

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: STREETWORKS

Report Number: P270801

Luminaire Tested: **NVN-AF-02-LED-U-5MQ-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270801
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24129)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: NVN-AF-02-LED-U-5MQ-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11270.4 lumens
Efficiency: N/A
Efficacy: 99.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

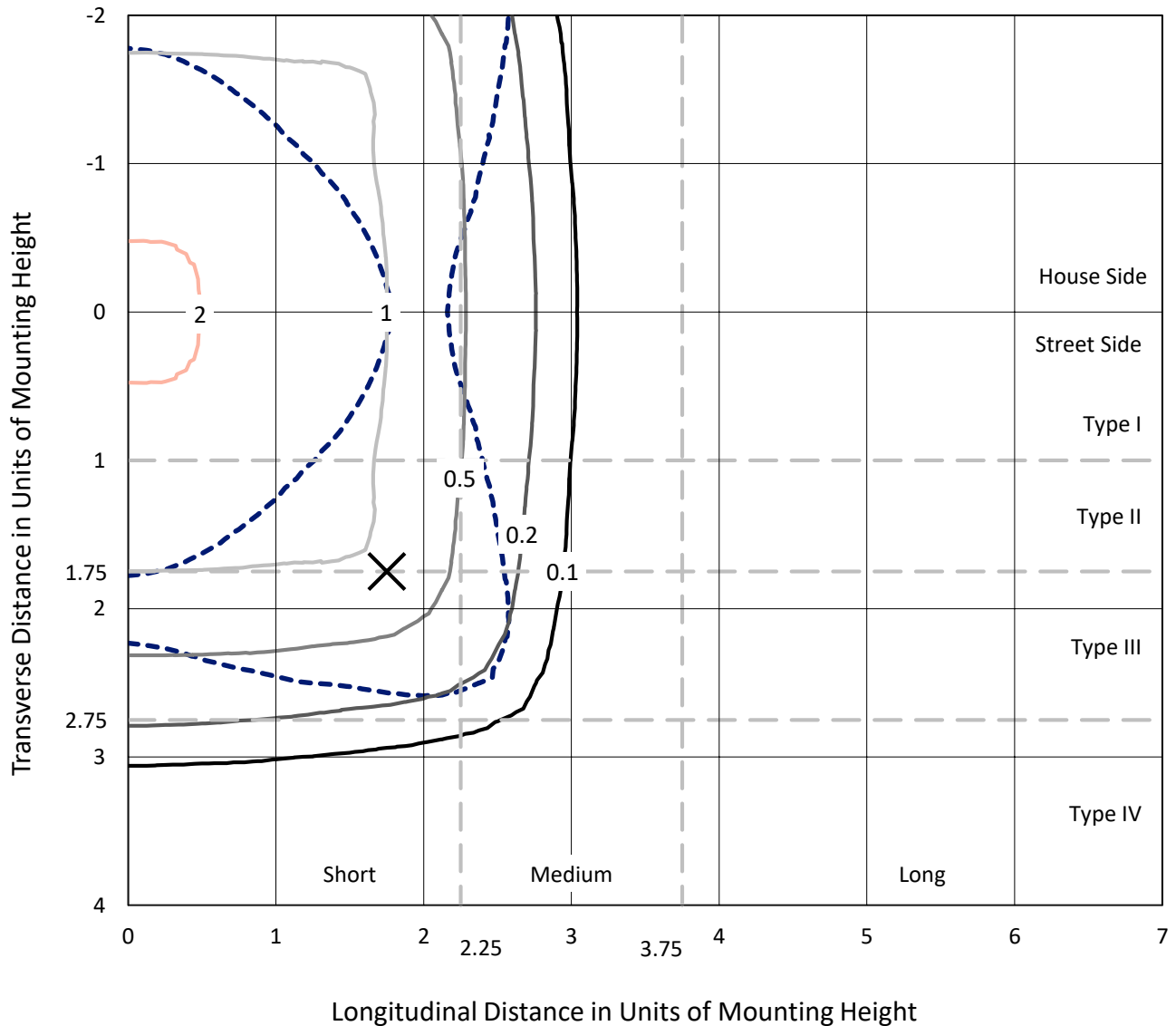
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

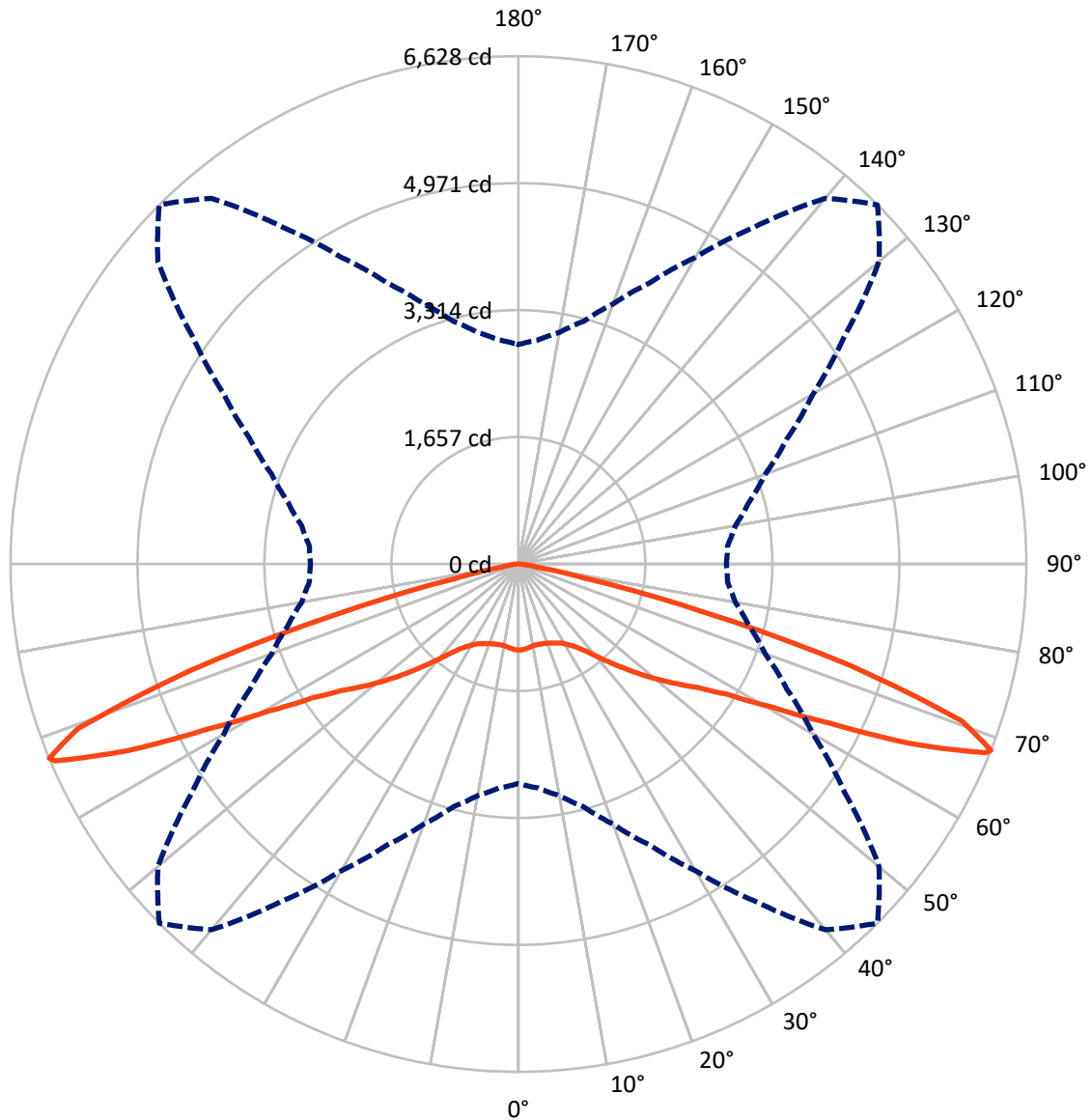
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 2.8 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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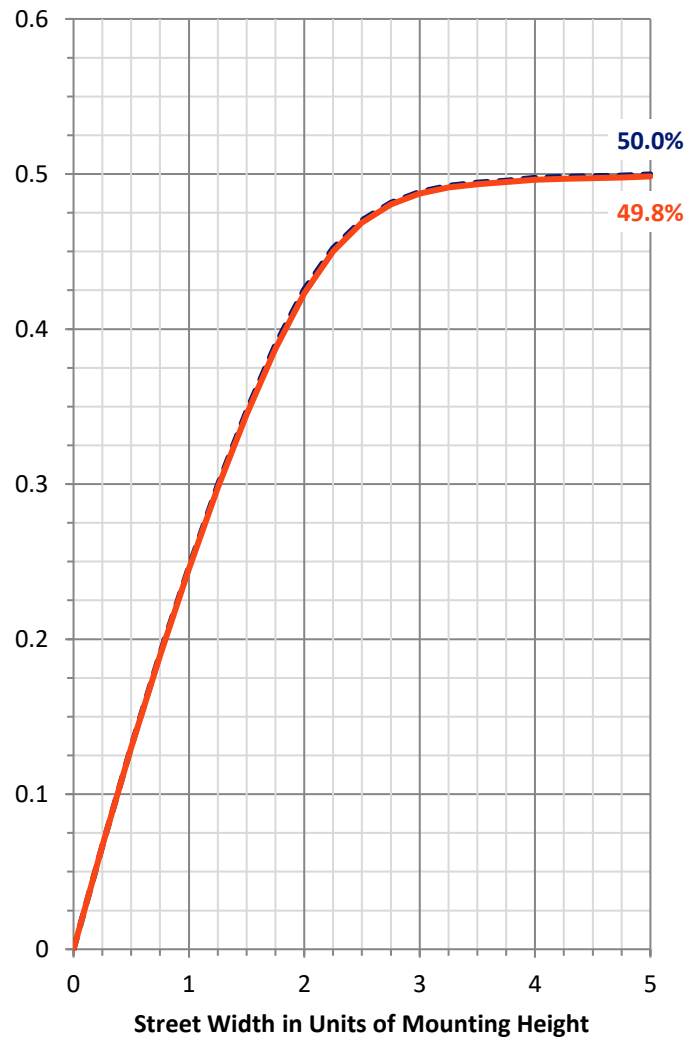
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 5635.2 | 0.0 | 5635.2 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 5635.2 | 0.0 | 5635.2 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 11270.4 | 0.0 | 11270.4 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 105.2 | 0.9 |
| 10°-20° | 305.1 | 2.7 |
| 20°-30° | 518.7 | 4.6 |
| 30°-40° | 848.8 | 7.5 |
| 40°-50° | 1517.0 | 13.5 |
| 50°-60° | 2562.0 | 22.7 |
| 60°-70° | 3972.6 | 35.2 |
| 70°-80° | 1365.9 | 12.1 |
