



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: 14715

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 SEMI-SPECULAR 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, 1.58800A, 189.83W

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	801	801	801	801	801	801	801	801	801	801	801	801	801	801	801	801	
5	792	790	789	792	795	792	789	790	792	790	789	792	795	792	789	790	74.6
15	725	723	713	722	736	722	713	723	725	723	713	722	736	722	713	723	203.8
25	631	624	634	622	611	622	634	624	631	624	634	622	611	622	634	624	285.9
35	505	514	465	487	530	487	465	514	505	514	465	487	530	487	465	514	313.0
45	353	360	402	506	538	506	402	360	353	360	402	506	538	506	402	360	328.6
55	162	219	348	391	419	391	348	219	162	219	348	391	419	391	348	219	278.4
65	15	141	201	246	275	246	201	141	15	141	201	246	275	246	201	141	178.5
75	0	6	64	95	98	95	64	6	0	6	64	95	98	95	64	6	57.6
85	0	0	1	26	44	26	1	0	0	0	1	26	44	26	1	0	11.3
90	0	0	0	6	13	6	0	0	0	0	0	6	13	6	0	0	
95	44	455	597	624	628	624	597	455	44	455	597	624	628	624	597	455	529.3
105	291	959	1358	1695	1830	1695	1358	959	291	959	1358	1695	1830	1695	1358	959	1333.7
115	597	1205	1983	2366	2430	2366	1983	1205	597	1205	1983	2366	2430	2366	1983	1205	1740.3
125	910	1396	2101	2607	2808	2607	2101	1396	910	1396	2101	2607	2808	2607	2101	1396	1785.4
135	1205	1557	2143	2578	2736	2578	2143	1557	1205	1557	2143	2578	2736	2578	2143	1557	1594.9
145	1462	1711	2109	2463	2596	2463	2109	1711	1462	1711	2109	2463	2596	2463	2109	1711	1303.8
155	1669	1821	2064	2270	2360	2270	2064	1821	1669	1821	2064	2270	2360	2270	2064	1821	946.1
165	1818	1890	2001	2104	2144	2104	2001	1890	1818	1890	2001	2104	2144	2104	2001	1890	565.8
175	1899	1904	1927	1952	1963	1952	1927	1904	1899	1904	1927	1952	1963	1952	1927	1904	185.2
180	1903	1903	1903	1903	1903	1903	1903	1903	1903	1903	1903	1903	1903	1903	1903	1903	

Zonal Lumen Summary

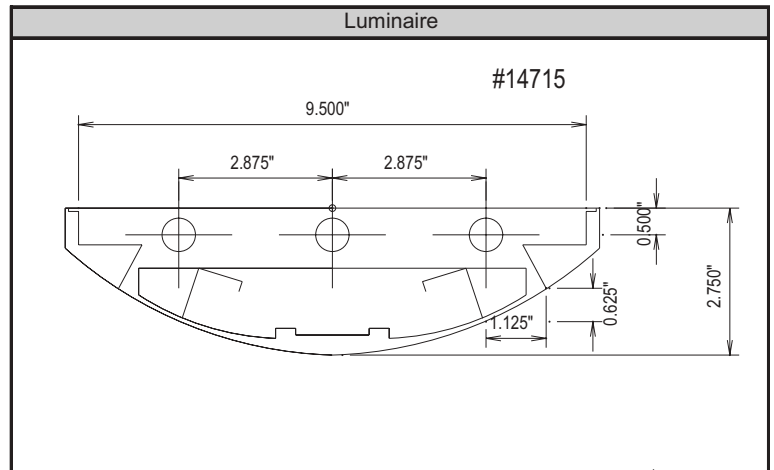
Zone	Lumens	% of Lamp	% of Luminaire
0-30	564.2	4.3%	4.8%
0-40	877.3	6.6%	7.5%
0-60	1484.3	11.2%	12.7%
0-90	1731.7	13.1%	14.8%
90-180	9984.6	75.6%	85.2%
0-180	11716.2	88.8%	100.0%

