



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
Optolum
Karen Baker
1407 W. 10th Place, Suite 107
Tempe, AZ 85018
United States

Catalog Number
13 B2-AL-L-358UOD-A072000
Project Number
10520546
Test Number
785423

Test Date

2014-10-16

Prepared By

A handwritten signature in black ink, appearing to read 'Todd Heiland'.

Todd Heiland, Technician

Approved By

A handwritten signature in black ink, appearing to read 'Zachary Mooney'.

Zachary Mooney, Engineer Project Associate

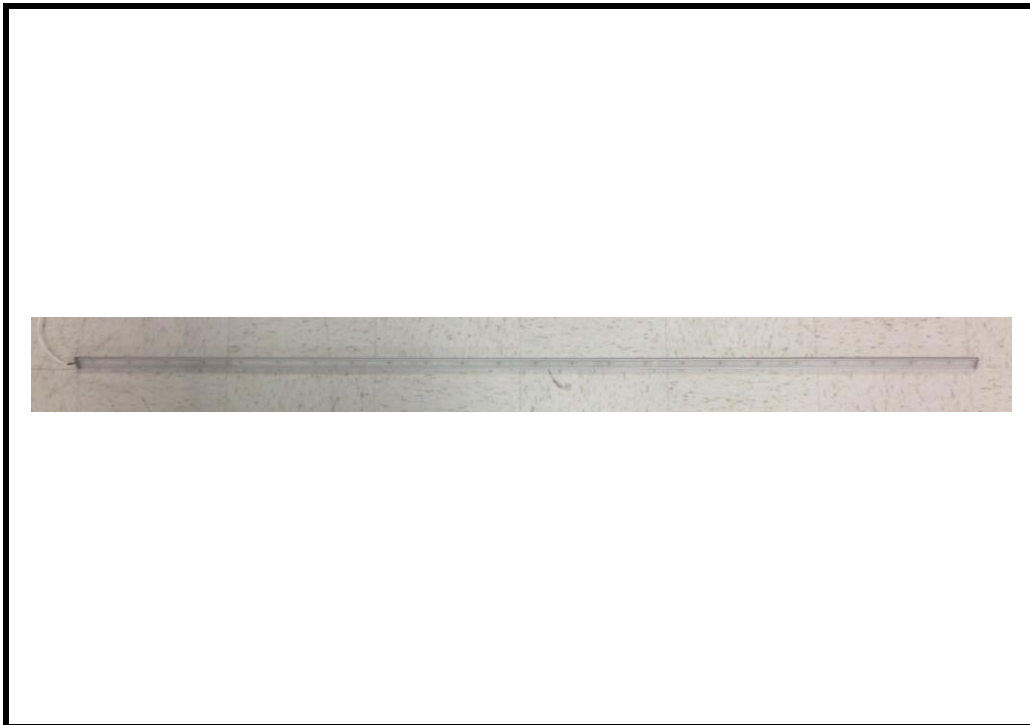
The results contained in this report pertain only to the tested sample.
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Luminaire Description: Grey aluminum housing, frosted plastic enclosure
Catalog Number: 13 B2-AL-L-358UOD-A072000
Lamp: 72 white LEDs
Mounting: Surface
Ballast/Driver: One High Perfection Tech. LP1090-24-GG-290

Luminaire

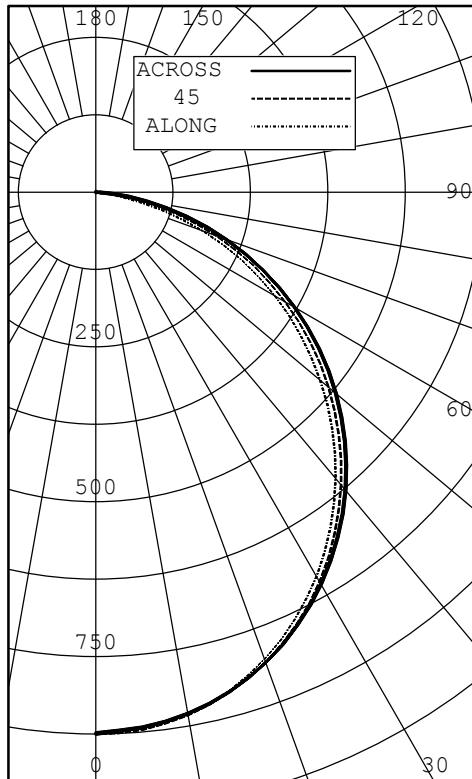


Test Conditions

Test Temperature:	24.5 °C
Voltage:	120.0 VAC
Current:	0.3780 A
Power:	44.49 W
Power Factor:	0.980
Frequency:	60 Hz
Current THD:	11.1 %



INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS



ANGLE	ALONG	22.5	45	67.5	ACROSS	OUTPUT LUMENS
0	874	874	874	874	874	
5	870	870	871	871	868	84
10	856	856	858	858	855	
15	833	834	836	837	835	235
20	801	802	806	808	807	
25	761	763	769	772	772	353
30	714	717	725	729	730	
35	661	664	673	681	681	419
40	602	606	616	626	627	
45	540	544	555	567	569	427
50	474	478	491	503	506	
55	404	410	423	436	440	377
60	333	339	352	366	370	
65	260	267	281	293	299	276
70	186	193	209	220	226	
75	110	119	137	149	153	141
80	43	47	66	81	84	
85	14	14	13	24	27	25
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	672	28.74
0-40	1091	46.68
0-60	1896	81.07
0-90	2338	100.00
40-90	1247	53.32
60-90	443	18.93
90-180	0	0.00
0-180	2338	100.00

EFFICACY (LUMENS PER WATT): 52.5

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS LENGTH: 72.250 INS
 WIDTH: 0.500 INS

LUMINANCE SUMMARY CD./SQ.M.