| 80°-90° | 75.1 | 0.7 |
| 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° | 11270.4 | 100.0 |
| 0°-180° | 11270.4 | 100.0 |



--- HS — SS

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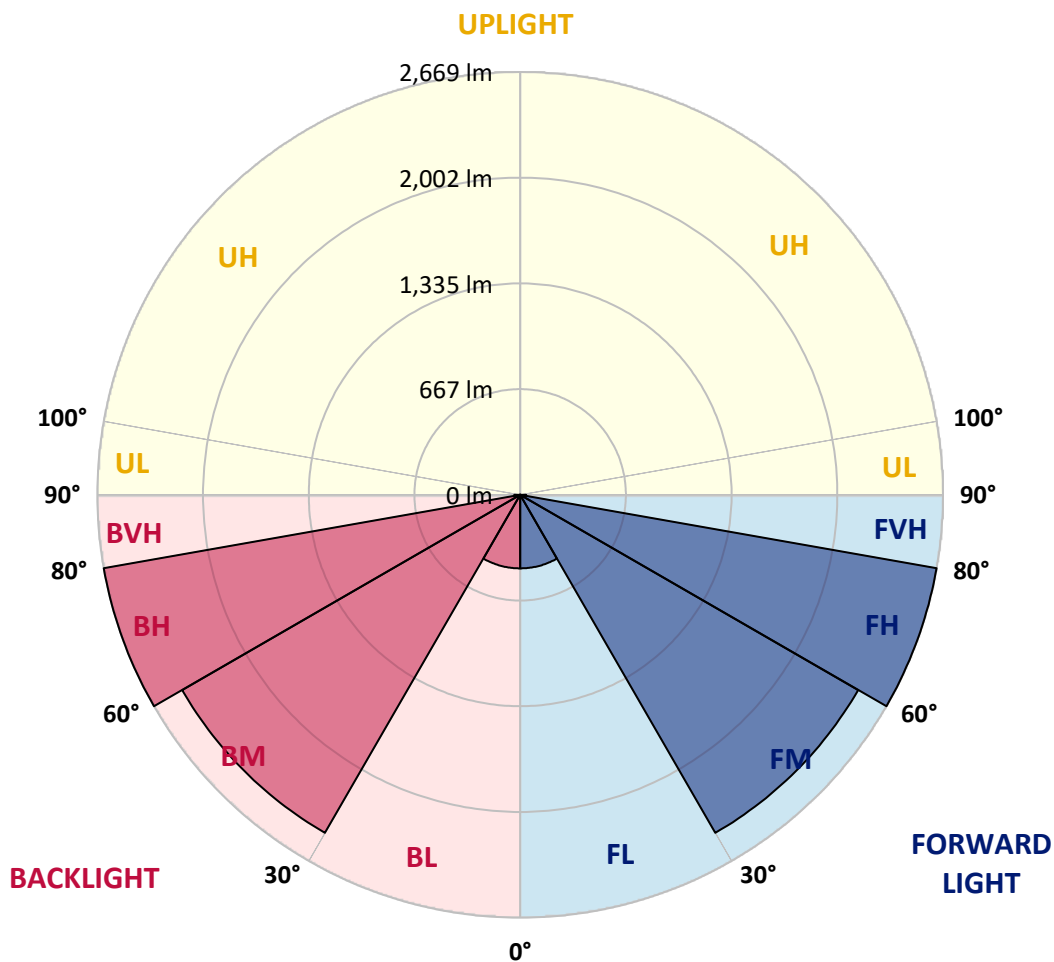
CATALOG NUMBER: NVN-AF-02-LED-U-5MQ-7027

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 464.5 | 4.1 | | | |
| FM | (30°-60°) | 2463.9 | 21.9 | | | |
| FH | (60°-80°) | 2669.3 | 23.7 | | | G2/5000 |
| FVH | (80°-90°) | 37.5 | 0.3 | | | G1/100 |
| BL | (0°-30°) | 464.5 | 4.1 | B1/500 | | |
| BM | (30°-60°) | 2463.9 | 21.9 | B2/2500 | | |
| BH | (60°-80°) | 2669.3 | 23.7 | B4/5000 | | G2/5000 |
| BVH | (80°-90°) | 37.5 | 0.3 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B4-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1124.3 | 1124.3 | 1124.3 | 1124.3 | 1124.3 | 1124.3 | 1124.3 | 1124.3 | 1124.3 | 1124.3 | 1124.3 |
| 2.5° | 1129.1 | 1129.1 | 1130.4 | 1129.8 | 1127.7 | 1125.7 | 1123.6 | 1121.5 | 1120.0 | 1118.7 | 1117.3 |
| 5° | 1117.3 | 1117.3 | 1119.4 | 1118.0 | 1116.7 | 1114.5 | 1113.2 | 1111.2 | 1109.8 | 1108.4 | 1109.0 |
| 7.5° | 1102.2 | 1103.6 | 1104.9 | 1104.2 | 1101.5 | 1100.9 | 1098.6 | 1098.0 | 1096.7 | 1094.6 | 1095.3 |
| 10° | 1089.0 | 1089.7 | 1091.1 | 1090.5 | 1089.7 | 1087.7 | 1086.9 | 1086.3 | 1085.6 | 1082.8 | 1082.2 |
