

## Memorandum Department of Planning & Public Works



**To:** Planning and Public Works Committee

**From:** Justin Wyse, Senior Planner

**Date:** March 8, 2012

**RE:** **Chesterfield Outlets:** A Site Development Plan, Landscape Plan, Lighting Plan, and Architectural Elevations for a 48.625 acre tract of land zoned "PC" Planned Commercial District located on the north side of N. Outer 40 Road, east of Boone's Crossing.

### Summary

Stock and Associates Consulting Engineers, Inc., on behalf of T-O Ventures, LLC, has submitted a Site Development Plan, Landscape Plan, Lighting Plan and Architectural Elevations for a 472,282 square foot retail development along N. Outer 40 Road, west of the existing ice rink. The request would permit the development of an outlet retail center with internally oriented buildings and open pedestrian streets / courtyards. General structure materials will be brick, stone, EIFs and tilt up concrete with aluminum and glass store fronts.

The site is governed by City of Chesterfield Ordinance 2682, which includes a provision for automatic power of review by the City Council of the Site Development Plan. The project was before the Architectural Review Board on February 9<sup>th</sup>, 2012. The Board passed a motion to move the project forward several recommendations by a vote of 5-0. The attached Planning Commission Staff Report details these recommendations, as well as the changes proposed to address the recommendations.

The project was before the Planning Commission on February 27<sup>th</sup>, 2012. Numerous items were discussed during the review of the project. Discussion included the northern façade facing the levee trail, parking lot lighting, lighting of the architectural towers, traffic concerns, recycling opportunities, disturbance of the levee, water table elevation, open space and drainage, parking, and length of the site. Many of these items will be included in our presentation on Thursday evening and are also discussed in the attached staff report.

Attached please find a copy of the Planning Commission Staff Report, the Site Development Plan, Landscape Plan, Lighting Plan, and Architectural Elevations. At Staff's request, the architect for the project has submitted information to help clarify some of the lighting concerns raised during the Planning Commission meeting. Finally, a brief summary of the Traffic Impact Study for Chesterfield Outlets prepared by Staff is included to assist in the Committee's review of the project.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Justin Wyse". The signature is stylized and cursive.

Justin Wyse, AICP  
Senior Planner

Cc: Michael G. Herring, City Administrator  
Rob Heggie, City Attorney  
Michael O. Geisel, Director of Planning and Public Works  
Aimee Nassif, Planning and Development Services Director

# Memorandum

## Department of Planning & Public Works



**To:** Planning and Public Works Committee  
**From:** Justin Wyse, Senior Planner  
**Date:** March 8, 2012  
**RE:** Chesterfield Outlets Traffic Impact Study Summary

Staff has prepared a summary of the methodology, findings, and recommendations of the traffic impact study (TIS) for the proposed Chesterfield Outlets development. This information has been prepared due to the number of questions regarding traffic impacts of the proposed development that were discussed at the February 27, 2012 Planning Commission meeting and to provide technical details to the Committee to assist the Committee in the review of the proposed Site Development Plan for Chesterfield Outlets. The TIS was submitted by DKS Associates in Association with Bernadin-Lochmueller & Associates to the City of Chesterfield, St. Louis County Department of Highways and Traffic (SLCDHT), and the Missouri Department of Transportation (MoDOT).

The process for the development of the TIS began with a scoping meeting. This meeting was held in July of 2011 and included representatives from the City of Chesterfield, SLCDHT, MoDOT, and representatives for the development team. During this meeting, the area to be included in the study, analysis periods (i.e. PM peak and Saturday peak), horizon years (i.e. 2014 and 2034), background growth and additional development, and other specific items were discussed in detail. Based on this meeting, it was agreed that the study would consider a study area to include the intersections of Boone's Crossing with North Outer 40 Road, the WB I-64 Ramps, the EB I-64 Ramps and Chesterfield Airport Road (this was later expanded to include a traffic signal progression analysis for Chesterfield Airport Road to ensure changes at Boone's Crossing were accounted for in the timing of signals on the Chesterfield Airport Road corridor). Two time periods were selected for analysis: the weekday PM peak hour (normal commuter peak) and the Saturday afternoon shopping peak hour. Detailed inventories and evaluations of the existing physical and operating conditions at these intersections during the critical periods were performed to define baseline conditions for evaluating traffic impacts from the proposed development. Projections of traffic conditions with and without the site development were prepared for the Short Range (2014) and Long Range (2034) scenarios.

Horizon years of 2014 and 2034 are consistent with MoDOT and City requirements for traffic studies of this magnitude. Construction on the project is anticipated to be completed in 2013. As such, 2014 is utilized as the short range horizon and the study was required to consider anticipated development 20 years beyond the opening date. Traffic counts were collected at each area identified in the scope for the project to create a baseline condition. Background growth rates and anticipated development (e.g. the vacant parcel on the northeast quadrant of Boones' Crossing and I-64) in the study area were included to determine anticipated traffic volumes in 2014 and 2034. The City's Travel Demand Model was used in the development of both of these components.

The TIS contains detailed information on the existing conditions in the study area. One of the items found is that the traffic signal at Boone’s Crossing and Chesterfield Airport Road is coordinated with other signals on Chesterfield Airport Road; however, the current timing plans in effect do not coordinate Chesterfield Airport Road with the I-64 ramp signals.

After existing conditions were analyzed, the study, utilizing the methodology described earlier, created a 2014 Background Traffic Conditions analysis. This is completed to determine what the anticipated operations within the study area will be in 2014 without the proposed development.

**2014 Background Traffic Conditions**

Intersection Location	Traffic Control Type	Peak Hour Period	Cycle Length (Sec.)	V/C Ratio		Delay (sec)		LOS	
				Ave. <sup>1</sup>	Crit. Mvmnt.	Ave.	Crit. Mvmnt.	Ave.	Crit. Mvmnt.
N Outer 40 Road @ Boone's Crossing	3-Way Stop	Wkdy PM	NA	.40	.35 NBLT	9.6	11.0 NBLT	A	B NBLT
		Sat.	NA	.20	.19 EBT	7.8	8.4 NBLT	A	A NBLT
WB I-64 Ramps @ Boone's Crossing	Actuated-Coordinated Signal	Wkdy PM	60	.56	.84 WBLT	21.4	28.4 WBLT	C	C WBLT
		Sat.	70	.62	.88 NBLT	27.6	45.3 NBLT	C	D NBLT
EB I-64 Ramps @ Boone's Crossing	Actuated-Coordinated Signal	Wkdy PM	60	.56	.38 SBT	2.7	25.9 EBLT	A	C EBLT
		Sat.	70	.62	.48 SBT	1.9	31.2 EBLT	A	C EBLT
Chesterfield Airport Road @ Boone's Crossing	Actuated-Coordinated Signal	Wkdy PM	100	.55	.81 EBLT	27.8	58.9 EBLT	C	E EBLT
		Sat.	100	.60	.94 NBT	31.8	80.8 NBT	C	F NBT

And the process is then again completed for the 2034 horizon.

**2034 Background Traffic Conditions**

Intersection Location	Traffic Control Type	Peak Hour Period	Cycle Length (Sec.)	V/C Ratio		Delay (sec)		LOS	
				Ave. <sup>1</sup>	Crit. Mvmnt.	Ave.	Crit. Mvmnt.	Ave.	Crit. Mvmnt.
N Outer 40 Road @ Boone's Crossing	3-Way Stop	Wkdy PM	NA	.45	.44 NBLT	10.8	12.7 NBLT	B	B NBLT
		Sat.	NA	.21	.24 EBT	8.2	8.9 NBLT	A	A NBLT
WB I-64 Ramps @ Boone's Crossing	Actuated-Coordinated Signal	Wkdy PM	60	.65	1.01 WBLT	33.9	52.6 WBLT	C	D WBLT
		Sat.	70	.76	1.08 NBLT	47.2	90.3 NBLT	D	F NBLT
EB I-64 Ramps @ Boone's Crossing	Actuated-Coordinated Signal	Wkdy PM	60	.65	.40 SBT	3.1	26.1 EBLT	A	C EBLT
		Sat.	70	.76	.59 SBT	4.3	30.9 EBLT	A	C EBLT
Chesterfield Airport Road @ Boone's Crossing	Actuated-Coordinated Signal	Wkdy PM	100	.62	.97 EBLT	33.1	80.1 EBLT	C	F EBLT
		Sat.	100	.69	1.15 NBT	42.7	136.4 NBT	C	F NBT

The above information is modified to include the proposed development of Chesterfield Outlets. You will notice in the table that two scenarios are provided for each intersection – one to identify the operations with the current conditions and another to show the anticipated operations with the proposed improvements.

