

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: LUMARK

Report Number: P143621

Luminaire Tested: **LDRL-5MQ-E01-E-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P143621
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33697)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-5MQ-E01-E-7050
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 5 SQUARE MEDIUM
Light Source: (21) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3188.8 lumens
Efficiency: N/A
Efficacy: 129.1 lumens/watt
Luminous Opening: Rectangular (W 0.17' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B2 - U0 - G1

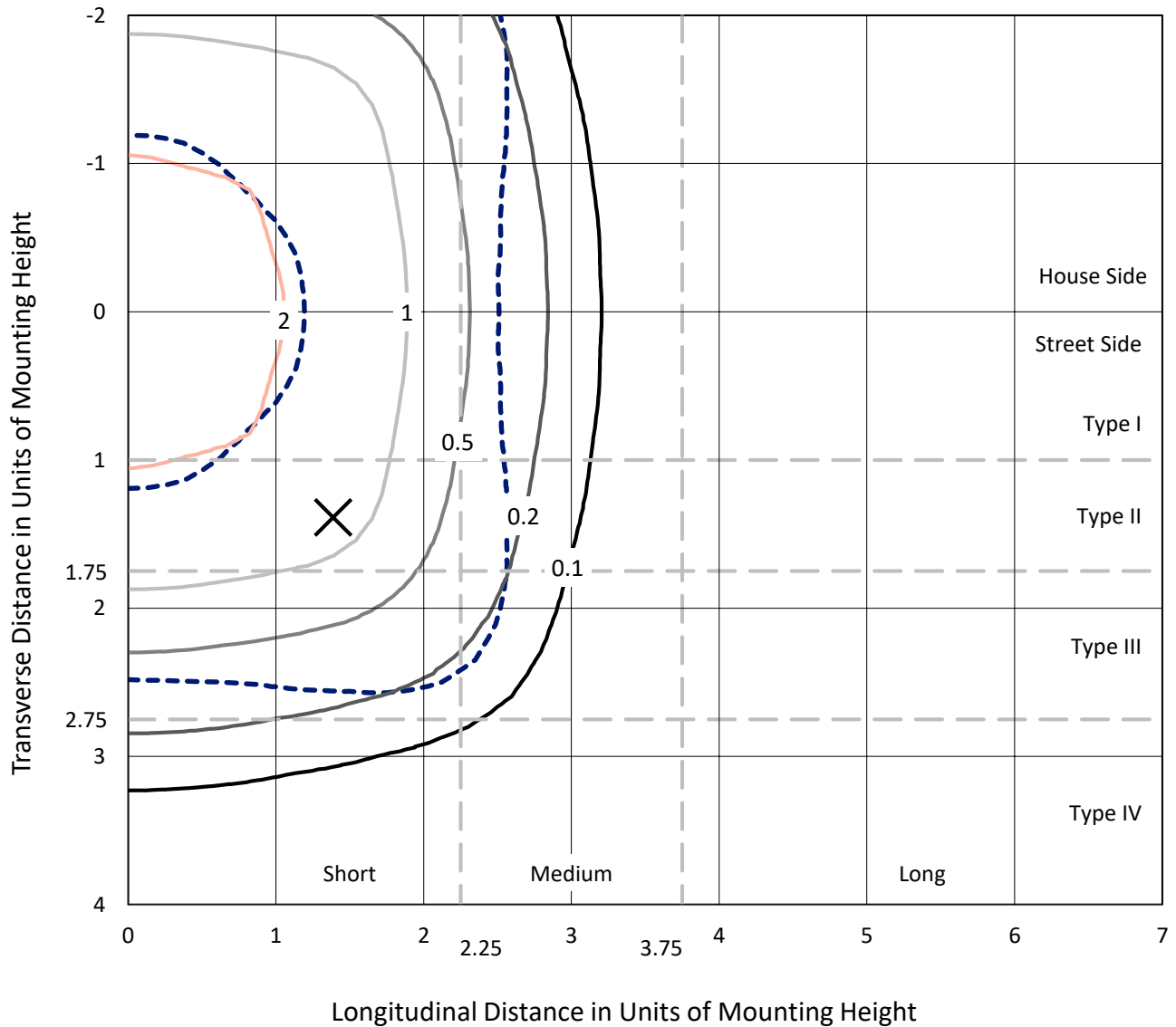
Input Watts (W): 24.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

