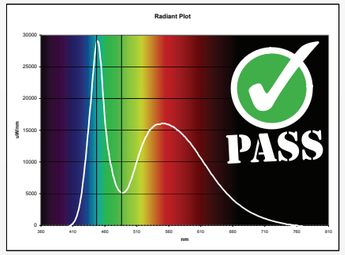
LIGHT & MOTION

All data must be verified to within 10% of claimed output in order to pass our stringent standards.

2009//TESTDATA**SUMMARY**

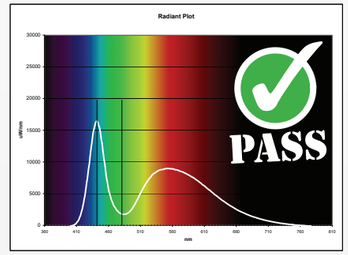
Light & Motion Seca 900

lumens (claimed): 900
lumens (actual): 953.4991
Accuracy: 106%
Kelvin: 6829
CRI: Ra = 74.5
Dominant Wavelength: 486
Peak Wavelength: 447



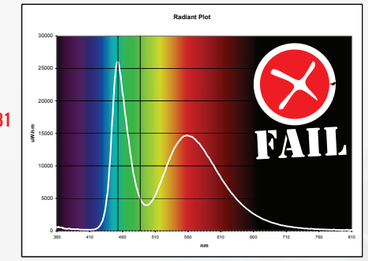
Light & Motion Seca 700

lumens (claimed): 700
lumens (actual): 699.9627
Accuracy: 100%
Kelvin: 6239
CRI: Ra = 71.1
Dominant Wavelength: 481
Peak Wavelength: 442



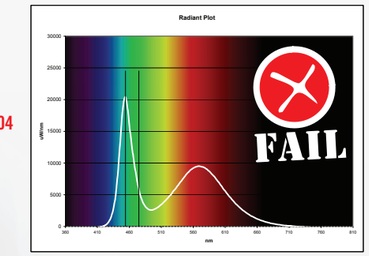
Lupine Betty

lumens (claimed): 1400
lumens (actual): 784.0381
Accuracy: 56.0%
Kelvin: 6707
CRI: Ra = 69.2
Dominant Wavelength: 487
Peak Wavelength: 453



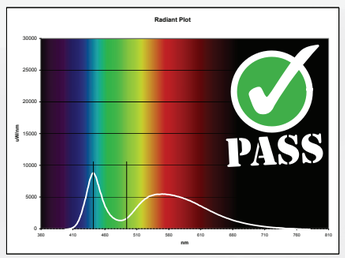
Lupine Tesla

lumens (claimed): 700
lumens (actual): 492.1104
Accuracy: 70.3%
Kelvin: 6966
CRI: Ra = 69.6
Dominant Wavelength: 475
Peak Wavelength: 454



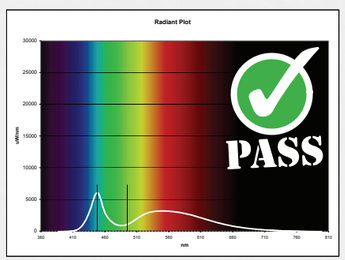
Light & Motion Seca 400

lumens (claimed): 400
lumens (actual): 426.3202
Accuracy: 107%
Kelvin: 6168
CRI: Ra = 70.1
Dominant Wavelength: 494
Peak Wavelength: 442



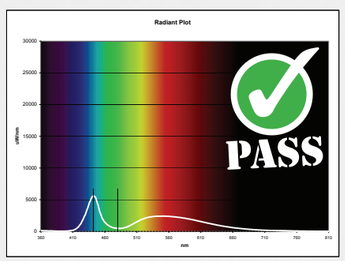
Light & Motion Stella 200

lumens (claimed): 200
lumens (actual): 187.0259
Accuracy: 93.5%
Kelvin: 6829
CRI: Ra = 74.5
Dominant Wavelength: 495
Peak Wavelength: 448



