



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: 18373

DATE: 07-29-2010

PREPARED FOR: LUMETTA, INC.

CATALOG NUMBER: FSM5348Z

LUMINAIRE: FORMED WHITE ENAMEL ALUMINUM AND STEEL HOUSING/REFLECTOR,
WHITE PLASTIC SIDE DIFFUSER WITH TRANSLUCENT WHITE PLASTIC
LENS, OPEN TOP.

LAMP: TWO HORIZONTAL 32 WATT TRIPLE TUBE COMPACT FLUORESCENT LAMPS
RATED AT 2400 LUMENS EACH.

LAMP CATALOG NUMBER: SYLVANIA CF32DT/E/IN/835

BALLAST: ONE FULHAM RACEHORSE 4 RH4-UNV-242-C

MOUNTING: CEILING

ELECTRICAL VALUES: 120.0VAC, 0.5799A, 69.56W

NOTE: TEST WAS PERFORMED WITH A SIMULATED CEILING ATTACHED TO TOP OF
LUMINAIRE. PAINT REFLECTANCE OF CEILING=90.6

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	1124	1124	1124	1124	1124	1124	1124	1124	1124	1124	1124	1124	1124	1124	1124	1124	
5	1119	1119	1119	1119	1119	1119	1119	1119	1119	1119	1119	1119	1119	1119	1119	1119	106.4
15	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	305.6
25	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009	464.9
35	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	563.1
45	763	763	763	763	763	763	763	763	763	763	763	763	763	763	763	763	588.1
55	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	539.4
65	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	428.2
75	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	275.7
85	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	115.1
90	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
95	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	53.6
105	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	49.9
115	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	42.7
125	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	33.8
135	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	24.6
145	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	15.6
155	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	8.0
165	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	2.8
175	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0.4
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Zonal Lumen Summary

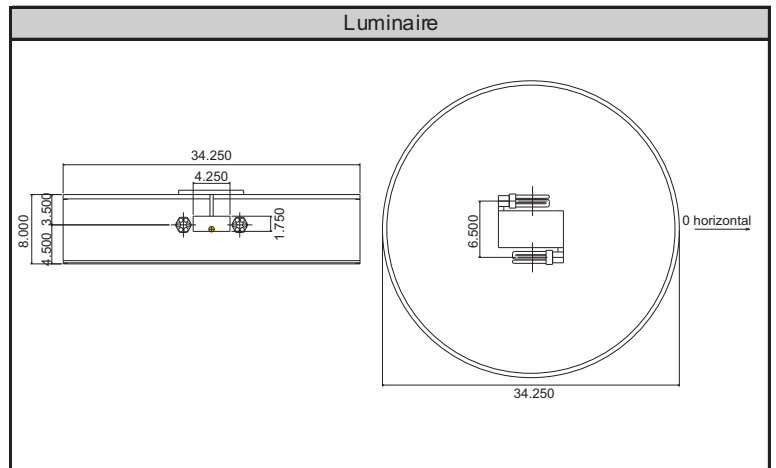
Zone	Lumens	% of Lamp	% of Luminaire
0-30	876.9	18.3%	24.2%
0-40	1440.0	30.0%	39.8%
0-60	2567.6	53.5%	71.0%
0-90	3386.5	70.6%	93.6%
90-180	231.4	4.8%	6.4%
0-180	3617.9	75.4%	100.0%

