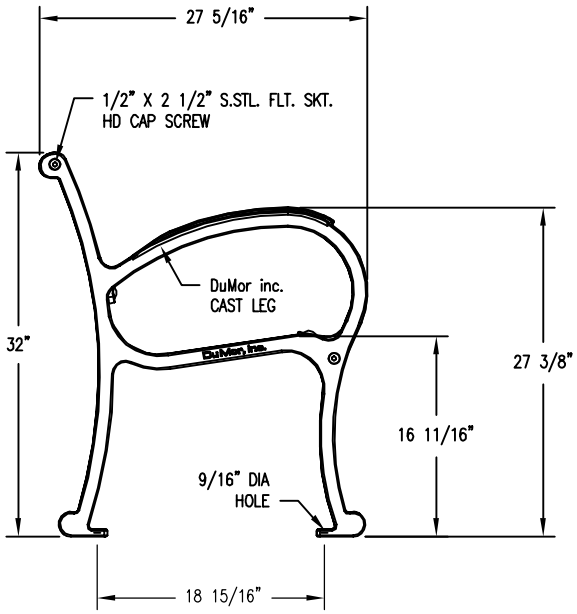
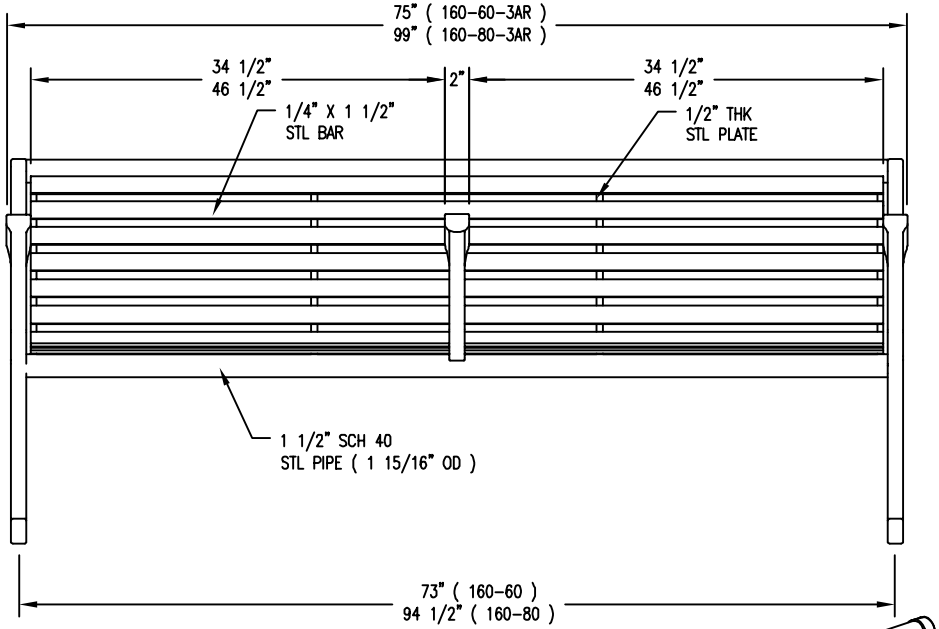
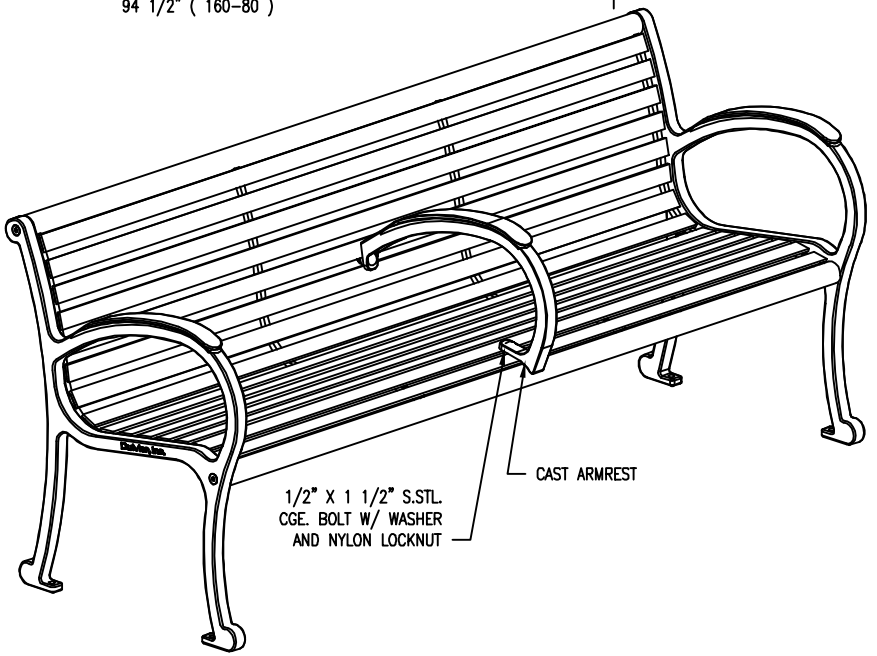




LENGTH OPTIONS

- ☐ 6' BENCH
- ☐ 8' BENCH



NOTES

1.) ALL STL. MEMBERS COATED W/ ZINC RICH COATING THEN POLYESTER POWDER COATED.
2.) BENCH IS SHIPPED UNASSEMBLED.
3.) 1/2" X 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED.

