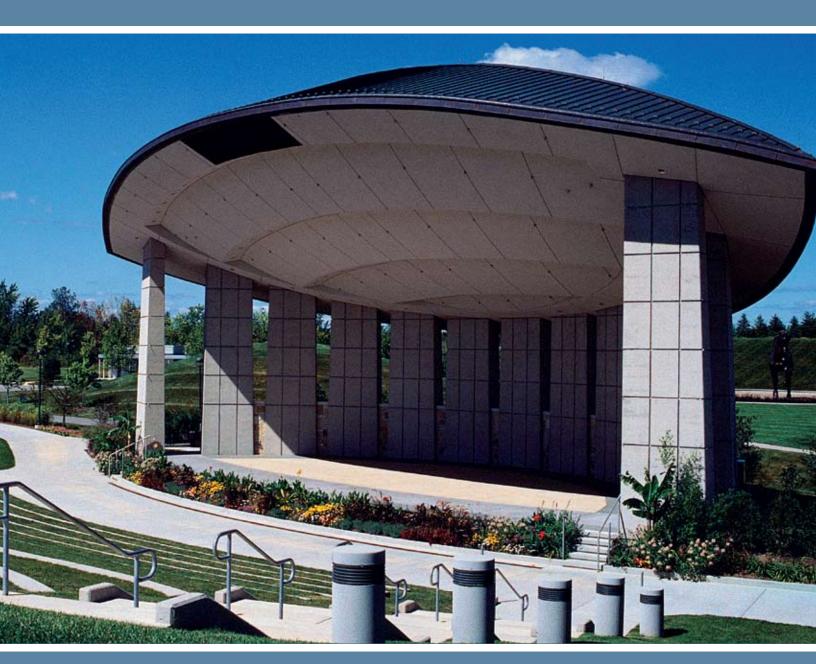
# CONTEMPORARY CONCRETE BOLLARDS







# "to create, inspire and nurture EXCELLENCE in each other"



#### **Energy Efficient**

AAL's Contemporary
Concrete Bollards use
electrical energy in the
most efficient possible way.
A wide variety of lamp and
ballast systems provides
more energy efficient
design choices. The result
is more light with less
energy consumption.

#### **Light Pollution**

AAL's Contemporary Concrete Bollards utilize cutoff optics which means less than 2.5% of light is emitted above 90° horizontal.

#### Longevity

AAL manufactures all our products to have a life span as long as the building or space they illuminate. The primary material used for both our luminaire and pole products is aluminum to resist corrosion and the need for maintenance. Aluminum will not need the periodic refinishing required of steel products that will eventually rust and corrode. All our fasteners are made of aluminum or stainless steel. Our reflector enclosures are kept dust free and dry with the use of silicone gaskets to prevent light degradation from contaminants.

#### Sustainability

Our products are developed with recycling and resource management in mind. We recycle all incoming packaging materials. Our products are shipped in easy to recycle packaging materials. Our state of the art finishing system uses eco-friendly cleansing and preparation chemicals. Our powder coating process eliminates the release of volatile chemicals into the atmosphere.

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AAL is a registered continuing education provider.

Printed on recycled paper ©2009 Architectural Area Lighting Architectural Area Lighting's Contemporary Concrete Bollards are designed to be sensitive to the physical and aesthetic environment. Their natural materials harmonize with virtually any site design, and are available in many sizes, shapes, heights and finishes to complement various design needs. Standard surface treatments include natural colored concrete with an etched finish or exposed aggregate.





