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Photometric 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
12x12-27K-HO
Order Number
10980032
Test Number
1166411

Test Date

2015-10-12 - 2015-10-13

Prepared By

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Approved By

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The results contained in this report pertain only to the tested sample.
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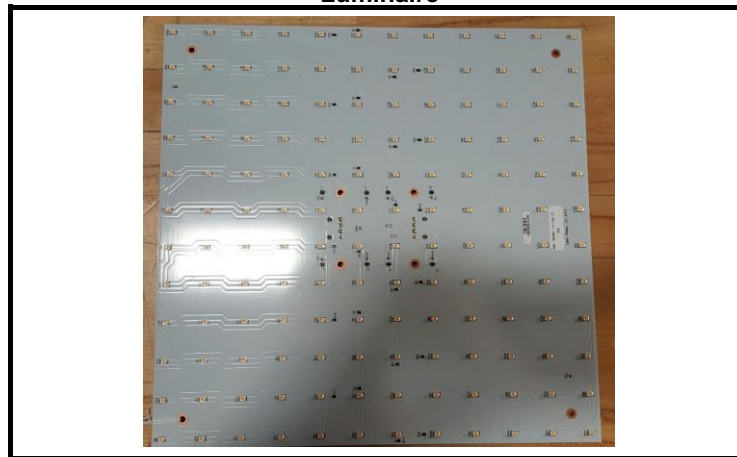
Laboratory results may not be representative of field performance
Ballast factors have not been applied

Testing was performed in a 2-meter integrating sphere using the 4π geometry method.
Absorption correction was employed for Sphere measurement



Luminaire Description: LED board
Lamp: 144 white LEDs
Mounting: Surface
Ballast/Driver: One Mean Well HLG-80H-24A

Luminaire



Luminaire Characteristics

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

Summary of Results

Integrating Sphere

Luminous Flux: 1221 Lumens
Efficacy: 72.0 lm/w
CCT: 2858 K
CRI (Ra): 81.9

Distribution

Total Luminaire Output: 1233 Lumens
Luminaire Efficacy: 72.4 lm/w
Maximum Candela: 428 Candela

Electrical Data at 120 VAC

Test Temperature: 25.5 °C
Voltage: 120.0 VAC
Current: 0.2834 A
Power: 16.97 W
Power Factor: 0.499
Frequency: 60 Hz
Current THD: 168 %



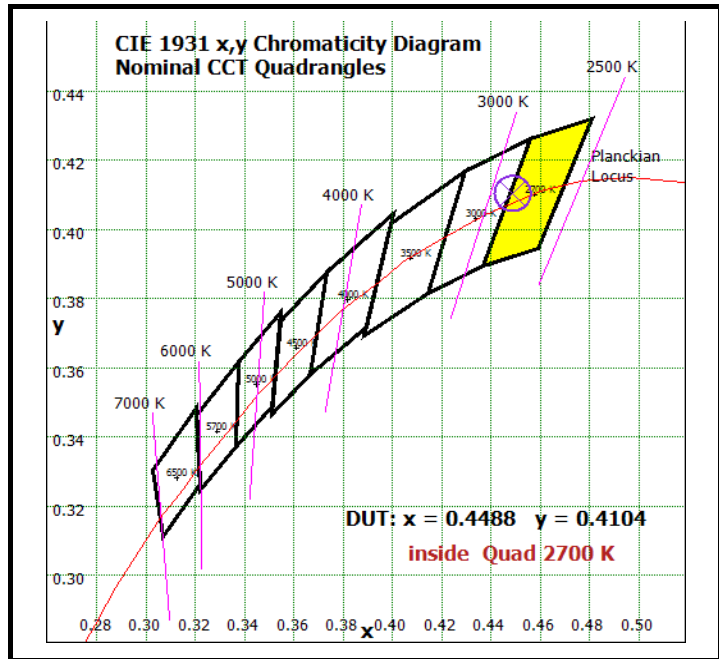
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.5 °C	120.0 VAC	0.2834 A	16.97 W	0.499	60 Hz	168 %

