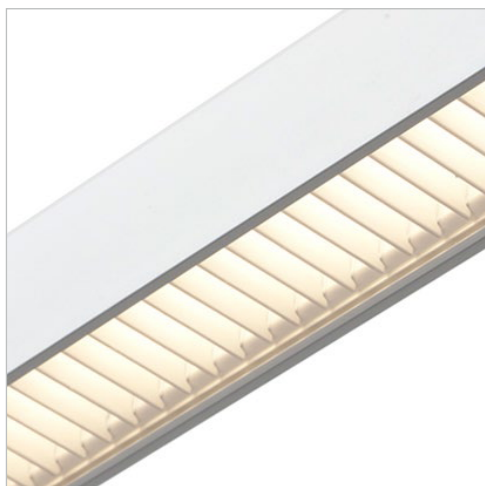


IES File

Performance Summary

The performance data in black text is confirmed through third party testing (see the following Light Laboratory report for details). The performance data in grey text is calculated by Vode. For reference only.



BoxRail LED - Zipper board™ with White Baffle with Clear Lens, Low Output

BoxRail LED, 48", 3500K, Zipper board with white baffle with clear lens, low output
107-BX-X-4-48-X-X-X-X-X-Z-LO-35-WB-X-X-X

| | 2700K | 3000K | 3500K | 4000K |
|--|-------|-------|-------|-------|
| Efficacy - Lumens per Watt | 51 | 53 | 56 | 58 |
| Total Lumens, 4' rail length (1219mm) | 783 | 817 | 851 | 885 |
| Lumens per foot (305mm) | 196 | 204 | 213 | 221 |
| Input Power (W), 4' rail length (1219mm) | 15.5 | 15.5 | 15.5 | 15.5 |
| Watts per foot (305mm) | 3.9 | 3.9 | 3.9 | 3.9 |
| CRI (>80min., 85 avg.) | - | - | - | - |



IES INDOOR REPORT

PHOTOMETRIC FILENAME : BOXRAIL_ZIPPER_LO_3500K_WHITEBAFFLE_170327.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] L031700406 (USED TO PREPARE REPORT FOR LOW OUTPUT RATING)

[TESTLAB] LIGHT LABORATORY, INC.

[ISSUEDATE] 3/23/2017 (ORIGINAL REPORT)

[MANUFAC] VODE LIGHTING

[LUMCAT] 107-BX-48-Z-LO-35-WB-AL

[LUMINAIRE] BOXRAIL LED, 48", 3500K, ZIPPER BOARD,

[MORE] WHITE BAFFLE WITH CLEAR LENS, LOW OUTPUT (350MA)

[LAMPPOSITION] 0,0

[LAMPCAT] N/A

[OTHER] DATA FROM ORIGINAL REPORT FACTORED FOR LOW OUTPUT RATING

[MORE] USING 0.50 LUMEN MULTIPLIER

[MORE] INPUT WATTAGE BASED ON 107 SERIES LUMINAIRE LO TEST (L031700402)

[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

| | |
|---------------------------------|-----------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 851 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 55 |
| Total Luminaire Watts | 15.46 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.30 |
| Spacing Criterion (90-270) | 0.82 |
| Spacing Criterion (Diagonal) | 1.02 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 0.08 ft |
| Luminous Width (90-270) | 3.85 ft |
| Luminous Height | 0.00 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 10604 | 7666 | 5580 |
| 55 | 3135 | 4931 | 4505 |
| 65 | 3511 | 3594 | 3676 |
| 75 | 2158 | 2361 | 2765 |
| 85 | 1602 | 1202 | 1402 |

