Project Narrative

Site Plan for U-Haul, Stage Door Road
&
Lot Consolidation for Stage Door Road Parcels

NYS Route 9 & Stage Door Road, Town of Wappinger, New York

July 17, 2023
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1 Introduction

The applicant, U-Haul Company of Lower Hudson Valley, is proposing to consolidate the four (4) parcels located on Stage Door Road. The four (4) parcels, located in the HB (Highway Business) Zoning District consist of 2.00 acres, 0.64 acres, 2.00 acres and 2.76 acres totaling 7.4 acres. Upon consolidation, the applicant, U-Haul Company of Lower Hudson Valley (U-Haul) is proposing to remove the existing warehouse building and parking to construct two (2) new buildings necessary to operate their self-storage, truck/trailer rental and U-Box business operations.

2 Lot Consolidation

2.1 Subdivision Application Overview

Three (3) of the four (4) existing parcels are vacant. It will be necessary to consolidate the four (4) parcels to develop the U-Haul site plan as the new facilities will operate as one facility. Approval from the Town of Wappinger Planning Board will be necessary to create one combined larger lot to accommodate the proposed build-out. A Lot Consolidation application has been prepared and submitted to the Town of Wappinger Planning Board for approval. Upon consolidation, the resultant lot will meet all the bulk lot requirements as listed for the HB Zone with the exception of the existing building's front setback to NYS Route 9. The front setback is pre-existing, non-conforming and will not be further expanded as a result of the proposed lot consolidation.

3 Site Plan for U-Haul, Stage Door Road

3.1 Site Plan Application

The owner/applicant is proposing to remove the existing warehouse building and parking area to re-develop the property. U-Haul is proposing to develop the 7.4-acre site to construct two (2) new buildings and associated parking & amenities to operate their self-storage, truck and trailer rental and U-Box business operations. A site plan application has been prepared and submitted to the Town of Wappinger Planning Board.

The existing building on-site will be removed and replaced with a new 3-story building identified as Building 1. Building 1 will be 130' - 8-3/4" x 295' – 8-3/4" providing a 38,661 sq. ft. footprint. All three (3) floors will include indoor, climate-controlled, self-storage units for customer rental. The 1st floor or lower floor will be located primarily below grade and include all self-storage units of various sizes. The 2nd floor will be at-grade and provide direct access to the parking and loading/unloading areas on the south and east sides of the building. The 2nd floor will include 3,000 sq. ft. of retail space for the sale of moving packing supplies and rental of trucks and trailers. The balance of the 2nd floor will provide indoor, climate-controlled self-storage units of various sizes, indoor loading/unloading bays and building accessory utility rooms. The 3rd floor or upper floor will include all self-storage units of various sizes.

Building 1 will include an interior elevator and stairs for floor access. An exterior staircase/stairwell will be located on the north side of the building for emergency egress.

A second warehouse building is proposed and identified as Building 2. Building 2 will be 1-story, 112' x 250', providing 28,000 sq. ft. Building 2 will be used to store U-Boxes. U-boxes are storage containers that customers load/unload off-site. U-Haul will then temporarily store the loaded U-Box containers in the warehouse for delivery to a customer's preferred location at a later date or simply store empty units. Building 2 will be for U-Haul employees only with no customer access. The building will provide two loading docks for tractor trailer delivery loading/unloading of the storage containers. A 1-story 16' x 22' addition near the loading docks will provide 352 sq. ft. for an employee office.

3.2 Use

The parcels are located in the HB zone in the Town of Wappinger. The 2nd floor retail in Building 1 and U-Box warehouse storage in Building 2 are Permitted Principal Uses. The proposed self-storage use in Building 1 is permitted by means of a Special Use Permit. A Special Use Permit application has been prepared and submitted to the Town of Wappinger Planning Board.

3.3 Access & Parking

The facility will be accessed via two (2) driveway entrances via Stage Door Road. Internal two-way drive aisles will be provided throughout the parking areas for vehicle access. Vehicle access has been sized for large semi tractor trailers as required for transporting U-Box containers. Truck turning movements are demonstrated on the Site Plan.

3.3.1 Parking

Parking spaces along the south side of Building 1 will provide general parking for the retail customers and employees in Building 1. Self-storage customer loading/unloading bays and overhead door access are provided along the back/east side of Building 1. Retail and Self-storage customers will primarily use the western/first driveway entrance closest to Building 1.

Parking for Building 2 employees/truck drivers is provided adjacent to the Building 2 employee office.

U-Haul rental trucks and trailers will all be roadway registered and parked in the parking spaces between Buildings 1 & 2 and on the east side of Building 2. Five (5) designated truck/trailer display parking spaces are provided on the south side of Building 1 facing NYS Route 9. The display spaces are necessary for U-Haul visual promoting their truck/trailer rental vehicles along the NYS Route 9 corridor.

Shunting lanes have been incorporated in the parking lots. The shunting lanes are provided for customer pickup and delivery of the truck and trailer rentals. Typically, U-Haul employees will shuttle rental vehicles to and from on-site parking spaces to the shunting lanes.

Designated parking spaces, including a parking calculation table, are provided on the Site Plan. Parking space requirements for the U-Haul facility are based on indoor self-storage rates published in the Institute of Transportation Engineers (ITE) Parking Generation Manual, 5th Edition, Land Use 151 (Mini Warehouse) since the Town of Wappinger does not specify parking space requirements for self-storage use. The U-Haul facility will require a minimum of 19 parking spaces (18.3 as calculated) on site. 58 parking spaces are proposed. The additional 39 parking spaces are necessary to park rental vehicles. The entire parking lot will be paved and provide concrete curbing along the perimeter.

Parking space requirements as published in the Institute of Transportation Engineers (ITE) Parking Generation Manual, 5th Edition, Land Use 151 (Mini Warehouse) have been attached in Appendix A.

3.3.2 Trip Generation

Site generated vehicle trip have been computed using Institute of Transportation Engineers (ITE) trip Generation Manual, 11th Edition as follows:

Table 1
Peak Hour Generated Vehicle Trips
Per ITE Trip Generation Manual, 11th Edition
Project: U-Haul Site Plan - Stagedoor Rd, Town of Wappinger

Use Code	Generator (Basis)	AM Peak Hour Adjacent Street Traffic	PM Peak Hour Adjacent Street Traffic	Saturday Peak hour of Generator
Mini-Storage 115,983 sq. ft. (includes accessory retail) (Code: 151)	116 (per 1,000 GFA)	10	17	19
U-Box Warehouse 28,352 sq. ft. (Code: 150)	2 (per employee)	2	2	2
	Total =	12	19	21

Table 2
Trucking Trips Calculation
Construction - Fill import

Project: U-Haul Site Plan - Stagedoor Rd, Town of Wappinger

Project Fill Required = 27,126 yds
Compaction = 10%

Truck deliveries per hour = 5 trips
Delivery hours per day = 7 hours

Truck Class	Truck Capacity per load	Truck Delivery split	Trip per day	Daily delivery
Tri-Axle Semi-Trailer	18 cy 24 cy	60% 40%	21 14	378 cy 336 cy
Total:			35	714 cy

Work Days to complete =	42 days

3.4 Hours of Operation

The facility will allow for 24-hour access, 7 days a week to the indoor Self-Storage units. Normal corporate business hours for the retail store including truck/trailer rentals will be from 7:00 am to 7:00 pm Monday through Thursday & Saturday, 7:00 a.m. to 9:00 p.m. on Friday and 9:00 am to 5:00 pm on Sundays. The U-box warehouse will operate from 8 a.m. to 6 p.m. Monday through Saturday.

3.5 Lighting

There will be low level lighting proposed around the buildings and adjacent parking lot. The lighting will be LED, fully shielded and meet Town of Wappinger lighting requirements. Much of the rear parking around Building 2 will not be illuminated. Lighting is detailed on the Site Plan. Lighting specifications are attached in Appendix B of this narrative.

3.6 Landscaping and Vegetative Buffer

Landscape plantings will be provided along the front of Building 1 facing NYS Route 9. Lower shrubs are proposed to allow for visibility of the proposed building elevations consisting of U-Haul storage themes and standard U-Haul required signage. The low-lying landscaping will be integrated with taller Cleveland Pear trees to soften any potential visual impacts directed towards the building.

Low-lying shrubbery will also be planted around the vehicle display spaces on the south side of Building 1 for aesthetic purposes.

Maple and Oak trees will be planted throughout the facility and along Stage Door Road. Existing trees will be preserved where possible in undisturbed areas on the property. Landscaping is detailed on the Site Plan.

3.7 Signage

U-Haul is proposing wall signs mounted on each of the buildings consistent with their corporate model. Signage consistent with the U-Haul brand is a priority when operating their business at any U-Haul facility. No U-Haul freestanding signs are proposed. (It is noted the existing freestanding sign in the NYSDOT R.O.W. will be removed.) Signage details are provided in the building elevation drawings as part of the Site Plan. Given the extent of the required signing, sign variances will be necessary as outlined below under the Town of Wappinger Zoning Variances section of this Narrative.

3.8 Refuse

U-Haul does not provide customer garbage/debris removal. Self-storage customers are required to remove any garbage/debris from the facility as per the storage lease agreements. Therefore, U-Haul does not provide any exterior refuse enclosures in order to prevent prohibited dumping.

An indoor refuse room with an overhead garage door is provided in Building 1. The indoor refuse containers are for any garbage generated by the retail and U-box business operations. The contracted carting service will have direct access to the Refuse room for periodic garbage removal from the site.

3.9 Water Supply

The site is not provided an opportunity for public water supply. Therefore, the proposed U-Haul facility will be supplied potable water by drilling a new individual, on-site well located to the east of Building 2. The well will also be used to fill the fire suppression storage tank. A 20' x 20' utility structure is located adjacent to the well to facilitate all water treatment equipment. The utility structure will also house the necessary fire sprinkler pump system. Potable water will be supplied to each building with underground piping as detailed on the Site Plans.

The existing well adjacent to the existing building will be properly abandoned in accordance with Dutchess County Department of Behavioral and Community Health (DBCH) well abandonment standards.

An application will be submitted to the DBCH for Water Supply approval.

3.10 Sanitary Sewage Disposal

A new subsurface sewage disposal system (SDS) is proposed for treatment of sanitary wastewater from both buildings. The SDS fields have been located to provide proper separations as required by the DBCH. The wastewater lift station will be required to pump all effluent to the SDS fields. The SDS and associated components are detailed on the Site Plan.

An application will be submitted to the DBCH for Sewage Disposal approval.

3.11 Stormwater

A Stormwater Pollution Prevention Plan (SWPPP) has been prepared for the construction activities associated with the Site Plan. The SWPPP has been designed in accordance with the NYSDEC, SPDES General Permit for Stormwater Discharges from Construction Activities, GP-0-20-001.

The proposed project:

1. Maintains the existing drainage patterns as much as possible.
2. Controls increases in the rate of stormwater runoff resulting from the proposed development without adversely affecting adjacent or downstream properties or receiving watercourses or waterbodies.
3. Reduces potential stormwater quality impacts and soil erosion resulting from stormwater runoff generated both during and after construction.

Stormwater treatment facilities/basins have been incorporated into the site design including pre-treatment of stormwater runoff from the parking area. All details of the proposed stormwater management facilities and devices are detailed on the Site Plan and in the SWPPP report.

3.12 Fire Suppression

Both buildings will require fire protection. Since the property is not provided with central water from the municipality, a private water system will be installed on site. A large water supply will be stored on site to provide the required water flow and volume necessary for the building sprinkler systems. An above ground steel water tank will be installed on site to store 125,186 gals. for fire suppression. Fire supply pumps will be installed in the water utility structure to convey the necessary flow to each building sprinkler system with underground piping. All details are provided on the Site Plans.

3.13 Wetlands

The property contains a low-lying drainage area along the north side of the property. The drainage area is narrow and positioned between the project parcel and the neighboring properties. The neighboring properties are developed directly to the edge of this low-lying drainage area. The NYS Route 9 roadway and the properties to the north currently discharge stormwater directly into this area with no visible treatment or stormwater management practices. Given the vegetation and shallow groundwater conditions, the low-lying drainage area meets the parameters to be a designated Town of Wappinger Wetlands. Per Town of Wappinger Wetlands regulations, a 100' buffer is placed around such area.

The designated wetland area is an isolated area that drains through piping across NYS Route 9 in a western direction. The NYS Department of Environmental Conservation (NYSDEC) does not identify this small wetland as a regulated NYSDEC Freshwater Wetland. The Wetland also does not meet the criteria for Federal Jurisdictional Wetlands as regulated by the Army Corps of Engineer's (ACOE) as the wetland area does surface discharge to navigable waters.

Given the narrowness of the parcel, it will be necessary to fill portions of this Town regulated wetland and 100' buffer area to construct the proposed project. The project layout has been designed to minimize adverse impacts to the wetlands by placing the parking lots to the south side of the property away from the wetland areas. The buildings are placed adjacent to the designated wetland area including a portion of Building 1 within the designated wetland area. The buildings will buffer the parking lot to the wetland areas. Vegetative stormwater management facilities have been located immediately adjacent to the designated wetland area to treat stormwater runoff from both the paved parking lot and building roofs prior to being discharged into the northerly wetland areas. The vegetative stormwater infiltration practices will not only treat stormwater prior to discharge but will also promote groundwater recharge immediately adjacent to the designated wetlands.

A Wetland Mitigation area is proposed of similar size to the areas proposed to be filled. The Wetland Mitigation area is proposed immediately adjacent to the existing wetland boundary in order to maintain connectivity of the wetland areas. Any impacts to the Town of Wappinger wetlands by the proposed project will be mitigated on a 1:1 ratio so that no wetland functions are lost long term.

A Wetland Functional Evaluation Report was prepared by Ecological Solutions, LLC. This report concludes the project will have no adverse impact on the Town of of Wappinger wetlands as the proposed mitigation effort will ensure that the functional capacity of the wetland on the site will remain or exceed current levels which are minimal at best as described in the report. The *Wetland Functional Evaluation Report* is included in Appendix C.

A Wetland Disturbance application has been prepared and submitted to the Town of Wappinger Planning Board.

3.14 Threatened or Endangered Species

A Threatened and Endangered Species & Habitat Suitability Assessment Report has been prepared by Ecological Solutions, LLC. Per this report, the impacted forest area is comprised of ash, black cherry, maple and some oak trees. No trees were observed to have exfoliating or flaking bark which are suitable summer roosting habitats for the Indiana Bat. However, conservation measures will be employed to avoid and minimize potential adverse effects to Indian Bats.

The potential for the Blandings' Turtle habitat in the area is located on the west side of NYS Route 9 and a significant distance from the site. NYS Route 9 is considered a barrier to turtle movement. There was no Blanding's Turtle habitat located on the site. Therefore, no mitigation measures are proposed since there is no potential impact to Blandings Turtles resulting from the site development.

The *Threatened and Endangered Species Habitat Suitability Assessment Report* has been included in Appendix D.

