

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: P196246

Luminaire Tested: **NAV-AF-04-D-UNV-SLR-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196246  
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-04-D-UNV-SLR-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT  
ELIMINATOR RIGHT OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 24180.5 lumens  
Efficiency: N/A  
Efficacy: 93.7 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B3 - U0 - G4

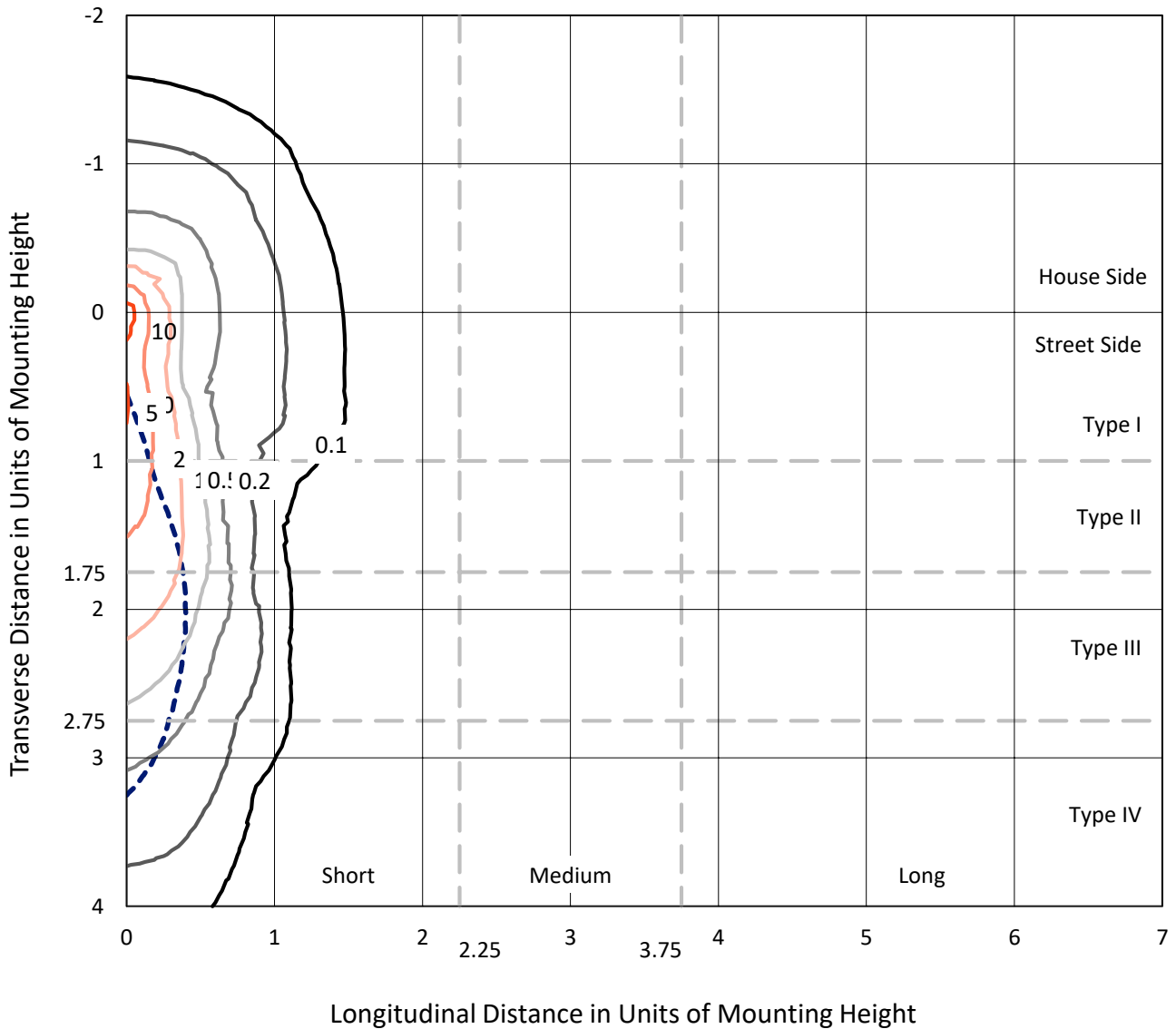
Input Watts (W): 258  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

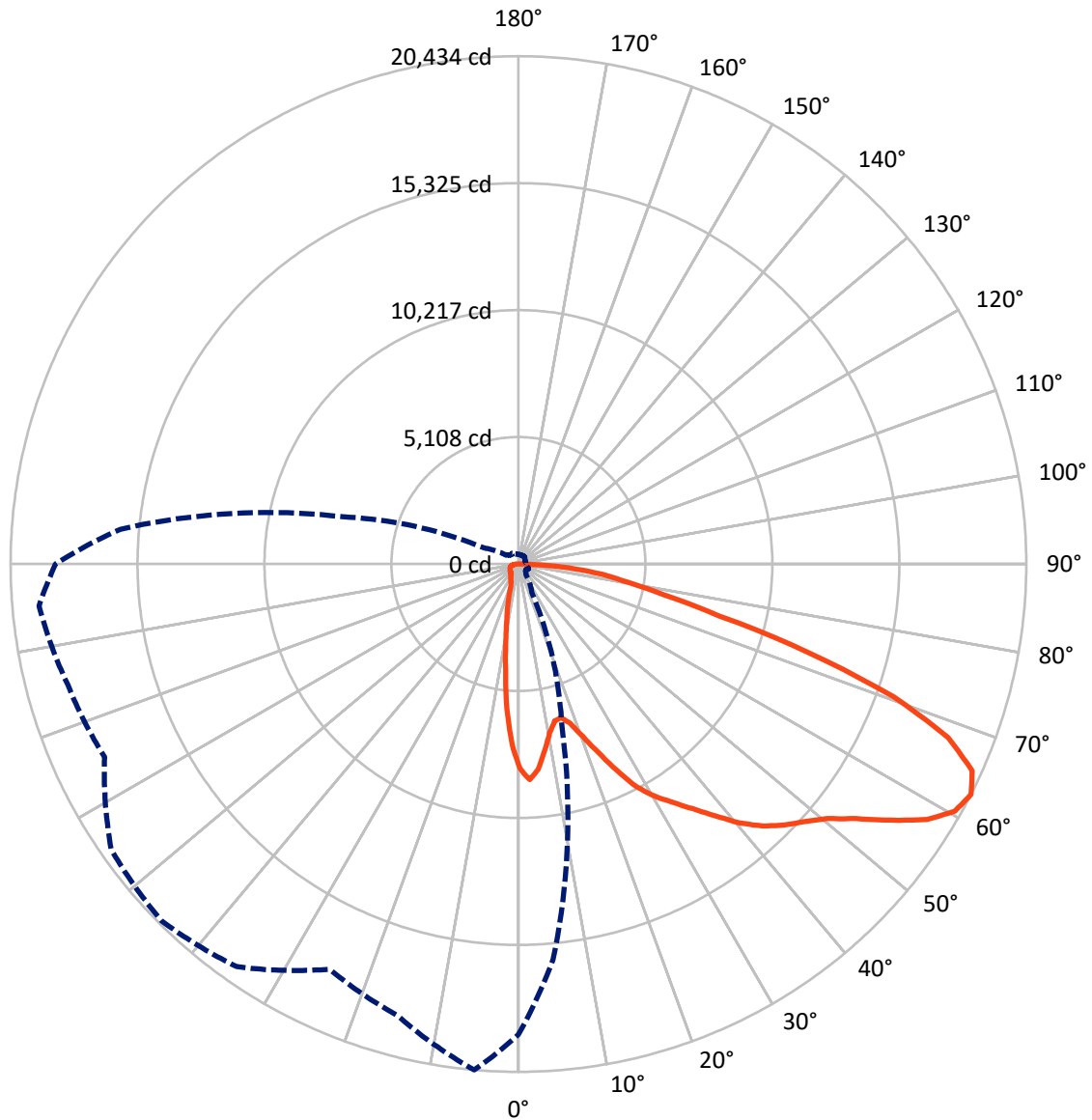
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 13.2 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 355-Deg Lateral    - - - Horizontal Cone Through 62.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4283.6	0.0	4283.6
	% Fixture	17.7	0.0	17.7
<b>Street Side</b>	Lumens	19896.9	0.0	19896.9
	% Fixture	82.3	0.0	82.3
<b>Total</b>	Lumens	24180.5	0.0	24180.5
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	599.5	2.5
10°-20°	1095.0	4.5
20°-30°	1574.9	6.5
30°-40°	2412.1	10.0
40°-50°	3526.6	14.6
50°-60°	5131.3	21.2
60°-70°	5945.2	24.6
70°-80°	3099.2	12.8
80°-90°	796.7	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°	24180.5	100.0
0°-180°	24180.5	100.0



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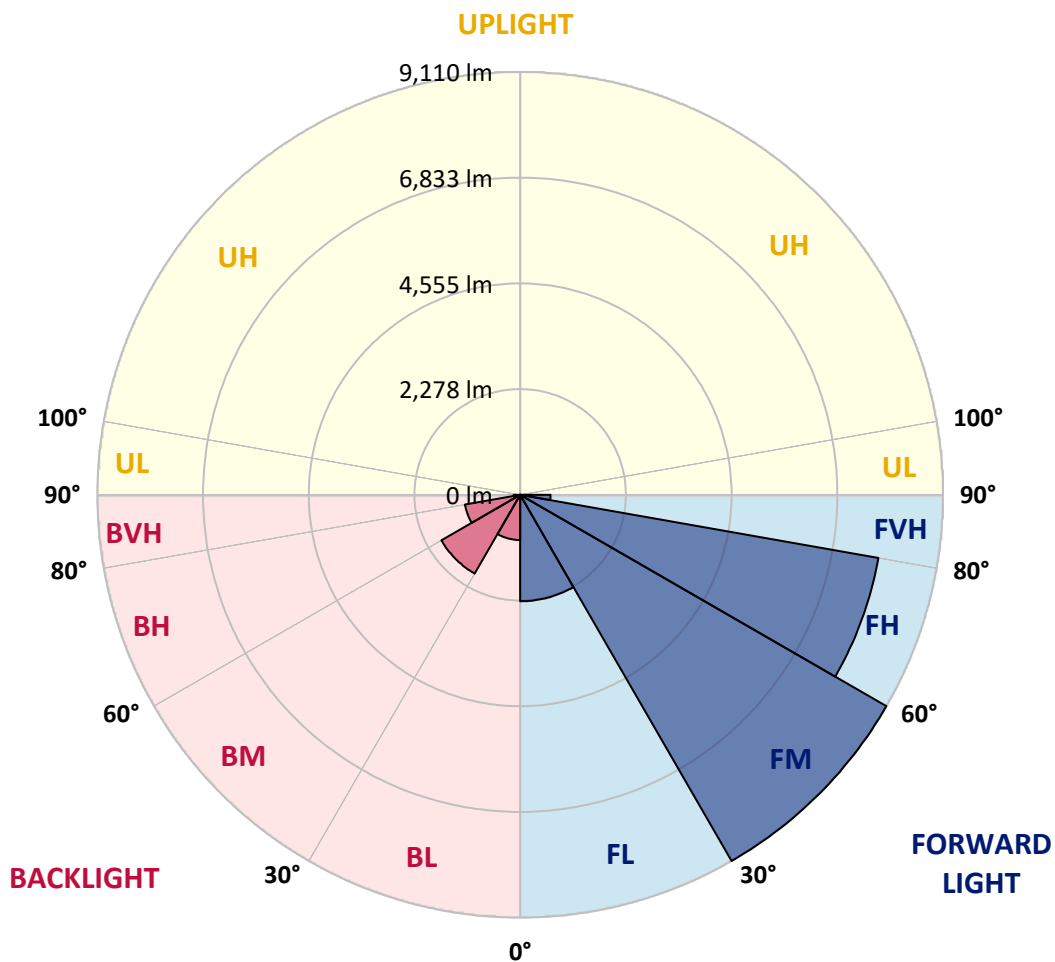
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2294.8	9.5			
FM (30°-60°)	9110.1	37.7			
FH (60°-80°)	7836.6	32.4			G4/12000
FVH (80°-90°)	655.4	2.7			G4/750
BL (0°-30°)	974.6	4.0	B2/1000		
BM (30°-60°)	1959.9	8.1	B2/2500		
BH (60°-80°)	1207.9	5.0	B3/2500		G3/2500
BVH (80°-90°)	141.3	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°	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7
