

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: P963136

Luminaire Tested: **NAV-SB2D-830-U-SLL-HSS**

Issue Date: 1/21/2025

Test Information

Test Method: LM-79-08
Report Number: P963136
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-SB2D-830-U-SLL-HSS
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE
(2) 80 CRI, 3000K, 900mA 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: 14304.9 lumens
Efficiency: N/A
Efficacy: 96.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

Input Watts (W): 147.6
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



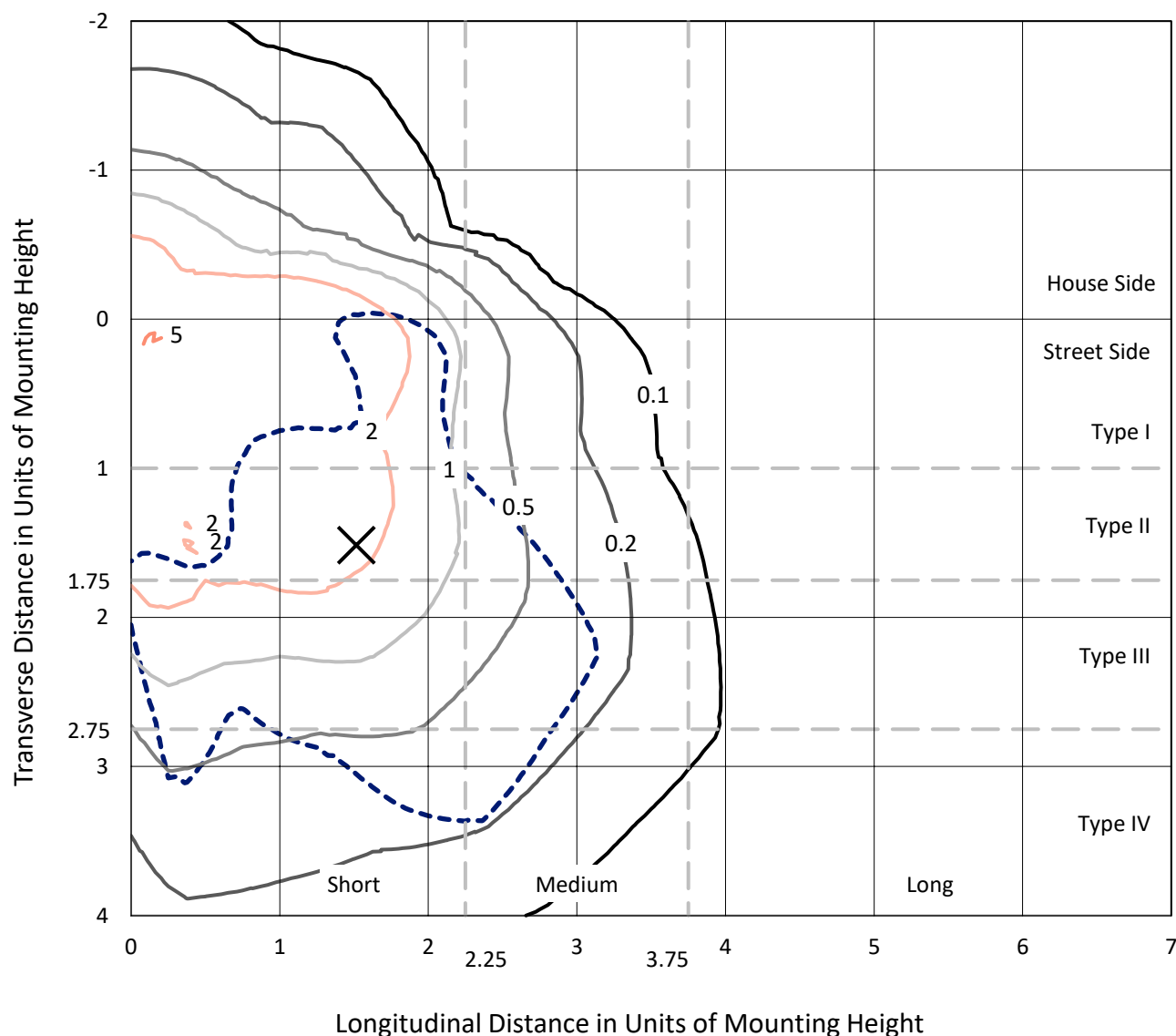
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

