

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: P196248

Luminaire Tested: **NAV-AF-06-D-UNV-SLR-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196248
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-SLR-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 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: 35702 lumens
Efficiency: N/A
Efficacy: 93.5 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 - G5

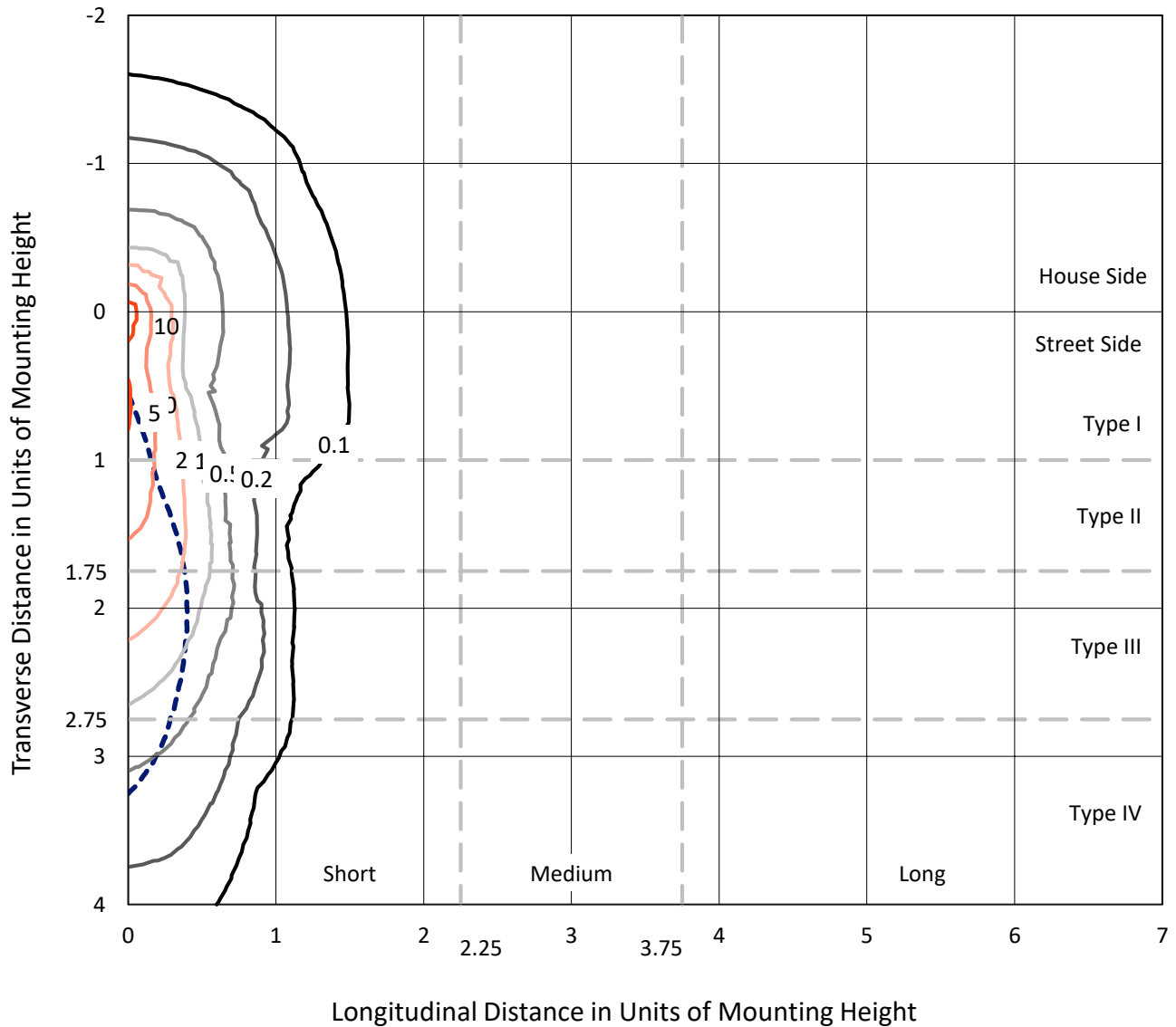
Input Watts (W): 382
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

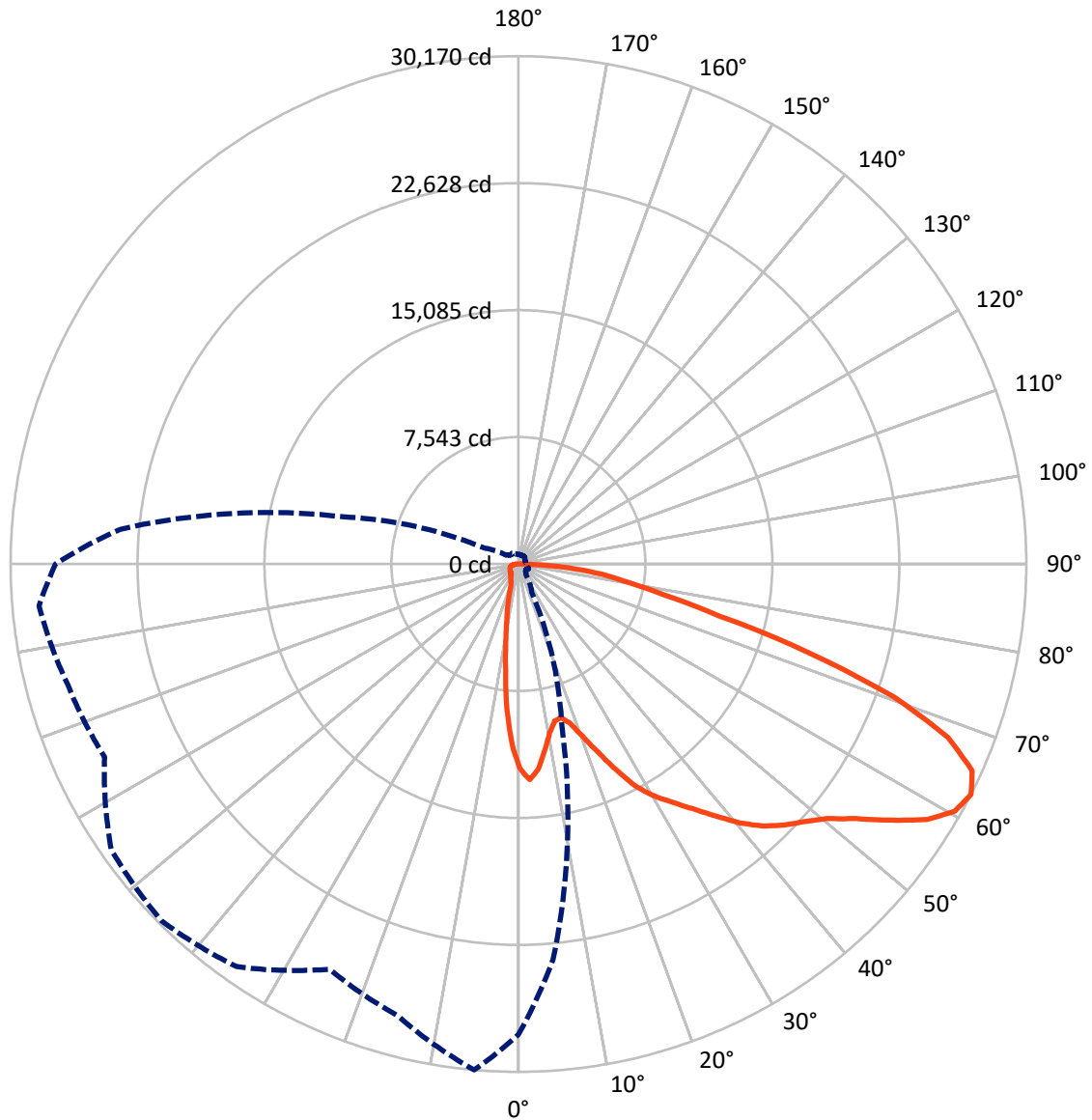
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 13.5 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
House Side	Lumens	6324.7	0.0	6324.7
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	29377.3	0.0	29377.3
	% Fixture	82.3	0.0	82.3
Total	Lumens	35702.0	0.0	35702.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	885.2	2.5
10°-20°	1616.8	4.5
20°-30°	2325.3	6.5
30°-40°	3561.5	10.0
40°-50°	5207.0	14.6
50°-60°	7576.2	21.2
60°-70°	8778.0	24.6
70°-80°	4575.8	12.8
80°-90°	1176.2	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°	35702.0	100.0
0°-180°	35702.0	100.0



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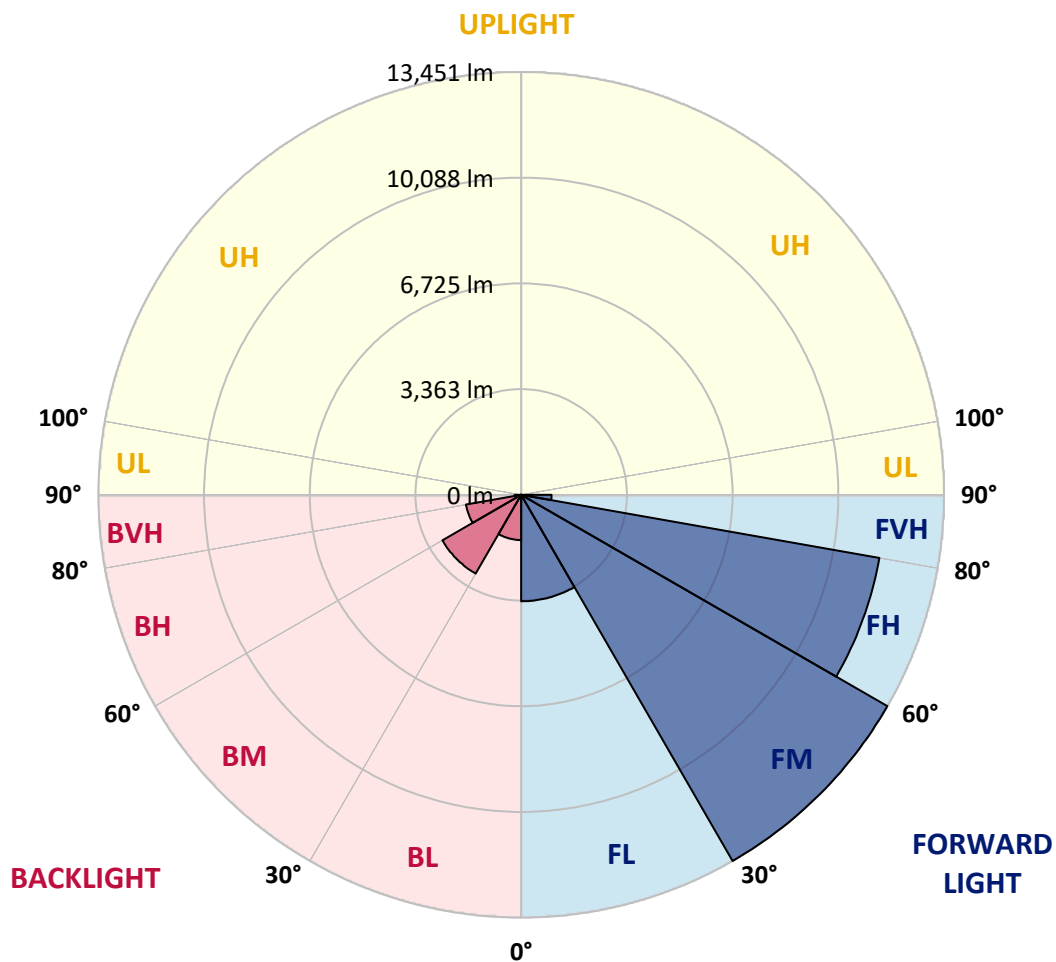
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3388.3	9.5			
FM	(30°-60°)	13450.9	37.7			
FH	(60°-80°)	11570.5	32.4			G4/12000
FVH	(80°-90°)	967.7	2.7			G5
BL	(0°-30°)	1439.0	4.0	B3/2500		
BM	(30°-60°)	2893.8	8.1	B3/5000		
BH	(60°-80°)	1783.4	5.0	B3/2500		G3/2500
BVH	(80°-90°)	208.6	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-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5
2.5°	12565.0	12389.0	11982.5	11625.3	11180.1	10846.1	10439.7	10224.9	10067.0	9960.9	9875.5