**Table 5:  
 2014 PM Peak Hour Traffic Conditions With Project**

Intersection Location	Scenario	Traffic Control Type	Cycle Length (Sec.)	V/C Ratio		Delay (sec)		LOS	
				Ave. 1	Crit. Mvmnt.	Ave.	Crit. Mvmnt.	Ave.	Crit. Mvmnt.
N Outer 40 Road @ Boone's Crossing	No Imp.	3-Way Stop	NA	.56	.97 WBT	31.0	53.8 WBT	D	F WBT
	With Mit.	Coordinated Signal	100	.48	.72 EBT	15.9	48.1 NBLT	B	D NBLT
WB I-64 Ramps @ Boone's Crossing	No Imp.	Coordinated Signal	60	.63	.82 SBT	22.9	30.6 SBT	C	C SBT
	With Mit.	Coordinated Signal	100	.58	.76 WBLT	25.5	43.1 NBLT	C	D NBLT
EB I-64 Ramps @ Boone's Crossing	No Imp.	Coordinated Signal	60	.63	0.55 SBLT	5.0	27.5 EBLT	C	C EBLT
	With Mit.	Coordinated Signal	100	.58	.59 EBLT	6.4	52.8 EBLT	A	D EBLT
Chesterfield Airport Road @ Boone's Crossing	No Imp.	Coordinated Signal	100	.55	.83 EBLT	28.3	60.2 EBLT	C	E EBLT
	With Mit.	Coordinated Signal	100	.55	.75 EBLT	23.2	54.5 NBT	C	D NBT

**2014 Saturday Peak Hour Traffic Conditions With Project**

Intersection Location	Scenario	Traffic Control Type	Cycle Length (Sec.)	V/C Ratio		Delay (sec)		LOS	
				Ave. 1	Crit. Mvmnt.	Ave.	Crit. Mvmnt.	Ave.	Crit. Mvmnt.
N Outer 40 Road @ Boone's Crossing	No Imp.	3-Way Stop	NA	.67	2.01 WBT	362.2	478.3 WBT	F	F WBT
	With Mit.	Coordinated Signal	100	.44	.63 NBRT	9.2	52.1 NBLT	A	D NBLT
WB I-64 Ramps @ Boone's Crossing	No Imp.	Coordinated Signal	70	.78	2.12 SBT	203.5	531.2 SBT	F	F SBT
	With Mit.	Coordinated Signal	100	.70	.94 WBLT	28.6	46.9 WBLT	C	D WBLT
EB I-64 Ramps @ Boone's Crossing	No Imp.	Coordinated Signal	70	.78	0.86 SBLT	8.8	42.0 EBLT	A	D EBLT
	With Mit.	Coordinated Signal	100	.70	.81 EBLT	12.0	54.6 EBLT	B	D EBLT
Chesterfield Airport Road @ Boone's Crossing	No Imp.	Coordinated Signal	100	.63	.97 NBT	35.8	86.7 NBT	D	F NBT
	With Mit.	Coordinated Signal	100	.63	.80 SBLT	24.1	53.8 NBT	C	D NBT

And the process is completed again for 2034 to include Chesterfield Outlets.

**2034 Traffic Conditions With Project and Mitigation**

Intersection Location	Traffic Control Type	Peak Hour Period	Cycle Length (Sec.)	V/C Ratio		Delay (sec)		LOS	
				Ave. <sup>1</sup>	Crit. Mvmnt.	Ave.	Crit. Mvmnt.	Ave.	Crit. Mvmnt.
N Outer 40 Road @ Boone's Crossing	Actuated-Coordinated Signal	Wkdy PM	100	.53	.69 EBT	18.0	34.9 NBLT	C	C NBLT
		Sat.	110	.70	.67 NBRT	11.8	49.9 NBLT	B	D NBLT
WB I-64 Ramps @ Boone's Crossing	Actuated-Coordinated Signal	Wkdy PM	100	.67	.79 WBLT	23.7	30.9 NBLT	C	C NBLT
		Sat. <sup>2</sup>	110	.90	0.99 NBLT	35.6	51.3 WBLT	D	D WBLT
EB I-64 Ramps @ Boone's Crossing	Actuated-Coordinated Signal	Wkdy PM	100	.67	.60 EBLT	5.0	52.6 EBLT	A	D EBLT
		Sat.	110	.90	.87 SBLT	16.0	53.7 EBLT	B	D EBLT
Chesterfield Airport Road @ Boone's Crossing	Actuated-Coordinated Signal	Wkdy PM	100	.63	.80 EBLT	25.8	52.6 EBLT	C	D EBLT
		Sat.	110	.72	.80 SBLT	27.2	54.8 NBT	C	D NBT

**Mitigation includes:**

- Install traffic signal at North Outer 40 Road and Boone's Crossing. In addition, widening of the east leg to provide two westbound (approach) lanes and two eastbound (departure) lanes is required. Reconstruction of the median on the south leg to create a third (southbound) exit lane is also required.
- At the intersection of Boone's Crossing and the Westbound I-64 Ramps, reconstruction of the north leg to create a third southbound through lane (matching the aforementioned exit lane) at the intersection is required. Minor reconstruction of the median on the south leg of the intersection is required to match the southbound approach and exit lanes.
- Extension of the storage lengths for the westbound left turn and right turn lanes on the I-64 westbound off-ramp at Boone's Crossing is required to allow maximum utilization of the available capacity and minimize the potential for spill back. Based upon Long Range traffic projections, provision of 750 feet of storage is needed.
- Adjustments to the signal timings are needed to maximize overall operating efficiency of the four signalized intersections. The ability to minimize queuing and delay through the coordination of the four adjacent signals is essential. Upgrading of the signal equipment and jurisdictional cooperation is required to provide this capability.

**During the Planning Commission meeting, specific concerns were raised regarding the potential of traffic queuing beyond the existing storage capacity of the westbound off-ramp creating a dangerous environment.** The following table shows the anticipated queuing in 2034 with the proposed development. As can be seen, the 95<sup>th</sup> percentile queue on the westbound off-ramp during the Saturday peak is anticipated to be 505 feet. The proposed development will be extending the existing storage capacity to 750 feet to accommodate this queue.

**Storage Length Evaluation (2034 Traffic Conditions With Project)**

Intersection Location	Intersection Movement	Available Storage Length (ft.)	Weekday Peak Hour		Saturday Peak Hour		Comments
			95 <sup>th</sup> ile Queue	Storage Ratio.	95 <sup>th</sup> ile Queue	Storage Ratio	
N Outer 40 Road @ Boone's Crossing	WB Left	500	151	0.30	252	0.50	Recommended WB Dual Lefts with Signalization
	NB Left	335	227	0.68	137	0.41	
WB I-64 Ramps @ Boone's Crossing	WB Left	750	346	0.46	505	0.74	Recommended WB Storage Increase with Three SB Lanes and Coordinated Signal Timing Plans
	WB Right	750	48	0.06	257	0.34	
	NB Thru	545	54	0.10	60	0.11	
	NB Left	500	216	0.43	275	0.55	
	SB Thru	335	122	0.36	213	0.64	
EB I-64 Ramps @ Boone's Crossing	EB Left	460	118	0.26	237	0.52	Recommended Coordinated Signal Timing Plans
	NB Thru	380	176	0.46	409	1.08	
	SB Left	530	79	0.15	433	0.82	
	SB Thru	530	1	0.00	198	0.37	
Chesterfield Airport Road @ Boone's Crossing	EB Left	290	168	0.58	204	0.70	Recommended Coordinated Signal Timing Plans.
	EB Right	230	27	0.12	41	0.14	
	WB Left	160	40	0.25	36	0.21	
	WB Right	350	0	0.00	0	0.00	
	NB Left	260	66	0.25	74	0.28	
	NB Thru	260	114	0.42	203	0.75	
	SB Left	275	272	0.99	313	1.14	
	SB Thru	405	179	0.44	239	0.58	
SB Right	340	163	0.48	245	0.72		

With the implementation of these improvements acceptable traffic operating conditions will be achieved for 2014 and beyond. Acceptable conditions will continue over the Long Range period also, although fine tuning of the traffic signal operations will be needed. Implementation of other Long Range roadway improvements in the area can enhance conditions and extend the period of acceptable operations.

Respectfully submitted,



Justin Wyse, AICP  
 Senior Planner

Cc: Michael G. Herring, City Administrator  
 Rob Heggie, City Attorney  
 Michael O. Geisel, Director of Planning and Public Works  
 Aimee Nassif, Planning and Development Services Director



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## Planning Commission Staff Report

**Project Type:** Site Development Plan

**Meeting Date:** February 27, 2012

**From:** Justin Wyse, Senior Planner

**Location:** N. Outer 40 Road, east of Boone's Crossing

**Applicant:** T-O Ventures, LLC

**Description:** Chesterfield Outlets: A Site Development Plan, Landscape Plan, Lighting Plan, and Architectural Elevations for a 48.625 acre tract of land zoned "PC" Planned Commercial District located on the north side of N. Outer 40 Road, east of Boone's Crossing.

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### **PROPOSAL SUMMARY**

Stock and Associates Consulting Engineers, Inc., on behalf of T-O Ventures, LLC, has submitted a Site Development Plan, Landscape Plan, Lighting Plan and Architectural Elevations for a 472,282 square foot retail development along N. Outer 40 Road, west of the existing ice rink. The request would permit the development of an outlet retail center with internally oriented buildings and open pedestrian streets / courtyards. General structure materials will be brick, stone, EIFs and tilt up concrete with aluminum and glass store fronts.

### **LAND USE AND ZONING HISTORY OF THE SUBJECT SITE**

St. Louis County zoned the subject site "NU" Non-Urban District in 1965. On November 21, 2011, the City of Chesterfield approved Ordinance 2682, which zoned the subject site from a "NU" Non-Urban District to a "PC" Planned Commercial District.



**Land Use and Zoning of Surrounding Properties**

Direction	Land Use	Zoning
North	Levee / Trail	“FPNU” Floodplain Non-Urban District
South	N. Outer 40 Road and I-64	n/a
East	Ice Rink	“PC” Planned Commercial District
West	Office / Bank	“PC” Planned Commercial District



**STAFF ANALYSIS**

**Zoning**

The subject site is currently zoned “PC” Planned Commercial District under the terms and conditions of City of Chesterfield Ordinance Number 2682. The submittal was reviewed against the requirements of Ordinance 2682 and all applicable Zoning Ordinance requirements and the proposed development adheres to the applicable requirements.