2.5°	8510.1	8390.9	8115.7	7873.7	7572.1	7346.0	7070.7	6925.2	6818.3	6746.4	6688.6
5°	7949.0	7661.6	7135.6	6674.4	6176.6	5817.2	5396.4	5166.7	5024.7	4947.6	4912.5
7.5°	7116.3	6735.8	6055.6	5436.7	4814.3	4365.5	4046.4	3706.3	3525.7	3408.3	3369.7
10°	6388.7	5959.2	5147.5	4451.4	3971.0	3651.9	3378.4	3066.4	2834.9	2633.3	2558.0
12.5°	5966.2	5466.5	4540.8	3911.5	3508.2	3166.3	2877.0	2540.4	2296.7	2086.3	2005.7
15°	5876.8	5319.2	4286.6	3567.7	3073.4	2661.4	2314.2	1947.8	1709.4	1535.9	1479.7
17.5°	6146.8	5459.5	4179.7	3254.0	2657.8	2154.7	1726.9	1334.2	1136.1	1041.4	1018.7
20°	6702.6	5768.1	4128.8	2971.7	2254.7	1658.5	1194.0	906.4	808.2	780.2	778.5
22.5°	7433.7	6269.5	4184.9	2740.3	1876.0	1223.8	874.8	745.1	704.8	689.1	689.1
25°	8259.4	6948.0	4333.9	2563.2	1542.8	952.0	753.9	683.7	650.4	634.6	636.4
27.5°	9269.3	7773.7	4537.3	2400.1	1304.4	834.5	704.8	645.2	611.8	596.1	597.8
30°	10030.1	8483.8	4712.6	2251.1	1181.7	787.2	678.5	622.4	585.5	562.8	561.0
32.5°	10741.9	9109.7	4854.6	2144.2	1111.5	703.1	613.7	571.5	540.0	513.7	508.4
35°	11529.2	9698.8	4921.3	2140.6	1065.9	634.6	561.0	510.1	478.6	448.9	443.6
37.5°	12421.5	10419.4	4977.4	2161.7	1041.4	590.9	536.4	487.4	461.1	431.3	424.3
40°	13350.7	11124.2	5021.3	2179.3	1037.9	561.0	517.2	473.3	447.0	415.5	408.5
42.5°	14148.4	11748.3	5080.8	2172.2	1013.3	555.8	504.9	461.1	436.6	405.0	396.2
45°	14786.7	12244.4	5173.8	2170.5	976.5	568.0	501.5	457.6	427.8	394.4	387.5
47.5°	15381.0	12803.8	5370.1	2163.4	936.2	564.6	520.7	454.1	424.3	391.0	385.8
50°	16061.2	13555.8	5705.0	2110.9	880.1	540.0	555.8	450.6	415.5	385.8	380.4
52.5°	17008.0	14656.8	6201.1	2016.2	803.0	513.7	561.0	448.9	401.5	375.2	368.2
55°	18121.3	15836.8	6735.8	1879.5	701.3	468.1	533.0	441.8	387.5	359.4	348.9
57.5°	18982.1	16708.2	7109.3	1683.1	601.4	441.8	475.2	426.1	369.9	341.9	333.1