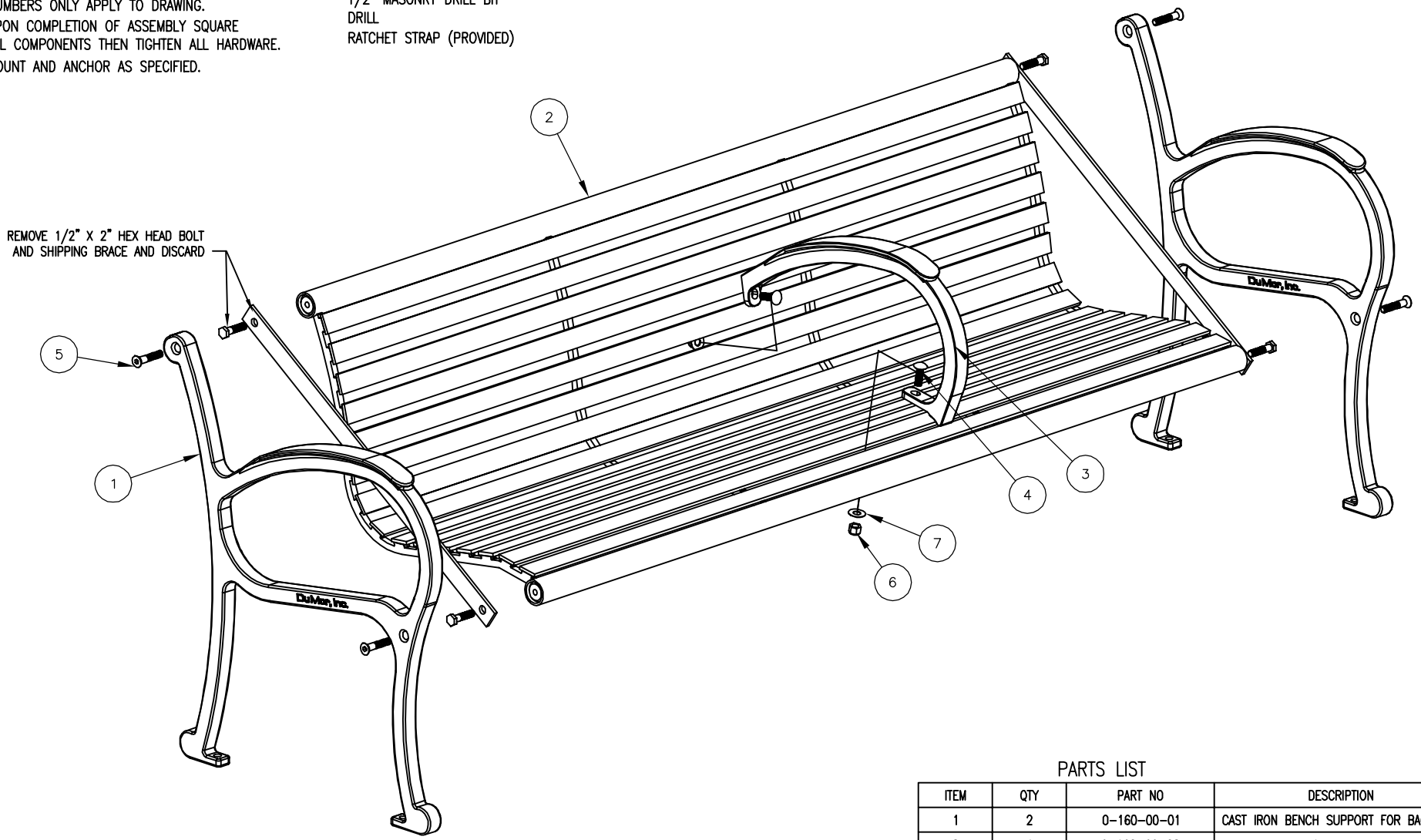
DuMor, inc.	BENCH	DATE DRAWN : 03/02/04 DRAWN BY : AWH DATE REV. : 03/20/07 REV. BY : AWH	REV. B	DRAWING NUMBER 160 SERIES-3AR	SHEET 1 OF 2

NOTES:

1.) DURING ASSEMBLY PROCEDURE;
DO NOT COMPLETELY TIGHTEN HARDWARE.
2.) THE ACTUAL PARTS WILL NOT BE NUMBERED.
NUMBERS ONLY APPLY TO DRAWING.
3.) UPON COMPLETION OF ASSEMBLY SQUARE
ALL COMPONENTS THEN TIGHTEN ALL HARDWARE.
4.) MOUNT AND ANCHOR AS SPECIFIED.

TOOLS REQ'D

3/4" WRENCH
5/16" ALLEN WRENCH
1/2" MASONRY DRILL BIT
DRILL
RATCHET STRAP (PROVIDED)



KITS PROVIDED

ITEM	QTY	PART NO	DESCRIPTION
8	1	K-ANC0860-4	1/2" X 3 3/4" SS ANCHOR KIT (4PC)
9	1	K-CG0824-2L	1/2" CGE BOLT HARDWARE KIT (2PC)
10	1	K-FC0840-4	1/2" CAP HARDWARE KIT (4 PCS)

PARTS LIST

ITEM	QTY	PART NO	DESCRIPTION
1	2	0-160-00-01	CAST IRON BENCH SUPPORT FOR BACKREST
2	1	0-160-60-02	6' STL SEAT
3	1	0-160-00-03	CAST IRON ARM REST
4	2	1-11-042	1/2" X 1 1/2" SS CGE BOLT
5	4	1-12-065	1/2" X 2 1/2" FLT SKT HD CAP SCR
6	2	1-20-015	1/2" SS NYLON LOCKNUT
7	2	1-22-015	1/2" SS FLAT WASHER

DuMor, inc.

