STR PARTNERS LLC
350 WEST ONTARIO STREET
SUITE 200
CHICAGO IL 60654

T 312.464.1444
F 312.464.0785
www.strpartners.com

August 28, 2015

Ms. Latika Bhide, AICP, LEED Green Associate
Development Planner
Village of Arlington Heights
33 S. Arlington Heights Road
Arlington Heights, IL 60005

Re: **Round 1 Comments: Responses**

Plan Commission PC #15-016

Ivy Hill Elementary School
2211 N. Burke Dr.

Dear Ms. Bhide:

The following are responses to comments received on August 18 and August 19 for our Plan Commission application.

Building Department 1

6. Show Egress from Gymnasium to Public Way.

Response: Egress from the gymnasium to the public way has been shown on Sheet C-2.1.

Building Department 1A

1. Maintain Turning Radius for Emergency Equipment.

Response: An AutoTurn exhibit utilizing the Fire Engine Turning Template provided on the Village or Arlington Heights municipal website has been provided to demonstrate that the Tower Truck is capable of maneuvering through the front entrance.

Public Works Department 2

1. The existing water meter needs to be changed out to a 6" x 2" Fire Meter to cover both fire and domestic flows.

Response: A new water meter will be provided.

2. There is currently an old backflow device (4" fire). It needs to be changed to a larger size to protect the fire service and domestic service. It needs to be an RPZ.

Response: A new RPZ backflow protection device will be provided.

3. The Structure A should allow unrestricted flow into the proposed detention basin to minimize ponding in Valley.

Response: The storm structure previously labeled as Structure A has been removed due to design revisions. The new catch basin show in the previous location of structure A will now allow for unrestricted flow to the basin.

4. Structure A and Structure B should utilize a grade to screen debris, not a wire mesh.

Response: A wire mesh has been called for in order to allow water to flow to the restrictor structure if the bottom of the wire mesh becomes clogged. The use of a grate would inhibit flow in its entirety if it became clogged. We feel that the use of the wire mesh reduces the potential of the restrictor becoming clogged and failing, therefore, the detail initially submitted has not been revised.

Engineering Department 3

11. The petitioner is notified that these comments are being provided to ensure that the project meets the requirements for submittal to the Plan Commission. Approval by the Plan Commission is not an endorsement or approval of these documents to obtain the required building permits, engineering approval, or permits required by other government or permitting agencies for construction. Detailed plan review with associated comments will be provided upon submittal of plans for a building permit. The petitioner shall acknowledge that they accept this understanding.

Response: Acknowledged.

12. Final engineering plans shall be georeferenced by using State Plane Coordinate System – Illinois East. Below are details about projection:

Projected Coordinate System:	NAD_1983_StatePlane_Illinois_East_FIPS_1201_Feet
Projection:	Transverse_Mercator
False_Easting:	9842450.000000000
False_Northing:	0.00000000
Central_Meridian:	-88.33333333
Scale_Factor:	0.99997500
Latitude of Origin:	36.66666667
Linear Unit:	Foot_US
Geographic Coordinate System:	GCS_North_American_1983
Datum:	D_North_American_1983
Prime Meridian:	Greenwich
Angular Unit:	Degree

Response: Eastings and Northings for the project location have been added to the Project Benchmarks description on applicable sheets.

13. The proposed detention facility will be the responsibility of Arlington Heights School District 25 to maintain. An Onsite Utility Maintenance Agreement must be executed prior to final engineering approval. A sample document is attached. An editable Word document can be provided.

Response: A signed copy of the Onsite Utility Maintenance Agreement is enclosed.

14. Any detection storage system located under pavement must be designed to AASHTO HS-25 loading standard. The basin requires a 1-foot freeboard with an overflow weir at the 6" line. Provide calculations for sizing the weir. Revise the stormwater calculations accordingly. The proposed stormwater detention provided volume of 1.467 acre-feet will cover 83% of the total Village-required volume of the entire property. According to the report, the storage volume under existing conditions was negligible.

Response: The volume control facilities under the paved playground area do not function as detention based practices. Rather, the volume of stone functions as a retention based stormwater management practice to promote infiltration back into the ground as required by the MWRD. The retention volume is provided in the void space between stone, therefore there should be no issues with loading.

The HWL of the basin has been revised to 682.80 in order to provide 1-foot of freeboard between the HWL and proposed first floor elevation. The overland spillway has been raised to 683.3. The internal weir wall located in the outlet structure is at elevation 682.80. The volume provided is reduced from 1.497 to 1.390 (1.30 acre-feet detention +0.09 acre-feet volume control) acre-feet when the HWL is reduced to 682.80 in order to provided the 1-foot of freeboard required. The detention volume provided will account for approximately 79% of the total Village-required volume for the entire property.

Calculations demonstrating the capability of the proposed weir to pass the runoff rate produced by the property during the 100-year rainfall event have been included.

15. When on-site lighting is proposed, provide a site photometric lighting diagram indicating lighting intensities. Also provide the associated catalog cuts for all roadway, parking lot, and building mounted luminaires. All fixtures must be flat bottom, sharp cut-off, and no wall pack style fixture will be permitted.

Response: A photometric plan and luminaire cut sheets are included.

16. Provide an exhibit to engineering scale showing the turning path of the Fire Department's responding vehicle, in this case the tower truck. Exhibit must show front and rear wheel paths and the extent of the front and rear overhangs, as provided in an "Autoturn" exhibit. The vehicle shall be shown maneuvering through the site in all possible directions of travel. Attached are the specifications for the tower apparatus.

Response: An AutoTurn exhibit utilizing the Fire Engine Turning Template provided on the Village or Arlington Heights municipal website has been provided to demonstrate that the Tower Truck is capable of maneuvering through the front entrance.

17. Fire lanes adjacent to buildings must have a minimum pavement width as directed by the Fire Department to accommodate the tower truck's outriggers. Fire lanes require a heavy duty pavement section. Asphalt pavement section to consist of: 2" Surface, 2-1/4" N-50 Binder, 5" N-30 Binder, and 4" CA-6 Stone Subbase. Concrete driveway apron to be 8" thick.

Response: The Heavy-Duty pavement section initially called for on the plans has been revised as noted above.

18. Sheet C-3.1: The new sanitary service line shall be blind connected to the public sewer main. No need to replace the existing public manhole.

Response: The existing manhole has been removed from the demolition plan and called out as an existing structure. A new invert is to be cored into the existing structure at elevation 674.10.

19. Sheet C-6.1: Verify the elevations shown on the details for the outlet control structures.

Response: The elevations shown on the detail for the outlet structure have been revised.

20. Consider including bicycle racks in development plan to encourage alternate modes of transportation for employees, students, and visitors.

Response: Bike racks are provided at the school on a paved area south of the parking lot but have been temporarily relocated for a mobile classroom. These racks will return to that location after the expansion. The school will monitor the need for additional bike racks and add them as warranted.

21. The traffic report indicates that another 79 students are anticipated for the ultimate projected school enrollment, which would mostly arrive by bus. However, Table 1 shows trip generation values based upon 'both' one vehicle per child being delivered by car and also all 79 children being delivered by 2 busses. Which method or combination most accurately projects the true new number of cars that can be anticipated?

Response: School District 25 anticipates that the growth in students will occur from areas served by busing which will minimize the amount of additional traffic. Please note that some of those students still may be driven to school. To be conservative, the ITE rates were used in case the growth in students occurs from the overall school's attendance area. The projected expansion traffic volumes used in the are higher if the majority of the new students are actually bussed. Bus traffic was shown separately.

22. Provide the following in tabular format please:

a.) Please provide what the total I.T.E. trip generation based upon the number of staff, and total enrollment calculated for the existing school.
b.) Please provide what the existing real trip generation is based upon the current traffic counts.
c.) Based upon the I.T.E. trip generation rates provide the calculated number of trips that would be expected from the additional 79 students, and 1 additional staff member.
d.) Show what the actual performance of this school would be if the traffic count observed values were used to establish this school's actual trip generation rate for both existing and future build out projected values.

Response: See table below. The capacity analyses were not updated since the difference in the trip generation is only 4 vph higher in the morning and 1 vph less in the afternoon.

Trip Generation Comparison of ITE and School Traffic Volumes

		Morning Arrival			Afternoon Dismissal		
Scenario	Students	In	Out	Total	In	Out	Total
ITE Trip Generation Analysis (LUC 520 Elementary School)							
Existing	562	139	114	253	71	86	157
Expansion	79	20	15	35	10	12	22
Total	**641**	**159**	**129**	**288**	**81**	**98**	**179**
Existing School Trip Generation from Traffic Counts							
Existing	562	144	134	278	54	93	147
Expansion	79	20	19	39	8	13	21
Total	**641**	**164**	**153**	**317**	**62**	**106**	**168**
Trip Table Used in Traffic Study							
Existing (Counts)	562	144	134	278	54	93	147
Expansion (ITE)	79	20	15	35	10	12	22
Total	**641**	**164**	**149**	**313**	**64**	**105**	**169**

23. The traffic count exhibits #3 and #6 are missing the afternoon pedestrian count data at the intersection of Ivy Lane and Burke Drive.

Response: The missing data will be added (29 pedestrians).

24. Please review if any accident history has occurred along either of the streets contiguous to this school.

Response: The crash data has been requested and the analysis will be provided after it is received.

25. The Village has been through two iterations of modifying parking and traffic operations to provide signage and address congestion associated with the north parking lot drop-off and pick-up function. The observation indicated in the traffic report about the number of parents violating the no left turn sign exiting the north lot is troubling. Violation of any signs puts motorists and children at risk. In conjunction with this building revision, a definitive traffic control plan for this school must be developed. Traffic operations within the onsite parking lot, vehicles moving along the street, congestion at the Ivy and Burke intersection, operation of the bus loading lane and exit driveways, etc. must be considered.

Response: School District 25 will set up cones or other portable barriers during morning arrival and afternoon dismissal to prevent left-turning traffic during those times.

26. Are there any student safety patrols, or Adult Crossing guards being proposed for this school?

Response: Yes, adult crossing guards are provided at the intersections of Burke Drive with Ivy Lane and Valley Lane.

Fire Department 4

No comments at this time.

Health Services Department 6

No comments.

Planning & Community Development Department 7

7. The property at 2211 N. Burke Drive is zoned R-3. Elementary Schools require the approval of a special use in the R-3 district. Since there is no existing Special Use approved for the school, therefore, since the school is proposing expansion at this time, a Special Use Permit must be approved.

Response: A Special Use Permit is requested for a Public Elementary School in the R-3, One-Family Dwelling District.

That said special use is deemed necessary for the public convenience at this location.

Ivy Hill Elementary School provides education to school-age children of the surrounding neighborhood and is of benefit to the community.

That such case will not, under any circumstances of the particular case, be detrimental to the health, safety, morals or general welfare of persons residing or working in the vicinity.

The school is regularly inspected for health/life safety in accordance with Illinois State Board of Education requirements. Proposed additions will comply with current building, life safety and ADA accessibility codes.

That the proposed use will comply with the regulations and conditions specified in this ordinance for such use, and with the stipulations and conditions made a part of the authorization granted by the Village Board of Trustees.

Elementary Schools are a permitted Special Use in an R-3 Use District per Chapter 28, 5.5-1 Permitted Use Table.

8. The following variations are necessary:
a. Chapter 28, Section 11.4, Schedule of Parking Requirements from the requirement to provide 173 parking spaces to allow 72 spaces, a variation of 101 spaces.
Based on the parking data provided by the applicant, and due to this being an existing location for the school, staff supports the variation requested. Because the increase in staff is minimal (1) and the majority of additional students will be bused, Staff agrees that the parking will meet the needs of the current and projected staff and visitor parking demand.

Response: A Variation is requested from Chapter 28, Section 11.4-4, Schools, Elementary Off Street Parking, from the requirement for 173 spaces (two per each of 69 employees plus one per each of 35 classrooms) to allow 72 spaces.

The property in question cannot yield a reasonable return if permitted to be used only under the conditions allowed by the regulation zone.

Open field space is limited to the north area of the site east of the north parking lot. Adequate open field space for recreational use could not be provided with expanded asphalt parking.

The plight of the owner is due to unique circumstances.

In order to provide adequate open field and asphalt and pour-in-place playground areas on the site there is no area for expansion of the parking lots.

The variation, if granted, will not alter the essential character of the locality.

The existing parking supply of 72 spaces meets the existing and projected parking needs of the school during the day for staff and visitors without impacting on-street parking. Parking counts were conducted by Eriksson Engineering Associates, Ltd. on Wednesday, May 27, 2015, after the morning arrival period which found 55 vehicles parked on-site including staff and visitors. Just one additional staff member will be added with the addition to the school building.

9. The Village Comprehensive Plan designates the property as 'Schools' which is consistent with the use.

Response: Acknowledged.

10. The maximum allowance Floor Area Ratio is 50%. Please confirm that this requirement is met.

Response: The Floor Area Ratio requirement is met. The square foot area of the property is 291,852 square feet. Currently with Floor Area of 60,338 square feet, the Floor Area Ratio is 21%. With the proposed additional 21,921 square feet, the Floor Area Ratio would be 28%, less than 50%.

11. The maximum allowance Building Lot coverage for lots greater than 6,600 SF is 35%. Please confirm that this requirement is met.

Response: The Building Lot Coverage requirement is met. Currently with a Footprint of 51,763 square feet, the Building Lot Coverage is 18%. With the proposed additional 14,650 square foot footprint, the Building Lot Coverage would be 23%, less than 35%.

12. There is no requirement for maximum impervious surface coverage for other uses in the R-3 district.

Response: Acknowledged.

13. For the R-3 district, a maximum building height of 25 feet and 2 ½ stories is permitted. The addition has a maximum height of 23'-9" and meets the height requirement for the R-3 district.

Response: Acknowledged.

14. What is the square footage of the proposed addition? How large is the gymnasium? The plans do not appear to be 'to scale.'

Response: The area of the proposed addition, including the gymnasium is 21,921 sq. ft. The net area of the gymnasium is 5,747 sq. ft.

15. The existing north parking lot does not meet the landscape requirements of Chapter 28, Section 6.15 Landscaping {there are no landscaping islands at the end of every row and every 20 spaces and no landscape screen along Burke Road} and is considered non-conforming. No action is required at this time.

Response: No action taken.

16. The total code required parking for this site for Future Floor Plan will be calculated as:

Use	Size	Parking Ratio	Required Parking
Elementary School	35 classrooms 69 staff	Two spaces per each employee plus one space per classroom (2 x 69 + 1 x 35)	173 spaces
Total Required			173 spaces
Total Provided			72 spaces
Surplus / (Deficit)			(101 spaces)

Response: Acknowledged.

Planning & Community Development Department 7A

Tree Preservation

1. Provide two additional shade trees in order to meet the exchange rate as outlined in Chapter 28, Section 6.15-5.4. Per the exchange rate a total of 19 – 4 inch caliper replacement trees must be provided.

Response: Two additional shade trees have been added to the proposed landscape plans in order to meet the exchange rate outline in Chapter 28, Section 6.15-5.4.

2. Increase the size of the proposed shade trees to 4" caliper in order to meet the code requirement.

Response: The size of the proposed shade tree has been increased to 4".

Landscape Issues

3. The ends of all parking rows must include a landscape island, which contains a 4" caliper shade tree {Chapter 28, section 6.16-1.2b}. Provide an additional shade tree in the southwest corner at the end of the parking row.

Response: An additional shade tree has been provided at the southwest corner at the end of the parking row.

4. Per Chapter 28, section 6.15-1.2a, a three foot high screen must be provide in order to screen paved areas that are adjacent to a public way or a street or a residential district. Please provide 3' high shrubs along Valley Lane in order to screen the proposed drive aisle and the parking lot.

Response: 3' high shrubs have been provided along Valley Lane in order to screen the proposed drive aisle and parking lot.

If you have any questions, or if you need any additional information, please call our office.