5°	11736.6	11312.1	10535.6	9854.7	9119.6	8588.9	7967.7	7628.6	7418.8	7305.0	7253.2
7.5°	10507.0	9945.3	8941.0	8027.2	7108.3	6445.6	5974.4	5472.3	5205.7	5032.2	4975.2
10°	9432.8	8798.6	7600.1	6572.5	5863.1	5392.0	4988.2	4527.5	4185.7	3888.0	3776.7
12.5°	8808.9	8071.2	6704.4	5775.2	5179.7	4675.0	4247.9	3750.9	3391.1	3080.4	2961.3
15°	8677.0	7853.8	6329.1	5267.8	4537.8	3929.5	3417.0	2875.9	2523.8	2267.6	2184.7
17.5°	9075.6	8060.9	6171.2	4804.4	3924.2	3181.4	2549.7	1969.9	1677.4	1537.6	1503.9
20°	9896.1	8516.5	6096.1	4387.6	3328.9	2448.8	1762.9	1338.3	1193.4	1151.9	1149.3
22.5°	10975.6	9256.8	6178.9	4046.0	2769.7	1806.8	1291.7	1100.2	1040.6	1017.3	1017.3
25°	12194.8	10258.6	6399.0	3784.5	2277.9	1405.6	1113.1	1009.6	960.3	937.0	939.7
27.5°	13685.9	11477.8	6699.3	3543.8	1925.9	1232.1	1040.6	952.6	903.4	880.1	882.7
30°	14809.3	12526.1	6958.1	3323.8	1744.7	1162.3	1001.8	918.9	864.6	830.9	828.4
32.5°	15860.2	13450.3	7167.8	3165.8	1641.1	1038.0	906.0	843.8	797.3	758.4	750.6
35°	17022.5	14320.1	7266.1	3160.6	1573.8	937.0	828.4	753.3	706.7	662.7	654.9
37.5°	18340.1	15384.0	7349.0	3191.7	1537.6	872.4	792.1	719.6	680.8	636.8	626.5
40°	19712.1	16424.6	7413.7	3217.6	1532.5	828.4	763.6	698.9	660.1	613.5	603.1
42.5°	20889.9	17346.1	7501.7	3207.3	1496.2	820.6	745.5	680.8	644.6	597.9	585.0
45°	21832.1	18078.7	7638.9	3204.7	1441.8	838.7	740.3	675.7	631.6	582.5	572.0
47.5°	22709.6	18904.4	7928.8	3194.3	1382.3	833.5	768.8	670.4	626.5	577.3	569.5
50°	23714.0	20015.0	8423.3	3116.6	1299.5	797.3	820.6	665.2	613.5	569.5	561.7
52.5°	25111.9	21640.5	9155.8	2976.9	1185.6	758.4	828.4	662.7	592.8	553.9	543.6
55°	26755.6	23382.7	9945.3	2775.0	1035.4	691.1	787.0	652.3	572.0	530.7	515.2
57.5°	28026.6	24669.2	10496.7	2485.1	887.9	652.3	701.5	629.0	546.2	504.7	491.8
60°	28383.8	24726.2	10595.1	2138.2	812.8	626.5	603.1	686.0	525.5	481.5	468.5
