



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : BP-22-LS-8CS-DIM-UNV\_40W\_3500K\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] GEN FROM BALLABS TEST NO. 20530  
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
[ISSUEDATE] 2025-09-09  
[MANUFAC] WILLIAMS INDOOR  
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
[LUMINAIRE] 2x2' ULTRA THIN SEAMLESS FLAT PANEL LIGHT  
[MORE] .39" ALUMINUM FRAME w/DIFFUSE LENS  
[MORE] 0-10V LED DRIVER  
[LUMCAT] BP-22-LS-8CS-DIM-UNV\_40W\_3500K\_  
[LAMPCAT] LED

### CHARACTERISTICS

|                                 |                 |
|---------------------------------|-----------------|
| Lumens Per Lamp                 | N.A. (absolute) |
| Total Lamp Lumens               | N.A. (absolute) |
| Luminaire Lumens                | 4542            |
| Total Luminaire Efficiency      | N.A.            |
| Luminaire Efficacy Rating (LER) | 110             |
| Total Luminaire Watts           | 41.2            |
| Ballast Factor                  | 1.00            |
| CIE Type                        | Direct          |
| Spacing Criterion (0-180)       | 1.28            |
| Spacing Criterion (90-270)      | 1.26            |
| Spacing Criterion (Diagonal)    | 1.38            |
| Basic Luminous Shape            | Rectangular     |
| Luminous Length (0-180)         | 1.80 ft         |
| Luminous Width (90-270)         | 1.80 ft         |
| Luminous Height                 | 0.00 ft         |

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

| Angle In<br>Degrees | Average<br>0-Deg | Average<br>45-Deg | Average<br>90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45                  | 5052             | 5004              | 5018              |
| 55                  | 4822             | 4750              | 4786              |
| 65                  | 4433             | 4400              | 4344              |
| 75                  | 3778             | 3659              | 3646              |
| 85                  | 2197             | 1961              | 2000              |

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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> |
|-----------|------------|-------------|-------------|-------------|-------------|
| <b>0</b>  | 1598.991   | 1598.991    | 1598.991    | 1598.991    | 1598.991    |
| <b>5</b>  | 1600.023   | 1595.894    | 1592.797    | 1590.733    | 1588.668    |
| <b>10</b> | 1579.378   | 1575.249    | 1572.152    | 1568.023    | 1566.990    |
| <b>15</b> | 1546.345   | 1542.216    | 1537.055    | 1534.990    | 1533.958    |
| <b>20</b> | 1498.860   | 1495.764    | 1491.635    | 1487.505    | 1487.505    |
| <b>25</b> | 1440.021   | 1436.924    | 1431.763    | 1429.698    | 1429.698    |
| <b>30</b> | 1366.730   | 1359.504    | 1361.568    | 1356.407    | 1356.407    |
| <b>35</b> | 1276.922   | 1270.728    | 1271.760    | 1270.728    | 1270.728    |
| <b>40</b> | 1182.985   | 1179.888    | 1179.888    | 1177.824    | 1175.759    |
| <b>45</b> | 1078.725   | 1078.725    | 1068.403    | 1068.403    | 1071.499    |
| <b>50</b> | 957.949    | 958.982     | 954.853     | 948.659     | 950.723     |
| <b>55</b> | 835.109    | 828.915     | 822.722     | 828.915     | 828.915     |
| <b>60</b> | 697.817    | 696.784     | 693.687     | 692.655     | 691.623     |
| <b>65</b> | 565.686    | 562.589     | 561.557     | 561.557     | 554.331     |
| <b>70</b> | 425.296    | 428.393     | 423.232     | 417.038     | 417.038     |
| <b>75</b> | 295.230    | 288.004     | 285.940     | 285.940     | 284.907     |
| <b>80</b> | 161.035    | 164.131     | 161.035     | 161.035     | 157.938     |
| <b>85</b> | 57.807     | 57.807      | 51.614      | 51.614      | 52.646      |
| <b>90</b> | 0.000      | 0.000       | 1.032       | 0.000       | 0.000       |

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : BP-22-LS-8CS-DIM-UNV\_40W\_3500K\_.IES****ZONAL LUMEN SUMMARY**

| Zone    | Lumens  | %Lamp | %Fixt  |
|---------|---------|-------|--------|
| 0-20    | 585.70  | N.A.  | 12.90  |
| 0-30    | 1245.98 | N.A.  | 27.40  |
| 0-40    | 2042.42 | N.A.  | 45.00  |
| 0-60    | 3608.43 | N.A.  | 79.40  |
| 0-80    | 4468.55 | N.A.  | 98.40  |
| 0-90    | 4541.97 | N.A.  | 100.00 |
| 10-90   | 4390.56 | N.A.  | 96.70  |
| 20-40   | 1456.72 | N.A.  | 32.10  |
| 20-50   | 2283.24 | N.A.  | 50.30  |
| 40-70   | 2120.44 | N.A.  | 46.70  |
| 60-80   | 860.12  | N.A.  | 18.90  |
| 70-80   | 305.68  | N.A.  | 6.70   |
| 80-90   | 73.43   | N.A.  | 1.60   |
| 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   | 4541.97 | N.A.  | 100.00 |