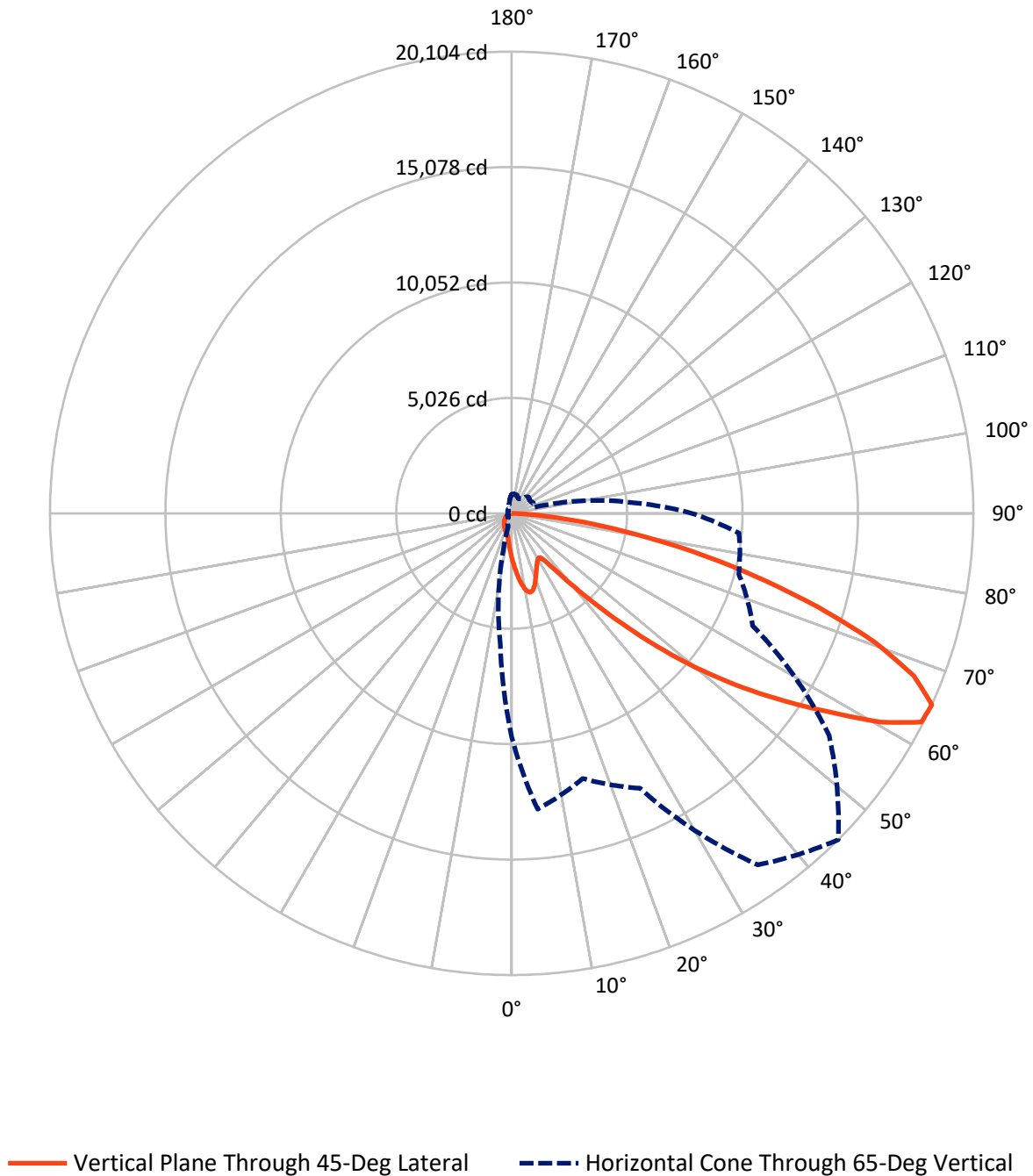


Based on 25 foot mounting height. Maximum calculated value = 5.2 fc

Type IV - Short - N/A

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Luminous Intensity Polar Plot



