



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MR16LED_12V_2W.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST]

[TESTLAB] EVERFINE

[ISSUE DATE] 10/10/2016

[MANUFAC] BeLuce Canada Inc.

[LAMP] MR16LED Lamp 12V 2W

[MORE] BeLuce REMOTE HEAD CAT

[MORE] LUMEN RATING = 183.7 LMS

[OTHER] EVERFINE GO-2000A_V1 SYSTEM

[OTHER] Gamma(deg) Fz(lm) Ft(lm) %Lum %Lamp

[OTHER] 0- 10 36.50 36.50 19.87 19.87

[OTHER] 10- 20 62.25 98.76 53.76 53.76

[OTHER] 20- 30 40.38 139.14 75.74 75.74

[OTHER] 30- 40 21.03 160.16 87.19 87.19

[OTHER] 40- 50 11.19 171.35 93.28 93.28

[OTHER] 50- 60 6.34 177.69 96.73 96.73

[OTHER] 60- 70 4.19 181.88 99.01 99.01

[OTHER] 70- 80 1.48 183.36 99.81 99.81

[OTHER] 80- 90 0.34 183.70 100.00 100.00

[OTHER] 90-100 0.00 183.70 100.00 100.00

[OTHER] 100-110 0.00 183.70 100.00 100.00

[OTHER] 110-120 0.00 183.70 100.00 100.00

[OTHER] 120-130 0.00 183.70 100.00 100.00

[OTHER] 130-140 0.00 183.70 100.00 100.00

[OTHER] 140-150 0.00 183.70 100.00 100.00

[OTHER] 150-160 0.00 183.70 100.00 100.00

[OTHER] 160-170 0.00 183.70 100.00 100.00

[OTHER] 170-180 0.00 183.70 100.00 100.00

[OTHER]

CHARACTERISTICS

Lumens Per Lamp 183.7 (1 lamp)

Total Lamp Lumens 183.7

Luminaire Lumens 184

Total Luminaire Efficiency 100 %

Luminaire Efficacy Rating (LER) 92

Total Luminaire Watts 2

Ballast Factor 1.00

CIE Type Direct

Spacing Criterion (0-180) 0.52

Spacing Criterion (90-270) 0.52

Spacing Criterion (Diagonal) 0.54

Basic Luminous Shape Circular

Luminous Length (0-180) 0.03 m (Diameter)

Luminous Width (90-270) 0.03 m (Diameter)

Luminous Height 0.00 m

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LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 35102 | 30074 | 30281 |
| 55 | 20632 | 18057 | 18594 |
| 65 | 16939 | 14942 | 15633 |
| 75 | 9220 | 6335 | 7903 |
| 85 | 5774 | 5774 | 5401 |

