

REPORT NUMBER: ITL76175

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ISSUE DATE: 02/22/13

PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

CATALOG NUMBER: MLR5-2-4-X-PBW-120-T8

LUMINAIRE: EXTRUDED 3-PIECE METAL HOUSING WITH WHITE PAINTED GENERAL INTERIOR FINISH AND FABRICATED WHITE PAINTED METAL END CAPS, FORMED WHITE PAINTED METAL REFLECTOR AND SOCKET MOUNTING BRACKETS, FABRICATED WHITE PAINTED METAL PARABOLIC 31-CELL LOUVER.

LAMPS: TWO 32-WATT T-8 FO32/835 LINEAR FLUORESCENTS.

BALLAST: UNIVERSAL B232IUNV-C

MOUNTING: RECESSED

TOTAL REFLECTANCE OF PAINT = 88.9 %

THE 0 DEGREE PLANE IS PARALLEL WITH THE LAMPS.

TOTAL INPUT WATTS = 51.5 AT 120.0 VOLTS

LUMEN TO CANDELA RATIO USED = 9.17

REPORT IS BASED ON 2950 LUMENS PER LAMP.

| CANDELA DISTRIBUTION | | | | | | FLUX |
|----------------------|------|------|------|------|------|------|
| | 0.0 | 22.5 | 45.0 | 67.5 | 90.0 | |
| 0 | 1788 | 1788 | 1788 | 1788 | 1788 | |
| 5 | 1765 | 1772 | 1774 | 1772 | 1773 | 168 |
| 15 | 1602 | 1623 | 1667 | 1713 | 1733 | 469 |
| 25 | 1374 | 1417 | 1472 | 1513 | 1537 | 672 |
| 35 | 1118 | 1167 | 1177 | 1213 | 1265 | 740 |
| 45 | 819 | 854 | 857 | 824 | 845 | 651 |
| 55 | 503 | 526 | 498 | 485 | 507 | 453 |
| 65 | 209 | 215 | 250 | 274 | 298 | 255 |
| 75 | 111 | 114 | 118 | 136 | 148 | 132 |
| 85 | 27 | 27 | 29 | 32 | 36 | 35 |
| 90 | 0 | 0 | 0 | 0 | 0 | |

| ZONAL LUMEN SUMMARY | | | |
|---------------------|--------|-------|-------|
| ZONE | LUMENS | %LAMP | %FIXT |
| 0- 30 | 1309 | 22.2 | 36.6 |
| 0- 40 | 2049 | 34.7 | 57.3 |
| 0- 60 | 3153 | 53.4 | 88.2 |
| 0- 90 | 3575 | 60.6 | 100.0 |
| 90-180 | 0 | 0.0 | 0.0 |
| 0-180 | 3575 | 60.6 | 100.0 |

