



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](mailto:itl@itlboulder.com) • WEBSITE: [www.itlboulder.com](http://www.itlboulder.com)

REPORT NUMBER: ITL61323

DATE: 11/20/08

PREPARED FOR: SCOTT ARCHITECTURAL LIGHTING

LUMINAIRE: FABRICATED WHITE PAINTED METAL MOUNTING PLATE/REFLECTOR, TRANSLUCENT WHITE FROSTED PLASTIC DIFFUSER IN FABRICATED WHITE PAINTED METAL FRAME/TRIM, OPEN TOP AND BOTTOM, DIFFUSER FROSTED SIDE OUT. BALLAST IS EXPOSED AND CENTERED OFFSET TOWARDS BOTTOM OF OPTICAL COMPARTMENT.

LAMP: ONE 39-WATT SINGLE ENDED TWIN TUBE FLUORESCENT, GE F39BX/SPX35/RS, VERTICAL BASE-DOWN POSITION.

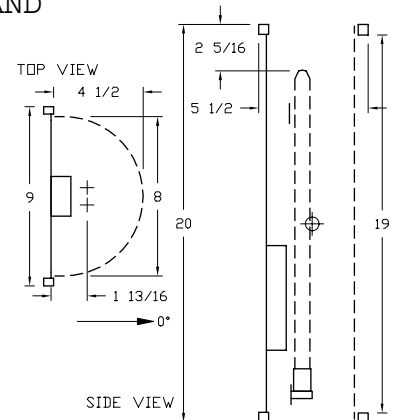
BALLAST: UNIVERSAL C242UNVSE

MOUNTING: WALL

TOTAL REFLECTANCE OF PAINT = 88.2 %

TOTAL INPUT WATTS = 32.8 AT 120.0 VOLTS

REPORT IS BASED ON 2900 LUMENS PER LAMP.



#### CANDELA DISTRIBUTION

#### FLUX

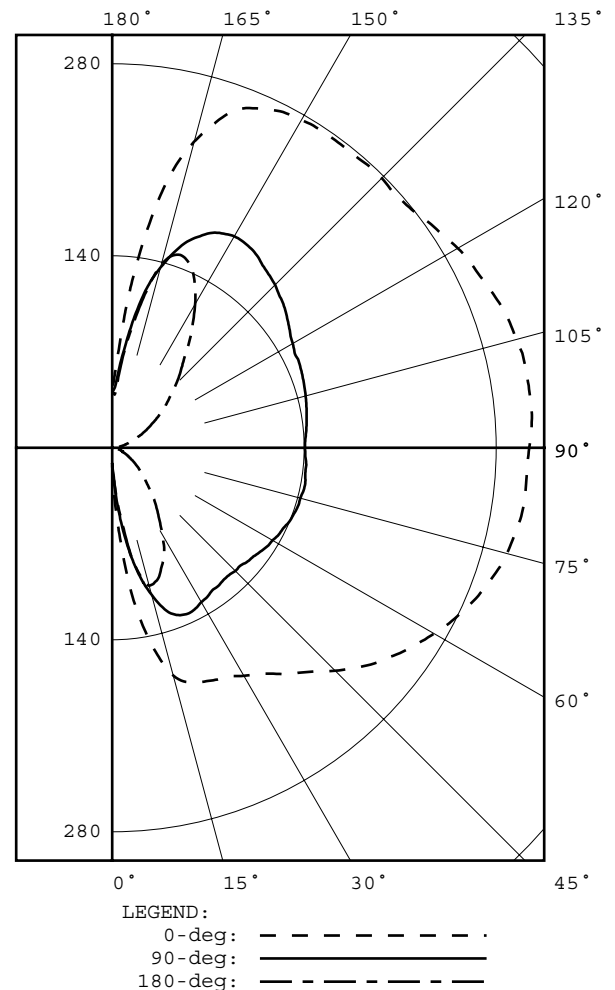
|     | 0.0 | 45.0 | 90.0 | 135.0 | 180.0 |     |
|-----|-----|------|------|-------|-------|-----|
| 0   | 11  | 11   | 11   | 11    | 11    |     |
| 5   | 67  | 62   | 39   | 35    | 36    | 5   |
| 15  | 172 | 164  | 111  | 94    | 104   | 35  |
| 25  | 186 | 179  | 133  | 97    | 89    | 64  |
| 35  | 201 | 183  | 127  | 73    | 58    | 82  |
| 45  | 230 | 202  | 127  | 56    | 35    | 100 |
| 55  | 259 | 224  | 132  | 45    | 21    | 120 |
| 65  | 282 | 242  | 138  | 39    | 11    | 139 |
| 75  | 298 | 254  | 142  | 35    | 6     | 153 |
| 85  | 303 | 258  | 142  | 31    | 1     | 158 |
| 90  | 304 | 258  | 141  | 30    | 0     |     |
| 95  | 307 | 259  | 142  | 32    | 2     | 160 |
| 105 | 305 | 259  | 146  | 40    | 11    | 159 |
| 115 | 296 | 254  | 150  | 51    | 24    | 152 |
| 125 | 284 | 246  | 157  | 67    | 42    | 142 |
| 135 | 278 | 246  | 168  | 89    | 66    | 131 |
| 145 | 277 | 250  | 177  | 121   | 100   | 116 |
| 155 | 272 | 254  | 173  | 146   | 140   | 90  |
| 165 | 231 | 212  | 136  | 130   | 138   | 47  |
| 175 | 91  | 80   | 58   | 53    | 52    | 7   |
| 180 | 40  | 40   | 40   | 40    | 40    |     |

