



IES INDOOR REPORT
PHOTOMETRIC FILENAME : HRZ-4-LED-2080-FL-HO-35.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L250_3500K_HO(950)_2080_N2S_5-16-2016
[TESTLAB] Orb Optronix, Inc.
[ISSUEDATE] 05-16-2016
[TESTDATE] 01-12-2017
[MANUFAC] LSI INDUSTRIES, INC
[LUMCAT] HRZ-4-LED-2080-FL-HO-35
[OTHER] TEST PROCEDURE: IESNA LM-79-08
[_ABSOLUTE] NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED
[_SEARCH_SOURCETYPE] LED
[_SEARCH_APPLICATION] Indoor

CHARACTERISTICS

| | |
|---------------------------------|---------------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 4269 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 95 |
| Total Luminaire Watts | 44.7 |
| Ballast Factor | 1.00 |
| CIE Type | Semi-Direct |
| Spacing Criterion (0-180) | 1.30 |
| Spacing Criterion (90-270) | 1.24 |
| Spacing Criterion (Diagonal) | 1.40 |
| 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 | 4499 | 3880 | 3587 |
| 55 | 4348 | 3577 | 3227 |
| 65 | 4085 | 3147 | 2730 |
| 75 | 3664 | 2489 | 2002 |
| 85 | 3395 | 1614 | 1156 |

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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 | 1058.764 | 1058.764 | 1058.764 | 1058.764 | 1058.764 | 1058.764 | 1058.764 | 1058.764 | 1058.764 | 1058.764 |
| 10 | 1055.246 | 1049.289 | 1047.639 | 1045.491 | 1043.878 | 1041.863 | 1039.837 | 1037.152 | 1035.515 | 1033.027 |
| 20 | 1006.559 | 996.002 | 995.057 | 992.283 | 988.281 | 989.723 | 980.735 | 976.309 | 973.267 | 968.940 |
| 30 | 920.758 | 916.085 | 913.905 | 910.354 | 905.547 | 901.026 | 894.309 | 889.971 | 882.531 | 878.951 |
| 40 | 807.548 | 804.641 | 802.461 | 797.961 | 792.509 | 786.658 | 780.749 | 774.091 | 766.944 | 757.732 |
| 50 | 666.518 | 663.804 | 662.552 | 658.939 | 654.162 | 647.794 | 640.617 | 632.590 | 625.296 | 617.890 |
| 60 | 504.122 | 502.788 | 502.293 | 500.149 | 495.391 | 489.655 | 483.037 | 475.586 | 467.613 | 459.749 |
| 70 | 323.528 | 327.556 | 328.773 | 326.136 | 323.394 | 318.568 | 311.911 | 304.647 | 296.868 | 288.826 |
| 80 | 152.328 | 153.528 | 154.302 | 154.027 | 152.205 | 148.490 | 143.928 | 138.308 | 131.232 | 123.899 |
| 90 | 28.118 | 29.391 | 30.760 | 32.197 | 33.750 | 35.253 | 36.563 | 36.506 | 34.915 | 28.411 |
| 100 | 83.898 | 87.784 | 94.350 | 100.624 | 108.047 | 109.893 | 105.443 | 95.525 | 83.807 | 64.933 |
| 110 | 181.975 | 187.840 | 182.838 | 181.988 | 170.943 | 165.785 | 154.375 | 139.406 | 120.117 | 109.616 |
| 120 | 237.207 | 219.898 | 232.061 | 220.922 | 221.232 | 207.404 | 187.306 | 172.925 | 154.395 | 147.605 |
| 130 | 263.402 | 244.185 | 256.783 | 248.319 | 233.317 | 218.166 | 213.225 | 200.368 | 192.005 | 186.431 |
| 140 | 267.296 | 260.546 | 237.536 | 258.913 | 251.879 | 233.249 | 219.034 | 212.018 | 209.322 | 209.432 |
| 150 | 260.069 | 258.649 | 244.845 | 230.000 | 237.464 | 244.754 | 240.194 | 234.167 | 232.552 | 231.854 |
| 160 | 246.475 | 245.086 | 244.244 | 238.825 | 231.782 | 227.135 | 227.069 | 228.641 | 229.815 | 229.639 |
| 170 | 244.065 | 243.297 | 243.881 | 245.688 | 245.842 | 245.729 | 244.765 | 244.044 | 243.533 | 244.695 |
| 180 | 243.546 | 243.546 | 243.546 | 243.546 | 243.546 | 243.546 | 243.546 | 243.546 | 243.546 | 243.546 |

