

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P392489

Luminaire Tested: **MWL-2-18-13-UNV-L840-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392489  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-25 &  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MWL-2-18-13-UNV-L840-EDD  
Description: MWL 2FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

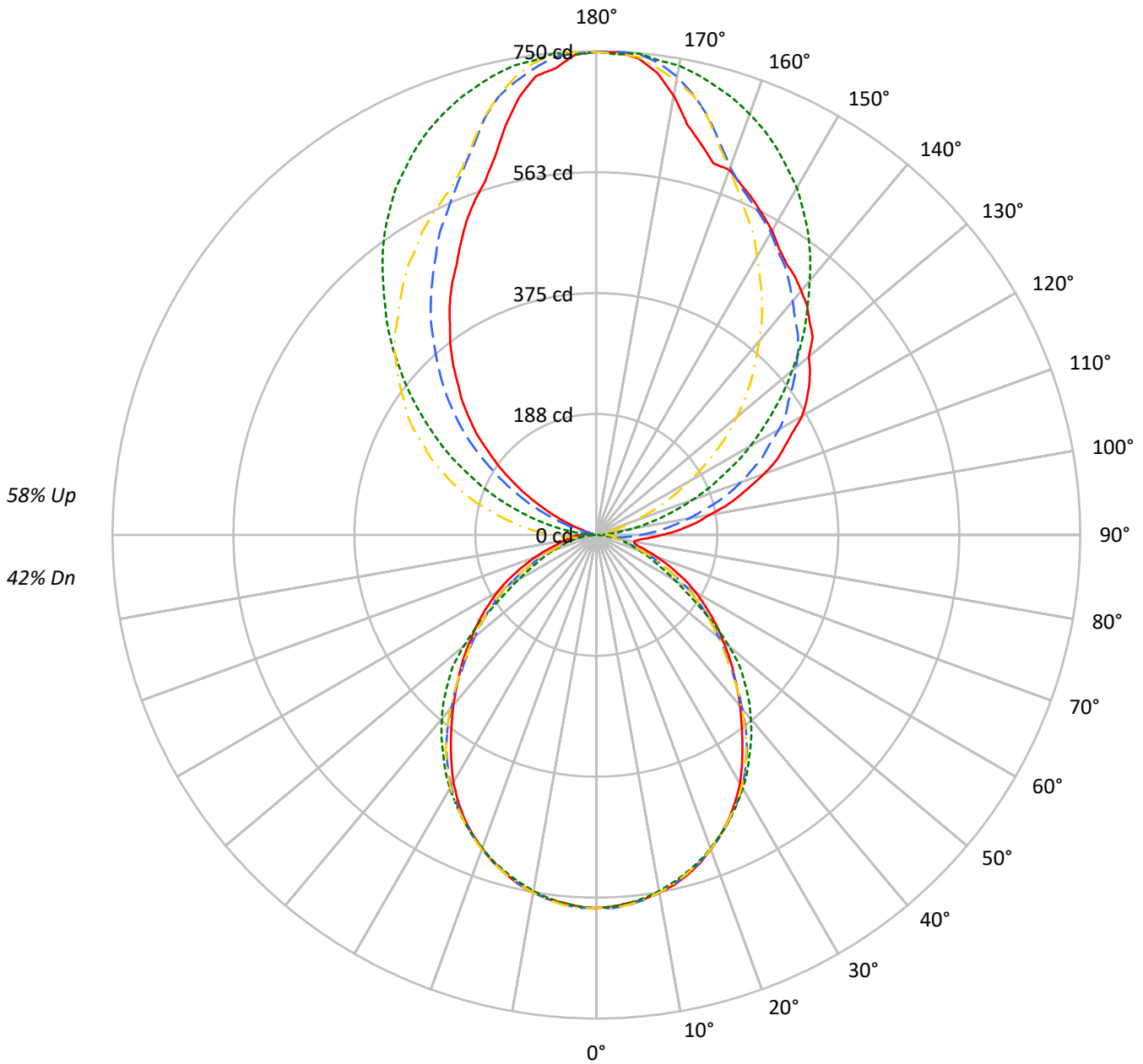
Lumens per Lamp: N/A  
Luminaire Lumens: 3105.0 lumens  
Efficiency: N/A  
Efficacy: 108.9 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.17 / 1.24  
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 2' x H: 0.42')  
CIE Type: General Diffuse

