



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : CURV-4-LED-2080-FB-VHO-40.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
[TEST] L445 VHO NW 20 80  
[TESTLAB] Dekko  
[TESTDATE] 04-10-2017  
[ISSUE DATE] 9/2/2020  
[MANUFAC] LSI INDUSTRIES, INC.  
[LUMCAT] CURV-4-LED-2080-FB-VHO-40  
[OTHER] TEST PROCEDURE: IESNA LM-79-08  
[ABSOLUTE] NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED  
[OTHER] SCALED FROM ORIGINAL TEST DATA  
[SEARCH\_SOURCETYPE] LED  
[SEARCH\_APPLICATION] Indoor

**CHARACTERISTICS**

|                                 |                 |
|---------------------------------|-----------------|
| Lumens Per Lamp                 | N.A. (absolute) |
| Total Lamp Lumens               | N.A. (absolute) |
| Luminaire Lumens                | 3445            |
| Total Luminaire Efficiency      | N.A.            |
| Luminaire Efficacy Rating (LER) | 48              |
| Total Luminaire Watts           | 71.9            |
| Ballast Factor                  | 1.00            |
| CIE Type                        | Semi-Direct     |
| Spacing Criterion (0-180)       | 1.22            |
| Spacing Criterion (90-270)      | 1.16            |
| Spacing Criterion (Diagonal)    | 1.26            |
| Basic Luminous Shape            | Rectangular     |
| Luminous Length (0-180)         | 4.00 ft         |
| Luminous Width (90-270)         | 0.75 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                  | 3586             | 3210              | 3126              |
| 55                  | 2944             | 2286              | 1970              |
| 65                  | 2003             | 1207              | 887               |
| 75                  | 1053             | 632               | 569               |
| 85                  | 1231             | 1345              | 1330              |

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**CANDELA TABULATION**

|            | <u>0</u> | <u>10</u> | <u>20</u> | <u>30</u> | <u>40</u> | <u>50</u> | <u>60</u> | <u>70</u> | <u>80</u> | <u>90</u> |
|------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>0</b>   | 1237.721 | 1237.721  | 1237.721  | 1237.721  | 1237.721  | 1237.721  | 1237.721  | 1237.721  | 1237.721  | 1237.721  |
| <b>10</b>  | 1223.833 | 1221.099  | 1218.611  | 1217.204  | 1216.058  | 1211.816  | 1209.274  | 1206.690  | 1205.705  | 1205.206  |
| <b>20</b>  | 1145.174 | 1144.112  | 1142.359  | 1137.092  | 1130.064  | 1121.156  | 1114.525  | 1107.002  | 1103.304  | 1102.512  |
| <b>30</b>  | 1009.533 | 1008.071  | 999.065   | 981.620   | 971.855   | 962.339   | 962.553   | 959.226   | 956.797   | 956.858   |
| <b>40</b>  | 822.708  | 816.529   | 795.283   | 774.801   | 763.846   | 759.367   | 759.815   | 764.050   | 762.783   | 762.001   |
| <b>50</b>  | 592.046  | 582.848   | 555.392   | 531.559   | 511.844   | 498.178   | 484.585   | 476.452   | 473.277   | 471.181   |
| <b>60</b>  | 350.020  | 336.707   | 301.105   | 272.661   | 242.949   | 210.425   | 182.264   | 166.235   | 161.638   | 159.163   |
| <b>70</b>  | 122.233  | 114.807   | 97.882    | 75.045    | 60.261    | 55.395    | 52.219    | 50.713    | 49.915    | 49.933    |
| <b>80</b>  | 29.894   | 31.345    | 31.713    | 32.707    | 33.316    | 33.431    | 33.304    | 32.713    | 32.431    | 32.210    |
| <b>90</b>  | 29.945   | 31.162    | 31.891    | 32.211    | 32.145    | 31.897    | 31.825    | 31.743    | 32.165    | 32.447    |
| <b>100</b> | 82.988   | 71.703    | 63.511    | 62.508    | 62.547    | 63.825    | 61.509    | 59.022    | 55.841    | 55.419    |
| <b>110</b> | 156.182  | 147.274   | 127.219   | 109.095   | 105.314   | 95.862    | 89.745    | 84.099    | 81.026    | 79.731    |
| <b>120</b> | 196.058  | 193.364   | 176.145   | 159.953   | 138.333   | 126.691   | 120.196   | 117.280   | 111.242   | 110.280   |
| <b>130</b> | 215.778  | 216.483   | 203.057   | 191.243   | 180.046   | 172.121   | 163.125   | 152.342   | 141.612   | 141.907   |
| <b>140</b> | 226.839  | 229.435   | 226.612   | 216.192   | 207.578   | 201.845   | 196.808   | 182.418   | 179.711   | 180.478   |
| <b>150</b> | 236.086  | 237.959   | 237.584   | 236.978   | 226.439   | 218.487   | 204.872   | 200.801   | 200.793   | 201.492   |
| <b>160</b> | 228.593  | 231.464   | 230.237   | 226.864   | 222.588   | 219.523   | 217.840   | 217.967   | 218.027   | 218.362   |
| <b>170</b> | 219.178  | 220.712   | 221.664   | 223.508   | 224.196   | 225.054   | 226.163   | 226.601   | 226.952   | 226.775   |
| <b>180</b> | 224.595  | 224.595   | 224.595   | 224.595   | 224.595   | 224.595   | 224.595   | 224.595   | 224.595   | 224.595   |

