



# LUMINAIRE TESTING LABORATORY, INC.

SUSTAINING  
MEMBER  
of the  
IESNA

905 Harrison Street · Allentown, PA 18103 · 610-770-1044 · Fax 610-770-8912 · www.LuminaireTesting.com

LTL NUMBER: 19141

DATE: 05-11-2010

PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

CATALOG NUMBER: DRSI03-SL-X-4-X-X-120-T5HO

LUMINAIRE: EXTRUDED ALUMINUM HOUSING WITH 15, 1/4" X 2-1/2" SLOTS IN BOTTOM, FORMED SPECULAR ALUMINUM UPPER SIDE REFLECTORS, FORMED WHITE ENAMEL ALUMINUM LOWER REFLECTOR WITH 15, 1/4" X 2-1/2" SLOTS ABOVE FROSTED LOWER LENS, OPEN TOP.

LAMP: THREE 54 WATT HIGH OUTPUT T5 LINEAR FLUORESCENT LAMPS RATED AT 4400 LUMENS EACH.

LAMP CATALOG NUMBER: PHILIPS F54T5/841/HO/ALTO

BALLAST: TWO UNIVERSAL LIGHTING TECHNOLOGIES B254PUNV-D

MOUNTING: PENDANT

ELECTRICAL VALUES: 120.0VAC, 1.4898A, 178.38W

Candela Distribution

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	
5	28	28	29	29	28	29	29	28	28	28	29	29	28	29	29	28	2.7
15	25	26	28	28	29	28	28	26	25	26	28	28	29	28	28	26	7.6
25	22	24	24	24	24	24	24	24	22	24	24	24	24	24	24	24	11.1
35	19	20	20	20	19	20	20	20	19	20	20	20	19	20	20	20	12.6
45	15	17	16	16	15	16	16	17	15	17	16	16	15	16	16	17	12.4
55	12	13	12	11	11	11	12	13	12	13	12	11	11	11	12	13	10.6
65	9	9	8	7	7	7	8	9	9	9	8	7	7	7	8	9	7.7
75	5	5	4	4	3	4	4	5	5	5	4	4	3	4	4	5	4.3
85	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	2	2.4
90	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	2	
95	118	115	44	10	7	10	44	115	118	115	44	10	7	10	44	115	101.8
105	549	813	652	554	534	554	652	813	549	813	652	554	534	554	652	813	684.2
115	1069	1478	1525	1417	1374	1417	1525	1478	1069	1478	1525	1417	1374	1417	1525	1478	1393.5
125	1563	2012	2206	2300	2290	2300	2206	2012	1563	2012	2206	2300	2290	2300	2206	2012	1879.1
135	1997	2381	2652	2760	2826	2760	2652	2381	1997	2381	2652	2760	2826	2760	2652	2381	1967.8
145	2356	2565	2953	3055	3105	3055	2953	2565	2356	2565	2953	3055	3105	3055	2953	2565	1768.5
155	2645	2700	2994	3185	3244	3185	2994	2700	2645	2700	2994	3185	3244	3185	2994	2700	1363.6
165	2842	2844	2919	3006	3060	3006	2919	2844	2842	2844	2919	3006	3060	3006	2919	2844	831.9
175	2945	2938	2951	2935	2940	2935	2951	2938	2945	2938	2951	2935	2940	2935	2951	2938	280.1
180	2954	2954	2954	2954	2954	2954	2954	2954	2954	2954	2954	2954	2954	2954	2954	2954	

Zonal Lumen Summary

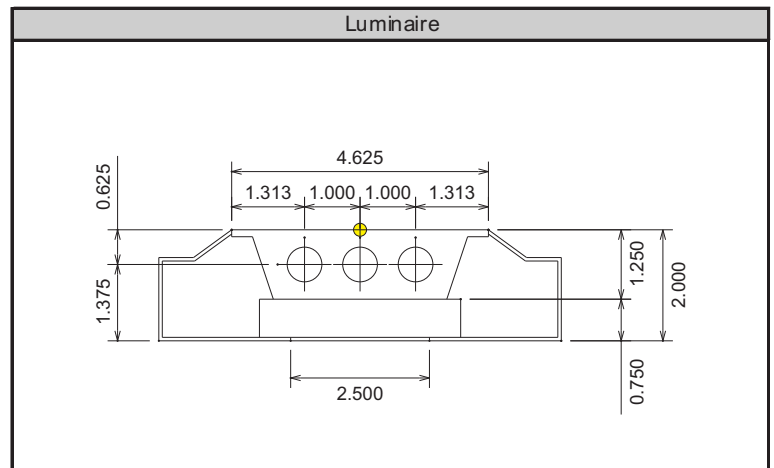
Zone	Lumens	% of Lamp	% of Luminaire
0-30	21.4	0.2%	0.2%
0-40	34.0	0.3%	0.3%
0-60	57.0	0.4%	0.6%
0-90	71.4	0.5%	0.7%
90-180	10270.4	77.8%	99.3%
0-180	10341.8	78.3%	100.0%