Input Watts (W): 28.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot



— 0°-180°    - - 45°-225°    ··· 90°-270°    - · 135°-315°



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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|--|--|--|----|--|--|--|--|--|--|--|--|----|---|
| RF  | 20  |     |     |     |    |    |    |    |    | 20 |    |    |    |    |    |    |    |    | 20 |    |    |    |    |   |  |  |  | 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 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| RCR |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 0   | 105 | 105 | 105 | 105 | 96 | 96 | 96 | 96 | 79 | 79 | 79 | 64 | 64 | 64 | 49 | 49 | 49 | 42 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 1   | 96  | 92  | 88  | 85  | 88 | 84 | 81 | 78 | 70 | 67 | 65 | 56 | 55 | 53 | 44 | 43 | 42 | 36 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 2   | 88  | 81  | 75  | 70  | 80 | 74 | 69 | 65 | 61 | 58 | 54 | 50 | 47 | 45 | 39 | 37 | 36 | 31 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 3   | 80  | 71  | 64  | 58  | 73 | 65 | 59 | 54 | 54 | 50 | 46 | 44 | 41 | 38 | 35 | 33 | 31 | 26 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 4   | 74  | 63  | 56  | 50  | 67 | 58 | 51 | 46 | 48 | 44 | 40 | 40 | 36 | 33 | 31 | 29 | 27 | 23 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 5   | 68  | 56  | 49  | 43  | 62 | 52 | 45 | 40 | 43 | 38 | 34 | 36 | 32 | 29 | 28 | 26 | 24 | 20 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 6   | 62  | 51  | 43  | 37  | 57 | 47 | 40 | 35 | 39 | 34 | 30 | 32 | 28 | 25 | 26 | 23 | 21 | 18 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 7   | 58  | 46  | 38  | 33  | 53 | 42 | 35 | 31 | 36 | 30 | 27 | 29 | 25 | 23 | 24 | 21 | 19 | 16 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 8   | 54  | 42  | 34  | 29  | 49 | 38 | 32 | 27 | 33 | 27 | 24 | 27 | 23 | 20 | 22 | 19 | 17 | 14 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 9   | 50  | 38  | 31  | 26  | 46 | 35 | 29 | 24 | 30 | 25 | 21 | 25 | 21 | 18 | 20 | 17 | 15 | 13 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |
| 10  | 47  | 35  | 28  | 23  | 43 | 32 | 26 | 22 | 27 | 23 | 19 | 23 | 19 | 16 | 19 | 16 | 14 | 12 |    |    |    |    |    |   |  |  |  |    |  |  |  |  |  |  |  |  |    |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 90°  | 180° | 270° |
|-----|------|------|------|------|
| 0°  | 7475 | 7475 | 7475 | 7475 |
| 5°  | 7298 | 6834 | 7298 | 6834 |
| 10° | 7125 | 6252 | 7125 | 6252 |
| 15° | 6913 | 5712 | 6892 | 5712 |
| 20° | 6629 | 5211 | 6608 | 5211 |
