

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : 707-Z2-48-Z-359-B1WB-WH-HO.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
 [TEST] L072413206 (SOURCE REPORT BASED FOR REFERENCE)  
 [TESTLAB] REPORT BASED ON DATA FROM NVLAP ACCREDITED LAB  
 [ISSUEDATE] 8/25/2024  
 [MANUFAC] Vode Lighting LLC  
 [LUMCAT] 707-Z2-48-Z-359-B1WB-WH-HO  
 [LUMINAIRE] ZipTwo LED, 48", 3500K, 90 CRI, Zipper Board, 25° White Baffle White Finish, High Output  
 [MORE] 3535 Low Glare, High Output, White  
 [TEST PROCEDURE] IESNA:LM-79-19

**CHARACTERISTICS**

|                                 |                     |
|---------------------------------|---------------------|
| Lumens Per Lamp                 | N.A. (absolute)     |
| Total Lamp Lumens               | N.A. (absolute)     |
| Luminaire Lumens                | 2690                |
| Total Luminaire Efficiency      | N.A.                |
| Luminaire Efficacy Rating (LER) | 68                  |
| Total Luminaire Watts           | 39.4                |
| Ballast Factor                  | 1.00                |
| CIE Type                        | Direct              |
| Spacing Criterion (0-180)       | 0.84                |
| Spacing Criterion (90-270)      | 0.52                |
| Spacing Criterion (Diagonal)    | 0.72                |
| Basic Luminous Shape            | Rectangular w/Sides |
| Luminous Length (0-180)         | 4.00 ft             |
| Luminous Width (90-270)         | 0.13 ft             |
| Luminous Height                 | 0.13 ft             |

**LUMINANCE DATA (cd/sq.m)**

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|------------------|---------------|----------------|----------------|
| 45               | 15137         | 7925           | 6832           |
| 55               | 10640         | 5564           | 4847           |
| 65               | 8198          | 3448           | 3013           |
| 75               | 5131          | 1510           | 1108           |
| 85               | 1384          | 203            | 183            |

