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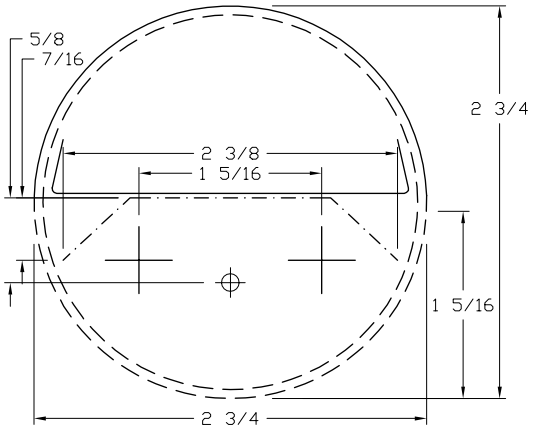
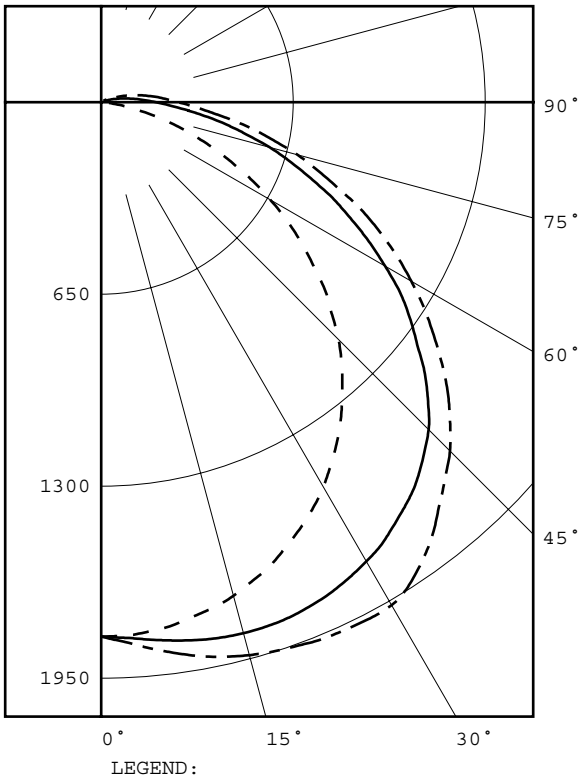
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955
INDEPENDENT TESTING LABORATORIES, INC.
3386 LONGHORN ROAD, BOULDER, CO 80302 USA
PHONE: (303)442-1255 • FAX: (303)449-5274 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL64526 DATE: 05/07/10
PREPARED FOR: ENCAPSULITE INTERNATIONAL INC.
CATALOG NUMBER: WGP748
LUMINAIRE: FORMED SEMI-DIFFUSE METAL BALLAST TRAY, TWO FORMED METAL REFLECTORS 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: FOUR 28-WATT T-5 SYLVANIA FP28/841/ECO LINEAR FLUORESCENTS.
BALLASTS: TWO ROBERTSON PST228T5MVW
THE 0 DEGREE PLANE IS PARALLEL WITH THE LAMPS.
MOUNTING: SURFACE/SUSPENDED
TOTAL INPUT WATTS = 117.6 AT 120.0 VOLTS
LUMEN TO CANDELA RATIO USED = 9.17
REPORT IS BASED ON 2600 LUMENS PER LAMP. *



CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0	FLUX
0	1809	1809	1809	1809	1809	
5	1800	1794	1826	1839	1855	174
15	1730	1766	1861	1910	1938	521
25	1593	1681	1834	1925	1968	833
35	1395	1532	1737	1866	1895	1059
45	1137	1329	1568	1642	1670	1145
55	825	1109	1276	1354	1374	1082
65	495	797	932	1026	1042	870
75	204	435	591	669	688	567
85	19	163	284	346	366	279
90	0	73	183	230	259	
95	0	35	121	165	193	116
105	0	6	37	66	85	41
115	0	0	7	15	21	9
125	0	0	1	4	5	2
135	0	0	0	0	1	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	1529	14.7	22.8
0- 40	2588	24.9	38.6
0- 60	4815	46.3	71.9
0- 90	6530	62.8	97.5
90-120	166	1.6	2.5
90-130	168	1.6	2.5
90-150	168	1.6	2.5
90-180	168	1.6	2.5
0-180	6698	64.4	100.0

