

Lighting and Post Installation Specifications

1. Electrical Circuits and Light poles

- a. Remove existing light poles and turn over to USG.
- b. Remove and dispose of existing pole bases.
- c. Intercept existing pole lighting circuit and re-route to eight (8) new pole bases.
- d. Provide and install eight (8) pole bases.
 - i. Two (2) pole bases on the north side of the court aligned with the singles side line mark.
 - ii. Two (2) pole bases on the south side of the court aligned with the singles side line mark.
 - iii. Two (2) pole bases on the east side of the court equally spaced between the net line and base line.
 - iv. Two (2) pole bases on the west side of the court equally spaced between the net line and base line.
- e. Provide and install eight (8) new 25 foot light poles with LED athletic field flood fixtures.
 - i. Base Specs are the CREE ARE-EHO with adjustable arm support, 240 LEDs per unit, (UL) 120-277v, silver finish, 1000ma drive current, minimum 90 CRI, with integral fuse.
 - ii. Provide and install a local timer to allow users of the court to activate the lighting as needed. Time should be a 3 hour max. Time must be integrated into existing Embassy lighting controller. If new lighting controller card is required, provide and install.
- f. Provide and install new power wiring from the lighting contactor to the light fixtures.
 - i. ONLY THHN wire is allowed and must be sized for 140% of the calculated load due to ambient temperature.
 - ii. No more than 80% conduit fill is allowed.
- g. Provide and install two (2) 20 amp exterior rated outlets. Place on the centerline of the court at each end (north and south) of the court supported by the backstop fence.

2. Net and Pole Specifications

- a. Provide and install adjustable posts and netting
- b. Base Specs are the Edwards "Wimbledon 3" square posts with adjusting gear and pole sleeves.
- c. Poles must be removable via sleeves.

- d. Provide and install a backstop fence across both the north and south ends of the court.
 - i. Fence is to be located not less than twenty-one (21) feet from the court baseline and extend to include the twelve (12) foot aprons on both sides of the court.
 - ii. Fence will be 8 foot galvanized chain link and run the entire width of the court and apron on either side.

Asphalt Tennis/Basketball Court - Construction Specifications

1. Base Preparation:

All care should be taken to insure that a consistent and stable sub-base exists prior to the construction of the tennis courts.

Base Grading Specifications:

- A. Sub-base is to be graded with a pitch of 1" drop for every 10' of run. The pitch must fall across the courts (side to side).
- B. The orientation of the tennis courts will be North and South along the existing sidewalk.
- C. The sub-base should have a compaction of at least 97%. However, most important is that the sub-base has a consistent compaction over the entire area that the tennis court is to be located.
- D. All vegetation should be removed and the ground sterilized to prevent growth.
- E. The area to be graded should have a buffer area of at least 5' around the perimeter. Ex. If the court area is to be 120' x 108' the area to be graded should be 130' x 118'. **See Annex A**
- F. The lowest elevation of the tennis court surface should have a minimum height clearance from the surrounding landscaped area of 6".
- G. Relocate the existing trees at the end of the existing basketball court to insure that they are at least ten (10) feet away from the court area.

2. Base Stone Preparation:

The base stone acts as a stabilizing agent for the tennis courts. The base stone is comprised of large crushed limestone or granite stone sizes up to 1.5" and down. The base stone will have a minimum thickness of 8". The base stones function is to keep the court from moving or sinking over its normal life. Because of this, the stone must be compactible in nature and stable in its ability to lock up within itself.

Grading Specifications:

- A. The base stone must be consistent in depth throughout the court area.
- B. The surface of the stone must be level within 1/4" with use of a 10' straight edge.
- C. The base stone must be rolled and compacted after installation.

3. Asphalt:

The asphalt material is the finished product. Because of this, the asphalt needs to be placed with the utmost care and professionalism. The asphalt base provides a firm and smooth playing surface for tennis players. It is very important that this material be placed at a very consistent depth in its installation and that the material *does not cool down prior to its placement.*

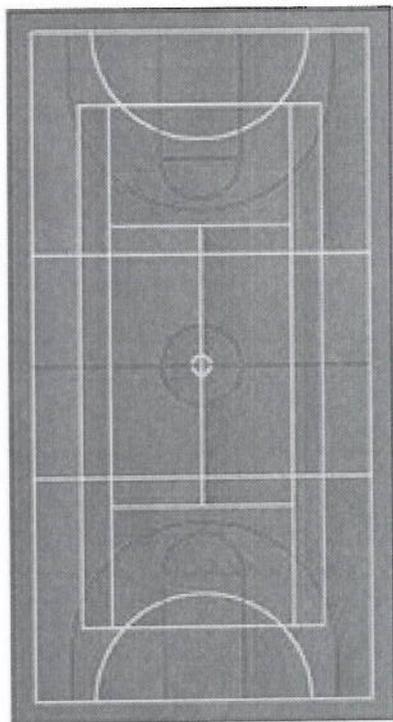
Installation Specifications. – Annex B

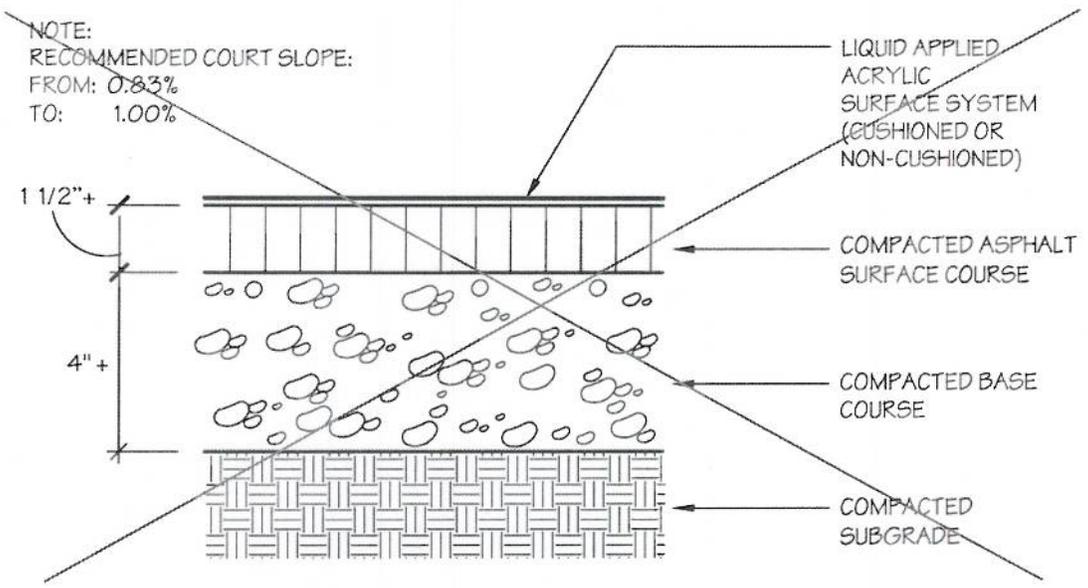
- A. The surface of the asphalt material should be level within 1/16" with use of a 10' straight edge.
- B. The asphalt material should be laid in 12' wide strips.
- The asphalt seams must run in the same direction as the pitch.
 - The asphalt may be placed in one or two lifts.
 - An asphalt thickness of 3.0" will be placed with two lifts of 1.5" each. The first layer should be watered, to help locate and repair any standing water that may exist prior to the second layer installation.
- C. Upon installation of the asphalt the asphalt should be rolled with a minimum 8 ton roller and no roller ridges should be seen upon completion.

