



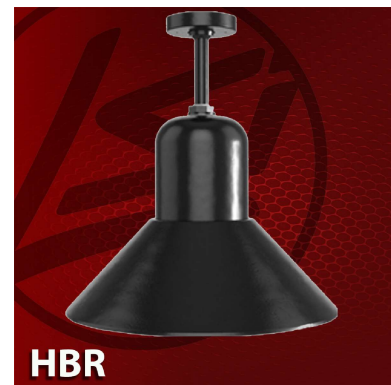
IES INDOOR REPORT
PHOTOMETRIC FILENAME : HBR-15L-40-GWT.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] LED-11927
[TESTLAB] LSI INDUSTRIES, INC.
[ISSUE DATE] 7/31/2020
[TEST DATE] 06/16/20
[MANUFACT] LSI INDUSTRIES, INC.
[LUMCAT] HBR-15L-40-GWT
[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_APPLICATION] Outdoor

CHARACTERISTICS

| | |
|---------------------------------|--------------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 1382 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 127 |
| Total Luminaire Watts | 10.9 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.30 |
| Spacing Criterion (90-270) | 1.32 |
| Spacing Criterion (Diagonal) | 1.38 |
| Basic Luminous Shape | Circular |
| Luminous Length (0-180) | 0.29 ft (Diameter) |
| Luminous Width (90-270) | 0.29 ft (Diameter) |
| Luminous Height | 0.00 ft |



LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 87179 | 86269 | 85813 |
| 55 | 80255 | 78291 | 78572 |
| 65 | 15996 | 15996 | 16376 |
| 75 | 11816 | 11816 | 11816 |
| 85 | 12927 | 12927 | 12927 |

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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 | 577 | 577 | 577 | 577 | 577 |
| 2.5 | 579 | 577 | 579 | 577 | 579 |
| 5.0 | 577 | 577 | 577 | 577 | 577 |
| 7.5 | 577 | 579 | 577 | 577 | 577 |
| 10.0 | 577 | 577 | 577 | 577 | 577 |
| 12.5 | 576 | 576 | 575 | 575 | 575 |
| 15.0 | 575 | 575 | 574 | 574 | 574 |
| 17.5 | 573 | 573 | 571 | 571 | 571 |
| 20.0 | 570 | 569 | 569 | 568 | 568 |
| 22.5 | 568 | 567 | 565 | 564 | 564 |
| 25.0 | 565 | 564 | 563 | 562 | 563 |
| 27.5 | 558 | 558 | 554 | 553 | 553 |
| 30.0 | 532 | 532 | 530 | 529 | 530 |
| 32.5 | 494 | 494 | 494 | 494 | 495 |
| 35.0 | 470 | 470 | 469 | 469 | 470 |
| 37.5 | 449 | 449 | 447 | 446 | 447 |
| 40.0 | 429 | 428 | 425 | 424 | 426 |
| 42.5 | 406 | 406 | 402 | 400 | 401 |
| 45.0 | 383 | 383 | 379 | 376 | 377 |
| 47.5 | 360 | 360 | 355 | 350 | 354 |
| 50.0 | 336 | 336 | 331 | 326 | 330 |
| 52.5 | 312 | 312 | 306 | 301 | 306 |
| 55.0 | 286 | 285 | 279 | 275 | 280 |
| 57.5 | 243 | 244 | 238 | 236 | 240 |
| 60.0 | 137 | 139 | 141 | 140 | 144 |
| 62.5 | 59 | 59 | 60 | 60 | 62 |
| 65.0 | 42 | 42 | 42 | 42 | 43 |
| 67.5 | 30 | 30 | 30 | 30 | 30 |
| 70.0 | 27 | 27 | 27 | 27 | 27 |
| 72.5 | 23 | 23 | 23 | 23 | 23 |
| 75.0 | 19 | 21 | 19 | 19 | 19 |
| 77.5 | 16 | 16 | 16 | 16 | 16 |
| 80.0 | 12 | 12 | 12 | 12 | 12 |
| 82.5 | 10 | 10 | 10 | 10 | 10 |
| 85.0 | 7 | 7 | 7 | 7 | 7 |
| 87.5 | 5 | 5 | 5 | 4 | 4 |
| 90.0 | 0 | 1 | 1 | 1 | 1 |
| 92.5 | 0 | 0 | 0 | 0 | 0 |
| 95.0 | 0 | 0 | 0 | 0 | 0 |
| 97.5 | 0 | 0 | 0 | 0 | 0 |
| 100.0 | 0 | 0 | 0 | 0 | 0 |
| 102.5 | 0 | 0 | 0 | 0 | 0 |
| 105.0 | 0 | 0 | 0 | 0 | 0 |
| 107.5 | 0 | 0 | 0 | 0 | 0 |
| 110.0 | 0 | 0 | 0 | 0 | 0 |
| 112.5 | 0 | 0 | 0 | 0 | 0 |
| 115.0 | 0 | 0 | 0 | 0 | 0 |
| 117.5 | 0 | 0 | 0 | 0 | 0 |
| 120.0 | 0 | 0 | 0 | 0 | 0 |
| 122.5 | 0 | 0 | 0 | 0 | 0 |
| 125.0 | 0 | 0 | 0 | 0 | 0 |
| 127.5 | 0 | 0 | 0 | 0 | 0 |
| 130.0 | 0 | 0 | 0 | 0 | 0 |
| 132.5 | 0 | 0 | 0 | 0 | 0 |

