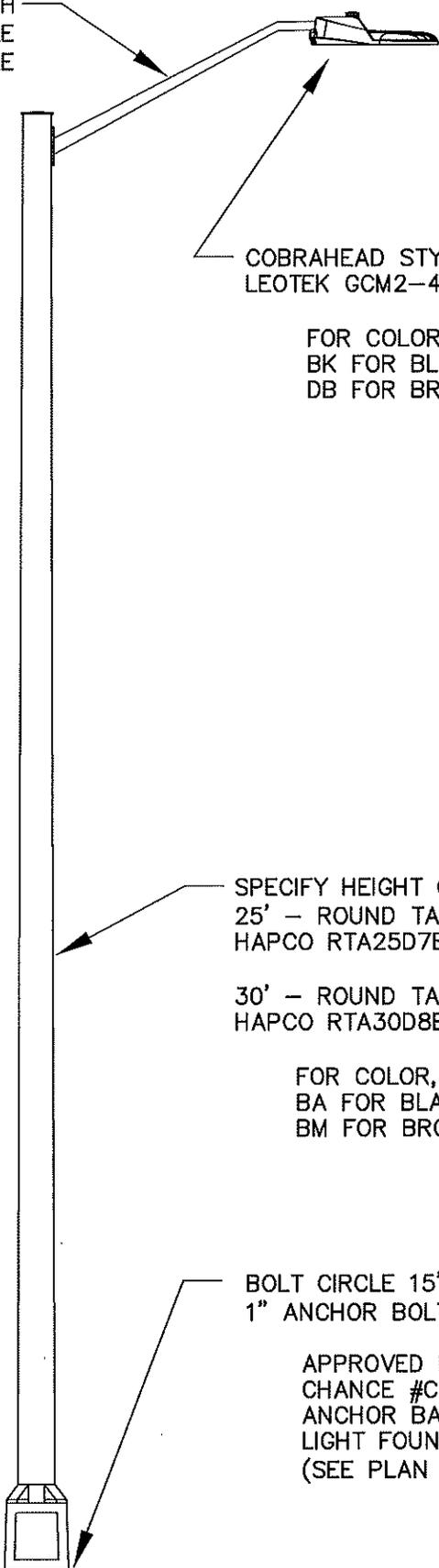


SPECIFY ARM LENGTH
4' ARM FOR 25' POLE
6' ARM FOR 30' POLE



COBRAHEAD STYLE LED LUMINAIRE
LEOTEK GCM2-40H-MV-WW-3R-XX-850-FFA-PCR7-SC

FOR COLOR, CHANGE "XX" TO:
BK FOR BLACK
DB FOR BRONZE

SPECIFY HEIGHT OF POLE
25' - ROUND TAPERED ALUMINUM POLE
HAPCO RTA25D7BFM14-XX

30' - ROUND TAPERED ALUMINUM POLE
HAPCO RTA30D8BFM16-XX

FOR COLOR, CHANGE "XX" TO:
BA FOR BLACK
BM FOR BRONZE

BOLT CIRCLE 15"
1" ANCHOR BOLTS

APPROVED LIGHT BASE FOUNDATION:
CHANCE #C11242-QG4VP SCREW-IN
ANCHOR BASE, OR MnDOT CONCRETE
LIGHT FOUNDATION DESIGN E MOD
(SEE PLAN FOR DETAIL)



CITY OF EDINA
ENGINEERING
& PUBLIC
WORKS
DEPTS.

