



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-T5

LTL Test Number
22910

Test Date
2011-04-05

Prepared By

Zachary Mooney, Project Coordinator

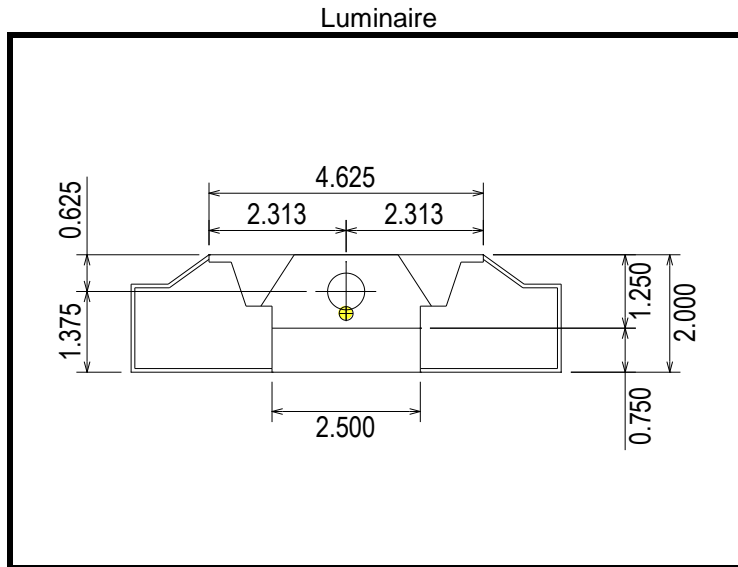
Approved By

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-T5
Lamp: One 28 watt T5 linear fluorescent lamp rated at 2610 lumens
Lamp Catalog Number: Philips F28T5/841/ALTO
Mounting: Pendant
Ballast/Driver: One Ultra Save ER235120MHT



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: 24.9 °C
Voltage: 120.0 VAC
Current: 0.2894 A
Power: 34.55 W
Power Factor: 0.995
Frequency: 60 Hz

Summary of Results

Luminaire Efficiency: 73.0 %

Spacing Criterion: 0 Degree: 1.19 90 Degree: 1.70
180 Degree: 1.19 270 Degree: 1.70

