

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: P196206

Luminaire Tested: **NAV-AF-06-D-UNV-SLL-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196206  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24264)  
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-SLL-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(6) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT  
ELIMINATOR LEFT OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 21443.1 lumens  
Efficiency: N/A  
Efficacy: 111.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B3 - U0 - G4

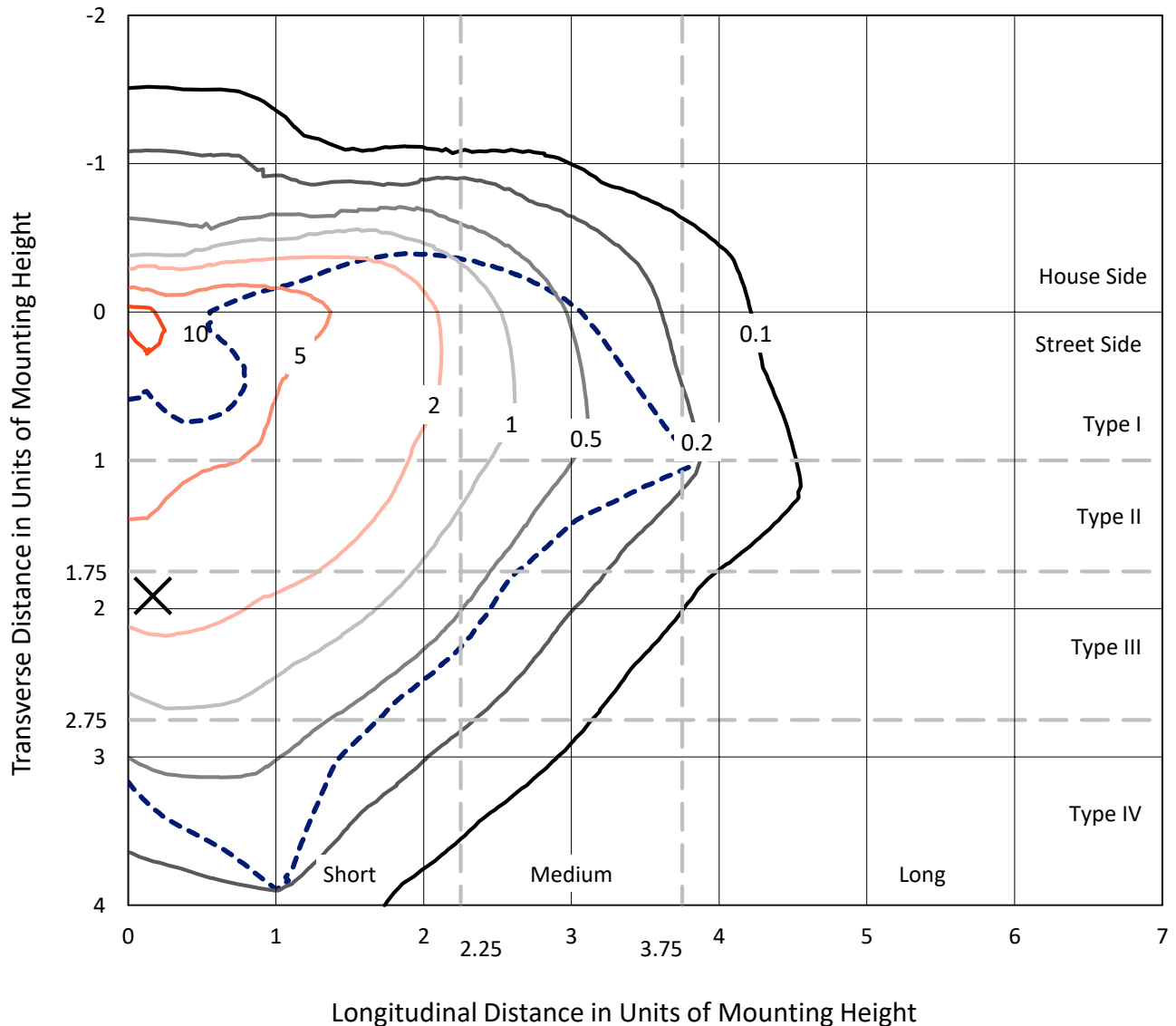
Input Watts (W): 193  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

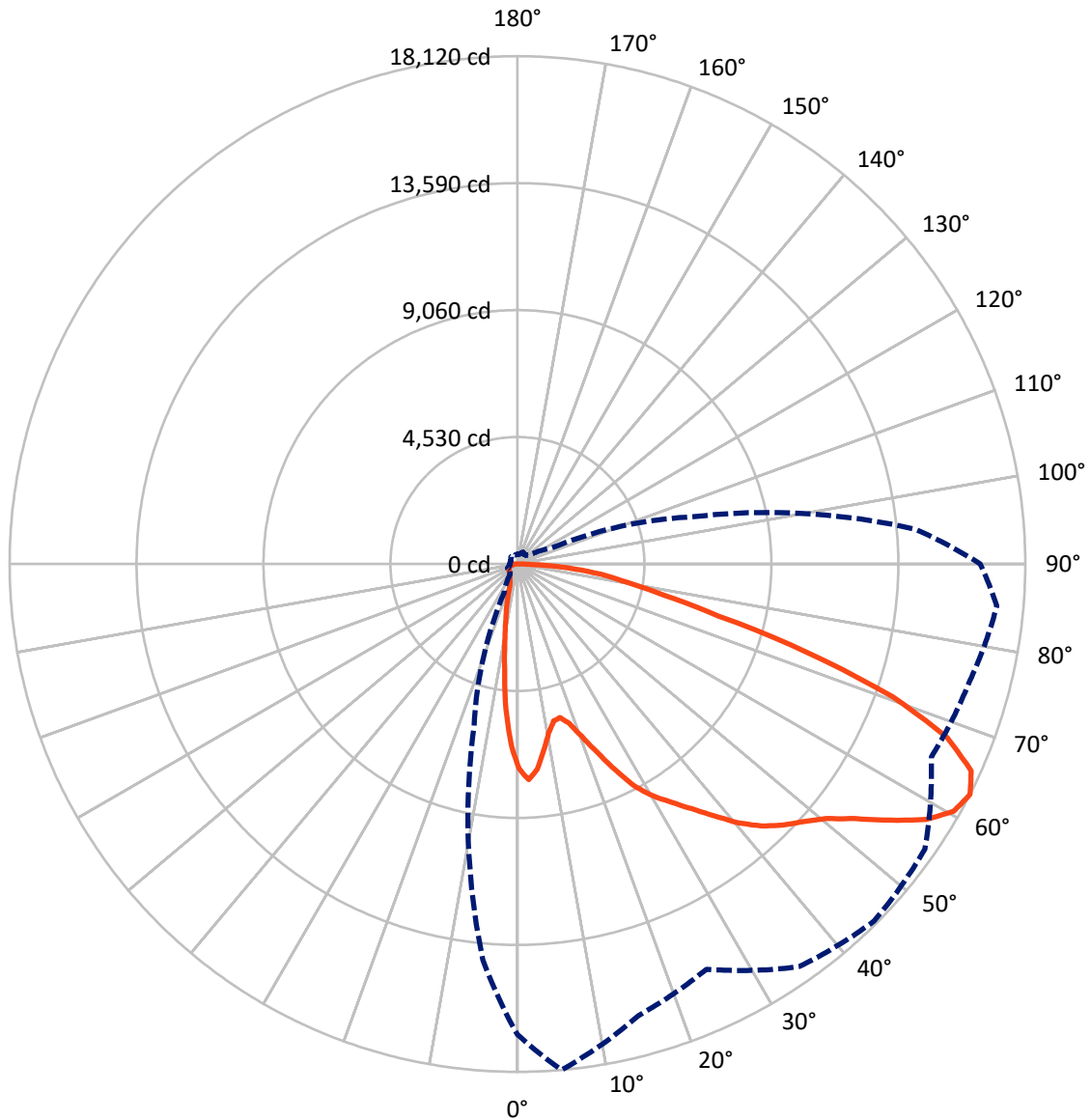
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 13.4 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral      - - - Horizontal Cone Through 62.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3798.7	0.0	3798.7
	% Fixture	17.7	0.0	17.7
<b>Street Side</b>	Lumens	17644.4	0.0	17644.4
	% Fixture	82.3	0.0	82.3
<b>Total</b>	Lumens	21443.1	0.0	21443.1
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	531.6	2.5
10°-20°	971.0	4.5
20°-30°	1396.6	6.5
30°-40°	2139.1	10.0
40°-50°	3127.4	14.6
50°-60°	4550.4	21.2
60°-70°	5272.2	24.6
70°-80°	2748.3	12.8
80°-90°	706.5	3.3
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°	21443.1	100.0
0°-180°	21443.1	100.0



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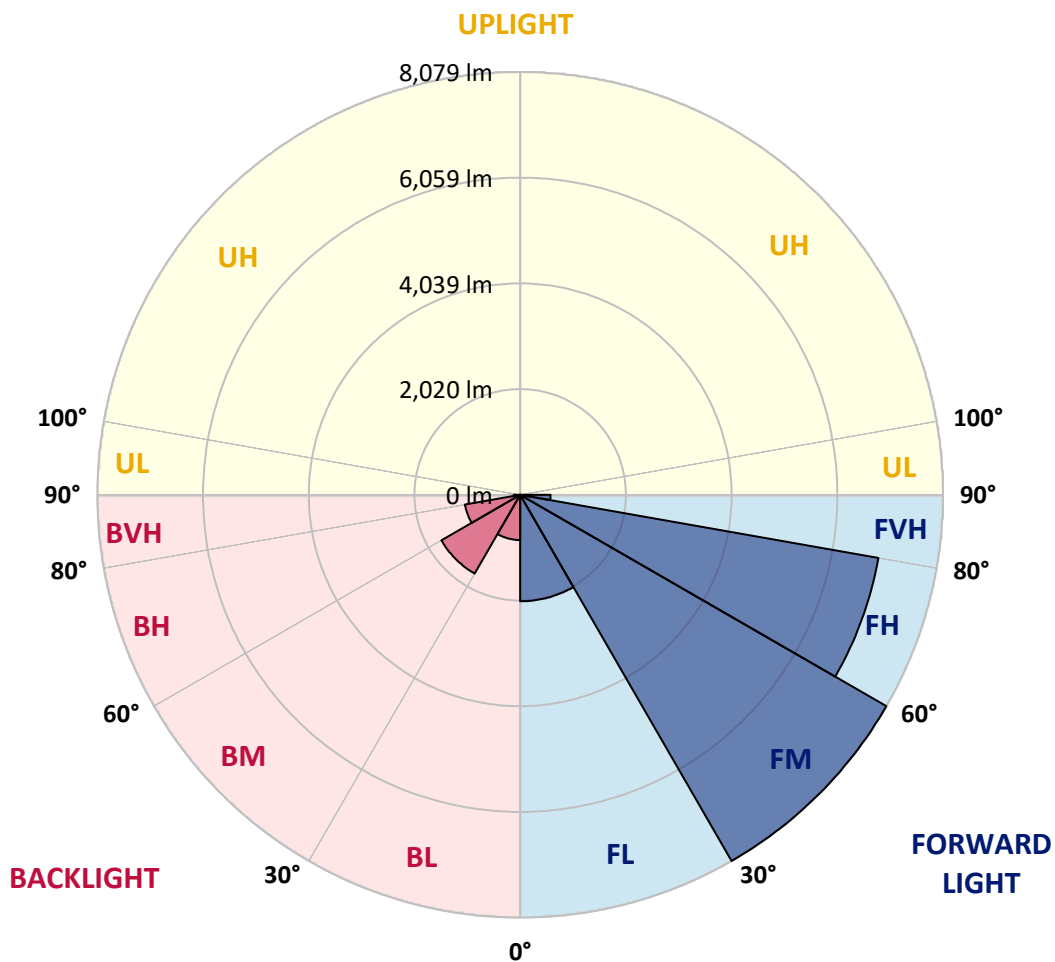
CATALOG NUMBER: NAV-AF-06-D-UNV-SLL-600

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2035.0	9.5			
FM	(30°-60°)	8078.8	37.7			
FH	(60°-80°)	6949.4	32.4			G3/7500
FVH	(80°-90°)	581.2	2.7			G4/750
BL	(0°-30°)	864.3	4.0	B2/1000		
BM	(30°-60°)	1738.0	8.1	B2/2500		
BH	(60°-80°)	1071.1	5.0	B3/2500		G3/2500