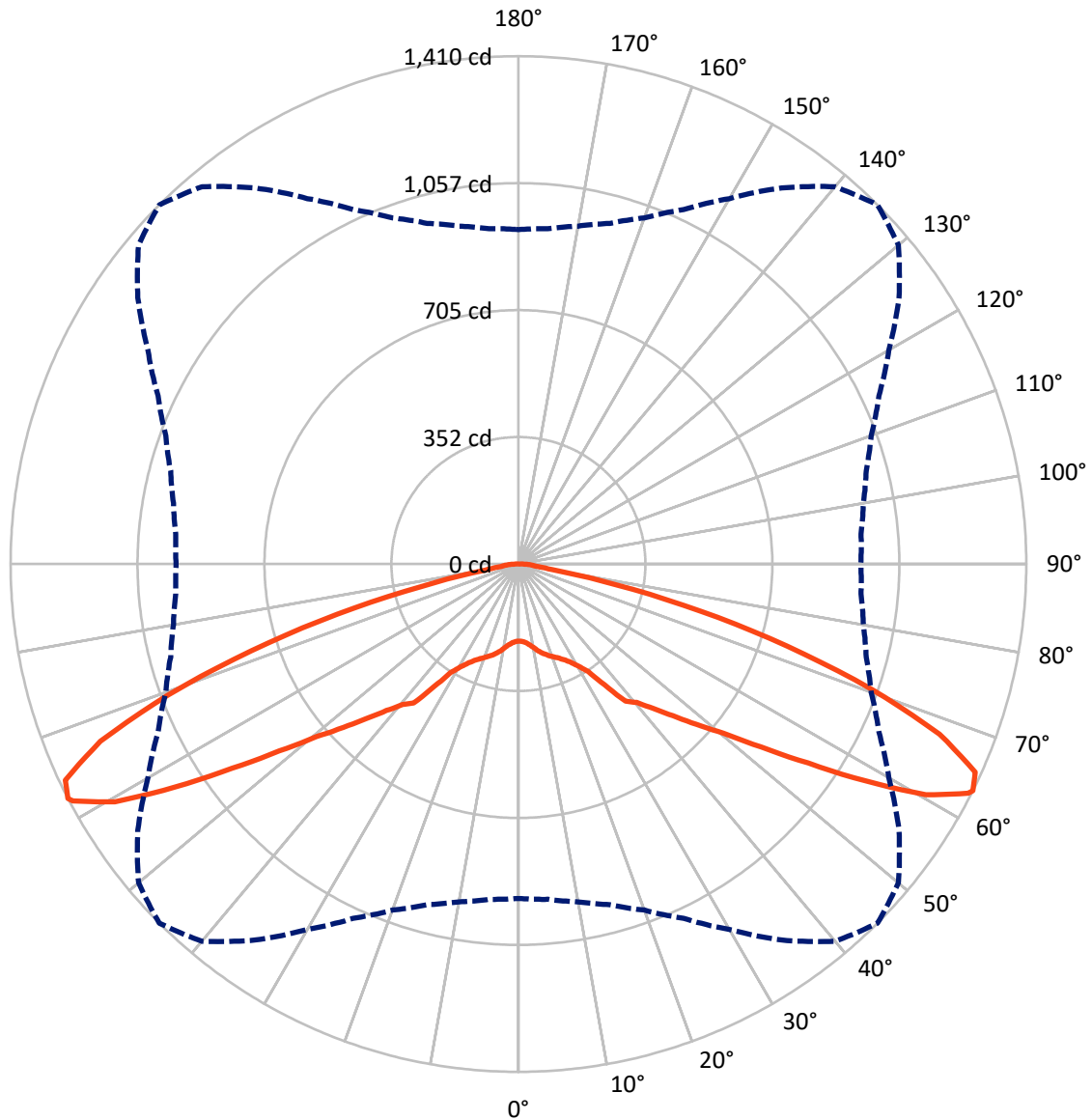
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 2.4 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 63-Deg Vertical