COMMERCIAL COBRAHEAD

APPROVED: CITY ENGINEER

REVISED:
3-19

STANDARD
PLATE

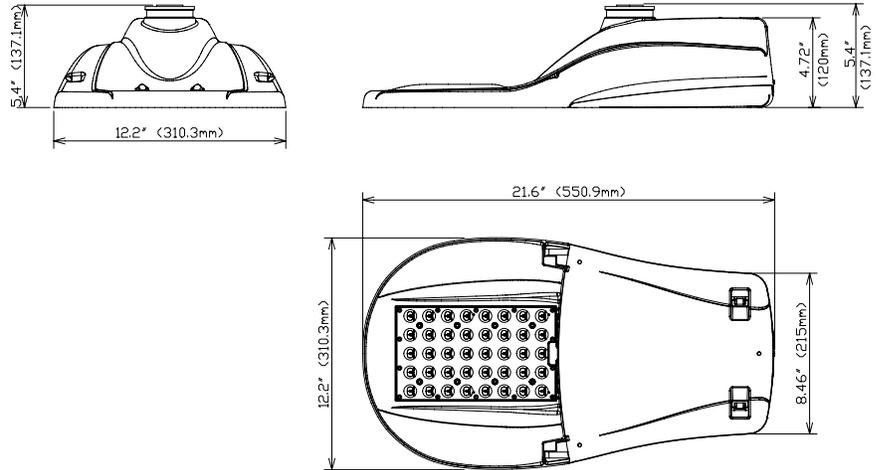
630

GreenCobra™ Midsize LED Street Light

GCM H-Series Specification Data Sheet

Luminaire Data

Weight 10 lbs [4.6 kg]
EPA 0.44 ft²



Ordering Information

Sample Catalog No. GCM2 30H MV NW 2R GY 700 PCR7 WL

Product	LED Code	Voltage	Color Temperature	Distribution	Finish ¹	30H Drive Current Code ²	Options
GCM2	30H	MV 120-277V	WW 3000K	2S Type 2 Short	GY Gray	530	FDC ³ Fixed Drive Current
		HV 347-480V	NW 4000K	2R Type 2 Medium	DB Dark	610	FFA ⁴ Full field Adjustability
GCM2	40H		CW 5000K	3R Type 3 Medium	Bronze	700	LPCR Less Photocontrol Receptacle
				4 Type 4	BK Black	850	PCR7 ⁵ ANSI 7-wire Photocontrol Receptacle
				5 Type 5		1A	PCR7-CR ⁶ Control Ready 7-wire PC Receptacle
						40H Drive Current Code ²	WL Utility Wattage Label
						575	4B 4-Bolt Mounting Bracket
				700	RWG Rubber Wildlife Guard		
				850	SWTB Straight Wire Terminal Block		
				950	BBL Bubble Level		
				1A	CF ⁷ Coastal Paint Finish		

Notes:

- 1 Gray, Black, and Dark Bronze standard. Consult factory for other finishes.
- 2 Specified drive current code is the factory set maximum drive current. Field adjustable current selector enables standard dimming to lower wattage drive currents only. Consult factory if wattage limits require a special drive current.
- 3 Non-field adjustable, fixed drive current. Specify required drive current. Not available with PCR7-CR option.
- 4 The FFA option enables full field adjustability from the specified drive current code to all drive currents available. This option is not DLC qualified.
- 5 Field adjustable current selector included to enable standard dimming to lower wattage drive currents only. Field changeable connectors included to enable connection to PCR7 (wireless node dimming is disabled by default).
- 6 Control-ready wired at factory for wireless node dimming. Supplied at maximum drive current. If a lower drive current is required, consult factory.
- 7 Specify the CF Option for coastal installation. See warranty for details.
- 8 Flush mounted house side shield. Shield cuts light off at 1/2 mounting height behind luminaire.
- 9 Flush mounted cul-de-sac shield. Shield cuts light off at 1/2 mounting height behind luminaire and 1-1/2 mounting height on either side of luminaire.
- 10 Flush mounted front side shield cuts light off at approximately one mounting height in front of luminaire (street side).
- 11 Specify Color (GY, DB, BK)
- 12 Specify MV (120-277V) or HV (347V-480V)

Accessories*

HSSGCM ⁸	House Side Shield, Snap-On*
CSSGCM ⁹	Cul-De-Sac Side Shield, Snap-On*
FSSGCM ¹⁰	Front Side Shield, Snap-On*
SPB ¹¹	Square Pole Horizontal Arm Bracket
RPB ¹¹	Round Pole Horizontal Arm Bracket
PTB ¹¹	Pole Top Tenon Horizontal Arm Bracket
PTB2 ¹¹	Pole Top Tenon Horizontal Arm Bracket (2@180°)
WB ¹¹	Wall Horizontal Arm Bracket
BSK	Bird Deterrent Spider Kit
LLPC ¹²	Long-Life Twist Lock Photocontrol
SC	Twist Lock Shorting Cap

*Accessories are ordered separately and not to be included in the catalog number. For factory installed HSS, CSS, and FSS consult factory.

