



Photometric Indoor Test Report

Relevant Standards

IES LM-9-2009, IES LM-41-1998
ANSI C78.81-2010, ANSI C82.1-2004, ANSI C82.11, ANSI C82.2, ANSI C82.77
IEC 60081, IEC 60901, IEC 61347-2-3

Prepared For
Precision Architectural Lighting, Inc.
Fred Compton
4830 Timber Creek Drive
Houston, TX 77017

Catalog Number
DRS01-X-4-X-OP/PB-X-120-T8

LTL Test Number
22913

Test Date
2011-04-08

Prepared By

Zachary Mooney, Project Coordinator

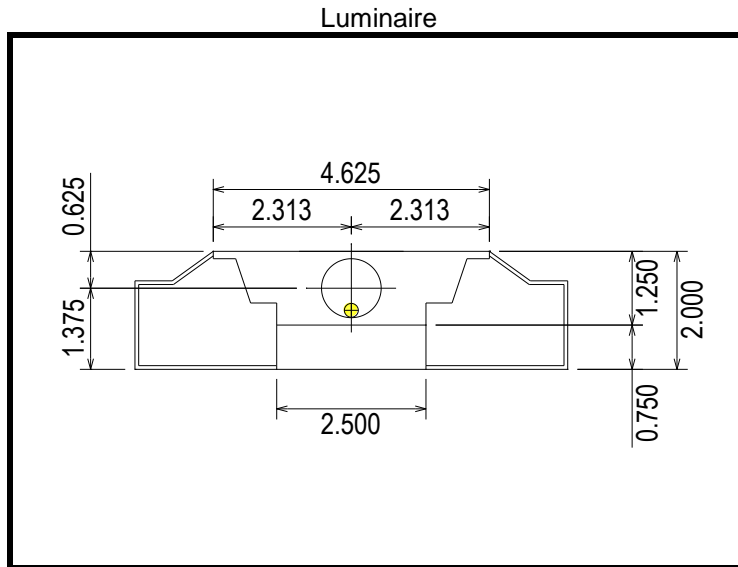
Approved By

Brian Moyer, Engineer

The results contained in this report pertain only to the tested sample.
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Luminaire Description: Extruded aluminum housing, formed white enamel aluminum side reflectors, formed semi-specular 29 cell, 3/4" deep aluminum louver, open top
 Catalog Number: DRS01-X-4-X-OP/PB-X-120-T8
 Lamp: One 32 watt T8 linear fluorescent lamp rated at 2850 lumens
 Lamp Catalog Number: Philips F32T8/TL841/ALTO
 Mounting: Pendant
 Ballast/Driver: One Universal Lighting Technologies "Triad" B232IUNV-C



Zonal Lumen Summary

Zone (Degrees)	Lumens	% of Lamp	% of Luminaire
0-30	243	8.5%	9.8%
0-40	424	14.9%	17.1%
0-60	774	27.1%	31.1%
0-90	845	29.7%	34.0%
90-180	1640	57.5%	66.0%
0-180	2485	87.2%	100.0%

Test Conditions

Test Temperature: 24.3 °C
 Voltage: 120.0 VAC
 Current: 0.3018 A
 Power: 36.20 W
 Power Factor: 1.00
 Frequency: 60 Hz

Summary of Results

Luminaire Efficiency: 87.2 %

Spacing Criterion: 0 Degree: 1.17 90 Degree: 1.71
 180 Degree: 1.17 270 Degree: 1.71

CIE Type: Semi-Indirect

Shielding Angle: 0 Degree: 29.0° 90 Degree: 32.0°



Candela Tabulation
Horizontal Angle (Degrees)