3.15 Building Architecture

Building Elevations have been prepared based on conceptual prior discussions with the Town of Wappinger Planning Board as well as incorporating necessary U-Haul company design criteria. Like many large national companies, it is mandatory that any U-Haul building is recognizable based on standard architectural features. U-Haul has incorporated such features in the building design for the proposed project. U-Haul is also incorporating additional architectural features as requested by the Planning Board, including stone veneer face along the entire bottom of the Building 1 facing NYS Route 9. All details of the building architecture and colors are provided in the elevation drawings attached as part of the Site Plan submission.

3.16 Town of Wappinger Zoning Variances/Waivers

3.16.1 Area Variances

The property lies in the HB (Highway Business) zoning district. It will be necessary to seek variances from the Town Zoning Ordinance for the U-Haul project. Relief from certain HB zoning restrictions will be necessary given the existing conditions of the property and buildout requirements for a successful U-Haul facility.

3.16.1.a. Building Story Variance

U-Haul will require a 3-story self-storage building. The HB zoning district limits buildings to 2-1/2 stories. Therefore, a half story variance will be necessary for Building 1. It is proposed that the lower floor be primarily below grade providing an appearance of a 2-story building, consistent with HB zoning requirements. The maximum height in the district is limited to 35'. The height, by definition, of Building 1 is proposed to be less than 35' above the surrounding grade. Therefore, the 3-story building height will conform to the 35' height restriction.

3.16.1.b. Front Yard Variance

The existing building provides a 22.2' front setback to the front NYS Route 9 property line. A minimum of 75' is required in the HB zone. Therefore, the existing building is pre-existing, non-conforming. The project proposes to remove the existing building and replace it with Building 1.

The new building will be shifted further away from the front property line making it less non-conforming than the existing building. Building 1 will provide a minimum setback of 25.9'. The NYS Route 9 R.O.W. shoulder area is unusually wide in front of the project site. Although a minimum setback of 25.9' will be provided, the building will be more than 100' from the edge of the shoulder pavement.

This exceeds a typical separation for a building conforming with a 75' setback and a more typical shoulder R.O.W. width of 15' outside the edge of the pavement.

3.16.1.c. Floor Area Ration Variance

The proposed floor area ratio is 0.5 which exceeds the maximum 0.4 ratio permitted by zoning. Therefore a 0.1 floor area ratio variance is required. However, the 0.5 floor area includes the basement floor of Building 1 which is below grade and not visible. Removing the floor area in the basement, the proposed floor ratio would be 0.33 which would comply with the zoning requirement. Constructing similar size building footprints as proposed without the lower/basement floor areas could be constructed in compliance with the zoning. This scenario would result in similar surface views and buildout conditions. Therefore, the proposed floor area ratio would not have any further adverse impacts.

3.16.2 Sign Waivers

U-Haul is proposing signage that is standard and necessary for their corporate model. Sign variances will be required for the proposed U-Haul signage as they exceed the maximum permitted in the Town of Wappinger sign ordinance. Sign variances to be sought include:

Sign Zoning Allowance Calculations
U-Haul Site Plan, Town of Wappinger, NY

Table 3 - Allowable Sign Size Calculations					
Building	Length of Building Side (ft.)	80% of Length	Maximum Allowable Length of Sign (per §240-29.F.(1)(c)	Area Allowed 2 sq. ft. per linear foot	Maximum Allowable Area of Sign (**a.**) (per §240-29.F.(1)(d)
Building 1 - East Elevation (facing Stage Door Rd.)	295.73	236.58	236.58 ft.	591.46	100 sq. ft.
Building 1 - South Elevation (facing Old Route 9)	130.73	104.58	104.58 ft.	261.46	50 sq. ft.
Building 1 - West Elevation (facing Route 9)	295.73	236.58	104.58 ft.	591.46	T.B.D. (3rd side)
Building 2 - South Elevation (facing Stage Door Rd)	250	200.00	200.00 ft.	500	100 sq. ft.

Table 4 - Building Mounted Sign Requred Variances								
Identification (Sign Name)	Location on Building	Side (ft.)	Length (ft.)	Height (ft.)	Area (sq. ft.)	Maximum Allowable Area (sq. ft.) (**a.**)	Illuminated	Variance Required (Designation)
BUILDING 1								
U-Haul Center	East Elev. (facing Stage Door Rd)	1	12	7	84.0	100	Yes	
Boxes	East Elev. (facing Stage Door Rd)	1	11.74	2.5	29.4	100	No	2
Your Storage Place	East Elev. (facing Stage Door Rd)	1	27.41	4	109.6	100	No	3, 9
Drive-In Storage	East Elev. (facing Stage Door Rd)	1	33.25	2.5	83.1	100	No	4
U-Haul Center	South Elev. (facing Old Ft 9)	2	12	7	84.0	50	Yes	10, 14
Drive-In Storage	South Elev. (facing Old Ft 9)	2	26.62	2	53.2	50	No	5,11
U-Haul Center	West Elev. (facing Route 9)	3	12	7	84.0	50	Yes	1, 12, 15
BUILDING 2								
U-Box	South Elev. (facing StageDoor Rd)	1	11.95	9.19	109.8	100	No	13
U-Haul Center	South Elev. (facing StageDoor Rd)	1	9.66	3.8	36.7	100	No	6
Moving	South Elev. (facing StageDoor Rd)	1	11.23	2	22.5	100	No	7
Containers	South Elev. (facing StageDoor Rd)	1	18.26	2	36.5	100	No	8

§240-29.F.(1): Not more than 1 sign per retail or business outlet, affixed and parallel to the outer wall of the structure, facing upon either a principal street or upon the parking lot pertinent to such structure, except that buildings on a corner lot may have a sign on two facades, one sign facing each street.

§240-29.F.(1)(c): The length of such sign shall not exceed 80% of the building length.

§240-29.F.(1)(d): The aggregate area of such sign shall not exceed two sq. ft. for each linear foot of building length or 100 sq. ft., whichever is less. On buildings having signs on two sides, the sign area on the side façade shall not exceed 1/2 the allowable sign area on the front facade or 50 sq. ft., whichever is less

§240-29.F.(6): Illumination. One permitted buliding-mounted sign may be illuminated during business hours only, provided that such illumination shall not be twinkling, flashing, intermittent or of changing degrees of intensity, except for time/temperature signs, and proivded that the source of such illumination shall not be visibile beyond the boundaries of the lot on which it is located.

Required sign waivers – By designation listed above in Table 4

Waiver 1: Sign on 3rd side of building.

Per Zoning Code §240-29.F.(1) of the Town of Wappinger Zoning code, buildings on a corner lot may have a sign on two facades, one sign facing each street.

Building 1 proposes signage on three sides facing West toward NYS Route 9, facing East toward Stage Door Road, and facing South toward the intersection of Old Route 9 and Stage Door Road, therefore a waiver is required to add signage to a third side of the building.

Waivers 2 through 8: More than one (1) sign per retail or business outlet affixed to the outer wall of the structure is proposed. Four (4) additional signs are proposed on Building 1 and three (3) additional signs are proposed on Building 2.

Per §240-29.F.(1) of the Town of Wappinger Zoning Code, not more than one (1) sign per retail or business outlet, affixed and parallel to the outer wall of the structure, facing upon either a principal street or upon the parking lot pertinent to such structure.

The following signage is proposed in addition to the one (1) allowed sign for the following buildings:

Building 1 East Elevation (Facing NYS Route 9):

2. "Boxes" Sign
3. "Your Storage Place" Sign
4. "Drive-In Storage" Sign

Building 1 South Elevation (Facing Old Route 9):

5. "Drive-In Storage" Sign

Building 2 South Elevation (Facing Stage Door Road):

6. "U-Box" Sign
7. "Moving" Sign
8. "Containers" Sign

Waivers 9 through 13: Waivers are required for the aggregate area of the proposed signage on Building 1 and Building 2.

Per §240-29. F.(1)(d) of the Town of Wappinger Zoning Code, the aggregate area of such sign shall not exceed two square feet for each linear foot of building length or 100 sq. ft., whichever is less. On buildings having signs on two sides, the sign area on the side facade shall not exceed 1/2 the allowable sign area on the front façade or 50 square feet, whichever is less.

Therefore, the following sign waivers are required for the following signs:

Waiver 9: Building 1 East Elevation "Your Storage Place Sign" is proposed to be 109.64 sq. ft. where 100 sq. ft. is allowed. Therefore a 9.64 sq. ft. waiver is requested.

Waiver 10: Building 1 South Elevation (side façade) "U-Haul Center" sign is proposed to be 84.00 sq. ft. where 50 sq. ft. is allowed. Therefore, a 34 sq. ft. waiver is requested.

Waiver 11: Building 1 South elevation (side façade) "Drive-In Storage" sign is proposed to be 53.2 sq. ft. where 50 sq. ft. is allowed. Therefore, a 3.2 sq. ft. waiver is requested.

Waiver 12: Building 1 West Elevation (side façade) "U-Haul Center" sign is proposed to be 84 sq. ft. where 50 sq. ft. is allowed. Therefore, a 34 sq. ft. waiver is requested.

Waiver 13: Building 2 South Elevation "U-Box" sign is proposed to be 109.82 sq. ft. where 100 sq. ft. is allowed. Therefore, a 9.82 sq. ft. waiver is requested.

Waivers 14 and 15: A waiver is required for an additional illuminated building-mounted sign on Building 1.

Per §240-29.F.(6) of the Town of Wappinger Zoning Code, one permitted building-mounted sign may be illuminated during business hour.

Building 1 proposes one (1) illuminated "U-Haul Center" sign, on three (3) sides. Therefore, the following waivers are required:

Waiver 14: Building 1 South elevation requires a waiver for the illuminated "U-Haul Center" sign.

Waiver 15: Building 1 West elevation requires a waiver for the illuminated "U-Haul Center" sign.

Appendix A

Institute of Transportation Engineers (ITE) Parking Generation Manual, 5th Edition, Land Use 151 (Mini Warehouse)

Land Use: 151 Mini-Warehouse

Description

A mini-warehouse is a building in which a number of storage units or vaults are rented for the storage of goods. They are typically referred to as “self-storage” facilities. Each unit is physically separated from other units, and access is usually provided through an overhead door or other common access point.

Time of Day Distribution for Parking Demand

The following table presents a time-of-day distribution of parking demand on a weekday (nine study sites) and a Saturday (one study site) in a general urban/suburban setting.

	Percent of Peak Parking Demand	
Hour Beginning	**Weekday**	**Saturday**
12:00–4:00 a.m.	0	–
5:00 a.m.	0	–
6:00 a.m.	0	–
7:00 a.m.	0	–
8:00 a.m.	14	–
9:00 a.m.	71	–
10:00 a.m.	50	–
11:00 a.m.	79	–
12:00 p.m.	57	–
1:00 p.m.	64	91
2:00 p.m.	64	27
3:00 p.m.	79	55
4:00 p.m.	71	100
5:00 p.m.	100	91
6:00 p.m.	14	27
7:00 p.m.	0	0
8:00 p.m.	0	–
9:00 p.m.	0	–
10:00 p.m.	0	–
11:00 p.m.	0	–

Additional Data

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in British Columbia (CAN), California, Massachusetts, Minnesota, and Texas.

Source Numbers

37, 314, 415, 556, 562

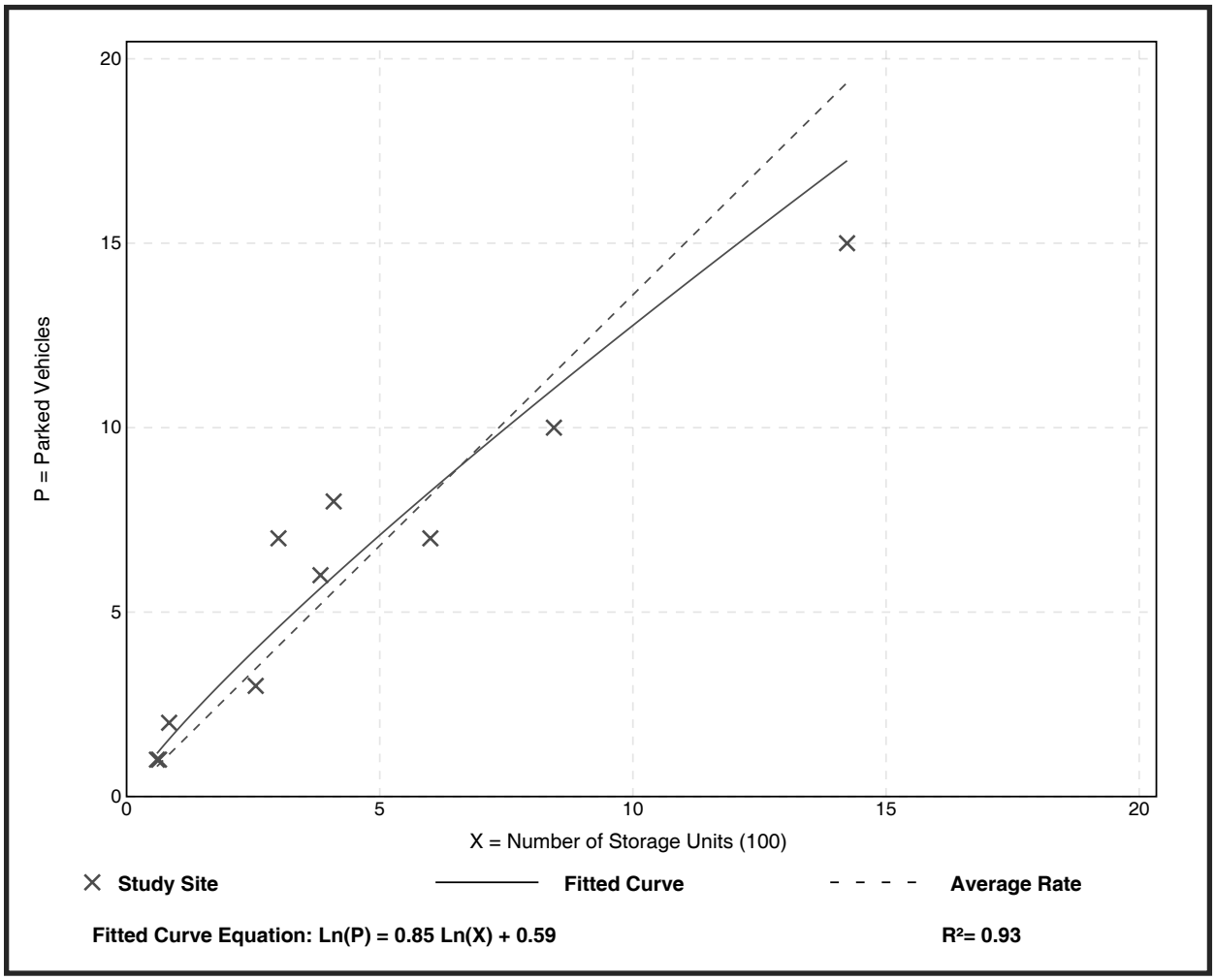
Mini-Warehouse
(151)