City of Chesterfield Ordinance 2682 allows for a maximum of 500,000 square feet of gross floor area to be constructed on the site. The proposed plans indicate a 472,282 square foot development located in several buildings designed to create a pedestrian street interior to the site.

The Planned District ordinance also restricts the maximum tenant size to no more than 75,000 square feet. Staff will review tenants on a case by case basis as applications for Municipal Zoning Approval are submitted to the City of Chesterfield.

### Traffic Access and Circulation

Proposed access to the site is provided by four points along N. Outer 40 Road. MoDOT, St. Louis County Department of Highways and Traffic and the City of Chesterfield Department of Planning, Public Works and Parks have all reviewed the proposed access points and all issues have been resolved.

Additionally, a traffic study was submitted to all necessary agencies and has been approved. As part of this study, improvements were identified that will be required to maintain appropriate operations along the public roadways. The following is a summary of the improvements that will be constructed as part of this development.

#### *North Outer 40 Road at Boone's Crossing:*

- Install traffic signal.
- Widen the east leg to provide two eastbound through lanes and two westbound lanes.
- Widen the west leg as required for through lane transitions.

#### *WB I-64 Ramps and Boone's Crossing:*

- Increase the storage length of the three exit ramp lanes.
- Reconstruct the medians on the north and south legs to provide a third southbound through lane.
- Upgrade traffic signal equipment and timing plans to coordinate the four signals on Boone's Crossing between North Outer 40 Road and Chesterfield Airport Road.

#### *North Outer 40 Road:*

- Extend the four-lane widening on North Outer 40 Road from Boone's Crossing east to the location of Access Driveway 2 which will permit all traffic movements.
- Construct a curbed median on a segment of North Outer 40 Road to restrict traffic movements at Access Driveway 1 to right turns in and out.

### Open Space

City of Chesterfield Ordinance 2682 requires a minimum of 30% open space for the development if the required storm water improvements along the southern frontage of the site are enclosed (35% is required if the improvements are not enclosed). The proposed development encloses the required improvements, thus complying with the condition to allow for 30% open space. The proposed development exceeds the minimum open space requirement and proposes 33.5% open space.

### Landscaping

The subject site provides a host of limitations and challenges for the provision of landscaping. The presence of the levee located immediately north of the site, the Protective Excavation Zone that extends well into the proposed parking area, and the sandy soil types place large restrictions on location and types of trees that are utilized. As part of ensuring and preserving the integrity of the levee, the proposed tree line in the parking lot is the northern most area available for tree planting. This will protect the Protective Excavation Zone from tree root penetration. In order to help minimize the lack of trees on the northern portions of the site, the proposal includes numerous plants, shrubs, and decorative grasses. Vegetative screens are also included along the southern façade of the building to screen mechanical equipment and add vertical landscaping along the front of the building. Overall, the plan includes 134 deciduous trees, 84 evergreen trees, 119 flowering trees, and nearly 1,900 shrubs.

### *Parking Lot Landscaping*

As mentioned previously, the subject site is heavily restricted with respect to areas appropriate for landscaping due to the proximity to the levee. Islands are provided within the parking field, as required by the City of Chesterfield Tree Preservation and Landscape Requirements Ordinance, which help to break up the large expanses of parking area. While these islands are often restricted from tree planting, the proposal includes plantings that do not penetrate the Protective Excavation Zone.

### *Landscape Buffer*

The Tree Preservation and Landscape Requirements ordinance requires a 30 foot landscape buffer along N. Outer 40 Rd. The proposed development of Chesterfield Outlets exceeds this requirement along the entire frontage. The buffer includes various landscaping including trees and lower lying landscaping (e.g. bushes, grasses).

The western portion of the frontage along N. Outer 40 does not provide plantings within the buffer area. This is due to the Protective Excavation Zone and sight distance

requirements associated with the geometrics of N. Outer 40 Road / the western most driveway.

#### *Internal Landscaping*

The proposed Landscape Plan includes numerous planting within the pedestrian mall area of the development. Plantings are generally accommodated in the middle area of the pedestrian area helping to soften the interior of the development. The proposed landscaping is detailed on the landscape plans.

#### Lighting

The proposed lighting for the development includes numerous utilitarian and architectural lighting fixtures.

#### *Parking Lot Lighting*

The parking lot includes 93 fixtures mounted on 24 foot (including the fixture) standards. City of Chesterfield Ordinance 2228 (the Lighting Ordinance) requires that lighting along I-64 not exceed 30 feet in height. Staff has reviewed the submitted photometric plans for the development, including parking lot lighting, and has no issues.

#### *Internal Pedestrian Street Lighting*

To supplement the building mounted lighting on the interior of the development, the development proposes Quadrolisk lighting fixtures. These fixtures (see plan sheet LT-03), in addition to providing necessary light, seek to enhance the development's goal of creating a pedestrian street within the development.

It should be noted that the proposed fixtures are not flat lens fixtures. However, as is illustrated on the plan sheet LT-03, the fixtures will have top shielding and will be installed below the building roof line to preclude light from escaping the interior of the development. (For more information, see *Proposed Fixtures – Required Exemptions* on the next page.)

#### *Building Mounted Lighting*

The development proposes to utilize numerous light fixtures and arrangements to provide required lighting for safety purposes and to enhance the architectural design of the development. Several of these light fixtures do not meet the strict requirements of the lighting ordinance for design, but seek to be allowed under Section 4.6) which requires that all accent lighting be approved by the Planning Commission and Section 13.2) of Ordinance 2228 which states:

*The Planning Commission may approve decorative light fixtures as an alternative to shielded fixtures when it can be proven that there will be no off-site glare light trespass in excess of .5 foot candle and the proposed fixtures will improve the appearance of the site.*

In order to clarify the visual impact of these fixtures, the development team has included several diagrams that show how the fixtures will be utilized in enhancing the architecture of the building. Additionally, the submitted photometric plans for the development include these fixtures to verify that no light trespass will occur with the addition of these fixtures.

*Proposed Fixtures – Required Exemptions*

As mentioned above, several proposed lighting fixtures will require Planning Commission approval under the above referenced section of the Lighting Ordinance.

Fixture Reference	Name of Fixture	Proposed Location	Plan Sheet Diagram Reference	Notes
FX1	Lumenpulse	Entrance locations	LT-02 LT-04 LT-05	Decorative lighting.
FX4	modaLIGHT	Entrance locations	LT-02 LT-04	Decorative lighting.
FX7	Quadrolisk	Internal pedestrian street	LT-03 LT-05	Light completely contained within building area.
FX8	Sistemalux	South side of buildings	LT-02 LT-04 LT-05	Lighting will be oriented downward and define areas to guide vehicles and pedestrians.
FX9	Yosemite Series	Entrance locations	LT-04	The lights will direct light onto the buildings and all light will be completed contained to eliminate up-lighting.

Fixture Reference	Name of Fixture	Proposed Location	Plan Sheet Diagram Reference	Notes
FX10	Stringlite	Entrance locations	LT-02	Lighting will be setback from initial entrance to pedestrian street and will provide lighting over walk areas.
FX12	Plates Collection - Recessed	Entrance locations	LT-02	Decorative lighting.

*Staff and Architectural Review Board Review of Lighting*

As is the case with all lighting plans, Staff has reviewed the submitted lighting plans, including the above mentioned features, for consistency with the applicable codes. Staff has no issues with the plans as submitted and presented to the Planning Commission.

The lighting plan was presented, in conjunction with other required materials, to the City of Chesterfield Architectural Review Board (ARB). No concerns or issues were raised by ARB with respect to the lighting.

**Architectural Elevations**

The proposed retail outlet structures will be constructed of thin-brick veneer, synthetic stone and painted / textured concrete tiltwall. The proposed design of the development seeks to provide an internal pedestrian shopping street. As individual tenants are accessed from the internal pedestrian street, utilitarian features of the building are forced to the exterior of the development. The proposed design attempts to incorporate Trextrim screening and vegetative walls to screen these areas from the public realm while providing a visually pleasing development consistent with the high quality buildings in the area.

Interior tenant spaces will be primary (~80%) constructed as shown in the provided elevations, while the remainder (~20%) of the areas will allow for a more customizable area to meet tenant needs. It is important to note that this flexibility only pertains to the interior of the development; all exterior elevations will be constructed as shown in the submitted elevations.

The project was reviewed by the Architectural Review Board on February 9, 2012. During the meeting, the Board generated comments/recommendations for the petitioner to consider and address accordingly. A motion was passed to forward the project to Planning Commission with a recommendation for approval by a vote of 5-0.

The following recommendations were made by the Architectural Review Board:

1. Provide additional architectural detailing on the east side of the building similar to the west and south sides.

Changes have been made to the proposed eastern elevation of the eastern most building (Building P). Initially, this elevation consisted primarily of exposed painted concrete tiltwall with painted concrete accent bands. To address this comment, the proposed elevations now breaks the eastern façade up and includes brick veneer segments in addition to concrete tiltwall.

2. Trash enclosures will only be located on the north side of the development.

All trash locations are shown on the submitted plan on the north side of the development. Additionally, a general note has been included on the plans that trash areas will only be included north of the proposed buildings.

3. Transformers on the south side of the building will be completely contained within the screened walls adjacent to the retail development.

