

itl boulder

THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

INDEPENDENT TESTING LABORATORIES, INC.
3386 LONGHORN ROAD, BOULDER, CO 80302 USA

PHONE: (303)442-1255 • FAX: (303)449-5274 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL69517

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ISSUE DATE: 08/22/11

PREPARED FOR: ENERGY PLANNING ASSOCIATES CORPORATION

CATALOG NUMBER: DAI LITE ONE LIGHT T5 RETROFIT KIT - PRISMS IN

LUMINAIRE: FABRICATED METAL HOUSING, FABRICATED REFLECTOR/LENS INSERT
CONSISTING OF: FORMED MULTI-FACETED WHITE PAINTED METAL
REFLECTOR, TWO FORMED MULTI-FACETED WHITE PAINTED METAL
OUTBOARD REFLECTORS, CLEAR MICRO-LINEAR PRISMATIC PLASTIC
LENS, FORMED WHITE PAINTED METAL LENS RETAINING BRACKETS, LENS
PRISMS IN AND PARALLEL WITH LAMP.

LAMP: ONE 28-WATT T-5 SYLVANIA FP28/841/ECO LINEAR FLUORESCENT.

BALLAST: SYLVANIA QHE 2X28T5/UNV PSN

MOUNTING: RECESSED

THE 0 DEGREE PLANE IS PARALLEL WITH
THE LAMP.

TOTAL INPUT WATTS = 32.3 AT 120.0 VOLTS

LUMEN TO CANDELA RATIO USED = 9.17

REPORT IS BASED ON 2600 LUMENS PER LAMP. *

CANDELA DISTRIBUTION						FLUX
	0.0	22.5	45.0	67.5	90.0	
0	654	654	654	654	654	
5	651	653	651	648	648	62
15	620	625	628	632	632	177
25	561	572	585	600	606	270
35	479	497	528	559	571	330
45	377	406	459	511	525	353
55	273	306	381	442	463	336
65	171	204	293	412	443	300
75	67	110	222	309	329	221
85	8	35	79	112	110	79
90	0	0	0	0	0	

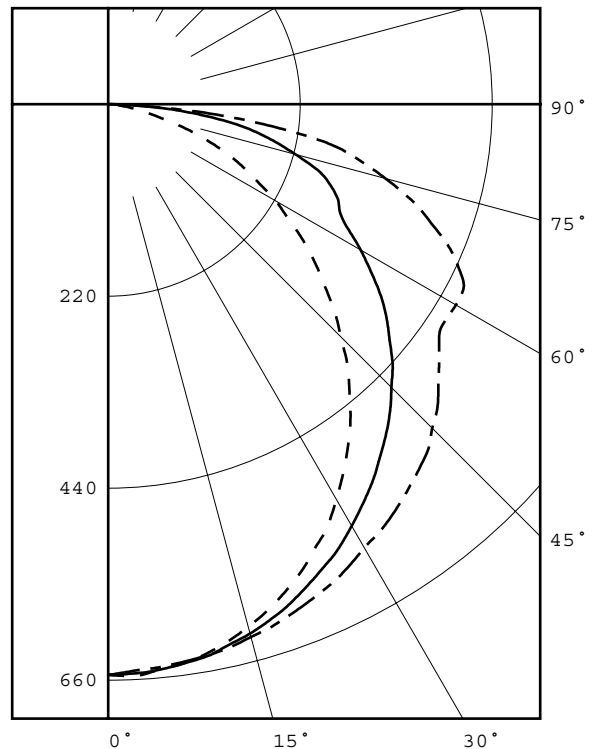
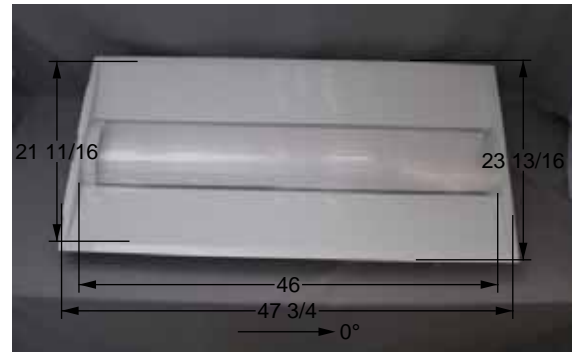
ZONAL LUMEN SUMMARY				
ZONE	LUMENS	%LAMP	%FIXT	
0- 30	509	19.6	23.9	
0- 40	839	32.3	39.4	
0- 60	1527	58.7	71.8	
0- 90	2128	81.8	100.0	
90-180	0	0.0	0.0	
0-180	2128	81.8	100.0	

