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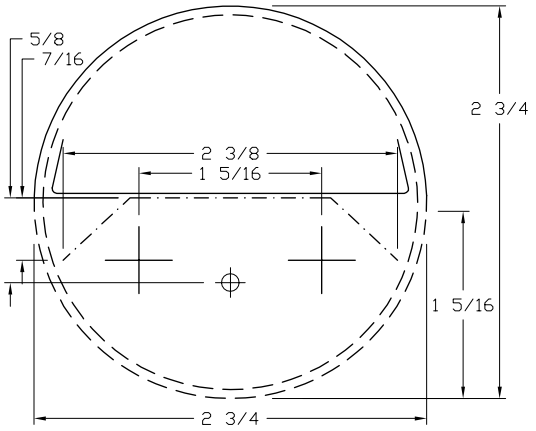
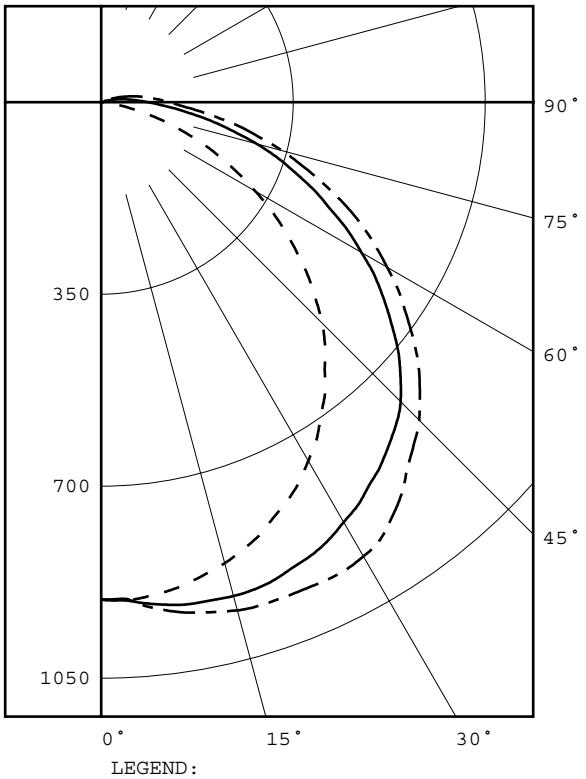
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955
INDEPENDENT TESTING LABORATORIES, INC.
3386 LONGHORN ROAD, BOULDER, CO 80302 USA
PHONE: (303)442-1255 • FAX: (303)449-5274 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL64524 DATE: 05/06/10
PREPARED FOR: ENCAPSULITE INTERNATIONAL INC.
CATALOG NUMBER: WGP724
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 28-WATT T-5 SYLVANIA FP28/841/ECO LINEAR FLUORESCENTS.
BALLAST: ROBERTSON PST228T5MVW
THE 0 DEGREE PLANE IS PARALLEL WITH THE LAMPS.
MOUNTING: SURFACE/SUSPENDED
TOTAL INPUT WATTS = 58.7 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	907	907	907	907	907	
5	906	909	917	919	922	88
15	870	896	932	951	959	261
25	802	849	910	947	963	414
35	698	763	852	911	924	522
45	570	659	772	808	820	565
55	409	544	630	671	680	534
65	243	387	461	511	521	430
75	95	217	294	331	342	281
85	5	77	136	165	177	133
90	0	37	82	111	120	
95	0	13	53	76	90	53
105	0	0	12	26	36	16
115	0	0	2	4	7	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	



ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LAMP	%FIXT
0- 30	762	14.7	23.1
0- 40	1285	24.7	38.9
0- 60	2384	45.8	72.2
0- 90	3228	62.1	97.8
90-120	72	1.4	2.2
90-130	72	1.4	2.2
90-150	72	1.4	2.2
90-180	72	1.4	2.2
0-180	3300	63.5	100.0

TOTAL LUMINAIRE EFFICIENCY = 63.5 % *

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	9310.	11495.	11298.
55	8233.	10672.	10213.
65	6643.	9161.	8702.
75	4231.	7087.	6496.
85	662.	4101.	3919.

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CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0.0	907	907	907	907	907
5.0	906	909	917	919	922
10.0	892	906	929	940	945
15.0	870	896	932	951	959
20.0	841	876	926	952	962
25.0	802	849	910	947	963
30.0	755	811	884	937	956
35.0	698	763	852	911	924
40.0	634	709	816	862	869
45.0	570	659	772	808	820
50.0	492	605	707	746	756
55.0	409	544	630	671	680
60.0	324	472	548	590	602
65.0	243	387	461	511	521
70.0	164	301	377	422	429
75.0	95	217	294	331	342
80.0	39	142	209	246	257
85.0	5	77	136	165	177
90.0	0	37	82	111	120
95.0	0	13	53	76	90
100.0	0	4	30	49	62
105.0	0	0	12	26	36
110.0	0	0	4	11	17
115.0	0	0	2	4	7
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	22.
5- 10	66.
10- 15	110.
15- 20	152.
20- 25	190.
25- 30	224.
30- 35	252.
35- 40	270.
40- 45	281.
45- 50	284.
50- 55	276.
55- 60	258.
60- 65	232.
65- 70	198.
70- 75	160.
75- 80	120.
80- 85	82.
85- 90	51.
90- 95	32.
95-100	20.
100-105	11.
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	88.
0- 20	349.
0- 30	762.
0- 40	1285.
0- 50	1849.
0- 60	2384.
0- 70	2814.
0- 80	3095.
0- 90	3228.
0-100	3280.
0-110	3297.
0-120	3299.
0-130	3300.
0-140	3300.
0-150	3300.
0-160	3300.
0-170	3300.
0-180	3300.

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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	75	75	75	75	73	73	73	73	70	70	70	66	66	66	63	63	63	62
1	68	64	61	59	66	63	60	58	60	58	55	57	55	54	55	53	52	50
2	61	56	51	47	59	54	50	46	52	48	45	49	46	44	47	45	43	41
3	56	48	43	39	54	47	42	38	45	41	37	43	39	36	41	38	36	34
4	51	43	37	32	49	42	36	32	40	35	31	38	34	31	37	33	30	29
5	46	38	32	28	45	37	31	27	36	31	27	34	30	26	33	29	26	25
6	43	34	28	24	41	33	28	24	32	27	23	31	26	23	30	26	23	21
7	40	31	25	21	38	30	25	21	29	24	20	28	24	20	27	23	20	19
8	37	28	22	19	36	27	22	18	26	22	18	26	21	18	25	21	18	17
9	34	26	20	17	33	25	20	16	24	20	16	23	19	16	23	19	16	15
10	32	24	18	15	31	23	18	15	22	18	15	22	18	15	21	17	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