#### ZONAL LUMEN SUMMARY

| ZONE   | LUMENS | %LAMP | %FIXT |
|--------|--------|-------|-------|
| 0- 30  | 104    | 3.6   | 5.6   |
| 0- 40  | 186    | 6.4   | 10.0  |
| 0- 60  | 406    | 14.0  | 21.8  |
| 0- 90  | 857    | 29.6  | 46.0  |
| 90-120 | 470    | 16.2  | 25.3  |
| 90-130 | 612    | 21.1  | 32.9  |
| 90-150 | 860    | 29.7  | 46.2  |
| 90-180 | 1004   | 34.6  | 54.0  |
| 0-180  | 1861   | 64.2  | 100.0 |

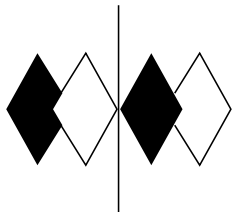
TOTAL LUMINAIRE EFFICIENCY = 64.2 %

CIE TYPE - DIRECT-INDIRECT



Checked B. HYRE

Approved R. BEATTIE



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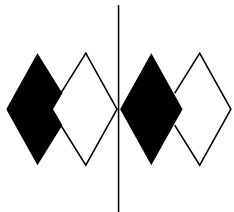
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CANDELA DISTRIBUTION

|       | 0.0 | 22.5 | 45.0 | 67.5 | 90.0 | 112.5 | 135.0 | 157.5 | 180.0 |
|-------|-----|------|------|------|------|-------|-------|-------|-------|
| 0.0   | 11  | 11   | 11   | 11   | 11   | 11    | 11    | 11    | 11    |
| 5.0   | 67  | 55   | 62   | 40   | 39   | 30    | 35    | 27    | 36    |
| 10.0  | 134 | 121  | 126  | 93   | 81   | 72    | 68    | 65    | 80    |
| 15.0  | 172 | 166  | 164  | 134  | 111  | 108   | 94    | 95    | 104   |
| 20.0  | 182 | 181  | 176  | 153  | 129  | 126   | 105   | 98    | 100   |
| 25.0  | 186 | 185  | 179  | 158  | 133  | 128   | 97    | 87    | 89    |
| 30.0  | 192 | 189  | 180  | 158  | 130  | 121   | 85    | 75    | 73    |
| 35.0  | 201 | 195  | 183  | 156  | 127  | 110   | 73    | 60    | 58    |
| 40.0  | 214 | 206  | 191  | 158  | 126  | 99    | 64    | 48    | 46    |
| 45.0  | 230 | 221  | 202  | 164  | 127  | 91    | 56    | 37    | 35    |
| 50.0  | 246 | 235  | 213  | 171  | 129  | 86    | 50    | 29    | 27    |
| 55.0  | 259 | 248  | 224  | 179  | 132  | 84    | 45    | 22    | 21    |
| 60.0  | 271 | 260  | 233  | 186  | 135  | 82    | 41    | 17    | 15    |
| 65.0  | 282 | 271  | 242  | 192  | 138  | 82    | 39    | 13    | 11    |
| 70.0  | 291 | 280  | 249  | 198  | 141  | 82    | 37    | 9     | 8     |
| 75.0  | 298 | 287  | 254  | 202  | 142  | 82    | 35    | 6     | 6     |
| 80.0  | 302 | 291  | 258  | 204  | 143  | 81    | 33    | 4     | 3     |
| 85.0  | 303 | 293  | 258  | 205  | 142  | 80    | 31    | 2     | 1     |
| 90.0  | 304 | 293  | 258  | 204  | 141  | 79    | 30    | 1     | 0     |
| 95.0  | 307 | 294  | 259  | 205  | 142  | 80    | 32    | 3     | 2     |
| 100.0 | 307 | 295  | 260  | 206  | 144  | 84    | 36    | 7     | 7     |
| 105.0 | 305 | 292  | 259  | 206  | 146  | 87    | 40    | 13    | 11    |
| 110.0 | 302 | 289  | 257  | 206  | 148  | 91    | 45    | 18    | 17    |
| 115.0 | 296 | 284  | 254  | 205  | 150  | 95    | 51    | 25    | 24    |
| 120.0 | 291 | 279  | 250  | 203  | 152  | 102   | 58    | 34    | 32    |
| 125.0 | 284 | 273  | 246  | 203  | 157  | 113   | 67    | 44    | 42    |
| 130.0 | 278 | 269  | 245  | 206  | 163  | 124   | 77    | 55    | 53    |
| 135.0 | 278 | 269  | 246  | 209  | 168  | 136   | 89    | 68    | 66    |
| 140.0 | 277 | 270  | 248  | 212  | 172  | 149   | 105   | 84    | 80    |
| 145.0 | 277 | 270  | 250  | 215  | 177  | 161   | 121   | 103   | 100   |
| 150.0 | 276 | 272  | 254  | 215  | 178  | 170   | 135   | 122   | 121   |
| 155.0 | 272 | 270  | 254  | 210  | 173  | 173   | 146   | 137   | 140   |
| 160.0 | 262 | 257  | 244  | 195  | 160  | 164   | 146   | 143   | 149   |
| 165.0 | 231 | 222  | 212  | 167  | 136  | 136   | 130   | 127   | 138   |
| 170.0 | 175 | 161  | 157  | 121  | 100  | 90    | 95    | 90    | 95    |
| 175.0 | 91  | 77   | 80   | 63   | 58   | 50    | 53    | 47    | 52    |
| 180.0 | 40  | 40   | 40   | 40   | 40   | 40    | 40    | 40    | 40    |