TOTAL LUMINAIRE EFFICIENCY = 60.6 %

CIE TYPE - DIRECT

PLANE : 0-DEG 90-DEG

SPACING CRITERIA : 1.07 1.17

SHIELDING ANGLES : 30 36

LUMINOUS LENGTH : 46.625 4.375

LUMINANCE DATA IN CANDELA/SQ M

ANGLE AVERAGE AVERAGE AVERAGE

IN DEG 0-DEG 45-DEG 90-DEG

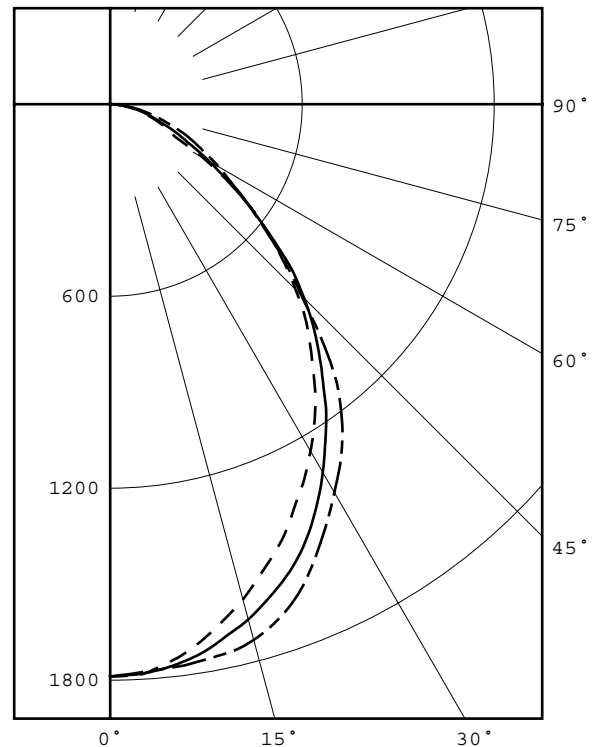
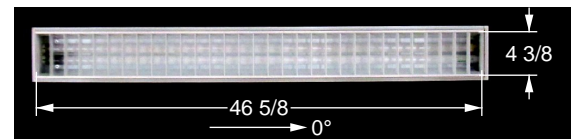
45 8801. 9209. 9080.

55 6664. 6597. 6717.

65 3758. 4495. 5358.

75 3259. 3464. 4345.

85 2354. 2528. 3139.



LEGEND:

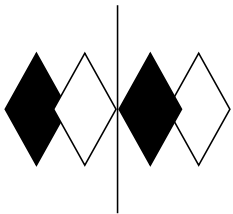
0-deg -----

45-deg =====

90-deg -----

Checked M KLOPF

Approved R BEATTIE
Lighting Engineer



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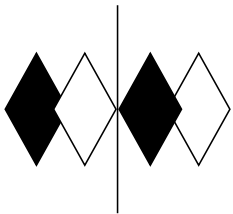
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CANDELA DISTRIBUTION
 LATERAL ANGLE

| | 0.0 | 22.5 | 45.0 | 67.5 | 90.0 |
|------|------|------|------|------|------|
| 0.0 | 1788 | 1788 | 1788 | 1788 | 1788 |
| 2.5 | 1787 | 1787 | 1784 | 1780 | 1780 |
| 5.0 | 1765 | 1772 | 1774 | 1772 | 1773 |
| 7.5 | 1735 | 1743 | 1757 | 1764 | 1769 |
| 10.0 | 1695 | 1709 | 1733 | 1751 | 1760 |
| 12.5 | 1649 | 1665 | 1699 | 1736 | 1752 |
| 15.0 | 1602 | 1623 | 1667 | 1713 | 1733 |
| 17.5 | 1547 | 1577 | 1626 | 1682 | 1702 |
| 20.0 | 1496 | 1525 | 1583 | 1634 | 1660 |
| 22.5 | 1440 | 1472 | 1533 | 1577 | 1604 |
| 25.0 | 1374 | 1417 | 1472 | 1513 | 1537 |
| 27.5 | 1316 | 1354 | 1403 | 1434 | 1469 |
| 30.0 | 1252 | 1299 | 1329 | 1366 | 1401 |
| 32.5 | 1187 | 1232 | 1251 | 1288 | 1337 |
| 35.0 | 1118 | 1167 | 1177 | 1213 | 1265 |
| 37.5 | 1041 | 1099 | 1092 | 1138 | 1182 |
| 40.0 | 970 | 1018 | 1015 | 1049 | 1083 |
| 42.5 | 901 | 941 | 939 | 948 | 963 |
| 45.0 | 819 | 854 | 857 | 824 | 845 |
| 47.5 | 741 | 774 | 774 | 728 | 752 |
| 50.0 | 660 | 695 | 674 | 640 | 659 |
| 52.5 | 584 | 605 | 581 | 555 | 577 |
| 55.0 | 503 | 526 | 498 | 485 | 507 |
| 57.5 | 416 | 448 | 421 | 424 | 442 |
| 60.0 | 334 | 362 | 358 | 367 | 392 |
| 62.5 | 248 | 286 | 298 | 320 | 341 |
| 65.0 | 209 | 215 | 250 | 274 | 298 |
| 67.5 | 185 | 186 | 211 | 239 | 260 |
| 70.0 | 158 | 161 | 170 | 204 | 218 |
| 72.5 | 133 | 136 | 142 | 167 | 179 |
| 75.0 | 111 | 114 | 118 | 136 | 148 |
| 77.5 | 88 | 90 | 93 | 105 | 115 |
| 80.0 | 68 | 68 | 71 | 79 | 87 |
| 82.5 | 45 | 48 | 48 | 55 | 58 |
| 85.0 | 27 | 27 | 29 | 32 | 36 |
| 87.5 | 9 | 10 | 12 | 13 | 15 |
| 90.0 | 0 | 0 | 0 | 0 | 0 |