62.5°	27956.7	23595.0	9953.1	1894.8	787.0	600.6	548.8	654.9	504.7	460.7	447.8
65°	26690.9	21684.6	8516.5	1858.6	812.8	577.3	520.3	522.9	484.1	440.1	427.1
67.5°	23734.7	18873.3	6709.6	1881.9	843.8	553.9	499.6	476.3	460.7	422.0	406.4
70°	19303.1	15195.0	5285.9	1923.4	872.4	522.9	473.7	445.2	432.3	390.9	383.1
72.5°	14868.8	12161.1	4170.2	1894.8	900.8	491.8	437.5	414.2	398.6	359.8	352.0
75°	10558.8	9663.2	3064.9	1625.7	825.7	447.8	396.1	375.3	362.4	321.0	318.4
77.5°	7610.4	7237.7	2133.0	1221.8	652.3	393.4	349.4	331.3	323.6	277.0	277.0
80°	6070.2	5508.5	1276.1	797.3	476.3	326.1	292.5	284.8	277.0	230.4	232.9
82.5°	4361.8	3820.7	815.4	497.1	349.4	248.5	227.8	225.3	212.3	170.8	170.8
85°	2236.6	1951.8	522.9	333.9	245.9	160.5	150.2	145.0	137.2	106.2	106.2
87.5°	434.9	597.9	289.9	163.1	119.1	57.0	57.0	49.2	57.0	38.9	41.4
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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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5
2.5°	10038.5	9986.8	9950.5	9932.4	10193.8	10302.5	10426.8	10605.4	10727.1	10675.3	10841.0
5°	7496.5	7532.8	7615.7	7745.1	8110.1	8283.4	8394.7	8542.4	8648.4	8542.4	8718.3
7.5°	5125.4	5179.7	5355.8	5622.4	6062.4	6256.6	6295.4	6298.0	6274.8	6101.3	6220.4
10°	3774.2	3665.4	3704.3	3895.8	4289.3	4462.7	4480.8	4434.3	4426.5	4356.5	4491.2
12.5°	2925.1	2775.0	2687.0	2718.0	3013.1	3155.5	3178.8	3204.7	3310.8	3344.4	3510.2
15°	2182.2	2104.5	2039.8	2011.3	2205.5	2316.8	2329.8	2391.9	2503.2	2534.3	2676.6
17.5°	1535.0	1555.7	1589.4	1602.4	1742.1	1814.6	1793.8	1793.8	1812.1	1804.3	1884.5
20°	1172.6	1214.0	1278.8	1340.9	1467.7	1509.2	1457.4	1392.6	1351.2	1330.6	1348.7
22.5°	1035.4	1063.9	1105.3	1185.6	1291.7	1312.4	1245.1	1193.4	1154.5	1133.8	1136.4
25°	960.3	988.9	1022.5	1087.2	1177.8	1188.2	1126.1	1092.4	1061.3	1040.6	1035.4
