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Indoor Distribution Test Report

Relevant Standards
IES LM-79-2008, ANSI C82.77-10-2014

Prepared For
Lux Dynamics

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Catalog Number
360P-2-URD-835-xxx-xx-WA

Order Number
13551818
Test Number
13551818.08

Test Date

2020-10-30

Prepared By

William Escobar, Technician

Approved By

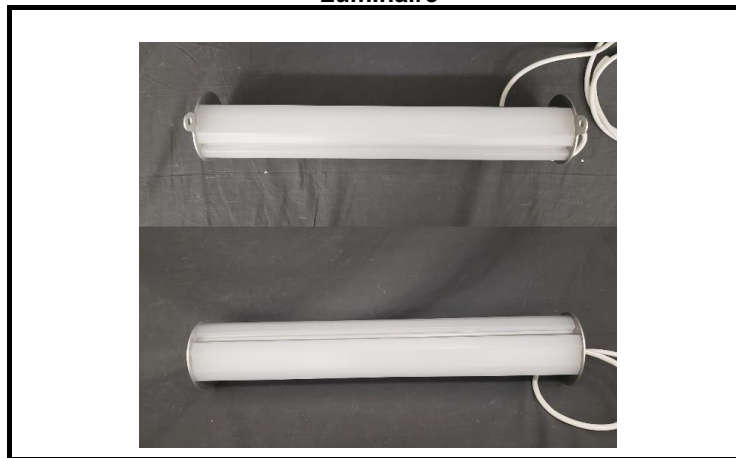
Eric Gaudreau, Engineering Leader

The results contained in this report pertain only to the tested sample.
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Luminaire Description: Gray cylindrical metal housing with diffuse plastic lens
Lamp: White 918 LEDs
Mounting: Pendant
Ballast/Driver: One (1) OSRAM OPTOTRONIC OTi 85/120-277/2A3 DIM L HB

Luminaire



Luminaire Characteristics

Luminous Length: 23.00 in.
Luminous Width: 4.500 in.
Luminous Height: 4.50 in.

Summary of Results

Total Luminaire Output: 7361 Lumens
Luminaire Efficacy: 146.9 lm/w
Maximum Candela: 1080 Candela

Test Conditions

Test Temperature: 24.4 °C
Voltage: 277.0 VAC
Current: 0.1912 A
Power: 50.12 W
Power Factor: 0.946
Frequency: 60 Hz
Current THD: 13.3 %

Laboratory results may not be representative of field performance
Ballast factors have not been applied