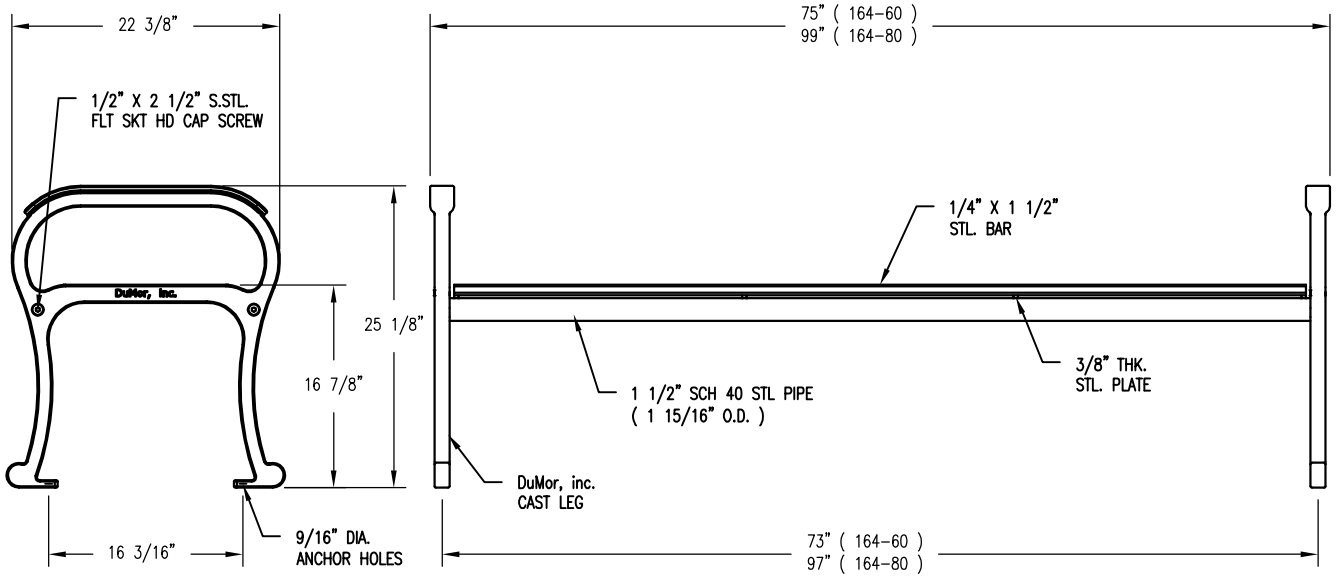
ASSEMBLY INSTRUCTIONS

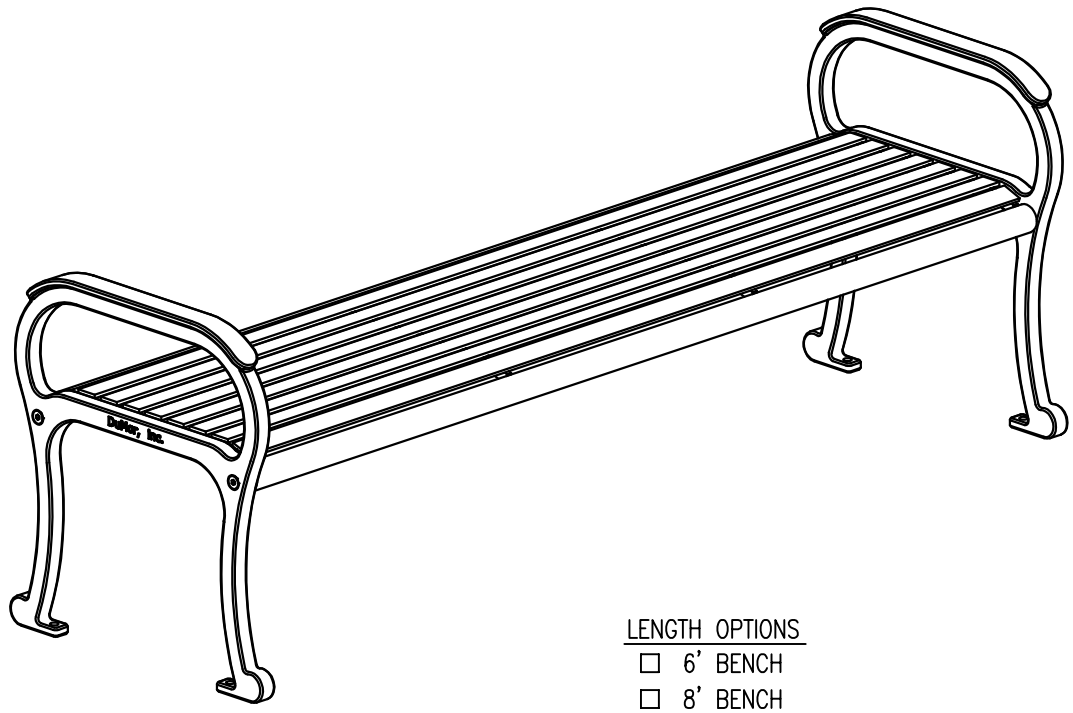
DATE DRAWN : 03/02/04
DRAWN BY : AWH
DATE REV. : 03/20/2007
REV. BY : AWH

