

**POWER CONSUMPTION PROFILE COMPARISON - 400W HPS & LED REPLACEMENT FIXTURE**

Warm-up Time	2 hours
Measurement Time	11 hours
Power Method HPS	Ballast & Calibrated AC Power Supply
Power Method LED	Calibrated AC Power Supply
Measurement Method	Calibrated Digital Power Analyzer
Fixture Orientation	Base-up
Ambient Temperature	23 °C
Ambient Humidity	44%
Power Supply Frequency	60 Hz

**EQUIPMENT USED**

Equipment	Manufacturer	Model	Serial #	NIST Traceability	Calibration Due Date
Digital Power Analyzer	Yokogawa	WT310	C2PJ0207 1V	172515	11/23/2016
AC/DC Power Supply	California Instruments	751ix	11532	38624-1	3/20/2016
400W Ballast	Plusrite	BALU400-CWA/V4	n/a	n/a	n/a
LED Package (x6)	RETROFIT KIT	85W replacement	n/a	n/a	n/a

**DATA**

UNIT	400W HPS LAMP	LED REPLACEMENT FIXTURE
Current (A)	4.388	0.653
Voltage (V)	119.81	120.08
Avg Power (W)	456.57	78.46
Power Factor (PF)	0.8686	0.9510
THD A (%)	0.10	3.38
Power Variation (%)	3.24	2.40
Total Accumulated Energy (Wh)	5022.27	863.06

**TEST PROCEDURE**

Samples were mounted in base-up position and power was applied via regulated AC power supply set to 120V. They were then allowed to saturate and thermally stabilize after 2 full hours. Data was then collected using Yokogawa measurement software to observe average power over the duration of testing which lasted 11 hours. Data for Total Accumulated Energy was calculated off the array of test points over the 11 hour span and power variance was calculated at the same time.

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