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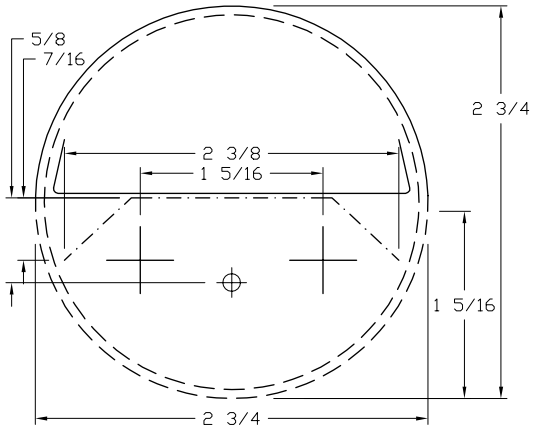
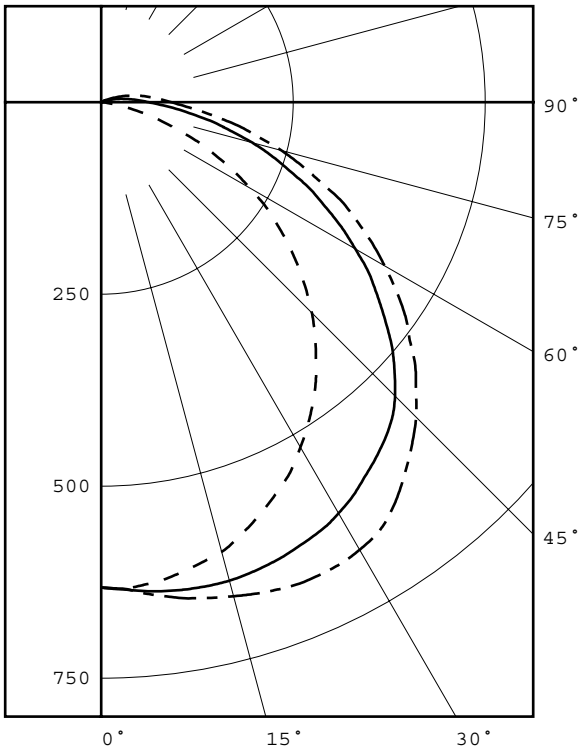
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955
INDEPENDENT TESTING LABORATORIES, INC.
3386 LONGHORN ROAD, BOULDER, CO 80302 USA
PHONE: (303)442-1255 • FAX: (303)449-5274 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL64523 DATE: 05/05/10
PREPARED FOR: ENCAPSULITE INTERNATIONAL INC.
CATALOG NUMBER: WGP723
LUMINAIRE: FORMED WHITE PAINTED METAL BALLAST TRAY, FORMED METAL REFLECTOR WITH PREMIUM SPECULAR FINISH, CLEAR EXTRUDED PLASTIC CYLINDRICAL LENS WITH GRAY COATED UPPER EXTERIOR SURFACE ENCOMPASSING BALLAST TRAY AND LAMPS, MOLDED WHITE PLASTIC END CAPS.
LAMPS: TWO 21-WATT T-5 SYLVANIA FP21/841/ECO LINEAR FLUORESCENTS.
BALLAST: ROBERTSON PST228T5MVW
MOUNTING: SURFACE/SUSPENDED
THE 0 DEGREE PLANE IS PARALLEL WITH THE LAMPS.
TOTAL INPUT WATTS = 42.0 AT 120.0 VOLTS
LUMEN TO CANDELA RATIO USED = 9.16
REPORT IS BASED ON 1900 LUMENS PER LAMP. *



CANDELA DISTRIBUTION						FLUX
	0.0	22.5	45.0	67.5	90.0	
0	632	632	632	632	632	
5	631	635	639	640	642	61
15	606	623	645	660	666	181
25	553	587	631	666	678	288
35	480	530	597	645	655	366
45	388	458	541	570	580	396
55	281	370	439	474	483	372
65	165	265	322	360	368	300
75	62	145	204	235	243	195
85	4	55	98	123	129	96
90	0	27	62	83	91	
95	0	10	41	58	68	40
105	0	1	12	24	31	14
115	0	0	2	5	6	3
125	0	0	0	1	1	0
135	0	0	0	0	0	0
145	0	0	0	0	0	0
155	0	0	0	0	0	0
165	0	0	0	0	0	0
175	0	0	0	0	0	0
180	0	0	0	0	0	



