

Hornet[®] HP

Retrofit Multiples



Features

Amerlux LED multiples retrofit provides a quick, easy, elegant way to completely renew your store's look, and also to create better cost-efficiencies and savings. Our retrofits install into existing Amerlux housings of halogen, ceramic metal halide, and early LED, and do not require professional installation. With Amerlux LED multiples retrofits, you enjoy 50,000+ hrs of clear, crisp, dimmable instant-on light. Almost immediately your store is beautiful again.

Product Overview

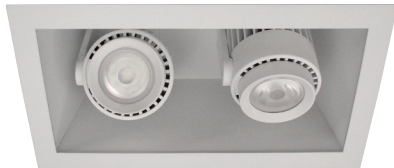
Type:	Retrofit Multiple, Accent & Display
Wattage:	11, 16, 18
Lumen Output:	1,369 max; 76 Lm/W (spot optic)
CBCP:	12,215 max (spot optic)
Color Temp:	2200K, 2700K, 3000K, 3500K, 4000K, CRISP
CRI:	83 typ. (2700K, 3000K, 3500K, 4000K) 90+ typ. (2200K, 2700K, 3000K, 3500K, 4000K) CrispWhite (16W max) & 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 (120/277VAC) - 1% Dim DALI (120/277VAC) - 1% Dim



1 Light Recessed

PROJECT:

TYPE:



2 Light Recessed



3 Light Semi-Recessed



4 Light Recessed (Trimless version shown)

Fixture Summary (see following pages for more information)

Performance Chart

Watts	Delivered Lumens	LPW	CBCP	Color Temp
11	972	88	8,673	3000K-83
16	1,205	75	10,749	3000K-83
18	1,369	76	12,215	3000K-83

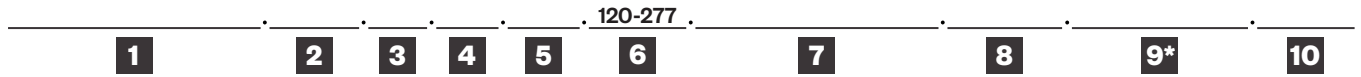
Data is based on 3000K-83, 120V IES files available on website
Data is "per head" and based on Spot optic
See page 10 for other beam spreads



PROJECT:

TYPE:

Ordering Information



- 1** Model
HORNET-HP-R-RTF (recessed)
HORNET-HP-SR-RTF (semi-recessed)

- 2** Style
 T - trimmed
 TL - trimless

- 3** # of Heads
 1
 2
 3
 4

- 4** Wattage
 11
 16
 18

- 5** Finish (for housing, head & trim)
WT - white texture
BT - black texture
ST - silver texture
Other finishes, consult factory

- 6** Voltage
120-277

- 7** Beam Spreads

<u>1LT</u>	<u>2LT</u>	<u>3LT</u>	<u>4LT</u>	
SP	SP	SP	SP	(spot 15°)
NF	NF	NF	NF	(narrow flood 22°)
MFL	MFL	MFL	MFL	(medium flood 25°)
FL	FL	FL	FL	(flood 28°)
WF	WF	WF	WF	(wide flood 45°)
VWF	VWF	VWF	VWF	(very wide flood 60°)
LS	LS	LS	LS	(linear spread lens 60°x10°)

- 8** Color Temp
 83 CRI: 90+ CRI:
27 - 2700K-83 **229** - 2200K-90+ **CRISP** - CrispWhite
30 - 3000K-83 **279** - 2700K-90+ (16W max)
35 - 3500K-83 **309** - 3000K-90+ **3CLA** - 3K Class A
40 - 4000K-83 **359** - 3500K-90+
409 - 4000K-90+

- 9** Driver (for non-dimming select LE/TE option)
***Note: Driver selected must match your current system**
LE/TE - TRIAC/ELV dimming, 5% dim
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 - EidoLED; 1% dim

- 10** Options/Accessories
SNAH - snoot accessory holder, 1" length, matte black interior,
 exterior finish matches fixture finish, accepts cross blade plus 2
 additional forms of media
AH - accessory holder, finish matches fixture finish, accepts 2
 forms of media
HEX - hexcell louver, 1/8" x 1/8" (requires SNAH or AH)
CB - cross blade, matte black finish (requires SNAH)
SOL - solite lens (requires AH or SNAH)

PROJECT:

TYPE:

Specifications

Application

Retail, commercial and hospitality accent and display lighting

Construction

- Thermally protected (adds 2W to total fixture wattage)
- Steel driver housing
- Steel upper housing and laser cut trim ring
- Steel plaster frame (trimless only)
- Complete die-cast optical head construction
- No exposed wiring