Court Coloring Specifications – Annex C

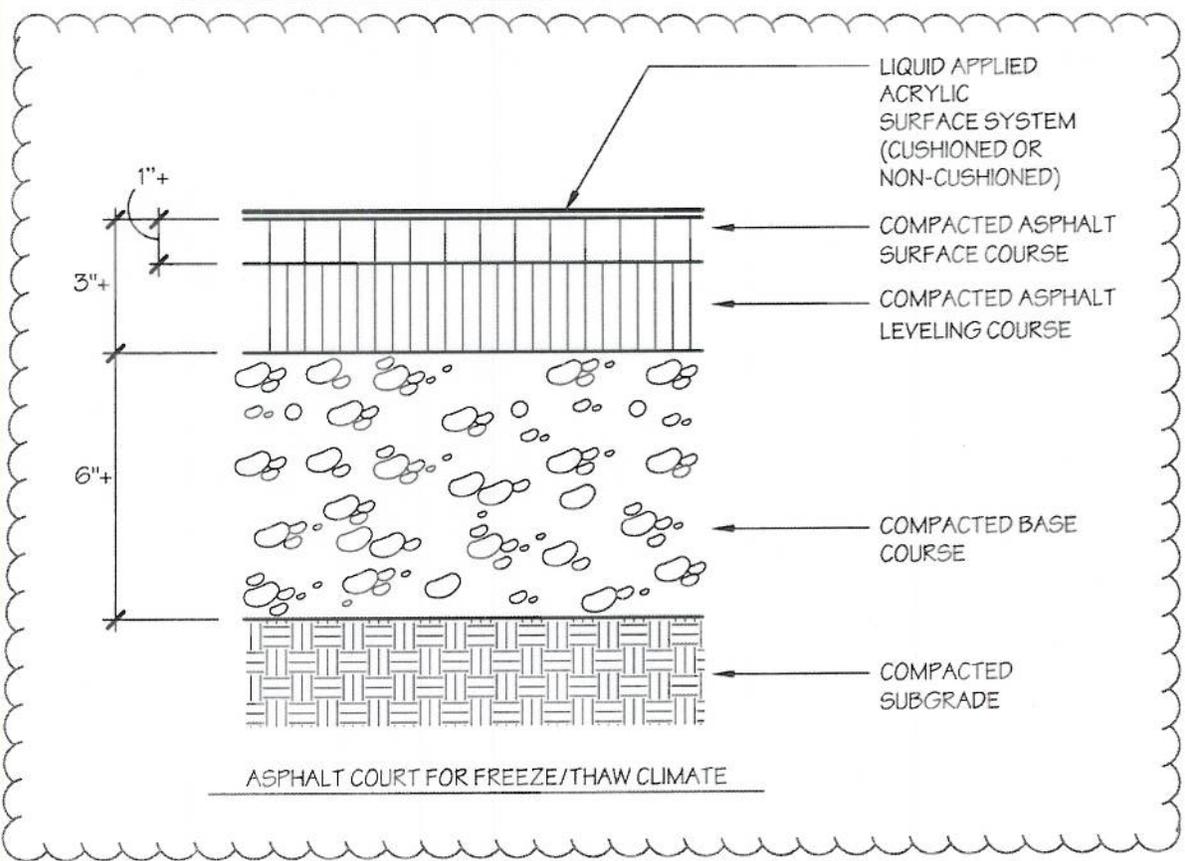
Upon a finished asphalt product, and in accordance with the manufacturers recommendations for application, utilize the following products for tennis court and line painting and coating:

http://www.superior-industries.com/vista_kote_1000_product_277.html





ASPHALT COURT FOR NON FREEZE/THAW CLIMATE



ASPHALT COURT FOR FREEZE/THAW CLIMATE

ASPHALT COURT SECTIONS

NOT TO SCALE

date of prep: 11/27/12

A255-E84-D (page 1)

SECTION I

manufacturer : SUPERIOR INDUSTRIES, INC.
 address : 6180 Airways Blvd
 Chattanooga, TN 37421

- H M I S -

HEALTH	: 1*
FLAMMABILITY	: 0
REACTIVITY	: 0
PERSONAL PROTECT.:	B

telephone# : (423) 899-0467
 emergency# : (800) 476-2072

(HAZARD RATING : 0=least, 1=slight, 2=moderate, 3=high, 4=extreme, *=chronic)
 (B = safety glasses & gloves)

mfg. code id : A255-E84-D

trade name : VISTA KOTE 1000 - TENNIS COURT RESURFACER/COATING - TENNIS GREEN

SECTION II-A HAZARDOUS COMPONENTS

no.	vapor component	CAS#	% by wt.	SARA	pressure (mm Hg @ 20 c)	LEL (@ 25 c)
1	QUARTZ	14808-60-7	35 - 40	NO	N/A	N/A
2	CHROMIUM OXIDE	1308-38-9	1 - 5	YES	N/A	N/A
3	CALCIUM CARBONATE	1317-65-3	1 - 5	NO	N/A	N/A

>>Component number 1 is listed by NTP and IARC as a carcinogen or a possible carcinogen. Refer to appropriate reference sources for additional information concerning carcinogens.
 >>Under the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR Part 372, chemicals listed on the Section 313 List (40 CFR Part 372.65) are identified under the heading 'SARA 313'.
 >>PROPOSITION 65: THIS PRODUCT CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.
 (N/A) = not applicable)

SECTION II-B OCCUPATIONAL EXPOSURE LIMITS

no.	(OSHA) PEL/TWA	PEL/CEILING	PEL/STEL	skin
1	1mg/m3 (DUST)	N/E	N/E	N/E
2	1.0mg/m3	N/E	N/E	N/E
3	15mg/m3	N/E	N/E	N/E

no.	(ACGIH) TLV/TWA	TLV/CEILING	TLV/STEL	skin
1	1mg/m3 (DUST)	N/E	N/E	N/E
2	1.5mg/m3	N/E	N/E	N/E
3	10mg/m3	N/E	N/E	N/E

>>The dried film of this product may become a dust nuisance when removed by sanding or grinding. OSHA recommends a PEL/TWA of 15 mg/m3 for total dust and 5 mg/m3 for the respirable fraction. ACGIH recommends a TLV/TWA of 10 mg/m3 for total dust.
 >>(SKIN) absorption may contribute to the overall exposure to this material. Take appropriate measure to prevent skin contact.
 (N/E) = not established)

SECTION III	PHYSICAL	DATA
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% volatile by volume	: 58.98 +/- 2%	weight per gallon : 12.16 +/- .2
% volatile by weight	: 40.36 +/- 2%	VOC as supplied is .2380 pounds per gallon.
pH level	: 9.00	

SECTION IV	HEALTH	INFORMATION
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EYE CONTACT
ANY FOREIGN MATERIAL GOTTEN INTO THE EYE MAY CAUSE IRRITATION.

SKIN CONTACT
EXPOSURE MAY PRODUCE SKIN IRRITATION.

INHALATION
EXPOSURE MAY PRODUCE IRRITATION TO THE NOSE, THROAT, RESPIRATORY TRACT, AND OTHER MUCOUS MEMBRANES. BASED ON THE PRESENCE OF COMPONENT 1 CHRONIC INHALATION OF SILICA DUST MAY CAUSE "SILICOSIS", A DISABLING PULMONARY FIBROSIS.

INGESTION
THIS PRODUCT MAY BE IRRITATING TO THE GASTROINTESTINAL TRACT IF INGESTED.

SIGNS AND SYMPTOMS
EYE, SKIN, RESPIRATORY, AND GASTRO-INTESTINAL IRRITATION AS NOTED ABOVE.

AGGRAVATED MEDICAL CONDITIONS
PREEXISTING SKIN, EYE AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

OTHER HEALTH EFFECTS
BASED ON THE PRESENCE OF COMPONENTS 1, 2 AND 2, 3 CHRONIC OVEREXPOSURE MAY CAUSE DAMAGE TO THE LUNGS.

SECTION V	EMERGENCY AND FIRST AID PROCEDURES
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EYE CONTACT
IMMEDIATELY FLUSH EYES WITH WATER FOR AT LEAST 15 MINUTES, SEEK MEDICAL ATTENTION IF ANY SMPTOMS PERSIST.

SKIN CONTACT
REMOVE CONTAMINATED CLOTHING AND SHOES. WIPE EXCESS FROM SKIN AND FLUSH WITH WATER USING SOAP IF AVAILABLE. SEEK MEDICAL ATTENTION IF IRRITATION OCCURS. DO NOT REUSE CLOTHING UNTIL THOROUGHLY DECONTAMINATED.

INHALATION
REMOVE VICTIM TO FRESH AIR AND TREAT SYMPTOMATICALLY. PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICAL RESPIRATION IF THE VICTIM IS NOT BREATHING. SEEK PROMPT MEDICAL ATTENTION.

INGESTION
DILUTE WITH TWO GLASSES OF WATER UNLESS THE VICTIM IS UNCONSCIOUS OR VERY DROWSY. INDUCE VOMITING BY GIVING TWO TABLESPOONS OF IPECAC OR BY TOUCHING A FINGER TO THE BACK OF THE VICTIM'S THROAT. KEEP THE VICTIM'S HEAD BELOW THE HIPS TO PREVENT ASPIRATION INTO THE LUNGS. CONSULT A PHYSICIAN, HOSPITAL OR POISON CONTROL CENBER AND/OR TRANSPORT TO AN EMERGENCY FACILITY IMMEDIATELY.

SECTION VI FIRE AND EXPLOSION HAZARDS

flammability classification - OSHA : NOT APPLICABLE
- DOT : NOT REGULATED
flash point : NOT APPLICABLE

EXTINGUISHING MEDIA
NOT APPLICABLE

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS
NOT APPLICABLE

UNUSUAL FIRE AND EXPLOSION HAZARDS
NOT APPLICABLE

SECTION VII REACTIVITY

STABILITY : STABLE HAZARDOUS POLYMERIZATION : WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID
BASED ON THE PRESENCE OF COMPONENTS 1 AND 1, 3 AVOID STRONG ACIDS. BASED ON THE PRESENCE OF COMPONENT 1 AVOID STRONG ALKALIES.

