



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: 21365 DATE: 11-04-2010
 PREPARED FOR: RENOVA LIGHTING
 CATALOG NUMBER: ECS-NVT4-WN-132-UNV-11L-CAL
 LUMINAIRE: MOLDED PLASTIC AND FORMED STEEL HOUSING, FORMED WHITE
 PAINTED ALUMINUM REFLECTOR, CLEAR LINEAR PRISMATIC
 ACRYLIC ENCLOSURE.
 LAMP: ONE 32 WATT T8 LINEAR FLUORESCENT LAMP RATED AT 2850 LUMENS.
 LAMP CATALOG NUMBER: PHILIPS F32T8/TL841
 BALLAST: ONE SYLVANIA "QUICKTRONIC" QHE1X32T8/UNV-ISL-SC
 MOUNTING: PENDANT
 ELECTRICAL VALUES: 120.0VAC, 0.2121A, 25.41W

Candela Distribution

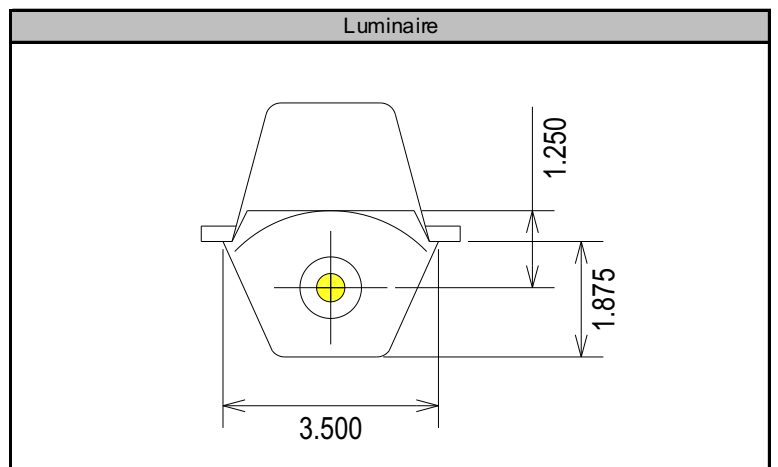
	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	562	562	562	562	562	562	562	562	562	562	562	562	562	562	562	562	
5	556	561	563	562	565	562	563	561	556	561	563	562	565	562	563	561	53.5
15	536	544	556	562	567	562	556	544	536	544	556	562	567	562	556	544	156.4
25	493	511	539	555	562	555	539	511	493	511	539	555	562	555	539	511	245.8
35	432	464	505	530	538	530	505	464	432	464	505	530	538	530	505	464	310.2
45	354	404	452	482	495	482	452	404	354	404	452	482	495	482	452	404	340.4
55	264	328	385	432	453	432	385	328	264	328	385	432	453	432	385	328	336.4
65	166	236	323	395	418	395	323	236	166	236	323	395	418	395	323	236	308.2
75	72	156	275	355	382	355	275	156	72	156	275	355	382	355	275	156	268.4
85	11	103	228	308	336	308	228	103	11	103	228	308	336	308	228	103	220.6
90	3	81	194	270	296	270	194	81	3	81	194	270	296	270	194	81	
95	4	51	153	226	252	226	153	51	4	51	153	226	252	226	153	51	151.9
105	2	11	68	130	152	130	68	11	2	11	68	130	152	130	68	11	76.3
115	0	3	14	38	54	38	14	3	0	3	14	38	54	38	14	3	22.1
125	0	0	5	10	12	10	5	0	0	0	5	10	12	10	5	0	4.7
135	0	0	1	3	5	3	1	0	0	0	1	3	5	3	1	0	1.4
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2
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	455.8	16.0%	18.3%
0-40	766.0	26.9%	30.7%
0-60	1442.9	50.6%	57.8%
0-90	2240.1	78.6%	89.7%
90-180	256.6	9.0%	10.3%
0-180	2496.7	87.6%	100.0%

Total luminaire efficiency: 87.6%

CIE Type: Semi-Direct
 Spacing Criterion: 0 deg: 1.23 90 deg: 1.46
 180 deg: 1.23 270 deg: 1.46