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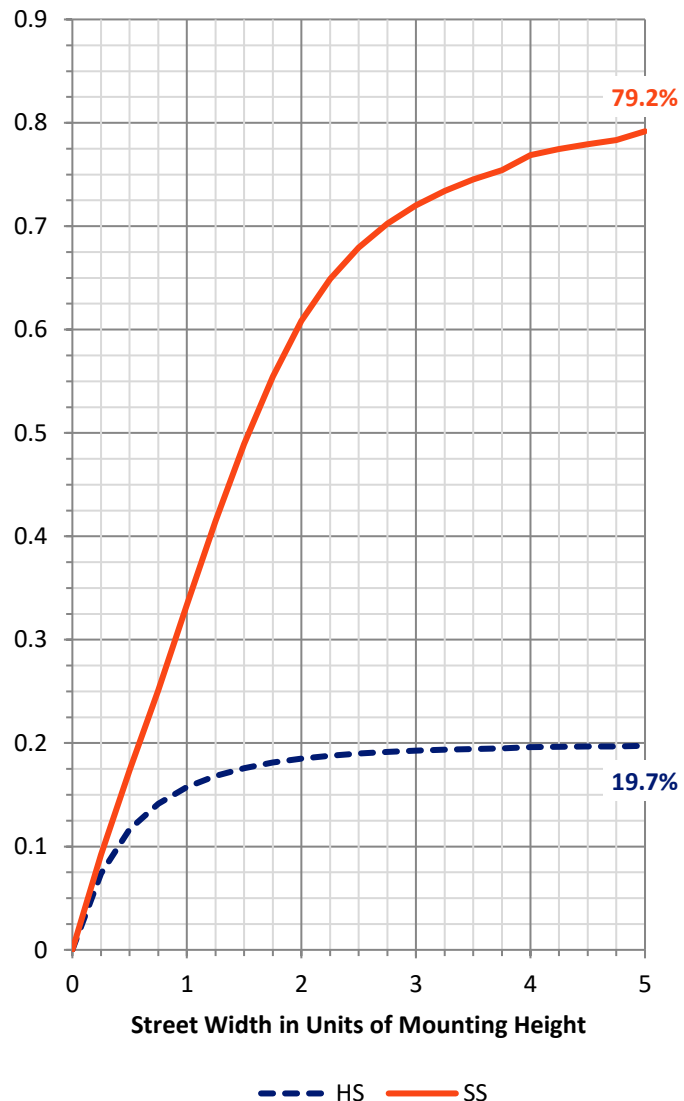
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2843.4	0.0	2843.4
	% Fixture	19.9	0.0	19.9
Street Side	Lumens	11461.5	0.0	11461.5
	% Fixture	80.1	0.0	80.1
Total	Lumens	14304.9	0.0	14304.9
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.0	1.4
10°-20°	584.6	4.1
20°-30°	861.2	6.0
30°-40°	1106.4	7.7
40°-50°	1789.4	12.5
50°-60°	3138.0	21.9
60°-70°	3926.4	27.4
70°-80°	2294.4	16.0
80°-90°	409.4	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°	14304.9	100.0
0°-180°	14304.9	100.0