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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> | <u>202.5</u> |
|----|------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|
| 0 | 448.42 | 448.42 | 448.42 | 448.42 | 448.42 | 448.42 | 448.42 | 448.42 | 448.42 | 448.42 |
| 1 | 447.64 | 447.65 | 446.82 | 445.90 | 448.45 | 447.59 | 447.11 | 446.11 | 446.13 | 446.05 |
| 2 | 443.74 | 443.71 | 442.01 | 440.61 | 445.77 | 443.75 | 442.75 | 440.61 | 440.86 | 440.67 |
| 3 | 436.80 | 436.75 | 434.18 | 431.96 | 439.98 | 436.83 | 434.96 | 432.14 | 432.37 | 432.44 |
| 4 | 427.38 | 427.07 | 422.75 | 420.15 | 430.68 | 426.70 | 424.18 | 420.11 | 420.39 | 421.56 |
| 5 | 416.82 | 414.53 | 408.99 | 405.85 | 418.23 | 413.16 | 411.15 | 405.94 | 406.52 | 408.10 |
| 6 | 402.83 | 400.08 | 393.45 | 389.35 | 403.80 | 398.11 | 395.05 | 390.39 | 390.89 | 392.68 |
| 7 | 386.96 | 383.98 | 376.91 | 371.80 | 387.33 | 381.02 | 377.96 | 373.38 | 372.90 | 376.18 |
| 8 | 370.18 | 366.85 | 358.77 | 353.15 | 369.28 | 363.31 | 359.86 | 354.95 | 355.19 | 358.57 |
| 9 | 352.26 | 348.94 | 339.51 | 333.97 | 349.96 | 343.87 | 340.74 | 334.96 | 336.55 | 339.89 |
| 10 | 333.24 | 329.71 | 319.77 | 314.06 | 330.57 | 324.09 | 320.07 | 315.16 | 316.47 | 321.54 |
| 11 | 314.78 | 309.83 | 299.97 | 293.94 | 310.49 | 303.42 | 300.08 | 295.08 | 296.27 | 301.52 |
| 12 | 294.55 | 289.90 | 279.99 | 273.82 | 290.60 | 283.00 | 280.39 | 275.27 | 277.73 | 282.00 |
| 13 | 273.01 | 269.88 | 259.29 | 253.00 | 270.65 | 263.25 | 260.21 | 255.95 | 258.03 | 262.73 |
| 14 | 254.23 | 248.91 | 240.30 | 232.19 | 249.94 | 243.95 | 240.25 | 236.64 | 238.33 | 243.39 |
| 15 | 233.28 | 227.94 | 221.08 | 213.51 | 229.25 | 224.73 | 220.29 | 217.40 | 218.64 | 224.25 |
| 16 | 214.41 | 209.10 | 202.27 | 195.32 | 210.63 | 205.93 | 202.38 | 199.25 | 200.55 | 205.41 |
| 17 | 196.43 | 191.08 | 184.39 | 177.81 | 192.94 | 188.61 | 184.55 | 182.24 | 182.72 | 187.98 |
| 18 | 178.63 | 174.15 | 168.29 | 161.62 | 176.09 | 171.74 | 167.95 | 165.63 | 166.09 | 171.43 |
| 19 | 163.09 | 158.27 | 152.82 | 146.31 | 160.22 | 156.20 | 152.80 | 150.48 | 151.38 | 155.60 |
| 20 | 148.13 | 143.25 | 138.03 | 132.08 | 144.90 | 141.14 | 138.24 | 136.00 | 136.64 | 140.92 |
| 21 | 134.00 | 129.46 | 124.50 | 119.15 | 130.79 | 127.56 | 124.56 | 123.02 | 123.05 | 127.78 |
| 22 | 121.50 | 116.96 | 110.99 | 107.40 | 117.92 | 113.99 | 112.10 | 110.05 | 111.14 | 114.66 |
| 23 | 109.01 | 105.62 | 99.87 | 96.64 | 106.03 | 102.52 | 101.17 | 99.10 | 100.40 | 103.39 |