IES INDOOR REPORT

PHOTOMETRIC FILENAME : BOXRAIL_ZIPPER_LO_3500K_WHITEBAFFLE_170327.IES

CANDELA TABULATION

| | <u>0</u> | <u>5</u> | <u>10</u> | <u>15</u> | <u>20</u> | <u>25</u> | <u>30</u> | <u>35</u> | <u>40</u> | <u>45</u> |
|-------------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.0 | 607.5 | 607.5 | 607.5 | 607.5 | 607.5 | 607.5 | 607.5 | 607.5 | 607.5 | 607.5 |
| 1.0 | 610.0 | 610.0 | 610.0 | 610.0 | 610.0 | 610.0 | 607.5 | 604.0 | 604.5 | 605.5 |
| 3.0 | 610.0 | 610.0 | 610.0 | 610.0 | 610.0 | 610.0 | 607.5 | 602.5 | 603.5 | 606.5 |
| 5.0 | 609.0 | 609.0 | 608.5 | 608.0 | 607.5 | 606.5 | 597.5 | 597.0 | 597.0 | 596.0 |
| 7.0 | 607.5 | 607.5 | 606.0 | 604.5 | 602.5 | 600.5 | 589.5 | 588.0 | 587.0 | 584.0 |
| 9.0 | 605.5 | 604.5 | 603.0 | 599.5 | 596.0 | 592.0 | 579.5 | 577.0 | 573.5 | 571.0 |
| 11.0 | 602.5 | 601.5 | 598.0 | 593.5 | 587.5 | 581.0 | 569.5 | 565.0 | 560.0 | 556.5 |
| 13.0 | 599.0 | 597.5 | 592.5 | 586.0 | 578.5 | 570.5 | 558.5 | 552.5 | 545.5 | 540.5 |
| 15.0 | 594.5 | 592.0 | 585.5 | 577.0 | 568.0 | 558.0 | 545.5 | 537.5 | 529.0 | 523.0 |
| 17.0 | 589.0 | 586.0 | 578.0 | 568.0 | 556.5 | 541.0 | 532.0 | 522.0 | 511.0 | 503.0 |
| 19.5 | 581.0 | 576.5 | 566.5 | 554.0 | 540.5 | 524.5 | 512.5 | 499.5 | 487.5 | 474.5 |
| 22.5 | 568.5 | 563.0 | 550.0 | 535.0 | 519.5 | 505.0 | 486.5 | 470.0 | 457.0 | 443.0 |
| 25.5 | 553.5 | 546.5 | 530.5 | 513.5 | 496.5 | 479.5 | 457.0 | 439.0 | 425.5 | 410.5 |
| 29.0 | 534.0 | 525.0 | 506.5 | 487.0 | 468.5 | 447.0 | 422.0 | 404.0 | 387.0 | 368.0 |
| 33.0 | 509.0 | 498.0 | 476.5 | 455.0 | 433.0 | 407.5 | 383.0 | 361.5 | 337.0 | 312.0 |
| 37.5 | 477.0 | 463.0 | 439.0 | 415.5 | 387.5 | 358.5 | 334.5 | 305.5 | 275.0 | 251.0 |
| 42.5 | 368.0 | 365.5 | 362.5 | 357.5 | 330.0 | 301.0 | 271.0 | 240.0 | 209.0 | 180.0 |
| 47.5 | 61.5 | 64.0 | 69.0 | 75.5 | 84.0 | 109.5 | 157.5 | 167.0 | 142.5 | 130.5 |
| 55.0 | 51.5 | 53.0 | 56.0 | 59.0 | 63.5 | 69.0 | 75.0 | 78.0 | 79.0 | 81.0 |
| 65.0 | 42.5 | 42.5 | 41.5 | 41.0 | 40.5 | 41.0 | 42.0 | 42.5 | 43.0 | 43.5 |
| 75.0 | 16.0 | 16.0 | 16.0 | 15.5 | 15.5 | 15.5 | 16.0 | 16.5 | 17.0 | 17.5 |
| 85.0 | 4.0 | 4.0 | 4.0 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Vert. Angles Horizontal Angles

| | <u>50</u> | <u>55</u> | <u>60</u> | <u>65</u> | <u>70</u> | <u>75</u> | <u>80</u> | <u>85</u> | <u>90</u> |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.0 | 607.5 | 607.5 | 607.5 | 607.5 | 607.5 | 607.5 | 607.5 | 607.5 | 607.5 |
| 1.0 | 607.0 | 610.0 | 610.5 | 611.0 | 611.0 | 610.5 | 611.0 | 611.0 | 611.0 |
| 3.0 | 604.5 | 607.5 | 607.5 | 606.5 | 606.0 | 605.5 | 605.0 | 605.0 | 605.0 |
| 5.0 | 596.5 | 596.0 | 594.0 | 591.5 | 590.5 | 589.5 | 589.0 | 588.5 | 588.5 |
| 7.0 | 582.5 | 580.5 | 577.5 | 574.5 | 572.5 | 571.0 | 570.5 | 570.0 | 570.0 |
| 9.0 | 568.0 | 564.5 | 560.5 | 557.5 | 555.0 | 553.5 | 552.0 | 551.5 | 551.5 |
| 11.0 | 552.5 | 547.5 | 543.0 | 539.0 | 536.5 | 534.0 | 532.5 | 531.5 | 531.5 |
| 13.0 | 534.5 | 529.0 | 523.5 | 518.5 | 514.5 | 511.0 | 509.0 | 507.5 | 507.5 |
| 15.0 | 514.5 | 508.5 | 501.0 | 494.0 | 488.5 | 483.5 | 480.5 | 478.5 | 478.0 |
| 17.0 | 493.0 | 484.0 | 475.0 | 466.5 | 459.5 | 455.0 | 451.5 | 449.5 | 449.0 |
| 19.5 | 464.5 | 453.0 | 442.5 | 433.0 | 426.0 | 421.0 | 417.0 | 415.0 | 414.5 |
| 22.5 | 429.0 | 416.5 | 405.0 | 394.5 | 386.5 | 380.0 | 375.5 | 372.5 | 371.5 |
| 25.5 | 395.0 | 378.5 | 364.5 | 351.5 | 341.0 | 332.0 | 325.5 | 321.5 | 320.0 |
| 29.0 | 347.0 | 328.0 | 310.0 | 294.5 | 282.5 | 274.0 | 267.5 | 263.5 | 262.5 |
| 33.0 | 289.0 | 267.5 | 249.5 | 234.0 | 221.0 | 211.0 | 203.5 | 199.0 | 197.5 |
| 37.5 | 226.0 | 200.0 | 182.0 | 169.0 | 160.5 | 155.5 | 152.5 | 151.0 | 150.5 |
| 42.5 | 157.0 | 146.0 | 139.5 | 134.5 | 131.0 | 128.0 | 126.0 | 124.5 | 124.0 |
| 47.5 | 123.5 | 118.0 | 113.5 | 110.0 | 107.0 | 105.0 | 103.5 | 102.0 | 102.0 |
| 55.0 | 82.5 | 81.5 | 80.0 | 78.0 | 77.0 | 76.0 | 75.0 | 74.5 | 74.0 |
| 65.0 | 44.0 | 44.5 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 44.5 |
| 75.0 | 18.0 | 18.5 | 19.5 | 20.0 | 20.0 | 20.5 | 20.5 | 20.5 | 20.5 |
| 85.0 | 3.0 | 3.0 | 3.0 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

