

LUMINAIRE: LLHP3-40VH-M-EU
 LLHP Led High Bay, Industrial
 11" x 24" led with medium distribution optics
BALLAST: (3) LXMG2203
BALLAST FACTOR: 1.00
LAMP: Led
LUMENS PER LAMP: 39535
WATTS: 405
MOUNTING: Pendant
SHIELDING ANGLE: 0° = 90 90° = 90
SPACING CRITERION: 0° = 1.10 90° = 1.10
LUMINOUS OPENING IN FEET
 LENGTH: 0.79
 WIDTH: 0.79
 HEIGHT: 0.00

TEST #15363
 DATE: 1/6/2012

TOTAL LUMINAIRE EFFICIENCY = 100.2
LUMINAIRE EFFICACY RATING (LER) = 98
ANSI/IESNA RP-1-2004 COMPLIANCE: NONCOMPLIANT
COMPARATIVE YEARLY LIGHTING ENERGY COST PER 1000 LUMENS = \$2.45
BASED ON 3000 HRS. AND \$.08 PER KWH

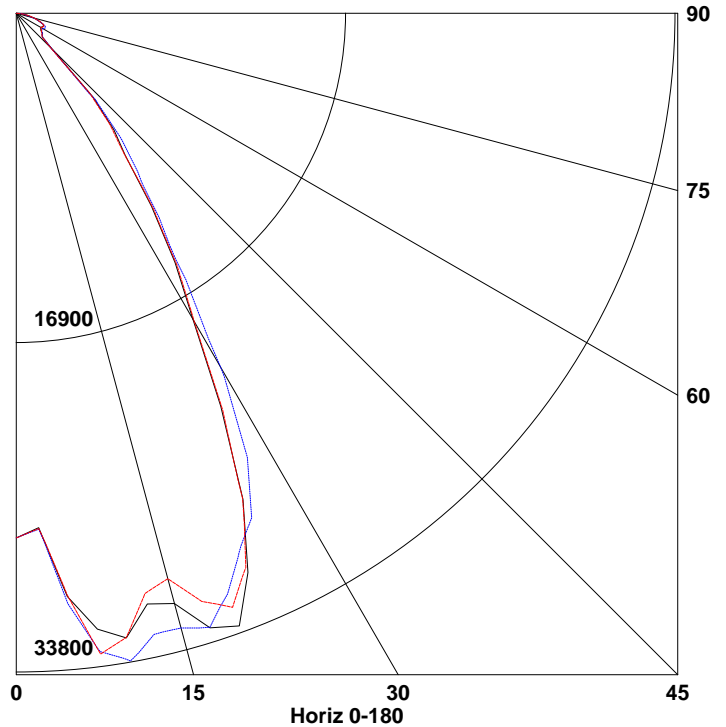
ZONAL LUMENS

| ZONE | LUMENS | % LAMP | % FIXTURE |
|-------|--------|--------|-----------|
| 0-30 | 24520 | 62.0 | 61.9 |
| 0-40 | 32469 | 82.1 | 82.0 |
| 0-60 | 36756 | 93.0 | 92.8 |
| 0-90 | 39595 | 100.2 | 100.0 |
| 0-180 | 39595 | 100.2 | 100.0 |

AVERAGE LUMINANCE

| ANGLE | CANDELA/SQ M | | | | | |
|-------|--------------|--------|--------|--------|--------|--------|
| | 0.0 | 20.0 | 40.0 | 60.0 | 80.0 | 90.0 |
| 0 | 464119 | 464119 | 464119 | 464119 | 464119 | 464119 |
| 30 | 360864 | 381178 | 414137 | 397010 | 367137 | 363652 |
| 40 | 175501 | 176739 | 183944 | 179103 | 171223 | 168971 |
| 45 | 63783 | 62441 | 61100 | 62319 | 61710 | 61100 |
| 50 | 46285 | 44809 | 45748 | 48297 | 46821 | 46151 |
| 55 | 46457 | 46608 | 47810 | 47810 | 47209 | 47209 |
| 60 | 49672 | 53639 | 54501 | 53984 | 51397 | 50017 |
| 65 | 62848 | 66521 | 66317 | 66929 | 64480 | 64684 |
| 70 | 66060 | 66060 | 64799 | 67069 | 66816 | 66816 |
| 75 | 61974 | 61307 | 57642 | 61974 | 62307 | 61974 |
| 80 | 55621 | 54628 | 49165 | 56118 | 56118 | 57111 |
| 85 | 53432 | 78169 | 62337 | 59369 | 54421 | 53432 |

