

# Hornet<sup>®</sup> HP Elbow

3.5" Round Adj Pull-Down



## 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 <sup>®</sup> 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*



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3.5" Round Adjustable Pull-Down



## PROJECT:

## TYPE:

### Housing/Frame Ordering Information



<p><b>1</b> <u>Model</u>  <b>For New Construction</b>  <b>HDL-HP-R-NC-A17<sup>†</sup></b> (New Construction)  <b>HDL-HP-R-CP-A17<sup>†</sup></b> (Chicago Plenum (COEA) housing)  <b>HDL-HP-R-IC-A17<sup>†</sup></b> (Insulated Ceiling/air tight, 13W &amp; 18W only)</p> <p><b>For Existing Ceilings</b>  <b>HDL-HP-R-REM-A17<sup>†</sup></b> (Remodeler)</p> <p><b>2</b> <u>Style</u>  <b>T</b> - trimmed</p> <p><b>3</b> <u>Wattage</u>  <b>13</b>  <b>18</b>  <b>20</b> (not available for use with IC housing)</p>	<p><b>4</b> <u>Voltage</u>  <b>120</b>  <b>277</b>  <b>120/277</b> (for use with IC housing only)</p> <p><b>5</b> <u>Driver</u> (for non-dimming, select LE/TE option)  <b>LE/TE</b> - TRIAC/ELV dimming  <b>HILUME-H-ECO</b> - Lutron Hi-lume® H Series, EcoSystem, 1% dim with soft on, fade to black  <b>0-10V</b> - 0-10V dimming, 1% dim  <b>DALI</b> - DALI dimming, 1% dim</p> <p><b>6</b> <u>Options/Accessories</u>  <b>EM</b> - emergency battery pack with remote test switch (not available for use with REM, CP or IC options)</p>
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### Trim Ordering Information



<p><b>1</b> <u>Model</u>  <b>HDL-HP-EB-A17<sup>†</sup></b></p> <p><b>2</b> <u>Style</u>  <b>T</b> - trimmed</p> <p><b>3</b> <u>Finish</u>  <b>MW</b> - matte white  <b>MB</b> - matte black  <b>SLV</b> - silver</p> <p><b>4</b> <u>Beam Spreads</u>  <b>SP</b> - spot, 15°  <b>NF</b> - narrow flood, 20°  <b>MFL</b> - medium flood, 24°  <b>FL</b> - flood, 28°  <b>WF</b> - wide flood, 45°  <b>VWF</b> - very wide flood, 60°  <b>LS</b> - linear spread, 60° x 10°</p>	<p><b>5</b> <u>Color Temp</u></p> <table border="0"> <tr> <td><b>83 CRI</b></td> <td><b>90+ CRI</b></td> <td></td> </tr> <tr> <td><b>27</b> - 2700K-83</td> <td><b>229</b> - 2200K-90+</td> <td><b>CRISP</b> - CrispWhite (18W max)</td> </tr> <tr> <td><b>30</b> - 3000K-83</td> <td><b>279</b> - 2700K-90+</td> <td><b>3CLA</b> - 3K Class A</td> </tr> <tr> <td><b>35</b> - 3500K-83</td> <td><b>309</b> - 3000K-90+</td> <td></td> </tr> <tr> <td><b>40</b> - 4000K-83</td> <td><b>359</b> - 3500K-90+</td> <td></td> </tr> <tr> <td></td> <td><b>409</b> - 4000K-90+</td> <td></td> </tr> </table>	<b>83 CRI</b>	<b>90+ CRI</b>		<b>27</b> - 2700K-83	<b>229</b> - 2200K-90+	<b>CRISP</b> - CrispWhite (18W max)	<b>30</b> - 3000K-83	<b>279</b> - 2700K-90+	<b>3CLA</b> - 3K Class A	<b>35</b> - 3500K-83	<b>309</b> - 3000K-90+		<b>40</b> - 4000K-83	<b>359</b> - 3500K-90+			<b>409</b> - 4000K-90+	
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<sup>†</sup> 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.