Luminaire Specifications

Housing

Die cast aluminum housing with universal two-bolt slip fitter mounts to 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) diameter mast arm. One-piece aluminum housing provides passive heat-sinking of the LEDs and has upper surfaces that shed precipitation. Four-bolt mounting bracket is available. Mounting provisions meet 3G vibration per ANSI C136.31-2010 Normal Application, Bridge & Overpass. Mounting has leveling adjustment from ± 5° in 2.5° steps. Electrical components are accessed without tools via a high-strength, non-conductive polycarbonate door with quick-release latches. Polycarbonate material meets UL 746C for outdoor usage. Available rubber wildlife guard (RWG option) conforms to mast arm with no gaps.

Light Emitting Diodes

High-flux/High-power white LEDs produce a minimum of 90% of initial intensity over 75,000 hours of life based on IES TM-21 (L90 ≥ 75k hours). LEDs are tested in accordance with IES LM-80 testing procedures. LEDs have correlated color temperature of 3000K (WW), 4000K (NW), or 5000K (CW) and 70 CRI minimum. LEDs are 100% mercury and lead free.

Field Adjustability

LED drive current can be changed in the field to adjust light output for local conditions (not available with PCR7-CR option). The specified drive current code will be the factory set maximum drive current and field adjustments can only be made to available lower wattage drive currents. Select the FFA option if full field adjustability to all available drive currents (1A max) is desired. The FFA option is not DLC qualified.

Quality Control

Every luminaire is performance tested before and after a 2-hour burn-in period. Assembled in the USA.

Optical Systems

Micro-lens optical systems produce IESNA Type 2, Type 3, Type 4, or Type 5 distributions and are fully sealed to maintain an IP66 rating. Luminaire produces 0% total lumens above 90° (BUG Rating, U=0). Optional house side shield cuts light off at 1/2 mounting height behind luminaire. Cul-de-sac shield provides back and side light control for end of cul-de-sac applications. Both shields are field installable without tools.

Electrical

Rated life of electrical components is 100,000 hours. Uses isolated power supply that is 1-10V dimmable. Power supply is wired with quick-disconnect terminals. Power supply features a minimum power factor of .90 and <20% Total Harmonic Distortion (THD). EMC meets or exceeds FCC CFR Part 15. Terminal block accommodates 6 to 14 gauge wire. Surge protection complies with IEEE/ANSI C62.41 Category C High, 20kV/10kA and ANSI C136.2-2015, 20kV/10kA.

Controls

3-Wire photocontrol receptacle is standard. ANSI C136.41 7-wire (PCR7) photocontrol receptacle is available. All photocontrol receptacles have tool-less rotatable bases. Wireless control module is provided by others.

Finish

Housing receives a durable, fade-resistant polyester powder coat finish with 3.0 mil nominal thickness. Standard finish tested to withstand 5000 hours in salt spray exposure per ASTM B117 and Coastal Finish per ASTM G85. Finish meets scribe creepage rating 8 per ASTM D1654. Finish tested 500 hours in UV exposure per ASTM G154 and meets ASTM D523 gloss retention.

Listings/Ratings/Labels

Luminaires are UL listed for use in wet locations in the United States and Canada. DesignLights Consortium™ qualified product. Consult DLC QPL for Standard and Premium Classification Listings. International Dark Sky Association listed. Luminaire is qualified to operate at ambient temperatures of -40°C to 40°C.

Photometry

Luminaires photometrics are tested by certified independent testing laboratories in accordance with IES LM-79 testing procedures.

Warranty

10-year limited warranty is standard on luminaire and components.

Vandal Resistance

Housing and optics rated to IK10

Standards

Luminaire complies with:
ANSI: C136.2, C136.3, C136.10, C136.13, C136.15, C136.22, C136.31, C136.35, C136.37, C136.41, C62.41, C78.377, C82.77
Other: FCC 47 CFR, IEC 60598, ROHS II, UL 1449, UL 1598

Performance Data: 3000K (WW)

All data nominal. IES files for all CCTs available at leotek.com.