| 12.5° | 1075.9 | 1077.2 | 1078.8 | 1079.5 | 1078.8 | 1079.5 | 1080.1 | 1080.8 | 1080.1 | 1078.8 | 1078.8 |
| 15° | 1065.6 | 1066.9 | 1069.1 | 1071.0 | 1071.8 | 1075.9 | 1078.8 | 1081.5 | 1083.5 | 1084.3 | 1082.2 |
| 17.5° | 1060.1 | 1062.2 | 1064.9 | 1069.1 | 1072.4 | 1077.2 | 1082.2 | 1086.3 | 1089.7 | 1090.5 | 1088.3 |
| 20° | 1059.5 | 1061.4 | 1065.6 | 1070.4 | 1076.6 | 1082.8 | 1090.5 | 1096.7 | 1100.2 | 1102.2 | 1100.2 |
| 22.5° | 1064.2 | 1066.9 | 1072.4 | 1078.8 | 1086.3 | 1094.6 | 1104.2 | 1111.2 | 1118.0 | 1120.7 | 1118.7 |
| 25° | 1078.1 | 1080.8 | 1086.9 | 1094.6 | 1102.8 | 1113.2 | 1122.9 | 1131.9 | 1138.7 | 1142.1 | 1139.4 |
| 27.5° | 1107.0 | 1107.7 | 1114.5 | 1122.9 | 1132.6 | 1141.4 | 1154.0 | 1158.0 | 1163.6 | 1167.1 | 1163.6 |
| 30° | 1147.8 | 1149.1 | 1155.3 | 1168.4 | 1177.4 | 1189.1 | 1196.1 | 1200.1 | 1206.3 | 1209.8 | 1205.6 |
| 32.5° | 1209.8 | 1211.3 | 1216.8 | 1229.2 | 1237.4 | 1246.4 | 1254.8 | 1257.4 | 1263.6 | 1267.8 | 1262.9 |
| 35° | 1297.5 | 1300.2 | 1305.1 | 1313.3 | 1320.2 | 1327.2 | 1333.4 | 1331.3 | 1335.4 | 1341.0 | 1336.0 |
| 37.5° | 1417.5 | 1416.8 | 1418.2 | 1424.4 | 1431.4 | 1435.5 | 1445.2 | 1440.3 | 1444.5 | 1449.3 | 1446.5 |
| 40° | 1557.8 | 1557.8 | 1557.0 | 1568.0 | 1570.7 | 1574.9 | 1585.2 | 1579.1 | 1584.6 | 1590.1 | 1585.2 |