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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> | <u>112.5</u> | <u>135.0</u> | <u>157.5</u> | <u>180.0</u> |
|-------------|------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|
| <b>0.0</b>  | 2692.8     | 2692.8      | 2692.8      | 2692.8      | 2692.8      | 2692.8       | 2692.8       | 2692.8       | 2692.8       |
| <b>2.5</b>  | 2600.0     | 2619.2      | 2665.6      | 2748.8      | 2873.6      | 2755.2       | 2665.6       | 2606.4       | 2585.6       |
| <b>5.0</b>  | 2524.8     | 2574.4      | 2665.6      | 2760.0      | 2806.4      | 2734.4       | 2656.0       | 2558.4       | 2513.6       |
| <b>7.5</b>  | 2438.4     | 2510.4      | 2598.4      | 2636.8      | 2548.8      | 2539.2       | 2585.6       | 2512.0       | 2443.2       |
| <b>10.0</b> | 2352.0     | 2449.6      | 2441.6      | 2344.0      | 2152.0      | 2206.4       | 2425.6       | 2441.6       | 2347.2       |
| <b>12.5</b> | 2243.2     | 2358.4      | 2212.8      | 1974.4      | 1753.6      | 1835.2       | 2180.8       | 2321.6       | 2228.8       |
| <b>15.0</b> | 2113.6     | 2212.8      | 1940.8      | 1619.2      | 1422.4      | 1499.2       | 1900.8       | 2174.4       | 2113.6       |
| <b>17.5</b> | 1995.2     | 2049.6      | 1652.8      | 1328.0      | 1200.0      | 1248.0       | 1609.6       | 2016.0       | 1993.6       |
| <b>20.0</b> | 1875.2     | 1884.8      | 1393.6      | 1137.6      | 1044.8      | 1084.8       | 1358.4       | 1835.2       | 1860.8       |
| <b>22.5</b> | 1729.6     | 1702.4      | 1188.8      | 992.0       | 900.8       | 937.6        | 1166.4       | 1648.0       | 1724.8       |
| <b>25.0</b> | 1590.4     | 1513.6      | 1044.8      | 865.6       | 819.2       | 828.8        | 1024.0       | 1464.0       | 1585.6       |
| <b>27.5</b> | 1454.4     | 1339.2      | 921.6       | 790.4       | 755.2       | 760.0        | 904.0        | 1291.2       | 1448.0       |
| <b>30.0</b> | 1312.0     | 1177.6      | 812.8       | 723.2       | 702.4       | 696.0        | 800.0        | 1131.2       | 1308.8       |
| <b>32.5</b> | 1172.8     | 1027.2      | 732.8       | 667.2       | 660.8       | 651.2        | 721.6        | 988.8        | 1169.6       |
| <b>35.0</b> | 1030.4     | 894.4       | 670.4       | 627.2       | 617.6       | 609.6        | 657.6        | 862.4        | 1030.4       |
| <b>37.5</b> | 896.0      | 780.8       | 608.0       | 584.0       | 576.0       | 568.0        | 601.6        | 753.6        | 896.0        |
| <b>40.0</b> | 764.8      | 683.2       | 556.8       | 545.6       | 537.6       | 529.6        | 552.0        | 659.2        | 766.4        |
| <b>42.5</b> | 646.4      | 593.6       | 512.0       | 510.4       | 502.4       | 492.8        | 508.8        | 574.4        | 646.4        |
| <b>45.0</b> | 534.4      | 518.4       | 468.8       | 473.6       | 467.2       | 459.2        | 464.0        | 500.8        | 531.2        |
| <b>47.5</b> | 436.8      | 448.0       | 427.2       | 436.8       | 433.6       | 422.4        | 424.0        | 433.6        | 436.8        |
| <b>50.0</b> | 377.6      | 387.2       | 387.2       | 401.6       | 396.8       | 385.6        | 385.6        | 377.6        | 377.6        |
| <b>52.5</b> | 340.8      | 344.0       | 350.4       | 363.2       | 358.4       | 350.4        | 348.8        | 336.0        | 344.0        |
| <b>55.0</b> | 308.8      | 307.2       | 315.2       | 328.0       | 326.4       | 316.8        | 315.2        | 302.4        | 308.8        |
| <b>57.5</b> | 273.6      | 273.6       | 281.6       | 294.4       | 294.4       | 284.8        | 278.4        | 268.8        | 273.6        |
| <b>60.0</b> | 241.6      | 244.8       | 246.4       | 262.4       | 262.4       | 252.8        | 244.8        | 236.8        | 241.6        |
| <b>62.5</b> | 209.6      | 211.2       | 212.8       | 230.4       | 228.8       | 219.2        | 212.8        | 204.8        | 211.2        |
| <b>65.0</b> | 179.2      | 182.4       | 180.8       | 195.2       | 193.6       | 185.6        | 179.2        | 176.0        | 179.2        |
| <b>67.5</b> | 150.4      | 153.6       | 150.4       | 161.6       | 155.2       | 150.4        | 150.4        | 145.6        | 153.6        |
| <b>70.0</b> | 123.2      | 124.8       | 120.0       | 128.0       | 120.0       | 120.0        | 120.0        | 118.4        | 123.2        |
| <b>72.5</b> | 96.0       | 97.6        | 92.8        | 97.6        | 91.2        | 91.2         | 92.8         | 92.8         | 96.0         |
| <b>75.0</b> | 72.0       | 72.0        | 70.4        | 70.4        | 65.6        | 65.6         | 70.4         | 67.2         | 72.0         |
| <b>77.5</b> | 51.2       | 52.8        | 48.0        | 52.8        | 46.4        | 46.4         | 46.4         | 48.0         | 54.4         |
| <b>80.0</b> | 32.0       | 32.0        | 30.4        | 35.2        | 30.4        | 30.4         | 30.4         | 28.8         | 32.0         |
| <b>82.5</b> | 19.2       | 19.2        | 19.2        | 20.8        | 19.2        | 17.6         | 17.6         | 14.4         | 16.0         |
| <b>85.0</b> | 8.0        | 6.4         | 8.0         | 11.2        | 9.6         | 6.4          | 8.0          | 6.4          | 8.0          |
| <b>87.5</b> | 0.0        | 1.6         | 1.6         | 4.8         | 3.2         | 3.2          | 1.6          | 0.0          | 0.0          |
| <b>90.0</b> | 0.0        | 0.0         | 0.0         | 0.0         | 0.0         | 0.0          | 0.0          | 0.0          | 0.0          |