BVH	(80°-90°)	125.3	0.6			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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4
2.5°	7546.7	7706.8	7890.3	8129.7	8293.0	8358.2	8412.6	8321.0	8232.3	8066.0	8006.9
5°	7049.2	7357.1	7862.3	8342.7	8765.6	9008.1	9082.8	8913.3	8611.7	8176.3	7946.3
7.5°	6310.7	6716.5	7427.0	8134.4	8740.7	9145.0	9174.5	8838.7	8244.8	7531.2	7158.0
10°	5665.5	6124.1	6946.6	7737.9	8380.0	8793.6	8712.8	8241.7	7524.9	6713.3	6292.1
12.5°	5290.8	5749.4	6587.4	7391.2	7996.0	8153.0	7988.2	7591.8	6912.4	6099.2	5674.8
15°	5211.5	5684.1	6459.9	7137.8	7512.4	7411.5	7248.2	7047.6	6564.1	5898.6	5488.2
17.5°	5450.9	5979.6	6629.4	7001.0	6985.4	6742.9	6606.1	6645.0	6562.5	6116.3	5687.2
20°	5943.8	6568.8	7060.1	6963.6	6565.7	6225.2	6145.9	6450.6	6831.5	6662.1	6191.0
22.5°	6592.1	7304.2	7647.8	7070.9	6346.5	5979.6	5964.0	6439.7	7321.3	7487.6	6913.9
25°	7324.3	8154.6	8240.1	7260.6	6323.2	5957.8	5943.8	6607.6	7910.5	8305.4	7723.9
27.5°	8219.9	9012.8	8734.6	7514.1	6425.8	6021.5	6030.8	6893.7	8524.7	9113.9	8636.6
30°	8894.7	9622.3	9039.2	7762.8	6590.6	6133.4	6156.7	7203.1	8855.8	9675.2	9365.7
32.5°	9525.9	10143.1	9331.6	8008.5	6831.5	6299.8	6380.7	7588.7	9253.8	10157.1	10054.5
35°	10224.0	10726.2	9656.5	8271.2	7176.7	6592.1	6708.7	7955.6	9648.7	10639.1	10737.0
37.5°	11015.3	11393.1	10009.4	8642.8	7674.2	7133.1	7198.4	8330.3	9923.9	11172.4	11469.3
40°	11839.3	12141.0	10395.0	9138.7	8397.1	7863.8	7894.9	8810.7	10140.0	11724.2	12179.9
42.5°	12546.7	12781.5	10782.1	9754.4	9227.3	8608.5	8635.0	9328.4	10346.7	12200.0	12748.8
45°	13112.7	13285.3	11147.5	10402.8	10113.6	9538.3	9532.1	9855.5	10623.5	12601.1	13185.7
47.5°	13639.7	13731.5	11554.8	11034.0	11032.4	10735.5	10513.2	10477.4	10992.0	12938.5	13566.7
50°	14243.0	14277.1	12092.7	11671.5	12154.9	12108.3	11697.9	11267.2	11469.3	13317.9	13966.2