# Hornet<sup>®</sup> HP Elbow

3.5" Round Adjustable Pull-Down



## 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 8-10 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)

# Hornet<sup>®</sup> HP Elbow

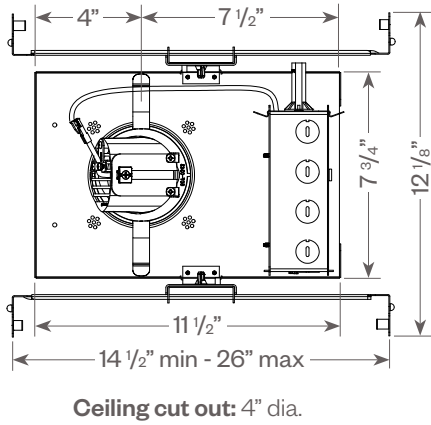
3.5" Round Adjustable Pull-Down



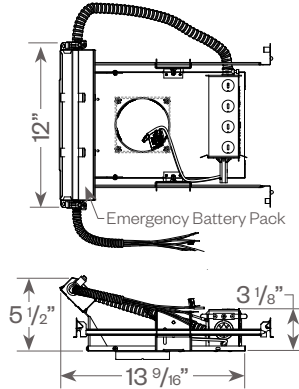
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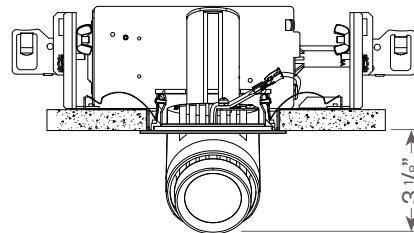
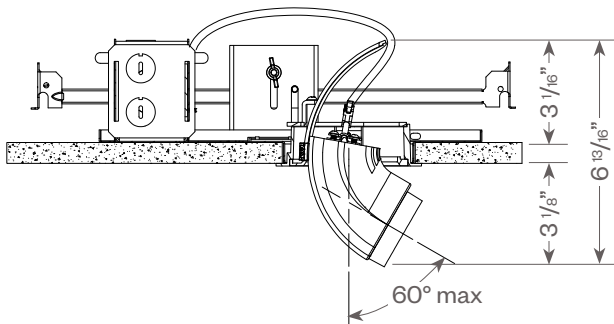
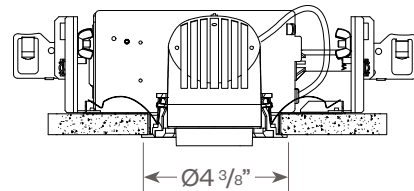
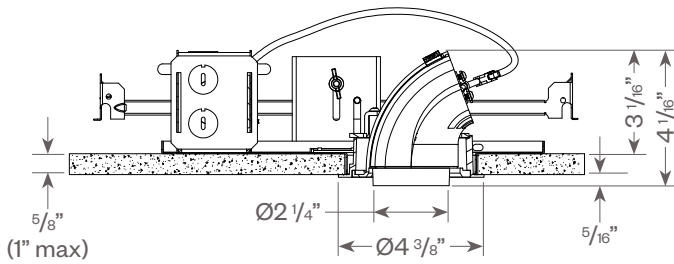
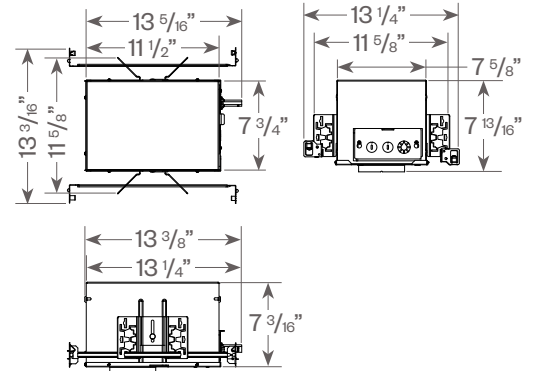
## Hornet HP Elbow