CB9R-CUTOFF-DOME-AGR

CB18R-HORZ-FLAT-MSB



CB12R-HORZ-FLAT-MSB

## 9" Round and Square

EXAMPLE	BOLLARD	OAH	GRILL	TOP STYLE	LAMP/ BALLAST	CONCRETE FINISH	GRILL COLOR	OPTIONS	MOUNTING
	CB9R	36	CUTOFF	DOME	50MH	AGR	BLK	HSS	EXT
	CB9S	42	CUTOFF	FLAT	27LED-BW	MSB	MTB	-	EXT

#### **BOLLARD**

ROUND	OAH (inches)	GRILL	TOP STYLE	WT (lbs.)	
CB9R	24	CUTOFF	FLAT	120	
CB9R	36	CUTOFF	FLAT	140	
CB9R	42	CUTOFF	FLAT	160	
CB9R	24	CUTOFF	DOME	120	
CB9R	36	CUTOFF	DOME	140	
CB9R	42	CUTOFF	DOME	160	
SQUARE	OAH (inches)	GRILL	TOP STYLE	WT (lbs.)	
SQUARE CB9S	OAH (inches) 24	<b>GRILL</b> CUTOFF	TOP STYLE FLAT	<b>WT (lbs.)</b> 130	
	,			,	
CB9S	24	CUTOFF	FLAT	130	
CB9S CB9S	24 36	CUTOFF CUTOFF	FLAT FLAT	130 150	
CB9S CB9S CB9S	24 36 42	CUTOFF CUTOFF CUTOFF	FLAT FLAT FLAT	130 150 170	

Grill assembly for CB9R and CB9S is 8"/203mm square or diameter.

#### LAMP/BALLAST

50MH	50 watt metal halide 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
70MH	70 watt metal halide 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
100MH	100 watt metal halide 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
50HPS	50 watt high pressure sodium 120/277 volt ballast. Use medium base, ED-17 lamp.
70HPS	70 watt high pressure sodium 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
100HPS	100 watt high pressure sodium 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
27LED-WW	27 light emitting diode array (28 watt). Warm white (3500K). IES Type 5. 120 thru 277 volt.
27LED-BW	27 light emitting diode array (28 watt). Bright white (5100K). IES Type 5. 120 thru 277 volt.
	All bellests and feeting visual fee 0.77 rather unless and if all leaves and included

All ballasts are factory wired for 277 volts, unless specified. Lamps not included (except LED options). All applicable ballasts are EISA compliant.

#### **CONCRETE FINISH**

MSB	Medium sandblast, natural color finish
AGR	Exposed aggregate finish

#### **GRILL COLOR**

All standard and premium AAL colors available for grill.

For RAL and custom colors, please submit a 4-digit RAL number or color chip for custom colors.

#### **OPTIONS**

HSS	House side shield -180°
RBC	A single gang junction box, cast in place, weatherproof cover only. Consult factory for
	location.
Colored	Based on Davis colors. For custom color and aggregate, customer must provide aggregate,
Concrete	sand, and colorant.

#### **MOUNTING**

|--|

Internal mounting not available with CB9 models.

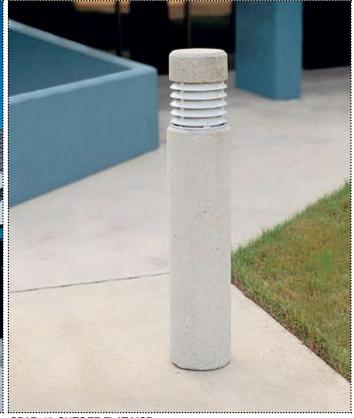
9" Round and Square



CB9R-36-CUTOFF-PYRM-MSB



CB9S-36-CUTOFF-PYRM-MSB



CB9R-42-CUTOFF-FLAT-MSB

#### CONTEMPORARY CONCRETE BOLLARDS

## 12" Round and Square

EXAMPLE	BOLLARD	OAH	GRILL	TOP STYLE	LAMP/ BALLAST	CONCRETE FINISH	GRILL COLOR	OPTIONS	MOUNTING	
	CB12R CB12S	44 36	HORZ VERT	DOME PYRM	70HPS 36LED-WW	MSB AGR	DGN BLK	RBC -	INT EXT	