INDOOR CANDELA PLOT



0.0 ——— 45.0 ——— 90.0 ——— 180.0

COEFFICIENTS OF UTILIZATION (%)

| RC | EFFECTIVE FLOOR CAVITY REFLECTANCE = 20% | | | | | | | | | | | | | | | | | | |
|----|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 80% | | | | 70% | | | | 50% | | | | 30% | | | | | | |
| | 70% | 50% | 30% | 10% | 70% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0% | |
| RW | 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 107 | 107 | 107 | 102 | 102 | 102 | 100 |
| | 1 | 112 | 109 | 106 | 103 | 110 | 107 | 104 | 101 | 103 | 100 | 98 | 99 | 97 | 95 | 95 | 94 | 93 | 91 |
| | 2 | 105 | 100 | 95 | 91 | 103 | 98 | 93 | 90 | 95 | 91 | 88 | 91 | 88 | 86 | 89 | 86 | 84 | 82 |
| | 3 | 99 | 92 | 86 | 81 | 97 | 90 | 85 | 80 | 87 | 83 | 79 | 85 | 81 | 78 | 83 | 79 | 77 | 75 |
| R | 4 | 93 | 85 | 78 | 73 | 92 | 83 | 78 | 73 | 81 | 76 | 72 | 79 | 75 | 71 | 77 | 73 | 70 | 69 |
| C | 5 | 88 | 79 | 72 | 67 | 86 | 78 | 71 | 67 | 76 | 70 | 66 | 74 | 69 | 65 | 72 | 68 | 65 | 63 |
| R | 6 | 83 | 73 | 66 | 62 | 82 | 72 | 66 | 61 | 71 | 65 | 61 | 69 | 64 | 60 | 68 | 63 | 60 | 58 |
| | 7 | 79 | 68 | 62 | 57 | 77 | 68 | 61 | 57 | 66 | 61 | 56 | 65 | 60 | 56 | 64 | 59 | 56 | 54 |
| | 8 | 75 | 64 | 57 | 53 | 73 | 63 | 57 | 53 | 62 | 56 | 52 | 61 | 56 | 52 | 60 | 55 | 52 | 50 |
| | 9 | 71 | 60 | 53 | 49 | 69 | 60 | 53 | 49 | 59 | 53 | 49 | 58 | 52 | 49 | 57 | 52 | 48 | 47 |
| | 10 | 67 | 56 | 50 | 46 | 66 | 56 | 50 | 46 | 55 | 50 | 46 | 54 | 49 | 46 | 54 | 49 | 45 | 44 |

RCR = ROOM CAVITY RATIO RC = EFFECTIVE CEILING CAVITY REFLECTANCE RW = WALL REFLECTANCE

THIS PHOTOMETRIC TEST WAS PERFORMED USING A SPECIFIC LAMP/BALLAST COMBINATION. EXTRAPOLATION OF THESE DATA FOR OTHER LAMP/BALLAST COMBINATIONS MAY PRODUCE ERRONEOUS RESULTS. THE BALLAST FACTOR MUST BE APPLIED TO THE LUMEN OUTPUT RATING ASSIGNED TO THE LAMP(S) OR TO THE CANDELA VALUES SHOWN. LUMINAIRE EFFICACY RATING (LER) PER NEMA LE5-1993. ANSI/IESNA RP-1 COMPLIANCE IS BASED ON TEST LUMENS AND STANDARD BALLAST FACTOR. THIS TEST RUN IN ACCORDANCE WITH CURRENT IESNA PUBLISHED PROCEDURES.

APPROVED BY: _____

LUMINAIRE: LLHP3-40VH-M-EU
LLHP Led High Bay, Industrial
11" x 24" led with medium distribution optics

