

# SEA TURTLE FRIENDLY LIGHTING



The Florida Fish and Wildlife Conservation Commission (FWC) has developed a model lighting ordinance as a guideline to help coastal counties and municipalities in Florida develop their own local ordinances to protect sea turtles from the adverse effects of artificial lighting.

When retrofitting fixtures for beachfront commercial and residential property, proper Sea Turtle lighting can provide adequate lighting for safety, attractiveness and compliance with beachfront lighting ordinances.

ZLEDLighting's lamps and Magnilumen Plus retrofit boards are sea turtle-friendly because they utilize long-wavelength light of 610 nanometers or longer.

Go to [www.myfwc.com](http://www.myfwc.com) for complete turtle light information.

## MINI LED CORN LAMPS

Applications: Beach front open + enclosed fixtures

### 12W

- **Color Temp:** Amber
- **Input Voltage:** 100-277V
- **Dimensions:** 2.36" x 4.92"
- **Base:** E26
- **Wavelength:** 585 nanometers
- **Part #:** C-E26-IP64-12-AMBER-TURTLE-MINI



### 15W

- **Color Temp:** Amber
- **Input Voltage:** 100-277V
- **Dimensions:** 2.52" x 5.91"
- **Base:** E26
- **Wavelength:** 587-614 nanometers
- **Part #:** C-E26-IP64-15-AMBER-TURTLE-MINI



### 25W

- **Color Temp:** Amber
- **Input Voltage:** 100-277V
- **Dimensions:** 2.52" x 5.91"
- **Base:** E26
- **Wavelength:** 587-614 nanometers
- **Part #:** C-E26-IP64-25-AMBER-TURTLE-MINI



## MAGNILUMEN PLUS AMBER RETROFITS FOR LINEAR FIXTURES

- **Max Wattage Per Board:**  
2 foot: 15W / 4 foot: 30W
- **Color Temp:** Amber
- **Input Voltage:** 100-277V
- **Dimensions:** 2 feet (21")  
4 feet (43")
- **Wavelength:** 610 nanometers
- **Part Number:** 2 ft: MRK2220-TURTLE-PLUS  
4 ft: MRK2430-TURTLE-PLUS
- **Applications:** Parking lots, outdoor docks, and pool structures

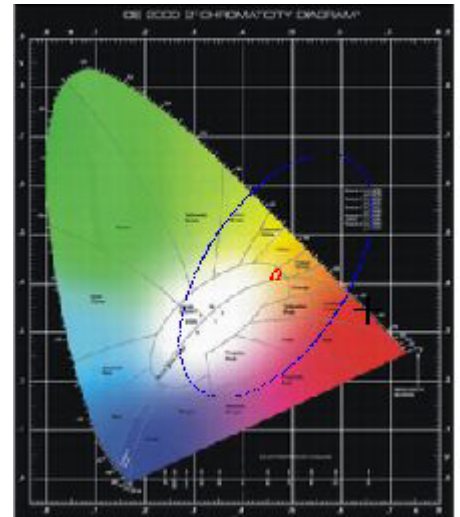
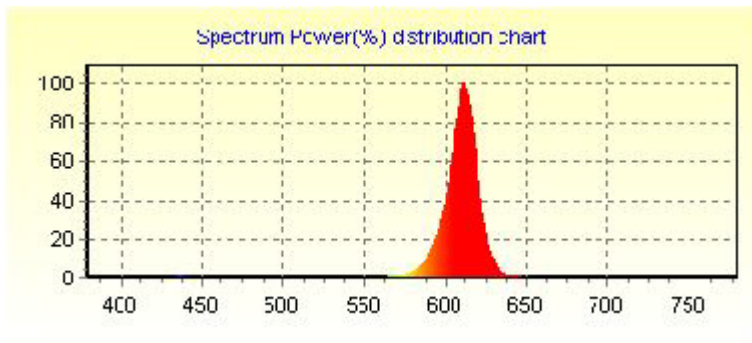