#### **BOLLARD**

DOLLAND	,									
	INTE	ERNAL M	OUNTING			EXTER	NAL MOL	JNTING		
	OAH					OAH			WT/	
ROUND	(inches)	GRILL	TOP STYLE	WT/(lbs.)	ROUND	(inches)	GRILL	TOP STYLE	(lbs.)	
CB12R	24	CUTOFF	FLAT	116	CB12R	24	CUTOFF	FLAT	139	
CB12R	36	CUTOFF	FLAT	186	CB12R	37	CUTOFF	FLAT	214	
CB12R	41	CUTOFF	FLAT	214	CB12R	42	CUTOFF	FLAT	244	
CB12R	26	CUTOFF	DOME	112	CB12R	26	CUTOFF	DOME	135	
CB12R	38	CUTOFF	DOME	182	CB12R	39	CUTOFF	DOME	210	
CB12R	43	CUTOFF	DOME	210	CB12R	44	CUTOFF	DOME	240	
CB12R	24	HORZ	FLAT	116	CB12R	24	HORZ	FLAT	139	
CB12R	36	HORZ	FLAT	186	CB12R	37	HORZ	FLAT	214	
CB12R	41	HORZ	FLAT	214	CB12R	42	HORZ	FLAT	244	
CB12R	26	HORZ	DOME	112	CB12R	26	HORZ	DOME	135	
CB12R	38	HORZ	DOME	182	CB12R	39	HORZ	DOME	210	
CB12R	43	HORZ	DOME	210	CB12R	44	HORZ	DOME	240	
CB12R	24	VERT	FLAT	127	CB12R	24	VERT	FLAT	150	
CB12R	36	VERT	FLAT	197	CB12R	37	VERT	FLAT	225	
CB12R	41	VERT	FLAT	225	CB12R	42	VERT	FLAT	255	
CB12R	24	VERT	DOME	112	CB12R	24	VERT	DOME	135	
CB12R	36	VERT	DOME	182	CB12R	37	VERT	DOME	210	
CB12R	41	VERT	DOME	210	CB12R	42	VERT	DOME	240	
SQUARE	OAH (i	nches)	GRII	_L	TOP STYLE		WT (lbs	6.)		
CB12S	24		HOR	Z	FLAT		160			
CB12S	36		HOR		FLAT					
CB12S	42	)	HOR	Z	FLAT		200			
CB12S	24		HOR	Z	PYRM		170			
CB12S	36		HOR		PYRM		190			
CB12S	42		HOR		PYRM		210			
CB12S	24		VERT		FLAT		160			
CB12S	36		VERT		FLAT		180			
CB12S	42		VERT		FLAT		200			
CB12S	24		VERT		PYRM		170			
CB12S	36		VERT		PYRM		190			
CB12S	42	<u>-</u>	VERT	Γ	PYRM		210			

#### LAMP/BALLAST

All ballasts are factory wired for 277 volts, unless specified. Lamps not included (except LED options).

EXAMPLE	BOLLARD	OAH	GRILL	TOP STYLE	LAMP/ BALLAST	CONCRETE FINISH	GRILL COLOR	OPTIONS	MOUNTING
	CB12R	44	HORZ	DOME	70HPS	MSB	DGN	RBC	INT
	CB12S	36	VERT	PYRM	36LED-WW	AGR	BLK	-	EXT

#### **CONCRETE FINISH**

MSB	Medium sandblast, natural color finish
AGR	Exposed aggregate finish

#### **GRILL COLOR**

All standard and premium AAL colors available for grill.

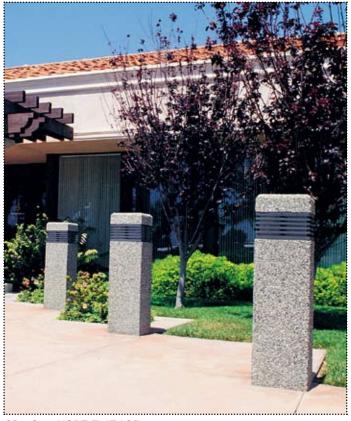
For RAL and custom colors, please submit a 4-digit RAL number or color chip for custom colors.

