

REPORT NUMBER: ITL70221

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PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

CATALOG NUMBER: 907D-03-X-4-X-PB-X-120-T5

LUMINAIRE: EXTRUDED SEMI-DIFFUSE METAL HOUSING WITH CAST DIFFUSE METAL
END CAPS, FORMED TWO-PIECE WHITE-PAINTED METAL REFLECTOR,
FABRICATED SEMI-SPECULAR METAL PARABOLIC 32-CELL LOUVER.

LAMPS: THREE 28-WATT T-5 SYLVANIA FP28/841/ECO LINEAR FLUORESCENTS.

BALLASTS: TWO UNIVERSAL B228PUNV-C

MOUNTING: SUSPENDED

THE 0 DEGREE PLANE IS PARALLEL WITH THE LAMPS.

TOTAL INPUT WATTS = 82.6 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	1944	1944	1944	1944	1944	
5	1949	1943	1941	1935	1935	185
15	1851	1862	1908	1947	1958	539
25	1684	1735	1826	1925	1967	844
35	1463	1555	1711	1821	1884	1054
45	1158	1307	1458	1523	1592	1091
55	721	916	1046	1167	1278	901
65	105	163	402	599	719	409
75	24	29	38	108	157	81
85	2	3	5	8	12	9
90	0	0	0	0	0	

ZONAL LUMEN SUMMARY			
ZONE	LUMENS	%LAMP	%FIXT
0- 30	1567	20.1	30.7
0- 40	2621	33.6	51.3
0- 60	4614	59.1	90.3
0- 90	5112	65.5	100.0
90-180	0	0.0	0.0
0-180	5112	65.5	100.0

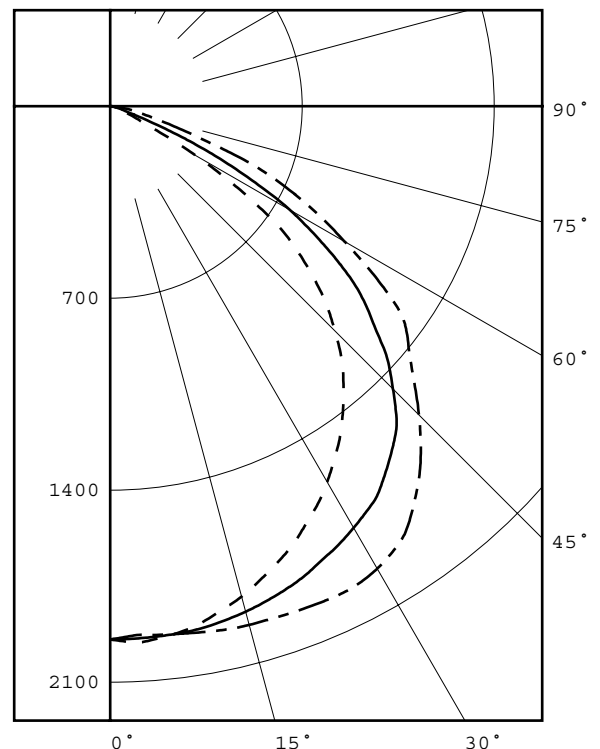
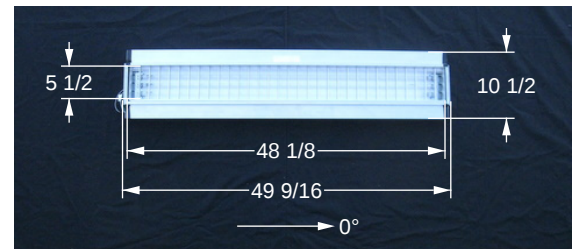
TOTAL LUMINAIRE EFFICIENCY = 65.5 % *

CIE TYPE - DIRECT

PLANE : 0-DEG 90-DEG
SPACING CRITERIA : 1.21 1.47
SHIELDING ANGLES : 28 16
LUMINOUS LENGTH : 48.125 5.500

LUMINANCE DATA IN CANDELA/SQ M

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
45	9590.	12075.	13184.
55	7361.	10679.	13048.
65	1455.	5570.	9963.
75	543.	860.	3552.
85	134.	336.	806.

