



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
8431-23L-8030-W-MW
Project Number
10581561
Test Number
835677

Test Date

2014-12-03

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

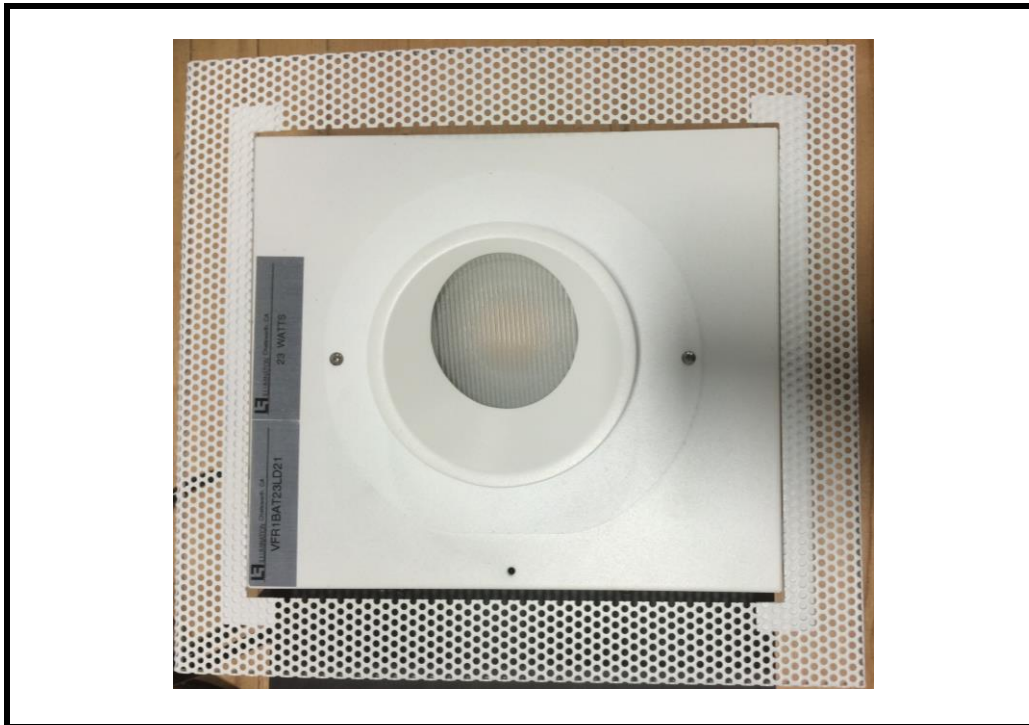
The results contained in this report pertain only to the tested sample.
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Luminaire Description: Black steel housing, black plastic fan above black aluminum heatsink, patterned specular reflector above frosted glass enclosure, white aluminum trim
Catalog Number: 8431-23L-8030-W-MW
Lamp: One white LED
Mounting: Recessed
Ballast/Driver: One ERP ESS030W-0700-42

Luminaire

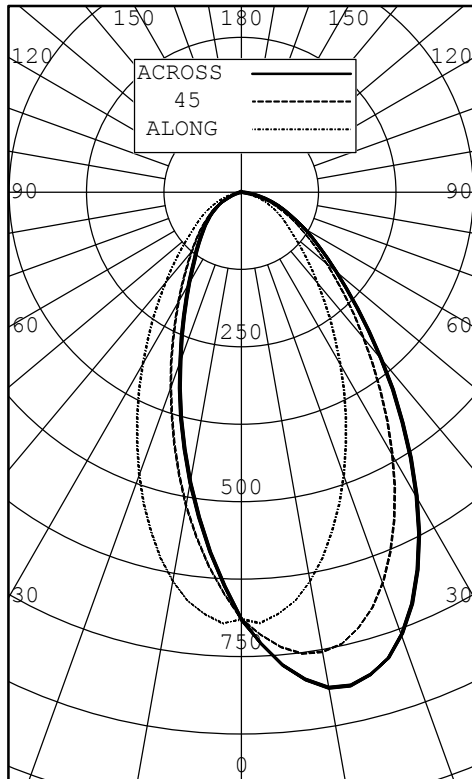


Test Conditions

Test Temperature:	24.9 °C
Voltage:	120.0 VAC
Current:	0.1981 A
Power:	23.47 W
Power Factor:	0.987
Frequency:	60 Hz
Current THD:	11.5 %



INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS



ANGLE	BEAM SIDE					OUTPUT LUMENS
	ALONG	67.5	45	22.5	ACROSS	
0	690	690	690	690	690	
5	684	709	738	758	767	36
10	638	697	755	796	813	
15	567	649	729	787	807	99
20	484	578	670	735	759	
25	399	494	584	651	673	129
30	319	405	487	546	566	
35	250	323	392	439	454	117
40	192	251	307	342	351	
45	147	192	237	261	265	87
50	113	145	181	198	200	
55	88	111	137	152	153	59
60	70	84	103	117	119	
65	52	64	76	87	89	37
70	35	45	53	62	64	
75	19	26	33	39	41	17
80	6	10	14	18	19	
85	0	1	3	4	5	2
90	0	0	0	0	0	

BOTH SIDES ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	417	47.15
0-40	588	66.48
0-60	805	91.00
0-90	885	100.00
40-90	297	33.52
60-90	80	9.00
90-180	0	0.00
0-180	885	100.00

EFFICACY (LUMENS PER WATT): 37.7

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS DIAMETER: 4.000 INS

LUMINANCE SUMMARY - CD./SQ.M.