### Frame with Emergency Battery Pack



### Optional CP or IC/AT housing



# Hornet® HP Elbow

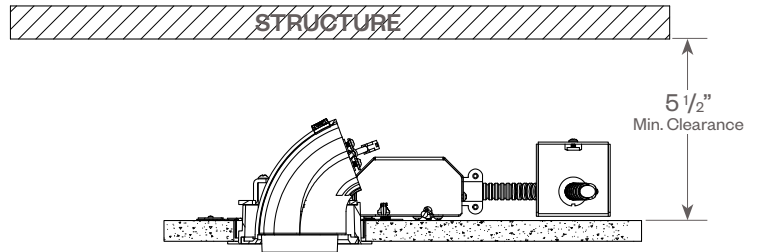
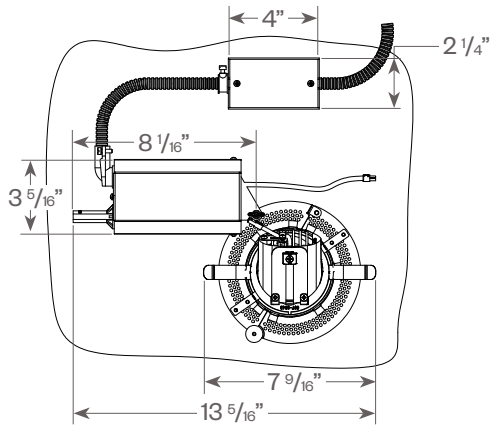
3.5" Round Adjustable Pull-Down



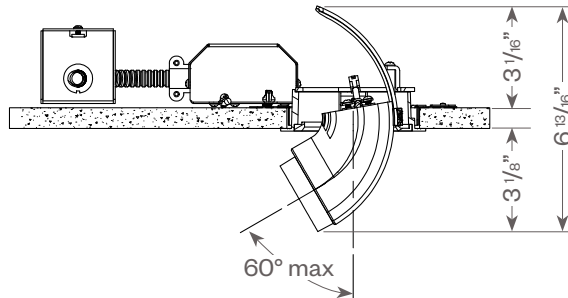
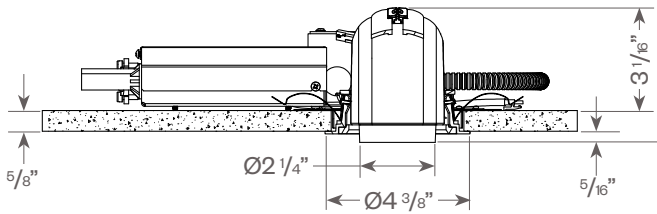
PROJECT:

TYPE:

## Hornet HP Elbow Remodeler



Ceiling cut out: 4" dia.



# Hornet<sup>®</sup> HP Elbow

3.5" Round Adjustable Pull-Down



**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)

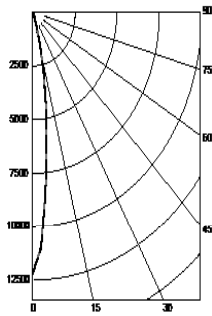
Wattage:	13W	18W	20W
Factor:	0.65	0.90	1.0

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)**

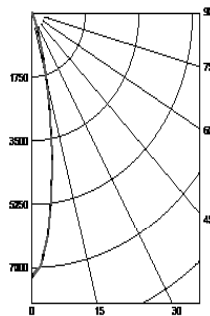
**Spot (SP) Distribution, 15°**  
LTL #855377  
Lumens: 1,369



**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



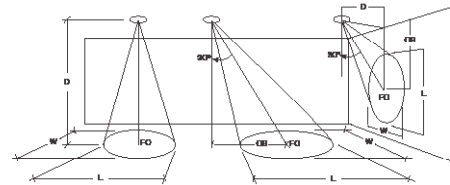
**Candelas at Nadir**

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).
- OB=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	OB	D	FC	L	W	OB	D	FC	L	W	OB	D	FC	L	W	OB
<b>Spot</b>	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
<b>Narrow Flood</b>	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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3.5" Round Adjustable Pull-Down



