

# CLARUS LED

**Recessed Trimmed Downlight** - Fixed high power LED fixture with 1/2" (13mm) trim and signature aluminum Apure© louver. High performance Cree LEDs combined with precision optics for maximum performance. LED lifetime rated for over 50,000 hours.

### Construction

- Formed steel trim with powder coat paint finish combined with signature aluminum Apure© louver, available in various colors and combinations.
- Made in Germany, Design by Porsche Design Studio
- Torsion springs pull fixture tight to the ceiling.

### Housing

- All recessed fixtures installed in the U.S. require a housing. Refer to page 4 for the corresponding housing cut sheet to configure voltage, and other available options.

### Electrical

- 13W Electrical Consumption, 120-277V input, please refer to required housing specification sheet on page 4 for further details and options.

### Required Housing

- HSG913-SH-XX - Shallow housing

### Required Accessories

- AA017 - 17° metalized molded plastic LED reflector
- AA024 - 24° metalized molded plastic LED reflector
- AA036 - 36° metalized molded plastic LED reflector

### Optional Accessories

- AA0RK - Ring clip (*Required for all diffusors/lenses*)
- AA0HC - Honeycomb clip on diffusor
- AA0GL - Glass lens
- AA0DF - Diffusing film (*Glass Lens Required*)

### Listings

- ETL listed, damp location.
- Airtight and CCSA Chicago Plenum



## ORDERING INFORMATION

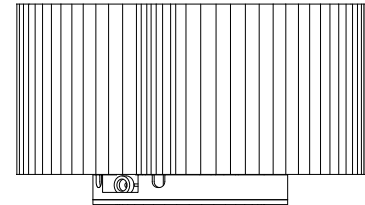
SERIES NO.	ORIENTATION	TRIM FINISH	LOUVER FINISH	CCT/CRI	OPTIONS
AP91	F	-	/	-	-
<b>AP91</b> - 13W LED downlight with trim	<b>F</b> - Fixed	<b>WH</b> - white powder coat <b>BL</b> - black powder coat <b>CC</b> - custom color*  *Consult factory for options / details	<b>WH</b> - white powder coat <b>NA</b> - natural anodized <b>BA</b> - black anodized <b>TI</b> - titan anodized <b>GO</b> - gold anodized <b>BR</b> - bronze anodized <b>GM</b> - gun metal anodized <b>RG</b> - rose gold anodized	<b>2790</b> - 2700K (90+CRI) <b>3090</b> - 3000K (90+CRI) <b>4090</b> - 4000K (90+CRI) <b>xxxx</b> - Custom  *Consult factory for options / details (100MOQ required!)	<b>[blank]</b> - damp location <b>WL</b> - wet location lens

**ORDERING EXAMPLE** AP91F-WH/WH-3090-WL

# LED Engine / Accessories

## Clarus LED Engines

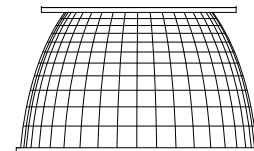
COB Manufacturer	CREE	CREE	CREE
Color Temperature (CCT)	2700K	3000K	4000K
Delivered Performance	13 watts	13 watts	13 watts
Colored Rendering Index (CRI)	>90 CRI	>90 CRI	>90 CRI
Lumens per Watt (lm/W)	99	99	114
Source Lumens Package	1245	1245	1433
MacAdam Ellipse (Binning)	Step 2	Step 2	Step 2
LED Lifespan (Hours)	50,000+	50,000+	50,000+
Housing Type	Shallow	Shallow	Shallow
Driver Dimming	Integral, ELV	Integral, ELV	Integral, ELV
Dimming Range	Dims to 0%	Dims to 0%	Dims to 0%



\* Custom CCT available upon request, MOQ 100pcs  
\* 0-10V driver available upon request

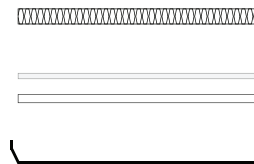
## Clarus LED Accessories (required)