HAZARDOUS DECOMPOSITION PRODUCTS
CARBON DIOXIDE, CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

SECTION VIII EMPLOYEE PROTECTION

RESPIRATORY PROTECTION
AVOID PROLONGED OR REPEATED BREATHING OF VAPORS/MIST. IF EXPOSURE EXCEEDS TLV USE A NIOSH-APPROVED POSITIVE PRESSURE SUPPLIED AIR RESPIRATOR TO PREVENT OVER EXPOSURE.

PROTECTIVE CLOTHING
AVOID CONTACT WITH EYES. WEAR GOGGLES IF THERE IS A LIKELIHOOD OF CONTACT WITH EYES. DO NOT GET ON SKIN OR ON CLOTHING.

ADDITIONAL PROTECTIVE MEASURES
USE VENTILATION AS REQUIRED TO CONTROL VAPOR/DUST CONCENTRATIONS. EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE FOR USE IN AN EMERGENCY.

SECTION IX ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES
LARGE SPILLS >> EVACUATE THE HAZARD AREA OF UNPROTECTED PERSONNEL. WEAR APPROPRIATE RESPIRATOR AND PROTECTIVE CLOTHING. SHUT OFF SOURCE OF LEAK ONLY IF SAFE TO DO SO. DIKE AND CONTAIN. IF VAPOR CLOUD FORMS, WATER FOG MAY BE USED TO SUPPRESS; CONTAIN RUN-OFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND OR OTHER SUITABLE MATERIAL; PLACE IN NON-LEAKING CONTAINERS FOR PROPER DISPOSAL. FLUSH AREA WITH WATER TO REMOVE TRACE RESIDUE; DISPOSE OF FLUSH SOLUTIONS AS ABOVE. SMALL SPILLS >> TAKE UP WITH AN ABSORBENT MATERIAL AND PLACE IN NON-LEAKING CONTAINERS; SEAL TIGHTLY FOR PROPER DISPOSAL.

WASTE DISPOSAL
WASTE CHARACTERIZATIONS AND COMPLIANCE WITH APPLICABLE LAWS ARE THE SOLE RESPONSIBILITY OF THE END USER. ALL DISPOSAL PRACTICES USED FOR THIS PRODUCT AND ITS' CONTAINER(S) MUST BE IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS. THE INFORMATION PRESENTED IN THIS MSDS PERTAINS ONLY TO THE PRODUCT AS SHIPPED.

MATERIAL SAFETY DATA SHEET ***

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SECTION X

ADDITIONAL

PRECAUTIONS

CONTAINERS CAN CONTAIN HAZARDOUS PRODUCT RESIDUES EVEN WHEN EMPTY. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES.

THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT. HOWEVER, WE MAKE NO WARRANTY, EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. WE ASSUME NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.

date of prep: 11/27/12

A256-W01 (page 1)

SECTION I

manufacturer : SUPERIOR INDUSTRIES, INC.
 address : 6180 Airways Blvd
 Chattanooga, TN 37421

- H M I S -

HEALTH	: 1*
FLAMMABILITY	: 0
REACTIVITY	: 0
PERSONAL PROTECT.:	J

telephone# : (423) 899-0467
 emergency# : (800) 476-2072

(HAZARD RATING : 0=least, 1=slight, 2=moderate, 3=high, 4=extreme, *=chronic)
 (J = splash goggles, gloves, syn. apron, comb. dust & vapor respirator)

mfg. code id : A256-W01
 trade name : VISTA KOTE 1000 LINE MARKING PAINT

SECTION II-A HAZARDOUS COMPONENTS

no.	vapor component	CAS#	% by wt.	SARA	pressure (mm Hg @ 20 C)	LEL (@ 25 C)
1	CALCIUM CARBONATE	1317-65-3	1 - 5	NO	N/A	N/A
2	ETHYLENE GLYCOL	107-21-1	1 - 5	YES	.10	3.20
3	QUARTZ	14808-60-7	1 - 5	NO	N/A	N/A

>>Component number 3 is listed by NTP and IARC as a carcinogen or a possible carcinogen. Refer to appropriate reference sources for additional information concerning carcinogens.
 >>Under the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR Part 372, chemicals listed on the Section 313 List (40 CFR Part 372.65) are identified under the heading 'SARA 313'.
 >>PROPOSITION 65: THIS PRODUCT CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.
 (N/A) = not applicable)

SECTION II-B OCCUPATIONAL EXPOSURE LIMITS

no.	(OSHA) PEL/TWA	PEL/CEILING	PEL/STEL	skin
1	15mg/m3 N/E	N/E	N/E	N/E
2	N/E 50	ppm N/E	N/E	N/E
3	.1mg/m3 (DUST) N/E	N/E	N/E	N/E

no.	(ACGIH) TLV/TWA	TLV/CEILING	TLV/STEL	skin
1	10mg/m3	N/E	N/E	N/E
2	50ppm (CEILING)	N/E	N/E	N/E
3	.1mg/m3 (DUST)	N/E	N/E	N/E

>>The dried film of this product may become a dust nuisance when removed by sanding or grinding. OSHA recommends a PEL/TWA of 15 mg/m3 for total dust and 5 mg/m3 for the respirable fraction. ACGIH recommends a TLV/TWA of 10 mg/m3 for total dust.
 >>(SKIN) absorption may contribute to the overall exposure to this material. Take appropriate measures to prevent skin contact.
 (N/E) = not established)

SECTION III PHYSICAL DATA

% volatile by volume : 61.33 +/- 2% weight per gallon : 12.15 +/- .2
 % volatile by weight : 42.07 +/- 2% VOC as supplied is .2727 pounds per gallon.

SECTION IV HEALTH INFORMATION

EYE CONTACT
 ANY FOREIGN MATERIAL GOTTEN INTO THE EYE MAY CAUSE IRRITATION.

SKIN CONTACT
 EXPOSURE MAY PRODUCE SKIN IRRITATION.

INHILATION
 EXPOSURE MAY PRODUCE IRRITATION TO THE NOSE, THROAT, RESPIRATORY TRACT, AND OTHER MUCOUS MEMBRANES. BASED ON THE PRESENCE OF COMPONENT 3 CHRONIC INHALATION OF SILICA DUST MAY CAUSE "SILICOSIS", A DISABLING PULMONARY FIBROSIS.

INGESTION
 BASED ON THE PRESENCE OF COMPONENT 2 PRODUCT IS PRESUMED TO BE MODERATELY TOXIC.

SIGNS AND SYMPTOMS
 EYE, SKIN, RESPIRATORY, AND GASTRO-INTESTINAL IRRITATION AS NOTED ABOVE.

AGGRAVATED MEDICAL CONDITIONS
 PREEXISTING SKIN, EYE AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

OTHER HEALTH EFFECTS
 BASED ON THE PRESENCE OF COMPONENT 2 CHRONIC OVEREXPOSURE MAY CAUSE INJURY TO THE KIDNEYS AND LIVER. BASED ON THE PRESENCE OF COMPONENT 2 CHRONIC OVEREXPOSURE MAY CAUSE DAMAGE TO THE RED BLOOD CELLS. BASED ON THE PRESENCE OF COMPONENTS 1 AND1, 3 CHRONIC OVEREXPOSURE MAY CAUSE DAMAGE TO THE LUNGS.

SECTION V EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT
 IMMEDIATELY FLUSH EYES WITH WATER FOR AT LEAST 15 MINUTES. SEEK MEDICAL ATTENTION IF ANY SMPTOMS PERSIST.

SKIN CONTACT
 REMOVE CONTAMINATED CLOTHING AND SHOES. WIPE EXCESS FROM SKIN AND FLUSH WITH WATER USING SOAP IF AVAILABLE. SEEK MEDICAL ATTENTION IF IRRITATION OCCURS. DO NOT REUSE CLOTHING UNTIL THOROUGHLY DECONTAMINATED.

INHALATION
 REMOVE VICTIM TO FRESH AIR AND TREAT SYMPTOMATICALLY. PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICAL RESPIRATION IF THE VICTIM IS NOT BREATHING. SEEK PROMPT MEDICAL ATTENTION.

INGESTION
 DILUTE WITH TWO GLASSES OF WATER UNLESS THE VICTIM IS UNCONSCIOUS OR VERY DROWSY. INDUCE VOMITING BY GIVING TWO TABLESPOONS OF IPECAC OR BY TOUCHING A FINGER TO THE BACK OF THE VICTIM'S THROAT. KEEP THE VICTIM'S HEAD BELOW THE HIPS TO PREVENT ASPIRATION INTO THE LUNGS. CONSULT A PHYSICIAN, HOSPITAL OR POISON CONTROL CENTER AND/OR TRANSPORT TO AN EMERGENCY FACILITY IMMEDIATELY.