Product	LED Code	Drive Current Code	System Wattage (W)	Delivered Lumens (Lm) ¹	Efficacy (Lm/W)
GCM2	30H	530	48	5770	120
		610	58	6700	116
		700	68	7620	112
		850	82	8800	107
		1A	101	10480	104
	40H	575	73	8780	120
		700	88	10230	116
		850	107	11960	112
		950	121	13040	108
		1A	135	14080	104

Notes:

1 Nominal lumens. Normal tolerance ± 10% due to factors including distribution type, LED bin variance, and ambient temperatures.

Performance Data: 4000K (NW) and 5000K (CW)

All data nominal. IES files for all CCTs available at leotek.com.

Product	LED Code	Drive Current Code	System Wattage (W)	Delivered Lumens (Lm) ¹	Efficacy (Lm/W)
GCM2	30H	530	48	6330	132
		610	58	7440	128
		700	68	8550	126
		850	82	9830	120
		1A	101	11720	116
	40H	575	73	9590	131
		700	88	11260	128
		850	107	13270	124
		950	121	14390	119
		1A	135	15430	114

Notes:

1 Nominal lumens. Normal tolerance ± 10% due to factors including distribution type, LED bin variance, and ambient temperatures.

BUG Ratings

3000K (WW)

			Type 2S	Type 2R	Type 3R	Type 4	Type 5
Product	LED Code	Drive Current Code	BUG Rating	BUG Rating	BUG Rating	BUG Rating	BUG Rating
GCM2	30H	530	B2 U0 G1	B1 U0 G1	B2 U0 G2	B2 U0 G1	B3 U0 G1
		610	B2 U0 G1	B1 U0 G1	B2 U0 G2	B2 U0 G2	B3 U0 G1
		700	B2 U0 G1	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G1
		850	B2 U0 G1	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
		1A	B2 U0 G2	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	40H	575	B2 U0 G1	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
		700	B2 U0 G2	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
		850	B2 U0 G2	B2 U0 G2	B3 U0 G3	B3 U0 G2	B3 U0 G2
		950	B3 U0 G2	B2 U0 G2	B3 U0 G3	B3 U0 G2	B4 U0 G2
		1A	B2 U0 G2	B2 U0 G2	B3 U0 G3	B3 U0 G2	B4 U0 G2

4000K (NW)

