

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: P966329

Luminaire Tested: **NAV-SB4B-835-U-SLL-HSS**

Issue Date: 1/21/2025

Test Information

Test Method: LM-79-08
Report Number: P966329
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2411-289-9)
Test Lab: INNOVATION CENTER
Issue Date: 1/21/2025
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-SB4B-835-U-SLL-HSS
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE
(4) 80 CRI, 3500K, 450mA LIGHTSQUARES WITH 26 LEDS EACH AND SPILL LIGHT
ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16375.4 lumens
Efficiency: N/A
Efficacy: 111.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

Input Watts (W): 147
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: 24 FT



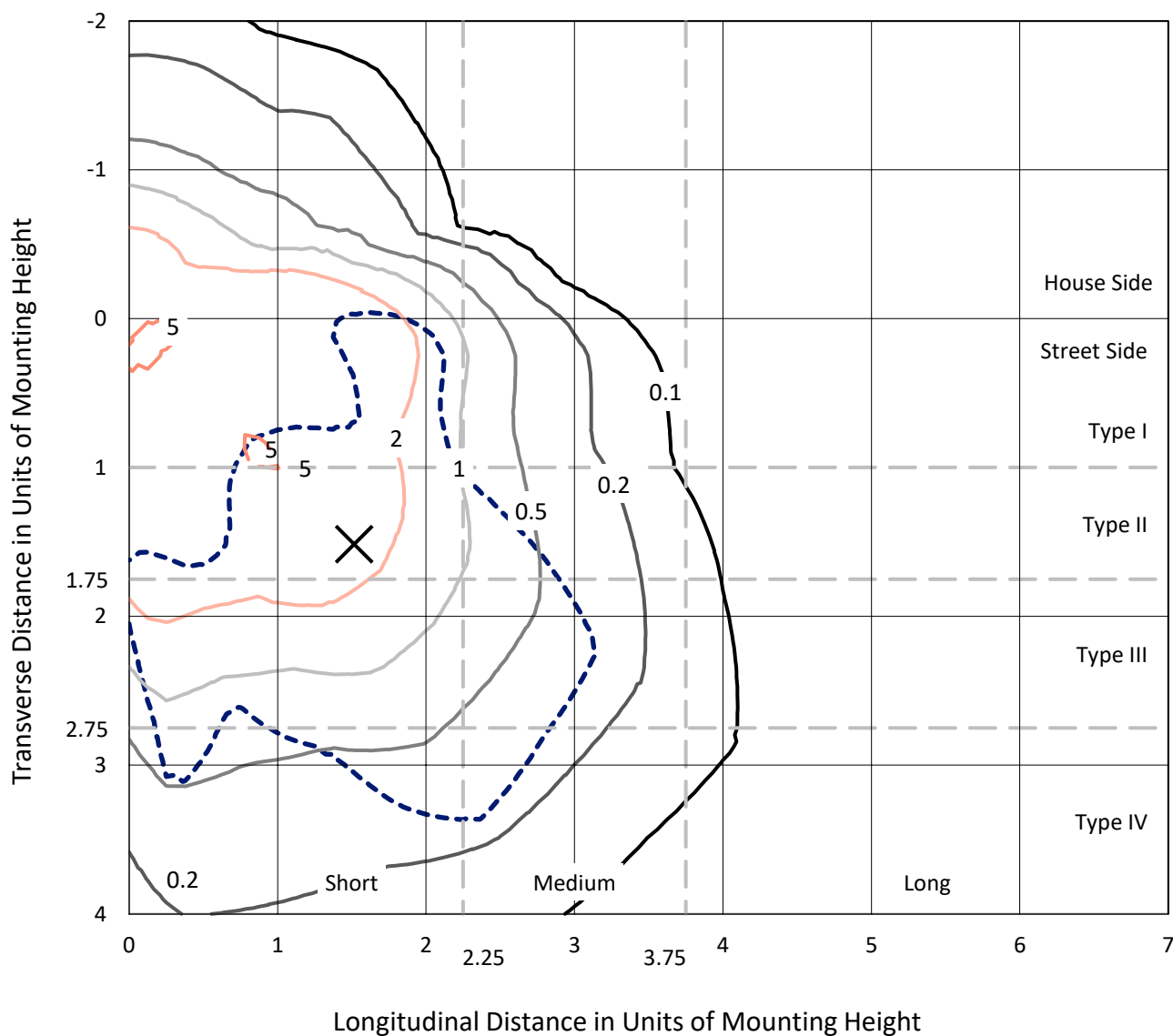
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