| 25° | 6316 | 4744 | 6295 | 4744 |
| 30° | 5927 | 4294 | 5899 | 4294 |
| 35° | 5431 | 3841 | 5409 | 3841 |
| 40° | 4976 | 3416 | 4946 | 3416 |
| 45° | 4538 | 2974 | 4514 | 2974 |
| 50° | 4124 | 2458 | 4099 | 2458 |
| 55° | 3759 | 1823 | 3742 | 1823 |
| 60° | 3362 | 1329 | 3352 | 1329 |
| 65° | 2886 | 973  | 2886 | 973  |
| 70° | 2404 | 727  | 2416 | 727  |
| 75° | 1884 | 522  | 1926 | 522  |
| 80° | 2022 | 329  | 1678 | 329  |
| 85° | 3173 | 137  | 1666 | 137  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 54.5   | 1.8       |
| 10°-20°   | 153.2  | 4.9       |
| 20°-30°   | 224.0  | 7.2       |
| 30°-40°   | 252.9  | 8.1       |
| 40°-50°   | 235.1  | 7.6       |
| 50°-60°   | 184.7  | 5.9       |
| 60°-70°   | 117.2  | 3.8       |
| 70°-80°   | 58.6   | 1.9       |
| 80°-90°   | 38.1   | 1.2       |
| 90°-100°  | 59.4   | 1.9       |
| 100°-110° | 115.3  | 3.7       |
| 110°-120° | 199.2  | 6.4       |
| 120°-130° | 270.5  | 8.7       |
| 130°-140° | 308.4  | 9.9       |
| 140°-150° | 307.6  | 9.9       |
| 150°-160° | 267.9  | 8.6       |
| 160°-170° | 188.4  | 6.1       |
| 170°-180° | 70.2   | 2.3       |
| 0°-30°    | 431.6  | 13.9      |
| 0°-40°    | 684.5  | 22.0      |
| 0°-60°    | 1104.3 | 35.6      |
| 0°-90°    | 1318.1 | 42.5      |
| 90°-120°  | 373.9  | 12.0      |
| 90°-150°  | 1260.4 | 40.6      |
| 90°-180°  | 1787.0 | 57.6      |
| 0°-180°   | 3105.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 90° | 180° | 270° | 360° | Flux |
|------|-----|-----|------|------|------|------|
| 0°   | 579 | 579 | 579  | 579  | 579  |      |
| 5°   | 573 | 573 | 573  | 573  | 573  | 54   |
| 15°  | 546 | 542 | 544  | 542  | 546  | 154  |
| 25°  | 486 | 488 | 485  | 488  | 486  | 223  |
| 35°  | 395 | 414 | 393  | 414  | 395  | 247  |
| 45°  | 300 | 326 | 299  | 326  | 300  | 232  |
| 55°  | 217 | 197 | 216  | 197  | 217  | 194  |
| 65°  | 137 | 100 | 137  | 100  | 137  | 136  |
| 75°  | 67  | 50  | 69   | 50   | 67   | 77   |
| 85°  | 72  | 12  | 38   | 12   | 72   | 57   |
| 90°  | 102 | 0   | 23   | 0    | 102  | 57   |
| 95°  | 140 | 21  | 15   | 21   | 140  | 122  |
| 105° | 227 | 104 | 5    | 104  | 227  | 240  |
| 115° | 322 | 214 | 74   | 214  | 322  | 319  |
| 125° | 402 | 335 | 183  | 335  | 402  | 359  |
| 135° | 468 | 458 | 294  | 458  | 468  | 361  |
| 145° | 514 | 572 | 396  | 572  | 514  | 324  |
| 155° | 574 | 662 | 498  | 662  | 574  | 265  |
| 165° | 627 | 720 | 607  | 720  | 627  | 178  |
| 175° | 742 | 750 | 726  | 750  | 742  | 69   |
| 180° | 749 | 749 | 749  | 749  | 749  |      |