TEST #15363
DATE: 1/6/2012

CANDELA VALUES

| ANGLE | 0.0 | 5.0 | 10.0 | 15.0 | 20.0 | 25.0 | 30.0 | 35.0 | 40.0 | 45.0 | 50.0 | 55.0 | 60.0 | 65.0 | 70.0 | 75.0 | 80.0 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------------|-------|-------|-------|-------|-------|-------|-------|
| 0.0 | 26910 | 26910 | 26910 | 26910 | 26910 | 26910 | 26910 | 26910 | 26910 | 26910 | 26910 | 26910 | 26910 | 26910 | 26910 | 26910 | 26910 |
| 2.5 | 26410 | 26370 | 26375 | 26355 | 26385 | 26405 | 26460 | 26480 | 26460 | 26485 | 26480 | 26470 | 26460 | 26430 | 26425 | 26375 | 26365 |
| 5.0 | 30035 | 30025 | 30120 | 30150 | 30255 | 30210 | 30350 | 30410 | 30330 | 30415 | 30390 | 30350 | 30280 | 30220 | 30125 | 30030 | 29910 |
| 7.5 | 31865 | 31835 | 31875 | 31960 | 32160 | 32265 | 32520 | 32710 | 32880 | 33035 | 33120 | 33165 | 33185 | 33230 | 33205 | 33140 | 33065 |
| 10.0 | 32540 | 32560 | 32670 | 32840 | 33035 | 33225 | 33445 | 33640 | 33730 | 33735* | 33680 | 33575 | 33395 | 33170 | 32945 | 32760 | 32610 |
| 12.5 | 31040 | 31050 | 31135 | 31305 | 31555 | 31810 | 32140 | 32420 | 32565 | 32640 | 32450 | 32120 | 31760 | 31400 | 31110 | 30805 | 30605 |
| 15.0 | 31345 | 31395 | 31515 | 31715 | 31985 | 32205 | 32515 | 32760 | 32795 | 32645 | 32400 | 32040 | 31580 | 31100 | 30720 | 30395 | 30180 |
| 17.5 | 33060 | 33100 | 33190 | 33310 | 33415 | 33360 | 33330 | 33270 | 33090 | 33020 | 32980 | 32940 | 32785 | 32585 | 32330 | 32090 | 31875 |
| 20.0 | 33445 | 33375 | 33240 | 33090 | 32830 | 32495 | 32210 | 32035 | 31800 | 31695 | 31690 | 31790 | 31930 | 32105 | 32215 | 32270 | 32345 |
| 22.5 | 31050 | 31005 | 30840 | 30725 | 30495 | 30275 | 30045 | 29995 | 29890 | 29890 | 29910 | 29990 | 30065 | 30215 | 30405 | 30495 | 30640 |
| 25.0 | 27520 | 27555 | 27640 | 27905 | 28110 | 28265 | 28385 | 28515 | 28515 | 28565 | 28515 | 28440 | 28350 | 28255 | 28115 | 27835 | 27645 |
| 27.5 | 22725 | 22825 | 23005 | 23485 | 23995 | 24530 | 24995 | 25345 | 25530 | 25675 | 25570 | 25295 | 24890 | 24470 | 24055 | 23540 | 23190 |
| 30.0 | 18120 | 18230 | 18415 | 18780 | 19140 | 19600 | 20060 | 20510 | 20795 | 20940 | 20760 | 20365 | 19935 | 19520 | 19195 | 18765 | 18435 |
| 32.5 | 15150 | 15255 | 15360 | 15600 | 15750 | 15900 | 16005 | 16085 | 16075 | 16180 | 16250 | 16330 | 16305 | 16240 | 16095 | 15820 | 15600 |
| 35.0 | 12085 | 12095 | 12045 | 12045 | 12065 | 12135 | 12305 | 12515 | 12670 | 12755 | 12695 | 12540 | 12390 | 12305 | 12380 | 12380 | 12375 |
| 37.5 | 9165 | 9195 | 9225 | 9250 | 9265 | 9360 | 9560 | 9850 | 10085 | 10205 | 10110 | 9900 | 9650 | 9430 | 9325 | 9240 | 9210 |
| 40.0 | 7795 | 7820 | 7815 | 7845 | 7850 | 7845 | 7905 | 8025 | 8170 | 8285 | 8280 | 8135 | 7955 | 7800 | 7725 | 7655 | 7605 |
| 42.5 | 5820 | 5850 | 5855 | 5870 | 5820 | 5830 | 5890 | 5995 | 6065 | 6055 | 6085 | 5980 | 5870 | 5755 | 5725 | 5680 | 5675 |
| 45.0 | 2615 | 2615 | 2600 | 2590 | 2560 | 2505 | 2510 | 2530 | 2505 | 2550 | 2565 | 2565 | 2555 | 2505 | 2530 | 2530 | 2530 |
| 47.5 | 1840 | 1825 | 1810 | 1785 | 1765 | 1755 | 1770 | 1805 | 1810 | 1860 | 1890 | 1890 | 1875 | 1840 | 1840 | 1825 | 1825 |
| 50.0 | 1725 | 1705 | 1710 | 1675 | 1670 | 1660 | 1685 | 1710 | 1705 | 1730 | 1765 | 1790 | 1800 | 1770 | 1750 | 1735 | 1745 |
| 52.5 | 1685 | 1675 | 1665 | 1650 | 1645 | 1650 | 1680 | 1705 | 1690 | 1720 | 1735 | 1740 | 1735 | 1710 | 1700 | 1680 | 1670 |
| 55.0 | 1545 | 1540 | 1535 | 1545 | 1550 | 1565 | 1600 | 1615 | 1590 | 1595 | 1595 | 1595 | 1590 | 1580 | 1580 | 1575 | 1570 |
| 57.5 | 1485 | 1470 | 1480 | 1500 | 1530 | 1555 | 1595 | 1595 | 1545 | 1550 | 1545 | 1540 | 1550 | 1535 | 1520 | 1505 | 1510 |
| 60.0 | 1440 | 1445 | 1480 | 1525 | 1555 | 1590 | 1625 | 1625 | 1580 | 1580 | 1575 | 1565 | 1565 | 1550 | 1530 | 1510 | 1490 |
| 62.5 | 1510 | 1510 | 1540 | 1600 | 1645 | 1665 | 1695 | 1690 | 1650 | 1655 | 1660 | 1645 | 1630 | 1630 | 1615 | 1575 | 1545 |
| 65.0 | 1540 | 1545 | 1560 | 1590 | 1630 | 1660 | 1685 | 1675 | 1625 | 1655 | 1645 | 1640 | 1640 | 1640 | 1630 | 1595 | 1580 |
| 67.5 | 1490 | 1475 | 1470 | 1480 | 1510 | 1530 | 1555 | 1545 | 1500 | 1530 | 1530 | 1525 | 1535 | 1535 | 1525 | 1500 | 1510 |
| 70.0 | 1310 | 1300 | 1295 | 1290 | 1310 | 1325 | 1335 | 1325 | 1285 | 1310 | 1320 | 1320 | 1330 | 1325 | 1325 | 1310 | 1325 |
| 72.5 | 1145 | 1135 | 1130 | 1125 | 1135 | 1140 | 1150 | 1135 | 1095 | 1125 | 1135 | 1130 | 1150 | 1150 | 1145 | 1135 | 1140 |
| 75.0 | 930 | 910 | 930 | 915 | 920 | 910 | 935 | 915 | 865 | 885 | 895 | 915 | 930 | 935 | 925 | 935 | 935 |
| 77.5 | 730 | 720 | 735 | 730 | 720 | 730 | 730 | 710 | 665 | 670 | 690 | 705 | 725 | 740 | 735 | 730 | 740 |
| 80.0 | 560 | 540 | 550 | 555 | 550 | 545 | 550 | 540 | 495 | 510 | 520 | 535 | 565 | 570 | 570 | 565 | 565 |
| 82.5 | 425 | 400 | 410 | 405 | 400 | 400 | 405 | 405 | 350 | 375 | 380 | 405 | 415 | 425 | 425 | 420 | 425 |
| 85.0 | 270 | 265 | 305 | 350 | 395 | 380 | 370 | 355 | 315 | 320 | 315 | 305 | 300 | 300 | 300 | 280 | 275 |
| 87.5 | 130 | 125 | 135 | 140 | 235 | 305 | 320 | 265 | 195 | 210 | 235 | 290 | 420 | 440 | 315 | 150 | 155 |
| 90.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

