



# LUMINAIRE TESTING LABORATORY, INC.



SUSTAINING  
MEMBER

905 Harrison Street · Allentown, PA 18103 · (610) 770-1044 · Fax (610) 770-8912 · [www.LuminaireTesting.com](http://www.LuminaireTesting.com)

LTL NUMBER: 01634

DATE: 5-20-1994

PREPARED FOR: MERCURY LIGHTING CO.

CATALOG NUMBER: 35E-232-OCT-SPW-ELB-120V/

35E-232-OCT-SPW-ELB-120V-20GA

LUMINAIRE: FORMED STEEL HOUSING, WHITE ENAMEL REFLECTOR,

3/8" HIGH 5/8" x 5/8" PLASTIC SPECULAR PARABOLIC LOUVER.

BALLAST: ONE MOTOROLA M2-IN-T8-120.

LAMPS: TWO GE F32T8-SP41 RATED AT 2900 LUMENS EACH.

MOUNTING: RECESS

LUMEN TO CANDELA RATIO USED = 9.17

TOTAL INPUT WATTS = 59.1 AT 120.0 VOLTS

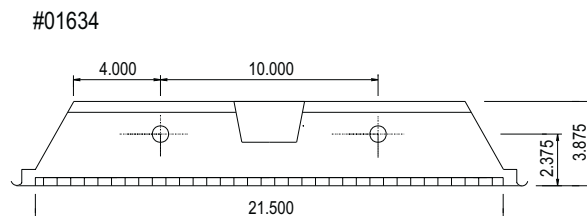
THE 0 DEGREE PLANE IS PARALLEL WITH THE LAMPS.

## CANDELA DISTRIBUTION

|    | 0.0  | 22.5 | 45.0 | 67.5 | 90.0 |
|----|------|------|------|------|------|
| 0  | 1532 | 1532 | 1532 | 1532 | 1532 |
| 5  | 1529 | 1534 | 1543 | 1552 | 1552 |
| 15 | 1466 | 1503 | 1536 | 1565 | 1573 |
| 25 | 1333 | 1396 | 1490 | 1578 | 1598 |
| 35 | 1147 | 1256 | 1416 | 1531 | 1582 |
| 45 | 608  | 744  | 905  | 953  | 904  |
| 55 | 8    | 13   | 30   | 7    | 3    |
| 65 | 1    | 1    | 1    | 1    | 1    |
| 75 | 0    | 0    | 0    | 0    | 0    |
| 85 | 0    | 0    | 0    | 0    | 0    |
| 90 | 0    | 0    | 0    | 0    | 0    |

## FLUX

|     |
|-----|
| 147 |
| 433 |
| 685 |
| 870 |
| 615 |
| 31  |
| 1   |
| 0   |
| 0   |



## ZONAL LUMEN SUMMARY

| ZONE   | LUMENS | %LAMP | %FIXT |
|--------|--------|-------|-------|
| 0- 30  | 1265   | 21.8  | 45.5  |
| 0- 40  | 2135   | 36.8  | 76.7  |
| 0- 60  | 2781   | 47.9  | 99.9  |
| 0- 90  | 2783   | 48.0  | 100.0 |
| 90-180 | 0      | 0.0   | 0.0   |
| 0-180  | 2783   | 48.0  | 100.0 |

