



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: 14721

DATE: 04-17-2009

PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

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

LUMINAIRE: FORMED STEEL AND EXTRUDED ALUMINUM HOUSING, FORMED SPECULAR ALUMINUM CENTER REFLECTOR, TRANSLUCENT WHITE ACRYLIC LOWER LENSES, 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, 1.6027A, 191.53W

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	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	
5	370	369	369	373	376	373	369	369	370	369	369	373	376	373	369	369	35.2
15	354	355	358	361	365	361	358	355	354	355	358	361	365	361	358	355	101.2
25	327	329	330	335	338	335	330	329	327	329	330	335	338	335	330	329	152.9
35	287	289	293	300	304	300	293	289	287	289	293	300	304	300	293	289	184.1
45	239	240	246	254	258	254	246	240	239	240	246	254	258	254	246	240	190.7
55	182	184	191	199	204	199	191	184	182	184	191	199	204	199	191	184	171.6
65	120	125	133	153	163	153	133	125	120	125	133	153	163	153	133	125	137.2
75	59	64	94	119	129	119	94	64	59	64	94	119	129	119	94	64	98.3
85	2	26	58	83	93	83	58	26	2	26	58	83	93	83	58	26	59.2
90	0	9	39	61	71	61	39	9	0	9	39	61	71	61	39	9	
95	52	475	642	683	693	683	642	475	52	475	642	683	693	683	642	475	574.7
105	322	985	1445	1721	1859	1721	1445	985	322	985	1445	1721	1859	1721	1445	985	1388.4
115	648	1243	2019	2495	2580	2495	2019	1243	648	1243	2019	2495	2580	2495	2019	1243	1809.3
125	975	1444	2144	2644	2837	2644	2144	1444	975	1444	2144	2644	2837	2644	2144	1444	1823.5
135	1278	1629	2178	2624	2775	2624	2178	1629	1278	1629	2178	2624	2775	2624	2178	1629	1635.3
145	1544	1800	2169	2501	2630	2501	2169	1800	1544	1800	2169	2501	2630	2501	2169	1800	1341.8
155	1753	1915	2148	2342	2421	2342	2148	1915	1753	1915	2148	2342	2421	2342	2148	1915	982.5
165	1901	1983	2091	2189	2224	2189	2091	1983	1901	1983	2091	2189	2224	2189	2091	1983	590.6
175	1982	1997	2019	2041	2059	2041	2019	1997	1982	1997	2019	2041	2059	2041	2019	1997	193.8
180	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	

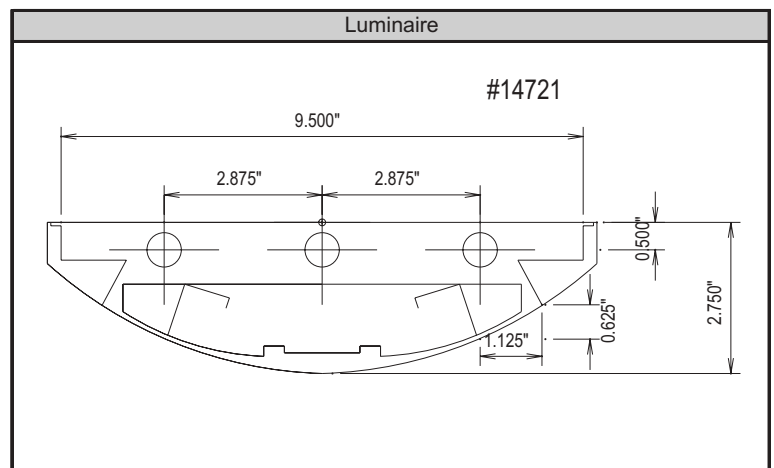
Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	289.3	2.2%	2.5%
0-40	473.5	3.6%	4.1%
0-60	835.7	6.3%	7.3%
0-90	1130.5	8.6%	9.9%
90-180	10339.9	78.3%	90.1%
0-180	11470.4	86.9%	100.0%

