



7826 East Evans Road  
Scottsdale, AZ 85260  
480-991-9260

## Photometric Indoor Test Report

Relevant Standards  
IES LM-79-2008  
ANSI C82.77-2002

Prepared For  
**Environmental Lights**  
11235 W. Bernardo Court, Suite 102  
San Diego, CA 92127

Catalog Number  
LN-NW-20  
Project Number  
10345709  
Test Number  
33052

Test Date

2014-06-10

Prepared By

Handwritten signature of Dennis Boyles in black ink.

Dennis Boyles, Technician

Approved By

Handwritten signature of Jim Domigan in black ink.

Jim Domigan, Laboratory Team Leader

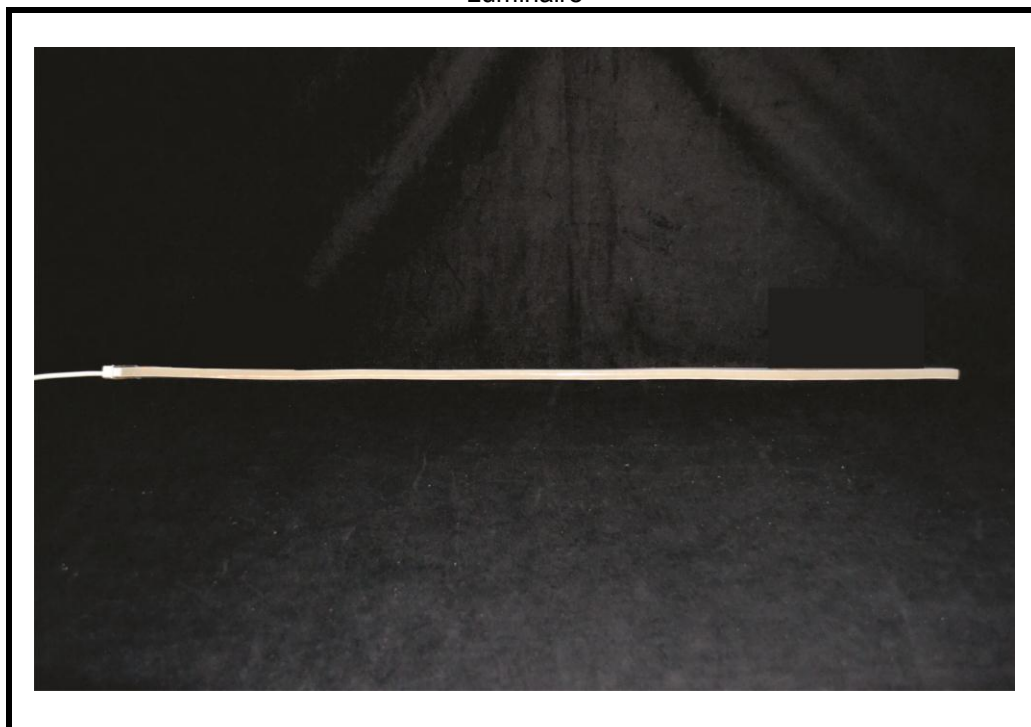
The results contained in this report pertain only to the tested sample.  
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Luminaire Description: LED Neon, Flat rope type  
Catalog Number: LN-NW-20  
Lamp: LED Array  
Ballast/Driver: One Mean Well SP-320-24 Driver