Total luminaire efficiency: 88.8%

CIE Type: Semi-Indirect

Spacing Criterion: 0 deg: 1.09 90 deg: 1.02
180 deg: 1.09 270 deg: 1.02

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	801	801	801	801	801	801	801	801	801	801	801	801	801	801	801	801
5	792	790	789	792	795	792	789	790	792	790	789	792	795	792	789	790
10	764	763	761	760	759	760	761	763	764	763	761	760	759	760	761	763
15	725	723	713	722	736	722	713	723	725	723	713	722	736	722	713	723
20	682	676	675	700	701	700	675	676	682	676	675	700	701	700	675	676
25	631	624	634	622	611	622	634	624	631	624	634	622	611	622	634	624
30	572	567	558	520	525	520	558	567	572	567	558	520	525	520	558	567
35	505	514	465	487	530	487	465	514	505	514	465	487	530	487	465	514
40	432	444	408	513	561	513	408	444	432	444	408	513	561	513	408	444
45	353	360	402	506	538	506	402	360	353	360	402	506	538	506	402	360
50	264	274	397	455	484	455	397	274	264	274	397	455	484	455	397	274
55	162	219	348	391	419	391	348	219	162	219	348	391	419	391	348	219
60	59	189	277	318	345	318	277	189	59	189	277	318	345	318	277	189
65	15	141	201	246	275	246	201	141	15	141	201	246	275	246	201	141
70	0	56	132	161	171	161	132	56	0	56	132	161	171	161	132	56
75	0	6	64	95	98	95	64	6	0	6	64	95	98	95	64	6
80	0	0	21	25	24	25	21	0	0	0	21	25	24	25	21	0
85	0	0	1	26	44	26	1	0	0	0	1	26	44	26	1	0
90	0	0	0	6	13	6	0	0	0	0	0	6	13	6	0	0
95	44	455	597	624	628	624	597	455	44	455	597	624	628	624	597	455
100	155	739	1146	1361	1402	1361	1146	739	155	739	1146	1361	1402	1361	1146	739
105	291	959	1358	1695	1830	1695	1358	959	291	959	1358	1695	1830	1695	1358	959
110	441	1085	1782	1935	1966	1935	1782	1085	441	1085	1782	1935	1966	1935	1782	1085
115	597	1205	1983	2366	2430	2366	1983	1205	597	1205	1983	2366	2430	2366	1983	1205
120	755	1308	2043	2626	2810	2626	2043	1308	755	1308	2043	2626	2810	2626	2043	1308
125	910	1396	2101	2607	2808	2607	2101	1396	910	1396	2101	2607	2808	2607	2101	1396
130	1061	1477	2139	2605	2778	2605	2139	1477	1061	1477	2139	2605	2778	2605	2139	1477
135	1205	1557	2143	2578	2736	2578	2143	1557	1205	1557	2143	2578	2736	2578	2143	1557
140	1338	1636	2126	2532	2676	2532	2126	1636	1338	1636	2126	2532	2676	2532	2126	1636
145	1462	1711	2109	2463	2596	2463	2109	1711	1462	1711	2109	2463	2596	2463	2109	1711
150	1572	1772	2087	2373	2488	2373	2087	1772	1572	1772	2087	2373	2488	2373	2087	1772
155	1669	1821	2064	2270	2360	2270	2064	1821	1669	1821	2064	2270	2360	2270	2064	1821
160	1751	1863	2039	2184	2243	2184	2039	1863	1751	1863	2039	2184	2243	2184	2039	1863
165	1818	1890	2001	2104	2144	2104	2001	1890	1818	1890	2001	2104	2144	2104	2001	1890
170	1867	1904	1965	2021	2045	2021	1965	1904	1867	1904	1965	2021	2045	2021	1965	1904
175	1899	1904	1927	1952	1963	1952	1927	1904	1899	1904	1927	1952	1963	1952	1927	1904
180	1903	1903	1903	1903	1903	1903	1903	1903	1903	1903	1903	1903	1903	1903	1903	1903