Optical

- Tilt: 0-35°x35° (R), 0-20°x40° (RTLX)
- Rotation: 360°+
- Beam Spreads: Spot, 15°; Narrow Flood, 22°; Medium Flood, 25°; Flood, 28°; Wide Flood, 45°; Very Wide Flood, 60°; Linear Spread, 60° x 10°

LED

- Color Temp Options: 2200K, 2700K, 3000K, 3500K, 4000K, CRISP
- CRI: 83 typ. (2700K, 3000K, 3500K, 4000K)
- 90+ typ. (2200K, 2700K, 3000K, 3500K, 4000K)
- CrispWhite* LED available, 16W 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: 11, 16, 18
- 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.**

Drivers

- LE/TE - Leading Edge, TRIAC, forward phase/Trailing Edge, ELV, reverse phase
- 0-10V, Lutron and DALI systems also available
- See pages 10-11 for more dimming information

Finish

- Powder coat paint
- Consult Factory for custom finishes

Mounting

- Installs into existing Amerlux housings of halogen, ceramic metal halide and early LED.

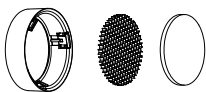
Certifications

- CSA listed to UL standards. Suitable for damp locations
- Indoor use only

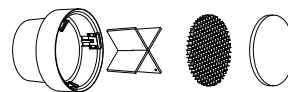
Warranty

- 5 year limited warranty

Accessories (diagrams show installation order)



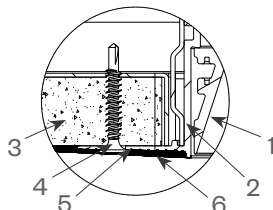
Accessory holder, hexcell louver, solite lens



Snoot accessory holder, cross blade, hexcell louver, solite lens

Plaster Frame Installation Detail (for trimless fixture only)

1. Recessed extruded housing
2. Aperture plate
3. Ceiling 5/8"
4. Drywall screw (by others)
5. Plaster frame
6. Plaster skim coat (by others)



PROJECT:

TYPE:

Electrical Data

1 Light

	1 x 11W		1 x 16W		1 x 18W	
	System Watts	Amps	System Watts	Amps	System Watts	Amps
120V	11	0.09	16	0.13	18	0.15
277V	11	0.04	16	0.06	18	0.07

Electronic constant current LED driver

2 Light

	2 x 11W		2 x 16W		2 x 18W	
	System Watts	Amps	System Watts	Amps	System Watts	Amps
120V	22	0.18	32	0.27	36	0.30
277V	22	0.08	32	0.12	36	0.13

Electronic constant current LED driver

3 Light

	3 x 11W		3 x 16W		3 x 18W	
	System Watts	Amps	System Watts	Amps	System Watts	Amps
120V	33	0.28	48	0.40	54	0.45
277V	33	0.12	48	0.17	54	0.19

Electronic constant current LED driver

4 Light

	4 x 11W		4 x 16W		4 x 18W	
	System Watts	Amps	System Watts	Amps	System Watts	Amps
120V	44	0.37	64	0.53	72	0.60
277V	44	0.16	64	0.23	72	0.26

Electronic constant current LED driver

Hornet[®] HP

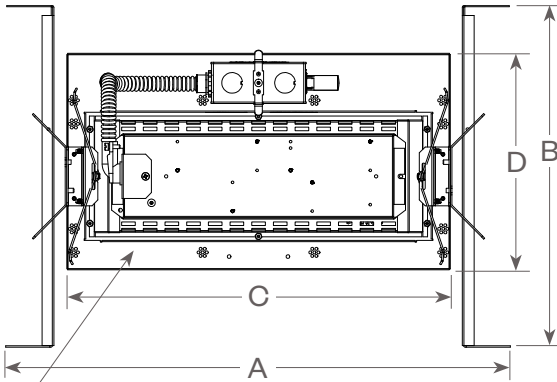
Retrofit Multiples



PROJECT:

TYPE:

Hornet HP Multiples: Recessed



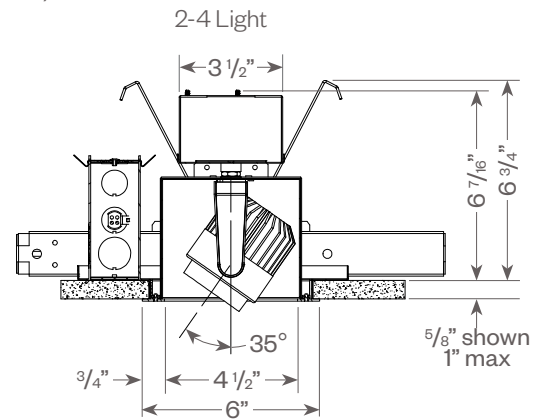
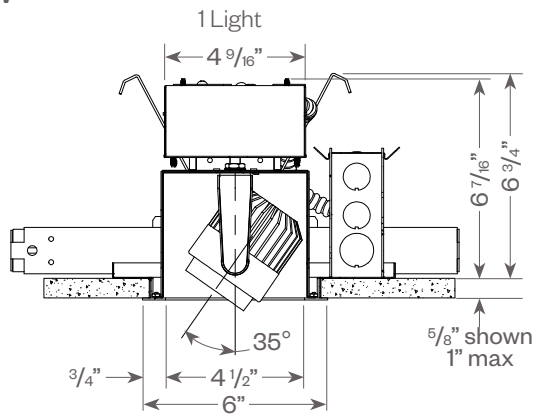
Note: Frame with hanger bars & junction box already installed from previous fixture.

	1 Light	2 Light	3 Light	4 Light
A	12 1/8"	17"	21 1/2"	26"
B	14 1/2"	14 1/2"	14 1/2"	14 1/2"
	max 25"	max 25"	max 25"	max 25"
C	7 1/8"	11 13/16"	16 5/16"	20 13/16"
D	9 1/8"	9 1/8"	9 1/8"	9 1/8"

Ceiling cut out: 1 Light - 5 9/16" x 5 9/16"
 2 Light - 5 9/16" x 10 5/16"
 3 Light - 5 9/16" x 14 13/16"
 4 Light - 5 9/16" x 19 5/16"

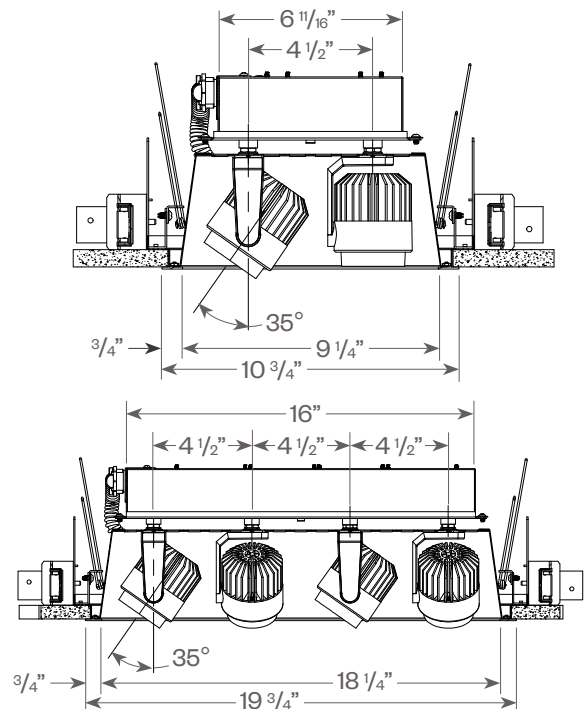
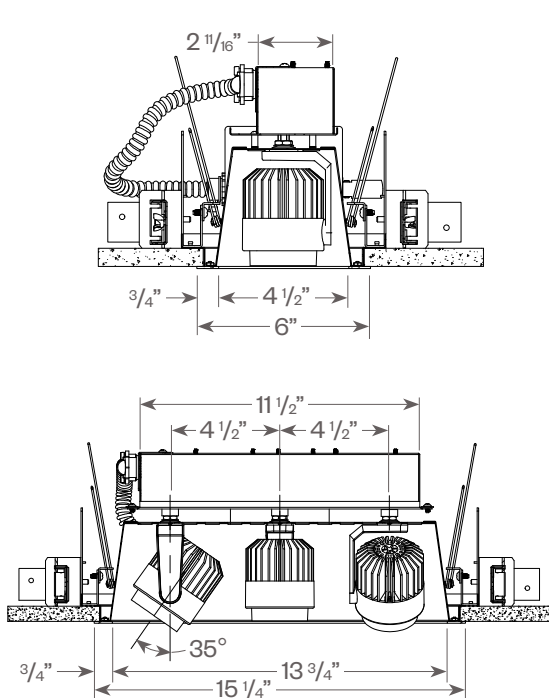
End View

Standard Driver (ELV/TRIAC)



Side View

Standard Driver (ELV/TRIAC)