Distribution - Goniophotometer

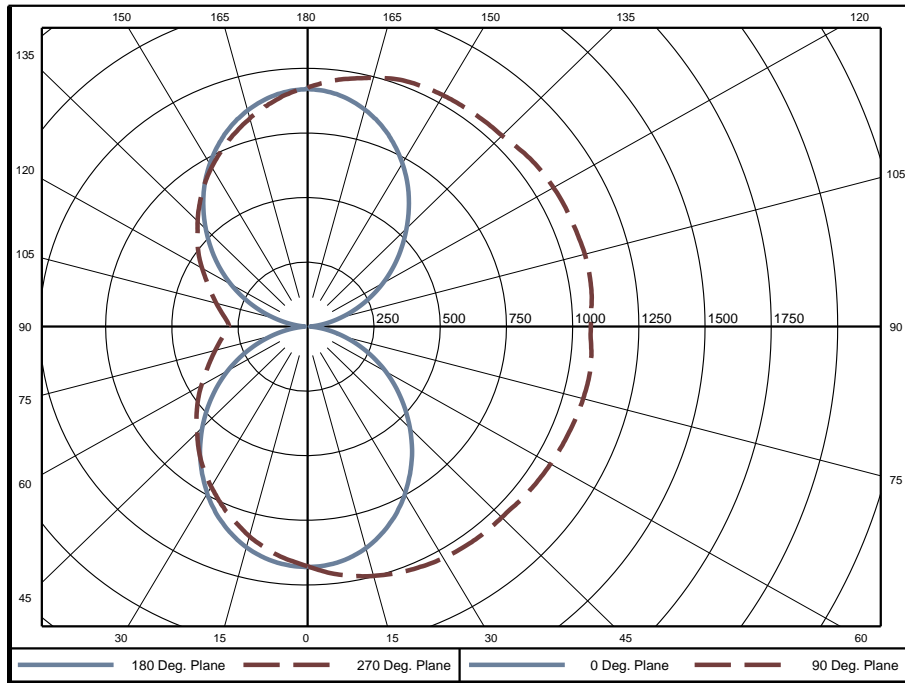
Distribution Test Conditions

| Temperature | Voltage | Current | Power | Power Factor | Frequency | Current THD |
|-------------|-----------|----------|---------|--------------|-----------|-------------|
| 24.4 °C | 277.0 VAC | 0.1912 A | 50.12 W | 0.946 | 60 Hz | 13.3 % |

Summary of Results

| | | |
|--|----------------------------|--------------|
| Spacing Criteria | Total Lumen Output: | 7361 Lumens |
| 0-180: 1.20 | Luminaire Efficacy: | 146.9 lm/w |
| 90-270: 1.69 | Maximum Candela: | 1080 Candela |
| Corrected UGR (Room Dimension: X=4H, Y=8H, Reflectances: 70/50/20%, S/H: 1) | Endwise: | 19.6 |
| Crosswise: 18.1 | | |

Polar Plot



Zonal Lumen Summary

| Zone | Lumens | % of Luminaire | Zone | Lumens | % of Luminaire | Zone | Lumens | % of Luminaire |
|-------|--------|----------------|---------|--------|----------------|---------|--------|----------------|
| 0-5 | 22.2 | 0.3% | 60-65 | 259.4 | 3.5% | 120-125 | 264.5 | 3.6% |
| 5-10 | 66.0 | 0.9% | 65-70 | 250.1 | 3.4% | 125-130 | 266.5 | 3.6% |
| 10-15 | 107.9 | 1.5% | 70-75 | 240.3 | 3.3% | 130-135 | 264.2 | 3.6% |
| 15-20 | 146.5 | 2.0% | 75-80 | 230.3 | 3.1% | 135-140 | 258.2 | 3.5% |
| 20-25 | 180.6 | 2.5% | 80-85 | 220.8 | 3.0% | 140-145 | 247.3 | 3.4% |
| 25-30 | 209.5 | 2.8% | 85-90 | 212.9 | 2.9% | 145-150 | 230.5 | 3.1% |
| 30-35 | 232.8 | 3.2% | 90-95 | 212.1 | 2.9% | 150-155 | 207.7 | 2.8% |
| 35-40 | 250.1 | 3.4% | 95-100 | 220.2 | 3.0% | 155-160 | 179.1 | 2.4% |
| 40-45 | 261.3 | 3.5% | 100-105 | 230.3 | 3.1% | 160-165 | 145.2 | 2.0% |
| 45-50 | 267.1 | 3.6% | 105-110 | 240.3 | 3.3% | 165-170 | 106.9 | 1.5% |
| 50-55 | 268.3 | 3.6% | 110-115 | 249.9 | 3.4% | 170-175 | 65.5 | 0.9% |
| 55-60 | 265.7 | 3.6% | 115-120 | 258.6 | 3.5% | 175-180 | 22.1 | 0.3% |

| Zone | Lumens | % of Luminaire |
|--------|--------|----------------|
| 0-40 | 1216 | 16.5% |
| 0-60 | 2278 | 30.9% |
| 0-90 | 3692 | 50.2% |
| 90-180 | 3669 | 49.8% |