**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)

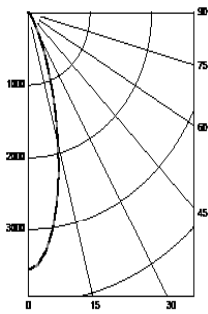
Wattage:	13W	18W	20W
Factor:	0.65	0.90	1.0

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)**

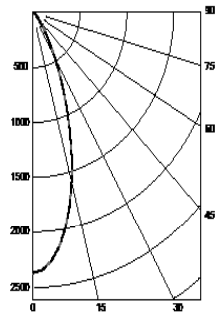
**Flood (FL) Distribution, 28°**  
LTL # 860528  
Lumens: 1,285



**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	764
35	251
45	82

**Application Data:**

**Notes and Definitions:**

Beam spread is to 50% center beam candlepower (CBCP).

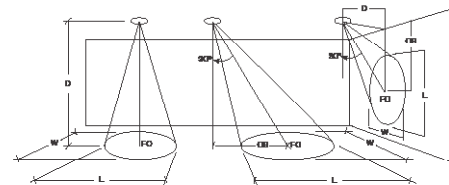
**D**=Distance to floor or wall.

**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).

**OB**=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	OB	D	FC	L	W	OB	D	FC	L	W	OB
<b>Flood</b>	5.0'	142	2.7	2.7	5.0'	92	3.4	3.1	3.0	3.0'	75	3.8	2.7	4.0	3.0'	232	2.3	1.7	2.0
	7.5'	63	3.9	3.9	7.5'	43	4.9	4.4	4.0	4.0'	44	4.9	3.3	5.0	4.0'	154	2.7	2.4	2.0
	10.0'	36	5.2	5.2	10.0'	25	6.4	5.8	5.0	5.0'	29	6.1	4.1	6.0	5.0'	95	3.4	3.0	2.0
	12.5'	23	6.5	6.5	12.5'	16	8.0	7.2	6.0	6.0'	20	7.4	5.1	7.0	6.0'	69	3.8	3.5	3.0
<b>Wide Flood</b>	5.0'	95	3.2	3.2	5.0'	67	3.9	3.4	2.0	3.0'	63	3.7	2.8	3.0	3.0'	180	2.4	2.0	1.0
	7.5'	42	4.8	4.8	7.5'	30	5.7	5.3	3.0	4.0'	36	4.9	3.7	4.0	4.0'	105	3.2	2.9	2.0
	10.0'	24	6.4	6.4	10.0'	17	7.6	7.1	4.0	5.0'	23	6.1	4.8	5.0	5.0'	69	3.8	3.5	2.0
	12.5'	15	8.0	8.0	12.5'	11	9.6	8.9	5.0	6.0'	16	7.5	5.7	6.0	6.0'	47	4.7	4.3	3.0

# Hornet<sup>®</sup> HP Elbow

3.5" Round Adjustable Pull-Down



**PROJECT:**

**TYPE:**

**DIMMING COMPATIBILITY:**

Amerlux<sup>®</sup> 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 ---**

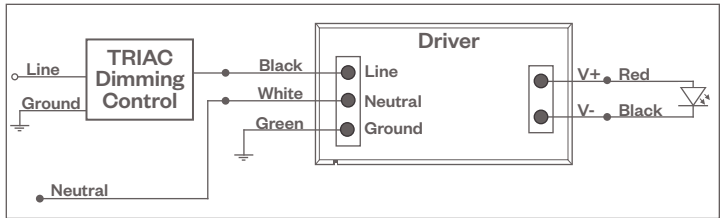
**TRIAC (Forward Phase) DIMMING (Standard)**

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

**Notes:**

- 120VAC or 277VAC\*
- Dims down to 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 (TRIAC 120VAC)	Central System
Lutron "Diva"	Lutron "GP" Panel
Lutron "Nova-T"	Lutron Grafik Eye QS
Lutron "Maestro"	
Lutron "Vareo"	
Lutron "Skylark"	

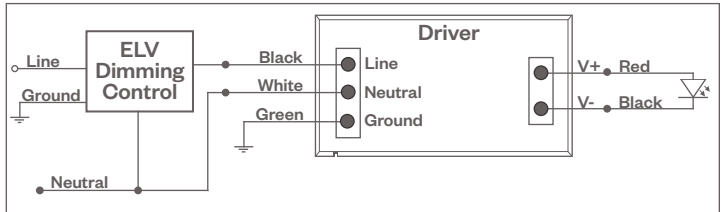
**ELV - Electronic Low Voltage (Reverse Phase) DIMMING (Standard)**

Utilizes specialized "ELV" dimmers.