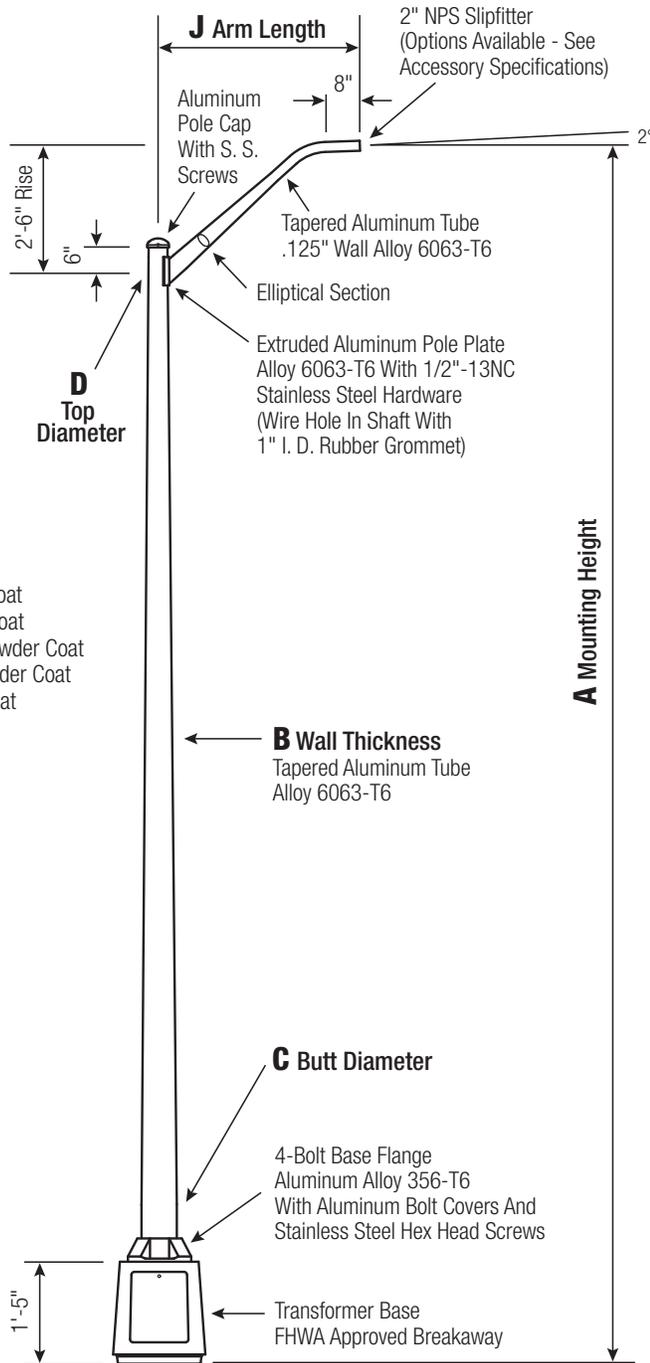
			Type 2S	Type 2R	Type 3R	Type 4	Type 5
Product	LED Code	Drive Current Code	BUG Rating				
GCM2	30H	530	B2 U0 G1	B1 U0 G1	B2 U0 G2	B2 U0 G1	B3 U0 G1
		610	B2 U0 G1	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G1
		700	B2 U0 G1	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
		850	B2 U0 G2	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
		1A	B3 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2	B3 U0 G2
	40H	575	B2 U0 G2	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
		700	B2 U0 G2	B2 U0 G2	B3 U0 G3	B2 U0 G2	B3 U0 G2
		850	B3 U0 G2	B2 U0 G2	B3 U0 G3	B3 U0 G2	B4 U0 G2
		950	B3 U0 G2	B2 U0 G2	B3 U0 G3	B3 U0 G2	B4 U0 G2
		1A	B3 U0 G2	B3 U0 G3	B3 U0 G3	B3 U0 G3	B4 U0 G2

5000K (CW)

			Type 2S	Type 2R	Type 3R	Type 4	Type 5
Product	LED Code	Drive Current Code	BUG Rating				
GCM2	30H	530	B2 U0 G1	B1 U0 G1	B2 U0 G2	B2 U0 G1	B3 U0 G1
		610	B2 U0 G1	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G1
		700	B2 U0 G1	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
		850	B2 U0 G2	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
		1A	B2 U0 G2	B2 U0 G2	B3 U0 G3	B3 U0 G2	B3 U0 G2
	40H	575	B2 U0 G2	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
		700	B2 U0 G2	B2 U0 G2	B3 U0 G3	B2 U0 G2	B3 U0 G2
		850	B3 U0 G2	B2 U0 G2	B3 U0 G3	B3 U0 G2	B4 U0 G2
		950	B3 U0 G2	B2 U0 G2	B3 U0 G3	B3 U0 G2	B4 U0 G2
		1A	B3 U0 G2	B3 U0 G3	B3 U0 G3	B3 U0 G3	B4 U0 G2

RTA

Round Tapered Aluminum Pole with Arms Single Mast — Breakaway T-Base



Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

WARNING:

Do not install light pole without luminaire.

Satin Aluminum or Powder Coated Finish per Customer Specification.

RTA25D7BFM14

CATALOG NUMBER

FINISH

Pole

The pole shaft will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.

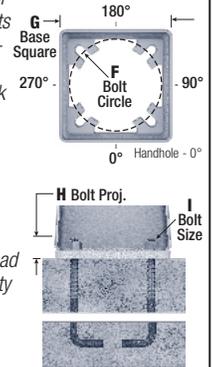


Handhole

Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.

Anchorage

Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153. **Top Connecting Hardware** includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.



EPA Notes: Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.