*MAXIMUM CANDELA VALUE



LUMINAIRE: LLHP3-40VH-M-EU
LLHP Led High Bay, Industrial
11" x 24" led with medium distribution optics

TEST #15363
DATE: 1/6/2012

CANDELA VALUES

| ANGLE | 85.0 | 90.0 |
|-------|-------|-------|
| 0.0 | 26910 | 26910 |
| 2.5 | 26425 | 26465 |
| 5.0 | 29875 | 29950 |
| 7.5 | 33105 | 33155 |
| 10.0 | 32505 | 32510 |
| 12.5 | 30520 | 30495 |
| 15.0 | 30065 | 30030 |
| 17.5 | 31705 | 31640 |
| 20.0 | 32395 | 32435 |
| 22.5 | 30725 | 30770 |
| 25.0 | 27485 | 27480 |
| 27.5 | 22925 | 22915 |
| 30.0 | 18295 | 18260 |
| 32.5 | 15385 | 15350 |
| 35.0 | 12290 | 12300 |
| 37.5 | 9135 | 9120 |
| 40.0 | 7525 | 7505 |
| 42.5 | 5605 | 5620 |
| 45.0 | 2495 | 2505 |
| 47.5 | 1785 | 1790 |
| 50.0 | 1725 | 1720 |
| 52.5 | 1640 | 1645 |
| 55.0 | 1555 | 1570 |
| 57.5 | 1495 | 1515 |
| 60.0 | 1445 | 1450 |
| 62.5 | 1510 | 1520 |
| 65.0 | 1555 | 1585 |
| 67.5 | 1485 | 1500 |
| 70.0 | 1315 | 1325 |
| 72.5 | 1135 | 1145 |
| 75.0 | 920 | 930 |
| 77.5 | 720 | 735 |
| 80.0 | 555 | 575 |
| 82.5 | 415 | 440 |
| 85.0 | 250 | 270 |
| 87.5 | 140 | 150 |
| 90.0 | 0 | 0 |