**Notes:**

- 120VAC or 277VAC\*
- Dims down to 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 120VAC)	Wall Box (ELV 277VAC)	Central System
Lutron "Diva"	Leviton Revoir II AWSMT-E	Lutron "GP" Panel with PHPM-PA 120/277VAC
Lutron "Nova-T"		Lutron Grafik Eye QS with PHPM-PA 120/277VAC
Lutron "Maestro"		
Lutron "Vareo"		
Lutron "Skylark"		
Leviton "Surslide"		
Leviton "Vizio"		

**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 manufacturer 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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**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 ---**

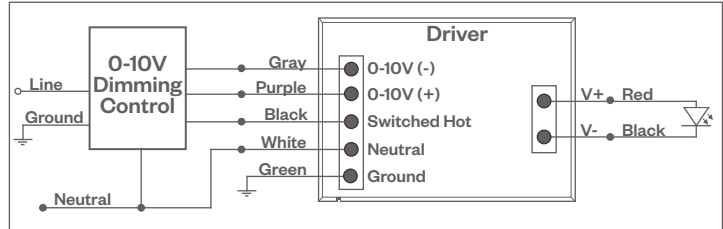
**0-10V DIMMING**

Integrates into a variety of building management and daylighting controls

**Notes:**

- 120VAC or 277VAC\*
- 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**

Lutron "Diva" - DTVV with PP-120H Interface

Leviton Renoir II 0-10V

**Central System**

Lutron Grafik Eye with GRX-TV1 Interface

**LUTRON H-SERIES / ECOSYSTEM DIMMING**

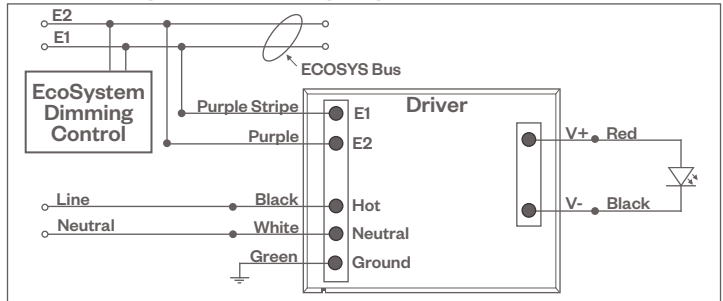
Integrates into Lutron EcoSystem building management

**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**

Pow Pak Dimming Modules  
Energj Savr Node  
Grafik Eye QS/Homeworks  
QS Control Unit  
Quantum Hub  
Homeworks QS/My Room

**Central System**

Lutron EcoSystem compatible controls

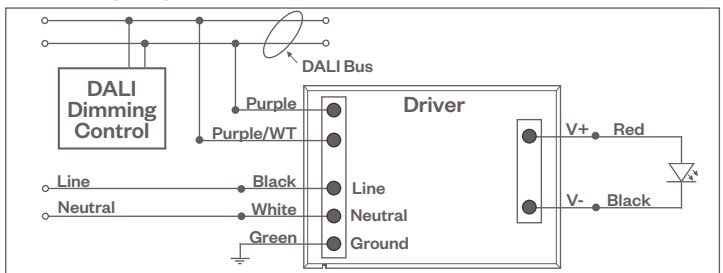
**DALI DIMMING**

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)**

Leviton CD250 Controller

**Central System**

Dynalite  
Fifth Light

**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 manufacturer 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.

# Hornet<sup>®</sup> HP Elbow

3.5" Round Adjustable Pull-Down



PROJECT:

TYPE:

## EMERGENCY DIMMING (-EM OPTION)

Wiring Diagram

