



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: 14718 DATE: 02-20-2009
 PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING
 CATALOG NUMBER: LM3S-03-X-4-X-TWA-X-120-T8
 LUMINAIRE: FORMED STEEL AND EXTRUDED ALUMINUM HOUSING, FORMED SPECULAR ALUMINUM CENTER REFLECTOR, TRANSLUCENT WHITE ACRYLIC LOWER LENSES, OPEN TOP.
 LAMP: THREE 32 WATT T8 LINEAR FLUORESCENT LAMPS RATED AT 2850 LUMENS EACH.
 LAMP CATALOG NUMBER: SYLVANIA FO32/741/ECO
 BALLAST: ONE SYLVANIA QTP3X32T8/UNV-ISN-SC
 MOUNTING: PENDANT
 ELECTRICAL VALUES: 120.0VAC, 0.7026A, 84.16W

Candela Distribution

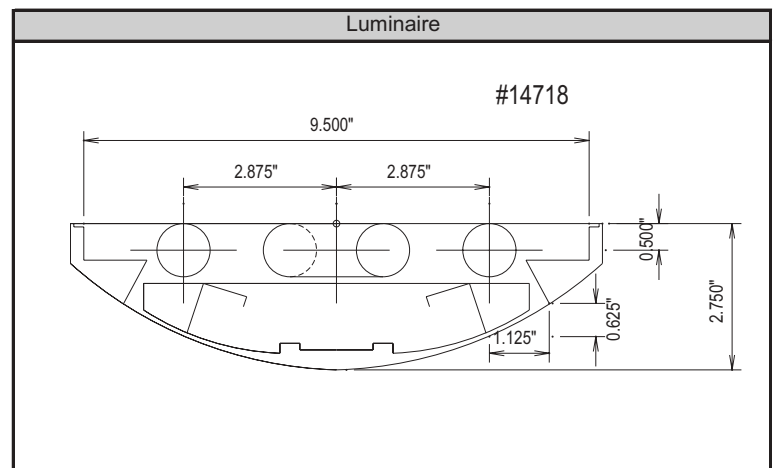
	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	224	224	224	224	224	224	224	224	224	224	224	224	224	224	224	224	
5	222	221	221	223	225	223	221	221	222	221	221	223	225	223	221	221	21.1
15	212	213	215	217	219	217	215	213	212	213	215	217	219	217	215	213	60.7
25	196	197	199	203	205	203	199	197	196	197	199	203	205	203	199	197	92.1
35	173	174	178	182	184	182	178	174	173	174	178	182	184	182	178	174	111.4
45	144	146	150	154	156	154	150	146	144	146	150	154	156	154	150	146	115.5
55	110	112	116	121	124	121	116	112	110	112	116	121	124	121	116	112	104.3
65	73	76	81	93	99	93	81	76	73	76	81	93	99	93	81	76	83.6
75	36	40	57	73	79	73	57	40	36	40	57	73	79	73	57	40	60.3
85	2	17	36	51	57	51	36	17	2	17	36	51	57	51	36	17	36.8
90	0	8	27	42	48	42	27	8	0	8	27	42	48	42	27	8	
95	37	211	252	266	271	266	252	211	37	211	252	266	271	266	252	211	248.7
105	198	584	799	898	922	898	799	584	198	584	799	898	922	898	799	584	739.9
115	395	742	1175	1337	1383	1337	1175	742	395	742	1175	1337	1383	1337	1175	742	1020.7
125	594	878	1301	1602	1689	1602	1301	878	594	878	1301	1602	1689	1602	1301	878	1097.6
135	779	1001	1326	1590	1691	1590	1326	1001	779	1001	1326	1590	1691	1590	1326	1001	996.6
145	941	1099	1334	1523	1597	1523	1334	1099	941	1099	1334	1523	1597	1523	1334	1099	819.7
155	1070	1169	1317	1439	1485	1439	1317	1169	1070	1169	1317	1439	1485	1439	1317	1169	601.8
165	1161	1207	1279	1339	1363	1339	1279	1207	1161	1207	1279	1339	1363	1339	1279	1207	360.9
175	1210	1217	1230	1243	1250	1243	1230	1217	1210	1217	1230	1243	1250	1243	1230	1217	118.1
180	1217	1217	1217	1217	1217	1217	1217	1217	1217	1217	1217	1217	1217	1217	1217	1217	

Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	174.0	2.0%	2.6%
0-40	285.3	3.3%	4.3%
0-60	505.2	5.9%	7.6%
0-90	685.8	8.0%	10.3%
90-180	6003.9	70.2%	89.7%
0-180	6689.7	78.2%	100.0%

Total luminaire efficiency: 78.2%

CIE Type: Semi-Indirect
 Spacing Criterion: 0 deg: 1.23 90 deg: 1.29
 180 deg: 1.23 270 deg: 1.29



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	224	224	224	224	224	224	224	224	224	224	224	224	224	224	224	224
5	222	221	221	223	225	223	221	221	222	221	221	223	225	223	221	221
10	218	218	219	221	223	221	219	218	218	218	219	221	223	221	219	218
15	212	213	215	217	219	217	215	213	212	213	215	217	219	217	215	213
20	205	206	208	211	213	211	208	206	205	206	208	211	213	211	208	206
25	196	197	199	203	205	203	199	197	196	197	199	203	205	203	199	197
30	185	187	189	193	196	193	189	187	185	187	189	193	196	193	189	187
35	173	174	178	182	184	182	178	174	173	174	178	182	184	182	178	174
40	159	160	165	169	171	169	165	160	159	160	165	169	171	169	165	160
45	144	146	150	154	156	154	150	146	144	146	150	154	156	154	150	146
50	127	129	133	138	141	138	133	129	127	129	133	138	141	138	133	129
55	110	112	116	121	124	121	116	112	110	112	116	121	124	121	116	112
60	91	94	99	105	110	105	99	94	91	94	99	105	110	105	99	94
65	73	76	81	93	99	93	81	76	73	76	81	93	99	93	81	76
70	54	58	68	83	89	83	68	58	54	58	68	83	89	83	68	58
75	36	40	57	73	79	73	57	40	36	40	57	73	79	73	57	40
80	18	27	47	62	68	62	47	27	18	27	47	62	68	62	47	27
85	2	17	36	51	57	51	36	17	2	17	36	51	57	51	36	17
90	0	8	27	42	48	42	27	8	0	8	27	42	48	42	27	8
95	37	211	252	266	271	266	252	211	37	211	252	266	271	266	252	211
100	110	422	554	595	603	595	554	422	110	422	554	595	603	595	554	422
105	198	584	799	898	922	898	799	584	198	584	799	898	922	898	799	584
110	294	673	1006	1132	1172	1132	1006	673	294	673	1006	1132	1172	1132	1006	673
115	395	742	1175	1337	1383	1337	1175	742	395	742	1175	1337	1383	1337	1175	742
120	495	811	1267	1508	1563	1508	1267	811	495	811	1267	1508	1563	1508	1267	811
125	594	878	1301	1602	1689	1602	1301	878	594	878	1301	1602	1689	1602	1301	878
130	689	943	1318	1617	1721	1617	1318	943	689	943	1318	1617	1721	1617	1318	943
135	779	1001	1326	1590	1691	1590	1326	1001	779	1001	1326	1590	1691	1590	1326	1001
140	863	1052	1330	1558	1647	1558	1330	1052	863	1052	1330	1558	1647	1558	1330	1052
145	941	1099	1334	1523	1597	1523	1334	1099	941	1099	1334	1523	1597	1523	1334	1099
150	1010	1138	1330	1482	1542	1482	1330	1138	1010	1138	1330	1482	1542	1482	1330	1138
155	1070	1169	1317	1439	1485	1439	1317	1169	1070	1169	1317	1439	1485	1439	1317	1169
160	1121	1191	1301	1389	1425	1389	1301	1191	1121	1191	1301	1389	1425	1389	1301	1191
165	1161	1207	1279	1339	1363	1339	1279	1207	1161	1207	1279	1339	1363	1339	1279	1207
170	1191	1216	1252	1288	1303	1288	1252	1216	1191	1216	1252	1288	1303	1288	1252	1216
175	1210	1217	1230	1243	1250	1243	1230	1217	1210	1217	1230	1243	1250	1243	1230	1217
180	1217	1217	1217	1217	1217	1217	1217	1217	1217	1217	1217	1217	1217	1217	1217	1217