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	19.0	45-50	162.7	90-95	113.3	135-140	766.3
5-10	55.5	50-55	149.4	95-100	416.1	140-145	693.3
10-15	87.6	55-60	129.0	100-105	617.6	145-150	610.5
15-20	116.2	60-65	104.5	105-110	716.2	150-155	520.0
20-25	137.9	65-70	74.0	110-115	834.0	155-160	426.2
25-30	148.0	70-75	41.4	115-120	906.3	160-165	331.1
30-35	152.8	75-80	16.2	120-125	909.7	165-170	234.8
35-40	160.3	80-85	6.1	125-130	875.6	170-175	139.3
40-45	165.9	85-90	5.2	130-135	828.6	175-180	45.9



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	0.99	0.99	0.99	0.99	0.877	0.877	0.877	0.877	0.768	0.768	0.768	0.768
1	0.905	0.861	0.822	0.788	0.8	0.764	0.732	0.703	0.7	0.671	0.645	0.621
2	0.825	0.752	0.691	0.641	0.728	0.667	0.617	0.575	0.636	0.587	0.545	0.51
3	0.753	0.66	0.588	0.532	0.664	0.586	0.526	0.478	0.58	0.516	0.466	0.426
4	0.688	0.582	0.505	0.447	0.607	0.518	0.453	0.403	0.53	0.456	0.402	0.36
5	0.63	0.516	0.437	0.38	0.555	0.459	0.392	0.343	0.485	0.406	0.349	0.307
6	0.579	0.46	0.381	0.326	0.51	0.41	0.343	0.295	0.446	0.362	0.306	0.264
7	0.533	0.413	0.336	0.283	0.47	0.369	0.303	0.256	0.411	0.326	0.27	0.23
8	0.493	0.372	0.298	0.247	0.435	0.333	0.268	0.224	0.38	0.295	0.24	0.202
9	0.457	0.337	0.265	0.218	0.403	0.302	0.24	0.198	0.353	0.268	0.214	0.178
10	0.425	0.307	0.238	0.193	0.375	0.275	0.215	0.175	0.329	0.244	0.193	0.158

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	0.566	0.566	0.566	0.566	0.381	0.381	0.381	0.211	0.211	0.211	0.131
1	0.514	0.496	0.48	0.465	0.336	0.327	0.318	0.188	0.184	0.18	0.114
2	0.467	0.435	0.409	0.386	0.296	0.28	0.267	0.167	0.16	0.153	0.097
3	0.425	0.384	0.351	0.324	0.262	0.242	0.226	0.148	0.139	0.131	0.083
4	0.388	0.34	0.304	0.275	0.233	0.211	0.193	0.133	0.122	0.113	0.072
5	0.355	0.303	0.265	0.236	0.208	0.185	0.166	0.119	0.108	0.099	0.063
6	0.327	0.272	0.233	0.204	0.187	0.163	0.145	0.108	0.096	0.086	0.055
7	0.302	0.245	0.206	0.178	0.169	0.145	0.127	0.098	0.086	0.077	0.049
8	0.28	0.222	0.184	0.157	0.154	0.13	0.112	0.09	0.078	0.068	0.044
9	0.26	0.202	0.165	0.139	0.141	0.117	0.1	0.083	0.07	0.061	0.04
10	0.243	0.185	0.149	0.123	0.129	0.106	0.089	0.077	0.064	0.055	0.037

Average Luminance Table (cd/m²)

	0	45	90
0	4373	4373	4373
45	2722	3425	4151
55	1540	3559	3986
65	193	2675	3489
75	0	1279	1810
85	0	41	1594

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.

