



IES INDOOR REPORT

PHOTOMETRIC FILENAME : ZIS-22-LED-SO.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L101411401R01
 [TESTLAB] LIGHT LABORATORY, INC.
 [ISSUE DATE] 11/20/2014
 [MANUFAC] PRUDENTIAL LTG.
 [LUMCAT] ZIS-LED SO-22-SAL-DM10
 [MORE] DIFFUSED LENS
 [BALLASTCAT] OSRAM OPTOTRONIC
 [BALLAST]
 [LAMPPOSITION] 0,0
 [LAMPCAT] N/A
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
 [INPUT] 1
 [TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

| | |
|---------------------------------|---------------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 7051 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 98 |
| Total Luminaire Watts | 72 |
| Ballast Factor | 1.00 |
| CIE Type | General Diffuse |
| Spacing Criterion (0-180) | N.A. |
| Spacing Criterion (90-270) | N.A. |
| Spacing Criterion (Diagonal) | N.A. |
| Basic Luminous Shape | Rectangular w/Sides |
| Luminous Length (0-180) | 2.02 ft |
| Luminous Width (90-270) | 2.02 ft |
| Luminous Height | 0.13 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 2176 | 2286 | 2177 |
| 55 | 2482 | 2601 | 2470 |
| 65 | 3055 | 3163 | 3074 |
| 75 | 4233 | 4209 | 4342 |
| 85 | 8156 | 5707 | 8493 |