Clarus LED Accessories	Description	Order Number
Clip On Reflector Types	17° Spot	AA017
	24° Narrow Flood	AA024
	36° Flood	AA036



## Clarus LED Accessories (optional)

Clarus LED Accessories	Description	Order Number
Clip On Lens Types	Honeycomb Lens	AA0HC
	Diffusing Lens (AA0GL Required)	AA0DF
	Clear Glass	AA0GL
	Ring Clip (Ring clip required for all lenses)	AA0RK



## ORDERING INFORMATION

SERIES NO.	TYPE	OPTIONS	REQUIRED
AA	0	—	
AA - Apure Accessory	0 - Reflector	17 - 17° reflector 24 - 24° reflector 36 - 36° reflector	

ORDERING EXAMPLE AA017

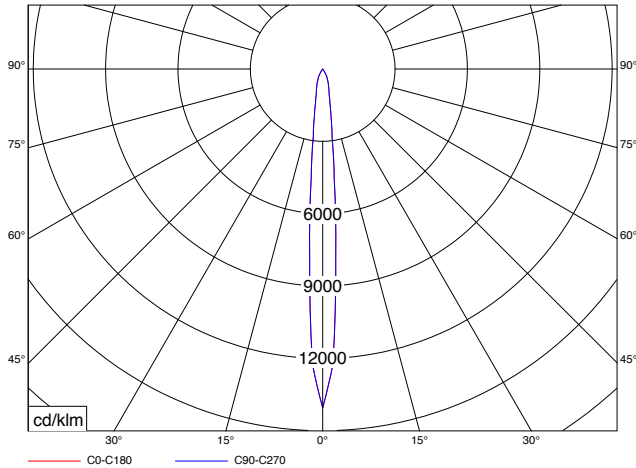
SERIES NO.	TYPE	OPTIONS	OPTIONAL
AA	0	—	
AA - Apure Accessory	0 - Reflector	HC - Honeycomb Lens DF - Diffusing Lens GL - Clear Glass RK - Ring Clip	

ORDERING EXAMPLE AA0HC + AA0RK

# LED Photometrics

## 17° Reflector

Polar Candela Distribution

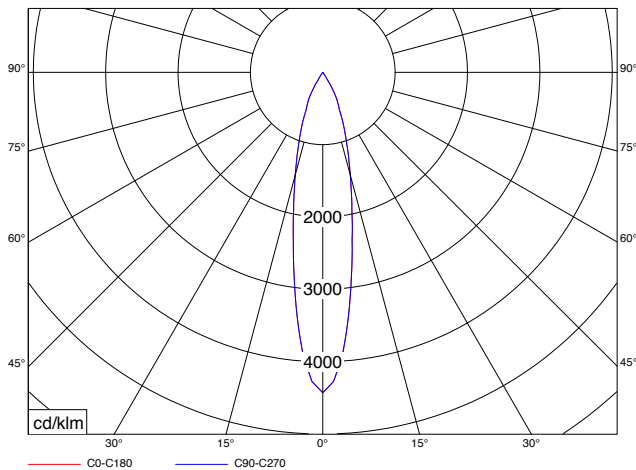


Distance [m]	Cone Diameter [m]	E [lx]
1.0	0.15	E(0°) 13662 E(C0) 4.4° 6901
2.0	0.31	E(0°) 3415 E(C0) 4.4° 1725
3.0	0.46	E(0°) 1518 E(C0) 4.4° 767
4.0	0.62	E(0°) 854 E(C0) 4.4° 431
5.0	0.77	E(0°) 546 E(C0) 4.4° 276