Sincerely,

Don Hansen
Senior Project Manager

ONSITE UTILITY MAINTENANCE AGREEMENT

WHEREAS, Arlington Heights School District 25, an Illinois limited liability company, or its affiliates, ("RESPONSIBLE ENTITY") is the legal title holder of the following described real estate commonly referred to as Ivy Hill Elementary School at 2211 N. Burke Drive, Arlington Heights, Illinois, 60004, containing 6.727 acres, more or less, situated in the Village of Arlington Heights, Illinois and legally described as follows: (the "PROPERTY"):

THAT PART OF THE WEST HALF OF THE SOUTHEAST QUARTER, EXCEPT THE NORTH 195.00 FEET THEREOF, OF SECTION 17, TOWNSHIP 42 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT BEING THE INTERSECTION OF THE SOUTH LINE OF THE NORTH 195.00 FEET OF THE WEST HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 17 WITH THE EAST LINE OF THE SAID WEST HALF OF THE SOUTHEAST QUARTER; THENCE WESTWARD ALONG THE SAID SOUTH LINE OF THE NORTH 195.00 FEET, SOUTH 89 DEGREES, 48 MINUTES, 53 SECONDS WEST, A DISTANCE OF 535.00 FEET; THENCE SOUTH 00 DEGREES 11 MINUTES 07 SECONDS EAST, A DISTANCE OF 125.00 FEET TO A POINT OF CURVATURE; THENCE SOUTHWARD ALONG A CURVED LINE, CONVEXED TO THE WEST OF 1420.15 FEET IN RADIUS, FOR AN ARC LENGTH OF 528.35 FEET; THENCE NORTH 57 DEGREES 12 MINUTES 35 SECONDS EAST, A DISTANCE OF 24.52 FEET TO A POINT OF CURVATURE; THENCE EASTWARD ALONG A CURVED LINE, CONVEXED TO THE NORTH OF 571.24 FEET IN RADIUS, FOR AN ARC LENGTH OF 322.14 FEET TO A POINT OF TANGENCY; THENCE NORTH 89 DEGREES 31 MINUTES 14 SECONDS EAST, A DISTANCE OF 115.09 FEET TO A POINT ON THE AFORESAID EAST LINE OF THE WEST HALF OF THE SOUTHEAST QUARTER OF SECTION 17; THENCE NORTHWARD ALONG THE SAID EAST LINE OF THE WEST HALF OF THE SOUTHEAST QUARTER, NORTH 00 DEGREES 28 MINUTES 46 SECONDS WEST, A DISTANCE OF 537.42 FEET TO THE POINT OF BEGINNING, IN COOK COUNTY, ILLINOIS.

PIN Numbers: 03-17-400-006-0000

WHEREAS, Arlington Heights School District 25, desires to develop the PROPERTY; and

WHEREAS, it is necessary to service said parcel with **sanitary sewers, storm sewers and stormwater management facilities**; and

WHEREAS, the **sanitary sewers, storm sewers and stormwater management facilities** servicing the property are not located within public rights-of-way or dedicated easements; and

WHEREAS, the Village of Arlington Heights ("VILLAGE") does not maintain **sanitary sewers, storm sewers and stormwater management facilities** on privately owned property; therefore

1. It is hereby AGREED by the RESPONSIBLE ENTITY, its successors and assigns that at no expense to the VILLAGE, the RESPONSIBLE ENTITY, its successors and assigns shall:

   a. Maintain all sanitary sewers and appurtenances thereunto appertaining located upon said premises, all as shown on the Final Engineering Plans prepared by Eriksson Engineering Associates, Ltd. dated 6/6/2015, and approved by the VILLAGE, or any amended plans as agreed to and approved by both parties, copies which are on file with the Engineering Department of the VILLAGE.

   b. Maintain all storm sewers and appurtenances, including detention basins, located upon said premises.

   c. Maintain the utilities as itemized above in accordance with the latest edition of the Village of Arlington Heights Municipal Code.

   d. Maintain all private roadways, parking areas, and pavement lighting facilities located on said premises as shown on said Final Engineering Plans in accordance with the latest edition of the Village of Arlington Heights Municipal Code.

2. It is further AGREED that should the RESPONSIBLE ENTITY not properly maintain the **sanitary sewers, storm sewers and stormwater management facilities** in accordance with the requirements of the VILLAGE, written notification shall be given to the RESPONSIBLE ENTITY advising that after ten (10) days if the RESPONSIBLE ENTITY is not in compliance with the applicable requirements, the VILLAGE is hereby authorized, but not required, to enter upon the property to correct deficiencies and to place a lien against said property until such time that the VILLAGE has been fully reimbursed for its expenses in correcting these deficiencies; and

3. It is further AGREED that should the RESPONSIBLE ENTITY not properly maintain the aforementioned **sanitary sewers, storm sewers and stormwater management facilities** in accordance with the requirements of the VILLAGE, or should they allow a public nuisance to exist, written notification shall be given to the RESPONSIBLE ENTITY advising that after ten (10) days if the RESPONSIBLE ENTITY is not in compliance with the applicable requirements, the VILLAGE is hereby authorized, but not required, to enter upon the property to correct deficiencies and to place a lien against said property until such time that the VILLAGE has been fully reimbursed for its expenses in correcting these deficiencies; and

4. It is further AGREED that the RESPONSIBLE ENTITY shall save the VILLAGE harmless from any and all claims for damages resulting from the VILLAGE interrupting service to the property due to the failure of the RESPONSIBLE ENTITY to perpetually maintain the systems as described above and any other claims or damages arising out of this Agreement and the ownership of the facilities described herein.

5. This Agreement shall be binding between all successors and assigns and shall be a covenant running with the land as here and before legally described.

6. This Agreement shall be recorded in Cook County, Illinois.

This Agreement is entered into the 25 day of August, 2015.

For: Arlington Heights School District 25

Name: Ryan Schulz

Signature: Ryan Schulz

Title: Director of Facilities

State of Illinois)
) SS
County of Cook)

I, Bradley A. Katz, a Notary in and for said County, in the State aforesaid, CERTIFY that Ryan Schulz personally known to me to be the same person whose name is subscribed on the foregoing instrument appeared before me this day in person and acknowledged that (s)he signed, sealed, and delivered said instrument as their free and voluntary act, and as the voluntary act of **Arlington Heights School District 25, an Illinois limited liability company**, for the uses and purposes therein set forth.

GIVEN under my hand and Notarial seal this 25 day of August, 2015.

Notary Public

OFFICIAL SEAL
BRADLEY A KATZ
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES:08/15/19

OFFICIAL SEAL
BRADLEY A KATZ
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES:08/15/19

For: Village of Arlington Heights,
an Illinois municipal corporation

Name: _____

Signature: _____

Title: _____

State of Illinois)
) SS
County of Cook)

I, _____, a Notary in and for said County, in the State aforesaid, CERTIFY that _____ personally known to me to be the same person whose name is subscribed on the foregoing instrument appeared before me this day in person and acknowledged that (s)he signed, sealed, and delivered said instrument as their free and voluntary act, and as the voluntary act of the **Village of Arlington Heights, an Illinois municipal corporation**, for the uses and purposes therein set forth.

GIVEN under my hand and Notarial seal this _____ day of _____, 20___.

_____
Notary Public

Ivy Hill Elementary School
Addition and Renovations
July 20, 2015
Revised August 26, 2015

STORMWATER NARRATIVE

The proposed improvements at Ivy Hill Elementary School of Arlington Heights School District 25, located at 2211 N. Burke Drive include the demolition of existing concrete walks, utility services, asphalt drive and play surfaces, and the construction of a new slab-on-grade gymnasium adjacent to the east wall of the existing commons building, a new 2-story classroom addition located within the existing courtyard, and an extended bus-lane. The existing stormwater management facility will be improved in order to comply with the Village of Arlington Heights Stormwater Management Ordinance and accommodate the runoff created by the additional proposed impervious area within the project area.

EXISTING CONDITIONS

The total contiguous ownership of the parcel is 6.727 (rounded to 6.73 for calculations) acres. Approximately 5.02 acres of the site is tributary to the permitted detention facility. Under MWRD Permit No. 94-079 an existing detention facility extends along the east property line of the parcel. A berm was to be constructed around the basin up to a minimum elevation of 683.0. At a HWL of 682.7 the basin had a required detention capacity of 0.541 acre-feet and a permitted release rate of 1.79 cfs. The actual detention capacity provided was 0.542 per Permit No. 94-079.

In comparing the most recent survey of the campus and the exhibits included with the MWRD Permit No. 94-079 it is apparent that the berm proposed along the east property line was never properly constructed to the minimum proposed elevation of 683.0. The highest elevation surveyed along the berm is 682.5, which is lower than the previously permitted proposed HWL. As such, we have assumed that the detention volume provided under the existing conditions of the campus is negligible.

EXISTING FLOOD PROTECTION AREA:

A FEMA FIRM map, panel number 17031C0201J, panel 201 of 832, revised August 19, 2008 has been enclosed to identify any potential flood zones located within the project vicinity. The FIRM Map does identify a “Zone X” flood area at the extents of the existing building, which is defined as an area of 0.2% (500-Year) annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood. No proposed improvements are to occur within the “Zone X” delineation.

“Zone X” areas are not defined as Special Flood Hazard Areas, in, therefore, no special accommodation is required for the area shown on the FEMA FIRM.

EXISTING WETLAND PROTECTION AREA:

No existing wetlands are identified on the U.S. Fish and Wildlife Service National Wetlands Inventory map (see attached).

EXISTING GROUNDWATER OBSERVATION:

Based on a soil survey conducted by ECS, “the long-term ground water table is estimated to be at depths ranging from about 10 to 15 feet below existing surface grade.”

PROPOSED CONDITIONS

The construction of a new slab-on-grade gymnasium adjacent to the east wall of the existing commons building, a new 2-story classroom addition located within the existing courtyard, and an extended bus-lane will disturb approximately 2.32 acres. The majority of the proposed project falls within the area previously detained for under MWRD Permit No. 94-079. The additional detention required per the Village of Arlington Heights requirements will be determined based on the net increase in impervious area within the boundaries of the property. The existing impervious area on the property is to increase from 3.20 acre to 3.67 acres under the proposed conditions. This results in a net increase of 0.47 (3.67-3.20) acres of impervious area.

PROPOSED STORMWATER MANAGEMENT FACILITY

No record calculations for the proposed volume of the existing detention facility were included with Permit No. 94-079. As previously stated the existing detention volume provided at the site is negligible due to the past construction efforts.

Utilizing the Village allowable release rate of 0.18 cfs/acre, the total allowable release rate for the site is 1.21 cfs. The increase in impervious area will increase the storage volume required from 1.66 acre-feet to 1.77 acre-feet. An additional volume of 0.11 (1.77-1.66) acre-feet is required for the proposed improvements. The total detention provided for the site would increase from 0.542 acre-feet to 0.652 acre-feet.

However, the additional storage volume required per the MWRD based on the 2.32 acre disturbance of the project is 0.43 acre-feet. In order to satisfy both the Village and MWRD requirements the larger additional volume of 0.43 acre-feet will be required. Therefore, the total detention volume provided for the site would increase from 0.542 acre-feet to 0.972 acre-feet.

The proposed modifications to the detention basin would increase the storage volume from 0.542 acre-feet to 1.30 acre-feet of storage at a HWL of 682.80 at a maximum release rate of 1.17 cfs. The modification to the existing detention facility would provide approximately 73% (1.31/1.78) of the total required detention of the site and reduce the existing release rate of the existing detention facility from 1.79 cfs per MWRD Permit #94-079 to 1.17 cfs, which equates to a 35% reduction in release when compared to the permitted conditions.

VOLUME CONTROL:

Under the MWRD's WMO, volume control is required for the net new impervious area within the limits of the disturbance as well as any impervious area in which the drainage characteristics are altered. Volume control practices are defined as permanent practices designed to capture, retain, and infiltrate stormwater runoff from the new impervious area of development (1.02 acres) after permanent stabilization is achieved. The volume control requirement is determined by multiplying 1" of runoff over the net new impervious area within the limits of disturbance.

The total volume control required for the proposed improvements at Ivy Hill Elementary School is 0.085 (1.02 acres x 1/12 feet) acre-feet. The total volume control to be provided in stone voids beneath the

hard surface playground area and the stone trench around a perforated pipe beneath the basin bottom is approximately 0.091 acre-feet.

The volume required for the under the MWRD WMO is also allowed to be counted toward the Village detention requirements as discussed during a meeting with Mike Pagones, Deputy Director of Engineering for the Village of Arlington Heights. With the addition of the volume control, the total storage provided for the site with the addition of the volume control is 1.400 acre-feet at a release rate of 1.17 cfs at HWL 682.80. The detention provided with the addition of the volume control provides approximately 79% (1.40/1.78) of the volume required for the entire parcel.

EMERGENCY OVERFLOW:

The 100-Year Runoff Rate for the site, assuming a time of concentration of 30 minutes is 28.3 cfs. The stormwater management facility is to have two emergency overflow routes. One overflow proposed is located within the outlet control structure. The overflow is proposed to be at the HWL of 682.8. It is capable of conveying 3.76 cfs at 0.35 feet of head. The secondary overflow is located at the south end of the proposed stormwater management facility. The overflow is a 40’ broad crested weir at elevation 683.3 (6” above of the proposed HWL). This overflow weir is capable of conveying 26.31 cfs at 0.40 feet of head. The overflow weirs can convey a total of 30.07 cfs under the calculated head conditions.

Emergency Overflow Spillway Calculations

Ivy Hill Elementary School
Addition and Renovations
JC

08/25/15

100-year Rainfall Event

Equation used: Q = C i A (The Rational Formula)

Tributary Area =	6.72	acre
Composite Runoff Coefficient =	0.75	
Time of Concentration, Tc =	0.50	hours
100 year Rainfall Depth (Bulletin 70) =	7.58	inches
100 year Rainfall Intensity =	5.61	inches/hour

100-Year Runoff Rate = 28.3 cfs

Weir Equation: $Q = 3.03\ L\ H^{(3/2)}$ (Broad Crested Weir) **concrete**

Weir Equation: $Q = 2.60\ L\ H^{(3/2)}$ (Broad Crested Weir) **grass**

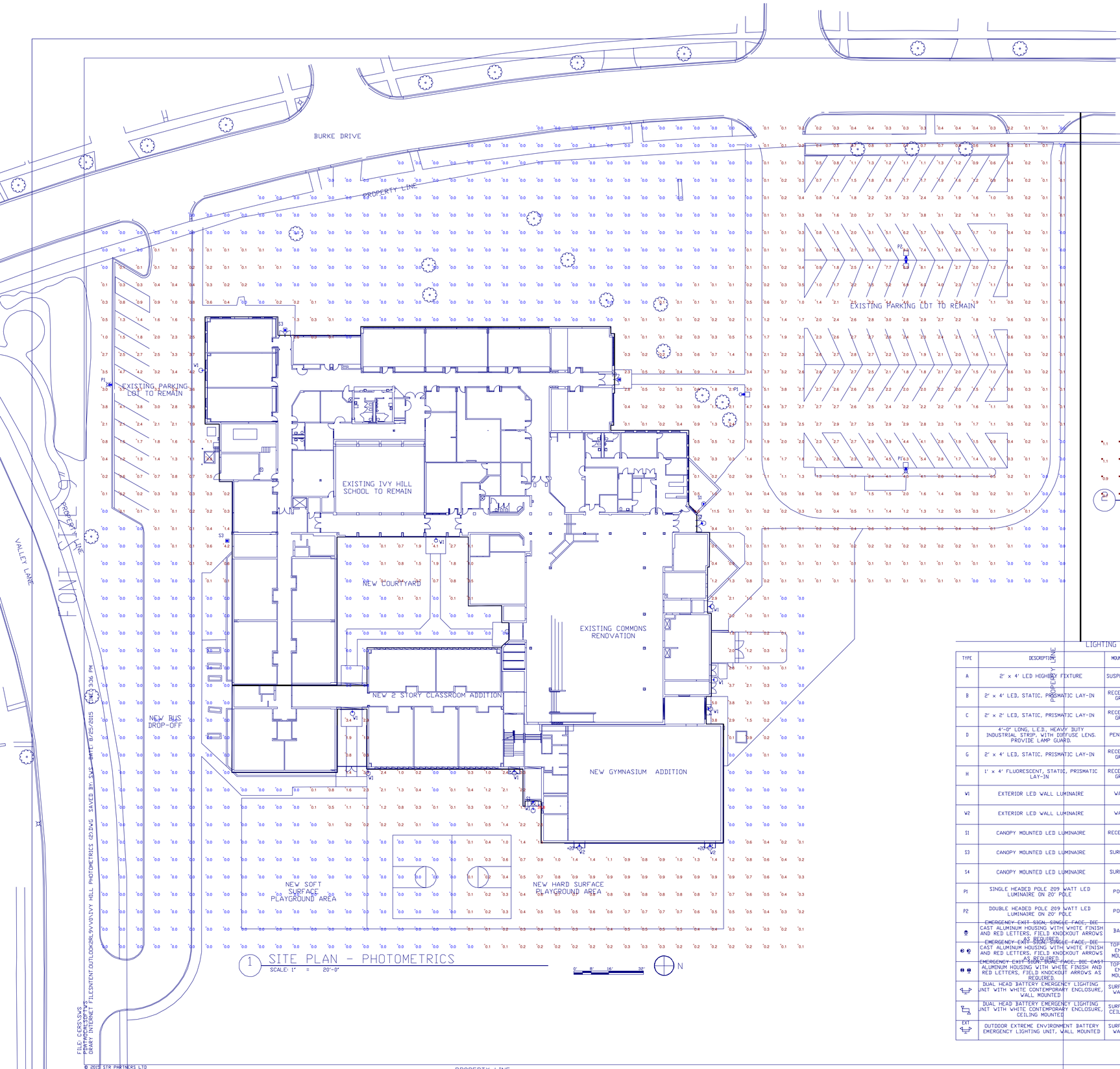
Where: L (length) = 40 ft.
H (head) = 0.40 ft.

