

**Commercial Final Development Plan
Applicant's Letter**

Date: Wednesday, November 04, 2015

To: **Property Owner: THE UNITED METHODIST CHURCH OF LEES SUMMIT**
Email:
Fax #: <NO FAX NUMBER>

Applicant: ENGINEERING SOLUTIONS
Email: MSCHLICHT@ES-KC.COM
Fax #: (816) 623-9849

Engineer: ENGINEERING SOLUTIONS
Email: MSCHLICHT@ES-KC.COM
Fax #: (816) 623-9849

From: Ron Seyl, Planner

Re:

Application Number: PL2015158

Application Type: Commercial Final Development Plan

Application Name: The Summit

Location: 3381 NW CHIPMAN RD, LEES SUMMIT, MO 64081

Excise Tax

On April 1, 1998, an excise tax on new development for road construction went into effect. This tax is levied based on the type of development and trips generated. If you require additional information about this development cost, as well as other permit costs and related fees, please contact the Permitting and Plan Review Division of the Codes Administration Department at 816-969-1200.

Review Status:

Revisions Required: One or more departments have unresolved issues regarding this development application. See comments below to determine the required revisions. Submit six (6) full size sets (no larger than 24"x36") and one (1) half size set (11"x17" or 12"x18") of revised drawings. These shall be folded and collated in sets to approximately 8-1/2"x11" in size to the Planning and Codes Administration Department. Revised plans will be reviewed within five (5) business days of the resubmittal.

Required Corrections:

- Planning Review**
Ron Seyl
(816) 969-1603
Planner
Ron.Seyl@cityofls.net
Corrections
1. As a general note, any retaining wall greater than 4 feet shall be engineered and will require a separate building permit.
 2. Please include a dashed line indicating the roof line and rooftop mechanical equipment on the elevation. Also, provide the manufacturer's specifications for the proposed mechanical units.
 3. Label all exterior building material colors on Sheets A2.10, A2.20 and A2.30.

4. Is any ground mounted mechanical equipment proposed? Per UDO requirements, ground mounted equipment shall be totally screened from view by landscaping or masonry wall up to a height of the units to be screened.

5. Provide a detail of the trash enclosure and screening method. All exterior trash storage containers shall be screened so that they are not visible from off the property.

Each trash enclosure shall be constructed of masonry walls with a steel gate painted to be compatible with the color of the masonry walls and building it is to serve.

6. Provide a detail of the trash enclosure and screening method. All exterior trash storage containers shall be screened so that they are not visible from off the property.

Each trash enclosure shall be constructed of masonry walls with a steel gate painted to be compatible with the color of the masonry walls and building it is to serve.

7. Provide manufacturers specification sheets for all proposed exterior lighting. Also, provide the wattage for all proposed exterior lighting.

8. Per UDO requirements, parking lot lighting shall utilize flat lens fixtures with full cut-offs and be mounted to the parking lot light pole at 90 degrees (horizontal to the ground) and shall be non-adjustable.

9. Provide details for parking lot pole light pedestals/bases. Per UDO requirements, concrete pedestals/bases shall not exceed three (3) feet in height and shall be included in the maximum overall height.

10. As a general note, the total aggregate wattage for multiple headed fixtures mounted on a single pole shall be limited to 800-Watts maximum.

11. Light Source. Metal halide or light emitting diodes (LED's) shall be the approved light source for all outdoor lighting. These outdoor lighting fixtures are color-correct types to ensure true-color at night for security purposes and support CPTED principles.

Design of Fixtures/Prevention of Spillover Glare. All outdoor light fixtures shall use full cut-off lenses, as classified by the Illuminating Engineering Society of North America (IESNA), to prevent glare and light spill from the project site onto adjacent properties, buildings and roadways.

All lights shall be International Dark-Sky Association (IDA) approved fixtures.

12. A. Wall mounted lighting is defined as any light fixture mounted to the building wall excluding accent lighting, canopy lighting, and excepted lights, as identified in this Division.

B. Full Cut-Offs. Wall-mounted lights shall utilize full cut-off fixtures.

C. Maximum Wattage. Wall-mounted fixtures shall be metal halide and not exceed 150-Watts.

D. Mounting Height. Wall-mounted/building-mounted fixtures shall be attached only to walls, and the top of the fixture shall not exceed the height of the parapet or roof, whichever is greater. For structures within 100 feet of a residential use and/or district, the mounting height of these fixtures shall not exceed 15 feet measured from the top of the fixture to grade.

13. The applicant shall provide dimmable light fixtures subject to Planning Commission requirements per the September 22, 2015 meeting. The fixtures shall comply with UDO requirements.

14. The parking space depth for the eastern most parking spaces is shown as 17 feet. Per the UDO, standard parking space dimensions shall not be less than nine (9) feet wide by nineteen (19) feet long.

15. Periodically display the width of the standard and ADA accessible parking space dimensions shall not be less than nine (9) feet wide.

17. Is the information on the FDP's landscape table correct as it differs from what was presented for the PDP? For example, on the PDP's landscape table the total building area in the open yard tree calculation was 78,168 square feet after Phase I and II build out. A square building square footage calculation of 78,250 is what was presented to the Planning Commission and City Council.

However, on the FDP's landscape table the total building area is shown as 223,223 square feet. Other information varies from what was presented in the PDP landscape table as well. Please ensure that the information in the table is correct for this project as this is what staff will base landscaping requirements on.

18. The scale on the landscape plan appears to be off. Please correct.

19. In the landscape table, please revise the Chipman Road street frontage calculations for trees and shrubs to include only the area east of Chipman Road. The area west of Chipman Road will be considered a separate project.

21. As a general note, all project signage will need to be approved by separate sign permit application.

22. The Developer shall execute a mutually satisfactory development agreement with the City, which addresses, at a minimum, the road improvements recommended in the Transportation Impact Analysis form dated September 15, 2015.

No building permits shall be issued for any structure in the development until written proof is provided to the City that the development agreement has been recorded in the Jackson County Records' Office.

23. Easements as shown on the preliminary development plan for public access similar to right-of-ways for public streets (i.e. 50 and 60 foot typical widths or larger as may be required for necessary turn lanes) shall be provided along the proposed north-south private road and the proposed east-west private road.

The easement along the east-west private road shall extend to and align with the existing right-of-way for Ashurst Drive. These easements shall be donated as public right-of-way when surrounding development occurs and the public streets are constructed.

24. At least one van-accessible parking space with an adjacent 8 foot aisle shall be provided. The detail on sheet C.600 shows one, but the site plan has all 5 foot spaces.

25. A temporary asphalt curb shall be provided at the south end of the north-south drive connection to Chipman Rd where the drive will eventually extend south to connect with Ashurst Dr.

26. Street trees and shrubs shall be provided along Chipman Rd in the area between the driveway and the detention basin. Parking lot screening shall also be provided for the portion of the parking lot in this area.

Engineering Review

Gene Williams

(816) 969-1812

Senior Staff Engineer

Gene.Williams@cityofls.net

Corrections

1. Right of way for the future Chipman Road project should be shown. It should be dedicated by separate document. Please contact Public Works for more information regarding the right of way needed for the future project.

2. Right of way for Ashurst Drive should be shown and dedicated by separate document.
3. Right of way for the north/south leg of the access road should be shown and dedicated by separate document.
4. The water line beneath the proposed View High Drive entrance may need to be lowered. Has there been any potholing done to establish it's vertical and horizontal location?
5. Sheet C.051: Should the east detention basin be used for a temporary sediment trap? It would appear this is warranted.
6. Sheet C.100: Specify exactly what is going to be paved in this phase of the project. A typical section, in graphical style, should be shown. Please note the new Unified Development Ordinance (UDO) Article 12 standards for pavement thickness and base.
7. Sheet C.200: The north detention basin appears to be flat on the bottom. Will this be a drainage issue?
8. Sheet C.200: There appears to be two (2) different shades of gray for the parking lot. What does this mean?
9. Sheet C.201: There appears to be two (2) different shades of gray for the parking lot. What does this mean?
10. Sheet C.202: Please label existing and proposed grades on the profile view.
11. Sheet C.202: Provide a typical section, in graphical format, for the north/south drive. It should be based on Table LS-2, Residential Local.
12. Sheet C.203: Where is the water main in relation to the new driveway in the southwest corner of the project? It was not shown on the profile view.
13. Sheet C.203: A typical paving section should be provided, in graphical format, for Ashurst Drive. It should be constructed to City standards, and will be based on Table LS-2, Residential Collector.
14. Sheet C.204: Cross slopes are shown at 2:1 on the "Bio Swale Detail". The grading plan shows a significant difference in slope.
15. Sheet C.204: The scale appears incorrect.
16. Sheet C.205 A sanitary sewer line is shown to the south of the northern detention basin, and then is directed to the north. Why is a sanitary sewer shown in this location?
17. Sheet C.205: The scale appears to be incorrect.
18. Sheet C.300: Storm line 5 appears to show an existing field inlet being removed and replaced. Is this what is proposed? If so, then please label on the plans.
19. Sheet C.300: Two (2) different shades of gray are used to denote the parking area and driveways. Provide a legend showing what this means.
20. Sheet C.301: Two (2) different shades of gray are used to denote the parking areas. Provide a legend describing what this means.

21. Is rip rap being proposed at the end of the flared end sections? If so, please show on the plans.

22. Sheet C.302: The profile view for Storm Line 3 is missing the proposed grade line.

23. Sheet C.303: Label Storm Line 7 in the plan view.

24. Sheet C.303: An elevation of 929.0 appears to be called out in the stormwater report for the downstream portion of a 36" pipe. The detail view appears to show 931.5. Please reconcile.

25. Sheet C.303: The plan view shows a 15" RCP pipe for Storm Line 7, but the profile view shows an 18" HDPE. The report, however, appears to show a 36". Please reconcile.

26. Sheet C.303: Where is the typical section view for the outlet structure for the east detention basin? Please ensure it either follows the elevations shown in the stormwater report, or provide an updated stormwater report to reflect the changes.

27. Sheet C.303: Storm Line 5 appear to show the outlet of the eastern detention basin connected to the existing field inlet. Previous sheets showed this field inlet being replaced. Please reconcile.

28. Sheet C.303: Storm Line 5 profile appears to be missing a portion of the proposed grading.

29. Sheet C.303: What elevations are planned for the underdrain network in the north detention basin? How will they be connected to the detention basin outlet structure? As shown, it does not appear the bio swale underdrain network has the ability to drain properly.

31. Sheet C.304: The underdrain network for the bio swale does not appear constructable given the information presented. It appears the underdrains are connected to the detention basin outlet structure, but the outlet is higher than the underdrains.

32. Separate sanitary sewer plans will be required for the public sanitary sewer along Ashurst.

33. Sheet C.400: The sanitary sewer line is shown near the southwest corner of the eastern detention basin with an alignment that is unclear. The manhole is shown offset, but the sewer intersects with another manhole within a few feet. Please reconcile.

