



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: 18457

DATE: 03-15-2010

PREPARED FOR: RENOVA LIGHTING SYSTEMS

CATALOG NUMBER: EFK-22-W-3LT8-V

LUMINAIRE: FORMED WHITE ENAMEL STEEL HOUSING, FORMED WHITE ENAMEL ALUMINUM REFLECTOR, NO ENCLOSURE.

LAMP: THREE 17 WATT T8 LINEAR FLUORESCENT LAMPS RATED AT 1325 LUMENS EACH.

LAMP CATALOG NUMBER: GE F17T8/SP41/ECO

BALLAST: ONE SYLVANIA "QUICKTRONIC" QHE3X32T8/UNV-ISL-SC

MOUNTING: RECESSED

ELECTRICAL VALUES: 120.0VAC, 0.3215A, 38.48W

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	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	
5	1088	1087	1088	1088	1089	1088	1088	1087	1088	1087	1088	1088	1089	1088	1088	1087	103.5
15	1053	1054	1058	1064	1066	1064	1058	1054	1053	1054	1058	1064	1066	1064	1058	1054	299.2
25	983	987	1003	1021	1028	1021	1003	987	983	987	1003	1021	1028	1021	1003	987	463.3
35	877	890	926	962	977	962	926	890	877	890	926	962	977	962	926	890	580.0
45	739	764	830	897	920	897	830	764	739	764	830	897	920	897	830	764	640.7
55	573	615	719	794	817	794	719	615	573	615	719	794	817	794	719	615	630.4
65	387	449	555	646	670	646	555	449	387	449	555	646	670	646	555	449	536.5
75	184	247	342	369	375	369	342	247	184	247	342	369	375	369	342	247	326.7
85	30	36	47	40	33	40	47	36	30	36	47	40	33	40	47	36	67.5
90	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	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	0.0

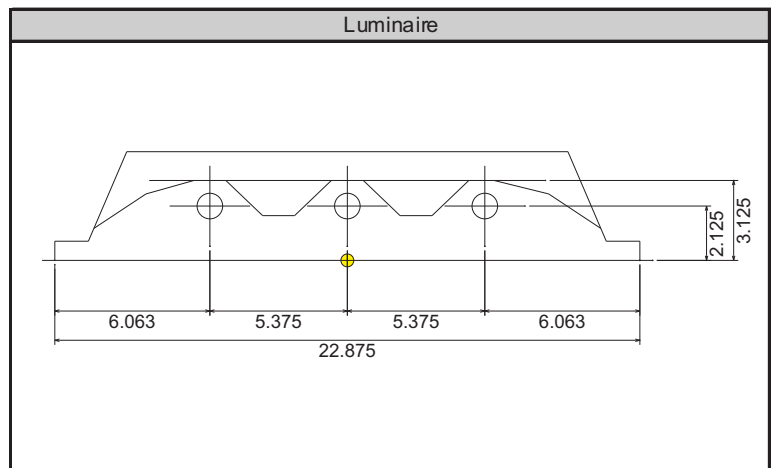
Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	866.1	21.8%	23.7%
0-40	1446.1	36.4%	39.6%
0-60	2717.2	68.4%	74.5%
0-90	3647.9	91.8%	100.0%
90-180	0.0	0.0%	0.0%
0-180	3647.9	91.8%	100.0%

