



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192_168_37_234-16_5_18-MERGED.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.04 & #12326812.15

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 5-MAR-2021

[MANUFAC] H E Williams Inc

[LUMCAT] 8CRDI-TL-L25-9DWU-L25-9DWD-xxx-DIM-UNV-LW-CSU-RN-WHD-WM

[LUMINAIRE] 8" DIA. ALUMINUM CYLINDER

[LAMP] Two white LEDs (one up/one down)

[_SEARCH_SOURCE TYPE] LED

[_SEARCH_APPLICATION] INDOOR, DIRECT, INDIRECT

[_SEARCH_MOUNTING] WALL

CHARACTERISTICS

| | |
|---------------------------------|--------------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 4364 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 58 |
| Total Luminaire Watts | 75.4 |
| 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 | Circular w/ Sides |
| Luminous Length (0-180) | 0.65 ft (Diameter) |
| Luminous Width (90-270) | 0.65 ft (Diameter) |
| Luminous Height | 2.17 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|------------------|---------------|----------------|----------------|
| 45 | 766 | 766 | 766 |
| 55 | 372 | 372 | 372 |
| 65 | 177 | 177 | 177 |
| 75 | 69 | 69 | 69 |
| 85 | 19 | 19 | 19 |

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CANDELA TABULATION

| | <u>0.0</u> | <u>22.5</u> | <u>45.0</u> | <u>67.5</u> | <u>90.0</u> |
|-------|------------|-------------|-------------|-------------|-------------|
| 0.0 | 8329.553 | 8329.553 | 8329.553 | 8329.553 | 8329.553 |
| 2.5 | 8126.544 | 8126.544 | 8126.544 | 8126.544 | 8126.544 |
| 5.0 | 7550.940 | 7550.940 | 7550.940 | 7550.940 | 7550.940 |
| 7.5 | 6674.536 | 6674.536 | 6674.536 | 6674.536 | 6674.536 |
| 10.0 | 5581.506 | 5581.506 | 5581.506 | 5581.506 | 5581.506 |
| 12.5 | 4406.778 | 4406.778 | 4406.778 | 4406.778 | 4406.778 |
| 15.0 | 3295.181 | 3295.181 | 3295.181 | 3295.181 | 3295.181 |
| 17.5 | 2376.689 | 2376.689 | 2376.689 | 2376.689 | 2376.689 |
| 20.0 | 1681.013 | 1681.013 | 1681.013 | 1681.013 | 1681.013 |
| 22.5 | 1171.757 | 1171.757 | 1171.757 | 1171.757 | 1171.757 |
| 25.0 | 809.312 | 809.312 | 809.312 | 809.312 | 809.312 |
| 27.5 | 560.379 | 560.379 | 560.379 | 560.379 | 560.379 |
| 30.0 | 395.248 | 395.248 | 395.248 | 395.248 | 395.248 |
| 32.5 | 286.317 | 286.317 | 286.317 | 286.317 | 286.317 |
| 35.0 | 213.159 | 213.159 | 213.159 | 213.159 | 213.159 |
| 37.5 | 163.150 | 163.150 | 163.150 | 163.150 | 163.150 |
| 40.0 | 128.861 | 128.861 | 128.861 | 128.861 | 128.861 |
| 42.5 | 104.723 | 104.723 | 104.723 | 104.723 | 104.723 |
| 45.0 | 87.021 | 87.021 | 87.021 | 87.021 | 87.021 |
| 47.5 | 73.281 | 73.281 | 73.281 | 73.281 | 73.281 |
| 50.0 | 62.388 | 62.388 | 62.388 | 62.388 | 62.388 |
| 52.5 | 53.476 | 53.476 | 53.476 | 53.476 | 53.476 |
| 55.0 | 46.172 | 46.172 | 46.172 | 46.172 | 46.172 |
| 57.5 | 39.735 | 39.735 | 39.735 | 39.735 | 39.735 |
| 60.0 | 33.917 | 33.917 | 33.917 | 33.917 | 33.917 |
| 62.5 | 28.347 | 28.347 | 28.347 | 28.347 | 28.347 |
| 65.0 | 23.148 | 23.148 | 23.148 | 23.148 | 23.148 |
| 67.5 | 18.692 | 18.692 | 18.692 | 18.692 | 18.692 |
| 70.0 | 14.854 | 14.854 | 14.854 | 14.854 | 14.854 |
| 72.5 | 11.636 | 11.636 | 11.636 | 11.636 | 11.636 |
| 75.0 | 9.160 | 9.160 | 9.160 | 9.160 | 9.160 |
| 77.5 | 7.180 | 7.180 | 7.180 | 7.180 | 7.180 |
| 80.0 | 5.570 | 5.570 | 5.570 | 5.570 | 5.570 |
| 82.5 | 3.961 | 3.961 | 3.961 | 3.961 | 3.961 |
| 85.0 | 2.476 | 2.476 | 2.476 | 2.476 | 2.476 |
| 87.5 | 1.238 | 1.238 | 1.238 | 1.238 | 1.238 |
| 90.0 | 5.369 | 5.369 | 5.369 | 5.369 | 5.369 |
| 92.5 | 7.695 | 7.695 | 7.695 | 7.695 | 7.695 |
| 95.0 | 13.447 | 13.447 | 13.447 | 13.447 | 13.447 |
| 97.5 | 22.807 | 22.807 | 22.807 | 22.807 | 22.807 |
| 100.0 | 33.952 | 33.952 | 33.952 | 33.952 | 33.952 |
| 102.5 | 45.653 | 45.653 | 45.653 | 45.653 | 45.653 |
| 105.0 | 58.268 | 58.268 | 58.268 | 58.268 | 58.268 |
| 107.5 | 72.507 | 72.507 | 72.507 | 72.507 | 72.507 |
| 110.0 | 89.086 | 89.086 | 89.086 | 89.086 | 89.086 |
| 112.5 | 107.728 | 107.728 | 107.728 | 107.728 | 107.728 |
| 115.0 | 128.830 | 128.830 | 128.830 | 128.830 | 128.830 |
| 117.5 | 152.471 | 152.471 | 152.471 | 152.471 | 152.471 |
| 120.0 | 178.926 | 178.926 | 178.926 | 178.926 | 178.926 |
| 122.5 | 208.358 | 208.358 | 208.358 | 208.358 | 208.358 |
| 125.0 | 240.883 | 240.883 | 240.883 | 240.883 | 240.883 |
| 127.5 | 275.589 | 275.589 | 275.589 | 275.589 | 275.589 |
| 130.0 | 311.684 | 311.684 | 311.684 | 311.684 | 311.684 |
| 132.5 | 347.977 | 347.977 | 347.977 | 347.977 | 347.977 |