34. Sheet C.401: The proposed alignment for the sanitary sewer near the connection point at manhole #27-033 (i.e., the existing manhole) does not appear constructable. Easements do not appear to exist on Lot 11, Edgewood Trail, and should be a minimum of 15 feet from the property line.

35. Sheet C.401: Installation of the new sanitary sewer beneath Ashurst and Edgewood Drive should be specified as bored and cased.

36. Please label the existing City manhole as #27-033.

37. Sheet C.500: The backflow vault should be located outside any easement and outside the right of way. Please move the backflow vault so it is completely outside these limits. In addition, please show a valve prior to the backflow vault.

38. Sheet C.500: Please show an additional valve on the public main on the east side of the cut-in tee feeding the fire line.

39. Sheet C.501: Please label the fire line as private.

40. Sheet C.600: Please show the new asphalt pavement standards specified in the UDO Article 12.

41. Please note the entrance to View High Drive will require the City of Kansas City approval.

42. Are there any wetlands issues in the existing pond?

43. An Engineer's Estimate of Probable Construction Costs should accompany your final submittal drawings. The Engineering Plan Review and Inspection Fee is based on this estimate, and calculated at 3% of the total. Items to include in the estimate are: 1) water lines greater than 2", 2) fire hydrants, 3) fittings, thrust blocks, valves, valve boxes, valve box covers, tees, bends, 4) storm lines greater than 6", 5) storm inlets, structures, flared end sections, toe walls, 6) rip rap, 7) grading for detention basin, 8) grading for parking lot, 9) subgrade preparation either geogrid or stabilized subgrade, including the area one (1) foot beyond the back of curb, 10) aggregate base including the area one (1) foot beyond the back of curb, 11) pavement, 12) curb and gutter, 13) sanitary sewer lines, 14) sanitary sewer manholes, 15) casing carrier pipe, 16) boring for sanitary sewer, 17) wye connectio to sanitary sewer, 18) erosion and sediment control devices, 19) final restoration, including seeding, sodding, fertilizer, mulch, and topsoil.

Fire Review	Jim Eden (816) 969-1303	Assistant Chief jim.eden@cityofks.net	Corrections
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1. IFC 903.3.7- Fire department connections. The location of fire department connections shall be approved by the fire code official. Connections shall be a 4 inch Storz type fitting and located within 100 feet of a fire hydrant, or as approved by the code official.

Action required: Show the location of the FDC and a hydrant within 100 feet.

2. IFC 507.1 - An approved water supply capable of supplying the required fire flow for fire protection shall be provided to premises upon which facilities, buildings or portions of buildings are hereafter constructed or moved into or within the jurisdiction.

Action Required: Provide a water flow study for the site. The 6" main may need to be upsized to an 8" per City Design and Construction Manual.

3. Relocate the fire hydrants along the south side of the building to the builing side of the fire lane.

4. IFC 503.3- Where required by the fire code official, approved signs or other approved notices or markings that include the words NO PARKING—FIRE LANE shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. The means by which fire lanes are designated shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.

Action required:
The building side of the fire lanes around the building shall be posted.

5. All issues pertaining to life safety and property protection from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures and premises, and to the safety to fire fighters and emergency responders during emergency operations, shall be in accordance with the 2012 International Fire Code .

- 1. Pending Development Agreement for off-site improvements and Easements/Right-of-Ways for the N-S Street, Chipman Road, and Ashurst Drive.
- No comments regarding the on-site FDP submittal.
- 2.

PHOTOMETRIC DATA

LifeFrame™ - 8" Lensed Square CFL Downlights
LFQSQ-H9-18EB, LFQSQ-H9-26EB

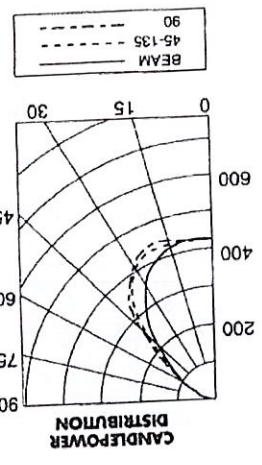
BALLAST DATA			
120V	277V	347V	26W Quad
38W	38W	36W	57W
0.32	0.14	0.11	0.17
50/60	50/60	50/60	50/60
>97%	>97%	>97%	>97%
>98%	>98%	>98%	>98%
<10%	<10%	<10%	<10%
<10%	<10%	<10%	<10%
Total Harmonic Distortion			
Total Harmonic Distortion			
Ballast Factor			
Power Factor			
Input Frequency in Hz			
Input Current (Amps)			
Total System Watts			

LAMP DATA			
18W Quad	26W Quad	1800	69
1250	69	10,000 hours	82
Rated lumens	Rated life	CRI	Min. Starting Temp.
Rated Watts	Rated life	Efficiency (LPW)	Efficiency: 26.1%
Rated lumens	Rated life	Spacing Criteria:	90° = 1.2
Lamp: Two 26W Quads	Spacing Criteria:	0° = 1.3	

AVERAGE INITIAL FOOTCANDLES			
Multiple Units (Square Array)	Ceiling 80% Wall 50% Floor 20%	26W Quads	SPACING
		RCR1	RCR7
		RCR3	
		RCR7	

COEFFICIENTS OF UTILIZATION			
Zonal Cavity Method	% Effective Floor Cavity Reflectance	% Effective Floor Cavity Reflectance	% Wall Reflectance
	80%	70%	50%
	30%	10%	

NOTES
Refer to www.prescolite.com for additional photometric tests (IES files).



CANDLEPOWER SUMMARY			
Angle	0°	45°	90°
85	31	33	9
75	52	56	34
65	98	123	60
55	186	218	112
45	303	357	245
35	380	424	435
25	423	436	444
15	431	431	431
5	431	431	431

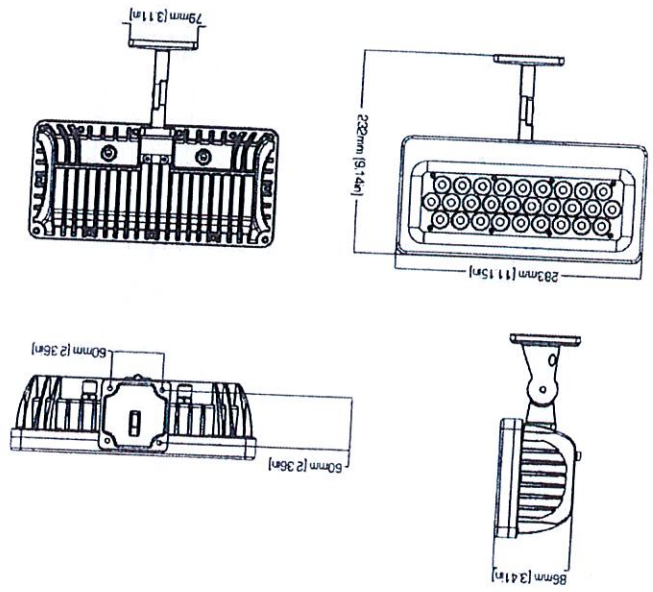


Web: www.prescolite.com • Tech Support: (888) 777-4832
701 Millennium Blvd., Greenville, SC 29607 U.S.A. • Phone (864) 678-1000
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Specifications subject to change without notice • Printed in U.S.A. • LFEC1009 • 5/10/11

ILUMINARC®

Item Number: 01620438
ILUMIPANEL 28 IP OPTIC 30 RGB

Client: _____
 Project: **LEE'S Summit UMC**
 Date: _____ Type: **Q**



LIGHT SOURCE & OPTICAL SPECIFICATIONS

Light Source: 28 LEDs (10 red, 9 green, 9 blue) 1 W (350 mA)
 Light Source Lifespan: 50,000 hours based on LED manufacturer's specifications
 Installed Optics: 30°
 Beam Angle: 27°
 Field Angle: 53°
 Lumens: 719
 Base Illuminance: 98 lux @ 5 m
 Efficacy: 21.1 lm/W
 Color Temperature Presets: N/A

CONSTRUCTION & PHYSICAL SPECIFICATIONS

Length: 11.1 in (283 mm)
 Width: 3.4 in (87 mm)
 Height: 3.4 in (87 mm)
 Weight: 6.5 lb (3 kg)
 Color: Off white
 Ingress Protection Rating: IP67
 Housing Material: Cast aluminum
 Lens Cover: Impact resistant glass
 Installation Orientation: Any

CONTROL SPECIFICATIONS

Control Protocol: USITT DMX-512a
 Control Channels: 1, 3, 4 or 7
 Operating Modes: Selectable personalities
 Solid (1-channel) dimmer
 Arc 1 (3-channel): red, green, blue
 Arc 1+D (4-channel): dimmer, red, green, blue
 Arc Full (7-channel): dimmer, red, green, blue, color macros, strobe, dimming speed
 Stand Alone Control: N/A
 Remote Addresser: Lumicode
 Data Connection: 9.8 ft (3 m) Waterproof cable

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APR 21 2016

Planning & Codes Admin



Product
 Web Page

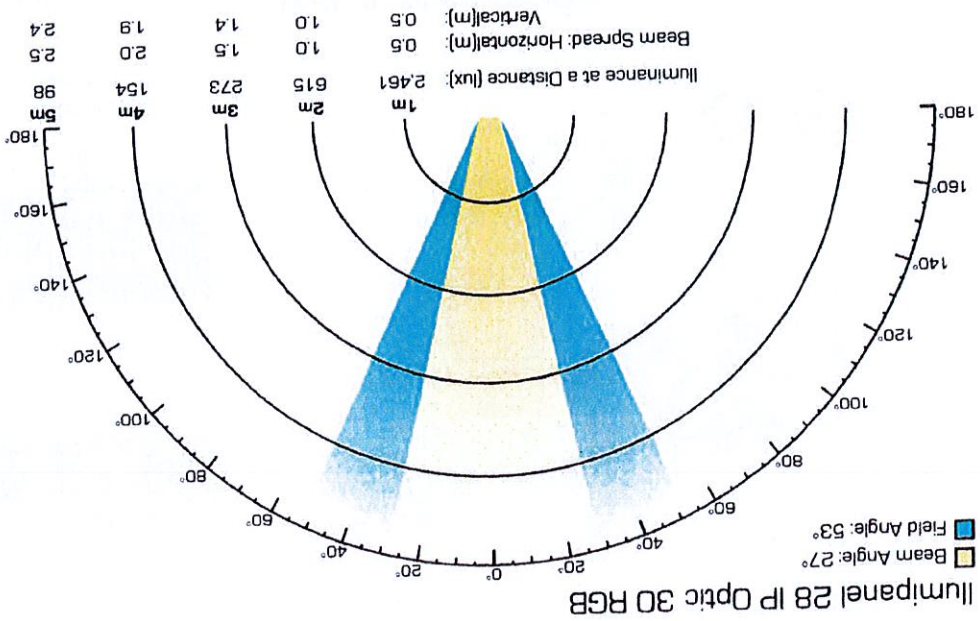
ILUMINARC
 5200 NW 108th Ave.
 Sunrise, FL 33351
 +1 954 923 3680

www.iluminarc.com - info@iluminarc.com
 Illuminarc reserves the right to make improvements to this product
 and its specifications at any time without notice