52.5°	15082.5	15084.0	12759.8	12293.3	13394.1	13541.7	13064.5	12161.1	12175.2	14056.4	14656.5
55°	16069.7	16138.2	13628.9	13038.0	14690.7	14942.5	14493.3	13223.1	13188.8	15247.3	15775.9
57.5°	16833.2	17195.4	14641.0	13969.3	15901.9	16229.9	15867.7	14323.8	14434.1	16475.5	16699.5
60°	17047.7	17895.0	15650.0	15014.2	16926.5	17419.3	17050.9	15513.2	15653.1	17273.1	16965.3
62.5°	16791.1	18120.4	16677.7	15950.1	17534.3	18007.0	17742.7	16292.1	16646.6	17170.5	16516.0
65°	16030.9	17794.0	17570.1	16348.1	17184.6	17352.4	17282.4	16332.5	17186.1	16200.4	15273.8
67.5°	14255.4	16534.7	17172.1	15497.6	15550.5	15370.1	15278.4	15222.4	16579.7	14634.7	13314.7
70°	11593.7	14207.2	15273.8	12969.6	12577.8	12403.7	12102.1	12848.4	14902.1	12469.0	10957.7
72.5°	8930.5	10869.2	12528.1	9832.2	9017.5	9076.5	8734.6	9824.4	12344.7	9639.4	8366.0
75°	6341.8	7411.5	10000.1	7064.7	5985.7	5982.6	5956.2	7070.9	9740.4	6918.6	6121.0
77.5°	4571.0	5335.8	7834.4	4728.0	4247.5	4301.9	4214.9	4805.7	7593.4	4976.8	4535.2
80°	3645.9	3950.6	5063.8	3153.0	3162.4	3289.8	3271.2	3286.7	4995.4	3603.9	3390.9
82.5°	2619.8	2999.1	3871.3	2416.1	2091.1	2226.4	2252.8	2437.8	3524.6	2548.2	2235.8
85°	1343.3	1828.4	3561.9	2092.7	1307.5	1083.6	1246.9	1923.2	3061.3	1526.8	1089.9
87.5°	261.2	506.9	2610.4	1163.0	587.7	297.0	489.8	814.7	1780.1	276.7	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



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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4
2.5°	7905.9	7706.8	7520.2	7327.5	7178.3	6996.4	6817.6	6662.1	6511.3	6411.8	6442.9
5°	7713.0	7228.0	6792.7	6388.4	6152.1	5867.5	5614.2	5401.2	5236.4	5130.6	5194.3
7.5°	6834.6	6178.5	5604.8	5071.6	4735.8	4367.3	4071.9	3863.5	3736.0	3664.5	3768.7
10°	5936.0	5199.0	4555.4	4000.4	3669.2	3356.7	3089.3	2868.5	2697.5	2616.6	2658.6