Coefficient of Utilization



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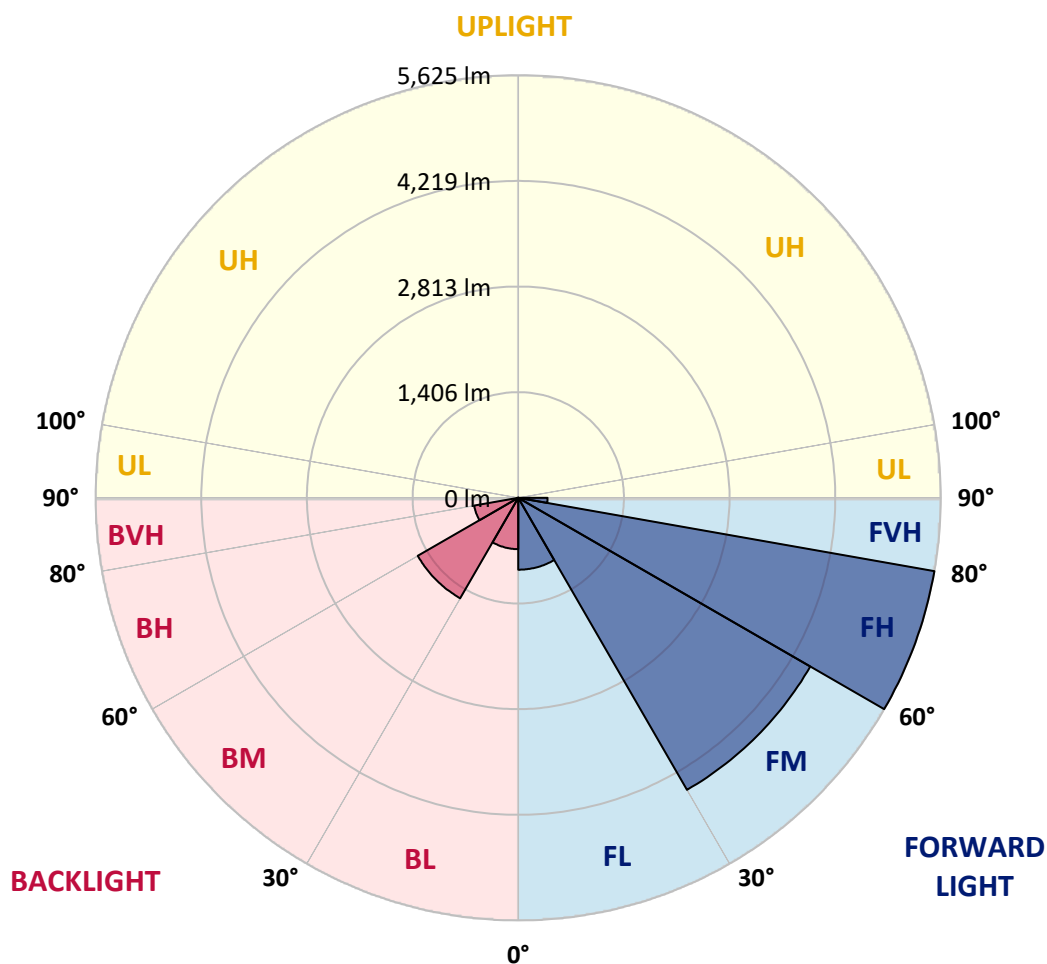
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	957.2	6.7			
FM	(30°-60°)	4489.0	31.4			
FH	(60°-80°)	5625.1	39.3			G3/7500
FVH	(80°-90°)	390.2	2.7			G3/500
BL	(0°-30°)	683.7	4.8	B2/1000		
BM	(30°-60°)	1544.8	10.8	B2/2500		
BH	(60°-80°)	595.7	4.2	B2/1000		G2/1000
BVH	(80°-90°)	19.2	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°	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8
2.5°	2219.2	2236.0	2273.4	2293.1	2323.7	2325.7	2325.7	2299.1	2298.0	2243.9	2238.0
5°	2480.4	2519.9	2608.5	2700.2	2719.8	2724.8	2714.9	2661.7	2622.3	2516.9	2494.2
7.5°	2739.6	2815.5	2950.5	3072.6	3112.1	3112.1	3088.4	3001.7	2920.9	2768.1	2711.0
10°	2954.4	3050.0	3233.3	3370.3	3415.6	3405.8	3357.5	3248.0	3136.7	2951.5	2876.6
12.5°	3096.3	3203.7	3404.7	3515.1	3561.5	3535.8	3480.6	3374.2	3256.9	3061.8	2977.1
15°	3167.2	3279.6	3454.0	3512.2	3499.4	3472.8	3465.8	3414.6	3325.9	3143.6	3051.0
17.5°	3197.8	3302.2	3423.5	3387.0	3278.7	3258.0	3326.9	3391.9	3370.3	3214.6	3127.9
20°	3226.4	3314.1	3350.5	3189.0	2999.8	2981.0	3113.0	3298.3	3393.0	3280.6	3200.8
22.5°	3265.9	3320.0	3245.1	2980.0	2776.0	2732.6	2878.5	3157.4	3399.8	3364.4	3284.5
25°	3320.0	3334.8	3128.8	2782.0	2577.0	2533.6	2669.6	3000.7	3388.0	3455.0	3387.0
27.5°	3385.1	3354.5	3017.5	2616.4	2418.3	2377.9	2513.9	2849.9	3354.5	3545.7	3497.4
30°	3469.8	3380.1	2907.1	2488.3	2305.0	2275.4	2406.5	2719.8	3313.1	3661.0	3634.3
32.5°	3555.5	3391.0	2804.6	2413.4	2279.4	2290.2	2397.6	2649.9	3267.8	3771.4	3784.2
35°	3648.2	3425.4	2754.4	2487.3	2493.2	2587.8	2632.2	2714.9	3260.8	3921.1	3971.4
37.5°	3774.3	3502.3	2814.4	2854.8	3059.8	3255.9	3219.5	3033.3	3340.7	4144.8	4238.5
40°	3955.7	3637.3	3076.6	3480.6	3901.5	4219.7	4080.8	3611.7	3585.1	4467.1	4607.1
42.5°	4219.7	3852.2	3541.8	4245.3	4958.8	5483.1	5110.5	4357.7	4012.8	4927.3	5105.6
45°	4609.9	4200.0	4104.4	5052.4	6262.5	7088.4	6313.8	5153.0	4612.0	5624.0	5764.0
47.5°	5151.0	4711.5	4631.7	5902.9	7847.2	8915.4	7648.1	5890.1	5293.9	6574.0	6606.5
50°	5869.4	5400.3	5131.3	6833.2	9584.6	10778.0	8981.5	6601.6	6075.4	7734.9	7697.4
52.5°	6817.4	6361.2	5713.7	7719.1	11371.2	12601.0	10320.7	7226.4	7045.0	9082.0	9005.1