A general note has been included on the plans to this effect. Additionally, future applications for zoning approval for building permits will be required to provide verification that transformers will be completely screened.

4. Roof drains, gutters, and downspouts on the south side of the development will be internal.

The submitted elevations reflect that no exterior mounted drains are proposed on the southern elevations. A general note has been included on the plans to clarify these drains will be internal.

5. The petitioner will provide bike racks along the north side facing the levee trail.

A bicycle rack has been added to the northwest portion of the site adjacent to the connection between the parking area and the levee trail.

6. Planting materials on the green screens located on the south side of the building should be clarified and provide year round coverage.

Proposed planting is included on the landscape plans for the screens. The screens are proposed to be plantings with an English Ivy (evergreen) to help provide screening during all times of the year. The City Arborist has reviewed the proposed vegetation and had no concerns.

7. All wall mounted utilities will be painted to match the building and they will be installed below the height of the screen wall. Any piping, conduit, etc., that needs to be mounted above the screening or that needs to be continued up to the roof line, is to be integrated into the exterior facade.

A general note has been added to plans. Additionally, staff will review all submittals for building permits and follow-up with site inspections to ensure compliance.

8. Roof screening materials are required to screen equipment on all four sides.

Details for the proposed rooftop screens are included on the SDP and Elevations. A general note has been included on the SDP that rooftop mechanical equipment will be screened from all directions.

9. Additional architectural detailing materials and/or the inclusion of storefront or spandrel glass at the entry portals on the south side as well as pedestrian access ways between the buildings should be included;

and

10. Alternate materials or finishes should be included / increased to reduce the amount of painted tilt up concrete.

The submitted elevations include changes numerous changes along the southern building, as requested by the Architectural Review Board. The proposed elevations seek to combine these two comments from the Board, by (1) including storefront glass in areas previously proposed EIF's infill panels, and (2) replacing highly visible portions of concrete tiltwall with either brick or stone.

As illustrated on the elevations submitted to the Commission, the elevations now include storefront glass panels at the lower recessed panels at each of the towers at the eight entry plaza locations along the southern elevation.

In addition to including glass in these high visibility locations, all entrance locations on southern, eastern, and western façades (with one exception) also proposed to replace sections of previously proposed concrete tiltwall with brick and stone veneer walls. The change has been concentrated in these areas as they are the most visible locations of



the building that were previously proposed as concrete tiltwall. Section 1003.177.11.b.(8) includes the standard that entry areas should include features that indicate the building's entry points. The proposed areas for 'upgraded' materials seek to further the previously proposed features (in addition to the storefront glass noted above) resulting in well defined, high quality areas at all entry locations along the southern façade of the development.

Building J, as identified on the submitted elevations, does not include the replacement of concrete tiltwall. However, in reviewing the plans, this area of the development is proposed as a screened vending area.

### Comprehensive Plan

The City of Chesterfield Comprehensive Plan, among other items, includes policies for commercial development.

*Plan Policy 3.1.1 Quality of Design - Overall design standards should provide for smaller scale, mixed-use, project-oriented developments. Developments should emphasize architectural design, pedestrian circulation, landscaping, open space, innovative parking solutions and landscape buffering between any adjacent residential uses.*

The proposed development of Chesterfield Outlets includes design features (building off-sets, vertical articulation, and variation in material) in an attempt to reduce the visual length of the project while incorporating the vision of a pedestrian shopping street that includes retail and food court opportunities. Once arriving at the location, which is anticipated to occur primarily by private vehicle, the pedestrian experience is emphasized. The interior of the center includes lighting, architectural features, and amenities that focus on creating a shopping experience.

*Plan Policy 3.3 "Strip Commercial" Development - "Strip commercial" developments are characterized by independently-sited freestanding buildings. These retail or office centers compound problems of vehicular and pedestrian access and creates an unattractive and disjointed appearance, resulting in conflicts with adjacent residential use. This type of commercial development is not encouraged. Retail and office uses that are focused and contained at selected well-defined commercial centers, or "nodes," are recommended.*

While the form of the proposed development of Chesterfield Outlets is a long, linear design, care has been taken to incorporate several buildings into one cohesive development. This will reduce the need for shoppers to drive to individual stores.

Rather, shoppers will arrive via automobile (primarily), park their vehicle, and shop at various locations within the development before returning to their vehicle for another vehicular trip.

*Plan Policy 3.5 Chesterfield Valley - Private development and public infrastructure investments in Chesterfield Valley should correspond with the guidelines and recommendations defined in the Chesterfield Valley Master Plan as adopted by the Planning Commission on February 8, 1999; June 11, 2001 and this Comprehensive Plan.*

The Chesterfield Valley Master Plan included improvements that are necessary to facilitate the development of the Chesterfield Valley. This plan included a Collector-Distributor (CD) roadway system that would run parallel to the Interstate and facilitate operations of the transportation network. This CD roadway concept was included in the plan based on a study of the proposed access locations (i.e. Spirit of St. Louis Blvd., Long Rd., Boone's Crossing, and Baxter Rd.) and the requirement mandated by the Federal Highway Administration (FHWA) that the plans include, among other improvements, the CD roadway system. In order to ensure the proposed development of Chesterfield Outlets does not conflict with these plans, Staff has worked closely with MoDOT (who has also worked with FHWA) to ensure the Chesterfield Valley Master Access Plan remains valid. Through this process, Staff has received correspondence from MoDOT that "MoDOT has reviewed and approved the traffic impact study for the Chesterfield Outlets development on January 10, 2012 because we do not believe this is inconsistent with the Chesterfield Valley Master [Access] Plan."

*Plan Policy 7.2 Multi-Modal Transportation Design - Sites should be designed for all types of transportation choices including pedestrian, bicycle, mass transit, and vehicular. Sites should be designed to provide for pedestrian, bicycle, mass transit, and vehicular interconnectivity to adjacent sites.*

Given the location of the levee trail, the proposed development includes several locations for access between the trail and the development. As mentioned previously, bicycle parking is also included on the northwestern side of the site, as recommended by ARB.

#### **DEPARTMENT INPUT**

Staff has reviewed the Site Development Plan, Landscape Plan, Lighting Plan and Architectural Elevations and has found the application to be in conformance with the site specific ordinance and all other applicable Zoning Ordinance requirements. Upon a determination that the proposed changes adequately address the recommendations of

the Architectural Review Board, Staff recommends approval of the proposal as presented.

**MOTION**

The following options are provided to the Planning Commission for consideration relative to this application:

- 1) "I move to approve (or deny) the Site Development Plan, Landscape Plan, Lighting Plan and Architectural Elevations for Chesterfield Outlets.
- 2) "I move to approve the Site Development Plan, Landscape Plan, Lighting Plan and Architectural Elevations for Chesterfield Outlets with the following conditions..." (Conditions may be added, eliminated, altered or modified)

Cc: Michael G. Herring, City Administrator  
Rob Heggie, City Attorney  
Michael O. Geisel, Director of Planning, Public Works, and Parks  
Aimee Nassif, Planning and Development Services Director

Attachments: Site Development Plan  
Landscape Plan  
Lighting Plan  
Architectural Elevations

## Taubman Prestige Outlets of Chesterfield

### Lighting Clarifications

Supplemental Information to the Planning Commission

02.29.2012

Several questions have been asked regarding the proposed lighting on the exterior of the buildings, notably at the entry portal towers. There are two main types of light fixtures proposed for use as decorative elements near the tops of these towers.

The Lumenpulse “Lumenfacade” fixture, designated as Fixture Type FX<sub>1</sub> in the ARB Submission, is a linear LED wall-washer fixture. They are intended to be located below the projecting trellis elements at the top of the towers and directed upwards and towards the building wall. This will create a “grazing” effect on the wall surface, up to the trellis. The light will be white, non-flashing, and not directly visible from the ground. As they will be directed towards the building and the trellis, the light will be blocked by the structure and will not violate the “dark sky” principles. Cut sheets, including lumen ratings, as well as some example photos of a similar application, are included with this document. In the example photo included, several versions of these lights are shown, of differing lengths. The proposed installation at this project would be similar to the continuous application shown at the bell tower of the church pictured.

The other primary light fixture proposed for these towers is the MODAlight “Aqua Flex 3000k” flexible LED strip light, designated as FX<sub>4</sub> in the ARB Submission. These white, non-flashing LED strips are intended for installation on the BACKSIDE of the horizontal trellis members, to create a glow of white light from behind the structures. Again, they are to be mounted on the concealed sides of these elements and will not be directly visible from the ground. Cut sheets, including lumen ratings, as well as some example photos of a similar application, are included with this document. In the example photos included, an interior version of these lights is shown, located above and below the sign wall at the rear of the “RJ Chocolatier”, and above the crown molding in the Denmark project.

Additionally, some questions were asked regarding the parking lot lighting. The petitioner reviewed several scenarios for lighting the parking lots, including conventional metal halide (HID) fixtures and more energy-efficient LED fixtures. In order to comply with requirements that the poles not exceed a height of 24 feet, and to provide a safe, long-term lighting solution, they have elected to propose the use of the McGraw-Edison “Ventus” LED fixtures (cut sheets attached for review). These fixtures offer the benefit of lower long-term and maintenance costs, while complying with the “dark sky” principles. It should also be noted that the local distributor for these fixtures prepared extensive photometric calculations on the entire site, to verify that the light from them, as located the parking field, does not spill over to adjacent sites, while providing safe and secure lighting levels within the parking field.