REV. B

DRAWING NUMBER 160 SERIES-3AR

SHEET 2 OF 2





LENGTH OPTIONS

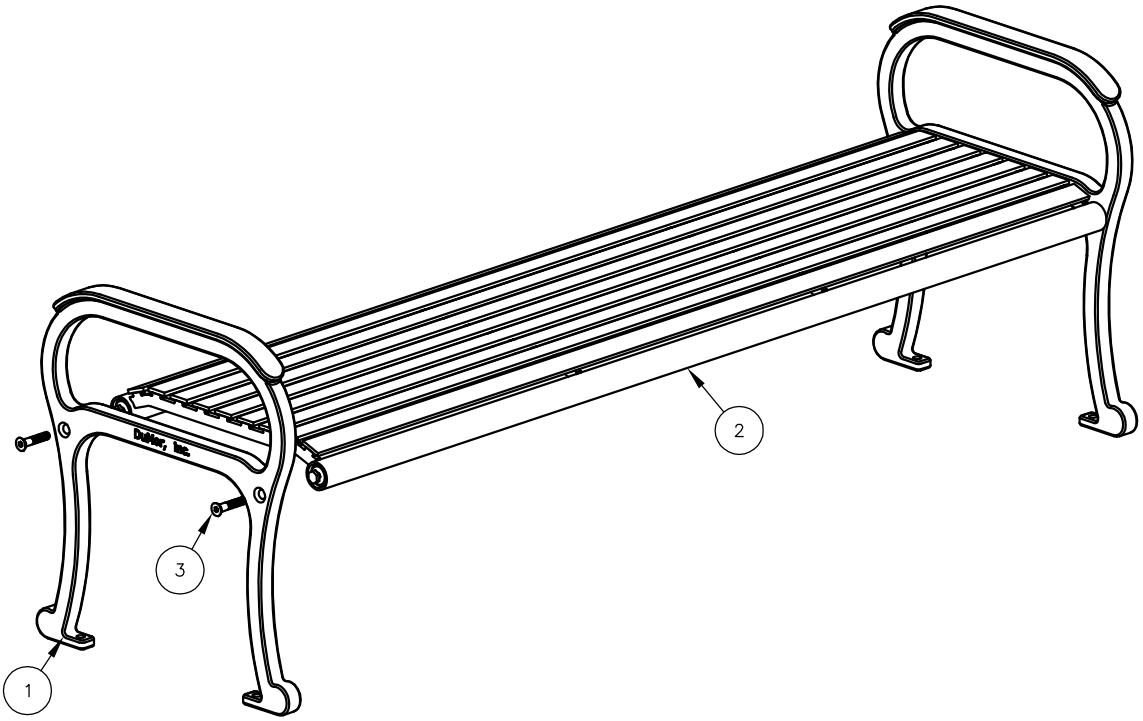
- ☐ 6' BENCH
- ☐ 8' BENCH

NOTES:

1.) ALL STL. MEMBERS COATED W/ ZINC RICH EPOXY THEN FINISHED W/ POLYESTER POWDER COATING.
2.) BENCH IS SHIPPED UNASSEMBLED.
3.) 1/2" X 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED

DuMor, inc.
P.O. Box 142 Mifflintown, PA 17059-0142

SCALE : NONE	TITLE : BENCH			
DATE DRAWN : 8/4/04				
DRAWN BY : AWH	REV. B	DRAWING NUMBER 164 SERIES	SHEET 1 OF 2	
DATE REV. : 1/6/09				
REV. BY : AWH				



NOTE:

1.) DURING ASSEMBLY PROCEDURE;
DO NOT COMPLETELY TIGHTEN HARDWARE.

2.) THE ACTUAL PARTS WILL NOT BE NUMBERED:
NUMBERS ONLY APPLY TO DRAWING.

STEP 1:

USE 2 – PCS. BKLESS CAST IRON BENCH SUPPORT (1)
1 – PC. 6' ALL STL SEAT (2)
4 – PCS. 1/2" X 2 1/2" FLT. SKT. HD. CAP SCR. (3)
ATTACH BKLESS CAST IRON SUPPORT (1) TO 6' ALL STL SEAT ASSEMBLY (2) USING HARDWARE (3). TIGHTEN TO SNUG FIT.

STEP 2:

UPON COMPLETION OF BENCH ASSEMBLY SQUARE ALL COMPONENTS THEN TIGHTEN ALL HARDWARE.

STEP 3:

MOUNT AND ANCHOR AS SPECIFIED.

ITEM	QTY	PART NO	DESCRIPTION
1	2	0-164-00-01	BKLESS CAST IRON BENCH SUPPORT
2	1	0-164-60-02	6' STL SEAT
3	4	1-12-065	1/2" X 2 1/2" FLT SKT HD CAP SCR