Total luminaire efficiency: 78.3%

CIE Type: Indirect

Spacing Criterion: 0 deg: 1.10 90 deg: 1.15  
180 deg: 1.10 270 deg: 1.15

Total reflectance of paint: 91.1



Approved By: MG

THIS REPORT BASED ON LM-41 AND OTHER PERTINENT IESNA PROCEDURES.



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Candela Tabulation (5 degree Vertical Increments)

	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	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
5	28	28	29	29	28	29	29	28	28	28	29	29	28	29	29	28
10	27	27	28	29	29	29	28	27	27	27	28	29	29	29	28	27
15	25	26	28	28	29	28	28	26	25	26	28	28	29	28	28	26
20	24	25	27	26	27	26	27	25	24	25	27	26	27	26	27	25
25	22	24	24	24	24	24	24	24	22	24	24	24	24	24	24	24
30	21	23	23	23	22	23	23	23	21	23	23	23	22	23	23	23
35	19	20	20	20	19	20	20	20	19	20	20	20	19	20	20	20
40	17	19	18	18	18	18	18	19	17	19	18	18	18	18	18	19
45	15	17	16	16	15	16	16	17	15	17	16	16	15	16	16	17
50	14	14	14	13	13	13	14	14	14	14	14	13	13	13	14	14
55	12	13	12	11	11	11	12	13	12	13	12	11	11	11	12	13
60	11	10	10	9	8	9	10	10	11	10	10	9	8	9	10	10
65	9	9	8	7	7	7	8	9	9	9	8	7	7	7	8	9
70	7	6	6	5	5	5	6	6	7	6	6	5	5	5	6	6
75	5	5	4	4	3	4	4	5	5	5	4	4	3	4	4	5
80	4	3	3	2	1	2	3	3	4	3	3	2	1	2	3	3
85	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	2
90	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	2
95	118	115	44	10	7	10	44	115	118	115	44	10	7	10	44	115
100	318	411	312	245	222	245	312	411	318	411	312	245	222	245	312	411
105	549	813	652	554	534	554	652	813	549	813	652	554	534	554	652	813
110	803	1178	1083	960	918	960	1083	1178	803	1178	1083	960	918	960	1083	1178
115	1069	1478	1525	1417	1374	1417	1525	1478	1069	1478	1525	1417	1374	1417	1525	1478
120	1326	1765	1942	1871	1831	1871	1942	1765	1326	1765	1942	1871	1831	1871	1942	1765
125	1563	2012	2206	2300	2290	2300	2206	2012	1563	2012	2206	2300	2290	2300	2206	2012
130	1792	2229	2449	2568	2638	2568	2449	2229	1792	2229	2449	2568	2638	2568	2449	2229
135	1997	2381	2652	2760	2826	2760	2652	2381	1997	2381	2652	2760	2826	2760	2652	2381
140	2193	2480	2820	2919	2975	2919	2820	2480	2193	2480	2820	2919	2975	2919	2820	2480
145	2356	2565	2953	3055	3105	3055	2953	2565	2356	2565	2953	3055	3105	3055	2953	2565
150	2514	2637	3018	3152	3185	3152	3018	2637	2514	2637	3018	3152	3185	3152	3018	2637
155	2645	2700	2994	3185	3244	3185	2994	2700	2645	2700	2994	3185	3244	3185	2994	2700
160	2756	2774	2957	3105	3176	3105	2957	2774	2756	2774	2957	3105	3176	3105	2957	2774
165	2842	2844	2919	3006	3060	3006	2919	2844	2842	2844	2919	3006	3060	3006	2919	2844
170	2907	2903	2923	2932	2949	2932	2923	2903	2907	2903	2923	2932	2949	2932	2923	2903
175	2945	2938	2951	2935	2940	2935	2951	2938	2945	2938	2951	2935	2940	2935	2951	2938
180	2954	2954	2954	2954	2954	2954	2954	2954	2954	2954	2954	2954	2954	2954	2954	2954

