



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: 16912

DATE: 11-02-2009

PREPARED FOR: MERCURY LIGHTING PRODUCTS

CATALOG NUMBER: M106-232-OCT-A-ELB-UNI

LUMINAIRE: FORMED STEEL HOUSING/REFLECTOR, CLEAR PRISMATIC PLASTIC LENS
WITH LINEAR PRISMATIC SIDES.

LAMP: TWO 32 WATT T8 LINEAR FLUORESCENT LAMPS RATED AT 2850 LUMENS
EACH.

LAMP CATALOG NUMBER: PHILIPS F32T8/TL841/ALTO

BALLAST: ONE UNIVERSAL LIGHTING TECHNOLOGIES TRIAD B232IUNVHP-B

MOUNTING: SURFACE

ELECTRICAL VALUES: 120.0VAC, 0.4707A, 56.43W

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	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	
5	1473	1474	1480	1477	1477	1477	1480	1474	1473	1474	1480	1477	1477	1477	1480	1474	140.4
15	1424	1428	1440	1443	1446	1443	1440	1428	1424	1428	1440	1443	1446	1443	1440	1428	405.8
25	1325	1336	1362	1377	1384	1377	1362	1336	1325	1336	1362	1377	1384	1377	1362	1336	626.2
35	1177	1202	1246	1277	1289	1277	1246	1202	1177	1202	1246	1277	1289	1277	1246	1202	774.0
45	938	982	1032	1049	1054	1049	1032	982	938	982	1032	1049	1054	1049	1032	982	775.2
55	522	593	631	625	629	625	631	593	522	593	631	625	629	625	631	593	548.5
65	268	306	327	355	360	355	327	306	268	306	327	355	360	355	327	306	329.8
75	159	161	223	291	316	291	223	161	159	161	223	291	316	291	223	161	243.4
85	58	77	172	270	299	270	172	77	58	77	172	270	299	270	172	77	188.3
90	0	31	147	224	248	224	147	31	0	31	147	224	248	224	147	31	
95	0	40	146	203	220	203	146	40	0	40	146	203	220	203	146	40	130.5
105	3	40	73	93	101	93	73	40	3	40	73	93	101	93	73	40	71.7
115	4	28	56	74	82	74	56	28	4	28	56	74	82	74	56	28	50.3
125	4	23	49	65	70	65	49	23	4	23	49	65	70	65	49	23	38.9
135	4	15	38	54	60	54	38	15	4	15	38	54	60	54	38	15	27.1
145	4	11	24	37	42	37	24	11	4	11	24	37	42	37	24	11	15.1
155	5	7	14	21	23	21	14	7	5	7	14	21	23	21	14	7	6.7
165	4	5	8	10	11	10	8	5	4	5	8	10	11	10	8	5	2.3
175	4	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	0.5
180	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

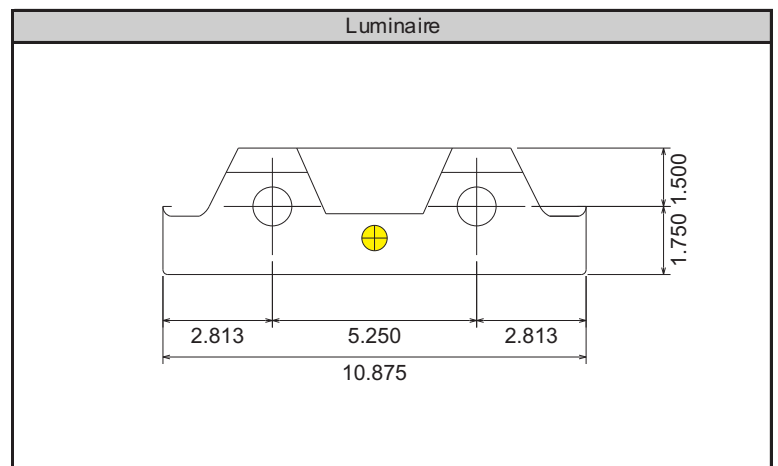
Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	1172.5	20.6%	26.8%
0-40	1946.5	34.1%	44.5%
0-60	3270.3	57.4%	74.8%
0-90	4031.7	70.7%	92.2%
90-180	343.2	6.0%	7.8%
0-180	4374.9	76.8%	100.0%

