

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: P196764

Luminaire Tested: **NAV-AF-06-D-UNV-T2R-7030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196764
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24459)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-06-D-UNV-T2R-7030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 29497.8 lumens
Efficiency: N/A
Efficacy: 118.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

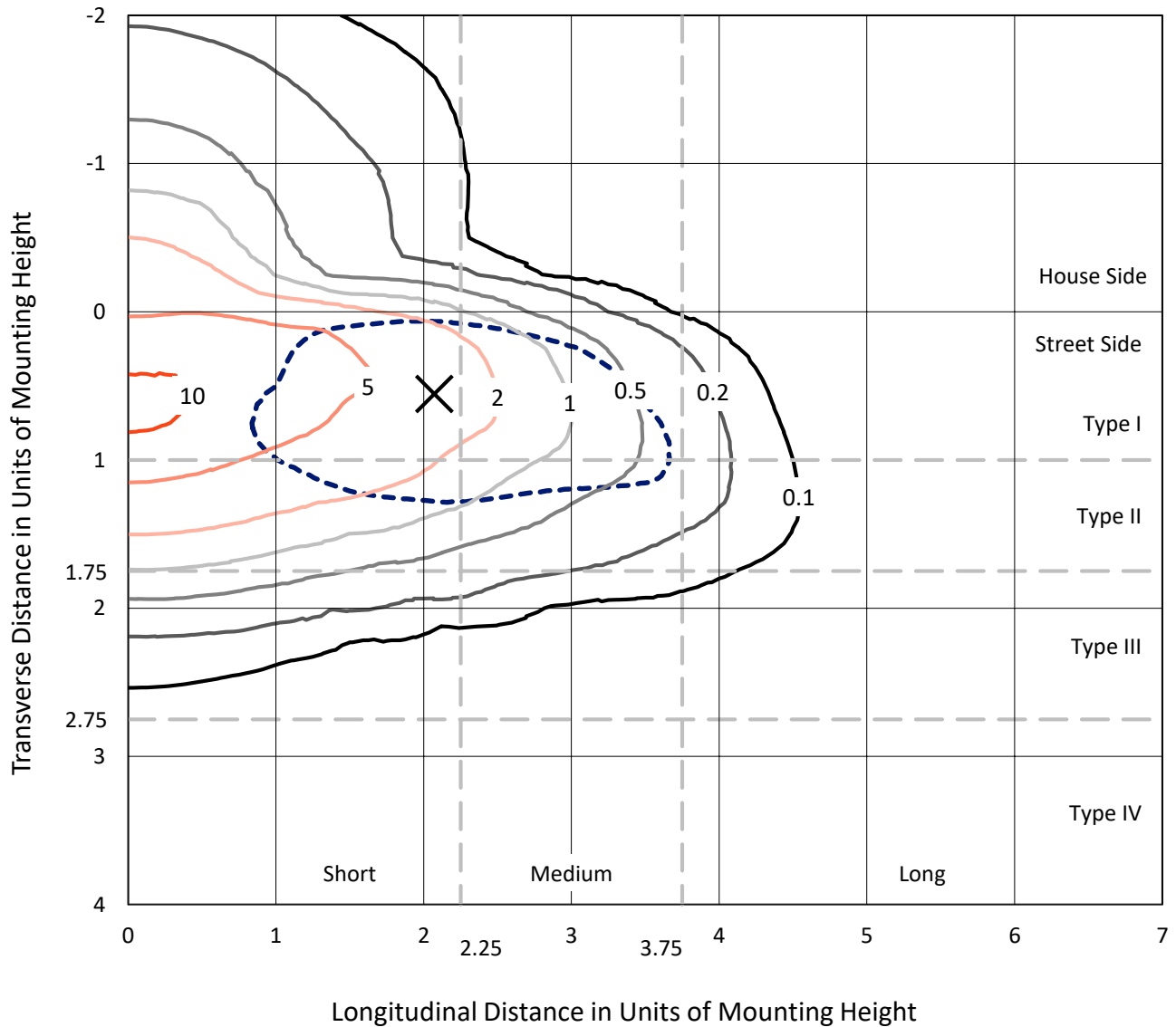
Input Watts (W): 249
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196764
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Iso-Footcandle Lines of Horizontal Illumination

