



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: ITL84587
DATE: 05/13/15
REVISED: 04/04/16
PREPARED FOR: OXYGEN LIGHTING
CATALOG NUMBER: 3-522-XX

ADDRESS: 201 RAILHEAD ROAD
FORT WORTH, TX 76106

LUMINAIRE: FABRICATED DIFFUSE METAL HOUSING, 1 WHITE CIRCUIT BOARD WITH 30
LEDS, TRANSLUCENT WHITE FROSTED ACRYLIC DIFFUSER WITH TOP AND BOTTOM
END CAPS. DIFFUSER FROSTED SIDE OUT.

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

DRIVERS: ESPEN VEL12030MVH-1

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT
VOLTAGE (120VAC, 60Hz) TO THE DRIVER. DIFFUSER MATERIAL INFORMATION
PROVIDED BY CLIENT.

INSTRUMENTS:	Associated Power Technologies APT5010 AC Power Source	Calibration Due: N/A
	Yokogawa WT210 Digital Power Meter #9	01/31/16
	Ocean Optics QE65000 Spectroradiometer	03/17/16
	ITL 1.5m Diameter Integrating Sphere S15-2, 4PI Geometry	03/17/16

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 120VAC 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 THOMAS</i>
Approved	<i>P O'CONNOR</i> Sphere Lab Supervisor

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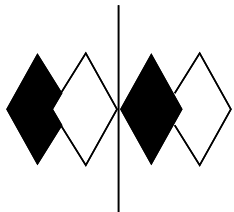
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RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	888 *
SPECTORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4377
Chromaticity Ordinate y	0.4025
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2518
Chromaticity Ordinate v'	0.5209
Correlated Color Temp CCT (K)	2973
ANSI C78.377-2008 Duv	-0.001
Total Radiant Flux (milliWatts)	2945 *
Scotopic / Photopic Lumen Ratio	1.361
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.105
Input Power (Watts)	12.4
Input Power Factor (%)	98.4
Input Current THD (%)	16.6
Input Voltage THD (%)	0.2
EFFICACY (lumens/Watt)	71.6

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	84
R1 Light greyish red	82
R2 Dark greyish yellow	90
R3 Strong yellowish green	96
R4 Moderate yellowish green	81
R5 Light bluish green	81
R6 Light blue	86
R7 Light violet	86
R8 Light reddish purple	67
R9 Strong red	25
R10 Strong yellow	76
R11 Strong green	78
R12 Strong blue	66
R13 Light yellowish pink (skin)	83
R14 Moderate olive green (leaf)	98

*NOTE: The total lumen output shown on this report was obtained from photometric test ITL84577



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NVLAP LAB CODE: 200925-0

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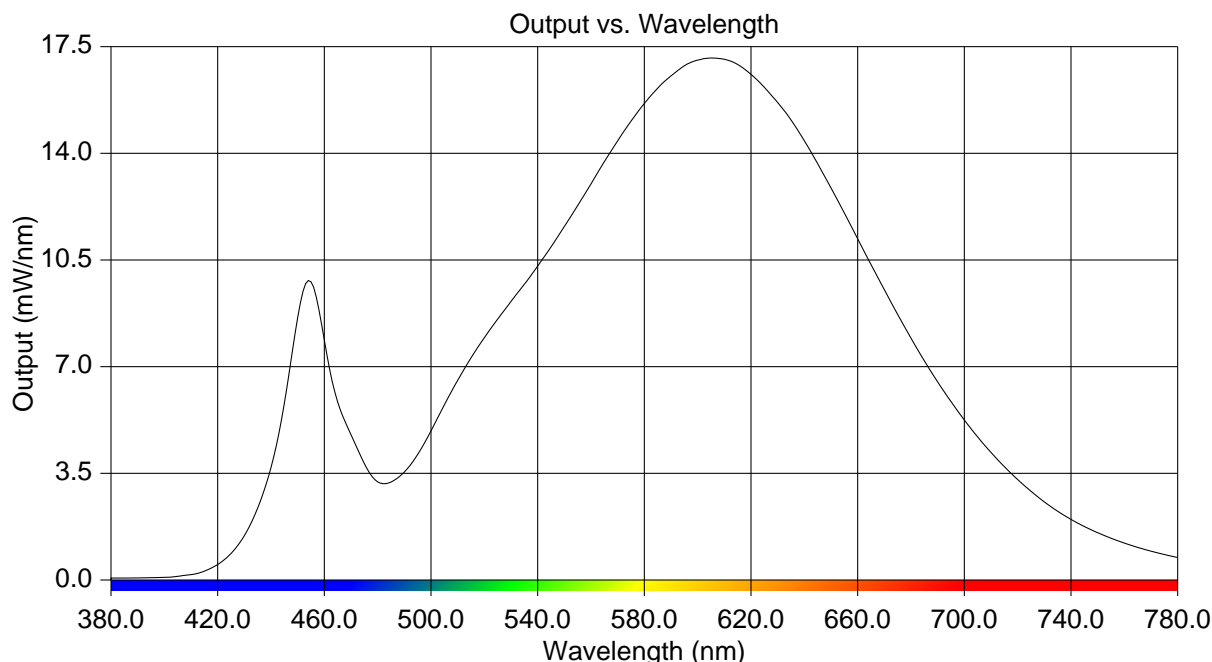
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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.063	515	7.289	650	12.865
385	0.064	520	7.950	655	12.044
390	0.068	525	8.560	660	11.196
395	0.076	530	9.141	665	10.352
400	0.087	535	9.705	670	9.527
405	0.120	540	10.300	675	8.714
410	0.176	545	10.928	680	7.935
415	0.289	550	11.600	685	7.193
420	0.508	555	12.288	690	6.500
425	0.869	560	12.996	695	5.855
430	1.454	565	13.727	700	5.249
435	2.359	570	14.410	705	4.694
440	3.690	575	15.055	710	4.187
445	5.793	580	15.635	715	3.720
450	8.609	585	16.138	720	3.295
455	9.785	590	16.541	725	2.912
460	7.872	595	16.873	730	2.562
465	5.842	600	17.059	735	2.257
470	4.767	605	17.129	740	1.988
475	3.820	610	17.087	745	1.754
480	3.219	615	16.915	750	1.552
485	3.214	620	16.592	755	1.372
490	3.543	625	16.166	760	1.211
495	4.119	630	15.669	765	1.070
500	4.892	635	15.095	770	0.946
505	5.747	640	14.414	775	0.836
510	6.551	645	13.661	780	0.738





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CIE Chromaticity Diagram