Hornet[®] HP

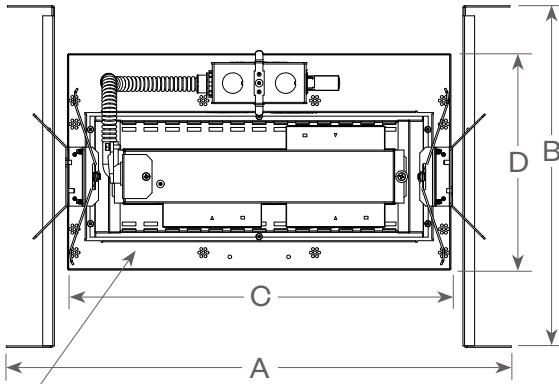
Retrofit Multiples



PROJECT:

TYPE:

Hornet HP Multiples: Recessed



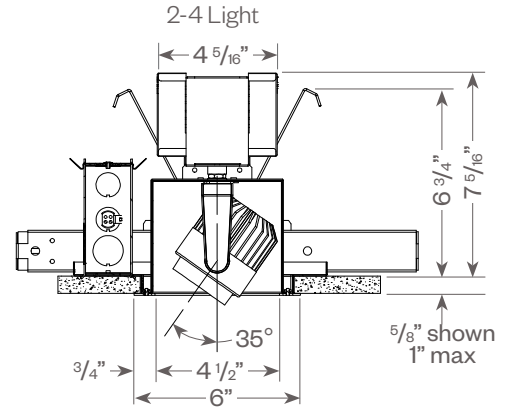
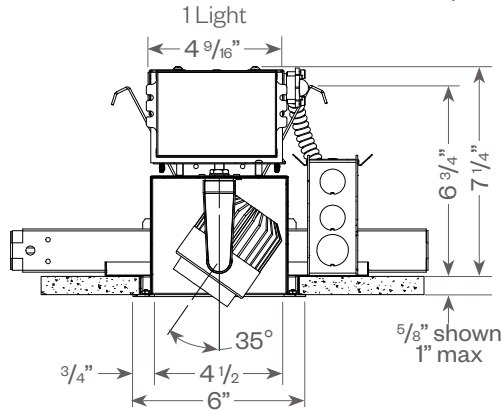
Note: Frame with hanger bars & junction box already installed from previous fixture.

	1 Light	2 Light	3 Light	4 Light
A	12 1/8"	17"	21 1/2"	26"
B	14 1/2" max 25"	14 1/2" max 25"	14 1/2" max 25"	14 1/2" max 25"
C	7 1/8"	11 13/16"	16 5/16"	20 13/16"
D	9 1/8"	9 1/8"	9 1/8"	9 1/8"

Ceiling cut out: 1 Light - 5 9/16" x 5 9/16"
 2 Light - 5 9/16" x 10 5/16"
 3 Light - 5 9/16" x 14 13/16"
 4 Light - 5 9/16" x 19 5/16"

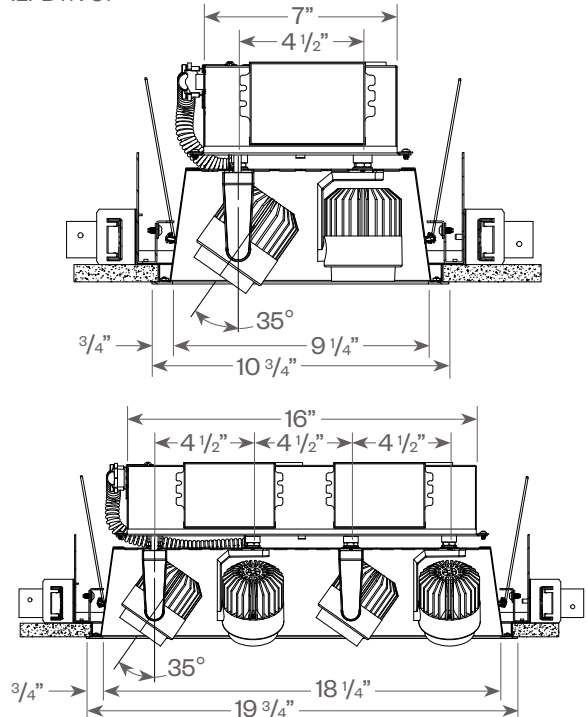
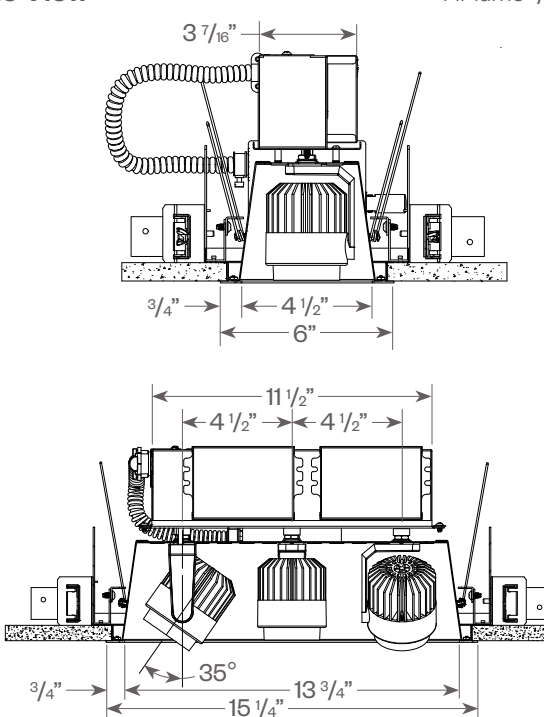
End View