Peak Period Parking Demand vs: **Storage Units (100)**
On a: **Weekday (Monday - Friday)**
Setting/Location: **General Urban/Suburban**
Peak Period of Parking Demand: **4:00 - 6:00 p.m.**
Number of Studies: 10
Avg. Num. of Storage Units (100): 4.4

Peak Period Parking Demand per Storage Unit (100)

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
1.36	1.05 - 2.38	1.18 / 2.35	***	0.43 (32%)

Data Plot and Equation



Parking Generation Manual, 5th Edition ● Institute of Transportation Engineers

Mini-Warehouse
(151)

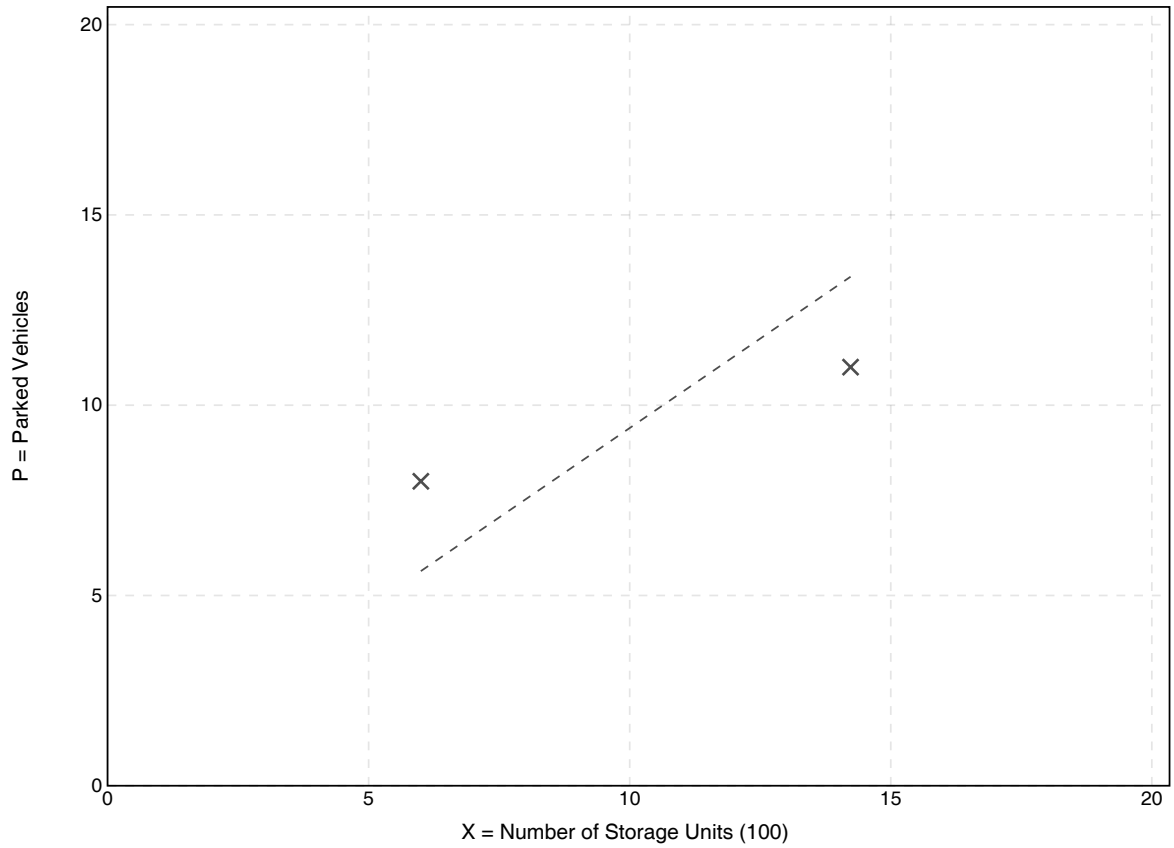
Peak Period Parking Demand vs: **Storage Units (100)**
On a: **Saturday**
Setting/Location: **General Urban/Suburban**
Peak Period of Parking Demand: **1:00 - 5:00 p.m.**
Number of Studies: 2
Avg. Num. of Storage Units (100): 10

Peak Period Parking Demand per Storage Unit (100)

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.94	0.77 - 1.33	*** / ***	***	***

Data Plot and Equation

Caution – Small Sample Size



Parking Generation Manual, 5th Edition ● Institute of Transportation Engineers

Appendix B

Lighting Specifications

D-Series Size 0
LED Area Luminaire

Catalog Number

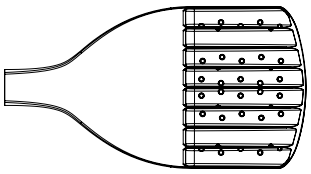
Notes

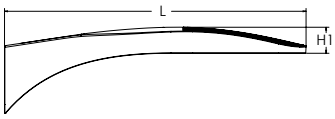
Type

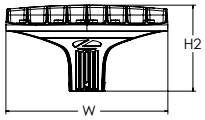
Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA:	0.44 ft² (0.04 m²)
Length:	26.18" (66.5 cm)
Width:	14.06" (35.7 cm)
Height H1:	2.26" (5.7 cm)
Height H2:	7.46" (18.9 cm)
Weight:	23 lbs (10.4 kg)







Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications, with typical energy savings of 70% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX0 LED P6 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX0 LED

Series

DSX0 LED

LEDs

Forward optics

P1	P5
P2	P6
P3	P7
P4	

Rotated optics

P10[1]	P12[1]
P11[1]	P13[1]

Color temperature[2]

(this section 70CRI only)

30K	3000K
40K	4000K
50K	5000K

(this section 80CRI only, extended lead times apply)

27K	2700K
30K	3000K
35K	3500K
40K	4000K
50K	5000K

Color Rendering Index[2]

30K	70CRI
40K	70CRI
50K	70CRI
27K	80CRI
30K	80CRI
35K	80CRI
40K	80CRI
50K	80CRI

Distribution

AFR	Automotive front row
T1S	Type I short
T2M	Type II medium
T3M	Type III medium
T3LG	Type III low glare[3]
T4M	Type IV medium
T4LG	Type IV low glare[3]
TFTM	Forward throw medium
T5M	Type V medium
T5LG	Type V low glare
T5W	Type V wide
BLC3	Type III backlight control[3]
BLC4	Type IV backlight control[3]
LCCO	Left corner cutoff[3]
RCCO	Right corner cutoff[3]

Voltage

MVOLT	(120V-277V)[4]
HVOLT	(347V-480V)[5,6]
XVOLT	(277V-480V)[7,8]

Mounting

Shipped included

SPA	Square pole mounting (#8 drilling, 3.5" min. SQ pole)
RPA	Round pole mounting (#8 drilling, 3" min. RND pole)
SPA5	Square pole mounting (#5 drilling. 3" min. SQ pole)[9]
RPA5	Round pole mounting (#5 drilling, 3" min. RND pole)[9]
SPA8N	Square narrow pole mounting (#8 drilling, 3" min. SQ pole)
WBA	Wall bracket[10]
MA	Mast arm adapter (mounts on 2 3/8" OD horizontal tenon)

Control options

Shipped installed

NLTAIR2 PIRHN	nLight AIR gen 2 enabled with bi-level motion / ambient sensor, 8-40' mounting height, ambient sensor enabled at 2fc.[11,12,18,19]
PIR	High/low, motion/ambient sensor, 8-40' mounting height, ambient sensor enabled at 2fc[13,18,19]
PER	NEMA twist-lock receptacle only (controls ordered separate)[14]
PER5	Five-pin receptacle only (controls ordered separate)[14,19]
PER7	Seven-pin receptacle only (controls ordered separate)[14,19]
FAO	Field adjustable output[15,19]
BL30	Bi-level switched dimming, 30%[16,19]
BL50	Bi-level switched dimming, 50%[16,19]
DMG	0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately)[17]

Other options

Shipped installed

HS	Houseside shield (black finish standard)[20]
L90	Left rotated optics[1]
R90	Right rotated optics[1]
CCE	Coastal Construction[21]
HA	50°C ambient operation[22]

Shipped separately

EGSR	External Glare Shield (reversible, field install required, matches housing finish)
BSDB	Bird Spikes (field install required)

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

Ordering Information

Accessories

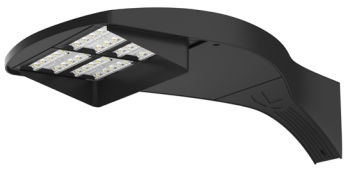
Ordered and shipped separately.

DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) [23]
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) [23]
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) [23]
DSHORT SBK	Shorting cap [23]
DSX0HS P#	House-side shield (enter package number P1-7, P10-13 in place of #)
DSXRPA (FINISH)	Round pole adapter (#8 drilling, specify finish)
DSXRPA5 (FINISH)	Round pole adapter #5 drilling (specify finish)
DSXSPA5 (FINISH)	Square pole adapter #5 drilling (specify finish)
DSX0EGSR (FINISH)	External glare shield (specify finish)
DSX0BSDB (FINISH)	Bird spike deterrent bracket (specify finish)

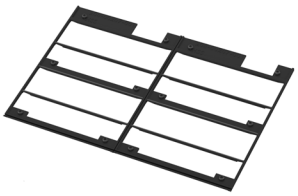
NOTES

1 Rotated optics available with packages P10, P11, P12 and P13. Must be combined with option L90 or R90.
2 30K, 40K, and 50K available in 70CRI and 80CRI. 27K and 35K only available with 80CRI. Contact Technical Support for other possible combinations.
3 T3LG, T4LG, BLC3, BLC4, LCCO, RCCO not available with option HS.
4 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
5 HVOLT driver operates on any line voltage from 347-480V (50/60 Hz).
6 HVOLT not available with package P1, P2 and P10 when combined with option NLTAIR2 PIRHN or option PIR.
7 XVOLT operates with any voltage between 277V and 480V (50/60 Hz).
8 XVOLT not available in packages P1, P2 or P10.
9 SPA5 and RPA5 for use with #5 drilling only (Not for use with #8 drilling).
10 WBA cannot be combined with Type 5 distributions plus photocell (PER).
11 NLTAIR2 and PIRHN must be ordered together. For more information on nLight Air 2.
12 NLTAIR2 PIRHN not available with other controls including PIR, PER, PER5, PER7, FAO, BL30, BL50 and DMG. NLTAIR2 PIRHN not available with P1, P2 and P10 using HVOLT. NLTAIR2 PIRHN not available with P1, P2 and P10 using XVOLT.
13 PIR not available with NLTAIR2, PER, PER5, PER7, FAO BL30, BL50 and DMG. PIR not available with P1, P2 and P10 using HVOLT. PIR not available with P1, P2 and P10 using XVOLT.
14 PER/PER5/PER7 not available with NLTAIR2, PIR, BL30, BL50. Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
15 FAO not available with other dimming control options NLTAIR2 PIRHN, PIR, PER5, PER7, BL30, BL50, or DMG.
16 BL30 and BL50 are not available with NLTAIR2 PIRHN, PIR, PER, PER5, PER7, FAO and DMG.
17 DMG not available with NLTAIR2 PIRHN, PIR, PER, PER5, PER7, BL30, BL50 and FAO.
18 Reference Motion Sensor Default Settings table on page 4 to see functionality.
19 Reference Controls Options table on page 4.
20 Option HS not available with T3LG, T4LG, BLC3, BLC4, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
21 CCE option not available with option BS and EGSR. Contact Technical Support for availability.
22 Option HA not available with performance packages P6, P7, P12 and P13.
23 Requires luminaire to be specified with PER, PER5 or PER7 option. See Controls Table on page 4.

Shield Accessories



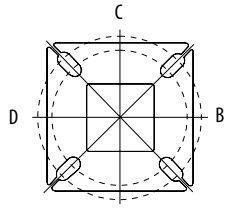
External Glare Shield (EGSR)



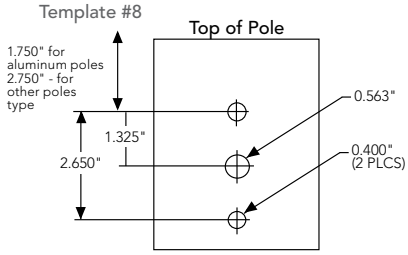
House Side Shield (HS)

Drilling

HANDHOLE ORIENTATION
(from top of pole)



Template #8



Tenon Mounting Slipfitter

Tenon O.D.	Mounting	Single Unit	2 @ 180	2 @ 90	3 @ 90	3 @120	4 @ 90
2-3/8"	RPA	AS3-5 190	AS3-5 280	AS3-5 290	AS3-5 390	AS3-5 320	AS3-5 490
2-7/8"	RPA	AST25-190	AST25-280	AST25-290	AST25-390	AST25-320	AST25-490
4"	RPA	AST35-190	AST35-280	AST35-290	AST35-390	AST35-320	AST35-490

Mounting Option	Drilling Template	Single	2 @ 180	2 @ 90	3 @ 90	3 @ 120	4 @ 90
Head Location		Side B	Side B & D	Side B & C	Side B, C & D	Round Pole Only	Side A, B, C & D
Drill Nomenclature	#8	DM19AS	DM28AS	DM29AS	DM39AS	DM32AS	DM49AS
		Minimum Acceptable Outside Pole Dimension					
SPA	#8	3.5"	3.5"	3.5"	3.5"		3.5"
RPA	#8	3"	3"	3"	3"	3"	3"
SPA5	#5	3"	3"	3"	3"		3"
RPA5	#5	3"	3"	3"	3"	3"	3"
SPA8N	#8	3"	3"	3"	3"		3"

DSX0 Area Luminaire - EPA

*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

Fixture Quantity & Mounting Configuration	Single DM19	2 @ 180 DM28	2 @ 90 DM29	3 @ 90 DM39	3 @ 120 DM32	4 @ 90 DM49
Mounting Type						
DSX0 with SPA	0.44	0.88	0.96	1.18	---	1.16
DSX0 with SPA5, SPA8N	0.51	1.02	1.06	1.26	---	1.29
DSX0 with RPA, RPA5	0.51	1.02	1.06	1.26	1.24	1.29
DSX0 with MA	0.64	1.28	1.24	1.67	1.70	1.93

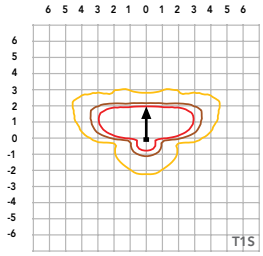
Photometric Diagrams

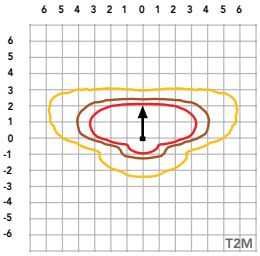
To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's homepage.

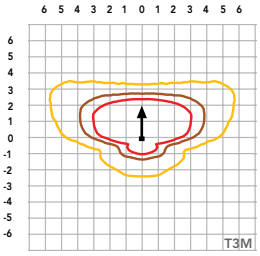
Isofootcandle plots for the DSX0 LED P7 40K 70CRI. Distances are in units of mounting height (20').