TOTAL LUMINAIRE EFFICIENCY = 81.8 % *

CIE TYPE - DIRECT

PLANE : 0-DEG 90-DEG
SPACING CRITERIA : 1.19 1.35
SHIELDING ANGLES : 90 90
BEAM ANGLE (50%) : 99.3 X 150.1 DEGREES
FIELD ANGLE (10%) : 150.3 X 172.6 DEGREES
LUMINOUS LENGTH : 46.000 21.688

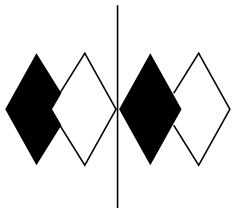
LUMINANCE DATA IN CANDELA/SQ M				
ANGLE	AVERAGE	AVERAGE	AVERAGE	
IN DEG	0-DEG	45-DEG	90-DEG	
45	828.	1009.	1154.	
55	740.	1032.	1254.	
65	629.	1077.	1629.	
75	402.	1333.	1975.	
85	143.	1408.	1961.	



LEGEND:
0-deg: - - - - -
45-deg: = = = = =
90-deg: - - - - -

Checked B. HYRE
Approved R. BEATTIE
Lighting Engineer

* SEE ADDENDUM FOR FURTHER INFORMATION
THIS REPORT IS BASED ON PUBLISHED INDUSTRY PROCEDURES. FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE.



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CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0.0	654	654	654	654	654
2.5	656	655	653	651	650
5.0	651	653	651	648	648
7.5	647	648	647	646	645
10.0	640	641	643	643	642
12.5	631	633	635	637	638
15.0	620	625	628	632	632
17.5	608	614	619	625	627
20.0	594	601	609	617	620
22.5	579	587	597	609	613
25.0	561	572	585	600	606
27.5	545	555	573	590	597
30.0	523	537	558	580	587
32.5	501	516	543	569	580
35.0	479	497	528	559	571
37.5	456	477	511	548	561
40.0	430	452	495	536	551
42.5	406	430	478	525	541
45.0	377	406	459	511	525
47.5	352	381	442	495	512
50.0	324	358	421	477	494
52.5	299	330	402	460	478
55.0	273	306	381	442	463
57.5	245	282	357	425	459
60.0	222	256	334	420	460
62.5	194	231	310	420	459
65.0	171	204	293	412	443
67.5	147	181	285	395	421
70.0	120	156	271	369	392
72.5	94	130	252	339	364
75.0	67	110	222	309	329
77.5	46	91	194	272	294
80.0	32	77	164	238	254
82.5	18	58	124	185	184
85.0	8	35	79	112	110
87.5	3	14	30	34	24
90.0	0	0	0	0	0



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5-DEGREE

ZONAL LUMEN SUMMARY

0- 5	16.
5- 10	46.
10- 15	75.
15- 20	102.
20- 25	125.
25- 30	145.
30- 35	160.
35- 40	170.
40- 45	176.
45- 50	177.
50- 55	172.
55- 60	164.
60- 65	156.
65- 70	144.
70- 75	124.
75- 80	97.
80- 85	63.
85- 90	16.