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**ZONAL LUMEN SUMMARY**

| Zone    | Lumens  | %Lamp | %Fixt  |
|---------|---------|-------|--------|
| 0-20    | 448.40  | N.A.  | 13.00  |
| 0-30    | 934.62  | N.A.  | 27.10  |
| 0-40    | 1485.11 | N.A.  | 43.10  |
| 0-60    | 2323.34 | N.A.  | 67.40  |
| 0-80    | 2531.05 | N.A.  | 73.50  |
| 0-90    | 2566.1  | N.A.  | 74.50  |
| 10-90   | 2449.11 | N.A.  | 71.10  |
| 20-40   | 1036.71 | N.A.  | 30.10  |
| 20-50   | 1537.29 | N.A.  | 44.60  |
| 40-70   | 991.02  | N.A.  | 28.80  |
| 60-80   | 207.72  | N.A.  | 6.00   |
| 70-80   | 54.91   | N.A.  | 1.60   |
| 80-90   | 35.05   | N.A.  | 1.00   |
| 90-110  | 141.64  | N.A.  | 4.10   |
| 90-120  | 265.94  | N.A.  | 7.70   |
| 90-130  | 410.24  | N.A.  | 11.90  |
| 90-150  | 691.94  | N.A.  | 20.10  |
| 90-180  | 879.38  | N.A.  | 25.50  |
| 110-180 | 737.74  | N.A.  | 21.40  |
| 0-180   | 3445.48 | N.A.  | 100.00 |

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens |
|---------|--------|
| 0-10    | 116.99 |
| 10-20   | 331.41 |
| 20-30   | 486.22 |
| 30-40   | 550.50 |
| 40-50   | 500.57 |
| 50-60   | 337.65 |
| 60-70   | 152.80 |
| 70-80   | 54.91  |
| 80-90   | 35.05  |
| 90-100  | 51.88  |
| 100-110 | 89.76  |
| 110-120 | 124.30 |
| 120-130 | 144.31 |
| 130-140 | 148.14 |
| 140-150 | 133.56 |
| 150-160 | 102.62 |
| 160-170 | 63.40  |
| 170-180 | 21.42  |