60°	19224.0	16746.7	7175.9	1448.2	550.6	424.3	408.5	464.6	355.9	326.1	317.3
62.5°	18934.7	15980.5	6741.1	1283.4	533.0	406.7	371.6	443.6	341.9	312.1	303.3
65°	18077.4	14686.7	5768.1	1258.8	550.6	391.0	352.4	354.1	327.9	298.1	289.3
67.5°	16075.3	12782.7	4544.4	1274.6	571.5	375.2	338.4	322.6	312.1	285.8	275.3
70°	13073.7	10291.4	3580.0	1302.6	590.9	354.1	320.8	301.6	292.8	264.7	259.5
72.5°	10070.4	8236.6	2824.5	1283.4	610.1	333.1	296.2	280.5	270.0	243.7	238.4
75°	7151.3	6544.7	2075.8	1101.0	559.2	303.3	268.2	254.2	245.4	217.4	215.6
77.5°	5154.4	4902.0	1444.6	827.6	441.8	266.5	236.7	224.4	219.1	187.6	187.6
80°	4111.2	3730.8	864.3	540.0	322.6	220.9	198.1	192.8	187.6	156.0	157.7
82.5°	2954.2	2587.8	552.3	336.7	236.7	168.3	154.3	152.5	143.7	115.7	115.7
85°	1514.8	1322.0	354.1	226.2	166.5	108.7	101.7	98.2	92.9	71.9	71.9
87.5°	294.5	405.0	196.4	110.5	80.6	38.6	38.6	33.3	38.6	26.3	28.0
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°	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7
2.5°	6798.9	6764.0	6739.4	6727.1	6904.2	6977.8	7061.9	7183.0	7265.3	7230.2	7342.4
5°	5077.3	5101.9	5157.9	5245.6	5492.8	5610.3	5685.7	5785.6	5857.5	5785.6	5904.8
7.5°	3471.4	3508.2	3627.4	3807.9	4106.0	4237.5	4263.9	4265.6	4249.7	4132.3	4213.0
10°	2556.1	2482.6	2508.9	2638.6	2905.1	3022.5	3034.8	3003.3	2998.0	2950.7	3041.8
12.5°	1981.1	1879.5	1819.8	1840.9	2040.8	2137.1	2152.9	2170.5	2242.4	2265.1	2377.3
15°	1478.0	1425.4	1381.5	1362.3	1493.7	1569.1	1577.9	1619.9	1695.3	1716.4	1812.9
17.5°	1039.6	1053.6	1076.5	1085.2	1179.9	1229.0	1215.0	1215.0	1227.2	1222.0	1276.3
20°	794.2	822.2	866.1	908.2	994.1	1022.1	987.0	943.3	915.1	901.1	913.4
22.5°	701.3	720.6	748.6	803.0	874.8	888.8	843.3	808.2	781.9	767.9	769.7
25°	650.4	669.7	692.5	736.3	797.7	804.8	762.6	739.9	718.8	704.8	701.3