DuMor, inc.
P.O. Box 142 Mifflintown, PA 17059-0142

SCALE : NONE
DATE DRAWN : 8/4/04
DRAWN BY : AWH
DATE REV. : 1/6/09
REV. BY : AWH

TITLE : BENCH

REV. B

DRAWING NUMBER 164 SERIES

SHEET 2 OF 2

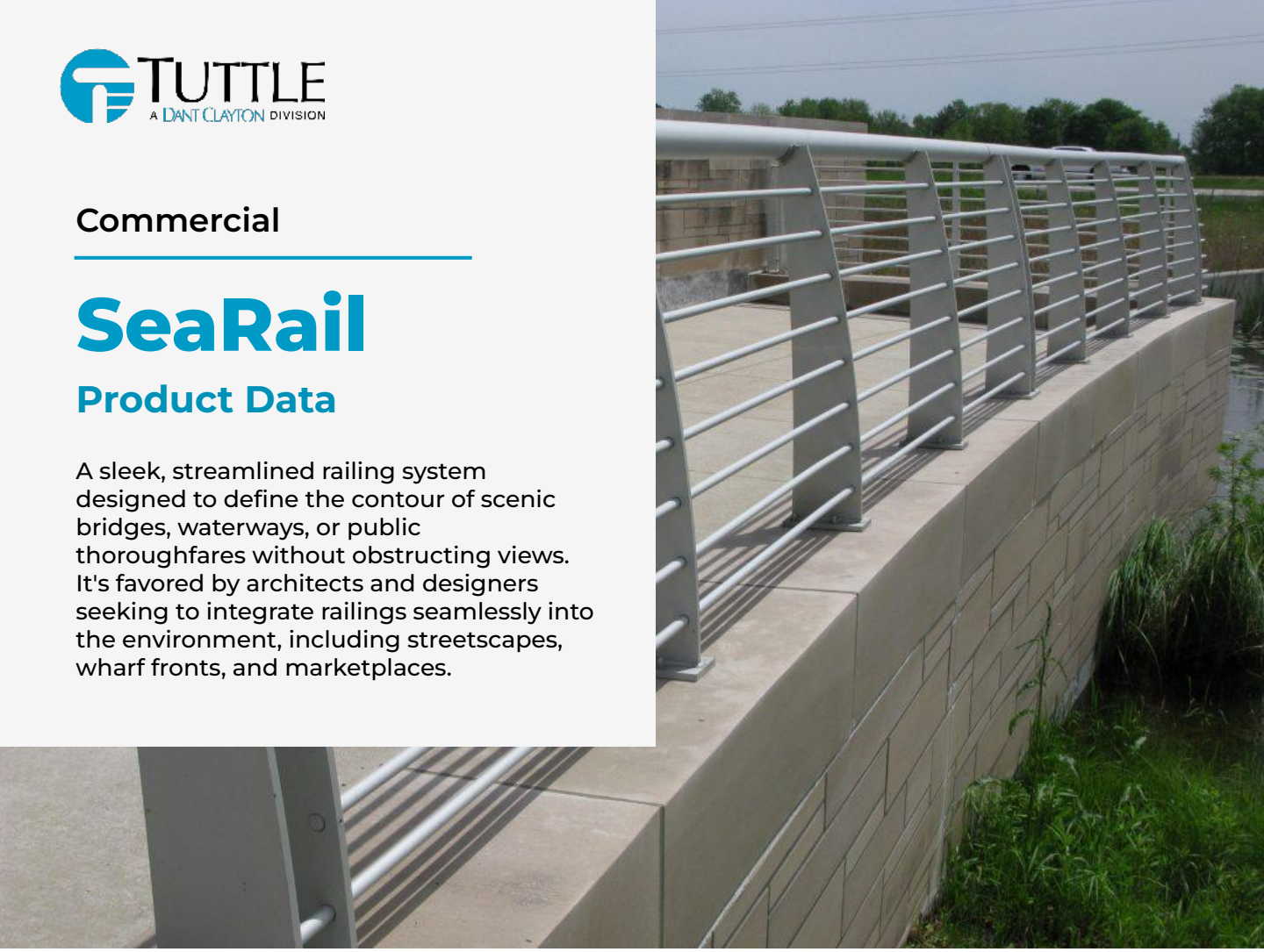
TUTTLE
A DANT CLAYTON DIVISION

Commercial

SeaRail

Product Data

A sleek, streamlined railing system designed to define the contour of scenic bridges, waterways, or public thoroughfares without obstructing views. It's favored by architects and designers seeking to integrate railings seamlessly into the environment, including streetscapes, wharf fronts, and marketplaces.









Construction

Aluminum or stainless steel (304/316) for design flexibility, with aluminum and 316 ideal for seawater exposure.

Finish Options:

Available in standard powder-coat color options or anodized for aluminum

Compliance:

Meets IBC and other applicable codes, ensuring pedestrian safety.



Benefits

Ease of Installation:

Factory manufactured components arrive pre-finished and ready for installation.

Durability

Constructed using corrosion resistant and durable materials to withstand heavy use and environmental factors, ensuring longevity.

Aesthetic Integration

Features a sleek, streamlined design that defines contours without obstructing views.

Applications

Applications

Wharf and waterfronts, bridges, streetscapes and marketplaces.

Accessibility

Ensures compliance with ADA standards.

Customization

Design

SeaRail can be customized to fit specific needs, including stainless steel cable, stainless steel or aluminum pipe/tube infill, member sizes, wayfinding signage, LED integration.

Compliance & Standards

Height Requirements

Standard Guardrail height 42 inches.

Structural Integrity

Designed to resist linear loads of 50 pounds per linear foot and concentrated loads of 200 pounds, as specified by IBC.

Maintenance

Low Maintenance

Corrosion-resistant materials and finishes require minimal upkeep.

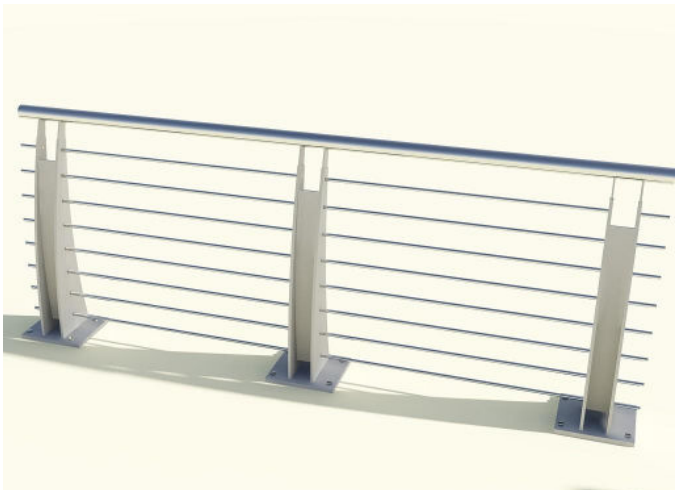
Easy Cleaning

Regular basic cleaning is recommended, particularly in corrosive environments.

Technical Data - SeaRail

Category	Details
Configuration	Posted railing system with horizontal infill options
Top Rail & Post	3” Tube top rail with arched ½” thick post
Height	42” above finished floor (based on application)
Post Spacing	5’ on center (may vary)
Material Options	• Aluminum 6000 series alloys • Stainless Steel 304 or 316
Finish Options	• Aluminum: Clear Anodized or Powder Coated (select colors) • Stainless Steel: Brushed
Mounting Types	• Top Mount • Fascia Mount • Application-specific design available (custom)
Fasteners	Stainless Steel 304 or 316
Welds	Tuttle Smooth Weld or Bead Weld (comparable to NOMMA 2-3)
Custom Options	Available upon request

Aluminum Or Stainless Steel Post







Top Rail



Base Attachment

Instantly Specify Our Product in RIB SpecLink
Discover more

Contact us for specs, CAD details, and installation guides.