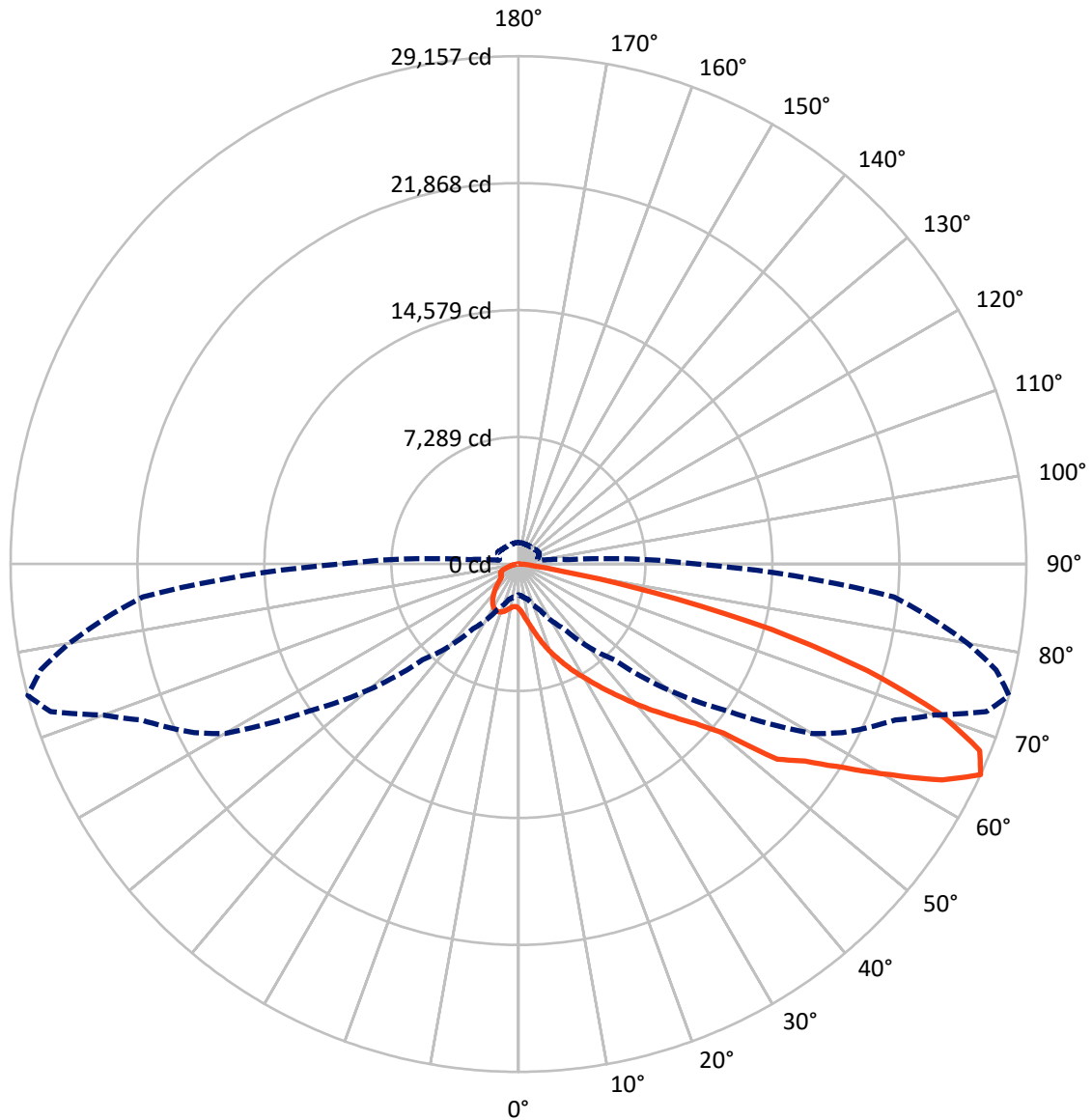
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11.7 fc
 Type II - Short - Semi-Cutoff

