



FOR THE SCOPE OF
ACCREDITATION UNDER NVLAP LAB
CODE 100402-0.

REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Project No. G100572494

Original Issue Date: December 16, 2011

Revision Date: August 13, 2012

REPORT NO. 100572494CRT-004

TEST OF ONE FLUORESCENT FIXTURE

FIXTURE MODEL NO. 105-TBE-48-HE-AL

RENDERED TO

VODE LIGHTING LLC
1206 EAST MACARTHUR SUITE 3
SONOMA, CA 95476

Revision Note August 13, 2012: This report was revised to correct IES file data.

TEST: Electrical and Photometric tests as required to the IESNA test standard.

LABORATORY NOTE: The laboratory that conducted the testing detailed in this report has been Qualified, Verified, and Recognized for LM-79 Testing for ENERGY STAR for SSL by US DOE's CALiPER program.

STATEMENT OF LIMITATION: This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

AUTHORIZATION: The testing performed was authorized by signed quote number 500339719.

STANDARDS USED: The following American National Standards or Illuminating Engineering Society of North America Test Guides were used in part or totally to test each specimen:

IESNA LM-54: 1999 Guide to Lamp Seasoning

IESNA LM-41: 1998 Approved Method for Photometric Testing of Indoor Fluorescent Luminaires

DESCRIPTION OF SAMPLE: The client submitted one sample of model number 105-TBE-48-HE-AL. The sample was received by Intertek on November 23, 2011, in undamaged condition, and one sample was tested as received. The sample designation was V238802-8.

DATES OF TESTS: December 14, 2011.

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to copy or distribute this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program. Measurement uncertainty budgets have been determined for applicable test methods and are available upon request.

SUMMARY

Model No.: 105-TBE-48-HE-AL Description: Fluorescent Fixture

Criteria	Result
Total Lumen Output	2711 Lumens
Total Power	31.57 W
Luminaire Efficacy	86.87
Power Factor	0.961

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Calibration Date	Calibration Due Date
Leeds & Northup Standard Resistor	Manganin	Y089	02/24/12	02/24/13
Data Precision Digital Voltmeter	3600	V124	02/24/12	02/24/13
Fluke Multimeter	45	M133	02/24/12	02/24/13
Fluke Temperature Meter	53 II	T1318	03/12/12	03/12/13
Kikusui DC Power Supply	35-10L	E160	---	---
Sorenson DC Power Supply	DLM150-20E	--	---	---
NIST Spectral Flux Standard Source	RF1024	---	09/18/10	100 hours of use
Elgar AC Power Supply	CW1251	--	--	--
Yokogawa Power Meter	WT210	E464	04/19/11	04/19/12*
LSI High Speed Mirror Goniometer	6440	--	04/13/12	05/13/12*
Cole Parmer Hygro Thermometer	445703	T1359	10/26/11	10/26/12*

*Testing using this equipment was completed 12/14/11.

TEST METHODS

Seasoning in Each Burn Orientation

The photometric tests were performed after the lamps were seasoned. Before the photometric tests, each lamp was operated in its designated orientation on the appropriate ballast for a time period greater than 100 hours in accordance with IESNA LM-54 Guide to Lamp Seasoning.

Photometric and Electrical measurements – Distribution Method

A LSI Type C High Speed Model 6440 Mirror Goniometer was used to measure the intensity (candelas) at each angle of distribution for each sample.

Ambient temperature was measured equal to the height of the sample mounted on the Goniometer equipment. Each sample was operated at input rated voltage in its designated orientation. Each sample was allowed to stabilize for at least thirty minutes before measurements were made. Electrical measurements including voltage, current, and power were measured using the Xitron or Yokogawa Power Analyzer.

Some graphics were created with Photometrics Plus software.

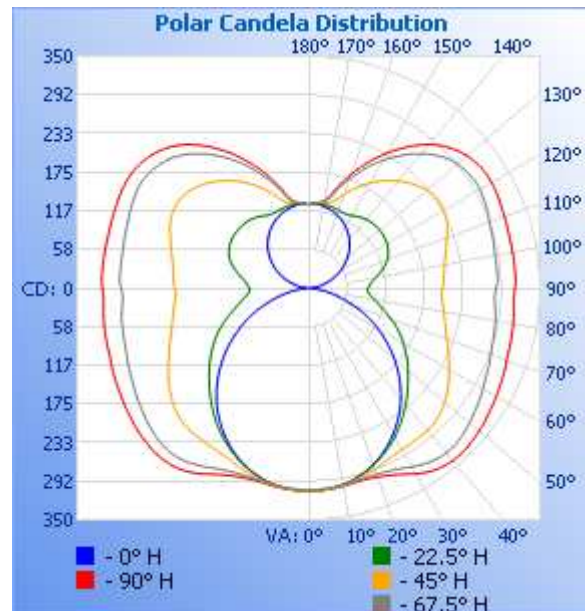
RESULTS OF TESTS

Photometric and Electrical Measurements – Distribution Method

Intertek Sample No.	Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
V238802-8	LINEAR	277.0	118.3	31.57	0.961	2711	85.87