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CANDELA TABULATION

| | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|------------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 0 | 562.496 | 562.496 | 562.496 | 562.496 | 562.496 | 562.496 | 562.496 | 562.496 | 562.496 | 562.496 |
| 5 | 571.600 | 571.294 | 571.770 | 571.438 | 571.090 | 571.311 | 571.421 | 571.472 | 571.413 | 571.625 |
| 10 | 590.266 | 590.045 | 590.206 | 590.019 | 590.376 | 591.269 | 591.830 | 592.263 | 592.476 | 592.867 |
| 15 | 610.708 | 610.751 | 611.074 | 611.677 | 612.893 | 614.610 | 615.995 | 617.092 | 617.899 | 618.562 |
| 20 | 628.779 | 628.448 | 630.335 | 631.992 | 634.466 | 637.084 | 639.549 | 641.614 | 643.323 | 644.504 |
| 25 | 641.206 | 641.793 | 644.521 | 647.819 | 651.619 | 655.920 | 659.235 | 662.091 | 664.301 | 665.746 |
| 30 | 646.204 | 647.454 | 651.738 | 656.413 | 661.759 | 667.293 | 672.121 | 675.538 | 678.300 | 679.949 |
| 35 | 638.044 | 639.668 | 645.737 | 652.511 | 660.901 | 669.027 | 676.039 | 680.697 | 683.783 | 685.517 |
| 40 | 629.128 | 631.338 | 638.044 | 645.584 | 653.846 | 661.292 | 668.304 | 673.676 | 679.167 | 681.692 |
| 45 | 621.401 | 624.759 | 632.086 | 640.178 | 647.394 | 653.242 | 658.623 | 663.910 | 667.412 | 669.205 |
| 50 | 604.512 | 608.711 | 616.012 | 625.167 | 634.746 | 642.175 | 648.057 | 652.826 | 654.152 | 654.653 |
| 55 | 589.926 | 593.836 | 602.574 | 611.635 | 619.880 | 626.459 | 632.324 | 636.718 | 639.013 | 639.591 |
| 60 | 576.819 | 581.086 | 590.036 | 598.825 | 606.178 | 612.680 | 618.044 | 621.580 | 623.416 | 624.648 |
| 65 | 557.473 | 561.910 | 570.775 | 580.057 | 588.251 | 594.958 | 599.811 | 602.948 | 605.013 | 606.186 |
| 70 | 538.059 | 542.666 | 552.152 | 560.558 | 567.528 | 572.798 | 576.708 | 579.462 | 581.621 | 583.389 |
| 75 | 515.568 | 519.954 | 528.173 | 534.863 | 540.269 | 544.434 | 547.426 | 549.670 | 551.880 | 553.784 |
| 80 | 493.255 | 496.859 | 501.237 | 503.634 | 504.620 | 504.390 | 503.855 | 503.625 | 504.348 | 506.082 |
| 85 | 468.121 | 464.984 | 453.263 | 439.484 | 425.196 | 411.460 | 399.509 | 390.626 | 385.671 | 385.059 |
| 90 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 95 | 468.580 | 465.350 | 452.880 | 437.376 | 421.898 | 407.822 | 395.896 | 387.847 | 383.877 | 383.979 |
| 100 | 490.093 | 493.893 | 498.389 | 500.948 | 502.002 | 502.180 | 501.857 | 502.112 | 503.243 | 505.470 |
| 105 | 509.847 | 514.454 | 522.793 | 529.788 | 535.432 | 539.946 | 543.516 | 546.601 | 549.661 | 552.305 |
| 110 | 530.188 | 534.982 | 544.629 | 553.588 | 560.941 | 566.840 | 571.540 | 575.229 | 578.425 | 581.111 |
| 115 | 548.837 | 553.257 | 562.547 | 572.441 | 581.349 | 588.625 | 594.320 | 598.426 | 601.452 | 603.730 |
| 120 | 568.497 | 572.900 | 582.148 | 591.524 | 599.641 | 606.875 | 613.114 | 617.568 | 620.296 | 622.005 |
| 125 | 583.032 | 586.883 | 595.850 | 605.430 | 614.244 | 621.367 | 627.802 | 632.664 | 635.673 | 636.820 |
| 130 | 600.092 | 603.466 | 611.728 | 620.849 | 630.267 | 638.359 | 644.657 | 649.468 | 651.024 | 651.678 |
| 135 | 618.435 | 621.189 | 629.085 | 637.135 | 644.564 | 650.701 | 655.903 | 660.714 | 663.935 | 665.338 |
| 140 | 627.666 | 629.476 | 635.656 | 643.127 | 651.228 | 658.640 | 665.125 | 669.860 | 674.858 | 676.660 |
| 145 | 635.571 | 637.152 | 643.170 | 649.732 | 657.730 | 665.533 | 671.908 | 675.929 | 678.419 | 679.490 |
| 150 | 642.413 | 643.382 | 647.233 | 651.976 | 656.999 | 662.244 | 666.434 | 669.528 | 671.704 | 672.597 |
| 155 | 635.639 | 636.123 | 638.571 | 641.682 | 645.091 | 648.720 | 651.704 | 654.033 | 655.690 | 656.591 |
| 160 | 620.908 | 620.441 | 621.818 | 623.288 | 625.430 | 627.955 | 630.122 | 631.839 | 633.106 | 633.905 |
| 165 | 600.372 | 600.321 | 600.406 | 601.078 | 602.174 | 603.738 | 604.971 | 605.804 | 606.322 | 606.781 |
| 170 | 578.357 | 578.145 | 578.238 | 577.796 | 578.009 | 578.859 | 579.377 | 579.726 | 579.760 | 580.108 |
| 175 | 558.773 | 558.476 | 558.901 | 558.535 | 558.085 | 558.093 | 558.025 | 557.915 | 557.719 | 557.770 |
| 180 | 547.596 | 547.596 | 547.596 | 547.596 | 547.596 | 547.596 | 547.596 | 547.596 | 547.596 | 547.596 |

| Vert. Angles | Horizontal Angles | | | | | | | | |
|-------------------------|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 |
| 0 | 562.496 | 562.496 | 562.496 | 562.496 | 562.496 | 562.496 | 562.496 | 562.496 | 562.496 |
| 5 | 571.770 | 572.161 | 572.492 | 572.679 | 572.654 | 573.087 | 573.385 | 572.943 | 573.215 |
| 10 | 592.977 | 593.300 | 593.496 | 593.504 | 593.173 | 593.436 | 593.955 | 593.793 | 594.227 |
| 15 | 619.038 | 619.344 | 619.361 | 618.826 | 617.993 | 617.695 | 617.772 | 618.001 | 618.069 |
| 20 | 645.235 | 645.261 | 644.802 | 643.697 | 642.048 | 640.577 | 640.118 | 638.945 | 639.379 |
| 25 | 666.511 | 666.273 | 665.440 | 663.825 | 661.232 | 658.385 | 655.818 | 653.982 | 653.421 |
| 30 | 680.485 | 679.788 | 678.122 | 675.198 | 671.007 | 666.689 | 662.346 | 658.988 | 657.807 |
| 35 | 685.559 | 684.097 | 681.284 | 676.864 | 671.781 | 665.882 | 660.153 | 654.772 | 652.809 |
| 40 | 681.403 | 679.201 | 675.461 | 669.894 | 663.400 | 656.005 | 648.678 | 642.677 | 640.118 |
| 45 | 669.953 | 667.760 | 663.425 | 657.322 | 649.570 | 641.725 | 633.667 | 625.804 | 621.826 |
| 50 | 654.041 | 651.823 | 647.904 | 642.073 | 634.143 | 624.801 | 615.434 | 607.019 | 602.429 |
| 55 | 638.002 | 635.537 | 631.627 | 626.391 | 619.846 | 611.116 | 601.554 | 592.187 | 587.053 |
| 60 | 624.087 | 622.200 | 618.452 | 613.488 | 607.453 | 600.032 | 590.912 | 581.494 | 576.130 |