#### **OPTIONS**

HSS	House side shield -180°
RBC	A single gang junction box, cast in place, weatherproof cover only. Consult factory for location.
Colored Concrete	Based on Davis colors. For custom color and aggregate, customer must provide aggregate, sand, and colorant.

#### **MOUNTING**

INT	Internal mounting
EXT	External mounting





CB12S-36-HORZ-FLAT-AGR

CB12R-36-HORZ-FLAT-AGR

#### CONTEMPORARY CONCRETE BOLLARDS

16"	Sq	uare
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EXAMPLE	BOLLARD	OAH	GRILL	TOP STYLE	LAMP/ BALLAST	CONCRETE FINISH	GRILL COLOR	OPTIONS	MOUNTING
	CB16S	36	HORZ	FLAT	70HPS	AGR	BRM	HSS	EXT
	OAH (inch	es)	GRIL	L	TOP STYL	E WT (lbs	S.)		
CB16S		24		HOR		FLAT		330	
CB16S		36		HOR		FLAT		370	
CB16S		42		HOR		FLAT		410	
CB16S		24		HOR		PYRM		340	
CB16S		36		HOR	<u>Z</u>	PYRM	PYRM 380		
CB16S		42		HOR		PYRM		420	
CB16S		24		VERT		FLAT		330	
CB16S		36		VER		FLAT		370	
CB16S		42		VER		FLAT		410	
CB16S		24		VERT		PYPM		340	
CB16S						PYRM			
CB16S						PYRM			
CB16S		24		CUTO		FLAT	100	330	
CB16S		36				FLAT			
CB16S				CUTO		FLAT			
CB16S		24		CUTO		PYRM		340	
CB16S						PYRM			
CB16S						PYRM			

#### LAMP/BALLAST

50MH	50 watt metal halide 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
70MH	70 watt metal halide 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
100MH	100 watt metal halide 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
150PSMH	Pulse start metal halide 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
50HPS	50 watt high pressure sodium 120/277 volt ballast. Use medium base, ED-17 lamp.
70HPS	70 watt high pressure sodium 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
100HPS	100 watt high pressure sodium 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
150HPS	150 watt high pressure sodium 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
54LED-WW	54 light emitting diode array (55 watt). Warm white (3500K). IES Type 5. 120 thru 277 volt.
54LED-BW	54 light emitting diode array (55 watt). Bright white (5100K). IES Type 5. 120 thru 277 volt.
	All ballasts are factory wired for 277 volts, unless specified. Lamps not included
	(except LED options). All applicable ballasts are EISA compliant.

#### **CONCRETE FINISH**

MSB	Medium sandblast, natural color finish
AGR	Exposed aggregate finish

#### **GRILL COLOR**

All standard and premium AAL colors available.

For RAL and custom colors, please submit a 4-digit RAL number or color chip for custom colors.

#### **OPTIONS**

HSS	House side shield -180°
RBC	A single gang junction box, cast in place, weatherproof cover only. Consult factory for location.
Colored	Based on Davis colors. For custom color and aggregate, customer must provide aggregate,
Concrete	sand, and colorant.
MOUNTING	
MODIVITING	
INT	Internal mounting
EXT	External mounting

### 18" Round

EXAMPLE	BOLLARD	OAH	GRILL	TOP STYLE	LAMP/ BALLAST	CONCRETE FINISH	GRILL COLOR	OPTIONS	MOUNTING	
	CB18R	29	CUTOFF	DOME	100MH	AGR	BRM	HSS	INT	