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens		Zone	Lumens		Zone	Lumens		Zone	Lumens
0-5	5.3		45-50	57.3		90-95	57.7		135-140	479.2
5-10	15.8		50-55	54.4		95-100	191.0		140-145	434.8
10-15	25.8		55-60	49.9		100-105	321.2		145-150	384.9
15-20	34.9		60-65	44.6		105-110	418.7		150-155	330.1
20-25	42.8		65-70	39.0		110-115	487.3		155-160	271.7
25-30	49.3		70-75	33.2		115-120	533.4		160-165	211.1
30-35	54.2		75-80	27.1		120-125	552.8		165-170	149.8
35-40	57.2		80-85	21.2		125-130	544.8		170-175	88.8
40-45	58.3		85-90	15.6		130-135	517.4		175-180	29.3



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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	0.869	0.869	0.869	0.869	0.764	0.764	0.764	0.764	0.665	0.665	0.665	0.665
1	0.791	0.751	0.716	0.684	0.694	0.661	0.632	0.606	0.602	0.576	0.552	0.531
2	0.72	0.653	0.599	0.554	0.631	0.576	0.531	0.493	0.546	0.502	0.465	0.433
3	0.656	0.572	0.508	0.458	0.574	0.505	0.451	0.409	0.497	0.44	0.396	0.36
4	0.599	0.504	0.435	0.383	0.524	0.445	0.387	0.343	0.453	0.388	0.34	0.303
5	0.548	0.446	0.376	0.325	0.479	0.394	0.335	0.291	0.414	0.344	0.295	0.257
6	0.503	0.397	0.327	0.278	0.44	0.351	0.292	0.249	0.38	0.307	0.257	0.221
7	0.463	0.356	0.288	0.24	0.405	0.315	0.257	0.216	0.35	0.276	0.227	0.192
8	0.427	0.32	0.254	0.209	0.374	0.284	0.227	0.188	0.324	0.249	0.201	0.167
9	0.396	0.29	0.226	0.184	0.347	0.257	0.202	0.165	0.301	0.226	0.179	0.147
10	0.367	0.263	0.202	0.162	0.322	0.234	0.181	0.146	0.28	0.205	0.16	0.13

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	0.479	0.479	0.479	0.479	0.309	0.309	0.309	0.154	0.154	0.154	0.08
1	0.432	0.416	0.401	0.387	0.268	0.26	0.252	0.133	0.129	0.126	0.064
2	0.39	0.363	0.339	0.319	0.234	0.221	0.209	0.116	0.11	0.105	0.053
3	0.355	0.319	0.29	0.266	0.206	0.19	0.176	0.102	0.095	0.088	0.044
4	0.323	0.282	0.25	0.225	0.183	0.164	0.149	0.09	0.082	0.075	0.037
5	0.295	0.25	0.217	0.192	0.163	0.143	0.128	0.081	0.072	0.065	0.032
6	0.271	0.224	0.19	0.165	0.146	0.126	0.11	0.073	0.064	0.056	0.028
7	0.25	0.201	0.168	0.143	0.132	0.111	0.096	0.066	0.057	0.049	0.025
8	0.232	0.182	0.149	0.125	0.119	0.099	0.084	0.06	0.051	0.044	0.022
9	0.215	0.165	0.133	0.111	0.109	0.089	0.075	0.055	0.046	0.039	0.02
10	0.201	0.151	0.12	0.098	0.1	0.08	0.066	0.051	0.042	0.035	0.018

Average Luminance Table (cd/m²)

	0	45	90
0	1187	1187	1187
45	1075	1235	1170
55	1011	1155	1146
65	911	1051	1218
75	731	1111	1413
85	136	1479	1983

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.

