



itl boulder

THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL80572
ISSUE DATE: 02/25/14
PREPARED FOR: OXYGEN LIGHTING
CATALOG NUMBER: 2-5154-124

PAGE: 1 OF 4

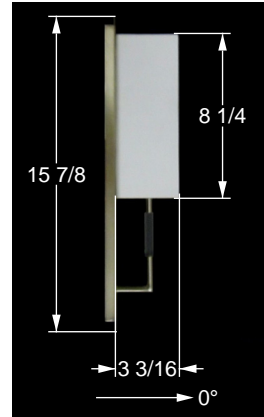
LUMINAIRE: FABRICATED SEMI-DIFFUSE METAL MOUNTING PLATE, WHITE PLASTIC DIFFUSER WITH WHITE CLOTH COVERED EXTERIOR, TRANSLUCENT WHITE ACRYLIC TOP AND BOTTOM DIFFUSER END CAPS. BALLAST IS EXPOSED IN LOWER CENTER OF OPTICAL COMPARTMENT.

LAMP: ONE 18-WATT DOUBLE TWIN TUBE COMPACT FLUORESCENT, SYLVANIA CF18DD/E/827, VERTICAL BASE-DOWN POSITION.

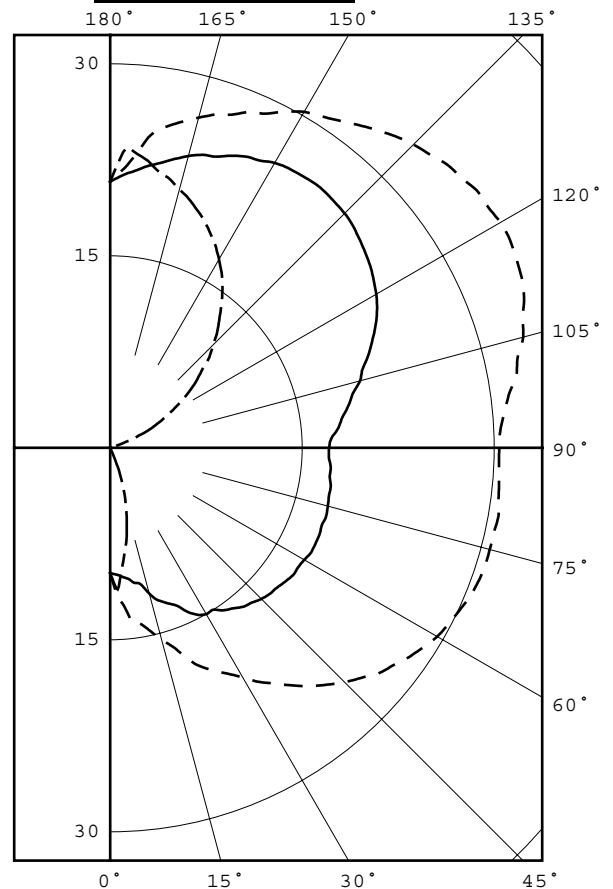
BALLAST: FULHAM RHA-UNV-218-C
TOTAL INPUT WATTS = 18.3 AT 120.0 VOLTS
MOUNTING: WALL

NOTE: DIFFUSER MATERIAL INFORMATION PROVIDED BY CLIENT.

REPORT IS BASED ON 1250 LUMENS PER LAMP.



