

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: ITL80571

PAGE: 1 OF 4

ISSUE DATE: 02/21/14

PREPARED FOR: OXYGEN LIGHTING

CATALOG NUMBER: 2-5154-224

LUMINAIRE: FABRICATED SEMI-DIFFUSE METAL MOUNTING PLATE, TRANSLUCENT WHITE ACRYLIC DIFFUSER. 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.

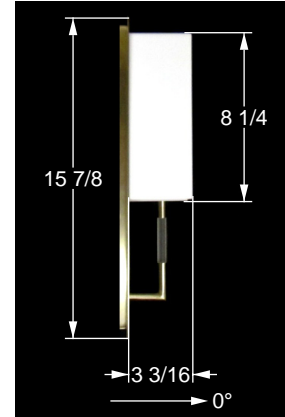
BALLAST: FULHAM RHA-UNV-218-C

TOTAL INPUT WATTS = 17.8 AT 120.0 VOLTS

MOUNTING: WALL

NOTE: DIFFUSER MATERIAL INFORMATION PROVIDED BY CLIENT.

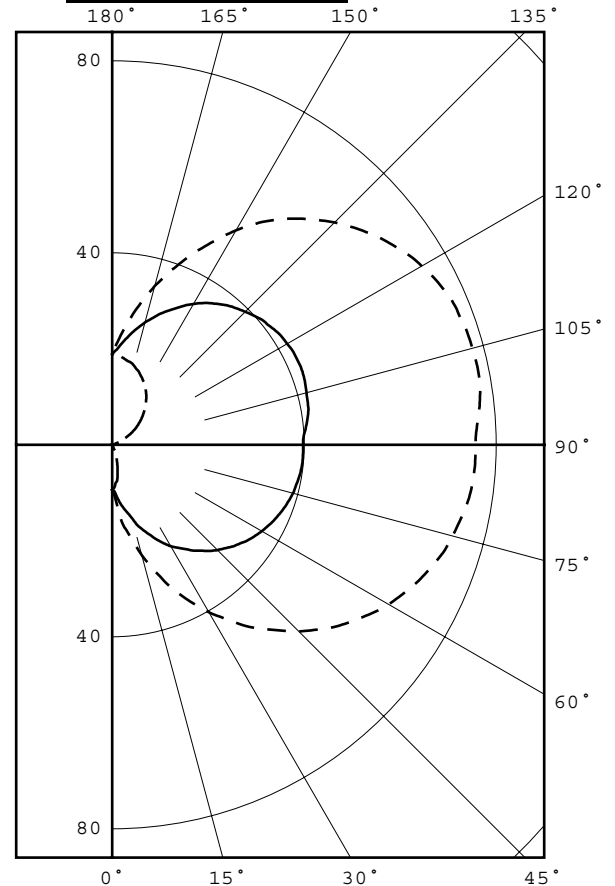
REPORT IS BASED ON 1250 LUMENS PER LAMP.



CANDELA DISTRIBUTION

FLUX

	0.0	45.0	90.0	135.0	180.0	
0	9.4	9.4	9.4	9.4	9.4	
5	13.2	12.6	10.8	9.5	8.0	1
15	23.8	24.6	15.8	11.4	4.1	5
25	34.9	35.7	21.7	12.6	0.3	10
35	45.4	45.1	26.5	14.9	0.0	18
45	55.0	54.4	31.0	17.7	0.0	26
55	63.0	62.7	34.6	20.4	0.0	34
65	69.3	69.2	37.2	22.4	0.0	41
75	73.4	73.7	39.0	24.0	0.0	47
85	75.6	75.9	39.8	24.8	0.0	50
90	75.7	76.3	39.8	24.9	0.0	
95	76.7	77.0	40.5	25.2	0.0	51
105	77.7	77.8	41.9	25.4	0.0	50
115	76.3	76.2	42.4	26.7	2.3	47
125	72.0	72.0	41.5	27.2	5.9	41
135	65.5	65.5	39.2	27.0	9.2	33
145	57.0	57.1	36.0	26.4	12.4	25
155	45.6	45.7	31.4	24.6	15.0	16
165	34.2	34.5	26.4	22.6	17.2	8
175	23.4	23.3	21.0	19.9	18.5	2
180	18.9	18.9	18.9	18.9	18.9	



LEGEND:

0-deg -----
90-deg =====
180-deg -----

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LAMP	%FIXT
0- 30	16	1.3	3.3
0- 40	34	2.7	6.7
0- 60	94	7.5	18.6
0- 90	232	18.6	46.1
90-120	147	11.8	29.2
90-130	188	15.1	37.4
90-150	246	19.7	48.9
90-180	272	21.7	53.9
0-180	504	40.3	100.0

