



## 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-D46/PB-X-120-T8

LTL Test Number  
22912

Test Date  
2011-04-08

Prepared By

Zachary Mooney, Project Coordinator

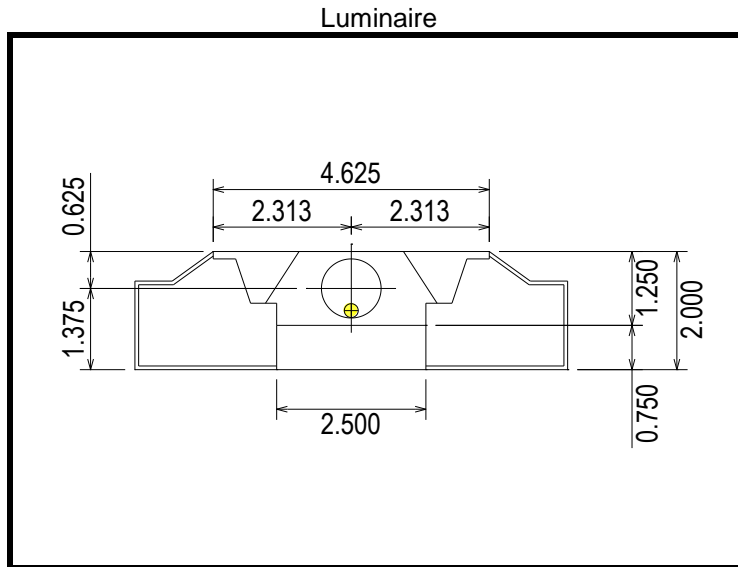
Approved By

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 white enamel slotted aluminum upper reflector, formed semi-specular 29 cell, 3/4" deep aluminum louver
Catalog Number: DRS01-X-4-X-D46/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

Table with 4 columns: Zone (Degrees), Lumens, % of Lamp, % of Luminaire. Rows include zones 0-30, 0-40, 0-60, 0-90, 90-180, and 0-180.

Test Conditions

Test Temperature: 24.1 °C
Voltage: 120.0 VAC
Current: 0.3013 A
Power: 36.13 W
Power Factor: 0.999
Frequency: 60 Hz

Summary of Results

Luminaire Efficiency: 73.9 %

Spacing Criterion: 0 Degree: 1.20 90 Degree: 1.51
180 Degree: 1.20 270 Degree: 1.51