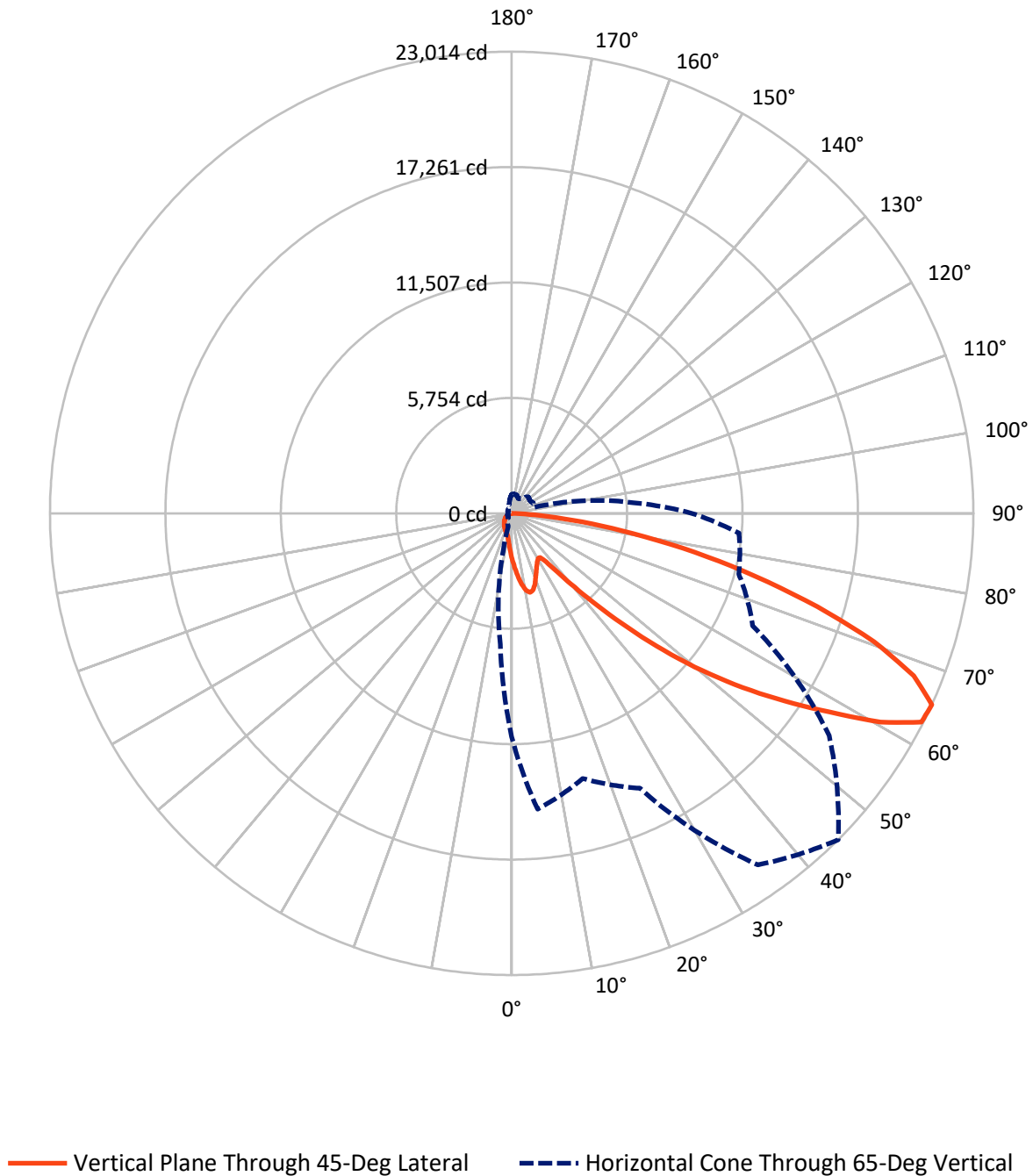


Based on 25 foot mounting height. Maximum calculated value = 6 fc

Type IV - Short - N/A

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Luminous Intensity Polar Plot



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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3254.9	0.0	3254.9
	% Fixture	19.9	0.0	19.9
Street Side	Lumens	13120.5	0.0	13120.5
	% Fixture	80.1	0.0	80.1
Total	Lumens	16375.4	0.0	16375.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	223.2	1.4
10°-20°	669.2	4.1
20°-30°	985.9	6.0
30°-40°	1266.6	7.7
40°-50°	2048.4	12.5
50°-60°	3592.1	21.9
60°-70°	4494.8	27.4
70°-80°	2626.5	16.0
80°-90°	468.6	2.9
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°	16375.4	100.0
0°-180°	16375.4	100.0