## High performance facade LED luminaire

The Lumenfacade™ fixture is the perfect solution for applications such as wall grazing, column lighting, and linear floodlighting. It is a modular and adjustable IP66 rated outdoor lighting system available in 1', 2', 3' or 4' sections enabling ease of installation for both linear and radial configurations.

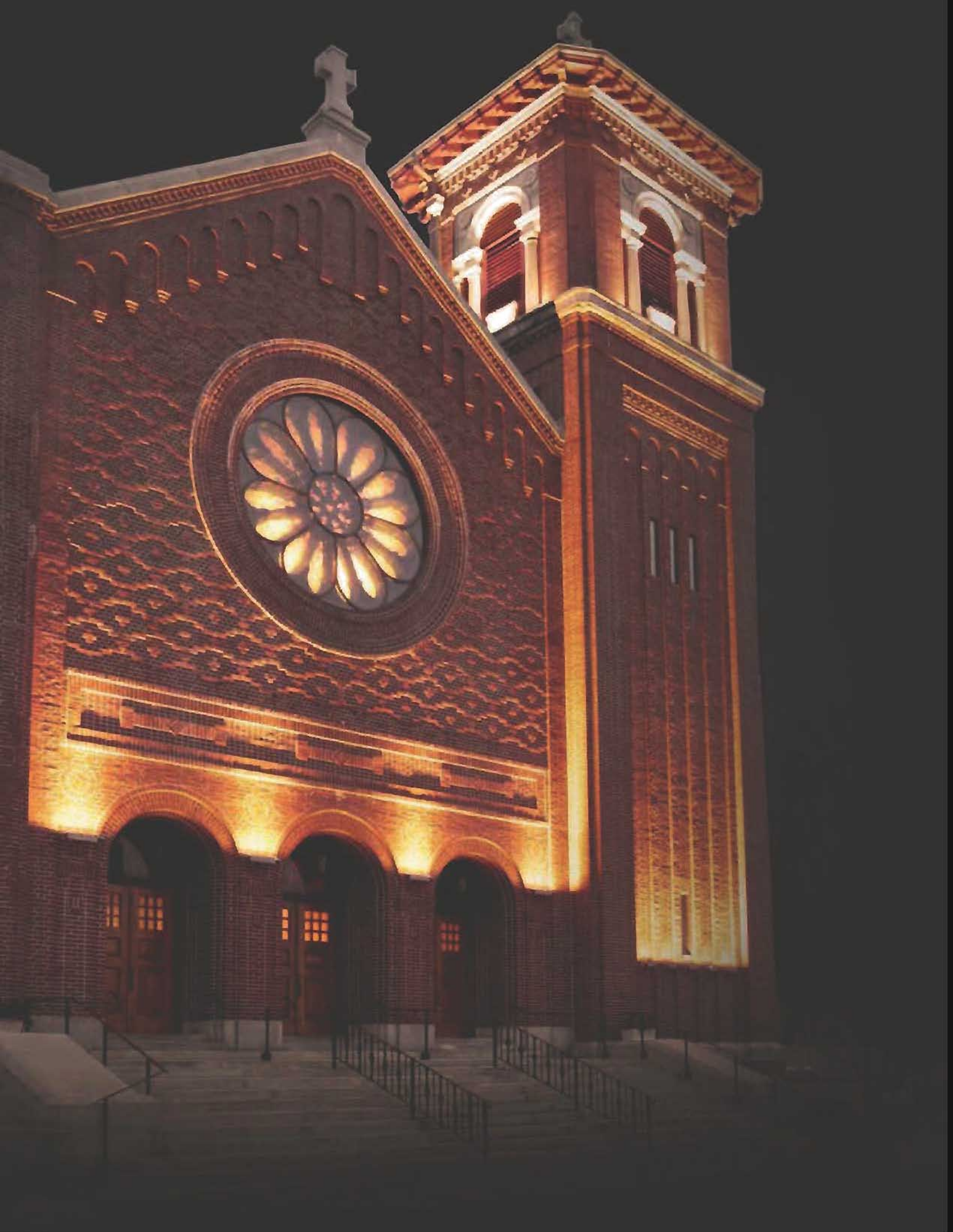
The Lumenfacade is available in 2700K, 3000K, and 4000K color temperatures, combined with 4 different choices of optics. It is a line voltage luminaire for 120 to 277V, using 8.5 watts or 15.25 watts per foot. It offers unmatched photometric performance producing 2,912 delivered lumens and 16,615 candelas at nadir (4000K, 10°x60°, 4' unit, HO version).

The Lumenfacade is designed to ensure sustainability by enabling simple maintenance and component replacement without having to replace the luminaire.

The Lumenpulse™ standard 5 year warranty is included, and covers the complete Lumenfacade assembly.

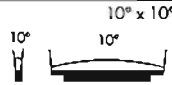
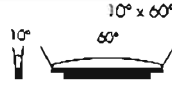
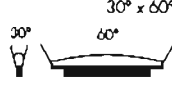
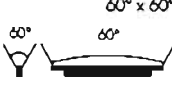
- Line voltage luminaire for 120 to 277V
- 0-10 volt, DMX or DALI dimming options
- 10° x 10°, 10° x 60°, 30° x 60° or 60° x 60° optics
- 8.5 or 15.25 watts per foot
- 2,912 delivered lumens and 16,615 candelas at nadir (4000K, 4' unit, with 10° x 60° optic, HO version)
- Minimum 1 fc (10.7 lux) @ 129 feet distance (39.3m) (4000K, 4' unit, 10° x 60° optic, HO version)
- Resolution per foot or per fixture
- Sustainable fixture designed for ease of maintenance
- Lumen maintenance L70 @ 25°C - 120,000 hrs
- Lumen measurements comply with LM - 79 - 08 standard
- 5 year warranty

Always refer to our website's download section for the latest updates of our ies files.



# Specifications

LOG

Categories	Specifications	1 ft. (12") / RO	4 ft. (48") / RO	1 ft. (12") / HO	4 ft. (48") / HO
	Beam Angles	10° x 10° / 10° x 60° / 30° x 60° / 60° x 60°			
	Color Temperatures	2700K / 3000K / 4000K			
	Static Colors	Red, Green, Blue (made to order)			
Output	Lumens* 	2700K - 286 lm 3000K - 325 lm 4000K - 357 lm	2700K - 1301 lm 3000K - 1478 lm 4000K - 1626 lm	2700K - 572 lm 3000K - 650 lm 4000K - 715 lm	2700K - 2601 lm 3000K - 2956 lm 4000K - 3252 lm
		2700K - 256 lm 3000K - 295 lm 4000K - 324 lm	2700K - 1165 lm 3000K - 1341 lm 4000K - 1476 lm	2700K - 512 lm 3000K - 585 lm 4000K - 640 lm	2700K - 2330 lm 3000K - 2661 lm 4000K - 2912 lm
		2700K - 191 lm 3000K - 271 lm 4000K - 291 lm	2700K - 870 lm 3000K - 1236 lm 4000K - 1327 lm	2700K - 383 lm 3000K - 478 lm 4000K - 478 lm	2700K - 1741 lm 3000K - 2175 lm 4000K - 2176 lm
		2700K - 194 lm 3000K - 218 lm 4000K - 242 lm	2700K - 882 lm 3000K - 993 lm 4000K - 1103 lm	2700K - 388 lm 3000K - 436 lm 4000K - 485 lm	2700K - 1765 lm 3000K - 1985 lm 4000K - 2206 lm
	Efficacy (RO, HO versions)	<b>10° x 10°</b> 2700K - 35 lm/W 3000K - 40 lm/W 4000K - 44 lm/W  <b>30° x 60°</b> 2700K - 24 lm/W 3000K - 32 lm/W 4000K - 34 lm/W	<b>10° x 60°</b> 2700K - 31 lm/W 3000K - 36 lm/W 4000K - 38 lm/W  <b>60° x 60°</b> 2700K - 24 lm/W 3000K - 27 lm/W 4000K - 30 lm/W	<b>10° x 10°</b> 2700K - 43 lm/W 3000K - 48 lm/W 4000K - 53 lm/W  <b>30° x 60°</b> 2700K - 29 lm/W 3000K - 36 lm/W 4000K - 36 lm/W	<b>10° x 60°</b> 2700K - 38 lm/W 3000K - 44 lm/W 4000K - 48 lm/W  <b>60° x 60°</b> 2700K - 29 lm/W 3000K - 33 lm/W 4000K - 36 lm/W
	Lumen Maintenance	L70 @ 25°C - 120,000 hrs / L70 @ 50°C - 90,000 hrs			
Electrical	Input Voltage	120V to 277V			
	Power Consumption	8.5 W	34 W	15.25 W	61 W
Control	Control Protocol	0-10 V, DMX or DALI dimming options			
	Resolution	Resolution per board or per fixture			
Physical	Dimensions (height x depth x length) inches, millimeters Custom length on request	3 1/2" x 2 5/16" x 13 3/8" 89mm x 59mm x 340mm	3 1/2" x 2 5/16" x 25 3/8" 89mm x 59mm x 645mm	3 1/2" x 2 5/16" x 37 3/8" 89mm x 59mm x 949mm	3 1/2" x 2 5/16" x 49 3/8" 89mm x 59mm x 1254mm
	Weight	2 kg / 4.5 lbs	3.17 kg / 7 lbs	4.75 kg / 10.5 lbs	6.35 kg / 14lbs
	Housing	Aluminum extrusion, electrostatically powder coated			
	Lens	Clear tempered glass lens 5 mm			
	Fixture's Connectors	IP66 connectors c/w locking device			
	Ingress Protection	IP66			
	Mounting	Adjustable & fixed mounting accessories			
	Operating Temperatures	-25° C to 50° C			
EPA (100 mph)	0.22 sq. ft.	1.10 sq. ft.	0.22 sq. ft.	1.10 sq. ft.	
Certification	Certification	UL / cUL / CE / RoHS			
	Environment	Dry/ damp/ wet location			

\* Lumen measurements comply with LM - 79 - 08 standard.