Pond Overflow Rate
Q = 26.31 cfs

Where: L (length) = 6 ft.
H (head) = 0.35 ft.

Weier Wall Overflow Rate
Q = 3.76 cfs

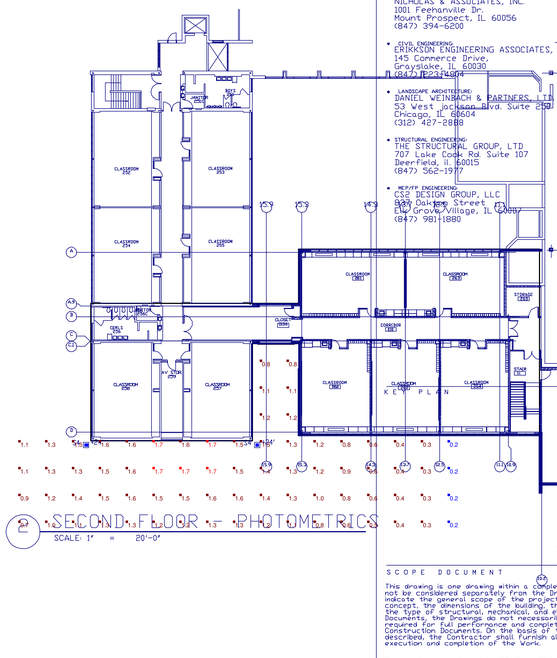
Total Overflow Rate
Q = 30.07 cfs



1 SITE PLAN - PHOTOMETRICS
SCALE: 1" = 20'-0"

0' 8' 16' 32'

N



2 SECOND FLOOR - PHOTOMETRICS
SCALE: 1" = 20'-0"

KEY PLAN

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MOUNTING	LAMPS	VOLTAGE	MANUFACTURER & CATALOG NUMBER	ACCEPTABLE MANUFACTURER
A	2' x 4' LED HIGHBAY FIXTURE	SUSPENDED	L.E.D.	MVOLT	LITHONIA IBL IBL ND SDI25 LP740	APPROVED EQUAL
B	2' x 4' LED, STATIC, PRISMATIC LAY-IN	RECESSED GRID	L.E.D	MVOLT	LITHONIA 2TL4 30L FW A12 LP840	APPROVED EQUAL
C	2' x 2' LED, STATIC, PRISMATIC LAY-IN	RECESSED GRID	L.E.D	MVOLT	LITHONIA 2TL2 20L FW A12 LP840	APPROVED EQUAL
D	4'-0" LONG, L.E.D., HEAVY DUTY INDUSTRIAL STRIP, WITH DIFFUSE LENS. PROVIDE LAMP GUARD.	PENDANT	L.E.D.	MVOLT	LITHONIA ZL2N L48 3000LM MDD MVOLT 50K 80CRI WH WITH HC36 HANGER	APPROVED EQUAL
G	2' x 4' LED, STATIC, PRISMATIC LAY-IN	RECESSED GRID	L.E.D	MVOLT	LITHONIA 2TL4 72L FW A12 LP840	APPROVED EQUAL
H	1' x 4' FLUORESCENT, STATIC, PRISMATIC LAY-IN	RECESSED GRID	(2)32W	MVOLT	LITHONIA GTB 2 32 FW A12 MVOLT GCB1015	APPROVED EQUAL
W1	EXTERIOR LED WALL LUMINAIRE	WALL	L.E.D.	MVOLT	LITHONIA DSXW1 LED 20C 350 50K T4M MVOLT PIR	APPROVED EQUAL
W2	EXTERIOR LED WALL LUMINAIRE	WALL	L.E.D.	MVOLT	LITHONIA DSXW1 LED 20C 700 50K T4M MVOLT PIR	APPROVED EQUAL
S1	CANOPY MOUNTED LED LUMINAIRE	RECESSED	L.E.D.	MVOLT	GOTHAM EVO 40/30 BAR MVOLT	APPROVED EQUAL
S3	CANOPY MOUNTED LED LUMINAIRE	SURFACE	L.E.D.	3V	KENALL LIGHTING MS11FL PP MW 20L50K 3V	APPROVED EQUAL
S4	CANOPY MOUNTED LED LUMINAIRE	SURFACE	L.E.D.	MVOLT	LITHONIA KACM LED 1 60C 530 50K R5 MVOLT SRM PIRH	APPROVED EQUAL
P1	SINGLE HEADED POLE 209 WATT LED LUMINAIRE ON 20' POLE	POLE	L.E.D.	MVOLT	LITHONIA DSXI LED 60C 1000 50K TFTM MVOLT SPA PIRH SSS20	APPROVED EQUAL
P2	DOUBLE HEADED POLE 209 WATT LED LUMINAIRE ON 20' POLE	POLE	L.E.D.	MVOLT	LITHONIA DSXI LED 60C 1000 50K TFTM MVOLT SPA PIRH SSS20	APPROVED EQUAL
	EMERGENCY EXIT SIGN, SINGLE FACE, DIE CAST ALUMINUM HOUSING WITH WHITE FINISH AND RED LETTERS, FIELD KNOCKOUT ARROWS AS REQUIRED.	BACK	L.E.D.	MVOLT	LITHONIA LQC W 1 R	APPROVED EQUAL
	EMERGENCY EXIT SIGN, SINGLE FACE, DIE CAST ALUMINUM HOUSING WITH WHITE FINISH AND RED LETTERS, FIELD KNOCKOUT ARROWS AS REQUIRED.	TOP OR END MOUNT	L.E.D.	MVOLT	LITHONIA LQC W 1 R	APPROVED EQUAL
	EMERGENCY EXIT SIGN, DOUBLE FACE, DIE CAST ALUMINUM HOUSING WITH WHITE FINISH AND RED LETTERS, FIELD KNOCKOUT ARROWS AS REQUIRED.	TOP OR END MOUNT	L.E.D.	MVOLT	LITHONIA LQC W 2 R	APPROVED EQUAL
	DUAL HEAD BATTERY EMERGENCY LIGHTING UNIT WITH WHITE CONTEMPORARY ENCLOSURE, WALL MOUNTED	SURFACE WALL	L.E.D.	MVOLT	LITHONIA ELM2 LED SD	APPROVED EQUAL
	DUAL HEAD BATTERY EMERGENCY LIGHTING UNIT WITH WHITE CONTEMPORARY ENCLOSURE, CEILING MOUNTED	SURFACE CEILING	L.E.D.	MVOLT	LITHONIA ELM2 LED SD	APPROVED EQUAL
EXT	OUTDOOR EXTREME ENVIRONMENT BATTERY EMERGENCY LIGHTING UNIT, WALL MOUNTED	SURFACE WALL	L.E.D.	MVOLT	LITHONIA AFN DB EXT FWD	APPROVED EQUAL

STATISTICS

Description	Symbol	Avg	Max	Min	Max:Min	Avg:Min
Calc Zone #1	+	0.7 fc	39.8 fc	0.0 fc	N / A	N / A
Calc Zone #2	■	1.1 fc	1.7 fc	0.2 fc	8.5:1	5.5:1

STR

ARCHITECTS:

vetetllc0;STR Partners LLC
350 West Ontario Street I Suite 200
Chicago IL 60654

T: 312.464.1444
www.strpartners.com

- CONSTRUCTION MANAGER:
NICHOLAS & ASSOCIATES, INC.
1001 Feehanville Dr.
Mount Prospect, IL 60056
(847) 394-6200
- CIVIL ENGINEERING:
ERIKSSON ENGINEERING ASSOCIATES, LTD.
145 Commerce Drive,
Grayslake, IL 60030
(847) 223-4804
- LANDSCAPE ARCHITECTURE:
DANIEL WEINBACH & PARTNERS, LTD
53 West Jackson Blvd. Suite 250
Chicago, IL 60604
(312) 427-2880
- STRUCTURAL ENGINEERING:
THE STRUCTURAL GROUP, LTD
707 Lake Cook Rd. Suite 107
Deerfield, IL 60015
(847) 562-1977
- MEP/FP ENGINEERING:
CSE DESIGN GROUP, LLC
9339 Oakdale Street
Elk Grove Village, IL 60007
(847) 981-1880

SCOPE DOCUMENT

This drawing is one drawing within a complete set of documents and shall not be considered separately from the Drawings as a whole. The Drawings indicate the general scope of the project for the architectural design and the type of structural, mechanical and electrical systems. As Scope Documents, the Drawings do not necessarily indicate or describe all work required for full performance and completion of the requirements of the Construction Documents. On the basis of the general scope indicated or described, the Contractor shall furnish all items required for the proper execution and completion of the Work.

PROJECT

IVY HILL ELEMENTARY SCHOOL ADDITION AND RENOVATIONS
2211 N. BURKE DR. ARLINGTON HEIGHTS ILLINOIS 60004

ARLINGTON HEIGHTS SCHOOL DISTRICT 25
1200 SOUTH DUNTON AVENUE
ARLINGTON HEIGHTS, ILLINOIS 60005

CLIENT PROJECT NUMBER

STR PROJECT NUMBER
15036

DRAWING DATES

NUMBER	DATE	COMMENTS
3	8/05/2015	ISSUE FOR REVIEW

IN-PROGRESS
NOT FOR CONSTRUCTION
8/21/15

DRAWING TITLE

SITE PLAN - PHOTOMETRICS

SHEET NUMBER

PHOTO1

D-Series Size 1
LED Wall Luminaire

d-series

Catalog Number	DSXW1 LED 20C 350 50K T4M MVOLT PIR
Notes	
Type	W1

Hit the Tab key or mouse over the page to see all interactive elements.

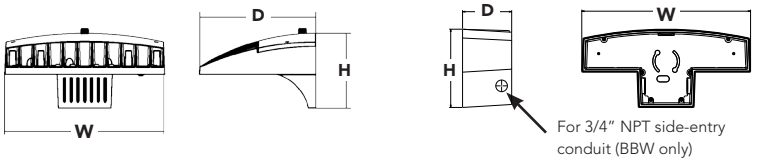
Specifications

Luminaire

Width:	13-3/4" *(34.9 cm)*	**Weight:**	12 lbs *(5.4 kg)*
Depth:	10" *(25.4 cm)*		
Height:	6-3/8" *(16.2 cm)*		

Back Box (BBW, ELCW)

Width:	13-3/4" *(34.9 cm)*	**BBW Weight:**	5 lbs *(2.3 kg)*
Depth:	4" *(10.2 cm)*	**ELCW Weight:**	10 lbs *(4.5 kg)*
Height:	6-3/8" *(16.2 cm)*		



Introduction

The D-Series Wall luminaire is a stylish, fully integrated LED solution for building-mount applications. It features a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance.

With an expected service life of over 20 years of nighttime use and up to 74% in energy savings over comparable 250W metal halide luminaires, the D-Series Wall is a reliable, low-maintenance lighting solution that produces sites that are exceptionally illuminated.

Ordering Information

EXAMPLE: DSXW1 LED 20C 1000 40K T3M MVOLT DDBTXD

DSXW1 LED	20C	350	50K	T4M	MVOLT		PIR		
Series	**LEDs**	**Drive Current**	**Color temperature**	**Distribution**	**Voltage**	**Mounting**	**Control Options**	**Other Options**	**Finish** *(required)*
DSXW1 LED	10C 10 LEDs (one engine) 20C 20 LEDs (two engines)	350 350 mA 530 530 mA 700 700 mA 1000 1000 mA (1 A)	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted	T2S Type II Short T2M Type II Medium T3S Type III Short T3M Type III Medium T4M Type IV Medium TFTM Forward Throw Medium ASYDF Asymmetric diffuse	MVOLT [1] 120 [1] 208 [1] 240 [1] 277 [1] 347 [2] 480 [2]	**Shipped included** (blank) Surface mounting bracket BBW Surface-mounted back box (for conduit entry) [3]	**Shipped installed** PE Photoelectric cell, button type [4] DMG 0-10V dimming driver (no controls) PIR 180° motion/ambient light sensor, <15' mtg ht [5] PIRH 180° motion/ambient light sensor, 15-30' mtg ht [5] ELCW Emergency battery backup (includes external component enclosure) [6]	**Shipped installed** SF Single fuse (120, 277 or 347V) [7] DF Double fuse (208, 240 or 480V) [7] HS House-side shield [8] SPD Separate surge protection [9] **Shipped separately** BSW Bird-deterrent spikes WG Wire guard VG Vandal guard DDL Diffused drop lens	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DSSXD Sandstone DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white DSSTXD Textured sandstone

NOTES

1 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120, 208, 240 or 277 options only when ordering with fusing (SF, DF options), or photocontrol (PE option).
2 Only available with 20C, 700mA or 1000mA. Not available with PIR or PIRH.
3 Back box ships installed on fixture. Cannot be field installed. Cannot be ordered as an accessory.
4 Photocontrol (PE) requires 120, 208, 240, 277 or 347 voltage option. Not available with motion/ambient light sensors (PIR or PIRH).
5 PIR specifies the Sensor Switch SBGR-10-ODP control; PIRH specifies the Sensor Switch SBGR-6-ODP control; see Motion Sensor Guide for details. Includes ambient light sensor. Not available with "PE" option (button type photocell). Dimming driver standard. Not available with 20 LED/1000 mA configuration (DSXW1 LED 20C 1000).
6 Cold weather (-20C) rated. Not compatible with conduit entry applications. Not available with BBW mounting option. Not available with fusing. Not available with 347 or 480 voltage options. Emergency components located in back box housing. Emergency mode IES files located on product page at www.lithonia.com
7 Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option. Not available with ELCW.
8 Also available as a separate accessory; see Accessories information.
9 See the electrical section on page 3 for more details.

Accessories

Ordered and shipped separately.