IES INDOOR REPORT

PHOTOMETRIC FILENAME : BOXRAIL_ZIPPER_LO_3500K_WHITEBAFFLE_170327.IES

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|--------|-------|--------|
| 0-20 | 194.96 | N.A. | 22.90 |
| 0-30 | 378.46 | N.A. | 44.50 |
| 0-40 | 543.63 | N.A. | 63.90 |
| 0-60 | 752.41 | N.A. | 88.40 |
| 0-80 | 838.69 | N.A. | 98.50 |
| 0-90 | 851.13 | N.A. | 100.00 |
| 10-90 | 805.39 | N.A. | 94.60 |
| 20-40 | 348.68 | N.A. | 41.00 |
| 20-50 | 499.33 | N.A. | 58.70 |
| 40-70 | 263.59 | N.A. | 31.00 |
| 60-80 | 86.28 | N.A. | 10.10 |
| 70-80 | 31.47 | N.A. | 3.70 |
| 80-90 | 12.44 | N.A. | 1.50 |
| 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 | 851.13 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 45.73 |
| 10-20 | 149.22 |
| 20-30 | 183.50 |
| 30-40 | 165.17 |
| 40-50 | 150.65 |
| 50-60 | 58.12 |
| 60-70 | 54.81 |
| 70-80 | 31.47 |
| 80-90 | 12.44 |
| 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 : BOXRAIL_ZIPPER_LO_3500K_WHITEBAFFLE_170327.IES