27.5°	606.6	618.9	632.9	660.9	724.0	727.6	699.5	685.5	671.5	660.9	657.5
30°	566.3	571.5	576.8	604.9	652.2	657.5	643.4	636.4	631.2	624.1	624.1
32.5°	513.7	520.7	529.5	554.0	599.6	606.6	597.8	592.6	583.8	580.3	575.1
35°	450.6	468.1	487.4	517.2	566.3	569.8	559.2	543.5	522.4	517.2	513.7
37.5°	424.3	427.8	452.3	487.4	538.3	541.8	527.7	501.5	485.6	487.4	490.9
40°	406.7	412.0	426.1	461.1	512.0	517.2	504.9	485.6	469.8	471.6	476.9
42.5°	392.7	399.8	408.5	431.3	482.1	492.7	489.2	471.6	455.8	459.3	466.4
45°	385.8	391.0	391.0	406.7	455.8	471.6	473.3	459.3	447.0	450.6	459.3
47.5°	382.2	382.2	377.0	389.2	438.3	454.1	457.6	450.6	443.6	447.0	455.8
50°	377.0	369.9	364.7	375.2	424.3	438.3	441.8	436.6	440.1	447.0	452.3
52.5°	361.2	354.1	354.1	361.2	410.2	424.3	426.1	422.5	429.5	438.3	447.0
55°	341.9	341.9	343.6	350.7	403.2	413.8	412.0	408.5	415.5	426.1	434.8
57.5°	324.4	322.6	331.3	340.1	394.4	401.5	398.0	398.0	403.2	412.0	420.7
60°	313.8	305.0	312.1	326.1	385.8	392.7	387.5	385.8	394.4	401.5	408.5
62.5°	303.3	294.5	299.8	313.8	373.5	378.7	375.2	375.2	383.9	389.2	396.2
65°	287.6	284.0	287.6	301.6	362.9	364.7	364.7	366.4	373.5	377.0	383.9
67.5°	273.5	273.5	275.3	289.3	354.1	350.7	350.7	359.4	361.2	364.7	371.6
70°	255.9	259.5	259.5	277.0	347.1	334.9	336.7	343.6	347.1	350.7	352.4
72.5°	236.7	238.4	241.9	264.7	336.7	319.1	320.8	326.1	327.9	333.1	334.9
75°	215.6	217.4	222.7	252.5	329.6	303.3	299.8	303.3	306.8	310.4	308.5
77.5°	191.1	194.6	199.9	245.4	306.8	299.8	273.5	277.0	280.5	280.5	278.8
80°	161.3	166.5	175.3	235.0	259.5	289.3	243.7	245.4	247.2	247.2	243.7
82.5°	121.0	131.4	143.7	194.6	203.4	247.2	210.4	213.9	208.7	205.1	203.4
85°	78.9	87.7	105.2	135.0	149.0	194.6	173.6	175.3	164.8	163.1	163.1
87.5°	31.5	33.3	47.4	68.3	89.4	121.0	124.5	128.0	119.2	119.2	122.8