Coefficient of Utilization



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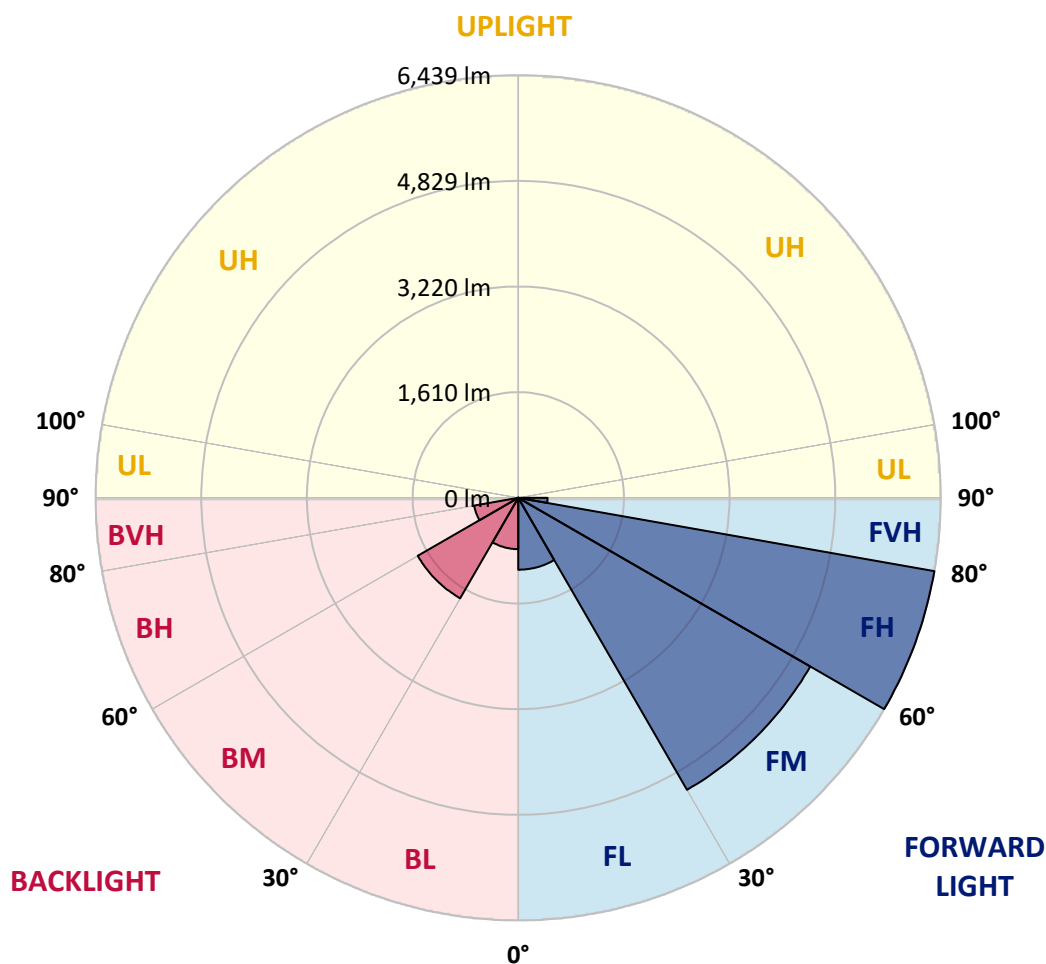
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1095.7	6.7			
FM	(30°-60°)	5138.8	31.4			
FH	(60°-80°)	6439.3	39.3			G3/7500
FVH	(80°-90°)	446.6	2.7			G3/500
BL	(0°-30°)	782.6	4.8	B2/1000		
BM	(30°-60°)	1768.4	10.8	B2/2500		
BH	(60°-80°)	682.0	4.2	B2/1000		G2/1000
BVH	(80°-90°)	22.0	0.1			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5
2.5°	2540.5	2559.6	2602.5	2625.0	2660.1	2662.3	2662.3	2631.9	2630.8	2568.6	2561.9
5°	2839.5	2884.6	2986.0	3091.0	3113.5	3119.2	3107.9	3047.0	3001.8	2881.2	2855.2
7.5°	3136.1	3223.0	3377.5	3517.4	3562.5	3562.5	3535.4	3436.2	3343.7	3168.8	3103.4
10°	3382.0	3491.5	3701.3	3858.1	3910.0	3898.7	3843.4	3718.2	3590.7	3378.6	3292.9
12.5°	3544.4	3667.4	3897.6	4023.9	4076.9	4047.6	3984.4	3862.6	3728.3	3505.0	3408.0
15°	3625.7	3754.3	3953.9	4020.6	4005.9	3975.4	3967.5	3908.8	3807.4	3598.6	3492.6
17.5°	3660.7	3780.2	3919.0	3877.3	3753.1	3729.5	3808.5	3882.9	3858.1	3679.9	3580.5
20°	3693.4	3793.7	3835.6	3650.5	3434.0	3412.5	3563.6	3775.7	3884.0	3755.4	3664.1
22.5°	3738.5	3800.6	3714.8	3411.4	3177.8	3128.2	3295.2	3614.5	3891.9	3851.3	3759.9
25°	3800.6	3817.5	3581.7	3184.6	2950.0	2900.3	3056.0	3435.1	3878.4	3955.1	3877.3
27.5°	3875.0	3840.1	3454.2	2995.0	2768.3	2722.1	2877.8	3262.5	3840.1	4058.9	4003.6
30°	3972.0	3869.4	3327.9	2848.5	2638.7	2604.7	2754.8	3113.5	3792.6	4190.9	4160.4
32.5°	4070.2	3881.8	3210.5	2762.7	2609.2	2621.6	2744.6	3033.5	3740.7	4317.2	4331.9
35°	4176.2	3921.2	3153.0	2847.3	2854.1	2962.4	3013.1	3107.9	3732.8	4488.7	4546.2
37.5°	4320.6	4009.3	3221.9	3268.1	3502.7	3727.2	3685.5	3472.3	3824.3	4744.7	4851.9
40°	4528.1	4163.8	3521.9	3984.4	4466.1	4830.5	4671.4	4134.4	4104.0	5113.6	5273.8