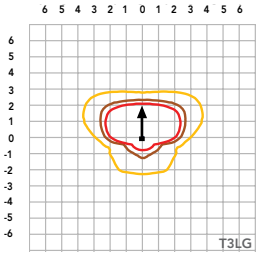
LEGEND

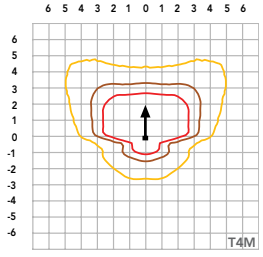
- 0.1 fc
- 0.5 fc
- 1.0 fc

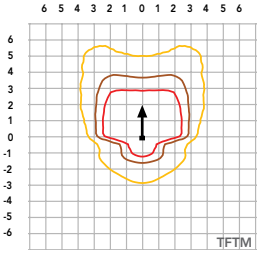


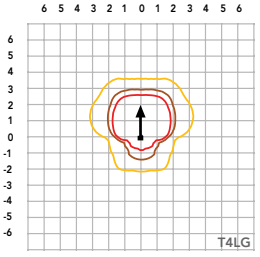


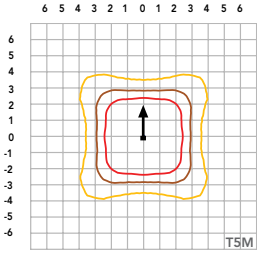


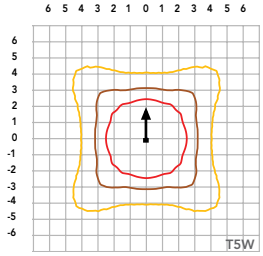


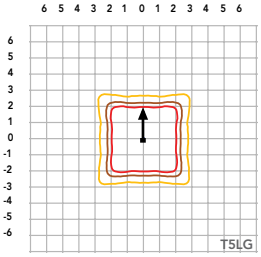


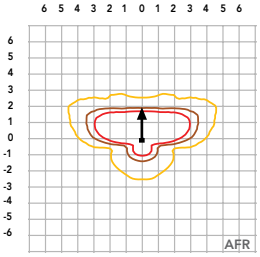


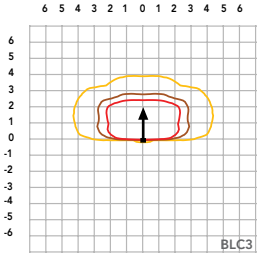


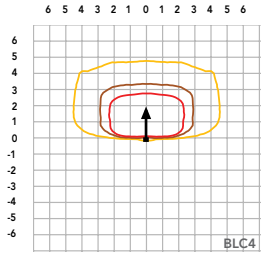


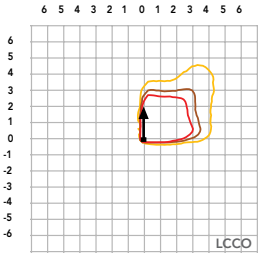


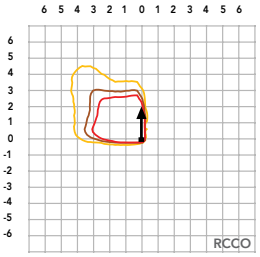












Lumen Ambient Temperature (LAT) Multipliers

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	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	50°F	1.02
20°C	68°F	1.01
25°C	**77°C**	**1.00**
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

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	Lumen Maintenance Factor
0	1.00
25,000	0.94
50,000	0.89
100,000	0.80

FAO Dimming Settings

FAO Position	% Wattage	% Lumen Output
8	100%	100%
7	93%	95%
6	80%	85%
5	66%	73%
4	54%	61%
3	41%	49%
2	29%	36%
1	15%	20%

*Note: Calculated values are based on original performance package data. When calculating new values for given FAO position, use published values for each package based on input watts and lumens by optic type.

Electrical Load

	Performance Package	LED Count	Drive Current (mA)	Wattage	Current (A) 120V	208V	240V	277V	347V	480V
Forward Optics (Non-Rotated)	P1	20	530	34	0.28	0.16	0.14	0.12	0.10	0.07
	P2	20	700	45	0.38	0.22	0.19	0.16	0.13	0.09
	P3	20	1050	69	0.57	0.33	0.29	0.25	0.20	0.14
	P4	20	1400	94	0.78	0.45	0.39	0.34	0.27	0.19
	P5	40	700	89	0.75	0.43	0.38	0.33	0.26	0.19
	P6	40	1050	136	1.14	0.66	0.57	0.49	0.39	0.29
	P7	40	1300	170	1.42	0.82	0.71	0.62	0.49	0.36
Rotated Optics (Requires L90 or R90)	P10	30	530	51	0.42	0.24	0.21	0.18	0.15	0.11
	P11	30	700	67	0.57	0.33	0.28	0.25	0.20	0.14
	P12	30	1050	103	0.86	0.50	0.43	0.37	0.30	0.22
	P13	30	1300	129	1.07	0.62	0.54	0.46	0.37	0.27

LED Color Temperature / Color Rendering Multipliers

	70 CRI		80CRI		90CRI	
	Lumen Multiplier	Availability	Lumen Multiplier	Availability	Lumen Multiplier	Availability
5000K	102%	Standard	92%	Extended lead-time	71%	(see note)
4000K	100%	Standard	92%	Extended lead-time	67%	(see note)
3500K	100%	(see note)	90%	Extended lead-time	63%	(see note)
3000K	96%	Standard	87%	Extended lead-time	61%	(see note)
2700K	94%	(see note)	85%	Extended lead-time	57%	(see note)

Note: Some LED types are available as per special request. Contact Technical Support for more information.

Motion Sensor Default Settings

Option	Unoccupied Dimmed Level	High Level (when occupied)	Phototcell Operation	Dwell Time	Ramp-up Time	Dimming Fade Rate
PIR	30%	100%	Enabled @ 2FC	7.5 min	3 sec	5 min
NLTAIR2 PIRHN	30%	100%	Enabled @ 2FC	7.5 min	3 sec	5 min

Controls Options

Nomenclature	Description	Functionality	Primary control device	Notes
FAO	Field adjustable output device installed inside the luminaire; wired to the driver dimming leads.	Allows the luminaire to be manually dimmed, effectively trimming the light output.	FAO device	Cannot be used with other controls options that need the 0-10V leads
DS (not available on DSX0)	Drivers wired independently for 50/50 luminaire operation	The luminaire is wired to two separate circuits, allowing for 50/50 operation.	Independently wired drivers	Requires two separately switched circuits. Consider nLight AIR as a more cost effective alternative.
PER5 or PER7	Twist-lock photocell receptacle	Compatible with standard twist-lock photocells for dusk to dawn operation, or advanced control nodes that provide 0-10V dimming signals.	Twist-lock photocells such as DLL Elite or advanced control nodes such as ROAM.	Pins 4 & 5 to dimming leads on driver, Pins 6 & 7 are capped inside luminaire. Cannot be used with other controls options that need the 0-10V leads.
PIR	Motion sensor with integral photocell. Sensor suitable for 8' to 40' mounting height.	Luminaires dim when no occupancy is detected.	Acuity Controls rSBG	Cannot be used with other controls options that need the 0-10V leads.
NLTAIR2 PIRHN	nLight AIR enabled luminaire for motion sensing, photocell and wireless communication.	Motion and ambient light sensing with group response. Scheduled dimming with motion sensor over-ride when wirelessly connected to the nLight Eclypse.	nLight Air rSBG	nLight AIR sensors can be programmed and commissioned from the ground using the CIAIRity Pro app. Cannot be used with other controls options that need the 0-10V leads.
BL30 or BL50	Integrated bi-level device that allows a second control circuit to switch all light engines to either 30% or 50% light output	BLC device provides input to 0-10V dimming leads on all drivers providing either 100% or dimmed (30% or 50%) control by a secondary circuit	BLC UVOLT1	BLC device is powered off the 0-10V dimming leads, thus can be used with any input voltage from 120 to 480V

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 configurations shown within the tolerances described within LM-79.
Contact factory for performance data on any configurations not shown here.

Forward Optics

Performance Package	System Watts	LED Count	Drive Current (mA)	Distribution Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P1	33W	20	530	T1S	4,906	1	0	1	148	5,113	1	0	1	154	5,213	1	0	1	157
				T2M	4,545	1	0	2	137	4,736	1	0	2	143	4,829	1	0	2	145
				T3M	4,597	1	0	2	138	4,791	1	0	2	144	4,885	1	0	2	147
				T3LG	4,107	1	0	1	124	4,280	1	0	1	129	4,363	1	0	1	131
				T4M	4,666	1	0	2	141	4,863	1	0	2	146	4,957	1	0	2	149
				T4LG	4,244	1	0	1	128	4,423	1	0	1	133	4,509	1	0	1	136
				TFTM	4,698	1	0	2	141	4,896	1	0	2	147	4,992	1	0	2	150
				T5M	4,801	3	0	1	145	5,003	3	0	1	151	5,101	3	0	1	154
				T5W	4,878	3	0	1	147	5,084	3	0	2	153	5,183	3	0	2	156
				T5LG	4,814	2	0	1	145	5,018	2	0	1	151	5,115	2	0	1	154
				BLC3	3,344	0	0	1	101	3,485	0	0	1	105	3,553	0	0	1	107
				BLC4	3,454	0	0	2	104	3,599	0	0	2	108	3,670	0	0	2	111
				RCCO	3,374	0	0	1	102	3,517	0	0	1	106	3,585	0	0	1	108
				LCCO	3,374	0	0	1	102	3,517	0	0	1	106	3,585	0	0	1	108
				AFR	4,906	1	0	1	148	5,113	1	0	1	154	5,213	1	0	1	157
P2	45W	20	700	T1S	6,328	1	0	1	140	6,595	1	0	1	146	6,724	1	0	1	149
				T2M	5,862	1	0	2	130	6,109	1	0	2	135	6,228	1	0	2	138
				T3M	5,930	1	0	3	131	6,180	1	0	3	137	6,301	1	0	3	140
				T3LG	5,297	1	0	1	117	5,521	1	0	1	122	5,628	1	0	1	125
				T4M	6,018	1	0	3	133	6,272	1	0	3	139	6,395	1	0	3	142
				T4LG	5,474	1	0	1	121	5,705	1	0	1	126	5,816	1	0	1	129
				TFTM	6,060	1	0	3	134	6,316	1	0	3	140	6,439	1	0	3	143
				T5M	6,192	3	0	1	137	6,453	3	0	2	143	6,579	3	0	2	146
				T5W	6,293	3	0	2	139	6,558	3	0	2	145	6,686	3	0	2	148
				T5LG	6,210	2	0	1	138	6,472	3	0	1	143	6,598	3	0	1	146
				BLC3	4,313	0	0	2	96	4,495	0	0	2	100	4,583	0	0	2	102
				BLC4	4,455	0	0	2	99	4,643	0	0	2	103	4,733	0	0	2	105
				RCCO	4,352	0	0	2	96	4,536	0	0	2	100	4,624	0	0	2	102
				LCCO	4,352	0	0	2	96	4,536	0	0	2	100	4,624	0	0	2	102
				AFR	6,328	1	0	1	140	6,595	1	0	1	146	6,724	1	0	1	149
P3	69W	20	1050	T1S	9,006	1	0	2	131	9,386	1	0	2	136	9,569	1	0	2	139
				T2M	8,343	2	0	3	121	8,694	2	0	3	126	8,864	2	0	3	129
				T3M	8,439	2	0	3	122	8,795	2	0	3	128	8,967	2	0	3	130
				T3LG	7,539	1	0	2	109	7,857	1	0	2	114	8,010	1	0	2	116
				T4M	8,565	2	0	3	124	8,926	2	0	3	129	9,100	2	0	3	132
				T4LG	7,790	1	0	2	113	8,119	1	0	2	118	8,277	1	0	2	120
				TFTM	8,624	1	0	3	125	8,988	1	0	3	130	9,163	2	0	3	133
				T5M	8,812	3	0	2	128	9,184	4	0	2	133	9,363	4	0	2	136
				T5W	8,955	4	0	2	130	9,333	4	0	2	135	9,515	4	0	2	138
				T5LG	8,838	3	0	1	128	9,211	3	0	1	134	9,390	3	0	1	136
				BLC3	6,139	0	0	2	89	6,398	0	0	2	93	6,522	0	0	2	95
				BLC4	6,340	0	0	3	92	6,607	0	0	3	96	6,736	0	0	3	98
				RCCO	6,194	1	0	2	90	6,455	1	0	2	94	6,581	1	0	2	95
				LCCO	6,194	1	0	2	90	6,455	1	0	2	94	6,581	1	0	2	95
				AFR	9,006	1	0	2	131	9,386	1	0	2	136	9,569	1	0	2	139
P4	93W	20	1400	T1S	11,396	1	0	2	122	11,877	1	0	2	128	12,109	2	0	2	130
				T2M	10,557	2	0	3	113	11,003	2	0	3	118	11,217	2	0	3	121
				T3M	10,680	2	0	3	115	11,130	2	0	3	120	11,347	2	0	3	122
				T3LG	9,540	1	0	2	103	9,942	1	0	2	107	10,136	1	0	2	109
				T4M	10,839	2	0	3	117	11,296	2	0	3	121	11,516	2	0	4	124
				T4LG	9,858	1	0	2	106	10,274	1	0	2	110	10,474	1	0	2	113
				TFTM	10,914	2	0	3	117	11,374	2	0	3	122	11,596	2	0	3	125
				T5M	11,152	4	0	2	120	11,622	4	0	2	125	11,849	4	0	2	127
				T5W	11,332	4	0	3	122	11,811	4	0	3	127	12,041	4	0	3	129
				T5LG	11,184	3	0	1	120	11,656	3	0	2	125	11,883	3	0	2	128
				BLC3	7,768	0	0	2	83	8,096	0	0	2	87	8,254	0	0	2	89
				BLC4	8,023	0	0	3	86	8,362	0	0	3	90	8,524	0	0	3	92
				RCCO	7,838	1	0	2	84	8,169	1	0	2	88	8,328	1	0	2	90
				LCCO	7,838	1	0	2	84	8,169	1	0	2	88	8,328	1	0	2	90
				AFR	11,396	1	0	2	122	11,877	1	0	2	128	12,109	2	0	2	130

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 configurations shown within the tolerances described within LM-79.
Contact factory for performance data on any configurations not shown here.