DSXWHS U	House-side shield (one per light engine)
DSXWBSW U	Bird-deterrent spikes
DSXW1WG U	Wire guard accessory
DSXW1VG U	Vandal guard accessory

LITHONIA LIGHTING
One Lithonia Way • Conyers, Georgia 30012 • Phone: 800.279.8041 • Fax: 770.918.1209 • www.lithonia.com

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K					40K					50K					AMBER				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
10C (10 LEDs)	530mA	20 W	T2S	1,843	1	0	1	92	1,956	1	0	1	98	1729	1	0	1	86	1,264	0	0	1	63
			T2M	1,756	1	0	1	88	1,864	1	0	1	93	1,648	1	0	1	82	1,205	0	0	1	60
			T3S	1,822	0	0	1	91	1,934	0	0	1	97	1,710	0	0	1	86	1,250	0	0	1	63
			T3M	1,804	1	0	1	90	1,914	1	0	1	96	1,693	1	0	1	85	1,237	0	0	1	62
			T4M	1,767	1	0	1	88	1,876	1	0	1	94	1,658	0	0	1	83	1,212	0	0	1	61
			TFTM	1,837	0	0	1	92	1,950	0	0	1	98	1,724	0	0	1	86	1,260	0	0	1	63
			ASYDF	1,642	1	0	1	82	1,743	1	0	1	87	1,541	1	0	1	77	1,127	0	0	1	56
	700mA	27 W	T2S	2,272	1	0	1	84	2,409	1	0	1	89	2,421	1	0	1	90	1,544	0	0	1	57
			T2M	2,165	1	0	1	80	2,296	1	0	1	85	2,307	1	0	1	85	1,472	0	0	1	55
			T3S	2,247	1	0	1	83	2,382	1	0	1	88	2,394	1	0	1	89	1,527	0	0	1	57
			T3M	2,224	1	0	1	82	2,358	1	0	1	87	2,370	1	0	1	88	1,512	0	0	1	56
			T4M	2,179	1	0	1	81	2,310	1	0	1	86	2,322	1	0	1	86	1,481	0	0	1	55
			TFTM	2,265	1	0	1	84	2,401	1	0	1	89	2,413	1	0	1	89	1,539	0	0	1	57
			ASYDF	2,025	1	0	1	75	2,147	1	0	1	80	2,158	1	0	1	80	1,376	1	0	1	51
	1000mA	40 W	T2S	3,011	1	0	1	75	3,190	1	0	1	80	3,202	1	0	1	80	2,235	1	0	1	58
			T2M	2,870	1	0	1	72	3,040	1	0	1	76	3,051	1	0	1	76	2,130	1	0	2	55
			T3S	2,978	1	0	1	74	3,155	1	0	1	79	3,166	1	0	1	79	2,210	1	0	2	57
			T3M	2,948	1	0	1	74	3,123	1	0	1	78	3,134	1	0	1	78	2,187	1	0	2	56
			T4M	2,888	1	0	1	72	3,059	1	0	1	76	3,071	1	0	1	77	2,143	1	0	2	55
			TFTM	3,002	1	0	1	75	3,180	1	0	1	80	3,192	1	0	1	80	2,228	1	0	2	57
			ASYDF	2,684	1	0	1	67	2,843	1	0	1	71	2,854	1	0	1	71	1,991	1	0	2	51
20C (20 LEDs)	530mA	36 W	T2S	3,649	1	0	1	101	3,876	1	0	1	108	3,429	1	0	1	95	2,504	1	0	1	70
			T2M	3,478	1	0	1	97	3,694	1	0	1	103	3,267	1	0	1	91	2,387	1	0	1	66
			T3S	3,609	1	0	1	100	3,833	1	0	1	106	3,390	1	0	1	94	2,477	1	0	1	69
			T3M	3,572	1	0	1	99	3,794	1	0	1	105	3,356	1	0	1	93	2,451	1	0	2	68
			T4M	3,500	1	0	2	97	3,717	1	0	2	103	3,288	1	0	1	91	2,402	1	0	1	67
			TFTM	3,638	1	0	1	101	3,864	1	0	1	107	3,418	1	0	1	95	2,496	1	0	1	69
			ASYDF	3,252	1	0	2	90	3,454	1	0	2	96	3,056	1	0	2	85	2,232	1	0	1	62
	700mA	47 W	T2S	4,502	1	0	1	96	4,776	1	0	1	102	4,794	1	0	1	102	3,065	1	0	1	65
			T2M	4,290	1	0	1	91	4,552	1	0	1	97	4,569	1	0	1	97	2,921	1	0	1	62
			T3S	4,452	1	0	1	95	4,723	1	0	2	100	4,741	1	0	2	101	3,031	1	0	1	64
			T3M	4,407	1	0	2	94	4,675	1	0	2	99	4,693	1	0	2	100	3,000	1	0	1	64
			T4M	4,318	1	0	2	92	4,581	1	0	2	97	4,598	1	0	2	98	2,939	1	0	1	63
			TFTM	4,488	1	0	2	95	4,761	1	0	2	101	4,779	1	0	2	102	3,055	1	0	1	65
			ASYDF	4,012	1	0	2	85	4,257	1	0	2	91	4,273	1	0	2	91	2,732	1	0	1	58
	1000mA	74 W	T2S	5,963	1	0	1	80	6,327	1	0	1	84	6,351	1	0	1	85	4,429	1	0	1	61
			T2M	5,683	1	0	2	76	6,029	1	0	2	80	6,052	1	0	2	81	4,221	1	0	2	58
			T3S	5,896	1	0	2	79	6,256	1	0	2	83	6,280	1	0	2	84	4,380	1	0	2	60
			T3M	5,837	1	0	2	78	6,193	1	0	2	83	6,216	1	0	2	83	4,335	1	0	2	59
			T4M	5,719	1	0	2	76	6,067	1	0	2	81	6,090	1	0	2	81	4,248	1	0	2	58
			TFTM	5,944	1	0	2	79	6,307	1	0	2	84	6,330	1	0	2	84	4,415	1	0	2	60
			ASYDF	5,314	1	0	2	71	5,638	2	0	2	75	5,660	2	0	2	75	3,947	1	0	2	54

Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	**77°F**	**1.00**
30°C	86°F	1.00
40°C	104°F	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the **DSXW1 LED 20C 1000** platform in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	0.95	0.93	0.88

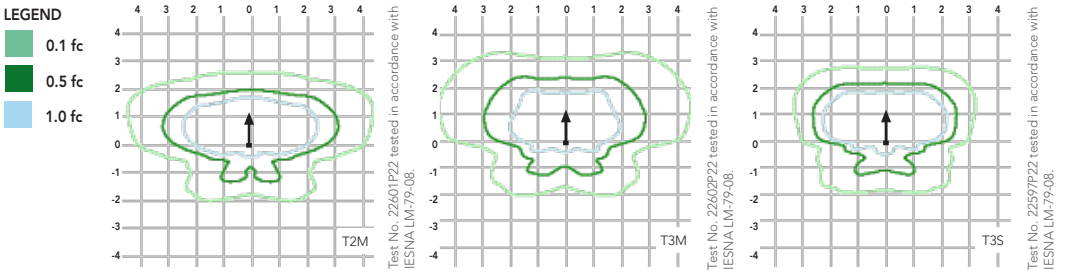
Electrical Load

LEDs	Drive Current (mA)	System Watts	Current (A) 120V	208V	240V	277V	347V	480V
10C	350	14 W	0.13	0.07	0.06	0.06	-	-
	530	20 W	0.19	0.11	0.09	0.08	-	-
	700	27 W	0.25	0.14	0.13	0.11	-	-
	1000	40 W	0.37	0.21	0.19	0.16	-	-
20C	350	25 W	0.23	0.13	0.12	0.10	-	-
	530	36 W	0.33	0.19	0.17	0.14	-	-
	700	47 W	0.44	0.25	0.22	0.19	0.15	0.11
	1000	75 W	0.69	0.40	0.35	0.30	0.23	0.17

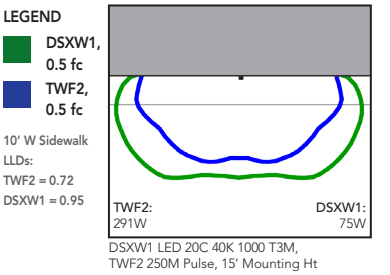
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Wall Size 1 homepage.

Isofootcandle plots for the DSXW1 LED 20C 1000 40K. Distances are in units of mounting height (15').



Distribution overlay comparison to 250W metal halide.



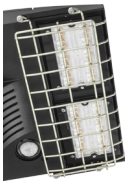
DSXW1 LED 20C 40K 1000 T3M, TWF2 250M Pulse, 15' Mounting Ht

Options and Accessories

T3M (left), ASYDF (right) lenses

HS - House-side shields

BSW - Bird-deterrent spikes



WG - Wire guard

VG - Vandal guard

DDL - Diffused drop lens

FEATURES & SPECIFICATIONS

INTENDED USE
The energy savings, long life and easy-to-install design of the D-Series Wall Size 1 make it the smart choice for building-mounted doorway and pathway illumination for nearly any facility.

CONSTRUCTION
Two-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance. The LED driver is mounted to the door to thermally isolate it from the light engines for low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65).

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in textured and non-textured finishes.

OPTICS
Precision-molded proprietary acrylic lenses provide multiple photometric distributions tailored specifically to building mounted applications. Light engines are available in 3000 K (80 min. CRI), 4000 K (70 min. CRI) or 5000 K (70 CRI) configurations.

ELECTRICAL
Light engine(s) consist of 10 high-efficacy LEDs mounted to a metal-core circuit board to maximize heat dissipation and promote long life (L88/100,000 hrs at 25°C). Class 1 electronic drivers have a power factor >90%, THD <20%, and a minimum 2.5KV surge rating. When ordering the SPD option, a separate surge protection device is installed within the luminaire which meets a minimum Category C Low (per ANSI/IEEE C62.41.2).

INSTALLATION
Included universal mounting bracket attaches securely to any 4" round or square outlet box for quick and easy installation. Luminaire has a slotted gasket wireway and attaches to the mounting bracket via corrosion-resistant screws.

LISTINGS
CSA certified to U.S. and Canadian standards. Rated for -40°C minimum ambient.

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions are qualified.

WARRANTY
Five year limited warranty. Full warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx.

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25°C. Specifications subject to change without notice.

D-Series Size 1
LED Wall Luminaire

d-series

Catalog Number	DSXW1 LED 20C 350 50K T4M MVOLT PIR
Notes	
Type	W1

Hit the Tab key or mouse over the page to see all interactive elements.

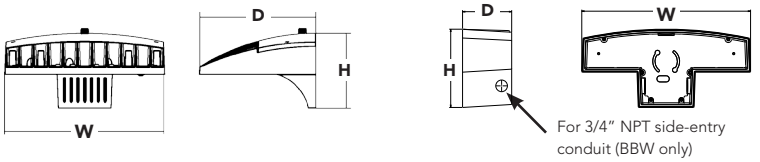
Specifications

Luminaire

Width:	13-3/4" *(34.9 cm)*	**Weight:**	12 lbs *(5.4 kg)*
Depth:	10" *(25.4 cm)*		
Height:	6-3/8" *(16.2 cm)*		

Back Box (BBW, ELCW)

Width:	13-3/4" *(34.9 cm)*	**BBW Weight:**	5 lbs *(2.3 kg)*
Depth:	4" *(10.2 cm)*	**ELCW Weight:**	10 lbs *(4.5 kg)*
Height:	6-3/8" *(16.2 cm)*		



Introduction

The D-Series Wall luminaire is a stylish, fully integrated LED solution for building-mount applications. It features a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance.

With an expected service life of over 20 years of nighttime use and up to 74% in energy savings over comparable 250W metal halide luminaires, the D-Series Wall is a reliable, low-maintenance lighting solution that produces sites that are exceptionally illuminated.

Ordering Information

EXAMPLE: DSXW1 LED 20C 1000 40K T3M MVOLT DDBTXD

DSXW1 LED	20C	350	50K	T4M	MVOLT		PIR		
Series	**LEDs**	**Drive Current**	**Color temperature**	**Distribution**	**Voltage**	**Mounting**	**Control Options**	**Other Options**	**Finish** *(required)*
DSXW1 LED	10C 10 LEDs (one engine) 20C 20 LEDs (two engines)	350 350 mA 530 530 mA 700 700 mA 1000 1000 mA (1 A)	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted	T2S Type II Short T2M Type II Medium T3S Type III Short T3M Type III Medium T4M Type IV Medium TFTM Forward Throw Medium ASYDF Asymmetric diffuse	MVOLT [1] 120 [1] 208 [1] 240 [1] 277 [1] 347 [2] 480 [2]	**Shipped included** (blank) Surface mounting bracket BBW Surface-mounted back box (for conduit entry) [3]	**Shipped installed** PE Photoelectric cell, button type [4] DMG 0-10V dimming driver (no controls) PIR 180° motion/ambient light sensor, <15' mtg ht [5] PIRH 180° motion/ambient light sensor, 15-30' mtg ht [5] ELCW Emergency battery backup (includes external component enclosure) [6]	**Shipped installed** SF Single fuse (120, 277 or 347V) [7] DF Double fuse (208, 240 or 480V) [7] HS House-side shield [8] SPD Separate surge protection [9] **Shipped separately** BSW Bird-deterrent spikes WG Wire guard VG Vandal guard DDL Diffused drop lens	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DSSXD Sandstone DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white DSSTXD Textured sandstone

NOTES

1 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120, 208, 240 or 277 options only when ordering with fusing (SF, DF options), or photocontrol (PE option).
2 Only available with 20C, 700mA or 1000mA. Not available with PIR or PIRH.
3 Back box ships installed on fixture. Cannot be field installed. Cannot be ordered as an accessory.
4 Photocontrol (PE) requires 120, 208, 240, 277 or 347 voltage option. Not available with motion/ambient light sensors (PIR or PIRH).
5 PIR specifies the Sensor Switch SBGR-10-ODP control; PIRH specifies the Sensor Switch SBGR-6-ODP control; see Motion Sensor Guide for details. Includes ambient light sensor. Not available with "PE" option (button type photocell). Dimming driver standard. Not available with 20 LED/1000 mA configuration (DSXW1 LED 20C 1000).
6 Cold weather (-20C) rated. Not compatible with conduit entry applications. Not available with BBW mounting option. Not available with fusing. Not available with 347 or 480 voltage options. Emergency components located in back box housing. Emergency mode IES files located on product page at www.lithonia.com
7 Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option. Not available with ELCW.
8 Also available as a separate accessory; see Accessories information.
9 See the electrical section on page 3 for more details.

Accessories

Ordered and shipped separately.