CIE Type: Semi-Direct

Shielding Angle: 0 Degree: 29.0° 90 Degree: 38.0°



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	493.9	493.9	493.9	493.9	493.9	493.9	493.9	493.9	493.9	493.9	493.9	493.9	493.9	493.9	493.9	493.9
5	489.3	492.3	494.8	492.7	494.7	492.7	494.8	492.3	489.3	492.3	494.8	492.7	494.7	492.7	494.8	492.3
10	481.4	485.8	491.4	492.3	495.2	492.3	491.4	485.8	481.4	485.8	491.4	492.3	495.2	492.3	491.4	485.8
15	466.5	473.6	485.5	491.9	497.0	491.9	485.5	473.6	466.5	473.6	485.5	491.9	497.0	491.9	485.5	473.6
20	446.5	456.8	475.8	492.7	502.6	492.7	475.8	456.8	446.5	456.8	475.8	492.7	502.6	492.7	475.8	456.8
25	422.3	436.9	466.4	492.6	503.8	492.6	466.4	436.9	422.3	436.9	466.4	492.6	503.8	492.6	466.4	436.9
30	394.0	413.8	456.1	488.2	506.9	488.2	456.1	413.8	394.0	413.8	456.1	488.2	506.9	488.2	456.1	413.8
35	361.6	390.2	442.5	499.9	541.5	499.9	442.5	390.2	361.6	390.2	442.5	499.9	541.5	499.9	442.5	390.2
40	324.6	363.8	430.3	523.4	558.3	523.4	430.3	363.8	324.6	363.8	430.3	523.4	558.3	523.4	430.3	363.8
45	282.0	333.9	418.5	475.7	495.8	475.7	418.5	333.9	282.0	333.9	418.5	475.7	495.8	475.7	418.5	333.9
50	229.9	290.5	371.5	381.9	394.4	381.9	371.5	290.5	229.9	290.5	371.5	381.9	394.4	381.9	371.5	290.5
55	157.9	221.6	276.3	260.8	253.2	260.8	276.3	221.6	157.9	221.6	276.3	260.8	253.2	260.8	276.3	221.6
60	69.5	119.0	167.8	159.3	166.5	159.3	167.8	119.0	69.5	119.0	167.8	159.3	166.5	159.3	167.8	119.0
65	16.6	29.9	68.7	102.5	125.1	102.5	68.7	29.9	16.6	29.9	68.7	102.5	125.1	102.5	68.7	29.9
70	7.7	9.9	17.8	52.3	80.8	52.3	17.8	9.9	7.7	9.9	17.8	52.3	80.8	52.3	17.8	9.9
75	3.7	4.6	5.9	13.1	21.0	13.1	5.9	4.6	3.7	4.6	5.9	13.1	21.0	13.1	5.9	4.6
80	1.4	1.7	2.6	3.9	5.7	3.9	2.6	1.7	1.4	1.7	2.6	3.9	5.7	3.9	2.6	1.7
85	0.7	0.8	1.1	1.4	1.8	1.4	1.1	0.8	0.7	0.8	1.1	1.4	1.8	1.4	1.1	0.8
90	0.4	1.5	1.8	2.8	1.7	2.8	1.8	1.5	0.4	1.5	1.8	2.8	1.7	2.8	1.8	1.5
95	7.3	15.9	13.2	11.4	8.6	11.4	13.2	15.9	7.3	15.9	13.2	11.4	8.6	11.4	13.2	15.9
100	16.7	42.0	42.2	34.2	26.7	34.2	42.2	42.0	16.7	42.0	42.2	34.2	26.7	34.2	42.2	42.0
105	27.1	54.8	76.4	78.1	69.9	78.1	76.4	54.8	27.1	54.8	76.4	78.1	69.9	78.1	76.4	54.8
110	38.8	67.0	94.8	113.1	107.1	113.1	94.8	67.0	38.8	67.0	94.8	113.1	107.1	113.1	94.8	67.0
115	51.7	78.9	106.9	128.9	131.6	128.9	106.9	78.9	51.7	78.9	106.9	128.9	131.6	128.9	106.9	78.9
120	64.5	91.1	117.6	137.1	142.1	137.1	117.6	91.1	64.5	91.1	117.6	137.1	142.1	137.1	117.6	91.1
125	77.0	101.2	127.3	145.1	149.4	145.1	127.3	101.2	77.0	101.2	127.3	145.1	149.4	145.1	127.3	101.2
130	88.9	109.6	136.3	150.6	154.2	150.6	136.3	109.6	88.9	109.6	136.3	150.6	154.2	150.6	136.3	109.6
135	100.7	117.0	144.1	156.4	159.0	156.4	144.1	117.0	100.7	117.0	144.1	156.4	159.0	156.4	144.1	117.0
140	110.5	124.6	149.9	161.7	164.2	161.7	149.9	124.6	110.5	124.6	149.9	161.7	164.2	161.7	149.9	124.6
145	119.9	131.1	152.8	165.6	169.0	165.6	152.8	131.1	119.9	131.1	152.8	165.6	169.0	165.6	152.8	131.1
150	127.5	136.7	152.2	165.9	170.2	165.9	152.2	136.7	127.5	136.7	152.2	165.9	170.2	165.9	152.2	136.7
155	134.3	141.6	153.0	161.8	167.1	161.8	153.0	141.6	134.3	141.6	153.0	161.8	167.1	161.8	153.0	141.6
160	140.4	144.8	153.7	158.9	161.5	158.9	153.7	144.8	140.4	144.8	153.7	158.9	161.5	158.9	153.7	144.8
165	144.7	146.7	153.6	156.8	158.5	156.8	153.6	146.7	144.7	146.7	153.6	156.8	158.5	156.8	153.6	146.7
170	147.3	148.2	151.8	153.5	154.9	153.5	151.8	148.2	147.3	148.2	151.8	153.5	154.9	153.5	151.8	148.2
175	149.5	149.2	150.8	150.6	150.8	150.6	150.8	149.2	149.5	149.2	150.8	150.6	150.8	150.6	150.8	149.2
180	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8

Zonal Lumen Tabulation (5 degree zones)