Candela Tabulation

Horizontal Angle (Degrees)

| | 0 | 22.5 | 45 | 67.5 | 90 | 112.5 | 135 | 157.5 | 180 | 202.5 | 225 | 247.5 | 270 | 292.5 | 315 | 337.5 |
|-----|-----|------|-----|------|------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 0 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 | 928 |
| 5 | 926 | 935 | 946 | 953 | 958 | 953 | 946 | 935 | 926 | 911 | 906 | 903 | 903 | 903 | 906 | 911 |
| 10 | 910 | 933 | 957 | 973 | 981 | 973 | 957 | 933 | 910 | 887 | 880 | 876 | 874 | 876 | 880 | 887 |
| 15 | 883 | 920 | 958 | 987 | 998 | 987 | 958 | 920 | 883 | 855 | 845 | 841 | 839 | 841 | 845 | 855 |
| 20 | 846 | 897 | 952 | 996 | 1013 | 996 | 952 | 897 | 846 | 813 | 802 | 800 | 799 | 800 | 802 | 813 |
| 25 | 800 | 865 | 940 | 1000 | 1024 | 1000 | 940 | 865 | 800 | 761 | 752 | 757 | 758 | 757 | 752 | 761 |
| 30 | 745 | 825 | 921 | 1000 | 1032 | 1000 | 921 | 825 | 745 | 705 | 702 | 712 | 715 | 712 | 702 | 705 |
| 35 | 684 | 778 | 897 | 997 | 1036 | 997 | 897 | 778 | 684 | 643 | 648 | 665 | 672 | 665 | 648 | 643 |
| 40 | 620 | 728 | 868 | 991 | 1039 | 991 | 868 | 728 | 620 | 579 | 592 | 618 | 626 | 618 | 592 | 579 |
| 45 | 552 | 671 | 836 | 982 | 1039 | 982 | 836 | 671 | 552 | 515 | 537 | 568 | 578 | 568 | 537 | 515 |
| 50 | 482 | 614 | 803 | 973 | 1046 | 973 | 803 | 614 | 482 | 449 | 481 | 519 | 537 | 519 | 481 | 449 |
| 55 | 412 | 556 | 767 | 971 | 1052 | 971 | 767 | 556 | 412 | 386 | 424 | 476 | 495 | 476 | 424 | 386 |
| 60 | 342 | 497 | 739 | 967 | 1058 | 967 | 739 | 497 | 342 | 325 | 376 | 432 | 454 | 432 | 376 | 325 |
| 65 | 271 | 438 | 711 | 963 | 1063 | 963 | 711 | 438 | 271 | 265 | 329 | 390 | 415 | 390 | 329 | 265 |
| 70 | 202 | 383 | 687 | 961 | 1068 | 961 | 687 | 383 | 202 | 207 | 284 | 355 | 383 | 355 | 284 | 207 |
| 75 | 138 | 339 | 669 | 960 | 1073 | 960 | 669 | 339 | 138 | 160 | 248 | 326 | 354 | 326 | 248 | 160 |
| 80 | 80 | 304 | 655 | 958 | 1076 | 958 | 655 | 304 | 80 | 120 | 220 | 300 | 329 | 300 | 220 | 120 |
| 85 | 33 | 282 | 645 | 951 | 1072 | 951 | 645 | 282 | 33 | 92 | 197 | 279 | 309 | 279 | 197 | 92 |