DSXWHS U	House-side shield (one per light engine)
DSXWBSW U	Bird-deterrent spikes
DSXW1WG U	Wire guard accessory
DSXW1VG U	Vandal guard accessory

LITHONIA LIGHTING
One Lithonia Way • Conyers, Georgia 30012 • Phone: 800.279.8041 • Fax: 770.918.1209 • www.lithonia.com

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K					40K					50K					AMBER				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
10C (10 LEDs)	530mA	20 W	T2S	1,843	1	0	1	92	1,956	1	0	1	98	1729	1	0	1	86	1,264	0	0	1	63
			T2M	1,756	1	0	1	88	1,864	1	0	1	93	1,648	1	0	1	82	1,205	0	0	1	60
			T3S	1,822	0	0	1	91	1,934	0	0	1	97	1,710	0	0	1	86	1,250	0	0	1	63
			T3M	1,804	1	0	1	90	1,914	1	0	1	96	1,693	1	0	1	85	1,237	0	0	1	62
			T4M	1,767	1	0	1	88	1,876	1	0	1	94	1,658	0	0	1	83	1,212	0	0	1	61
			TFTM	1,837	0	0	1	92	1,950	0	0	1	98	1,724	0	0	1	86	1,260	0	0	1	63
			ASYDF	1,642	1	0	1	82	1,743	1	0	1	87	1,541	1	0	1	77	1,127	0	0	1	56
	700mA	27 W	T2S	2,272	1	0	1	84	2,409	1	0	1	89	2,421	1	0	1	90	1,544	0	0	1	57
			T2M	2,165	1	0	1	80	2,296	1	0	1	85	2,307	1	0	1	85	1,472	0	0	1	55
			T3S	2,247	1	0	1	83	2,382	1	0	1	88	2,394	1	0	1	89	1,527	0	0	1	57
			T3M	2,224	1	0	1	82	2,358	1	0	1	87	2,370	1	0	1	88	1,512	0	0	1	56
			T4M	2,179	1	0	1	81	2,310	1	0	1	86	2,322	1	0	1	86	1,481	0	0	1	55
			TFTM	2,265	1	0	1	84	2,401	1	0	1	89	2,413	1	0	1	89	1,539	0	0	1	57
			ASYDF	2,025	1	0	1	75	2,147	1	0	1	80	2,158	1	0	1	80	1,376	1	0	1	51
	1000mA	40 W	T2S	3,011	1	0	1	75	3,190	1	0	1	80	3,202	1	0	1	80	2,235	1	0	1	58
			T2M	2,870	1	0	1	72	3,040	1	0	1	76	3,051	1	0	1	76	2,130	1	0	2	55
			T3S	2,978	1	0	1	74	3,155	1	0	1	79	3,166	1	0	1	79	2,210	1	0	2	57
			T3M	2,948	1	0	1	74	3,123	1	0	1	78	3,134	1	0	1	78	2,187	1	0	2	56
			T4M	2,888	1	0	1	72	3,059	1	0	1	76	3,071	1	0	1	77	2,143	1	0	2	55
			TFTM	3,002	1	0	1	75	3,180	1	0	1	80	3,192	1	0	1	80	2,228	1	0	2	57
			ASYDF	2,684	1	0	1	67	2,843	1	0	1	71	2,854	1	0	1	71	1,991	1	0	2	51
20C (20 LEDs)	530mA	36 W	T2S	3,649	1	0	1	101	3,876	1	0	1	108	3,429	1	0	1	95	2,504	1	0	1	70
			T2M	3,478	1	0	1	97	3,694	1	0	1	103	3,267	1	0	1	91	2,387	1	0	1	66
			T3S	3,609	1	0	1	100	3,833	1	0	1	106	3,390	1	0	1	94	2,477	1	0	1	69
			T3M	3,572	1	0	1	99	3,794	1	0	1	105	3,356	1	0	1	93	2,451	1	0	2	68
			T4M	3,500	1	0	2	97	3,717	1	0	2	103	3,288	1	0	1	91	2,402	1	0	1	67
			TFTM	3,638	1	0	1	101	3,864	1	0	1	107	3,418	1	0	1	95	2,496	1	0	1	69
			ASYDF	3,252	1	0	2	90	3,454	1	0	2	96	3,056	1	0	2	85	2,232	1	0	1	62
	700mA	47 W	T2S	4,502	1	0	1	96	4,776	1	0	1	102	4,794	1	0	1	102	3,065	1	0	1	65
			T2M	4,290	1	0	1	91	4,552	1	0	1	97	4,569	1	0	1	97	2,921	1	0	1	62
			T3S	4,452	1	0	1	95	4,723	1	0	2	100	4,741	1	0	2	101	3,031	1	0	1	64
			T3M	4,407	1	0	2	94	4,675	1	0	2	99	4,693	1	0	2	100	3,000	1	0	1	64
			T4M	4,318	1	0	2	92	4,581	1	0	2	97	4,598	1	0	2	98	2,939	1	0	1	63
			TFTM	4,488	1	0	2	95	4,761	1	0	2	101	4,779	1	0	2	102	3,055	1	0	1	65
			ASYDF	4,012	1	0	2	85	4,257	1	0	2	91	4,273	1	0	2	91	2,732	1	0	1	58
	1000mA	74 W	T2S	5,963	1	0	1	80	6,327	1	0	1	84	6,351	1	0	1	85	4,429	1	0	1	61
			T2M	5,683	1	0	2	76	6,029	1	0	2	80	6,052	1	0	2	81	4,221	1	0	2	58
			T3S	5,896	1	0	2	79	6,256	1	0	2	83	6,280	1	0	2	84	4,380	1	0	2	60
			T3M	5,837	1	0	2	78	6,193	1	0	2	83	6,216	1	0	2	83	4,335	1	0	2	59
			T4M	5,719	1	0	2	76	6,067	1	0	2	81	6,090	1	0	2	81	4,248	1	0	2	58
			TFTM	5,944	1	0	2	79	6,307	1	0	2	84	6,330	1	0	2	84	4,415	1	0	2	60
			ASYDF	5,314	1	0	2	71	5,638	2	0	2	75	5,660	2	0	2	75	3,947	1	0	2	54

Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	**77°F**	**1.00**
30°C	86°F	1.00
40°C	104°F	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the **DSXW1 LED 20C 1000** platform in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	0.95	0.93	0.88

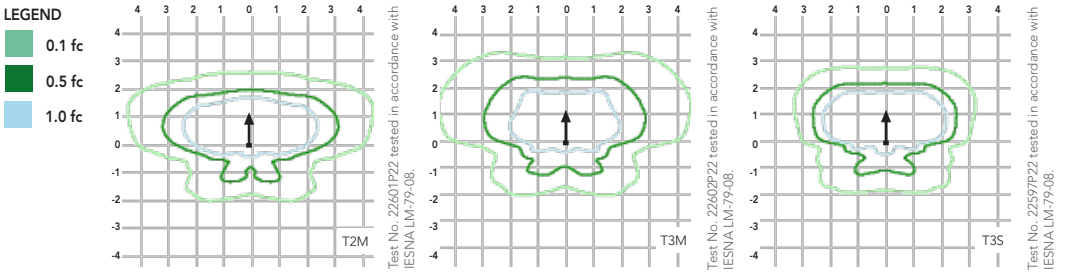
Electrical Load

LEDs	Drive Current (mA)	System Watts	Current (A) 120V	208V	240V	277V	347V	480V
10C	350	14 W	0.13	0.07	0.06	0.06	-	-
	530	20 W	0.19	0.11	0.09	0.08	-	-
	700	27 W	0.25	0.14	0.13	0.11	-	-
	1000	40 W	0.37	0.21	0.19	0.16	-	-
20C	350	25 W	0.23	0.13	0.12	0.10	-	-
	530	36 W	0.33	0.19	0.17	0.14	-	-
	700	47 W	0.44	0.25	0.22	0.19	0.15	0.11
	1000	75 W	0.69	0.40	0.35	0.30	0.23	0.17

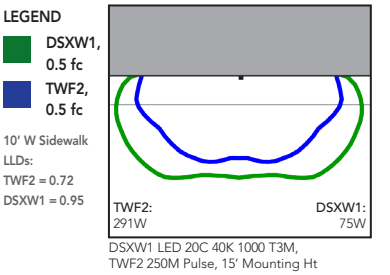
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Wall Size 1 homepage.

Isofootcandle plots for the DSXW1 LED 20C 1000 40K. Distances are in units of mounting height (15').



Distribution overlay comparison to 250W metal halide.



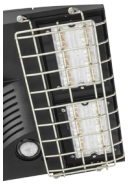
DSXW1 LED 20C 40K 1000 T3M, TWF2 250M Pulse, 15' Mounting Ht

Options and Accessories

T3M (left), ASYDF (right) lenses

HS - House-side shields

BSW - Bird-deterrent spikes



WG - Wire guard

VG - Vandal guard

DDL - Diffused drop lens

FEATURES & SPECIFICATIONS

INTENDED USE
The energy savings, long life and easy-to-install design of the D-Series Wall Size 1 make it the smart choice for building-mounted doorway and pathway illumination for nearly any facility.

CONSTRUCTION
Two-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance. The LED driver is mounted to the door to thermally isolate it from the light engines for low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65).

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in textured and non-textured finishes.

OPTICS
Precision-molded proprietary acrylic lenses provide multiple photometric distributions tailored specifically to building mounted applications. Light engines are available in 3000 K (80 min. CRI), 4000 K (70 min. CRI) or 5000 K (70 CRI) configurations.

ELECTRICAL
Light engine(s) consist of 10 high-efficacy LEDs mounted to a metal-core circuit board to maximize heat dissipation and promote long life (L88/100,000 hrs at 25°C). Class 1 electronic drivers have a power factor >90%, THD <20%, and a minimum 2.5KV surge rating. When ordering the SPD option, a separate surge protection device is installed within the luminaire which meets a minimum Category C Low (per ANSI/IEEE C62.41.2).

INSTALLATION
Included universal mounting bracket attaches securely to any 4" round or square outlet box for quick and easy installation. Luminaire has a slotted gasket wireway and attaches to the mounting bracket via corrosion-resistant screws.

LISTINGS
CSA certified to U.S. and Canadian standards. Rated for -40°C minimum ambient.

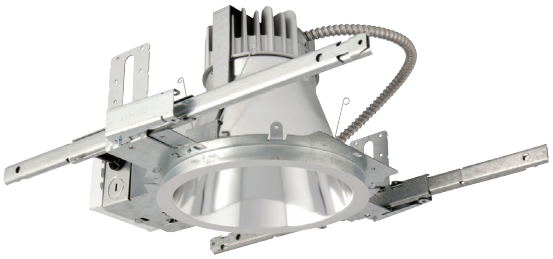
DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions are qualified.

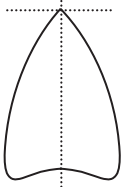
WARRANTY
Five year limited warranty. Full warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx.

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25°C. Specifications subject to change without notice.

gotham®

Luminaire Type: **S1**
Catalog Number (autopopulated):





Gotham Architectural Downlighting
LED Downlights

8" Evo®
Downlight

Solid-State Lighting

ENERGY STAR

FEATURES

OPTICAL SYSTEM
- Self-flanged semi-specular, matte-diffuse or specular finishing trim
- Patented Bounding Ray™ optical design (U.S. Patent No. 5,800,050)
- 45° cutoff to source and source image
- Top-down flash characteristic
- Polycarbonate lens integral to light engine

MECHANICAL SYSTEM
- 16-gauge galvanized steel construction; maximum 1-1/2" ceiling thickness
- Telescopic mounting bars maximum of 32" and minimum of 15", preinstalled, 4" vertical adjustment
- Toolless adjustments post installation
- Junction box capacity: 8 (4 in, 4 out) 12AWG rated for 90°C
- Light engine and driver accessible through aperture

ELECTRICAL SYSTEM
- Fully serviceable and upgradeable lensed LED light engine
- 70% lumen maintenance at 60,000 hours
- Tested according to LM-79 and LM-80 standards
- Overload and short circuit protected
- 2.5 SDCM; 85 CRI typical, 90+ CRI optional

LISTINGS
- Fixtures are CSA certified to meet US and Canadian standards; wet location, covered ceiling

WARRANTY
- 5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C.

ORDERING INFORMATION

EXAMPLE: EVO 35/25 8AR MWD LSS 120 EZ1

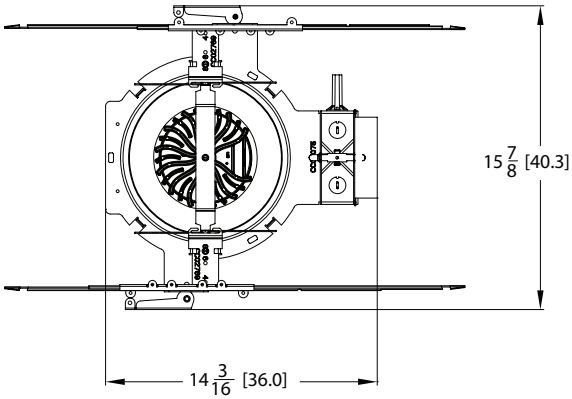
Series	Color temperature	Nominal lumen values	Aperture/Trim color	Distribution	Finish	Voltage
EVO	**27/** 2700 K **30/** 3000 K **35/** 3500 K **40/** 4000 K	**20** 2000 lumens **25** 2500 lumens **30** 3000 lumens	**8AR** Clear **8PR** Pewter **8WTR** Wheat **8GR** Gold **8WR**[1] White **8BR**[1] Black **8WRAMF**[1] White anti-microbial	**VND** Very narrow (0.5 s/mh) **ND** Narrow (0.7 s/mh) **MD** Medium (0.9 s/mh) **MWD** Medium wide (1.0 s/mh) **WD** Wide (1.2 s/mh)	**LSS** Semi-specular **LD** Matte-diffuse **LS** Specular	**120** **277** **347**[2]

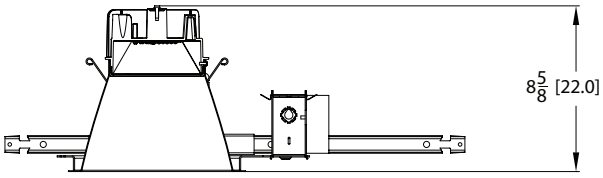
Driver[3]		Options			
EZ1	eldoLED ECOdrive 0-10V dimming driver. Minimum dimming range level 1%	**SF**[6]	Single fuse	**BGTD**[6]	Bodine generator transfer device
EZB	eldoLED SOLOdrive 0-10V dimming driver. Minimum dimming level <1%.	**TRW**[7]	White painted flange	**CRI90**	High CRI (90+)
EDAB	eldoLED SOLOdrive DALI dimming driver. Minimum dimming level <1%.	**TRBL**[8]	Black painted flange	**CP**[6]	Chicago plenum
EDXB	eldoLED POWERdrive DMX with RDM (remote device management). Minimum dimming level <1%. Includes termination resistor.	**EL**[9]	Emergency battery pack with integral test switch	**RRL__**	RELOC®-ready luminaire connectors enable a simple and consistent factory installed option across all ABL luminaire brands. Refer to RRL for complete nomenclature.
EXA1	XPoint Wireless, eldoLED ECOdrive 1% dimming, 0-10V. Refer to XPoint tech sheet.	**ELR**[9]	Emergency battery pack with remote test switch		
EXAB	XPoint Wireless, eldoLED SOLOdrive <1% dimming, 0-10V. Refer to XPoint tech sheet.	**NPS80EZ**	nLight® dimming pack controls 0-10V eldoLED drivers.		
ECOS2[4,5]	Lutron® Hi-Lume® 2-wire forward-phase dimming driver. Minimum dimming level 1%	**NPS80EZER**[10]	nLight® dimming pack controls 0-10V eldoLED drivers. ER controls fixtures on emergency circuit.		
ECOS3[4]	Lutron® Hi-Lume® 3-wire or EcoSystem® dimming driver. Minimum dimming level 1%	**WRS**[11]	FIDO wireless monitoring and reporting system		

gotham®

DIMENSIONAL DATA

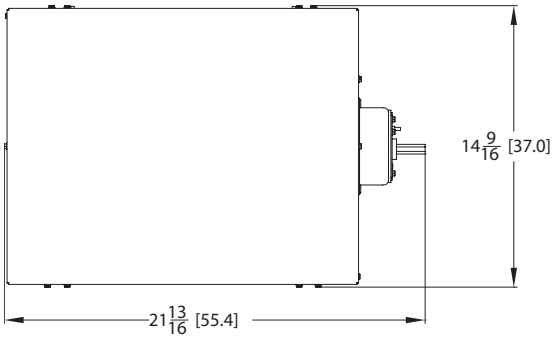
All dimensions are inches (centimeters) unless otherwise noted.

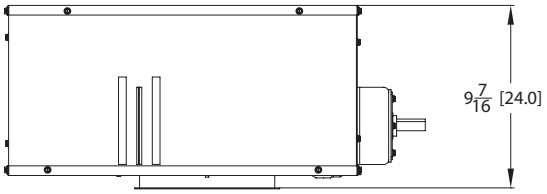




Aperture: 7-7/8 (20.1)
Ceiling Opening: 8-7/8 (21.5)
Overlap Trim: 9-1/4 (23.5)

DIMENSIONS FOR CHICAGO PLENUM





ELECTRICAL

WATTAGE CONSUMPTION MATRIX			
LUMENS	**LM ACTUAL**	**WATTAGE**	**LUMENS per WATT**
2000	2,287	31.6	72.5
2500	2,964	41.1	72.0
3000	3,398	47.1	72.2

EMERGENCY LUMEN OUTPUT		
LUMENS	**WATTAGE**	**INITIAL OUTPUT**
2000	8.4	630
2500	7.2	540
3000	8.4	630

ACCESSORIES

ACCESSORIES order as separate catalog numbers (shipped separately)

SCA8	Sloped ceiling adapter. Degree of slope must be specified (5D, 10D, 15D, 20D, 25D, 30D). Ex: SCA8 10D. Refer to TECH-190.
CTA4-8 YK	Ceiling thickness adapter (extends mounting frame to accommodate ceiling thickness up to 5"). Adds 1" to fixture height.
GVRT	Vandal-resistant trim accessory. Refer to TECH-200.
ISD BC	0-10V wallbox dimmer. Refer to ISD-BC.