| 24 | 98.38 | 95.14 | 89.75 | 86.89 | 95.25 | 92.28 | 90.86 | 89.22 | 90.25 | 93.33 |
| 25 | 88.89 | 85.64 | 80.79 | 78.08 | 85.61 | 82.79 | 81.35 | 80.19 | 81.16 | 84.16 |
| 26 | 80.52 | 77.22 | 72.88 | 70.15 | 77.01 | 74.48 | 73.30 | 72.09 | 73.21 | 75.96 |
| 27 | 73.09 | 69.89 | 65.88 | 63.18 | 69.22 | 67.10 | 65.91 | 64.85 | 65.92 | 68.48 |
| 28 | 66.03 | 63.14 | 59.30 | 56.81 | 62.38 | 60.43 | 59.17 | 58.44 | 59.46 | 61.87 |
| 29 | 59.95 | 57.07 | 53.71 | 51.13 | 56.17 | 54.47 | 53.10 | 52.73 | 53.67 | 56.00 |
| 30 | 54.68 | 51.72 | 48.62 | 46.19 | 50.78 | 49.12 | 47.88 | 47.59 | 48.61 | 50.84 |
| 31 | 49.79 | 46.94 | 44.10 | 41.79 | 45.95 | 44.34 | 43.32 | 43.05 | 43.92 | 46.23 |
| 32 | 45.49 | 42.65 | 39.94 | 38.04 | 41.55 | 40.08 | 39.18 | 38.97 | 39.87 | 42.06 |
| 33 | 41.48 | 38.83 | 36.33 | 34.58 | 37.63 | 36.38 | 35.47 | 35.32 | 36.15 | 38.26 |
| 34 | 37.89 | 35.43 | 33.27 | 31.50 | 34.25 | 33.06 | 32.18 | 32.09 | 32.82 | 34.85 |
| 35 | 34.68 | 32.37 | 30.37 | 28.62 | 31.10 | 29.98 | 29.21 | 29.29 | 29.82 | 31.78 |
| 36 | 31.96 | 29.68 | 27.59 | 26.17 | 28.33 | 27.34 | 26.57 | 26.68 | 27.22 | 29.03 |
| 37 | 29.33 | 27.15 | 25.27 | 23.99 | 25.81 | 24.96 | 24.23 | 24.30 | 24.88 | 26.63 |
| 38 | 26.98 | 24.84 | 23.13 | 22.01 | 23.61 | 22.77 | 22.14 | 22.14 | 22.73 | 24.43 |
| 39 | 24.83 | 22.85 | 21.20 | 20.26 | 21.57 | 20.85 | 20.23 | 20.19 | 20.80 | 22.34 |
| 40 | 22.81 | 21.02 | 19.48 | 18.66 | 19.79 | 19.13 | 18.58 | 18.49 | 19.04 | 20.50 |
| 41 | 21.02 | 19.32 | 17.98 | 17.18 | 18.19 | 17.55 | 17.11 | 16.95 | 17.42 | 18.84 |
| 42 | 19.38 | 17.94 | 16.58 | 15.85 | 16.79 | 16.17 | 15.71 | 15.63 | 16.03 | 17.29 |
| 43 | 17.93 | 16.53 | 15.27 | 14.65 | 15.47 | 14.86 | 14.48 | 14.35 | 14.82 | 15.93 |
| 44 | 16.55 | 15.26 | 14.11 | 13.53 | 14.27 | 13.75 | 13.37 | 13.21 | 13.73 | 14.71 |
| 45 | 15.29 | 14.09 | 13.10 | 12.51 | 13.19 | 12.73 | 12.38 | 12.22 | 12.77 | 13.63 |
| 46 | 14.14 | 13.04 | 12.13 | 11.63 | 12.23 | 11.76 | 11.43 | 11.29 | 11.79 | 12.58 |
| 47 | 13.14 | 12.12 | 11.22 | 10.80 | 11.34 | 10.89 | 10.58 | 10.47 | 10.86 | 11.62 |
| 48 | 12.19 | 11.20 | 10.44 | 10.00 | 10.59 | 10.16 | 9.85 | 9.73 | 10.15 | 10.82 |
| 49 | 11.26 | 10.40 | 9.66 | 9.27 | 9.87 | 9.47 | 9.15 | 9.05 | 9.42 | 10.07 |
| 50 | 10.48 | 9.64 | 8.97 | 8.62 | 9.18 | 8.83 | 8.50 | 8.40 | 8.76 | 9.36 |
| 51 | 9.75 | 8.98 | 8.32 | 8.07 | 8.53 | 8.21 | 7.92 | 7.77 | 8.18 | 8.67 |
| 52 | 9.04 | 8.31 | 7.75 | 7.56 | 7.92 | 7.64 | 7.43 | 7.28 | 7.67 | 8.11 |
| 53 | 8.40 | 7.73 | 7.30 | 7.14 | 7.42 | 7.17 | 6.98 | 6.85 | 7.20 | 7.54 |

