

itl boulder

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
DATE: 04/18/06

REPORT NUMBER: ITL57396
PREPARED FOR: OXYGEN LIGHTING
CATALOG NUMBER: 2-579-124

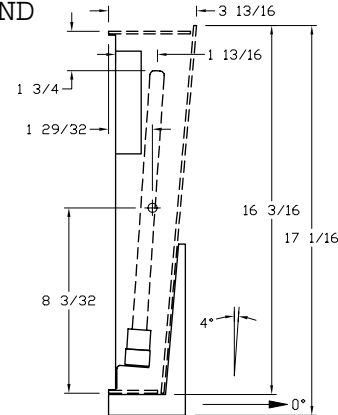
LUMINAIRE: FABRICATED WHITE PAINTED BALLAST/SOCKET MOUNTING PLATE,
TRANSLUCENT WHITE GLASS DIFFUSER WITH FABRICATED SEMI-SPECULAR
METAL DIFFUSER SUPPORT ARM, TRANSLUCENT WHITE ACRYLIC TOP
AND BOTTOM CAPS. BALLAST IS EXPOSED AND
CENTERED AT TOP OF MOUNTING PLATE.

LAMP: ONE 24-WATT SINGLE ENDED TWIN TUBE
FLUORESCENT, SYLVANIA FT24DL/841,
TILTED 4-DEGREES FROM VERTICAL
BASE-DOWN POSITION.

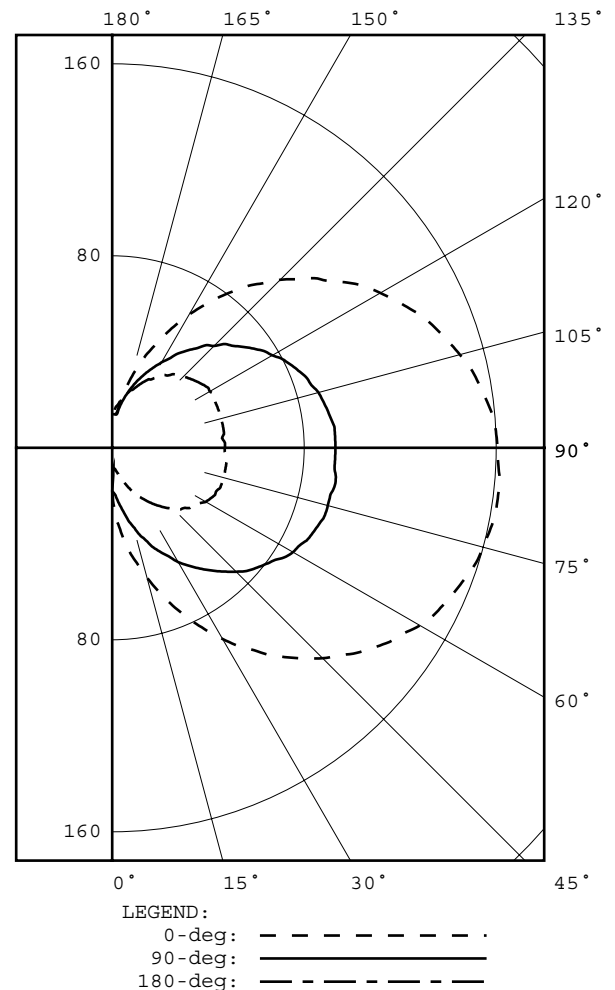
BALLAST: ANTRON CSD-UV18P

MOUNTING: WALL

TOTAL REFLECTANCE OF PAINT= 74.5 %
TOTAL INPUT WATTS= 20.1 AT 120.0 VOLTS
REPORT IS BASED ON 1800 LUMENS PER LAMP.



| CANDELA DISTRIBUTION | | | | | | FLUX |
|----------------------|-----|------|------|-------|-------|------|
| | 0.0 | 45.0 | 90.0 | 135.0 | 180.0 | |
| 0 | 18 | 18 | 18 | 18 | 18 | |
| 5 | 33 | 29 | 21 | 13 | 9 | 2 |
| 15 | 56 | 50 | 34 | 19 | 12 | 10 |
| 25 | 80 | 70 | 48 | 27 | 20 | 23 |
| 35 | 103 | 91 | 61 | 34 | 28 | 39 |
| 45 | 124 | 109 | 73 | 40 | 36 | 58 |
| 55 | 141 | 123 | 82 | 45 | 42 | 77 |
| 65 | 153 | 134 | 90 | 49 | 47 | 92 |
| 75 | 160 | 141 | 93 | 51 | 48 | 103 |
| 85 | 162 | 142 | 93 | 52 | 48 | 108 |
| 90 | 161 | 141 | 93 | 52 | 47 | |
| 95 | 159 | 140 | 93 | 53 | 46 | 107 |
| 105 | 150 | 132 | 89 | 52 | 47 | 99 |
| 115 | 137 | 121 | 82 | 49 | 47 | 86 |
| 125 | 120 | 106 | 72 | 46 | 46 | 68 |
| 135 | 99 | 88 | 60 | 41 | 42 | 50 |
| 145 | 76 | 68 | 48 | 36 | 37 | 32 |
| 155 | 52 | 47 | 35 | 31 | 30 | 18 |
| 165 | 30 | 28 | 23 | 22 | 23 | 7 |
| 175 | 14 | 14 | 14 | 16 | 17 | 1 |
| 180 | 14 | 14 | 14 | 14 | 14 | |