42.5°	4830.5	4409.8	4054.4	4859.8	5676.6	6276.7	5850.3	4988.5	4593.6	5640.5	5844.7
45°	5277.2	4808.0	4698.5	5783.8	7169.1	8114.4	7227.7	5898.8	5279.5	6438.0	6598.2
47.5°	5896.5	5393.4	5302.0	6757.3	8983.0	10205.8	8755.1	6742.7	6060.1	7525.6	7562.8
50°	6719.0	6182.0	5874.0	7822.2	10971.8	12337.9	10281.5	7557.1	6954.7	8854.4	8811.5
52.5°	7804.1	7281.8	6540.7	8836.3	13017.1	14424.9	11814.6	8272.3	8064.7	10396.5	10308.5
55°	9284.2	8936.8	7452.2	9804.2	15061.1	16524.3	13287.8	8946.9	9531.3	12228.6	11696.1
57.5°	11120.7	11368.9	8766.4	10926.7	16898.9	18688.0	14767.9	9890.0	11435.5	14277.1	12501.5
60°	12305.2	14603.2	11283.2	12586.2	18987.0	21134.9	16796.2	11683.7	13436.7	15011.5	12348.1
62.5°	12018.7	15632.0	14297.4	14704.8	20906.9	22913.9	18783.8	13485.2	13813.5	13929.7	11165.8
65°	11139.9	14801.7	13682.6	15116.5	21393.2	23014.2	19315.2	13252.8	11717.5	11372.3	8975.1
67.5°	9930.6	13816.9	12221.8	14024.5	20514.4	21610.9	18325.9	11723.1	9055.3	8534.0	6511.3
70°	8625.4	12727.1	11262.9	12799.4	18839.2	19165.1	16643.9	10310.8	6660.2	5763.5	4178.4
72.5°	7386.8	11592.3	10606.3	11543.8	16604.4	15929.8	14454.2	9062.0	4849.7	4157.0	2970.2
75°	6119.9	9918.2	9671.2	10052.5	13665.7	12547.7	12009.7	7503.0	3806.2	3007.5	2049.8
77.5°	4722.2	7750.0	8318.6	8050.0	9619.2	9320.3	9309.0	5638.2	2780.7	2006.8	1284.9
80°	3232.0	5401.3	6498.9	5678.8	6242.9	6090.5	7011.1	3782.5	2017.0	1208.2	715.2
82.5°	1899.7	3288.4	4523.6	2749.2	3452.0	3543.3	4175.0	1839.9	1186.7	278.6	155.7
85°	770.5	1298.5	1768.8	1076.2	1665.1	1404.5	1585.0	516.7	330.6	6.8	0.0
87.5°	194.0	415.1	291.0	120.7	192.9	177.1	139.9	63.1	13.5	0.0	0.0
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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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5
2.5°	2517.9	2492.0	2427.6	2363.3	2311.5	2241.6	2195.2	2140.0	2087.0	2039.5	2030.5
