMMING (Standard)

Utilizes "Standard" incandescent dimmers that are in wide use in installations across the US. Best for retrofit applications where TRIAC dimmers are installed.

Notes:

- 120V or 277V*
- Dims down to less than 5% light output (most cases)
- Consult Dimming manufacturer for installation instructions - DO NOT SHARE NEUTRALS!
- Must meet dimmer Minimum Load Requirements per dimming manufacturer

TRIAC Wiring Diagram



Compatible Dimmers†:

Wall Box (Incandescent Style, Wattage as required)		**Central System**
Lutron "Diva"	Lutron "Vareo"	Lutron "GP" Panel
Lutron "Nova-T"	Lutron "Skylark"	Lutron Grafik Eye QS
Lutron "Maestro"		

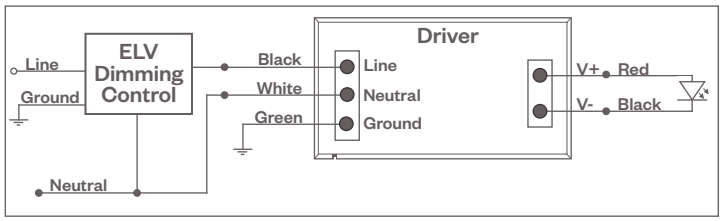
ELV - Electronic Low Voltage (Reverse Phase) DIMMING (Standard)

Utilizes specialized "ELV" dimmers.

Notes:

- 120V or 277V*
- Dims down to less than 5% light output (most cases)
- Consult Dimming manufacturer for installation instructions - DO NOT SHARE NEUTRALS!
- Must meet dimmer Minimum Load Requirements

ELV Wiring Diagram



Compatible Dimmers†:

Wall Box (ELV Style)		**Central System**
Lutron "Diva"	Leviton "Surslide"	Lutron "GP" Panel with PHPM-PA Interface
Lutron "Nova-T"	Leviton "Vizio"	Lutron Grafik Eye QS with PHPM-PA Interface
Lutron "Maestro"		
Lutron "Vareo"		
Lutron "Skylark"		

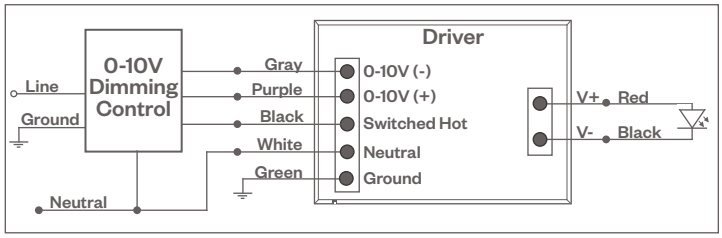
0-10V - DIMMING (-0-10V Option)

Integrates into a variety of building management and daylighting controls

Notes:

- 120V or 277V*
- Dims down to 1% light output
- Requires interface to turn off power to driver
- Consult Dimming manufacturer for installation instructions - DO NOT SHARE NEUTRALS!

0-10V Wiring Diagram



Compatible Dimmers†:

Wall Box		**Central System**
Lutron "Diva" - DVTV with PP-120H Interface	Leviton Renoir II 0-10V	Lutron Grafik Eye with GRX-TVI Interface

Notes:

* Driver is 277VAC dimmable with appropriate dimmer (by others). All provided wiring diagrams show 120VAC wiring colors and method. Please refer to 277VAC dimmer installation instructions for 277VAC wiring diagrams.

† The absence of a dimmer from the lists above does not imply incompatibility. Please consult factory for compatibility inquiries.

Amerlux reserves the right to change details that do not affect overall function and performance.
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Hornet® HP Elbow

3.5" Round Adjustable Pull-Down

amerlux
A Delta Group Company

PROJECT: **TYPE:**

DIMMING COMPATIBILITY:

Amerlux® Hornet fixtures are compatible with all major dimming protocols prevalent in the United States. Please see below for general compatibilities and wiring diagrams. Amerlux recommends testing your unique dimming configuration as the exact full configuration (Dimmer, Fixture Quantity, Voltage, etc) may affect dimming performance.

