



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

REPORT NUMBER: ITL87052-SPHERE
DATE: 04/29/16
PREPARED FOR: TEKA ILLUMINATION, INC.
CATALOG NUMBER: CLP-LED-e95, ZPL-LED-e95, CLW-LED-e95, SSW-LED-e95, 1130-LED-e95, HRW-LED-e95

ADDRESS: 40429 BRICKYARD DRIVE
MADERA, CA 93636-9515

LUMINAIRE: FABRICATED COPPER COLORED METAL MOUNTING STEM WITH SPUN COPPER COLORED METAL REFLECTOR, CAST BRASS COLORED METAL HEAT SINK MOUNTING BASE AND TOP FINIAL ATTACHED TO BASE WITH 4 FABRICATED BRASS COLORED METAL POSTS, MACHINED BLACK FINISHED METAL HEAT SINK, 1 CIRCUIT BOARD WITH 3 LEDS, FROSTED HOLOGRAPHIC CYLINDRICAL GLASS LENS, CAST BRASS COLORED LENS MOUNTING COLLAR. LENS FROSTED SIDE IN.

LAMP: THREE WHITE LIGHT EMITTING DIODES (LEDS), VERTICAL BASE-DOWN POSITION.

DRIVER: B-K LIGHTING 524439/400188-L-L, DRIVER HAS MULTIPLE LEADS, ONLY 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.

INSTRUMENTS: Associated Power Technologies APT5040 AC Power Source Calibration Due: N/A
Yokogawa WT210 Digital Power Meter #6 12/07/16
Ocean Optics QE65000 Spectroradiometer 12/14/16
ITL 2.0m Diameter Integrating Sphere S20-2, 4PI Geometry 12/14/16

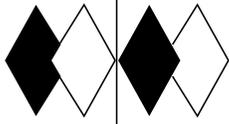
OBJECT OF TEST: Measure the Absolute Flux in lumens*, Spectral Power Distribution (SPD), Correlated Color Temperature (CCT), Color Rendering Index (CRIa,1-14), Chromaticity Coordinates (x,y; u',v'), ANSI C78.377 Duv, Total Radiant Flux*, Scotopic / Photopic Lumen Ratio, and electrical data including 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 N WHITE
Approved P O'CONNOR
Sphere Lab Supervisor



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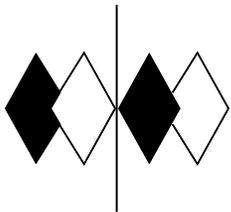
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RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	199 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4436
Chromaticity Ordinate y	0.4024
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2556
Chromaticity Ordinate v'	0.5217
Correlated Color Temp CCT (K)	2877
ANSI C78.377-2008 Duv	-0.002
Total Radiant Flux (milliWatts)	613 *
Scotopic / Photopic Lumen Ratio	1.316
ELECTRICAL	
Input Voltage (Volts AC)	12.0
Input Current (Amps AC)	0.492
Input Power (Watts)	5.29
Input Power Factor (%)	89.6
Input Current THD (%)	48.3
Input Voltage THD (%)	1.1
EFFICACY (lumens/Watt)	37.6

COLOR RENDERING INDICES		CRI
Ra (Average 1-8)		81
R1	Light greyish red	79
R2	Dark greyish yellow	89
R3	Strong yellowish green	96
R4	Moderate yellowish green	79
R5	Light bluish green	80
R6	Light blue	87
R7	Light violet	82
R8	Light reddish purple	58
R9	Strong red	5
R10	Strong yellow	75
R11	Strong green	78
R12	Strong blue	69
R13	Light yellowish pink (skin)	82
R14	Moderate olive green (leaf)	98

*NOTE: The total lumen output shown on this report was obtained from photometric test ITL87052-GONIOPHOTOMETRY