12.5°	5292.3	4473.0	3798.2	3425.0	3140.6	2860.7	2584.0	2325.9	2108.2	2008.8	1988.5
15°	5051.3	4082.7	3393.9	2977.3	2694.4	2389.6	2091.1	1814.4	1607.6	1522.0	1503.4
17.5°	5157.1	3998.8	3154.6	2661.7	2251.3	1881.2	1545.4	1284.2	1131.9	1083.6	1088.3
20°	5528.6	4029.9	2961.7	2336.7	1830.0	1391.5	1055.7	875.3	810.0	799.1	811.6
22.5°	6038.6	4157.4	2821.8	2056.9	1458.3	1012.1	785.1	699.6	682.5	681.0	693.5
25°	6711.8	4406.2	2728.5	1808.2	1152.0	802.2	684.0	635.9	621.9	625.0	637.4
27.5°	7504.7	4721.7	2668.0	1593.7	946.8	715.1	639.0	597.0	583.0	586.2	595.5
30°	8229.2	4998.4	2577.7	1431.9	850.5	684.0	614.1	572.1	553.5	553.5	559.7
32.5°	8877.6	5237.9	2472.1	1310.6	761.8	614.1	556.6	524.0	509.9	514.6	517.7
35°	9452.8	5363.8	2389.6	1239.1	690.3	565.9	508.4	474.2	455.5	458.7	463.3
37.5°	10018.8	5412.0	2335.2	1200.2	639.0	536.4	483.5	455.5	435.4	432.2	430.7
40°	10556.6	5401.2	2283.9	1189.4	604.8	514.6	468.0	443.1	422.9	418.2	416.6
42.5°	11021.6	5365.4	2235.8	1159.8	581.4	499.1	455.5	433.7	413.6	407.3	404.3
45°	11446.0	5343.6	2182.9	1105.4	593.9	492.9	449.3	426.0	407.3	399.6	396.5
47.5°	11917.1	5421.3	2123.7	1046.4	590.8	494.4	449.3	422.9	404.3	396.5	393.3
50°	12478.4	5684.1	2050.7	965.5	562.8	528.7	447.7	418.2	401.1	396.5	390.3
52.5°	13271.3	6110.1	1949.6	861.3	541.0	564.4	446.2	410.4	396.5	388.7	380.9
55°	14358.0	6536.1	1819.0	750.9	506.9	539.5	449.3	401.1	385.6	377.8	368.5
57.5°	15248.8	6859.5	1654.2	659.2	475.8	509.9	444.7	390.3	373.2	365.4	357.6
60°	15191.3	6890.6	1497.2	600.2	457.1	458.7	455.5	382.5	362.2	356.0	349.8
62.5°	14250.7	6506.6	1351.1	570.6	443.1	418.2	464.8	373.2	351.4	345.1	340.4
65°	12685.1	5612.6	1273.4	570.6	430.7	396.5	405.8	360.7	340.4	334.3	331.1
67.5°	10699.7	4510.3	1200.2	583.0	413.6	380.9	368.5	348.2	329.6	323.4	320.3
70°	8575.9	3549.4	1149.0	576.8	398.0	363.8	348.2	331.1	312.5	311.0	307.8