| 42.5° | 1717.1 | 1719.8 | 1723.3 | 1732.3 | 1739.8 | 1741.3 | 1746.0 | 1743.3 | 1750.2 | 1755.1 | 1750.2 |
| 45° | 1900.6 | 1904.8 | 1909.0 | 1929.6 | 1933.2 | 1935.8 | 1939.4 | 1930.4 | 1938.0 | 1942.0 | 1940.7 |
| 47.5° | 2091.2 | 2098.7 | 2107.8 | 2129.2 | 2142.8 | 2149.1 | 2151.9 | 2141.5 | 2142.2 | 2148.4 | 2149.1 |
| 50° | 2306.5 | 2314.8 | 2323.7 | 2347.9 | 2360.9 | 2372.1 | 2375.5 | 2363.8 | 2365.1 | 2370.0 | 2371.3 |
| 52.5° | 2505.3 | 2515.0 | 2534.2 | 2566.6 | 2585.3 | 2604.6 | 2606.1 | 2591.5 | 2597.7 | 2601.1 | 2598.3 |
| 55° | 2692.3 | 2704.6 | 2730.2 | 2773.6 | 2807.6 | 2845.6 | 2862.7 | 2846.9 | 2846.9 | 2844.2 | 2842.7 |
| 57.5° | 2910.4 | 2924.2 | 2950.5 | 3000.8 | 3047.7 | 3102.1 | 3149.2 | 3165.0 | 3194.1 | 3203.6 | 3188.4 |
| 60° | 3238.8 | 3253.3 | 3280.3 | 3346.5 | 3405.8 | 3485.2 | 3562.6 | 3625.4 | 3727.4 | 3782.8 | 3732.9 |
| 62.5° | 3539.1 | 3561.2 | 3624.7 | 3740.6 | 3869.0 | 4016.0 | 4186.5 | 4307.9 | 4493.5 | 4586.0 | 4461.2 |
| 65° | 3470.7 | 3515.5 | 3639.8 | 3822.1 | 4087.1 | 4405.8 | 4753.0 | 5086.5 | 5470.0 | 5666.8 | 5412.8 |
| 67.5° | 3031.8 | 3069.8 | 3203.6 | 3415.5 | 3746.1 | 4185.7 | 4725.4 | 5415.6 | 6207.2 | 6575.8 | 6126.4 |
| 68° | 2864.2 | 2935.2 | 3068.4 | 3279.0 | 3612.3 | 4044.3 | 4620.5 | 5365.8 | 6229.9 | 6628.1 | 6143.0 |