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Lumenpulse reserves the right to make changes to this product at any time without prior notice and such modification shall be effective immediately.





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RJ Chocolatier - Chestfield, MO

Products: STARFLEX-3000k

MODA'S Starflex-3000k was installed at RJ Chocolatier in Chestfield, MO!


Order Codes: [STARFLEX-3000k](#)

rickjordan  
chocolatier

1



[< Back to projects](#)



### Arts Building - Denmark

Products: STAR FLEX

High powered cove illumination was required for this Art's Building located in Denmark. Starflex - warm white was used on this project, and the client is enjoying low energy costs combined with zero maintenance illumination.

Order Codes: [STARFLEX-WW](#)

1 2 3

**DESCRIPTION**

The Ventus™ LED area luminaire provides uncompromising optical performance and outstanding versatility for a wide variety of area and roadway applications. Patent pending modular LightBAR™ technology delivers uniform and energy conscious illumination to walkways, parking lots, roadways, building areas, and any security lighting application. UL/cUL Listed for wet locations.

<b>Catalog #</b>		<b>Type</b>
<b>Project</b>		
<b>Comments</b>		<b>Date</b>
<b>Prepared by</b>		

**SPECIFICATION FEATURES**

**Construction**

Die-cast aluminum frame secures thermally conductive, extruded aluminum heat sink to independent electrical chamber. Heavy-wall, die-cast aluminum housing and door isolates driver components for cooler operation. The unique construction allows for passive cooling and natural cleaning of the extruded heat sink ensuring reliable operation at 40°C high ambient conditions. Stainless steel fasteners and hinging allow access to electrical components for installation and maintenance. Optional tool-less hardware available for ease of entry into electrical chamber.

**Optics**

Choice of thirteen (13) patented, high-efficiency AccuLED Optics™ manufactured from injection-molded acrylic. Optics are precisely designed to shape the distribution maximizing efficiency and application spacing. AccuLED Optics create consistent distributions with the scalability to meet customized application requirements. Offered standard in 4000K (+/- 275K) CCT and nominal 70 CRI.

**Electrical**

LED drivers mount to die-cast aluminum back casting for optimal heat sinking and operation efficiency. 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. Shipped standard with Cooper Lighting proprietary circuit module designed to withstand 10kV of transient line surge. 50,000 + hour life with >70% lumen maintenance. The Ventus LED luminaire is suitable for operation in -30°C to 40°C ambient environments. LightBARs feature an IP66 enclosure rating.

**Mounting**

Cast aluminum 6" arm includes bolt guides allowing for easy positioning of fixture during installation to pole or wall surface. Standard single carton packaging of housing, square pole arm and round pole adapter for contractor friendly arrival of product on site. Optional internal mast arm mount accepts a 1-1/4" to 2" O.D. horizontal tenon, while a 2-bolt clamping mechanism secures fixture. Cast-in leveling guides provide +/-5° vertical leveling adjustment. Tenon adapters available to slipfit over poles equipped with 2-3/8" or 3-1/2" O.D. tenon. 3G vibration rated.

**Finish**

Cast components and arm finished in SuperTGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard colors include black, bronze, grey, white, dark platinum, and graphite metallic. RAL and custom color matches available. Consult the McGraw-Edison Architectural Colors brochure for the complete selection.

**Warranty**

Ventus features a five-year limited warranty.



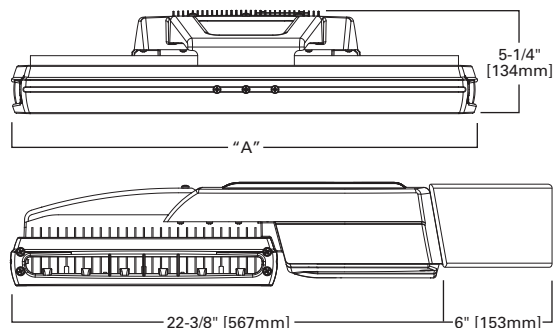
**VTS VENTUS LED**

**2 - 12 LightBARs  
Solid State LED**

**AREA LUMINAIRE**

**SustainableLEDesign™**

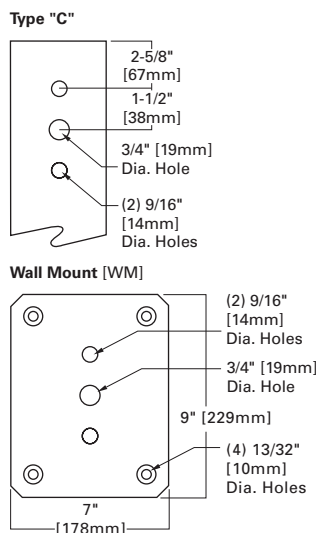
**DIMENSIONS**



**TABULATED REFERENCE DATA**

# of Bars	"A" Width [in/mm]	Weight [lbs.]		EPA [sq. ft.]	
		w/o Arm	w/Arm	w/o Arm	w/Arm
2-4	12-7/8 [328]	24 [10.91 kgs.]	29 [13.18 kgs.]	0.94	1.00
5-8	18 [458]	30 [13.64 kgs.]	35 [15.91 kgs.]	1.10	1.20
9-12	25-7/8 [658]	39 [17.73 kgs.]	44 [20.00 kgs.]	1.31	1.44

**DRILLING PATTERNS**



**CERTIFICATION DATA**

UL/cUL Listed  
LM79 / LM80 Compliant  
IP66 LightBARs  
3G Vibration Rated  
ARRA Compliant  
ISO 9001

**ENERGY DATA**

**Electronic LED Driver**  
>0.9 Power Factor  
<20% Total Harmonic Distortion  
120-277V/50 & 60hz, 347V/60hz, 480V/60hz  
-30°C Minimum Temperature  
40°C Ambient Temperature Rating

**SHIPPING DATA**

**Approximate Net Weight:**  
(See Tabulated Reference Data)

Number of LightBARs	DISTRIBUTION														
	Power [Watts]	Power [Watts]	Current @ 120V [A]	T2	T3	T3S	T4	SL2	SL3	SL4	5MQ	5WQ	5XQ	RW	SLR/SLL
<b>7 LED LIGHTBAR</b>															
C02	54	54	0.46	3,668	3,654	3,557	3,503	3,594	3,550	3,610	3,855	3,832	3,738	3,663	3,433
C03	77	77	0.65	5,554	5,533	5,386	5,305	5,442	5,375	5,465	5,837	5,802	5,660	5,546	5,198
C04	101	101	0.86	7,557	7,528	7,327	7,217	7,404	7,313	7,435	7,941	7,894	7,701	7,545	7,072
C05	131	131	1.11	9,228	9,193	8,948	8,813	9,041	8,930	9,080	9,697	9,640	9,404	9,214	8,636
C06	154	154	1.30	11,209	11,167	10,869	10,705	10,982	10,847	11,030	11,779	11,710	11,423	11,192	10,490
C07	178	178	1.51	12,969	12,919	12,575	12,385	12,706	12,550	12,761	13,628	13,548	13,216	12,949	12,137
C08	202	202	1.72	14,481	14,426	14,041	13,830	14,187	14,013	14,249	15,217	15,127	14,757	14,459	13,552
C09	232	232	1.97	16,800	16,737	16,291	16,045	16,460	16,258	16,531	17,654	17,550	17,121	16,775	15,723
C10	255	255	2.16	18,738	18,667	18,169	17,895	18,358	18,133	18,437	19,690	19,574	19,095	18,709	17,536
C11	279	279	2.37	20,506	20,429	19,884	19,584	20,091	19,844	20,178	21,549	21,422	20,898	20,475	19,191
C12	303	303	2.58	22,109	22,025	21,438	21,114	21,661	21,395	21,754	23,232	23,096	22,530	22,075	20,690
<b>21 LED LIGHTBAR</b>															
B02	51	51	0.43	4,512	4,495	4,375	4,309	4,421	4,366	4,440	4,741	4,714	4,598	4,505	4,223
B03	73	73	0.62	6,832	6,806	6,625	6,525	6,693	6,611	6,722	7,179	7,137	6,962	6,822	6,394
B04	95	95	0.81	9,295	9,259	9,013	8,877	9,106	8,995	9,146	9,767	9,710	9,472	9,281	8,698
B05	124	124	1.05	11,350	11,307	11,006	10,840	11,120	10,984	11,168	11,927	11,857	11,567	11,333	10,622
B06	146	146	1.24	13,787	13,735	13,369	13,167	13,508	13,342	13,566	14,488	14,403	14,050	13,767	12,903
B07	168	168	1.43	15,951	15,891	15,467	15,234	15,628	15,436	15,696	16,762	16,664	16,256	15,927	14,928
B08	190	190	1.62	17,811	17,744	17,271	17,010	17,450	17,236	17,526	18,717	18,607	18,151	17,784	16,669
B09	219	219	1.86	20,664	20,586	20,037	19,735	20,246	19,997	20,333	21,715	21,587	21,059	20,633	19,339
B10	241	241	2.05	23,047	22,960	22,348	22,011	22,580	22,303	22,678	24,219	24,076	23,487	23,012	21,569
B11	263	263	2.24	25,223	25,127	24,458	24,089	24,712	24,408	24,818	26,505	26,349	25,704	25,185	23,605
B12	285	285	2.43	27,194	27,091	26,369	25,971	26,643	26,315	26,758	28,576	28,408	27,712	27,152	25,449

LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
10°C	1.04
15°C	1.03
25°C	1.00
40°C	0.96
50°C	0.92

ORDERING INFORMATION

SAMPLE NUMBER: VTS-B12-LED-E1-T3-GM

**Product Family**  
VTS=Venus 1

**Lamp Type**  
LED=Solid State Light Emitting Diodes

**Distribution**  
T2=Type II  
T3=Type III  
T3S=Type III Short  
T4=Type IV  
SL2=Type II w/Spill Control  
SL3=Type III w/Spill Control  
SL4=Type IV w/Spill Control  
5MQ=Type V Square Medium  
5WQ=Type V Square Wide  
5XQ=Type V Square Extra Wide  
RW=Rectangular Wide  
SLL=90 Degree Spill Light Eliminator Left  
SLR=90 Degree Spill Light Eliminator Right

**Options 5**  
P=Button Type Photocontrol (120V, 208, 240, or 277V) 4, 6  
R=NEMA Photocontrol Receptacle  
2L=Two circuits 7  
L90=Optics Rotated 90 Degrees Left  
R90=Optics Rotated 90 Degrees Right  
HA=50 Degrees C. High Ambient Temperature Rating 8  
7060=70 CRI/6000K CCT 8  
8030=80 CRI 3000K CCT 8  
LCF=LightBAR Cover Plate Matches Housing Finish  
TH=Tool-less Door Hardware  
WM=Wall Mount with Arm  
IM=Internal Mast Arm  
MS-LXX=Motion sensor for on/off operation 9  
MS/X-LXX=Motion sensor for bi-level operation 10

**Accessories 11**  
VA1033-XX=Single Tenon Adapter for 2-3/8" O.D. Tenon  
VA1034-XX=2 @ 180 Degree Tenon Adapter for 2-3/8" O.D. Tenon  
VA1035-XX=3 @ 120 Degree Tenon Adapter for 2-3/8" O.D. Tenon  
VA1036-XX=4 @ 90 Degree Tenon Adapter for 2-3/8" O.D. Tenon  
VA1037-XX=2 @ 90 Degree Tenon Adapter for 2-3/8" Tenon  
VA1038-XX=3 @ 90 Degree Tenon Adapter for 2-3/8" Tenon  
VA1039-XX=2 @ 120 Degree Tenon Adapter for 2-3/8" O.D. Tenon  
VA1040-XX=Single Tenon Adapter for 3-1/2" O.D. Tenon  
VA1041-XX=2 @ 180 Degree Tenon Adapter for 3-1/2" O.D. Tenon  
VA1042-XX=3 @ 120 Degree Tenon Adapter for 3-1/2" O.D. Tenon  
VA1043-XX=4 @ 90 Degree Tenon Adapter for 3-1/2" O.D. Tenon  
VA1044-XX=2 @ 90 Degree Tenon Adapter for 3-1/2" O.D. Tenon  
VA1045-XX=3 @ 90 Degree Tenon Adapter for 3-1/2" O.D. Tenon  
VA1046-XX=4 @ 90 Degree Tenon Adapter for 3-1/2" O.D. Tenon  
OA/RA1016=NEMA Twistlock Photocontrol - Multi-Tap  
OA/RA1027=NEMA Twistlock Photocontrol - 480V  
OA/RA1201=NEMA Twistlock Photocontrol - 347V  
MA1253=10kV Circuit Module Replacement

**Number of LightBARs 2, 3**  
B02=[2] 21 LED LightBARs  
B03=[3] 21 LED LightBARs  
B04=[4] 21 LED LightBARs  
B05=[5] 21 LED LightBARs  
B06=[6] 21 LED LightBARs  
B07=[7] 21 LED LightBARs  
B08=[8] 21 LED LightBARs  
B09=[9] 21 LED LightBARs  
B10=[10] 21 LED LightBARs  
B11=[11] 21 LED LightBARs  
B12=[12] 21 LED LightBARs  
C02=[2] 7 LED LightBARs  
C03=[3] 7 LED LightBARs  
C04=[4] 7 LED LightBARs  
C05=[5] 7 LED LightBARs  
C06=[6] 7 LED LightBARs  
C07=[7] 7 LED LightBARs  
C08=[8] 7 LED LightBARs  
C09=[9] 7 LED LightBARs  
C10=[10] 7 LED LightBARs  
C11=[11] 7 LED LightBARs  
C12=[12] 7 LED LightBARs

**Voltage**  
E1=Electronic (120-277V)  
347=347V 4  
480=480V 4

**Finish**  
AP=Grey  
BZ=Bronze  
BK=Black  
DP=Dark Platinum  
GM=Graphite Metallic  
WH=White

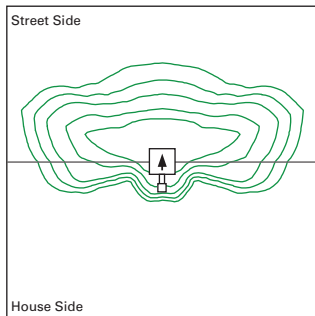
NOTES:

- 6' arm and round pole adapter included with fixture.
- 21 LED LightBAR powered at 350mA, 7 LED LightBAR powered at 1A.
- Standard 4000K CCT and nominal 70CRI.
- Not available with HA option.
- Add as suffix.
- Must specify voltage.
- Requires two electrical circuits to luminaire. See LightBAR operation table for additional information.
- Consult Factory for lead times and lumen multiplier.
- Sensor housed in external box mounted to the luminaire. Available in B02-B12 and C02-C12 configurations. Replace XX with mounting height in feet for proper lens selection, (i.e., MS-L25). Consult factory for additional information.
- Sensor housed in external box mounted to the luminaire. Available in B02-B12 and C02-C12 configurations. Replace X with number of bars operating in low output mode and replace XX with mounting height in feet for proper lens selection, (i.e., MS/3-L25). Maximum 4 bars in low output mode. Consult factory for additional information.
- Order separately, replace XX with color suffix.

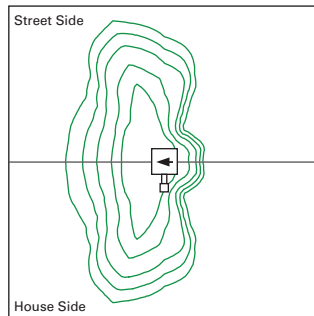
LIGHTBAR OPERATION WITH 2L TWO CIRCUIT OPTION

# of LightBARs	Circuit 1	Circuit 2
2	1	1
3	2	1
4	2	2
5	3	2
6	3	3
7	4	3
8	4	4
9	5	4
10	6	4
11	7	4
12	8	4

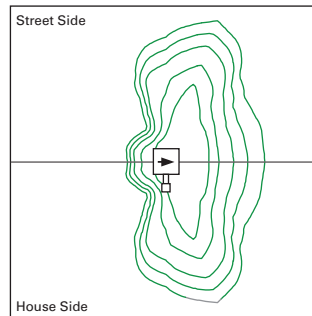
OPTIC ORIENTATION



Standard



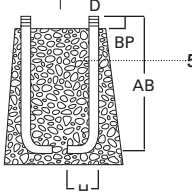
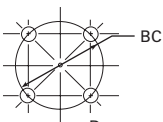
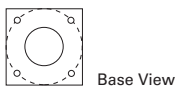
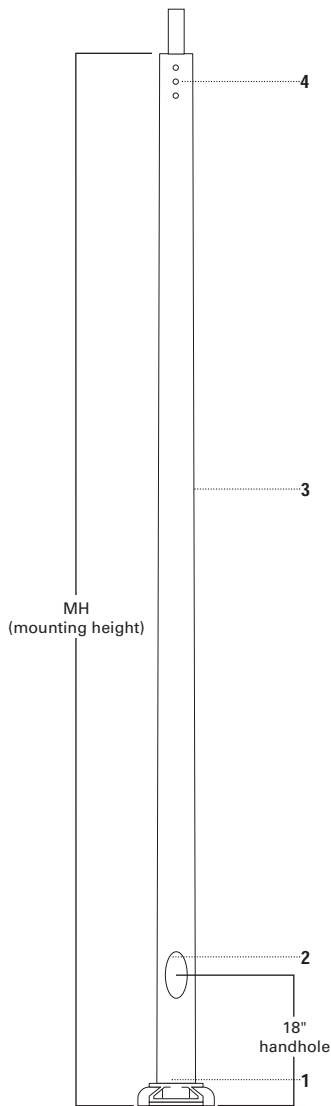
Optics Rotated Left @ 90° [L90]



Optics Rotated Right @ 90° [R90]

# RTA ROUND TAPERED ALUMINUM

10'—40' MOUNTING HEIGHT



## SPECIFICATION FEATURES

- 1... Cast aluminum alloy shoe base with aluminum alloy bolt covers or base cover dependent upon base type.
- 2... Flush reinforced 2 3/8" x 4 1/2" for 4" shafts. Hand hole assembly with internal reinforcing frame. 3" x 5" for 5" and 6" shafts, 4" x 6" for 7", 8", 10" shafts. Ground lug located opposite hand hole opening drilled & tapped for 3/8" 16NC-2 grounding screw.
- 3... Tapered aluminum lighting shaft with polished finish.
- 4... Drilled or Tenon (specify).
- 5... Anchor bolt per ASTM A576 with (1) nut, (1) flat washer, and (2) shims. Nuts, washers and threaded portion of bolt are hot dip galvanized.

