



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
8432-23L-8030-W-MW
Project Number
10581561
Test Number
835683

Test Date

2014-12-05

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

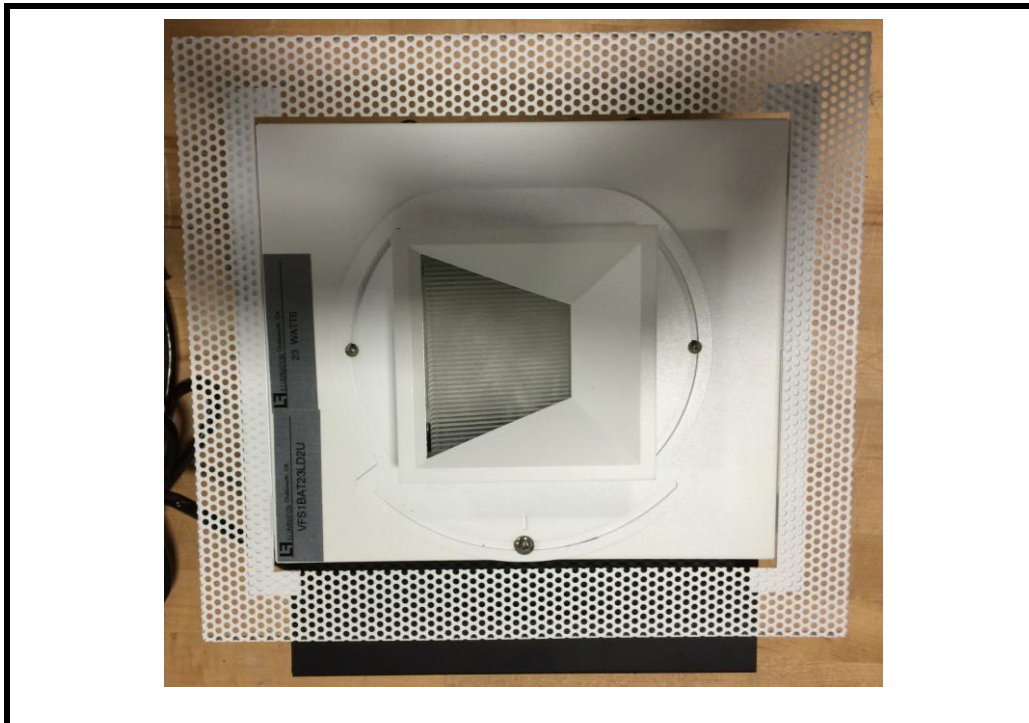
The results contained in this report pertain only to the tested sample.
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Luminaire Description: Black steel housing, black plastic fan above black aluminum heatsink, patterned specular reflector above frosted glass enclosure, white aluminum trim
Catalog Number: 8432-23L-8030-W-MW
Lamp: One white LED
Mounting: Recessed
Ballast/Driver: One ERP ESS030W-0700-42

Luminaire

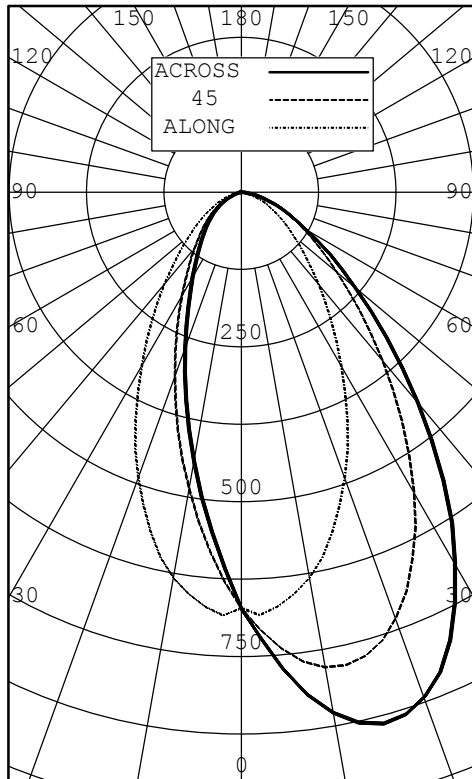


Test Conditions

Test Temperature:	24.6 °C
Voltage:	119.9 VAC
Current:	0.2000 A
Power:	23.60 W
Power Factor:	0.984
Frequency:	60 Hz
Current THD:	13.1 %



INTENSITY (CANDLEPOWER) SUMMARY OUTPUT
 BEAM SIDE LUMENS



ANGLE	ALONG	67.5	45	22.5	ACROSS	OUTPUT LUMENS
0	672	672	672	672	672	
5	672	704	740	764	773	36
10	633	704	779	835	854	
15	568	668	775	857	889	106
20	489	611	731	829	867	
25	405	527	654	758	798	145
30	322	436	558	652	690	
35	252	347	453	538	569	136
40	194	268	354	421	443	
45	147	203	270	318	332	100
50	111	151	202	235	241	
55	84	113	151	173	176	64
60	61	82	113	124	121	
65	44	58	83	87	86	36
70	28	38	54	60	59	
75	14	21	32	37	36	15
80	4	8	13	17	17	
85	0	1	3	5	5	2
90	0	0	0	0	0	

BOTH SIDES
 ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	433	46.78
0-40	620	67.03
0-60	851	91.94
0-90	926	100.00
40-90	305	32.97
60-90	75	8.06
90-180	0	0.00
0-180	926	100.00

EFFICACY (LUMENS PER WATT): 39.2

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS LENGTH: 4.000 INS
 WIDTH: 4.000 INS

LUMINANCE SUMMARY - CD./SQ.M.