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°	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7
2.5°	7512.6	7687.9	7889.5	8094.6	8262.9	8480.3	8690.7	8915.1	9029.1	9095.7	9283.3
5°	6090.6	6330.8	6616.7	6937.4	7203.9	7659.8	8150.7	8697.7	8960.6	9220.2	9711.1
7.5°	4356.7	4591.7	4924.8	5340.3	5719.0	6320.3	6967.3	7707.1	8071.8	8492.5	9297.3
10°	3234.7	3483.7	3785.2	4137.6	4511.0	5137.0	5862.7	6693.8	7095.3	7570.3	8485.6
12.5°	2622.8	2913.9	3225.9	3541.5	3862.4	4283.1	5044.0	5967.9	6399.3	6877.9	7794.8
15°	2046.0	2358.1	2694.7	3038.4	3357.4	3827.3	4603.9	5696.2	6188.9	6651.7	7402.1
17.5°	1448.2	1742.7	2121.4	2538.7	3001.5	3557.3	4509.3	5815.4	6413.3	6897.1	7400.3
20°	987.0	1190.4	1569.1	2063.5	2635.1	3339.8	4544.4	6234.5	6981.3	7512.6	7703.6
22.5°	788.9	885.4	1141.3	1644.5	2319.5	3182.1	4688.1	6809.5	7796.5	8443.4	8255.9
25°	717.1	771.4	904.7	1299.1	2038.9	3076.9	4968.6	7568.6	8710.0	9365.6	8920.3
27.5°	673.2	720.6	806.5	1067.8	1797.0	3008.5	5324.6	8462.8	9739.1	10277.4	9612.9
30°	645.2	692.5	771.4	959.0	1614.7	2906.8	5636.6	9279.8	10561.4	10910.3	9986.4
32.5°	590.9	627.7	692.5	859.1	1478.0	2787.6	5906.6	10010.9	11338.1	11453.8	10435.1
35°	534.7	573.3	638.2	778.5	1397.4	2694.7	6048.6	10659.6	12107.7	11997.3	10880.4
37.5°	513.7	545.2	604.9	720.6	1353.5	2633.3	6102.9	11297.7	12933.5	12598.6	11190.8
40°	499.7	527.7	580.3	682.0	1341.2	2575.5	6090.6	11904.3	13734.6	13221.0	11434.4
42.5°	489.2	513.7	562.8	655.7	1307.9	2521.2	6050.3	12428.5	14376.3	13757.5	11667.7
45°	480.4	506.7	555.8	669.7	1246.6	2461.5	6025.8	12907.2	14869.0	14209.8	11979.7
47.5°	476.9	506.7	557.5	666.2	1179.9	2394.9	6113.5	13438.4	15298.5	14590.2	12395.2
50°	471.6	504.9	596.1	634.6	1088.7	2312.5	6409.7	14071.3	15749.1	15018.0	12933.5
52.5°	462.9	503.2	636.4	610.1	971.3	2198.5	6890.1	14965.5	16527.5	15850.8	13729.4