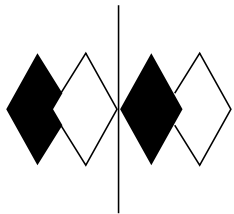


LEGEND:

0-deg: - - - - -
45-deg: - - - - -
90-deg: - - - - -

* SEE ADDENDUM FOR FURTHER INFORMATION

CheckedS.BERGIN.....
ApprovedR.BEATTIE.....
Lighting Engineer



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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

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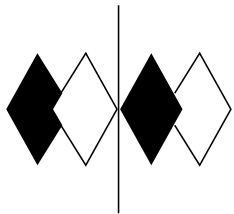
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CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0.0	1944	1944	1944	1944	1944
2.5	1957	1948	1943	1934	1932
5.0	1949	1943	1941	1935	1935
7.5	1935	1932	1938	1939	1940
10.0	1913	1914	1932	1942	1947
12.5	1881	1889	1921	1947	1954
15.0	1851	1862	1908	1947	1958
17.5	1813	1835	1892	1944	1959
20.0	1774	1802	1874	1937	1962
22.5	1734	1771	1853	1931	1965
25.0	1684	1735	1826	1925	1967
27.5	1637	1693	1803	1911	1962
30.0	1582	1653	1775	1893	1947
32.5	1523	1603	1746	1862	1922
35.0	1463	1555	1711	1821	1884
37.5	1394	1504	1659	1768	1821
40.0	1323	1443	1607	1693	1754
42.5	1249	1381	1545	1611	1676
45.0	1158	1307	1458	1523	1592
47.5	1069	1234	1373	1432	1506
50.0	964	1149	1263	1344	1427
52.5	854	1038	1165	1251	1364
55.0	721	916	1046	1167	1278
57.5	542	757	902	1051	1134
60.0	362	545	758	902	987
62.5	185	337	576	757	855
65.0	105	163	402	599	719
67.5	66	91	230	454	574
70.0	46	61	106	309	378
72.5	34	41	57	179	245
75.0	24	29	38	108	157
77.5	16	19	24	54	108
80.0	10	13	16	24	77
82.5	5	7	9	14	20
85.0	2	3	5	8	12
87.5	2	2	2	4	6
90.0	0	0	0	0	0



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5-DEGREE

ZONAL LUMEN SUMMARY

0- 5	46.
5- 10	138.
10- 15	227.
15- 20	311.
20- 25	388.
25- 30	456.
30- 35	510.
35- 40	544.
40- 45	554.
45- 50	537.
50- 55	494.
55- 60	407.
60- 65	268.
65- 70	141.
70- 75	58.
75- 80	23.
80- 85	7.
85- 90	2.

10-DEGREE

ZONAL LUMEN SUMMARY

0- 10	185.
0- 20	724.
0- 30	1567.
0- 40	2621.
0- 50	3712.
0- 60	4614.
0- 70	5022.
0- 80	5103.
0- 90	5112.
0-100	5112.
0-110	5112.
0-120	5112.
0-130	5112.
0-140	5112.
0-150	5112.
0-160	5112.
0-170	5112.
0-180	5112.



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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	78	78	78	78	76	76	76	76	73	73	73	70	70	70	67	67	67	66
1	73	70	68	65	71	68	66	64	66	64	62	63	62	61	61	60	59	57
2	67	62	58	55	65	61	57	54	59	56	53	56	54	52	55	52	51	49
3	61	55	50	46	60	54	50	46	52	48	45	50	47	44	49	46	44	42
4	56	49	44	40	55	48	43	40	47	42	39	45	41	38	44	41	38	37
5	52	44	39	34	51	43	38	34	42	37	34	41	37	34	40	36	33	32
6	48	40	34	30	47	39	34	30	38	33	30	37	33	30	36	32	29	28
7	44	36	31	27	43	35	30	27	34	30	26	34	29	26	33	29	26	25
8	41	33	27	24	40	32	27	24	32	27	24	31	27	23	30	26	23	22
9	39	30	25	21	38	30	25	21	29	24	21	28	24	21	28	24	21	20
10	36	28	23	19	35	27	23	19	27	22	19	26	22	19	26	22	19	18

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