| 90 | 11 | 273 | 635 | 944 | 1065 | 944 | 635 | 273 | 11 | 81 | 185 | 266 | 295 | 266 | 185 | 81 |
| 95 | 28 | 283 | 645 | 952 | 1072 | 952 | 645 | 283 | 28 | 93 | 195 | 274 | 303 | 274 | 195 | 93 |
| 100 | 72 | 306 | 658 | 960 | 1079 | 960 | 658 | 306 | 72 | 123 | 218 | 295 | 324 | 295 | 218 | 123 |
| 105 | 128 | 341 | 674 | 965 | 1080 | 965 | 674 | 341 | 128 | 163 | 248 | 322 | 350 | 322 | 248 | 163 |
| 110 | 192 | 378 | 694 | 968 | 1076 | 968 | 694 | 378 | 192 | 208 | 285 | 353 | 379 | 353 | 285 | 208 |
| 115 | 260 | 426 | 719 | 972 | 1074 | 972 | 719 | 426 | 260 | 262 | 328 | 388 | 412 | 388 | 328 | 262 |
| 120 | 329 | 482 | 743 | 978 | 1070 | 978 | 743 | 482 | 329 | 321 | 373 | 430 | 451 | 430 | 373 | 321 |
| 125 | 398 | 539 | 765 | 981 | 1065 | 981 | 765 | 539 | 398 | 383 | 423 | 473 | 493 | 473 | 423 | 383 |
| 130 | 466 | 597 | 794 | 979 | 1055 | 979 | 794 | 597 | 466 | 446 | 476 | 515 | 533 | 515 | 476 | 446 |
| 135 | 533 | 655 | 823 | 978 | 1041 | 978 | 823 | 655 | 533 | 510 | 532 | 563 | 576 | 563 | 532 | 510 |
| 140 | 601 | 711 | 858 | 985 | 1038 | 985 | 858 | 711 | 601 | 575 | 587 | 611 | 622 | 611 | 587 | 575 |
| 145 | 666 | 763 | 890 | 994 | 1035 | 994 | 890 | 763 | 666 | 638 | 643 | 659 | 668 | 659 | 643 | 638 |
| 150 | 726 | 810 | 917 | 999 | 1031 | 999 | 917 | 810 | 726 | 699 | 696 | 705 | 711 | 705 | 696 | 699 |
| 155 | 780 | 852 | 935 | 1001 | 1026 | 1001 | 935 | 852 | 780 | 754 | 747 | 750 | 753 | 750 | 747 | 754 |
| 160 | 827 | 885 | 946 | 998 | 1018 | 998 | 946 | 885 | 827 | 805 | 793 | 793 | 794 | 793 | 793 | 805 |
| 165 | 865 | 908 | 951 | 985 | 997 | 985 | 951 | 908 | 865 | 847 | 837 | 833 | 832 | 833 | 837 | 847 |
| 170 | 894 | 922 | 949 | 968 | 976 | 968 | 949 | 922 | 894 | 883 | 873 | 869 | 868 | 869 | 873 | 883 |
| 175 | 912 | 927 | 939 | 949 | 954 | 949 | 939 | 927 | 912 | 909 | 904 | 901 | 902 | 901 | 904 | 909 |
| 180 | 924 | 924 | 924 | 924 | 924 | 924 | 924 | 924 | 924 | 924 | 924 | 924 | 924 | 924 | 924 | 924 |

