



UL Verification Services Inc.
7036 Snowdrift Road
Allentown, PA 18106
610-774-1300



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
L24-4FT-900LM-2700K

Order Number
10980032
Test Number
1166407

Test Date

2015-10-12 - 2015-10-13

Prepared By

Derek Smarr, Technician

Approved By

Jeffrey Lockner, Project Engineer

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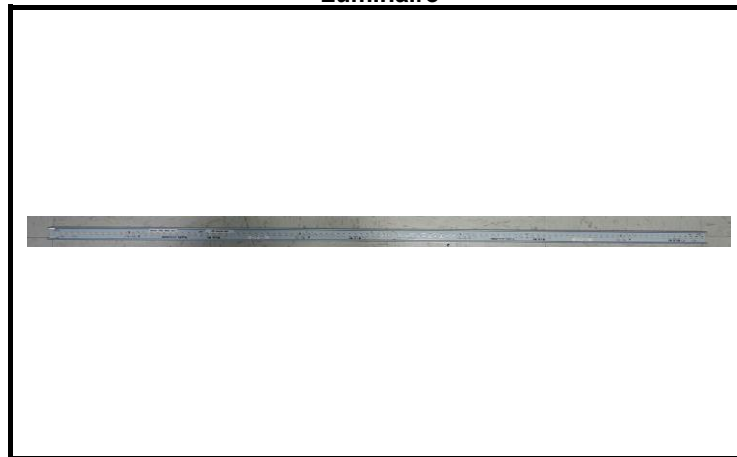
Laboratory results may not be representative of field performance
Ballast factors have not been applied

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



Luminaire Description: Aluminum housing / heatsink, no enclosure
Lamp: 112 white LEDs, two boards with 56 LEDs each
Mounting: Surface
Ballast/Driver: One Mean Well HLG-60H-48A

Luminaire



Luminaire Characteristics

Luminous Length: 48.00 in.
Luminous Width: 0.8750 in.
Luminous Height: 0.38 in.

Summary of Results

Integrating Sphere

Luminous Flux: 2897 Lumens
Efficacy: 86.8 lm/w
CCT: 2772 K
CRI (Ra): 81.9

Distribution

Total Luminaire Output: 2836 Lumens
Luminaire Efficacy: 84.7 lm/w
Maximum Candela: 1112 Candela

Electrical Data at 120 VAC

Test Temperature: 25.2 °C
Voltage: 120.0 VAC
Current: 0.2807 A
Power: 33.36 W
Power Factor: 0.991
Frequency: 60 Hz
Current THD: 8.78 %



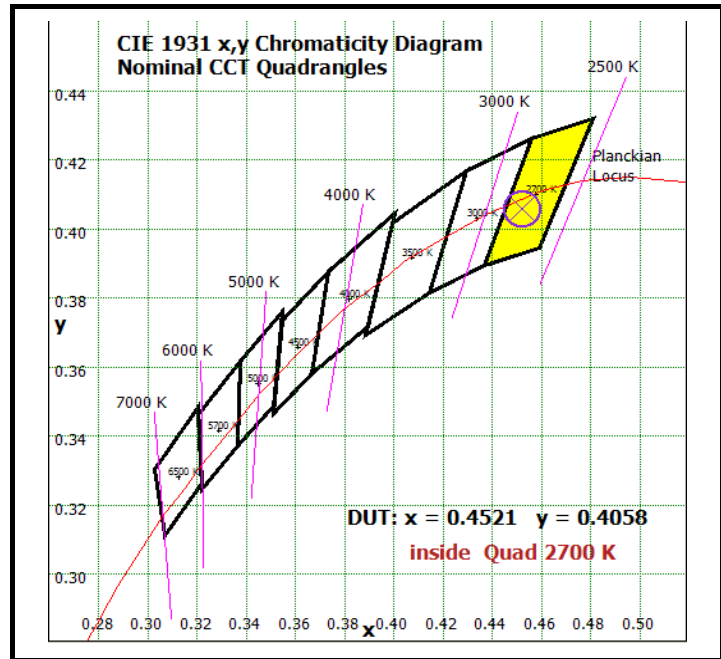
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.2 °C	120.0 VAC	0.2807 A	33.36 W	0.991	60 Hz	8.78 %