TEST NUMBER: P392489

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   | 112.5° | 135°  | 157.5° | 180°  | 202.5° | 225°  |
|--------|-------|-------|-------|-------|-------|--------|-------|--------|-------|--------|-------|
| 0°     | 578.7 | 578.7 | 578.7 | 578.7 | 578.7 | 578.7  | 578.7 | 578.7  | 578.7 | 578.7  | 578.7 |
| 2.5°   | 577.1 | 578.2 | 579.2 | 577.8 | 576.8 | 577.2  | 579.2 | 578.2  | 577.6 | 578.2  | 579.2 |
| 5°     | 573.1 | 575.2 | 576.2 | 574.2 | 573.2 | 574.2  | 575.7 | 575.2  | 573.1 | 575.2  | 575.7 |
| 7.5°   | 569.6 | 570.7 | 570.7 | 569.2 | 568.2 | 568.7  | 570.2 | 570.2  | 569.6 | 570.2  | 570.2 |
| 10°    | 563.2 | 563.7 | 563.7 | 562.7 | 560.7 | 562.2  | 563.2 | 562.6  | 563.2 | 562.6  | 563.2 |
| 12.5°  | 556.2 | 555.7 | 554.2 | 553.2 | 551.6 | 553.2  | 554.2 | 554.6  | 555.2 | 554.6  | 554.2 |
| 15°    | 545.8 | 544.7 | 544.2 | 544.2 | 541.6 | 543.6  | 543.6 | 543.6  | 544.2 | 543.6  | 543.6 |
| 17.5°  | 533.8 | 532.7 | 532.2 | 531.6 | 530.6 | 531.6  | 531.6 | 532.2  | 532.2 | 532.2  | 531.6 |
| 20°    | 518.8 | 519.2 | 519.2 | 517.6 | 517.1 | 517.1  | 518.6 | 518.2  | 517.2 | 518.2  | 518.6 |
| 22.5°  | 503.2 | 503.2 | 504.2 | 504.6 | 503.1 | 504.1  | 503.6 | 502.2  | 502.2 | 502.2  | 503.6 |
| 25°    | 486.2 | 486.2 | 487.7 | 488.6 | 488.1 | 488.1  | 486.6 | 484.6  | 484.6 | 484.6  | 486.6 |
| 27.5°  | 466.2 | 467.2 | 470.7 | 472.2 | 471.1 | 471.6  | 469.6 | 465.6  | 464.6 | 465.6  | 469.6 |
| 30°    | 445.2 | 447.2 | 452.2 | 454.7 | 454.1 | 453.6  | 450.6 | 445.6  | 443.1 | 445.6  | 450.6 |
| 32.5°  | 420.2 | 423.2 | 430.2 | 435.7 | 435.6 | 434.6  | 428.6 | 421.1  | 418.1 | 421.1  | 428.6 |
| 35°    | 394.7 | 397.7 | 406.7 | 414.7 | 414.1 | 413.1  | 405.1 | 396.1  | 393.1 | 396.1  | 405.1 |
| 37.5°  | 369.7 | 370.7 | 380.7 | 392.7 | 394.6 | 391.1  | 379.1 | 369.1  | 368.1 | 369.1  | 379.1 |
| 40°    | 346.7 | 344.7 | 351.7 | 369.2 | 372.6 | 368.1  | 349.6 | 342.6  | 344.6 | 342.6  | 349.6 |
| 42.5°  | 322.7 | 319.7 | 324.2 | 343.2 | 350.6 | 342.1  | 322.6 | 317.6  | 320.6 | 317.6  | 322.6 |
| 45°    | 300.2 | 297.2 | 296.2 | 315.2 | 325.6 | 314.1  | 294.1 | 295.6  | 298.6 | 295.6  | 294.1 |
| 47.5°  | 279.2 | 274.2 | 271.2 | 285.6 | 301.6 | 285.1  | 269.1 | 272.6  | 277.6 | 272.6  | 269.1 |
| 50°    | 256.2 | 254.2 | 248.2 | 256.6 | 268.1 | 255.6  | 246.1 | 252.1  | 254.6 | 252.1  | 246.1 |