55°	8110.3	7806.8	6510.0	8564.6	13156.9	14435.0	11607.7	7815.6	8326.2	10682.3	10217.2
57.5°	9714.6	9931.4	7658.0	9545.1	14762.2	16325.1	12900.6	8639.5	9989.5	12472.0	10920.9
60°	10749.4	12756.7	9856.5	10994.8	16586.2	18462.6	14672.5	10206.4	11737.8	13113.5	10786.8
62.5°	10499.1	13655.5	12489.7	12845.4	18263.4	20016.6	16408.8	11780.1	12066.9	12168.4	9754.1
65°	9731.3	12930.2	11952.6	13205.2	18688.2	20104.4	16873.0	11577.2	10236.0	9934.4	7840.3
67.5°	8675.0	12069.9	10676.5	12251.2	17920.6	18878.4	16008.8	10240.9	7910.2	7455.0	5688.0
70°	7534.8	11118.0	9838.8	11181.0	16457.2	16741.9	14539.4	9007.1	5818.1	5034.7	3650.1
72.5°	6452.8	10126.6	9265.3	10084.2	14505.0	13915.6	12626.7	7916.2	4236.5	3631.4	2594.7
75°	5346.1	8664.1	8448.4	8781.4	11937.9	10961.2	10491.2	6554.3	3324.9	2627.3	1790.6
77.5°	4125.1	6770.1	7266.7	7032.2	8403.1	8141.9	8132.0	4925.3	2429.1	1753.2	1122.5
80°	2823.4	4718.4	5677.3	4960.8	5453.5	5320.5	6124.6	3304.3	1762.0	1055.4	624.7
82.5°	1659.5	2872.6	3951.7	2401.6	3015.5	3095.3	3647.2	1607.3	1036.7	243.4	136.0
85°	673.1	1134.3	1545.2	940.1	1454.6	1226.9	1384.6	451.3	288.7	5.9	0.0
87.5°	169.5	362.6	254.2	105.5	168.5	154.7	122.2	55.1	11.8	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°	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8
2.5°	2199.5	2176.9	2120.7	2064.6	2019.2	1958.1	1917.7	1869.4	1823.1	1781.8	1773.9
5°	2432.1	2357.2	2254.7	2161.1	2065.5	1972.9	1881.3	1784.6	1696.0	1641.7	1607.3
7.5°	2621.3	2489.3	2353.3	2234.0	2118.8	2010.3	1889.1	1771.8	1632.9	1559.0	1492.0
10°	2762.3	2588.8	2410.4	2273.4	2157.2	2051.7	1949.2	1831.0	1663.5	1570.8	1470.3
12.5°	2854.8	2648.9	2440.0	2283.3	2153.2	2071.4	2026.1	1979.8	1813.2	1704.9	1559.0
15°	2918.9	2691.2	2460.7	2260.6	2101.0	2040.9	2086.2	2139.4	2033.0	1907.8	1717.7
17.5°	2988.9	2746.5	2469.5	2199.5	1999.5	1973.8	2091.1	2214.3	2209.4	2085.3	1899.0
20°	3062.8	2794.8	2463.7	2101.0	1876.3	1899.0	2048.8	2191.7	2251.8	2184.8	2019.2
22.5°	3138.7	2841.1	2440.9	1972.9	1761.1	1832.0	1981.7	2106.9	2177.8	2157.2	2031.0
25°	3234.3	2906.1	2407.5	1835.0	1665.4	1763.9	1903.9	2005.4	2054.7	2053.7	1967.0
27.5°	3348.6	2992.8	2389.7	1723.5	1597.5	1687.2	1811.3	1901.9	1936.4	1936.4	1867.4
