



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

Page 1 of 4

REPORT NUMBER: ITL84586
DATE: 05/13/15
REVISED: 04/04/16
PREPARED FOR: OXYGEN LIGHTING
CATALOG NUMBER: 3-689-XX

ADDRESS: 201 RAILHEAD ROAD
FORT WORTH, TX 76106

LUMINAIRE: FORMED SEMI-DIFFUSE METAL HOUSING WITH WHITE PAINTED OPTICAL COMPARTMENT, 2 FORMED WHITE PAINTED METAL DRIVER COVERS, 2 WHITE CIRCUIT BOARDS EACH WITH 30 LEDS, TRANSLUCENT WHITE FROSTED ACRYLIC DIFFUSER, FORMED SEMI-DIFFUSE METAL TRIM RING WITH 4 FABRICATED SEMI-DIFFUSE METAL POSTS. DIFFUSER FROSTED SIDE OUT. THE 0-DEGREE PLANE IS PERPENDICULAR TO THE CIRCUIT BOARDS.

LAMP: SIXTY WHITE LIGHT EMITTING DIODES (LEDS), VERTICAL BASE-UP POSITION.

DRIVERS: TWO ESPEN VEL12030MVH-1

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

		Calibration Due:
INSTRUMENTS:	Associated Power Technologies APT5010 AC Power Source	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)

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

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Page 2 of 4

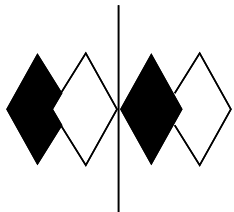
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RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	1356 *
SPECTORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4351
Chromaticity Ordinate y	0.3974
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2523
Chromaticity Ordinate v'	0.5184
Correlated Color Temp CCT (K)	2976
ANSI C78.377-2008 Duv	-0.002
Total Radiant Flux (milliWatts)	4580 *
Scotopic / Photopic Lumen Ratio	1.385
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.179
Input Power (Watts)	21.0
Input Power Factor (%)	97.8
Input Current THD (%)	18.6
Input Voltage THD (%)	0.2
EFFICACY (lumens/Watt)	64.6

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	85
R1 Light greyish red	84
R2 Dark greyish yellow	91
R3 Strong yellowish green	96
R4 Moderate yellowish green	82
R5 Light bluish green	83
R6 Light blue	88
R7 Light violet	86
R8 Light reddish purple	69
R9 Strong red	31
R10 Strong yellow	79
R11 Strong green	80
R12 Strong blue	70
R13 Light yellowish pink (skin)	85
R14 Moderate olive green (leaf)	98

*NOTE: The total lumen output shown on this report was obtained from photometric test ITL84576



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NVLAP LAB CODE: 200925-0

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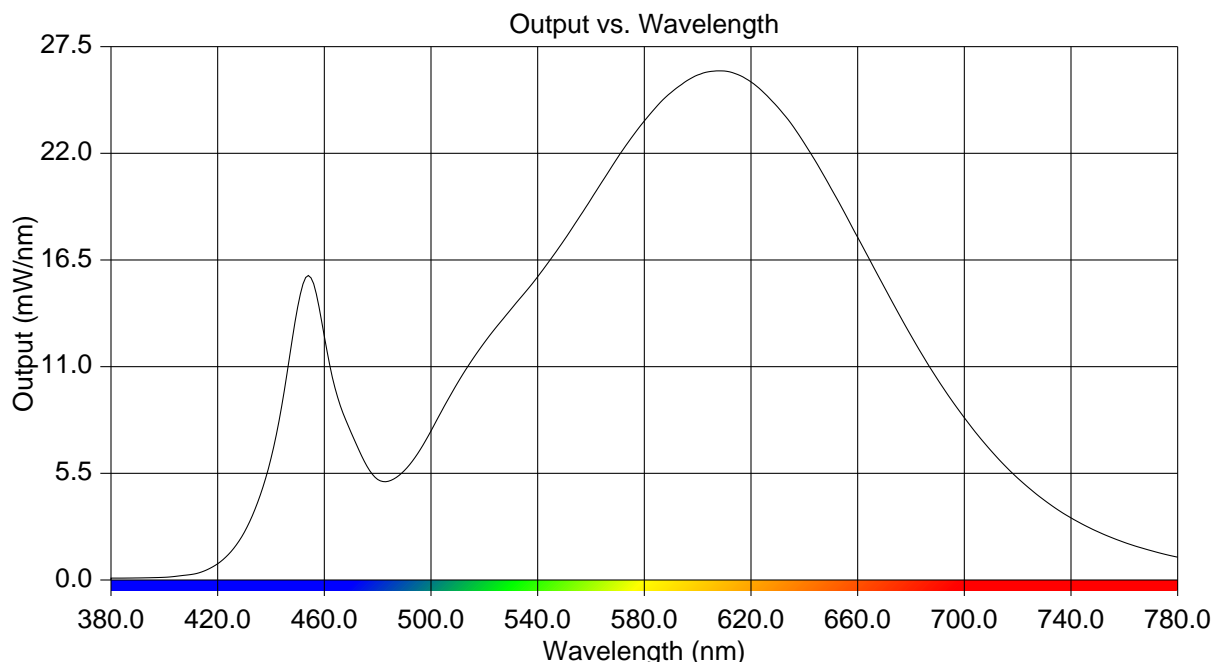
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Page 3 of 4

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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.097	515	11.260	650	20.198
385	0.098	520	12.240	655	18.959
390	0.105	525	13.127	660	17.669
395	0.118	530	13.961	665	16.384
400	0.138	535	14.783	670	15.098
405	0.201	540	15.637	675	13.827
410	0.282	545	16.565	680	12.602
415	0.468	550	17.540	685	11.434
420	0.837	555	18.578	690	10.337
425	1.462	560	19.637	695	9.316
430	2.462	565	20.712	700	8.367
435	4.005	570	21.782	705	7.480
440	6.273	575	22.773	710	6.669
445	9.771	580	23.670	715	5.924
450	14.072	585	24.476	720	5.253
455	15.580	590	25.132	725	4.657
460	12.564	595	25.658	730	4.114
465	9.418	600	26.039	735	3.626
470	7.617	605	26.225	740	3.203
475	6.118	610	26.246	745	2.825
480	5.184	615	26.065	750	2.494
485	5.138	620	25.682	755	2.200
490	5.641	625	25.103	760	1.939
495	6.516	630	24.387	765	1.712
500	7.685	635	23.543	770	1.515
505	8.968	640	22.520	775	1.332
510	10.169	645	21.409	780	1.177





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Page 4 of 4

CIE Chromaticity Diagram