| 52.5°  | 237.2 | 234.2 | 225.6 | 229.6 | 234.1 | 228.6  | 224.1 | 232.1  | 235.6 | 232.1  | 224.1 |
| 55°    | 216.6 | 214.6 | 203.6 | 203.1 | 196.6 | 202.1  | 202.1 | 213.1  | 215.6 | 213.1  | 202.1 |
| 57.5°  | 196.6 | 194.6 | 182.6 | 175.1 | 164.6 | 174.1  | 181.1 | 193.1  | 195.6 | 193.1  | 181.1 |
| 60°    | 177.1 | 175.1 | 160.1 | 148.6 | 140.6 | 148.1  | 159.1 | 174.1  | 176.6 | 174.1  | 159.1 |
| 62.5°  | 158.1 | 154.1 | 137.1 | 122.6 | 118.1 | 122.1  | 136.1 | 153.1  | 157.6 | 153.1  | 136.1 |
| 65°    | 136.6 | 131.6 | 115.6 | 102.6 | 100.1 | 102.1  | 115.1 | 131.1  | 136.6 | 131.1  | 115.1 |
| 67.5°  | 117.6 | 110.6 | 97.6  | 85.1  | 86.1  | 85.1   | 97.1  | 110.1  | 117.6 | 110.1  | 97.1  |
| 70°    | 100.1 | 91.1  | 79.1  | 70.1  | 72.1  | 70.1   | 79.1  | 91.6   | 100.6 | 91.6   | 79.1  |
| 72.5°  | 83.1  | 73.1  | 64.1  | 57.1  | 59.5  | 56.5   | 64.1  | 73.6   | 84.1  | 73.6   | 64.1  |
| 75°    | 67.1  | 59.1  | 49.5  | 45.5  | 49.5  | 45.5   | 50.1  | 59.6   | 68.6  | 59.6   | 50.1  |
| 77.5°  | 60.3  | 50.2  | 38.5  | 35.5  | 39.5  | 35.5   | 39.1  | 48.6   | 58.2  | 48.6   | 39.1  |
| 80°    | 59.3  | 49.6  | 31.1  | 27.5  | 29.5  | 27.5   | 30.1  | 41.1   | 49.2  | 41.1   | 30.1  |
| 82.5°  | 63.0  | 55.2  | 32.5  | 19.5  | 20.5  | 19.5   | 26.1  | 36.2   | 42.9  | 36.2   | 26.1  |
| 85°    | 72.4  | 67.1  | 41.1  | 16.1  | 11.5  | 15.1   | 25.8  | 34.8   | 38.0  | 34.8   | 25.8  |
| 87.5°  | 86.4  | 82.7  | 53.4  | 21.1  | 3.0   | 13.6   | 23.3  | 31.9   | 31.9  | 31.9   | 23.3  |
| 90°    | 102.0 | 98.8  | 69.5  | 29.2  | 0.5   | 9.1    | 17.1  | 24.2   | 22.7  | 24.2   | 17.1  |
| 92.5°  | 122.3 | 118.0 | 86.1  | 41.6  | 8.5   | 5.1    | 13.6  | 20.1   | 18.6  | 20.1   | 13.6  |
| 95°    | 139.9 | 137.8 | 104.8 | 55.0  | 21.2  | 2.1    | 9.6   | 15.1   | 14.6  | 15.1   | 9.6   |
| 97.5°  | 160.2 | 156.6 | 124.1 | 74.1  | 37.6  | 6.3    | 7.2   | 11.1   | 12.1  | 11.1   | 7.2   |
| 100°   | 176.9 | 175.3 | 144.9 | 96.8  | 57.7  | 17.5   | 4.7   | 9.2    | 10.2  | 9.2    | 4.7   |
| 102.5° | 204.0 | 196.7 | 165.6 | 118.5 | 79.3  | 32.8   | 7.9   | 6.2    | 7.2   | 6.2    | 7.9   |
| 105°   | 227.4 | 220.0 | 191.5 | 141.2 | 104.2 | 53.4   | 20.6  | 7.3    | 4.7   | 7.3    | 20.6  |
| 107.5° | 250.1 | 244.8 | 215.8 | 164.5 | 130.7 | 77.2   | 39.6  | 20.6   | 13.2  | 20.6   | 39.6  |
| 110°   | 276.6 | 270.2 | 238.5 | 188.8 | 158.2 | 103.6  | 60.2  | 37.5   | 29.0  | 37.5   | 60.2  |