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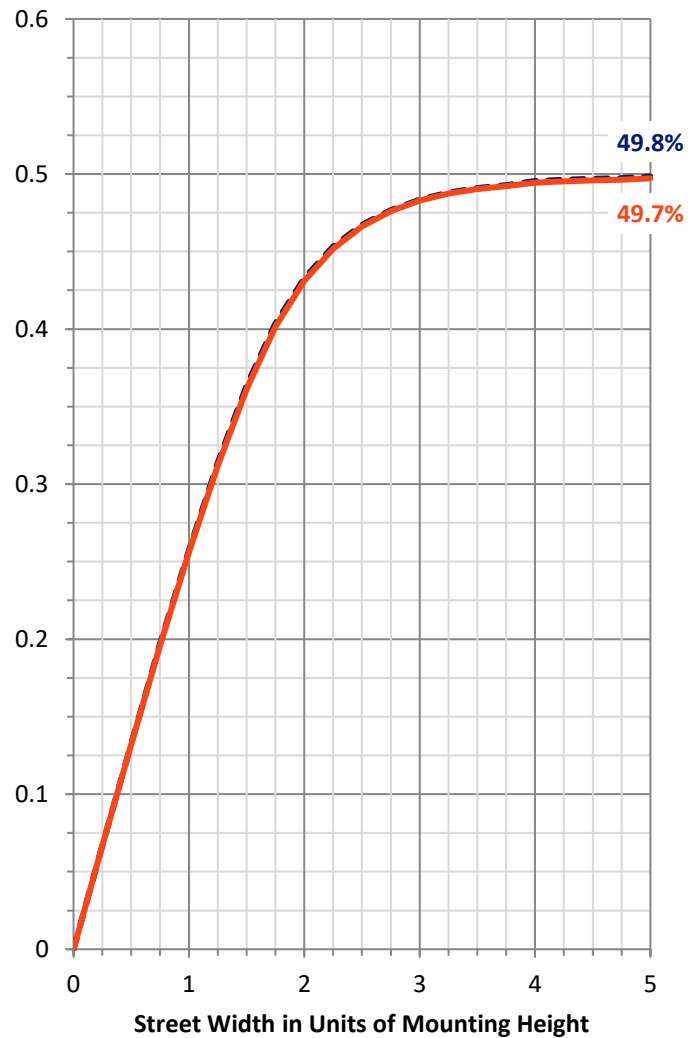
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1594.4 | 0.0 | 1594.4 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 1594.4 | 0.0 | 1594.4 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 3188.8 | 0.0 | 3188.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 21.5 | 0.7 |
| 10°-20° | 73.6 | 2.3 |
| 20°-30° | 140.6 | 4.4 |
| 30°-40° | 267.9 | 8.4 |
| 40°-50° | 461.3 | 14.5 |
| 50°-60° | 824.3 | 25.8 |
| 60°-70° | 1004.0 | 31.5 |
| 70°-80° | 357.6 | 11.2 |
| 80°-90° | 37.9 | 1.2 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 3188.8 | 100.0 |
| 0°-180° | 3188.8 | 100.0 |