5°	2784.1	2698.4	2581.1	2473.9	2364.5	2258.5	2153.5	2042.9	1941.5	1879.4	1839.9
7.5°	3000.7	2849.6	2693.9	2557.4	2425.4	2301.3	2162.5	2028.3	1869.3	1784.6	1708.0
10°	3162.0	2963.5	2759.3	2602.5	2469.4	2348.7	2231.3	2096.0	1904.2	1798.2	1683.2
12.5°	3268.1	3032.4	2793.1	2613.8	2464.9	2371.2	2319.4	2266.4	2075.7	1951.6	1784.6
15°	3341.4	3080.8	2816.8	2587.8	2405.1	2336.3	2388.1	2449.1	2327.3	2184.0	1966.3
17.5°	3421.6	3144.0	2827.1	2517.9	2288.9	2259.6	2393.8	2534.8	2529.2	2387.0	2173.8
20°	3506.1	3199.2	2820.2	2405.1	2147.9	2173.8	2345.3	2508.9	2577.7	2501.0	2311.5
22.5°	3592.9	3252.3	2794.3	2258.5	2015.9	2097.1	2268.6	2411.8	2493.1	2469.4	2325.0
25°	3702.4	3326.7	2755.9	2100.5	1906.5	2019.2	2179.5	2295.7	2352.1	2350.9	2251.7
27.5°	3833.3	3426.1	2735.6	1973.0	1828.6	1931.3	2073.5	2177.2	2216.7	2216.7	2137.7
30°	3985.5	3543.3	2713.1	1889.6	1783.5	1839.9	1950.5	2052.0	2091.5	2091.5	2024.9
32.5°	4154.7	3656.2	2659.0	1838.7	1749.7	1750.8	1820.7	1913.3	1960.6	1967.4	1920.0
35°	4357.8	3776.8	2540.5	1798.2	1710.2	1664.0	1697.8	1774.5	1830.9	1845.5	1816.2
37.5°	4624.1	3924.6	2371.2	1738.4	1649.2	1572.6	1580.4	1639.1	1701.2	1723.7	1704.6
40°	4981.7	4098.4	2195.2	1652.6	1563.5	1472.2	1468.8	1511.7	1572.6	1597.4	1587.2
42.5°	5454.3	4307.0	2027.1	1570.3	1459.7	1366.1	1360.5	1394.3	1447.3	1473.3	1468.8
45°	6059.0	4563.1	1882.8	1506.0	1358.2	1265.8	1263.4	1291.7	1337.9	1365.0	1359.4
47.5°	6899.4	4819.2	1784.6	1472.2	1278.2	1183.4	1187.9	1212.7	1254.4	1273.7	1265.8
50°	7994.8	4897.0	1735.0	1472.2	1235.2	1110.1	1132.6	1152.9	1184.5	1195.8	1185.6
52.5°	9046.1	4639.9	1689.9	1481.2	1240.9	1048.0	1096.5	1111.2	1138.3	1142.8	1128.1
55°	9561.7	3988.9	1627.8	1483.5	1275.9	995.0	1067.1	1094.3	1104.4	1103.3	1078.5
57.5°	9384.6	3225.3	1522.9	1474.5	1299.6	961.1	1031.0	1083.0	1089.8	1079.6	1033.3
