

## IES INDOOR REPORT

PHOTOMETRIC FILENAME : HRL24L840-UNV-DIM-LRA.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] FO44425.PSO  
[TESTLAB] DAY-BRITE PHOTOMETRIC LABORATORY  
[ISSUEDATE] 6/01/2023  
[MANUFAC] DAY-BRITE by SIGNIFY  
[LUMCAT] HRL24L840-UNV-DIM-LRA  
[LUMINAIRE] 2X2 HRL, 4-FORTIMO EDGE LV2 8600 21.5IN 840 BOARDS,  
XI190C275V054BSG2 DRIVER 1800mA/CHN 277V, LRA ROUND LENS  
[TESTDATE] 6/01/2023

### CHARACTERISTICS

|                                 |                     |
|---------------------------------|---------------------|
| Lumens Per Lamp                 | N.A. (absolute)     |
| Total Lamp Lumens               | N.A. (absolute)     |
| Luminaire Lumens                | 22318               |
| Total Luminaire Efficiency      | N.A.                |
| Luminaire Efficacy Rating (LER) | 130                 |
| Total Luminaire Watts           | 171.1               |
| Ballast Factor                  | 1.00                |
| CIE Type                        | Direct              |
| Spacing Criterion (0-180)       | 1.24                |
| Spacing Criterion (90-270)      | 1.24                |
| Spacing Criterion (Diagonal)    | 1.36                |
| Basic Luminous Shape            | Rectangular w/Sides |
| Luminous Length (0-180)         | 1.83 ft             |
| Luminous Width (90-270)         | 1.81 ft             |
| Luminous Height                 | 1.00 ft             |



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

| Angle In<br>Degrees | Average<br>0-Deg | Average<br>45-Deg | Average<br>90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45                  | 15197            | 13147             | 15079             |
| 55                  | 12796            | 10663             | 12541             |
| 65                  | 9963             | 7948              | 9562              |
| 75                  | 6441             | 4905              | 6015              |
| 85                  | 2356             | 1824              | 2258              |

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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   | 7863.172   | 7863.172    | 7863.172    | 7863.172    | 7863.172    |
| 2.5   | 7856.570   | 7849.780    | 7845.335    | 7858.230    | 7861.725    |
| 5.0   | 7828.575   | 7820.895    | 7817.510    | 7830.620    | 7833.780    |
| 7.5   | 7780.665   | 7773.415    | 7771.650    | 7783.730    | 7788.055    |
| 10.0  | 7714.955   | 7707.300    | 7704.720    | 7718.805    | 7724.130    |
| 12.5  | 7628.535   | 7622.165    | 7619.440    | 7631.985    | 7637.670    |
| 15.0  | 7523.730   | 7516.680    | 7514.945    | 7527.005    | 7533.405    |
| 17.5  | 7399.625   | 7392.295    | 7390.875    | 7404.470    | 7410.630    |
| 20.0  | 7257.800   | 7252.640    | 7250.020    | 7261.875    | 7269.760    |
| 22.5  | 7101.785   | 7098.245    | 7092.860    | 7104.720    | 7112.650    |
| 25.0  | 6933.665   | 6927.215    | 6922.700    | 6933.815    | 6941.250    |
| 27.5  | 6747.500   | 6740.610    | 6736.750    | 6747.235    | 6755.855    |
| 30.0  | 6548.125   | 6540.970    | 6534.175    | 6543.370    | 6555.625    |
| 32.5  | 6334.600   | 6329.595    | 6321.420    | 6328.235    | 6341.320    |
| 35.0  | 6113.175   | 6105.970    | 6098.685    | 6105.030    | 6114.320    |
| 37.5  | 5881.405   | 5872.655    | 5864.235    | 5869.860    | 5880.135    |
| 40.0  | 5638.715   | 5631.320    | 5619.075    | 5622.945    | 5635.720    |
| 42.5  | 5387.230   | 5379.620    | 5364.565    | 5368.070    | 5378.920    |
| 45.0  | 5132.595   | 5121.825    | 5101.505    | 5103.340    | 5112.490    |
| 47.5  | 4870.920   | 4855.745    | 4829.930    | 4830.910    | 4839.205    |
| 50.0  | 4600.600   | 4583.630    | 4553.050    | 4551.140    | 4561.125    |
| 52.5  | 4321.900   | 4304.230    | 4272.125    | 4266.005    | 4271.095    |
| 55.0  | 4035.105   | 4017.255    | 3984.150    | 3970.840    | 3973.950    |
| 57.5  | 3740.980   | 3723.170    | 3688.330    | 3665.780    | 3669.955    |
| 60.0  | 3438.785   | 3421.825    | 3383.420    | 3356.365    | 3359.660    |
| 62.5  | 3133.190   | 3115.460    | 3076.080    | 3044.230    | 3042.670    |
| 65.0  | 2823.400   | 2803.875    | 2765.090    | 2729.535    | 2725.855    |
| 67.5  | 2508.515   | 2490.470    | 2450.645    | 2411.560    | 2403.215    |
| 70.0  | 2190.450   | 2174.610    | 2134.775    | 2094.220    | 2086.060    |
| 72.5  | 1876.125   | 1864.190    | 1829.795    | 1793.840    | 1780.850    |
| 75.0  | 1564.160   | 1556.315    | 1528.115    | 1492.050    | 1471.450    |
| 77.5  | 1253.850   | 1249.770    | 1231.210    | 1199.915    | 1175.210    |
| 80.0  | 958.528    | 957.752     | 951.646     | 924.472     | 898.926     |
| 82.5  | 689.154    | 694.698     | 699.472     | 680.552     | 651.801     |
| 85.0  | 459.090    | 471.205     | 484.783     | 476.474     | 444.300     |
| 87.5  | 289.993    | 301.769     | 319.281     | 312.099     | 280.524     |
| 90.0  | 201.881    | 203.401     | 202.464     | 184.774     | 156.690     |
| 92.5  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 95.0  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 97.5  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 100.0 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 102.5 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 105.0 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 107.5 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 110.0 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 112.5 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 115.0 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 117.5 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 120.0 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 122.5 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 125.0 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 127.5 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 130.0 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 132.5 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |

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CANDELA TABULATION - (Cont.)

|       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|
| 135.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 137.5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 140.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 142.5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 145.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 147.5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 150.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 152.5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 155.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 157.5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 160.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 162.5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 165.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 167.5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 170.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 172.5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 175.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 177.5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 180.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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**ZONAL LUMEN SUMMARY**

| Zone    | Lumens   | %Lamp | %Fixt  |
|---------|----------|-------|--------|
| 0-20    | 2865.03  | N.A.  | 12.80  |
| 0-30    | 6057.81  | N.A.  | 27.10  |
| 0-40    | 9877.39  | N.A.  | 44.30  |
| 0-60    | 17389.06 | N.A.  | 77.90  |
| 0-80    | 21739.27 | N.A.  | 97.40  |
| 0-90    | 22291.57 | N.A.  | 99.90  |
| 10-90   | 21548.19 | N.A.  | 96.60  |
| 20-40   | 7012.36  | N.A.  | 31.40  |
| 20-50   | 10955.95 | N.A.  | 49.10  |
| 40-70   | 10249.36 | N.A.  | 45.90  |
| 60-80   | 4350.21  | N.A.  | 19.50  |
| 70-80   | 1612.52  | N.A.  | 7.20   |
| 80-90   | 552.30   | N.A.  | 2.50   |
| 90-110  | 26.38    | N.A.  | 0.10   |
| 90-120  | 26.38    | N.A.  | 0.10   |
| 90-130  | 26.38    | N.A.  | 0.10   |
| 90-150  | 26.38    | N.A.  | 0.10   |
| 90-180  | 26.38    | N.A.  | 0.10   |
| 110-180 | 0.00     | N.A.  | 0.00   |
| 0-180   | 22317.95 | N.A.  | 100.00 |