NOTES

ORDERING NOTES

1. Not available with finishes.
2. Not available with EL or ELR options.
3. Refer to TECH-240 for compatible dimmers.
4. Not available with nLight® and XPoint options.
5. 120V only.
6. Specify 120V or 277V.
7. Not available with white reflector.
8. Not available with black reflector
9. For dimensional changes, refer to TECH-140. Not available with 347V.
10. For use with generator supply EM power. Will require an emergency hot feed and normal hot feed.
11. Available only with EL/ELR. Not available with CP. PSSD2 included. Refer to PSSD2.

Distribution Curve	Distribution Data	Output Data	Coefficient of Utilization	Illuminance: Single Luminaire 30" Above Floor

CONSULT FACTORY FOR PHOTOMETRY

LUMEN OUTPUT MULTIPLIER - CRI	
CRI	**FACTOR**
80 CRI	1
90 CRI	0.79

LUMEN OUTPUT MULTIPLIER - CCT	
CRI	**FACTOR**
4000 K	1.035
3500 K	1
3000 K	0.973
2700 K	0.938

LUMEN OUTPUT MULTIPLIER - TRIM FINISH						
FINISH	**CLEAR (AR)**	**PEWTER (PR)**	**WHEAT (WTR)**	**GOLD (GR)**	**WHITE (WR/WRAMF)**	**BLACK (BR)**
Specular (LS)	1.00	0.88	0.83	0.95	N/A	N/A
Semi-specular (LSS)	0.95	0.84	0.79	0.90	N/A	N/A
Matte-diffuse (LD)	0.85	0.73	0.69	0.80	N/A	N/A
Paint	N/A	N/A	N/A	N/A	0.87	0.73

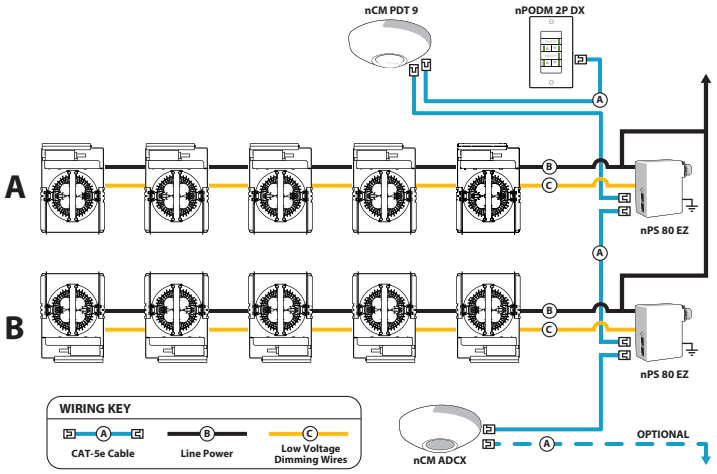
PHOTOMETRY NOTES

- Tested in accordance with IESNA LM-79-08.
- Tested to current IES and NEMA standards under stabilized laboratory conditions.
- CRI: 85 typical.

Choose Wall Controls.
nLIGHT o ers multiple styles of wall controls – each with varying features and user experience.

Push-Button WallPod
Traditional tactile buttons and LED user feedback

Graphic WallPod
Full color touch screen provides a sophisticated look and feel



EXAMPLE
Group Fixture Control*
*Application diagram applies for fixtures with eldoLED drivers only.

nPS 80 EZ Dimming/Control Pack (qty 2 required)
nPODM 2P DX Dual On/Off/Dim Push-Button WallPod
nCM ADCX Daylight Sensor with Automatic Dimming Control
nCM PDT 9 Dual Technology Occupancy Sensor

Description: This design provides a dual on/off/dim wall station that enables manual control of the fixtures in Row A and Row B separately. Additionally, a daylight harvesting sensor is provided so the lights in row B can be configured to dim automatically when daylight is available. An occupancy sensor turns off all lights when the space is vacant.

nLight® Control Accessories:
Order as separate catalog number. Visit www.sensorswitch.com/nLight for complete listing of nLight controls.

WallPod stations	Model number
On/Off	nPODM [color]
On/Off & Raise/Lower	nPODM DX [color]
Graphic Touchscreen	nPOD GFX [color]
Photocell controls	**Model number**
Dimming	nCM ADCX

Occupancy sensors	Model number
Small motion 360°, ceiling (PIR / dual tech)	nCM 9 / nCM PDT 9
Large motion 360°, ceiling (PIR / dual tech)	nCM 10 / nCM PDT 10
Wide view (PIR / dual tech)	nWV 16 / nWV PDT 16
Wall Switch w/ Raise/Lower (PIR / dual tech)	nWSX LV DX / nWSX PDT LV DX
Cat-5 cables (plenum rated)	**Model number**
10', CAT5 10FT	CAT5 10FT J1
15', CAT5 15FT	CAT5 15FT J1

PROJECT INFORMATION

Job Name _____

Fixture Type S3

Catalog Number MS11FL PP MW 20L50K DV

Approved by _____

MILLENIUM™ SQUARE

MS11 SERIES – LOW PROFILE HOUSING

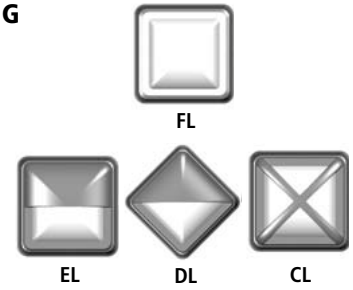
PRODUCT FEATURES:

» Surface mount – ceiling (FL & CL only) or wall mount;
12"W×12"W×4"D (CL, EL, FL)
15"W×15"W×4"D (DL)

» Peace of Mind Guarantee®

» Dust and water protected to IP64 standards

» ADA compliant



SPECIFICATIONS

BASEPLATE: Marine grade die-cast aluminum. Integral heat sinks. Baseplate flange interlocks and wraps around lens base producing maximum moisture deflection and resistance to prying. Baseplate provided with four-point mounting holes and one wireway hole. Standard black, bronze or white exterior TGIC polyester powder coat – 5-step pre-treatment. See Ordering Information for optional finishes.

REFLECTOR: Full reflector/wire cover – 92% reflectivity.

LENS: UV-stabilized, high impact resistant, virgin injection molded polycarbonate. High efficiency blondel fluted lens obscures lamp image and maximizes uniformity. Lens secured with four concealed captive Torx® with center pin fasteners. Exclusive water channeling lens design provides 360° ingress protection.

LENS BASE/GRILLE: Lens base shields lamp from viewing angles. High impact resistant, injection molded opaque black, bronze or white polycarbonate. Optional Light Gray, Silver, Forest Green or Custom Color (see Ordering Information below) are chemically bonded, impact resistant finishes.

ELECTRICAL: Fluorescent magnetic ballasts power factor corrected. Fluorescent electronic 120/277/347 and dual voltage ballasts high power factor (<10% THD). LED: Replaceable high-brightness ANSI 3500K (80 CRI min.), 4000K (70 CRI min.), or 5000K (70 CRI min.) white LED array. 120-277VAC, high power factor electronic driver. See options for higher CRI lamp availability.

GASKETING: Die-cut, closed cell EPDM self adhesive gasket seals baseplate to mounting surface. Closed cell, silicone "O" ring gaskets positioned and friction secured in gasket channels of lens base, baseplate and optional surface adapter.

HARDWARE: Four stainless steel Torx® fasteners.

WARRANTY: Standard four-point mounting and polycarbonate lens required for Peace of Mind Guarantee®. One (1) year warranty against defects in materials and workmanship. Five (5) year warranty on LED lamps and driver for defects resulting in a fixture lumen depreciation of 30% or greater.

LISTINGS: Luminaire is certified to UL Standards by either Underwriters Laboratory or Intertek Testing Laboratory for Wet Location (listing includes Emergency Battery Pack "EL" option). UL certified IP64 per IEC 60598. ADA Compliant. All Kenall SSL Luminaires are tested to the IESNA LM-79-08 standard requiring spectroradiometric measurements for CRI and CCT as well as goniophotometric measurements for lighting distributions and total luminous flux.

LED | PEACE OF MIND Guarantee® | c UL us | ADA | IP64 | c ETL us

ORDERING INFORMATION (Ex: MS11DL-PP-MW-18L40K-1-DCC-DV)

Model	Lens Type	Finish	Lamp Type	Lamp Qty	Driver Type	Voltage	Options	Accessories
MS11FL	PP		20L50K		SCC	MVOLT		

Model
MS11CL Crossbar
MS11DL Diamond Eyelid
MS11EL Eyelid
MS11FL Full Face

Lens Type
PP Pearlescent Polycarbonate
S^ Clear Starburst Polycarbonate

Finish
DB Dark Bronze
FG Forest Green
LG Light Gray
MB Matte Black
MW Matte White
SL Silver
CC Custom Color (Consult factory)

Lamp Type (Quantity/Ballast/Volt/Starting Temp)
18L35K 18W 3500K LED (1/120-277/-40°F) (MS11DL/MS11EL only)
18L40K 18W 4000K LED (1/120-277/-22°F) (MS11DL/MS11EL only)
18L50K 18W 5000K LED (1/120-277/-40°F) (MS11DL/MS11EL only)
20L35K 20W 3500K LED (1/120-277/-40°F) (MS11CL/MS11FL only)
20L40K 20W 4000K LED (1/120-277/-40°F) (MS11CL/MS11FL only)
20L50K 20W 5000K LED (1/120-277/-40°F) (MS11CL/MS11FL only)
13 13W Twin (2/MB/120/32°F) (MS11CL/MS11FL only)
13Q▲ 13W Quad (1,2/RS/120,277,347/0°F)
18Q▲ 18W Quad (1,2/RS/120,277,347/0°F)
26Q▲ 26W Quad (1,2/RS/120,277,347/0°F)
32P 32W PLT (1/RS/120,277,347/0°F)
42P 42W PLT (1/RS/120,277,347/0°F)

Lamp Quantity (See Lamp Type for availability)
1 One Lamp
2 Two Lamps

Driver Type (LED only)
DCC Dimming Constant Current
SCC Standard Constant Current

Voltage (See Lamp Type for availability)
120 120 Volts
277 277 Volts
347^■ 347 Volts
DV■ 120-277 Volts, electronic ballasts or LED driver only

Options
EL^ One-Lamp WL Emergency Pack (32°F) with Die-Cast Surface Adapter (SA) – Non ADA (n/a with 13w Twin or LED; 120/277V only)
CEL^ One-Lamp Cold Weather Emergency Pack (0°F) with Die-Cast Surface Adapter (SA) Non ADA (n/a with 13w Twin or LED; 120/277V only)
LEL LED Emergency Battery Backup with Die-Cast Surface Adapter (SA) - Non ADA
2C^ Two Circuit Wiring (2 Lamp Quantity only; n/a with EL or CEL Option)
BPC Photo Control – Shielded Button Type with Die-Cast Surface Adapter (SA) – (Non ADA; 120 or 277V only)
FS Single Fuse & Holder
NAT Natatorium Environment Option
R80 Minimum 80 CRI (4000K LED only)
WMR Wiremold V500 Series™ Ready (See Tech Sheet; UL Damp Location Rated Only)

Accessories
SA Die-Cast Surface Adapter (Non ADA)
9500 Torx® Screwdriver

▲ 1 lamp max MS11DL
^ n/a with LED
■ n/a with BPC

www.kenall.com **P: 800-4-Kenall** **F: 262-891-9701** **10200 55th Street Kenosha, Wisconsin 53144**

When you see this image, you will know the Kenall product shown or described is designed and manufactured in the USA with components purchased from US suppliers, and meets the Buy American requirements under the ARRA. Kenall has not determined the origin of its domestically purchased components or the subcomponents thereof.

MILLENIUM™ SQUARE

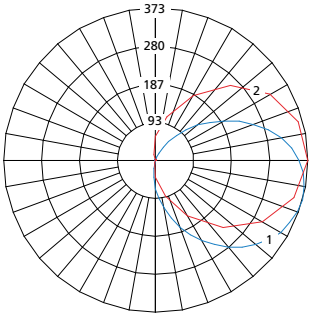
MS11 SERIES – LOW PROFILE HOUSING

PERFORMANCE

Model	Lamp Type	Initial Delivered Lumens @ 25°C (lm)	Efficacy (lm/W)	Input Power (W)	Drive Current (mA)	Estd. L_{70} LED Life (hrs)
MS11DL	18L35K	901	46	20	700	55,000
	18L40K	1028	53	20	700	55,000
	18L50K	1095	56	20	700	55,000
MS11EL	18L35K	899	46	20	700	55,000
	18L40K	1025	52	20	700	55,000
	18L50K	1092	56	20	700	55,000
MS11FL	20L35K	1182	53	22	700	60,000
	20L40K	1348	61	22	700	60,000
	20L50K	1437	65	22	700	60,000

Displayed information above is for PP Lens type only. Info subject to change. Visit www.kenall.com for IES files and additional information.

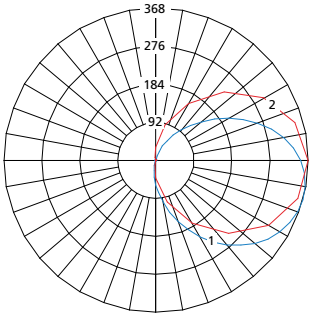
Model: MS11DL-PP-MW-18L40K-1-DV



Max Candela = 373 Located At Horizontal Angle = 0, Vertical Angle = 75

1 - Vertical Plane Through Horizontal Angles (0-180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (75) (Through Max. Cd.)

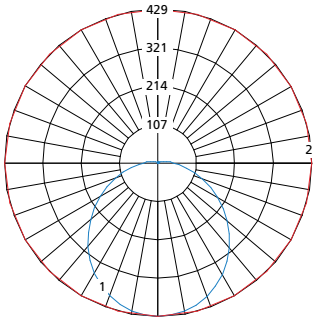
Mode: MS11EL-PP-MW-18L40K-1-DV



Max Candela = 368 Located At Horizontal Angle = 0, Vertical Angle = 75

1 - Vertical Plane Through Horizontal Angles (0-180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (75) (Through Max. Cd.)