REPORT NUMBER: P196764
CATALOG NUMBER: NAV-AF-06-D-UNV-T2R-7030-800

Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

REPORT NUMBER: P196764

CATALOG NUMBER: NAV-AF-06-D-UNV-T2R-7030-800

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4432.5	0.0	4432.5
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	25065.3	0.0	25065.3
	% Fixture	85.0	0.0	85.0
Total	Lumens	29497.8	0.0	29497.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	301.7	1.0
10°-20°	1152.5	3.9
20°-30°	2325.8	7.9
30°-40°	3949.8	13.4
40°-50°	5509.1	18.7
50°-60°	6752.0	22.9
60°-70°	6352.7	21.5
70°-80°	2785.6	9.4
80°-90°	368.6	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°	29497.8	100.0
0°-180°	29497.8	100.0



REPORT NUMBER: P196764

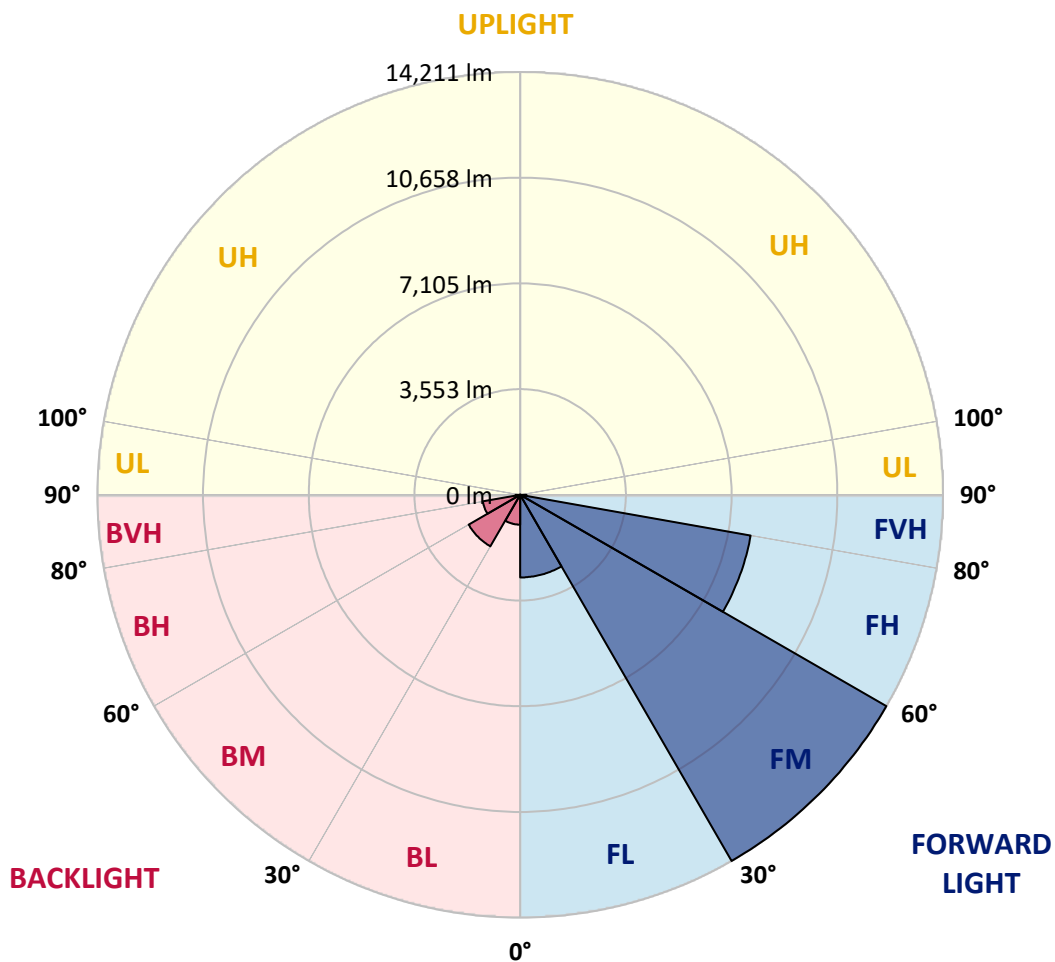
CATALOG NUMBER: NAV-AF-06-D-UNV-T2R-7030-800

