



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : V50G-S24-L117-835-FVL-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 21039.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUE DATE] 23-APR-2020

[MANUFAC] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 4-56 LED 22"ARRAYS 2X4' RECESSED LUMINAIRE

[MORE] WHITE REFL w/ CLEAR POLYCARB LENS W/ PRISMATIC PAT12 OVERLAY

[LUMCAT] V50G-S24-L117/835-FVL-DIM-UNV

### CHARACTERISTICS

|                                 |                 |
|---------------------------------|-----------------|
| Lumens Per Lamp                 | N.A. (absolute) |
| Total Lamp Lumens               | N.A. (absolute) |
| Luminaire Lumens                | 11393           |
| Total Luminaire Efficiency      | N.A.            |
| Luminaire Efficacy Rating (LER) | 113             |
| Total Luminaire Watts           | 101.2           |
| Ballast Factor                  | 1.00            |
| CIE Type                        | Direct          |
| Spacing Criterion (0-180)       | 1.20            |
| Spacing Criterion (90-270)      | 1.18            |
| Spacing Criterion (Diagonal)    | 1.26            |
| Basic Luminous Shape            | Rectangular     |
| Luminous Length (0-180)         | 3.76 ft         |
| Luminous Width (90-270)         | 1.77 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                  | 6175             | 6021              | 5965              |
| 55                  | 5149             | 5019              | 4929              |
| 65                  | 4214             | 3972              | 4032              |
| 75                  | 3525             | 3417              | 3746              |
| 85                  | 2804             | 3032              | 3398              |

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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>  | 4892.699   | 4892.699    | 4892.699    | 4892.699    | 4892.699    |
| <b>5</b>  | 4913.257   | 4884.476    | 4850.762    | 4836.783    | 4840.072    |
| <b>10</b> | 4827.737   | 4803.068    | 4765.242    | 4756.197    | 4757.842    |
| <b>15</b> | 4692.058   | 4667.388    | 4632.852    | 4616.406    | 4619.695    |
| <b>20</b> | 4494.705   | 4473.325    | 4438.788    | 4418.231    | 4422.342    |
| <b>25</b> | 4242.258   | 4215.122    | 4181.408    | 4161.672    | 4166.606    |
| <b>30</b> | 3922.382   | 3898.536    | 3862.354    | 3852.487    | 3847.553    |
| <b>35</b> | 3553.991   | 3540.012    | 3501.364    | 3485.740    | 3482.451    |
| <b>40</b> | 3142.840   | 3129.683    | 3088.568    | 3054.853    | 3067.188    |
| <b>45</b> | 2703.730   | 2658.504    | 2636.301    | 2596.831    | 2611.632    |
| <b>50</b> | 2259.687   | 2235.840    | 2197.192    | 2167.589    | 2160.188    |
| <b>55</b> | 1828.801   | 1817.288    | 1782.752    | 1739.170    | 1750.682    |
| <b>60</b> | 1443.141   | 1420.116    | 1380.646    | 1379.001    | 1365.022    |
| <b>65</b> | 1102.708   | 1068.993    | 1039.390    | 1055.836    | 1055.014    |
| <b>70</b> | 808.323    | 795.989     | 773.787     | 800.923     | 808.323     |
| <b>75</b> | 564.922    | 556.699     | 547.653     | 587.946     | 600.281     |
| <b>80</b> | 356.057    | 352.768     | 355.235     | 389.771     | 402.106     |
| <b>85</b> | 151.304    | 148.014     | 163.638     | 195.708     | 183.373     |
| <b>90</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |

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**ZONAL LUMEN SUMMARY**

| Zone    | Lumens   | %Lamp | %Fixt  |
|---------|----------|-------|--------|
| 0-20    | 1769.63  | N.A.  | 15.50  |
| 0-30    | 3696.25  | N.A.  | 32.40  |
| 0-40    | 5886.01  | N.A.  | 51.70  |
| 0-60    | 9526.38  | N.A.  | 83.60  |
| 0-80    | 11200.8  | N.A.  | 98.30  |
| 0-90    | 11393.14 | N.A.  | 100.00 |
| 10-90   | 10931.62 | N.A.  | 95.90  |
| 20-40   | 4116.38  | N.A.  | 36.10  |
| 20-50   | 6155.67  | N.A.  | 54.00  |
| 40-70   | 4707.43  | N.A.  | 41.30  |
| 60-80   | 1674.43  | N.A.  | 14.70  |
| 70-80   | 607.36   | N.A.  | 5.30   |
| 80-90   | 192.34   | N.A.  | 1.70   |
| 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   | 11393.14 | N.A.  | 100.00 |