CIE Type: Semi-Direct

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	527.7	527.7	527.7	527.7	527.7	527.7	527.7	527.7	527.7	527.7	527.7	527.7	527.7	527.7	527.7	527.7
5	521.9	525.4	528.0	526.2	528.2	526.2	528.0	525.4	521.9	525.4	528.0	526.2	528.2	526.2	528.0	525.4
10	513.9	518.5	524.8	526.4	530.4	526.4	524.8	518.5	513.9	518.5	524.8	526.4	530.4	526.4	524.8	518.5
15	497.7	505.0	518.6	526.9	533.4	526.9	518.6	505.0	497.7	505.0	518.6	526.9	533.4	526.9	518.6	505.0
20	476.9	487.7	509.4	528.9	540.5	528.9	509.4	487.7	476.9	487.7	509.4	528.9	540.5	528.9	509.4	487.7
25	452.2	467.8	500.5	533.1	550.4	533.1	500.5	467.8	452.2	467.8	500.5	533.1	550.4	533.1	500.5	467.8
30	423.4	445.0	491.3	537.1	558.4	537.1	491.3	445.0	423.4	445.0	491.3	537.1	558.4	537.1	491.3	445.0
35	390.1	420.2	480.1	521.4	536.8	521.4	480.1	420.2	390.1	420.2	480.1	521.4	536.8	521.4	480.1	420.2
40	352.4	392.5	455.8	476.3	491.5	476.3	455.8	392.5	352.4	392.5	455.8	476.3	491.5	476.3	455.8	392.5
45	310.3	359.6	407.9	419.3	435.4	419.3	407.9	359.6	310.3	359.6	407.9	419.3	435.4	419.3	407.9	359.6
50	260.2	315.0	345.1	354.8	373.4	354.8	345.1	315.0	260.2	315.0	345.1	354.8	373.4	354.8	345.1	315.0
55	183.1	243.3	269.8	282.7	303.1	282.7	269.8	243.3	183.1	243.3	269.8	282.7	303.1	282.7	269.8	243.3
60	81.9	130.0	180.9	203.5	221.7	203.5	180.9	130.0	81.9	130.0	180.9	203.5	221.7	203.5	180.9	130.0
65	19.5	33.4	82.6	123.9	148.2	123.9	82.6	33.4	19.5	33.4	82.6	123.9	148.2	123.9	82.6	33.4
70	9.0	11.1	20.3	59.4	90.7	59.4	20.3	11.1	9.0	11.1	20.3	59.4	90.7	59.4	20.3	11.1
75	4.2	5.3	6.7	14.7	24.0	14.7	6.7	5.3	4.2	5.3	6.7	14.7	24.0	14.7	6.7	5.3
80	1.9	2.2	3.2	4.7	6.7	4.7	3.2	2.2	1.9	2.2	3.2	4.7	6.7	4.7	3.2	2.2
85	0.6	0.9	1.2	1.4	1.8	1.4	1.2	0.9	0.6	0.9	1.2	1.4	1.8	1.4	1.2	0.9
90	0.5	1.8	2.2	3.3	1.9	3.3	2.2	1.8	0.5	1.8	2.2	3.3	1.9	3.3	2.2	1.8
95	9.9	22.2	22.2	21.4	16.3	21.4	22.2	22.2	9.9	22.2	22.2	21.4	16.3	21.4	22.2	22.2
100	24.0	47.3	52.9	56.0	49.3	56.0	52.9	47.3	24.0	47.3	52.9	56.0	49.3	56.0	52.9	47.3
105	38.8	67.8	83.3	90.5	82.7	90.5	83.3	67.8	38.8	67.8	83.3	90.5	82.7	90.5	83.3	67.8
110	55.3	85.4	106.9	121.7	114.4	121.7	106.9	85.4	55.3	85.4	106.9	121.7	114.4	121.7	106.9	85.4
115	72.3	99.6	127.8	143.0	142.4	143.0	127.8	99.6	72.3	99.6	127.8	143.0	142.4	143.0	127.8	99.6
120	88.6	112.6	143.8	159.9	163.6	159.9	143.8	112.6	88.6	112.6	143.8	159.9	163.6	159.9	143.8	112.6
125	105.4	125.4	157.8	173.7	177.8	173.7	157.8	125.4	105.4	125.4	157.8	173.7	177.8	173.7	157.8	125.4
130	119.8	136.2	166.7	183.8	186.0	183.8	166.7	136.2	119.8	136.2	166.7	183.8	186.0	183.8	166.7	136.2
135	133.3	147.5	172.9	190.0	192.7	190.0	172.9	147.5	133.3	147.5	172.9	190.0	192.7	190.0	172.9	147.5
140	144.5	157.6	177.7	192.2	195.8	192.2	177.7	157.6	144.5	157.6	177.7	192.2	195.8	192.2	177.7	157.6
145	155.1	166.3	181.6	193.7	197.5	193.7	181.6	166.3	155.1	166.3	181.6	193.7	197.5	193.7	181.6	166.3
150	163.6	173.0	184.8	194.2	197.7	194.2	184.8	173.0	163.6	173.0	184.8	194.2	197.7	194.2	184.8	173.0
155	171.1	178.4	188.3	194.0	197.7	194.0	188.3	178.4	171.1	178.4	188.3	194.0	197.7	194.0	188.3	178.4
160	177.5	181.9	190.2	195.1	197.0	195.1	190.2	181.9	177.5	181.9	190.2	195.1	197.0	195.1	190.2	181.9
165	182.1	184.5	191.6	194.1	196.1	194.1	191.6	184.5	182.1	184.5	191.6	194.1	196.1	194.1	191.6	184.5
170	185.5	186.1	190.2	191.7	193.0	191.7	190.2	186.1	185.5	186.1	190.2	191.7	193.0	191.7	190.2	186.1
175	187.4	187.3	188.8	188.5	189.0	188.5	188.8	187.3	187.4	187.3	188.8	188.5	189.0	188.5	188.8	187.3
180	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1

Zonal Lumen Tabulation (5 degree zones)