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2776.5	9.4			
FM (30°-60°)	14210.7	48.2			
FH (60°-80°)	7864.4	26.7			G4/12000
FVH (80°-90°)	213.7	0.7			G2/225
BL (0°-30°)	1003.4	3.4	B3/2500		
BM (30°-60°)	2000.2	6.8	B2/2500		
BH (60°-80°)	1274.0	4.3	B3/2500		G3/2500
BVH (80°-90°)	154.9	0.5			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type II Short





REPORT NUMBER: P196764

CATALOG NUMBER: NAV-AF-06-D-UNV-T2R-7030-800

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8
2.5°	3218.2	3180.6	3184.5	3131.9	3055.0	2970.5	2901.1	2863.5	2831.7	2822.2	2769.7
5°	4209.0	4162.1	4145.2	4025.1	3845.0	3631.0	3419.0	3336.4	3268.9	3227.6	3126.2
7.5°	5019.7	4995.3	4972.7	4862.0	4683.7	4409.8	4068.3	3946.3	3833.7	3709.9	3587.8
10°	5571.3	5562.0	5552.5	5475.6	5327.4	5089.1	4721.3	4588.1	4447.3	4289.7	4130.2
12.5°	5988.0	5988.0	5995.5	5931.6	5841.5	5657.7	5323.6	5199.7	5057.2	4892.1	4710.0
15°	6267.5	6275.1	6314.4	6333.2	6286.3	6168.1	5875.3	5766.4	5631.4	5468.1	5288.0
17.5°	6453.3	6468.3	6526.5	6588.5	6648.4	6607.2	6389.5	6288.2	6166.1	6016.1	5847.2
20°	6884.9	6866.2	6868.0	6849.3	6937.4	6969.3	6849.3	6764.8	6667.2	6530.2	6376.4
22.5°	7791.3	7755.7	7663.7	7429.1	7322.1	7310.9	7239.5	7194.5	7119.5	7033.1	6879.3
25°	8973.5	8932.2	8750.1	8363.6	8044.5	7750.0	7618.6	7590.5	7541.7	7483.5	7372.9
27.5°	10195.1	10150.0	9915.5	9427.6	9011.0	8416.1	8007.1	7969.5	7924.5	7900.1	7847.5
30°	11270.3	11221.5	10990.7	10495.3	9992.5	9283.1	8530.6	8399.3	8322.3	8329.8	8299.8
32.5°	12214.2	12171.1	11912.1	11407.3	10896.9	10208.2	9209.9	9005.3	8832.7	8768.9	8791.4
35°	13006.1	12966.7	12683.4	12174.8	11660.5	11088.2	10084.4	9776.6	9495.1	9318.7	9298.1
37.5°	13471.4	13448.9	13250.0	12818.4	12308.0	11887.7	11063.9	10722.3	10307.6	10050.5	9938.0