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CANDELA TABULATION - (Cont.)

| | | | | | | | | | |
|------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 65 | 606.025 | 605.200 | 603.160 | 599.216 | 593.139 | 585.208 | 575.595 | 566.211 | 560.983 |
| 70 | 584.069 | 584.086 | 583.024 | 580.525 | 576.470 | 570.265 | 561.774 | 552.084 | 546.848 |
| 75 | 555.263 | 556.300 | 556.691 | 555.849 | 553.163 | 548.871 | 542.232 | 533.596 | 528.836 |
| 80 | 508.564 | 511.632 | 515.202 | 518.662 | 520.940 | 521.229 | 519.469 | 514.879 | 511.003 |
| 85 | 389.105 | 397.299 | 409.156 | 423.980 | 440.139 | 456.595 | 472.090 | 484.764 | 487.467 |
| 90 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 95 | 388.442 | 396.593 | 407.907 | 421.507 | 437.045 | 452.387 | 467.798 | 483.514 | 486.889 |
| 100 | 508.249 | 511.369 | 514.794 | 517.710 | 519.801 | 520.073 | 518.050 | 513.919 | 509.686 |
| 105 | 554.421 | 555.883 | 556.444 | 555.552 | 552.857 | 548.616 | 542.249 | 534.285 | 528.700 |
| 110 | 582.871 | 583.763 | 583.338 | 580.924 | 576.895 | 571.056 | 563.083 | 554.005 | 547.604 |
| 115 | 604.588 | 604.486 | 602.667 | 598.919 | 593.402 | 586.101 | 577.235 | 568.344 | 561.808 |
| 120 | 621.928 | 620.611 | 617.474 | 612.519 | 606.586 | 599.726 | 591.260 | 582.165 | 575.306 |
| 125 | 635.707 | 633.565 | 629.901 | 624.308 | 618.001 | 609.816 | 600.746 | 591.439 | 584.647 |
| 130 | 651.253 | 648.907 | 644.734 | 638.682 | 631.023 | 622.064 | 613.046 | 604.333 | 598.196 |
| 135 | 665.678 | 663.179 | 658.708 | 652.426 | 644.666 | 636.990 | 628.941 | 620.466 | 615.069 |
| 140 | 675.801 | 673.107 | 668.789 | 662.813 | 656.132 | 648.754 | 641.453 | 634.797 | 631.006 |
| 145 | 678.793 | 676.575 | 673.107 | 668.049 | 662.533 | 656.574 | 650.803 | 644.436 | 641.342 |
| 150 | 672.291 | 670.778 | 668.457 | 664.972 | 660.399 | 655.758 | 650.981 | 646.468 | 644.521 |
| 155 | 656.846 | 655.962 | 654.483 | 652.324 | 649.324 | 646.213 | 642.949 | 640.050 | 638.767 |
| 160 | 634.355 | 633.854 | 632.953 | 631.491 | 629.519 | 627.640 | 626.221 | 624.351 | 624.436 |
| 165 | 607.113 | 607.206 | 606.832 | 605.991 | 604.724 | 603.823 | 603.237 | 602.897 | 602.693 |
| 170 | 580.108 | 580.227 | 580.083 | 579.675 | 578.927 | 578.731 | 578.927 | 578.570 | 578.884 |
| 175 | 557.694 | 557.872 | 557.991 | 558.034 | 557.898 | 558.102 | 558.280 | 557.719 | 557.983 |
| 180 | 547.596 | 547.596 | 547.596 | 547.596 | 547.596 | 547.596 | 547.596 | 547.596 | 547.596 |