Forward Optics

Performance Package	System Watts	LED Count	Drive Current (mA)	Distribution Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P5	90W	40	700	T1S	12,380	2	0	2	137	12,902	2	0	2	143	13,154	2	0	2	146
				T2M	11,468	2	0	3	127	11,952	2	0	3	133	12,185	2	0	3	135
				T3M	11,601	2	0	3	129	12,091	2	0	3	134	12,326	2	0	4	137
				T3LG	10,363	2	0	2	115	10,800	2	0	2	120	11,011	2	0	2	122
				T4M	11,774	2	0	4	131	12,271	2	0	4	136	12,510	2	0	4	139
				T4LG	10,709	1	0	2	119	11,160	2	0	2	124	11,378	2	0	2	126
				TFTM	11,856	2	0	3	132	12,356	2	0	4	137	12,596	2	0	4	140
				T5M	12,114	4	0	2	134	12,625	4	0	2	140	12,871	4	0	2	143
				T5W	12,310	4	0	3	137	12,830	4	0	3	142	13,080	4	0	3	145
				T5LG	12,149	3	0	2	135	12,662	3	0	2	141	12,908	3	0	2	143
				BLC3	8,438	0	0	2	94	8,794	0	0	2	98	8,966	0	0	2	99
				BLC4	8,715	0	0	3	97	9,083	0	0	3	101	9,260	0	0	3	103
				RCCO	8,515	1	0	2	94	8,874	1	0	2	98	9,047	1	0	2	100
				LCCO	8,515	1	0	2	94	8,874	1	0	2	98	9,047	1	0	2	100
				AFR	12,380	2	0	2	137	12,902	2	0	2	143	13,154	2	0	2	146
P6	137W	40	1050	T1S	17,545	2	0	3	128	18,285	2	0	3	133	18,642	2	0	3	136
				T2M	16,253	3	0	4	119	16,939	3	0	4	124	17,269	3	0	4	126
				T3M	16,442	2	0	4	120	17,135	3	0	4	125	17,469	3	0	4	128
				T3LG	14,687	2	0	2	107	15,306	2	0	2	112	15,605	2	0	2	114
				T4M	16,687	2	0	4	122	17,391	3	0	5	127	17,730	3	0	5	129
				T4LG	15,177	2	0	2	111	15,817	2	0	2	115	16,125	2	0	2	118
				TFTM	16,802	2	0	4	123	17,511	2	0	4	128	17,852	2	0	5	130
				T5M	17,168	4	0	2	125	17,893	5	0	3	131	18,241	5	0	3	133
				T5W	17,447	5	0	3	127	18,183	5	0	3	133	18,537	5	0	3	135
				T5LG	17,218	4	0	2	126	17,944	4	0	2	131	18,294	4	0	2	134
				BLC3	11,959	0	0	3	87	12,464	0	0	3	91	12,707	0	0	3	93
				BLC4	12,352	0	0	4	90	12,873	0	0	4	94	13,124	0	0	4	96
				RCCO	12,067	1	0	3	88	12,576	1	0	3	92	12,821	1	0	3	94
				LCCO	12,067	1	0	3	88	12,576	1	0	3	92	12,821	1	0	3	94
				AFR	17,545	2	0	3	128	18,285	2	0	3	133	18,642	2	0	3	136
P7	171W	40	1300	T1S	20,806	2	0	3	122	21,683	2	0	3	127	22,106	2	0	3	129
				T2M	19,273	3	0	4	113	20,086	3	0	4	118	20,478	3	0	4	120
				T3M	19,497	3	0	5	114	20,319	3	0	5	119	20,715	3	0	5	121
				T3LG	17,416	2	0	2	102	18,151	2	0	2	106	18,504	2	0	2	108
				T4M	19,787	3	0	5	116	20,622	3	0	5	121	21,024	3	0	5	123
				T4LG	17,997	2	0	2	105	18,756	2	0	2	110	19,121	2	0	2	112
				TFTM	19,924	3	0	5	117	20,765	3	0	5	122	21,170	3	0	5	124
				T5M	20,359	5	0	3	119	21,217	5	0	3	124	21,631	5	0	3	127
				T5W	20,689	5	0	3	121	21,561	5	0	3	126	21,982	5	0	3	129
				T5LG	20,418	4	0	2	120	21,279	4	0	2	125	21,694	4	0	2	127
				BLC3	14,182	0	0	3	83	14,780	0	0	3	87	15,068	0	0	3	88
				BLC4	14,647	0	0	4	86	15,265	0	0	4	89	15,562	0	0	4	91
				RCCO	14,309	1	0	3	84	14,913	1	0	3	87	15,204	1	0	3	89
				LCCO	14,309	1	0	3	84	14,913	1	0	3	87	15,204	1	0	3	89
				AFR	20,806	2	0	3	122	21,683	2	0	3	127	22,106	2	0	3	129

Performance Data

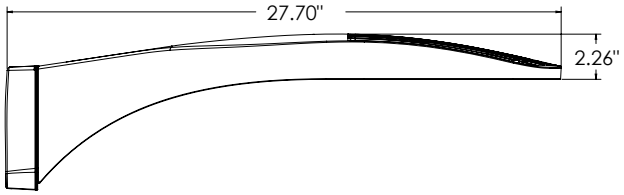
Lumen Output

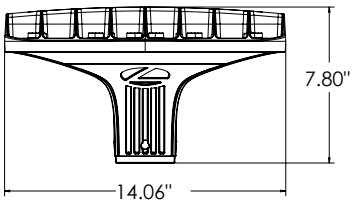
Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of configurations shown within the tolerances described within LM-79. Contact factory for performance data on any configurations not shown here.

Rotated Optics

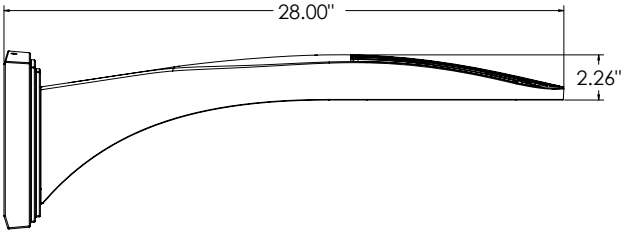
Performance Package	System Watts	LED Count	Drive Current (mA)	Distribution Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P10	51W	30	530	T1S	7,399	3	0	3	145	7,711	3	0	3	151	7,862	3	0	3	154
				T2M	6,854	3	0	3	135	7,144	3	0	3	140	7,283	3	0	3	143
				T3M	6,933	3	0	3	136	7,225	3	0	3	142	7,366	3	0	3	145
				T3LG	6,194	2	0	2	122	6,455	2	0	2	127	6,581	2	0	2	129
				T4M	7,036	3	0	3	138	7,333	3	0	3	144	7,476	3	0	3	147
				T4LG	6,399	2	0	2	126	6,669	2	0	2	131	6,799	2	0	2	134
				TFTM	7,086	3	0	3	139	7,385	3	0	3	145	7,529	3	0	3	148
				T5M	7,239	3	0	2	142	7,545	3	0	2	148	7,692	3	0	2	151
				T5W	7,357	3	0	2	145	7,667	3	0	2	151	7,816	4	0	2	154
				T5LG	7,260	3	0	1	143	7,567	3	0	1	149	7,714	3	0	1	152
				BLC3	5,043	3	0	3	99	5,256	3	0	3	103	5,358	3	0	3	105
				BLC4	5,208	3	0	3	102	5,428	3	0	3	107	5,534	3	0	3	109
				RCCO	5,089	0	0	2	100	5,303	0	0	2	104	5,407	0	0	2	106
				LCCO	5,089	0	0	2	100	5,303	0	0	2	104	5,407	0	0	2	106
				AFR	7,399	3	0	3	145	7,711	3	0	3	151	7,862	3	0	3	154
P11	68W	30	700	T1S	9,358	3	0	3	138	9,753	3	0	3	143	9,943	3	0	3	146
				T2M	8,669	3	0	3	127	9,034	3	0	3	133	9,211	3	0	3	135
				T3M	8,768	3	0	3	129	9,138	3	0	3	134	9,316	3	0	3	137
				T3LG	7,833	3	0	3	115	8,164	3	0	3	120	8,323	3	0	3	122
				T4M	8,899	3	0	3	131	9,274	3	0	3	136	9,455	3	0	3	139
				T4LG	8,093	3	0	3	119	8,435	3	0	3	124	8,599	3	0	3	126
				TFTM	8,962	3	0	3	132	9,340	3	0	3	137	9,522	3	0	3	140
				T5M	9,156	4	0	2	135	9,542	4	0	2	140	9,728	4	0	2	143
				T5W	9,304	4	0	2	137	9,696	4	0	2	143	9,885	4	0	2	145
				T5LG	9,182	3	0	1	135	9,569	3	0	1	141	9,756	3	0	1	143
				BLC3	6,378	3	0	3	94	6,647	3	0	3	98	6,777	3	0	3	100
				BLC4	6,587	3	0	3	97	6,865	3	0	3	101	6,999	3	0	3	103
				RCCO	6,436	0	0	2	95	6,707	0	0	2	99	6,838	0	0	2	101
				LCCO	6,436	0	0	2	95	6,707	0	0	2	99	6,838	0	0	2	101
				AFR	9,358	3	0	3	138	9,753	3	0	3	143	9,943	3	0	3	146
P12	103W	30	1050	T1S	13,247	3	0	3	128	13,806	3	0	3	134	14,075	3	0	3	136
				T2M	12,271	4	0	4	119	12,789	4	0	4	124	13,038	4	0	4	126
				T3M	12,412	4	0	4	120	12,935	4	0	4	125	13,187	4	0	4	128
				T3LG	11,089	3	0	3	107	11,556	3	0	3	112	11,782	3	0	3	114
				T4M	12,597	4	0	4	122	13,128	4	0	4	127	13,384	4	0	4	129
				T4LG	11,457	3	0	3	111	11,940	3	0	3	116	12,173	3	0	3	118
				TFTM	12,686	4	0	4	123	13,221	4	0	4	128	13,479	4	0	4	130
				T5M	12,960	4	0	2	125	13,507	4	0	2	131	13,770	4	0	2	133
				T5W	13,170	4	0	3	127	13,726	4	0	3	133	13,994	4	0	3	135
				T5LG	12,998	3	0	2	126	13,546	3	0	2	131	13,810	3	0	2	134
				BLC3	9,029	3	0	3	87	9,409	3	0	3	91	9,593	3	0	3	93
				BLC4	9,324	4	0	4	90	9,718	4	0	4	94	9,907	4	0	4	96
				RCCO	9,110	1	0	2	88	9,495	1	0	2	92	9,680	1	0	2	94
				LCCO	9,110	1	0	2	88	9,494	1	0	2	92	9,680	1	0	2	94
				AFR	13,247	3	0	3	128	13,806	3	0	3	134	14,075	3	0	3	136
P13	129W	30	1300	T1S	15,704	3	0	3	122	16,366	3	0	3	127	16,685	4	0	4	130
				T2M	14,547	4	0	4	113	15,161	4	0	4	118	15,457	4	0	4	120
				T3M	14,714	4	0	4	114	15,335	4	0	4	119	15,634	4	0	4	121
				T3LG	13,145	3	0	3	102	13,700	3	0	3	106	13,967	3	0	3	108
				T4M	14,933	4	0	4	116	15,563	4	0	4	121	15,867	4	0	4	123
				T4LG	13,582	3	0	3	105	14,155	3	0	3	110	14,431	3	0	3	112
				TFTM	15,039	4	0	4	117	15,673	4	0	4	122	15,979	4	0	4	124
				T5M	15,364	4	0	2	119	16,013	4	0	2	124	16,325	4	0	2	127
				T5W	15,613	5	0	3	121	16,272	5	0	3	126	16,589	5	0	3	129
				T5LG	15,409	3	0	2	120	16,059	3	0	2	125	16,372	4	0	2	127
				BLC3	10,703	4	0	4	83	11,155	4	0	4	87	11,372	4	0	4	88
				BLC4	11,054	4	0	4	86	11,520	4	0	4	89	11,745	4	0	4	91
				RCCO	10,800	1	0	2	84	11,256	1	0	2	87	11,475	1	0	3	89
				LCCO	10,800	1	0	2	84	11,255	1	0	2	87	11,475	1	0	3	89
				AFR	15,704	3	0	3	122	16,366	3	0	3	127	16,685	4	0	4	130

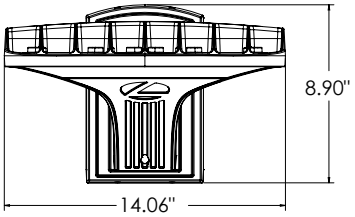
Dimensions



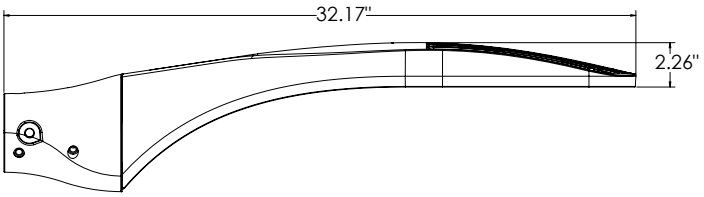


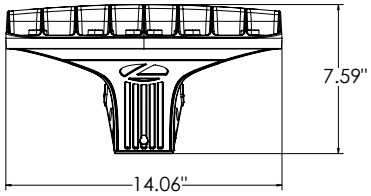
DSX0 with RPA, RPA5, SPA5, SPA8N mount
Weight: 25 lbs





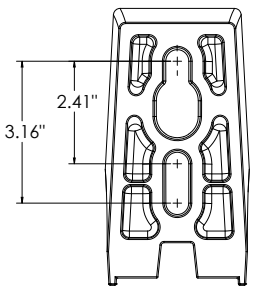
DSX0 with WBA mount
Weight: 27 lb



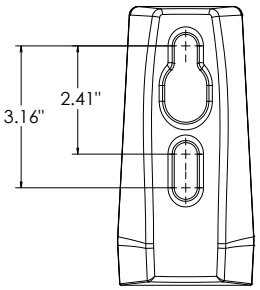


DSX0 with MA mount
Weight: 28 lbs

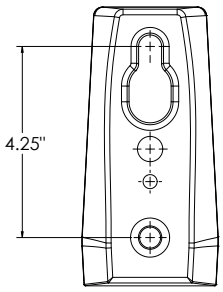
SPA (STANDARD ARM)



RPA



SPA5



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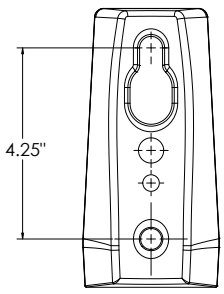
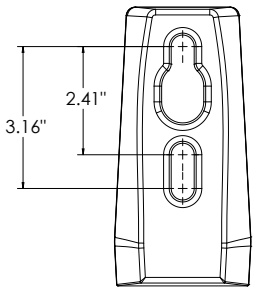


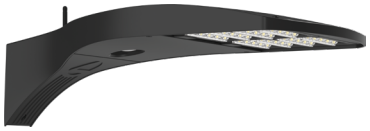
SPA8N

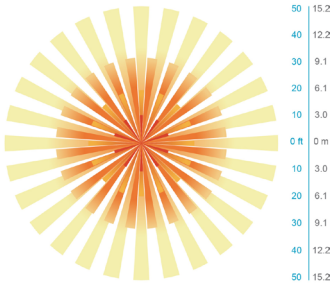


nLight Control - Sensor Coverage and Settings

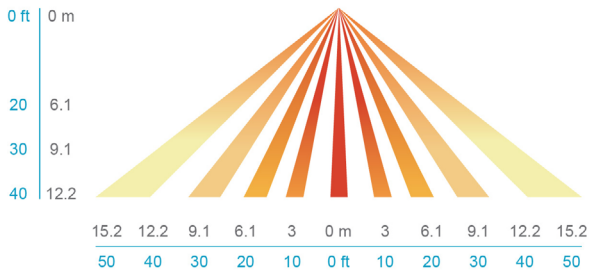
nLight Sensor Coverage Pattern

NLTAIR2 PIRHN





Top



Side

FEATURES & SPECIFICATIONS

INTENDED USE

The sleek design of the D-Series Size 0 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and pedestrian areas.