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1
5	291.7	293.9	295.6	294.1	295.1	294.1	295.6	293.9	291.7	293.9	295.6	294.1	295.1	294.1	295.6	293.9
10	286.3	289.6	293.8	294.9	297.3	294.9	293.8	289.6	286.3	289.6	293.8	294.9	297.3	294.9	293.8	289.6
15	276.7	281.9	290.9	296.3	300.0	296.3	290.9	281.9	276.7	281.9	290.9	296.3	300.0	296.3	290.9	281.9
20	264.0	271.8	286.5	299.3	306.9	299.3	286.5	271.8	264.0	271.8	286.5	299.3	306.9	299.3	286.5	271.8
25	248.9	260.2	283.1	311.7	329.2	311.7	283.1	260.2	248.9	260.2	283.1	311.7	329.2	311.7	283.1	260.2
30	231.3	247.5	284.5	338.6	362.7	338.6	284.5	247.5	231.3	247.5	284.5	338.6	362.7	338.6	284.5	247.5
35	211.0	233.6	294.7	348.7	363.5	348.7	294.7	233.6	211.0	233.6	294.7	348.7	363.5	348.7	294.7	233.6
40	188.7	220.6	297.7	326.8	340.6	326.8	297.7	220.6	188.7	220.6	297.7	326.8	340.6	326.8	297.7	220.6
45	164.4	207.1	274.7	293.3	306.9	293.3	274.7	207.1	164.4	207.1	274.7	293.3	306.9	293.3	274.7	207.1
50	136.6	190.7	237.4	252.7	268.0	252.7	237.4	190.7	136.6	190.7	237.4	252.7	268.0	252.7	237.4	190.7
55	95.5	155.5	188.7	204.3	221.9	204.3	188.7	155.5	95.5	155.5	188.7	204.3	221.9	204.3	188.7	155.5
60	42.5	85.7	127.0	147.7	165.5	147.7	127.0	85.7	42.5	85.7	127.0	147.7	165.5	147.7	127.0	85.7
65	10.4	22.4	56.8	89.0	107.8	89.0	56.8	22.4	10.4	22.4	56.8	89.0	107.8	89.0	56.8	22.4
70	4.6	7.1	13.8	41.7	63.3	41.7	13.8	7.1	4.6	7.1	13.8	41.7	63.3	41.7	13.8	7.1
75	2.4	3.2	4.7	10.7	17.1	10.7	4.7	3.2	2.4	3.2	4.7	10.7	17.1	10.7	4.7	3.2
80	1.3	1.5	2.5	3.6	5.1	3.6	2.5	1.5	1.3	1.5	2.5	3.6	5.1	3.6	2.5	1.5
85	0.3	0.5	0.8	0.8	1.1	0.8	0.8	0.5	0.3	0.5	0.8	0.8	1.1	0.8	0.8	0.5
90	0.2	0.1	0.2	0.5	0.3	0.5	0.2	0.1	0.2	0.1	0.2	0.5	0.3	0.5	0.2	0.1
95	13.6	47.0	39.9	32.6	30.4	32.6	39.9	47.0	13.6	47.0	39.9	32.6	30.4	32.6	39.9	47.0
100	38.0	121.7	118.9	111.7	109.1	111.7	118.9	121.7	38.0	121.7	118.9	111.7	109.1	111.7	118.9	121.7
105	67.4	164.0	204.8	199.1	196.7	199.1	204.8	164.0	67.4	164.0	204.8	199.1	196.7	199.1	204.8	164.0
110	99.3	195.6	276.7	287.1	285.6	287.1	276.7	195.6	99.3	195.6	276.7	287.1	285.6	287.1	276.7	195.6
115	131.8	218.4	306.1	359.1	366.2	359.1	306.1	218.4	131.8	218.4	306.1	359.1	366.2	359.1	306.1	218.4
120	164.2	238.4	333.2	384.3	405.1	384.3	333.2	238.4	164.2	238.4	333.2	384.3	405.1	384.3	333.2	238.4
125	195.4	257.6	355.0	404.4	422.0	404.4	355.0	257.6	195.4	257.6	355.0	404.4	422.0	404.4	355.0	257.6
130	224.8	277.4	368.0	421.2	438.3	421.2	368.0	277.4	224.8	277.4	368.0	421.2	438.3	421.2	368.0	277.4
135	252.6	295.7	373.8	429.5	448.2	429.5	373.8	295.7	252.6	295.7	373.8	429.5	448.2	429.5	373.8	295.7
140	278.1	312.8	377.7	427.8	447.9	427.8	377.7	312.8	278.1	312.8	377.7	427.8	447.9	427.8	377.7	312.8
145	301.2	328.3	380.5	421.8	439.6	421.8	380.5	328.3	301.2	328.3	380.5	421.8	439.6	421.8	380.5	328.3
150	321.7	342.3	383.3	413.9	428.4	413.9	383.3	342.3	321.7	342.3	383.3	413.9	428.4	413.9	383.3	342.3
155	339.6	353.9	384.9	407.2	419.1	407.2	384.9	353.9	339.6	353.9	384.9	407.2	419.1	407.2	384.9	353.9
160	354.4	363.6	385.4	401.0	409.1	401.0	385.4	363.6	354.4	363.6	385.4	401.0	409.1	401.0	385.4	363.6
165	366.4	371.6	386.1	395.0	400.3	395.0	386.1	371.6	366.4	371.6	386.1	395.0	400.3	395.0	386.1	371.6
170	375.0	376.7	384.8	388.2	391.5	388.2	384.8	376.7	375.0	376.7	384.8	388.2	391.5	388.2	384.8	376.7
175	380.5	379.4	383.1	382.5	384.0	382.5	383.1	379.4	380.5	379.4	383.1	382.5	384.0	382.5	383.1	379.4
180	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9

Zonal Lumen Tabulation (5 degree zones)