| 70° | 2196.0 | 2221.6 | 2349.2 | 2538.4 | 2897.9 | 3321.8 | 3903.4 | 4753.0 | 5729.6 | 6139.6 | 5640.5 |
| 72.5° | 1043.6 | 1058.7 | 1141.4 | 1327.9 | 1556.3 | 1901.4 | 2414.9 | 3216.1 | 4096.0 | 4522.5 | 4024.9 |
| 75° | 382.4 | 385.8 | 405.1 | 449.3 | 534.9 | 664.7 | 911.1 | 1409.4 | 2086.4 | 2487.9 | 2094.6 |
| 77.5° | 206.3 | 207.1 | 214.7 | 225.7 | 240.8 | 258.2 | 295.5 | 396.2 | 639.1 | 869.6 | 674.9 |
| 80° | 129.7 | 129.0 | 136.6 | 145.6 | 155.9 | 164.3 | 167.8 | 179.4 | 202.2 | 236.8 | 217.4 |
| 82.5° | 66.3 | 72.5 | 89.7 | 99.4 | 114.5 | 117.3 | 113.8 | 113.1 | 120.2 | 129.7 | 133.8 |
| 85° | 36.7 | 32.3 | 47.6 | 63.5 | 69.0 | 71.1 | 71.8 | 67.6 | 66.3 | 64.9 | 68.4 |
| 87.5° | 18.7 | 17.2 | 20.8 | 31.7 | 33.9 | 27.6 | 28.2 | 24.2 | 16.6 | 16.6 | 17.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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CATALOG NUMBER: NVN-AF-02-LED-U-5MQ-7027

CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1124.3 | 1124.3 | 1124.3 | 1124.3 | 1124.3 | 1124.3 | 1124.3 | 1124.3 |
| 2.5° | 1116.0 | 1116.7 | 1115.2 | 1115.2 | 1115.2 | 1116.0 | 1115.2 | 1114.5 |
| 5° | 1107.0 | 1108.4 | 1108.4 | 1109.0 | 1109.8 | 1109.8 | 1109.8 | 1109.8 |
| 7.5° | 1093.9 | 1094.6 | 1095.9 | 1095.9 | 1095.9 | 1095.9 | 1095.9 | 1095.9 |
