



IES INDOOR REPORT
PHOTOMETRIC FILENAME : HRZ-4-LED-3070-FL-VHO-35.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L250_3500K_VHO(1250)_3070_N2S_5-12-2016
 [TESTLAB] Orb Optronix, Inc.
 [ISSUE DATE] 05-12-2016
 [TEST DATE] 01-12-2017
 [MANUFACTURER] LSI INDUSTRIES, INC
 [LUMEN CATEGORY] HRZ-4-LED-3070-FL-VHO-35
 [OTHER] TEST PROCEDURE: IESNA LM-79-08
 [ABSOLUTE] NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED
 [SEARCH SOURCE TYPE] LED
 [SEARCH APPLICATION] Indoor

CHARACTERISTICS

| | |
|---------------------------------|---------------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 5086 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 81 |
| Total Luminaire Watts | 62.6 |
| Ballast Factor | 1.00 |
| CIE Type | Semi-Direct |
| Spacing Criterion (0-180) | 1.26 |
| Spacing Criterion (90-270) | 1.24 |
| Spacing Criterion (Diagonal) | 1.36 |
| Basic Luminous Shape | Rectangular w/Sides |
| Luminous Length (0-180) | 4.00 ft |
| Luminous Width (90-270) | 0.60 ft |
| Luminous Height | 0.13 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 4668 | 4047 | 3937 |
| 55 | 4335 | 3611 | 3504 |
| 65 | 3777 | 2993 | 2923 |
| 75 | 2887 | 2079 | 2057 |
| 85 | 2012 | 1102 | 984 |

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CANDELA TABULATION

| | <u>0</u> | <u>10</u> | <u>20</u> | <u>30</u> | <u>40</u> | <u>50</u> | <u>60</u> | <u>70</u> | <u>80</u> | <u>90</u> |
|------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 0 | 1180.572 | 1180.572 | 1180.572 | 1180.572 | 1180.572 | 1180.572 | 1180.572 | 1180.572 | 1180.572 | 1180.572 |
| 10 | 1171.621 | 1161.181 | 1156.651 | 1153.952 | 1150.747 | 1149.578 | 1148.625 | 1145.406 | 1145.727 | 1146.050 |
| 20 | 1102.508 | 1093.804 | 1088.737 | 1085.356 | 1082.376 | 1080.879 | 1079.613 | 1079.616 | 1077.880 | 1079.123 |
| 30 | 995.243 | 987.764 | 983.595 | 979.734 | 977.597 | 974.551 | 972.793 | 972.352 | 973.436 | 975.127 |
| 40 | 848.842 | 843.590 | 839.289 | 836.497 | 833.641 | 833.192 | 832.223 | 832.268 | 833.291 | 835.854 |
| 50 | 680.735 | 676.283 | 674.070 | 670.060 | 669.466 | 668.309 | 668.434 | 669.864 | 671.744 | 673.839 |
| 60 | 486.471 | 484.873 | 484.487 | 484.714 | 485.024 | 486.190 | 487.621 | 489.340 | 492.164 | 496.173 |
| 70 | 278.892 | 278.410 | 285.111 | 281.548 | 284.259 | 291.690 | 295.080 | 297.776 | 301.224 | 305.333 |
| 80 | 95.963 | 96.941 | 98.870 | 101.153 | 104.212 | 107.227 | 110.599 | 113.373 | 115.730 | 118.613 |
| 90 | 10.962 | 13.273 | 15.097 | 16.447 | 18.519 | 22.521 | 23.749 | 22.013 | 20.047 | 11.075 |
| 100 | 117.671 | 126.688 | 135.926 | 147.687 | 155.701 | 159.237 | 149.711 | 131.406 | 107.961 | 87.169 |
| 110 | 310.822 | 319.546 | 327.710 | 304.895 | 299.310 | 280.994 | 260.237 | 227.563 | 188.789 | 165.026 |
| 120 | 411.579 | 390.041 | 401.471 | 410.415 | 372.590 | 336.807 | 335.675 | 302.523 | 256.359 | 239.105 |
| 130 | 452.956 | 437.197 | 422.170 | 429.607 | 413.350 | 403.756 | 371.210 | 324.362 | 298.004 | 287.675 |
| 140 | 464.962 | 460.593 | 430.537 | 421.415 | 422.850 | 406.170 | 379.565 | 364.710 | 357.992 | 353.955 |
| 150 | 451.802 | 453.834 | 435.222 | 411.122 | 397.436 | 390.193 | 388.224 | 388.015 | 387.468 | 386.405 |
| 160 | 424.593 | 426.222 | 425.102 | 415.883 | 405.990 | 397.254 | 393.180 | 390.241 | 389.697 | 390.368 |
| 170 | 422.134 | 422.957 | 424.810 | 426.497 | 425.612 | 424.015 | 421.879 | 419.435 | 419.708 | 419.599 |
| 180 | 414.976 | 414.976 | 414.976 | 414.976 | 414.976 | 414.976 | 414.976 | 414.976 | 414.976 | 414.976 |