FONROCHE lighting AMERICA

Autonomous Solar Street Light

SmartLight

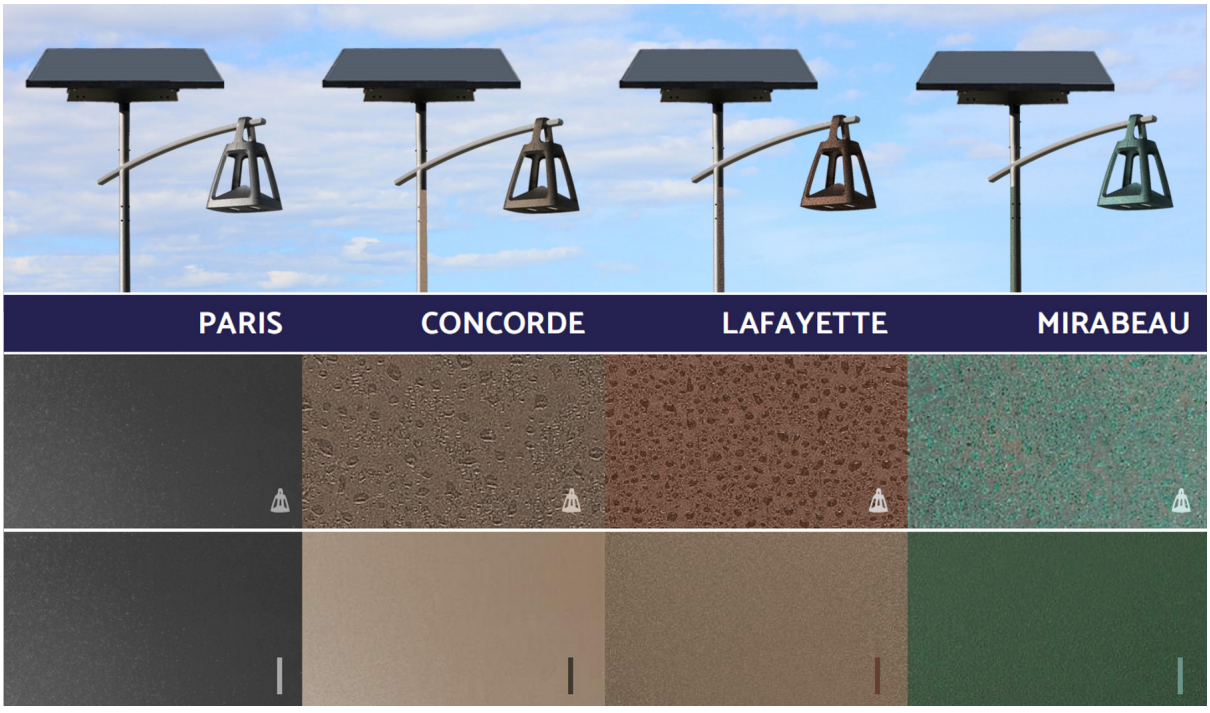
Belle Epoque Single

Project:

Notes:

[		-		-		]-[		-		]-		-
Belle	Fixture	2.7K	Temp	CW	Type	P410F	Solar	6P	Power Center	HW-MC	Option	

25Ft. Round Tapered Pole-Anchor Base-1-3.6FT Arm	Pole	Mirabeau	Color (Pole)	Mirabeau	Color (Fixture)	10	Tilt Panel
-		-		-			



Belle Epoque Single SmartLight

Luminaire Product Code	Fixture Name	Color Temp	Distribution	Color Schemes	Weight Lbs Ea.	EPA Ft²
[Belle	Belle Epoque	2700K, 3000K, 4000K, AMBER	T2,T3,T4,CW (Crosswalk)	4 Color Schemes - See Chart Page 1	21	1.61

Solar Assembly/ Product Code	Description	Dimensions Solar Module (Inches)	Module Back Sheet/Frame Finish
P190F	190W PolyCrystalline Solar Module with Steel Mount - No Slip Tilt Adjustment (10,45 Degree) Mount Galvanized and Powder Coated. IEC 61730-1:2019 and IEC 61215-2:2017	44.29 x 37.6 x 1.37	Black/Black Adonized Aluminum
P310F	310W PolyCrystalline Solar Module with Steel Mount - No Slip Tilt Adjustment (10,45 Degree) Mount Galvanized and Powder Coated. IEC 61730-1:2019 and IEC 61215-2:2018	64.76 x 37.6 x 1.37	Black/Black Adonized Aluminum
P410F	410W PolyCrystalline Solar Module with Steel Mount - No Slip Tilt Adjustment (10,45 Degree) Mount Galvanized and Powder Coated. IEC 61730-1:2019 and IEC 61215-2:2019	67.8 x 44.65 x 1.37	Black/Black Adonized Aluminum

Heavy Duty Mount Adder (Required with 45 degree tilt)	
HW-MC	Heavy Duty Mount Galvanized with Marine Powder Coat Upgrade