40°	13445.2	13469.6	13435.8	13240.7	12844.7	12538.8	12084.7	11746.9	11341.6	10958.8	10730.0
42.5°	13062.4	13096.2	13248.1	13349.6	13242.6	13056.7	12976.0	12724.7	12360.6	11955.2	11638.1
45°	12537.0	12567.0	12764.0	13129.9	13435.8	13488.4	13756.8	13630.9	13323.2	12978.0	12628.9
47.5°	11731.9	11790.0	12019.1	12600.8	13328.9	13835.5	14411.7	14469.7	14291.4	14006.3	13679.7
50°	10566.6	10643.6	10964.5	11792.1	12923.5	14192.0	15385.5	15606.9	15535.6	15246.6	14916.4
52.5°	9373.2	9450.1	9877.9	10758.0	12270.5	14338.4	16344.4	16911.1	17320.3	17618.5	17676.7
55°	8131.0	8217.3	8686.3	9699.7	11399.8	14152.7	17029.3	17673.0	18087.7	18399.1	18524.9
57.5°	6729.2	6826.7	7280.8	8305.5	10168.8	13405.8	17791.2	18703.2	19320.6	19800.9	20071.2
60°	5121.0	5243.0	5713.9	6746.1	8551.2	11975.9	18130.8	19480.1	20461.4	21182.0	21609.9
62.5°	3246.3	3370.2	3860.0	4931.4	6710.3	10022.5	17170.1	19138.5	20812.4	21878.2	22662.5
65°	1771.4	1825.8	2097.9	2904.8	4524.3	7776.2	14734.3	17055.6	19466.9	20977.4	22182.3
67.5°	1328.6	1336.0	1364.2	1561.2	2409.3	5250.5	11519.9	13645.9	16323.8	18267.8	19707.1
70°	1163.4	1163.4	1167.2	1169.1	1308.0	2844.8	7804.4	9761.6	12216.1	14182.6	15971.0
72.5°	1043.3	1032.1	1028.3	1005.8	1024.6	1458.1	4248.4	6006.7	8076.5	10283.3	11951.5
75°	900.8	898.8	898.8	876.4	887.6	1026.5	1842.7	2882.4	4486.7	6541.5	8183.4
77.5°	778.8	765.6	767.5	754.3	790.1	786.2	874.4	1187.8	1953.4	3435.8	4798.2
80°	641.8	632.4	638.0	630.5	686.8	581.7	589.2	726.2	970.1	1506.8	2124.2
82.5°	474.7	478.5	514.2	510.5	578.0	392.2	431.6	542.4	653.1	750.6	816.2
85°	277.7	283.3	369.7	388.4	424.2	206.4	264.6	322.8	364.1	403.5	420.3
87.5°	30.0	39.5	206.4	212.1	189.6	62.0	107.0	135.2	144.4	153.8	135.2
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: P196764