#### **BOLLARD**

	INTE	ERNAL M	OUNTING			EXTE	RNAL MO	DUNTING	
	OAH					OAH			
ROUND	(inches)	GRILL	TOP STYLE	WT/(lbs.)	ROUND	(inches)	GRILL	TOP STYLE	WT/(lbs.)
CB18R	25	CUTOFF	FLAT	223	CB18R	25	CUTOFF	FLAT	260
CB18R	37	CUTOFF	FLAT	260	CB18R	38	CUTOFF	FLAT	423
CB18R	42	CUTOFF	FLAT	423	CB18R	43	CUTOFF	FLAT	463
CB18R	29	CUTOFF	DOME	240	CB18R	29	CUTOFF	DOME	277
CB18R	41	CUTOFF	DOME	277	CB18R	42	CUTOFF	DOME	440
CB18R	46	CUTOFF	DOME	440	CB18R	47	CUTOFF	DOME	480
CB18R	25	HORZ	FLAT	223	CB18R	25	HORZ	FLAT	260
CB18R	37	HORZ	FLAT	260	CB18R	38	HORZ	FLAT	423
CB18R	42	HORZ	FLAT	423	CB18R	43	HORZ	FLAT	463
CB18R	29	HORZ	DOME	240	CB18R	29	HORZ	DOME	277
CB18R	41	HORZ	DOME	277	CB18R	42	HORZ	DOME	440
CB18R	46	HORZ	DOME	440	CB18R	47	HORZ	DOME	480
CB18R	23	VERT	FLAT	223	CB18R	23	VERT	FLAT	260
CB18R	35	VERT	FLAT	260	CB18R	36	VERT	FLAT	423
CB18R	40	VERT	FLAT	423	CB18R	41	VERT	FLAT	463
CB18R	27	VERT	DOME	240	CB18R	27	VERT	DOME	277
CB18R	39	VERT	DOME	277	CB18R	40	VERT	DOME	440
CB18R	44	VERT	DOME	440	CB18R	45	VERT	DOME	480

#### LAMP/BALLAST

50MH	50 watt metal halide 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
70MH	70 watt metal halide 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
100MH	100 watt metal halide 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
150PSMH	Pulse start 150 watt metal halide 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
50HPS	50 watt high pressure sodium 120/277 volt ballast. Use medium base, ED-17 lamp.
70HPS	70 watt high pressure sodium 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
100HPS	100 watt high pressure sodium 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
150HPS	150 watt high pressure sodium 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
72LED-WW	72 light emitting diode array (74 watt). Warm white (3500K). IES Type 5. 120 thru 277 volt.
72LED-BW	72 light emitting diode array (74 watt). Bright white (5100K). IES Type 5. 120 thru 277 volt.
	All ballasts are factory wired for 277 volts, unless specified. Lamps not included (except LED options).

#### **CONCRETE FINISH**

MSB	Medium sandblast, natural color finish
AGR	Exposed aggregate finish

#### **GRILL COLOR**

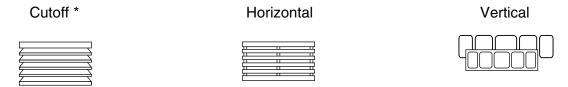
All standard and premium AAL colors available for grill.
For RAL and custom colors, please submit a 4-digit RAL number or color chip for custom colors.

#### **OPTIONS**

01 110110	
HSS	House side shield -180°
RBC	A single gang junction box, cast in place, weatherproof cover only. Consult factory for location.
Colored	Based on Davis colors. For custom color and aggregate, customer must provide aggregate,
Concrete	sand, and colorant.
MOUNTING INT	Internal mounting
FXT	External mounting

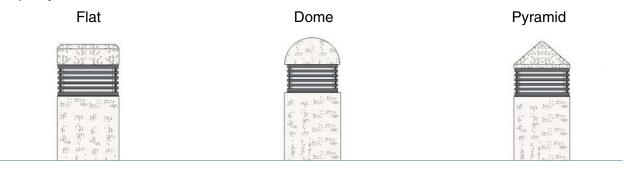
AAL's Contemporary Concrete Bollards are maintenance-free due to their inherent strength and natural finishes. The reinforced concrete bases and tops, matched with cast aluminum grills, make the bollards virtually indestructible. These bollards are highly resistant to abuse and inadvertent damage from grounds keeping. In addition, the concrete surfaces are treated with an anti-graffiti coating to minimize damage from vandals.

