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Indoor Distribution Test Report

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

Prepared For
Encore Lighting Mfg LLC dba Nano Meter

Diane Paquet
57-10 49th Place
Maspeth, NY 11378
United States

Catalog Number
12x4-2700K-HO

Order Number
10980032
Test Number
1166416

Test Date

2015-10-16

Prepared By

Derek Smarr, Technician

Approved By

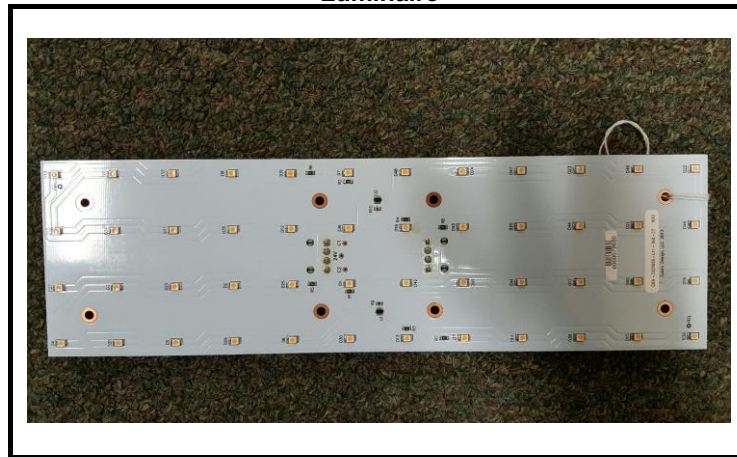
Jeffrey Lockner, Project Engineer

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Luminaire Description: LED board
Lamp: 48 white LEDs
Mounting: Surface
Ballast/Driver: One Mean Well HLG-80H-24A

Luminaire



Luminaire Characteristics

Luminous Length: 11.50 in.
Luminous Width: 3.500 in.

Summary of Results

Total Luminaire Output: 357.1 Lumens
Luminaire Efficacy: 66.2 lm/w
Maximum Candela: 123 Candela

Electrical Data

Test Temperature: 24.1 °C
Voltage: 120.0 VAC
Current: 0.09846 A
Power: 5.391 W
Power Factor: 0.456
Frequency: 60 Hz
Current THD: 183 %

Laboratory results may not be representative of field performance
Ballast factors have not been applied



Distribution - Goniophotometer

Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.1 °C	120.0 VAC	0.09846 A	5.391 W	0.456	60 Hz	183 %

Summary of Results

Spacing Criteria

0-180: 1.26
90-270: 1.26

Total Lumen Output:

357.1 Lumens

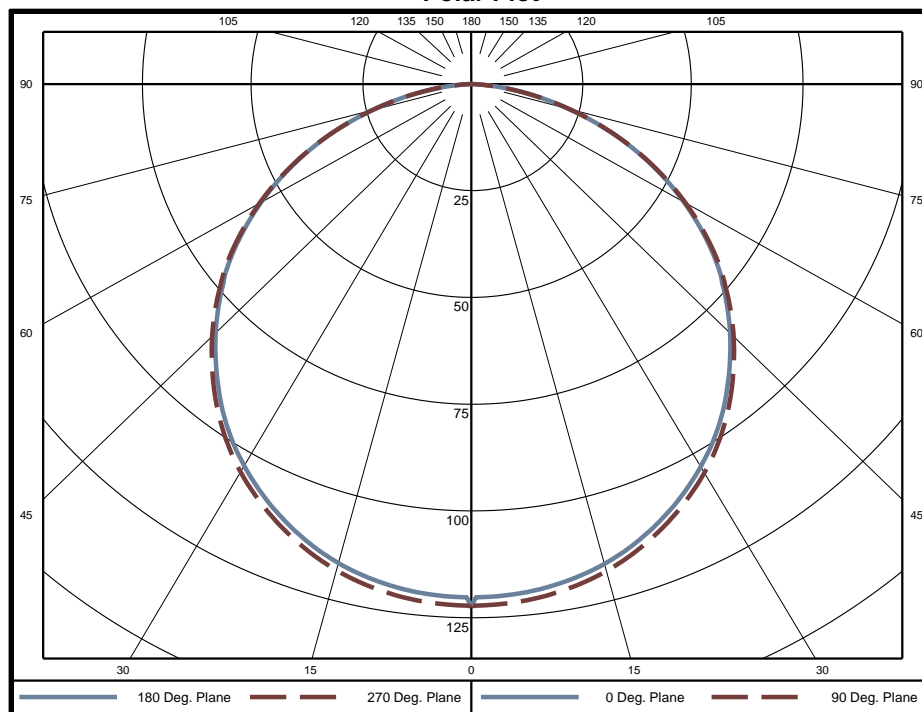
Luminaire Efficacy:

66.2 lm/w

Maximum Candela:

123 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	2.92	0.8%	60-65	24.70	6.9%	120-125	0	0.0%
5-10	8.68	2.4%	65-70	20.23	5.7%	125-130	0	0.0%
10-15	14.17	4.0%	70-75	15.08	4.2%	130-135	0	0.0%
15-20	19.21	5.4%	75-80	9.70	2.7%	135-140	0	0.0%
20-25	23.63	6.6%	80-85	4.70	1.3%	140-145	0	0.0%
25-30	27.31	7.6%	85-90	1.01	0.3%	145-150	0	0.0%
30-35	30.10	8.4%	90-95	0	0.0%	150-155	0	0.0%
35-40	31.84	8.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	32.50	9.1%	100-105	0	0.0%	160-165	0	0.0%
45-50	32.17	9.0%	105-110	0	0.0%	165-170	0	0.0%
50-55	30.83	8.6%	110-115	0	0.0%	170-175	0	0.0%
55-60	28.30	7.9%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	158	44.2%
0-60	282	78.9%
0-90	357	100.0%
90-180	0	0.0%



Candela Tabulation
Horizontal Angle (Degrees)

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3
5	119.8	122.0	122.5	122.3	121.7	122.3	122.5	122.0	119.8	122.0	122.5	122.3	121.7	122.3	122.5	122.0
10	118.6	120.7	121.2	120.9	120.4	120.9	121.2	120.7	118.6	120.7	121.2	120.9	120.4	120.9	121.2	120.7
15	116.3	118.4	118.9	118.6	118.1	118.6	118.9	118.4	116.3	118.4	118.9	118.6	118.1	118.6	118.9	118.4
20	113.0	115.0	115.4	115.2	114.6	115.2	115.4	115.0	113.0	115.0	115.4	115.2	114.6	115.2	115.4	115.0
25	108.7	110.6	111.0	110.8	110.3	110.8	111.0	110.6	108.7	110.6	111.0	110.8	110.3	110.8	111.0	110.6
30	103.5	105.4	105.8	105.6	105.1	105.6	105.8	105.4	103.5	105.4	105.8	105.6	105.1	105.6	105.8	105.4
35	97.5	99.2	99.6	99.5	98.9	99.5	99.6	99.2	97.5	99.2	99.6	99.5	98.9	99.5	99.6	99.2
40	90.3	91.7	92.2	92.1	91.6	92.1	92.2	91.7	90.3	91.7	92.2	92.1	91.6	92.1	92.2	91.7
45	82.6	83.9	84.3	84.2	83.7	84.2	84.3	83.9	82.6	83.9	84.3	84.2	83.7	84.2	84.3	83.9
50	74.3	75.4	75.7	75.6	75.1	75.6	75.7	75.4	74.3	75.4	75.7	75.6	75.1	75.6	75.7	75.4
55	65.4	66.3	66.6	66.5	66.0	66.5	66.6	66.3	65.4	66.3	66.6	66.5	66.0	66.5	66.6	66.3
60	55.5	56.1	56.4	56.3	55.9	56.3	56.4	56.1	55.5	56.1	56.4	56.3	55.9	56.3	56.4	56.1
65	45.0	45.4	45.7	45.7	45.2	45.7	45.7	45.4	45.0	45.4	45.7	45.7	45.2	45.7	45.7	45.4
70	34.2	34.4	34.6	34.6	34.3	34.6	34.6	34.4	34.2	34.4	34.6	34.6	34.3	34.6	34.6	34.4
75	23.2	23.3	23.5	23.4	23.2	23.4	23.5	23.3	23.2	23.3	23.5	23.4	23.2	23.4	23.5	23.3
80	13.1	13.1	13.3	13.2	13.0	13.2	13.3	13.1	13.1	13.1	13.3	13.2	13.0	13.2	13.3	13.1
85	4.5	4.5	4.4	4.5	4.5	4.5	4.4	4.5	4.5	4.5	4.4	4.5	4.5	4.5	4.4	4.5
90	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.3
95	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Average Luminance (cd/m²)
Horizontal Angle (Degrees)

	0	45	90
0	4711	4711	4711
45	4498	4591	4557
55	4392	4470	4431
65	4103	4163	4121
75	3453	3498	3453
85	2001	1959	1986



Utilization of Lumens - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%

Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **																	
0	425	425	425	425	415	415	415	415	397	397	397	380	380	380	364	364	364	357
1	388	371	356	342	379	363	349	337	348	336	326	334	325	316	321	314	307	299
2	353	323	299	278	343	316	294	275	304	285	268	292	276	262	281	268	256	248
3	321	283	254	230	312	278	250	228	267	244	224	257	237	220	248	231	217	209
4	294	251	219	195	286	246	216	193	237	211	191	228	206	188	221	201	185	178
5	270	224	191	167	262	220	189	166	212	185	164	205	181	163	198	177	161	153
6	249	201	169	146	242	198	167	145	191	164	144	185	161	142	179	158	141	134
7	231	182	151	128	225	179	149	128	174	147	127	168	144	126	164	142	125	118
8	215	166	135	114	209	164	134	114	159	132	113	154	130	113	150	128	112	105
9	201	152	123	103	195	150	122	102	146	120	102	142	118	101	138	117	101	94
10	188	140	112	93	183	139	111	93	135	110	92	132	108	92	128	107	91	85

Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	7.65	5.11
6.00	3.40	7.67
8.00	1.91	10.2
10.0	1.22	12.8
12.0	0.850	15.3
14.0	0.624	17.9
16.0	0.478	20.4

Cone of Light Plot