60°	8763.0	2374.6	1442.8	1407.8	1290.6	951.0	975.8	1058.1	1068.3	1054.7	979.2
62.5°	7720.7	1648.1	1380.8	1261.2	1251.0	947.6	889.0	1004.0	1028.8	1009.6	899.1
65°	6078.1	1164.2	1189.0	1105.6	1165.3	929.6	798.7	938.6	972.4	943.1	787.4
67.5°	4113.0	840.4	963.4	1001.7	1026.5	889.0	733.3	864.1	909.3	870.8	657.6
70°	2221.2	590.0	636.2	843.8	872.0	819.0	674.6	788.5	840.4	798.7	535.9
72.5°	1312.0	424.1	445.6	677.9	726.5	720.9	609.2	700.6	763.7	714.1	435.4
75°	723.1	286.5	318.2	491.9	590.0	556.2	523.5	593.4	657.6	609.2	336.2
77.5°	323.8	171.5	221.1	322.7	463.6	381.3	405.0	462.5	522.3	471.5	224.5
80°	125.3	95.8	146.7	176.0	337.3	210.9	260.6	340.7	383.6	343.0	136.5
82.5°	15.8	42.8	63.1	68.8	196.3	111.7	151.2	214.3	210.9	182.8	68.8
85°	0.0	7.9	9.0	4.5	84.6	40.6	49.6	69.9	65.4	49.6	5.6
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0
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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CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5
2.5°	1975.3	1934.7	1914.4	1897.5	1913.3	1922.3	1922.3	1960.6	1983.2	1992.2	2055.4
5°	1740.7	1665.1	1614.3	1583.8	1594.0	1605.3	1617.7	1666.2	1698.9	1720.4	1818.5
7.5°	1555.6	1440.5	1369.5	1332.3	1337.9	1345.8	1356.0	1403.3	1436.0	1464.3	1573.7
10°	1464.3	1301.9	1208.2	1163.1	1155.2	1150.7	1147.3	1175.5	1200.3	1222.8	1331.2
12.5°	1468.8	1242.0	1128.1	1072.9	1049.1	1022.0	1000.6	1005.1	1020.9	1049.1	1118.0
15°	1526.3	1222.8	1086.4	1017.5	978.1	946.5	920.6	914.9	920.6	925.1	967.9
17.5°	1604.1	1220.6	1050.2	964.5	923.9	898.0	874.2	866.3	867.5	873.1	884.5
20°	1666.2	1213.8	1009.6	913.8	877.7	855.1	831.4	823.5	825.7	826.9	839.3
22.5°	1698.9	1203.7	964.5	862.9	832.5	810.0	788.5	787.4	787.4	794.2	803.2
25°	1698.9	1182.2	923.9	814.5	787.4	767.1	741.2	745.7	747.9	757.0	770.5
