

itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955



INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303)442-1255 • FAX: (970)535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

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REPORT NUMBER: ITL86008
DATE: 02/18/16
PREPARED FOR: B-K LIGHTING, INC.
CATALOG NUMBER: NS-LED-e66-SP-12, AR-LED-TR-e66-SP-12, AR-LED-RM-e66-SP-12, DS-LED-e66-SP-12, RM-AR-LED-e66-SP-12, SN-LED-e66-SP-12, ST-LED-e66-SP-12, SF-LED-e66-SP-12, TF-LED-e66-SP-12, WS-LED-e66-SP-12, AW-LED-e66-SP-12, SW-LED-e66-SP-12, GD-LED-e66-SP-12, GQ-LED-e66-SP-12, EC-LED-e66-SP-12, ED-LED-e66-SP-12, SM-AR-LED-e66-SP-12, PM-LED-e66-SP-12, WM-LED-e66-SP-12, UL-AR-LED-e66-SP-12, HP2-LED-e66-SP-12, CO2-LED-e66-SP-12, VQ-LED-e66-SP-12, VS-LED-e66-SP-12

ADDRESS: 40429 BRICKYARD DRIVE
MADERA, CA 93636-9515

LUMINAIRE: MACHINED CYLINDRICAL METAL HOUSING, 1 BLACK CIRCUIT BOARD WITH 3 LEDS, ONE CLEAR CONICAL PLASTIC OPTIC PER LED WITH FROSTED SURFACE OPPOSITE LED AND SEMI-HEMISPHERICAL RECESSED CENTER TOWARD LED, MOLDED BLACK PLASTIC OPTIC MOUNTING FRAME, CLEAR MICRO-PRISMATIC FLAT GLASS LENS IN MACHINED CYLINDRICAL BLACK PAINTED METAL LENS FRAME. LENS PRISMS OUT.

LAMP: THREE WHITE LIGHT EMITTING DIODES (LEDS), AIMED AT THE HORIZON.

DRIVER: B-K LIGHTING 528930/400188-M, DRIVER HAS MULTIPLE LEADS, LINE INPUT AND LED OUTPUT LEADS CONNECTED FOR THIS TEST.

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (12VAC, 60Hz) TO THE DRIVER. POTENTIOMETER ON THE LED CIRCUIT BOARD SET TO POSITION "9" FOR THIS TEST.

INSTRUMENTS:	Associated Power Technologies APT5020 AC Power Source	Calibration Due: N/A
	Yokogawa WT210 Digital Power Meter #4	04/02/16
	Ocean Optics QE65000 Spectroradiometer	09/23/16
	ITL 1.5m Diameter Integrating Sphere S15-2, 4PI Geometry	09/23/16

OBJECT OF TEST: Measure the Absolute Flux in lumens*, Spectral Power Distribution (SPD), Correlated Color Temperature (CCT), Color Rendering Index (CRIa,1-14), Chromaticity Coordinates (x,y; u',v'), ANSI C78.377 Duv, Total Radiant Flux*, Scotopic / Photopic Lumen Ratio, and electrical data including ANSI C82.77-2002 Power Factor (PF) and Total Harmonic Distortion (THD) to the test sample.

PROCEDURE: The test sample was provided by the customer and had an unknown number of operating hours. The test sample was mounted inside the integrating sphere and allowed to stabilize. After stabilization occurred, measurements were taken. In order to measure mean performance, multiple data sets were recorded and averaged. Readings were taken with the test sample operating at 12VAC input in a 25 +/-1 degree Celsius free air ambient and in accordance with IESNA LM-79-08. All data are traceable to the National Institute of Standards and Technology.

RESULTS: (continued subsequent pages)

THIS ITL REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE FEDERAL GOVERNMENT.

Checked	<i>N WHITE</i>
Approved	<i>P O'CONNOR</i> Sphere Lab Supervisor



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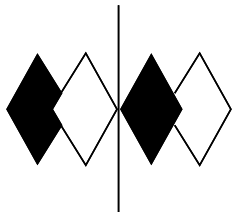
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RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	511 *
SPECTORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.3854
Chromaticity Ordinate y	0.3862
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2246
Chromaticity Ordinate v'	0.5064
Correlated Color Temp CCT (K)	3937
ANSI C78.377-2008 Duv	0.003
Total Radiant Flux (milliWatts)	1539 *
Scotopic / Photopic Lumen Ratio	1.655
ELECTRICAL	
Input Voltage (Volts AC)	12.0
Input Current (Amps AC)	0.626
Input Power (Watts)	6.79
Input Power Factor (%)	90.4
Input Current THD (%)	45.9
Input Voltage THD (%)	1.1
EFFICACY (lumens/Watt)	75.3

