



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

Photometric Indoor Test Report

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

Prepared For
LF Illumination LLC
Scott Hershman
9200 Deering Avenue
Chatsworth, CA 91311
United States

Catalog Number
8412-16L-9030-N-MW
Project Number
10581561
Test Number
835664

Test Date

2014-12-04

Prepared By

Handwritten signature of Dane Hernandez-Adams in black ink.

Dane Hernandez-Adams, Technician

Approved By

Handwritten signature of Eric M. Gaudreau in black ink.

Eric Gaudreau, Engineering Project Handler

The results contained in this report pertain only to the tested sample.
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Luminaire Description: Black steel housing, black aluminum heatsink, patterned specular reflector above white aluminum trim
Catalog Number: 8412-16L-9030-N-MW
Lamp: One white LED
Mounting: Recessed
Ballast/Driver: One ERP ESS030W-0500-42

Luminaire

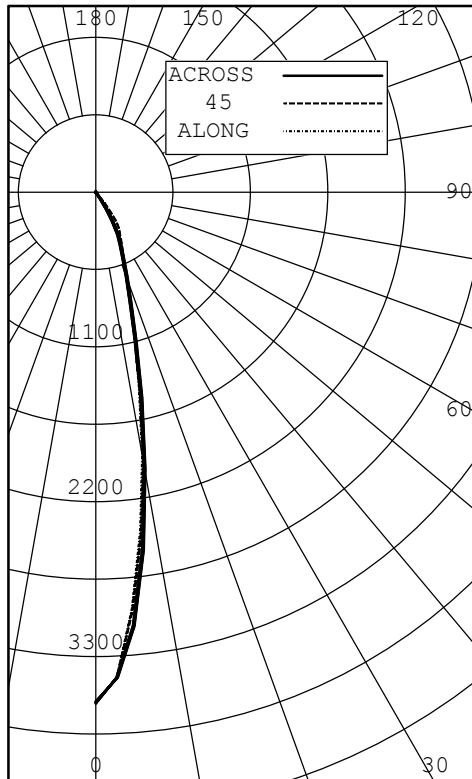


Test Conditions

Test Temperature:	24.6 °C
Voltage:	120.0 VAC
Current:	0.1288 A
Power:	15.24 W
Power Factor:	0.986
Frequency:	60 Hz
Current THD:	13.1 %



INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS



ANGLE	ALONG	22.5	45	67.5	ACROSS	OUTPUT LUMENS
0	3625	3625	3625	3625	3625	
5	2968	2952	2982	3038	3094	253
10	1902	1936	1957	1966	1998	
15	1057	1049	1059	1087	1096	305
20	636	628	633	645	642	
25	425	423	443	434	420	200
30	237	301	340	301	242	
35	51	126	254	122	56	88
40	4	7	98	5	4	
45	2	3	5	3	2	6
50	1	2	1	2	1	
55	0	1	1	1	1	1
60	0	0	0	0	0	
65	0	0	0	0	0	0
70	0	0	0	0	0	
75	0	0	0	0	0	0
80	0	0	0	0	0	
85	0	0	0	0	0	0
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	758	88.93
0-40	846	99.25
0-60	853	99.99
0-90	853	100.00
40-90	6	0.75
60-90	0	0.01
90-180	0	0.00
0-180	853	100.00

EFFICACY (LUMENS PER WATT): 56.1

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS LENGTH: 4.000 INS
 WIDTH: 4.000 INS

LUMINANCE SUMMARY CD./SQ.M.

S/MH: 0.4
 SC: 0.4

ANGLE	ALONG	45	ACROSS
45	301	618	330
55	76	161	93
65	0	34	0
75	0	0	0
85	0	0	0

TESTED IN ACCORDANCE WITH IES PROCEDURES.