Half-value Angle 8,8°

## 24° Reflector

Polar Candela Distribution

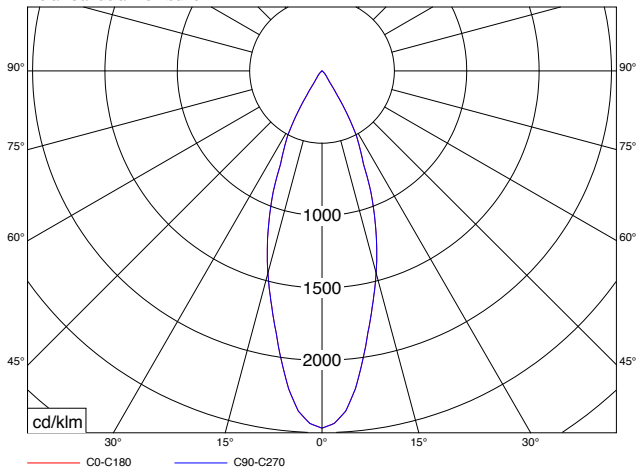


Distance [m]	Cone Diameter [m]	E [lx]
1.0	0.37	E(0°) 4195 E(C0) 10.6° 2069
2.0	0.75	E(0°) 1049 E(C0) 10.6° 517
3.0	1.12	E(0°) 466 E(C0) 10.6° 230
4.0	1.50	E(0°) 282 E(C0) 10.6° 129
5.0	1.87	E(0°) 188 E(C0) 10.6° 83

Half-value Angle 8,8°

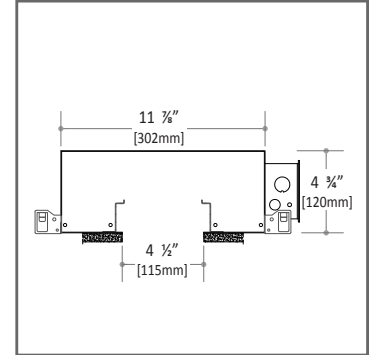
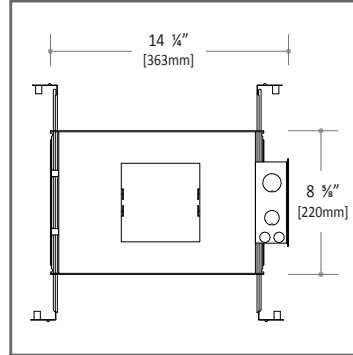
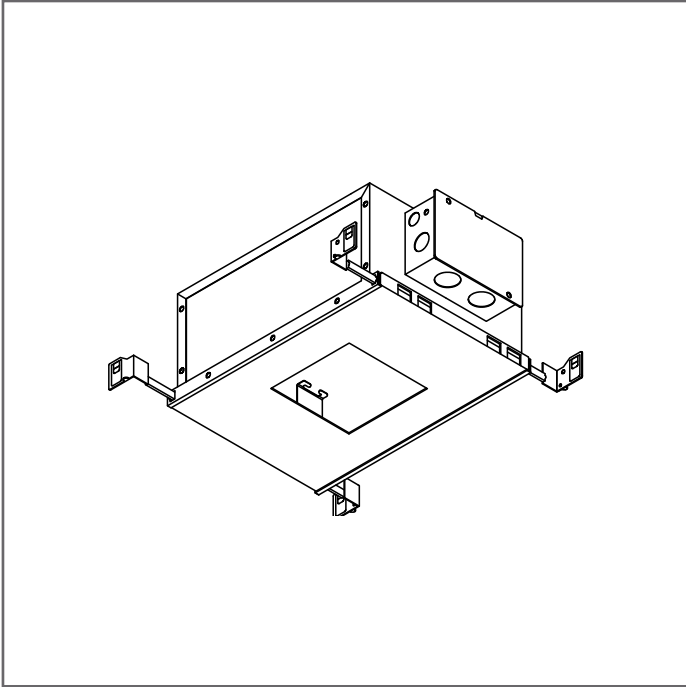
## 36° Reflector