Hi-lume[®]/0-10V/DALI Driver



Side View

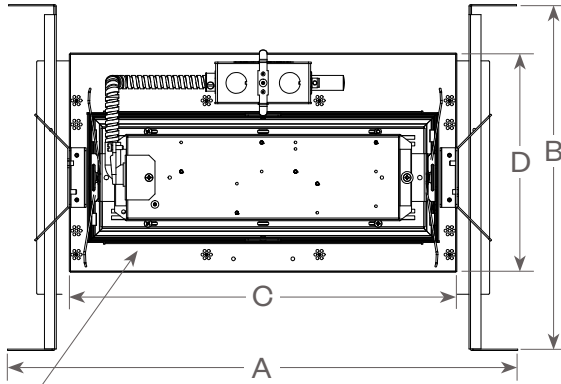
Hi-lume[®]/0-10V/DALI Driver



PROJECT:

TYPE:

Hornet HP Multiples: Recessed Trimless



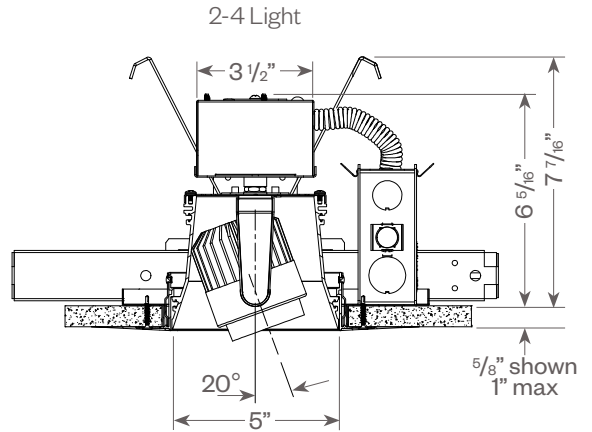
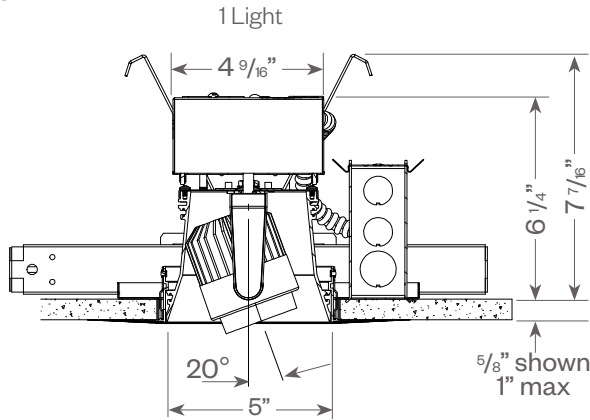
Note: Frame with hanger bars & junction box already installed from previous fixture.

	1 Light	2 Light	3 Light	4 Light
A	12 1/8"	17"	21 1/2"	26"
B	14 1/2"	14 1/2"	14 1/2"	14 1/2"
	max 25"	max 25"	max 25"	max 25"
C	7 1/8"	11 13/16"	16 5/16"	20 13/16"
D	9 1/8"	9 1/8"	9 1/8"	9 1/8"

Ceiling cut out: 1 Light - 5 9/16" x 5 9/16"
 2 Light - 5 9/16" x 10 5/16"
 3 Light - 5 9/16" x 14 13/16"
 4 Light - 5 9/16" x 19 5/16"