CANDELA DISTRIBUTION						FLUX
	0.0	45.0	90.0	135.0	180.0	
0	9.8	9.8	9.8	9.8	9.8	1
5	12.4	12.3	10.1	11.5	9.8	3
15	15.5	16.2	11.8	8.2	4.8	6
25	19.2	19.2	14.1	7.1	0.0	9
35	22.5	21.2	15.5	7.1	0.0	12
45	25.9	23.5	16.7	7.8	0.0	15
55	28.5	26.2	17.4	8.7	0.0	18
65	30.1	28.2	17.7	9.4	0.0	19
75	30.7	29.3	17.6	9.9	0.0	20
85	30.5	29.4	17.3	10.0	0.0	20
90	30.4	29.3	17.1	10.1	0.0	21
95	30.9	29.8	17.9	10.2	0.0	22
105	33.4	31.9	20.2	11.2	0.0	21
115	35.0	33.3	22.9	13.9	3.4	22
125	35.0	33.2	24.8	16.3	7.4	21
135	33.5	32.3	25.9	18.6	11.4	19
145	31.2	31.7	26.0	20.7	15.3	16
155	28.8	30.7	25.1	22.3	18.5	12
165	26.7	28.0	23.6	23.3	20.9	7
175	23.0	22.9	21.7	23.9	23.1	2
180	20.8	20.8	20.8	20.8	20.8	



LEGEND:
 0-deg - - - - -
 90-deg = = = = =
 180-deg - . - . - .

ZONAL ZONE	LUMEN LUMENS	%LAMP	%FIXT
0- 30	10	0.8	4.2
0- 40	19	1.5	7.8
0- 60	46	3.7	18.8
0- 90	103	8.2	42.0
90-120	64	5.1	26.1
90-130	85	6.8	34.9
90-150	121	9.7	49.4
90-180	142	11.3	58.0
0-180	244	19.5	100.0

TOTAL LUMINAIRE EFFICIENCY = 19.5 %

CIE TYPE - GENERAL DIFFUSE
PLANE : 0-DEG 90-DEG 180-DEG
SPACING CRITERIA : 3.01 2.27 0.49

Checked B. HYRE
 Approved R. BEATTIE
 Lighting Engineer



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PAGE: 2 OF 4

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CANDELA DISTRIBUTION
 LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
0.0	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
5.0	12.4	12.7	12.3	11.7	10.1	11.2	11.5	10.5	9.8
10.0	14.0	14.6	14.7	12.8	10.7	11.4	9.2	7.9	7.3
15.0	15.5	16.1	16.2	14.1	11.8	10.6	8.2	6.0	4.8
20.0	17.5	17.5	18.3	17.6	12.9	10.9	7.4	4.3	2.4
25.0	19.2	19.4	19.2	18.3	14.1	11.0	7.1	2.8	0.0
30.0	20.7	21.0	20.2	18.6	15.0	11.4	7.0	2.4	0.0
35.0	22.5	22.6	21.2	18.4	15.5	11.4	7.1	2.6	0.0
40.0	24.3	24.3	22.3	19.2	16.2	12.0	7.5	2.7	0.0
45.0	25.9	25.9	23.5	20.1	16.7	12.7	7.8	2.9	0.0
50.0	27.4	27.4	24.9	20.9	17.0	13.2	8.2	3.0	0.0
55.0	28.5	28.7	26.2	21.6	17.4	13.8	8.7	3.2	0.0
60.0	29.5	29.8	27.4	22.2	17.5	14.3	9.1	3.3	0.0
65.0	30.1	30.7	28.2	22.7	17.7	14.6	9.4	3.4	0.0
70.0	30.6	31.2	28.8	23.0	17.6	14.9	9.7	3.6	0.0
75.0	30.7	31.6	29.3	23.3	17.6	15.1	9.9	3.7	0.0
80.0	30.8	31.8	29.5	23.3	17.5	15.2	10.0	3.8	0.0
85.0	30.5	31.7	29.4	23.1	17.3	15.0	10.0	3.8	0.0
90.0	30.4	31.5	29.3	23.1	17.1	15.1	10.1	3.8	0.0
95.0	30.9	32.0	29.8	23.7	17.9	15.5	10.2	3.8	0.0
100.0	32.2	33.3	30.9	24.7	18.9	16.4	10.7	3.9	0.0
105.0	33.4	34.3	31.9	25.7	20.2	17.3	11.2	4.0	0.0
110.0	34.4	35.1	32.6	26.8	21.5	18.4	12.5	5.3	1.2
115.0	35.0	35.7	33.3	27.7	22.9	19.6	13.9	7.1	3.4
120.0	35.2	35.7	33.4	28.3	24.0	20.7	15.2	8.9	5.3
125.0	35.0	35.3	33.2	28.8	24.8	21.6	16.3	10.6	7.4
130.0	34.4	34.7	32.7	29.3	25.4	22.4	17.5	12.3	9.3
135.0	33.5	33.9	32.3	29.6	25.9	23.1	18.6	14.0	11.4
140.0	32.4	32.8	31.9	29.7	26.1	23.6	19.6	15.6	13.3
145.0	31.2	32.0	31.7	29.7	26.0	24.1	20.7	17.2	15.3
150.0	30.3	31.2	31.3	29.4	25.7	24.3	21.5	18.8	17.0
155.0	28.8	30.1	30.7	28.8	25.1	24.6	22.3	19.9	18.5
160.0	27.7	28.8	29.7	27.7	24.2	24.7	22.9	21.0	19.8
165.0	26.7	27.7	28.0	25.7	23.6	24.8	23.3	22.0	20.9
170.0	25.5	26.1	25.7	23.9	22.6	24.6	23.7	22.7	21.9
175.0	23.0	23.3	22.9	22.2	21.7	23.0	23.9	23.6	23.1
180.0	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8