30°	3481.6	3095.3	2370.0	1650.7	1558.0	1607.3	1703.9	1792.5	1827.1	1827.1	1768.9
32.5°	3629.4	3193.9	2322.8	1606.3	1528.5	1529.4	1590.5	1671.4	1712.8	1718.6	1677.2
35°	3806.8	3299.3	2219.2	1570.8	1493.9	1453.6	1483.1	1550.1	1599.4	1612.2	1586.6
37.5°	4039.4	3428.4	2071.4	1518.6	1440.7	1373.7	1380.7	1431.8	1486.0	1505.8	1489.0
40°	4351.7	3580.1	1917.7	1443.7	1365.8	1286.1	1283.1	1320.5	1373.7	1395.4	1386.5
42.5°	4764.7	3762.5	1770.9	1371.8	1275.2	1193.4	1188.5	1218.0	1264.3	1287.0	1283.1
45°	5292.9	3986.2	1644.7	1315.6	1186.5	1105.7	1103.7	1128.3	1168.7	1192.4	1187.5
47.5°	6027.1	4209.9	1559.0	1286.1	1116.5	1033.7	1037.7	1059.3	1095.8	1112.5	1105.7
50°	6983.9	4277.8	1515.7	1286.1	1079.1	969.6	989.4	1007.2	1034.7	1044.6	1035.8
52.5°	7902.3	4053.2	1476.2	1293.9	1084.0	915.5	957.9	970.7	994.4	998.2	985.4
55°	8352.7	3484.6	1422.0	1295.9	1114.6	869.2	932.2	955.9	964.7	963.8	942.1
57.5°	8198.1	2817.4	1330.3	1288.0	1135.3	839.6	900.7	946.1	951.9	943.1	902.7
60°	7655.0	2074.4	1260.4	1229.9	1127.4	830.8	852.4	924.3	933.3	921.4	855.4
62.5°	6744.5	1439.7	1206.2	1101.8	1092.9	827.8	776.5	877.1	898.7	882.0	785.5
65°	5309.6	1017.0	1038.6	965.8	1017.9	812.0	697.7	819.9	849.4	823.8	687.9
67.5°	3592.9	734.2	841.6	875.0	896.8	776.5	640.5	754.8	794.3	760.8	574.5
70°	1940.3	515.4	555.8	737.1	761.8	715.4	589.3	688.8	734.2	697.7	468.1
72.5°	1146.1	370.5	389.3	592.2	634.7	629.7	532.2	611.9	667.2	623.8	380.4
75°	631.7	250.3	277.9	429.7	515.4	485.8	457.3	518.3	574.5	532.2	293.7
77.5°	282.8	149.8	193.1	281.9	405.0	333.1	353.8	404.1	456.2	411.9	196.1
80°	109.4	83.7	128.1	153.8	294.7	184.3	227.7	297.6	335.1	299.6	119.2
82.5°	13.8	37.4	55.1	60.1	171.5	97.6	132.0	187.3	184.3	159.7	60.1
85°	0.0	6.9	7.9	3.9	73.9	35.5	43.4	61.1	57.2	43.4	4.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	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°	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8
2.5°	1725.6	1690.0	1672.3	1657.5	1671.4	1679.3	1679.3	1712.8	1732.5	1740.3	1795.5
5°	1520.6	1454.6	1410.2	1383.5	1392.5	1402.3	1413.2	1455.5	1484.1	1502.9	1588.5
7.5°	1358.9	1258.4	1196.4	1163.8	1168.7	1175.7	1184.5	1225.9	1254.5	1279.1	1374.7
10°	1279.1	1137.2	1055.4	1016.0	1009.1	1005.2	1002.2	1026.8	1048.6	1068.3	1162.9