Model: MS11FL-PP-MW-20l40K-1-DV

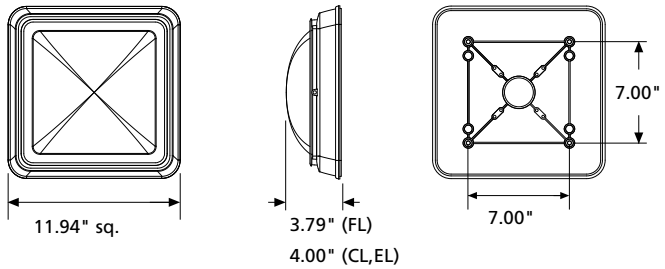


Max Candela = 429 Located At Horizontal Angle = 0, Vertical Angle = 0

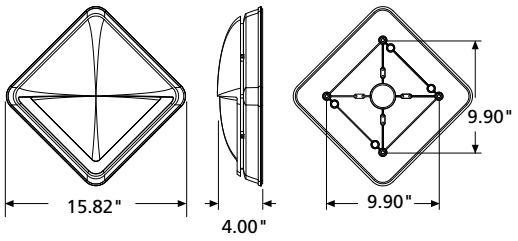
1 - Vertical Plane Through Horizontal Angles (0-180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)

DIMENSIONAL DATA

MS11FL, CL, EL

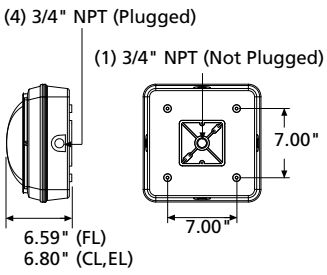


MS11DL

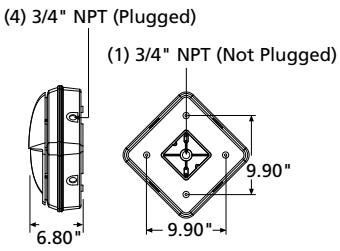


SURFACE ADAPTER SIDE & BACK VIEW

MS11FL, CL, EL



MS11DL



www.kenall.com P: 800-4-Kenall F: 262-891-9701 10200 55th Street Kenosha, Wisconsin 53144

KACM LED
LED Surface Luminaire

Catalog Number: KACM LED 1 60C 530 50K R5 M'

Notes:

Type: W1

Hit the Tab key or mouse over the page to see all interactive elements.

CONTOUR SERIES

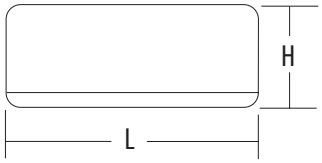
Specifications

Length: 17-1/2" *(44.5 cm)*

Width: 17-1/2" *(44.5 cm)*

Height: 7-1/8" *(18.1 cm)*

Weight (max): 36 lbs. *(16.4 kg)*



Introduction

The Contour® Series luminaires offer traditional square dayforms with softened edges for a versatile look that complements many applications.

The KACM LED combines the latest in LED technology with the familiar aesthetic of the Contour® Series for stylish, high-performance illumination that lasts. It is ideal for replacing 100-400W metal halide in surface/canopy lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: KACM LED 60C 700 50K R5 MVOLT SRM DDBXD

KACM LED	60C	530	50K	T4M	MVOLT	
Series	**LEDs**	**Drive current**	**Color Temp**[1]	**Distribution**	**Voltage**	**Mounting**
KACM LED	20C 30C [1] 40C 60C	530 mA 700 mA	30K 3000K 40K 4000K 50K 5000K	R2 Type II R3 Type III R4 Type IV R5 Type V R5VS Type V very short	MVOLT [2] 120 [2] 277 [2] 208 [2] 347 240 [2] 480	**Shipped installed** SRM Surface mount TC Through-wire condulet tee (Provided by others) **Shipped separately** [3] YK Yoke/trunnion mount

Options

Shipped installed

- SF Single fuse (120, 277, 347V) [2]
- DF Double fuse (208, 240, 480V) [2]
- PIR Ambient/motion sensor, 8-15' mounting height [4]
- PIRH Ambient/motionsensor, 15-30' mounting height [4]
- PIR3FC3V Motion/ambient sensor for 8-15' mounting heights and for typical applications requiring daylight harvesting and Title 24 compliance[4]
- PIRH3FC3V Motion/ambient sensor for 15-30' mounting heights and typical applications requiring daylight harvesting and Title 24 compliance[4]
- BL30 Bi-level switched dimming, 30%[5,6]
- BL50 Bi-level switched dimming, 50%[5,6]
- HS Houseside shield

Shipped separately [3]

- WG Wire guard

Finish *(required)*

- DDBXD Dark bronze
- DBLXD Black
- DNAXD Natural aluminum
- DWHXD White
- DDBTXD Textured dark bronze
- DBLBXD Textured black
- DNATXD Textured natural aluminum
- DWHGXD Textured white

Accessories

Ordered and shipped separately.

- KACMYK DDBXD U Yoke/trunnion accessory (specify finish)
- KACWG U Wire guard accessory

NOTES

1. 30C not available with 530mA and 347V or 480V.
2. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option.
3. Also available as a separate accessory; see Accessories information at left.
4. PIR & PIR3FC3V specifies the Acuity Controls SBGR 10 ODP motion/ambient sensor, the PIRH & PIRH3FC3V specifies the Acuity Controls SBGR 6 ODP motion/ambient sensor.
5. Requires an additional switched circuit.
6. Dimming driver standard. MVOLT only.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
20C (20 LEDs)	530 mA	35W	R2	3,439	1	0	1	98	3,659	1	0	1	105	3,672	1	0	1	105
			R3	3,425	1	0	1	98	3,644	1	0	1	104	3,657	1	0	1	104
			R4	3,429	1	0	1	98	3,648	1	0	1	104	3,661	1	0	1	105
			R5	3,640	2	0	1	104	3,872	2	0	1	111	3,886	2	0	1	111
			R5VS	3,652	2	0	0	104	3,886	2	0	0	111	3,899	2	0	0	111
	700 mA	46W	R2	4,366	1	0	1	95	4,645	1	0	1	101	4,662	1	0	1	101
			R3	4,348	1	0	2	95	4,626	1	0	2	101	4,643	1	0	2	101
			R4	4,354	1	0	2	95	4,632	1	0	2	101	4,648	1	0	2	101
			R5	4,621	3	0	1	100	4,916	3	0	1	107	4,933	3	0	1	107
			R5VS	4,637	2	0	0	101	4,933	2	0	0	107	4,951	2	0	0	108
30C (30 LEDs)	530 mA	53W	R2	5,117	1	0	2	97	5,443	1	0	2	103	5,463	1	0	2	103
			R3	5,096	1	0	2	96	5,421	1	0	2	102	5,440	1	0	2	103
			R4	5,102	1	0	2	96	5,427	1	0	2	102	5,447	1	0	2	103
			R5	5,414	3	0	1	102	5,760	3	0	1	109	5,781	3	0	1	109
			R5VS	5,433	2	0	0	103	5,780	2	0	0	109	5,801	2	0	0	109
	700 mA	69W	R2	6,471	1	0	2	94	6,884	2	0	2	100	6,909	1	0	2	100
			R3	6,444	1	0	2	93	6,856	1	0	2	99	6,880	1	0	2	100
			R4	6,452	1	0	2	94	6,864	1	0	2	99	6,889	1	0	2	100
			R5	6,848	3	0	1	99	7,285	3	0	2	106	7,311	3	0	1	106
			R5VS	6,872	3	0	0	100	7,310	3	0	0	106	7,337	2	0	0	106
40C (40 LEDs)	530 mA	71W	R2	6,762	2	0	2	95	7,194	2	0	2	101	7,220	2	0	2	102
			R3	6,735	1	0	2	95	7,164	2	0	2	101	7,190	2	0	2	101
			R4	6,743	1	0	2	95	7,173	1	0	2	101	7,199	1	0	2	101
			R5	7,156	3	0	2	101	7,613	3	0	2	107	7,640	3	0	2	108
			R5VS	7,181	3	0	0	101	7,640	3	0	0	108	7,667	3	0	0	108
	700 mA	94W	R2	8,516	2	0	2	91	9,060	2	0	2	96	9,092	2	0	2	97
			R3	8,481	2	0	2	90	9,022	2	0	2	96	9,055	2	0	2	96
			R4	8,491	2	0	2	90	9,033	2	0	2	96	9,066	2	0	2	96
			R5	9,012	3	0	2	96	9,587	3	0	2	102	9,621	3	0	2	102
			R5VS	9,043	3	0	0	96	9,621	3	0	0	102	9,655	3	0	0	103
60C (60 LEDs)	530 mA	103W	R2	9,952	2	0	2	97	10,587	2	0	2	103	10,625	2	0	2	103
			R3	9,911	2	0	2	96	10,543	2	0	2	102	10,581	2	0	2	103
			R4	9,923	2	0	2	96	10,556	2	0	2	102	10,594	2	0	2	103
			R5	10,531	4	0	2	102	11,203	4	0	2	109	11,243	4	0	2	109
			R5VS	10,568	3	0	0	103	11,242	3	0	0	109	11,283	3	0	0	110
	700 mA	137W	R2	12,407	2	0	2	91	13,199	3	0	3	96	13,247	3	0	3	97
			R3	12,356	2	0	3	90	13,145	2	0	3	96	13,192	2	0	3	96
			R4	12,371	2	0	3	90	13,161	2	0	3	96	13,208	2	0	3	96
			R5	13,129	4	0	2	96	13,967	4	0	2	102	14,018	4	0	2	102
			R5VS	13,176	3	0	1	96	14,017	4	0	1	102	14,067	4	0	1	103

Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-122°F).

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	**77°F**	**1.00**
30°C	86°F	1.00
40°C	104°F	0.99

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the **KACM LED 60C** platform in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	0.94	0.91	0.84

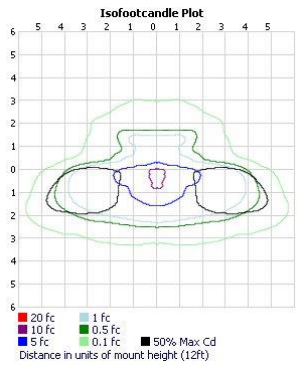
Electrical Load

Number of LEDs	Drive Current (mA)	System Watts	Current (A) 120V	208V	240V	277V	347V	480V
20	530	35W	0.30	0.18	0.16	0.15	N/A	
	700	46W	0.39	0.23	0.20	0.18	0.15	0.12
30	530	53W	0.44	0.26	0.23	0.20	N/A	
	700	69W	0.58	0.34	0.29	0.26	0.21	0.16
40	530	71W	0.60	0.35	0.32	0.29	0.21	0.16
	700	94W	0.79	0.46	0.41	0.36	0.27	0.20
60	530	103W	0.87	0.50	0.44	0.39	0.29	0.22
	700	137W	1.15	0.66	0.58	0.51	0.40	0.29

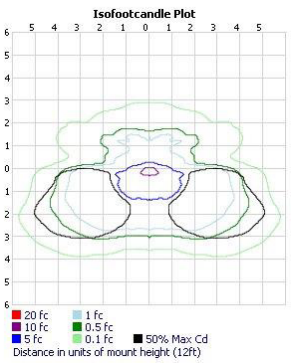
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's KACM LED homepage.

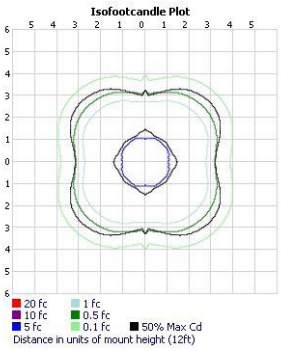
Isofootcandle plots for the KACM LED 40C 700 40K XX MVOLT. Distances are in units of mounting height (8').



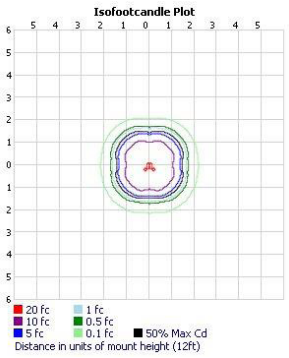
KACM LED 40C 700 40K R2 MVOLT



KACM LED 40C 700 40K R3 MVOLT



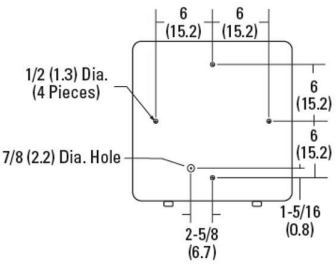
KACM LED 40C 700 40K R5 MVOLT



KACM LED 40C 700 40K R5VS MVOLT

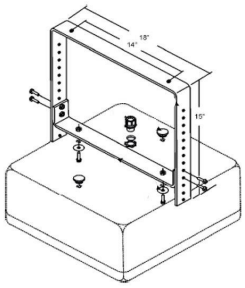
Mounting

TOP VIEW



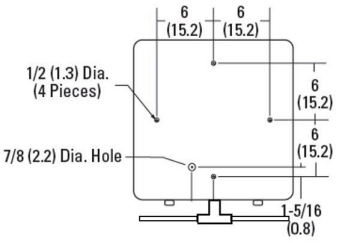
SRM
Surface mount

SIDE VIEW



YK
Yoke/trunnion mount

TOP VIEW



TC
Through-wire condulet tee
(Provided by others)

FEATURES & SPECIFICATIONS

INTENDED USE
The energy savings and long life of the KACM LED surface-mount luminaire make it a reliable choice for illuminating parking garages, convenience stores, hotels, and canopy walkways.

CONSTRUCTION
Single-piece die-cast, aluminum housing with contoured edges has a 0.12" nominal wall thickness. Die-cast door frame has an impact-resistant, tempered glass lens that is fully gasketed with one-piece tubular silicone.

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling.

OPTICS
Precision-molded refractive acrylic lenses housed behind the door frame lens are available in 5 distributions. Light engines are available in 3000K (70 CRI min.), 4000K (70 CRI min.), 5000K (70 CRI min.) configurations.

ELECTRICAL
Light eengines consist of 20, 34, 40, or 60 high efficacy LEDs mounted to a metal-core circuit board and aluminum heat sink, ensuring optimal thermal management and long life. Class 1 electronic driver has a power factor >90%, THD <20%, and has an expected life of over 100,000 hours with <1% failure rate. Internal 10kV surge protection meets a minimum Category C low operation per ANSI/IEEE C62.41.2).

INSTALLATION
Standard configuration utilizes four 1/2 " mounting holes and one 7/8" electrical connection hole located on top for surface mounting (hardware included). Mount on concrete, steel, or aluminum only. Mount on covered ceilings only. Not for use in dwellings. Also available with a through-wire condulet (conduit/outlet) tee option or a yoke/trunnion mount option.

LISTINGS
CSA certified to U.S. and Canadian standards. Luminaire is rated IP65 for outdoor applications. Rated for -40°C minimum ambient conditions. DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions are qualified.

WARRANTY
Five year limited warranty. Full warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx.

NOTE: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25°C. Specifications subject to change without notice.

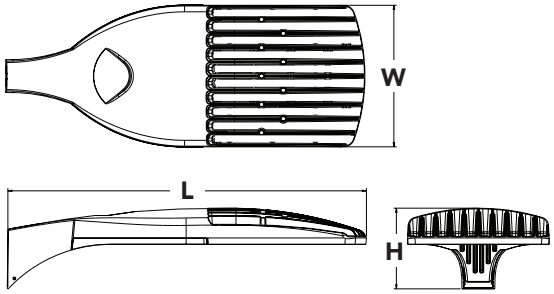
D-Series Size 1
LED Area Luminaire

Catalog Number	**DSX1 LED 60C 1000 50K TFTM MVOLT SPA PIRH**
Notes	
Type	**W1**

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA:	1.2 ft² (0.11 m²)
Length:	33" (83.8 cm)
Width:	13" (33.0 cm)
Height:	7-1/2" (19.0 cm)
Weight (max):	27 lbs (12.2 kg)



Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment.

