



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: 15055 DATE: 04-17-2009
 PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING
 CATALOG NUMBER: LM3P-02-X-PB-X-120-T8
 LUMINAIRE: FORMED STEEL AND EXTRUDED ALUMINUM HOUSING, FORMED SPECULAR ALUMINUM REFLECTOR, 28 CELL, 3/4" DEEP, FORMED SEMI-SPECULAR ALUMINUM LOUVER, OPEN TOP.
 LAMP: TWO 32 WATT T8 LINEAR FLUORESCENT LAMPS RATED AT 2850 LUMENS EACH.
 LAMP CATALOG NUMBER: SYLVANIA FO32/741/ECO
 BALLAST: ONE SYLVANIA QTP1X32T8/UNV-ISN-SC
 MOUNTING: WALL
 ELECTRICAL VALUES: 120.0VAC, 0.4698A, 56.22W

Candela Distribution

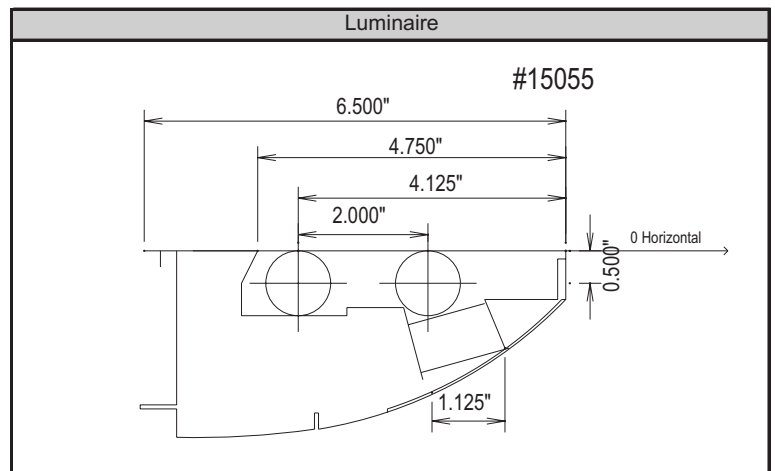
	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159	
5	196	191	183	172	157	144	133	126	125	126	133	144	157	172	183	191	15.0
15	272	258	225	186	143	110	82	68	68	68	82	110	143	186	225	258	44.3
25	325	311	255	188	125	78	64	68	65	68	64	78	125	188	255	311	73.4
35	312	291	249	181	104	56	50	42	40	42	50	56	104	181	249	291	89.8
45	256	241	214	163	79	45	30	22	20	22	30	45	79	163	214	241	89.5
55	203	176	157	120	52	26	12	4	3	4	12	26	52	120	157	176	73.8
65	195	166	113	73	29	10	0	0	0	0	0	10	29	73	113	166	60.4
75	110	99	76	36	14	0	0	0	0	0	0	0	14	36	76	99	37.3
85	55	49	35	17	0	0	0	0	0	0	0	0	0	17	35	49	18.1
90	45	38	25	8	0	0	0	0	0	0	0	0	0	8	25	38	
95	147	141	127	104	29	68	72	73	72	73	72	68	29	104	127	141	104.8
105	472	465	440	357	182	257	301	301	300	301	301	257	182	357	440	465	353.3
115	777	755	687	572	362	425	495	544	548	544	495	425	362	572	687	755	554.3
125	990	962	889	730	537	595	634	672	698	672	634	595	537	730	889	962	655.0
135	1153	1135	1032	797	695	755	777	805	815	805	777	755	695	797	1032	1135	673.6
145	1244	1208	1085	899	831	882	912	921	928	921	912	882	831	899	1085	1208	612.3
155	1197	1145	1041	971	940	977	1009	1029	1031	1029	1009	977	940	971	1041	1145	475.2
165	1098	1092	1059	991	1017	1039	1057	1074	1079	1074	1057	1039	1017	991	1059	1092	297.2
175	1022	1020	1019	1035	1056	1070	1071	1075	1077	1075	1071	1070	1056	1035	1019	1020	100.2
180	1063	1063	1063	1063	1063	1063	1063	1063	1063	1063	1063	1063	1063	1063	1063	1063	

Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	132.8	2.3%	3.1%
0-40	222.6	3.9%	5.1%
0-60	385.9	6.8%	8.9%
0-90	501.7	8.8%	11.6%
90-180	3825.7	67.1%	88.4%
0-180	4327.4	75.9%	100.0%

Total luminaire efficiency: 75.9%

CIE Type: Semi-Indirect
 Spacing Criterion: 0 deg: 2.11 90 deg: 1.09
 180 deg: 0.39 270 deg: 1.09
 Shielding angle: 0 deg: 26 90 deg: 31



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	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159
5	196	191	183	172	157	144	133	126	125	126	133	144	157	172	183	191
10	234	225	206	180	150	127	107	94	91	94	107	127	150	180	206	225
15	272	258	225	186	143	110	82	68	68	68	82	110	143	186	225	258
20	311	290	241	188	134	94	65	68	72	68	65	94	134	188	241	290
25	325	311	255	188	125	78	64	68	65	68	64	78	125	188	255	311
30	321	299	265	186	115	65	62	53	51	53	62	65	115	186	265	299
35	312	291	249	181	104	56	50	42	40	42	50	56	104	181	249	291
40	289	271	233	174	92	52	40	32	30	32	40	52	92	174	233	271
45	256	241	214	163	79	45	30	22	20	22	30	45	79	163	214	241
50	220	207	187	144	66	35	20	12	10	12	20	35	66	144	187	207
55	203	176	157	120	52	26	12	4	3	4	12	26	52	120	157	176
60	214	177	128	97	38	18	4	0	1	0	4	18	38	97	128	177
65	195	166	113	73	29	10	0	0	0	0	0	10	29	73	113	166
70	165	141	100	50	21	3	0	0	0	0	0	3	21	50	100	141
75	110	99	76	36	14	0	0	0	0	0	0	0	14	36	76	99
80	74	67	50	26	6	0	0	0	0	0	0	0	6	26	50	67
85	55	49	35	17	0	0	0	0	0	0	0	0	0	17	35	49
90	45	38	25	8	0	0	0	0	0	0	0	0	0	8	25	38
95	147	141	127	104	29	68	72	73	72	73	72	68	29	104	127	141
100	299	295	280	238	98	173	180	181	180	181	180	173	98	238	280	295
105	472	465	440	357	182	257	301	301	300	301	301	257	182	357	440	465
110	642	627	568	462	271	338	416	428	428	428	416	338	271	462	568	627
115	777	755	687	572	362	425	495	544	548	544	495	425	362	572	687	755
120	887	866	786	655	451	508	555	628	653	628	555	508	451	655	786	866
125	990	962	889	730	537	595	634	672	698	672	634	595	537	730	889	962
130	1067	1045	985	771	619	678	708	739	749	739	708	678	619	771	985	1045
135	1153	1135	1032	797	695	755	777	805	815	805	777	755	695	797	1032	1135
140	1226	1188	1075	843	766	821	846	866	875	866	846	821	766	843	1075	1188
145	1244	1208	1085	899	831	882	912	921	928	921	912	882	831	899	1085	1208
150	1248	1207	1053	950	890	935	972	978	980	978	972	935	890	950	1053	1207
155	1197	1145	1041	971	940	977	1009	1029	1031	1029	1009	977	940	971	1041	1145
160	1115	1091	1058	976	983	1011	1039	1056	1065	1056	1039	1011	983	976	1058	1091
165	1098	1092	1059	991	1017	1039	1057	1074	1079	1074	1057	1039	1017	991	1059	1092
170	1071	1055	1019	1008	1041	1059	1065	1076	1081	1076	1065	1059	1041	1008	1019	1055
175	1022	1020	1019	1035	1056	1070	1071	1075	1077	1075	1071	1070	1056	1035	1019	1020
180	1063	1063	1063	1063	1063	1063	1063	1063	1063	1063	1063	1063	1063	1063	1063	1063