--- NOTE: INFORMATION BELOW IS FOR WIRED DIMMERS ONLY. FOR WIRELESS DIMMERS, CONSULT FACTORY ---

LUTRON H-SERIES / ECOSYSTEM (-HILUME-H-ECO Option)

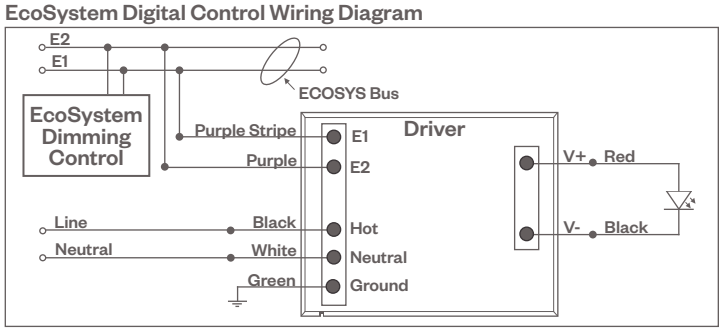
Integrates into Lutron EcoSystem building management

Notes:

- 120VAC or 277VAC*
- Dims down to 1% light output
- EcoSystem Control
- Consult Dimming manufacturer for installation instructions - DO NOT SHARE NEUTRALS!

HILUME-H-ECO, HILUME-5-ECO

EcoSystem Digital Control Wiring Diagram



Compatible Dimmers†:

Lutron ECO System	Central System
Pow Pak Dimming Modules	Lutron EcoSystem compatible controls
Energi Savr Node	
Grafik Eye QS/Homeworks	
QS Control Unit	
Quantum Hub	
Homeworks QS/My Room	

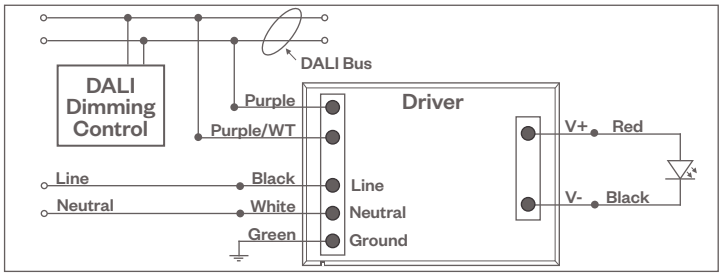
DALI DIMMING (-DALI OPTION)

Digital control protocol allows individual fixture control

Notes:

- 120VAC - 277VAC*
- Dims down to 1% light output in most cases

DALI Wiring Diagram

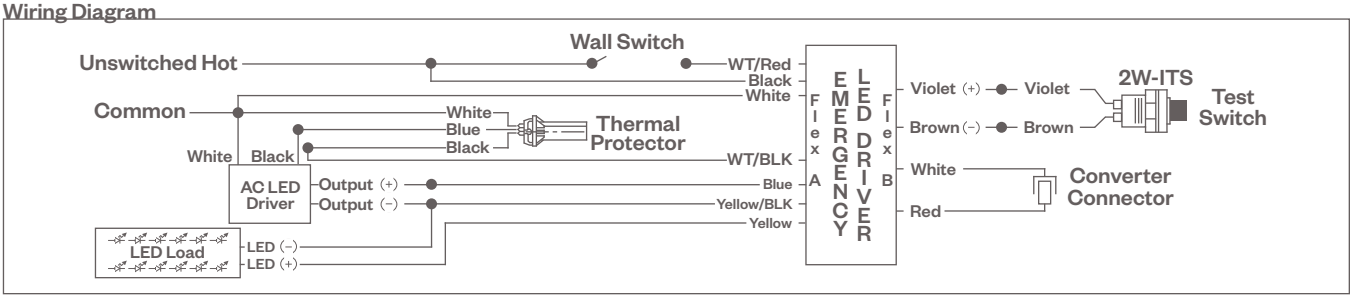


Compatible Dimmers†:

Wall Box (3-Wire Fluorescent)	Central System
Leviton CD250 Controller	Dynalite
	Fifth Light

EMERGENCY DIMMING (-EM OPTION)

Wiring Diagram



Notes:

* Driver is 277VAC dimmable with appropriate dimmer (by others). All provided wiring diagrams show 120VAC wiring colors and method. Please refer to 277VAC dimmer installation instructions for 277VAC wiring diagrams.

† The absence of a dimmer from the lists above does not imply incompatibility. Please consult factory for compatibility inquiries.

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