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ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 230.38 | N.A. | 3.30 |
| 0-30 | 534.02 | N.A. | 7.60 |
| 0-40 | 952.21 | N.A. | 13.50 |
| 0-60 | 2009.88 | N.A. | 28.50 |
| 0-80 | 3166.68 | N.A. | 44.90 |
| 0-90 | 3538.53 | N.A. | 50.20 |
| 10-90 | 3483.32 | N.A. | 49.40 |
| 20-40 | 721.84 | N.A. | 10.20 |
| 20-50 | 1223.68 | N.A. | 17.40 |
| 40-70 | 1641.59 | N.A. | 23.30 |
| 60-80 | 1156.8 | N.A. | 16.40 |
| 70-80 | 572.88 | N.A. | 8.10 |
| 80-90 | 371.85 | N.A. | 5.30 |
| 90-110 | 940.90 | N.A. | 13.30 |
| 90-120 | 1521.77 | N.A. | 21.60 |
| 90-130 | 2074.49 | N.A. | 29.40 |
| 90-150 | 2987.48 | N.A. | 42.40 |
| 90-180 | 3512.51 | N.A. | 49.80 |
| 110-180 | 2571.61 | N.A. | 36.50 |
| 0-180 | 7051.04 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 55.21 |
| 10-20 | 175.16 |
| 20-30 | 303.64 |
| 30-40 | 418.19 |
| 40-50 | 501.84 |
| 50-60 | 555.82 |
| 60-70 | 583.92 |
| 70-80 | 572.88 |
| 80-90 | 371.85 |
| 90-100 | 370.34 |
| 100-110 | 570.56 |
| 110-120 | 580.87 |
| 120-130 | 552.72 |
| 130-140 | 498.70 |
| 140-150 | 414.29 |
| 150-160 | 299.36 |
| 160-170 | 171.77 |
| 170-180 | 53.90 |

