



# 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: 12531

DATE: 06-17-2008

PREPARED FOR: RENOVA LIGHTING SYSTEMS, INC.

CATALOG NUMBER: ECS-ECO4-MN-432-UNV-14N-00W

LUMINAIRE: FORMED STEEL HOUSING, FORMED SPECULAR ALUMINUM REFLECTOR,  
NO ENCLOSURE.

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

LAMP CATALOG NUMBER: PHILIPS F32T8/TL841/ALTO

BALLAST: ONE SYLVANIA QHE4X32T8/UNV ISN-SC

MOUNTING: PENDANT

LUMEN TO CANDELA RATIO USED = 9.18

TOTAL INPUT WATTS = 112.2 AT 120.0 VOLTS

THE 0 DEGREE PLANE IS PARALLEL WITH THE LAMPS.

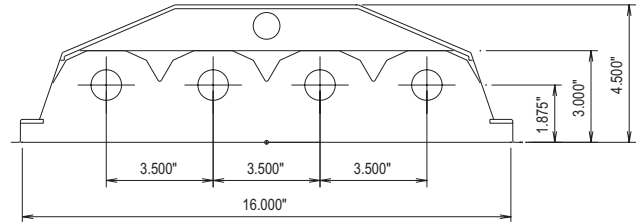
#12531

### CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0	3777	3777	3777	3777	3777
5	3754	3772	3776	3765	3763
15	3630	3625	3524	3379	3340
25	3364	3264	3024	3084	3170
35	2962	2721	2890	3046	3125
45	2455	2235	2645	2588	2544
55	1861	1886	1965	1745	1642
65	1222	1355	1126	1248	1316
75	581	610	870	962	954
85	88	192	144	107	96
90	0	0	0	0	0

### FLUX

0	358
5	987
15	1461
25	1827
35	1921
45	1650
55	1255
65	838
75	182
85	182
90	182



### ZONAL LUMEN SUMMARY

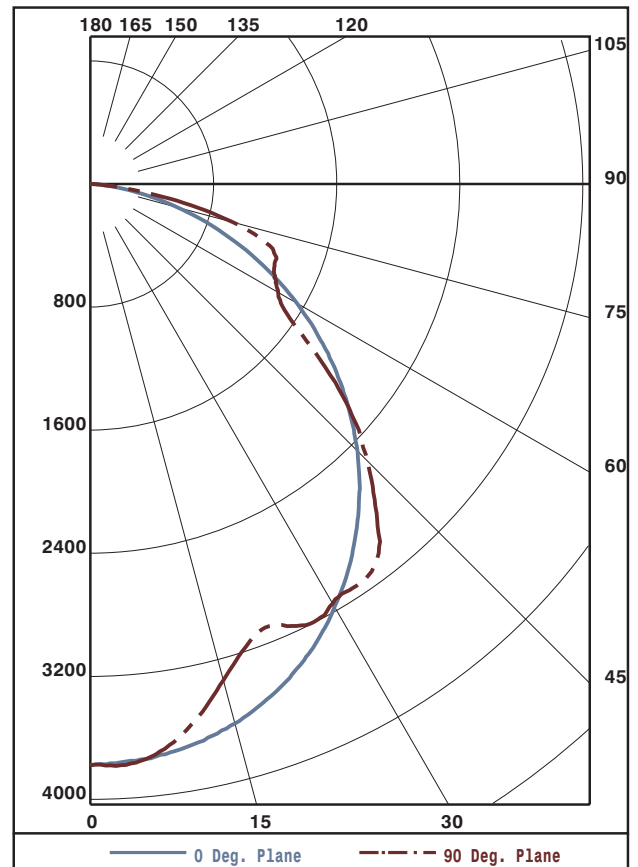
ZONE	LUMENS	%LAMP	%FIXT
0- 30	2806	24.6	26.8
0- 40	4633	40.6	44.2
0- 60	8204	72.0	78.3
0- 90	10479	91.9	100.0
90-180	0	0.0	0.0
0-180	10479	91.9	100.0

TOTAL LUMINAIRE EFFICIENCY: 91.9%

CIE TYPE: DIRECT  
 PLANE: 0-DEG 90-DEG  
 SPACING CRITERIA: 1.2 1.3  
 LUMINOUS LENGTH: 47.000 16.000

### LUMINANCE IN CANDELA PER SQUARE METER

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
0	7784.	7784.	7784.
45	7156.	7709.	7415.
55	6687.	7061.	5900.
65	5959.	5491.	6418.
75	4627.	6928.	7597.
85	2081.	3405.	2270.



Approved By: MG



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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD
EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

Table with columns RC, RW, and rows 0-10 for cavity heights 80, 70, 50, 30, 10, 0. Values range from 0 to 109.

CANDELA DISTRIBUTION

Table with columns 0.0, 22.5, 45.0, 67.5, 90.0 and rows 0-90. Values range from 0 to 3777.

ZONAL LUMEN SUMMARY

Table with columns 0-5, 5-10, 10-15, 15-20, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 80-85, 85-90. Values range from 25 to 90.

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.