TOTAL LUMINAIRE EFFICIENCY = 40.3 %

CIE TYPE - GENERAL DIFFUSE

PLANE : 0-DEG 90-DEG 180-DEG

SPACING CRITERIA : 4.50 3.39 0.45

Checked B. HYRE

Approved R. BEATTIE
Lighting Engineer



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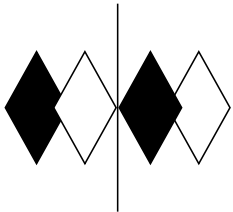
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CANDELA DISTRIBUTION
 LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
0.0	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
5.0	13.2	13.2	12.6	11.5	10.8	10.6	9.5	8.5	8.0
10.0	18.5	19.5	18.7	15.7	13.3	12.1	10.4	8.4	6.5
15.0	23.8	24.8	24.6	19.9	15.8	13.8	11.4	6.8	4.1
20.0	29.2	30.3	30.9	27.3	18.9	17.4	11.7	6.0	2.0
25.0	34.9	36.6	35.7	31.0	21.7	19.2	12.6	5.4	0.3
30.0	40.3	42.2	40.5	34.2	24.4	20.8	13.8	5.8	0.3
35.0	45.4	47.8	45.1	37.1	26.5	21.9	14.9	6.3	0.0
40.0	50.2	53.2	49.7	40.6	28.8	23.9	16.4	7.0	0.0
45.0	55.0	58.2	54.4	43.9	31.0	25.9	17.7	7.7	0.0
50.0	59.3	62.8	58.7	47.1	32.9	27.9	19.1	8.2	0.0
55.0	63.0	67.2	62.7	50.1	34.6	29.7	20.4	8.8	0.0
60.0	66.5	70.8	66.3	52.7	36.0	31.1	21.6	9.3	0.0
65.0	69.3	73.9	69.2	54.9	37.2	32.3	22.4	9.9	0.0
70.0	71.6	76.6	71.8	56.8	38.2	33.4	23.3	10.2	0.0
75.0	73.4	78.5	73.7	58.3	39.0	34.3	24.0	10.6	0.0
80.0	74.8	80.2	75.1	59.4	39.5	34.9	24.5	10.7	0.0
85.0	75.6	81.1	75.9	59.9	39.8	35.3	24.8	10.9	0.0
90.0	75.7	81.4	76.3	60.1	39.8	35.3	24.9	10.9	0.0
95.0	76.7	82.1	77.0	60.9	40.5	35.9	25.2	11.0	0.0
100.0	77.7	83.0	77.9	61.8	41.5	36.4	25.3	10.9	0.0
105.0	77.7	83.0	77.8	61.9	41.9	36.8	25.4	10.9	0.0
110.0	77.2	82.4	77.3	61.9	42.4	37.2	26.2	11.6	0.7
115.0	76.3	81.2	76.2	61.3	42.4	37.3	26.7	12.8	2.3
120.0	74.5	79.1	74.5	60.3	42.1	37.3	27.1	13.9	4.1
125.0	72.0	76.4	72.0	58.7	41.5	36.8	27.2	15.0	5.9
130.0	69.0	73.0	69.0	56.5	40.6	36.1	27.3	16.1	7.6
135.0	65.5	69.2	65.5	53.9	39.2	35.2	27.0	16.8	9.2
140.0	61.5	65.0	61.6	51.0	37.8	34.2	26.9	17.8	10.9
145.0	57.0	60.0	57.1	47.6	36.0	32.8	26.4	18.4	12.4
150.0	51.6	54.3	51.5	43.7	33.9	31.1	25.6	18.8	13.9
155.0	45.6	47.6	45.7	39.4	31.4	29.2	24.6	19.1	15.0
160.0	39.8	41.4	40.2	35.1	29.0	27.2	23.8	19.4	16.2
165.0	34.2	35.3	34.5	30.8	26.4	25.1	22.6	19.5	17.2
170.0	28.6	29.3	28.7	26.4	23.7	22.8	21.2	19.2	17.8
175.0	23.4	23.6	23.3	22.2	21.0	20.8	19.9	19.0	18.5
180.0	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9



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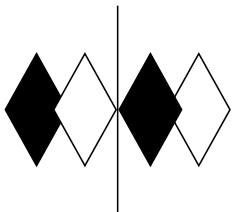
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5-DEGREE ZONAL LUMEN SUMMARY

0- 5	0
5- 10	1
10- 15	2
15- 20	3
20- 25	4
25- 30	6
30- 35	8
35- 40	10
40- 45	12
45- 50	14
50- 55	16
55- 60	18
60- 65	20
65- 70	22
70- 75	23
75- 80	24
80- 85	25
85- 90	25
90- 95	25
95-100	25
100-105	25
105-110	25
110-115	24
115-120	23
120-125	21
125-130	20
130-135	18
135-140	16
140-145	13
145-150	11
150-155	9
155-160	7
160-165	5
165-170	3
170-175	2
175-180	0

10-DEGREE ZONAL LUMEN SUMMARY

0- 10	1
0- 20	6
0- 30	16
0- 40	34
0- 50	60
0- 60	94
0- 70	135
0- 80	182
0- 90	232
0-100	283
0-110	332
0-120	379
0-130	420
0-140	454
0-150	478
0-160	494
0-170	502
0-180	504



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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	43	43	43	43	39	39	39	39	33	33	33	27	27	27	21	21	21	19	
1	37	34	32	30	34	31	29	27	26	24	23	20	19	18	16	15	14	11	
2	33	29	26	23	30	26	23	21	21	19	17	17	15	14	12	11	10	8	
3	30	25	21	18	27	22	19	17	18	16	14	14	12	11	10	9	8	6	
4	27	22	18	15	24	20	16	14	16	13	11	12	10	9	9	7	6	5	
5	24	19	15	12	22	17	14	11	14	11	9	11	9	7	8	6	5	4	
6	22	17	13	10	20	15	12	9	12	10	8	10	8	6	7	5	4	3	
7	21	15	11	9	18	14	10	8	11	8	7	9	7	5	6	5	4	2	
8	19	13	10	8	17	12	9	7	10	7	6	8	6	4	6	4	3	2	
9	18	12	9	7	16	11	8	6	9	7	5	7	5	4	5	4	3	2	
10	16	11	8	6	15	10	7	5	8	6	4	6	5	3	5	3	2	2	

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.