REPORT NUMBER: P143621

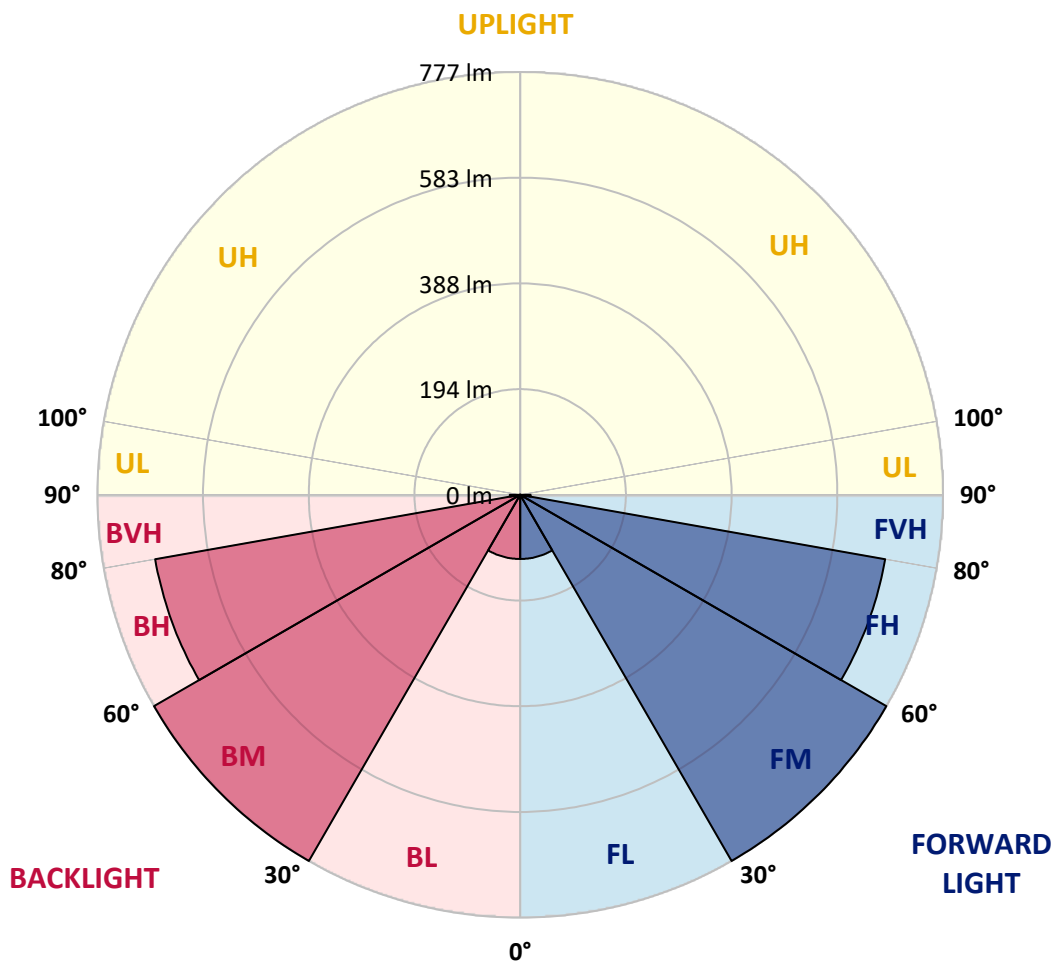
CATALOG NUMBER: LDRL-5MQ-E01-E-7050

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 117.9 | 3.7 | | | |
| FM (30°-60°) | 776.7 | 24.4 | | | |
| FH (60°-80°) | 680.8 | 21.4 | | | G1/1800 |
| FVH (80°-90°) | 19.0 | 0.6 | | | G1/100 |
| BL (0°-30°) | 117.9 | 3.7 | B1/500 | | |
| BM (30°-60°) | 776.7 | 24.4 | B1/1000 | | |
| BH (60°-80°) | 680.8 | 21.4 | B2/1000 | | G1/1800 |
| BVH (80°-90°) | 19.0 | 0.6 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G1

