



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-M-MW
Project Number
10581561
Test Number
835667

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-M-MW
Lamp: One white LED
Mounting: Recessed
Ballast/Driver: One ERP ESS030W-0500-42

Luminaire

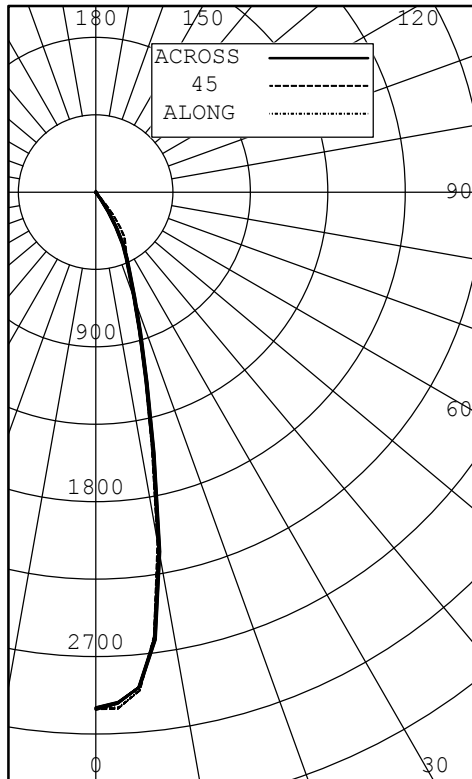


Test Conditions

Test Temperature:	24.9 °C
Voltage:	120.0 VAC
Current:	0.1289 A
Power:	15.25 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	3003	3003	3003	3003	3003	
5	2906	2909	2911	2903	2889	253
10	2091	2081	2076	2096	2123	
15	1147	1127	1117	1123	1142	320
20	649	640	640	647	654	
25	430	428	429	428	428	200
30	241	296	343	301	237	
35	53	120	247	115	47	86
40	5	8	90	5	4	
45	3	3	4	3	3	5
50	2	2	2	2	2	
55	1	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	773	89.36
0-40	858	99.29
0-60	864	100.00
0-90	865	100.00
40-90	6	0.71
60-90	0	0.00
90-180	0	0.00
0-180	865	100.00

EFFICACY (LUMENS PER WATT): 56.9

*** 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	397	488	378
55	168	118	152
65	0	0	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	3003	3003	3003	3003	3003	3003	
2.5	3000	3007	3006	2988	2972	2997	
5.0	2906	2909	2911	2903	2889	2905	253
7.5	2605	2604	2607	2611	2625	2609	
10.0	2091	2081	2076	2096	2123	2090	
12.5	1538	1519	1507	1523	1552	1523	
15.0	1147	1127	1117	1123	1142	1128	320
17.5	857	841	838	843	854	844	
20.0	649	640	640	647	654	644	
22.5	519	512	512	517	519	515	
25.0	430	428	429	428	428	428	200
27.5	344	364	379	372	347	365	
30.0	241	296	343	301	237	295	
32.5	138	210	312	207	136	216	
35.0	53	120	247	115	47	133	86
37.5	11	45	166	33	6	63	
40.0	5	8	90	5	4	27	
42.5	4	4	28	4	3	10	
45.0	3	3	4	3	3	3	5
47.5	2	2	2	2	2	2	
50.0	2	2	2	2	2	2	
52.5	2	1	1	1	1	1	
55.0	1	1	1	1	1	1	1
57.5	0	1	0	1	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	.221	.221	.22	1.191	.191	.191	.19	1.161	.161	.161	.16	1.111	.111	.111	.11	1.061	.061	.061	.06	1.021	.021	.021	.02	1.00
	1	1.181	.151	.141	.12	1.151	.131	.121	.10	1.131	.121	.101	.08	1.071	.061	.05	1.041	.031	.02	1.001	.000	.99	0.97			
	2	1.141	.111	.081	.05	1.121	.091	.061	.04	1.101	.071	.051	.03	1.041	.021	.00	1.011	.000	.98	0.990	.970	.96	0.95			
	3	1.101	.061	.031	.00	1.091	.051	.020	.99	1.071	.031	.010	.98	1.010	.990	.97	0.990	.970	.95	0.970	.960	.94	0.93			
	4	1.071	.020	.980	.96	1.061	.010	.980	.95	1.051	.000	.970	.95	0.980	.960	.94	0.970	.940	.93	0.950	.930	.92	0.90			
	5	1.050	.990	.950	.92	1.030	.980	.940	.91	1.020	.970	.930	.91	0.950	.930	.90	0.940	.910	.90	0.930	.910	.89	0.88			
	6	1.020	.960	.920	.89	1.010	.950	.910	.89	1.000	.940	.910	.88	0.930	.900	.88	0.920	.890	.87	0.910	.890	.87	0.86			
	7	0.990	.930	.890	.86	0.980	.920	.880	.86	0.970	.920	.880	.85	0.900	.870	.85	0.890	.870	.85	0.890	.860	.84	0.83			
	8	0.970	.900	.860	.84	0.960	.890	.860	.83	0.950	.890	.850	.83	0.880	.850	.83	0.870	.840	.82	0.860	.840	.82	0.81			
	9	0.940	.870	.830	.81	0.930	.870	.830	.81	0.920	.860	.830	.81	0.860	.820	.80	0.850	.820	.80	0.840	.820	.80	0.79			
	10	0.920	.850	.810	.78	0.910	.840	.810	.78	0.900	.840	.810	.78	0.830	.800	.78	0.830	.800	.78	0.820	.800	.78	0.77			

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.