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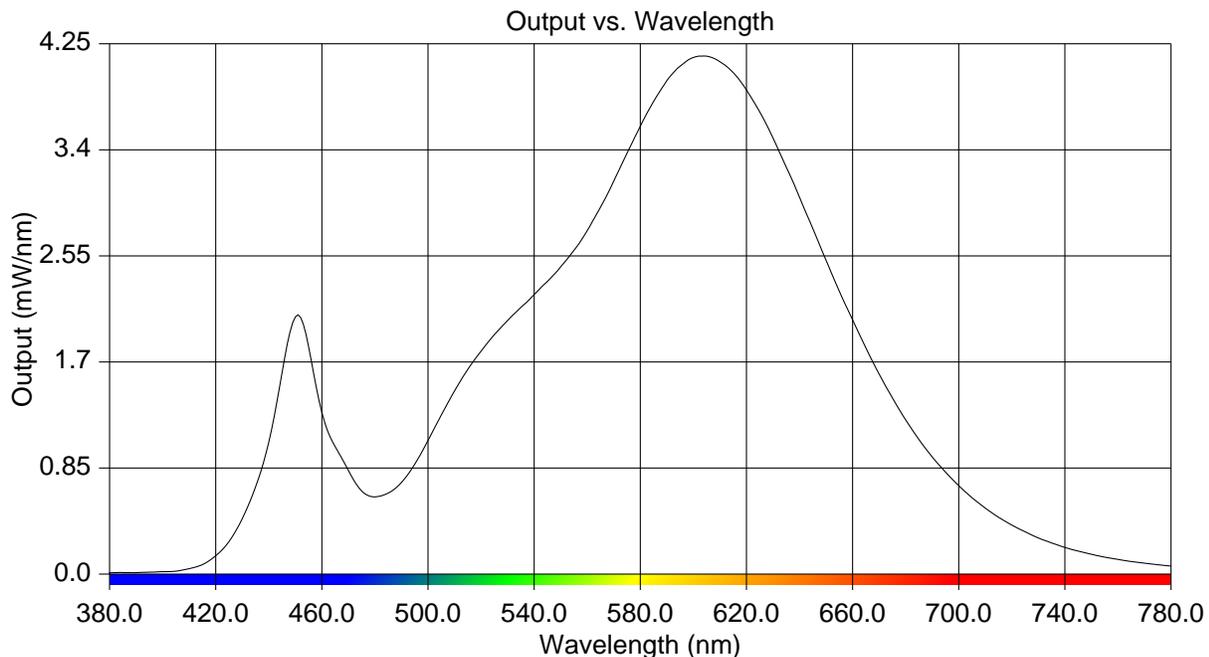
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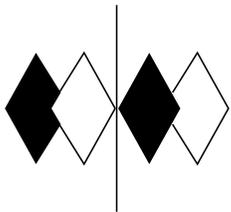
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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.010	515	1.641	650	2.515
385	0.012	520	1.787	655	2.267
390	0.011	525	1.919	660	2.038
395	0.016	530	2.033	665	1.813
400	0.019	535	2.137	670	1.603
405	0.023	540	2.240	675	1.413
410	0.043	545	2.345	680	1.236
415	0.076	550	2.463	685	1.078
420	0.147	555	2.595	690	0.939
425	0.260	560	2.753	695	0.818
430	0.444	565	2.940	700	0.709
435	0.698	570	3.150	705	0.612
440	1.058	575	3.373	710	0.529
445	1.614	580	3.589	715	0.455
450	2.060	585	3.787	720	0.393
455	1.822	590	3.955	725	0.339
460	1.296	595	4.071	730	0.289
465	1.022	600	4.140	735	0.250
470	0.831	605	4.151	740	0.214
475	0.666	610	4.106	745	0.185
480	0.619	615	4.019	750	0.159
485	0.649	620	3.880	755	0.136
490	0.734	625	3.704	760	0.118
495	0.881	630	3.496	765	0.101
500	1.071	635	3.262	770	0.088
505	1.275	640	3.020	775	0.075
510	1.468	645	2.770	780	0.065





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CIE Chromaticity Diagram

