



# 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: 18359

DATE: 03-29-2010

PREPARED FOR: LUMETTA, INC.

CATALOG NUMBER: FW1304

LUMINAIRE: FORMED WHITE ENAMEL STEEL HOUSING/REFLECTOR, TRANSLUCENT WHITE PLASTIC DIFFUSER WITH FORMED STEEL FRAME, OPEN TOP AND BOTTOM.

LAMP: TWO VBD 26 WATT TRIPLE TUBE COMPACT FLUORESCENT LAMPS RATED AT 1800 LUMENS EACH.

LAMP CATALOG NUMBER: SYLVANIA CF26DT/E/IN/835

BALLAST: ONE SAGE LIGHTING MODEL: NAU232

MOUNTING: WALL

ELECTRICAL VALUES: 120.0VAC, 0.4890A, 58.61W

### 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	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	
5	67	70	65	60	61	66	69	68	69	68	69	66	61	60	65	70	8.0
15	140	156	174	159	158	177	156	145	141	145	156	177	158	159	174	156	45.1
25	147	161	204	249	249	228	175	163	167	163	175	228	249	249	204	161	91.1
35	150	156	179	228	264	222	167	147	163	147	167	222	264	228	179	156	117.8
45	142	142	148	156	175	157	126	115	141	115	126	157	175	156	148	142	112.6
55	140	139	133	125	111	97	85	78	97	78	85	97	111	125	133	139	100.0
65	142	139	131	116	95	73	57	50	70	50	57	73	95	116	131	139	95.3
75	139	138	130	114	89	62	41	31	55	31	41	62	89	114	130	138	93.0
85	141	139	129	112	84	54	33	22	48	22	33	54	84	112	129	139	91.4
90	142	139	130	111	82	53	34	25	51	25	34	53	82	111	130	139	
95	142	140	131	113	85	57	37	30	55	30	37	57	85	113	131	140	93.8
105	139	139	133	120	99	71	51	45	69	45	51	71	99	120	133	139	100.8
115	140	140	138	130	116	93	74	68	90	68	74	93	116	130	138	140	108.4
125	141	141	143	145	145	129	108	99	123	99	108	129	145	145	143	141	117.6
135	150	153	165	198	230	193	158	140	161	140	158	193	230	198	165	153	134.9
145	179	190	231	294	338	266	206	177	182	177	206	266	338	294	231	190	146.8
155	252	263	305	349	356	311	277	234	213	234	277	311	356	349	305	263	133.4
165	310	310	309	295	317	338	333	318	290	318	333	338	317	295	309	310	88.0
175	244	236	230	225	233	244	251	248	241	248	251	244	233	225	230	236	24.5
180	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	

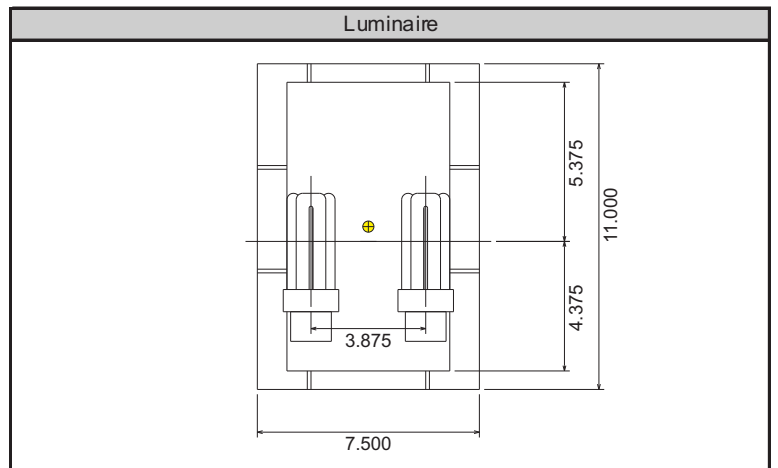
### Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	144.3	4.0%	8.5%
0-40	262.1	7.3%	15.4%
0-60	474.7	13.2%	27.9%
0-90	754.4	21.0%	44.3%
90-180	948.3	26.3%	55.7%
0-180	1702.7	47.3%	100.0%

Total luminaire efficiency: 47.3%

CIE Type: Direct/Indirect  
Spacing Criterion: 0 deg: 3.52 90 deg: 3.09  
180 deg: 2.92 270 deg: 3.09