Zone (Degrees)	Lumens	Zone (Degrees)	Lumens	Zone (Degrees)	Lumens	Zone (Degrees)	Lumens
0-5	12.6	45-50	146.2	90-95	4.8	135-140	63.5
5-10	37.5	50-55	129.5	95-100	18.5	140-145	59.0
10-15	61.6	55-60	98.8	100-105	33.1	145-150	53.4
15-20	84.4	60-65	58.6	105-110	45.9	150-155	46.8
20-25	105.8	65-70	28.1	110-115	55.7	155-160	39.3
25-30	125.6	70-75	10.6	115-120	62.1	160-165	31.2
30-35	142.1	75-80	3.3	120-125	66.0	165-170	22.5
35-40	151.8	80-85	1.2	125-130	67.4	170-175	13.5
40-45	153.4	85-90	0.5	130-135	66.4	175-180	4.5



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	0.8685	0.8685	0.8685	0.8685	0.8164	0.8164	0.8164	0.8164	0.7666	0.7666	0.7666	0.7666
1	0.8037	0.7704	0.7407	0.7141	0.7552	0.7264	0.7005	0.6773	0.7091	0.6843	0.6619	0.6416
2	0.7387	0.6803	0.6325	0.5927	0.6936	0.6427	0.6006	0.5652	0.6509	0.6067	0.5698	0.5384
3	0.6780	0.6022	0.5445	0.4989	0.6363	0.5699	0.5185	0.4776	0.5969	0.5388	0.4933	0.4566
4	0.6226	0.5353	0.4724	0.4250	0.5842	0.5072	0.4509	0.4079	0.5479	0.4803	0.4299	0.3910
5	0.5726	0.4780	0.4132	0.3659	0.5374	0.4536	0.3951	0.3519	0.5042	0.4301	0.3774	0.3380
6	0.5280	0.4293	0.3644	0.3184	0.4957	0.4079	0.3490	0.3067	0.4653	0.3873	0.3339	0.2951
7	0.4883	0.3877	0.3238	0.2797	0.4587	0.3689	0.3106	0.2698	0.4309	0.3506	0.2976	0.2599
8	0.4529	0.3520	0.2898	0.2476	0.4259	0.3353	0.2783	0.2391	0.4003	0.3191	0.2670	0.2307
9	0.4215	0.3212	0.2611	0.2209	0.3967	0.3063	0.2510	0.2136	0.3732	0.2919	0.2411	0.2063
10	0.3934	0.2945	0.2365	0.1984	0.3706	0.2812	0.2276	0.1920	0.3490	0.2682	0.2189	0.1856

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	0.6738	0.6738	0.6738	0.6738	0.5889	0.5889	0.5889	0.5109	0.5109	0.5109	0.4742
1	0.6236	0.6055	0.5890	0.5738	0.5331	0.5212	0.5101	0.4664	0.4581	0.4503	0.4186
2	0.5721	0.5391	0.5110	0.4867	0.4768	0.4558	0.4373	0.4192	0.4039	0.3902	0.3621
3	0.5243	0.4804	0.4449	0.4157	0.4263	0.3991	0.3763	0.3761	0.3557	0.3382	0.3129
4	0.4814	0.4294	0.3895	0.3579	0.3822	0.3511	0.3258	0.3383	0.3144	0.2946	0.2716
5	0.4432	0.3857	0.3433	0.3108	0.3442	0.3106	0.2842	0.3056	0.2793	0.2582	0.2373
6	0.4095	0.3481	0.3047	0.2723	0.3116	0.2766	0.2499	0.2774	0.2496	0.2279	0.2088
7	0.3797	0.3160	0.2723	0.2405	0.2835	0.2480	0.2214	0.2530	0.2245	0.2026	0.1851
8	0.3533	0.2882	0.2449	0.2141	0.2593	0.2236	0.1976	0.2320	0.2030	0.1814	0.1653
9	0.3299	0.2642	0.2217	0.1919	0.2382	0.2029	0.1776	0.2137	0.1847	0.1635	0.1486
10	0.3091	0.2434	0.2017	0.1730	0.2199	0.1851	0.1606	0.1978	0.1690	0.1482	0.1344

Average Luminance Table (cd/m<sup>2</sup>)

		Horizontal Angle (Degrees)		
		0	45	90
Vertical Angle (Degree)	0	7414	7414	7414
	45	6166	8106	8652
	55	4486	6611	7425
	65	650	2746	4927
	75	226	365	1305
	85	103	284	284

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)