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CATALOG NUMBER: MWL-2-18-13-UNV-L840-EDD

**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   | 112.5° | 135°  | 157.5° | 180°  | 202.5° | 225°  |
|--------|-------|-------|-------|-------|-------|--------|-------|--------|-------|--------|-------|
| 112.5° | 302.0 | 297.2 | 259.7 | 213.1 | 187.7 | 131.1  | 85.6  | 58.7   | 50.7  | 58.7   | 85.6  |
| 115°   | 321.5 | 318.9 | 284.0 | 235.9 | 214.2 | 162.3  | 113.7 | 83.5   | 74.0  | 83.5   | 113.7 |
| 117.5° | 342.2 | 341.6 | 302.0 | 259.1 | 245.9 | 190.4  | 139.6 | 108.4  | 98.3  | 108.4  | 139.6 |
| 120°   | 368.1 | 363.9 | 326.8 | 282.4 | 276.1 | 220.0  | 168.1 | 136.9  | 126.9 | 136.9  | 168.1 |
| 122.5° | 386.1 | 383.4 | 348.0 | 304.6 | 304.6 | 250.1  | 195.7 | 164.4  | 153.9 | 164.4  | 195.7 |
| 125°   | 402.5 | 401.4 | 363.9 | 326.8 | 335.3 | 278.2  | 226.3 | 194.6  | 183.0 | 194.6  | 226.3 |
| 127.5° | 417.3 | 418.9 | 384.5 | 351.2 | 366.5 | 306.7  | 256.5 | 221.6  | 209.4 | 221.6  | 256.5 |
| 130°   | 430.0 | 435.3 | 404.1 | 373.4 | 396.1 | 337.9  | 283.5 | 248.6  | 240.6 | 248.6  | 283.5 |
| 132.5° | 454.8 | 451.7 | 424.2 | 396.1 | 427.9 | 366.5  | 312.0 | 275.5  | 266.5 | 275.5  | 312.0 |
| 135°   | 467.5 | 468.6 | 441.6 | 415.7 | 457.5 | 395.1  | 339.0 | 303.0  | 294.0 | 303.0  | 339.0 |
| 137.5° | 482.9 | 479.7 | 455.4 | 439.5 | 485.0 | 422.6  | 365.4 | 332.1  | 317.8 | 332.1  | 365.4 |
| 140°   | 494.0 | 493.5 | 473.4 | 460.7 | 514.6 | 449.6  | 392.4 | 358.6  | 345.3 | 358.6  | 392.4 |
| 142.5° | 505.6 | 508.8 | 491.3 | 483.9 | 544.2 | 478.1  | 421.5 | 384.5  | 371.8 | 384.5  | 421.5 |
| 145°   | 513.6 | 520.4 | 509.3 | 513.0 | 572.3 | 509.9  | 446.9 | 409.4  | 395.6 | 409.4  | 446.9 |
| 147.5° | 526.8 | 535.8 | 522.5 | 533.7 | 596.6 | 537.9  | 472.3 | 435.3  | 423.1 | 435.3  | 472.3 |
| 150°   | 544.8 | 549.0 | 541.1 | 562.2 | 621.5 | 569.1  | 498.2 | 460.1  | 448.0 | 460.1  | 498.2 |
| 152.5° | 559.0 | 564.3 | 555.3 | 593.4 | 641.0 | 597.7  | 526.8 | 484.5  | 470.2 | 484.5  | 526.8 |
| 155°   | 573.9 | 576.0 | 569.6 | 623.6 | 661.7 | 625.7  | 549.5 | 511.4  | 497.7 | 511.4  | 549.5 |
| 157.5° | 587.6 | 591.8 | 584.4 | 646.3 | 679.6 | 650.0  | 575.4 | 538.4  | 526.3 | 538.4  | 575.4 |
| 160°   | 602.4 | 602.4 | 606.7 | 672.8 | 694.5 | 671.2  | 603.0 | 568.0  | 551.1 | 568.0  | 603.0 |
| 162.5° | 604.0 | 614.1 | 636.8 | 691.3 | 708.7 | 689.7  | 632.6 | 589.2  | 574.4 | 589.2  | 632.6 |
| 165°   | 627.3 | 636.3 | 670.7 | 707.7 | 719.8 | 706.1  | 669.1 | 624.1  | 606.7 | 624.1  | 669.1 |
| 167.5° | 651.6 | 670.7 | 698.2 | 726.2 | 730.4 | 721.4  | 697.1 | 665.9  | 650.0 | 665.9  | 697.1 |
| 170°   | 691.3 | 707.7 | 721.4 | 733.1 | 738.9 | 733.6  | 714.6 | 699.2  | 689.2 | 699.2  | 714.6 |
| 172.5° | 722.5 | 733.1 | 738.4 | 745.8 | 742.1 | 739.9  | 730.4 | 723.0  | 717.7 | 723.0  | 730.4 |
| 175°   | 742.1 | 744.2 | 748.9 | 746.3 | 749.5 | 743.7  | 744.2 | 747.9  | 726.2 | 747.9  | 744.2 |
| 177.5° | 748.9 | 752.6 | 750.0 | 745.2 | 745.8 | 744.7  | 746.8 | 748.9  | 745.8 | 748.9  | 746.8 |
| 180°   | 748.9 | 748.9 | 748.9 | 748.9 | 748.9 | 748.9  | 748.9 | 748.9  | 748.9 | 748.9  | 748.9 |