27.5°	1658.3	1141.6	891.2	772.7	744.6	724.3	700.6	706.2	709.6	719.8	736.7
30°	1606.4	1093.2	853.9	733.3	700.6	685.9	665.5	667.8	672.3	683.7	702.8
32.5°	1551.1	1035.6	823.5	693.8	661.0	649.7	627.2	630.6	635.1	647.5	668.9
35°	1490.2	967.9	787.4	657.6	624.9	615.9	590.0	592.2	599.0	612.5	634.0
37.5°	1425.9	912.7	751.3	622.7	588.9	579.8	552.8	555.0	562.9	578.7	599.0
40°	1362.7	858.4	713.0	585.5	551.7	543.8	514.4	516.7	525.7	542.6	564.1
42.5°	1294.0	816.7	663.3	547.1	511.1	503.2	476.0	479.4	489.6	506.6	528.0
45°	1211.6	789.7	608.0	511.1	470.4	462.5	437.7	444.4	455.7	472.6	495.3
47.5°	1127.0	778.4	561.8	472.6	428.7	421.9	401.6	412.9	425.3	438.8	463.6
50°	1045.7	763.7	514.4	436.5	392.6	385.8	372.3	386.9	399.3	411.7	435.4
52.5°	953.2	732.2	471.5	405.0	362.1	359.9	353.1	366.6	377.9	389.2	409.5
55°	857.3	681.4	434.3	376.8	336.2	338.5	335.1	346.3	355.4	365.5	383.6
57.5°	773.9	617.0	405.0	346.3	313.6	320.4	315.9	321.5	327.2	339.6	354.2
60°	689.3	540.4	372.3	310.3	291.0	299.0	286.5	285.4	287.6	291.0	318.2
62.5°	575.3	460.2	331.7	278.6	266.2	269.6	245.9	227.9	227.9	231.2	271.8
65°	462.5	385.8	286.5	242.5	232.4	230.1	196.3	171.5	169.2	179.4	214.3
67.5°	380.2	320.4	241.4	201.9	195.2	197.4	172.6	147.8	145.5	156.8	182.8
70°	314.8	258.3	192.9	155.7	162.5	172.6	147.8	124.1	120.7	130.9	155.7
72.5°	250.4	201.9	147.8	115.1	134.3	146.7	120.7	98.2	95.8	105.0	128.6
75°	183.9	144.4	100.4	83.4	103.8	115.1	87.9	69.9	66.5	74.4	98.2
77.5°	114.0	81.2	63.1	49.6	71.0	76.7	46.2	40.6	39.5	45.1	62.0
80°	53.0	35.0	30.4	16.9	25.9	30.4	19.2	21.4	22.5	27.1	38.3
82.5°	14.7	5.6	1.1	0.0	0.0	9.0	4.5	9.0	11.3	16.9	24.8
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	5.6	10.1	18.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	9.0
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: P966329