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**ZONAL LUMEN SUMMARY**

| Zone    | Lumens  | %Lamp | %Fixt  |
|---------|---------|-------|--------|
| 0-20    | 762.68  | N.A.  | 28.40  |
| 0-30    | 1292.27 | N.A.  | 48.00  |
| 0-40    | 1760.55 | N.A.  | 65.50  |
| 0-60    | 2419.3  | N.A.  | 89.90  |
| 0-80    | 2677.71 | N.A.  | 99.60  |
| 0-90    | 2689.61 | N.A.  | 100.00 |
| 10-90   | 2445.75 | N.A.  | 90.90  |
| 20-40   | 997.87  | N.A.  | 37.10  |
| 20-50   | 1374.38 | N.A.  | 51.10  |
| 40-70   | 841.10  | N.A.  | 31.30  |
| 60-80   | 258.41  | N.A.  | 9.60   |
| 70-80   | 76.06   | N.A.  | 2.80   |
| 80-90   | 11.90   | N.A.  | 0.40   |
| 90-110  | 0.00    | N.A.  | 0.00   |
| 90-120  | 0.00    | N.A.  | 0.00   |
| 90-130  | 0.00    | N.A.  | 0.00   |
| 90-150  | 0.00    | N.A.  | 0.00   |
| 90-180  | 0.00    | N.A.  | 0.00   |
| 110-180 | 0.00    | N.A.  | 0.00   |
| 0-180   | 2689.61 | N.A.  | 100.00 |

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens |
|---------|--------|
| 0-10    | 243.87 |
| 10-20   | 518.81 |
| 20-30   | 529.60 |
| 30-40   | 468.28 |
| 40-50   | 376.51 |
| 50-60   | 282.23 |
| 60-70   | 182.36 |
| 70-80   | 76.06  |
| 80-90   | 11.90  |
| 90-100  | 0.00   |
| 100-110 | 0.00   |
| 110-120 | 0.00   |
| 120-130 | 0.00   |
| 130-140 | 0.00   |
| 140-150 | 0.00   |
| 150-160 | 0.00   |
| 160-170 | 0.00   |
| 170-180 | 0.00   |

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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  | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1  | 111 | 108 | 104 | 101 | 109 | 105 | 102 | 100 | 101 | 99  | 97  | 98  | 96  | 94  | 94  | 92  | 91  | 89  |
| 2  | 104 | 97  | 92  | 87  | 101 | 95  | 90  | 86  | 92  | 88  | 84  | 89  | 85  | 82  | 86  | 83  | 81  | 79  |
| 3  | 96  | 88  | 81  | 76  | 94  | 86  | 80  | 76  | 84  | 79  | 74  | 81  | 77  | 73  | 79  | 75  | 72  | 70  |
| 4  | 90  | 80  | 73  | 68  | 88  | 79  | 72  | 67  | 77  | 71  | 66  | 74  | 70  | 65  | 72  | 68  | 65  | 63  |
| 5  | 84  | 74  | 66  | 61  | 82  | 73  | 66  | 60  | 71  | 64  | 60  | 69  | 63  | 59  | 67  | 62  | 59  | 57  |
| 6  | 79  | 68  | 60  | 55  | 77  | 67  | 60  | 55  | 65  | 59  | 54  | 64  | 58  | 54  | 62  | 57  | 54  | 52  |
| 7  | 74  | 63  | 56  | 50  | 73  | 62  | 55  | 50  | 61  | 54  | 50  | 59  | 54  | 50  | 58  | 53  | 49  | 48  |
| 8  | 70  | 59  | 51  | 46  | 69  | 58  | 51  | 46  | 57  | 50  | 46  | 56  | 50  | 46  | 55  | 49  | 46  | 44  |
| 9  | 66  | 55  | 48  | 43  | 65  | 54  | 48  | 43  | 53  | 47  | 43  | 52  | 47  | 43  | 51  | 46  | 42  | 41  |
| 10 | 63  | 51  | 45  | 40  | 62  | 51  | 44  | 40  | 50  | 44  | 40  | 49  | 44  | 40  | 48  | 43  | 40  | 38  |

