



# 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: 18801

DATE: 06-16-2010

PREPARED FOR: RENOVA LIGHTING SYSTEMS, INC.

CATALOG NUMBER: ECS-EGF2-MN-217-UNV-12L-PRF1 (SMALL PERFORATIONS)

LUMINAIRE: FORMED WHITE ENAMEL STEEL HOUSING, FORMED WHITE ENAMEL ALUMINUM REFLECTORS WITH SPECULAR ALUMINUM REFLECTOR ABOVE LAMPS, FORMED WHITE ENAMEL PERFORATED STEEL CENTER DIFFUSER WITH TRANSLUCENT WHITE PLASTIC INSERT.

LAMP: TWO 17 WATT T8 LINEAR FLUORESCENT LAMPS RATED AT 1350 LUMENS EACH.

LAMP CATALOG NUMBER: GE F17T8-SP41-ECO

BALLAST: ONE SYLVANIA "QUICKTRONIC" QHE2X32T8/UNV-ISL-SC

MOUNTING: RECESSED

ELECTRICAL VALUES: 120.0VAC, 0.2165A, 25.77W

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	606	606	606	606	606	606	606	606	606	606	606	606	606	606	606	606	
5	602	602	603	604	604	604	603	602	602	602	603	604	604	604	603	602	57.3
15	573	576	582	588	590	588	582	576	573	576	582	588	590	588	582	576	164.1
25	520	526	540	555	561	555	540	526	520	526	540	555	561	555	540	526	249.2
35	448	459	484	508	520	508	484	459	448	459	484	508	520	508	484	459	302.6
45	359	377	413	445	460	445	413	377	359	377	413	445	460	445	413	377	316.9
55	260	284	326	360	373	360	326	284	260	284	326	360	373	360	326	284	286.4
65	161	185	220	219	226	219	220	185	161	185	220	219	226	219	220	185	202.2
75	79	87	94	102	105	102	94	87	79	87	94	102	105	102	94	87	100.3
85	16	17	19	21	22	21	19	17	16	17	19	21	22	21	19	17	23.0
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
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	470.7	17.4%	27.7%
0-40	773.3	28.6%	45.4%
0-60	1376.7	51.0%	80.9%
0-90	1702.2	63.0%	100.0%
90-180	0.0	0.0%	0.0%
0-180	1702.2	63.0%	100.0%

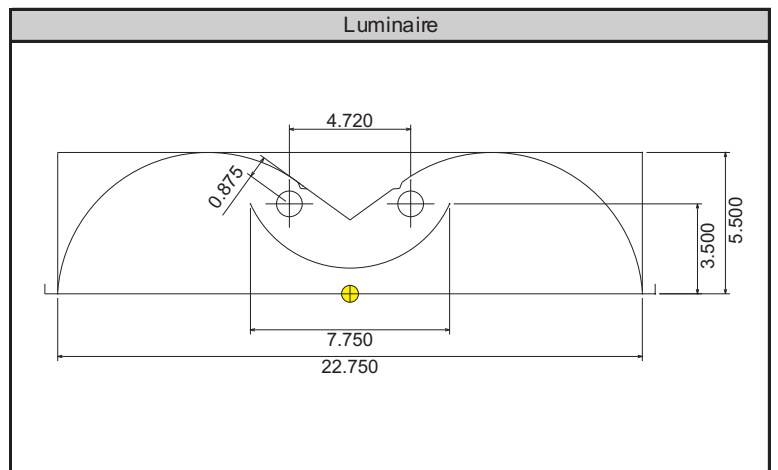
Total luminaire efficiency: 63.0%

CIE Type:

Direct

Spacing Criterion:

0 deg: 1.20    90 deg: 1.33  
180 deg: 1.20    270 deg: 1.33



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	606	606	606	606	606	606	606	606	606	606	606	606	606	606	606	606
5	602	602	603	604	604	604	603	602	602	602	603	604	604	604	603	602
10	590	592	595	598	599	598	595	592	590	592	595	598	599	598	595	592
15	573	576	582	588	590	588	582	576	573	576	582	588	590	588	582	576
20	549	554	563	573	578	573	563	554	549	554	563	573	578	573	563	554
25	520	526	540	555	561	555	540	526	520	526	540	555	561	555	540	526
30	486	495	514	534	543	534	514	495	486	495	514	534	543	534	514	495
35	448	459	484	508	520	508	484	459	448	459	484	508	520	508	484	459
40	405	420	450	479	492	479	450	420	405	420	450	479	492	479	450	420
45	359	377	413	445	460	445	413	377	359	377	413	445	460	445	413	377
50	311	332	371	406	422	406	371	332	311	332	371	406	422	406	371	332
55	260	284	326	360	373	360	326	284	260	284	326	360	373	360	326	284
60	208	234	277	298	300	298	277	234	208	234	277	298	300	298	277	234
65	161	185	220	219	226	219	220	185	161	185	220	219	226	219	220	185
70	118	136	147	158	162	158	147	136	118	136	147	158	162	158	147	136
75	79	87	94	102	105	102	94	87	79	87	94	102	105	102	94	87
80	42	45	51	56	57	56	51	45	42	45	51	56	57	56	51	45
85	16	17	19	21	22	21	19	17	16	17	19	21	22	21	19	17
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	14.5	45-50	157.6	90-95	0.0	135-140	0.0
5-10	42.8	50-55	150.4	95-100	0.0	140-145	0.0
10-15	69.8	55-60	136.1	100-105	0.0	145-150	0.0
15-20	94.4	60-65	114.0	105-110	0.0	150-155	0.0
20-25	115.8	65-70	88.2	110-115	0.0	155-160	0.0
25-30	133.4	70-75	62.0	115-120	0.0	160-165	0.0
30-35	146.9	75-80	38.2	120-125	0.0	165-170	0.0
35-40	155.7	80-85	18.4	125-130	0.0	170-175	0.0
40-45	159.3	85-90	4.6	130-135	0.0	175-180	0.0



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	0.769	0.769	0.769	0.769	0.751	0.751	0.751	0.751	0.733	0.733	0.733	0.733
1	0.706	0.674	0.645	0.619	0.688	0.659	0.632	0.609	0.671	0.644	0.621	0.599
2	0.644	0.588	0.542	0.504	0.626	0.575	0.533	0.498	0.61	0.563	0.525	0.492
3	0.588	0.516	0.461	0.418	0.571	0.505	0.455	0.414	0.556	0.496	0.448	0.41
4	0.538	0.457	0.398	0.353	0.523	0.448	0.393	0.351	0.508	0.439	0.388	0.348
5	0.495	0.407	0.347	0.304	0.481	0.4	0.344	0.302	0.467	0.393	0.34	0.3
6	0.456	0.366	0.307	0.265	0.444	0.36	0.304	0.263	0.432	0.354	0.301	0.262
7	0.423	0.331	0.273	0.233	0.411	0.326	0.271	0.232	0.4	0.321	0.269	0.231
8	0.393	0.302	0.246	0.208	0.383	0.297	0.244	0.207	0.373	0.293	0.242	0.206
9	0.367	0.277	0.223	0.187	0.357	0.273	0.221	0.186	0.348	0.269	0.219	0.186
10	0.343	0.255	0.203	0.169	0.335	0.252	0.202	0.169	0.327	0.248	0.2	0.168

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	0.7	0.7	0.7	0.7	0.671	0.671	0.671	0.643	0.643	0.643	0.63
1	0.639	0.618	0.598	0.58	0.593	0.577	0.562	0.57	0.558	0.546	0.533
2	0.579	0.541	0.508	0.48	0.52	0.493	0.469	0.501	0.479	0.459	0.445
3	0.527	0.477	0.436	0.403	0.459	0.425	0.396	0.443	0.414	0.389	0.376
4	0.482	0.424	0.379	0.344	0.409	0.37	0.339	0.395	0.362	0.334	0.321
5	0.443	0.379	0.333	0.297	0.367	0.326	0.294	0.355	0.319	0.29	0.277
6	0.409	0.342	0.295	0.26	0.332	0.29	0.257	0.322	0.284	0.255	0.242
7	0.38	0.311	0.264	0.23	0.302	0.26	0.228	0.294	0.255	0.226	0.214
8	0.354	0.285	0.238	0.205	0.277	0.235	0.204	0.269	0.231	0.202	0.19
9	0.332	0.262	0.216	0.185	0.255	0.213	0.184	0.248	0.21	0.183	0.171
10	0.312	0.242	0.198	0.167	0.236	0.195	0.167	0.23	0.193	0.166	0.155

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

	0	45	90
0	1806	1806	1806
45	1513	1738	1937
55	1349	1693	1938
65	1132	1551	1593
75	903	1078	1212
85	544	662	765

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.