72.5°	6727.3	2851.4	1125.7	576.8	374.7	343.6	328.1	315.6	297.0	295.4	290.7
75°	5390.2	2140.8	1029.2	565.9	351.4	317.2	303.2	292.3	273.6	275.2	272.1
77.5°	4174.5	1514.3	859.8	509.9	321.8	287.7	276.7	268.9	247.2	248.8	248.8
80°	3265.0	985.7	667.0	422.9	287.7	253.4	245.6	239.5	216.1	219.2	219.2
82.5°	2237.3	586.2	483.5	340.4	247.2	216.1	214.5	205.2	180.3	181.9	185.1
85°	1222.0	385.6	321.8	251.9	194.4	175.6	172.6	167.9	144.5	144.5	146.2
87.5°	225.5	206.7	189.7	166.3	130.6	125.9	121.2	125.9	108.8	105.8	105.8
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°	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4
2.5°	6369.8	6262.5	6187.8	6122.6	5965.5	5976.4	5998.2	6029.3	5931.4	5982.6	6046.4
5°	5130.6	5042.0	4975.1	4871.0	4651.8	4574.0	4524.3	4502.5	4356.3	4387.4	4455.9
7.5°	3782.7	3781.1	3757.8	3641.2	3376.9	3216.8	3111.0	3078.4	2988.2	3022.4	3126.5
10°	2663.3	2691.3	2680.3	2576.2	2339.9	2224.8	2201.5	2266.9	2268.4	2335.2	2514.0
12.5°	1924.8	1909.2	1895.2	1809.7	1632.4	1613.8	1666.7	1756.8	1778.6	1850.1	2036.7
15°	1436.5	1399.3	1391.5	1324.6	1208.0	1225.1	1264.0	1310.6	1312.2	1362.0	1515.9
17.5°	1077.5	1077.5	1089.9	1046.4	962.4	954.6	934.4	922.0	903.3	923.5	1007.5
20°	836.5	875.3	906.4	881.6	805.4	768.0	729.2	704.3	690.3	691.8	716.8
22.5°	716.8	747.9	788.3	775.8	712.1	663.9	639.0	621.9	611.0	611.0	625.0
25°	656.1	676.3	713.6	707.4	652.9	614.1	593.9	576.8	564.4	562.8	576.8
27.5°	607.9	620.3	645.2	642.1	586.2	561.3	548.8	538.0	530.2	528.7	542.6
30°	564.4	570.6	583.0	578.4	536.4	511.5	506.9	502.2	497.6	499.1	519.2
32.5°	525.5	530.2	538.0	531.7	491.3	469.5	461.8	455.5	450.9	455.5	478.8
35°	482.0	495.9	505.3	502.2	458.7	432.2	415.1	399.6	393.3	398.0	424.4
37.5°	444.7	468.0	480.4	477.3	432.2	401.1	379.3	376.2	376.2	382.5	408.9
40°	430.7	447.7	458.7	454.0	408.9	377.8	365.4	360.7	362.2	368.5	396.5