27.5°	895.7	913.8	934.5	975.9	1069.1	1074.3	1032.9	1012.1	991.4	975.9	970.7
30°	836.2	843.8	851.6	893.0	962.9	970.7	950.0	939.7	931.9	921.6	921.6
32.5°	758.4	768.8	781.7	818.0	885.3	895.7	882.7	874.9	862.0	856.8	849.0
35°	665.2	691.1	719.6	763.6	836.2	841.3	825.7	802.5	771.4	763.6	758.4
37.5°	626.5	631.6	667.9	719.6	794.7	799.8	779.2	740.3	717.1	719.6	724.8
40°	600.6	608.3	629.0	680.8	755.9	763.6	745.5	717.1	693.8	696.3	704.1
42.5°	579.8	590.2	603.1	636.8	711.9	727.4	722.2	696.3	673.0	678.2	688.5
45°	569.5	577.3	577.3	600.6	673.0	696.3	698.9	678.2	660.1	665.2	678.2
47.5°	564.4	564.4	556.6	574.7	647.1	670.4	675.7	665.2	654.9	660.1	673.0
50°	556.6	546.2	538.4	553.9	626.5	647.1	652.3	644.6	649.8	660.1	667.9
52.5°	533.3	522.9	522.9	533.3	605.7	626.5	629.0	623.9	634.2	647.1	660.1
55°	504.7	504.7	507.4	517.7	595.4	610.9	608.3	603.1	613.5	629.0	642.0
57.5°	478.8	476.3	489.3	502.2	582.5	592.8	587.6	587.6	595.4	608.3	621.2
60°	463.4	450.4	460.7	481.5	569.5	579.8	572.0	569.5	582.5	592.8	603.1
62.5°	447.8	434.9	442.6	463.4	551.4	559.1	553.9	553.9	566.9	574.7	585.0
65°	424.5	419.3	424.5	445.2	535.8	538.4	538.4	541.0	551.4	556.6	566.9
67.5°	403.9	403.9	406.4	427.1	522.9	517.7	517.7	530.7	533.3	538.4	548.8
70°	378.0	383.1	383.1	409.0	512.5	494.4	497.1	507.4	512.5	517.7	520.3
72.5°	349.4	352.0	357.2	390.9	497.1	471.2	473.7	481.5	484.1	491.8	494.4
75°	318.4	321.0	328.8	372.8	486.6	447.8	442.6	447.8	453.0	458.2	455.6
77.5°	282.1	287.3	295.1	362.4	453.0	442.6	403.9	409.0	414.2	414.2	411.6
80°	238.1	245.9	258.9	346.9	383.1	427.1	359.8	362.4	365.0	365.0	359.8
82.5°	178.6	194.2	212.3	287.3	300.2	365.0	310.7	315.8	308.0	302.9	300.2
85°	116.5	129.4	155.3	199.3	220.0	287.3	256.2	258.9	243.4	240.7	240.7
87.5°	46.5	49.2	69.9	101.0	132.1	178.6	183.8	188.9	176.0	176.0	181.2
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5