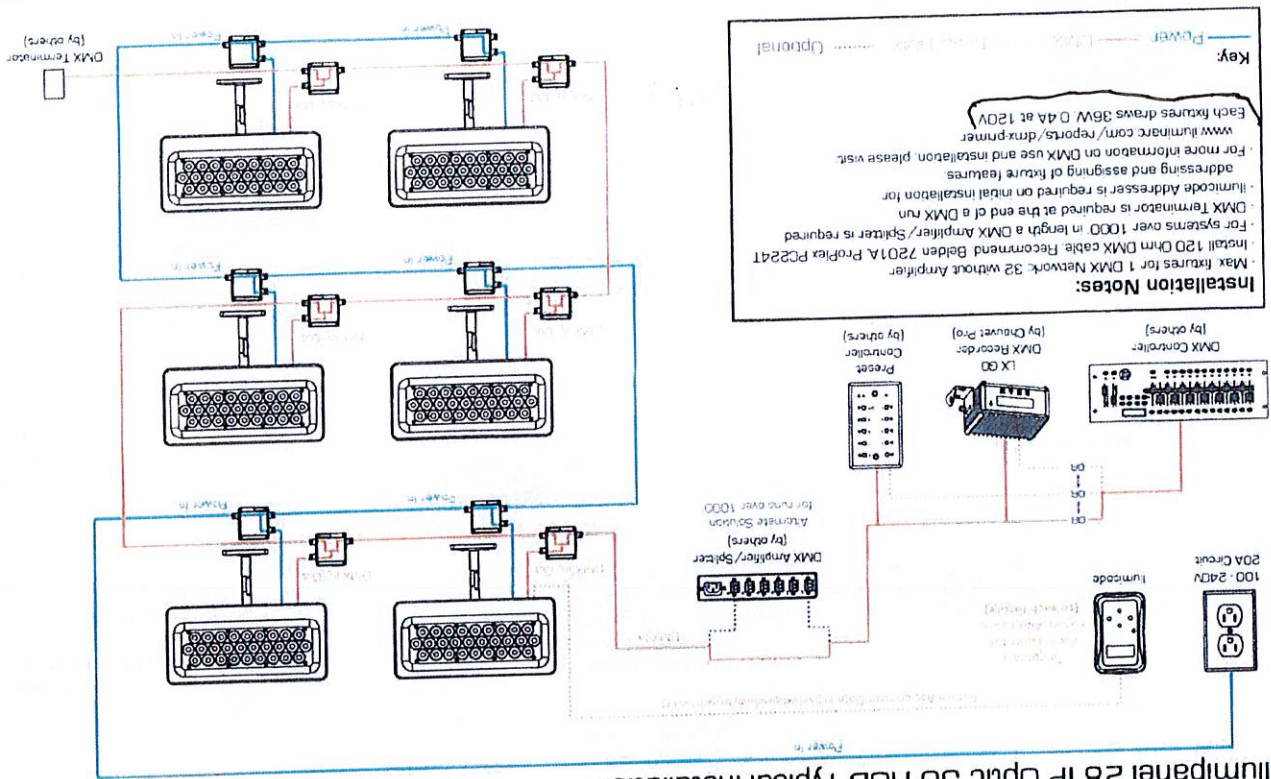
ILUMINARC®

ILUMIPANEL 28 IP OPTIC 30 RGB
Item Number: 01620438

Client: _____
Project: LEE'S SUMMIT UMC
Date: _____ Type: 



ILUMIPANEL 28 IP Optic 30 RGB Typical Installation



LED BOLLARD LIGHT (XBVRD)

PRODUCT ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: XBVRF ID LED 24 400 CW UE BRZ 45

Prefix	Distribution	Light Source	# of LEDs	Drive Current	Color Temp	Line Voltage	Finish	Options
XBVRF	ID - Indirect	LED - Light Emitting Diode	24	400	CW - Cool White NW - Neutral White WW - Warm White	120-277V 50/60Hz 480 - 480 volt 347 - 347 volt	BRZ - Bronze BLK - Black PLP - Platinum Plus BUF - Buff WHT - White GPT - Graphite SVG - Satin Verde Green MSV - Metallic Silver	H - XX (Specify Height) PC1120 - Button-type Photocell PC1208, 240, 277 - Button-type Photocell PC1347 - Button-type Photocell GFR - GFI Duplex Receptacle LAB - Less Anchor Bolts RN - Roughneck Heavy Duty Mounting Plate

FINISH
TBD

Color Decals

45 - Light Gold
20 - Charcoal Metallic
55 - Black
94 - Blue Black
59 - Dark Green
51 - Dark Red
21 - Tomato Red
50 - White
700 - Aztec Silver Metallic

ACCESSORY ORDERING INFORMATION
(Accessories are field installed)

Description	Order Number
ABKIT Anchor Bolt Kit (BVR) 3/8" x 10" - Galvanized	285560
HSS - Round House Side Shield	122510

1 - Taller or shorter heights available in 6" increments. Minimum height is 30". Maximum height is 60".

Planning & Codes Admin

APR 21 2016

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(TBD) WET

CAMMAN LIGHTING		ARCHITECTURAL LIGHTING		WWW.CAMMANLIGHTING.COM	
111 STRAWCUTTER ROAD, DERRY, PA 15627		P: 724.539.7746		F: 724.539.7746	
Mounting: Fixture is supplied with hardware for attachment to a 4 inch octagonal junction box (provided by others)					
Notes: Suitable for Dry Locations					
Date: 6/23/2014					
Finish: Standard Powder Coat					
Ballast: 120/277V Dimming Driver 0-10V					
Lamping: LED, 3000K Narrow Beam (Up / Down)					
Type: 3000K					
Qty: 1					
Rev: 1					
Item No.: WS80508-8					
Job Name:					
Quote No.: 104188					
APPROVAL:					

Aluminum Body

4.500 M.C.

3.000

4.000

Submitted by: Shaw Supply Company		Job Name:		LEE'S SUMMIT WMC	
Catalog Number: WS80508-8		Notes:		Type: T	
SHAW14-1366					

LED Lighting DECO™ LIGHTING

Job Information	
Type:	U
Catalog #:	
Project:	LPE, Summit umc
Comments:	
Prepared by:	ELDECUM INC.

DECO digital™
 POWERED BY
D444-LED
 Medium Trapezoidal Cutoff Wallpack
 lighting systems

NICHIA
 Transforming tomorrow's lighting...today!

INDUSTRY BEST
 10 YEAR WARRANTY
 INCLUDES LABOR ALLOWANCE

lighting facts
 a lighting facts fact

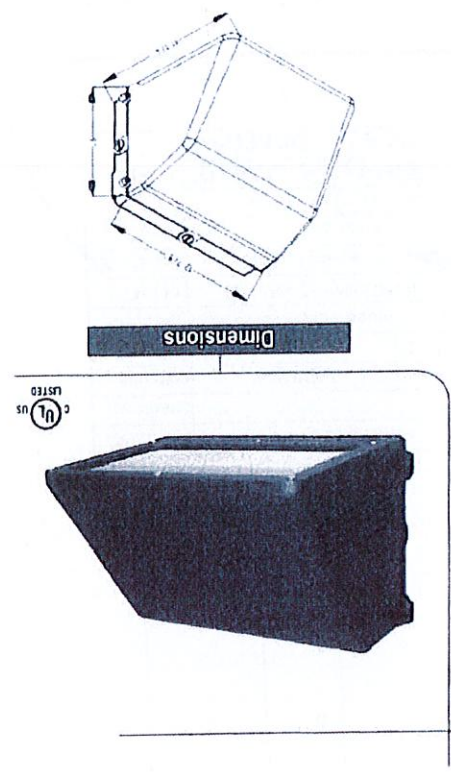
Buy American
 COMPLIANT

DLC

Description

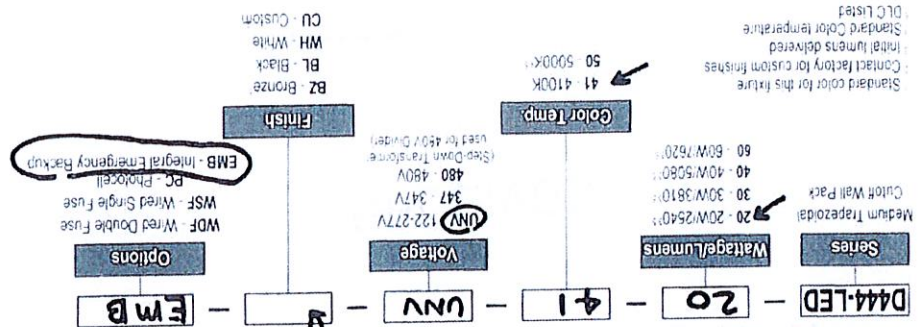
The D444-LED medium trapezoidal cutoff wall pack offers a sleek design and cutoff performance with a wide range of uses. It delivers the lighting needed for the exteriors of retail buildings, businesses, walkways, underpasses or door entrances.

- Features**
- Heavy duty two piece, die-cast aluminum housing aluminum reflector
 - Silicone gasketing provides protection against moisture
 - Mounts directly to 3.5" octagon, or 4" square outlet box
 - .5" NPS tapped holes provided in three locations for surface conduit entry for optional photocell control
 - Dark bronze powder coated finish for impact, corrosion and UV resistance
 - Integral cast-in aluminum hinges
 - Clear tempered glass lens is thermal and shock resistant
 - UL 1598 listed for wet locations
 - Can be used as an uplight for wall washing applications
 - Dark Sky friendly
 - Standard color is bronze; also available in black and white. Contact factory for custom finishes.
 - CRI: 80+
 - 10 Year Limited Warranty



ORDERING INFORMATION:

Example: (D444-LED-20-50-UNV-BZ-PC)