42.5°	418.2	433.7	436.9	427.6	382.5	362.2	354.5	348.2	351.4	359.2	387.1
45°	407.3	419.8	418.2	404.3	360.7	346.7	346.7	342.1	343.6	349.8	379.3
47.5°	399.6	405.8	402.6	388.7	345.1	334.3	338.9	338.9	342.1	346.7	376.2
50°	387.1	391.8	388.7	376.2	332.7	323.4	328.1	334.3	337.4	342.1	368.5
52.5°	374.7	377.8	376.2	363.8	320.3	314.0	314.0	320.3	326.5	332.7	356.0
55°	362.2	365.4	366.9	357.6	311.0	304.7	303.2	303.2	309.4	318.8	343.6
57.5°	352.9	352.9	356.0	349.8	301.7	293.9	286.1	287.7	295.4	303.2	328.1
60°	342.1	343.6	348.2	342.1	289.2	276.7	270.6	278.3	281.4	289.2	315.6
62.5°	332.7	332.7	335.8	331.1	278.3	265.9	261.2	268.9	268.9	276.7	303.2
65°	324.9	323.4	323.4	321.8	267.4	255.0	251.9	255.0	256.6	264.3	290.7
67.5°	318.8	311.0	311.0	314.0	256.6	244.1	242.5	242.5	244.1	253.4	276.7
70°	304.7	298.5	297.0	307.8	245.6	230.1	230.1	227.0	230.1	234.8	259.6
72.5°	289.2	284.5	282.9	298.5	234.8	214.5	211.4	209.9	211.4	216.1	239.5
75°	268.9	265.9	268.9	292.3	223.9	197.4	192.8	191.2	191.2	192.8	217.7
77.5°	245.6	242.5	265.9	272.1	217.7	177.3	172.6	169.5	166.3	166.3	194.4
80°	217.7	216.1	256.6	230.1	208.4	155.5	147.7	143.0	139.9	138.4	166.3
82.5°	189.7	186.6	219.2	180.3	172.6	127.5	116.6	107.3	102.6	102.6	127.5
85°	155.5	154.0	172.6	132.2	119.7	93.3	77.7	70.0	63.7	63.7	82.4
87.5°	113.4	110.4	107.3	79.3	60.7	41.9	29.6	28.0	24.9	23.3	34.2
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: P196206

CATALOG NUMBER: NAV-AF-06-D-UNV-SLL-600

**CANDELA DISTRIBUTION (continued):**

	295°	305°	315°	325°	335°	345°	355°	360°
0°	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4	7310.4
2.5°	6141.2	6270.3	6514.4	6715.0	6982.4	7196.9	7440.9	7546.7
5°	4581.8	4785.5	5158.6	5477.4	5918.9	6327.8	6794.2	7049.2
7.5°	3286.7	3588.3	3871.3	4269.3	4821.3	5370.1	5973.3	6310.7
10°	2719.2	2996.0	3238.6	3521.5	3947.5	4564.7	5284.6	5665.5