Light & Motion Stella 150

lumens (claimed): 150
lumens (actual): 141.0434
Accuracy: 94%
Kelvin: 7248
CRI: Ra = 70.2
Dominant Wavelength: 480
Peak Wavelength: 442



Why We Test Our Lights

Super bright LEDs are quite new – they've changed the game by delivering significantly more light, using less power. Gone are the days of breakable bulbs and watt-rated brightness. LEDs are more sophisticated and require more precise measurement. The test results on these pages show the light our products deliver to the trail compared with the light delivered by some of our competitors' products, who claim more than they actually deliver. A testing laboratory took these measurements using calibrated instruments. These tests were performed on 2009 Light and Motion light systems.

Testing Protocol

The tool required for measuring light output to an NIST standard is called an integrating sphere. This instrument captures all the light produced by a product, measuring every wavelength - from the reds you can barely see to the almost imperceptible blues. The computer attached to the integrating sphere calculates how many lumens your light is actually producing. When reading our charts, look at the area under the curve to see how bright the light is. More area, more light.

The truth in testing comes from the NIST "Standard". This Standard is an incredibly precise and expensive light bulb that is certified and documented at the National Institute of Standards and Technology. Using this fancy light bulb as a reference means that the test is objective and accurate.

Why Lumens?

Using a lumen measurement gives us the true measure of ALL the light coming out of a light head. Some lighting manufacturers still talk about lux or candlepower, which only tell you how bright a light is at a certain point. Light & Motion systems would look very good if we reported our measurements in candlepower. Our proprietary reflectors have the farthest throw on the market (equating to the brightest center point). However, it wouldn't be accurate, since candlepower tells you nothing about the TOTAL amount of light being emitted.

What is Kelvin, and Why Does it Matter?

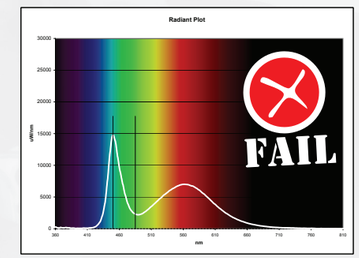
Kelvin is used to describe the tint of white light. A low Kelvin number (3,500) has a very yellow color, while a high kelvin number (10,000) has a very blue color. We aim for the sun and target a balanced 5,500 degrees Kelvin – about the color you'd find in mid-day light. This is important because our eyes have developed to see things bathed in sunlight, and we want to give you the clearest view of the trail. In a 6 LED emitter lighthead like our Seca we specify a tight color bin so that all 6 LEDs deliver consistent color temperature for a clean, distraction-free beam.

independent optical verification performed by:

DEEPSEA Power & Light

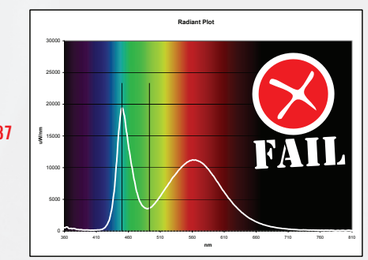
Hope Vision 4

lumens (claimed): 960
lumens (actual): 608.97
Accuracy: 63.4 %
Kelvin: 6548
CRI: Ra = 66.5
Dominant Wavelength: 493
Peak Wavelength: 450



Cygolite Tridenx

lumens (claimed): 600
lumens (actual): 381.7637
Accuracy: 63.6%
Kelvin: 7305
CRI: Ra = 68.1
Dominant Wavelength: 485
Peak Wavelength: 450



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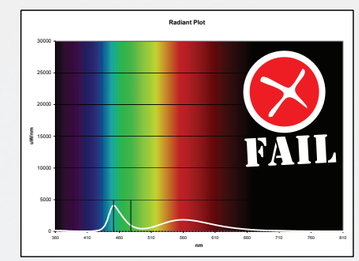
lumens (claimed): 110
lumens (actual): 97.3741
Accuracy: 88.5%
Kelvin: 7678
CRI: Ra = 70.6
Dominant Wavelength: 478
Peak Wavelength: 451