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CANDELA TABULATION - (Cont.)

| | | | | | |
|-------|---|---|---|---|---|
| 135.0 | 0 | 0 | 0 | 0 | 0 |
| 137.5 | 0 | 0 | 0 | 0 | 0 |
| 140.0 | 0 | 0 | 0 | 0 | 0 |
| 142.5 | 0 | 0 | 0 | 0 | 0 |
| 145.0 | 0 | 0 | 0 | 0 | 0 |
| 147.5 | 0 | 0 | 0 | 0 | 0 |
| 150.0 | 0 | 0 | 0 | 0 | 0 |
| 152.5 | 0 | 0 | 0 | 0 | 0 |
| 155.0 | 0 | 0 | 0 | 0 | 0 |
| 157.5 | 0 | 0 | 0 | 0 | 0 |
| 160.0 | 0 | 0 | 0 | 0 | 0 |
| 162.5 | 0 | 0 | 0 | 0 | 0 |
| 165.0 | 0 | 0 | 0 | 0 | 0 |
| 167.5 | 0 | 0 | 0 | 0 | 0 |
| 170.0 | 0 | 0 | 0 | 0 | 0 |
| 172.5 | 0 | 0 | 0 | 0 | 0 |
| 175.0 | 0 | 0 | 0 | 0 | 0 |
| 177.5 | 0 | 0 | 0 | 0 | 0 |
| 180.0 | 0 | 0 | 0 | 0 | 0 |

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ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 217.59 | N.A. | 15.70 |
| 0-30 | 475.62 | N.A. | 34.40 |
| 0-40 | 771.13 | N.A. | 55.80 |
| 0-60 | 1300.81 | N.A. | 94.10 |
| 0-80 | 1374.28 | N.A. | 99.40 |
| 0-90 | 1381.92 | N.A. | 100.00 |
| 10-90 | 1326.82 | N.A. | 96.00 |
| 20-40 | 553.54 | N.A. | 40.10 |
| 20-50 | 846.19 | N.A. | 61.20 |
| 40-70 | 582.58 | N.A. | 42.20 |
| 60-80 | 73.48 | N.A. | 5.30 |
| 70-80 | 20.57 | N.A. | 1.50 |
| 80-90 | 7.64 | N.A. | 0.60 |
| 90-110 | 0.12 | N.A. | 0.00 |
| 90-120 | 0.12 | N.A. | 0.00 |
| 90-130 | 0.12 | N.A. | 0.00 |
| 90-150 | 0.12 | N.A. | 0.00 |
| 90-180 | 0.12 | N.A. | 0.00 |
| 110-180 | 0.00 | N.A. | 0.00 |
| 0-180 | 1382.04 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 55.11 |
| 10-20 | 162.48 |
| 20-30 | 258.03 |
| 30-40 | 295.51 |
| 40-50 | 292.65 |
| 50-60 | 237.03 |
| 60-70 | 52.90 |
| 70-80 | 20.57 |
| 80-90 | 7.64 |
| 90-100 | 0.12 |
| 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 |