SECTION VI FIRE AND EXPLOSION HAZARDS

flammability classification - OSHA : NOT APPLICABLE
 - DOT : NOT REGULATED
 flash point : NOT APPLICABLE

EXTINGUISHING MEDIA
 NOT APPLICABLE

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS
 NOT APPLICABLE

UNUSUAL FIRE AND EXPLOSION HAZARDS
NOT APPLICABLE

SECTION VII REACTIVITY

STABILITY : STABLE HAZARDOUS POLYMERIZATION : WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID
BASED ON THE PRESENCE OF COMPONENT 2 AVOID OXIDIZING MATERIALS. BASED ON THE PRESENCE OF COMPONENTS 1 AND 1, 3
AVOID STRONG ACIDS. BASED ON THE PRESENCE OF COMPONENT 3 AVOID STRONG ALKALIES.

HAZARDOUS DECOMPOSITION PRODUCTS
CARBON DIOXIDE, CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

SECTION VIII EMPLOYEE PROTECTION

RESPIRATORY PROTECTION
AVOID PROLONGED OR REPEATED BREATHING OF VAPORS/MIST. IF EXPOSURE EXCEEDS TLV USE A NIOSH-APPROVED POSITIVE
PRESSURE SUPPLIED AIR RESPIRATOR TO PREVENT OVER EXPOSURE.

PROTECTIVE CLOTHING
AVOID CONTACT WITH EYES. WEAR GOGGLES IF THERE IS A LIKELIHOOD OF CONTACT WITH EYES. DO NOT GET ON SKIN OR ON
CLOTHING.

ADDITIONAL PROTECTIVE MEASURES
USE VENTILATION AS REQUIRED TO CONTROL VAPOR/DUST CONCENTRATIONS. EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD
BE AVAILABLE FOR USE IN AN EMERGENCY.

SECTION IX ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES
LARGE SPILLS >> EVACUATE THE HAZARD AREA OF UNPROTECTED PERSONNEL. WEAR APPROPRIATE RESPIRATOR AND PROTECTIVE
CLOTHING. SHUT OFF SOURCE OF LEAK ONLY IF SAFE TO DO SO. DIKE AND CONTAIN. IF VAPOR CLOUD FORMS, WATER FOG MAY
BE USED TO SUPPRESS; CONTAIN RUN-OFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP
RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND OR OTHER SUITABLE MATERIAL; PLACE IN NON-LEAKING CONTAINERS FOR
PROPER DISPOSAL. FLUSH AREA WITH WATER TO REMOVE TRACE RESIDUE; DISPOSE OF FLUSH SOLUTIONS AS ABOVE. SMALL
SPILLS >> TAKE UP WITH AN ABSORBENT MATERIAL AND PLACE IN NON-LEAKING CONTAINERS; SEAL TIGHTLY FOR PROPER
DISPOSAL.

WASTE DISPOSAL
WASTE CHARACTERIZATIONS AND COMPLIANCE WITH APPLICABLE LAWS ARE THE SOLE RESPONSIBILITY OF THE END USER. ALL
DISPOSAL PRACTICES USED FOR THIS PRODUCT AND ITS' CONTAINER(S) MUST BE IN COMPLIANCE WITH ALL FEDERAL, STATE AND
LOCAL LAWS AND REGULATIONS. THE INFORMATION PRESENTED IN THIS MSDS PERTAINS ONLY TO THE PRODUCT AS SHIPPED.

SECTION X ADDITIONAL PRECAUTIONS

CONTAINERS CAN CONTAIN HAZARDOUS PRODUCT RESIDUES EVEN WHEN EMPTY. WASH WITH SOAP AND WATER BEFORE EATING,
DRINKING, SMOKING, OR USING TOILET FACILITIES.

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HOWEVER, WE MAKE NO WARRANTY, EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS TO
BE OBTAINED FROM THE USE THEREOF. WE ASSUME NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT
DESCRIBED HEREIN.

Cree Edge™ Series

LED High Output Area/Flood Luminaire featuring Cree TrueWhite® Technology

Product Description

The Cree Edge™ High Output Area/Flood luminaire is designed to deliver high lumen packages with precise optical control. The unit features a slim, low profile design that minimizes wind load and a rugged die cast aluminum adjustable arm that mounts to a horizontal or vertical 2" (51mm) IP, 2.375-3" (60-76mm) O.D. tenon. Tenon length must be a minimum of 3.75" (95mm). The direct mount bracket accessory allows for further mounting flexibility. Available with Cree TrueWhite® Technology, the Cree Edge™ High Output helps to beautifully render true colors and deliver value beyond energy savings.

Applications: Auto dealerships, parking lots, campuses, facade lighting, high-mast and general site lighting applications

Performance Summary

Utilizes BetaLED® Technology

Utilizes Cree TrueWhite® Technology on 5000K Luminaires

Patented NanoOptic® Product Technology

Made in the U.S.A. of U.S. and imported parts

CRI: Minimum 70 CRI (4000K & 5700K); 90 CRI (5000K)

CC: 4000K (+/- 300K), 5000K (+/- 300K), 5700K (+/- 500K) standard

Limited Warranty*: 10 years on luminaire/10 years on Colorfast DeltaGuard® finish

Accessories

Field-Installed

Bird Spikes
XA-BRDSPKXAK12
- 120 LED

Bird Spikes
XA-BRDSPKXAK24
- 240 LED

Direct Mount Bracket
EHO-UNV-**
- Mounts to minimum 4" round or square; aluminum or steel pole or can be surface-mounted directly to a vertical or horizontal surface

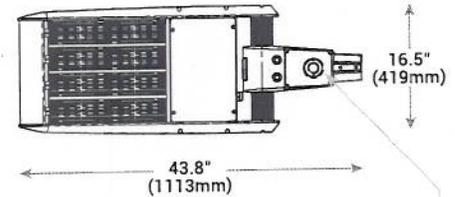
** Must specify color



HV Mount (shown in horizontal position)

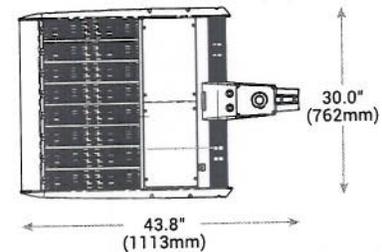


120 LED



NEMA® Photocell Receptacle location (ordered as an option)

240 LED



Ordering Information

Example: ARE EHO 2M HV 12 E UL SV 700

Product	Optic	Mounting	LED Count (x10)	Series	Voltage	Color Options	Drive Current	Options	
ARE EHO	1S Type I Short 2M Type II Medium 2MB Type II Medium w/BLS 2MP Type II Medium w/Partial BLS 2S Type II Short 2SB Type II Short w/BLS 2SP Type II Short w/Partial BLS 3M Type III Medium 3MB Type III Medium w/BLS 3MP Type III Medium w/Partial BLS 4M Type IV Medium 4MB Type IV Medium w/BLS 4MP Type IV Medium w/Partial BLS 5M Type V Medium 5S Type V Short AF Automotive Frontline	HV Horizontal/ Vertical Tenon	12 24	E	UL Universal 120-277V UH* Universal 347-480V	SV Silver BK Black BZ Bronze PB Platinum Bronze WH White	700 700mA 1000 1000mA	40K 4000K Color Temperature - Minimum 70 CRI - Color temperature per luminaire 50K 5000K Color Temperature - Minimum 90 CRI - Utilizes Cree TrueWhite® Technology - Color temperature per luminaire DIM 0-10V Dimming - Control by others - Refer to Dimming spec sheet for details - Can't exceed specified drive current F Fuse - When code dictates fusing, use time delay fuse	ML Multi-Level - Refer to ML spec sheet for details - Intended for downlight applications at 0° tilt R NEMA® Photocell Receptacle - Consult factory for vertical tenon application - Photocell by others - Intended for downlight applications at 0° tilt
FLD EHO	15 15' Flood 25 25' Flood 40 40' Flood 70 70' Flood SN Sign N6 NEMA 6								

* See www.cree.com/lighting/products/warranty for warranty terms
* Not available with 1000mA



US: www.cree.com/lighting

T (800) 236-6800 F (262) 504-5415

Rev. Date: V1 07/30/2014

Canada: www.cree.com/canada



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

Cree Edge™ High Output Area/Flood

Product Specifications

CREE TRUEWHITE® TECHNOLOGY

A revolutionary way to generate high-quality white light, Cree TrueWhite® Technology is a patented approach that delivers an exclusive combination of 90+ CRI, beautiful light characteristics, and lifelong color consistency, all while maintaining high luminous efficacy – a true no compromise solution.