TOTAL LUMINAIRE EFFICIENCY: 48.0%

TOTAL REFLECTANCE OF PAINT: 90.4%

CIE TYPE: DIRECT

PLANE: 0-DEG 90-DEG

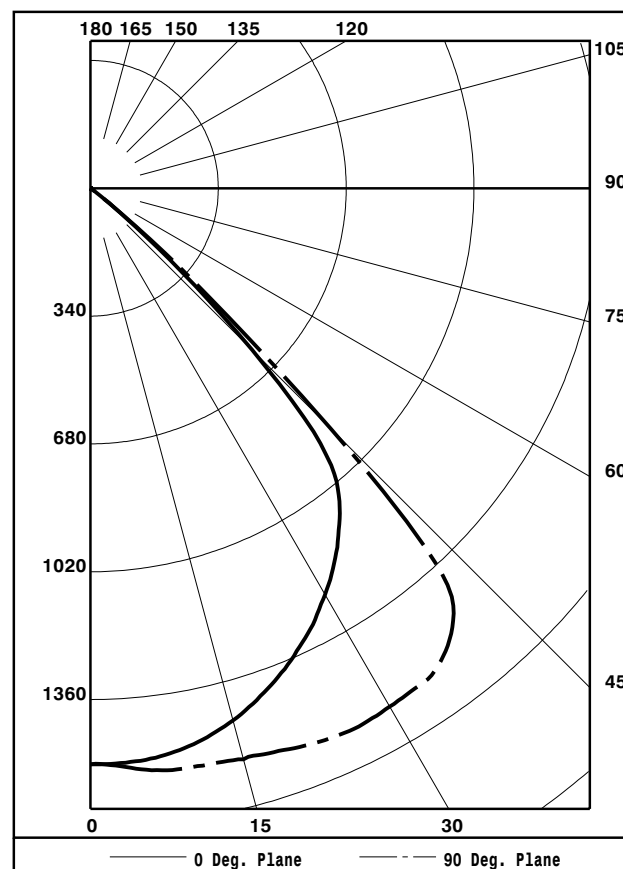
SPACING CRITERIA: 1.2 1.5

SHIELDING ANGLES: 45 45

LUMINOUS LENGTH: 45.500 21.500

## LUMINANCE IN CANDELA PER SQUARE METER

| ANGLE<br>IN DEG | AVERAGE<br>0-DEG | AVERAGE<br>45-DEG | AVERAGE<br>90-DEG |
|-----------------|------------------|-------------------|-------------------|
| 0               | 2427.            | 2427.             | 2427.             |
| 45              | 1362.            | 2028.             | 2026.             |
| 55              | 22.              | 83.               | 8.                |
| 65              | 4.               | 4.                | 4.                |
| 75              | 0.               | 0.                | 0.                |
| 85              | 0.               | 0.                | 0.                |



TESTED BY JOHN HAYES

CHECKED BY JAY LANGTHORN

THIS REPORT BASED ON LM-41 AND OTHER PERTINENT IES PROCEDURES.



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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  | 57 | 57 | 57 | 57 | 56 | 56 | 56 | 56 | 53 | 53 | 53 | 51 | 51 | 51 | 49 | 49 | 49 | 48 |
| 1  | 54 | 53 | 52 | 50 | 53 | 52 | 51 | 50 | 50 | 49 | 48 | 48 | 47 | 47 | 46 | 46 | 45 | 44 |
| 2  | 51 | 49 | 47 | 45 | 50 | 48 | 46 | 44 | 46 | 45 | 43 | 45 | 44 | 43 | 44 | 43 | 42 | 41 |
| 3  | 48 | 45 | 42 | 40 | 47 | 44 | 42 | 40 | 43 | 41 | 39 | 42 | 40 | 39 | 41 | 39 | 38 | 37 |
| 4  | 45 | 41 | 38 | 36 | 44 | 41 | 38 | 36 | 40 | 37 | 36 | 39 | 37 | 35 | 38 | 36 | 35 | 34 |
| 5  | 43 | 38 | 35 | 33 | 42 | 38 | 35 | 32 | 37 | 34 | 32 | 36 | 34 | 32 | 35 | 33 | 32 | 31 |
| 6  | 40 | 35 | 32 | 30 | 39 | 35 | 32 | 29 | 34 | 31 | 29 | 33 | 31 | 29 | 33 | 30 | 29 | 28 |
| 7  | 37 | 32 | 29 | 27 | 37 | 32 | 29 | 26 | 31 | 28 | 26 | 31 | 28 | 26 | 30 | 28 | 26 | 25 |
| 8  | 35 | 29 | 26 | 24 | 34 | 29 | 26 | 23 | 28 | 25 | 23 | 28 | 25 | 23 | 27 | 25 | 23 | 22 |
| 9  | 32 | 26 | 23 | 21 | 31 | 26 | 23 | 21 | 26 | 23 | 21 | 25 | 22 | 21 | 25 | 22 | 20 | 20 |
| 10 | 30 | 24 | 21 | 18 | 29 | 24 | 21 | 18 | 23 | 20 | 18 | 23 | 20 | 18 | 23 | 20 | 18 | 18 |