**TEST: 15W & 25W Corn Lamp**

**LED Integrated Testing System test report**

test item:	LED spectrum analyse		
equipment:	Led test system		
Test Identifier	Product	LJ605NM-15W	Manufacturer : YL
	Temperature	25 °C	Humidity : 65 %
	Conner :		Date : 2021/12/30
	Organ :		

curve of spectrum power distributing



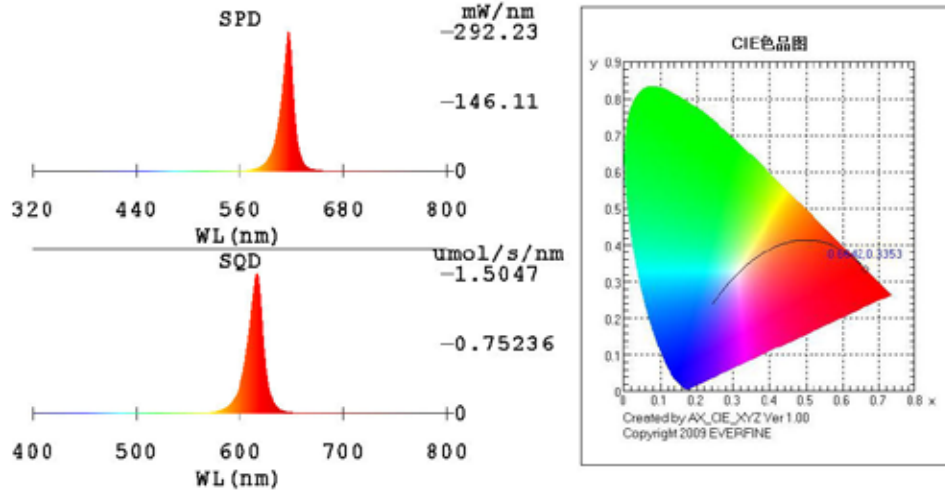
Spectrum		Electrical		
(Peak) :	612.0 nm	I(test):	71.000 mA	
(Main) :	606.0 nm	V(Positive) :	230.000 V	
(Centroid) :	601.1 nm	v :	834.6 lm	
(Center) :	602.0 nm	Light Effi :	58.012 lm/w	
BandWidth :	19.0 nm	Ra1:0.0	Ra2:0.0	Ra3:0.0
ColorTemp :	2313 K	Ra4:0.0	Ra5:0.0	Ra6:0.0
(x,y) :	0.6497, 0.3477	P:	14.4 W	Ra9:0.0
(u,v) :	0.4425, 0.3552	PFC:	0.881	Ra12:0.0
Ra :	0.0	Ra13:0.0	Ra14:0.0	Ra15:0.0
Color Purity :	0.993			
Light Power :	3191.6035 mw			

Remark :

# TEST: MRK2220-TURTLE-PLUS

## EVERFINE SP-20Suite Test Report

### Spectrum Test Report



#### Plant Parameters:

##### Radiometry System:

$\Phi_v$  (lm): 1746  
 $\Phi_e, \lambda$  (W): 0.01064  
 $\eta_b$ : 0.2169  
 $\Phi_r$  (W): 5.527  
 $Q_{ch-A}$  (J): 0.7675  
 $Q_{ch-B}$  (J): 0.5189  
 $Q_v$  (lm.s): 1746  
 $Q_e$  (J): 5.52  
 $\Phi_{e,b}$  (W): 5.533  
 $\Phi_{ch-A}$  (W): 0.7675  
 $\Phi_{ch-B}$  (W): 0.5189

##### Quantum System:

PPF (umol/s): 28.29  
 PPF (500-600) (umol/s): 2.522  
 Numol (umol): 28.29  
 KFr (umol/s/W): 0.001506  
 $\Phi_{p, fr}$  (umol/s): 0.03842  
 PPF (400-500) (umol/s): 0.008891  
 PPF (600-700) (umol/s): 25.79  
 PPE (umol/s/W): 1.109  
 $\Phi_{p, uv}$  (umol/s): 0.006315

##### Color Parameters:

Chromaticity Coordinate:  $x = 0.6642$   $y = 0.3353$   $u' = 0.4665$   $v' = 0.5298$   
 CCT = 1001K (Duv = -0.0187)  
 Purity = 99.9%  
 Dominant WL:  $L_d = 609.6$  nm  
 Ratio: R:G:B=86.4:13.6:0.0