Total luminaire efficiency: 75.4%

CIE Type: Direct

Spacing Criterion: 1.27

Total reflectance of paint: 87.0



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	1124	1124	1124	1124	1124	1124	1124	1124	1124	1124	1124	1124	1124	1124	1124	1124
5	1119	1119	1119	1119	1119	1119	1119	1119	1119	1119	1119	1119	1119	1119	1119	1119
10	1106	1106	1106	1106	1106	1106	1106	1106	1106	1106	1106	1106	1106	1106	1106	1106
15	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083
20	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050
25	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009
30	959	959	959	959	959	959	959	959	959	959	959	959	959	959	959	959
35	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
40	834	834	834	834	834	834	834	834	834	834	834	834	834	834	834	834
45	763	763	763	763	763	763	763	763	763	763	763	763	763	763	763	763
50	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685
55	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603
60	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518
65	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432
70	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
75	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260
80	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180
85	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103
90	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
95	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
100	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
105	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
110	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
115	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
120	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
125	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
130	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
135	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
140	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
145	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
150	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
155	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
160	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
165	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
170	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
175	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	26.8	45-50	292.4	90-95	27.0	135-140	11.2
5-10	79.6	50-55	280.2	95-100	26.6	140-145	8.9
10-15	129.8	55-60	259.2	100-105	25.6	145-150	6.7
15-20	175.8	60-65	231.1	105-110	24.2	150-155	4.8
20-25	216.0	65-70	197.1	110-115	22.4	155-160	3.2
25-30	248.9	70-75	158.4	115-120	20.3	160-165	1.8
30-35	273.7	75-80	117.3	120-125	18.1	165-170	0.9
35-40	289.4	80-85	76.4	125-130	15.8	170-175	0.3
40-45	295.7	85-90	38.6	130-135	13.5	175-180	0.1



Coefficients of Utilization - Zonal Cavity Method												
Effective Floor Cavity Reflectance 20%												
Ceiling Cavity Reflectance	90				80				70			
	70	50	30	10	70	50	30	10	70	50	30	10
Room Cavity Ratio (RCR)												
0	0.913	0.913	0.913	0.913	0.886	0.886	0.886	0.886	0.86	0.86	0.86	0.86
1	0.83	0.787	0.75	0.716	0.803	0.764	0.73	0.699	0.777	0.742	0.711	0.683
2	0.753	0.682	0.624	0.575	0.727	0.663	0.609	0.564	0.703	0.644	0.595	0.554
3	0.686	0.596	0.528	0.474	0.662	0.58	0.517	0.466	0.638	0.564	0.506	0.459
4	0.627	0.526	0.453	0.399	0.605	0.512	0.445	0.393	0.583	0.499	0.436	0.388
5	0.576	0.469	0.395	0.341	0.555	0.457	0.388	0.337	0.536	0.445	0.381	0.333
6	0.531	0.421	0.348	0.296	0.512	0.41	0.342	0.293	0.495	0.401	0.337	0.29
7	0.492	0.38	0.31	0.261	0.475	0.372	0.305	0.258	0.458	0.363	0.3	0.255
8	0.457	0.346	0.278	0.232	0.441	0.339	0.274	0.23	0.427	0.331	0.27	0.227
9	0.426	0.317	0.252	0.208	0.412	0.31	0.248	0.206	0.399	0.304	0.245	0.204
10	0.399	0.292	0.229	0.188	0.386	0.286	0.226	0.186	0.374	0.28	0.223	0.185

Ceiling Cavity Reflectance	50				30			10			0
	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)											
0	0.811	0.811	0.811	0.811	0.766	0.766	0.766	0.725	0.725	0.725	0.706
1	0.729	0.701	0.676	0.653	0.664	0.643	0.624	0.629	0.613	0.597	0.578
2	0.657	0.609	0.569	0.533	0.577	0.544	0.514	0.548	0.52	0.496	0.476
3	0.596	0.535	0.485	0.444	0.507	0.466	0.431	0.482	0.447	0.417	0.398
4	0.544	0.474	0.42	0.377	0.45	0.404	0.367	0.429	0.389	0.357	0.338
5	0.5	0.424	0.368	0.325	0.404	0.355	0.317	0.385	0.343	0.309	0.292
6	0.462	0.382	0.326	0.283	0.365	0.315	0.277	0.349	0.305	0.271	0.254
7	0.429	0.347	0.291	0.25	0.332	0.282	0.245	0.318	0.274	0.24	0.224
8	0.4	0.317	0.262	0.223	0.304	0.255	0.219	0.292	0.248	0.215	0.2
9	0.374	0.292	0.238	0.201	0.28	0.232	0.197	0.269	0.226	0.194	0.179
10	0.352	0.27	0.218	0.182	0.259	0.212	0.179	0.25	0.207	0.176	0.162

Average Luminance Table (cd/m²)

	0	45	90
0	1892	1892	1892
45	1399	1399	1399
55	1242	1242	1242
65	1051	1051	1051
75	802	802	802
85	451	451	451

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.