Type V Short





REPORT NUMBER: P143621

CATALOG NUMBER: LDRL-5MQ-E01-E-7050

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 214.0 | 214.0 | 214.0 | 214.0 | 214.0 | 214.0 | 214.0 | 214.0 | 214.0 | 214.0 | 214.0 |
| 2.5° | 215.7 | 215.5 | 215.7 | 215.3 | 215.3 | 215.1 | 215.1 | 215.1 | 214.7 | 215.1 | 214.7 |
| 5° | 220.2 | 220.0 | 220.2 | 219.8 | 219.8 | 219.4 | 219.4 | 219.4 | 219.0 | 219.4 | 219.2 |
| 7.5° | 228.0 | 228.4 | 228.0 | 227.6 | 227.6 | 227.2 | 227.0 | 227.0 | 226.8 | 226.6 | 227.0 |
| 10° | 238.9 | 239.3 | 238.7 | 238.3 | 238.1 | 237.9 | 237.4 | 237.2 | 237.2 | 236.4 | 236.6 |
| 12.5° | 250.4 | 250.4 | 249.8 | 249.5 | 249.5 | 249.1 | 248.3 | 248.1 | 248.1 | 247.7 | 247.3 |
| 15° | 260.6 | 260.6 | 260.2 | 259.4 | 259.6 | 259.0 | 258.4 | 258.0 | 258.0 | 257.6 | 257.1 |
| 17.5° | 270.1 | 270.1 | 269.5 | 268.6 | 268.2 | 268.0 | 267.2 | 266.8 | 266.8 | 266.4 | 266.0 |
| 20° | 279.5 | 279.9 | 278.9 | 278.1 | 277.3 | 276.4 | 275.6 | 275.2 | 274.6 | 274.8 | 274.6 |
| 22.5° | 290.8 | 291.0 | 289.4 | 288.3 | 286.7 | 285.7 | 284.4 | 284.0 | 283.2 | 283.2 | 283.6 |
| 25° | 305.2 | 305.0 | 303.1 | 301.3 | 299.4 | 297.4 | 295.5 | 295.1 | 294.3 | 294.1 | 294.3 |
| 27.5° | 324.0 | 323.8 | 321.6 | 319.1 | 316.7 | 313.6 | 311.3 | 310.1 | 309.5 | 308.7 | 309.1 |
| 30° | 347.2 | 347.6 | 345.0 | 342.1 | 339.0 | 335.3 | 332.5 | 330.8 | 329.6 | 328.8 | 329.2 |
| 32.5° | 394.4 | 394.0 | 389.9 | 383.8 | 377.2 | 368.6 | 361.6 | 358.7 | 356.5 | 355.6 | 356.3 |
| 35° | 441.8 | 441.4 | 439.8 | 437.9 | 436.3 | 430.8 | 425.6 | 419.7 | 414.8 | 411.7 | 412.5 |
| 37.5° | 464.2 | 464.2 | 463.0 | 462.6 | 462.6 | 465.9 | 470.0 | 477.3 | 483.1 | 483.5 | 481.7 |
| 40° | 499.1 | 499.1 | 497.0 | 496.0 | 495.4 | 496.4 | 499.1 | 501.8 | 504.6 | 505.3 | 503.2 |
| 42.5° | 540.1 | 538.3 | 536.9 | 534.8 | 534.6 | 535.6 | 538.5 | 541.8 | 544.7 | 547.1 | 542.8 |