TEST NUMBER: P392489

CATALOG NUMBER: MWL-2-18-13-UNV-L840-EDD

**CANDELA DISTRIBUTION (continued):**

|        | 247.5° | 270°  | 292.5° | 315°  | 337.5° | 360°  |
|--------|--------|-------|--------|-------|--------|-------|
| 0°     | 578.7  | 578.7 | 578.7  | 578.7 | 578.7  | 578.7 |
| 2.5°   | 577.2  | 576.8 | 577.8  | 579.2 | 578.2  | 577.1 |
| 5°     | 574.2  | 573.2 | 574.2  | 576.2 | 575.2  | 573.1 |
| 7.5°   | 568.7  | 568.2 | 569.2  | 570.7 | 570.7  | 569.6 |
| 10°    | 562.2  | 560.7 | 562.7  | 563.7 | 563.7  | 563.2 |
| 12.5°  | 553.2  | 551.6 | 553.2  | 554.2 | 555.7  | 556.2 |
| 15°    | 543.6  | 541.6 | 544.2  | 544.2 | 544.7  | 545.8 |
| 17.5°  | 531.6  | 530.6 | 531.6  | 532.2 | 532.7  | 533.8 |
| 20°    | 517.1  | 517.1 | 517.6  | 519.2 | 519.2  | 518.8 |
| 22.5°  | 504.1  | 503.1 | 504.6  | 504.2 | 503.2  | 503.2 |
| 25°    | 488.1  | 488.1 | 488.6  | 487.7 | 486.2  | 486.2 |
| 27.5°  | 471.6  | 471.1 | 472.2  | 470.7 | 467.2  | 466.2 |
| 30°    | 453.6  | 454.1 | 454.7  | 452.2 | 447.2  | 445.2 |
| 32.5°  | 434.6  | 435.6 | 435.7  | 430.2 | 423.2  | 420.2 |
| 35°    | 413.1  | 414.1 | 414.7  | 406.7 | 397.7  | 394.7 |
| 37.5°  | 391.1  | 394.6 | 392.7  | 380.7 | 370.7  | 369.7 |
| 40°    | 368.1  | 372.6 | 369.2  | 351.7 | 344.7  | 346.7 |
| 42.5°  | 342.1  | 350.6 | 343.2  | 324.2 | 319.7  | 322.7 |
| 45°    | 314.1  | 325.6 | 315.2  | 296.2 | 297.2  | 300.2 |
| 47.5°  | 285.1  | 301.6 | 285.6  | 271.2 | 274.2  | 279.2 |
| 50°    | 255.6  | 268.1 | 256.6  | 248.2 | 254.2  | 256.2 |
| 52.5°  | 228.6  | 234.1 | 229.6  | 225.6 | 234.2  | 237.2 |
| 55°    | 202.1  | 196.6 | 203.1  | 203.6 | 214.6  | 216.6 |
| 57.5°  | 174.1  | 164.6 | 175.1  | 182.6 | 194.6  | 196.6 |
| 60°    | 148.1  | 140.6 | 148.6  | 160.1 | 175.1  | 177.1 |
| 62.5°  | 122.1  | 118.1 | 122.6  | 137.1 | 154.1  | 158.1 |
| 65°    | 102.1  | 100.1 | 102.6  | 115.6 | 131.6  | 136.6 |
| 67.5°  | 85.1   | 86.1  | 85.1   | 97.6  | 110.6  | 117.6 |
| 70°    | 70.1   | 72.1  | 70.1   | 79.1  | 91.1   | 100.1 |
| 72.5°  | 56.5   | 59.5  | 57.1   | 64.1  | 73.1   | 83.1  |
| 75°    | 45.5   | 49.5  | 45.5   | 49.5  | 59.1   | 67.1  |
| 77.5°  | 35.5   | 39.5  | 35.5   | 38.5  | 50.2   | 60.3  |
| 80°    | 27.5   | 29.5  | 27.5   | 31.1  | 49.6   | 59.3  |
| 82.5°  | 19.5   | 20.5  | 19.5   | 32.5  | 55.2   | 63.0  |
| 85°    | 15.1   | 11.5  | 16.1   | 41.1  | 67.1   | 72.4  |
| 87.5°  | 13.6   | 3.0   | 21.1   | 53.4  | 82.7   | 86.4  |
| 90°    | 9.1    | 0.5   | 29.2   | 69.5  | 98.8   | 102.0 |
| 92.5°  | 5.1    | 8.5   | 41.6   | 86.1  | 118.0  | 122.3 |
| 95°    | 2.1    | 21.2  | 55.0   | 104.8 | 137.8  | 139.9 |
| 97.5°  | 6.3    | 37.6  | 74.1   | 124.1 | 156.6  | 160.2 |
| 100°   | 17.5   | 57.7  | 96.8   | 144.9 | 175.3  | 176.9 |
| 102.5° | 32.8   | 79.3  | 118.5  | 165.6 | 196.7  | 204.0 |
| 105°   | 53.4   | 104.2 | 141.2  | 191.5 | 220.0  | 227.4 |
| 107.5° | 77.2   | 130.7 | 164.5  | 215.8 | 244.8  | 250.1 |
| 110°   | 103.6  | 158.2 | 188.8  | 238.5 | 270.2  | 276.6 |





