**IES INDOOR REPORT**
**PHOTOMETRIC FILENAME : MHB-01-LED-12L-CPN-40-80CRI.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002
[TEST] LED-12302
[TESTLAB] LSI INDUSTRIES, INC.
[ISSUEDATE] 04/05/2022
[TESTDATE] 11/10/20
[MANUFAC] LSI INDUSTRIES, INC.
[LUMCAT] MHB-01-LED-12L-CPN-40-80CRI
[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
[_SEARCH_COLORTEMP] 4000

**CHARACTERISTICS**

| | |
|---|---|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 11089 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 142 |
| Total Luminaire Watts | 78 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.20 |
| Spacing Criterion (90-270) | 0.58 |
| Spacing Criterion (Diagonal) | 0.86 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 1.14 ft |
| Luminous Width (90-270) | 1.16 ft |
| Luminous Height | 0.00 ft |

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

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---|---|---|---|
| 45 | 46025 | 21276 | 16883 |
| 55 | 31645 | 18020 | 16631 |
| 65 | 18626 | 17241 | 17895 |
| 75 | 10588 | 16527 | 18632 |
| 85 | 6718 | 16328 | 22300 |

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**CANDELA TABULATION**

| | 0.0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|
| **0.0** | 8155 | 8155 | 8155 | 8155 | 8155 |
| **2.5** | 8043 | 8107 | 8178 | 8191 | 8177 |
| **5.0** | 8037 | 8012 | 7888 | 7722 | 7650 |
| **7.5** | 8008 | 7826 | 7388 | 7024 | 6844 |
| **10.0** | 7960 | 7564 | 6813 | 6260 | 6023 |
| **12.5** | 7893 | 7243 | 6204 | 5494 | 5250 |
| **15.0** | 7799 | 6879 | 5602 | 4906 | 4696 |
| **17.5** | 7678 | 6483 | 5056 | 4449 | 4269 |
| **20.0** | 7525 | 6062 | 4621 | 4067 | 3871 |
| **22.5** | 7340 | 5623 | 4250 | 3704 | 3520 |
| **25.0** | 7102 | 5200 | 3929 | 3392 | 3199 |
| **27.5** | 6832 | 4781 | 3623 | 3069 | 2829 |
| **30.0** | 6520 | 4410 | 3343 | 2723 | 2511 |
| **32.5** | 6148 | 4063 | 3073 | 2430 | 2263 |
| **35.0** | 5756 | 3749 | 2788 | 2202 | 2034 |
| **37.5** | 5336 | 3458 | 2502 | 1984 | 1817 |
| **40.0** | 4897 | 3189 | 2243 | 1785 | 1646 |
| **42.5** | 4452 | 2939 | 2032 | 1626 | 1548 |
| **45.0** | 4002 | 2704 | 1850 | 1506 | 1468 |
| **47.5** | 3550 | 2474 | 1679 | 1416 | 1379 |
| **50.0** | 3103 | 2238 | 1528 | 1325 | 1297 |
| **52.5** | 2644 | 2012 | 1392 | 1248 | 1225 |
| **55.0** | 2232 | 1794 | 1271 | 1173 | 1173 |
| **57.5** | 1837 | 1572 | 1162 | 1102 | 1129 |
| **60.0** | 1504 | 1379 | 1070 | 1034 | 1079 |
| **62.5** | 1214 | 1197 | 984 | 973 | 1008 |
| **65.0** | 968 | 1031 | 896 | 913 | 930 |
| **67.5** | 761 | 877 | 804 | 849 | 860 |
| **70.0** | 590 | 737 | 714 | 772 | 779 |
| **72.5** | 446 | 604 | 623 | 680 | 687 |
| **75.0** | 337 | 482 | 526 | 591 | 593 |
| **77.5** | 250 | 377 | 430 | 503 | 495 |
| **80.0** | 174 | 280 | 339 | 403 | 405 |
| **82.5** | 117 | 194 | 250 | 315 | 326 |
| **85.0** | 72 | 124 | 175 | 227 | 239 |
| **87.5** | 33 | 58 | 88 | 117 | 137 |
| **90.0** | 0 | 0 | 0 | 0 | 0 |

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## ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-20 | 2378.87 | N.A. | 21.50 |
| 0-30 | 4405.8 | N.A. | 39.70 |
| 0-40 | 6381.29 | N.A. | 57.50 |
| 0-60 | 9415.8 | N.A. | 84.90 |
| 0-80 | 10907.25 | N.A. | 98.40 |
| 0-90 | 11088.61 | N.A. | 100.00 |
| 10-90 | 10369.62 | N.A. | 93.50 |
| 20-40 | 4002.42 | N.A. | 36.10 |
| 20-50 | 5703.4 | N.A. | 51.40 |
| 40-70 | 3976.76 | N.A. | 35.90 |
| 60-80 | 1491.45 | N.A. | 13.50 |
| 70-80 | 549.20 | N.A. | 5.00 |
| 80-90 | 181.36 | 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 | 11088.61 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A.%

## ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---|---|
| 0-10 | 718.99 |
| 10-20 | 1659.88 |
| 20-30 | 2026.93 |
| 30-40 | 1975.49 |
| 40-50 | 1700.98 |
| 50-60 | 1333.53 |
| 60-70 | 942.25 |
| 70-80 | 549.20 |
| 80-90 | 181.36 |
| 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 | 106 | 102 | 99 | 107 | 104 | 100 | 97 | 99 | 97 | 94 | 95 | 93 | 91 | 92 | 90 | 88 | 86 |
| 2 | 101 | 94 | 88 | 83 | 99 | 92 | 87 | 82 | 89 | 84 | 80 | 86 | 82 | 78 | 83 | 79 | 77 | 75 |
| 3 | 94 | 84 | 77 | 71 | 91 | 83 | 76 | 71 | 80 | 74 | 69 | 77 | 72 | 68 | 75 | 71 | 67 | 65 |
| 4 | 87 | 76 | 68 | 62 | 85 | 75 | 67 | 62 | 72 | 66 | 61 | 70 | 65 | 60 | 68 | 63 | 59 | 57 |
| 5 | 81 | 69 | 61 | 55 | 79 | 68 | 60 | 55 | 66 | 59 | 54 | 64 | 58 | 54 | 62 | 57 | 53 | 51 |
| 6 | 75 | 63 | 55 | 49 | 73 | 62 | 55 | 49 | 60 | 54 | 49 | 59 | 53 | 48 | 57 | 52 | 48 | 46 |
| 7 | 70 | 58 | 50 | 44 | 69 | 57 | 50 | 44 | 56 | 49 | 44 | 54 | 48 | 44 | 53 | 48 | 43 | 42 |
| 8 | 66 | 54 | 46 | 41 | 65 | 53 | 46 | 40 | 52 | 45 | 40 | 51 | 44 | 40 | 49 | 44 | 40 | 38 |
| 9 | 62 | 50 | 42 | 37 | 61 | 49 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 |
| 10 | 59 | 47 | 39 | 34 | 57 | 46 | 39 | 34 | 45 | 39 | 34 | 44 | 38 | 34 | 43 | 38 | 34 | 32 |

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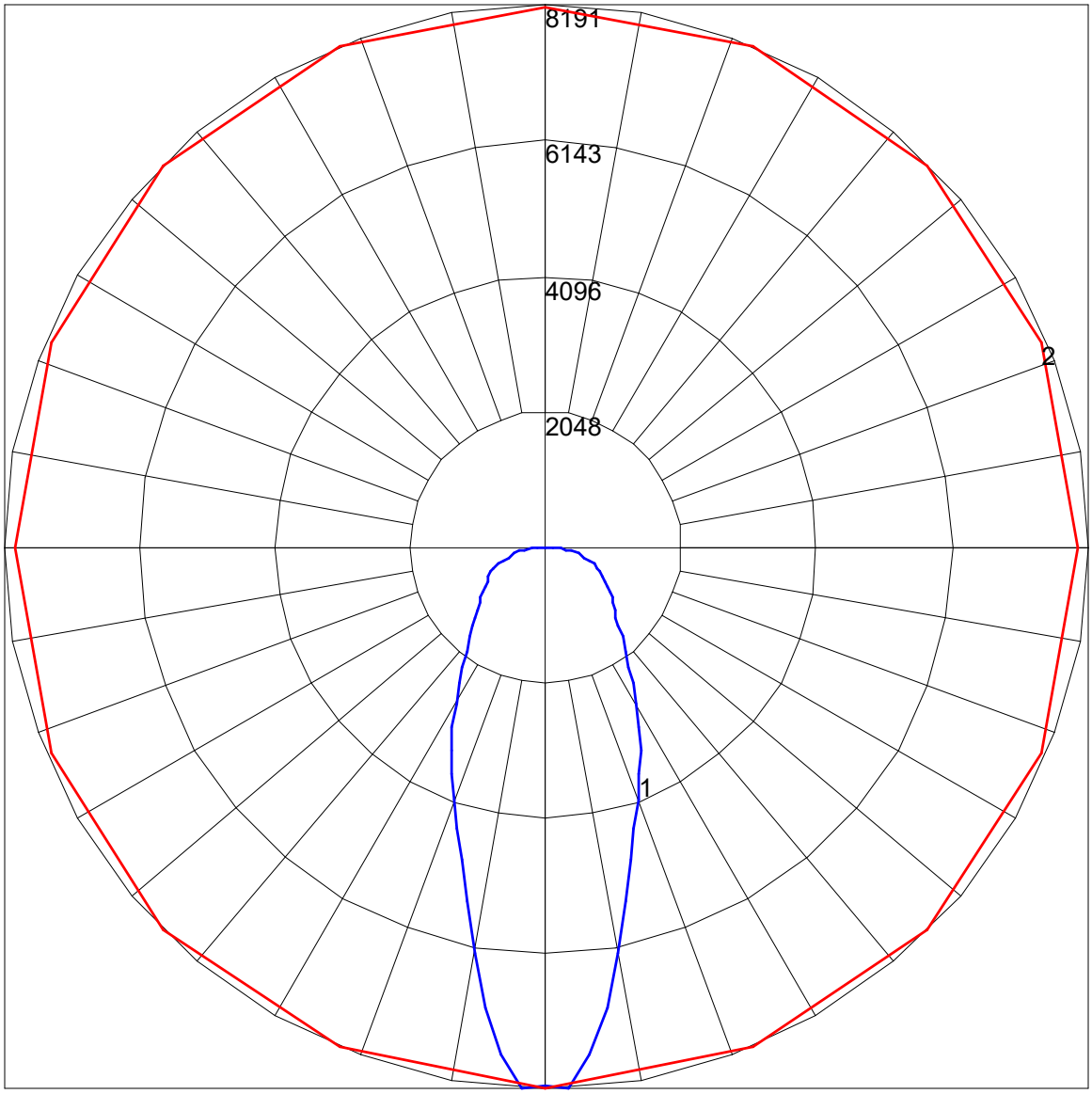
**POLAR GRAPH**




Maximum Candela = 8191  Located At Horizontal Angle = 67.5, Vertical Angle = 2.5
# 1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (Through Max. Cd.)
# 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

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