2.5°	11092.1	11351.0	11648.6	11951.5	12200.0	12521.0	12831.6	13162.9	13331.2	13429.6	13706.5
5°	8992.8	9347.4	9769.3	10243.0	10636.5	11309.5	12034.3	12841.9	13230.2	13613.3	14338.2
7.5°	6432.6	6779.5	7271.3	7884.8	8443.9	9331.9	10287.0	11379.4	11917.9	12539.1	13727.3
10°	4776.0	5143.5	5588.8	6109.1	6660.4	7584.6	8656.2	9883.2	10476.0	11177.5	12528.8
12.5°	3872.5	4302.2	4763.0	5228.9	5702.6	6323.9	7447.4	8811.5	9448.4	10155.0	11508.8
15°	3020.9	3481.6	3978.7	4486.0	4957.1	5650.9	6797.6	8410.3	9137.7	9821.0	10929.0
17.5°	2138.2	2573.0	3132.2	3748.3	4431.6	5252.2	6657.9	8586.3	9469.0	10183.5	10926.4
20°	1457.4	1757.6	2316.8	3046.8	3890.7	4931.2	6709.6	9205.0	10307.8	11092.1	11374.2
22.5°	1164.8	1307.2	1685.2	2428.1	3424.7	4698.3	6921.9	10054.1	11511.5	12466.6	12189.7
25°	1058.8	1139.0	1335.7	1918.1	3010.5	4542.9	7336.1	11174.9	12860.1	13828.2	13170.7
27.5°	994.0	1063.9	1190.7	1576.5	2653.3	4442.1	7861.6	12495.1	14379.6	15174.2	14193.2
30°	952.6	1022.5	1139.0	1416.0	2384.1	4291.9	8322.3	13701.4	15593.7	16108.7	14744.6
32.5°	872.4	926.7	1022.5	1268.4	2182.2	4115.8	8721.0	14780.8	16740.4	16911.2	15407.3
35°	789.5	846.5	942.2	1149.3	2063.1	3978.7	8930.7	15738.6	17876.8	17713.7	16064.7
37.5°	758.4	805.1	893.0	1063.9	1998.4	3888.0	9010.9	16680.8	19096.0	18601.5	16522.9
40°	737.8	779.2	856.8	1007.0	1980.2	3802.6	8992.8	17576.4	20279.0	19520.6	16882.8
42.5°	722.2	758.4	830.9	968.1	1931.1	3722.4	8933.2	18350.5	21226.4	20312.6	17227.0
45°	709.3	748.1	820.6	988.9	1840.5	3634.3	8897.0	19057.2	21953.8	20980.5	17687.8
47.5°	704.1	748.1	823.2	983.7	1742.1	3536.0	9026.4	19841.5	22588.0	21542.2	18301.3
50°	696.3	745.5	880.1	937.0	1607.5	3414.3	9463.8	20776.0	23253.2	22173.8	19096.0
52.5°	683.4	743.0	939.7	900.8	1434.1	3246.1	10173.1	22096.1	24402.6	23403.4	20271.2