55°	452.3	506.7	608.3	571.5	846.8	2051.2	7370.6	16191.0	17789.8	17193.8	14872.5
57.5°	440.1	501.5	575.1	536.4	743.4	1865.5	7735.1	17195.5	18831.3	18578.8	16276.9
60°	431.3	513.7	517.2	515.5	676.8	1688.4	7770.2	17130.6	19131.1	19478.2	17651.3
62.5°	420.7	524.3	471.6	499.7	643.4	1523.6	7337.2	16069.9	18624.5	19362.5	18771.7
65°	406.7	457.6	447.0	485.6	643.4	1435.9	6329.1	14304.4	17223.6	18268.5	19380.0
67.5°	392.7	415.5	429.5	466.4	657.5	1353.5	5086.1	12065.6	15014.6	16503.1	18696.3
70°	373.5	392.7	410.2	448.9	650.4	1295.7	4002.6	9670.8	12356.6	14060.8	16804.5
72.5°	355.9	369.9	387.5	422.5	650.4	1269.3	3215.4	7586.2	9434.1	10870.0	13920.5
75°	329.6	341.9	357.6	396.2	638.2	1160.6	2414.2	6078.4	6902.4	7801.8	10983.9
77.5°	303.3	312.1	324.4	362.9	575.1	969.6	1707.6	4707.4	5114.1	5612.0	8562.7
80°	270.0	277.0	285.8	324.4	476.9	752.2	1111.5	3681.7	3823.8	4064.0	5633.1
82.5°	231.4	241.9	243.7	278.8	383.9	545.2	660.9	2522.9	2521.2	2873.5	3974.6
85°	189.3	194.6	198.1	219.1	284.0	362.9	434.8	1378.0	1229.0	1721.6	3452.0
87.5°	142.0	136.8	142.0	147.3	187.6	213.9	233.1	254.2	152.5	312.1	2007.4
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-04-D-UNV-SLR-1200

**CANDELA DISTRIBUTION (continued):**

	295°	305°	315°	325°	335°	345°	355°	360°
0°	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7	8243.7
2.5°	9383.2	9486.6	9425.3	9351.6	9167.6	8897.5	8690.7	8510.1
5°	10051.2	10242.3	10158.1	9884.7	9407.8	8866.0	8296.2	7949.0
7.5°	9967.0	10345.7	10312.4	9856.5	9172.8	8375.1	7573.9	7116.3
10°	9293.8	9825.0	9916.2	9449.8	8725.8	7833.3	6905.9	6388.7
12.5°	8561.0	9008.0	9193.9	9016.8	8334.8	7428.4	6483.4	5966.2
15°	7947.3	8173.5	8357.6	8471.6	8049.0	7284.6	6409.7	5876.8
17.5°	7493.2	7449.4	7603.7	7877.2	7894.7	7475.7	6742.9	6146.8
20°	7274.1	6930.5	7019.9	7403.8	7852.7	7961.3	7407.3	6702.6