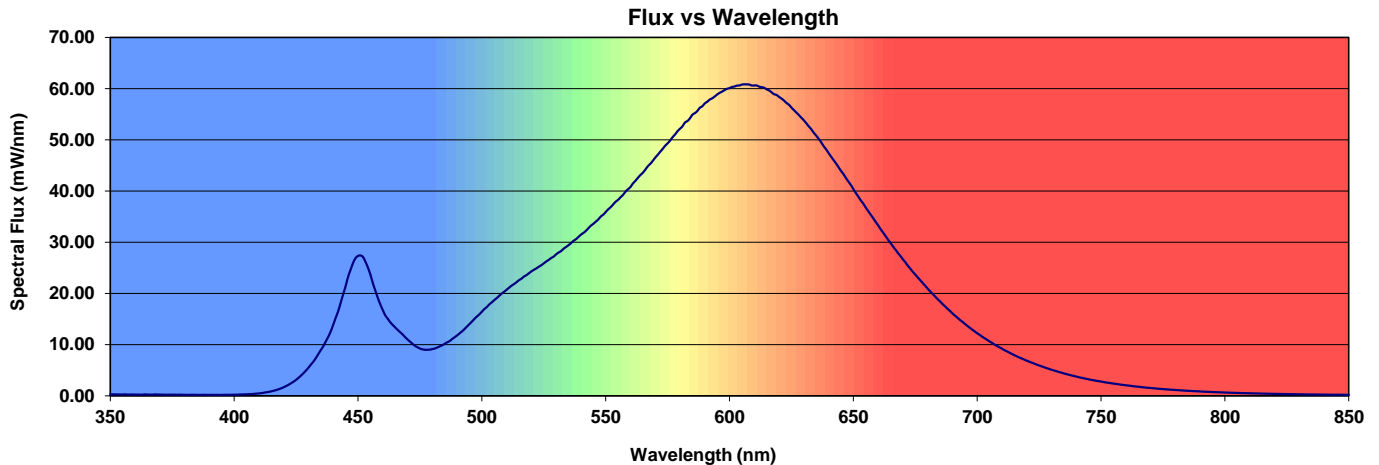
Summary of Results

Total Output:	2897 Lumens
Efficacy:	86.8 lm/w
CCT:	2772 K
CRI (Ra):	81.9
CRI (R9):	11.2
Chromaticity (x):	0.4521
Chromaticity (y):	0.4058
Chromaticity (u):	0.2596
Chromaticity (v):	0.3495
Chromaticity (u')	0.2596
Chromaticity (v')	0.5243
Duv:	-0.0012



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
81.9	80.1	90.2	96.6	79.0	79.8	87.5	82.7	59.5	11.2	77.4	77.1	71.5	82.2	98.6





Distribution - Goniophotometer

Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.6 °C	120.0 VAC	0.2813 A	33.50 W	0.992	60 Hz	8.42 %

Summary of Results

Spacing Criteria

0-180: 1.27

90-270: 1.27

Total Lumen Output:

2836 Lumens

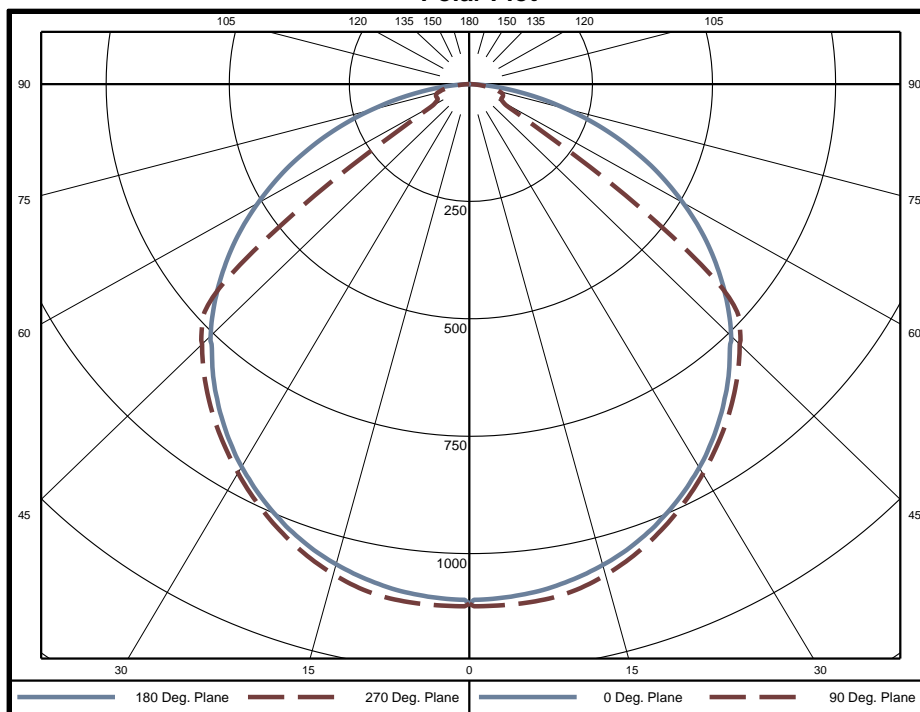
Luminaire Efficacy:

84.7 lm/w

Maximum Candela:

1112 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	26.4	0.9%	60-65	133.6	4.7%	120-125	0	0.0%
5-10	78.5	2.8%	65-70	91.6	3.2%	125-130	0	0.0%
10-15	128.1	4.5%	70-75	67.2	2.4%	130-135	0	0.0%
15-20	173.6	6.1%	75-80	33.0	1.2%	135-140	0	0.0%
20-25	213.6	7.5%	80-85	18.2	0.6%	140-145	0	0.0%
25-30	246.8	8.7%	85-90	5.4	0.2%	145-150	0	0.0%
30-35	272.2	9.6%	90-95	0.5	0.0%	150-155	0	0.0%
35-40	289.3	10.2%	95-100	0	0.0%	155-160	0	0.0%
40-45	297.3	10.5%	100-105	0	0.0%	160-165	0	0.0%
45-50	297.0	10.5%	105-110	0	0.0%	165-170	0	0.0%
50-55	267.9	9.4%	110-115	0	0.0%	170-175	0	0.0%
55-60	196.0	6.9%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1429	50.4%
0-60	2487	87.7%
0-90	2836	100.0%
90-180	1	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	1107	1107	1107	1107	1107	1107	1107	1107	1107	1107	1107	1107	1107	1107	1107	1107
5	1094	1103	1102	1104	1111	1104	1102	1103	1094	1103	1102	1104	1111	1104	1102	1103
10	1081	1090	1089	1091	1104	1091	1089	1090	1081	1090	1089	1091	1104	1091	1089	1090
15	1060	1068	1067	1069	1082	1069	1067	1068	1060	1068	1067	1069	1082	1069	1067	1068
20	1030	1037	1036	1038	1048	1038	1036	1037	1030	1037	1036	1038	1048	1038	1036	1037
25	990	997	998	1002	1006	1002	998	997	990	997	998	1002	1006	1002	998	997
30	943	948	951	956	957	956	951	948	943	948	951	956	957	956	951	948
35	887	892	897	905	905	905	897	892	887	892	897	905	905	905	897	892
40	825	828	838	844	847	844	838	828	825	828	838	844	847	844	838	828
45	759	761	773	779	783	779	773	761	759	761	773	779	783	779	773	761
50	683	687	700	708	676	708	700	687	683	687	700	708	676	708	700	687
55	598	604	618	427	256	427	618	604	598	604	618	427	256	427	618	604
60	506	515	475	100	83	100	475	515	506	515	475	100	83	100	475	515
65	411	421	116	67	73	67	116	421	411	421	116	67	73	67	116	421
70	311	324	51	65	73	65	51	324	311	324	51	65	73	65	51	324
75	209	107	47	61	66	61	47	107	209	107	47	61	66	61	47	107
80	116	24	38	43	44	43	38	24	116	24	38	43	44	43	38	24
85	42	17	19	19	19	19	19	17	42	17	19	19	19	19	19	17
90	1	2	1	1	1	1	1	2	1	2	1	1	1	1	1	2
95	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
105	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
115	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
125	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
135	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
145	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
155	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
165	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
175	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

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

	0	45	90
0	40840	40840	40840
45	39320	30830	28600
55	38070	27590	10230
65	35340	6077	3301
75	28880	3104	3628
85	16140	1733	1383



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	3376	3376	3376	3376	3298	3298	3298	3298	3151	3151	3151	3017	3017	3017	2894	2894	2894	2836
1	3123	3004	2897	2801	3048	2940	2843	2755	2821	2742	2669	2712	2647	2588	2611	2559	2511	2454
2	2866	2655	2481	2334	2794	2603	2442	2306	2504	2369	2253	2413	2301	2202	2329	2236	2154	2096
3	2630	2355	2142	1972	2562	2311	2114	1955	2228	2059	1921	2152	2008	1888	2081	1960	1856	1797
4	2417	2100	1867	1690	2355	2063	1846	1678	1993	1805	1655	1929	1766	1633	1869	1728	1612	1554
5	2229	1884	1643	1465	2171	1853	1627	1457	1794	1595	1442	1739	1564	1427	1688	1535	1412	1354
6	2061	1701	1459	1285	2008	1674	1446	1279	1624	1420	1268	1577	1396	1258	1533	1373	1247	1191
7	1912	1544	1305	1138	1864	1521	1295	1134	1478	1274	1126	1438	1255	1118	1400	1236	1110	1056
8	1780	1410	1177	1017	1737	1390	1168	1014	1353	1151	1007	1319	1135	1001	1286	1120	996	943
9	1663	1294	1068	915	1624	1277	1061	913	1245	1047	908	1215	1034	904	1187	1021	899	849
10	1559	1194	975	830	1523	1179	969	828	1151	958	824	1125	947	821	1100	936	817	769

Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	69.2	5.11
6.00	30.7	7.66
8.00	17.3	10.2
10.0	11.1	12.8
12.0	7.69	15.3
14.0	5.65	17.9
16.0	4.32	20.4

Cone of Light Plot