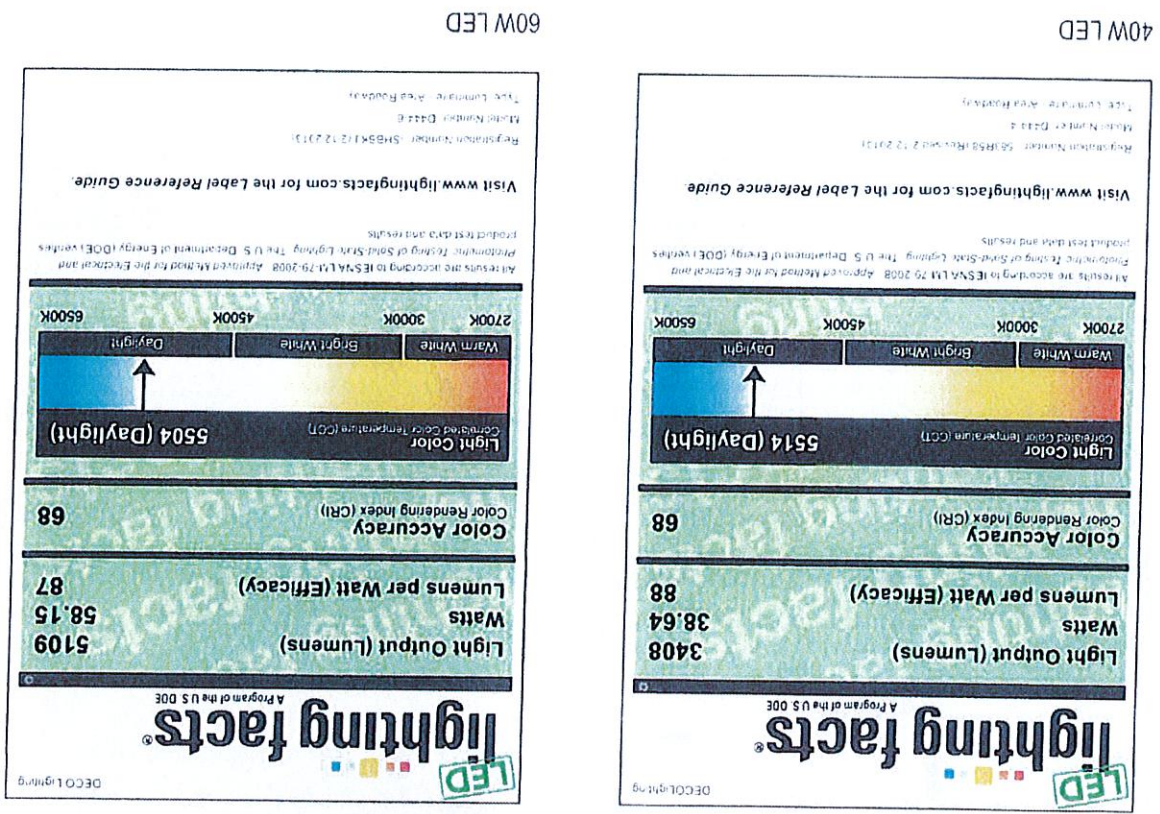


LED lighting
DECO digital™ D444-LED
 lighting systems
 Medium Trapezoidal Cutoff Wallpack

Transforming tomorrow's lighting....today!

Job Information	
Type: C	Catalog #:
Project: LEE'S SUMMIT UMC	
Comments:	
Prepared by: BLDECON INC.	

LED Lighting DECO™ LIGHTING



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 APR 21 2016
 Planning & Codes Admin



Submitted by Shaw Supply Company

Job Name:

LEE'S SUMMIT VMC

Catalog Number: 33202.023

Notes: **PART NUMBER TO BE VERIFIED**

Type:

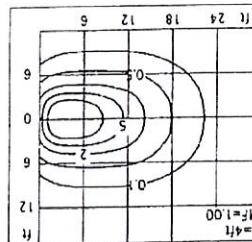
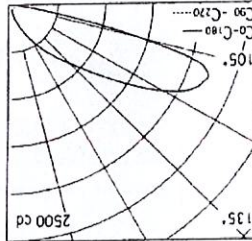
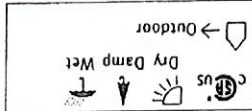
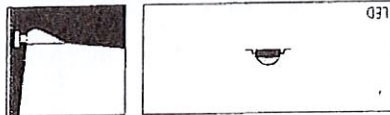
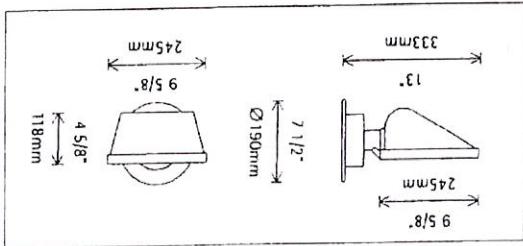
V

SHAW14-1366

ERCO

Lightscope Ceiling washlights

with mounting plate and LED

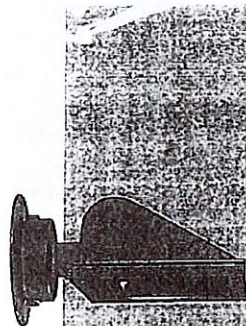


33202.023 Graphite m
LED 24W 280lm 3000K warm white
Version 2

Spherulite lens, deep beam

Product description
Housing: corrosion-resistant, cast aluminum, No-rinse surface treatment.
Double powder-coated. Optimized surface for reduced accumulation of dirt. Luminaire rotatable through 240°. Mounting plate: corrosion-resistant aluminum.
Electronic control gear 120V/277V, 60Hz, 2 cable entries. Through-wiring possible. 3-pole terminal block.
LED module: high-power LEDs on metal-core PCB, 50CM<2 CRI>90, 180/810 50000h. Collimating lens made of optical polymer.
Screw-fastened cover frame with safety glass: corrosion-resistant cast aluminum, double powder-coated.
Suitable for wet location (IP65): dust-proof and water jet-proof.
Weight 8.38lbs / 3.80kg
Maximum wind load area 0.75ft²

FIXTURE cover
LED



ERCO Lighting Inc
160 Barton Center Parkway
Suite 10
Edison, NJ 08837
USA
Tel.: +1 732 225 8856
Fax: +1 732 225 8857
info.us@erco.com

Technical region: 120V/277V, 60Hz
We reserve the right to make technical and design changes.
Edition 04.03.2014
Current version under
www.erco.com/33202.023

Planning & Codes Admin

APR 21 2016

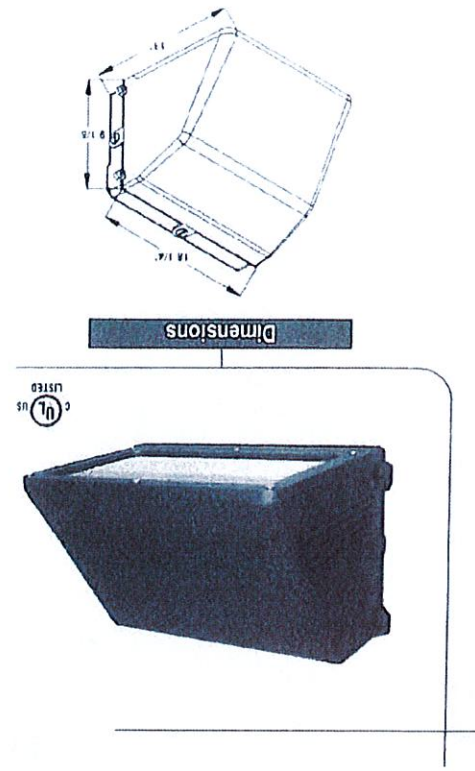
RECEIVED

- Heavy duty two piece, die cast aluminum housing
- aluminum reflector
- Silicone gasketing provides protection against moisture
- Mounts directly to 3.5" octagon, or 4" square outlet box
- .5" NPS tapped holes provided in three locations for surface conduit entry for optional photo control
- Dark bronze powder coated finish for impact, corrosion and UV resistance
- Integral cast-in aluminum hinges
- Clear tempered glass lens is thermal and shock resistant
- UL 1598 listed for wet locations
- Can be used as an uplight for wall washing applications
- Dark Sky friendly
- Approx. Weight: 16 lbs
- Standard color is bronze; also available in black and white. Contact factory for custom finishes.
- CRI: 80+
- 10 Year Limited Warranty

Features

The D420-LED large full cutoff wall pack offers a sleek design and cutoff performance with a wide range of uses. It delivers the lighting needed for the exteriors of retail buildings, businesses, walkways, underpasses or entrance doors.

Description



Job Information	Type: W	Catalog #: LE's Summit WMC	Comments:	Prepared by: EMDEN INC.
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LED lighting

DECO digital™

POWERED BY: **NICHIA**

lighting systems

D420-LED

Large Trapezoidal Cutoff Wallpack

Transforming tomorrow's lighting...today!

LED Lighting DECO™ | LIGHTING

Job Information	
Type: W	Catalog #:
Project: LEE's summit UMC	
Comments:	
Prepared by: GRUE CON INC.	

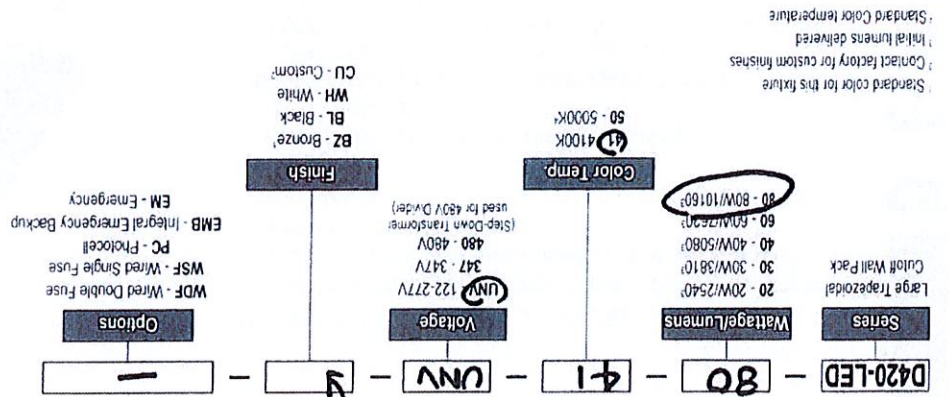
LED lighting
D420-LED
 Large Trapezoidal
 Cutoff Wallpack

DECO digital™
 lighting systems

Transforming tomorrow's lighting....today!

ORDERING INFORMATION:

Example: (D420-LED-60-50-UNV-B2-PC)



* Standard color for this fixture
 * Contact factory for custom finishes
 * Initial lumens delivered
 * Standard Color temperature



FEATURES

Application
The PG is an indoor/outdoor, die-cast architectural emergency unit. It is a wet location listed, emergency luminaire with high-output LED technology that provides path of egress illumination for mounting over entrance/exit ways and perimeter walkways. Spectron® self-testing/self-diagnostic electronics are included standard. A battery heater for cold temperature operation is available as an option.

Construction

Housing and mounting plate are constructed of 0.125" die-cast aluminum and 0.125" closed-cell, medium density, neoprene gasket. The acrylic lens allows 92% light transmission. The reflector is electro-polished aluminum with 95% reflectance. Housing finish is powder coated electro-deposition paint available in four colors: dark bronze, white, platinum silver and black.

Installation

Universal housing knockouts for mounting to standard 3/2" and 4" octagon and 4" square electrical boxes. A 1/2" - 1/4 NPT threaded conduit opening is provided at the top of the housing and sealed with a closure plug. The back plate mounts to the wall surface using installer supplied hardware. The housing "snaps" to the back plate by a "pin and socket" arrangement, and is secured with two Fillister head screws. AC Lockout feature prevents battery discharge prior to initial unit power-up saving installation time.