CATALOG NUMBER: NAV-AF-06-D-UNV-T2R-7030-800

CANDELA DISTRIBUTION (continued):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8
2.5°	2752.8	2728.4	2702.2	2687.1	2660.9	2638.4	2597.1	2563.3	2525.7	2499.6	2488.3
5°	3075.6	3017.4	2955.5	2910.4	2854.2	2805.3	2711.6	2599.0	2563.3	2488.3	2469.5
7.5°	3496.0	3390.9	3285.8	3199.4	3101.9	3021.1	2863.5	2660.9	2634.6	2514.5	2488.3
10°	3989.5	3835.5	3679.9	3546.5	3404.0	3280.2	3047.5	2762.2	2734.1	2580.1	2553.9
12.5°	4541.2	4353.6	4152.7	3953.8	3785.0	3610.4	3293.3	2919.9	2874.8	2692.8	2657.1
15°	5109.7	4907.1	4674.3	4434.2	4225.9	3995.1	3595.4	3126.2	3043.8	2829.9	2780.9
17.5°	5670.8	5451.3	5207.3	4938.9	4695.0	4419.2	3921.9	3357.1	3214.4	2964.9	2902.9
20°	6213.1	5989.8	5732.8	5470.1	5166.0	4850.8	4255.9	3584.1	3366.5	3077.5	2996.8
22.5°	6706.7	6515.2	6258.2	5956.0	5648.2	5293.6	4595.6	3811.2	3499.7	3163.8	3060.6
25°	7226.4	7051.9	6796.7	6505.9	6147.5	5753.4	4946.5	4027.0	3606.6	3210.7	3083.1
27.5°	7751.8	7601.7	7361.6	7055.6	6671.1	6233.8	5303.0	4225.9	3693.0	3225.8	3071.9
30°	8312.9	8196.6	7975.2	7633.6	7245.2	6761.1	5691.5	4421.0	3747.4	3205.1	3021.1
32.5°	8844.0	8840.2	8643.2	8288.5	7870.1	7337.2	6100.5	4618.1	3775.6	3146.8	2932.9
35°	9395.6	9472.7	9324.4	8986.6	8545.6	7954.5	6552.8	4828.2	3777.4	3043.8	2818.6
37.5°	10022.5	10159.5	10093.7	9772.9	9309.3	8658.2	7083.9	5064.7	3766.1	2901.1	2651.5
40°	10735.5	10923.2	10921.2	10651.0	10155.6	9446.3	7701.1	5329.3	3739.8	2722.8	2454.5
42.5°	11551.8	11775.1	11837.0	11570.5	11069.5	10307.6	8408.6	5620.2	3698.7	2546.4	2246.2
45°	12486.2	12683.4	12799.7	12551.9	12049.1	11245.9	9221.2	5950.4	3647.9	2319.3	2007.8
47.5°	13486.4	13715.5	13889.9	13677.8	13141.1	12315.4	10183.8	6376.4	3629.1	2060.4	1750.8
50°	14726.8	14963.3	15340.4	15244.7	14950.2	14285.8	12219.8	7382.2	3636.7	1814.6	1535.0
52.5°	17804.4	18346.6	18823.3	18611.2	17911.3	16772.3	13875.0	7941.4	3479.1	1613.8	1384.9
55°	18733.1	19348.7	20052.4	19964.2	19292.4	18143.9	15182.8	8408.6	3327.1	1467.5	1287.3
57.5°	20358.3	21084.5	22067.7	22048.9	21225.1	19932.2	16866.1	8967.9	3261.4	1383.0	1238.5
60°	22079.0	23004.1	24362.7	24574.8	23679.6	22334.2	18855.2	9654.5	3270.7	1336.0	1210.4
62.5°	23336.2	24693.0	26669.0	27303.3	26248.6	24766.2	20919.4	10341.4	3214.4	1281.6	1176.6
65°	23413.1	25366.6	28170.2	29157.2	28089.5	26184.8	21647.4	10206.4	2876.7	1208.5	1122.2
67.5°	21536.6	24081.3	27487.1	28569.8	27477.7	25310.4	20371.4	8922.7	2338.1	1080.9	1028.3
70°	17937.5	20891.1	24426.5	25633.1	24730.5	22536.9	17729.3	7127.0	1747.0	912.0	887.6
72.5°	13861.7	16616.4	19827.2	20943.7	20253.2	18324.1	13983.8	5194.1	1247.8	739.3	720.6
75°	9909.9	12255.5	14586.1	15012.1	14330.9	12559.5	9072.9	3244.5	874.4	606.1	579.8
77.5°	6136.2	7661.8	8498.7	7950.8	7081.9	5886.6	3693.0	1602.5	581.7	493.6	467.3
80°	2722.8	3195.8	2983.7	2659.1	2099.9	1726.4	1127.8	711.2	375.3	380.9	365.9
82.5°	915.7	968.2	942.1	936.4	844.5	739.3	478.5	307.8	210.3	243.9	238.3
85°	446.7	467.3	469.2	485.9	422.2	328.5	129.5	122.0	90.0	131.3	137.0
87.5°	135.2	137.0	123.9	135.2	108.8	75.1	24.4	33.8	16.9	31.9	31.9
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: NAV-AF-06-D-UNV-T2R-7030-800

CANDELA DISTRIBUTION (continued):