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens |
|---------|--------|
| 0-10    | 151.41 |
| 10-20   | 434.29 |
| 20-30   | 660.28 |
| 30-40   | 796.44 |
| 40-50   | 826.52 |
| 50-60   | 739.49 |
| 60-70   | 554.44 |
| 70-80   | 305.68 |
| 80-90   | 73.43  |
| 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   |
| 0  | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1  | 109 | 104 | 100 | 96  | 106 | 102 | 98  | 94  | 98  | 94  | 91  | 94  | 91  | 89  | 90  | 88  | 86  | 84  |
| 2  | 99  | 91  | 84  | 78  | 96  | 89  | 83  | 77  | 85  | 80  | 75  | 82  | 78  | 74  | 79  | 75  | 72  | 70  |
| 3  | 90  | 80  | 71  | 65  | 88  | 78  | 70  | 64  | 75  | 69  | 63  | 72  | 67  | 62  | 70  | 65  | 61  | 59  |
| 4  | 83  | 71  | 62  | 55  | 80  | 69  | 61  | 55  | 67  | 60  | 54  | 64  | 58  | 53  | 62  | 57  | 52  | 50  |
| 5  | 76  | 63  | 54  | 47  | 74  | 62  | 53  | 47  | 60  | 52  | 47  | 58  | 51  | 46  | 56  | 50  | 46  | 43  |
| 6  | 70  | 57  | 48  | 41  | 68  | 56  | 47  | 41  | 54  | 46  | 41  | 52  | 45  | 40  | 51  | 45  | 40  | 38  |
| 7  | 65  | 51  | 43  | 36  | 63  | 51  | 42  | 36  | 49  | 41  | 36  | 48  | 41  | 36  | 46  | 40  | 35  | 33  |
| 8  | 60  | 47  | 38  | 32  | 59  | 46  | 38  | 32  | 45  | 37  | 32  | 44  | 37  | 32  | 42  | 36  | 32  | 30  |
| 9  | 56  | 43  | 35  | 29  | 55  | 42  | 35  | 29  | 41  | 34  | 29  | 40  | 34  | 29  | 39  | 33  | 29  | 27  |
| 10 | 53  | 40  | 32  | 26  | 52  | 39  | 32  | 26  | 38  | 31  | 26  | 37  | 31  | 26  | 36  | 30  | 26  | 24  |

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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

| X=2H | Y=2H | 17.7 | 19.3 | 18.0 | 19.6 | 19.9 | 17.6 | 19.3 | 18.0 | 19.6 | 19.9 |
|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 3H   | 19.4 | 20.9 | 19.8 | 21.2 | 21.6 | 19.4 | 20.8 | 19.7 | 21.2 | 21.5 |
|      | 4H   | 20.1 | 21.5 | 20.5 | 21.8 | 22.2 | 20.0 | 21.4 | 20.4 | 21.7 | 22.1 |
|      | 6H   | 20.5 | 21.8 | 20.9 | 22.1 | 22.5 | 20.4 | 21.7 | 20.8 | 22.0 | 22.4 |
|      | 8H   | 20.6 | 21.8 | 21.0 | 22.2 | 22.6 | 20.5 | 21.7 | 20.9 | 22.1 | 22.5 |
|      | 12H  | 20.7 | 21.8 | 21.1 | 22.2 | 22.7 | 20.5 | 21.7 | 21.0 | 22.1 | 22.5 |