CANDELA DISTRIBUTION

|    |      |      |      |      |      |
|----|------|------|------|------|------|
|    | 0.0  | 22.5 | 45.0 | 67.5 | 90.0 |
| 0  | 1532 | 1532 | 1532 | 1532 | 1532 |
| 5  | 1529 | 1534 | 1543 | 1552 | 1552 |
| 10 | 1507 | 1528 | 1553 | 1564 | 1564 |
| 15 | 1466 | 1503 | 1536 | 1565 | 1573 |
| 20 | 1406 | 1456 | 1513 | 1570 | 1585 |
| 25 | 1333 | 1396 | 1490 | 1578 | 1598 |
| 30 | 1248 | 1328 | 1463 | 1566 | 1592 |
| 35 | 1147 | 1256 | 1416 | 1531 | 1582 |
| 40 | 1018 | 1141 | 1311 | 1434 | 1500 |
| 45 | 608  | 744  | 905  | 953  | 904  |
| 50 | 127  | 211  | 321  | 210  | 158  |
| 55 | 8    | 13   | 30   | 7    | 3    |
| 60 | 2    | 2    | 2    | 2    | 3    |
| 65 | 1    | 1    | 1    | 1    | 1    |
| 70 | 1    | 1    | 1    | 1    | 1    |
| 75 | 0    | 0    | 0    | 0    | 0    |
| 80 | 0    | 0    | 0    | 0    | 0    |
| 85 | 0    | 0    | 0    | 0    | 0    |
| 90 | 0    | 0    | 0    | 0    | 0    |

ZONAL LUMEN SUMMARY

|        |      |
|--------|------|
| 0- 5   | 37.  |
| 5- 10  | 111. |
| 10- 15 | 183. |
| 15- 20 | 251. |
| 20- 25 | 314. |
| 25- 30 | 371. |
| 30- 35 | 418. |
| 35- 40 | 451. |
| 40- 45 | 421. |
| 45- 50 | 195. |
| 50- 55 | 29.  |
| 55- 60 | 2.   |
| 60- 65 | 1.   |
| 65- 70 | 1.   |
| 70- 75 | 0.   |
| 75- 80 | 0.   |
| 80- 85 | 0.   |
| 85- 90 | 0.   |

THIS TEST WAS CONDUCTED USING RELATIVE PHOTOMETRY TECHNIQUES ACCORDING TO STANDARD IESNA PROCEDURES. THE USER MUST THEREFORE USE CAUTION IN THE FOLLOWING SITUATIONS: 1) THIS TEST WAS PERFORMED USING A SPECIFIC BALLAST/LAMP COMBINATION. EXTRAPOLATION OF THESE DATA FOR OTHER BALLAST/LAMP COMBINATIONS MAY PRODUCE ERRONEOUS RESULTS. 2) ACCORDING TO IESNA PROCEDURES, THE BALLAST(S) AND LAMP(S) ARE PRESUMED TO PRODUCE 100% OF RATED OUTPUT. AN APPROPRIATE BALLAST FACTOR MUST BE APPLIED TO THE LUMEN OUTPUT RATINGS AND LUMINOUS INTENSITY VALUES GIVEN. 3) THIS TEST WAS CONDUCTED IN A CONTROLLED LABORATORY ENVIRONMENT WHERE THE AMBIENT TEMPERATURE WAS HELD AT 25°C ±1°C. FIELD PERFORMANCE MAY DIFFER PARTICULARLY IN REGARDS TO CHANGE IN LUMINOUS OUTPUT AS A RESULT OF DIFFERENCE IN AMBIENT TEMPERATURE AND METHOD OF MOUNTING THE LUMINAIRE.