LEGEND:
0-deg: – – – – – – – –
45-deg: ————————
90-deg: — – — – — – —

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LAMP	%FIXT
0- 30	531	14.0	22.9
0- 40	896	23.6	38.7
0- 60	1664	43.8	71.9
0- 90	2255	59.4	97.5
90-120	58	1.5	2.5
90-130	58	1.5	2.5
90-150	58	1.5	2.5
90-180	58	1.5	2.5
0-180	2313	60.9	100.0

TOTAL LUMINAIRE EFFICIENCY = 60.9 % *

CIE TYPE - DIRECT

PLANE	: 0-DEG	90-DEG
SPACING CRITERIA	: 1.2	1.5
SHIELDING ANGLES	: 1	0

Checked *B HYRE*
Approved *R BEATTIE*

* SEE ADDENDUM FOR FURTHER INFORMATION

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LUMINANCE DATA IN CANDELA/SQ M

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
45	8400.	10682.	10589.
55	7497.	9862.	9611.
65	5976.	8488.	8149.
75	3668.	6520.	6115.
85	705.	3915.	3787.

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CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0.0	632	632	632	632	632
5.0	631	635	639	640	642
10.0	620	631	644	652	656
15.0	606	623	645	660	666
20.0	581	608	640	665	675
25.0	553	587	631	666	678
30.0	519	560	618	659	673
35.0	480	530	597	645	655
40.0	435	496	574	613	619
45.0	388	458	541	570	580
50.0	336	416	494	525	534
55.0	281	370	439	474	483
60.0	223	322	382	415	426
65.0	165	265	322	360	368
70.0	108	205	261	298	304
75.0	62	145	204	235	243
80.0	24	96	148	177	184
85.0	4	55	98	123	129
90.0	0	27	62	83	91
95.0	0	10	41	58	68
100.0	0	4	25	39	49
105.0	0	1	12	24	31
110.0	0	0	5	11	16
115.0	0	0	2	5	6
120.0	0	0	0	2	3
125.0	0	0	0	1	1
130.0	0	0	0	0	0
135.0	0	0	0	0	0
140.0	0	0	0	0	0
145.0	0	0	0	0	0
150.0	0	0	0	0	0
155.0	0	0	0	0	0
160.0	0	0	0	0	0
165.0	0	0	0	0	0
170.0	0	0	0	0	0
175.0	0	0	0	0	0
180.0	0	0	0	0	0

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5-DEGREE
ZONAL LUMEN SUMMARY

ZONAL	LUMEN SUMMARY
0- 5	15.
5- 10	46.
10- 15	76.
15- 20	105.
20- 25	132.
25- 30	156.
30- 35	176.
35- 40	190.
40- 45	197.
45- 50	198.
50- 55	192.
55- 60	180.
60- 65	162.
65- 70	139.
70- 75	111.
75- 80	84.
80- 85	59.
85- 90	38.
90- 95	24.
95-100	16.
100-105	10.
105-110	5.
110-115	2.
115-120	1.
120-125	0.
125-130	0.
130-135	0.
135-140	0.
140-145	0.
145-150	0.
150-155	0.
155-160	0.
160-165	0.
165-170	0.
170-175	0.
175-180	0.

10-DEGREE
ZONAL LUMEN SUMMARY

ZONAL	LUMEN SUMMARY
0- 10	61.
0- 20	242.
0- 30	531.
0- 40	896.
0- 50	1292.
0- 60	1664.
0- 70	1964.
0- 80	2159.
0- 90	2255.
0-100	2296.
0-110	2310.
0-120	2313.
0-130	2313.
0-140	2313.
0-150	2313.
0-160	2313.
0-170	2313.
0-180	2313.

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	72	72	72	72	70	70	70	70	67	67	67	64	64	64	61	61	61	59
1	65	62	59	56	63	60	57	55	57	55	53	55	53	51	52	51	49	48
2	59	53	49	45	57	52	48	44	49	46	43	47	44	42	45	43	41	39
3	53	46	41	37	52	45	40	36	43	39	36	41	38	35	40	37	34	32
4	49	41	35	31	47	40	35	31	38	34	30	37	33	29	35	32	29	27
5	45	36	31	26	43	36	30	26	34	29	26	33	28	25	31	28	25	23
6	41	33	27	23	40	32	27	23	31	26	22	29	25	22	28	25	22	20
7	38	29	24	20	37	29	24	20	28	23	20	27	22	19	26	22	19	18
8	35	27	21	18	34	26	21	18	25	21	17	24	20	17	24	20	17	16
9	33	24	19	16	32	24	19	16	23	19	16	22	18	15	22	18	15	14
10	31	23	18	14	30	22	17	14	21	17	14	21	17	14	20	16	14	13

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