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 driver compartment is completely sealed against moisture and environmental contaminants (IP66). Vibration rated per ANSI C136.31 for 3G. Low EPA (0.44 ft²) 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.

COASTAL CONSTRUCTION (CCE)

Optional corrosion resistant construction is engineered with added corrosion protection in materials and/or pre-treatment of base material under super durable paint. Provides additional corrosion protection for applications near coastal areas. Finish is salt spray tested to over 5,000 hours per ASTM B117 with scribe rating of 10. Additional lead-times may apply.

OPTICS

Precision-molded proprietary silicone lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in 3000 K, 4000 K or 5000 K (70 CRI) configurations. 80CRI configurations are also available. The D-Series Size 0 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(s) configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L80/100,000 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 surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

STANDARD CONTROLS

The DSX0 LED area luminaire has a number of control options. DSX Size 0, comes standard with 0-10V dimming driver. Dusk to dawn controls can be utilized via optional NEMA twist-lock photocell receptacles. PIR integrated motion sensor with on-board photocell feature field-adjustable programing and are suitable for mounting heights up to 40 feet. Control option BL features a bi-level device that allows a second control circuit to switch all light engines to either 30% or 50% light output.

nLIGHT AIR CONTROLS

The DSX0 LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing and photocontrol functionality and is suitable for mounting heights up to 40 feet. Once commissioned using a smartphone and the easy-to-use CLAIRITY app, nLight AIR equipped luminaries can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclypse. Additional information about nLight Air can be found here.

INSTALLATION

Integral mounting arm allows for fast mounting using Lithonia standard #8 drilling and accommodates pole drilling's from 2.41 to 3.12" on center. The standard "SPA" option for square poles and the "RPA" option for round poles use the #8 drilling. For #5 pole drillings, use SPA5 or RPA5. Additional mountings are available including a wall bracket (WBA) and mast arm (MA) option that allows luminaire attachment to a 2 3/8" horizontal mast arm.

LISTINGS

UL listed to meet U.S. and Canadian standards. UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP66 rated. Rated for -40°C minimum ambient.

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

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

WARRANTY

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

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.

WDGE1 LED
Architectural Wall Sconce

Catalog Number

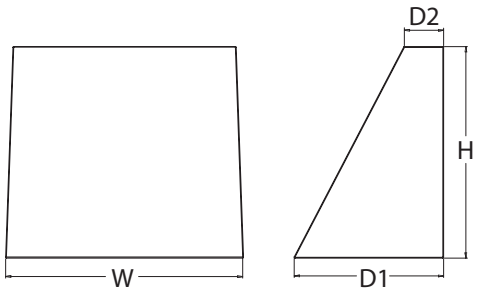
Notes

Type

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

Specifications

Depth (D1): 5.5"
Depth (D2): 1.5"
Height: 8"
Width: 9"
Weight: (without options) 9 lbs



Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing true site-wide solution.

WDGE1 delivers up to 2,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. The compact size of WDGE1, with its integrated emergency battery backup option, makes it an ideal over-the-door wall-mounted lighting solution.

WDGE LED Family Overview

Luminaire	Standard EM, 0°C	Cold EM, -20°C	Sensor	Lumens (4000K)					
				P1	P2	P3	P4	P5	P6
WDGE1 LED	4W	--	--	1,200	2,000	--	--	--	--
WDGE2 LED	10W	18W	Standalone / nLight	1,200	2,000	3,000	4,500	6,000	--
WDGE3 LED	15W	18W	Standalone / nLight	7,500	8,500	10,000	12,000	--	--
WDGE4 LED	--	--	Standalone / nLight	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information

EXAMPLE: WDGE1 LED P2 40K 80CRI VF MVOLT SRM PE DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting
WDGE1 LED	P1	27K 2700K	80CRI	VF Visual comfort forward throw	MVOLT	**Shipped included**
	P2	30K 3000K	90CRI	VW Visual comfort wide	347[2]	SRM Surface mounting bracket
		35K 3500K				ICW Indirect Canopy/Ceiling Washer bracket (dry/damp locations only)[5]
		40K 4000K				**Shipped separately**
		50K[1] 5000K				AWS 3/8inch Architectural wall spacer
						PBBW Surface-mounted back box (top, left, right conduit entry) Use when there is no junction box available.

Options	
E4WH[3]	Emergency battery backup, Certified in CA Title 20 MAEDBS (4W, 0°C min)
PE[4]	Photocell, Button Type
DS	Dual switching (comes with 2 drivers and 2 light engines; see page 3 for details)
DMG	0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)
BCE	Bottom conduit entry for back box (PBBW). Total of 4 entry points.
BAA	Buy America(n) Act Compliant

Finish			
DDBXD	Dark bronze	DDBTXD	Textured dark bronze
DBLXD	Black	DBLBXD	Textured black
DNAXD	Natural aluminum	DNATXD	Textured natural aluminum
DWHXD	White	DWHGXD	Textured white
DSSXD	Sandstone	DSSTXD	Textured sandstone

Accessories
Ordered and shipped separately.

WDGEAWS DDBXD	WDGE 3/8inch Architectural Wall Spacer (specify finish)
WDGE1PBBW DDBXD U	WDGE1 surface-mounted back box (specify finish)

NOTES
1. 50K not available in 90CRI.
2. 347V not available with E4WH, DS or PE.
3. E4WH not available with PE or DS.
4. PE not available with DS.
5. Not qualified for DLC. Not available with E4WH.

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.

Performance Package	System Watts	Dist. Type	27K (2700K, 80 CRI)					30K (3000K, 80 CRI)					35K (3500K, 80 CRI)					40K (4000K, 80 CRI)					50K (5000K, 80 CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P1	10W	VF	1,120	112	0	0	0	1,161	116	0	0	0	1,194	119	0	0	0	1,227	123	0	0	0	1,235	123	0	0	0
		VW	1,122	112	0	0	0	1,163	116	0	0	0	1,196	120	0	0	0	1,229	123	0	0	0	1,237	124	0	0	0
P2	15W	VF	1,806	120	1	0	0	1,872	125	1	0	0	1,925	128	1	0	0	1,978	132	1	0	0	1,992	133	1	0	0
		VW	1,809	120	1	0	0	1,876	125	1	0	0	1,929	128	1	0	0	1,982	132	1	0	0	1,996	133	1	0	0

Electrical Load

Performance Package	System Watts	Current (A)				
		120V	208V	240V	277V	347V
P1	10W	0.082	0.049	0.043	0.038	--
	13W	--	--	--	--	0.046
P2	15W	0.132	0.081	0.072	0.064	--
	18W	--	--	--	--	0.056

Lumen Multiplier for 90CRI

CCT	Multiplier
27K	0.845
30K	0.867
35K	0.845
40K	0.885
50K	0.898

Lumen Output in Emergency Mode (4000K, 80 CRI)

Option	Dist. Type	Lumens
E4WH	VF	646
	VW	647

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	1.03
10°C	50°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98

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	1.0	>0.96	>0.95	>0.91

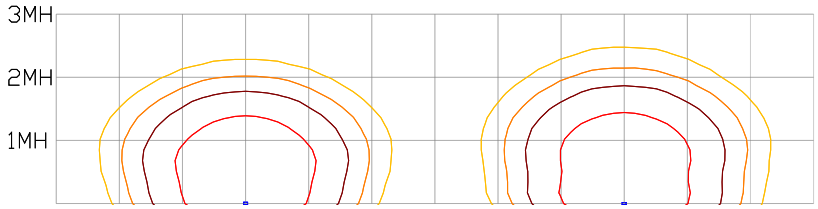
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting WDGE LED homepage. Tested in accordance with IESNA LM-79 and LM-80 standards.

LEGEND

- 0.25 fc
- 0.5 fc
- 1.0 fc
- 3.0 fc

MH = 8ft
Grid = 8ft x 8ft



WDGE1 LED P2 40K 80CRI VW

WDGE1 LED P2 40K 80CRI VF

Emergency Egress Options

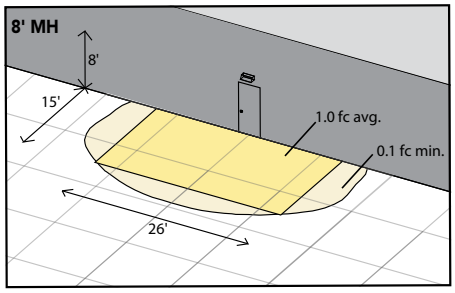
Emergency Battery Backup

The emergency battery backup is integral to the luminaire — no external housing required! This design provides reliable emergency operation while maintaining the aesthetics of the product. All emergency battery backup configurations include an independent secondary driver with an integral relay to immediately detect loss of normal power and automatically energize the luminaire. The emergency battery will power the luminaire for a minimum duration of 90 minutes (maximum duration of three hours) from the time normal power is lost and maintain a minimum of 60% of the light output at the end of 90minutes.

Applicable codes: NFPA 70/NEC – section 700.16, NFPA 101 Life Safety Code Section 7.9

The example below shows illuminance of 1 fc average and 0.1 fc minimum in emergency mode with E4WH and VF distribution.

Grid = 10ft x 10ft

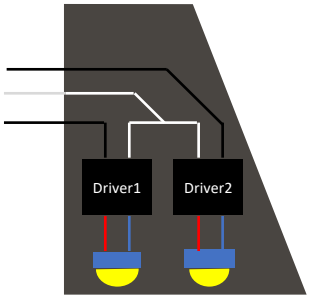


WDGE1 LED xx 40K 80CRI VF MVOLT E4WH

Dual Switching (DS) Option

The dual switching option offers operational redundancy that certain codes require. With this option the luminaire comes integrated with two drivers and two light engines. These work completely independent to each other so that a failure of any individual component does not cause the whole luminaire to go dark. This option is typically used with a back generator or inverter providing emergency power.

Applicable codes: NFPA 70/NEC – section 700.16, NFPA 101 Life Safety Code Section 7.9



Mounting, Options & Accessories

E4WH – 4W Emergency Battery Backup

D = 5.5"

H = 8"

W = 9"

PBBW – Surface-Mounted Back Box
Use when there is no junction box available.

D = 1.75"

H = 8"

W = 9"

AWS – 3/8inch Architectural Wall Spacer

D = 0.38"

H = 4.4"

W = 7.5"

FEATURES & SPECIFICATIONS

INTENDED USE
Common architectural look, with clean rectilinear shape, of the WDGE LED was designed to blend with any type of construction, whether it be tilt-up, frame or brick. Applications include commercial offices, warehouses, hospitals, schools, malls, restaurants, and other commercial buildings.

CONSTRUCTION
The single-piece die-cast aluminum housing integrates secondary heat sinks to optimize thermal transfer from the internal light engine heat sinks and promote long life. The driver is mounted in direct contact with the casting for a low operating temperature and long life. The die-cast door frame is fully gasketed with a one-piece solid silicone gasket to keep out moisture and dust, providing an IP66 rating for the luminaire.

FINISH
Exterior painted 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 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Standard Super Durable colors include dark bronze, black, natural aluminum, sandstone and white. Available in textured and non-textured finishes.

OPTICS
Well crafted reflector optics allow the light engine to be recessed within the luminaire, providing visual comfort, superior distribution, uniformity, and spacing in wall-mount applications. The WDGE LED 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 consists of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L91/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%. Luminaire comes with built in 6kV surge protection, which meets a minimum Category C low exposure (per ANSI/IEEE C62.41.2). Fixture ships standard with 0-10v dimmable driver.

INSTALLATION
A universal mounting plate with integral mounting support arms allows the fixture to hinge down for easy access while making wiring connections. The 3/8" Architectural Wall Spacer (AWS) can be used to create a floating appearance or to accommodate small imperfections in the wall surface. The ICW option can be used to mount the luminaire inverted for indirect lighting in dry and damp locations. Design can withstand up to a 1.5 G vibration load rating per ANSI C136.31.

LISTINGS
CSA certified to U.S. and Canadian standards. Luminaire is IP66 rated. PIR options are rated for wet location. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified. International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 2700K and 3000K color temperature only and SRM mounting only.

BUY AMERICAN ACT
Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations.
Please refer to www.acuitybrands.com/buy-american for additional information.

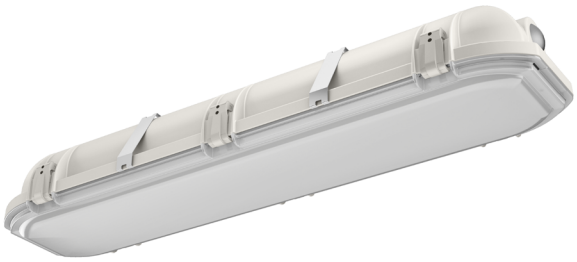
WARRANTY
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

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.

Catalog Number	
Notes	
Type	

LED Enclosed and Gasketed

DMW2



FEATURES & SPECIFICATIONS

INTENDED USE —For areas that require good vertical illumination and excellent glare control at low mounting heights. Ideal for open areas, retail spaces and aisles. Not for use or installation in direct outdoor sunlight. Must be installed under canopy or covered ceiling. For direct sunlight installations, please refer to the FEX product family. **Certain airborne contaminants can diminish the integrity of acrylic and/or polycarbonate. Click here for Acrylic-Polycarbonate Compatibility table for suitable uses.**

Certain airborne contaminants may adversely affect the functioning of LEDs and other electronic components, depending on various factors such as concentrations of the contaminants, ventilation, and temperature at the end-user location. Click here for a list of substances that may not be suitable for interaction with LEDs and other electronic components.

CONSTRUCTION — One-piece 5VA rated fiberglass housing with integral perimeter channel utilizes continuous poured-in-place NEMA 4X gasket. Simple two-piece design consists of housing and optical assembly to streamline installation process. Polymeric latches positively attach to housing and keep from becoming a hindrance during install.

OPTICS — Injection-molded, acrylic lens (.080" thick), provides high impact-resistance comparable to 100% DR. F1 rated for outdoor use, lenses resist breaking, yellowing or becoming brittle over time. UV stabilized polycarbonate diffuser available (.080" thick) in clear or frosted for additional impact strength. Polycarbonate lens is recommend for lower mounting heights where vandal protection is desired.

ELECTRICAL — Tool-less one piece optical assembly combines LEDs and lens into one component. Optical assembly easily connects to housing with plug and play harness, eliminating time consuming wiring connections. High-efficiency drivers operate 120-480V offered with 0-10V dimming, allowing granular control when coupled with wireless networking controls. Luminaire Surge Protection Level: Designed to withstand up to 2.5kV/0.75kA per ANSI C82.77-5-2015.

L85 at 60,000 hours.

INSTALLATION — Two-piece design makes installations faster than ever by simplifying wiring connections. Power connection is easily accommodated through pre-drilled holes at each end, optional wet location fittings available for maximum flexibility.