12.5°	1283.1	1085.0	985.4	937.2	916.5	892.8	874.1	878.0	891.9	916.5	976.6
15°	1333.3	1068.3	948.9	888.9	854.4	826.8	804.1	799.2	804.1	808.1	845.5
17.5°	1401.3	1066.3	917.5	842.6	807.1	784.4	763.7	756.9	757.8	762.7	772.6
20°	1455.5	1060.4	882.0	798.3	766.7	747.0	726.3	719.3	721.4	722.3	733.2
22.5°	1484.1	1051.4	842.6	753.9	727.2	707.6	688.8	687.9	687.9	693.7	701.6
25°	1484.1	1032.8	807.1	711.5	687.9	670.1	647.5	651.4	653.3	661.2	673.1
27.5°	1448.6	997.3	778.5	675.1	650.4	632.6	611.9	616.9	619.8	628.7	643.5
30°	1403.3	954.9	746.0	640.5	611.9	599.1	581.4	583.4	587.3	597.2	614.0
32.5°	1355.0	904.7	719.3	606.1	577.5	567.6	548.0	550.8	554.8	565.7	584.4
35°	1301.8	845.5	687.9	574.5	545.9	538.0	515.4	517.3	523.3	535.2	553.8
37.5°	1245.6	797.2	656.3	544.0	514.4	506.6	482.9	484.8	491.7	505.5	523.3
40°	1190.4	749.9	622.8	511.5	481.9	475.0	449.4	451.3	459.2	474.0	492.7
42.5°	1130.4	713.5	579.4	478.0	446.4	439.5	415.8	418.8	427.7	442.5	461.1
45°	1058.4	689.8	531.2	446.4	410.9	404.1	382.3	388.3	398.1	412.9	432.7
47.5°	984.5	680.0	490.8	412.9	374.4	368.6	350.9	360.7	371.6	383.3	405.0
50°	913.5	667.2	449.4	381.4	343.0	337.0	325.2	338.0	348.8	359.7	380.4
52.5°	832.7	639.6	411.9	353.8	316.3	314.4	308.4	320.3	330.2	340.0	357.7
55°	749.0	595.2	379.4	329.1	293.7	295.6	292.6	302.6	310.4	319.3	335.1
57.5°	676.0	539.0	353.8	302.6	274.0	279.8	275.9	280.8	285.8	296.6	309.4
60°	602.1	472.0	325.2	271.0	254.2	261.2	250.3	249.3	251.3	254.2	277.9
62.5°	502.6	402.1	289.8	243.4	232.6	235.5	214.8	199.1	199.1	202.0	237.5
65°	404.1	337.0	250.3	211.9	203.1	201.0	171.5	149.8	147.8	156.7	187.3
67.5°	332.1	279.8	210.8	176.4	170.5	172.4	150.8	129.0	127.1	136.9	159.7
70°	274.9	225.7	168.5	136.0	141.9	150.8	129.0	108.4	105.5	114.3	136.0
72.5°	218.7	176.4	129.0	100.6	117.3	128.1	105.5	85.7	83.7	91.6	112.3
75°	160.6	126.2	87.7	72.9	90.7	100.6	76.9	61.1	58.1	65.1	85.7
77.5°	99.5	70.9	55.1	43.4	62.1	67.0	40.4	35.5	34.4	39.5	54.2
80°	46.3	30.5	26.6	14.8	22.7	26.6	16.7	18.8	19.7	23.7	33.5
82.5°	12.8	4.9	1.0	0.0	0.0	7.9	3.9	7.9	9.8	14.8	21.7
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	4.9	8.9	15.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	7.9
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: P963136