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CANDELA TABULATION - (Cont.)

| | | | | | | | | | | |
|----|------|------|------|------|------|------|------|------|------|------|
| 54 | 7.82 | 7.23 | 6.86 | 6.76 | 6.99 | 6.73 | 6.59 | 6.46 | 6.77 | 7.09 |
| 55 | 7.29 | 6.82 | 6.38 | 6.38 | 6.57 | 6.37 | 6.22 | 6.08 | 6.39 | 6.70 |
| 56 | 6.86 | 6.40 | 5.99 | 6.06 | 6.17 | 6.02 | 5.90 | 5.76 | 6.10 | 6.35 |
| 57 | 6.47 | 6.03 | 5.69 | 5.83 | 5.83 | 5.72 | 5.68 | 5.52 | 5.84 | 6.06 |
| 58 | 6.15 | 5.75 | 5.51 | 5.64 | 5.55 | 5.51 | 5.50 | 5.30 | 5.66 | 5.82 |
| 59 | 5.93 | 5.52 | 5.29 | 5.55 | 5.35 | 5.35 | 5.36 | 5.07 | 5.44 | 5.63 |
| 60 | 5.75 | 5.34 | 4.98 | 5.38 | 5.16 | 5.21 | 5.16 | 4.81 | 5.20 | 5.49 |
| 61 | 5.57 | 5.12 | 4.71 | 5.13 | 4.99 | 5.05 | 4.92 | 4.51 | 4.94 | 5.37 |
| 62 | 5.37 | 4.78 | 4.44 | 4.86 | 4.83 | 4.88 | 4.67 | 4.30 | 4.69 | 5.10 |
| 63 | 5.07 | 4.49 | 4.25 | 4.65 | 4.65 | 4.61 | 4.51 | 4.17 | 4.49 | 4.73 |
| 64 | 4.68 | 4.29 | 4.07 | 4.49 | 4.38 | 4.31 | 4.32 | 4.06 | 4.31 | 4.45 |
| 65 | 4.41 | 4.14 | 3.89 | 4.35 | 4.07 | 4.05 | 4.14 | 3.93 | 4.16 | 4.26 |
| 66 | 4.19 | 3.99 | 3.74 | 4.17 | 3.66 | 3.65 | 3.98 | 3.79 | 4.03 | 3.98 |
| 67 | 4.01 | 3.84 | 3.60 | 3.96 | 3.24 | 3.24 | 3.84 | 3.63 | 3.88 | 3.37 |
| 68 | 3.57 | 3.69 | 3.44 | 3.51 | 2.94 | 2.95 | 3.59 | 3.46 | 3.70 | 2.99 |
| 69 | 3.07 | 3.51 | 3.27 | 3.06 | 2.71 | 2.72 | 3.10 | 3.29 | 3.23 | 2.73 |
| 70 | 2.77 | 3.26 | 3.08 | 2.71 | 2.51 | 2.52 | 2.73 | 3.13 | 2.67 | 2.54 |
| 71 | 2.55 | 2.72 | 2.62 | 2.35 | 2.32 | 2.35 | 2.42 | 2.46 | 2.35 | 2.35 |
| 72 | 2.34 | 2.27 | 2.00 | 2.02 | 2.16 | 2.18 | 2.15 | 1.64 | 2.11 | 2.16 |
| 73 | 2.08 | 1.98 | 1.39 | 1.68 | 1.98 | 2.00 | 1.76 | 1.34 | 1.56 | 1.96 |
| 74 | 1.86 | 1.41 | 1.15 | 1.16 | 1.78 | 1.63 | 1.26 | 1.16 | 1.21 | 1.57 |
| 75 | 1.47 | 1.12 | 1.01 | 0.98 | 1.26 | 1.21 | 1.09 | 1.03 | 1.04 | 1.18 |
| 76 | 1.09 | 0.99 | 0.88 | 0.85 | 1.05 | 1.06 | 0.95 | 0.89 | 0.90 | 1.03 |
| 77 | 0.96 | 0.85 | 0.77 | 0.75 | 0.92 | 0.93 | 0.87 | 0.77 | 0.81 | 0.90 |
| 78 | 0.84 | 0.74 | 0.67 | 0.65 | 0.80 | 0.81 | 0.73 | 0.71 | 0.75 | 0.77 |
| 79 | 0.75 | 0.67 | 0.64 | 0.55 | 0.68 | 0.70 | 0.61 | 0.68 | 0.60 | 0.65 |
| 80 | 0.65 | 0.60 | 0.62 | 0.50 | 0.60 | 0.59 | 0.59 | 0.48 | 0.58 | 0.56 |
| 81 | 0.57 | 0.54 | 0.45 | 0.39 | 0.61 | 0.51 | 0.46 | 0.41 | 0.42 | 0.48 |
| 82 | 0.55 | 0.40 | 0.38 | 0.32 | 0.42 | 0.42 | 0.35 | 0.36 | 0.36 | 0.38 |
| 83 | 0.39 | 0.33 | 0.34 | 0.29 | 0.33 | 0.37 | 0.31 | 0.33 | 0.32 | 0.34 |
| 84 | 0.33 | 0.32 | 0.32 | 0.29 | 0.30 | 0.34 | 0.30 | 0.33 | 0.31 | 0.32 |
| 85 | 0.31 | 0.30 | 0.31 | 0.27 | 0.29 | 0.32 | 0.29 | 0.33 | 0.31 | 0.30 |
| 86 | 0.30 | 0.29 | 0.30 | 0.26 | 0.29 | 0.30 | 0.26 | 0.30 | 0.29 | 0.29 |
| 87 | 0.29 | 0.27 | 0.26 | 0.20 | 0.26 | 0.26 | 0.22 | 0.24 | 0.24 | 0.27 |
| 88 | 0.26 | 0.22 | 0.19 | 0.15 | 0.20 | 0.20 | 0.17 | 0.17 | 0.17 | 0.20 |
| 89 | 0.19 | 0.16 | 0.15 | 0.15 | 0.15 | 0.16 | 0.17 | 0.16 | 0.16 | 0.16 |
| 90 | 0.15 | 0.14 | 0.17 | 0.18 | 0.15 | 0.19 | 0.20 | 0.20 | 0.20 | 0.18 |