Lamps

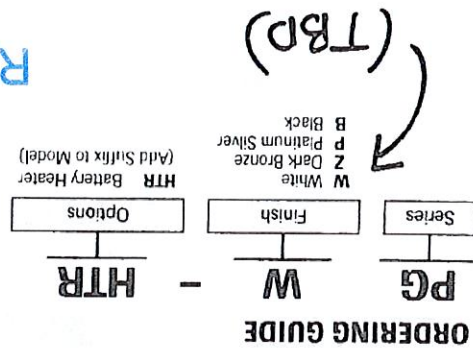
Four high-output, long life LED lamps arranged in redundant pairs.

Compliances

UL 924 Listed (emergency models only)
UL Wet Location Listed
NFA 101 Life Safety Code
NFA 70 National Electrical Code
OSHA
U.S. Patent No. D627916.

Warranty

Three-years full for unit, electronics and battery.



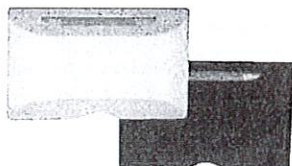
RECEIVED

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PG Remote LED



Reference "Remote Heads and Fixtures" specification sheet for information on matching PG remote

Black



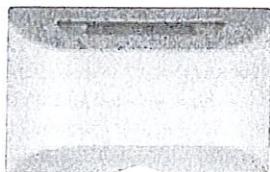
Platinum Silver



Dark Bronze



White



Catalog Number	PG - (TRD) - HTR
Comments	Type Z

Indoor/Outdoor Emergency Lighting Unit

PG

Z



SPECIFICATIONS

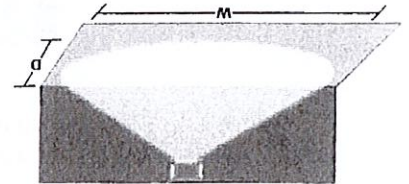
Electronics
Upon failure of the normal utility power, a solid-state transfer switch automatically activates the emergency lamp. Upon resumption of the normal utility power, the battery is disconnected from the load and recharged through a solid-state charging unit. A low voltage battery disconnect feature protects the battery from severe damage during prolonged power failures. Spectron® self-testing/self-diagnostic circuitry provides automatic system testing on a monthly and semi-annual basis. Manual testing is available at any time using the push-to-test button: push once for a 60-second system test; push twice for a 90-minute system test.

Number of Lamps: Four high output LEDs
Lamp Configuration: Two sets of 2 LEDs provide illumination. In the unlikely event that any single LED should fail the remaining LEDs will continue to function.
Lamp Type: Solid state high output LEDs
Lamp Color: Cool White, 6350K
Total Lamp Output: 405 Lumens
Input: 120/277VAC, 60 Hz
Battery Charger: Temperature compensating, constant current
Transfer: Solid state
Functional Circuitry: AC lockout, transformer isolation, transient surge protection, low voltage battery disconnect, brownout detection, time delay retransfer
Battery Recharge Cycle: per UL time standards
Test Means: Integral test switch
Battery: Sealed, maintenance-free Nickel-Cadmium
Operating Temperature Range for Models without Heater: 0°C to 50°C (32°F to 122°F)
Operating Temperature Range for Models with Heater: -30°C to 50°C (-22°F to 122°F)

ILLUMINATION PATTERN

SINGLE UNIT COVERAGE

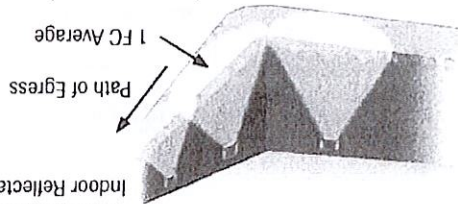
Mounting Height: 9'
Outdoor Reflectance: 0/30/10
Indoor Reflectance: 80/50/20



		1 FC Average (W x D)		1 FC Minimum (W x D)	
		Indoor	Outdoor	Indoor	Outdoor
		33' X 10'	27' X 10'	10' X 10'	9' X 10'

MULTIPLE UNIT SPACING

Mounting Height: 9'
Illuminated Path Depth: 6'
Outdoor Reflectance: 30/10
Indoor Reflectance: 80/50/20



		1 FC Average		1 FC Minimum	
		Indoor	Outdoor	Indoor	Outdoor
		44'	33'	16'	15'

DIMENSIONS

Power factor, average: 0.8 (lagging)

Models Without Heater	Models With Heater	Power Consumption	
		120VAC	277VAC
		2.78 watts	2.88 watts
		15.2 watts	15.7 watts

Indoor/Outdoor Emergency Lighting Unit
PG- (TRD) - (J)TR

PG

7

components that must be ordered separately).

OSQ™ LED Area/Flood Luminaire – Large

Product Specifications

- Slim, low profile design minimizes wind load requirements
- Luminaire housing is rugged die cast aluminum with an integral, weatherlight LED driver compartment and high performance heat sink
- Convenient interlocking mounting method on direct arm mount. Mounting adaptor is rugged die cast aluminum and mounts to 3-6" (76-152mm) square or round pole, secured by two 5/16-18 UNC bolts spaced on 2" (51mm) centers
- Mounting for the adjustable arm mount adaptor is rugged die cast aluminum and mounts to 2" (51mm) IP 2.375" (60mm) O.D. tenon
- Adjustable arm mount can be adjusted 180° in 2.5° increments
- Designed for uplight and downlight applications
- Exclusive Colorfast DelatGuard™ finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Silver, bronze, black, and white are available
- Weight: 28.5 lbs. (13kg)

ELECTRICAL SYSTEM

- Input Voltage: 120-277V or 347-480V, 50/60Hz, Class 1 drivers
- Power Factor: > 0.9 at full load
- Total Harmonic Distortion: < 20% at full load
- Integral 10kV surge suppression protection standard
- To address inrush current, slow blow fuse or type C/D breaker should be used
- 10V Source Current: 0.15mA

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Enclosure rated IP66 per IEC 60529 when ordered without R option
- Consult factory for CE Certified products
- Certified to ANSI C136.31-2001, 36 bridge and overpass vibration standards
- 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15 standards for conducted and radiated emissions
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Meets Buy American requirements within ARRA
- DLC qualified when ordered with 30K (5ME, 5SH optics), or 40K and 57K (2ME, 3ME, 4ME, 5ME, 5SH, 150, 250, 400, 600 optics). Please refer to www.designlighting.org/QPL for most current information
- Dark Sky Friendly, IDA approved. Please refer to www.darksky.org for most current information
- RoHS compliant. Consult factory for additional details

Electrical Data*						
Input Power System Watts	120V-480V	Total Current				
		120V	208V	240V	277V	347V
		1.94	1.13	0.99	0.85	0.65
		223				0.47

* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-480V +/- 10%

Recommended OSQ Series Lumen Maintenance Factors (LMF) ¹						
Ambient	Optic	Initial LMF	25K hr Projected ² LMF	50K hr Projected ² LMF	75K hr Projected ² LMF	100K hr Calculated ³ LMF
5°C (41°F)	5ME, 5SH, 150, 250, 400, 600, WSN	1.04	0.99	0.93	0.89	0.84
	2ME, 3ME, 4ME	1.04	0.99	0.93	0.89	0.84
	5ME, 5SH, 150, 250, 400, 600, WSN	1.05	0.94	0.86	0.80	0.74
	2ME, 3ME, 4ME	1.03	0.98	0.93	0.88	0.83
10°C (50°F)	5ME, 5SH, 150, 250, 400, 600, WSN	1.04	0.93	0.86	0.79	0.73
	2ME, 3ME, 4ME	1.02	0.97	0.92	0.87	0.82
	5ME, 5SH, 150, 250, 400, 600, WSN	1.03	0.92	0.85	0.78	0.72
	2ME, 3ME, 4ME	1.01	0.96	0.91	0.86	0.82
15°C (59°F)	5ME, 5SH, 150, 250, 400, 600, WSN	1.03	0.92	0.85	0.78	0.72
	2ME, 3ME, 4ME	1.01	0.96	0.91	0.86	0.82
	5ME, 5SH, 150, 250, 400, 600, WSN	1.01	0.90	0.83	0.77	0.71
	2ME, 3ME, 4ME	1.00	0.95	0.90	0.85	0.81
20°C (68°F)	5ME, 5SH, 150, 250, 400, 600, WSN	1.01	0.90	0.83	0.77	0.71
	2ME, 3ME, 4ME	1.00	0.95	0.90	0.85	0.81
	5ME, 5SH, 150, 250, 400, 600, WSN	1.00	0.89	0.82	0.76	0.70
	2ME, 3ME, 4ME	1.00	0.89	0.82	0.76	0.70

¹ Lumen maintenance values at 25°C (77°F) are calculated per TM-21 based on LM-80 data and in-situ luminaire testing. In accordance with IESNA TM-21-11, Projected Values represent interpolated values based on line durations that are within six times (6x) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip. Calculated Values represent time durations that exceed six times (6x) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip.

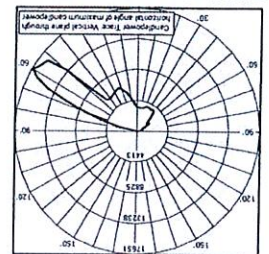


OSQ™ LED Area/Flood Luminaire – Large

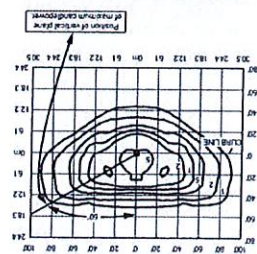
Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory. To obtain an IES file specific to your project consult: www.cree.com/Lighting/Products/Outdoor/Area/OSQ-Series

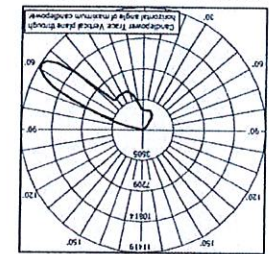
2ME



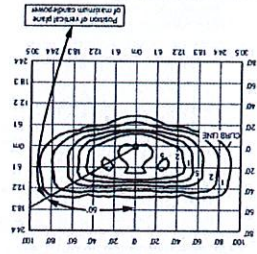
Initial Delivered Lumens: 21,329
OSQ-A-2ME-S-40K-UL
RESTL Test Report #: PL03403-001



Initial Delivered Lumens: 21,696
Mounting Height: 25' (7.6m) A.F.G.
Initial FC at grade

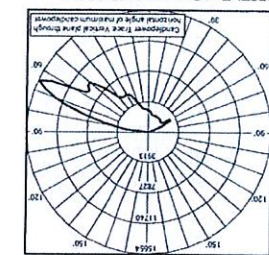


Initial Delivered Lumens: 14,643
OSQ-A-2ME-S-40K-UL w/OSQ-BLSMF
RESTL Test Report #: PL03402-003

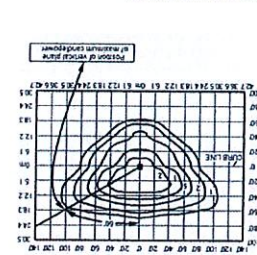


Initial Delivered Lumens: 18,597
Mounting Height: 25' (7.6m) A.F.G.
Initial FC at grade