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens  |
|---------|---------|
| 0-10    | 461.52  |
| 10-20   | 1308.11 |
| 20-30   | 1926.62 |
| 30-40   | 2189.77 |
| 40-50   | 2039.29 |
| 50-60   | 1601.08 |
| 60-70   | 1067.07 |
| 70-80   | 607.36  |
| 80-90   | 192.34  |
| 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  | 110 | 105 | 101 | 97  | 107 | 103 | 99  | 96  | 99  | 96  | 93  | 95  | 92  | 90  | 91  | 89  | 87  | 85  |
| 2  | 100 | 93  | 86  | 81  | 98  | 91  | 85  | 80  | 87  | 82  | 78  | 84  | 80  | 76  | 81  | 78  | 75  | 73  |
| 3  | 92  | 82  | 74  | 68  | 90  | 81  | 73  | 68  | 78  | 72  | 67  | 75  | 70  | 65  | 72  | 68  | 64  | 62  |
| 4  | 85  | 73  | 65  | 59  | 83  | 72  | 64  | 58  | 70  | 63  | 58  | 67  | 62  | 57  | 65  | 60  | 56  | 54  |
| 5  | 78  | 66  | 57  | 51  | 76  | 65  | 57  | 51  | 63  | 56  | 50  | 61  | 55  | 50  | 59  | 54  | 49  | 47  |
| 6  | 73  | 60  | 51  | 45  | 71  | 59  | 51  | 45  | 57  | 50  | 45  | 55  | 49  | 44  | 54  | 48  | 44  | 42  |
| 7  | 67  | 55  | 46  | 40  | 66  | 54  | 46  | 40  | 52  | 45  | 40  | 51  | 44  | 40  | 49  | 44  | 39  | 37  |
| 8  | 63  | 50  | 42  | 36  | 61  | 49  | 41  | 36  | 48  | 41  | 36  | 47  | 40  | 36  | 46  | 40  | 35  | 34  |
| 9  | 59  | 46  | 38  | 33  | 58  | 45  | 38  | 33  | 44  | 37  | 32  | 43  | 37  | 32  | 42  | 36  | 32  | 30  |
| 10 | 55  | 43  | 35  | 30  | 54  | 42  | 35  | 30  | 41  | 34  | 30  | 40  | 34  | 30  | 39  | 34  | 29  | 28  |