TOTAL LUMINAIRE EFFICIENCY = 64.4 % *

CIE TYPE - DIRECT

PLANE	0-DEG	90-DEG
SPACING CRITERIA	1.2	1.6
SHIELDING ANGLES	1	0

Checked *R HUMPHREYS*
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	9748.	12263.	12085.
55	8723.	11354.	10838.
65	7104.	9728.	9140.
75	4777.	7484.	6862.
85	1321.	4501.	4256.

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CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0.0	1809	1809	1809	1809	1809
5.0	1800	1794	1826	1839	1855
10.0	1770	1785	1849	1882	1904
15.0	1730	1766	1861	1910	1938
20.0	1671	1733	1857	1922	1957
25.0	1593	1681	1834	1925	1968
30.0	1504	1614	1795	1914	1966
35.0	1395	1532	1737	1866	1895
40.0	1270	1430	1665	1761	1781
45.0	1137	1329	1568	1642	1670
50.0	989	1227	1431	1512	1532
55.0	825	1109	1276	1354	1374
60.0	662	962	1110	1188	1212
65.0	495	797	932	1026	1042
70.0	340	611	756	848	856
75.0	204	435	591	669	688
80.0	89	285	427	503	520
85.0	19	163	284	346	366
90.0	0	73	183	230	259
95.0	0	35	121	165	193
100.0	0	13	74	109	135
105.0	0	6	37	66	85
110.0	0	1	15	28	43
115.0	0	0	7	15	21
120.0	0	0	3	7	10
125.0	0	0	1	4	5
130.0	0	0	0	1	2
135.0	0	0	0	0	1
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	43.
5- 10	131.
10- 15	219.
15- 20	303.
20- 25	382.
25- 30	452.
30- 35	510.
35- 40	549.
40- 45	570.
45- 50	575.
50- 55	558.
55- 60	523.
60- 65	469.
65- 70	401.
70- 75	323.
75- 80	244.
80- 85	170.
85- 90	109.
90- 95	70.
95-100	46.
100-105	27.
105-110	13.
110-115	6.
115-120	3.
120-125	1.
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	174.
0- 20	696.
0- 30	1529.
0- 40	2588.
0- 50	3733.
0- 60	4815.
0- 70	5685.
0- 80	6251.
0- 90	6530.
0-100	6646.
0-110	6687.
0-120	6696.
0-130	6697.
0-140	6698.
0-150	6698.
0-160	6698.
0-170	6698.
0-180	6698.

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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	76	76	76	76	74	74	74	74	71	71	71	67	67	67	64	64	64	63
1	69	65	62	59	67	64	61	58	61	58	56	58	56	54	55	54	52	51
2	62	56	52	48	60	55	51	47	52	49	45	50	47	44	48	45	43	41
3	56	49	43	39	55	48	43	38	46	41	38	44	40	37	42	39	36	34
4	51	43	37	33	50	42	37	32	40	35	32	39	34	31	37	33	30	29
5	47	38	32	28	46	38	32	28	36	31	27	34	30	27	33	29	26	25
6	43	34	28	24	42	34	28	24	32	27	24	31	27	23	30	26	23	21
7	40	31	25	21	39	30	25	21	29	24	21	28	24	20	27	23	20	19
8	37	28	23	19	36	28	22	19	27	22	18	26	21	18	25	21	18	17
9	35	26	20	17	34	25	20	17	25	20	16	24	19	16	23	19	16	15
10	33	24	19	15	32	23	18	15	23	18	15	22	18	15	21	17	15	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