55°	667.9	748.1	898.3	843.8	1250.3	3028.7	10882.5	23905.5	26266.4	25386.3	21959.0
57.5°	649.8	740.3	849.0	792.1	1097.5	2754.3	11420.8	25388.8	27804.0	27431.2	24032.4
60°	636.8	758.4	763.6	761.1	999.2	2492.8	11472.6	25293.1	28246.6	28759.1	26061.8
62.5°	621.2	774.0	696.3	737.8	950.0	2249.5	10833.3	23726.9	27498.6	28588.3	27715.9
65°	600.6	675.7	660.1	717.1	950.0	2120.1	9344.8	21120.3	25430.3	26973.1	28614.2
67.5°	579.8	613.5	634.2	688.5	970.7	1998.4	7509.5	17814.7	22168.7	24366.4	27604.6
70°	551.4	579.8	605.7	662.7	960.3	1912.9	5909.7	14278.7	18244.3	20760.5	24811.6
72.5°	525.5	546.2	572.0	623.9	960.3	1874.1	4747.5	11200.8	13929.2	16049.2	20553.3
75°	486.6	504.7	528.0	585.0	942.2	1713.6	3564.5	8974.7	10191.2	11519.2	16217.5
77.5°	447.8	460.7	478.8	535.8	849.0	1431.5	2521.3	6950.3	7550.9	8286.1	12642.6
80°	398.6	409.0	422.0	478.8	704.1	1110.5	1641.1	5436.1	5645.7	6000.3	8317.1
82.5°	341.7	357.2	359.8	411.6	566.9	805.1	975.9	3725.0	3722.4	4242.7	5868.4
85°	279.6	287.3	292.5	323.6	419.3	535.8	642.0	2034.6	1814.6	2542.0	5097.0
87.5°	209.7	201.9	209.7	217.5	277.0	315.8	344.3	375.3	225.3	460.7	2963.9
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-SLR-1200

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5	12171.5
2.5°	13854.1	14006.9	13916.2	13807.5	13535.7	13137.0	12831.6	12565.0
5°	14840.4	15122.5	14998.3	14594.4	13890.3	13090.5	12249.2	11736.6
7.5°	14716.1	15275.2	15226.0	14553.0	13543.5	12365.6	11182.7	10507.0
10°	13722.1	14506.5	14641.1	13952.4	12883.3	11565.8	10196.5	9432.8
12.5°	12640.1	13300.1	13574.6	13313.1	12306.1	10967.9	9572.6	8808.9
15°	11734.1	12068.0	12339.8	12508.0	11884.2	10755.6	9463.8	8677.0
17.5°	11063.6	10998.9	11226.7	11630.5	11656.4	11037.7	9955.7	9075.6
20°	10740.1	10232.7	10364.7	10931.6	11594.2	11754.7	10936.8	9896.1
22.5°	10722.0	9929.8	9955.7	10566.6	11772.8	12733.3	12161.1	10975.6