Total luminaire efficiency: 91.8%

CIE Type: Direct

Spacing Criterion: 0 deg: 1.27 90 deg: 1.38
180 deg: 1.27 270 deg: 1.38



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	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093
5	1088	1087	1088	1088	1089	1088	1088	1087	1088	1087	1088	1088	1089	1088	1088	1087
10	1075	1075	1076	1079	1080	1079	1076	1075	1075	1075	1076	1079	1080	1079	1076	1075
15	1053	1054	1058	1064	1066	1064	1058	1054	1053	1054	1058	1064	1066	1064	1058	1054
20	1023	1025	1034	1045	1049	1045	1034	1025	1023	1025	1034	1045	1049	1045	1034	1025
25	983	987	1003	1021	1028	1021	1003	987	983	987	1003	1021	1028	1021	1003	987
30	934	942	967	993	1003	993	967	942	934	942	967	993	1003	993	967	942
35	877	890	926	962	977	962	926	890	877	890	926	962	977	962	926	890
40	812	830	879	928	949	928	879	830	812	830	879	928	949	928	879	830
45	739	764	830	897	920	897	830	764	739	764	830	897	920	897	830	764
50	660	693	778	854	877	854	778	693	660	693	778	854	877	854	778	693
55	573	615	719	794	817	794	719	615	573	615	719	794	817	794	719	615
60	482	534	643	724	752	724	643	534	482	534	643	724	752	724	643	534
65	387	449	555	646	670	646	555	449	387	449	555	646	670	646	555	449
70	286	354	459	539	550	539	459	354	286	354	459	539	550	539	459	354
75	184	247	342	369	375	369	342	247	184	247	342	369	375	369	342	247
80	87	147	182	232	250	232	182	147	87	147	182	232	250	232	182	147
85	30	36	47	40	33	40	47	36	30	36	47	40	33	40	47	36
90	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	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	26.1	45-50	324.1	90-95	0.0	135-140	0.0
5-10	77.4	50-55	321.8	95-100	0.0	140-145	0.0
10-15	126.7	55-60	308.6	100-105	0.0	145-150	0.0
15-20	172.5	60-65	285.8	105-110	0.0	150-155	0.0
20-25	213.8	65-70	250.7	110-115	0.0	155-160	0.0
25-30	249.5	70-75	197.2	115-120	0.0	160-165	0.0
30-35	278.8	75-80	129.6	120-125	0.0	165-170	0.0
35-40	301.2	80-85	59.5	125-130	0.0	170-175	0.0
40-45	316.6	85-90	8.0	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	1.119	1.119	1.119	1.119	1.093	1.093	1.093	1.093	1.067	1.067	1.067	1.067
1	1.018	0.967	0.921	0.88	0.991	0.945	0.903	0.865	0.966	0.924	0.885	0.851
2	0.921	0.833	0.76	0.7	0.895	0.814	0.747	0.691	0.87	0.796	0.735	0.683
3	0.836	0.723	0.638	0.571	0.811	0.708	0.629	0.565	0.787	0.693	0.619	0.56
4	0.762	0.635	0.545	0.476	0.739	0.622	0.537	0.472	0.717	0.61	0.53	0.469
5	0.698	0.564	0.472	0.405	0.677	0.553	0.466	0.402	0.657	0.542	0.461	0.4
6	0.642	0.504	0.414	0.349	0.623	0.495	0.409	0.348	0.605	0.486	0.405	0.346
7	0.594	0.455	0.367	0.306	0.576	0.447	0.363	0.305	0.56	0.439	0.36	0.303
8	0.551	0.413	0.328	0.271	0.535	0.407	0.326	0.27	0.52	0.4	0.323	0.269
9	0.514	0.378	0.297	0.242	0.499	0.372	0.294	0.242	0.486	0.367	0.292	0.241
10	0.48	0.348	0.27	0.219	0.468	0.343	0.268	0.218	0.456	0.338	0.266	0.217

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	1.02	1.02	1.02	1.02	0.976	0.976	0.976	0.936	0.936	0.936	0.918
1	0.919	0.884	0.853	0.824	0.848	0.822	0.798	0.815	0.794	0.774	0.755
2	0.824	0.763	0.711	0.667	0.733	0.689	0.651	0.705	0.669	0.636	0.616
3	0.744	0.665	0.602	0.55	0.639	0.585	0.54	0.615	0.57	0.53	0.509
4	0.677	0.586	0.517	0.462	0.564	0.504	0.456	0.544	0.492	0.449	0.428
5	0.62	0.522	0.45	0.395	0.504	0.44	0.391	0.486	0.431	0.386	0.366
6	0.571	0.469	0.397	0.343	0.453	0.389	0.34	0.438	0.381	0.336	0.317
7	0.529	0.425	0.353	0.301	0.411	0.347	0.299	0.399	0.341	0.296	0.277
8	0.493	0.388	0.317	0.267	0.376	0.312	0.265	0.365	0.307	0.264	0.245
9	0.461	0.356	0.287	0.239	0.346	0.283	0.238	0.336	0.279	0.237	0.219
10	0.433	0.328	0.262	0.216	0.32	0.258	0.215	0.311	0.255	0.214	0.198

Average Luminance Table (cd/m²)

	0	45	90
0	3236	3236	3236
45	3094	3477	3855
55	2958	3714	4219
65	2714	3890	4698
75	2108	3919	4287
85	1008	1611	1121

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.