12.5°	2252.8	2551.3	2807.9	3111.0	3468.6	4026.7	4847.7	5290.8
15°	1727.4	2052.2	2360.0	2725.4	3163.9	3801.3	4717.0	5211.5
17.5°	1183.1	1531.5	1910.8	2357.0	2885.6	3706.5	4841.4	5450.9
20°	803.8	1058.8	1470.8	1999.4	2635.3	3661.4	5115.1	5943.8
22.5°	660.7	775.8	1085.2	1663.5	2430.0	3711.2	5559.7	6592.1
25°	606.3	668.5	844.2	1368.2	2273.0	3843.3	6161.4	7324.3
27.5°	572.1	625.0	740.1	1156.8	2128.5	4023.7	6893.7	8219.9
30°	551.9	601.7	698.1	1047.9	1996.3	4179.2	7523.4	8894.7
32.5°	506.9	544.1	623.5	985.7	1901.5	4305.1	8078.4	9525.9
35°	452.5	497.6	562.8	945.3	1898.3	4364.1	8600.8	10224.0
37.5°	432.2	475.8	524.0	923.5	1917.0	4413.9	9239.8	11015.3
40°	419.8	458.7	497.6	920.5	1932.6	4452.8	9864.8	11839.3
42.5°	408.9	447.7	492.9	898.7	1926.3	4505.6	10418.3	12546.7
45°	405.8	444.7	503.7	866.0	1924.8	4588.0	10858.3	13112.7
47.5°	402.6	461.8	500.6	830.2	1918.5	4762.1	11354.2	13639.7
50°	399.6	492.9	478.8	780.5	1871.9	5059.1	12021.2	14243.0
52.5°	398.0	497.6	455.5	712.1	1787.9	5499.1	12997.6	15082.5
55°	391.8	472.6	415.1	621.9	1666.7	5973.3	14044.0	16069.7
57.5°	377.8	421.4	391.8	533.3	1492.6	6304.4	14816.6	16833.2
60°	412.0	362.2	376.2	488.2	1284.2	6363.6	14850.9	17047.7
62.5°	393.3	329.6	360.7	472.6	1138.0	5977.9	14171.4	16791.1
65°	314.0	312.5	346.7	488.2	1116.3	5115.1	13024.0	16030.9
67.5°	286.1	300.0	332.7	506.9	1130.3	4029.9	11335.6	14255.4
70°	267.4	284.5	314.0	524.0	1155.2	3174.7	9126.4	11593.7
72.5°	248.8	262.8	295.4	541.0	1138.0	2504.7	7304.2	8930.5
75°	225.5	237.8	268.9	495.9	976.4	1840.8	5803.8	6341.8
77.5°	199.0	209.9	236.3	391.8	733.9	1281.1	4347.0	4571.0
80°	171.0	175.6	195.9	286.1	478.8	766.5	3308.5	3645.9
82.5°	135.2	136.8	149.2	209.9	298.5	489.8	2294.8	2619.8
85°	87.1	90.2	96.4	147.7	200.6	314.0	1172.3	1343.3
87.5°	29.6	34.2	34.2	71.5	98.0	174.1	359.2	261.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)