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8
2.5°	2467.6	2460.1	2447.0	2432.0	2428.2	2409.3	2403.8	2394.4	2388.9	2379.4	2371.9
5°	2445.1	2432.0	2417.0	2400.1	2400.1	2373.7	2362.5	2351.3	2351.3	2334.4	2326.9
7.5°	2467.6	2450.6	2433.9	2418.8	2424.5	2394.4	2383.2	2371.9	2370.1	2353.1	2345.7
10°	2531.4	2514.5	2493.9	2478.9	2473.2	2448.8	2435.7	2418.8	2407.5	2396.3	2385.0
12.5°	2629.0	2606.5	2580.1	2548.3	2535.2	2514.5	2493.9	2471.3	2445.1	2433.9	2417.0
15°	2745.3	2707.8	2672.2	2632.7	2597.1	2576.5	2548.3	2512.6	2477.0	2461.9	2439.4
17.5°	2841.1	2801.6	2750.9	2704.0	2640.2	2623.4	2584.0	2540.9	2482.6	2477.0	2443.2
20°	2921.7	2861.7	2799.8	2743.5	2645.9	2636.5	2587.7	2537.0	2454.5	2454.5	2413.2
22.5°	2966.7	2884.2	2811.0	2736.0	2614.0	2606.5	2550.2	2490.1	2388.9	2392.6	2341.9
25°	2974.2	2874.8	2782.9	2692.8	2552.1	2538.9	2467.6	2401.9	2291.1	2283.7	2231.2
27.5°	2944.2	2827.8	2721.0	2612.1	2460.1	2432.0	2353.1	2274.3	2165.5	2146.7	2090.4
30°	2874.8	2737.8	2617.8	2491.9	2332.4	2287.5	2204.9	2124.2	2013.5	1989.1	1936.5
32.5°	2764.2	2608.3	2475.2	2349.4	2172.9	2116.7	2034.2	1953.4	1846.5	1827.7	1779.0
35°	2617.8	2443.2	2302.5	2169.3	1992.9	1934.7	1855.9	1784.5	1687.0	1679.5	1645.7
37.5°	2433.9	2251.9	2101.7	1974.1	1807.0	1777.1	1696.4	1643.8	1563.2	1570.6	1553.7
40°	2225.5	2039.8	1897.2	1784.5	1640.1	1613.8	1565.0	1525.6	1456.2	1476.8	1478.8
42.5°	2015.4	1829.5	1700.1	1598.8	1474.9	1458.1	1424.3	1401.8	1349.3	1390.6	1407.4
45°	1777.1	1604.4	1493.7	1416.8	1324.8	1324.8	1308.0	1306.0	1270.3	1328.6	1345.4
47.5°	1546.2	1411.1	1334.2	1287.3	1223.4	1253.5	1247.8	1262.9	1236.6	1296.7	1311.6
50°	1371.8	1277.9	1231.1	1208.5	1163.4	1210.4	1221.6	1242.3	1219.8	1272.4	1283.6
52.5°	1261.0	1199.1	1172.8	1167.2	1135.3	1193.4	1212.2	1231.1	1204.7	1253.5	1251.7
55°	1199.1	1157.8	1148.5	1159.7	1135.3	1191.6	1210.4	1223.4	1201.0	1234.7	1232.9
57.5°	1176.6	1154.1	1159.7	1176.6	1159.7	1206.5	1215.9	1231.1	1208.5	1223.4	1231.1
60°	1174.6	1174.6	1197.3	1219.8	1208.5	1242.3	1247.8	1246.0	1225.4	1227.2	1231.1
62.5°	1163.4	1191.6	1229.1	1264.7	1261.0	1302.3	1306.0	1281.6	1264.7	1246.0	1240.4
65°	1127.8	1174.6	1229.1	1277.9	1285.4	1349.3	1356.7	1332.3	1321.1	1289.1	1264.7
67.5°	1049.0	1109.0	1172.8	1232.9	1246.0	1332.3	1349.3	1358.6	1364.2	1343.6	1311.6
70°	915.7	977.7	1043.3	1112.8	1131.5	1227.2	1262.9	1306.0	1339.8	1369.9	1358.6
72.5°	744.9	801.3	857.5	921.4	949.5	1049.0	1095.9	1170.9	1223.4	1300.4	1332.3
75°	591.1	624.9	658.7	698.0	720.6	818.2	876.4	966.4	1037.8	1144.7	1215.9
77.5°	465.3	482.3	499.2	516.0	525.4	579.8	626.7	716.8	799.3	934.5	1039.6
80°	358.4	367.7	369.7	375.3	371.6	397.8	414.7	469.2	540.4	673.7	797.5
82.5°	230.9	238.3	242.1	251.4	232.7	266.5	277.7	283.3	320.9	418.5	506.6
85°	129.5	131.3	133.2	137.0	110.7	144.4	146.4	137.0	133.2	172.6	195.1
87.5°	31.9	30.0	31.9	31.9	13.1	30.0	30.0	20.6	15.0	28.2	22.5
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: P196764