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CANDELA TABULATION - (Cont.)

| | | | | | |
|-------|----------|----------|----------|----------|----------|
| 135.0 | 384.231 | 384.231 | 384.231 | 384.231 | 384.231 |
| 137.5 | 422.031 | 422.031 | 422.031 | 422.031 | 422.031 |
| 140.0 | 465.662 | 465.662 | 465.662 | 465.662 | 465.662 |
| 142.5 | 521.589 | 521.589 | 521.589 | 521.589 | 521.589 |
| 145.0 | 596.952 | 596.952 | 596.952 | 596.952 | 596.952 |
| 147.5 | 694.527 | 694.527 | 694.527 | 694.527 | 694.527 |
| 150.0 | 815.504 | 815.504 | 815.504 | 815.504 | 815.504 |
| 152.5 | 941.637 | 941.637 | 941.637 | 941.637 | 941.637 |
| 155.0 | 1069.753 | 1069.753 | 1069.753 | 1069.753 | 1069.753 |
| 157.5 | 1183.987 | 1183.987 | 1183.987 | 1183.987 | 1183.987 |
| 160.0 | 1273.233 | 1273.233 | 1273.233 | 1273.233 | 1273.233 |
| 162.5 | 1333.126 | 1333.126 | 1333.126 | 1333.126 | 1333.126 |
| 165.0 | 1367.238 | 1367.238 | 1367.238 | 1367.238 | 1367.238 |
| 167.5 | 1385.483 | 1385.483 | 1385.483 | 1385.483 | 1385.483 |
| 170.0 | 1395.796 | 1395.796 | 1395.796 | 1395.796 | 1395.796 |
| 172.5 | 1403.332 | 1403.332 | 1403.332 | 1403.332 | 1403.332 |
| 175.0 | 1410.075 | 1410.075 | 1410.075 | 1410.075 | 1410.075 |
| 177.5 | 1413.249 | 1413.249 | 1413.249 | 1413.249 | 1413.249 |
| 180.0 | 1412.544 | 1412.544 | 1412.544 | 1412.544 | 1412.544 |