CATALOG NUMBER: NAV-SB2D-830-U-SLL-HSS

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8	1980.8
2.5°	1836.9	1876.3	1939.4	2004.4	2068.4	2133.5	2196.6	2219.2
5°	1666.4	1757.1	1882.2	2016.3	2154.2	2294.2	2422.3	2480.4
7.5°	1476.2	1606.3	1794.6	2004.4	2224.1	2443.9	2645.9	2739.6
10°	1273.3	1437.8	1652.6	1936.4	2251.8	2555.3	2833.2	2954.4
12.5°	1080.0	1252.6	1490.0	1830.0	2230.1	2619.4	2953.4	3096.3
15°	918.4	1071.2	1327.4	1703.9	2160.1	2623.3	3010.5	3167.2
17.5°	797.2	896.8	1161.8	1563.9	2068.4	2586.8	3030.3	3197.8
20°	737.1	764.8	947.0	1384.6	1982.8	2552.4	3050.0	3226.4
22.5°	701.6	708.6	774.6	1153.0	1880.3	2541.5	3084.5	3265.9
25°	673.1	675.1	692.8	913.5	1723.5	2534.6	3137.7	3320.0
27.5°	644.5	644.5	654.4	736.2	1510.7	2505.0	3206.7	3385.1
30°	615.9	615.9	622.8	651.4	1261.4	2446.9	3289.4	3469.8
32.5°	586.3	586.3	592.2	612.9	1007.2	2374.0	3365.4	3555.5
35°	556.8	554.8	562.7	584.4	801.1	2281.3	3441.2	3648.2
37.5°	525.2	524.3	532.2	556.8	691.8	2173.9	3498.4	3774.3
40°	491.7	491.7	500.6	527.3	660.3	2038.9	3589.0	3955.7
42.5°	461.1	459.2	469.0	501.6	636.6	1909.8	3751.6	4219.7
45°	431.6	427.7	436.5	476.9	595.2	1864.5	4055.2	4609.9
47.5°	404.1	394.2	402.1	447.4	557.8	2034.0	4551.8	5151.0
50°	381.4	362.6	369.5	417.8	529.2	2401.6	5196.3	5869.4
52.5°	357.7	333.1	337.0	381.4	503.6	2751.4	5895.0	6817.4
55°	333.1	305.4	307.5	344.9	467.1	2803.6	6576.9	8110.3
57.5°	305.4	279.8	279.8	311.4	440.5	2430.2	7101.2	9714.6
60°	274.9	258.2	253.3	284.8	464.1	1714.7	7162.3	10749.4
62.5°	241.4	232.6	225.7	259.2	481.9	1016.0	6670.6	10499.1
65°	203.1	201.0	196.1	284.8	406.0	600.1	5726.5	9731.3
67.5°	170.5	167.5	167.5	298.6	308.4	377.4	4474.0	8675.0
70°	146.9	136.0	136.0	225.7	187.3	261.2	3123.9	7534.8
72.5°	123.2	111.3	103.4	180.3	139.9	191.2	1952.2	6452.8
75°	98.5	89.7	79.8	119.2	104.4	144.8	1134.3	5346.1
77.5°	70.9	67.0	56.2	87.7	75.8	104.4	675.1	4125.1
80°	36.5	37.4	35.5	50.2	51.2	70.9	384.4	2823.4
82.5°	21.7	16.7	18.8	24.6	29.5	40.4	144.8	1659.5
85°	13.8	8.9	8.9	11.8	14.8	15.8	44.4	673.1
87.5°	6.9	3.0	3.9	5.9	4.9	3.9	1.9	169.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)