Polar Candela Distribution



Distance [m]	Cone Diameter [m]	E [lx]
1.0	0.64	E(0°) 2330 E(C0) 17.7° 1115
2.0	1.28	E(0°) 582 E(C0) 17.7° 279
3.0	1.91	E(0°) 259 E(C0) 17.7° 124
4.0	2.55	E(0°) 146 E(C0) 17.7° 70
5.0	3.19	E(0°) 93 E(C0) 17.7° 45

Half-value Angle 8,8°



Please see page 5 for wiring diagram

# CLARUS HOUSING LED

**Recessed Housing** - For use with Clarus and Clarus Radius fixtures. Housings are required per UL and NEC standard in the United States and Canada. Housings are produced airtight as standard.

**Construction**

- New construction steel housing with corrosion-resistant galvanized finish.
- Housing available with and without Insulation Contact (IC) rating for installation in a fully insulated ceiling.
- Wiring compartment rated for (6x) #12 thru branch circuits in Non-IC applications only.

**Mounting**

- Housing and trim assembly accommodate 1/2" to 1-1/2" ceiling thicknesses.
- Adjustable hanger bars included, with captive nail, adjust from 14 3/16" to 26" wide.

**Electrical**

- 120V-277V Universal Voltage Input
- Compatible with 2-wire ELV (reverse phase) dimmers.
- For optimal performance, operate luminaire in conjunction with dimming switches or modules. Proper wiring and use of dimmers is to be performed by a qualified professional.

**Dimensions**

- Length: 14 1/8" (363mm)
- Width: 8 5/8" (220mm)
- Height: 4 3/4" (120mm)

**Listings**

- ETL listed, damp location.
- ETL listed, wet location option.
- Airtight and CCSA Chicago Plenum