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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  | 113 | 113 | 113 | 113 | 107 | 107 | 107 | 107 | 97 | 97 | 97 | 87 | 87 | 87 | 79 | 79 | 79 | 74 |
| 1  | 105 | 101 | 97  | 94  | 99  | 96  | 93  | 90  | 87 | 85 | 82 | 79 | 77 | 75 | 71 | 70 | 69 | 65 |
| 2  | 96  | 89  | 84  | 79  | 91  | 85  | 80  | 76  | 78 | 74 | 70 | 71 | 68 | 65 | 65 | 62 | 60 | 57 |
| 3  | 89  | 80  | 73  | 67  | 84  | 76  | 70  | 65  | 70 | 65 | 61 | 64 | 60 | 57 | 58 | 55 | 53 | 50 |
| 4  | 82  | 71  | 64  | 58  | 78  | 68  | 62  | 56  | 63 | 57 | 53 | 58 | 53 | 50 | 53 | 49 | 46 | 44 |
| 5  | 76  | 64  | 56  | 51  | 72  | 62  | 55  | 49  | 57 | 51 | 46 | 52 | 48 | 44 | 48 | 44 | 41 | 38 |
| 6  | 70  | 58  | 50  | 45  | 67  | 56  | 49  | 43  | 52 | 46 | 41 | 48 | 43 | 39 | 44 | 40 | 37 | 34 |
| 7  | 65  | 53  | 45  | 40  | 62  | 51  | 44  | 39  | 47 | 41 | 37 | 44 | 39 | 35 | 40 | 36 | 33 | 31 |
| 8  | 61  | 48  | 41  | 36  | 58  | 47  | 40  | 35  | 43 | 37 | 33 | 40 | 35 | 31 | 37 | 33 | 30 | 28 |
| 9  | 57  | 45  | 37  | 32  | 54  | 43  | 36  | 31  | 40 | 34 | 30 | 37 | 32 | 29 | 35 | 30 | 27 | 25 |
| 10 | 53  | 41  | 34  | 29  | 51  | 40  | 33  | 29  | 37 | 31 | 27 | 35 | 30 | 26 | 32 | 28 | 25 | 23 |

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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 | 13.2 | 14.2 | 13.9 | 14.9 | 15.8 | UGR Viewed Endwise |      |      |      |
|      | 3H   | 13.9 | 14.8 | 14.7 | 15.6 | 16.5 | 10.2               | 11.2 | 10.9 | 11.9 |
|      | 4H   | 14.1 | 15.0 | 14.9 | 15.7 | 16.6 | 10.5               | 11.4 | 11.2 | 12.2 |
|      | 6H   | 14.2 | 15.0 | 14.9 | 15.7 | 16.7 | 10.6               | 11.5 | 11.4 | 12.2 |
|      | 8H   | 14.2 | 15.0 | 15.0 | 15.7 | 16.7 | 10.8               | 11.6 | 11.6 | 12.4 |
|      | 12H  | 14.2 | 15.0 | 15.0 | 15.7 | 16.7 | 10.9               | 11.7 | 11.7 | 12.5 |
|      |      | 14.2 | 15.0 | 15.0 | 15.7 | 16.7 | 11.2               | 11.9 | 12.0 | 12.7 |