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5-DEGREE

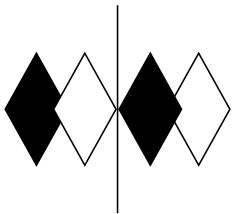
ZONAL LUMEN SUMMARY

| | |
|--------|-----|
| 0- 5 | 43 |
| 5- 10 | 125 |
| 10- 15 | 201 |
| 15- 20 | 268 |
| 20- 25 | 319 |
| 25- 30 | 353 |
| 30- 35 | 370 |
| 35- 40 | 370 |
| 40- 45 | 347 |
| 45- 50 | 305 |
| 50- 55 | 253 |
| 55- 60 | 199 |
| 60- 65 | 147 |
| 65- 70 | 109 |
| 70- 75 | 79 |
| 75- 80 | 53 |
| 80- 85 | 28 |
| 85- 90 | 7 |

10-DEGREE

ZONAL LUMEN SUMMARY

| | |
|-------|------|
| 0- 10 | 168 |
| 0- 20 | 637 |
| 0- 30 | 1309 |
| 0- 40 | 2049 |
| 0- 50 | 2701 |
| 0- 60 | 3153 |
| 0- 70 | 3409 |
| 0- 80 | 3540 |
| 0- 90 | 3575 |



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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 | 72 | 72 | 72 | 72 | 70 | 70 | 70 | 70 | 67 | 67 | 67 | 64 | 64 | 64 | 62 | 62 | 62 | 61 |
| 1 | 67 | 64 | 62 | 60 | 65 | 63 | 61 | 59 | 61 | 59 | 57 | 58 | 57 | 56 | 56 | 55 | 54 | 53 |
| 2 | 62 | 57 | 54 | 51 | 60 | 56 | 53 | 50 | 54 | 51 | 49 | 52 | 50 | 48 | 50 | 49 | 47 | 46 |
| 3 | 57 | 51 | 47 | 44 | 56 | 50 | 46 | 43 | 49 | 45 | 42 | 47 | 44 | 42 | 46 | 43 | 41 | 40 |
| 4 | 53 | 46 | 41 | 38 | 51 | 45 | 41 | 38 | 44 | 40 | 37 | 43 | 39 | 37 | 41 | 38 | 36 | 35 |
| 5 | 49 | 42 | 37 | 33 | 48 | 41 | 36 | 33 | 40 | 36 | 33 | 39 | 35 | 32 | 38 | 35 | 32 | 31 |
| 6 | 45 | 38 | 33 | 30 | 44 | 37 | 33 | 29 | 36 | 32 | 29 | 35 | 32 | 29 | 35 | 31 | 29 | 28 |
| 7 | 42 | 35 | 30 | 26 | 41 | 34 | 30 | 26 | 33 | 29 | 26 | 33 | 29 | 26 | 32 | 28 | 26 | 25 |
| 8 | 40 | 32 | 27 | 24 | 39 | 32 | 27 | 24 | 31 | 27 | 24 | 30 | 26 | 24 | 29 | 26 | 23 | 22 |
| 9 | 37 | 29 | 25 | 22 | 36 | 29 | 25 | 22 | 28 | 24 | 22 | 28 | 24 | 21 | 27 | 24 | 21 | 20 |
| 10 | 35 | 27 | 23 | 20 | 34 | 27 | 23 | 20 | 26 | 22 | 20 | 26 | 22 | 20 | 25 | 22 | 20 | 19 |

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.