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	562	562	562	562	562	562	562	562	562	562	562	562	562	562	562	562
5	556	561	563	562	565	562	563	561	556	561	563	562	565	562	563	561
10	549	554	561	561	565	561	561	554	549	554	561	561	565	561	561	554
15	536	544	556	562	567	562	556	544	536	544	556	562	567	562	556	544
20	517	529	548	561	568	561	548	529	517	529	548	561	568	561	548	529
25	493	511	539	555	562	555	539	511	493	511	539	555	562	555	539	511
30	464	489	525	544	554	544	525	489	464	489	525	544	554	544	525	489
35	432	464	505	530	538	530	505	464	432	464	505	530	538	530	505	464
40	394	436	483	505	517	505	483	436	394	436	483	505	517	505	483	436
45	354	404	452	482	495	482	452	404	354	404	452	482	495	482	452	404
50	311	367	419	457	471	457	419	367	311	367	419	457	471	457	419	367
55	264	328	385	432	453	432	385	328	264	328	385	432	453	432	385	328
60	216	284	350	408	429	408	350	284	216	284	350	408	429	408	350	284
65	166	236	323	395	418	395	323	236	166	236	323	395	418	395	323	236
70	118	192	300	373	402	373	300	192	118	192	300	373	402	373	300	192
75	72	156	275	355	382	355	275	156	72	156	275	355	382	355	275	156
80	34	128	252	335	363	335	252	128	34	128	252	335	363	335	252	128
85	11	103	228	308	336	308	228	103	11	103	228	308	336	308	228	103
90	3	81	194	270	296	270	194	81	3	81	194	270	296	270	194	81
95	4	51	153	226	252	226	153	51	4	51	153	226	252	226	153	51
100	2	25	110	178	202	178	110	25	2	25	110	178	202	178	110	25
105	2	11	68	130	152	130	68	11	2	11	68	130	152	130	68	11
110	1	6	32	80	100	80	32	6	1	6	32	80	100	80	32	6
115	0	3	14	38	54	38	14	3	0	3	14	38	54	38	14	3
120	0	0	8	16	21	16	8	0	0	0	8	16	21	16	8	0
125	0	0	5	10	12	10	5	0	0	0	5	10	12	10	5	0
130	0	0	2	6	7	6	2	0	0	0	2	6	7	6	2	0
135	0	0	1	3	5	3	1	0	0	0	1	3	5	3	1	0
140	0	0	0	2	2	2	0	0	0	0	0	2	2	2	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	13.4	45-50	171.6	90-95	85.9	135-140	0.4
5-10	40.1	50-55	170.4	95-100	66.0	140-145	0.2
10-15	65.9	55-60	166.0	100-105	46.8	145-150	0.0
15-20	90.5	60-65	158.6	105-110	29.5	150-155	0.0
20-25	113.0	65-70	149.6	110-115	15.5	155-160	0.0
25-30	132.8	70-75	139.7	115-120	6.7	160-165	0.0
30-35	149.2	75-80	128.7	120-125	3.0	165-170	0.0
35-40	161.0	80-85	117.2	125-130	1.7	170-175	0.0
40-45	168.8	85-90	103.4	130-135	1.0	175-180	0.0



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	1.057	1.057	1.057	1.057	1.021	1.021	1.021	1.021	0.987	0.987	0.987	0.987
1	0.936	0.875	0.821	0.772	0.9	0.844	0.795	0.75	0.865	0.815	0.77	0.729
2	0.842	0.746	0.667	0.602	0.806	0.72	0.648	0.588	0.773	0.695	0.629	0.573
3	0.762	0.645	0.556	0.486	0.729	0.623	0.541	0.476	0.698	0.602	0.526	0.466
4	0.694	0.565	0.473	0.404	0.663	0.546	0.461	0.396	0.635	0.528	0.449	0.388
5	0.635	0.501	0.409	0.342	0.607	0.485	0.399	0.336	0.582	0.469	0.389	0.329
6	0.584	0.448	0.358	0.294	0.559	0.434	0.35	0.289	0.536	0.42	0.342	0.284
7	0.54	0.404	0.317	0.257	0.517	0.392	0.31	0.253	0.496	0.38	0.303	0.249
8	0.501	0.366	0.283	0.227	0.48	0.356	0.277	0.224	0.461	0.346	0.272	0.22
9	0.467	0.335	0.255	0.202	0.448	0.325	0.25	0.199	0.431	0.316	0.245	0.197
10	0.436	0.307	0.232	0.182	0.42	0.299	0.227	0.179	0.404	0.291	0.223	0.177

Ceiling Cavity Reflectance	50				30			10			0
	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)											
0	0.923	0.923	0.923	0.923	0.865	0.865	0.865	0.811	0.811	0.811	0.786
1	0.8	0.76	0.723	0.689	0.709	0.68	0.652	0.663	0.639	0.617	0.59
2	0.712	0.648	0.593	0.546	0.604	0.559	0.52	0.564	0.527	0.494	0.469
3	0.641	0.562	0.498	0.445	0.524	0.471	0.426	0.49	0.445	0.407	0.382
4	0.582	0.494	0.426	0.372	0.462	0.404	0.357	0.432	0.383	0.343	0.319
5	0.534	0.44	0.37	0.317	0.412	0.352	0.305	0.387	0.335	0.294	0.271
6	0.492	0.395	0.326	0.275	0.371	0.311	0.265	0.349	0.296	0.255	0.234
7	0.457	0.358	0.29	0.241	0.337	0.277	0.233	0.318	0.265	0.225	0.205
8	0.425	0.326	0.26	0.213	0.308	0.249	0.206	0.291	0.239	0.2	0.181
9	0.398	0.299	0.236	0.191	0.283	0.226	0.185	0.268	0.217	0.179	0.162
10	0.374	0.276	0.215	0.172	0.262	0.206	0.167	0.249	0.198	0.162	0.145

Average Luminance Table (cd/m²)

	0	45	90
0	3137	3137	3137
45	2714	2943	3025
55	2464	2826	3063
65	2053	2814	3285
75	1371	3054	3712
85	499	3663	4453

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.