Luminaire

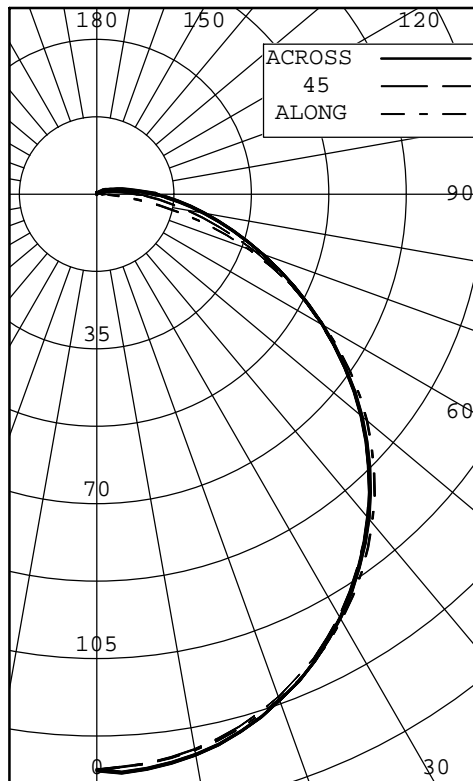


Test Conditions

Test Temperature: 24.3 °C  
Voltage: 24.0 VDC



INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS



ANGLE	ALONG	22.5	45	67.5	ACROSS	OUTPUT LUMENS
0	130	130	130	130	130	
5	129	129	129	130	130	12
15	125	124	125	126	126	35
25	117	116	116	117	117	53
35	104	103	103	104	103	65
45	89	87	87	87	87	67
55	70	68	68	69	69	61
65	48	47	48	49	49	48
75	25	26	29	31	32	30
85	6	8	14	18	19	15
90	1	4	9	12	13	
95	1	2	6	8	9	6
105	1	1	2	4	4	3
115	1	1	1	2	2	1
125	1	1	1	1	1	1
135	1	1	1	0	1	0
145	1	1	0	0	0	0
155	0	0	0	0	0	0
165	0	0	0	0	0	0
175	0	0	0	0	0	0
180	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	101	25.36
0-40	166	41.54
0-60	294	73.78
0-90	387	97.05
40-90	222	55.51
60-90	93	23.27
90-180	12	2.95
0-180	399	100.00

\*\*\* THIS IS AN ABSOLUTE TEST \*\*\*

LUMINOUS LENGTH: 39.370 INS  
 WIDTH: 0.375 INS

LUMINANCE SUMMARY CD./SQ.M.

S/MH: 1.3  
 SC: 1.3

ANGLE	ALONG	45	ACROSS
45	13162	12929	12981
55	12821	12576	12604
65	11986	12028	12268
75	10181	11716	13030
85	6745	17089	22431

TESTED IN ACCORDANCE WITH IES PROCEDURES.



INTENSITY (CANDLEPOWER) DATA

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	22.5	45	67.5	ACROSS	AVERAGE	
0	130	130	130	130	130	130	
5	129	129	129	130	130	130	12
10	128	127	127	129	129	128	
15	125	124	125	126	126	125	35
20	121	120	121	122	122	121	
25	117	116	116	117	117	116	53
30	111	110	110	111	110	110	
35	104	103	103	104	103	103	65
40	97	96	95	96	96	96	
45	89	87	87	87	87	87	67
50	80	78	78	79	78	78	
55	70	68	68	69	69	69	61
60	59	58	58	59	59	59	
65	48	47	48	49	49	48	48
70	37	37	38	40	40	38	
75	25	26	29	31	32	29	30
80	14	16	21	24	25	20	
85	6	8	14	18	19	13	15
90	1	4	9	12	13	8	
95	1	2	6	8	9	5	6
100	1	2	3	5	6	3	
105	1	1	2	4	4	2	3
110	1	1	2	3	3	2	
115	1	1	1	2	2	1	1
120	1	1	1	1	2	1	
125	1	1	1	1	1	1	1
130	1	1	1	1	1	1	
135	1	1	1	0	1	1	0
140	1	1	0	0	0	0	
145	1	1	0	0	0	0	0
150	0	0	0	0	0	0	
155	0	0	0	0	0	0	0
160	0	0	0	0	0	0	
165	0	0	0	0	0	0	0
170	0	0	0	0	0	0	
175	0	0	0	0	0	0	0
180	0	0	0	0	0	0	