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ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 428.35 | N.A. | 8.40 |
| 0-30 | 905.77 | N.A. | 17.80 |
| 0-40 | 1475.8 | N.A. | 29.00 |
| 0-60 | 2579.65 | N.A. | 50.70 |
| 0-80 | 3174.66 | N.A. | 62.40 |
| 0-90 | 3242.43 | N.A. | 63.80 |
| 10-90 | 3131.09 | N.A. | 61.60 |
| 20-40 | 1047.45 | N.A. | 20.60 |
| 20-50 | 1631.38 | N.A. | 32.10 |
| 40-70 | 1489.47 | N.A. | 29.30 |
| 60-80 | 595.01 | N.A. | 11.70 |
| 70-80 | 209.38 | N.A. | 4.10 |
| 80-90 | 67.77 | N.A. | 1.30 |
| 90-110 | 298.94 | N.A. | 5.90 |
| 90-120 | 606.55 | N.A. | 11.90 |
| 90-130 | 935.57 | N.A. | 18.40 |
| 90-150 | 1497.65 | N.A. | 29.40 |
| 90-180 | 1843.34 | N.A. | 36.20 |
| 110-180 | 1544.4 | N.A. | 30.40 |
| 0-180 | 5085.78 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 111.34 |
| 10-20 | 317.01 |
| 20-30 | 477.42 |
| 30-40 | 570.03 |
| 40-50 | 583.93 |
| 50-60 | 519.92 |
| 60-70 | 385.63 |
| 70-80 | 209.38 |
| 80-90 | 67.77 |
| 90-100 | 83.61 |
| 100-110 | 215.33 |
| 110-120 | 307.61 |
| 120-130 | 329.02 |
| 130-140 | 306.48 |
| 140-150 | 255.60 |
| 150-160 | 188.27 |
| 160-170 | 117.43 |
| 170-180 | 39.99 |