#### **Grill Styles**

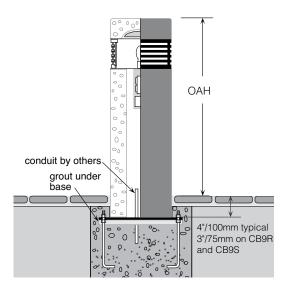


<sup>\* 8&</sup>quot;/203mm diameter or square for CB9 models. All others are same dimension as bollard.

#### Top Styles

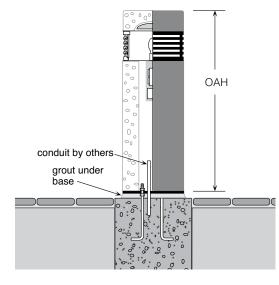


#### Mounting



External Mounting

#### **Typical**



Internal Mounting (not available with the 9" round or 9" square bollard)

#### **Specifications**

#### CONCRETE BODY AND CAP

The body and caps are composed of precast concrete reinforced with an internal cage structure of steel. The concrete bodies are one-piece castings with a minimum wall thickness of three inches. All threaded inserts are welded to the steel reinforcing cage and cast in place. The base plate for anchoring is 1/4" hot dipped galvanized steel.

#### GRILL

Grills are cast aluminum, minimum wall thickness of .250 inches. All castings are pure aluminum #356 alloy, free of any foreign material or porosity. Grills have cast-in-place, integral mounting lugs for attachment to the concrete base. The inner lens is sealed to the grill frame. HID cutoff models have a clear DR acrylic lens. All other HID models have an opal DR acrylic lens. CB9 models with LED have lightly diffused acrylic lens. CB12, CB16, and CB18 models with LED have an opal acrylic lens. The grill assembly has a silicone gasket on the top and bottom for weather tight operation. Recessed stainless steel screws are loosened to remove the top cap for relamping. For HID models, upper reflector is installed on the inside of all top caps for optimum luminaire efficiency.

#### **CUTOFF**

Models with cutoff grill provide IES cutoff classification meaning less than 2.5% of light is emitted above 90° horizontal.

#### **ELECTRICAL MODULE**

The electrical module consists of the ballast module and lamp housing. All housing parts are aluminum with stainless steel hardware. The ballast module is prewired on an aluminum strap mounted to the underside of the lamp housing. The electrical module is silicone gasketed for weather tight operation. HID ballasts are high power factor, rated for -30°C starting. Ballasts are wired at the factory for 277 volts, unless specified. LED components are 120 thru 277 volt. LED constant current driver operates at 350mA.

#### **FINISH**

Concrete surface finish is natural concrete with a medium sandblast etch or exposed aggregate. Medium sandblast finish includes a clear anti-vandal sealer.

Grill finish consists of a five stage pretreatment regimen with a polymer primer sealer, oven dry off and top coated with a thermoset super TGIC polyester powder coat finish. The finish shall meet the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance.

#### **EISA COMPLIANCE**

AAL is committed to complying with U.S. EISA requirements.
All applicable products manufactured for sale in the United
States after January 1, 2009, meet EISA requirements.

#### **CERTIFICATION**

All bollards shall be listed with ETL for outdoor, wet location use, UL1598 and Canadian CSA Std. C22.2 no.250.

#### WARRANTY

Fixture is warranted for three years. Ballast components carry the ballast manufacturer's limited warranty. Any unauthorized return, repair, replacement or modification of the Product(s) shall void this warranty. This warranty applies only to the use of the Product(s) as intended by AAL and does not cover any misapplication or misuse of said Product(s), or installation in hazardous or corrosive environments. Contact AAL for complete warranty language, exceptions, and limitations.

# CONTEMPORARY CONCRETE BOLLARDS