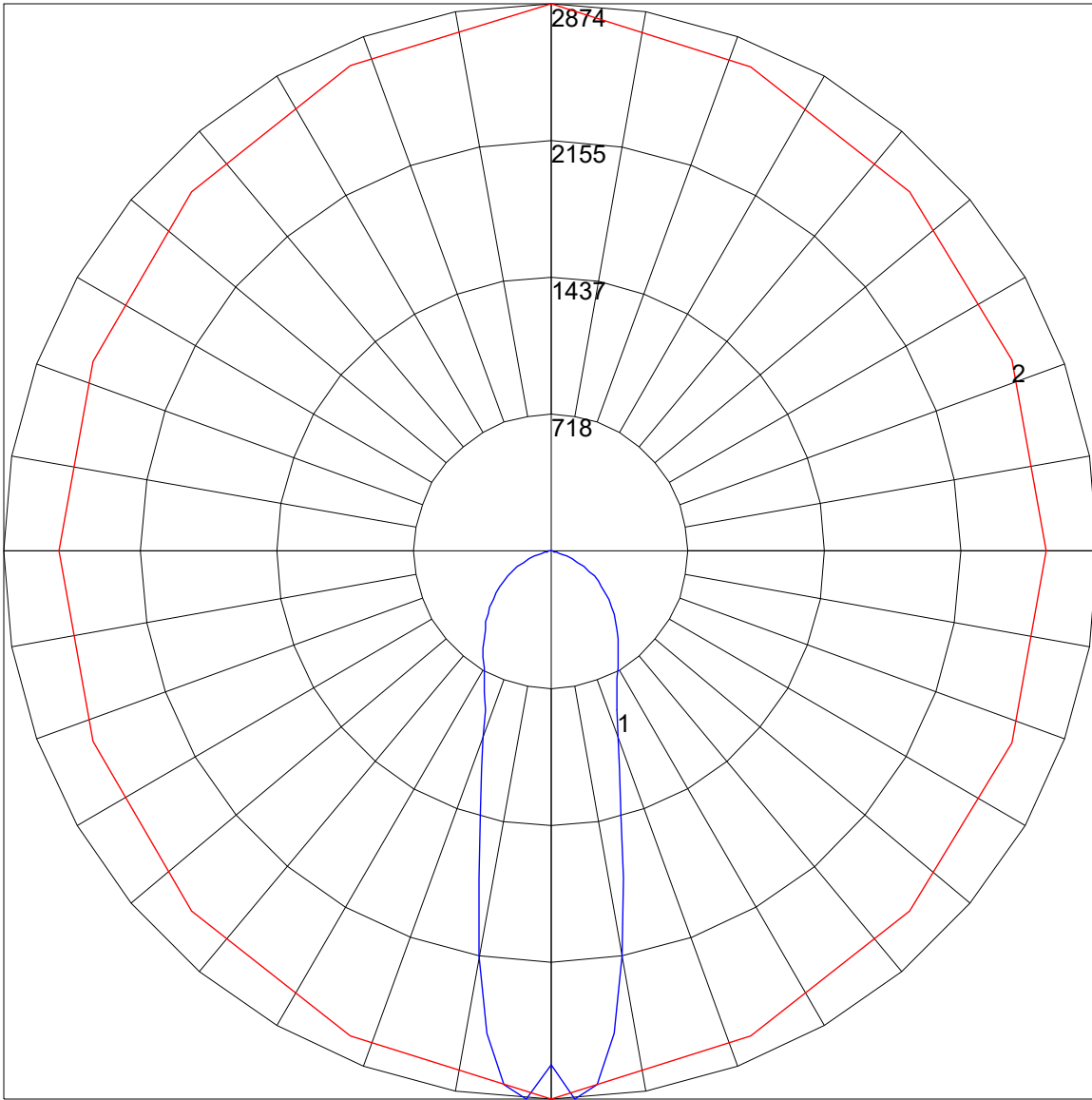
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**UGR TABLE - CORRECTED**