10-DEGREE

ZONAL LUMEN SUMMARY

0- 10	62.
0- 20	239.
0- 30	509.
0- 40	839.
0- 50	1191.
0- 60	1527.
0- 70	1828.
0- 80	2049.
0- 90	2128.
0-100	2128.
0-110	2128.
0-120	2128.
0-130	2128.
0-140	2128.
0-150	2128.
0-160	2128.
0-170	2128.
0-180	2128.



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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	97	97	97	97	95	95	95	95	91	91	91	87	87	87	84	84	84	82
1	88	83	79	76	85	81	78	74	78	75	72	75	72	70	72	70	68	66
2	79	72	65	60	77	70	64	59	67	62	58	64	60	57	62	58	55	53
3	72	62	55	49	69	61	54	49	58	53	48	56	51	47	54	50	46	44
4	65	55	47	41	63	54	46	41	52	45	40	50	44	40	48	43	39	37
5	60	49	41	35	58	48	40	35	46	40	35	44	39	34	43	38	34	32
6	55	44	36	30	54	43	36	30	41	35	30	40	34	30	39	34	29	28
7	51	40	32	27	50	39	32	27	38	31	26	36	31	26	35	30	26	24
8	48	36	29	24	46	35	29	24	34	28	24	33	28	23	32	27	23	22
9	44	33	26	21	43	33	26	21	32	25	21	31	25	21	30	25	21	19
10	42	30	24	19	41	30	24	19	29	23	19	28	23	19	28	23	19	17

ALL CANDELA, LUMENS, LUMINANCE, COEFFICIENT OF UTILIZATION AND VCP VALUES IN THIS REPORT ARE BASED ON RELATIVE PHOTOMETRY WHICH ASSUMES A BALLAST FACTOR OF 1.000. ANY CALCULATIONS PREPARED FROM THESE DATA SHOULD INCLUDE AN APPROPRIATE BALLAST FACTOR.



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ADDENDUM

SPECIAL TEST PROCEDURES FOR T-5 LAMPS INCLUDING EXPLANATION OF THE IMPORTANCE OF LAMP LUMEN RATINGS.

This test was performed using standard relative photometric practices in accordance with recommendations of the Illuminating Engineering Society of North America. Fluorescent testing using the guidelines of relative photometric practice presupposes that the lamps will be operated at their nominal electrical characteristics (e.g., a 40 watt lamp will operate very nearly at 40 watts, and at the voltage and current required for 40-watt operation). Fluorescent lamps in general are temperature sensitive, the lumen output varies with ambient temperature and follows a characteristic curve. The T-5 fluorescent lamps used in this test produce maximum light output in an ambient temperature other than 25 degrees C. A critical step in relative photometric testing involves measurement of the total flux output from the lamp(s) suspended in free air at a 25 degree C ambient temperature per IES LM41-1998. This measurement process is a separate step from the photometric exploration of the luminaire itself. This "bare lamp" measurement is made with the lamp(s) operated by the same ballast(s) which are to be used in the luminaire. Since the test procedure involves measuring the bare lamp flux output at 25 degrees C and this lamp type peaks at a temperature other than 25 degrees C, the flux measured for this lamp type will be less than the maximum output the lamp is designed to produce.

As a result, the measurement of the "bare lamp" total flux output is lower than it would be if the lamps were operated at their optimum operating temperature and at nominal electrical characteristics. When this "bare lamp" measurement is incorporated into the luminaire test report, the net effect is that total luminaire efficiency on the report is higher than what the lighting industry would expect this luminaire to produce. These lighting industry expectations are based on comparisons to the total luminaire efficiency of the same luminaire with T-12 or T-8 lamps.

On this particular test, the lamp lumen rating shown is for a 25 degree C ambient temperature. Since this report was based the lumen lamp lumen rating at 25 degrees C, the candela values in this report should be accurate, as long as the lamp(s) used for this test follow the manufacturer's light output vs. temperature curve.

T5TEMP3.DIS