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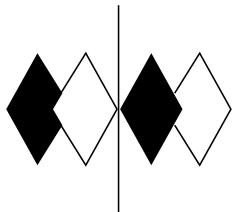
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#### ZONAL LUMEN SUMMARY

|         |     |
|---------|-----|
| 0- 5    | 1.  |
| 5- 10   | 5.  |
| 10- 15  | 13. |
| 15- 20  | 22. |
| 20- 25  | 29. |
| 25- 30  | 34. |
| 30- 35  | 39. |
| 35- 40  | 43. |
| 40- 45  | 47. |
| 45- 50  | 52. |
| 50- 55  | 58. |
| 55- 60  | 63. |
| 60- 65  | 68. |
| 65- 70  | 72. |
| 70- 75  | 75. |
| 75- 80  | 78. |
| 80- 85  | 79. |
| 85- 90  | 79. |
| 90- 95  | 79. |
| 95-100  | 80. |
| 100-105 | 80. |
| 105-110 | 79. |
| 110-115 | 77. |
| 115-120 | 75. |
| 120-125 | 72. |
| 125-130 | 70. |
| 130-135 | 67. |
| 135-140 | 64. |
| 140-145 | 61. |
| 145-150 | 56. |
| 150-155 | 49. |
| 155-160 | 41. |
| 160-165 | 30. |
| 165-170 | 17. |
| 170-175 | 6.  |
| 175-180 | 1.  |



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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  | 68 | 68 | 68 | 68 | 63 | 63 | 63 | 63 | 52 | 52 | 52 | 42 | 42 | 42 | 34 | 34 | 34 | 30 |
| 1  | 59 | 56 | 52 | 49 | 54 | 51 | 48 | 45 | 42 | 39 | 37 | 33 | 31 | 30 | 25 | 24 | 23 | 19 |
| 2  | 53 | 47 | 42 | 38 | 48 | 43 | 38 | 35 | 35 | 32 | 29 | 28 | 25 | 23 | 21 | 19 | 18 | 14 |
| 3  | 48 | 41 | 35 | 30 | 43 | 37 | 32 | 28 | 30 | 26 | 23 | 24 | 21 | 18 | 18 | 16 | 14 | 11 |
| 4  | 43 | 35 | 30 | 25 | 39 | 32 | 27 | 23 | 26 | 22 | 19 | 21 | 18 | 15 | 15 | 13 | 11 | 9  |
| 5  | 40 | 31 | 25 | 21 | 36 | 28 | 23 | 19 | 23 | 19 | 16 | 18 | 15 | 13 | 14 | 11 | 9  | 7  |
| 6  | 36 | 28 | 22 | 18 | 33 | 25 | 20 | 16 | 21 | 17 | 14 | 16 | 13 | 11 | 12 | 10 | 8  | 6  |
| 7  | 33 | 25 | 19 | 15 | 30 | 23 | 18 | 14 | 19 | 15 | 12 | 15 | 12 | 9  | 11 | 9  | 7  | 5  |
| 8  | 31 | 22 | 17 | 13 | 28 | 20 | 16 | 12 | 17 | 13 | 10 | 13 | 10 | 8  | 10 | 8  | 6  | 4  |
| 9  | 29 | 20 | 15 | 12 | 26 | 19 | 14 | 11 | 15 | 12 | 9  | 12 | 9  | 7  | 9  | 7  | 5  | 4  |
| 10 | 27 | 19 | 14 | 10 | 24 | 17 | 13 | 9  | 14 | 10 | 8  | 11 | 8  | 6  | 9  | 6  | 5  | 3  |

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.