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens  |
|---------|---------|
| 0-10    | 743.38  |
| 10-20   | 2121.65 |
| 20-30   | 3192.78 |
| 30-40   | 3819.59 |
| 40-50   | 3943.59 |
| 50-60   | 3568.08 |
| 60-70   | 2737.69 |
| 70-80   | 1612.52 |
| 80-90   | 552.30  |
| 90-100  | 26.38   |
| 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  | 108 | 103 | 99  | 95  | 106 | 101 | 97  | 94  | 97  | 94  | 91  | 93  | 90  | 88  | 89  | 87  | 85  | 83  |
| 2  | 98  | 90  | 83  | 77  | 96  | 88  | 82  | 76  | 85  | 79  | 74  | 81  | 77  | 73  | 78  | 74  | 71  | 69  |
| 3  | 90  | 79  | 71  | 64  | 87  | 77  | 70  | 63  | 74  | 68  | 62  | 72  | 66  | 61  | 69  | 64  | 60  | 58  |
| 4  | 82  | 70  | 61  | 54  | 80  | 69  | 60  | 54  | 66  | 59  | 53  | 64  | 57  | 52  | 61  | 56  | 52  | 49  |
| 5  | 75  | 62  | 53  | 47  | 73  | 61  | 53  | 46  | 59  | 52  | 46  | 57  | 51  | 45  | 55  | 49  | 45  | 43  |
| 6  | 70  | 56  | 47  | 41  | 68  | 55  | 47  | 41  | 53  | 46  | 40  | 52  | 45  | 40  | 50  | 44  | 39  | 37  |
| 7  | 65  | 51  | 42  | 36  | 63  | 50  | 42  | 36  | 49  | 41  | 36  | 47  | 40  | 35  | 46  | 40  | 35  | 33  |
| 8  | 60  | 47  | 38  | 32  | 59  | 46  | 38  | 32  | 44  | 37  | 32  | 43  | 36  | 32  | 42  | 36  | 31  | 29  |
| 9  | 56  | 43  | 34  | 29  | 55  | 42  | 34  | 29  | 41  | 34  | 29  | 40  | 33  | 28  | 39  | 33  | 28  | 26  |
| 10 | 53  | 39  | 31  | 26  | 51  | 39  | 31  | 26  | 38  | 31  | 26  | 37  | 30  | 26  | 36  | 30  | 26  | 24  |

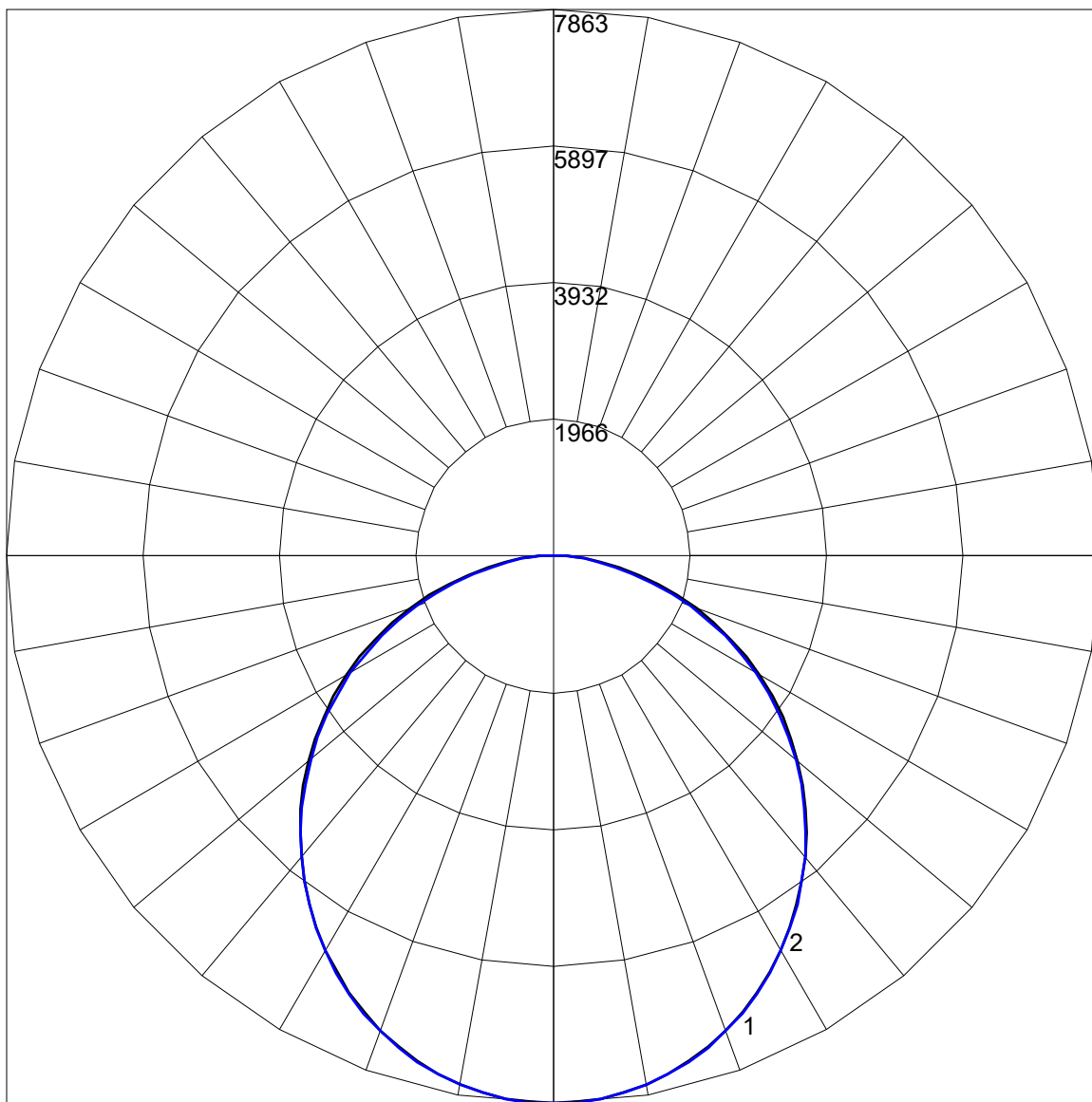
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**UGR TABLE - CORRECTED**