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ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 1571.91 | N.A. | 36.00 |
| 0-30 | 1969.03 | N.A. | 45.10 |
| 0-40 | 2111.08 | N.A. | 48.40 |
| 0-60 | 2222.04 | N.A. | 50.90 |
| 0-80 | 2255.45 | N.A. | 51.70 |
| 0-90 | 2259.03 | N.A. | 51.80 |
| 10-90 | 1601.46 | N.A. | 36.70 |
| 20-40 | 539.17 | N.A. | 12.40 |
| 20-50 | 608.31 | N.A. | 13.90 |
| 40-70 | 134.31 | N.A. | 3.10 |
| 60-80 | 33.41 | N.A. | 0.80 |
| 70-80 | 10.06 | N.A. | 0.20 |
| 80-90 | 3.58 | N.A. | 0.10 |
| 90-110 | 80.03 | N.A. | 1.80 |
| 90-120 | 209.26 | N.A. | 4.80 |
| 90-130 | 425.70 | N.A. | 9.80 |
| 90-150 | 1103.9 | N.A. | 25.30 |
| 90-180 | 2104.73 | N.A. | 48.20 |
| 110-180 | 2024.7 | N.A. | 46.40 |
| 0-180 | 4363.76 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 657.57 |
| 10-20 | 914.34 |
| 20-30 | 397.12 |
| 30-40 | 142.05 |
| 40-50 | 69.14 |
| 50-60 | 41.82 |
| 60-70 | 23.35 |
| 70-80 | 10.06 |
| 80-90 | 3.58 |
| 90-100 | 17.31 |
| 100-110 | 62.72 |
| 110-120 | 129.23 |
| 120-130 | 216.45 |
| 130-140 | 297.12 |
| 140-150 | 381.08 |
| 150-160 | 484.27 |
| 160-170 | 382.46 |
| 170-180 | 134.11 |

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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 | 108 | 108 | 108 | 108 | 99 | 99 | 99 | 99 | 84 | 84 | 84 | 70 | 70 | 70 | 58 | 58 | 58 | 52 |
| 1 | 101 | 98 | 95 | 92 | 94 | 91 | 89 | 86 | 78 | 76 | 75 | 66 | 65 | 64 | 55 | 55 | 54 | 49 |
| 2 | 95 | 89 | 85 | 81 | 88 | 84 | 80 | 77 | 73 | 70 | 68 | 62 | 61 | 59 | 53 | 52 | 51 | 47 |
| 3 | 89 | 82 | 77 | 73 | 83 | 77 | 73 | 69 | 68 | 65 | 62 | 59 | 57 | 55 | 51 | 50 | 48 | 45 |
| 4 | 84 | 76 | 71 | 66 | 79 | 72 | 67 | 63 | 64 | 60 | 57 | 56 | 54 | 52 | 49 | 47 | 46 | 43 |
| 5 | 80 | 71 | 65 | 61 | 75 | 67 | 62 | 58 | 60 | 56 | 53 | 53 | 51 | 49 | 47 | 45 | 44 | 41 |
| 6 | 76 | 67 | 60 | 56 | 71 | 63 | 58 | 54 | 57 | 53 | 50 | 51 | 48 | 46 | 45 | 43 | 42 | 40 |
| 7 | 72 | 63 | 57 | 52 | 68 | 60 | 54 | 51 | 54 | 50 | 47 | 49 | 46 | 44 | 44 | 42 | 40 | 38 |
| 8 | 68 | 59 | 53 | 49 | 64 | 56 | 51 | 48 | 51 | 47 | 45 | 47 | 44 | 42 | 42 | 40 | 39 | 37 |
| 9 | 65 | 56 | 50 | 46 | 62 | 54 | 49 | 45 | 49 | 45 | 43 | 45 | 42 | 40 | 41 | 39 | 37 | 36 |
| 10 | 62 | 53 | 48 | 44 | 59 | 51 | 46 | 43 | 47 | 43 | 41 | 43 | 40 | 38 | 40 | 38 | 36 | 35 |