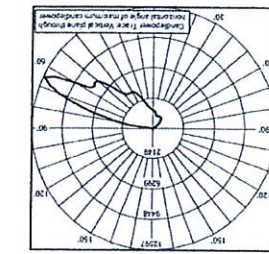
3ME



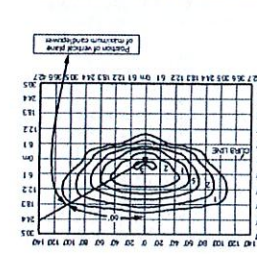
Initial Delivered Lumens: 21,013
OSQ-A-3ME-S-40K-UL
RESTL Test Report #: PL03439-001



Initial Delivered Lumens: 21,475
Mounting Height: 25' (7.6m) A.F.G.
Initial FC at grade



Initial Delivered Lumens: 14,229
OSQ-A-3ME-S-40K-UL w/OSQ-BLSMF
RESTL Test Report #: PL0342-001



Initial Delivered Lumens: 18,375
Mounting Height: 25' (7.6m) A.F.G.
Initial FC at grade

APR 21 2016

Type II Medium Distribution

Input Power	Initial Delivered Lumens	Initial Delivered Lumens Per TM-11 Rating	Initial Delivered Lumens	Initial Delivered Lumens Per TM-11 Rating
3000K	18,182	15-11	4000K	23,179
4000K	21,696	15-11	5700K	23,179
5700K	23,179	15-11		

Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
For more information on the IES BUG (Backlight-Uplight-Clare) Rating visit: www.es.org/PDF/Entra/TM-15-11BugRatingAddendum.pdf. Valid with no bit

Type II Medium w/BLS Distribution

Input Power	Initial Delivered Lumens	Initial Delivered Lumens Per TM-11 Rating	Initial Delivered Lumens	Initial Delivered Lumens Per TM-11 Rating
3000K	15,84	15-11	4000K	19,867
4000K	18,597	15-11	5700K	19,867
5700K	19,867	15-11		

Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
For more information on the IES BUG (Backlight-Uplight-Clare) Rating visit: www.es.org/PDF/Entra/TM-15-11BugRatingAddendum.pdf. Valid with no bit

Type III Medium Distribution

Input Power	Initial Delivered Lumens	Initial Delivered Lumens Per TM-11 Rating	Initial Delivered Lumens	Initial Delivered Lumens Per TM-11 Rating
3000K	17,996	15-11	4000K	22,942
4000K	21,475	15-11	5700K	22,942
5700K	22,942	15-11		

Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
For more information on the IES BUG (Backlight-Uplight-Clare) Rating visit: www.es.org/PDF/Entra/TM-15-11BugRatingAddendum.pdf. Valid with no bit

Type III Medium w/BLS Distribution

Input Power	Initial Delivered Lumens	Initial Delivered Lumens Per TM-11 Rating	Initial Delivered Lumens	Initial Delivered Lumens Per TM-11 Rating
3000K	15,399	15-11	4000K	19,631
4000K	18,375	15-11	5700K	19,631
5700K	19,631	15-11		

Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
For more information on the IES BUG (Backlight-Uplight-Clare) Rating visit: www.es.org/PDF/Entra/TM-15-11BugRatingAddendum.pdf. Valid with no bit



Canada: www.cree.com/canada T (800) 473-1234 F (800) 890-7507

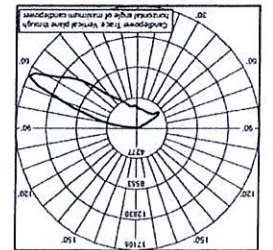
US: www.cree.com/lighting T (800) 236-6800 F (262) 504-5415

OSQ™ LED Area/Flood Luminaire – Large

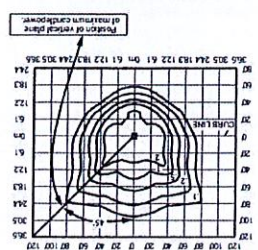
Photometry

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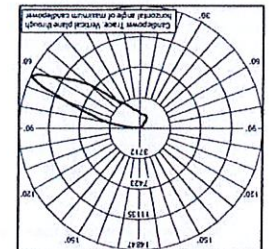
4ME



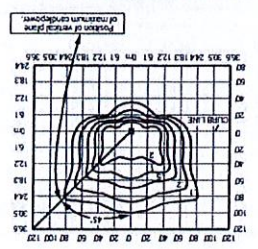
RESTL Test Report #: PL03402-001
OSQ-A-4ME-S-40K-UL
Initial Delivered Lumens: 20,830



OSQ-A-4ME-S-40K-UL
Mounting Height: 25 (7.6m) A.F.G.
Initial Delivered Lumens: 21,253
Initial FC at grade

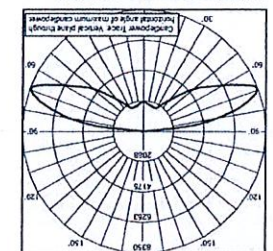


RESTL Test Report #: PL03642-002
OSQ-A-4ME-S-40K-UL w/OSQ-BLSLF
Initial Delivered Lumens: 13,647

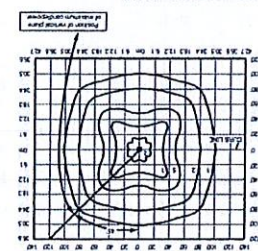


OSQ-A-4ME-S-40K-UL w/OSQ-BLSLF
Mounting Height: 25 (7.6m) A.F.G.
Initial Delivered Lumens: 18,154
Initial FC at grade

SME

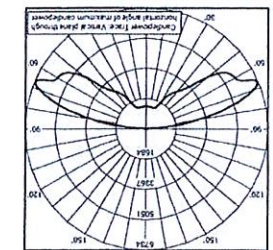


RESTL Test Report #: PL03466-001
OSQ-A-4ME-S-40K-UL
Initial Delivered Lumens: 20,709

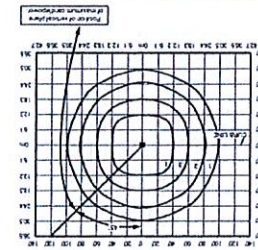


OSQ-A-4ME-S-40K-UL
Mounting Height: 25 (7.6m) A.F.G.
Initial Delivered Lumens: 20,536
Initial FC at grade

SSH



RESTL Test Report #: PL03501-001
OSQ-A-4ME-S-40K-UL
Initial Delivered Lumens: 21,066



OSQ-A-4ME-S-40K-UL
Mounting Height: 25 (7.6m) A.F.G.
Initial Delivered Lumens: 20,982
Initial FC at grade

Type IV Medium Distribution		Input Power		Designator		S	
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B3 U0 G3	B3 U0 G3
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B3 U0 G3	B3 U0 G3
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B3 U0 G3	B3 U0 G3
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B3 U0 G3	B3 U0 G3
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B3 U0 G3	B3 U0 G3
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B3 U0 G3	B3 U0 G3
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B3 U0 G3	B3 U0 G3
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B3 U0 G3	B3 U0 G3
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B3 U0 G3	B3 U0 G3

** Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Clare) Rating visit: www.ies.org/PDF/erratas/TM-15-11BugRatingsAddendum.pdf. Valid with no bit

Type IV Medium w/BLS Distribution		Input Power		Designator		S	
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B2 U0 G3	B2 U0 G3
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B2 U0 G3	B2 U0 G3
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B2 U0 G3	B2 U0 G3
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B2 U0 G3	B2 U0 G3
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B2 U0 G3	B2 U0 G3
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B2 U0 G3	B2 U0 G3
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B2 U0 G3	B2 U0 G3
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B2 U0 G3	B2 U0 G3
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B2 U0 G3	B2 U0 G3

** Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Clare) Rating visit: www.ies.org/PDF/erratas/TM-15-11BugRatingsAddendum.pdf. Valid with no bit

Type V Medium Distribution		Input Power		Designator		S	
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G5	B4 U0 G5
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G5	B4 U0 G5
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G5	B4 U0 G5
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G5	B4 U0 G5
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G5	B4 U0 G5
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G5	B4 U0 G5
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G5	B4 U0 G5
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G5	B4 U0 G5
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G5	B4 U0 G5

** Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Clare) Rating visit: www.ies.org/PDF/erratas/TM-15-11BugRatingsAddendum.pdf. Valid with no bit

Type V Short Distribution		Input Power		Designator		S	
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G4	B4 U0 G4
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G4	B4 U0 G4
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G4	B4 U0 G4
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G4	B4 U0 G4
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G4	B4 U0 G4
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G4	B4 U0 G4
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G4	B4 U0 G4
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G4	B4 U0 G4
BUG	Initial Delivered Ratings™ Per TM-15-11	5700K	3000K	BUG	Initial Delivered Ratings™ Per TM-15-11	B4 U0 G4	B4 U0 G4

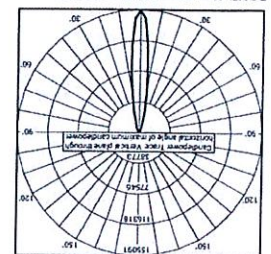
** Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Clare) Rating visit: www.ies.org/PDF/erratas/TM-15-11BugRatingsAddendum.pdf. Valid with no bit

OSQ™ LED Area/Flood Luminaire – Large

Photometry

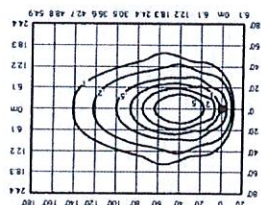
All published luminaires photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory. To obtain an IES file specific to your project consult: www.cree.com/Lighting/Products/Outdoor/Area/OSQ-Series

15D

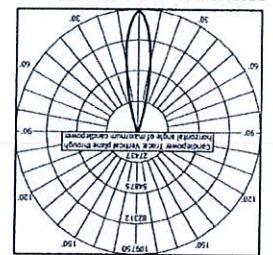


Initial Delivered Lumens: 22,600
OSQ-A-15D-S-40K-UL
RESTL Test Report #: PL03903-001

Initial FC at grade
Initial Delivered Lumens: 21,423
Mounting Height: 25' (7.6m) A.F.G., 60° Tilt

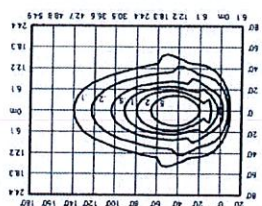


25D

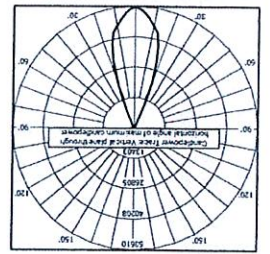


Initial Delivered Lumens: 22,633
OSQ-A-25D-S-40K-UL
RESTL Test Report #: PL03903-002

Initial FC at grade
Initial Delivered Lumens: 21,423
Mounting Height: 25' (7.6m) A.F.G., 60° Tilt

