



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

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REPORT NUMBER: ITL93995-SPHERE
DATE: 09/23/20
PREPARED FOR: ROUGE RED LIGHT THERAPY
CATALOG NUMBER: ROUGE PRO

ADDRESS: 890 PLACE DE L'ILE DE FRANCE
SAINT LAMBERT, QC, CANADA J4S 1T7

LUMINAIRE: FABRICATED METAL HOUSING WITH WHITE PAINTED GENERAL INTERIOR FINISH AND FOUR B&R CD9025LB COOLING FANS ON TOP, ONE WHITE CIRCUIT BOARD WITH 300 LEDS, ONE CLEAR CONICAL PLASTIC OPTIC BELOW EACH LED. BOTH RED AND NIR LEDS ON FOR THIS TEST.

LAMP: THREE HUNDRED LIGHT EMITTING DIODES (LEDS), 150 RED, 150 NIR. VERTICAL BASE-UP POSITION.

DRIVER: TWO UNMARKED MANUFACTURER HT-HLB-60H-48A, TWO UNMARKED MANUFACTURER HT-HLB-60H-36A, ONE AED POWER AED24-1202000VDCW0 FAN POWER SUPPLY.

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

INSTRUMENTS:	Associated Power Technologies APT5040 AC Power Source	Calibration Due: N/A
	Yokogawa WT210 Digital Power Meter #6	01/24/21
	Ocean Optics QE65000 Spectroradiometer	03/23/21
	ITL 2.0m Diameter Integrating Sphere S20-2, 4PI Geometry	03/23/21
	Omega HH802U Digital Thermometer #9	03/10/21

OBJECT OF TEST: Measure the Absolute Flux in lumens*, Spectral Power Distribution (SPD), Correlated Color Temperature (CCT), Color Rendering Index (CRIa,1-15), Chromaticity Coordinates (x,y; u',v'), ANSI C78.377 Duv, Total Radiant Flux*, Scotopic / Photopic Lumen Ratio, and electrical data including ANSI C82.77-10-2014 Power Factor (PF) and Total Harmonic Distortion (THD) to the test sample.

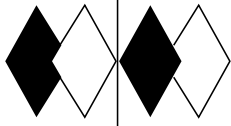
PROCEDURE: The test sample was provided by the customer and had an unknown number of operating hours. The test sample was mounted inside the integrating sphere and allowed to stabilize. After stabilization occurred, measurements were taken. In order to measure mean performance, multiple data sets were 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-79-19. All data are traceable to the National Institute of Standards and Technology.

NOTE: The spectral standard lamp used for measurement comparison above 830nm is a quartz halogen lamp which closely approximates a blackbody radiator.

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.

Approved R. BERGIN



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RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	3039 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.7200
Chromaticity Ordinate y	0.2800
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.5854
Chromaticity Ordinate v'	0.5122
Correlated Color Temp CCT (K)	NA
ANSI C78.377-2015 Duv	NA
Total Radiant Flux (milliWatts)	83915
Total Radiant Flux (600-900nm)	83883**
Scotopic / Photopic Lumen Ratio	0.043
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	2.96
Input Power (Watts)	354.5
Input Power Factor (%)	99.8
Input Current THD (%)	3.7
Input Voltage THD (%)	0.5
EFFICACY (lumens/Watt)	8.6

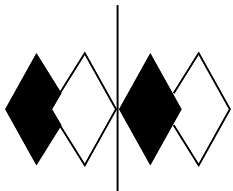
COLOR RENDERING INDICES		CRI
Ra (Average 1-8)		NA
R1 Light greyish red		NA
R2 Dark greyish yellow		NA
R3 Strong yellowish green		NA
R4 Moderate yellowish green		NA
R5 Light bluish green		NA
R6 Light blue		NA
R7 Light violet		NA
R8 Light reddish purple		NA
R9 Strong red		NA
R10 Strong yellow		NA
R11 Strong green		NA
R12 Strong blue		NA
R13 Light yellowish pink (skin)		NA
R14 Moderate olive green (leaf)		NA
R15 Japanese complexion (JIS)		NA

NOTES: *Data shown is absolute for the sample provided at rated input voltage to the test sample.

Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even when these effects are compensated for, are likely to have a greater variation in results compared to the flux output calculated from a goniophotometric exploration since these artifacts do not affect the goniophotometric results.

**Total Radiant Flux from 600-900nm, in milliwatts

NA - The Spectral Power Distribution of the luminaire is beyond the applicable range of CCT, CRI, and Duv.