CONSTRUCTION & MATERIALS

- Slim, low profile, minimizing wind load
- Luminaire sides are rugged die cast aluminum with integral, weathertight LED driver compartments and high performance heat sinks
- Adjustable arm that mounts to a horizontal or vertical 2" (51mm) IP, 2.375-3" (60-76mm) O.D. tenon. Tenon length must be a minimum of 3.75" (95mm)
- Surface-mount directly to a vertical or horizontal surface with direct mount bracket
- Extruded aluminum adjustable mounting shaft
- Luminaire is adjustable from horizontal 90° towards pole and 120° away from pole
- Exclusive Colorfast DeltaGuard® 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, white, and platinum bronze are available
- Weight: 120 LED: 45.3 lbs. (20.6kg); 240 LED: 80.5 lbs. (36.6kg)

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

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Consult factory for CE Certified products
- 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Certified to ANSI C136.31-2001, 3G bridge and overpass vibration standards
- DLC qualified when ordered with 4000K or 5700K CCT and without backlight control. 5000K CCT is listed with AF, 1S, 2S, 4M, 5M and 5S optics with 700mA drive current only. Please refer to <http://www.designlights.org/QPL> for most current information
- 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
- Dark Sky Friendly, IDA Approved. Please refer to <http://www.darksky.org/> for most current information

Electrical Data*							
LED Count (x10)	System Watts 120-480V	Total Current					
		120V	208V	240V	277V	347V	480V
700mA							
12	267	2.24	1.29	1.12	0.99	0.80	0.58
24	533	4.49	2.57	2.24	1.97	1.62	1.16
1000mA							
12	421	3.61	2.06	1.80	1.61	N/A	N/A
24	831	7.16	4.04	3.54	3.14	N/A	N/A

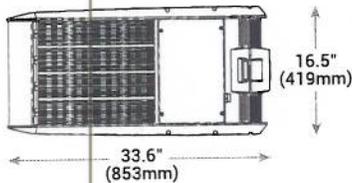
* Electrical data at 25°C (77°F)

Recommended Cree® Outdoor Luminaire Lumen Maintenance Factors (LMF) ¹					
Ambient	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)	1.04	0.99	0.96	0.94	0.90
10°C (50°F)	1.03	0.98	0.95	0.93	0.90
15°C (59°F)	1.02	0.97	0.94	0.92	0.89
20°C (68°F)	1.01	0.96	0.93	0.91	0.88
25°C (77°F)	1.00	0.95	0.92	0.90	0.87

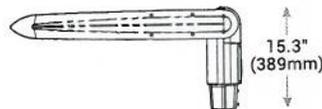
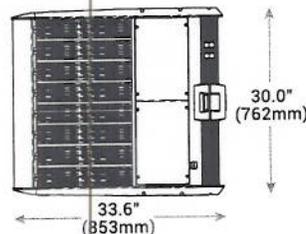
¹ Lumen maintenance values at 25°C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing
² In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip
³ In accordance with IESNA TM-21-11, 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

HV Mount (shown in vertical position)

120 LED

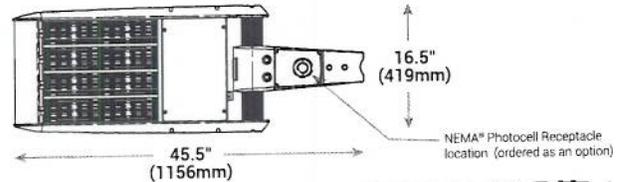


240 LED

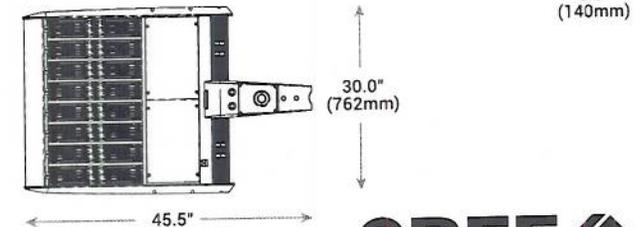


Direct Mount Bracket (accessory sold separately)

120 LED



240 LED

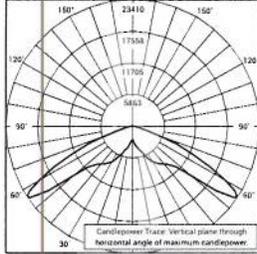


Cree Edge™ High Output Area/Flood

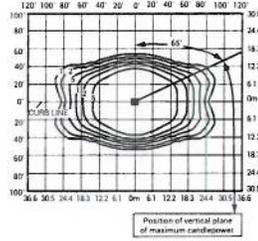
Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP certified laboratory. To obtain an IES file specific to your project consult: <http://www.cree.com/lighting>.

1S



ITL Test Report #: 78640
ARE EHO 1S •• 12 E UL 1000 40K
Initial Delivered Lumens: 37,812

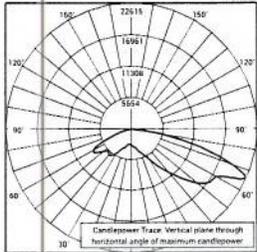


ARE EHO 1S •• 24 E UL 1000 40K
Mounting Height: 25' (7.6m)
Initial Delivered Lumens: 75,507
Initial FC at grade

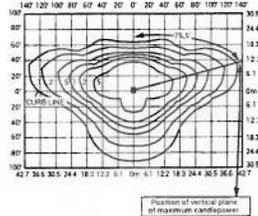
Type I Short Distribution						
LED Count (x10)	4000K		5000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
700mA						
12	26,980	B5 U1 G3	21,376	B4 U1 G3	28,018	B5 U1 G4
24	53,994	B5 U1 G4	42,780	B5 U1 G4	56,071	B5 U1 G5
1000mA						
12	36,230	B5 U1 G4	28,706	B5 U1 G4	37,624	B5 U1 G4
24	72,507	B5 U1 G5	57,448	B5 U1 G5	75,295	B5 U1 G5

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: www.iesna.org/PDF/Erratas/TM-15-11BugRatingsAddendum.pdf. Valid with no tilt

2M



ITL Test Report #: 78643
ARE EHO 2M •• 12 E UL 1000 40K
Initial Delivered Lumens: 32,284



ARE EHO 2M •• 24 E UL 1000 40K
Mounting Height: 25' (7.6m)
Initial Delivered Lumens: 61,352
Initial FC at grade

Type II Medium Distribution						
LED Count (x10)	4000K		5000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
700mA						
12	22,829	B3 U1 G3	18,088	B3 U1 G3	23,707	B3 U1 G3
24	45,687	B5 U1 G4	36,199	B4 U1 G4	47,445	B5 U1 G4
1000mA						
12	30,656	B4 U1 G4	24,289	B3 U1 G3	31,835	B4 U1 G4
24	61,352	B5 U1 G5	48,609	B5 U1 G4	63,711	B5 U1 G5

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens
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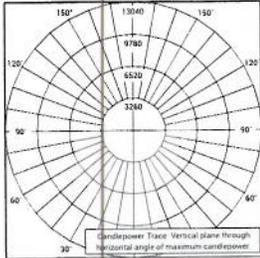


Cree Edge™ High Output Area/Flood

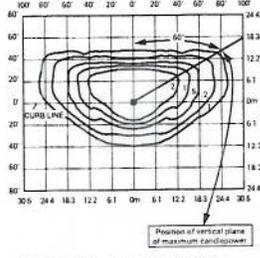
Photometry

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2MB



ITL Test Report #: 78683
ARE EHO 2MB ** 12 E UL 1000 40K
Initial Delivered Lumens: 24,579

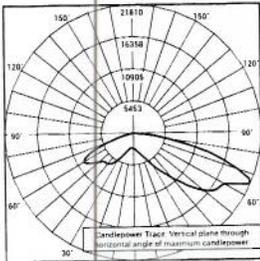


ARE EHO 2MB ** 24 E UL 1000 40K
Mounting Height: 25' (7.6m)
Initial Delivered Lumens: 46,213
Initial FC at grade

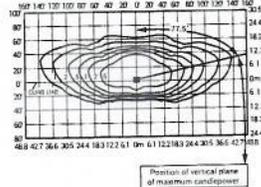
Type II Medium w/BLS Distribution						
LED Count (x10)	4000K		5000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
700mA						
12	17,196	B2 U1 G2	13,625	B2 U1 G2	17,857	B2 U1 G2
24	34,414	B3 U1 G4	27,266	B3 U1 G3	35,738	B3 U1 G4
1000mA						
12	23,092	B2 U1 G3	18,296	B2 U1 G2	23,980	B2 U1 G3
24	46,213	B3 U1 G4	36,615	B3 U1 G4	47,990	B3 U1 G5

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens
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2MP



ITL Test Report #: 78688
ARE EHO 2MP ** 12 E UL 1000 40K
Initial Delivered Lumens: 28,203



ARE EHO 2MP ** 24 E UL 1000 40K
Mounting Height: 25' (7.6m)
Initial Delivered Lumens: 54,181
Initial FC at grade