Stainless steel (#316) surface spring-mounting brackets with bail wires standard (2 included) allow for ceiling, wall or suspended mount.

Swivel stem(provided by others) when pendant mounting. Factory installed junction box option accommodates up to 4X4 sized boxes and includes integrated gasket to maintain wet location listings.

Quick Mount Bracket (QMB) ships installed on fixture and is recommended for fastest surface mount installs, ideal for end to end installations or larger jobs.

LISTINGS — CSA Certified to UL and C-UL standards. NEMA 4X rated. IP ratings: IP65 and IP66 rated. See page 3 for ambients.

NSF listed for Splash Zone II.

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

BUY AMERICAN ACT — Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

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.

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

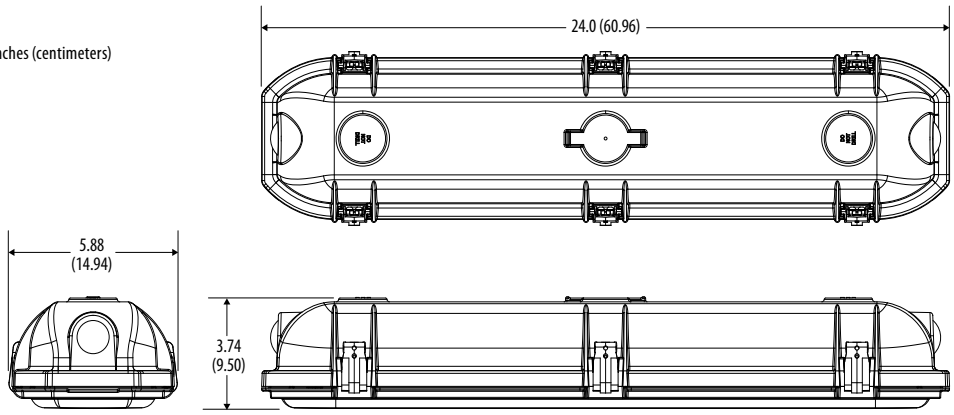
- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks marked by a shaded background*

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

DIMENSIONS

All dimensions are shown in inches (centimeters) unless otherwise noted.



PHOTOMETRICS

Please see www.lithonia.com.

A+ Capable options indicated by this color background.

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative. **Example:** DMW2 L24 4000LM PCL MD MVOLT GZ10 40K 80CRI

Series[1]	Length	Nominal lumens	Diffuser	Distribution	Voltage	Driver	Color temperature	Color rendering index
DMW2 LED wet location	L24 24"	2000LM 2,000 lumens 3000LM 3,000 lumens 4000LM 4,000 lumens	ACL Acrylic AFL Frosted acrylic PCL Polycarbonate PFL Frosted Polycarbonate	MD Medium distribution WD Wide distribution	MVOLT 120-277V 120 120V 208 208V 240 240V 277 277V 347 347V[1] 480 480V[1]	GZ10 0-10V Dimming	30K 3000 K 35K 3500 K 40K 4000 K 50K 5000 K	80CRI 80 CRI 90CRI 90 CRI

Options

PS1050	Emergency LED battery pack for 0°C and up (1400 lumens), 10W, CA Title 20 noncompliant [2]	CS88	6' Brad Harrison 16/3 cord and straight blade plug set, NEMA 4X rated [8]	MSI10NWL	Low mount 360 integral motion sensor, wet location, On/Off operation[11]
E10WCP	EM Self-diagnostics battery pack, 10W, Constant Power Certified in CA Title 20 MAEDBS [2,3]	CS88L12	12' Brad Harrison 16/3 cord and straight blade plug set, NEMA 4X rated [8]	MSI102L3VWL	Low mount 360 integral motion sensor, wet location, High/Low operation (3 level)[11]
PMP4X	Pendant monopoint with NEMA4X fitting (not available with JSB option)[3,4]	CS88R	Brad Harrison receptacle, NEMA 4X rated [9]	MSI10NWL DSCNWL	low mount 360 integral motion sensor, wet location , On/Off operation for motion sensing, override Off due to daylight[11]
WLFEND	Wet location fitting (one fitting out end)[5]	NOM	Nom certified	NLTAIR2 RSBOR10	nLight AIR Generation 2 enabled 360° low mount motion sensor[12]
WLFEND2	Wet location fitting (fittings out both ends)[6]	TPS	TorxT10 tamper-resistant screws		
JSB	Junction box snap-bracket[7]	STSL	Stainless steel latches		
QMB	Quick-mount ceiling bracket[7]	SPD	10KV surge protection device[10]		
CS89	6' white cord, 16/3, no plug, wet location[8]	BAA	Buy America(n) Act Compliant		
CS89L12	12' white cord, 16/3, no plug, wet location[8]				

Accessories: *Order as separate catalog number.*

RK1 T10BIT W/PIN U	Hex-base driver bit, Torx TX10, for tamper-resistant screws with center reject pin
DMW2WLF	Wet location fitting
DMW2QMB	Quick-mount ceiling bracket

Notes

1. Plastic latches supplied as standard. Provided with 2X KO plugs at both ends.
2. Not available with JSB, PMP4X mounting options. Not available with CS88 cord sets or CS88R receptacle. Must specify voltage. Not available with 347, 480V. Maximum ambient temperature 25°C.
3. Not for field install.
4. Not available with PS1050 option. Not available with QMB, JSB mounting options.
5. Not available with WLFEND2. Not available with PS1050. Not available with cordsets or sensors.
6. Not available with WLFEND, PS1050, CS cord sets, or MSI sensors.
7. Not available with other mounting options
8. Not available with other cord sets. Not available with PS1050 option.
9. Receptacle only. Not available with PS1050.
10. Not available with PS1050, SBOR & RSBOR.
11. Not available with other external MSI sensors or WLFEND2. Must specify voltage.
12. Not available with other external MSI sensors or WLFEND2. Normal luminaires (non-emergency) can be used as a normal power sensing device for nearby nLight AIR devices and luminaires with EM emergency options.

INDUSTRIAL: One Lithonia Way Conyers, GA 30012 Phone: 1-800-705-SERV (7378) www.lithonia.com

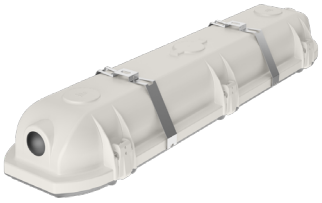
OPERATIONAL DATA (80 CRI*)					
Package	Input Wattage	CCT	AFL Lumens (LPW)	ACL Lumens (LPW)	Comparable Light Source
2000LM	18	30K	2419 (134)	2419 (134)	1-32T8 lamp
		35K	2481 (138)	2556 (142)	
		40K	2536 (141)	2612 (145)	
		50K	2661 (148)	2740 (152)	
3000LM	27	30K	3483 (129)	3587 (133)	2-32T8 lamps
		35K	3572 (132)	3680 (136)	
		40K	3651 (135)	3761 (139)	
		50K	3831 (142)	3946 (146)	
4000LM	40	30K	4631 (116)	4770 (119)	3-32T8 Lamps, 2-54T5HO lamps
		35K	4751 (119)	4893 (122)	
		40K	4855 (121)	5001 (125)	
		50K	5094 (127)	5247 (131)	

CSA LISTED AMBIENT RATING*			
Package	Bare Fixture	X-Point/Sensor	Emergency
2000LM	40°C	35°C	0 to 25°C
3000LM	40°C	35°C	0 to 25°C
4000LM	-40 to 40°C	35°C	0 to 25°C

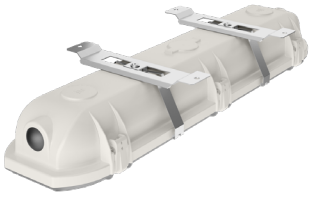
*Minimum Ambient is -20°C unless noted.
** Suspended 18" from ceiling.

OPTIONS AND ACCESSORIES

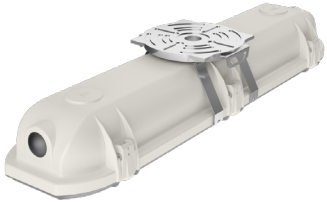
The DMW2 Series fixture offers numerous options for almost every electrical and optical component, including a long list of field-installable accessories.



SMB
Surface mounting bracket
(ships standard with fixture)



QMB
Quick mounting bracket
field installable option order as DMW2QMB



JSB
Junction mounting bracket
(factory installed only)
(Not intended for wall mounting.
Voids IP65 rating.)

PMP4X
Pendant monopoint
(factory installed only)

OPTIONS AND ACCESSORIES

The DMW2 Series fixture offers numerous options for almost every electrical and optical component, including a long list of field-installable accessories.

rSBOR/SBOR – Fixture Mount Sensor (see www.sensorswitch.com for additional information)

- 360° coverage
- On/Off dim
- Photocell optional
- IP66 rated
- Photocell and 0-10VDC dimming options.

Fixture sensor nomenclature	RSBOR/SBOR sensor nomenclature
For shortest lead times use one of the following SBOR configurations	
NLTAIR2 RSBOR10	RSBOR 10 EB4 WH G2
MSI10NWL	SBOR 10 OEX EB4 WH
MSI102L3VWL	SBOR 10 OEX D EB4 WH 3V
MSI10NWL DSCNWL	SBOR 10 OEX P EB4 WH

Appendix C

Wetland Functional Evaluation Report

Wetland Functional Evaluation Report

U-Haul Site
Route 9 and Stage Door Road
Town of Wappinger
Dutchess County, NY

September 7, 2023

Prepared by:

Michael Nowicki
Ecological Solutions, LLC
121 Leon Stocker Drive
Stratton, VT 05360
(2030 910-4716

1.0 EXISTING CONDITIONS/SUMMARY

Ecological Solutions, LLC completed a wetland functional evaluation and wetland/buffer impact assessment for the proposed U-Haul Site on Stagedoor Road and Route 9 in Wappinger, New York. The wetland area is regulated by the Town of Wappinger and the area drains to the Route 9 drainage system when flow from the site is present.

The Applicant is proposing to remove the existing warehouse building and construct two (2) new buildings necessary to operate their self-storage, U-Box, and truck/trailer rental business operations. The site plan will utilize four parcels (tax grid nos. 135689-6156-02-777824,771855,794847 & 820883) which will be combined as part of this project proposal.

The Applicant is proposing to disturb a portion of the local Town of Wappinger wetland given the narrowness of the parcel and mitigation is provided for the impacts.

The wetland area on the property meets the criteria to be defined as wetlands/waters of the US by the US Army Corps of Engineers (USACE) however is not regulated by that Agency as a result of the current definition of waters of the US as amended in July 2023 by the US Supreme Court since water flowing from the site has no direct perennial connection to navigable waters. Also, there are no New York State Department of Environmental Conservation (NYSDEC) regulated wetlands on the site.

2.0 BACKGROUND

Below is a summary of the existing conditions on the site that contains Local, Town of Wappinger regulated wetlands and the proposed impacts to these wetlands and associated 100foot buffer area designated by the Town of Wappinger.

The wetland borders NYS Route 9 and wetland vegetation includes spicebush red maple, American, elm, sensitive fern, and skunk cabbage associated with a small man-made ditch that drains the wetland west into the Route 9 drainage system. This drainage system is often dry with no water leaving the site. The upland buffer area immediately adjacent to the wetlands is open ground with a mix of a few young upland hardwoods dominated by red maple, eastern red cedar, and some oak. The wetland buffer on and surrounding the site was already impacted prior to the Town wetland code. The existing building in the front of the site currently exists within the 100-foot buffer. The developed property to the north (apartment houses) includes lawn with a septic system immediately adjacent to the wetlands, The commercial property to the north to the back of the apartment houses has construction and fill immediately adjacent to the wetlands.

The activities that are proposed in the areas of wetland and buffer on the site include stormwater bioretention (including bio-retention plantings) and detention, a portion of a building, and a wetland mitigation area to meet the Town wetland code.

Table 1
Wetland Functions Identified by Town Code

(1) Flood and storm control by the hydrologic absorption and storage capacity of freshwater wetlands.

(2) Wildlife habitat by providing breeding, nesting and feeding grounds and cover for many forms of wildlife, wildfowl and shorebirds, including migratory wildfowl and rare species.

(3) Protection of subsurface water resources and provision for valuable watersheds and recharging groundwater supplies.

(4) Recreation by providing areas for hunting, bird watching, photography and other uses.

(5) Pollution treatment by serving as biological and chemical oxidation basins.

(6) Erosion control by serving as sedimentation areas and filtering basins, absorbing silt and organic matter.

(7) Education and scientific research by providing readily accessible outdoor biophysical laboratories, living classrooms and training and education resources.

(8) Open space and aesthetic appreciation.

(9) Sources of nutrients in freshwater food cycles and nursery grounds and sanctuaries for freshwater fish.

3.0 WETLAND FUNCTIONAL EVALUATION

Several site investigations and analyses over several years have occurred to review the wetlands on the site with the most recent visit conducted on August 22, 2023 to determine the functions and benefits provided by the wetlands and to determine the impacts to these functions from the proposed development. In addition to field analyses, the following materials were reviewed:

- National Wetlands Inventory Map – Wappingers Falls Quadrangle
- Dutchess County Soil Survey
- NYSDEC Wetland and Stream Map

The wetland mitigation plan proposes to recreate the lost capacity from the proposed site development.

3.1 Methods

The functions and values assessment conducted on the property was based on the method outlined in *The Highway Methodology Workbook Supplement: Wetland Functions and Values, A Descriptive Approach*, by the U.S. Army Corps of Engineers New England District. This method was selected over an arbitrary numeric quantifying assessment scheme because it provides an objective, descriptive approach to functions and values assessment based on professional observation and judgment rather than a simple numeric value rating system. Quantified functions and values assessments do not always provide descriptive information about wetlands and therefore may overlook important aspects of wetland functions and values. The Highway Method provides for assessment of each wetland for thirteen defined functions and values. Of these, the first eight are considered wetland functions, and the last five are considered to be wetland values. These are:

1. **Groundwater Recharge/Discharge –** the potential for a wetland to serve as a recharge area for an aquifer or as a surface discharge point for groundwater.

2. **Floodflow Attenuation –** A wetland's ability to store and attenuate floodwaters during prolonged precipitation events, thereby reducing or preventing flood damage.

3. **Fish and Shellfish Habitat –** The ability of permanent or temporary water bodies to provide suitable habitat for fish or shellfish.

4. **Sediment/Toxicant/Pathogen Retention –** The effectiveness of the wetland in trapping sediments, toxicants or pathogens, thereby protecting water quality.

5. **Nutrient Removal/Retention/Transformation –** The effectiveness of the wetland at absorbing, retaining, and transforming or binding excess nutrients, thereby protecting water quality.

6. **Production Export –** The wetland's ability to produce food or usable products for humans or other living organisms.

7. **Sediment/Shoreline Stabilization –** The wetland's ability to prevent erosion and sedimentation by stabilizing soils along stream banks or the shorelines of water bodies.