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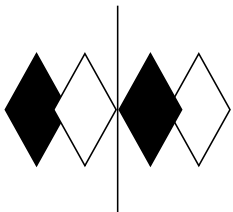
PAGE: 3 OF 4

5-DEGREE ZONAL LUMEN SUMMARY

0- 5	0
5- 10	1
10- 15	1
15- 20	2
20- 25	3
25- 30	3
30- 35	4
35- 40	5
40- 45	6
45- 50	6
50- 55	7
55- 60	8
60- 65	9
65- 70	9
70- 75	9
75- 80	10
80- 85	10
85- 90	10
90- 95	10
95-100	10
100-105	11
105-110	11
110-115	11
115-120	11
120-125	11
125-130	11
130-135	10
135-140	9
140-145	8
145-150	8
150-155	7
155-160	5
160-165	4
165-170	3
170-175	2
175-180	1

10-DEGREE ZONAL LUMEN SUMMARY

0- 10	1
0- 20	4
0- 30	10
0- 40	19
0- 50	31
0- 60	46
0- 70	63
0- 80	83
0- 90	103
0-100	123
0-110	144
0-120	166
0-130	188
0-140	207
0-150	223
0-160	235
0-170	242
0-180	244



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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC	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	21	21	21	21	19	19	19	19	15	15	15	12	12	12	10	10	10	8
1	18	17	16	15	16	15	14	13	12	12	11	10	9	9	7	7	6	5
2	16	14	13	11	14	13	12	10	10	9	8	8	7	7	6	5	5	4
3	14	12	11	9	13	11	10	8	9	8	7	7	6	5	5	4	4	3
4	13	11	9	8	12	10	8	7	8	7	6	6	5	4	4	4	3	2
5	12	9	8	6	11	9	7	6	7	6	5	5	4	4	4	3	3	2
6	11	8	7	5	10	8	6	5	6	5	4	5	4	3	3	3	2	2
7	10	7	6	5	9	7	5	4	5	4	3	4	3	3	3	2	2	1
8	9	7	5	4	8	6	5	4	5	4	3	4	3	2	3	2	2	1
9	9	6	5	3	8	6	4	3	4	3	3	3	3	2	3	2	1	1
10	8	6	4	3	7	5	4	3	4	3	2	3	2	2	2	2	1	1

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.

NOTE: THE ZONAL CAVITY CALCULATION TECHNIQUE IS ACCURATE WHEN LUMINAIRES WITH SYMMETRIC CANDELA DISTRIBUTIONS ARE EMPLOYED AND WHEN THE LUMINAIRES ARE LOCATED SYMMETRICALLY THROUGHOUT THE ROOM. THIS UNIT HAS SPECIAL CHARACTERISTICS AND THEREFORE THESE COEFFICIENTS SHOULD BE USED WITH CAUTION.