Intensity (Candlepower) Summary at 25°C - Candelas

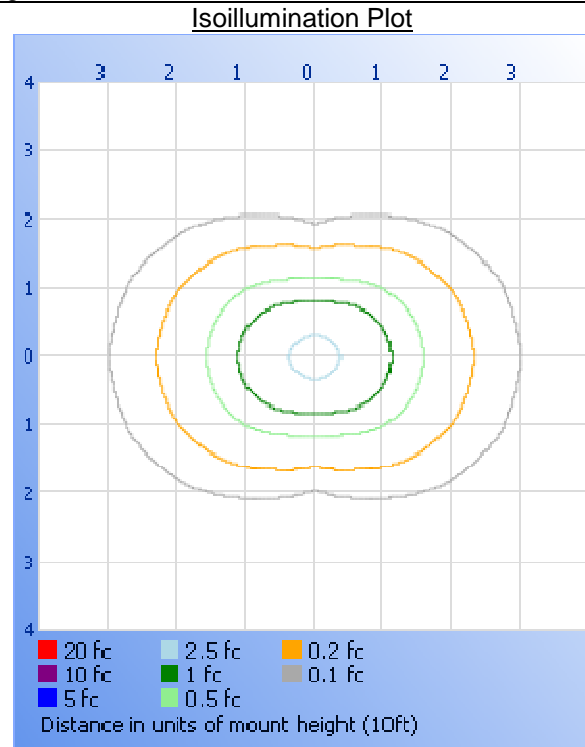
Angle	0	22.5	45	67.5	90
0	306	306	306	306	306
5	305	305	305	304	305
10	301	301	302	302	304
15	294	294	297	299	301
20	284	285	292	299	304
25	271	273	285	303	311
30	255	260	282	312	324
35	237	245	281	320	335
40	217	229	280	324	340
45	195	212	276	323	340
50	171	196	269	317	336
55	146	181	258	311	332
60	120	165	245	304	327
65	95	149	233	298	323
70	68	132	222	293	319
75	45	115	214	290	316
80	24	101	208	287	314
85	8	92	203	283	311
90	2	90	202	284	312
95	7	95	205	286	313
100	15	105	209	286	313
105	24	117	215	289	314
110	35	127	222	291	315
115	47	133	231	296	318
120	58	136	236	299	319
125	68	138	237	298	318
130	78	138	231	293	312
135	87	138	223	282	300
140	96	136	211	265	283
145	103	132	198	245	261
150	110	127	183	222	235
155	115	125	166	198	208
160	120	126	149	174	181
165	123	128	135	148	153
170	126	128	131	133	133
175	128	128	129	129	129
180	126	126	126	126	126



RESULTS OF TESTS (cont'd)

Illumination Plots

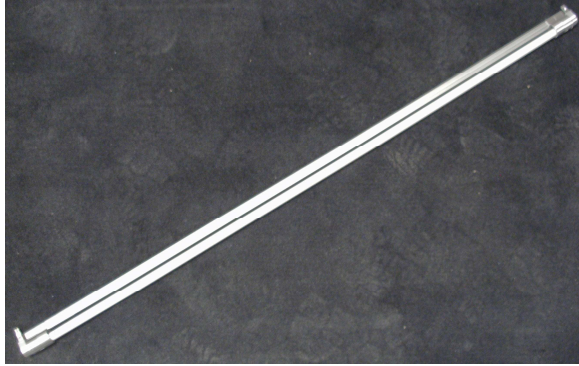
Mounting Height: 10 ft.



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Lamp	% Luminaire
0-30	246.5	8.5	9.1
0-40	423.9	14.6	15.6
0-60	853.6	29.4	31.5
60-90	634.3	21.9	23.4
0-90	1488	51.3	54.9
90-180	1223	42.2	45.1
0-180	2711	93.5	100.0

Picture (not to scale)



CONCLUSION

The results tabulated in this report are representative of the actual test samples submitted for this report only. The data is provided to the client for further evaluation. Compliance to the referenced specification requirements was not determined in this report.

In Charge Of Tests:



Kenda Branch
Engineer
Lighting Division

Attachment: None

Report Reviewed By:



Jacki Swiernik
Staff Engineer
Lighting Division