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

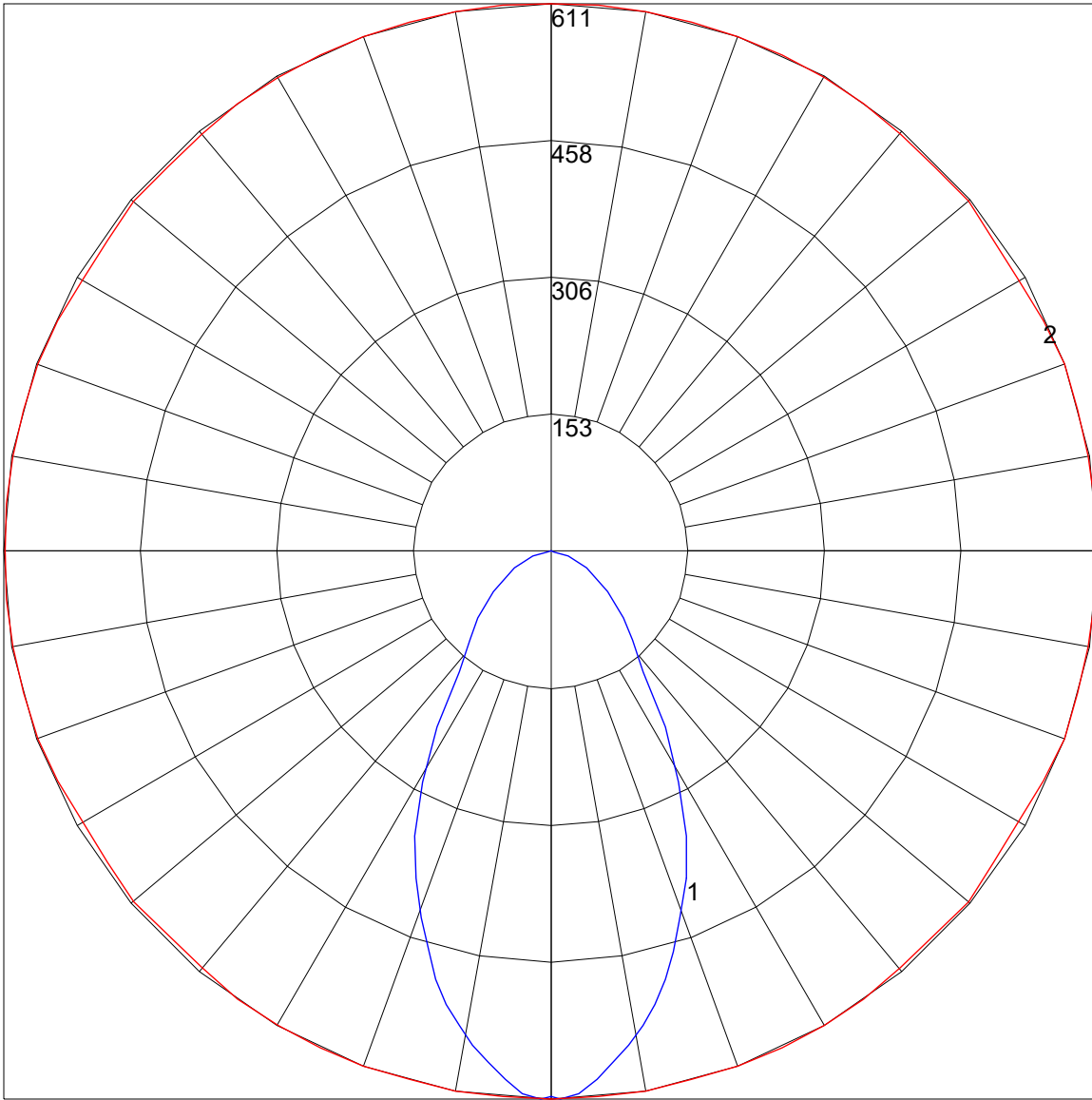
Effective Floor Cavity Reflectance 0.20

| 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 | 111 | 107 | 103 | 100 | 108 | 105 | 101 | 98 | 100 | 98 | 95 | 97 | 94 | 92 | 93 | 91 | 90 | 88 |
| 2 | 103 | 96 | 90 | 86 | 100 | 94 | 89 | 85 | 91 | 86 | 83 | 88 | 84 | 81 | 85 | 82 | 79 | 77 |
| 3 | 95 | 87 | 80 | 74 | 93 | 85 | 79 | 74 | 82 | 77 | 73 | 80 | 75 | 71 | 77 | 73 | 70 | 68 |
| 4 | 89 | 79 | 71 | 66 | 87 | 77 | 71 | 65 | 75 | 69 | 64 | 73 | 68 | 64 | 71 | 66 | 63 | 61 |
| 5 | 83 | 72 | 64 | 59 | 81 | 71 | 64 | 58 | 69 | 63 | 58 | 67 | 61 | 57 | 65 | 60 | 57 | 55 |
| 6 | 77 | 66 | 58 | 53 | 76 | 65 | 58 | 53 | 63 | 57 | 52 | 62 | 56 | 52 | 60 | 55 | 51 | 50 |
| 7 | 73 | 61 | 53 | 48 | 71 | 60 | 53 | 48 | 59 | 52 | 47 | 57 | 51 | 47 | 56 | 51 | 47 | 45 |
| 8 | 68 | 56 | 49 | 44 | 67 | 56 | 49 | 44 | 54 | 48 | 43 | 53 | 47 | 43 | 52 | 47 | 43 | 41 |
| 9 | 64 | 52 | 45 | 40 | 63 | 52 | 45 | 40 | 51 | 44 | 40 | 50 | 44 | 40 | 49 | 43 | 40 | 38 |
| 10 | 61 | 49 | 42 | 37 | 59 | 48 | 42 | 37 | 47 | 41 | 37 | 47 | 41 | 37 | 46 | 40 | 37 | 35 |

IES INDOOR REPORT

PHOTOMETRIC FILENAME : BOXRAIL_ZIPPER_LO_3500K_WHITEBAFFLE_170327.IES

POLAR GRAPH



Maximum Candela = 611 Located At Horizontal Angle = 65, Vertical Angle = 1

1 - Vertical Plane Through Horizontal Angles (65 - 245) (Through Max. Cd.)

2 - Horizontal Cone Through Vertical Angle (1) (Through Max. Cd.)