Type II Medium w/Partial BLS Distribution						
LED Count (x10)	4000K		5000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
700mA						
12	20,161	B3 U1 G3	15,974	B2 U1 G2	20,936	B3 U1 G3
24	40,347	B4 U1 G4	31,968	B3 U1 G3	41,899	B4 U1 G4
1000mA						
12	27,073	B3 U1 G3	21,450	B3 U1 G3	28,114	B3 U1 G3
24	54,181	B4 U1 G4	42,928	B4 U1 G4	56,265	B4 U1 G5

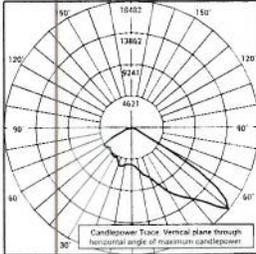
* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: www.iesna.org/PDF/Erratas/TM-15-11BugRatingsAddendum.pdf. Valid with no tilt

Cree Edge™ High Output Area/Flood

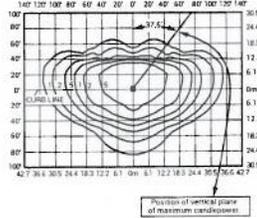
Photometry

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2S



ITL Test Report #: 78639
ARE EHO 2S •• 12 E UL 1000 40K
Initial Delivered Lumens: 34,4783

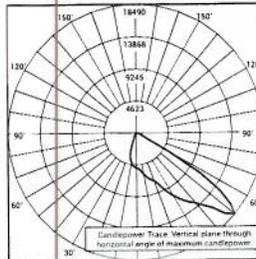


ARE EHO 2S •• 24 E UL 1000 40K
Mounting Height: 25' (7.6m)
Initial Delivered Lumens: 65,336
Initial FC at grade

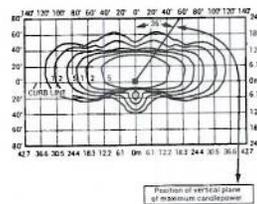
Type II Short Distribution						
LED Count (x10)	4000K		5000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
700mA						
12	24,312	B3 U1 G3	19,262	B3 U1 G3	25,247	B3 U1 G3
24	48,654	B5 U1 G4	38,549	B4 U1 G4	50,525	B5 U1 G4
1000mA						
12	32,647	B4 U1 G4	25,867	B3 U1 G3	33,903	B4 U1 G4
24	65,336	B5 U1 G5	51,766	B5 U1 G4	67,849	B5 U1 G5

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens
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2SB



ITL Test Report #: 78684
ARE EHO 2SB •• 12 E UL 1000 40K
Initial Delivered Lumens: 26,431



ARE EHO 2SB •• 24 E UL 1000 40K
Mounting Height: 25' (7.6m)
Initial Delivered Lumens: 50,197
Initial FC at grade

Type II Short w/BLS Distribution						
LED Count (x10)	4000K		5000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
700mA						
12	18,678	B3 U1 G2	14,799	B2 U1 G2	19,397	B3 U1 G2
24	37,381	B3 U1 G3	29,617	B3 U1 G3	38,818	B3 U1 G3
1000mA						
12	25,083	B3 U1 G3	19,873	B3 U1 G2	26,047	B3 U1 G3
24	50,197	B4 U1 G4	39,771	B3 U1 G3	52,128	B4 U1 G4

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: www.iesna.org/PDF/Erratas/TM-15-11BugRatingsAddendum.pdf. Valid with no tilt

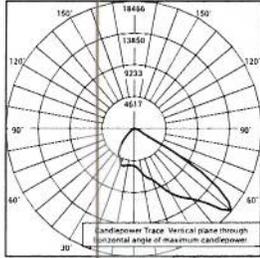


Cree Edge™ High Output Area/Flood

Photometry

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2SP

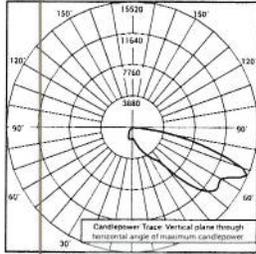


Cree Edge™ High Output Area/Flood

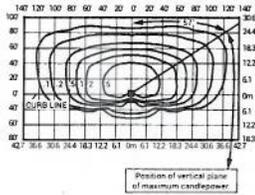
Photometry

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3MB



ITL Test Report #: 78733
ARE EHO 3MB ** 12 E UL 1000 40K
Initial Delivered Lumens: 23,622

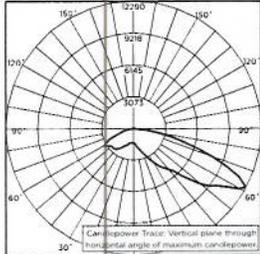


Cree Edge™ High Output Area/Flood

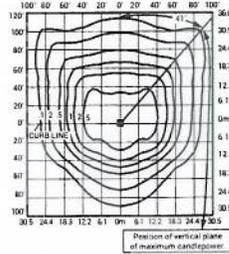
Photometry

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4M



ITL Test Report #: 77685
 ARE EHO 4M ** 12 E UL 700 50K
 Initial Delivered Lumens: 19,507

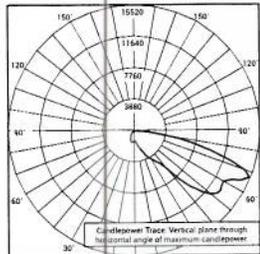


ARE EHO 4M ** 24 E UL 1000 40K
 Mounting Height: 25' (7.6m)
 Initial Delivered Lumens: 61,352
 Initial FC at grade

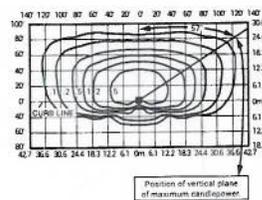
Type IV Medium Distribution						
LED Count (x10)	4000K		5000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
700mA						
12	22,829	B3 U1 G3	18,088	B3 U1 G3	23,707	B3 U1 G3
24	45,687	B5 U1 G4	36,199	B4 U1 G4	47,445	B5 U1 G4
1000mA						
12	30,656	B4 U1 G4	24,289	B3 U1 G3	31,835	B4 U1 G4
24	61,352	B5 U1 G5	48,609	B5 U1 G5	63,711	B5 U1 G5

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens
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4MB



ITL Test Report #: 78734
 ARE EHO 4MB ** 12 E UL 1000 40K
 Initial Delivered Lumens: 25,113



ARE EHO 4MB ** 24 E UL 1000 40K
 Mounting Height: 25' (7.6m)
 Initial Delivered Lumens: 46,213
 Initial FC at grade

Type IV Medium w/BLS Distribution						
LED Count (x10)	4000K		5000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
700mA						
12	17,196	B2 U1 G3	13,625	B1 U1 G2	17,857	B2 U1 G3
24	34,414	B2 U1 G4	27,266	B2 U1 G4	35,738	B3 U1 G4
1000mA						
12	23,092	B2 U1 G3	18,296	B2 U1 G3	23,980	B2 U1 G4
24	46,213	B3 U1 G5	36,615	B3 U1 G4	47,990	B3 U1 G5

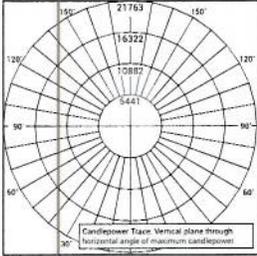
* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens
 ** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: www.iesna.org/PDF/Erratas/TM-15-11BugRatingsAddendum.pdf. Valid with no tilt

Cree Edge™ High Output Area/Flood

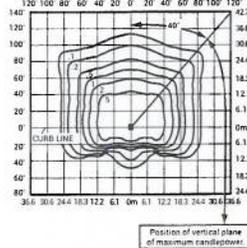
Photometry

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4MP



ITL Test Report #: 78967
 ARE EHO 4MP ** 12 E UL 1000 40K
 Initial Delivered Lumens: 28,934

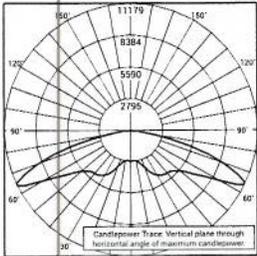


ARE EHO 4MP ** 24 E UL 1000 40K
 Mounting Height: 25' (7.6m)
 Initial Delivered Lumens: 54,181
 Initial FC at grade

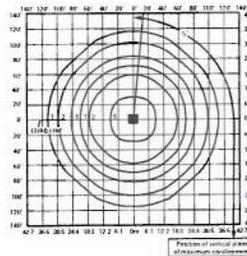
Type IV Medium w/Partial BLS Distribution						
LED Count (x10)	4000K		5000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
700mA						
12	20,161	B3 U1 G3	15,974	B2 U1 G2	20,936	B3 U1 G3
24	40,347	4 U1 G4	31,968	B3 U1 G4	41,899	B4 U1 G4
1000mA						
12	27,073	B3 U1 G3	21,450	B3 U1 G3	28,114	B3 U1 G4
24	54,181	B4 U1 G5	42,928	B4 U1 G4	56,265	B4 U1 G5