25°	11001.5	9896.1	9919.5	10527.8	12088.7	13719.5	13577.1	12194.8
27.5°	11477.8	10041.1	10025.6	10698.6	12510.6	14542.7	15006.1	13685.9
30°	11992.9	10250.8	10212.0	10973.0	12924.8	15050.1	16020.7	14809.3
32.5°	12634.9	10623.5	10488.9	11374.2	13333.8	15536.7	16887.9	15860.2
35°	13245.8	11169.7	10975.6	11948.9	13771.3	16077.7	17858.7	17022.5
37.5°	13869.7	11985.1	11876.5	12777.3	14390.0	16665.3	18969.2	18340.1
40°	14669.5	13144.8	13093.1	13981.0	15215.7	17307.3	20214.2	19712.1
42.5°	15531.5	14377.0	14333.0	15363.3	16240.8	17951.9	21280.8	20889.9
45°	16409.1	15870.6	15881.0	16838.8	17320.2	18560.1	22119.5	21832.1
47.5°	17444.5	17504.0	17874.2	18368.6	18371.2	19238.3	22862.3	22709.6
50°	18759.5	19476.5	20159.9	20237.5	19432.5	20134.0	23771.0	23714.0
52.5°	20247.9	21751.9	22546.6	22300.6	20467.9	21244.5	25114.5	25111.9
55°	22015.9	24130.8	24878.9	24459.6	21707.8	22691.5	26869.5	26755.6
57.5°	23848.7	26419.1	27022.3	26476.0	23258.4	24376.7	28629.7	28026.6
60°	25828.9	28389.0	29002.5	28181.9	24998.0	26056.7	29794.6	28383.8
62.5°	27125.8	29541.0	29980.9	29194.1	26556.3	27767.8	30170.0	27956.7
65°	27193.1	28774.7	28891.2	28611.6	27219.0	29253.6	29626.4	26690.9
67.5°	25344.8	25438.0	25590.8	25891.0	25803.0	28591.0	27529.6	23734.7
70°	21392.0	20149.6	20651.7	20941.6	21594.0	25430.3	23654.5	19303.1
72.5°	16357.3	14542.7	15112.2	15013.7	16370.2	20858.8	18096.8	14868.8
75°	11772.8	9916.9	9960.9	9966.1	11762.5	16649.8	12339.8	10558.8
77.5°	8001.3	7017.6	7162.6	7072.0	7871.9	13043.9	8884.0	7610.4
80°	5472.3	5446.4	5477.5	5265.2	5249.7	8431.1	6577.6	6070.2
82.5°	4058.9	3750.9	3706.9	3481.6	4022.7	6445.6	4993.3	4361.8
85°	3202.0	2076.1	1804.3	2177.0	3484.3	5930.5	3044.2	2236.6
87.5°	1356.4	815.4	494.4	978.5	1936.2	4346.2	843.8	434.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)