Zone (Degrees)	Lumens	Zone (Degrees)	Lumens	Zone (Degrees)	Lumens	Zone (Degrees)	Lumens
0-5	7.0	45-50	95.8	90-95	6.8	135-140	135.8
5-10	21.0	50-55	87.1	95-100	38.1	140-145	124.4
10-15	34.5	55-60	68.1	100-105	75.5	145-150	111.0
15-20	47.4	60-65	41.1	105-110	108.4	150-155	96.2
20-25	59.8	65-70	19.6	110-115	132.5	155-160	80.2
25-30	73.1	70-75	7.5	115-120	144.9	160-165	63.2
30-35	86.3	75-80	2.3	120-125	148.3	165-170	45.5
35-40	95.2	80-85	0.8	125-130	148.2	170-175	27.4
40-45	98.4	85-90	0.3	130-135	144.0	175-180	9.1



Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%												
Ceiling Cavity Reflectance	90				80				70			
Wall Reflectance	70	50	30	10	70	50	30	10	70	50	30	10
Room Cavity Ratio (RCR)												
0	0.9932	0.9932	0.9932	0.9932	0.9010	0.9010	0.9010	0.9010	0.8132	0.8132	0.8132	0.8132
1	0.9122	0.8706	0.8337	0.8006	0.8267	0.7919	0.7608	0.7328	0.7455	0.7167	0.6908	0.6673
2	0.8343	0.7630	0.7046	0.6560	0.7552	0.6952	0.6455	0.6037	0.6805	0.6303	0.5883	0.5527
3	0.7627	0.6712	0.6015	0.5466	0.6899	0.6125	0.5526	0.5048	0.6212	0.5561	0.5050	0.4638
4	0.6977	0.5931	0.5177	0.4609	0.6309	0.5418	0.4766	0.4267	0.5680	0.4926	0.4365	0.3931
5	0.6394	0.5265	0.4491	0.3927	0.5782	0.4816	0.4141	0.3643	0.5205	0.4384	0.3800	0.3363
6	0.5875	0.4701	0.3929	0.3382	0.5315	0.4306	0.3629	0.3143	0.4787	0.3924	0.3335	0.2906
7	0.5416	0.4223	0.3465	0.2942	0.4902	0.3872	0.3205	0.2737	0.4417	0.3533	0.2949	0.2534
8	0.5007	0.3813	0.3077	0.2578	0.4536	0.3500	0.2849	0.2401	0.4090	0.3197	0.2624	0.2226
9	0.4645	0.3461	0.2750	0.2276	0.4211	0.3180	0.2549	0.2123	0.3801	0.2909	0.2351	0.1970
10	0.4322	0.3156	0.2471	0.2022	0.3922	0.2903	0.2293	0.1887	0.3543	0.2658	0.2118	0.1754

Ceiling Cavity Reflectance	50				30			10			0
Wall Reflectance	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)											
0	0.6492	0.6492	0.6492	0.6492	0.4992	0.4992	0.4992	0.3614	0.3614	0.3614	0.2966
1	0.5950	0.5759	0.5584	0.5424	0.4465	0.4355	0.4253	0.3272	0.3210	0.3151	0.2605
2	0.5424	0.5084	0.4793	0.4542	0.3960	0.3770	0.3603	0.2921	0.2807	0.2705	0.2237
3	0.4948	0.4499	0.4137	0.3839	0.3516	0.3273	0.3069	0.2605	0.2454	0.2325	0.1919
4	0.4523	0.3996	0.3592	0.3272	0.3133	0.2856	0.2631	0.2330	0.2154	0.2008	0.1654
5	0.4146	0.3566	0.3139	0.2812	0.2804	0.2507	0.2273	0.2094	0.1901	0.1746	0.1435
6	0.3816	0.3200	0.2764	0.2438	0.2524	0.2215	0.1980	0.1891	0.1688	0.1530	0.1255
7	0.3526	0.2888	0.2451	0.2133	0.2284	0.1972	0.1739	0.1718	0.1509	0.1350	0.1106
8	0.3270	0.2620	0.2188	0.1879	0.2078	0.1766	0.1538	0.1568	0.1358	0.1200	0.0982
9	0.3044	0.2390	0.1965	0.1668	0.1901	0.1591	0.1370	0.1439	0.1229	0.1075	0.0878
10	0.2843	0.2189	0.1775	0.1489	0.1746	0.1442	0.1227	0.1327	0.1119	0.0968	0.0791

Average Luminance Table (cd/m²)

		Horizontal Angle (Degrees)		
		0	45	90
Vertical Angle (Degree)	0	4146	4146	4146
	45	3266	5458	6099
	55	2339	4623	5435
	65	346	1888	3584
	75	131	257	931
	85	52	181	181

This test was conducted using photometry techniques according to standard IES procedures. The user must therefore use caution in the following situations: 1) This test was performed using a specific ballast/lamp combination. Extrapolation of this data for other ballast/lamp combinations may produce erroneous results. 2) According to IESNA procedures, the ballast(s) and lamp(s) are presumed to produce 100% of rated output. An appropriate ballast factor must be applied to the lumen output ratings and luminous intensity values given. This test was conducted in a controlled laboratory environment where the ambient temperature was held at 25°C ±1°C. Field performance may differ particularly in regards to change in luminous output as a result of difference in ambient temperature and method of mounting the luminaire.



Polar Plot (Candela)