Total luminaire efficiency: 76.8%

CIE Type: Direct

Spacing Criterion: 0 deg: 1.26 90 deg: 1.35
180 deg: 1.26 270 deg: 1.35



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	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482	1482
5	1473	1474	1480	1477	1477	1477	1480	1474	1473	1474	1480	1477	1477	1477	1480	1474
10	1454	1457	1465	1463	1464	1463	1465	1457	1454	1457	1465	1463	1464	1463	1465	1457
15	1424	1428	1440	1443	1446	1443	1440	1428	1424	1428	1440	1443	1446	1443	1440	1428
20	1381	1388	1406	1415	1421	1415	1406	1388	1381	1388	1406	1415	1421	1415	1406	1388
25	1325	1336	1362	1377	1384	1377	1362	1336	1325	1336	1362	1377	1384	1377	1362	1336
30	1258	1275	1309	1332	1344	1332	1309	1275	1258	1275	1309	1332	1344	1332	1309	1275
35	1177	1202	1246	1277	1289	1277	1246	1202	1177	1202	1246	1277	1289	1277	1246	1202
40	1074	1110	1162	1191	1200	1191	1162	1110	1074	1110	1162	1191	1200	1191	1162	1110
45	938	982	1032	1049	1054	1049	1032	982	938	982	1032	1049	1054	1049	1032	982
50	732	790	846	862	862	862	846	790	732	790	846	862	862	862	846	790
55	522	593	631	625	629	625	631	593	522	593	631	625	629	625	631	593
60	374	429	445	465	474	465	445	429	374	429	445	465	474	465	445	429
65	268	306	327	355	360	355	327	306	268	306	327	355	360	355	327	306
70	201	218	257	301	311	301	257	218	201	218	257	301	311	301	257	218
75	159	161	223	291	316	291	223	161	159	161	223	291	316	291	223	161
80	115	124	200	294	327	294	200	124	115	124	200	294	327	294	200	124
85	58	77	172	270	299	270	172	77	58	77	172	270	299	270	172	77
90	0	31	147	224	248	224	147	31	0	31	147	224	248	224	147	31
95	0	40	146	203	220	203	146	40	0	40	146	203	220	203	146	40
100	2	48	113	134	137	134	113	48	2	48	113	134	137	134	113	48
105	3	40	73	93	101	93	73	40	3	40	73	93	101	93	73	40
110	3	31	62	84	93	84	62	31	3	31	62	84	93	84	62	31
115	4	28	56	74	82	74	56	28	4	28	56	74	82	74	56	28
120	4	26	52	68	74	68	52	26	4	26	52	68	74	68	52	26
125	4	23	49	65	70	65	49	23	4	23	49	65	70	65	49	23
130	4	19	45	61	66	61	45	19	4	19	45	61	66	61	45	19
135	4	15	38	54	60	54	38	15	4	15	38	54	60	54	38	15
140	4	13	31	46	51	46	31	13	4	13	31	46	51	46	31	13
145	4	11	24	37	42	37	24	11	4	11	24	37	42	37	24	11
150	4	9	19	28	32	28	19	9	4	9	19	28	32	28	19	9
155	5	7	14	21	23	21	14	7	5	7	14	21	23	21	14	7
160	4	6	10	15	17	15	10	6	4	6	10	15	17	15	10	6
165	4	5	8	10	11	10	8	5	4	5	8	10	11	10	8	5
170	5	5	6	7	7	7	6	5	5	5	6	7	7	7	6	5
175	4	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5
180	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	35.4	45-50	372.7	90-95	70.9	135-140	11.9
5-10	105.1	50-55	309.4	95-100	59.6	140-145	8.9
10-15	171.9	55-60	239.2	100-105	40.3	145-150	6.2
15-20	234.0	60-65	184.3	105-110	31.5	150-155	4.1
20-25	289.4	65-70	145.5	110-115	26.9	155-160	2.6
25-30	336.8	70-75	126.1	115-120	23.3	160-165	1.5
30-35	374.7	75-80	117.3	120-125	20.8	165-170	0.8
35-40	399.3	80-85	105.8	125-130	18.2	170-175	0.4
40-45	402.5	85-90	82.5	130-135	15.2	175-180	0.1



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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	0.929	0.929	0.929	0.929	0.899	0.899	0.899	0.899	0.871	0.871	0.871	0.871
1	0.847	0.805	0.767	0.734	0.818	0.78	0.747	0.716	0.791	0.757	0.726	0.699
2	0.774	0.705	0.649	0.601	0.747	0.685	0.633	0.589	0.721	0.665	0.618	0.578
3	0.709	0.623	0.556	0.504	0.684	0.605	0.544	0.496	0.66	0.589	0.533	0.487
4	0.652	0.554	0.483	0.43	0.629	0.539	0.474	0.424	0.607	0.525	0.465	0.418
5	0.601	0.496	0.425	0.372	0.58	0.484	0.417	0.367	0.559	0.472	0.409	0.363
6	0.556	0.448	0.376	0.326	0.536	0.437	0.37	0.322	0.518	0.426	0.364	0.318
7	0.515	0.406	0.337	0.289	0.497	0.397	0.331	0.285	0.481	0.388	0.326	0.282
8	0.479	0.37	0.303	0.257	0.463	0.362	0.299	0.255	0.448	0.354	0.294	0.252
9	0.447	0.34	0.275	0.232	0.433	0.332	0.271	0.229	0.419	0.326	0.267	0.227
10	0.419	0.313	0.251	0.21	0.406	0.307	0.247	0.208	0.393	0.301	0.244	0.206

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	0.819	0.819	0.819	0.819	0.772	0.772	0.772	0.728	0.728	0.728	0.707
1	0.74	0.713	0.688	0.666	0.673	0.653	0.635	0.636	0.62	0.606	0.585
2	0.674	0.628	0.589	0.555	0.594	0.562	0.534	0.563	0.537	0.513	0.494
3	0.616	0.557	0.51	0.471	0.529	0.489	0.456	0.502	0.469	0.441	0.422
4	0.566	0.498	0.447	0.406	0.474	0.43	0.394	0.451	0.413	0.382	0.364
5	0.522	0.449	0.395	0.353	0.428	0.381	0.344	0.408	0.368	0.335	0.318
6	0.484	0.407	0.352	0.311	0.388	0.34	0.304	0.371	0.329	0.297	0.28
7	0.45	0.37	0.316	0.276	0.354	0.306	0.27	0.339	0.297	0.264	0.249
8	0.42	0.339	0.286	0.247	0.325	0.277	0.242	0.312	0.269	0.237	0.222
9	0.394	0.312	0.26	0.223	0.3	0.253	0.219	0.288	0.246	0.215	0.2
10	0.37	0.289	0.238	0.202	0.278	0.232	0.199	0.268	0.226	0.195	0.182

Average Luminance Table (cd/m²)

	0	45	90
0	4232	4232	4232
45	3788	3758	3688
55	2601	2718	2563
65	1813	1790	1826
75	1751	1744	2206
85	1916	2497	3532

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.

