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-20113-1

H.E. Williams - 2x2 recessed troffer luminaire. Product ID: AP-22-L40/835-DIM-UNV
White steel fabricated housing with frosted white concave lens.
180 LEDs with90 mounted along each long side of clear plastic sheet.
One Advance CertaDrive driver. Model: CI042C092V045CNN1
Operating at 120v AC and 60 Hz.

Performance Summary

Total Light Output	4102	lm	Power Factor	0.99
Luminaire Power	35.6	W	THD(i)*	3.7 %
Luminous Efficacy	115.2	lm/W	SC along*, across*	1.24 , 1.28
			SC Diagonal*	1.38
			0-60° Zonal Flux %	78.4 %

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

INTENSITY SUMMARY (cd)

Gamma	C-Plane C0	C22.5	C45	C67.5	C90	Flux (lm)
0.0	1436	1436	1436	1436	1436	
5.0	1429	1429	1429	1429	1428	136
10.0	1412	1410	1407	1405	1404	
15.0	1381	1378	1373	1370	1368	388
20.0	1340	1335	1327	1323	1322	
25.0	1287	1281	1271	1264	1263	586
30.0	1223	1215	1204	1197	1194	
35.0	1149	1140	1127	1120	1116	707
40.0	1068	1055	1041	1033	1029	
45.0	977	963	948	938	935	734
50.0	878	864	847	837	834	
55.0	773	758	741	730	725	665
60.0	663	647	629	617	614	
65.0	545	530	515	503	499	512
70.0	427	411	396	387	383	
75.0	309	294	279	272	269	300
80.0	191	178	166	160	159	
85.0	75	68	61	55	55	76
90.0	0	0	0	0	0	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	1110	N / A	27.1
0-40	1817	N / A	44.3
0-60	3215	N / A	78.4
0-90	4102	N / A	100.0
40-90	2285	N / A	55.7
60-90	887	N / A	21.6
90-180	0	N / A	0.0
0-180	4102	N / A	100.0

Total Light Output = 4,102 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	1436	1436	1436	1436	1436
2.5	1435	1435	1435	1435	1435
5.0	1429	1429	1429	1429	1428
7.5	1423	1422	1419	1419	1418
10.0	1412	1410	1407	1405	1404
12.5	1397	1396	1390	1388	1388
15.0	1381	1378	1373	1370	1368
17.5	1362	1358	1352	1348	1345
20.0	1340	1335	1327	1323	1322
22.5	1314	1308	1300	1295	1293
25.0	1287	1281	1271	1264	1263
27.5	1257	1249	1239	1232	1230
30.0	1223	1215	1204	1197	1194
32.5	1188	1179	1167	1159	1157
35.0	1149	1140	1127	1120	1116
37.5	1109	1099	1086	1077	1074
40.0	1068	1055	1041	1033	1029
42.5	1023	1011	995	986	983
45.0	977	963	948	938	935
47.5	928	914	898	889	884
50.0	878	864	847	837	834
52.5	826	811	795	784	780
55.0	773	758	741	730	725
57.5	719	703	685	674	670
60.0	663	647	629	617	614
62.5	604	589	572	560	557
65.0	545	530	515	503	499
67.5	486	470	456	445	441
70.0	427	411	396	387	383
72.5	368	352	337	329	326
75.0	309	294	279	272	269
77.5	250	236	222	216	214
80.0	191	178	166	160	159
82.5	132	121	111	106	106
85.0	75	68	61	55	55
87.5	22	20	20	19	21
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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