Power 365 Assembly Product Code / Description		Chemistry	Operating Temperature	Charging Temperature
2P	Power 365 Power Center with 624 Wh Battery Capacity-IP65	Nickel Metal Hydride (NiMH)	-40°F to + 158°F (-40°C to +70°C)	-40°F to + 158°F (-40°C to +70°C)
3P	Power 365 Power Center with 936 Wh Battery Capacity-IP65	Nickel Metal Hydride (NiMH)	-40°F to + 158°F (-40°C to +70°C)	-40°F to + 158°F (-40°C to +70°C)
4P	Power 365 Power Center with 1248 Wh Battery Capacity-IP65	Nickel Metal Hydride (NiMH)	-40°F to + 158°F (-40°C to +70°C)	-40°F to + 158°F (-40°C to +70°C)
6P	Power 365 Power Center with 1935 Wh Battery Capacity-IP65	Lithium Iron Phosphate (LFP)	14°F to + 140°F (-10°C to +60°C)	32°F to +113°F (-0°C to +45°C)

Controller
Battery Management System (BMS) | Anti-Black Out Control | 3-Level Programmable Lighting Profiles

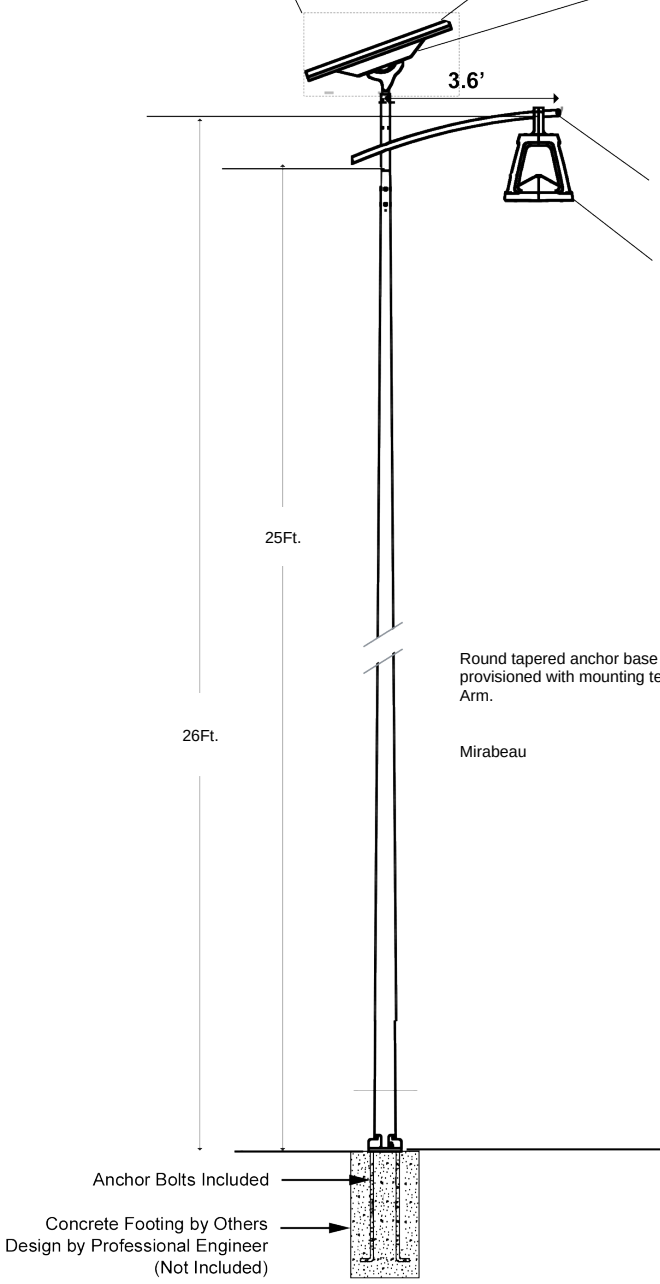
Full System Warranty	Solar Panel Performance Warranty	System Certification
8 Years Parts and Labor / No Pro-Rating	25 Years	CE

Pole Selected Based on Project Conditions		ARM		
Product Code / Description	Nominal Height AG/Mounting Height	ARM LENGTH/FINISH	Arm Weight	Arm EPA
14Ft. Round Tapered Pole-Anchor Base	14'/15'	3.6'/ Black Powder Coat	26.67 LBS	0.88
20Ft. Round Tapered Pole-Anchor Base	20'/21'	3.6'/ Black Powder Coat	26.67 LBS	0.88
25Ft. Round Tapered Pole-Anchor Base	25'/26'	3.6'/ Black Powder Coat	26.67 LBS	0.88
30Ft. Round Tapered Pole-Anchor Base	30'/31'	3.6'/ Black Powder Coat	26.67 LBS	0.88
14Ft. Round Tapered Pole-Direct Burial	14'/15'/Embed Depth 3' 9-1/4"	3.6'/ Black Powder Coat	26.67 LBS	0.88
20Ft. Round Tapered Pole-Direct Burial	20'/21'/Embed Depth 4' 5-1.4"	3.6'/ Black Powder Coat	26.67 LBS	0.88
25Ft. Round Tapered Pole-Direct Burial	25'/26'/Embed Depth 5' 0"	3.6'/ Black Powder Coat	26.67 LBS	0.88
30Ft. Round Tapered Pole-Direct Burial	30'/31'/Embed Depth Contact Rep.	3.6'/ Black Powder Coat	26.67 LBS	0.88
CST - Pole				

[Belle (Fixture) - 2.7K (Temp) - CW (Type)]-[P410F (Solar) - 6P (Power Center)]- HW-MC (Option) -

25Ft. Round Tapered Pole-Direct Burial-1-3.3FT Arm (Pole) - Mirabeau (Color (Pole)) - Mirabeau (Color (Fixture)) 10 (Tilt Panel)

Top of Pole Assembly
Includes Solar Module,Power Center and Mounting Hardware
See Table Below for EPA and Weight



Solar Module
410W Rated Capacity
67.8 x 44.65 x 1.37 in.
Weight Panel: 45.86 Lbs.