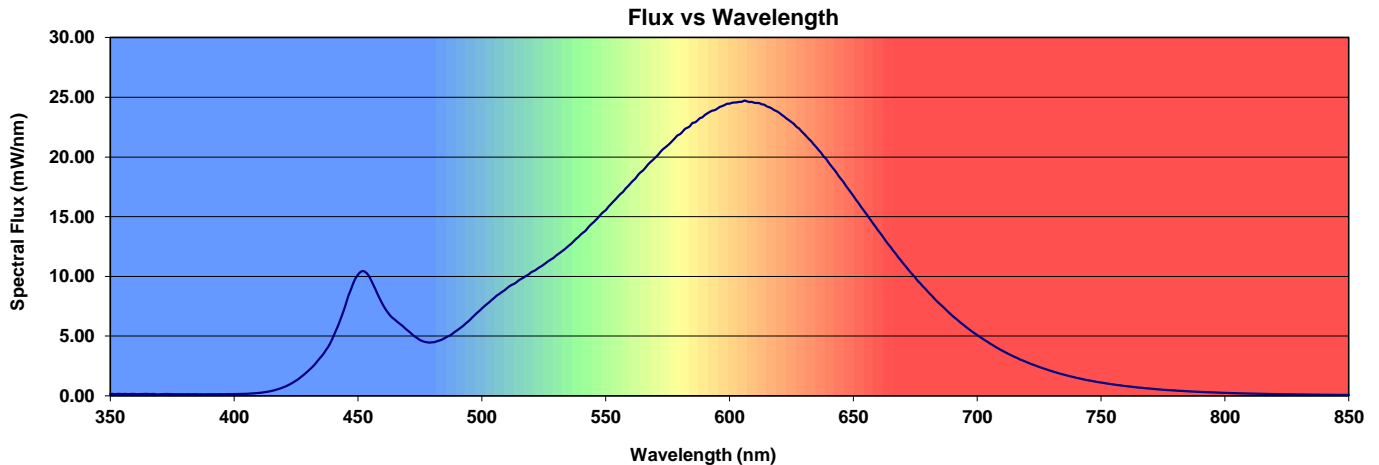
Summary of Results

Total Output:	1221 Lumens
Efficacy:	72.0 lm/w
CCT:	2858 K
CRI (Ra):	81.9
CRI (R9):	12.2
Chromaticity (x):	0.4488
Chromaticity (y):	0.4104
Chromaticity (u):	0.2555
Chromaticity (v):	0.3504
Chromaticity (u'):	0.2555
Chromaticity (v'):	0.5256
Duv:	0.0004



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
81.9	79.5	89.7	97.0	78.5	79.1	86.6	84.0	60.7	12.2	76.3	75.8	69.0	81.5	98.6





Distribution - Goniophotometer

Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.4 °C	120.0 VAC	0.2776 A	17.04 W	0.511	60 Hz	164 %

Summary of Results

Spacing Criteria

0-180: 1.29
90-270: 1.29

Total Lumen Output:

1233 Lumens

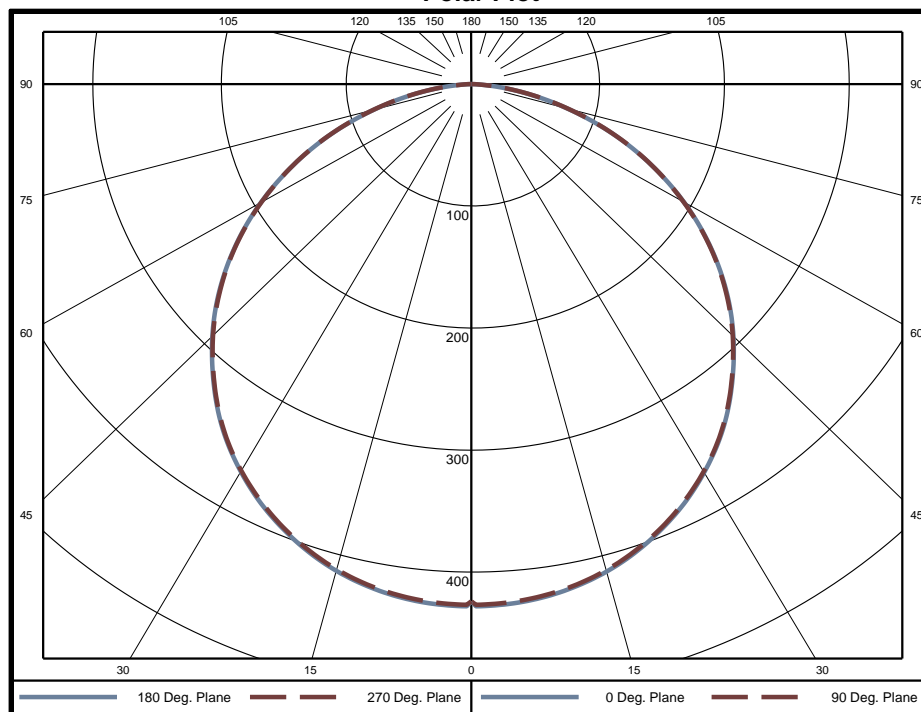
Luminaire Efficacy:

72.4 lm/w

Maximum Candela:

428 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	10.1	0.8%	60-65	84.9	6.9%	120-125	0	0.0%
5-10	30.1	2.4%	65-70	69.5	5.6%	125-130	0	0.0%
10-15	49.1	4.0%	70-75	51.8	4.2%	130-135	0	0.0%
15-20	66.5	5.4%	75-80	33.3	2.7%	135-140	0	0.0%
20-25	81.8	6.6%	80-85	16.1	1.3%	140-145	0	0.0%
25-30	94.5	7.7%	85-90	3.3	0.3%	145-150	0	0.0%
30-35	104.2	8.5%	90-95	0	0.0%	150-155	0	0.0%
35-40	110.2	8.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	112.5	9.1%	100-105	0	0.0%	160-165	0	0.0%
45-50	111.3	9.0%	105-110	0	0.0%	165-170	0	0.0%
50-55	106.3	8.6%	110-115	0	0.0%	170-175	0	0.0%
55-60	97.3	7.9%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	547	44.3%
0-60	974	79.0%
0-90	1233	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	423.9	423.9	423.9	423.9	423.9	423.9	423.9	423.9	423.9	423.9	423.9	423.9	423.9	423.9	423.9	423.9
5	426.5	421.7	420.7	421.5	425.2	421.5	420.7	421.7	426.5	421.7	420.7	421.5	425.2	421.5	420.7	421.7
10	421.7	417.0	416.0	416.8	420.5	416.8	416.0	417.0	421.7	417.0	416.0	416.8	420.5	416.8	416.0	417.0
15	413.4	408.8	408.0	408.7	412.2	408.7	408.0	408.8	413.4	408.8	408.0	408.7	412.2	408.7	408.0	408.8
20	401.4	397.0	396.2	396.8	400.2	396.8	396.2	397.0	401.4	397.0	396.2	396.8	400.2	396.8	396.2	397.0
25	386.1	381.9	381.1	381.8	384.9	381.8	381.1	381.9	386.1	381.9	381.1	381.8	384.9	381.8	381.1	381.9
30	367.4	363.9	363.0	363.7	366.6	363.7	363.0	363.9	367.4	363.9	363.0	363.7	366.6	363.7	363.0	363.9
35	345.8	342.2	341.5	342.2	345.0	342.2	341.5	342.2	345.8	342.2	341.5	342.2	345.0	342.2	341.5	342.2
40	320.1	317.0	316.4	317.0	319.2	317.0	316.4	317.0	320.1	317.0	316.4	317.0	319.2	317.0	316.4	317.0
45	292.4	289.5	289.1	289.8	291.7	289.8	289.1	289.5	292.4	289.5	289.1	289.8	291.7	289.8	289.1	289.5
50	262.3	260.1	259.8	260.4	261.5	260.4	259.8	260.1	262.3	260.1	259.8	260.4	261.5	260.4	259.8	260.1
55	229.4	227.7	227.5	228.0	228.8	228.0	227.5	227.7	229.4	227.7	227.5	228.0	228.8	228.0	227.5	227.7
60	193.9	192.8	192.6	193.0	193.5	193.0	192.6	192.8	193.9	192.8	192.6	193.0	193.5	193.0	192.6	192.8
65	156.6	156.0	156.1	156.5	156.7	156.5	156.1	156.0	156.6	156.0	156.1	156.5	156.7	156.5	156.1	156.0
70	118.5	118.1	118.0	118.4	118.8	118.4	118.0	118.1	118.5	118.1	118.0	118.4	118.8	118.4	118.0	118.1
75	79.8	80.0	79.7	80.3	80.4	80.3	79.7	80.0	79.8	80.0	79.7	80.3	80.4	80.3	79.7	80.0
80	44.8	44.9	44.9	45.2	45.3	45.2	44.9	44.9	44.8	44.9	44.9	45.2	45.3	45.2	44.9	44.9
85	14.9	15.3	15.3	15.6	15.6	15.6	15.3	15.3	14.9	15.3	15.3	15.6	15.6	15.6	15.3	15.3
90	0.4	0.6	0.6	0.7	0.5	0.7	0.6	0.6	0.4	0.6	0.6	0.7	0.5	0.7	0.6	0.6
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	4969	4969	4969
45	4847	4791	4835
55	4687	4648	4675
65	4343	4328	4345
75	3615	3611	3639
85	2005	2053	2094



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	1468	1468	1468	1468	1434	1434	1434	1434	1370	1370	1370	1312	1312	1312	1258	1258	1258	1233
1	1341	1282	1230	1182	1308	1254	1206	1163	1202	1162	1126	1154	1121	1092	1109	1083	1059	1033
2	1219	1116	1032	961	1186	1093	1015	949	1049	984	927	1009	954	906	971	926	886	859
3	1110	979	877	797	1079	959	865	790	922	842	775	888	819	762	856	798	749	721
4	1015	866	757	673	986	849	748	669	818	730	659	789	713	650	763	696	641	614
5	933	773	661	579	906	759	654	575	733	640	569	708	627	563	685	614	556	530
6	861	695	584	504	837	683	578	502	661	567	497	640	556	493	620	546	488	463
7	797	630	521	444	776	619	516	443	600	507	439	582	498	436	566	490	433	408
8	742	574	468	396	722	565	465	394	549	457	392	533	450	389	519	443	387	363
9	693	526	424	356	675	519	421	355	505	415	353	491	409	351	479	404	349	326
10	649	485	387	322	633	479	385	321	467	380	320	455	375	318	444	370	317	295

Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	26.5	5.11
6.00	11.8	7.66
8.00	6.62	10.2
10.0	4.24	12.8
12.0	2.94	15.3
14.0	2.16	17.9
16.0	1.66	20.4

Cone of Light Plot