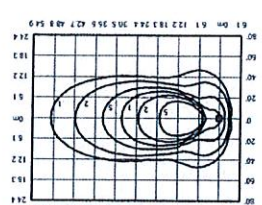


40D



Initial Delivered Lumens: 22,404
OSQ-A-40D-S-40K-UL
RESTL Test Report #: PL03903-003

Initial FC at grade
Initial Delivered Lumens: 21,200
Mounting Height: 25' (7.6m) A.F.G., 60° Tilt



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40' Flood Distribution			
Input Power	Designator	Initial Delivered Lumens*	Initial Delivered Lumens*
		3000K	5700K
		17,906	21,515
S			

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

25' Flood Distribution			
Input Power	Designator	Initial Delivered Lumens*	Initial Delivered Lumens*
		3000K	5700K
		18,094	21,741
S			

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

15' Flood Distribution			
Input Power	Designator	Initial Delivered Lumens*	Initial Delivered Lumens*
		3000K	5700K
		18,094	21,741
S			

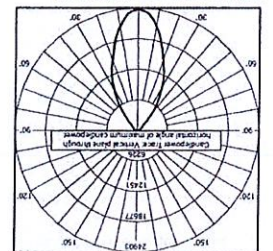
* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

OSQ™ LED Area/Flood Luminaire – Large

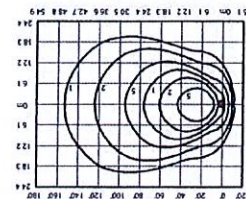
Photometry

All published luminaires photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory. To obtain an IES file specific to your project consult: www.cree.com/Lighting/Products/Outdoor/Area/OSQ-Series

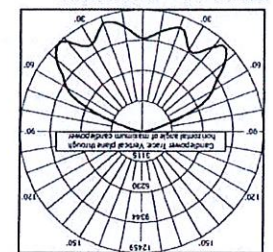
60D



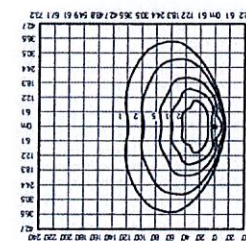
RESTL Test Report #: PL03903-004
OSQ-A-60D-S-40K-UL
Initial Delivered Lumens: 22,301
Mounting Height: 25' (7.6m) A.F.G., 60° Tilt
Initial FC at grade



WSN



RESTL Test Report #: PL04597-001
OSQ-A-WSN-S-30K-UL
Initial Delivered Lumens: 19,087
Mounting Height: 25' (7.6m) A.F.G., 60° tilt
Initial FC at grade



60° Flood Distribution			
Input Power	Initial Delivered Lumens*	Delivered Lumens*	Initial Delivered Lumens*
3000K	18,094	21,423	21,741
4000K			
5700K			

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

Wide Sign Distribution			
Input Power	Initial Delivered Lumens*	Delivered Lumens*	Initial Delivered Lumens*
3000K	17,734	20,997	21,309
4000K			
5700K			

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

OSQ™ LED Area/Flood Luminaire – Large

Luminaire EPA

Fixed Arm Mount – OSQ-DA Weight 28.5 lbs. (13kg)			
Single	2 @ 180°	2 @ 90°	3 @ 90°
0.80	1.61	1.26	2.06
SS	DS		
			1.68
			2.52
			4 @ 90°

Adjustable Arm Mount – OSQ-AA Weight 28.5 lbs. (13kg)							
Single	2 @ 180°	2 @ 90°	3 @ 90°	3 @ 120°	3 @ 180°	4 @ 180°	4 @ 90°
Tenon Configuration (0°-80° Tilt); if used with Cree Tenons, please add tenon EPA with Luminaire EPA							
PB-1A*, PT-1, PW-1A3**	PB-2A*, PB-2R2.375; PT-2(180); PW-2A3**	PB-2A*, PD-2A4(90); PT-2(90)	PB-3A*, PD-3A4(90); PT-3(90)	PB-3A*, PT-3(120)	PB-3A*, PB-3R2.375	PB-4A*(180)	PB-4A*(90); PD-4R2.375; PT-4(90)
0.80	1.61	1.26	2.06	1.68	3.33	4.66	2.52
10° Tilt	1.61	1.62	2.42	2.32	4.40	6.08	3.24
20° Tilt	1.61	2.04	2.84	3.13	5.68	7.80	4.08
30° Tilt	1.64	2.44	3.24	3.97	6.88	9.40	4.88
45° Tilt	2.20	3.00	3.80	5.07	8.55	11.64	6.00
60° Tilt	2.63	3.43	4.23	5.73	9.84	13.36	6.86
70° Tilt	2.82	3.62	4.42	5.73	10.41	14.12	7.24
80° Tilt	2.93	3.73	4.53	5.73	10.74	14.56	7.46
Tenon Configuration (90° Tilt); if used with Cree Tenons, please add tenon EPA with Luminaire EPA							
PB-1A*, PT-1, PW-1A3**	PB-2A*, PB-2R2.375; PT-2(180); PW-2A3**	PB-2A*	PB-3A*	PB-3A*, PT-3(120)	PB-3A*, PB-3R2.375	PB-4A*(180)	PB-4A*(90); PD-4R2.375
2.95	2.95	4.84	6.52	5.73	10.81	14.64	11.19
90° Tilt							

** These EPA values must be multiplied by the following ratio: Fixture Mounting Height/Total Pole Height. Specify pole size: 3 (3'), 4 (4'), 5 (5'), or 6 (6') for single luminaire orientation or 4 (4'), 5 (5'), or 6 (6') for dual luminaire orientation

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OSQ™ LED Area/Flood Luminaire – Large

Tenon EPA

Part Number	EPA
PB-1A*	None
PB-2A*	0.82
PB-3A*	1.52
PB-4A*(180)	2.22
PB-4A*(90)	1.11
PB-2R2.375	0.92
PB-3R2.375	1.62
PB-4R2.375	2.32
PD Series Tenons	0.09
PT Series Tenons	0.10
PW-1A3**	0.47
PW-2A3**	0.94
WM-2	0.08
WM-4	0.25
WM-DM	None

* Specify pole size: 3 (3), 4 (4), 5 (5), or 6 (6) for single, double or triple luminaire orientation or 4 (4), 5 (5), or 6 (6) for quad luminaire orientation
** These EPA values must be multiplied by the following ratio: Fixture Mounting Height/Total Pole Height. Specify pole size: 3 (3), 4 (4), 5 (5), or 6 (6)

1 Refer to the Bracket and Tenon spec sheet for more details

Tenons and Brackets* (must specify color)	
Square Internal Mount Vertical Tenons (Steel)	
- Mounts to 3-6" (76-152mm) square aluminum or steel poles	PB-1A* - Single
- Mounts to 3-6" (76-152mm) square aluminum or steel poles	PB-2A* - 180° Twin
- Mounts to 3-6" (76-152mm) square aluminum or steel poles	PB-3A* - 180° Triple
Square Internal Mount Horizontal Tenons (Aluminum)	
- Mounts to 4" (102mm) square aluminum or steel poles	PD-2A4(90) - 90° Twin
- Mounts to 4" (102mm) square aluminum or steel poles	PD-3A4(90) - 90° Triple
- Mounts to 4" (102mm) square aluminum or steel poles	PD-4A4(90) - 90° Quad
Round External Mount Horizontal Tenons (Aluminum)	
- Mounts to 2.375" (60mm) O.D. round aluminum or steel poles or tenons	PB-1A* - Single
- Mounts to 2.375" (60mm) O.D. round aluminum or steel poles or tenons	PB-2R2.375 - Twin
- Mounts to 2.375" (60mm) O.D. round aluminum or steel poles or tenons	PB-3R2.375 - Triple
Round External Mount Vertical Tenons (Steel)	
- Mounts to 2.375" (60mm) O.D. round aluminum or steel poles or tenons	PB-1A* - Single
- Mounts to 2.375" (60mm) O.D. round aluminum or steel poles or tenons	PB-2R2.375 - Twin
- Mounts to 2.375" (60mm) O.D. round aluminum or steel poles or tenons	PB-3R2.375 - Triple
Mid-Pole Bracket	
- Mounts to square pole	PT-1 - Single (Vertical)
- Mounts to square pole with PB-1A* tenon	PT-2(90) - 90° Twin
- Mounts to square pole with PB-1A* tenon	PT-3(90) - 90° Triple
- Mounts to square pole with PB-1A* tenon	PT-4(90) - 90° Quad
Pole Mount	
- Mounts to square pole	PW-1A3** - Single
- Mounts to square pole	PW-2A3** - Double

Direct Mount Configurations

Compatibility with OSQ-DA Direct Mount Bracket					
Input Power Designator	2 @ 90°	2 @ 180°	3 @ 90°	3 @ 120°	4 @ 90°
3" Square	N/A	✓	N/A	N/A	N/A
3" Round	N/A	✓	N/A	N/A	N/A
4" Square	✓	✓	✓	N/A	✓
4" Round	✓	✓	✓	✓	✓
5" Square	✓	✓	✓	N/A	✓
5" Round	✓	✓	✓	✓	✓
6" Square	✓	✓	✓	N/A	✓
6" Round	✓	✓	✓	✓	✓

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National Electrical Manufacturers Association. The DLC QPL logo is a registered trademark of Northeast Energy Efficiency Partnerships, Inc.