Vert. Angles **Horizontal Angles**

| | <u>225.0</u> | <u>247.5</u> | <u>270.0</u> | <u>292.5</u> | <u>315.0</u> | <u>337.5</u> | <u>360.0</u> |
|----|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 0 | 448.42 | 448.42 | 448.42 | 448.42 | 448.42 | 448.42 | 448.42 |
| 1 | 447.28 | 447.90 | 445.45 | 446.24 | 446.70 | 447.83 | 447.64 |
| 2 | 443.06 | 444.46 | 439.54 | 441.44 | 442.19 | 443.95 | 443.74 |
| 3 | 436.48 | 438.43 | 431.74 | 433.82 | 435.00 | 437.25 | 436.80 |
| 4 | 427.18 | 430.02 | 421.53 | 424.30 | 425.53 | 428.63 | 427.38 |
| 5 | 415.53 | 418.70 | 408.90 | 412.29 | 414.82 | 417.57 | 416.82 |
| 6 | 400.69 | 405.20 | 394.41 | 398.47 | 400.65 | 404.15 | 402.83 |
| 7 | 385.13 | 389.48 | 377.57 | 382.30 | 384.30 | 388.16 | 386.96 |
| 8 | 368.27 | 372.75 | 360.05 | 364.63 | 367.59 | 371.23 | 370.18 |
| 9 | 349.78 | 354.83 | 341.70 | 346.54 | 348.40 | 353.49 | 352.26 |
| 10 | 330.46 | 336.79 | 322.40 | 327.76 | 330.59 | 335.04 | 333.24 |
| 11 | 311.47 | 317.79 | 302.89 | 308.36 | 311.35 | 315.01 | 314.78 |
| 12 | 292.48 | 298.30 | 283.80 | 288.94 | 290.79 | 295.21 | 294.55 |
| 13 | 272.72 | 278.58 | 263.93 | 269.50 | 272.01 | 276.02 | 273.01 |
| 14 | 252.45 | 259.23 | 244.53 | 249.38 | 252.61 | 255.60 | 254.23 |

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CANDELA TABULATION - (Cont.)

