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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: ITL84591
DATE: 05/13/15
REVISED: 04/04/16
PREPARED FOR: OXYGEN LIGHTING
CATALOG NUMBER: 3-695-XX

ADDRESS: 201 RAILHEAD ROAD
FORT WORTH, TX 76106

LUMINAIRE: FORMED SEMI-DIFFUSE METAL HOUSING/MOUNTING PLATE, 2 FORMED WHITE PAINTED METAL DRIVER COVERS, 2 WHITE CIRCUIT BOARDS EACH WITH 30 LEDS, FORMED CYLINDRICAL WHITE PLASTIC DIFFUSER WITH WOVEN WHITE CLOTH COVERED EXTERIOR, FLAT TRANSLUCENT WHITE ACRYLIC BOTTOM DIFFUSER, MACHINED SEMI-SPECULAR METAL DECORATIVE CENTER WITH ACRYLIC BOTTOM. THE 0-DEGREE PLANE IS PARALLEL WITH 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.

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)

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

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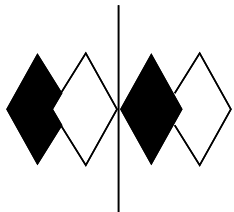
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RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	863 *
SPECTORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4368
Chromaticity Ordinate y	0.3986
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2529
Chromaticity Ordinate v'	0.5192
Correlated Color Temp CCT (K)	2957
ANSI C78.377-2008 Duv	-0.002
Total Radiant Flux (milliWatts)	3001 *
Scotopic / Photopic Lumen Ratio	1.384
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.173
Input Power (Watts)	20.5
Input Power Factor (%)	98.7
Input Current THD (%)	13.8
Input Voltage THD (%)	0.2
EFFICACY (lumens/Watt)	42.1

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	86
R1 Light greyish red	85
R2 Dark greyish yellow	92
R3 Strong yellowish green	96
R4 Moderate yellowish green	84
R5 Light bluish green	84
R6 Light blue	89
R7 Light violet	88
R8 Light reddish purple	71
R9 Strong red	37
R10 Strong yellow	81
R11 Strong green	81
R12 Strong blue	71
R13 Light yellowish pink (skin)	86
R14 Moderate olive green (leaf)	98

*NOTE: The total lumen output shown on this report was obtained from photometric test ITL84581



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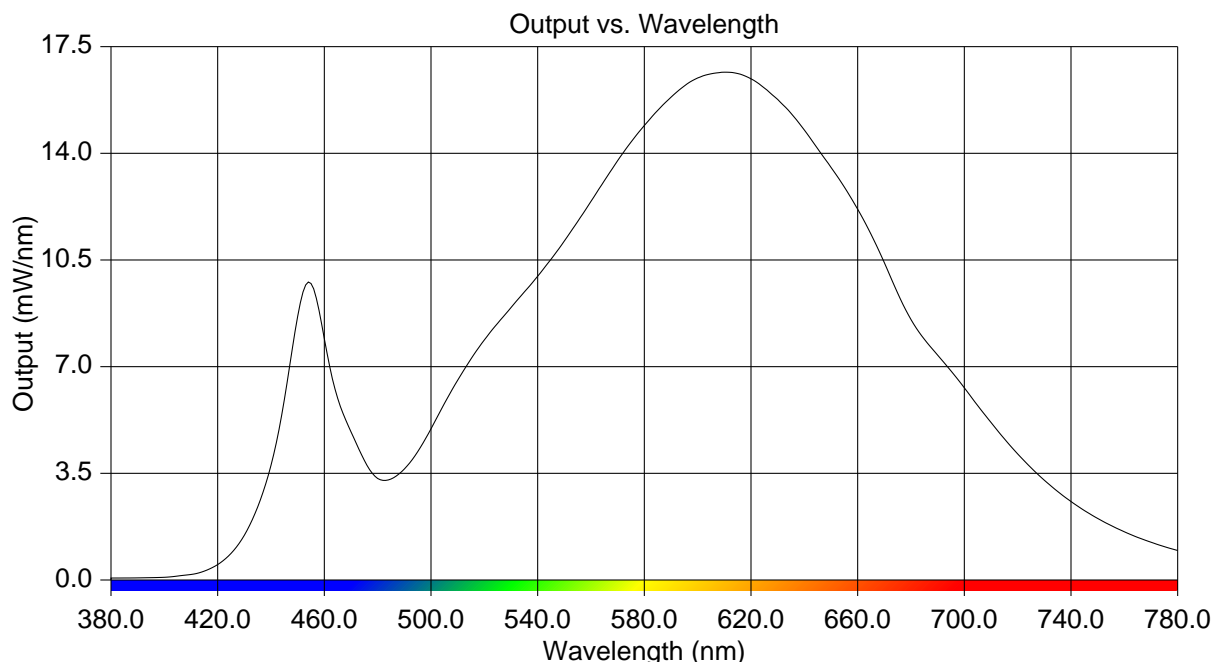
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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.064	515	7.255	650	13.539
385	0.066	520	7.876	655	12.894
390	0.069	525	8.423	660	12.167
395	0.077	530	8.939	665	11.346
400	0.088	535	9.452	670	10.413
405	0.130	540	9.968	675	9.413
410	0.181	545	10.523	680	8.546
415	0.292	550	11.124	685	7.901
420	0.506	555	11.761	690	7.377
425	0.871	560	12.425	695	6.860
430	1.468	565	13.101	700	6.305
435	2.394	570	13.762	705	5.725
440	3.763	575	14.368	710	5.170
445	5.915	580	14.913	715	4.635
450	8.649	585	15.407	720	4.137
455	9.729	590	15.841	725	3.685
460	7.916	595	16.210	730	3.273
465	5.963	600	16.473	735	2.905
470	4.861	605	16.609	740	2.576
475	3.926	610	16.662	745	2.279
480	3.331	615	16.619	750	2.020
485	3.313	620	16.445	755	1.789
490	3.641	625	16.144	760	1.582
495	4.208	630	15.769	765	1.398
500	4.960	635	15.314	770	1.240
505	5.787	640	14.766	775	1.095
510	6.555	645	14.153	780	0.967





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CIE Chromaticity Diagram