INTENSITY (CANDLEPOWER) DATA
 IN 2.5 DEGREE STEPS

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	22.5	45	67.5	ACROSS	AVERAGE	
0.0	3625	3625	3625	3625	3625	3625	
2.5	3444	3443	3447	3448	3453	3447	
5.0	2968	2952	2982	3038	3094	3001	253
7.5	2428	2448	2468	2499	2563	2478	
10.0	1902	1936	1957	1966	1998	1952	
12.5	1421	1428	1452	1482	1495	1455	
15.0	1057	1049	1059	1087	1096	1068	305
17.5	809	796	800	817	821	807	
20.0	636	628	633	645	642	637	
22.5	513	508	522	529	510	517	
25.0	425	423	443	434	420	431	200
27.5	344	365	386	370	342	366	
30.0	237	301	340	301	242	295	
32.5	137	215	308	210	143	218	
35.0	51	126	254	122	56	139	88
37.5	8	46	176	42	9	68	
40.0	4	7	98	5	4	29	
42.5	3	3	35	3	3	11	
45.0	2	3	5	3	2	3	6
47.5	2	2	2	2	2	2	
50.0	1	2	1	2	1	2	
52.5	1	1	1	1	1	1	
55.0	0	1	1	1	1	1	1
57.5	0	0	1	0	0	0	
60.0	0	0	0	0	0	0	
62.5	0	0	0	0	0	0	
65.0	0	0	0	0	0	0	0
67.5	0	0	0	0	0	0	
70.0	0	0	0	0	0	0	
72.5	0	0	0	0	0	0	
75.0	0	0	0	0	0	0	0
77.5	0	0	0	0	0	0	
80.0	0	0	0	0	0	0	
82.5	0	0	0	0	0	0	
85.0	0	0	0	0	0	0	0
87.5	0	0	0	0	0	0	
90.0	0	0	0	0	0	0	



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	1.221	1.221	1.221	1.221	1.191	1.191	1.191	1.191	1.161	1.161	1.161	1.161	1.111	1.111	1.111	1.111	1.061	1.061	1.061	1.061	1.021	1.021	1.021	1.021	1.00
1	1.181	1.151	1.141	1.12	1.151	1.131	1.121	1.10	1.131	1.121	1.101	1.08	1.071	1.061	1.05	1.041	1.041	1.031	1.02	1.001	1.001	1.000	0.99	0.97	
2	1.141	1.101	1.081	1.05	1.121	1.091	1.061	1.04	1.101	1.071	1.041	1.03	1.041	1.021	1.00	1.011	1.011	1.000	0.98	0.990	0.990	0.970	0.96	0.95	
3	1.101	1.061	1.020	0.99	1.091	1.051	1.010	0.99	1.071	1.031	1.010	0.98	1.010	0.990	0.97	0.990	0.990	0.970	0.95	0.970	0.970	0.950	0.94	0.93	
4	1.071	1.020	0.980	0.96	1.061	1.010	0.980	0.95	1.051	1.000	0.970	0.94	0.980	0.960	0.93	0.960	0.960	0.940	0.92	0.950	0.950	0.930	0.91	0.90	
5	1.050	0.990	0.940	0.92	1.030	0.980	0.940	0.91	1.020	0.970	0.930	0.91	0.950	0.920	0.90	0.940	0.940	0.910	0.89	0.930	0.930	0.910	0.89	0.88	
6	1.020	0.960	0.920	0.89	1.010	0.950	0.910	0.89	0.990	0.940	0.910	0.88	0.930	0.900	0.88	0.920	0.920	0.890	0.87	0.910	0.910	0.880	0.87	0.86	
7	0.990	0.920	0.880	0.86	0.980	0.920	0.880	0.86	0.970	0.910	0.880	0.85	0.900	0.870	0.85	0.890	0.890	0.860	0.84	0.880	0.880	0.860	0.84	0.83	
8	0.970	0.900	0.860	0.83	0.960	0.890	0.850	0.83	0.940	0.880	0.850	0.83	0.880	0.850	0.82	0.870	0.870	0.840	0.82	0.860	0.860	0.840	0.82	0.81	
9	0.930	0.870	0.830	0.80	0.930	0.870	0.830	0.80	0.920	0.860	0.830	0.80	0.850	0.820	0.80	0.850	0.850	0.820	0.80	0.840	0.840	0.810	0.79	0.78	
10	0.910	0.840	0.810	0.78	0.900	0.840	0.810	0.78	0.900	0.840	0.810	0.78	0.830	0.800	0.78	0.830	0.830	0.800	0.77	0.820	0.820	0.790	0.77	0.76	

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.