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ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 387.93 | N.A. | 9.10 |
| 0-30 | 824.90 | N.A. | 19.30 |
| 0-40 | 1355.46 | N.A. | 31.80 |
| 0-60 | 2420.9 | N.A. | 56.70 |
| 0-80 | 3064.67 | N.A. | 71.80 |
| 0-90 | 3162.37 | N.A. | 74.10 |
| 10-90 | 3062.07 | N.A. | 71.70 |
| 20-40 | 967.53 | N.A. | 22.70 |
| 20-50 | 1523.26 | N.A. | 35.70 |
| 40-70 | 1464.83 | N.A. | 34.30 |
| 60-80 | 643.78 | N.A. | 15.10 |
| 70-80 | 244.39 | N.A. | 5.70 |
| 80-90 | 97.69 | N.A. | 2.30 |
| 90-110 | 205.87 | N.A. | 4.80 |
| 90-120 | 385.51 | N.A. | 9.00 |
| 90-130 | 576.90 | N.A. | 13.50 |
| 90-150 | 905.24 | N.A. | 21.20 |
| 90-180 | 1106.48 | N.A. | 25.90 |
| 110-180 | 900.62 | N.A. | 21.10 |
| 0-180 | 4268.85 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 100.30 |
| 10-20 | 287.63 |
| 20-30 | 436.97 |
| 30-40 | 530.56 |
| 40-50 | 555.73 |
| 50-60 | 509.71 |
| 60-70 | 399.39 |
| 70-80 | 244.39 |
| 80-90 | 97.69 |
| 90-100 | 70.16 |
| 100-110 | 135.71 |
| 110-120 | 179.64 |
| 120-130 | 191.39 |
| 130-140 | 178.65 |
| 140-150 | 149.70 |
| 150-160 | 110.04 |
| 160-170 | 67.90 |
| 170-180 | 23.30 |