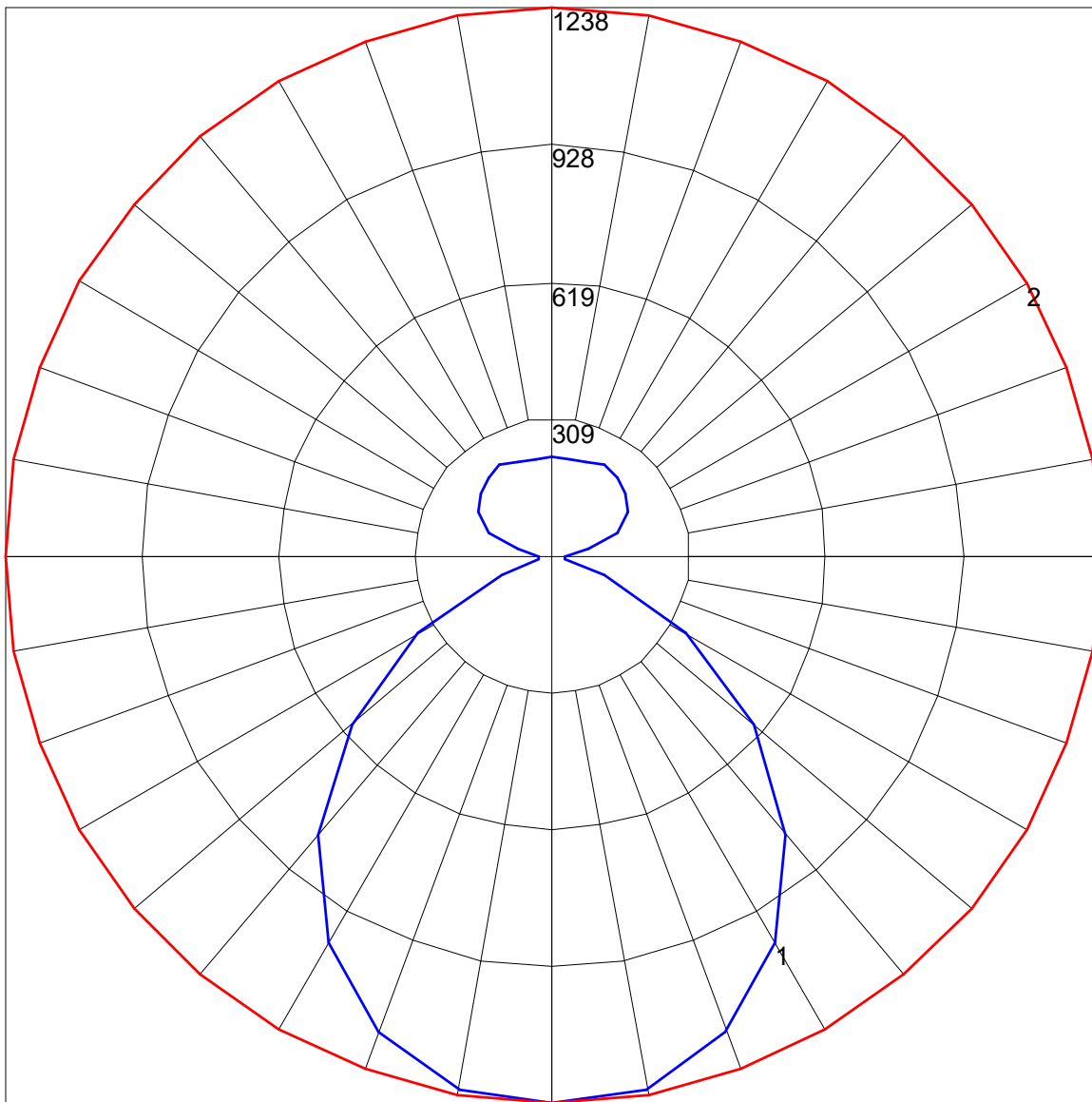
|    |     |      |      |      |      |      |      |      |      |      |
|----|-----|------|------|------|------|------|------|------|------|------|
| 4H | 2H  | 13.2 | 14.0 | 13.9 | 14.8 | 15.7 | 10.2 | 11.2 | 10.9 | 11.9 |
|    | 3H  | 13.9 | 14.7 | 14.7 | 15.5 | 16.4 | 10.5 | 11.4 | 11.2 | 12.2 |
|    | 4H  | 14.1 | 15.0 | 14.9 | 15.7 | 16.6 | 10.6 | 11.5 | 11.4 | 12.2 |
|    | 6H  | 14.2 | 15.0 | 14.9 | 15.7 | 16.7 | 10.8 | 11.6 | 11.6 | 12.4 |
|    | 8H  | 14.2 | 15.0 | 15.0 | 15.7 | 16.7 | 10.9 | 11.7 | 11.7 | 12.5 |
|    | 12H | 14.2 | 15.0 | 15.0 | 15.7 | 16.7 | 11.2 | 11.9 | 12.0 | 12.7 |

|    |     |      |      |      |      |      |      |      |      |      |
|----|-----|------|------|------|------|------|------|------|------|------|
| 8H | 4H  | 14.2 | 14.7 | 15.0 | 15.5 | 16.5 | 10.2 | 11.2 | 10.9 | 11.9 |
|    | 6H  | 14.3 | 14.8 | 15.2 | 15.6 | 16.6 | 10.5 | 11.4 | 11.2 | 12.2 |
|    | 8H  | 14.5 | 14.9 | 15.3 | 15.7 | 16.7 | 10.6 | 11.5 | 11.4 | 12.2 |
|    | 12H | 14.7 | 15.1 | 15.6 | 15.9 | 17.0 | 10.8 | 11.6 | 11.6 | 12.4 |

|     |    |      |      |      |      |      |      |      |      |      |
|-----|----|------|------|------|------|------|------|------|------|------|
| 12H | 4H | 14.1 | 14.6 | 14.9 | 15.4 | 16.4 | 10.2 | 11.2 | 10.9 | 11.9 |
|     | 6H | 14.3 | 14.7 | 15.2 | 15.6 | 16.6 | 10.5 | 11.4 | 11.2 | 12.2 |
|     | 8H | 14.5 | 14.9 | 15.4 | 15.7 | 16.7 | 10.6 | 11.5 | 11.4 | 12.2 |

Maximum UGR = 17.0

POLAR GRAPH



Maximum Candela = 1237.721 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)