



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: 14714

DATE: 03-18-2009

PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

CATALOG NUMBER: LM3S-03-X-4-X-PBW-X-120-T5HO

LUMINAIRE: FORMED STEEL AND EXTRUDED ALUMINUM HOUSING, FORMED SPECULAR ALUMINUM CENTER REFLECTOR, 48 CELL, 3/4" DEEP, FORMED WHITE ENAMEL ALUMINUM LOWER BAFFLES, OPEN TOP.

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

LAMP CATALOG NUMBER: SYLVANIA FP54/841/HO/ECO

BALLAST: TWO ADVANCE ICN-2S54

MOUNTING: PENDANT

ELECTRICAL VALUES: 120.0VAC, 1.5580A, 188.90W

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	605	605	605	605	605	605	605	605	605	605	605	605	605	605	605	605	
5	596	597	600	605	609	605	600	597	596	597	600	605	609	605	600	597	57.1
15	544	556	584	616	631	616	584	556	544	556	584	616	631	616	584	556	165.2
25	474	502	547	583	603	583	547	502	474	502	547	583	603	583	547	502	249.8
35	391	435	470	532	578	532	470	435	391	435	470	532	578	532	470	435	300.9
45	295	337	402	466	483	466	402	337	295	337	402	466	483	466	402	337	305.4
55	184	228	293	274	271	274	293	228	184	228	293	274	271	274	293	228	229.1
65	103	133	142	132	141	132	142	133	103	133	142	132	141	132	142	133	134.9
75	45	48	82	124	138	124	82	48	45	48	82	124	138	124	82	48	88.3
85	0	15	43	66	76	66	43	15	0	15	43	66	76	66	43	15	45.6
90	0	1	24	45	55	45	24	1	0	1	24	45	55	45	24	1	
95	72	456	525	526	522	526	525	456	72	456	525	526	522	526	525	456	492.1
105	422	1036	1398	1674	1779	1674	1398	1036	422	1036	1398	1674	1779	1674	1398	1036	1362.7
115	824	1338	2013	2367	2412	2367	2013	1338	824	1338	2013	2367	2412	2367	2013	1338	1806.9
125	1207	1613	2185	2591	2763	2591	2185	1613	1207	1613	2185	2591	2763	2591	2185	1613	1879.1
135	1548	1848	2325	2675	2795	2675	2325	1848	1548	1848	2325	2675	2795	2675	2325	1848	1743.0
145	1841	2053	2391	2675	2785	2675	2391	2053	1841	2053	2391	2675	2785	2675	2391	2053	1478.3
155	2073	2205	2407	2583	2657	2583	2407	2205	2073	2205	2407	2583	2657	2583	2407	2205	1105.4
165	2233	2296	2388	2471	2505	2471	2388	2296	2233	2296	2388	2471	2505	2471	2388	2296	674.8
175	2316	2321	2339	2360	2370	2360	2339	2321	2316	2321	2339	2360	2370	2360	2339	2321	224.2
180	2322	2322	2322	2322	2322	2322	2322	2322	2322	2322	2322	2322	2322	2322	2322	2322	

Zonal Lumen Summary

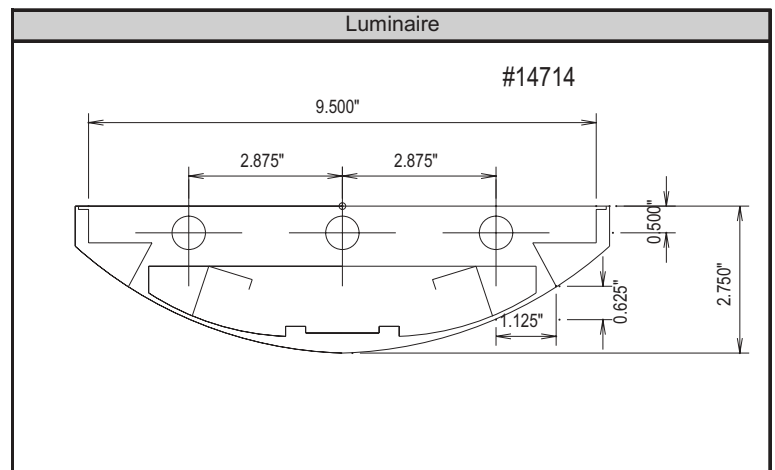
Zone	Lumens	% of Lamp	% of Luminaire
0-30	472.1	3.6%	3.8%
0-40	773.1	5.9%	6.3%
0-60	1307.5	9.9%	10.6%
0-90	1576.3	11.9%	12.8%
90-180	10766.5	81.6%	87.2%
0-180	12342.7	93.5%	100.0%

