BRIGHTLIGHT SYSTEMS

Case Study

Naval Station Everett, WA
High Mast Lighting

Products

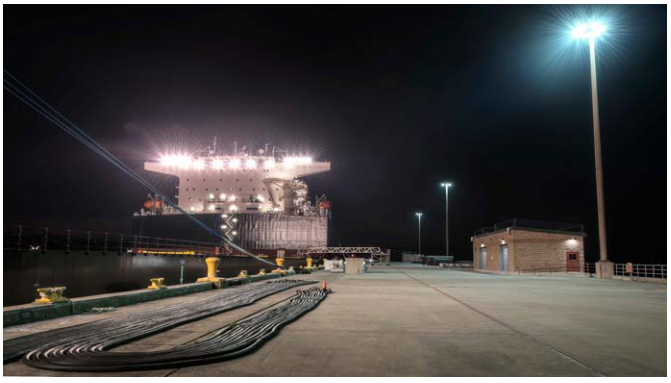
- **BLP1000 LEP High Mast Luminaire**

Customer

Naval Station Everett is the United States Navy's most modern facility located about 25 miles north of Seattle. It is home to the USS Nimitz (CVN-68) aircraft carrier and several Arleigh Burke class destroyers like the USS Decatur (DDG-73) shown below.

Problem

Since the port opened in 1993, lighting for the piers Alpha and Bravo has been provided by seventy-four 1000W high pressure sodium (HPS) fixtures. These lights operate on a 24/7 basis to load, unload, and service the fleet in the Pacific Northwest. In 2012, the Secretary of the Navy issued an order requiring all naval facilities to achieve a 50% reduction in ashore energy consumption by 2020. Naval Station Everett needed an energy efficient alternative to HPS that met the Unified Facilities Criteria of a 3 foot candle (fc) average illuminance and addressed the issue of light pollution into the surrounding environment.



Solution

Replaced legacy 1000W HPS with Bright Light Systems energy-saving 540 watt, BLP1000 Light Emitting Plasma (LEP) High Mast fixtures. To minimize light pollution outside of the working areas of the pier and wharf, 2 different optical distributions, an omni-directional and asymmetrical forward throw were used to direct the light accordingly. Through this effort, light spillage into the fish passage area that can alter the predator/prey relationships was eliminated.

Results

- Increased light levels on piers by 25%
- Projected annual kWh saved: 234,922 kWh
- Projected annual energy savings: $14,095
- Projected annual maintenance savings: $7,847
- Achieved light levels per UFC 3-530-01
- Reduced CO_2 emissions: 162 metric tons
- Payback: < 9.4 years at $0.06 per kWh

Payback Calculation

Description	Units	1000W HPS	BLP1000	Savings
Operating Costs				
Average Fixture Power	Watts	1200	540	660
Number of Fixtures	#	74	74	
Annual Energy Consumption	kWh	388,944	154,022	234,922
Annual Energy Cost	$/Yr	$23,337	$9,241	$14,095
Annual Maintenance Cost	$/Yr	$9,794	$1,947	$7,847
Annual Operating Cost	**$/Yr**	**$33,131**	**$11,189**	**$21,942**
Payback	**Yrs**	-	-	**9.4**
Annual Environmental Impact and Emissions				
Carbon Dioxide Emissions	**Tons**	**268**	**106**	**162**

* Assumes HPS 15K hrs, L70, 12 hrs/day operation, $0.06 per kWh

"It was time to provide a brighter and safer work area for our personnel, as well as take advantage of new lighting technology to save energy" ***says Ray Smalling, PE, Naval Station Everett Installation Energy Manager.*** *"Our footcandle readings had fallen below standard, maintenance costs were rising, and we were Dark Sky non-compliant to the point where we were interfering with fish passage in the channel."*

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- **BLP1000 LEP High Mast Luminaire**

BLP1000

Features

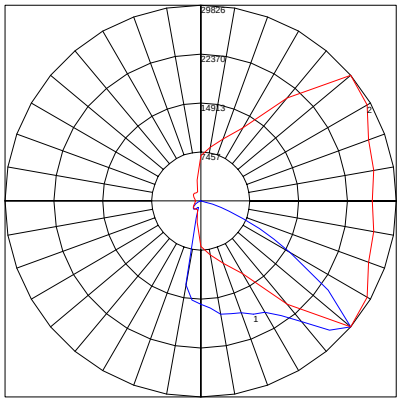
- 50% Lower Energy Costs
- Dark Sky Compliant
- Dimmable 100% to 20%
- UL 1598 Wet Location Certified
- Rated Lifetime 50,000 hours
- Uniform Light Distribution
- Full Illumination in 60 seconds
- 5-Year Limited Warranty

Specifications

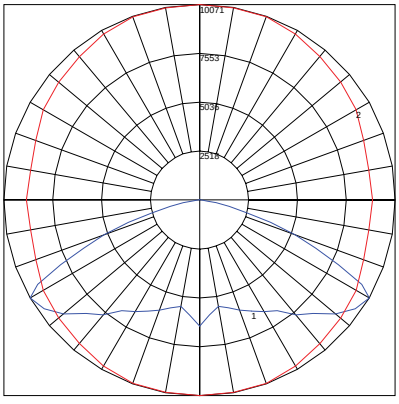
Illumination Source	2 High Powered LEPs (Light Emitting Plasma)
Power Consumption	540 Watts
Source Lumens	46,000
Lumen Maintenance	70% @ 50,000 hours
Color Temperature	5200K
CRI	75
Operating Temperature	-40°C to +50°C
Approvals	UL1598, CE, IP65

Distributions

IES Type IV



IES Type V



For more information:

BLP1000 Light Emitting Plasma (LEP) High Mast Luminaires. Please email or call and request BLS Data Sheet, or visit our website to download at www.brightlightsystems.com/BLP1000.html

Take Control of Your Lighting

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