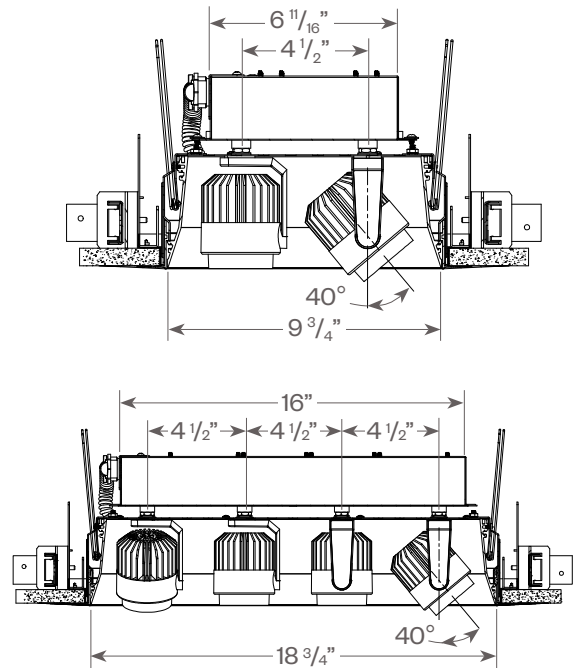
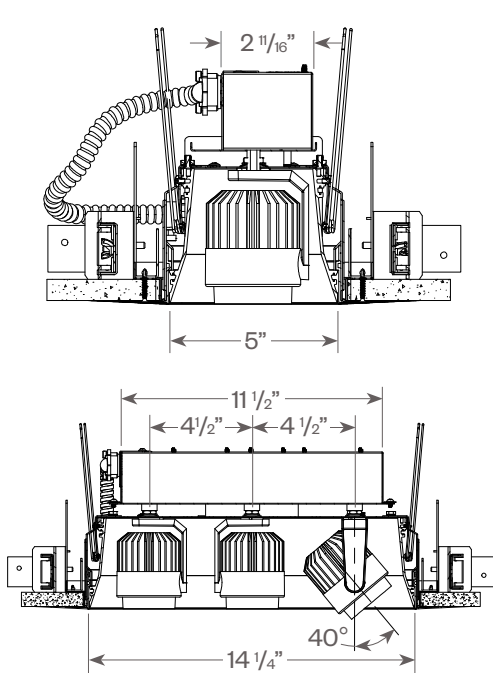
End View

Standard Driver (ELV/TRIAC)



Side View

Standard Driver (ELV/TRIAC)



Hornet[®] HP

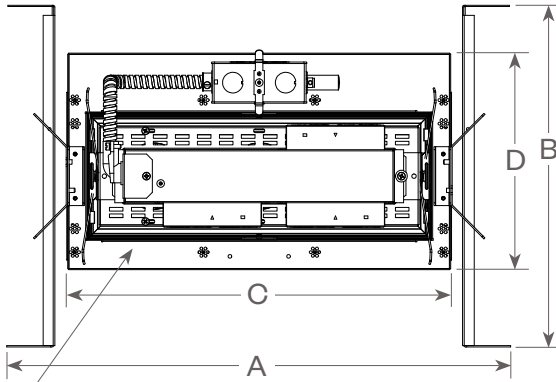
Retrofit Multiples



PROJECT:

TYPE:

Hornet HP Multiples: Recessed Trimless



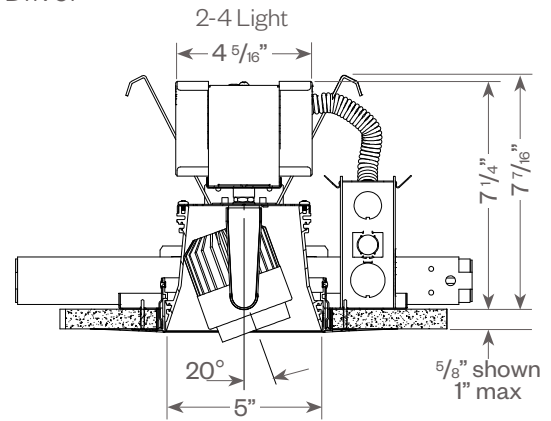
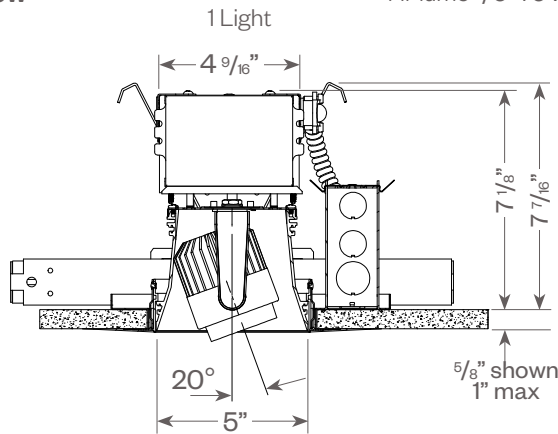
	1 Light	2 Light	3 Light	4 Light
A	12 1/8"	17"	21 1/2"	26"
B	14 1/2"	14 1/2"	14 1/2"	14 1/2"
	max 25"	max 25"	max 25"	max 25"
C	7 1/8"	11 13/16"	16 5/16"	20 13/16"
D	9 1/8"	9 1/8"	9 1/8"	9 1/8"

Ceiling cut out: 1 Light - 5 9/16" x 5 9/16"
 2 Light - 5 9/16" x 10 5/16"
 3 Light - 5 9/16" x 14 13/16"
 4 Light - 5 9/16" x 19 5/16"

Note: Frame with hanger bars & junction box already installed from previous fixture.