The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire. The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing 100 – 400W metal halide in pedestrian and area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX1 LED 60C 1000 40K T3M MVOLT SPA DDBXD

DSX1LED	60C	530	50K	T4M	MVOLT	
Series	**LEDs**	**Drive current**	**Color temperature**	**Distribution**	**Voltage**	**Mounting**
DSX1 LED	**Forward optics** 30C 30 LEDs (one engine) 40C 40 LEDs (two engines) 60C 60 LEDs (two engines) **Rotated optics** [1] 60C 60 LEDs (two engines)	530 530 mA 700 700 mA 1000 1000 mA (1 A)	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted [2]	T1S Type I Short T2S Type II Short T2M Type II Medium T3S Type III Short T3M Type III Medium T4M Type IV Medium TFTM Forward Throw Medium T5VS Type V Very Short T5S Type V Short T5M Type V Medium T5W Type V Wide	MVOLT [3] 120 [3] 208 [3] 240 [3] 277 [3] 347 [4] 480 [4]	**Shipped included** SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPUMBA Square pole universal mounting adaptor [5] RPUMBA Round pole universal mounting adaptor [5] **Shipped separately** KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) [6]

PIRH

Control options

Shipped installed

PER	NEMA twist-lock receptacle only (no controls) [7]
PER5	Five-wire receptacle only (no controls) [7,8]
PER7	Seven-wire receptacle only (no controls) [7,8]
DMG	0-10V dimming driver (no controls) [9]
DCR	Dimmable and controllable via ROAM® (no controls) [10]
DS	Dual switching [11,12]
PIR	Motion sensor, 8-15' mounting height [13]
PIRH	Motion sensor, 15-30' mounting height [13]
BL30	Bi-level switched dimming, 30% [12,14]
BL50	Bi-level switched dimming, 50% [12,14]
PNMTDD3	Part night, dim till dawn [15]
PNMT5D3	Part night, dim 5 hrs [15]
PNMT6D3	Part night, dim 6 hrs [15]
PNMT7D3	Part night, dim 7 hrs [15]

Other options

Shipped installed

HS	House-side shield [16]
WTB	Utility terminal block [17]
SF	Single fuse (120, 277, 347V) [18]
DF	Double fuse (208, 240, 480V) [18]
L90	Left rotated optics [19]
R90	Right rotated optics [19]

Finish *(required)*

DDBXD	Dark bronze
DBLXD	Black
DNAXD	Natural aluminum
DWHXD	White
DDBTXD	Textured dark bronze
DBLBXD	Textured black
DNATXD	Textured natural aluminum
DWHGXD	Textured white

Accessories

Ordered and shipped separately.

Controls & Shields

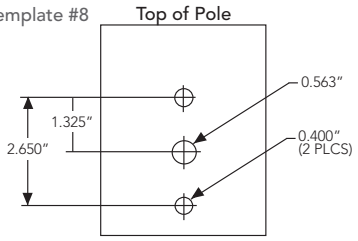
DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) [20]
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) [20]
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) [20]
SC U	Shorting cap [20]
DSX1HS 30C U	House-side shield for 30 LED unit
DSX1HS 40C U	House-side shield for 40 LED unit
DSX1HS 60C U	House-side shield for 60 LED unit
PUMBA DDBXD U*	Square and round pole universal mounting bracket (specify finish)
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) [6]

For more control options, visit DTL and ROAM online.

NOTES
1. Rotated optics available with 60C only.
2. AMBPC only available with 530mA or 700mA.
3. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120V, 208V, 240V or 277V options only when ordering with fusing (SF, DF options).
4. Not available with single board, 530mA product (30C 530 or 60C 530 DS). Not available with BL30, BL50 or PNMT options.
5. Available as a separate combination accessory: PUMBA (finish) U; 1.5 G vibration load rating per ANCI C136.31.
6. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" mast arm (not included).
7. Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Not available with DS option.
8. If ROAM® node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Not available with DCR.
9. DMG option for 347V or 480V requires 1000mA.
10. Specifies a ROAM® enabled luminaire with 0-10V dimming capability; PER option required. Additional hardware and services required for ROAM® deployment; must be purchased separately. Call 1-800-442-6745 or email: sales@roamservices.net. N/A with DS, PIR, PIRH, PER5, PER7, BL30, BL50 or PNMT options.
11. Requires 40C or 60C. Provides 50/50 luminaire operation via two independent drivers on two separate circuits. N/A with PER, DCR, WTB, PIR or PIRH.
12. Requires an additional switched circuit.
13. PIR specifies the SensorSwitch SBGR-10-ODP control; PIRH specifies the SensorSwitch SBGR-6-ODP control; see Motion Sensor Guide for details. Dimming driver standard. Not available with DS, PER5 or PER7.
14. Dimming driver standard. MVOLT only. Not available with 347V, 480V, DCR, DS, PER5, PER7 or PNMT options.
15. Dimming driver standard. MVOLT only. Not available with 347V, 480V, DCR, DS, PER5, PER7, BL30 or BL50.
16. Also available as a separate accessory; see Accessories information.
17. WTB not available with DS.
18. Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
19. Available with 60 LEDs (60C option) only.
20. Requires luminaire to be specified with PER option. Ordered and shipped as a separate line item from Acuity Brands Controls.

Drilling

Template #8



DSX1 shares a unique drilling pattern with the AERIS™ family. Specify this drilling pattern when specifying poles, per the table below.

DM19AS	Single unit	**DM29AS**	2 at 90° *
DM28AS	2 at 180°	**DM39AS**	3 at 90° *
DM49AS	4 at 90° *	**DM32AS**	3 at 120° **

Example: SSA 20 4C **DM19AS** DDBXD

Visit Lithonia Lighting's POLES CENTRAL to see our wide selection of poles, accessories and educational tools.
**Round pole top must be 3.25" O.D. minimum.*
***For round pole mounting (RPA) only.*

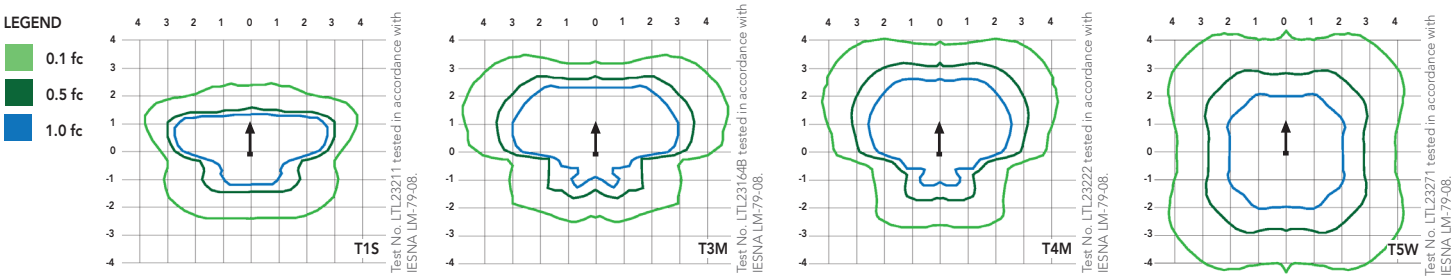
Tenon Mounting Slipfitter **

Tenon O.D.	Single Unit	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2-3/8"	AST20-190	AST20-280	AST20-290	AST20-320	AST20-390	AST20-490
2-7/8"	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Area Size 1 homepage.

Isofootcandle plots for the DSX1 LED 60C 1000 40K. Distances are in units of mounting height (20').



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	**77°F**	**1.00**
30°C	86°F	1.00
40°C	104°F	0.99

Electrical Load

			Current (A)					
Number of LEDs	Drive Current (mA)	System Watts	120	208	240	277	347	480
30	530	52	0.52	0.30	0.26	0.23	--	--
	700	68	0.68	0.39	0.34	0.30	0.24	0.17
	1000	105	1.03	0.59	0.51	0.45	0.36	0.26
40	530	68	0.67	0.39	0.34	0.29	0.23	0.17
	700	89	0.89	0.51	0.44	0.38	0.31	0.22
	1000	138	1.35	0.78	0.67	0.58	0.47	0.34
60	530	99	0.97	0.56	0.48	0.42	0.34	0.24
	700	131	1.29	0.74	0.65	0.56	0.45	0.32
	1000	209	1.98	1.14	0.99	0.86	0.69	0.50

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	DSX1 LED 60C 1000			
	1.0	0.95	0.93	0.88
	DSX1 LED 60C 700			
	1.0	0.99	0.98	0.96

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
30C (30 LEDs)	700 mA	68 W	T1S	5,697	1	0	1	84	7,127	2	0	2	105	7,180	2	0	2	106	4,561	1	0	1	67
			T2S	5,967	2	0	2	88	7,465	2	0	2	110	7,521	2	0	2	111	4,777	1	0	1	70
			T2M	5,773	1	0	2	85	7,222	2	0	2	106	7,276	2	0	2	107	4,622	1	0	2	68
			T3S	5,901	1	0	2	87	7,382	2	0	2	109	7,437	2	0	2	109	4,724	1	0	1	69
			T3M	5,872	1	0	2	86	7,346	2	0	2	108	7,401	2	0	2	109	4,701	1	0	2	69
			T4M	5,882	1	0	2	87	7,359	2	0	2	108	7,414	2	0	2	109	4,709	1	0	2	69
			TFTM	5,793	1	0	2	85	7,247	1	0	2	107	7,301	1	0	2	107	4,638	1	0	2	68
			T5VS	6,148	2	0	0	90	7,691	3	0	1	113	7,749	3	0	1	114	4,922	2	0	0	72
			T5S	6,074	2	0	0	89	7,598	3	0	0	112	7,655	3	0	0	113	4,863	2	0	0	72
			T5M	6,150	3	0	1	90	7,694	3	0	2	113	7,752	3	0	2	114	4,924	3	0	1	72
			T5W	5,979	3	0	1	88	7,479	3	0	2	110	7,536	3	0	2	111	4,787	3	0	1	70
	1000 mA	105 W	T1S	7,913	2	0	2	75	9,899	2	0	2	94	9,973	2	0	2	95					
			T2S	8,288	2	0	2	79	10,368	2	0	2	99	10,446	2	0	2	99					
			T2M	8,019	2	0	2	76	10,031	2	0	3	96	10,106	2	0	3	96					
			T3S	8,196	2	0	2	78	10,253	2	0	2	98	10,330	2	0	2	98					
			T3M	8,156	2	0	2	78	10,202	2	0	2	97	10,279	2	0	2	98					
			T4M	8,170	2	0	2	78	10,220	2	0	2	97	10,297	2	0	2	98					
			TFTM	8,046	2	0	2	77	10,065	2	0	3	96	10,141	2	0	3	97					
			T5VS	8,539	3	0	1	81	10,682	3	0	1	102	10,762	3	0	1	102					
			T5S	8,436	3	0	1	80	10,553	3	0	1	101	10,632	3	0	1	101					
			T5M	8,542	3	0	2	81	10,686	4	0	2	102	10,766	4	0	2	103					
			T5W	8,304	3	0	2	79	10,388	4	0	2	99	10,466	4	0	2	100					
40C (40 LEDs)	700 mA	89 W	T1S	7,511	2	0	2	84	9,396	2	0	2	106	9,467	2	0	2	90	6,014	1	0	1	68
			T2S	7,868	2	0	2	88	9,842	2	0	2	111	9,916	2	0	2	94	6,299	2	0	2	71
			T2M	7,612	2	0	2	86	9,522	2	0	3	107	9,594	2	0	3	91	6,094	2	0	2	68
			T3S	7,780	2	0	2	87	9,733	2	0	2	109	9,806	2	0	2	93	6,229	1	0	2	70
			T3M	7,742	2	0	2	87	9,685	2	0	2	109	9,758	2	0	2	93	6,198	2	0	2	70
			T4M	7,756	2	0	2	87	9,702	2	0	2	109	9,775	2	0	2	93	6,209	1	0	2	70
			TFTM	7,638	2	0	2	86	9,555	2	0	2	107	9,627	2	0	2	92	6,115	1	0	2	69
			T5VS	8,106	3	0	1	91	10,140	3	0	1	114	10,216	3	0	1	97	6,490	2	0	0	73
			T5S	8,008	3	0	1	90	10,017	3	0	1	113	10,093	3	0	1	96	6,411	2	0	0	72
			T5M	8,109	3	0	2	91	10,144	4	0	2	114	10,220	4	0	2	97	6,492	3	0	1	73
			T5W	7,883	3	0	2	89	9,861	4	0	2	111	9,936	4	0	2	95	6,311	3	0	2	71
	1000 mA	138 W	T1S	10,384	2	0	2	75	12,990	3	0	3	94	13,088	3	0	3	95					
			T2S	10,876	2	0	2	79	13,606	3	0	3	99	13,708	3	0	3	99					
			T2M	10,523	2	0	3	76	13,164	3	0	3	95	13,263	3	0	3	96					
			T3S	10,756	2	0	2	78	13,455	2	0	2	97	13,556	3	0	3	98					
			T3M	10,703	2	0	2	78	13,389	3	0	3	97	13,490	3	0	3	98					
			T4M	10,722	2	0	2	78	13,412	3	0	3	97	13,513	3	0	3	98					
			TFTM	10,559	2	0	3	77	13,209	2	0	3	96	13,308	2	0	3	96					
			T5VS	11,206	3	0	1	81	14,018	4	0	1	102	14,124	4	0	1	102					
			T5S	11,070	3	0	1	80	13,848	3	0	1	100	13,953	3	0	1	101					
			T5M	11,210	4	0	2	81	14,023	4	0	2	102	14,129	4	0	2	102					
			T5W	10,898	4	0	2	79	13,633	4	0	2	99	13,735	4	0	2	100					
60C (60 LEDs)	700 mA	131 W	T1S	11,182	2	0	2	81	13,988	3	0	3	101	14,093	3	0	3	102	8,952	2	0	2	68
			T2S	11,712	3	0	3	85	14,651	3	0	3	106	14,761	3	0	3	107	9,377	2	0	2	72
			T2M	11,332	2	0	3	82	14,175	3	0	3	103	14,282	3	0	3	103	9,072	2	0	2	69
			T3S	11,582	2	0	2	84	14,489	3	0	3	105	14,598	3	0	3	106	9,273	2	0	2	71
			T3M	11,525	2	0	2	84	14,418	3	0	3	104	14,526	3	0	3	105	9,227	2	0	2	70
			T4M	11,546	2	0	2	84	14,443	3	0	3	105	14,552	3	0	3	105	9,243	2	0	2	71
			TFTM	11,370	2	0	3	82	14,224	2	0	3	103	14,331	2	0	3	104	9,103	2	0	2	69
			T5VS	12,067	3	0	1	87	15,095	4	0	1	109	15,209	4	0	1	110	9,661	3	0	1	74
			T5S	11,921	3	0	1	86	14,913	4	0	1	108	15,025	4	0	1	109	9,544	3	0	1	73
			T5M	12,071	4	0	2	87	15,101	4	0	2	109	15,214	4	0	2	110	9,665	3	0	2	74
			T5W	11,735	4	0	2	85	14,680	4	0	2	106	14,791	4	0	2	107	9,395	4	0	2	72
	1000 mA	209 W	T1S	15,307	3	0	3	73	19,148	3	0	3	92	19,292	3	0	3	92					
			T2S	16,033	3	0	3	77	20,056	3	0	3	96	20,207	3	0	3	97					
			T2M	15,512	3	0	3	74	19,405	3	0	3	93	19,551	3	0	3	94					
			T3S	15,855	3	0	3	76	19,834	3	0	3	95	19,983	3	0	3	96					
			T3M	15,777	3	0	3	75	19,736	3	0	4	94	19,885	3	0	4	95					
			T4M	15,805	3	0	3	76	19,771	3	0	4	95	19,920	3	0	4	95					
			TFTM	15,565	3	0	3	74	19,471	3	0	4	93	19,617	3	0	4	94					
			T5VS	16,519	4	0	1	79	20,664	4	0	1	99	20,820	4	0	1	100					
			T5S	16,319	4	0	1	78	20,414	4	0	1	98	20,567	4	0	1	98					
			T5M	16,525	4	0	2	79	20,672	5	0	3	99	20,827	5	0	3	100					
			T5W	16,065	4	0	3	77	20,096	5	0	3	96	20,247	5	0	3	97					

FEATURES & SPECIFICATIONS

INTENDED USE
The sleek design of the D-Series Size 1 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and streetscapes.

CONSTRUCTION
Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (1.2 ft^2) for optimized pole wind loading.

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS
Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in standard 4000 K (70 minimum CRI) or optional 3000 K (80 minimum CRI) or 5000 K (70 CRI) configurations. The D-Series Size 1 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL
Light engine configurations consist of 30, 40 or 60 high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L96/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV or 6kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

INSTALLATION
Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 1 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 1 utilizes the AERIS™ series pole drilling pattern. Optional terminal block, tool-less entry, and NEMA photocontrol receptacle are also available.

LISTINGS
UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D672,492 S. International patent pending.

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions are qualified.

WARRANTY
Five-year limited warranty. Full warranty terms located at:
www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.