Total luminaire efficiency: 93.5%

CIE Type: Semi-Indirect

Spacing Criterion: 0 deg: 1.09 90 deg: 1.47
180 deg: 1.09 270 deg: 1.47

Shielding angle: 0 deg: 31 90 deg: 26



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	605	605	605	605	605	605	605	605	605	605	605	605	605	605	605	605
5	596	597	600	605	609	605	600	597	596	597	600	605	609	605	600	597
10	573	580	592	609	617	609	592	580	573	580	592	609	617	609	592	580
15	544	556	584	616	631	616	584	556	544	556	584	616	631	616	584	556
20	511	530	573	607	621	607	573	530	511	530	573	607	621	607	573	530
25	474	502	547	583	603	583	547	502	474	502	547	583	603	583	547	502
30	434	469	511	554	582	554	511	469	434	469	511	554	582	554	511	469
35	391	435	470	532	578	532	470	435	391	435	470	532	578	532	470	435
40	345	389	431	520	562	520	431	389	345	389	431	520	562	520	431	389
45	295	337	402	466	483	466	402	337	295	337	402	466	483	466	402	337
50	242	282	364	373	378	373	364	282	242	282	364	373	378	373	364	282
55	184	228	293	274	271	274	293	228	184	228	293	274	271	274	293	228
60	135	181	214	186	180	186	214	181	135	181	214	186	180	186	214	181
65	103	133	142	132	141	132	142	133	103	133	142	132	141	132	142	133
70	73	81	98	125	142	125	98	81	73	81	98	125	142	125	98	81
75	45	48	82	124	138	124	82	48	45	48	82	124	138	124	82	48
80	19	29	64	88	100	88	64	29	19	29	64	88	100	88	64	29
85	0	15	43	66	76	66	43	15	0	15	43	66	76	66	43	15
90	0	1	24	45	55	45	24	1	0	1	24	45	55	45	24	1
95	72	456	525	526	522	526	525	456	72	456	525	526	522	526	525	456
100	233	806	1120	1245	1257	1245	1120	806	233	806	1120	1245	1257	1245	1120	806
105	422	1036	1398	1674	1779	1674	1398	1036	422	1036	1398	1674	1779	1674	1398	1036
110	622	1182	1830	1949	1973	1949	1830	1182	622	1182	1830	1949	1973	1949	1830	1182
115	824	1338	2013	2367	2412	2367	2013	1338	824	1338	2013	2367	2412	2367	2013	1338
120	1021	1480	2084	2596	2767	2596	2084	1480	1021	1480	2084	2596	2767	2596	2084	1480
125	1207	1613	2185	2591	2763	2591	2185	1613	1207	1613	2185	2591	2763	2591	2185	1613
130	1382	1736	2272	2638	2774	2638	2272	1736	1382	1736	2272	2638	2774	2638	2272	1736
135	1548	1848	2325	2675	2795	2675	2325	1848	1548	1848	2325	2675	2795	2675	2325	1848
140	1702	1954	2362	2688	2807	2688	2362	1954	1702	1954	2362	2688	2807	2688	2362	1954
145	1841	2053	2391	2675	2785	2675	2391	2053	1841	2053	2391	2675	2785	2675	2391	2053
150	1965	2137	2404	2637	2731	2637	2404	2137	1965	2137	2404	2637	2731	2637	2404	2137
155	2073	2205	2407	2583	2657	2583	2407	2205	2073	2205	2407	2583	2657	2583	2407	2205
160	2162	2258	2403	2525	2578	2525	2403	2258	2162	2258	2403	2525	2578	2525	2403	2258
165	2233	2296	2388	2471	2505	2471	2388	2296	2233	2296	2388	2471	2505	2471	2388	2296
170	2285	2316	2366	2415	2435	2415	2366	2316	2285	2316	2366	2415	2435	2415	2366	2316
175	2316	2321	2339	2360	2370	2360	2339	2321	2316	2321	2339	2360	2370	2360	2339	2321
180	2322	2322	2322	2322	2322	2322	2322	2322	2322	2322	2322	2322	2322	2322	2322	2322