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VISUAL COMFORT PROBABILITY TABLE

RATED LUMENS PER LAMP 2900.

| 100. FC. ROOM |     | REFLECTANCES 80/50/20<br>LUMINAIRES 0 DEG PLANE |      |      |      | LUMINAIRES 90 DEG PLANE |      |      |      |
|---------------|-----|-------------------------------------------------|------|------|------|-------------------------|------|------|------|
| W             | L   | 8.5                                             | 10.0 | 13.0 | 16.0 | 8.5                     | 10.0 | 13.0 | 16.0 |
| 20            | 20  | 100                                             | 98   | 98   | 96   | 100                     | 96   | 97   | 94   |
| 20            | 30  | 100                                             | 98   | 99   | 96   | 100                     | 96   | 97   | 94   |
| 20            | 40  | 100                                             | 98   | 99   | 96   | 100                     | 96   | 98   | 94   |
| 20            | 60  | 100                                             | 98   | 99   | 96   | 100                     | 96   | 98   | 94   |
|               |     |                                                 |      |      |      |                         |      |      |      |
| 30            | 20  | 100                                             | 98   | 99   | 96   | 100                     | 96   | 97   | 94   |
| 30            | 30  | 100                                             | 98   | 99   | 96   | 100                     | 96   | 98   | 94   |
| 30            | 40  | 100                                             | 98   | 99   | 96   | 100                     | 96   | 98   | 94   |
| 30            | 60  | 100                                             | 98   | 99   | 96   | 100                     | 96   | 98   | 95   |
| 30            | 80  | 100                                             | 98   | 99   | 97   | 100                     | 97   | 98   | 95   |
|               |     |                                                 |      |      |      |                         |      |      |      |
| 40            | 20  | 100                                             | 98   | 99   | 96   | 100                     | 96   | 98   | 94   |
| 40            | 30  | 100                                             | 98   | 99   | 96   | 100                     | 96   | 98   | 94   |
| 40            | 40  | 100                                             | 98   | 99   | 96   | 100                     | 96   | 98   | 95   |
| 40            | 60  | 100                                             | 98   | 99   | 97   | 100                     | 97   | 98   | 95   |
| 40            | 80  | 100                                             | 98   | 99   | 97   | 100                     | 97   | 98   | 95   |
| 40            | 100 | 100                                             | 98   | 99   | 97   | 100                     | 97   | 98   | 95   |
|               |     |                                                 |      |      |      |                         |      |      |      |
| 60            | 30  | 100                                             | 98   | 99   | 96   | 100                     | 96   | 98   | 95   |
| 60            | 40  | 100                                             | 98   | 99   | 97   | 100                     | 97   | 98   | 95   |
| 60            | 60  | 100                                             | 98   | 99   | 97   | 100                     | 97   | 98   | 95   |
| 60            | 80  | 100                                             | 98   | 99   | 97   | 100                     | 97   | 98   | 95   |
| 60            | 100 | 100                                             | 98   | 99   | 97   | 100                     | 97   | 98   | 95   |
|               |     |                                                 |      |      |      |                         |      |      |      |
| 100           | 40  | 100                                             | 98   | 99   | 97   | 100                     | 97   | 98   | 95   |
| 100           | 60  | 100                                             | 98   | 99   | 97   | 100                     | 97   | 98   | 95   |
| 100           | 80  | 100                                             | 98   | 99   | 97   | 100                     | 97   | 98   | 95   |
| 100           | 100 | 100                                             | 98   | 99   | 97   | 100                     | 97   | 98   | 95   |