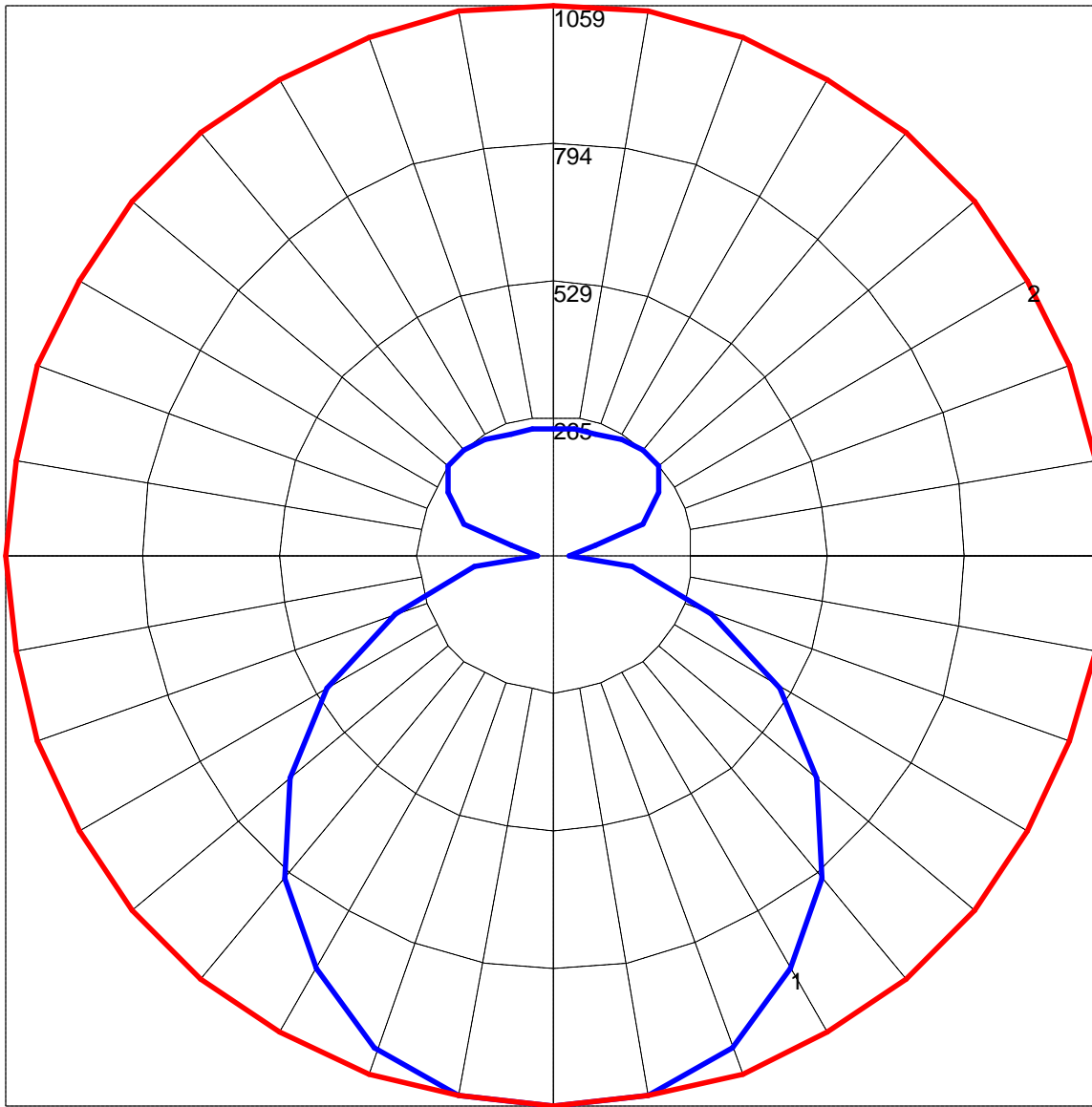
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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 | 113 | 113 | 113 | 113 | 107 | 107 | 107 | 107 | 97 | 97 | 97 | 87 | 87 | 87 | 78 | 78 | 78 | 74 |
| 1 | 102 | 98 | 93 | 90 | 97 | 93 | 89 | 86 | 84 | 81 | 78 | 76 | 73 | 71 | 68 | 66 | 65 | 61 |
| 2 | 93 | 85 | 78 | 72 | 88 | 81 | 75 | 70 | 73 | 68 | 64 | 66 | 62 | 59 | 59 | 56 | 54 | 50 |
| 3 | 85 | 74 | 66 | 60 | 80 | 71 | 64 | 58 | 64 | 58 | 53 | 58 | 53 | 49 | 52 | 49 | 45 | 42 |
| 4 | 77 | 66 | 57 | 51 | 73 | 63 | 55 | 49 | 57 | 50 | 45 | 51 | 46 | 42 | 47 | 42 | 39 | 36 |
| 5 | 71 | 58 | 50 | 43 | 67 | 56 | 48 | 42 | 51 | 44 | 39 | 46 | 41 | 36 | 42 | 37 | 34 | 31 |
| 6 | 65 | 52 | 44 | 38 | 62 | 50 | 42 | 36 | 46 | 39 | 34 | 42 | 36 | 32 | 38 | 33 | 29 | 27 |
| 7 | 60 | 47 | 39 | 33 | 57 | 45 | 37 | 32 | 41 | 35 | 30 | 38 | 32 | 28 | 34 | 30 | 26 | 24 |
| 8 | 56 | 43 | 35 | 29 | 53 | 41 | 34 | 28 | 38 | 31 | 27 | 35 | 29 | 25 | 32 | 27 | 23 | 21 |
| 9 | 52 | 39 | 31 | 26 | 50 | 38 | 30 | 25 | 35 | 28 | 24 | 32 | 26 | 22 | 29 | 24 | 21 | 19 |
| 10 | 49 | 36 | 29 | 23 | 46 | 35 | 28 | 23 | 32 | 26 | 22 | 29 | 24 | 20 | 27 | 22 | 19 | 17 |

POLAR GRAPH



Maximum Candela = 1058.764 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.)