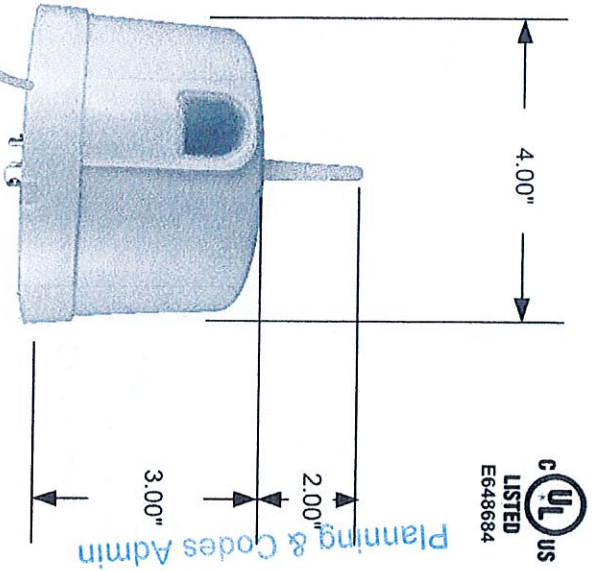
US: www.cree.com/lighting T (800) 236-6800 F (262) 504-5415

Canada: www.cree.com/canada

T (800) 473-1234 F (800) 890-7507



**** All interfaces are contained within the TOP900 module itself
No additional modules need be installed within fixture
for 0-10V or bi-level control**



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GPS Located, Wireless Network Lighting Control Module

Directly replaces existing twist-lock mount photo sensor
Operating Voltage: 100 – 277Vac 50/60Hz
 345J MOV Protection
 Average power consumption: <1W
 Operating Temperature: -40C to +70C (Exceeds ANSI 136.10)
 Lamp fixture control On/Off: 1000W/1000VA @ 100 - 277Vac 50/60Hz
 Failsafe - ON
 Revenue Grade Power Metering @ < 2% accuracy. Measure & Records:

- Active (Real) Power
- RMS Volts
- RMS Current
- Apparent Power
- Power Factor

Data-logger: Logs all output transitions including dimming output levels for recovery
 Measure Light Level & Module Temperature
 Programmable control schedule based on TOD and/or astronomical time
 Programmable weekday and weekend control schedules
 Maintenance thresholds settings for current and voltage
 Photocell control only for daytime overrides when dark or if unit loses its clock time.
 Override any control Commands
 Tilt Sensor: Knock-down indication (Option)
 Photocell dark/light synchronization function
 Detect fixture failures

Wireless Node:

- Wireless Standard: IEEE 802.15.4
- Operating Frequency: 902 – 928MHz
- RF power +24dbm
- FCC Modular Certified
- Network Type: Star-Mesh Repeater
- Networks: Wired/Wireless LAN, WAN, WWAN
- 3Km (2 mile) range LOS
- Built-in message forwarding and repeater function in all nodes

FCC & IC Approved
 IP66 Certified
 UL cUL E348684

Wireless Control

- Schedule on/off based on TOD or Astro-time
- Control by: Site / Network / Group / Device
- Modify and send new control schedules
- Enable/disable peer-peer control (mainly for pathway control with motion sensors)
- Hi light-level trimming

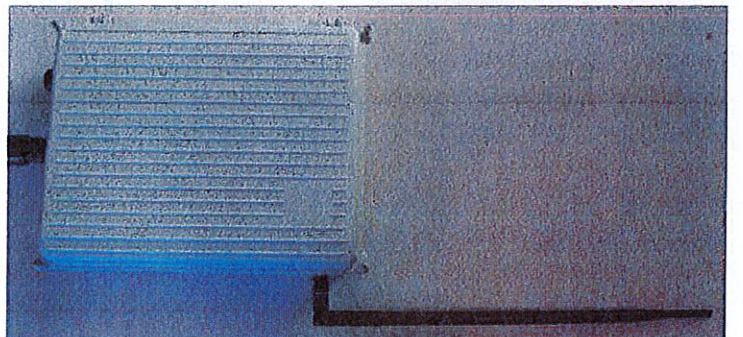
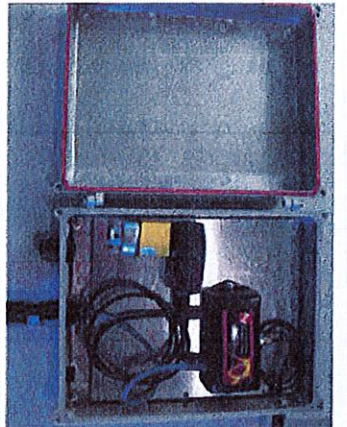
Control Lines From Unit

- Dimming: 0-10V
- Bi-Level control contacts
- 2 Inputs: Emergency call button, Motion detector
- +12V & GND for photocell

Requires installation of (or replacement of existing receptacle) with Lumewave twist-lock photocell receptacle (with slot for control wire)

 Lumewave, Inc. Wireless Lighting Controls	Part No: TOP900-TL
Description: Wireless Photocell Replacement Control Module	Drawn By: MKK Date: 8-6-12 Rev: H

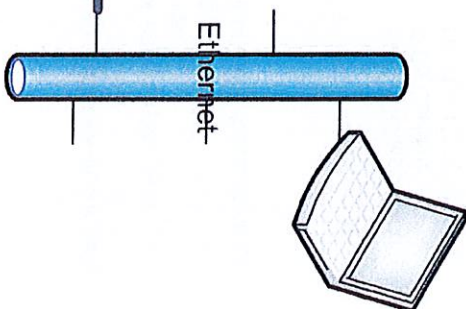
Wall or
1.0" – 1.5" pole
Mounting



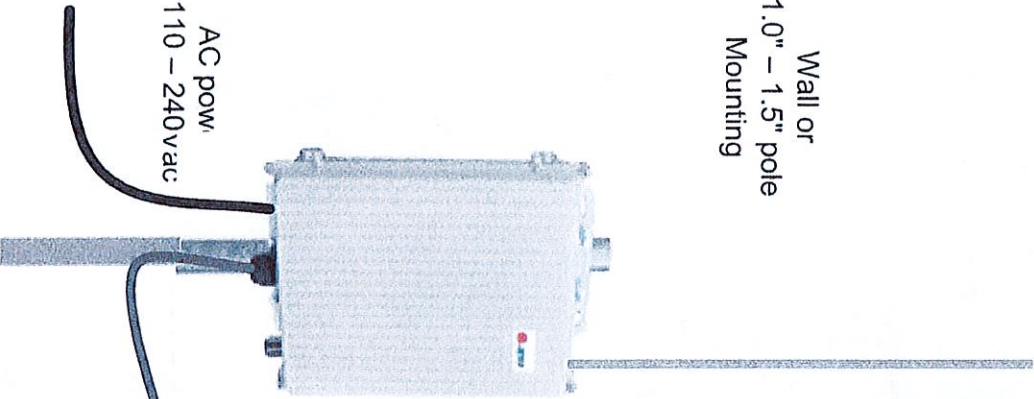
- Wireless Standard: IEEE 802.15.4
- Operating Frequency: 902 – 928MHz
- RF power +24dbm- FCC Modular Certified
- Network Type: Star- Mesh Repeater
- Networks: Wired Ethernet 10/100
- 3Km (2 mile) range LOS
- FCC & IC Approved
- Include the weather rating of the enclosure
- For best pole mount vs. wall mount

Di-Cast Aluminum Waterproof Box
(1.5" pole or wall mount)
Other housings available for pole
mounting to 12"

Ethernet Cable



AC pow.
110 – 240vac



Lumewave

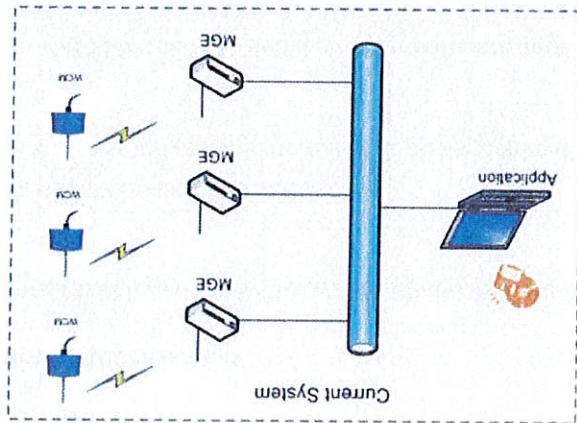
Description: Gateway – Pole Mount Configuration

Drawn By: MKK

Date: 5-23-13

Rev: 2

LumeStar Networking Basic (IT) Information V2

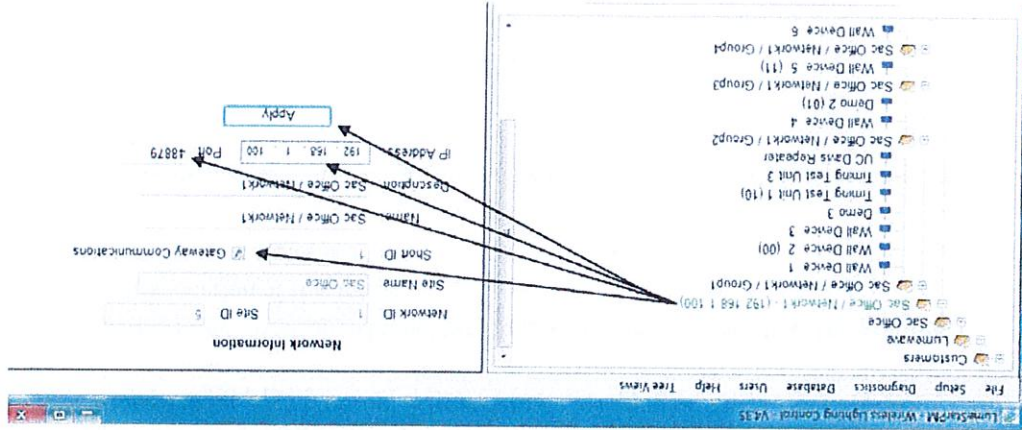


LumeStar, wireless lighting control software is a single-user, desktop application. It is very simple to set up and maintain and generally requires little, if any IT department involvement.

It is designed to run on Windows based computers or laptops connect and communicate through LumeWave Ethernet Gateways (MGE) installed on the LAN to LumeWave wireless lamp controllers within range of each gateway.

Many installation will only need 1 gateway. Larger facilities will require multiple gateways be installed at various locations throughout a facility to assure the RF signals is range of groups of wireless control modules.

The LumeStar application allows for connection to up to 255 Ethernet gateways (MGE's). The IP address of each gateway, assigned by the IT department, will be entered when setting up each network in the application.



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General PC Specifications:

Processor Speed:	2 GHz or faster
RAM:	4GB
HDD:	250GB or more
Operating System:	Windows 7
Network:	Ethernet 10/100 minimum

Note: We have tested the Lumestar software on Windows XP, Windows 7 Pro (32 and 64 Bit)

Network (IT) requirements are very simple:

There are no servers, database, etc. to setup and maintain. This is all handled within the Lumestar application itself.

1. Provide a computer, connected to the LAN, with Lumestar software application installed
- a. Lumestar application is a self-contained, MSI installation package that can be emailed or downloaded from our Dropbox account. (Link will be sent if requested).
- b. Be sure that computer is configured to stay on all the time and not download any updates that would cause it to re-boot.
- c. UPS should be used to keep system on line during power failures.

2. Backup – Very Important!

The Lumestar application creates a database which becomes the "holy grail" for the system. If it's lost, the whole system is lost. (*There are methods to recover but they are tedious and labor intensive).

- a. The Lumestar application provides 7-day, daily backup of its database pointed to a selected location on a network drive to store the daily database backups. This function is located in "Setup" under "System Parameters" accessible when the application is opened.

3. Provide static IP addresses for each Ethernet Gateway to be installed on the LAN

- a. You can set this target location in Lumestar "Setup Parameters" will allow the pointing to the network location of this folder
- b. Recommend 250GB or more

4. Remote Access – If remote access is desired, install and setup VNC like Real VNC. You select the VNC you will support.
 - a. Inside the firewall
 - i. Will work fine within confines of LAN
 - b. Outside the firewall
 - i. Will need further setup like port forwarding

MGE

The Lumewave MGE (Mini Gateway Ethernet) provides a web-based setup page that allows you to set required operating attributes for the gateway. IP address, Subnet, Default gateway, etc. Gateways are all delivered with 192.168.1.100 as their default IP address.

See user manual.

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11-11-15

The Summit

POLE BASE DETAIL NTS