22.5°	7261.8	6725.3	6742.9	7156.7	7973.6	8624.1	8236.6	7433.7
25°	7451.2	6702.6	6718.3	7130.4	8187.5	9292.1	9195.6	8259.4
27.5°	7773.7	6800.7	6790.2	7246.1	8473.3	9849.6	10163.4	9269.3
30°	8122.6	6942.8	6916.5	7431.8	8753.8	10193.2	10850.6	10030.1
32.5°	8557.4	7195.2	7104.0	7703.6	9030.8	10522.8	11438.0	10741.9
35°	8971.2	7565.1	7433.7	8092.9	9327.1	10889.2	12095.5	11529.2
37.5°	9393.8	8117.4	8043.8	8653.9	9746.2	11287.2	12847.5	12421.5
40°	9935.5	8902.8	8867.8	9469.1	10305.4	11722.0	13690.9	13350.7
42.5°	10519.3	9737.4	9707.6	10405.4	10999.7	12158.6	14413.2	14148.4
45°	11113.6	10749.0	10756.0	11404.7	11730.8	12570.5	14981.2	14786.7
47.5°	11814.9	11855.3	12105.9	12440.8	12442.6	13029.9	15484.4	15381.0
50°	12705.6	13191.2	13654.0	13706.6	13161.4	13636.5	16099.8	16061.2
52.5°	13713.7	14732.2	15270.5	15104.0	13862.7	14388.6	17009.7	17008.0
55°	14911.1	16343.5	16850.1	16566.2	14702.5	15368.7	18198.4	18121.3
57.5°	16152.4	17893.4	18301.8	17931.9	15752.6	16510.0	19390.5	18982.1
60°	17493.6	19227.5	19643.0	19087.2	16930.8	17647.8	20179.5	19224.0
62.5°	18372.0	20007.7	20305.8	19772.7	17986.2	18806.7	20433.7	18934.7
65°	18417.5	19488.7	19567.6	19378.3	18435.1	19813.1	20065.6	18077.4
67.5°	17165.7	17228.8	17332.3	17535.6	17476.1	19364.3	18645.4	16075.3
70°	14488.6	13647.0	13987.1	14183.5	14625.3	17223.6	16020.8	13073.7
72.5°	11078.6	9849.6	10235.2	10168.6	11087.4	14127.4	12256.7	10070.4
75°	7973.6	6716.6	6746.4	6749.8	7966.6	11276.7	8357.6	7151.3
77.5°	5419.2	4752.9	4851.1	4789.8	5331.5	8834.4	6017.0	5154.4
80°	3706.3	3688.8	3709.8	3566.0	3555.5	5710.2	4455.0	4111.2
82.5°	2749.1	2540.4	2510.6	2358.1	2724.5	4365.5	3382.0	2954.2
85°	2168.8	1406.0	1222.0	1474.5	2359.8	4016.6	2061.8	1514.8
87.5°	918.7	552.3	334.9	662.7	1311.4	2943.6	571.5	294.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)