8. **Wildlife Habitat** – The ability of wetlands to provide food, water, cover, or space for wildlife populations typically associated with wetlands or their adjacent areas, both resident and migratory. *

9. **Recreation –** The value placed on a wetland by society for providing consumptive and non-consumptive as well as active or passive recreational opportunities such as canoeing/boating, fishing, hunting, bird/wildlife watching, hiking, etc.

10. **Education/Scientific Value –** The value placed on a wetland by society for providing subjects for scientific study or research or providing a teaching resource for schools.

11. **Uniqueness/Heritage –** The value placed on a wetland by society for having unique characteristics such as archaeological sites or sites of historical events, unusual aesthetic qualities, or unique plants, animals, or geologic features, etc.

12. **Visual Quality/Aesthetics –** The value placed on a wetland by society for having visual and/or other aesthetic qualities.

13. **Threatened or Endangered Species Habitat –** The value placed on a wetland by society for effectively harboring or providing habitat for threatened or endangered species.

3.2 Assessment Results

There is direct wetland impact so there will be a decrease in wetland function that will be compensated for with a wetland mitigation plan so that no net loss of wetland functions is anticipated as per the Town code. Major functions and values provided by these wetlands are: sediment trapping and floodflow attenuation because of the wetland location and ephemeral outlet to the Route 9 drainage system.

1. **Groundwater Recharge/Discharge –** This function will not be impacted or enhanced as a result of this project since the flow into the wetland is from surface sources and the flow from the wetland is through a culvert.

2. **Floodflow Attenuation –** The wetland will increase in size through the mitigation effort and will provide a stormwater bio-retention, infiltration and detention component to the site where none currently exists. The gain of physical space will increase the capacity for floodflow attenuation.

3. **Fish and Shellfish Habitat –** There is no habitat noted in the wetland for this function, so no impacts are anticipated.

4. **Sediment/Toxicant/Pathogen Retention –** Substantial erosion control measures. stormwater bio-retention, infiltration and detention, and wetland plantings will mitigate erosion potential.

5. **Nutrient Removal/Retention/Transformation –** This function will not be impacted or enhanced by the proposal.

6. **Production Export –** This function will not be impacted or enhanced by the proposal.

7. **Sediment/Shoreline Stabilization -** This function will not be impacted or enhanced by the proposal since there is no shore area.

8. **Wildlife Habitat –** This function will not be impacted or enhanced by the proposal given its location immediately adjacent to Route 9.and surrounding development.

9. **Recreation –** The wetland is within private property. This function will not be impacted.

10. **Education/Scientific Value – Again** The wetland is within private property and is not used for education. This function will not be impacted.

11. **Uniqueness/Heritage –** The wetland is not part of a critical environmental area or unique to this watershed. There is a net gain of wetland proposed.

12. **Visual Quality/Aesthetics –** There is limited impact to the wetland and the conversion of approximately 2.4 acres of Local buffer that has previously been disturbed is not considered a significant impact.

13. **Threatened or Endangered Species Habitat –** There will be no significant impact to any known listed species if trees are cleared on the site from October 1 to March 31.

4.0 STANDARDS FOR PERMIT ISSUANCE

This section is prepared in accordance with Section 137-9 of the Town of Wappinger Code entitled "Standards for decisions on applications". Ecological Solutions, LLC completed a wetland functional evaluation and wetland/buffer impact assessment of the proposed project.

A (1) - The proposed regulated activity is consistent with the policy of this chapter to preserve, protect and conserve freshwater wetlands and the benefits derived therefrom, to prevent the despoliation and destruction of freshwater wetlands and to regulate the development of such wetlands in order to secure the natural benefits of freshwater wetlands, consistent with the general welfare and beneficial economic, social and agricultural development of the town.

A business decision was made by the Applicant to move forward with the proposed project in the Town of Wappinger because the proposed use would serve the residents of the Town of Wappinger and surrounding areas to bringing a business use to the site that is zoned for commercial business. This is consistent with the currently development which contains aa existing large unused building. Although this wetland's functions are not substantial due to the proximity to Route 9 where the quality of water that drains to the Route 9 drainage system during storms which already contains substantial contaminants year-round, all impacts to wetlands and buffer area will be minimized and mitigated to maintain current wetland functional capacity.

(2) - The proposed regulated activity is consistent with the applicable land use regulations pursuant to § 24-0903 of Article 24 of the State Environmental Conservation Law.

No NYSDEC Article 24 Freshwater Wetlands are located on or in the vicinity of the site and no Article 24 Permit is required for the proposed project.

(3) - The proposed regulated activity is compatible with public health and welfare.

The proposed activity is consistent with "public health and welfare" and is meant to benefit the public as well as the Applicant. Please also see the response to A(1) above.

(4) - The proposed regulated activity is reasonable and necessary.

Demand for the proposed use has only increased over time. The location selected for this use will not only benefit the applicant but residents in the surrounding communities as well.

(5) - There is no reasonable alternative for the proposed regulated activity on a site which is not a freshwater wetland or adjacent area.

The proposed use encompasses all of the site and will impact some wetland area as a result of the existing narrow lot configuration, site grades and need for management and treatment of stormwater run-off via bio retention and detention basins.

(6) - In the event of negative impact(s), the mitigation proposed will mitigate adverse impact(s) identified in a manner that will allow the aquatic resource(s) to function in a manner substantially equivalent to the functioning of such resource(s) prior to the proposed activity.

A wetland establishment and buffer mitigation plan will be submitted to the Town for review and approval. The mitigation effort will ensure that the functional capacity of the wetland on the site will remain or exceed current levels which are minimal at best as described previously.

Appendix D

Threatened and Endangered Species Habitat Suitability Assessment Report

Threatened and Endangered Species
Habitat Suitability Assessment Report

U-Haul Site
Route 9 and Stage Door Road
Town of Wappinger
Dutchess County, NY

September 7, 2023

Prepared by:

Michael Nowicki
Ecological Solutions, LLC
121 Leon Stocker Drive
Stratton, VT 05360
(203) 910-4716

1.0 INTRODUCTION

The Applicant is proposing to remove the existing warehouse building on the U-Haul site and construct two (2) new buildings necessary to operate their self-storage, U-Box, and truck/trailer rental business operations. The site plan will utilize four parcels (tax grid nos. 135689-6156-02-777824,771855,794847 & 820883) which will be combined as part of this project proposal.

A Habitat Suitability Assessment was completed for two species including the New York State endangered species Indiana bat (*Myotis sodalis*) and Blanding's turtle (*Emys blandingii*) as part of the environmental review for the project and as per the New York State Department of Environmental Conservation (NYSDEC) Environmental Assessment Mapper.

A field assessment was conducted on August 22, 2023 to determine whether suitable habitat for these species was present on the site. Habitat cover types were also observed and are described below with approximate acreages. There is one wetland area located on the site that was delineated.

There are several natural cover types identified on the site during the field investigation by Ecological Solutions, LLC Table 1. Approximate physical impacts to each habitat type are listed in this table and a description of the habitats is provided.

TABLE 1
HABITAT COVER TYPE IMPACTS

NO.	**Habitat Cover Types/ Impacts**	ACRES IDENTIFIED (APPROXIMATE)
1	Wetland	0.84
2	Open Area	2.74
3	Forest Patches	2.81

2.0 HABITAT SUITABILITY ASSESSMENT

2.1 Indiana bats

The Indiana bat typically hibernates in caves/mines in the winter and roosts under bark or in tree crevices in the spring, summer, and fall. Suitable potential summer roosting habitat is characterized by trees (dead, dying, or alive) or snags with exfoliating or defoliating bark or containing cracks or crevices that could potentially be used by Indiana bats as a roost. The minimum diameter of roost trees observed to date is 2.5 inches for males and 4.3 inches for females. However, maternity colonies generally use trees greater than or equal to 9 inches dbh. Overall, roost tree structure appears to be more important to Indiana bats than a particular tree species or habitat type. Females appear to be more habitat specific than males presumably because of the warmer temperature requirements associated with gestation and rearing of young. As a result, they are generally found at lower elevations than males may be found. Roosts are warmed by direct exposure to solar radiation, thus trees exposed to extended periods of direct sunlight are preferred over those in shaded areas. However, shaded roosts may be preferred in very hot conditions. As larger trees afford a greater thermal mass for heat retention, they appear to be preferred over smaller trees.

Streams associated with floodplain forests, and impounded water bodies (ponds, wetlands, reservoirs, etc.) where abundant supplies of flying insects are likely found provide preferred foraging habitat for Indiana bats, some of which may fly up to 2-5 miles from upland roosts on a regular basis. Indiana bats also forage within the canopy of upland forests, over clearings with early successional vegetation (*e.g.,* old fields), along the borders of croplands, along wooded fencerows, and over farm ponds in pastures. While Indiana bats appear to forage in a wide variety of habitats, they seem to tend to stay fairly close to tree cover.

Conclusion - The site contains old fill material and field area as well as some forested area. The proposed project will impact about 2.19 acres of forest which is comprised of ash, black cherry, maples, and some oaks. No trees were observed to have exfoliating or flaking bark.

However, the following conservation measures will be employed:

• Tree clearing will be conducted between October 1 and March 31;
Site lighting is anticipated after development of the site. To avoid impacts to foraging bats site lighting on the site will use approved light fixtures that have tops that direct light down to minimize light pollution and not interfere with potential bat foraging activities;
• Implementing soil conservation and dust control best management practices, such as watering dry disturbed soil areas to keep dust down, and using staked, recessed silt fence and anti tracking pads to prevent erosion and sedimentation in surface waters on the site, and;
• Prior to clearing, the limits of proposed clearing will be clearly demarcated on the site with orange construction fencing (or similar) to prevent inadvertent overclearing of the site.

These measures will result in avoiding and minimizing potential adverse effects to Indiana bats.

2.2 Blanding's turtle

Blanding's turtles are a mobile species that utilize a variety of wetland and upland habitats for nesting, foraging, overwintering, and drought refuges. Characteristics that indicate core habitat are: shrubby pools/ponds with permanent or intermittent hydroperiod with little flow through; high water depths of 0.5–4.0 feet; tree canopy open or absent; tree fringe present; and a dense cover of shrubs, forbs, lemnids or nymphaeids, with coarse and fine organic debris. In addition to core wetlands, it is known that Blanding's turtles use a complex of habitat types during different periods in their life cycle. According to the NYSDEC it is a semi-aquatic species that uses a variety of wetland and upland habitats. Wetland habitat usage by Blanding's turtles includes different types of freshwater systems such as emergent marshes, woodland pools, red maple swamps, buttonbush kettle-holes, ponds including excavated ponds, lakes, rivers, and streams. Juvenile Blanding's are normally associated with shallower water and more densely vegetated habitats as compared to that of adults. Open meadows, especially with Hoosic gravelly soils, are preferred nesting habitats. Upland forest area provides shade during turtle travel and migration.

Conclusion - The potential or known Blanding's turtle habitat in the area is located in Green Fly swamp on the west side of Route 9 and a significant distance from the project site. Route 9 is considered a permanent barrier to turtle movements so there is no potential Blanding turtle impact contemplated from the site development. Since there is no Blanding's turtle habitat located on the site no mitigation measures are proposed.

3.0 PHOTOGRAPH

Proposed Project Area

Figure 1 Location Map

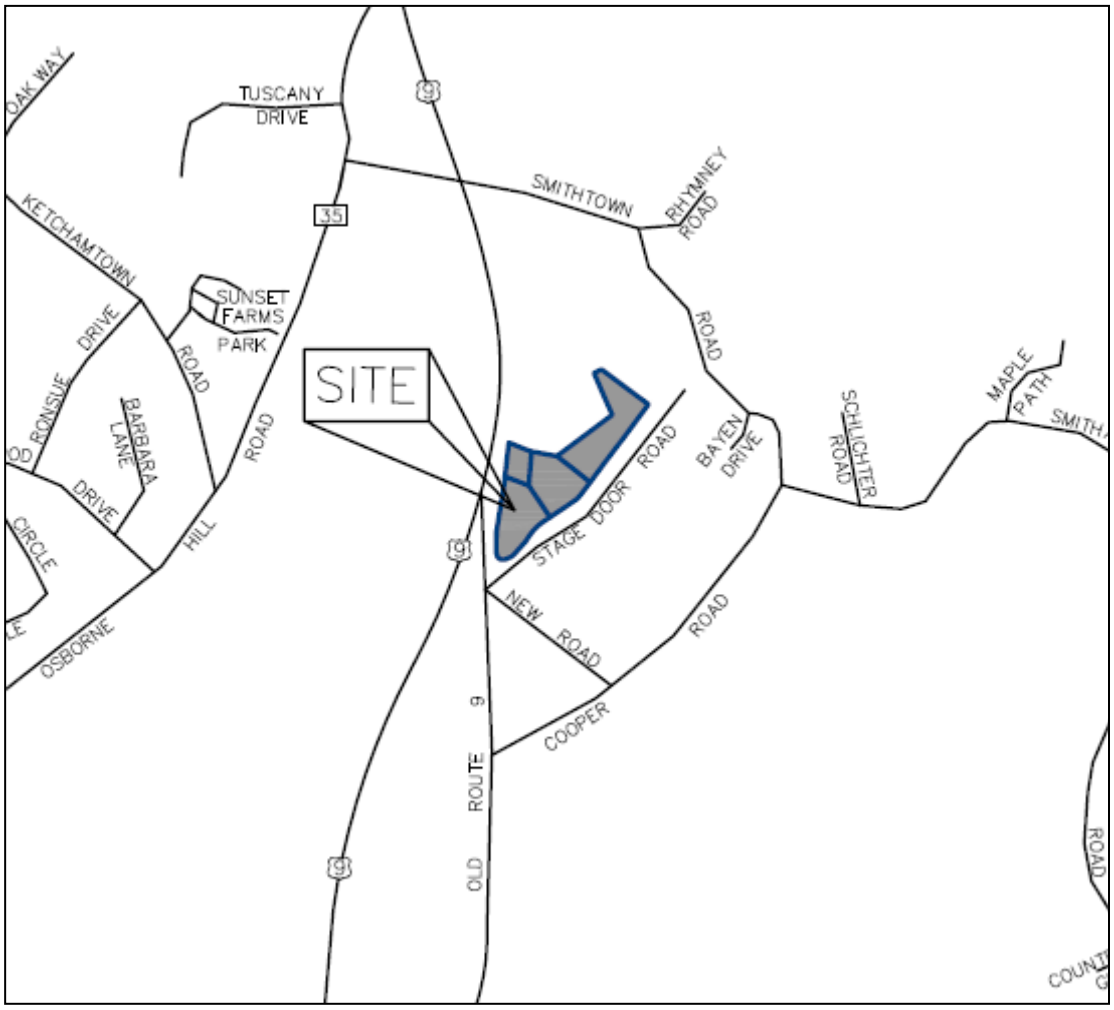


Figure 2 Soil Map

Map Unit Symbol	Map Unit Name
BeC	Bernardston silt loam, 8 to 15 percent slopes
Ca	Canandaigua silt loam, neutral substratum
PzA	Punsit silt loam, 0 to 3 percent slopes
Ur	Urban land