26252 Hillman Highway
Abingdon, VA 24210
800.368.7171
www.hapco.com

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	J ARM LENGTH	LUM. WEIGHT	MAXIMUM EPA					OLD CAT. NUMBER	CATALOG NUMBER
					90	100	110	120	130		
25	0.188"	7	4'	60	10.4	8.2	7.6	6.4	5.4	23-292	RTA25D7BFM14-**

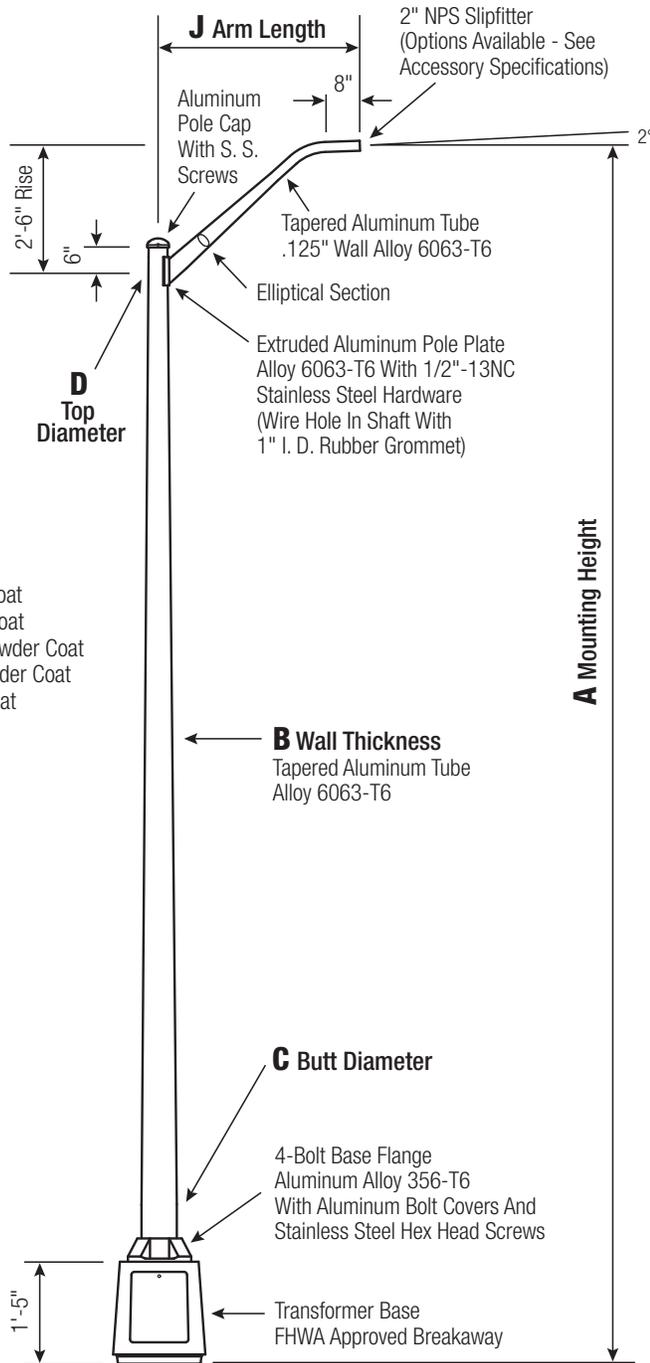
C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4

Dimensions in Inches

CUSTOMER NAME:	
PROJECT:	LOCATION:
NOTES:	QUANTITY:

RTA

Round Tapered Aluminum Pole with Arms Single Mast — Breakaway T-Base



Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

RTA30D8BFM16

CATALOG NUMBER

FINISH

Pole

The pole shaft will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.

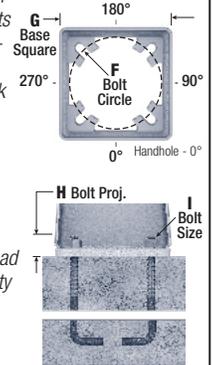


Handhole

Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.

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Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

WARNING:

Do not install light pole without luminaire.

Satin Aluminum or Powder Coated Finish per Customer Specification.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	J ARM LENGTH	LUM. WEIGHT	MAXIMUM EPA					OLD CAT. NUMBER	CATALOG NUMBER
					90	100	110	120	130		
30	0.188"	8	6'	60	8.2	6.4	6.0	5.0	4.2	23-585	RTA30D8BFM16-**

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
8	4.5	15	15.375	3.5	1 x 36 x 4

Dimensions in Inches

CUSTOMER NAME:

PROJECT:

LOCATION:

NOTES:

QUANTITY:



EPA Notes: Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.



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