|                |      |                      |      |      |      |      |                    |      |      |      |      |
|----------------|------|----------------------|------|------|------|------|--------------------|------|------|------|------|
| 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 |      |      |      |      | UGR Viewed Endwise |      |      |      |      |
| X=2H           | Y=2H | 20.4                 | 22.1 | 20.8 | 22.4 | 22.7 | 20.3               | 22.0 | 20.7 | 22.3 | 22.6 |
|                | 3H   | 22.0                 | 23.5 | 22.4 | 23.8 | 24.2 | 21.8               | 23.3 | 22.2 | 23.6 | 24.0 |
|                | 4H   | 22.5                 | 23.9 | 22.9 | 24.2 | 24.6 | 22.3               | 23.7 | 22.7 | 24.1 | 24.4 |
|                | 6H   | 22.8                 | 24.1 | 23.2 | 24.5 | 24.9 | 22.6               | 23.9 | 23.0 | 24.3 | 24.7 |
|                | 8H   | 22.9                 | 24.1 | 23.3 | 24.5 | 24.9 | 22.7               | 23.9 | 23.1 | 24.3 | 24.7 |
|                | 12H  | 22.9                 | 24.1 | 23.4 | 24.5 | 24.9 | 22.7               | 23.9 | 23.1 | 24.3 | 24.7 |
| 4H             | 2H   | 20.9                 | 22.3 | 21.3 | 22.7 | 23.0 | 20.8               | 22.2 | 21.2 | 22.6 | 22.9 |
|                | 3H   | 22.6                 | 23.8 | 23.0 | 24.2 | 24.6 | 22.5               | 23.7 | 22.9 | 24.1 | 24.5 |
|                | 4H   | 23.2                 | 24.3 | 23.7 | 24.7 | 25.2 | 23.1               | 24.1 | 23.5 | 24.6 | 25.0 |
|                | 6H   | 23.7                 | 24.6 | 24.1 | 25.1 | 25.5 | 23.5               | 24.4 | 23.9 | 24.9 | 25.3 |
|                | 8H   | 23.8                 | 24.7 | 24.2 | 25.1 | 25.6 | 23.6               | 24.5 | 24.0 | 24.9 | 25.4 |
|                | 12H  | 23.8                 | 24.7 | 24.3 | 25.1 | 25.6 | 23.6               | 24.5 | 24.1 | 24.9 | 25.4 |
| 8H             | 4H   | 23.4                 | 24.3 | 23.9 | 24.8 | 25.2 | 23.3               | 24.2 | 23.7 | 24.6 | 25.1 |
|                | 6H   | 23.9                 | 24.7 | 24.4 | 25.2 | 25.6 | 23.7               | 24.5 | 24.2 | 25.0 | 25.5 |
|                | 8H   | 24.1                 | 24.8 | 24.6 | 25.3 | 25.7 | 23.9               | 24.6 | 24.4 | 25.1 | 25.6 |
|                | 12H  | 24.2                 | 24.8 | 24.7 | 25.3 | 25.8 | 24.0               | 24.6 | 24.5 | 25.1 | 25.7 |
| 12H            | 4H   | 23.4                 | 24.2 | 23.9 | 24.7 | 25.2 | 23.3               | 24.1 | 23.8 | 24.6 | 25.0 |
|                | 6H   | 24.0                 | 24.6 | 24.5 | 25.1 | 25.6 | 23.8               | 24.5 | 24.3 | 24.9 | 25.5 |
|                | 8H   | 24.2                 | 24.7 | 24.7 | 25.2 | 25.8 | 24.0               | 24.6 | 24.5 | 25.0 | 25.6 |

Maximum UGR = 25.8

POLAR GRAPH



Maximum Candela = 7863.172 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180)  
# 2 - Vertical Plane Through Horizontal Angles (90 - 270)