CATALOG NUMBER: NAV-SB4B-835-U-SLL-HSS

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5	2267.5
2.5°	2102.8	2147.9	2220.0	2294.6	2367.9	2442.4	2514.5	2540.5
5°	1907.6	2011.4	2154.7	2308.1	2466.0	2626.2	2772.8	2839.5
7.5°	1689.9	1838.7	2054.3	2294.6	2546.1	2797.6	3029.0	3136.1
10°	1457.4	1645.8	1891.8	2216.7	2577.7	2925.1	3243.3	3382.0
12.5°	1236.4	1433.8	1705.7	2094.9	2552.9	2998.4	3380.9	3544.4
15°	1051.3	1226.2	1519.6	1950.5	2472.8	3002.9	3446.4	3625.7
17.5°	912.7	1026.5	1330.0	1790.3	2367.9	2961.2	3468.9	3660.7
20°	843.8	875.4	1084.1	1585.0	2269.8	2921.8	3491.5	3693.4
22.5°	803.2	811.1	886.7	1319.9	2152.4	2909.4	3530.9	3738.5
25°	770.5	772.7	793.0	1045.7	1973.0	2901.5	3591.8	3800.6
27.5°	737.8	737.8	749.1	842.7	1729.4	2867.6	3670.8	3875.0
30°	705.1	705.1	713.0	745.7	1443.9	2801.0	3765.5	3972.0
32.5°	671.2	671.2	677.9	701.7	1152.9	2717.6	3852.5	4070.2
35°	637.3	635.1	644.1	668.9	917.2	2611.5	3939.3	4176.2
37.5°	601.3	600.1	609.2	637.3	791.9	2488.6	4004.8	4320.6
40°	562.9	562.9	573.1	603.5	755.8	2334.0	4108.5	4528.1
42.5°	528.0	525.7	537.0	574.2	728.8	2186.2	4294.6	4830.5
45°	494.2	489.6	499.8	546.0	681.4	2134.4	4642.1	5277.2
47.5°	462.5	451.2	460.2	512.2	638.5	2328.4	5210.7	5896.5
50°	436.5	415.1	423.0	478.3	605.8	2749.2	5948.5	6719.0
52.5°	409.5	381.3	385.8	436.5	576.5	3149.6	6748.3	7804.1
55°	381.3	349.7	352.0	394.8	534.7	3209.4	7528.9	9284.2
57.5°	349.7	320.4	320.4	356.5	504.3	2781.8	8129.1	11120.7
60°	314.8	295.6	289.9	326.1	531.4	1962.9	8199.0	12305.2
62.5°	276.3	266.2	258.3	296.7	551.7	1163.1	7636.0	12018.7
65°	232.4	230.1	224.5	326.1	464.7	687.1	6555.4	11139.9
67.5°	195.2	191.8	191.8	341.8	353.1	432.0	5121.5	9930.6
70°	168.1	155.7	155.7	258.3	214.3	299.0	3576.0	8625.4
72.5°	141.0	127.5	118.5	206.4	160.2	218.8	2234.7	7386.8
75°	112.9	102.7	91.3	136.5	119.6	165.8	1298.5	6119.9
77.5°	81.2	76.7	64.3	100.4	86.8	119.6	772.7	4722.2
80°	41.7	42.8	40.6	57.5	58.6	81.2	439.9	3232.0
82.5°	24.8	19.2	21.4	28.2	33.8	46.2	165.8	1899.7
85°	15.8	10.1	10.1	13.5	16.9	18.0	50.7	770.5
87.5°	7.9	3.4	4.5	6.8	5.6	4.5	2.3	194.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)