| 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 | 15.8                 | 17.2 | 16.2 | 17.5 | 17.8 | 17.9               | 19.3 | 18.3 | 19.6 | 19.9 |
|                | 3H   | 16.7                 | 18.0 | 17.1 | 18.3 | 18.7 | 19.1               | 20.3 | 19.4 | 20.6 | 21.0 |
|                | 4H   | 16.9                 | 18.1 | 17.3 | 18.4 | 18.8 | 19.3               | 20.5 | 19.7 | 20.8 | 21.2 |
|                | 6H   | 17.0                 | 18.0 | 17.4 | 18.4 | 18.8 | 19.4               | 20.5 | 19.8 | 20.8 | 21.2 |
|                | 8H   | 17.0                 | 18.0 | 17.4 | 18.4 | 18.8 | 19.4               | 20.4 | 19.9 | 20.8 | 21.2 |
|                | 12H  | 16.9                 | 17.9 | 17.4 | 18.3 | 18.7 | 19.4               | 20.4 | 19.8 | 20.7 | 21.2 |
| 4H             | 2H   | 16.3                 | 17.4 | 16.7 | 17.8 | 18.1 | 18.1               | 19.2 | 18.5 | 19.6 | 20.0 |
|                | 3H   | 17.3                 | 18.3 | 17.7 | 18.7 | 19.1 | 19.3               | 20.3 | 19.7 | 20.7 | 21.1 |
|                | 4H   | 17.6                 | 18.4 | 18.0 | 18.8 | 19.3 | 19.6               | 20.5 | 20.1 | 20.9 | 21.3 |
|                | 6H   | 17.6                 | 18.4 | 18.1 | 18.8 | 19.3 | 19.8               | 20.5 | 20.2 | 21.0 | 21.4 |
|                | 8H   | 17.6                 | 18.3 | 18.1 | 18.8 | 19.2 | 19.8               | 20.5 | 20.3 | 20.9 | 21.4 |
|                | 12H  | 17.6                 | 18.2 | 18.1 | 18.7 | 19.2 | 19.8               | 20.4 | 20.3 | 20.9 | 21.3 |
| 8H             | 4H   | 17.6                 | 18.3 | 18.1 | 18.8 | 19.2 | 19.6               | 20.3 | 20.1 | 20.7 | 21.2 |
|                | 6H   | 17.7                 | 18.3 | 18.2 | 18.8 | 19.3 | 19.7               | 20.3 | 20.2 | 20.8 | 21.3 |
|                | 8H   | 17.7                 | 18.2 | 18.2 | 18.7 | 19.2 | 19.8               | 20.3 | 20.3 | 20.8 | 21.3 |
|                | 12H  | 17.7                 | 18.1 | 18.2 | 18.6 | 19.2 | 19.8               | 20.2 | 20.3 | 20.7 | 21.3 |
| 12H            | 4H   | 17.6                 | 18.2 | 18.1 | 18.7 | 19.2 | 19.6               | 20.2 | 20.1 | 20.7 | 21.1 |
|                | 6H   | 17.7                 | 18.2 | 18.2 | 18.7 | 19.2 | 19.7               | 20.2 | 20.2 | 20.7 | 21.2 |
|                | 8H   | 17.7                 | 18.2 | 18.2 | 18.6 | 19.2 | 19.7               | 20.2 | 20.3 | 20.7 | 21.3 |

Maximum UGR = 21.4

POLAR GRAPH



Maximum Candela = 2873.6 Located At Horizontal Angle = 90, Vertical Angle = 2.5  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)