BEAM SIDE			
ANGLE	ALONG	45	ACROSS
45	20139	37117	45672
55	14187	25617	29788
65	10085	18977	19673
75	5240	11954	13563
85	0	3008	5802

TESTED IN ACCORDANCE WITH IES PROCEDURES.



BEAM SIDE
 INTENSITY (CANDLEPOWER) DATA
 IN 2.5 DEGREE STEPS

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	67.5	45	22.5	ACROSS	AVERAGE	
0.0	672	672	672	672	672	672	
2.5	684	691	707	717	720	704	
5.0	672	704	740	764	773	732	36
7.5	654	709	765	804	818	753	
10.0	633	704	779	835	854	765	
12.5	604	691	782	852	878	767	
15.0	568	668	775	857	889	757	106
17.5	529	642	758	850	884	739	
20.0	489	611	731	829	867	712	
22.5	449	571	697	799	839	678	
25.0	405	527	654	758	798	635	145
27.5	362	482	610	708	747	588	
30.0	322	436	558	652	690	538	
32.5	286	390	505	597	634	488	
35.0	252	347	453	538	569	437	136
37.5	222	306	402	478	505	387	
40.0	194	268	354	421	443	340	
42.5	169	234	310	366	386	297	
45.0	147	203	270	318	332	257	100
47.5	128	175	234	274	283	222	
50.0	111	151	202	235	241	191	
52.5	97	131	175	202	206	165	
55.0	84	113	151	173	176	142	64
57.5	72	97	131	148	146	121	
60.0	61	82	113	124	121	103	
62.5	52	69	98	104	102	87	
65.0	44	58	83	87	86	73	36
67.5	36	48	67	73	71	60	
70.0	28	38	54	60	59	49	
72.5	21	30	43	48	47	39	
75.0	14	21	32	37	36	29	15
77.5	8	14	22	26	26	20	
80.0	4	8	13	17	17	12	
82.5	2	4	7	10	10	6	
85.0	0	1	3	5	5	3	2
87.5	0	0	0	1	1	0	
90.0	0	0	0	0	0	0	



OPPOSITE SIDE TO BEAM
INTENSITY (CANDLEPOWER) DATA
IN 2.5 DEGREE STEPS

ANGLE	PLANE					AVERAGE	OUTPUT LUMENS
	ALONG	112.5	135	157.5	ACROSS		
0.0	672	672	672	672	672	672	
2.5	684	646	630	616	610	635	
5.0	672	618	583	560	551	593	27
7.5	654	582	535	506	496	549	
10.0	633	544	487	454	443	506	
12.5	604	503	442	405	393	462	
15.0	568	461	398	360	348	419	58
17.5	529	419	356	319	305	378	
20.0	489	379	316	280	267	338	
22.5	449	340	280	245	234	302	
25.0	405	303	248	215	204	268	61
27.5	362	270	219	189	179	237	
30.0	322	239	193	167	158	210	
32.5	286	211	170	148	140	186	
35.0	252	186	150	131	125	164	52
37.5	222	164	134	117	112	145	
40.0	194	145	119	105	100	129	
42.5	169	128	106	94	90	114	
45.0	147	113	94	84	81	101	39
47.5	128	99	84	75	73	90	
50.0	111	88	75	67	65	79	
52.5	97	77	67	60	57	70	
55.0	84	68	59	52	50	61	28
57.5	72	59	51	45	43	53	
60.0	61	51	45	39	36	46	
62.5	52	44	38	32	29	39	
65.0	44	36	32	26	23	32	16
67.5	36	29	25	20	17	25	
70.0	28	23	19	14	11	19	
72.5	21	16	13	9	6	13	
75.0	14	11	8	4	3	8	5
77.5	8	6	3	2	2	4	
80.0	4	3	1	1	1	2	
82.5	2	1	0	1	1	1	
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	1.151	.111	.081	.05	1.121	.091	.061	.03	1.101	.071	.041	.02	1.031	.000	.98	0.990	.970	.95	0.950	.940	.93	0.91			
2	1.081	.020	.970	.92	1.051	.000	.950	.91	1.030	.980	.940	.90	0.950	.910	.88	0.920	.890	.86	0.890	.870	.84	0.83			
3	1.010	.930	.870	.82	0.990	.910	.860	.81	0.970	.900	.850	.80	0.870	.830	.79	0.850	.810	.78	0.830	.790	.77	0.75			
4	0.950	.860	.790	.74	0.930	.840	.780	.73	0.910	.830	.780	.73	0.810	.760	.72	0.790	.750	.71	0.770	.730	.70	0.68			
5	0.890	.790	.720	.66	0.870	.780	.710	.66	0.860	.770	.700	.66	0.750	.690	.65	0.730	.680	.64	0.710	.670	.64	0.62			
6	0.840	.730	.650	.61	0.820	.720	.650	.60	0.800	.710	.640	.60	0.690	.640	.59	0.680	.630	.59	0.670	.620	.58	0.57			
7	0.780	.670	.600	.55	0.770	.660	.590	.55	0.760	.650	.590	.54	0.640	.580	.54	0.630	.570	.53	0.620	.570	.53	0.52			
8	0.740	.620	.550	.50	0.720	.610	.550	.50	0.710	.610	.540	.50	0.590	.540	.49	0.580	.530	.49	0.570	.520	.49	0.47			
9	0.690	.580	.500	.45	0.680	.570	.500	.45	0.670	.560	.500	.45	0.550	.490	.45	0.540	.490	.45	0.530	.480	.45	0.43			
10	0.650	.530	.460	.42	0.640	.530	.460	.42	0.630	.520	.460	.42	0.510	.460	.42	0.510	.450	.41	0.500	.450	.41	0.40			

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.