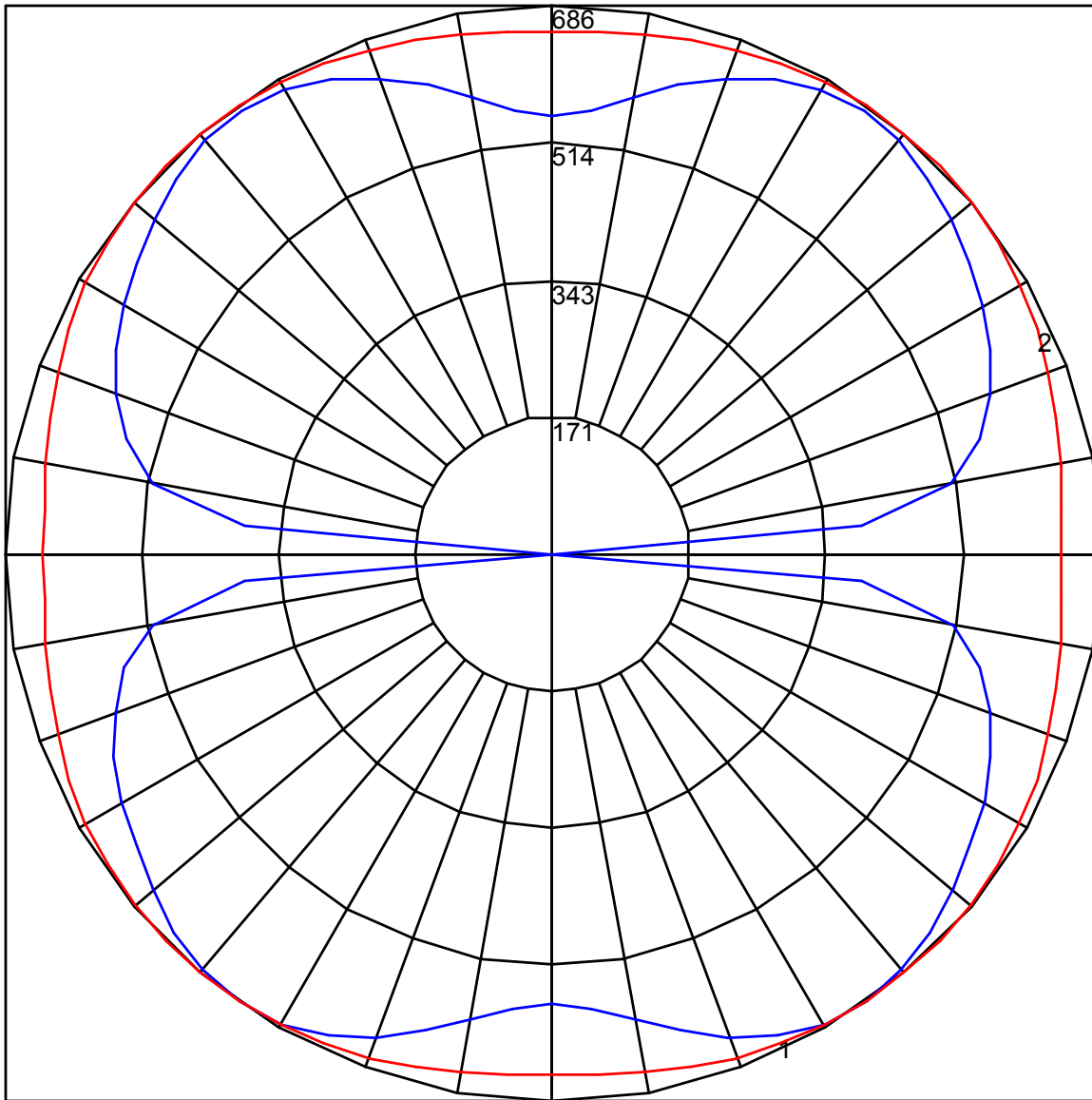
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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 | 107 | 107 | 107 | 107 | 99 | 99 | 99 | 99 | 83 | 83 | 83 | 69 | 69 | 69 | 56 | 56 | 56 | 50 |
| 1 | 95 | 89 | 84 | 80 | 87 | 82 | 78 | 74 | 69 | 65 | 62 | 56 | 54 | 52 | 45 | 43 | 42 | 36 |
| 2 | 85 | 76 | 69 | 62 | 78 | 70 | 63 | 58 | 58 | 53 | 49 | 48 | 44 | 41 | 38 | 35 | 33 | 28 |
| 3 | 77 | 66 | 57 | 50 | 70 | 60 | 53 | 47 | 50 | 44 | 40 | 41 | 36 | 33 | 32 | 29 | 26 | 22 |
| 4 | 70 | 57 | 48 | 42 | 63 | 53 | 45 | 39 | 44 | 38 | 33 | 36 | 31 | 27 | 28 | 25 | 22 | 18 |
| 5 | 64 | 51 | 42 | 35 | 58 | 47 | 38 | 32 | 39 | 32 | 28 | 32 | 27 | 23 | 25 | 21 | 18 | 15 |
| 6 | 58 | 45 | 36 | 30 | 53 | 41 | 33 | 28 | 35 | 28 | 24 | 28 | 23 | 19 | 22 | 19 | 16 | 12 |
| 7 | 54 | 40 | 32 | 26 | 49 | 37 | 29 | 24 | 31 | 25 | 20 | 25 | 21 | 17 | 20 | 16 | 13 | 11 |
| 8 | 50 | 36 | 28 | 22 | 45 | 34 | 26 | 21 | 28 | 22 | 18 | 23 | 18 | 15 | 18 | 15 | 12 | 9 |
| 9 | 46 | 33 | 25 | 20 | 42 | 31 | 23 | 18 | 26 | 20 | 16 | 21 | 16 | 13 | 17 | 13 | 10 | 8 |
| 10 | 43 | 30 | 23 | 17 | 39 | 28 | 21 | 16 | 24 | 18 | 14 | 19 | 15 | 12 | 16 | 12 | 9 | 7 |

POLAR GRAPH



Maximum Candela = 685.559 Located At Horizontal Angle = 50, Vertical Angle = 35
1 - Vertical Plane Through Horizontal Angles (50 - 230) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (35) (Through Max. Cd.)