ANGLE	BEAM SIDE		
	ALONG	45	ACROSS
45	25642	41446	46437
55	18923	29660	33113
65	15176	22113	26016
75	9054	15602	19614
85	0	3547	6535

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	690	690	690	690	690	690	
2.5	697	703	716	726	729	715	
5.0	684	709	738	758	767	733	36
7.5	666	708	752	782	794	743	
10.0	638	697	755	796	813	743	
12.5	605	677	748	798	816	733	
15.0	567	649	729	787	807	713	99
17.5	527	615	703	766	789	685	
20.0	484	578	670	735	759	651	
22.5	441	537	629	696	720	611	
25.0	399	494	584	651	673	566	129
27.5	359	449	537	600	621	519	
30.0	319	405	487	546	566	470	
32.5	283	363	439	492	509	422	
35.0	250	323	392	439	454	376	117
37.5	219	286	347	389	401	333	
40.0	192	251	307	342	351	293	
42.5	168	219	270	299	305	256	
45.0	147	192	237	261	265	224	87
47.5	128	167	207	227	230	195	
50.0	113	145	181	198	200	170	
52.5	99	127	157	173	175	149	
55.0	88	111	137	152	153	130	59
57.5	79	97	120	134	135	114	
60.0	70	84	103	117	119	100	
62.5	61	73	89	101	103	86	
65.0	52	64	76	87	89	74	37
67.5	44	54	64	74	76	63	
70.0	35	45	53	62	64	52	
72.5	27	36	43	50	53	42	
75.0	19	26	33	39	41	32	17
77.5	11	18	23	28	30	22	
80.0	6	10	14	18	19	14	
82.5	2	5	7	10	11	7	
85.0	0	1	3	4	5	2	2
87.5	0	0	0	0	0	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	690	690	690	690	690	690	
2.5	697	667	650	640	637	656	
5.0	684	637	607	588	584	616	28
7.5	666	601	562	537	529	574	
10.0	638	562	515	487	477	530	
12.5	605	520	468	436	426	485	
15.0	567	478	421	388	378	440	61
17.5	527	434	377	343	332	396	
20.0	484	392	335	302	290	354	
22.5	441	351	297	264	253	315	
25.0	399	313	263	231	221	279	64
27.5	359	278	231	203	193	247	
30.0	319	246	204	178	170	218	
32.5	283	217	181	158	150	193	
35.0	250	191	160	140	134	171	54
37.5	219	169	142	126	120	151	
40.0	192	149	126	113	108	135	
42.5	168	131	112	102	98	119	
45.0	147	116	100	92	89	106	41
47.5	128	102	90	83	80	95	
50.0	113	91	80	75	72	85	
52.5	99	81	72	67	65	75	
55.0	88	72	64	59	57	67	30
57.5	79	65	56	52	50	59	
60.0	70	57	49	44	43	52	
62.5	61	49	42	37	36	44	
65.0	52	42	35	30	29	37	18
67.5	44	34	28	23	22	29	
70.0	35	26	20	17	16	22	
72.5	27	19	13	10	9	15	
75.0	19	11	7	5	4	9	5
77.5	11	6	3	2	2	4	
80.0	6	2	1	1	1	2	
82.5	2	0	0	0	0	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	.06	1.021	.021	.02	1.00			
1	1.151	.111	.081	.05	1.121	.091	.061	.03	1.101	.071	.041	.01	1.021	.000	.98	0.990	.970	.95	0.950	.940	.93	0.91				
2	1.071	.020	.970	.92	1.051	.000	.950	.91	1.030	.980	.930	.90	0.940	.910	.88	0.920	.890	.86	0.890	.860	.84	0.82				
3	1.010	.930	.860	.81	0.990	.910	.850	.81	0.970	.900	.840	.80	0.870	.830	.79	0.850	.810	.78	0.820	.790	.76	0.75				
4	0.950	.850	.780	.74	0.930	.840	.780	.73	0.910	.830	.770	.72	0.810	.760	.72	0.790	.740	.71	0.770	.730	.70	0.68				
5	0.890	.790	.710	.66	0.870	.780	.710	.66	0.850	.770	.700	.65	0.750	.690	.65	0.730	.680	.64	0.710	.670	.64	0.62				
6	0.840	.730	.650	.60	0.820	.720	.650	.60	0.800	.710	.640	.60	0.690	.640	.59	0.680	.630	.59	0.660	.620	.58	0.57				
7	0.780	.670	.600	.55	0.770	.660	.590	.55	0.750	.650	.590	.54	0.640	.580	.54	0.630	.570	.53	0.620	.570	.53	0.51				
8	0.740	.620	.550	.50	0.720	.610	.550	.50	0.710	.610	.540	.50	0.600	.540	.49	0.590	.530	.49	0.570	.530	.49	0.47				
9	0.690	.580	.500	.46	0.680	.570	.500	.46	0.670	.560	.500	.46	0.550	.490	.45	0.550	.490	.45	0.540	.490	.45	0.43				
10	0.650	.540	.460	.42	0.640	.530	.460	.42	0.630	.530	.460	.42	0.520	.460	.42	0.510	.450	.42	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.