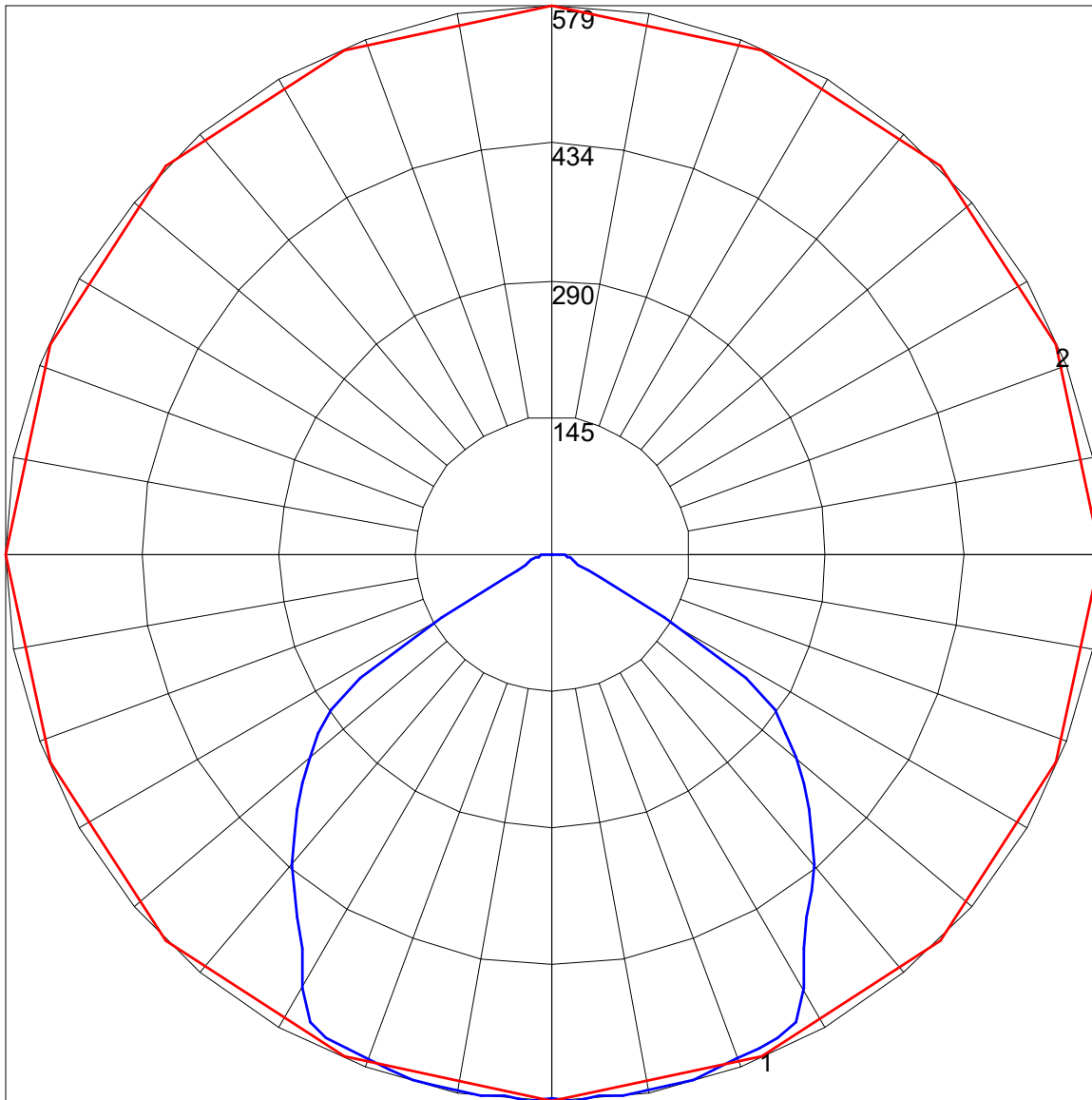
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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 | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 |
| 2 | 103 | 96 | 90 | 85 | 100 | 94 | 89 | 84 | 91 | 86 | 82 | 87 | 84 | 81 | 84 | 81 | 79 | 77 |
| 3 | 95 | 86 | 79 | 73 | 92 | 84 | 78 | 72 | 81 | 76 | 71 | 79 | 74 | 70 | 76 | 72 | 69 | 67 |
| 4 | 87 | 77 | 69 | 63 | 85 | 76 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 |
| 5 | 81 | 69 | 61 | 55 | 79 | 68 | 61 | 55 | 66 | 60 | 54 | 64 | 58 | 54 | 63 | 57 | 53 | 51 |
| 6 | 75 | 63 | 55 | 49 | 73 | 62 | 54 | 49 | 60 | 53 | 48 | 58 | 52 | 48 | 57 | 52 | 47 | 45 |
| 7 | 70 | 57 | 49 | 43 | 68 | 56 | 49 | 43 | 55 | 48 | 43 | 53 | 47 | 43 | 52 | 47 | 42 | 40 |
| 8 | 65 | 52 | 44 | 39 | 63 | 52 | 44 | 39 | 50 | 43 | 39 | 49 | 43 | 38 | 48 | 42 | 38 | 36 |
| 9 | 61 | 48 | 40 | 35 | 59 | 47 | 40 | 35 | 46 | 40 | 35 | 45 | 39 | 35 | 44 | 39 | 34 | 33 |
| 10 | 57 | 44 | 37 | 32 | 56 | 44 | 37 | 32 | 43 | 36 | 32 | 42 | 36 | 32 | 41 | 35 | 31 | 30 |

POLAR GRAPH



Maximum Candela = 579 Located At Horizontal Angle = 0, Vertical Angle = 2.5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)