LightLab
INTERNATIONAL

LightLab International, LLC
Phoenix AZ 85085

NVLAP® TESTING
Lab Code 200989-0

This document is issued in accordance with the accreditation requirements of NVLAP. The laboratory is accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to the SI system of units.

Report of Test
LLI-20113-2

H.E. Williams - 2x4 recessed troffer luminaire. Product ID: AP-24-L50/835-DIM-UNV
White steel fabricated housing with frosted white concave lens.
360 LEDs with180 mounted along each long side of clear plastic sheet.
One Osram Optotronic driver. Model: OTi 50/120-277/1A4 DIM-1 L G2
Operating at 120v AC and 60 Hz.

Performance Summary

Total Light Output	5060	lm	Power Factor	0.98
Luminaire Power	44.0	W	THD(i)*	7.0 %
Luminous Efficacy	115.0	lm/W	SC along*, across*	1.26 , 1.28
			SC Diagonal*	1.38
			0-60° Zonal Flux %	78.0 %

PREPARED FOR : H.E. Williams, Inc. 831 West Fairview Ave, Carthage, MO

USA west coast LightLab International, LLC, 24825 N. 16th Avenue, Suite 125, Phoenix, AZ, 85085 — Ph : +1 623-434-1499, Fx : +1 623-434-1492, www.lightlabint.com (issuing laboratory)
USA east coast LightLab Int'l Allentown LLC, 905 Harrison Street, Suite 135, Allentown, PA 18103 — Ph: +1 484-273-0705, www.lightlabint.com
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ilac-MRA

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Legend: C0-Black, C45-Green, C90-Blue (cd)

(Two plane symmetry) C0-C90

INTENSITY SUMMARY (cd)

Gamma	C-Plane C0	C22.5	C45	C67.5	C90	Flux (lm)
0.0	1742	1742	1742	1742	1742	
5.0	1730	1733	1735	1737	1738	165
10.0	1708	1711	1712	1713	1713	
15.0	1671	1674	1673	1673	1674	472
20.0	1621	1623	1621	1620	1620	
25.0	1558	1558	1555	1553	1553	717
30.0	1481	1480	1476	1474	1474	
35.0	1392	1390	1385	1383	1382	867
40.0	1292	1288	1283	1280	1279	
45.0	1181	1176	1170	1167	1166	904
50.0	1062	1055	1049	1045	1044	
55.0	933	926	919	914	913	823
60.0	798	791	782	778	776	
65.0	653	647	642	637	635	635
70.0	508	502	497	493	492	
75.0	366	359	353	352	351	376
80.0	225	220	216	215	215	
85.0	89	87	86	88	91	101
90.0	0	0	0	0	0	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	1354	N / A	26.8
0-40	2221	N / A	43.9
0-60	3947	N / A	78.0
0-90	5060	N / A	100.0
40-90	2839	N / A	56.1
60-90	1113	N / A	22.0
90-180	0	N / A	0.0
0-180	5060	N / A	100.0

Total Light Output = 5,060 lm

Signed:

Ryder Tunney
Authorized Signatory

Date of test 22-Apr-2020
Date of report 22-Apr-2020

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Intensity data (cd)

	C-Plane				
Gamma	**C0**	**C22.5**	**C45**	**C67.5**	**C90**
0.0	1742	1742	1742	1742	1742
2.5	1736	1739	1741	1743	1744
5.0	1730	1733	1735	1737	1738
7.5	1721	1724	1726	1727	1728
10.0	1708	1711	1712	1713	1713
12.5	1691	1694	1695	1695	1695
15.0	1671	1674	1673	1673	1674
17.5	1648	1650	1649	1648	1649
20.0	1621	1623	1621	1620	1620
22.5	1591	1591	1589	1588	1588
25.0	1558	1558	1555	1553	1553
27.5	1521	1521	1517	1515	1515
30.0	1481	1480	1476	1474	1474
32.5	1438	1436	1432	1430	1430
35.0	1392	1390	1385	1383	1382
37.5	1343	1340	1335	1333	1332
40.0	1292	1288	1283	1280	1279
42.5	1238	1234	1228	1225	1224
45.0	1181	1176	1170	1167	1166
47.5	1122	1117	1110	1107	1106
50.0	1062	1055	1049	1045	1044
52.5	998	992	984	981	979
55.0	933	926	919	914	913
57.5	866	859	851	847	845
60.0	798	791	782	778	776
62.5	726	720	713	707	706
65.0	653	647	642	637	635
67.5	581	574	570	565	563
70.0	508	502	497	493	492
72.5	437	430	425	422	421
75.0	366	359	353	352	351
77.5	296	289	284	284	282
80.0	225	220	216	215	215
82.5	155	151	150	150	151
85.0	89	87	86	88	91
87.5	29	29	31	33	34
90.0	0	0	0	0	0

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Test Distance	8.0 m
Test Temperature	25.2 °C

Notes

The laboratory has not participated in the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

Tested in accordance with the applicable sections of publications: IES LM-79-08 (Sec. 12), IES LM-16-93, IES LM-58-13, CIE 13.3:1995, CIE 15:2004, ANSI C78.377:2015, ANSI C82.77-10:2014.

The luminous intensity values, and other derived quantities, contained in this report are based on the absolute data, as measured.

Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

This report is free of erasures and corrections.

Photometric intensity values are reported using the CIE Gamma coordinate system as defined in CIE publication number 121.

This report may contain data that are not covered by the NVLAP accreditation. Quantities marked with * are not covered.

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the Federal Government.

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