Average Luminance (cd/m²)

Horizontal Angle (Degrees)

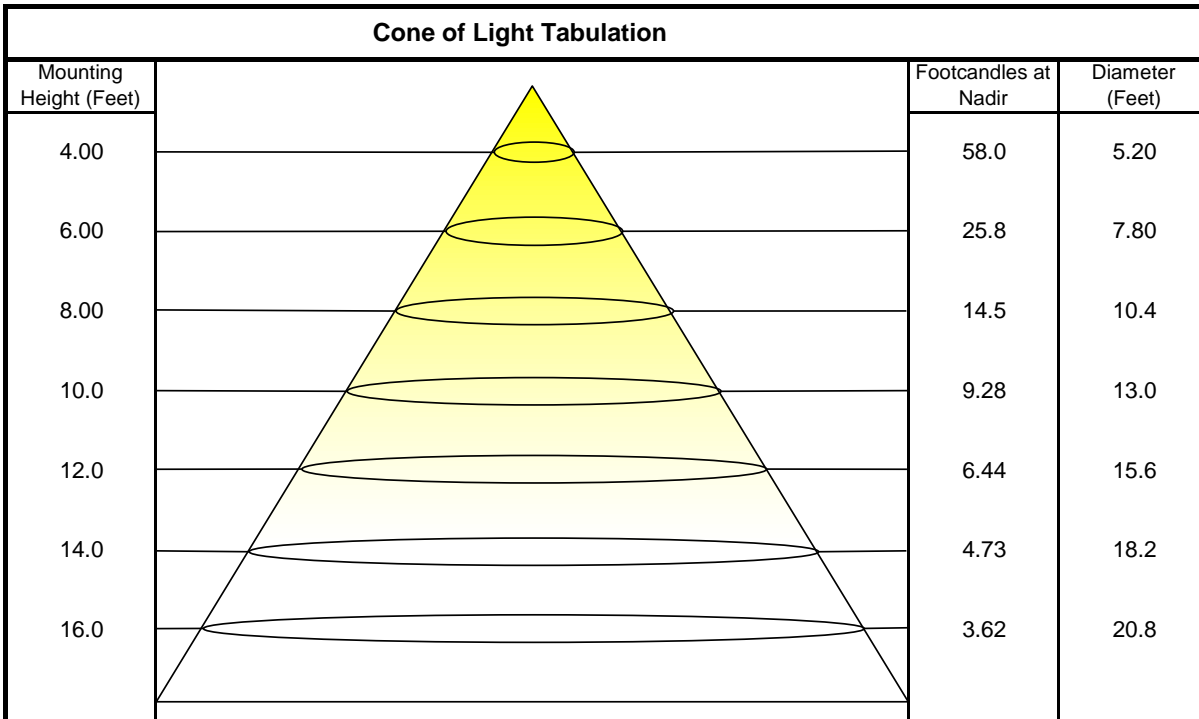
| | 0 | 45 | 90 |
|----|-------|-------|-------|
| 0 | 13900 | 13900 | 13900 |
| 45 | 9773 | 9599 | 11010 |
| 55 | 8402 | 9066 | 11310 |
| 65 | 6770 | 8962 | 11970 |
| 75 | 4611 | 9322 | 13120 |
| 85 | 1731 | 10390 | 14810 |



Coefficients of Utilization - Zonal Cavity Method

| Effective Floor Cavity Reflectance 20% | | | | | | | | | | | | | | | | | | |
|--|---|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Ceiling Cavity Reflectance | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | | 0 |
| Wall Reflectance | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| Room Cavity Ratio (RCR) | ** Values are expressed as percent of total lumen output delivered to the task surface ** | | | | | | | | | | | | | | | | | |
| 0 | 107 | 107 | 107 | 107 | 99 | 99 | 99 | 99 | 83 | 83 | 83 | 69 | 69 | 69 | 56 | 56 | 56 | 50 |
| 1 | 95 | 90 | 85 | 80 | 87 | 83 | 78 | 74 | 69 | 66 | 63 | 57 | 55 | 52 | 46 | 44 | 42 | 37 |
| 2 | 86 | 77 | 70 | 64 | 78 | 71 | 65 | 59 | 59 | 54 | 50 | 49 | 45 | 42 | 39 | 36 | 34 | 29 |
| 3 | 78 | 67 | 59 | 52 | 71 | 62 | 54 | 48 | 52 | 46 | 41 | 42 | 38 | 34 | 34 | 31 | 28 | 24 |
| 4 | 71 | 59 | 50 | 43 | 65 | 54 | 46 | 40 | 45 | 39 | 35 | 37 | 33 | 29 | 30 | 26 | 23 | 20 |
| 5 | 65 | 52 | 43 | 37 | 59 | 48 | 40 | 34 | 40 | 34 | 29 | 33 | 28 | 25 | 27 | 23 | 20 | 17 |
| 6 | 60 | 47 | 38 | 32 | 54 | 43 | 35 | 30 | 36 | 30 | 25 | 30 | 25 | 21 | 24 | 20 | 17 | 14 |
| 7 | 55 | 42 | 33 | 28 | 50 | 39 | 31 | 26 | 33 | 27 | 22 | 27 | 22 | 19 | 22 | 18 | 15 | 13 |
| 8 | 51 | 38 | 30 | 24 | 47 | 35 | 28 | 23 | 30 | 24 | 20 | 25 | 20 | 17 | 20 | 16 | 14 | 11 |
| 9 | 47 | 35 | 27 | 21 | 43 | 32 | 25 | 20 | 27 | 21 | 17 | 23 | 18 | 15 | 18 | 15 | 12 | 10 |
| 10 | 44 | 32 | 24 | 19 | 41 | 29 | 23 | 18 | 25 | 19 | 16 | 21 | 16 | 13 | 17 | 14 | 11 | 9 |