S/MH: 1.2
 SC: 1.2

ANGLE	ALONG	45	ACROSS
45	32754	33808	34655
55	30240	31767	33032
65	26437	28639	30472
75	18235	22656	25519
85	6917	6638	13120

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	874	874	874	874	874	874	
2.5	874	873	874	874	871	873	
5.0	870	870	871	871	868	870	84
7.5	864	864	866	866	863	865	
10.0	856	856	858	858	855	857	
12.5	846	846	848	848	846	847	
15.0	833	834	836	837	835	835	235
17.5	818	819	823	824	822	822	
20.0	801	802	806	808	807	805	
22.5	782	784	789	791	790	787	
25.0	761	763	769	772	772	768	353
27.5	739	741	748	751	751	746	
30.0	714	717	725	729	730	723	
32.5	688	691	700	706	706	698	
35.0	661	664	673	681	681	672	419
37.5	632	636	645	654	655	644	
40.0	602	606	616	626	627	616	
42.5	572	576	586	597	599	586	
45.0	540	544	555	567	569	555	427
47.5	507	512	523	535	538	523	
50.0	474	478	491	503	506	490	
52.5	439	445	457	470	474	457	
55.0	404	410	423	436	440	423	377
57.5	369	375	388	401	405	388	
60.0	333	339	352	366	370	352	
62.5	297	303	317	330	335	316	
65.0	260	267	281	293	299	280	276
67.5	223	230	245	257	263	244	
70.0	186	193	209	220	226	207	
72.5	148	156	172	184	190	170	
75.0	110	119	137	149	153	134	141
77.5	73	81	101	114	118	98	
80.0	43	47	66	81	84	64	
82.5	26	26	33	50	53	37	
85.0	14	14	13	24	27	18	25
87.5	3	3	3	4	7	4	
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	1.131	.081	.041	.00	1.101	.061	.020	.98	1.071	.041	.000	.97	0.990	.960	.94	0.950	.930	.91	0.920	.900	.88	0.86			
	2	1.030	.960	.890	.84	1.010	.940	.880	.83	0.990	.920	.860	.82	0.880	.840	.80	0.850	.820	.78	0.820	.790	.76	0.74			
	3	0.950	.850	.770	.70	0.930	.830	.760	.70	0.900	.820	.750	.69	0.790	.730	.68	0.760	.710	.67	0.740	.700	.66	0.64			
	4	0.880	.760	.670	.61	0.860	.750	.670	.61	0.840	.730	.660	.60	0.710	.640	.59	0.690	.630	.59	0.670	.620	.58	0.56			
	5	0.810	.680	.590	.52	0.790	.670	.580	.52	0.770	.660	.580	.52	0.640	.570	.51	0.620	.560	.51	0.600	.550	.50	0.48			
	6	0.750	.610	.520	.46	0.730	.600	.520	.46	0.710	.590	.510	.45	0.570	.500	.45	0.560	.490	.44	0.540	.480	.44	0.42			
	7	0.680	.550	.460	.40	0.670	.540	.450	.40	0.650	.530	.450	.39	0.510	.440	.39	0.500	.430	.39	0.490	.430	.38	0.36			
	8	0.640	.500	.410	.35	0.620	.490	.410	.35	0.610	.480	.400	.35	0.470	.400	.35	0.460	.390	.34	0.440	.390	.34	0.32			
	9	0.590	.450	.370	.31	0.580	.450	.360	.31	0.560	.440	.360	.31	0.430	.360	.31	0.420	.350	.30	0.410	.350	.30	0.28			
	10	0.550	.410	.330	.27	0.530	.410	.330	.27	0.520	.400	.330	.27	0.390	.320	.27	0.380	.310	.27	0.370	.310	.27	0.25			

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.



CONE OF LIGHT

MOUNTING HEIGHT ABOVE WORK PLANE (FT)	INITIAL FC AT NADIR -FCN (FC)	.1*FCN (FC)	10% LIGHTED DIAMETER (FT)	.5*FCN (FC)	50% LIGHTED DIAMETER (FT)
1	874.0	87.4	2.8	437.0	1.2
2	218.5	21.9	5.5	109.2	2.5
3	97.1	9.7	8.3	48.6	3.7
4	54.6	5.5	11.1	27.3	4.9
5	35.0	3.5	13.9	17.5	6.2
6	24.3	2.4	16.6	12.1	7.4
7	17.8	1.8	19.4	8.9	8.6
8	13.7	1.4	22.2	6.8	9.8

10% CONE ANGLE: 108.4 DEGREES
 50% CONE ANGLE: 63.2 DEGREES