Ra = 26.4

R1 = 10.7 R2 = 78.7 R3 = 28.2 R4 = 0.0 R5 = 2.1

R6 = 89.4 R7 = 2.2 R8 = 0.0 R9 = 0.0 R10 = 70.7

R11 = 0.0 R12 = 77.0 R13 = 31.3 R14 = 60.5 R15 = 0.0

Electric: U = 129.99 V I = 0.1997 A P = 25.51 W PF = 0.9824 Eff = 68.47 lm/W

$\lambda_p = 616.0$  nm

FWHM = 15.3 nm

LEVEL: OUT

WHITE: OUT

Status: Integral T = 81 ms

$I_p = 40329$  (62%)

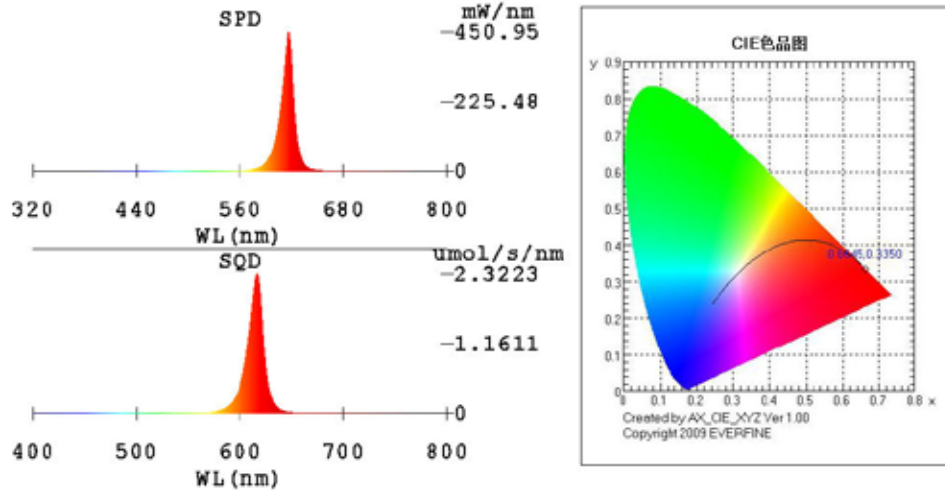
Model:  
 Tester:  
 Temperature: 25.3 Deg  
 Manufacturer:

Number: 15  
 Date: 2022-05-25 21:31:39  
 Humidity: 65.0%  
 Remarks: 0.6m

# TEST: MRK2430-TURTLE-PLUS

## EVERFINE SP-20Suite Test Report

### Spectrum Test Report



#### Plant Parameters:

##### Radiometry System:

Φv(lm): 2673  
 Φe,λ(W): 0.01632  
 ηb: 0.2109  
 Φr(W): 8.48  
 Qch-A(J): 1.178  
 Qch-B(J): 0.7959

Qv(lm.s): 2673  
 Qe(J): 8.47  
 Φe,b(W): 8.487  
 Φch-A(W): 1.178  
 Φch-B(W): 0.7959

##### Quantum System:

PPF(μmol/s): 43.42  
 PPF(500-600)(μmol/s): 3.818  
 Numol(μmol): 43.42  
 KFr(μmol/s/W): 0.001347  
 Φp,fr(μmol/s): 0.05422

PPF(400-500)(μmol/s): 0.01207  
 PPF(600-700)(μmol/s): 39.63  
 PPE(μmol/s/W): 1.079  
 Φp,uv(μmol/s): 0.00893

##### Color Parameters:

Chromaticity Coordinate: x = 0.6645 y = 0.3350 u' = 0.4671 v' = 0.5298  
 CCT = 1001K(Duv = -0.0192) Dominant WL:Ld = 609.7nm  
 Purity = 99.9% Ratio: R:G:B=86.5:13.5:0.0

Ra = 26.4

R1 = 10.6 R2 = 78.6 R3 = 28.2 R4 = 0.0 R5 = 2.0

R6 = 89.4 R7 = 2.2 R8 = 0.0 R9 = 0.0 R10 = 70.6

R11 = 0.0 R12 = 77.0 R13 = 31.2 R14 = 60.5 R15 = 0.0

Electric:U = 130.08 V I = 0.3114 A P = 40.24 W PF = 0.9935 Eff = 66.44 lm/W

λp = 616.3nm

FWHM = 15.3nm

LEVEL: OUT

WHITE: OUT

Status: Integral T = 56 ms

Ip = 43001 (66%)

Model:  
 Tester:  
 Temperature:25.3Deg  
 Manufacturer:

Number:11  
 Date:2022-05-25 21:26:21  
 Humidity:65.0%  
 Remarks:1.2m