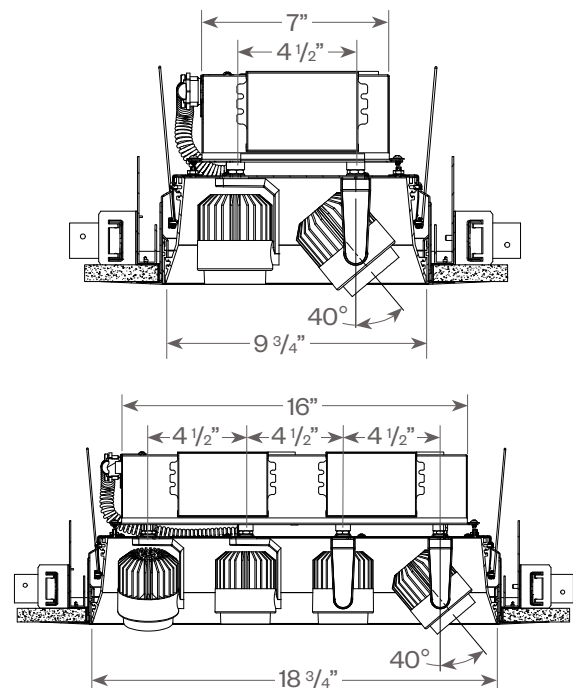
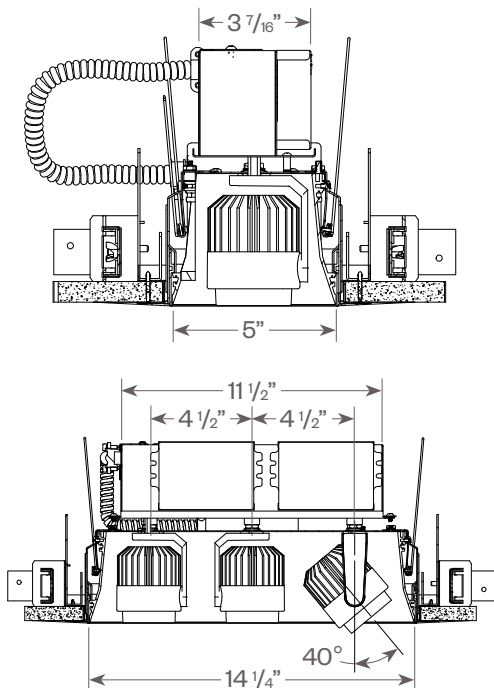
End View

Hi-lume[®]/0-10V/DALI Driver



Side View

Hi-lume[®]/0-10V/DALI Driver



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)

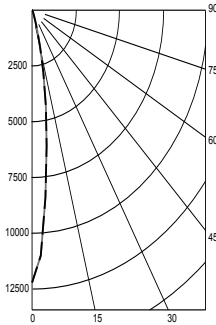
Wattage:	11W	16W	18W
Factor:	0.71	0.88	1.0

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

18W LED, 3000K-83 (Note: Data is per head)

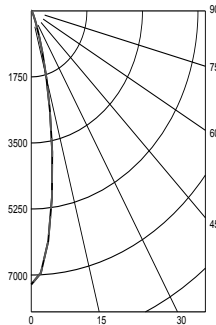
Spot (SP) Distribution, 15°
LTL #855377
Lumens: 1,369



Candelas at Nadir

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

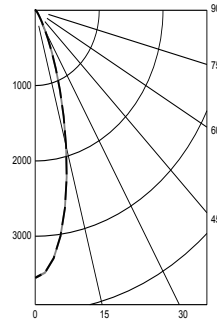
Narrow Flood (NF) Distribution, 22°
LTL #860527
Lumens: 1,307



Candelas at Nadir

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

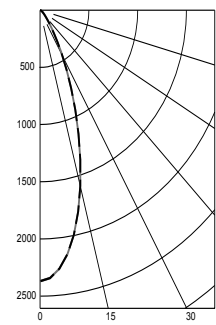
Flood (FL) Distribution, 28°
LTL # 860528
Lumens: 1,285