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COEFFICIENTS OF UTILIZATION

ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE = .20

CC WALL	90				80				70				50				30				10				0	
	70	50	30	10	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																										
0	1.211	.211	.211	.21	1.181	.181	.181	.18	1.151	.151	.151	.15	1.091	.091	.09	1.041	.041	.04	0.990	.990	.99	0.97				
1	1.111	.051	.010	.96	1.081	.030	.980	.95	1.051	.000	.960	.93	0.950	.920	.89	0.910	.880	.86	0.870	.850	.83	0.81				
2	1.010	.930	.860	.79	0.980	.900	.840	.78	0.960	.880	.820	.77	0.840	.790	.75	0.810	.760	.72	0.770	.740	.70	0.68				
3	0.930	.810	.730	.66	0.900	.800	.720	.65	0.870	.780	.700	.65	0.750	.680	.63	0.710	.660	.62	0.690	.640	.60	0.58				
4	0.850	.730	.630	.57	0.830	.710	.630	.56	0.810	.700	.620	.56	0.670	.600	.55	0.640	.580	.54	0.620	.570	.52	0.50				
5	0.790	.650	.560	.49	0.760	.640	.550	.48	0.740	.620	.540	.48	0.600	.520	.47	0.570	.510	.46	0.550	.500	.45	0.43				
6	0.720	.580	.490	.42	0.700	.570	.480	.42	0.680	.560	.470	.41	0.540	.460	.41	0.520	.450	.40	0.500	.440	.40	0.38				
7	0.660	.520	.430	.37	0.640	.510	.420	.36	0.630	.500	.420	.36	0.480	.410	.35	0.460	.400	.35	0.450	.390	.34	0.32				
8	0.610	.470	.380	.32	0.600	.460	.380	.32	0.580	.450	.370	.32	0.440	.360	.31	0.420	.360	.31	0.410	.350	.30	0.28				
9	0.570	.430	.340	.28	0.550	.420	.340	.28	0.540	.410	.330	.28	0.400	.330	.27	0.380	.320	.27	0.370	.310	.27	0.25				
10	0.530	.390	.300	.25	0.510	.380	.300	.25	0.500	.370	.300	.25	0.360	.290	.24	0.350	.290	.24	0.340	.280	.24	0.22				

THE ABOVE COEFFICIENTS HAVE BEEN CALCULATED BASED ON LUMINAIRE LUMENS  
 BECAUSE IN AN ABSOLUTE TEST THE BARE LAMP LUMENS ARE UNKNOWN.  
 LIGHTING DESIGN CALCULATIONS MADE USING THESE COEFFICIENTS SHOULD  
 THEREFORE USE THE LUMINAIRE LUMENS IN THE CALCULATION FORMULA

LABORATORY RESULTS MAY NOT BE REPRESENTATIVE OF FIELD PERFORMANCE.  
 BALLAST AND FIELD FACTORS HAVE NOT BEEN APPLIED.

TEST DISTANCE EXCEEDS FIVE TIMES THE GREATEST  
 LUMINOUS OPENING OF LUMINAIRE.



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**All testing was conducted in accordance with LM-79-08,**

Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products as published by the Illuminating Engineering Society of North America (IESNA).

The condition of the item tested was new. Stabilization time before testing meets the stabilization requirements of LM-79-08.

The test results (luminous distribution and flux) were obtained by using a Lighting Sciences series 6000 Type C Moving Mirror Goniophotometer

- The photometric reference standard used is a set of three incandescent luminous intensity standard lamps calibrated and traceable to the U.S. National Institute of Standards and Technology.

Power measurements were obtained with a Xitron 2801 power analyzer.

Ambient temperature during testing was  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ , measured using an Omega model DP460.

Calibration certificates are on file at the laboratory

The results in this report apply to the test sample(s) mentioned in this report at the time of the testing period only and are not to be used to indicate applicability to other similar products.