| | | | | | | | |
|----|--------|--------|--------|--------|--------|--------|--------|
| 15 | 232.17 | 240.04 | 225.55 | 229.27 | 232.70 | 235.18 | 233.28 |
| 16 | 213.68 | 221.55 | 207.79 | 210.84 | 215.06 | 216.08 | 214.41 |
| 17 | 195.42 | 203.66 | 190.27 | 193.16 | 196.48 | 197.95 | 196.43 |
| 18 | 178.63 | 185.86 | 173.90 | 176.94 | 179.71 | 181.32 | 178.63 |
| 19 | 163.49 | 169.80 | 158.90 | 161.65 | 164.54 | 165.42 | 163.09 |
| 20 | 148.17 | 154.68 | 144.88 | 147.29 | 149.72 | 150.29 | 148.13 |
| 21 | 134.07 | 140.47 | 131.54 | 133.84 | 135.81 | 136.35 | 134.00 |
| 22 | 121.50 | 127.48 | 117.63 | 121.56 | 123.56 | 123.78 | 121.50 |
| 23 | 110.06 | 114.49 | 106.91 | 110.53 | 111.32 | 112.47 | 109.01 |
| 24 | 99.26 | 103.87 | 96.87 | 100.38 | 100.71 | 102.00 | 98.38 |
| 25 | 89.66 | 94.17 | 87.80 | 90.85 | 91.40 | 92.32 | 88.89 |
| 26 | 81.31 | 85.23 | 79.59 | 82.43 | 83.07 | 83.94 | 80.52 |
| 27 | 73.53 | 76.95 | 72.49 | 75.10 | 75.60 | 76.49 | 73.09 |
| 28 | 66.57 | 69.82 | 66.18 | 68.33 | 68.54 | 69.48 | 66.03 |
| 29 | 60.45 | 63.12 | 60.39 | 62.22 | 62.47 | 63.30 | 59.95 |
| 30 | 54.99 | 57.28 | 55.18 | 57.02 | 57.17 | 57.89 | 54.68 |
| 31 | 49.97 | 52.08 | 50.36 | 52.10 | 52.01 | 52.73 | 49.79 |
| 32 | 45.48 | 47.42 | 46.01 | 47.70 | 47.74 | 48.13 | 45.49 |
| 33 | 41.49 | 43.39 | 42.10 | 43.71 | 43.64 | 43.98 | 41.48 |
| 34 | 37.91 | 39.72 | 38.65 | 40.10 | 40.08 | 40.40 | 37.89 |
| 35 | 34.63 | 36.53 | 35.48 | 36.71 | 36.85 | 37.04 | 34.68 |
| 36 | 31.59 | 33.53 | 32.58 | 33.70 | 34.04 | 33.93 | 31.96 |
| 37 | 28.93 | 30.81 | 29.86 | 30.87 | 31.37 | 31.06 | 29.33 |
| 38 | 26.51 | 28.21 | 27.39 | 28.35 | 28.79 | 28.57 | 26.98 |
| 39 | 24.36 | 25.98 | 25.12 | 26.16 | 26.47 | 26.28 | 24.83 |
| 40 | 22.38 | 23.98 | 23.11 | 24.09 | 24.45 | 24.15 | 22.81 |
| 41 | 20.57 | 22.05 | 21.27 | 22.16 | 22.55 | 22.30 | 21.02 |
| 42 | 18.96 | 20.36 | 19.54 | 20.45 | 20.86 | 20.69 | 19.38 |
| 43 | 17.52 | 18.74 | 18.03 | 18.79 | 19.23 | 19.10 | 17.93 |
| 44 | 16.13 | 17.25 | 16.65 | 17.31 | 17.77 | 17.68 | 16.55 |
| 45 | 14.88 | 15.90 | 15.34 | 15.96 | 16.45 | 16.43 | 15.29 |
| 46 | 13.75 | 14.68 | 14.18 | 14.73 | 15.23 | 15.22 | 14.14 |
| 47 | 12.73 | 13.61 | 13.12 | 13.63 | 14.04 | 14.11 | 13.14 |
| 48 | 11.81 | 12.60 | 12.14 | 12.62 | 13.02 | 13.15 | 12.19 |
| 49 | 10.95 | 11.69 | 11.18 | 11.67 | 12.01 | 12.14 | 11.26 |
| 50 | 10.19 | 10.80 | 10.37 | 10.79 | 11.15 | 11.24 | 10.48 |
| 51 | 9.41 | 9.98 | 9.60 | 10.00 | 10.32 | 10.39 | 9.75 |
| 52 | 8.75 | 9.24 | 8.84 | 9.24 | 9.55 | 9.60 | 9.04 |
| 53 | 8.11 | 8.57 | 8.23 | 8.58 | 8.83 | 8.93 | 8.40 |
| 54 | 7.59 | 8.00 | 7.66 | 7.98 | 8.17 | 8.27 | 7.82 |
| 55 | 7.10 | 7.53 | 7.13 | 7.47 | 7.60 | 7.66 | 7.29 |
| 56 | 6.64 | 7.07 | 6.68 | 6.98 | 7.19 | 7.08 | 6.86 |
| 57 | 6.28 | 6.71 | 6.28 | 6.56 | 6.81 | 6.66 | 6.47 |
| 58 | 6.04 | 6.40 | 6.00 | 6.22 | 6.48 | 6.32 | 6.15 |
| 59 | 5.85 | 6.20 | 5.77 | 5.96 | 6.27 | 6.04 | 5.93 |
| 60 | 5.70 | 6.07 | 5.48 | 5.72 | 6.16 | 5.82 | 5.75 |
| 61 | 5.57 | 5.91 | 5.15 | 5.45 | 6.03 | 5.64 | 5.57 |
| 62 | 5.46 | 5.67 | 4.82 | 5.09 | 5.81 | 5.46 | 5.37 |
| 63 | 5.35 | 5.34 | 4.57 | 4.79 | 5.45 | 5.33 | 5.07 |
| 64 | 5.11 | 5.01 | 4.35 | 4.60 | 5.07 | 5.18 | 4.68 |
| 65 | 4.54 | 4.79 | 4.16 | 4.39 | 4.82 | 4.81 | 4.41 |
| 66 | 3.84 | 4.60 | 3.95 | 4.16 | 4.60 | 4.02 | 4.19 |
| 67 | 3.34 | 4.42 | 3.73 | 3.93 | 4.40 | 3.36 | 4.01 |
| 68 | 3.00 | 4.22 | 3.52 | 3.74 | 4.09 | 2.95 | 3.57 |
| 69 | 2.76 | 3.61 | 3.30 | 3.54 | 3.47 | 2.71 | 3.07 |
| 70 | 2.55 | 3.04 | 3.13 | 3.29 | 3.04 | 2.50 | 2.77 |

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CANDELA TABULATION - (Cont.)