Zone (Degrees)	Lumens	Zone (Degrees)	Lumens	Zone (Degrees)	Lumens	Zone (Degrees)	Lumens
0-5	11.8	45-50	151.2	90-95	3.3	135-140	51.9
5-10	35.2	50-55	127.0	95-100	12.1	140-145	48.7
10-15	57.7	55-60	87.2	100-105	26.7	145-150	44.2
15-20	79.0	60-65	49.1	105-110	40.0	150-155	38.3
20-25	98.6	65-70	24.2	110-115	48.1	155-160	31.9
25-30	116.0	70-75	9.5	115-120	52.0	160-165	25.1
30-35	132.0	75-80	3.0	120-125	54.0	165-170	18.0
35-40	148.3	80-85	1.1	125-130	54.7	170-175	10.8
40-45	157.1	85-90	0.4	130-135	53.8	175-180	3.6



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	0.8615	0.8615	0.8615	0.8615	0.8128	0.8128	0.8128	0.8128	0.7664	0.7664	0.7664	0.7664
1	0.7980	0.7653	0.7362	0.7101	0.7527	0.7243	0.6989	0.6760	0.7097	0.6851	0.6630	0.6430
2	0.7339	0.6765	0.6295	0.5904	0.6918	0.6416	0.6000	0.5651	0.6519	0.6081	0.5715	0.5404
3	0.6739	0.5992	0.5423	0.4975	0.6348	0.5692	0.5184	0.4779	0.5980	0.5404	0.4952	0.4587
4	0.6189	0.5328	0.4708	0.4241	0.5830	0.5068	0.4510	0.4084	0.5491	0.4818	0.4318	0.3930
5	0.5693	0.4759	0.4119	0.3652	0.5363	0.4533	0.3953	0.3525	0.5053	0.4316	0.3791	0.3399
6	0.5249	0.4274	0.3632	0.3178	0.4947	0.4076	0.3491	0.3072	0.4663	0.3885	0.3354	0.2967
7	0.4854	0.3860	0.3228	0.2791	0.4578	0.3685	0.3107	0.2701	0.4317	0.3517	0.2988	0.2612
8	0.4502	0.3503	0.2888	0.2470	0.4249	0.3349	0.2783	0.2394	0.4010	0.3199	0.2679	0.2318
9	0.4189	0.3196	0.2601	0.2204	0.3957	0.3059	0.2509	0.2137	0.3737	0.2925	0.2418	0.2072
10	0.3910	0.2930	0.2356	0.1978	0.3696	0.2807	0.2275	0.1920	0.3495	0.2687	0.2195	0.1863

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	0.6798	0.6798	0.6798	0.6798	0.6005	0.6005	0.6005	0.5278	0.5278	0.5278	0.4936
1	0.6299	0.6118	0.5953	0.5802	0.5444	0.5324	0.5212	0.4823	0.4738	0.4658	0.4361
2	0.5782	0.5453	0.5171	0.4928	0.4874	0.4661	0.4474	0.4338	0.4181	0.4041	0.3775
3	0.5302	0.4861	0.4506	0.4213	0.4359	0.4084	0.3852	0.3893	0.3684	0.3504	0.3264
4	0.4868	0.4347	0.3946	0.3629	0.3909	0.3593	0.3336	0.3502	0.3255	0.3052	0.2832
5	0.4482	0.3904	0.3478	0.3151	0.3520	0.3178	0.2910	0.3162	0.2891	0.2673	0.2473
6	0.4140	0.3523	0.3086	0.2760	0.3185	0.2829	0.2557	0.2868	0.2582	0.2358	0.2173
7	0.3838	0.3196	0.2757	0.2437	0.2896	0.2534	0.2264	0.2615	0.2319	0.2094	0.1924
8	0.3570	0.2914	0.2478	0.2167	0.2647	0.2284	0.2019	0.2395	0.2096	0.1872	0.1715
9	0.3332	0.2671	0.2242	0.1941	0.2431	0.2071	0.1812	0.2204	0.1905	0.1685	0.1539
10	0.3121	0.2459	0.2039	0.1750	0.2243	0.1888	0.1637	0.2038	0.1741	0.1526	0.1391

Average Luminance Table (cd/m²)

		Horizontal Angle (Degrees)		
		0	45	90
Vertical Angle (Degree)	0	6939	6939	6939
	45	5604	8316	9852
	55	3869	6769	6202
	65	551	2283	4158
	75	203	319	1140
	85	111	290	290

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)