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	14.4	45-50	148.0	90-95	101.8	135-140	846.3
5-10	42.7	50-55	127.8	95-100	390.3	140-145	780.0
10-15	69.9	55-60	101.2	100-105	620.0	145-150	698.3
15-20	95.3	60-65	76.1	105-110	742.7	150-155	604.1
20-25	116.6	65-70	58.8	110-115	866.6	155-160	501.3
25-30	133.2	70-75	49.4	115-120	940.3	160-165	393.2
30-35	145.7	75-80	38.9	120-125	949.8	165-170	281.6
35-40	155.2	80-85	27.1	125-130	929.3	170-175	168.4
40-45	157.4	85-90	18.6	130-135	896.6	175-180	55.8



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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	1.041	1.041	1.041	1.041	0.919	0.919	0.919	0.919	0.803	0.803	0.803	0.803
1	0.95	0.903	0.861	0.824	0.836	0.798	0.764	0.733	0.729	0.698	0.67	0.645
2	0.866	0.787	0.723	0.67	0.761	0.697	0.643	0.598	0.663	0.61	0.566	0.529
3	0.79	0.691	0.615	0.555	0.694	0.612	0.548	0.498	0.604	0.537	0.484	0.441
4	0.722	0.609	0.527	0.466	0.634	0.54	0.471	0.419	0.551	0.474	0.417	0.372
5	0.66	0.539	0.456	0.395	0.58	0.479	0.408	0.356	0.504	0.421	0.362	0.317
6	0.606	0.481	0.398	0.339	0.533	0.427	0.357	0.306	0.463	0.376	0.316	0.273
7	0.558	0.431	0.35	0.294	0.491	0.384	0.314	0.265	0.427	0.338	0.279	0.237
8	0.516	0.388	0.31	0.257	0.454	0.346	0.278	0.232	0.395	0.305	0.247	0.207
9	0.478	0.352	0.276	0.226	0.421	0.314	0.248	0.204	0.367	0.277	0.221	0.183
10	0.444	0.32	0.247	0.199	0.391	0.286	0.222	0.18	0.341	0.252	0.198	0.162

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	0.586	0.586	0.586	0.586	0.387	0.387	0.387	0.205	0.205	0.205	0.119
1	0.53	0.511	0.494	0.478	0.339	0.329	0.32	0.18	0.176	0.172	0.101
2	0.481	0.448	0.42	0.395	0.298	0.282	0.268	0.159	0.152	0.146	0.085
3	0.437	0.395	0.36	0.332	0.263	0.243	0.226	0.141	0.132	0.124	0.073
4	0.399	0.35	0.312	0.281	0.234	0.211	0.193	0.126	0.116	0.107	0.063
5	0.365	0.311	0.271	0.241	0.209	0.185	0.166	0.114	0.102	0.093	0.055
6	0.336	0.279	0.238	0.208	0.188	0.163	0.144	0.103	0.091	0.081	0.048
7	0.31	0.251	0.211	0.181	0.17	0.145	0.126	0.093	0.081	0.072	0.043
8	0.287	0.227	0.187	0.159	0.154	0.129	0.111	0.085	0.073	0.064	0.038
9	0.267	0.207	0.168	0.14	0.141	0.116	0.098	0.078	0.066	0.057	0.035
10	0.249	0.189	0.151	0.125	0.129	0.105	0.088	0.072	0.06	0.051	0.031

Average Luminance Table (cd/m²)

	0	45	90
0	3304	3304	3304
45	2278	3421	3731
55	1752	2997	2580
65	1326	1896	1790
75	955	1630	2543
85	0	1835	2739

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.