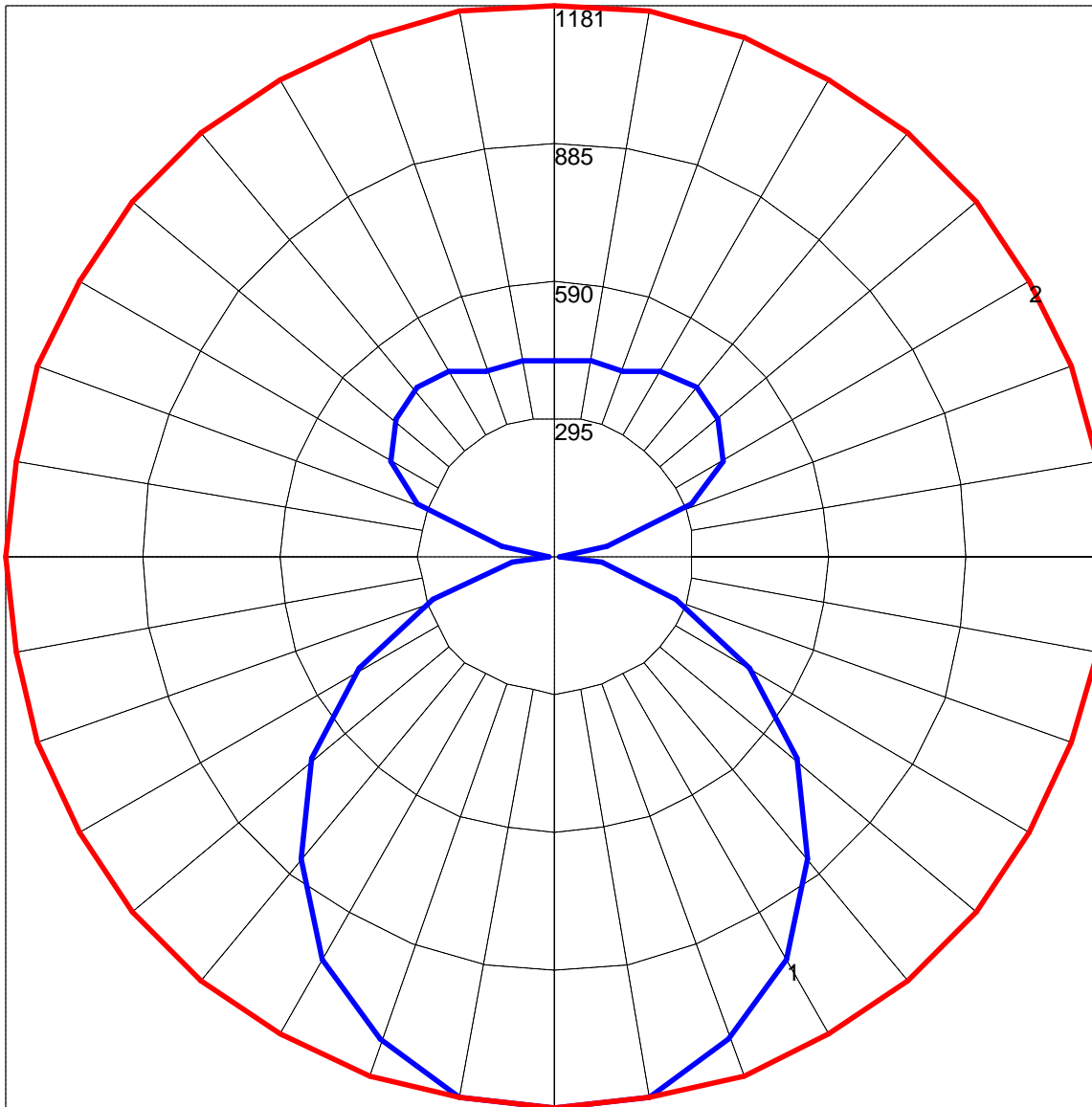
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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 | 110 | 110 | 110 | 110 | 104 | 104 | 104 | 104 | 91 | 91 | 91 | 79 | 79 | 79 | 69 | 69 | 69 | 64 |
| 1 | 101 | 96 | 92 | 89 | 94 | 90 | 87 | 84 | 80 | 77 | 75 | 70 | 68 | 66 | 61 | 59 | 58 | 53 |
| 2 | 92 | 84 | 78 | 72 | 86 | 79 | 73 | 69 | 70 | 65 | 62 | 61 | 58 | 55 | 53 | 51 | 49 | 45 |
| 3 | 84 | 74 | 66 | 60 | 78 | 69 | 63 | 57 | 61 | 56 | 52 | 54 | 50 | 46 | 47 | 44 | 41 | 38 |
| 4 | 76 | 65 | 57 | 51 | 71 | 62 | 54 | 48 | 55 | 49 | 44 | 48 | 43 | 40 | 42 | 38 | 35 | 32 |
| 5 | 70 | 58 | 50 | 44 | 66 | 55 | 47 | 42 | 49 | 43 | 38 | 43 | 38 | 34 | 38 | 34 | 31 | 28 |
| 6 | 65 | 52 | 44 | 38 | 60 | 49 | 42 | 36 | 44 | 38 | 33 | 39 | 34 | 30 | 34 | 30 | 27 | 24 |
| 7 | 60 | 47 | 39 | 33 | 56 | 45 | 37 | 32 | 40 | 34 | 29 | 35 | 30 | 27 | 31 | 27 | 24 | 22 |
| 8 | 56 | 43 | 35 | 29 | 52 | 41 | 33 | 28 | 36 | 30 | 26 | 32 | 27 | 24 | 29 | 25 | 21 | 19 |
| 9 | 52 | 39 | 31 | 26 | 49 | 37 | 30 | 25 | 33 | 27 | 23 | 30 | 25 | 21 | 26 | 22 | 19 | 17 |
| 10 | 48 | 36 | 29 | 24 | 45 | 34 | 27 | 23 | 31 | 25 | 21 | 28 | 23 | 19 | 25 | 20 | 18 | 16 |

POLAR GRAPH



Maximum Candela = 1180.572 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)