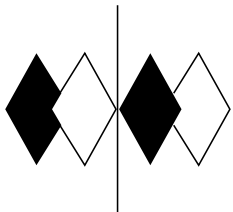


| ZONAL LUMEN SUMMARY | | | |
|---------------------|--------|-------|-------|
| ZONE | LUMENS | %LAMP | %FIXT |
| 0- 30 | 34 | 1.9 | 3.5 |
| 0- 40 | 74 | 4.1 | 7.5 |
| 0- 60 | 209 | 11.6 | 21.3 |
| 0- 90 | 512 | 28.5 | 52.3 |
| 90-120 | 291 | 16.2 | 29.7 |
| 90-130 | 359 | 20.0 | 36.7 |
| 90-150 | 441 | 24.5 | 45.1 |
| 90-180 | 467 | 26.0 | 47.7 |
| 0-180 | 980 | 54.4 | 100.0 |

TOTAL LUMINAIRE EFFICIENCY = 54.4 %

CIE TYPE - DIRECT-INDIRECT
PLANE : 0-DEG 90-DEG 180-DEG
SPACING CRITERIA : 4.8 3.8 0.2

Checked B. HYRE
Approved R. BEATTIE



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CANDELA DISTRIBUTION

| | 0.0 | 22.5 | 45.0 | 67.5 | 90.0 | 112.5 | 135.0 | 157.5 | 180.0 |
|-------|-----|------|------|------|------|-------|-------|-------|-------|
| 0.0 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 |
| 5.0 | 33 | 31 | 29 | 25 | 21 | 16 | 13 | 9 | 9 |
| 10.0 | 45 | 42 | 39 | 33 | 27 | 20 | 15 | 11 | 10 |
| 15.0 | 56 | 54 | 50 | 41 | 34 | 25 | 19 | 13 | 12 |
| 20.0 | 68 | 65 | 60 | 50 | 41 | 30 | 23 | 17 | 16 |
| 25.0 | 80 | 77 | 70 | 59 | 48 | 35 | 27 | 21 | 20 |
| 30.0 | 92 | 88 | 80 | 68 | 55 | 40 | 30 | 25 | 24 |
| 35.0 | 103 | 99 | 91 | 77 | 61 | 45 | 34 | 29 | 28 |
| 40.0 | 114 | 110 | 100 | 85 | 67 | 50 | 37 | 33 | 32 |
| 45.0 | 124 | 119 | 109 | 92 | 73 | 54 | 40 | 36 | 36 |
| 50.0 | 133 | 128 | 116 | 99 | 78 | 58 | 43 | 39 | 39 |
| 55.0 | 141 | 136 | 123 | 105 | 82 | 61 | 45 | 41 | 42 |
| 60.0 | 148 | 142 | 129 | 110 | 87 | 64 | 47 | 43 | 45 |
| 65.0 | 153 | 148 | 134 | 115 | 90 | 66 | 49 | 45 | 47 |
| 70.0 | 157 | 152 | 138 | 118 | 92 | 68 | 50 | 47 | 48 |
| 75.0 | 160 | 155 | 141 | 120 | 93 | 69 | 51 | 48 | 48 |
| 80.0 | 162 | 157 | 142 | 121 | 94 | 70 | 52 | 49 | 48 |
| 85.0 | 162 | 157 | 142 | 121 | 93 | 69 | 52 | 50 | 48 |
| 90.0 | 161 | 156 | 141 | 121 | 93 | 70 | 52 | 51 | 47 |
| 95.0 | 159 | 153 | 140 | 119 | 93 | 69 | 53 | 52 | 46 |
| 100.0 | 155 | 149 | 137 | 116 | 91 | 68 | 52 | 52 | 47 |
| 105.0 | 150 | 144 | 132 | 113 | 89 | 66 | 52 | 52 | 47 |
| 110.0 | 144 | 138 | 127 | 108 | 86 | 64 | 51 | 51 | 47 |
| 115.0 | 137 | 131 | 121 | 103 | 82 | 61 | 49 | 49 | 47 |
| 120.0 | 129 | 123 | 114 | 97 | 77 | 58 | 48 | 48 | 47 |
| 125.0 | 120 | 114 | 106 | 90 | 72 | 55 | 46 | 46 | 46 |
| 130.0 | 110 | 104 | 97 | 82 | 66 | 51 | 43 | 44 | 44 |
| 135.0 | 99 | 94 | 88 | 74 | 60 | 47 | 41 | 42 | 42 |
| 140.0 | 88 | 83 | 79 | 66 | 54 | 42 | 38 | 39 | 40 |
| 145.0 | 76 | 71 | 68 | 58 | 48 | 38 | 36 | 36 | 37 |
| 150.0 | 64 | 60 | 57 | 49 | 41 | 34 | 33 | 32 | 33 |
| 155.0 | 52 | 48 | 47 | 40 | 35 | 29 | 31 | 29 | 30 |
| 160.0 | 41 | 37 | 37 | 32 | 29 | 25 | 27 | 25 | 26 |
| 165.0 | 30 | 26 | 28 | 24 | 23 | 21 | 22 | 21 | 23 |
| 170.0 | 19 | 17 | 18 | 15 | 17 | 16 | 18 | 18 | 20 |
| 175.0 | 14 | 14 | 14 | 14 | 14 | 15 | 16 | 16 | 17 |
| 180.0 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |



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ZONAL LUMEN SUMMARY

| | |
|---------|-----|
| 0- 5 | 0. |
| 5- 10 | 2. |
| 10- 15 | 4. |
| 15- 20 | 6. |
| 20- 25 | 9. |
| 25- 30 | 13. |
| 30- 35 | 17. |
| 35- 40 | 22. |
| 40- 45 | 27. |
| 45- 50 | 32. |
| 50- 55 | 36. |
| 55- 60 | 41. |
| 60- 65 | 45. |
| 65- 70 | 48. |
| 70- 75 | 51. |
| 75- 80 | 52. |
| 80- 85 | 54. |
| 85- 90 | 54. |
| 90- 95 | 54. |
| 95-100 | 53. |
| 100-105 | 51. |
| 105-110 | 48. |
| 110-115 | 45. |
| 115-120 | 41. |
| 120-125 | 36. |
| 125-130 | 32. |
| 130-135 | 27. |
| 135-140 | 23. |
| 140-145 | 18. |
| 145-150 | 14. |
| 150-155 | 10. |
| 155-160 | 7. |
| 160-165 | 5. |
| 165-170 | 2. |
| 170-175 | 1. |
| 175-180 | 0. |



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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 | 59 | 59 | 59 | 59 | 54 | 54 | 54 | 54 | 46 | 46 | 46 | 39 | 39 | 39 | 32 | 32 | 32 | 28 |
| 1 | 50 | 47 | 43 | 40 | 46 | 43 | 40 | 37 | 36 | 34 | 31 | 29 | 27 | 26 | 23 | 22 | 21 | 18 |
| 2 | 45 | 39 | 35 | 31 | 41 | 36 | 32 | 28 | 30 | 26 | 24 | 24 | 21 | 19 | 19 | 17 | 15 | 12 |
| 3 | 40 | 33 | 28 | 24 | 36 | 31 | 26 | 22 | 25 | 22 | 19 | 20 | 17 | 15 | 16 | 13 | 12 | 9 |
| 4 | 36 | 29 | 24 | 20 | 33 | 26 | 22 | 18 | 22 | 18 | 15 | 17 | 14 | 12 | 13 | 11 | 9 | 7 |
| 5 | 33 | 25 | 20 | 16 | 30 | 23 | 18 | 15 | 19 | 15 | 12 | 15 | 12 | 10 | 12 | 9 | 7 | 6 |
| 6 | 30 | 22 | 17 | 14 | 27 | 21 | 16 | 12 | 17 | 13 | 10 | 14 | 11 | 8 | 10 | 8 | 6 | 4 |
| 7 | 28 | 20 | 15 | 12 | 25 | 18 | 14 | 11 | 15 | 11 | 9 | 12 | 9 | 7 | 9 | 7 | 5 | 4 |
| 8 | 26 | 18 | 13 | 10 | 23 | 17 | 12 | 9 | 14 | 10 | 8 | 11 | 8 | 6 | 8 | 6 | 4 | 3 |
| 9 | 24 | 16 | 12 | 9 | 22 | 15 | 11 | 8 | 12 | 9 | 7 | 10 | 7 | 5 | 8 | 6 | 4 | 3 |
| 10 | 22 | 15 | 11 | 8 | 20 | 14 | 10 | 7 | 11 | 8 | 6 | 9 | 6 | 5 | 7 | 5 | 3 | 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.