Total luminaire efficiency: 86.9%

CIE Type: Indirect

Spacing Criterion: 0 deg: 1.23 90 deg: 1.28
180 deg: 1.23 270 deg: 1.28



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	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373
5	370	369	369	373	376	373	369	369	370	369	369	373	376	373	369	369
10	363	365	365	367	371	367	365	365	363	365	365	367	371	367	365	365
15	354	355	358	361	365	361	358	355	354	355	358	361	365	361	358	355
20	341	344	346	351	353	351	346	344	341	344	346	351	353	351	346	344
25	327	329	330	335	338	335	330	329	327	329	330	335	338	335	330	329
30	308	310	312	319	322	319	312	310	308	310	312	319	322	319	312	310
35	287	289	293	300	304	300	293	289	287	289	293	300	304	300	293	289
40	265	266	271	278	282	278	271	266	265	266	271	278	282	278	271	266
45	239	240	246	254	258	254	246	240	239	240	246	254	258	254	246	240
50	211	213	220	227	232	227	220	213	211	213	220	227	232	227	220	213
55	182	184	191	199	204	199	191	184	182	184	191	199	204	199	191	184
60	151	155	162	172	181	172	162	155	151	155	162	172	181	172	162	155
65	120	125	133	153	163	153	133	125	120	125	133	153	163	153	133	125
70	89	94	111	136	146	136	111	94	89	94	111	136	146	136	111	94
75	59	64	94	119	129	119	94	64	59	64	94	119	129	119	94	64
80	29	43	76	101	111	101	76	43	29	43	76	101	111	101	76	43
85	2	26	58	83	93	83	58	26	2	26	58	83	93	83	58	26
90	0	9	39	61	71	61	39	9	0	9	39	61	71	61	39	9
95	52	475	642	683	693	683	642	475	52	475	642	683	693	683	642	475
100	175	795	1176	1411	1456	1411	1176	795	175	795	1176	1411	1456	1411	1176	795
105	322	985	1445	1721	1859	1721	1445	985	322	985	1445	1721	1859	1721	1445	985
110	484	1116	1877	2048	2080	2048	1877	1116	484	1116	1877	2048	2080	2048	1877	1116
115	648	1243	2019	2495	2580	2495	2019	1243	648	1243	2019	2495	2580	2495	2019	1243
120	811	1348	2080	2665	2863	2665	2080	1348	811	1348	2080	2665	2863	2665	2080	1348
125	975	1444	2144	2644	2837	2644	2144	1444	975	1444	2144	2644	2837	2644	2144	1444
130	1130	1541	2178	2641	2807	2641	2178	1541	1130	1541	2178	2641	2807	2641	2178	1541
135	1278	1629	2178	2624	2775	2624	2178	1629	1278	1629	2178	2624	2775	2624	2178	1629
140	1416	1718	2173	2570	2719	2570	2173	1718	1416	1718	2173	2570	2719	2570	2173	1718
145	1544	1800	2169	2501	2630	2501	2169	1800	1544	1800	2169	2501	2630	2501	2169	1800
150	1654	1861	2162	2420	2520	2420	2162	1861	1654	1861	2162	2420	2520	2420	2162	1861
155	1753	1915	2148	2342	2421	2342	2148	1915	1753	1915	2148	2342	2421	2342	2148	1915
160	1835	1957	2124	2267	2317	2267	2124	1957	1835	1957	2124	2267	2317	2267	2124	1957
165	1901	1983	2091	2189	2224	2189	2091	1983	1901	1983	2091	2189	2224	2189	2091	1983
170	1950	1995	2057	2113	2134	2113	2057	1995	1950	1995	2057	2113	2134	2113	2057	1995
175	1982	1997	2019	2041	2059	2041	2019	1997	1982	1997	2019	2041	2059	2041	2019	1997
180	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	8.9	45-50	94.5	90-95	135.7	135-140	786.8
5-10	26.4	50-55	89.6	95-100	439.0	140-145	712.7
10-15	43.0	55-60	82.0	100-105	639.3	145-150	629.1
15-20	58.2	60-65	73.2	105-110	749.1	150-155	538.8
20-25	71.2	65-70	64.0	110-115	874.0	155-160	443.7
25-30	81.7	70-75	54.2	115-120	935.3	160-165	345.3
30-35	89.6	75-80	44.1	120-125	928.2	165-170	245.3
35-40	94.5	80-85	34.3	125-130	895.2	170-175	145.8
40-45	96.2	85-90	25.0	130-135	848.5	175-180	48.0



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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	0.964	0.964	0.964	0.964	0.848	0.848	0.848	0.848	0.737	0.737	0.737	0.737
1	0.878	0.834	0.795	0.76	0.77	0.734	0.702	0.673	0.668	0.639	0.612	0.589
2	0.799	0.726	0.665	0.615	0.7	0.639	0.589	0.547	0.606	0.557	0.516	0.481
3	0.729	0.636	0.564	0.508	0.637	0.561	0.501	0.454	0.551	0.489	0.439	0.4
4	0.665	0.559	0.483	0.426	0.582	0.494	0.43	0.381	0.503	0.431	0.378	0.336
5	0.608	0.495	0.417	0.361	0.532	0.437	0.372	0.323	0.46	0.382	0.327	0.286
6	0.558	0.441	0.364	0.309	0.488	0.39	0.324	0.277	0.422	0.341	0.285	0.245
7	0.514	0.395	0.319	0.267	0.449	0.35	0.285	0.24	0.389	0.306	0.251	0.213
8	0.474	0.355	0.282	0.233	0.415	0.315	0.252	0.209	0.359	0.276	0.223	0.185
9	0.439	0.322	0.251	0.204	0.385	0.285	0.225	0.184	0.333	0.25	0.198	0.163
10	0.408	0.292	0.225	0.18	0.358	0.26	0.201	0.162	0.31	0.228	0.178	0.144

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	0.53	0.53	0.53	0.53	0.341	0.341	0.341	0.167	0.167	0.167	0.086
1	0.478	0.46	0.444	0.429	0.296	0.287	0.278	0.145	0.141	0.137	0.069
2	0.432	0.402	0.375	0.353	0.259	0.244	0.231	0.126	0.12	0.114	0.057
3	0.393	0.353	0.321	0.295	0.228	0.209	0.194	0.111	0.103	0.096	0.047
4	0.358	0.312	0.277	0.249	0.202	0.181	0.165	0.099	0.09	0.082	0.04
5	0.327	0.277	0.241	0.212	0.18	0.158	0.141	0.088	0.079	0.071	0.035
6	0.3	0.248	0.211	0.183	0.161	0.139	0.122	0.08	0.069	0.062	0.03
7	0.277	0.223	0.186	0.159	0.145	0.123	0.106	0.072	0.062	0.054	0.027
8	0.256	0.202	0.165	0.139	0.132	0.109	0.093	0.066	0.056	0.048	0.024
9	0.238	0.183	0.147	0.122	0.12	0.098	0.082	0.06	0.05	0.043	0.021
10	0.222	0.167	0.132	0.108	0.11	0.088	0.073	0.056	0.045	0.038	0.019

Average Luminance Table (cd/m²)

	0	45	90
0	2037	2037	2037
45	1842	2096	1991
55	1732	1954	1941
65	1552	1769	2069
75	1239	1874	2382
85	150	2446	3322

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.



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