| 45° | 584.5 | 582.8 | 581.4 | 580.2 | 581.0 | 583.6 | 587.5 | 593.3 | 597.4 | 601.1 | 597.6 |
| 47.5° | 633.9 | 630.4 | 631.9 | 630.6 | 632.7 | 638.0 | 645.0 | 653.6 | 657.9 | 664.5 | 659.0 |
| 50° | 695.5 | 696.3 | 695.5 | 695.5 | 698.0 | 704.9 | 715.2 | 726.9 | 734.3 | 738.0 | 734.7 |
| 52.5° | 787.0 | 784.6 | 779.0 | 780.7 | 783.9 | 795.0 | 808.4 | 824.8 | 834.2 | 843.0 | 832.8 |
| 55° | 887.2 | 887.6 | 886.8 | 889.0 | 895.4 | 906.7 | 923.5 | 948.3 | 960.2 | 975.6 | 963.3 |
| 57.5° | 970.1 | 973.0 | 977.9 | 984.7 | 998.4 | 1017.3 | 1050.3 | 1088.3 | 1119.9 | 1136.5 | 1117.2 |
| 60° | 997.0 | 999.8 | 1011.7 | 1030.6 | 1056.5 | 1095.1 | 1148.6 | 1213.7 | 1270.5 | 1300.1 | 1274.8 |
| 62.5° | 945.2 | 950.6 | 968.2 | 994.3 | 1037.0 | 1097.3 | 1176.9 | 1273.2 | 1360.8 | 1401.2 | 1370.7 |
| 63° | 928.4 | 934.4 | 952.4 | 978.9 | 1022.4 | 1085.4 | 1171.4 | 1274.4 | 1367.2 | 1409.9 | 1376.8 |
| 65° | 853.7 | 857.6 | 876.7 | 906.9 | 955.3 | 1021.0 | 1116.6 | 1238.5 | 1344.2 | 1393.7 | 1358.6 |
| 67.5° | 736.1 | 741.3 | 758.7 | 784.8 | 831.8 | 901.3 | 995.3 | 1116.8 | 1220.9 | 1260.5 | 1230.5 |
| 70° | 590.4 | 596.2 | 610.5 | 634.7 | 671.7 | 736.1 | 816.6 | 930.1 | 1008.3 | 1039.2 | 1007.2 |
| 72.5° | 415.0 | 417.4 | 427.9 | 453.3 | 481.0 | 532.3 | 596.2 | 684.4 | 759.5 | 779.8 | 749.1 |
| 75° | 175.7 | 175.9 | 189.6 | 205.8 | 240.5 | 291.6 | 347.2 | 423.2 | 490.7 | 522.3 | 483.3 |
| 77.5° | 56.2 | 56.8 | 60.7 | 66.7 | 78.2 | 101.0 | 142.0 | 183.7 | 245.6 | 275.6 | 239.1 |
| 80° | 47.0 | 47.8 | 49.5 | 50.7 | 51.5 | 52.7 | 57.5 | 64.0 | 80.7 | 93.8 | 75.7 |
| 82.5° | 40.4 | 41.9 | 45.6 | 47.0 | 47.8 | 48.2 | 48.8 | 48.6 | 47.6 | 47.2 | 47.4 |
| 85° | 30.8 | 34.3 | 38.4 | 41.7 | 42.1 | 42.3 | 43.5 | 43.9 | 40.6 | 37.4 | 40.6 |
| 87.5° | 13.3 | 17.2 | 26.5 | 29.3 | 28.7 | 26.7 | 28.5 | 30.2 | 27.5 | 20.1 | 26.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P143621