Specified Tilt 10 Degrees

365 Power Center with Mount
Mount - Galvanized and Powder Coated Black
6P - 1935Wh-24V LFP Battery
Intelligent Controls with Anti-Blackout

High Wind - Marine Coated Mount

Arm Assembly
Weight 26.27 LBS / EPA 0.88FT²

BELLE EPOQUE Luminaire
20.5" H x 17.5" W x 17.5" D
Weight 21 LBS / EPA 1.61FT²
Nominal 80W
(See Application Design Report for Lighting Profile Details)
Fixture Color is Mirabeau
Distribution Type Crosswalk
Color Temperature 2700K

Round tapered anchor base powder coated pole provisioned with mounting tenon and 3.6' Decorative Arm.

Mirabeau

FONROCHE lighting AMERICA

Line Drawing
SmartLight Solar Lighting System Overview

Fonroche Lighting America
2224 SE Loop, Bldg C
Fort Worth, Tx 76140

Scale: Not to Scale

Date: March 26, 2025

By: IG

Notes: Powder Cost Finish Color

	Battery Assembly				EPA (Sq.Ft.)	
Solar Assembly	2P	3P	4P	6P	10° Tilt	45° Tilt
P190F-HW-MC	113.76	124.34	134.93	130.52	2.82	9.32
P310F-HW-MC	131.40	141.98	152.57	148.16	3.98	14.19
P410F-HW-MC	136.25	146.83	157.42	153.00	4.88	17.13

FONROCHE lighting AMERICA

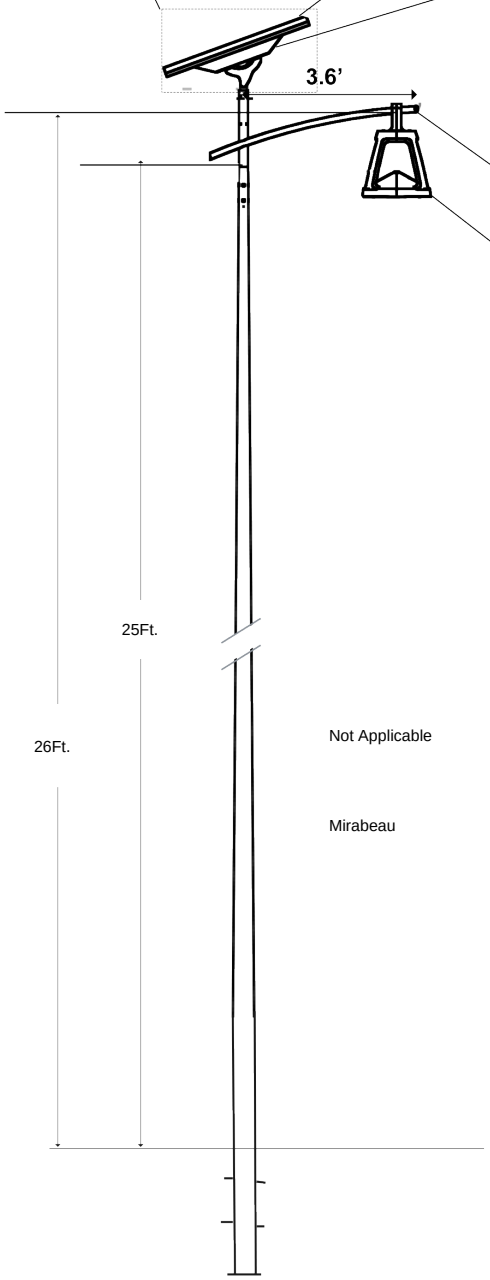
[Belle - 2.7K - CW]-[P410F - 6P]- HW-MC -

Fixture | Temp | Type | Solar | Power Center | Option

25Ft. Round Tapered Pole-Direct Burial-1-3.3FT Arm - Mirabeau - Mirabeau - 10

Pole | Color (Pole) | Color (Fixture) | Tilt Panel

Top of Pole Assembly
Includes Solar Module,Power Center and Mounting Hardware
See Table Below for EPA and Weight



Solar Module Specified Tilt 10 Degrees

410W Rated Capacity
67.8 x 44.65 x 1.37 in.
Weight Panel: 45.86 Lbs.

365 Power Center with Mount Mount - Galvanized and Powder Coated Black

6P - 1935Wh-24V LFP Battery
Intelligent Controls with Anti-Blackout

High Wind - Marine Coated Mount

Arm Assembly
Weight 26.67 LBS / EPA 0.88FT²

BELLE EPOQUE Luminaire
20.5" H x 17.5" W x 17.5" D
Weight 21 LBS / EPA 1.61FT²
Nominal 80W
(See Application Design Report for Lighting Profile Details)

Fixture Color is Mirabeau

Distribution Type Crosswalk

Color Temperature 2700K

Not Applicable

Mirabeau

FONROCHE lighting AMERICA

Line Drawing
SmartLight Solar Lighting System Overview

Fonroche Lighting America
2224 SE Loop, Bldg C
Fort Worth, Tx 76140

Scale: Not to Scale

Date: March 26, 2025

By: IG

Notes: Powder Cost Finish Color

	Battery Assembly				EPA (Sq.Ft.)	
Solar Assembly	2P	3P	4P	6P	10° Tilt	45° Tilt
P190F-HW-MC	113.76	124.34	134.93	130.52	2.82	9.32
P310F-HW-MC	131.40	141.98	152.57	148.16	3.98	14.19
P410F-HW-MC	136.25	146.83	157.42	153.00	4.88	17.13

FONROCHE lighting AMERICA

[Belle - 2.7K - CW]-[P410F - 6P]- HW-MC -

Fixture | Temp | Type | Solar | Power Center | Option

25Ft. Round Tapered Pole-Direct Burial-1-3.3FT Arm - Mirabeau - Mirabeau 10

Pole | Color (Pole) | Color (Fixture) | Tilt Panel