| 10° | 1081.5 | 1080.1 | 1079.5 | 1078.1 | 1078.1 | 1075.9 | 1076.6 | 1077.2 |
| 12.5° | 1075.2 | 1072.4 | 1071.0 | 1069.1 | 1067.6 | 1065.6 | 1065.6 | 1066.3 |
| 15° | 1078.1 | 1073.8 | 1069.7 | 1068.4 | 1066.9 | 1065.6 | 1064.2 | 1064.9 |
| 17.5° | 1083.5 | 1078.8 | 1073.8 | 1071.0 | 1068.4 | 1066.3 | 1065.6 | 1066.3 |
| 20° | 1095.3 | 1088.3 | 1080.8 | 1075.9 | 1070.4 | 1069.1 | 1066.9 | 1069.1 |
| 22.5° | 1111.2 | 1102.8 | 1093.1 | 1084.3 | 1078.1 | 1075.2 | 1072.4 | 1074.6 |
| 25° | 1130.4 | 1121.5 | 1111.8 | 1101.5 | 1094.6 | 1092.5 | 1089.0 | 1089.0 |
| 27.5° | 1157.3 | 1149.8 | 1141.4 | 1131.9 | 1124.9 | 1122.9 | 1117.3 | 1117.3 |
| 30° | 1200.1 | 1192.6 | 1185.0 | 1176.7 | 1169.9 | 1167.7 | 1160.8 | 1160.8 |
| 32.5° | 1256.8 | 1248.5 | 1243.7 | 1236.7 | 1231.2 | 1227.8 | 1219.4 | 1218.8 |
| 35° | 1332.6 | 1325.1 | 1324.5 | 1319.6 | 1314.0 | 1314.7 | 1306.5 | 1305.1 |
| 37.5° | 1441.7 | 1435.5 | 1437.6 | 1433.4 | 1428.7 | 1432.7 | 1427.9 | 1427.9 |
| 40° | 1581.1 | 1579.1 | 1581.1 | 1578.3 | 1579.1 | 1579.8 | 1575.5 | 1577.0 |
| 42.5° | 1749.4 | 1744.0 | 1756.5 | 1755.1 | 1753.0 | 1758.5 | 1748.8 | 1742.0 |
| 45° | 1943.5 | 1941.3 | 1953.9 | 1955.9 | 1951.7 | 1955.3 | 1938.0 | 1937.3 |
| 47.5° | 2154.0 | 2154.0 | 2164.9 | 2163.6 | 2159.4 | 2160.2 | 2139.5 | 2126.4 |
| 50° | 2373.4 | 2372.1 | 2383.1 | 2380.2 | 2374.8 | 2374.1 | 2352.8 | 2339.5 |