Total reflectance of paint: 88.8



Approved By: \_\_\_\_\_

**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	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
5	67	70	65	60	61	66	69	68	69	68	69	66	61	60	65	70
10	109	120	119	107	107	125	133	118	110	118	133	125	107	107	119	120
15	140	156	174	159	158	177	156	145	141	145	156	177	158	159	174	156
20	147	165	204	207	207	210	165	159	163	159	165	210	207	207	204	165
25	147	161	204	249	249	228	175	163	167	163	175	228	249	249	204	161
30	147	159	192	254	273	234	177	160	167	160	177	234	273	254	192	159
35	150	156	179	228	264	222	167	147	163	147	167	222	264	228	179	156
40	148	151	164	186	224	194	147	132	157	132	147	194	224	186	164	151
45	142	142	148	156	175	157	126	115	141	115	126	157	175	156	148	142
50	140	139	138	137	132	124	104	98	118	98	104	124	132	137	138	139
55	140	139	133	125	111	97	85	78	97	78	85	97	111	125	133	139
60	141	138	131	119	101	81	69	62	80	62	69	81	101	119	131	138
65	142	139	131	116	95	73	57	50	70	50	57	73	95	116	131	139
70	141	139	131	115	91	67	49	40	61	40	49	67	91	115	131	139
75	139	138	130	114	89	62	41	31	55	31	41	62	89	114	130	138
80	140	138	130	113	87	58	36	25	50	25	36	58	87	113	130	138
85	141	139	129	112	84	54	33	22	48	22	33	54	84	112	129	139
90	142	139	130	111	82	53	34	25	51	25	34	53	82	111	130	139
95	142	140	131	113	85	57	37	30	55	30	37	57	85	113	131	140
100	140	138	130	115	91	63	43	36	60	36	43	63	91	115	130	138
105	139	139	133	120	99	71	51	45	69	45	51	71	99	120	133	139
110	140	139	135	126	108	80	61	55	78	55	61	80	108	126	135	139
115	140	140	138	130	116	93	74	68	90	68	74	93	116	130	138	140
120	140	139	139	136	127	109	88	83	106	83	88	109	127	136	139	139
125	141	141	143	145	145	129	108	99	123	99	108	129	145	145	143	141
130	145	145	151	163	183	158	133	118	140	118	133	158	183	163	151	145
135	150	153	165	198	230	193	158	140	161	140	158	193	230	198	165	153
140	161	167	191	246	286	233	182	159	177	159	182	233	286	246	191	167
145	179	190	231	294	338	266	206	177	182	177	206	266	338	294	231	190
150	211	225	271	334	361	290	236	200	193	200	236	290	361	334	271	225
155	252	263	305	349	356	311	277	234	213	234	277	311	356	349	305	263
160	293	297	320	328	341	333	315	281	254	281	315	333	341	328	320	297
165	310	310	309	295	317	338	333	318	290	318	333	338	317	295	309	310
170	291	285	270	258	281	307	315	302	285	302	315	307	281	258	270	285
175	244	236	230	225	233	244	251	248	241	248	251	244	233	225	230	236
180	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	1.2	45-50	54.4	90-95	46.3	135-140	69.9
5-10	6.8	50-55	51.0	95-100	47.6	140-145	73.3
10-15	16.6	55-60	49.0	100-105	49.3	145-150	73.5
15-20	28.5	60-65	47.9	105-110	51.5	150-155	70.2
20-25	40.3	65-70	47.4	110-115	53.3	155-160	63.2
25-30	50.8	70-75	46.8	115-120	55.1	160-165	51.9
30-35	57.9	75-80	46.2	120-125	57.2	165-170	36.1
35-40	59.9	80-85	45.8	125-130	60.5	170-175	19.1
40-45	58.2	85-90	45.6	130-135	65.1	175-180	5.3



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	0.545	0.545	0.545	0.545	0.5	0.5	0.5	0.5	0.458	0.458	0.458	0.458
1	0.488	0.459	0.433	0.41	0.445	0.42	0.398	0.378	0.406	0.384	0.365	0.347
2	0.441	0.395	0.357	0.325	0.402	0.362	0.329	0.301	0.365	0.33	0.302	0.277
3	0.4	0.344	0.3	0.266	0.364	0.315	0.277	0.247	0.33	0.288	0.254	0.228
4	0.365	0.302	0.256	0.222	0.332	0.277	0.237	0.206	0.301	0.253	0.218	0.19
5	0.334	0.267	0.221	0.187	0.304	0.245	0.204	0.174	0.275	0.224	0.188	0.161
6	0.307	0.238	0.193	0.161	0.279	0.219	0.178	0.15	0.253	0.2	0.165	0.139
7	0.282	0.213	0.169	0.139	0.257	0.197	0.157	0.13	0.233	0.18	0.145	0.12
8	0.261	0.192	0.15	0.121	0.238	0.178	0.139	0.113	0.216	0.163	0.129	0.105
9	0.242	0.175	0.134	0.107	0.221	0.161	0.125	0.1	0.201	0.148	0.115	0.093
10	0.225	0.159	0.12	0.095	0.206	0.147	0.112	0.089	0.187	0.135	0.104	0.082

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	0.379	0.379	0.379	0.379	0.307	0.307	0.307	0.241	0.241	0.241	0.21
1	0.332	0.316	0.301	0.288	0.253	0.243	0.233	0.195	0.188	0.181	0.154
2	0.297	0.271	0.25	0.231	0.217	0.201	0.187	0.167	0.155	0.146	0.122
3	0.268	0.237	0.211	0.19	0.189	0.17	0.155	0.145	0.132	0.12	0.099
4	0.244	0.208	0.181	0.16	0.167	0.146	0.13	0.128	0.113	0.101	0.083
5	0.223	0.185	0.157	0.136	0.148	0.127	0.111	0.114	0.099	0.087	0.07
6	0.205	0.166	0.138	0.117	0.133	0.112	0.096	0.103	0.087	0.075	0.06
7	0.19	0.149	0.122	0.102	0.12	0.099	0.084	0.093	0.078	0.066	0.052
8	0.176	0.135	0.108	0.089	0.11	0.089	0.073	0.085	0.07	0.058	0.046
9	0.164	0.123	0.097	0.079	0.1	0.08	0.065	0.078	0.063	0.052	0.041
10	0.153	0.113	0.088	0.07	0.092	0.072	0.058	0.072	0.057	0.046	0.036

Average Luminance Table (cd/m<sup>2</sup>)

	0	45	90
0	1822	1822	1822
45	2840	2776	5246
55	2641	2327	3251
65	2585	2204	2804
75	2543	2175	2747
85	2668	2233	2818

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.