## FOUR BOLT ANCHORAGE [See ordering information]

- BC=Bolt Circle
- BP=Bolt Projection
- AB=Bolt Dimensions
- D=Bolt Diameter
- H=Bolt Dimensions

## FINISH COLORS [See ordering information. Other finish colors available.]

- B=Clear Anodized
- C=Dark Bronze Anodized
- D=Black Anodized
- E=Medium Bronze Anodized
- F=Dark Bronze Powder Coat
- V=Grey Powder Coat
- W=White Powder Coat
- X=None (natural aluminum)
- Y=Black Powder Coat

**WARNING:** THE USE OF UNAUTHORIZED ACCESSORIES SUCH AS BANNERS, SIGNS OR PENNANTS FOR WHICH THE POLE WAS NOT DESIGNED FOR VOIDS THE COOPER LIGHTING WARRANTY AND MAY RESULT IN POLE FAILURE CAUSING SERIOUS INJURY OR PROPERTY DAMAGE. COOPER LIGHTING'S POLE WARRANTY IS ALSO VOIDED IF LUMINAIRE IS NOT INSTALLED AT TIME OF POLE INSTALLATION.

ORDERING INFORMATION

SAMPLE NUMBER: RTA5M20NA

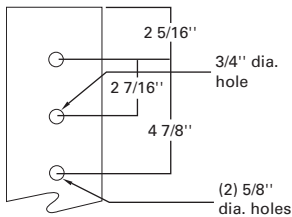
Round	Tapered	Aluminum	Shaft Dia. (at base)	Wall Thickness	Mounting Height (ft.)	Base Type	Finish	Fixture Mounting & Type	No. & Location of Arms	Arm Lengths	Accessories (Vibration Damper)
R	T	A	5	M	20	N	A	X	X	X	V

Mtg. Height (Ft.)	Catalog Number <sup>3</sup>	Wall Thickness (In.)	Base Dia. or Square (In.)	Shaft Taper (In.)	Bolt Proj. (In.)	Bolt Circle Dia. (In.)	Anchor Bolt D x AB x H (In.)	Net. Wt. (Lbs.)	EPA (Sq. Ft.) <sup>2,4</sup> At Pole Top				EPA (Sq. Ft.) <sup>2,4</sup> 18" Above Pole Top				Max. Fixture Load Include
MH		S	B	BP	BC	AB		70	80	90	100	70	80	90	100		
10	RTA4T10NA	.125	9 1/4	4 x 3	1 7/8	6 3/4	3/4 x 17 x 3	22	14.9	11.0	8.4	6.6	12.6	9.4	7.1	5.6	100
12	RTA4T12NA	.125	9 1/4	4 x 3	1 7/8	6 3/4	3/4 x 17 x 3	25	11.3	8.2	6.1	4.6	9.8	7.2	4.3	4.0	100
15	RTA4T15NA	.125	9 1/4	4 x 3	1 7/8	6 3/4	3/4 x 17 x 3	30	7.7	5.4	3.8	2.7	6.8	4.8	3.4	2.4	100
15	RTA5T15NA	.125	10 1/2	5 x 3	1 7/8	7 3/4	3/4 x 17 x 3	33	13.6	9.9	7.4	5.6	12.2	8.8	6.6	5.0	100
18	RTA5T18NA	.125	10 1/2	5 x 3	1 7/8	7 3/4	3/4 x 17 x 3	39	9.9	6.9	4.9	3.6	9.0	6.3	4.5	3.3	100
18	RTA6L18AA	.156	10 1/4	6 x 4	2 1/8	9 3/8	3/4 x 17 x 3	57	19.9	14.6	11.1	8.8	18.2	13.3	10.1	8.0	100
20	RTA5T20NA	.125	9 1/4	5 x 3	1 7/8	8 1/2	3/4 x 17 x 3	43	8.0	5.4	3.7	2.5	7.3	4.9	3.4	2.3	100
20	RTA6L20AA	.156	10 1/4	6 x 4	2 1/8	9 3/8	3/4 x 17 x 3	64	16.5	11.9	8.9	7.0	15.6	10.9	8.2	6.4	150
25	RTA6L25AA <sup>1</sup>	.156	10 1/4	6 x 4	2 1/8	9 3/8	3/4 x 17 x 3	81	10.4	7.8	5.0	3.7	9.7	6.6	4.6	3.5	150
25	RTA8L25AA	.156	11 5/8	8 x 4 1/2	2 3/4	11 1/2	1 x 36 x 4	106	23.3	17.2	13.2	10.4	21.7	16.0	12.3	9.7	200
30	RTA7L30AA <sup>1</sup>	.156	10 5/8	7 x 4	2 3/4	10 1/2	1 x 36 x 4	108	11.0	7.5	5.3	4.0	10.4	7.1	4.0	3.7	150
30	RTA8L30AA <sup>1</sup>	.156	11 5/8	8 x 4 1/2	2 3/4	11 1/2	1 x 36 x 4	117	16.4	11.8	8.9	6.9	15.4	11.1	8.4	6.5	200
30	RTA0L30AA <sup>1</sup>	.156	14 1/2	10 x 6	2 7/8	14 1/2	1 x 36 x 4	152	30.5	22.8	17.6	13.8	28.8	21.6	16.6	13.0	250
35	RTA8L35AA <sup>1</sup>	.156	11 5/8	8 x 4 1/2	2 3/4	11 1/2	1 x 36 x 4	140	11.5	7.9	5.8	4.3	10.9	7.5	5.5	4.1	150
35	RTA0L35AA <sup>1</sup>	.156	14 1/2	10 x 6	2 7/8	14 1/2	1 x 36 x 4	180	23.3	17.3	13.1	10.0	22.2	16.4	12.5	9.5	200
40	RTA8M40AA <sup>1</sup>	.188	11 5/8	8 x 4 1/2	2 3/4	11 1/2	1 x 36 x 4	210	11.0	7.5	5.3	3.9	10.6	7.1	5.1	3.7	100
40	RTA0L40AA <sup>1</sup>	.156	14 1/2	10 x 6	2 7/8	14 1/2	1 x 36 x 4	209	17.9	13.0	9.6	7.1	17.2	12.5	9.2	6.8	150

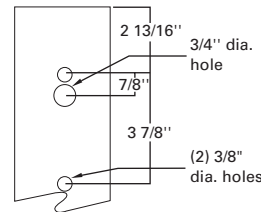
NOTES: 1 Factory installed vibration dampeners. 2 Where higher EPA/wind speed capability or mounting height is required, other shaft dimensions and/or wall thickness are available. consult Cooper Lighting representative for pricing and lead times. The above E.P.A. capacities are based on loading from (1994) and pole drag coefficients from (2001) American Association of State Highway and Transportation Officials Specification. 3 Catalog item includes one set of anchor bolts, single nuts and (2) leveling shims. 4 EPAs based on shaft properties with wind normal to flat. EPAs calculated using base wind velocity as indicated plus 30% gust factor.

DRILLING PATTERN

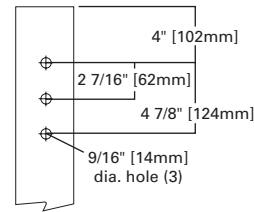
Type "M" [RCL, Landau, Galleria and Vision]



Type "E" [Concourse III]



Type "Z" [Credenza and Cirrus]



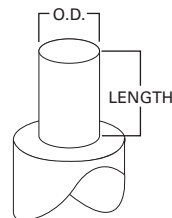
MACHINING FOR RECTANGULAR ARMS [Add as suffix]

Designation Letter & Number	Designation Letter & Number	Designation Letter & Number	Quantity & Location
M1	E1	Z1	Single
M2	E2	Z2	2 @ 180°
M3	E3	Z3	3 @ 120°
M4	E4	Z4	4 @ 90°
M5	E5	Z5	2 @ 90°

NOTES: Refer to Fixture Drilling Options on page 160.

MOUNTING OPTIONS [Add as suffix]

Fixed Tenon	Designation Number	O.D. (In.)	Length (In.)
	1	2 3/8	3 1/2
	2	2 3/8	4
	5	3	4
	4	4	6

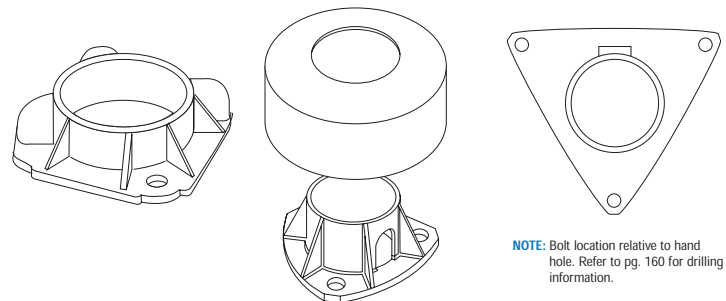


ACCESSORIES [Order separately]

- C=Convenience Outlet
- E=GFI Convenience Outlet
- F=Vibration Pad
- G=Ground Lug
- V=Vibration Damper
- B=Base Cover ("A" Base Only)

STANDARD BASE [Round Aluminum Pole Only]

- TYPE A 6", 7", 8" or 10"
- TYPE N [Standard with base cover] 4", 5", or 6"



NOTE: Specifications and dimensions suit