| 52.5° | 2601.9 | 2601.9 | 2617.8 | 2610.1 | 2597.0 | 2590.8 | 2564.7 | 2547.4 |
| 55° | 2854.5 | 2851.0 | 2855.8 | 2831.0 | 2805.4 | 2786.8 | 2754.5 | 2741.3 |
| 57.5° | 3174.0 | 3133.9 | 3099.4 | 3067.7 | 3031.8 | 3009.7 | 2971.8 | 2957.9 |
| 60° | 3627.4 | 3520.5 | 3474.3 | 3410.8 | 3351.3 | 3321.8 | 3271.3 | 3244.4 |
| 62.5° | 4255.5 | 4078.0 | 3952.5 | 3812.3 | 3677.1 | 3581.9 | 3505.2 | 3471.4 |
| 65° | 4981.6 | 4595.0 | 4275.5 | 3975.3 | 3720.6 | 3518.4 | 3405.8 | 3370.7 |
| 67.5° | 5257.5 | 4548.1 | 3996.6 | 3566.0 | 3256.9 | 3016.0 | 2881.4 | 2853.0 |
| 68° | 5198.9 | 4440.4 | 3867.7 | 3426.6 | 3116.0 | 2873.0 | 2739.2 | 2713.7 |
| 70° | 4586.0 | 3746.1 | 3141.6 | 2702.6 | 2412.8 | 2181.5 | 2087.0 | 2046.2 |
| 72.5° | 3126.5 | 2405.8 | 1845.5 | 1476.3 | 1259.6 | 1113.2 | 1026.3 | 996.6 |
| 75° | 1438.9 | 972.4 | 649.5 | 485.2 | 412.1 | 376.7 | 349.9 | 343.1 |
| 77.5° | 419.6 | 305.1 | 262.2 | 242.9 | 228.3 | 216.0 | 207.1 | 206.3 |
| 80° | 199.5 | 187.0 | 181.5 | 169.2 | 155.9 | 144.3 | 136.0 | 137.4 |
| 82.5° | 133.8 | 130.4 | 130.4 | 117.9 | 97.2 | 83.5 | 69.0 | 62.2 |
| 85° | 71.1 | 73.8 | 78.1 | 73.8 | 64.1 | 47.6 | 31.0 | 33.9 |
| 87.5° | 24.2 | 27.6 | 28.9 | 28.2 | 25.5 | 19.4 | 14.6 | 14.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)