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**UGR TABLE - CORRECTED**

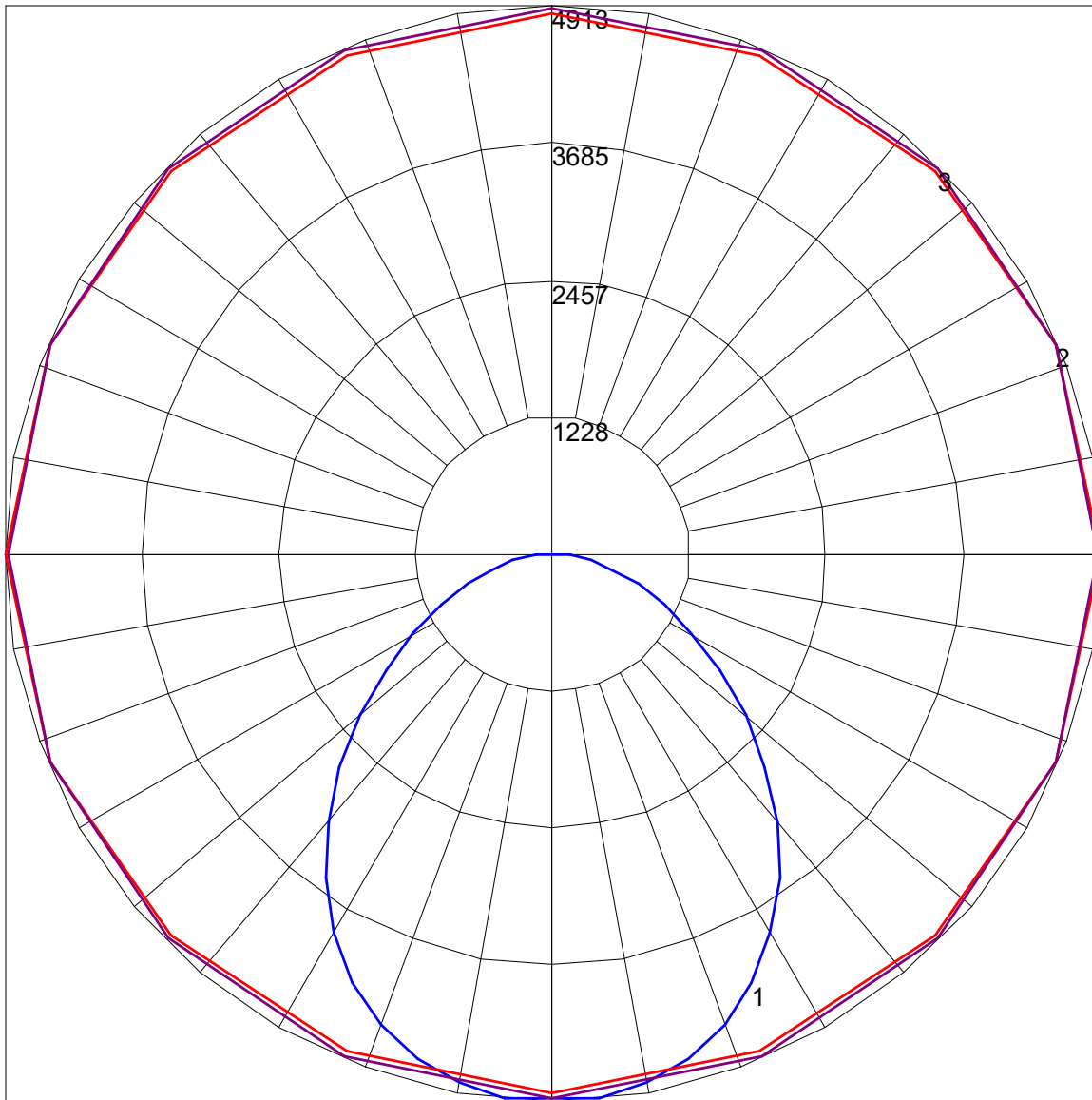
Reflectances

|                |    |    |    |    |    |    |    |    |    |    |
|----------------|----|----|----|----|----|----|----|----|----|----|
| 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 | 17.3                 | 18.8 | 17.7 | 19.2 | 19.5 | 17.0               | 18.6 | 17.4 | 18.9 | 19.2 |
|           | 3H   | 18.7                 | 20.1 | 19.1 | 20.5 | 20.8 | 18.6               | 20.0 | 18.9 | 20.3 | 20.6 |
|           | 4H   | 19.3                 | 20.6 | 19.7 | 21.0 | 21.4 | 19.2               | 20.5 | 19.6 | 20.9 | 21.3 |
|           | 6H   | 19.8                 | 21.0 | 20.2 | 21.3 | 21.7 | 19.8               | 21.0 | 20.2 | 21.4 | 21.8 |
|           | 8H   | 19.9                 | 21.1 | 20.4 | 21.5 | 21.9 | 20.0               | 21.1 | 20.4 | 21.5 | 21.9 |
|           | 12H  | 20.0                 | 21.1 | 20.4 | 21.5 | 21.9 | 20.1               | 21.2 | 20.6 | 21.6 | 22.1 |
| 4H        | 2H   | 17.7                 | 19.1 | 18.1 | 19.4 | 19.8 | 17.5               | 18.8 | 17.9 | 19.2 | 19.6 |
|           | 3H   | 19.4                 | 20.5 | 19.8 | 20.9 | 21.3 | 19.3               | 20.4 | 19.7 | 20.8 | 21.2 |
|           | 4H   | 20.1                 | 21.1 | 20.6 | 21.5 | 22.0 | 20.1               | 21.1 | 20.5 | 21.5 | 21.9 |
|           | 6H   | 20.7                 | 21.6 | 21.2 | 22.0 | 22.5 | 20.8               | 21.7 | 21.3 | 22.1 | 22.6 |
|           | 8H   | 20.9                 | 21.7 | 21.4 | 22.2 | 22.6 | 21.1               | 21.9 | 21.5 | 22.3 | 22.8 |
|           | 12H  | 21.1                 | 21.8 | 21.6 | 22.3 | 22.7 | 21.3               | 22.0 | 21.8 | 22.5 | 23.0 |
| 8H        | 4H   | 20.4                 | 21.2 | 20.8 | 21.6 | 22.1 | 20.4               | 21.2 | 20.8 | 21.6 | 22.1 |
|           | 6H   | 21.1                 | 21.8 | 21.6 | 22.3 | 22.8 | 21.2               | 21.9 | 21.7 | 22.4 | 22.9 |
|           | 8H   | 21.4                 | 22.0 | 21.9 | 22.5 | 23.0 | 21.6               | 22.2 | 22.1 | 22.7 | 23.2 |
|           | 12H  | 21.6                 | 22.1 | 22.1 | 22.6 | 23.2 | 21.9               | 22.4 | 22.4 | 22.9 | 23.5 |
| 12H       | 4H   | 20.4                 | 21.2 | 20.9 | 21.6 | 22.1 | 20.4               | 21.1 | 20.9 | 21.6 | 22.1 |
|           | 6H   | 21.2                 | 21.8 | 21.7 | 22.3 | 22.8 | 21.3               | 21.9 | 21.8 | 22.4 | 22.9 |
|           | 8H   | 21.5                 | 22.0 | 22.0 | 22.5 | 23.1 | 21.7               | 22.2 | 22.2 | 22.7 | 23.3 |

Maximum UGR = 23.5

POLAR GRAPH



Maximum Candela = 4913.257 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.)  
# 3 - Horizontal Cone Through Vertical Angle (0)