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NVLAP LAB CODE: 200925-0

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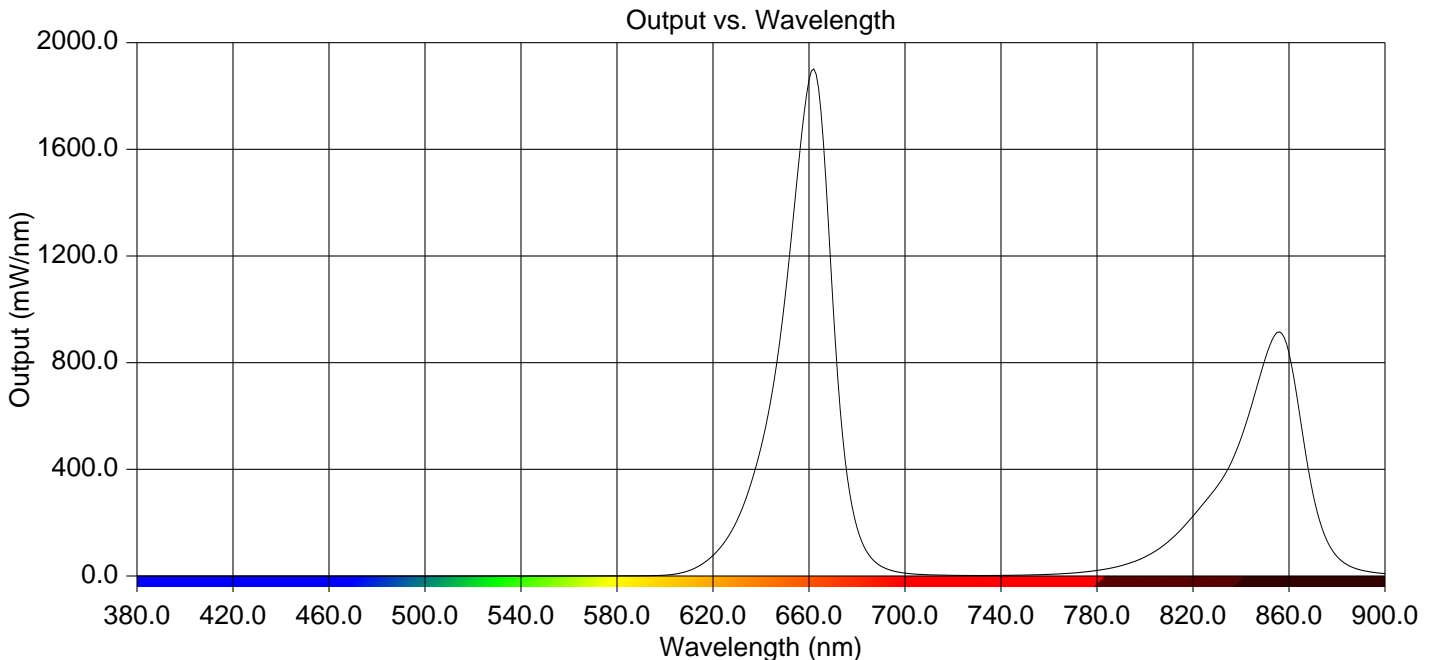
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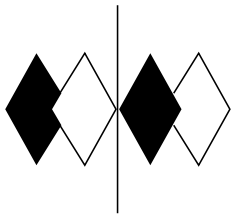
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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.000	515	0.015	650	1042.893	785	28.237
385	0.000	520	0.021	655	1485.308	790	38.516
390	0.000	525	0.027	660	1860.105	795	52.505
395	0.000	530	0.036	665	1741.158	800	71.565
400	0.000	535	0.048	670	1019.523	805	97.047
405	0.000	540	0.064	675	440.298	810	131.144
410	0.000	545	0.084	680	181.861	815	174.290
415	0.000	550	0.112	685	78.625	820	224.609
420	0.000	555	0.149	690	36.854	825	278.786
425	0.000	560	0.197	695	19.067	830	335.434
430	0.000	565	0.262	700	10.773	835	408.526
435	0.000	570	0.347	705	6.608	840	516.127
440	0.000	575	0.461	710	4.462	845	658.169
445	0.000	580	0.561	715	3.371	850	812.268
450	0.000	585	0.696	720	2.587	855	912.712
455	0.001	590	0.850	725	2.130	860	835.942
460	0.001	595	1.440	730	1.882	865	572.509
465	0.001	600	3.199	735	1.941	870	307.852
470	0.001	605	8.418	740	2.239	875	149.317
475	0.002	610	20.144	745	2.871	880	73.160
480	0.002	615	42.040	750	3.525	885	38.441
485	0.003	620	77.182	755	4.645	890	22.271
490	0.004	625	129.481	760	6.119	895	13.844
495	0.005	630	208.244	765	8.317	900	9.060
500	0.007	635	323.919	770	11.144		
505	0.009	640	482.717	775	15.363		
510	0.012	645	707.427	780	20.884		





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CIE Chromaticity Diagram