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	3.8	45-50	43.5	90-95	23.7	135-140	334.3
5-10	11.3	50-55	38.8	95-100	81.0	140-145	318.9
10-15	18.5	55-60	35.0	100-105	146.2	145-150	293.4
15-20	25.9	60-65	32.2	105-110	207.1	150-155	258.5
20-25	33.7	65-70	28.2	110-115	258.5	155-160	216.7
25-30	39.7	70-75	22.1	115-120	295.8	160-165	172.3
30-35	43.9	75-80	15.2	120-125	320.3	165-170	124.9
35-40	45.9	80-85	10.5	125-130	334.7	170-175	75.0
40-45	46.0	85-90	7.5	130-135	339.3	175-180	25.2



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	0.844	0.844	0.844	0.844	0.744	0.744	0.744	0.744	0.649	0.649	0.649	0.649
1	0.769	0.731	0.697	0.666	0.676	0.645	0.617	0.592	0.588	0.563	0.54	0.519
2	0.7	0.636	0.584	0.54	0.615	0.562	0.518	0.482	0.534	0.491	0.455	0.425
3	0.639	0.557	0.495	0.447	0.56	0.493	0.441	0.399	0.486	0.431	0.388	0.353
4	0.583	0.491	0.424	0.374	0.511	0.434	0.378	0.336	0.443	0.38	0.334	0.297
5	0.533	0.434	0.366	0.317	0.467	0.385	0.327	0.285	0.405	0.337	0.289	0.253
6	0.489	0.387	0.319	0.272	0.429	0.343	0.286	0.244	0.372	0.301	0.252	0.217
7	0.45	0.347	0.281	0.235	0.395	0.308	0.251	0.212	0.343	0.27	0.222	0.188
8	0.416	0.312	0.248	0.205	0.365	0.277	0.222	0.184	0.317	0.244	0.197	0.164
9	0.385	0.283	0.221	0.18	0.338	0.251	0.198	0.162	0.294	0.221	0.176	0.145
10	0.358	0.257	0.198	0.159	0.315	0.229	0.177	0.143	0.274	0.201	0.157	0.128

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	0.471	0.471	0.471	0.471	0.308	0.308	0.308	0.158	0.158	0.158	0.088
1	0.425	0.409	0.395	0.382	0.268	0.26	0.253	0.138	0.134	0.131	0.072
2	0.385	0.358	0.335	0.315	0.235	0.221	0.21	0.121	0.115	0.11	0.06
3	0.349	0.314	0.286	0.263	0.207	0.19	0.177	0.107	0.099	0.093	0.05
4	0.318	0.278	0.247	0.223	0.183	0.165	0.15	0.095	0.086	0.079	0.043
5	0.291	0.247	0.215	0.19	0.163	0.144	0.128	0.085	0.076	0.068	0.037
6	0.267	0.221	0.188	0.164	0.146	0.126	0.111	0.076	0.067	0.06	0.032
7	0.247	0.199	0.166	0.142	0.132	0.112	0.097	0.069	0.06	0.052	0.029
8	0.228	0.18	0.148	0.124	0.12	0.1	0.085	0.063	0.054	0.046	0.025
9	0.212	0.163	0.132	0.11	0.109	0.089	0.075	0.058	0.048	0.041	0.023
10	0.198	0.149	0.118	0.097	0.1	0.081	0.067	0.053	0.044	0.037	0.021

Average Luminance Table (cd/m²)

	0	45	90
0	6183	6183	6183
45	11490	10145	4358
55	10421	8699	3526
65	12143	7791	2702
75	8989	7217	2025
85	6946	5561	0

Note: The zonal cavity calculation technique is accurate when luminaires with symmetric candela distributions are employed and when the luminaires are located symmetrically throughout the room. This unit has special characteristics and therefore these values should be used with caution.

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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