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	81
R1 Light greyish red	79
R2 Dark greyish yellow	86
R3 Strong yellowish green	91
R4 Moderate yellowish green	82
R5 Light bluish green	80
R6 Light blue	81
R7 Light violet	87
R8 Light reddish purple	65
R9 Strong red	7
R10 Strong yellow	66
R11 Strong green	81
R12 Strong blue	61
R13 Light yellowish pink (skin)	80
R14 Moderate olive green (leaf)	95

*NOTE: The total lumen output shown on this report was obtained from photometric test ITL86007



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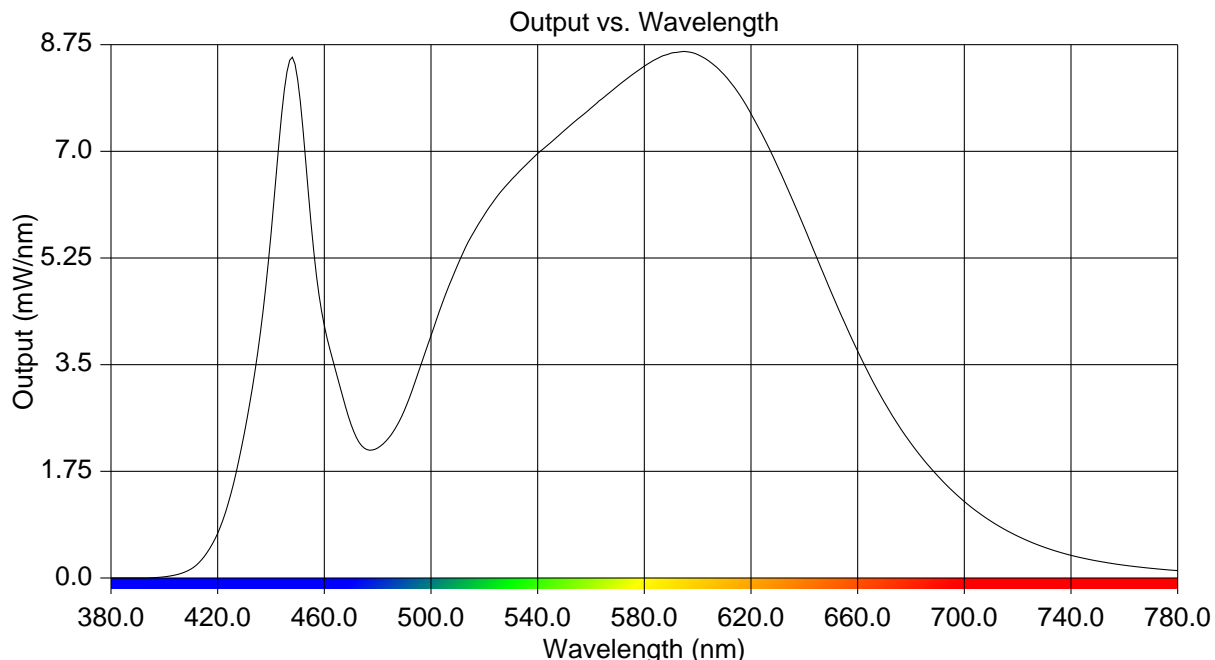
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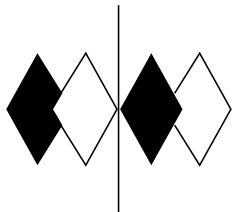
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GD-LED-e66-SP-12, GQ-LED-e66-SP-12, EC-LED-e66-SP-12,
ED-LED-e66-SP-12, SM-AR-LED-e66-SP-12, PM-LED-e66-SP-12,
WM-LED-e66-SP-12, UL-AR-LED-e66-SP-12, HP2-LED-e66-SP-12,
CO2-LED-e66-SP-12, VQ-LED-e66-SP-12, VS-LED-e66-SP-12

RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.000	515	5.597	650	4.697
385	0.000	520	5.957	655	4.199
390	0.000	525	6.272	660	3.723
395	0.003	530	6.527	665	3.282
400	0.020	535	6.752	670	2.884
405	0.059	540	6.964	675	2.526
410	0.147	545	7.148	680	2.208
415	0.354	550	7.342	685	1.925
420	0.731	555	7.530	690	1.676
425	1.387	560	7.710	695	1.452
430	2.373	565	7.892	700	1.255
435	3.693	570	8.072	705	1.082
440	5.637	575	8.242	710	0.932
445	8.008	580	8.397	715	0.800
450	8.179	585	8.525	720	0.687
455	5.826	590	8.611	725	0.588
460	4.141	595	8.639	730	0.504
465	3.279	600	8.587	735	0.433
470	2.521	605	8.455	740	0.372
475	2.130	610	8.254	745	0.321
480	2.132	615	7.975	750	0.278
485	2.346	620	7.616	755	0.241
490	2.748	625	7.208	760	0.209
495	3.342	630	6.750	765	0.183
500	3.976	635	6.261	770	0.159
505	4.600	640	5.750	775	0.139
510	5.137	645	5.221	780	0.121





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NVLAP LAB CODE: 200925-0

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CIE Chromaticity Diagram