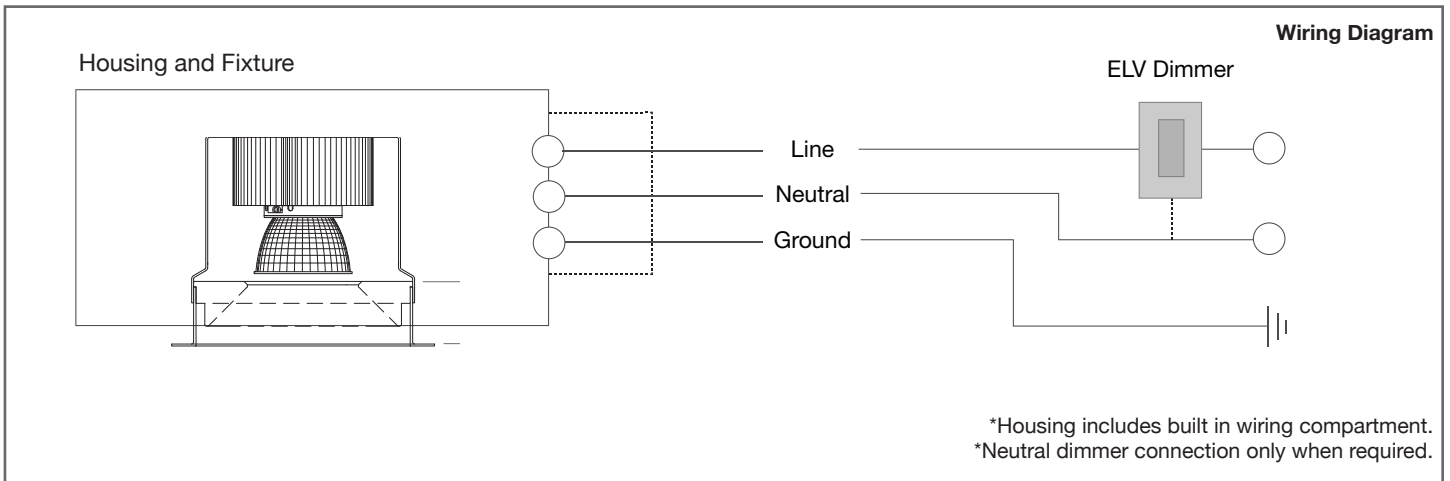
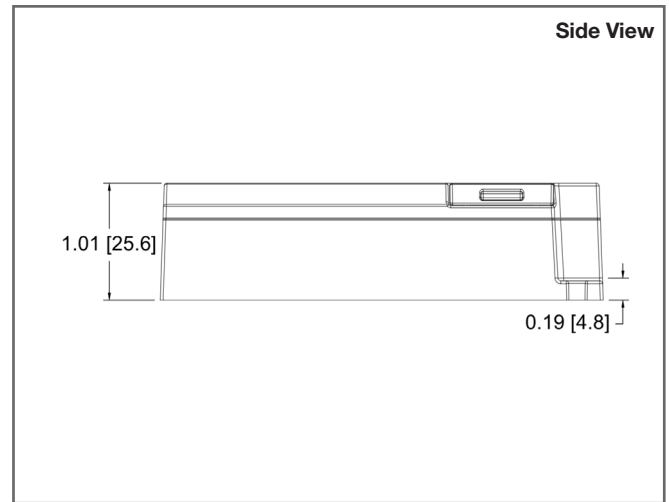
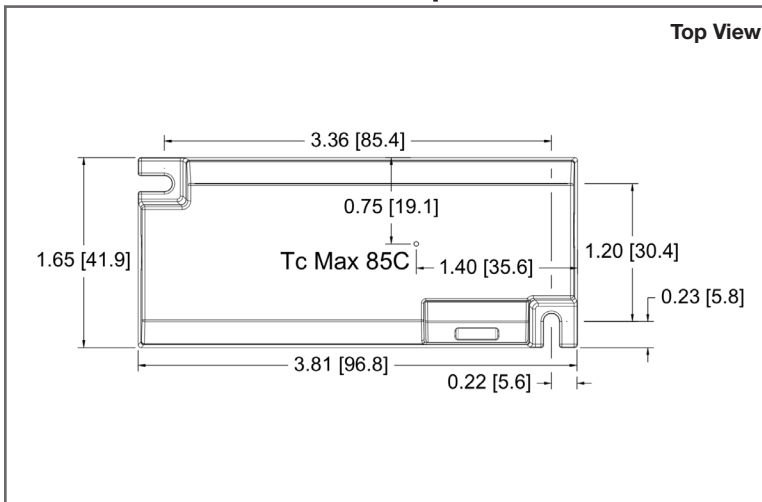


**ORDERING INFORMATION**

SERIES NO.	VOLTAGE	HOUSING TYPE	RATING	REQUIRED
HSG91	3	- SH	- IC	
<b>HSG91</b> - Housing for Clarus LED	<b>3</b> - UNV (120-277V)	<b>SH</b> - Shallow Housing	<b>IC</b> - Insulation Contact	

**ORDERING EXAMPLE** HSG913-SH-IC

# Driver Technical Specifications



Driver Manufacturer **Hatch**  
Input Voltage (VAC) 120-277V (+/-10%)  
Frequency Range 50-60 Hz

	<b>120V</b>	<b>277V</b>
Input Current (A)	0.16	0.17
THD @ Full Load	<10%	<10%
Power Factor @ Full Load	>0.95	>0.95
Efficiency @ Full Load	>80%	>80%
Inrush Current (Apk)	0.58	1.18

Maximum Output Power (W)	16W	16W
LED Power Up Time	<500ms	<500ms
Load Regulation	<3%	<3%
Line Regulation (Max Load)	<3%	<3%
Over Voltage Protection	Yes, Auto Recovery	Yes, Auto Recovery
Over Load Protection	Yes, Auto Recovery	Yes, Auto Recovery
Output Short-Circuit Protection	Yes	Yes
Over Temperature Protection	Yes	Yes

Dimming Control **Leading & Trailing Edge @120V**  
Dimming Range **Dims to 0%**