| | | | | | | | |
|----|------|------|------|------|------|------|------|
| 71 | 2.37 | 2.69 | 2.58 | 2.81 | 2.76 | 2.31 | 2.55 |
| 72 | 2.20 | 2.36 | 2.06 | 2.27 | 2.41 | 2.15 | 2.34 |
| 73 | 2.02 | 2.07 | 1.44 | 1.89 | 2.08 | 1.98 | 2.08 |
| 74 | 1.85 | 1.82 | 1.14 | 1.22 | 1.81 | 1.82 | 1.86 |
| 75 | 1.43 | 1.31 | 0.99 | 0.99 | 1.26 | 1.68 | 1.47 |
| 76 | 1.06 | 1.02 | 0.88 | 0.84 | 0.95 | 1.13 | 1.09 |
| 77 | 0.94 | 0.90 | 0.75 | 0.72 | 0.82 | 0.94 | 0.96 |
| 78 | 0.82 | 0.79 | 0.63 | 0.63 | 0.72 | 0.83 | 0.84 |
| 79 | 0.71 | 0.69 | 0.58 | 0.56 | 0.64 | 0.72 | 0.75 |
| 80 | 0.60 | 0.62 | 0.52 | 0.51 | 0.57 | 0.62 | 0.65 |
| 81 | 0.50 | 0.53 | 0.44 | 0.44 | 0.50 | 0.52 | 0.57 |
| 82 | 0.43 | 0.48 | 0.36 | 0.35 | 0.45 | 0.44 | 0.55 |
| 83 | 0.35 | 0.39 | 0.31 | 0.31 | 0.35 | 0.36 | 0.39 |
| 84 | 0.32 | 0.34 | 0.30 | 0.28 | 0.31 | 0.29 | 0.33 |
| 85 | 0.32 | 0.32 | 0.29 | 0.28 | 0.30 | 0.27 | 0.31 |
| 86 | 0.31 | 0.32 | 0.28 | 0.28 | 0.29 | 0.26 | 0.30 |
| 87 | 0.29 | 0.31 | 0.27 | 0.27 | 0.29 | 0.25 | 0.29 |
| 88 | 0.24 | 0.28 | 0.21 | 0.23 | 0.26 | 0.22 | 0.26 |
| 89 | 0.18 | 0.23 | 0.17 | 0.18 | 0.20 | 0.18 | 0.19 |
| 90 | 0.18 | 0.18 | 0.18 | 0.19 | 0.18 | 0.15 | 0.15 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : MR16LED_12V_2W.IES

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|--------|--------|--------|
| 0-20 | 98.76 | 53.80 | 53.80 |
| 0-30 | 139.14 | 75.70 | 75.70 |
| 0-40 | 160.16 | 87.20 | 87.20 |
| 0-60 | 177.69 | 96.70 | 96.70 |
| 0-80 | 183.36 | 99.80 | 99.80 |
| 0-90 | 183.70 | 100.00 | 100.00 |
| 10-90 | 147.20 | 80.10 | 80.10 |
| 20-40 | 61.41 | 33.40 | 33.40 |
| 20-50 | 72.59 | 39.50 | 39.50 |
| 40-70 | 21.72 | 11.80 | 11.80 |
| 60-80 | 5.67 | 3.10 | 3.10 |
| 70-80 | 1.48 | 0.80 | 0.80 |
| 80-90 | 0.34 | 0.20 | 0.20 |
| 90-110 | 0.00 | 0.00 | 0.00 |
| 90-120 | 0.00 | 0.00 | 0.00 |
| 90-130 | 0.00 | 0.00 | 0.00 |
| 90-150 | 0.00 | 0.00 | 0.00 |
| 90-180 | 0.00 | 0.00 | 0.00 |
| 110-180 | 0.00 | 0.00 | 0.00 |
| 0-180 | 183.70 | 100.00 | 100.00 |

Total Luminaire Efficiency = 100.00%

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 36.50 |
| 10-20 | 62.25 |
| 20-30 | 40.38 |
| 30-40 | 21.03 |
| 40-50 | 11.19 |
| 50-60 | 6.34 |
| 60-70 | 4.19 |
| 70-80 | 1.48 |
| 80-90 | 0.34 |
| 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 |