TEST NUMBER: P392489

CATALOG NUMBER: MWL-2-18-13-UNV-L840-EDD

**CANDELA DISTRIBUTION (continued):**

|        | 247.5° | 270°  | 292.5° | 315°  | 337.5° | 360°  |
|--------|--------|-------|--------|-------|--------|-------|
| 112.5° | 131.1  | 187.7 | 213.1  | 259.7 | 297.2  | 302.0 |
| 115°   | 162.3  | 214.2 | 235.9  | 284.0 | 318.9  | 321.5 |
| 117.5° | 190.4  | 245.9 | 259.1  | 302.0 | 341.6  | 342.2 |
| 120°   | 220.0  | 276.1 | 282.4  | 326.8 | 363.9  | 368.1 |
| 122.5° | 250.1  | 304.6 | 304.6  | 348.0 | 383.4  | 386.1 |
| 125°   | 278.2  | 335.3 | 326.8  | 363.9 | 401.4  | 402.5 |
| 127.5° | 306.7  | 366.5 | 351.2  | 384.5 | 418.9  | 417.3 |
| 130°   | 337.9  | 396.1 | 373.4  | 404.1 | 435.3  | 430.0 |
| 132.5° | 366.5  | 427.9 | 396.1  | 424.2 | 451.7  | 454.8 |
| 135°   | 395.1  | 457.5 | 415.7  | 441.6 | 468.6  | 467.5 |
| 137.5° | 422.6  | 485.0 | 439.5  | 455.4 | 479.7  | 482.9 |
| 140°   | 449.6  | 514.6 | 460.7  | 473.4 | 493.5  | 494.0 |
| 142.5° | 478.1  | 544.2 | 483.9  | 491.3 | 508.8  | 505.6 |
| 145°   | 509.9  | 572.3 | 513.0  | 509.3 | 520.4  | 513.6 |
| 147.5° | 537.9  | 596.6 | 533.7  | 522.5 | 535.8  | 526.8 |
| 150°   | 569.1  | 621.5 | 562.2  | 541.1 | 549.0  | 544.8 |
| 152.5° | 597.7  | 641.0 | 593.4  | 555.3 | 564.3  | 559.0 |
| 155°   | 625.7  | 661.7 | 623.6  | 569.6 | 576.0  | 573.9 |
| 157.5° | 650.0  | 679.6 | 646.3  | 584.4 | 591.8  | 587.6 |
| 160°   | 671.2  | 694.5 | 672.8  | 606.7 | 602.4  | 602.4 |
| 162.5° | 689.7  | 708.7 | 691.3  | 636.8 | 614.1  | 604.0 |
| 165°   | 706.1  | 719.8 | 707.7  | 670.7 | 636.3  | 627.3 |
| 167.5° | 721.4  | 730.4 | 726.2  | 698.2 | 670.7  | 651.6 |
| 170°   | 733.6  | 738.9 | 733.1  | 721.4 | 707.7  | 691.3 |
| 172.5° | 739.9  | 742.1 | 745.8  | 738.4 | 733.1  | 722.5 |
| 175°   | 743.7  | 749.5 | 746.3  | 748.9 | 744.2  | 742.1 |
| 177.5° | 744.7  | 745.8 | 745.2  | 750.0 | 752.6  | 748.9 |
| 180°   | 748.9  | 748.9 | 748.9  | 748.9 | 748.9  | 748.9 |

(END OF REPORT)