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	0.7	45-50	6.0	90-95	9.1	135-140	973.5
5-10	2.0	50-55	5.6	95-100	92.7	140-145	922.7
10-15	3.3	55-60	5.0	100-105	251.4	145-150	845.7
15-20	4.4	60-65	4.2	105-110	432.8	150-155	743.3
20-25	5.2	65-70	3.5	110-115	614.5	155-160	620.3
25-30	5.9	70-75	2.6	115-120	778.9	160-165	485.0
30-35	6.2	75-80	1.7	120-125	902.4	165-170	346.9
35-40	6.3	80-85	1.3	125-130	976.7	170-175	209.6
40-45	6.3	85-90	1.1	130-135	994.3	175-180	70.5



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	0.861	0.861	0.861	0.861	0.747	0.747	0.747	0.747	0.64	0.64	0.64	0.64
1	0.784	0.745	0.711	0.68	0.68	0.648	0.62	0.595	0.58	0.555	0.533	0.513
2	0.715	0.649	0.596	0.551	0.618	0.565	0.521	0.485	0.527	0.485	0.449	0.419
3	0.652	0.569	0.506	0.456	0.563	0.496	0.444	0.402	0.479	0.425	0.383	0.349
4	0.595	0.501	0.433	0.382	0.514	0.437	0.38	0.337	0.437	0.375	0.329	0.293
5	0.544	0.443	0.373	0.323	0.469	0.386	0.328	0.286	0.399	0.332	0.284	0.249
6	0.498	0.394	0.325	0.276	0.43	0.344	0.286	0.244	0.366	0.296	0.248	0.213
7	0.458	0.352	0.285	0.238	0.396	0.308	0.251	0.211	0.337	0.265	0.218	0.184
8	0.423	0.317	0.251	0.207	0.365	0.277	0.222	0.183	0.311	0.239	0.192	0.16
9	0.391	0.286	0.223	0.181	0.338	0.251	0.197	0.161	0.288	0.216	0.171	0.14
10	0.363	0.26	0.199	0.159	0.314	0.228	0.176	0.141	0.268	0.196	0.153	0.123

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	0.438	0.438	0.438	0.438	0.254	0.254	0.254	0.085	0.085	0.085	0.005
1	0.396	0.381	0.368	0.356	0.222	0.215	0.209	0.074	0.072	0.071	0.005
2	0.358	0.333	0.312	0.294	0.194	0.183	0.174	0.065	0.062	0.059	0.004
3	0.326	0.293	0.267	0.246	0.171	0.158	0.146	0.057	0.054	0.05	0.003
4	0.297	0.259	0.23	0.207	0.151	0.136	0.124	0.051	0.046	0.043	0.003
5	0.271	0.23	0.2	0.176	0.134	0.118	0.106	0.045	0.04	0.037	0.002
6	0.248	0.205	0.174	0.151	0.12	0.104	0.091	0.041	0.036	0.032	0.002
7	0.229	0.184	0.153	0.131	0.108	0.091	0.079	0.037	0.031	0.027	0.002
8	0.211	0.166	0.136	0.114	0.098	0.081	0.069	0.033	0.028	0.024	0.002
9	0.196	0.15	0.121	0.1	0.089	0.072	0.06	0.03	0.025	0.021	0.002
10	0.182	0.137	0.108	0.088	0.081	0.065	0.053	0.028	0.022	0.019	0.001

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

	0	45	90
0	4769	4769	4769
45	3605	3739	3566
55	3544	3496	3118
65	3655	3014	2565
75	3142	2461	2199
85	4353	4509	2177

THIS TEST WAS CONDUCTED USING RELATIVE PHOTOMETRY TECHNIQUES ACCORDING TO STANDARD IESNA PROCEDURES. THE USER MUST THEREFORE USE CAUTION IN THE FOLLOWING SITUATIONS: 1) THIS TEST WAS PERFORMED USING A SPECIFIC BALLAST/LAMP COMBINATION. EXTRAPOLATION OF THESE 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. 3) 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.