CATALOG NUMBER: LDRL-5MQ-E01-E-7050

CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 214.0 | 214.0 | 214.0 | 214.0 | 214.0 | 214.0 | 214.0 | 214.0 |
| 2.5° | 214.9 | 215.3 | 215.3 | 215.3 | 215.3 | 215.5 | 215.7 | 215.5 |
| 5° | 219.4 | 219.8 | 219.6 | 219.8 | 219.8 | 220.0 | 220.2 | 220.0 |
| 7.5° | 227.2 | 227.2 | 227.2 | 227.6 | 227.6 | 228.0 | 228.0 | 228.0 |
| 10° | 236.8 | 236.6 | 236.6 | 237.0 | 237.4 | 237.6 | 238.1 | 237.9 |
| 12.5° | 247.3 | 246.9 | 247.1 | 247.5 | 247.9 | 248.1 | 248.5 | 248.3 |
| 15° | 256.7 | 256.5 | 256.5 | 257.1 | 257.3 | 257.6 | 258.4 | 258.4 |
| 17.5° | 265.8 | 265.8 | 265.8 | 266.6 | 266.8 | 267.6 | 268.2 | 268.2 |
| 20° | 274.8 | 274.8 | 274.8 | 275.6 | 276.2 | 277.5 | 278.7 | 278.5 |
| 22.5° | 284.0 | 284.2 | 284.6 | 285.5 | 286.9 | 288.7 | 289.8 | 289.8 |
| 25° | 295.5 | 296.3 | 297.2 | 298.4 | 300.4 | 302.9 | 304.5 | 305.2 |
| 27.5° | 310.3 | 312.1 | 314.2 | 316.0 | 318.3 | 321.4 | 323.6 | 324.0 |
| 30° | 330.4 | 333.1 | 336.4 | 338.8 | 341.7 | 345.2 | 347.8 | 349.3 |
| 32.5° | 358.9 | 365.5 | 369.8 | 378.6 | 384.0 | 389.9 | 394.8 | 396.9 |
| 35° | 417.6 | 424.2 | 429.9 | 435.9 | 437.1 | 439.2 | 441.8 | 442.5 |
| 37.5° | 475.7 | 470.4 | 465.2 | 465.0 | 463.6 | 464.0 | 464.8 | 465.9 |
| 40° | 500.9 | 499.3 | 496.6 | 497.7 | 497.9 | 497.9 | 499.5 | 499.7 |
| 42.5° | 541.6 | 537.7 | 534.6 | 537.1 | 537.5 | 537.9 | 539.5 | 541.4 |
| 45° | 593.3 | 587.3 | 583.4 | 582.0 | 583.4 | 583.0 | 585.3 | 585.7 |
| 47.5° | 652.4 | 644.6 | 635.8 | 632.9 | 632.1 | 630.2 | 634.1 | 633.7 |
| 50° | 724.8 | 712.3 | 701.7 | 697.5 | 695.5 | 694.5 | 695.5 | 695.5 |
| 52.5° | 816.6 | 804.1 | 789.5 | 784.8 | 783.1 | 785.4 | 782.1 | 785.6 |
| 55° | 942.8 | 922.5 | 902.6 | 896.2 | 895.2 | 894.1 | 894.6 | 896.0 |
| 57.5° | 1084.8 | 1048.7 | 1022.0 | 1006.4 | 996.3 | 991.4 | 986.1 | 985.3 |
| 60° | 1221.9 | 1156.2 | 1105.5 | 1071.0 | 1046.6 | 1028.2 | 1018.7 | 1015.4 |
| 62.5° | 1288.0 | 1191.9 | 1113.1 | 1054.4 | 1018.1 | 987.9 | 971.3 | 967.0 |
| 63° | 1289.8 | 1187.4 | 1103.9 | 1041.9 | 999.6 | 972.5 | 954.9 | 950.4 |
| 65° | 1255.5 | 1139.0 | 1041.1 | 973.0 | 928.2 | 899.9 | 878.1 | 873.4 |
| 67.5° | 1130.8 | 1017.7 | 917.5 | 848.4 | 800.0 | 777.2 | 753.2 | 752.5 |
| 70° | 928.0 | 827.0 | 742.7 | 679.1 | 638.6 | 616.1 | 591.7 | 592.3 |
| 72.5° | 678.5 | 588.8 | 530.7 | 481.0 | 438.4 | 417.0 | 394.0 | 396.3 |
| 75° | 408.4 | 328.4 | 276.0 | 232.9 | 189.0 | 162.7 | 145.1 | 135.0 |
| 77.5° | 174.6 | 119.4 | 85.8 | 68.1 | 57.5 | 53.2 | 51.1 | 50.5 |
| 80° | 60.7 | 53.8 | 50.7 | 49.9 | 49.3 | 48.4 | 47.0 | 45.6 |
| 82.5° | 49.3 | 49.3 | 47.6 | 47.4 | 45.6 | 44.1 | 40.4 | 38.6 |
| 85° | 43.7 | 42.9 | 41.5 | 40.8 | 40.4 | 37.4 | 32.6 | 30.2 |
| 87.5° | 28.9 | 26.9 | 25.7 | 26.3 | 25.4 | 22.8 | 14.0 | 11.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)