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens
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5M



ITL Test Report #: 78580
 ARE EHO 5M ** 12 E UL 1000 40K
 Initial Delivered Lumens: 32,328



ARE EHO 5M ** 24 E UL 1000 40K
 Mounting Height: 25' (7.6m)
 Initial Delivered Lumens: 64,539
 Initial FC at grade

Type V Medium Distribution						
LED Count (x10)	4000K		5000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
700mA						
12	24,015	B5 U1 G3	19,027	B4 U1 G2	24,939	B5 U1 G3
24	48,061	B5 U1 G4	38,079	B5 U1 G4	49,909	B5 U1 G4
1000mA						
12	32,249	B5 U1 G4	25,551	B5 U1 G3	33,489	B5 U1 G4
24	64,539	B5 U1 G5	51,135	B5 U1 G5	67,021	B5 U1 G5

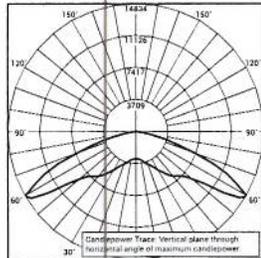
* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens
 ** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: www.iesna.org/PDF/Erratas/TM-15-11BugRatingsAddendum.pdf. Valid with no tilt

Cree Edge™ High Output Area/Flood

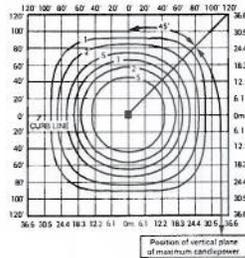
Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP certified laboratory. To obtain an IES file specific to your project consult: <http://www.cree.com/lighting>.

5S



ITL Test Report #: 78687
ARE EHO 5S ** 2 E UL 1000 40K
Initial Delivered Lumens: 37,329

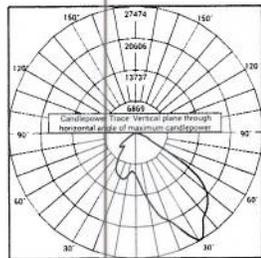


ARE EHO 5S ** 24 E UL 1000 40K
Mounting Height: 25' (7.6m)
Initial Delivered Lumens: 59,329
Initial FC at grade

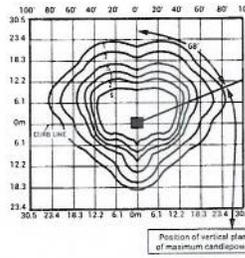
Type V Short Distribution						
LED Count (x10)	4000K		5000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
700mA						
12	26,684	B4 U0 G2	21,142	B4 U1 G2	27,710	B5 U0 G3
24	53,401	B5 U0 G4	42,310	B5 U1 G4	55,455	B5 U0 G4
1000mA						
12	35,832	B5 U0 G3	28,390	B5 U1 G3	37,210	B5 U0 G3
24	71,710	B5 U0 G5	56,816	B5 U1 G4	74,468	B5 U0 G5

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: www.iesna.org/PDF/Erratas/TM-15-11BugRatingsAddendum.pdf. Valid with no tilt

AF



ITL Test Report #: 78579
ARE EHO AF ** 2 E UL 1000 40K
Initial Delivered Lumens: 36,341



ARE EHO AF ** 24 E UL 1000 40K
Mounting Height: 25' (7.6m)
Initial Delivered Lumens: 69,319
Initial FC at grade

Automotive FrontlineOptic™ Distribution						
LED Count (x10)	4000K		5000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
700mA @						
12	25,794	B3 U0 G2	20,437	B3 U0 G1	26,786	B3 U0 G2
24	51,621	B4 U0 G2	40,900	B4 U0 G2	53,606	B4 U0 G2
1000mA @						
12	34,638	B4 U0 G2	27,444	B3 U0 G2	35,970	B4 U0 G2
24	69,319	B5 U0 G3	54,922	B4 U0 G2	71,986	B5 U0 G3

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: www.iesna.org/PDF/Erratas/TM-15-11BugRatingsAddendum.pdf. Valid with no tilt

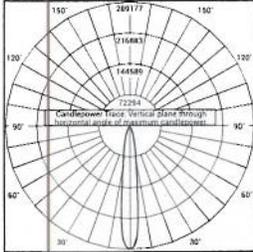


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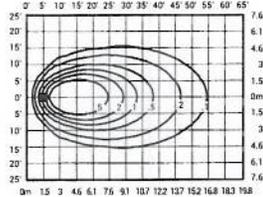
Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP certified laboratory. To obtain an IES file specific to your project consult: <http://www.cree.com/lighting>.

15'



ITL Test Report #: 78519
FLD EHO 15 ** 12 E UL 1000 40K
Initial Delivered Lumens: 38,859

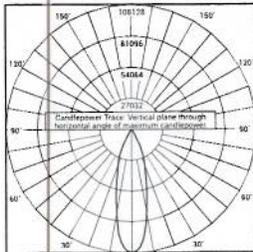


FLD EHO 15 ** 24 E UL 1000 40K
Mounting Height: 25' (7.6m) - 60° tilt
Initial Delivered Lumens: 73,303
Initial FC at grade

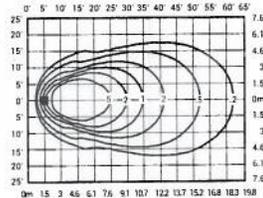
15' Flood Optic Distribution			
LED Count (x10)	4000K	5000K	5700K
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
700mA			
12	27,276	21,611	28,326
24	54,588	43,250	56,687
1000mA			
12	36,628	29,021	38,037
24	73,303	58,079	76,123

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens

25'



ITL Test Report #: 78520
FLD EHO 25 ** 12 E UL 1000 40K
Initial Delivered Lumens: 38,828



FLD EHO 25 ** 24 E UL 1000 40K
Mounting Height: 25' (7.6m) - 60° tilt
Initial Delivered Lumens: 73,303
Initial FC at grade

25' Flood Optic Distribution			
LED Count (x10)	4000K	5000K	5700K
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
700mA			
12	27,276	21,611	28,326
24	54,588	43,250	56,687
1000mA			
12	36,628	29,021	38,037
24	73,303	58,079	76,123

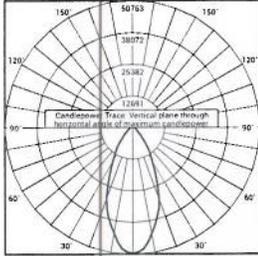
* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens

Cree Edge™ High Output Area/Flood

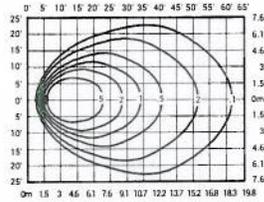
Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP certified laboratory. To obtain an IES file specific to your project consult: <http://www.cree.com/lighting>.

40'



ITL Test Report #: 78521
 FLD EHO 40 ** 2 E UL 1000 40K
 Initial Delivered Lumens: 36,476

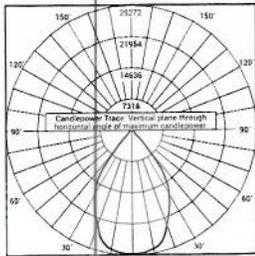


FLD EHO 40 ** 24 E UL 1000 40K
 Mounting Height: 25' (7.6m) - 60° tilt
 Initial Delivered Lumens: 73,303
 Initial FC at grade

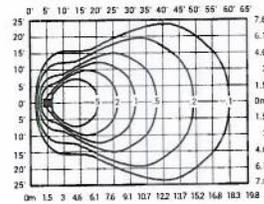
40' Flood Optic Distribution			
LED Count (x10)	4000K	5000K	5700K
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
700mA			
12	26,684	21,142	27,710
24	53,401	42,310	55,455
1000mA			
12	35,832	28,390	37,210
24	71,710	56,816	74,468

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens

70'



ITL Test Report #: 78522
 FLD EHO 70 ** 12 E UL 1000 40K
 Initial Delivered Lumens: 33,030



FLD EHO 70 ** 24 E UL 1000 40K
 Mounting Height: 25' (7.6m) - 60° tilt
 Initial Delivered Lumens: 65,336
 Initial FC at grade

70' Flood Optic Distribution			
LED Count (x10)	4000K	5000K	5700K
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
700mA @			
12	24,312	19,262	25,247
24	48,654	38,549	50,525
1000mA @			
12	32,647	25,867	33,903
24	65,336	51,766	67,849

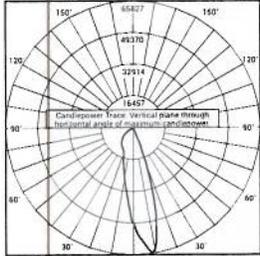
* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens

Cree Edge™ High Output Area/Flood

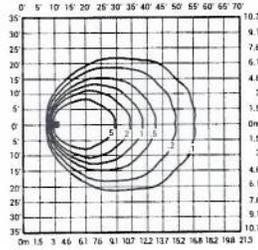
Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP certified laboratory. To obtain an IES file specific to your project consult: <http://www.cree.com/lighting>.