CATALOG NUMBER: NAV-AF-06-D-UNV-T2R-7030-800

CANDELA DISTRIBUTION (continued):

	135°	145°	155°	165°	175°	180°
0°	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8
2.5°	2355.0	2351.3	2353.1	2343.7	2340.0	2341.9
5°	2317.5	2310.0	2310.0	2304.4	2296.8	2296.8
7.5°	2334.4	2319.3	2313.8	2302.5	2291.1	2293.2
10°	2360.6	2334.4	2315.6	2298.7	2285.6	2285.6
12.5°	2377.6	2330.6	2302.5	2279.9	2265.0	2265.0
15°	2381.3	2310.0	2268.7	2244.3	2229.3	2229.3
17.5°	2358.8	2268.7	2216.1	2184.2	2167.3	2171.1
20°	2302.5	2191.7	2129.8	2096.0	2079.2	2081.1
22.5°	2214.2	2086.7	2015.4	1976.0	1959.1	1959.1
25°	2094.2	1955.3	1878.3	1846.5	1831.5	1831.5
27.5°	1957.2	1814.6	1747.0	1722.6	1713.3	1713.3
30°	1803.4	1685.1	1636.2	1619.4	1604.4	1604.4
32.5°	1673.9	1589.4	1572.6	1550.0	1510.6	1508.8
35°	1570.6	1561.2	1548.1	1480.6	1424.3	1416.8
37.5°	1514.4	1570.6	1488.1	1371.8	1326.7	1324.8
40°	1484.3	1536.8	1394.2	1338.0	1332.3	1332.3
42.5°	1413.0	1450.5	1388.5	1356.7	1356.7	1358.6
45°	1338.0	1369.9	1401.8	1373.6	1383.0	1384.9
47.5°	1285.4	1349.3	1401.8	1377.3	1396.2	1407.4
50°	1236.6	1330.4	1373.6	1373.6	1394.2	1396.2
52.5°	1225.4	1304.2	1347.3	1367.9	1369.9	1360.5
55°	1227.2	1283.6	1326.7	1352.9	1341.7	1341.7
57.5°	1225.4	1272.4	1309.8	1319.2	1324.8	1324.8
60°	1227.2	1257.2	1287.3	1283.6	1302.3	1302.3
62.5°	1232.9	1236.6	1251.7	1247.8	1276.0	1276.0
65°	1246.0	1210.4	1201.0	1204.7	1238.5	1236.6
67.5°	1270.3	1174.6	1144.7	1146.5	1195.3	1187.8
70°	1306.0	1125.9	1080.9	1069.6	1152.1	1139.0
72.5°	1317.3	1069.6	998.3	987.0	1035.9	998.3
75°	1264.7	1024.6	910.1	872.6	851.9	840.6
77.5°	1127.8	996.5	818.2	739.3	707.5	700.0
80°	934.5	938.2	698.0	604.2	701.8	700.0
82.5°	705.6	810.7	559.2	523.6	508.5	424.2
85°	341.6	609.8	429.7	360.3	215.8	204.6
87.5°	30.0	255.2	247.7	161.3	73.2	69.4
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)