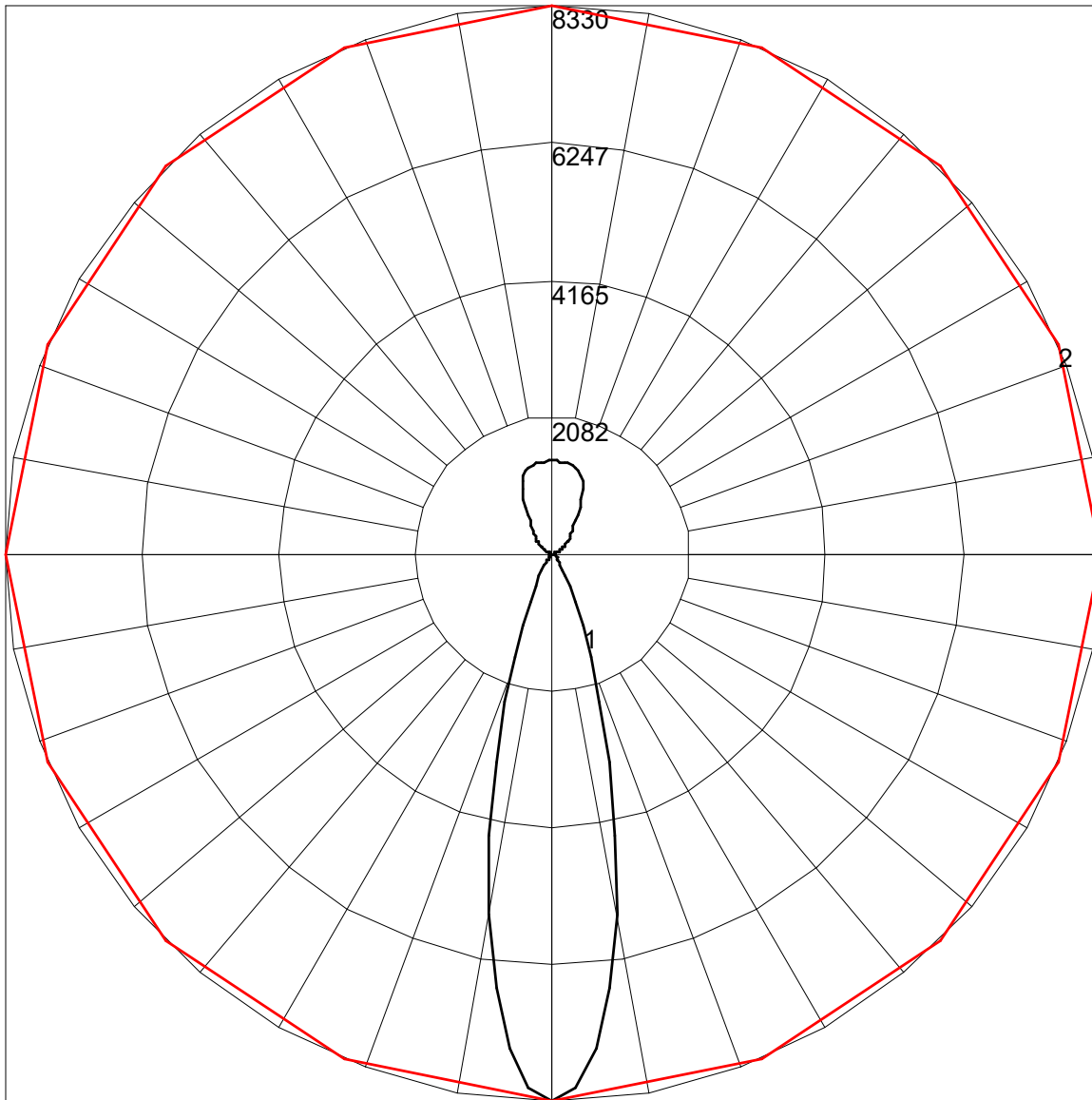
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UGR TABLE - CORRECTED

| | | | | | | | | | | | |
|----------------|------|----------------------|-----|-----|-----|-----|--------------------|-----|-----|-----|-----|
| Reflectances | | | | | | | | | | | |
| Ceiling Cavity | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 | |
| Walls | 50 | 30 | 50 | 30 | 30 | 50 | 30 | 50 | 30 | 30 | |
| Floor Cavity | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | |
| Room Size | | UGR Viewed Crosswise | | | | | UGR Viewed Endwise | | | | |
| X=2H | Y=2H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| | 3H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| | 4H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| | 6H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| | 8H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| | 12H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| 4H | 2H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| | 3H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| | 4H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| | 6H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| | 8H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| | 12H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| 8H | 4H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| | 6H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| | 8H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| | 12H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| 12H | 4H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| | 6H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| | 8H | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |

Maximum UGR = 5.2

POLAR GRAPH



Maximum Candela = 8329.553 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)