SN



ITL Test Report #: 78563
FLD EHO SN ** 24 E UL 1000 40K
Initial Delivered Lumens: 34,961

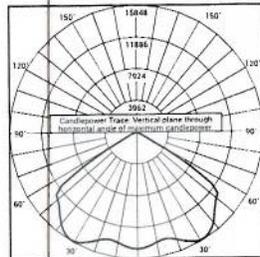


FLD EHO SN ** 24 E UL 1000 40K
Mounting Height: 25' (7.6m) - 60° tilt
Initial Delivered Lumens: 66,132
Initial FC at grade

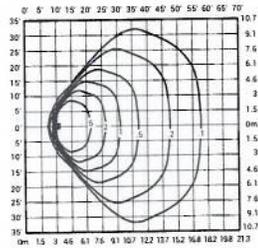
Sign Optic Distribution			
LED Count (x10)	4000K	5000K	5700K
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
700mA			
12	24,608	19,497	25,555
24	49,248	39,019	51,142
1000mA			
12	33,045	26,182	34,316
24	66,132	52,397	68,676

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens

N6



ITL Test Report #: 78562
FLD EHO N6 ** 24 E UL 1000 40K
Initial Delivered Lumens: 38,110



FLD EHO N6 ** 24 E UL 1000 40K
Mounting Height: 25' (7.6m) - 60° tilt
Initial Delivered Lumens: 73,303
Initial FC at grade

NEMA 6 Distribution			
LED Count (x10)	4000K	5000K	5700K
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
700mA			
12	27,276	21,611	28,326
24	54,588	43,250	56,687
1000mA			
12	36,628	29,021	38,037
24	73,303	58,079	76,123

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -4 and +10% of initial delivered lumens

Cree Edge™ High Output Area/Flood

Luminaire EPA

Horizontal/Vertical Tenon Mount and EHO-UNV Direct Munt Bracket											
LED Count (x10)	Luminaire Weight	Single	2 @ 90°	2 @ 180°	2 @ 180°	3 @ 90°	3 @ 120°	3 @ 180°	4 @ 90°	4 @ 180°	
Tenon Configuration If used with Cree tenons, please add tenon EPA with Luminaire EPA											
		Vertical	Horizontal	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical
											
		PB-1A*; PW-1A3; EHO-UNV	Horizontal Tenon	PB-2A*; PB-2R2.375; PW-2A3; (2) EHO-UNV	PB-2A*; PB-2R2.375; PW-2A3 (picture does not apply)	PB-2A*; PB-2R2.375; PW-2A3 (picture doesn't apply)	PB-3A*; PB-3R2.375; (3) EHO-UNV	PB-3A*; PB-3R2.375	PB-3A*; PB-3R2.375	PB-4A*(90); PB-4R2.375; (4) EHO-UNV	PB-4A*(180); PB-4R2.375
0° Tilt											
12	45.3 lbs. (20.6kg)	1.41	1.41	2.35	2.83	2.83	3.76	3.76	4.24	4.70	5.66
24	80.5 lbs. (36.6kg)	1.41	1.41	2.80	2.83	N/A	4.22	4.22	N/A	5.61	N/A
10° Tilt											
12	45.3 lbs. (20.6kg)	1.49	1.41	2.90	2.98	2.98	4.39	4.39	5.96	5.81	7.95
24	80.5 lbs. (36.6kg)	2.38	1.97	2.38	4.76	N/A	6.18	6.18	N/A	7.59	N/A
20° Tilt											
12	45.3 lbs. (20.6kg)	2.11	1.71	3.53	4.22	4.22	5.64	5.64	8.45	7.05	11.26
24	80.5 lbs. (36.6kg)	3.46	3.11	4.87	6.92	N/A	7.12	7.12	N/A	9.74	N/A
30° Tilt											
12	45.3 lbs. (20.6kg)	2.69	2.30	4.11	5.39	5.39	6.80	6.80	10.78	8.22	14.37
24	80.5 lbs. (36.6kg)	4.59	4.23	6.97	9.19	N/A	10.60	10.60	N/A	12.01	N/A
45° Tilt											
12	45.3 lbs. (20.6kg)	3.50	3.11	4.91	6.99	6.99	8.40	8.40	13.98	9.82	18.64
24	80.5 lbs. (36.6kg)	6.03	5.73	7.44	10.31	N/A	13.48	13.48	N/A	14.89	N/A
60° Tilt											
12	45.3 lbs. (20.6kg)	4.12	3.74	5.54	8.25	8.25	9.66	9.66	16.49	11.08	21.99
24	80.5 lbs. (36.6kg)	7.24	6.91	8.65	12.37	N/A	15.89	15.89	N/A	17.30	N/A
70° Tilt											
12	45.3 lbs. (20.6kg)	4.41	4.03	5.83	8.83	8.83	10.24	10.24	17.65	11.65	23.54
24	80.5 lbs. (36.6kg)	7.76	7.45	9.17	15.51	N/A	16.93	16.93	N/A	18.34	N/A
80° Tilt											
12	45.3 lbs. (20.6kg)	4.59	4.21	6.00	9.18	9.18	10.59	10.59	18.36	12.01	24.47
24	80.5 lbs. (36.6kg)	8.06	7.79	9.48	16.12	N/A	17.54	17.54	N/A	18.95	N/A
90° Tilt											
12	45.3 lbs. (20.6kg)	4.64	4.26	6.06	9.29	9.29	10.70	10.70	18.58	12.12	24.77
24	80.5 lbs. (36.6kg)	8.14	7.89	9.56	16.29	N/A	17.70	17.70	N/A	19.12	N/A

Note: Not for use with aluminum tenons



Cree Edge™ High Output Area/Flood

Tenon EPA

Part Number	EPA
PB-1A*	None
PB-2A*	0.82
PB-3A*	1.52
PB-4A (90)	1.11
PB-4A (180)	2.22
PB-2R2.375**	0.92
PB-3R2.375**	1.62
PB-4R2.375**	2.32
PW-1A3**	0.47
PW-2A3**	0.94
WM-2	0.08
WM-2L	0.13
WM-4L	0.32

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 PB-4A*(90) - 90° Quad PB-2A* - 180° Twin PB-4A*(180) - 180° Quad PB-3A* - 180° Triple	Round Internal Mount Vertical Tenons (Steel) - Mounts to 2.375" (60mm) O.D. round aluminum or steel poles or tenons PB-2R2.375 - Twin PB-4R2.375 - Quad PB-3R2.375 - Triple
Wall Mount Brackets - Mounts to wall, roof or side of wood pole WM-2 - Horizontal WM-4L - L-Shape WM-2L - Extended Horizontal	Mid-Pole Bracket - Mounts to square pole PW-1A3* - Single PW-2A3* - Double

* 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



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WIMBLEDON 3 INCH SQUARE TENNIS NET POSTS

\$289.95

Item #: 1234459

1

Color

Description Reviews

The Wimbledon 3 inch square posts have the same specs as the Classic Round Posts. These posts feature 3 inch box-section steel for increased strength and durability. Comes complete with brass internal winder. Available in green or black.

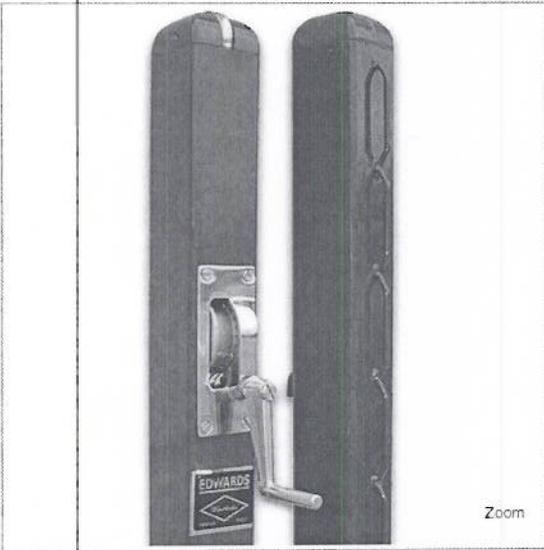
Ground sleeves sold separately.

Note: Standard Net posts are spaced 42' apart. 42' nets actual measurement is 41'6" to fit between these posts.

Shipping is \$19.95 per pair within the Continental US
Call or [e-mail](#) for shipping quotes outside the continental US.

Not available for in store pickup.

This item drop ships directly from the manufacturer.
Please allow 7-10 business days for delivery.



Zoom

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