### UGR Viewed Endwise

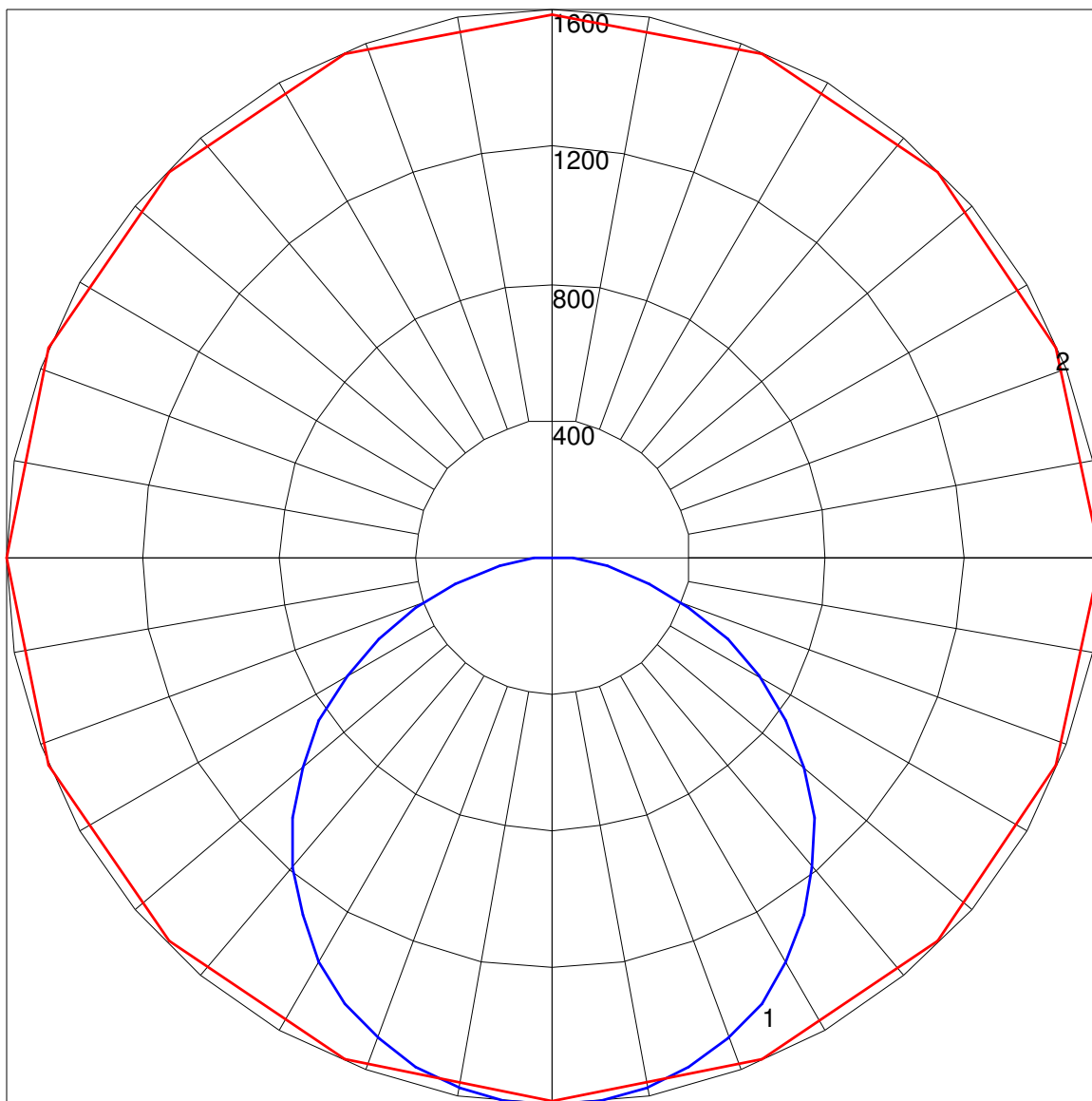
|    |     |      |      |      |      |      |      |      |      |      |      |
|----|-----|------|------|------|------|------|------|------|------|------|------|
| 4H | 2H  | 18.3 | 19.7 | 18.7 | 20.0 | 20.4 | 18.3 | 19.7 | 18.7 | 20.0 | 20.4 |
|    | 3H  | 20.3 | 21.4 | 20.7 | 21.8 | 22.2 | 20.2 | 21.4 | 20.6 | 21.8 | 22.2 |
|    | 4H  | 21.0 | 22.1 | 21.4 | 22.5 | 22.9 | 20.9 | 22.0 | 21.4 | 22.4 | 22.8 |
|    | 6H  | 21.5 | 22.5 | 22.0 | 22.9 | 23.4 | 21.5 | 22.4 | 21.9 | 22.8 | 23.3 |
|    | 8H  | 21.7 | 22.6 | 22.2 | 23.0 | 23.5 | 21.6 | 22.5 | 22.1 | 22.9 | 23.4 |
|    | 12H | 21.8 | 22.6 | 22.3 | 23.1 | 23.5 | 21.7 | 22.5 | 22.2 | 23.0 | 23.4 |

|    |     |      |      |      |      |      |      |      |      |      |      |
|----|-----|------|------|------|------|------|------|------|------|------|------|
| 8H | 4H  | 21.3 | 22.2 | 21.8 | 22.6 | 23.1 | 21.2 | 22.1 | 21.7 | 22.5 | 23.0 |
|    | 6H  | 21.9 | 22.7 | 22.4 | 23.1 | 23.6 | 21.8 | 22.6 | 22.3 | 23.1 | 23.5 |
|    | 8H  | 22.2 | 22.8 | 22.7 | 23.3 | 23.8 | 22.1 | 22.7 | 22.6 | 23.2 | 23.7 |
|    | 12H | 22.3 | 22.9 | 22.8 | 23.4 | 23.9 | 22.2 | 22.8 | 22.7 | 23.3 | 23.8 |

|     |    |      |      |      |      |      |      |      |      |      |      |
|-----|----|------|------|------|------|------|------|------|------|------|------|
| 12H | 4H | 21.3 | 22.1 | 21.8 | 22.6 | 23.0 | 21.3 | 22.0 | 21.7 | 22.5 | 23.0 |
|     | 6H | 22.0 | 22.6 | 22.5 | 23.1 | 23.6 | 21.9 | 22.6 | 22.4 | 23.0 | 23.6 |
|     | 8H | 22.3 | 22.8 | 22.8 | 23.3 | 23.9 | 22.2 | 22.7 | 22.7 | 23.2 | 23.8 |

Maximum UGR = 23.9

POLAR GRAPH



Maximum Candela = 1600.023 Located At Horizontal Angle = 0, Vertical Angle = 5  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)