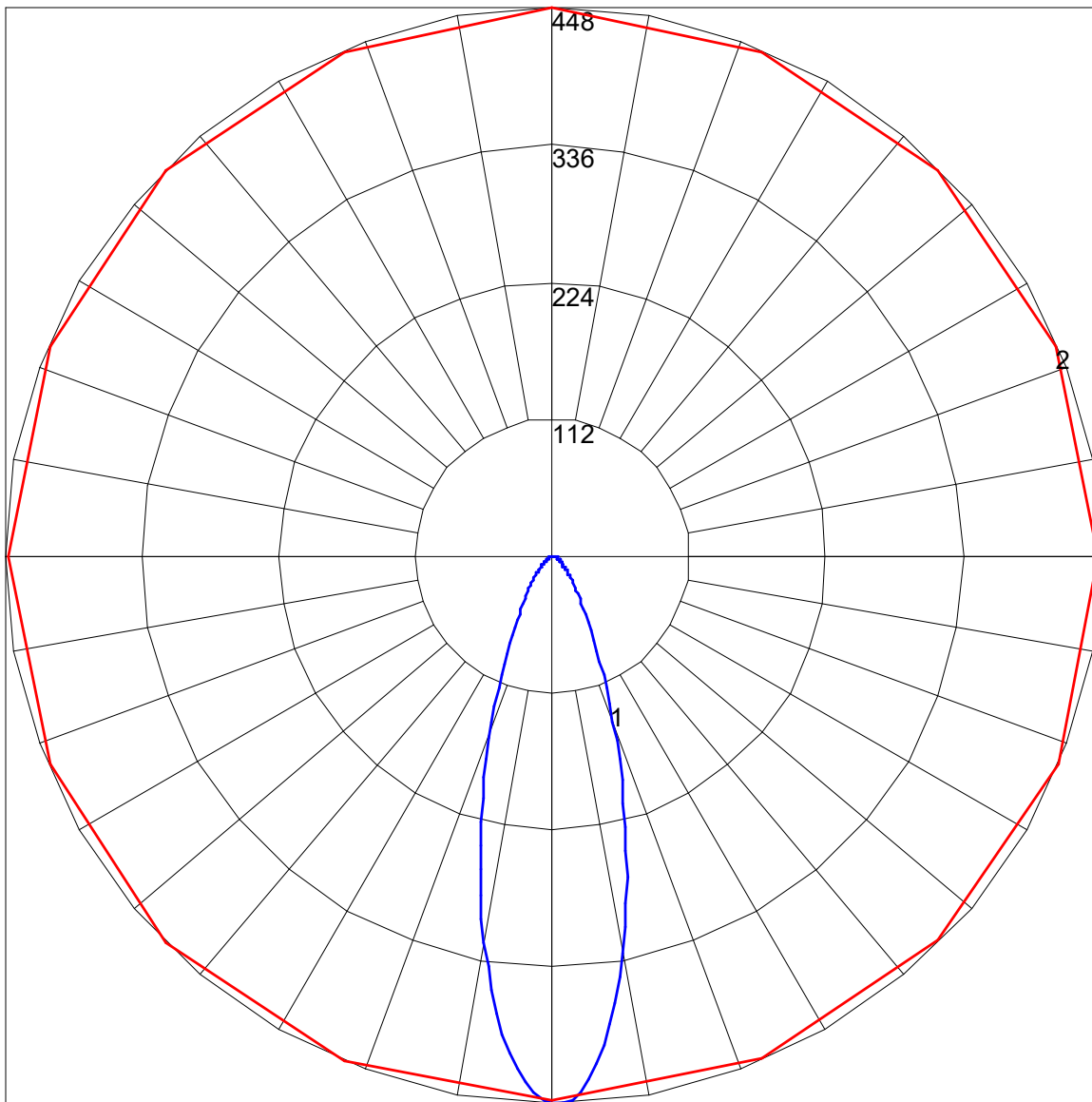
IES INDOOR REPORT
PHOTOMETRIC FILENAME : MR16LED_12V_2W.IES

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 | 114 | 111 | 108 | 106 | 111 | 109 | 106 | 104 | 105 | 103 | 101 | 101 | 99 | 98 | 97 | 96 | 95 | 94 |
| 2 | 108 | 103 | 99 | 96 | 106 | 102 | 98 | 95 | 98 | 95 | 93 | 95 | 93 | 91 | 93 | 91 | 89 | 87 |
| 3 | 103 | 97 | 92 | 88 | 101 | 95 | 91 | 87 | 93 | 89 | 86 | 90 | 87 | 85 | 88 | 86 | 83 | 82 |
| 4 | 98 | 91 | 86 | 82 | 96 | 90 | 85 | 81 | 88 | 83 | 80 | 86 | 82 | 79 | 84 | 81 | 78 | 77 |
| 5 | 94 | 86 | 80 | 76 | 92 | 85 | 80 | 76 | 83 | 79 | 75 | 82 | 78 | 75 | 80 | 77 | 74 | 73 |
| 6 | 90 | 81 | 76 | 72 | 88 | 81 | 75 | 71 | 79 | 74 | 71 | 78 | 74 | 71 | 76 | 73 | 70 | 69 |
| 7 | 86 | 77 | 72 | 68 | 85 | 77 | 71 | 68 | 75 | 71 | 67 | 74 | 70 | 67 | 73 | 69 | 67 | 65 |
| 8 | 83 | 74 | 68 | 64 | 81 | 73 | 68 | 64 | 72 | 67 | 64 | 71 | 67 | 64 | 70 | 66 | 63 | 62 |
| 9 | 79 | 70 | 65 | 61 | 78 | 70 | 65 | 61 | 69 | 64 | 61 | 68 | 64 | 61 | 67 | 63 | 61 | 59 |
| 10 | 76 | 67 | 62 | 59 | 75 | 67 | 62 | 58 | 66 | 62 | 58 | 65 | 61 | 58 | 65 | 61 | 58 | 57 |

POLAR GRAPH



Maximum Candela = 448.45 Located At Horizontal Angle = 90, Vertical Angle = 1
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (1) (Through Max. Cd.)