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



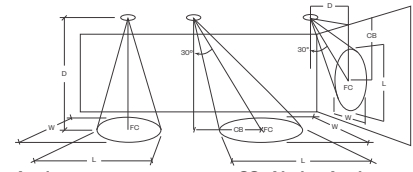
Candelas at Nadir

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				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	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
Flood	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
Wide Flood	5.0'	96	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

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 ---

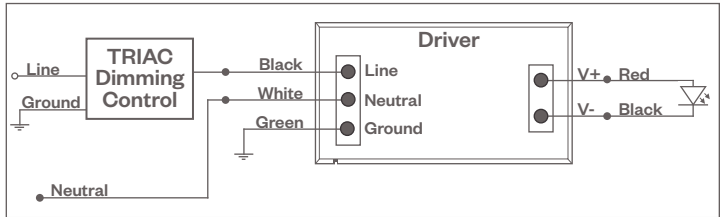
TRIAC (Forward Phase) DIMMING (Standard)

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

Notes:

- 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 (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"		

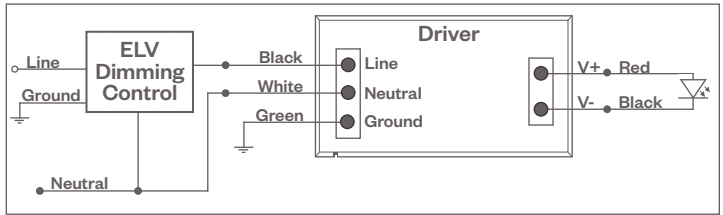
ELV - Electronic Low Voltage (Reverse Phase) DIMMING (Standard)

Utilizes specialized "ELV" dimmers.

Notes:

- 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 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"		

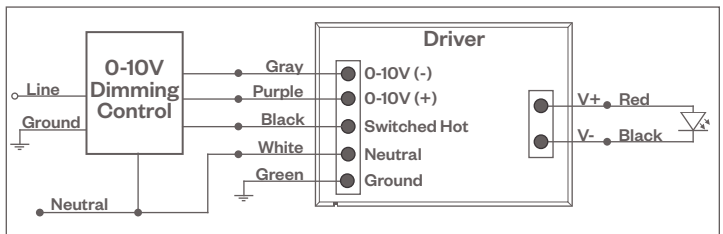
0-10V - DIMMING (-0-10V Option)

Integrates into a variety of building management and daylighting controls

Notes:

- 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	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.

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!

Compatible Dimmers†:

Lutron ECO System

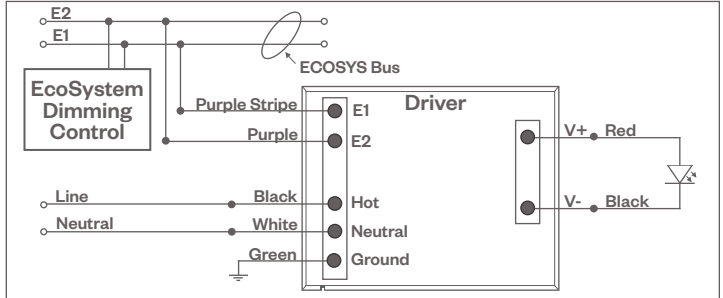
Pow Pak Dimming Modules
Energi Savr Node
Grafik Eye QS/Homeworks
QS Control Unit
Quantum Hub
Homeworks QS/My Room

Central System

Lutron EcoSystem compatible controls

HILUME-H-ECO, HILUME-5-ECO

EcoSystem Digital Control Wiring Diagram



DALI DIMMING (-DALI OPTION)

Digital control protocol allows individual fixture control

Notes:

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

Compatible Dimmers†:

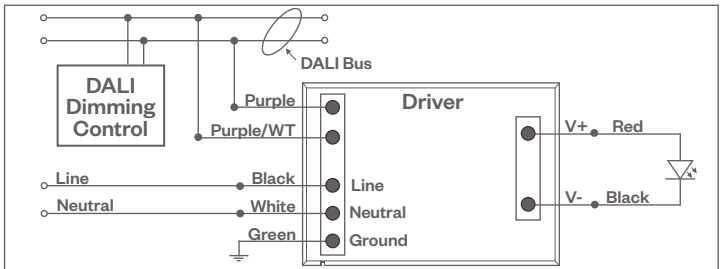
Wall Box (3-Wire Fluorescent)

Leviton CD250 Controller

Central System

Dynalite
Fifth Light

DALI 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.