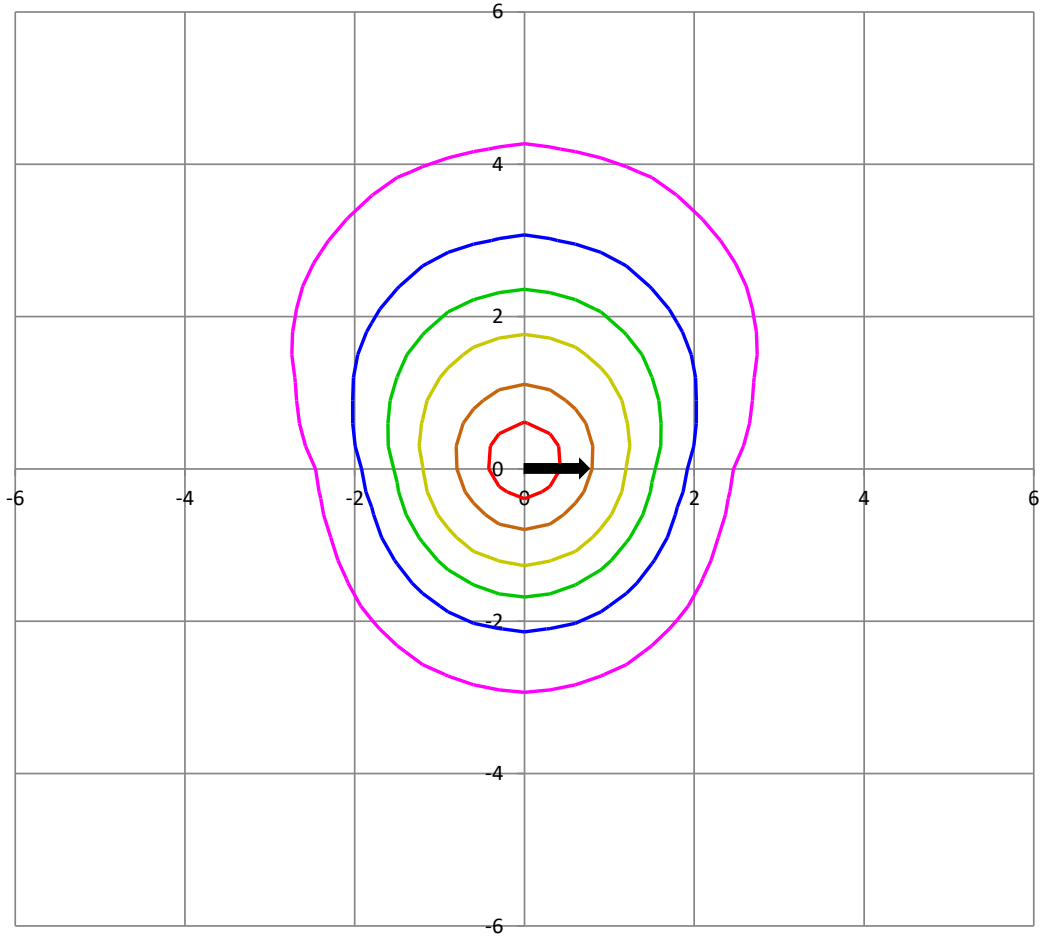
| Beam and Field Information | |
|----------------------------|-----------------|
| CIE Type: | Direct/Indirect |
| Center Beam Intensity: | 928 Candela |
| Central Cone Intensity: | #REF! Candela |
| Beam Flux: | 5956.9 Lumens |
| Beam Angle (0-180): | 102.5 Degrees |
| Beam Angle (90-270): | #REF! Degrees |
| Field Angle (0-180): | 157.6 Degrees |
| Field Angle (90-270): | #REF! Degrees |





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

