

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: P195249

Luminaire Tested: **NAV-AF-03-D-UNV-SLL-7060-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195249  
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-03-D-UNV-SLL-7060-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 5700K, 800mA 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: 12926 lumens  
Efficiency: N/A  
Efficacy: 104.2 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B2 - U0 - G3

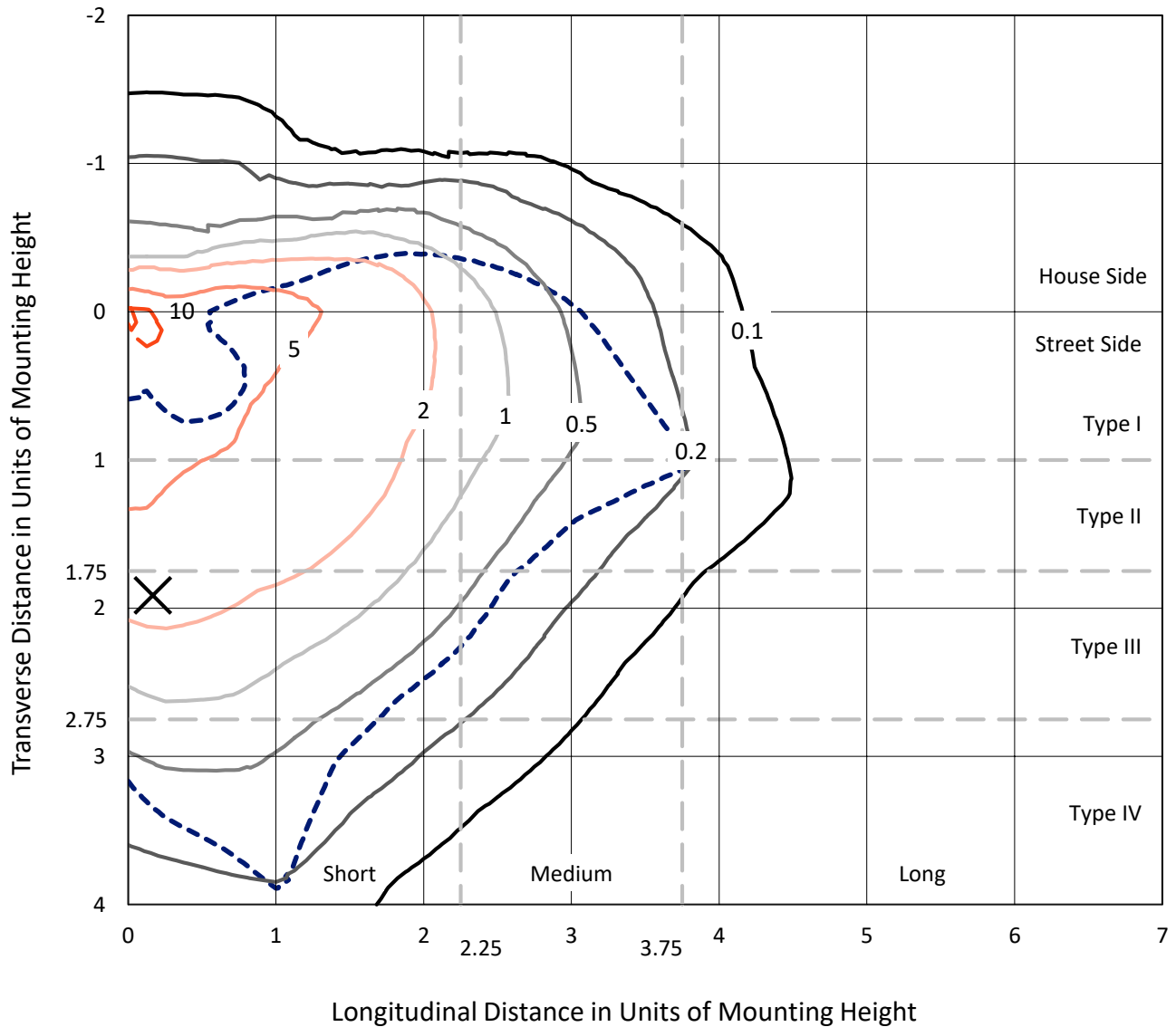
Input Watts (W): 124  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

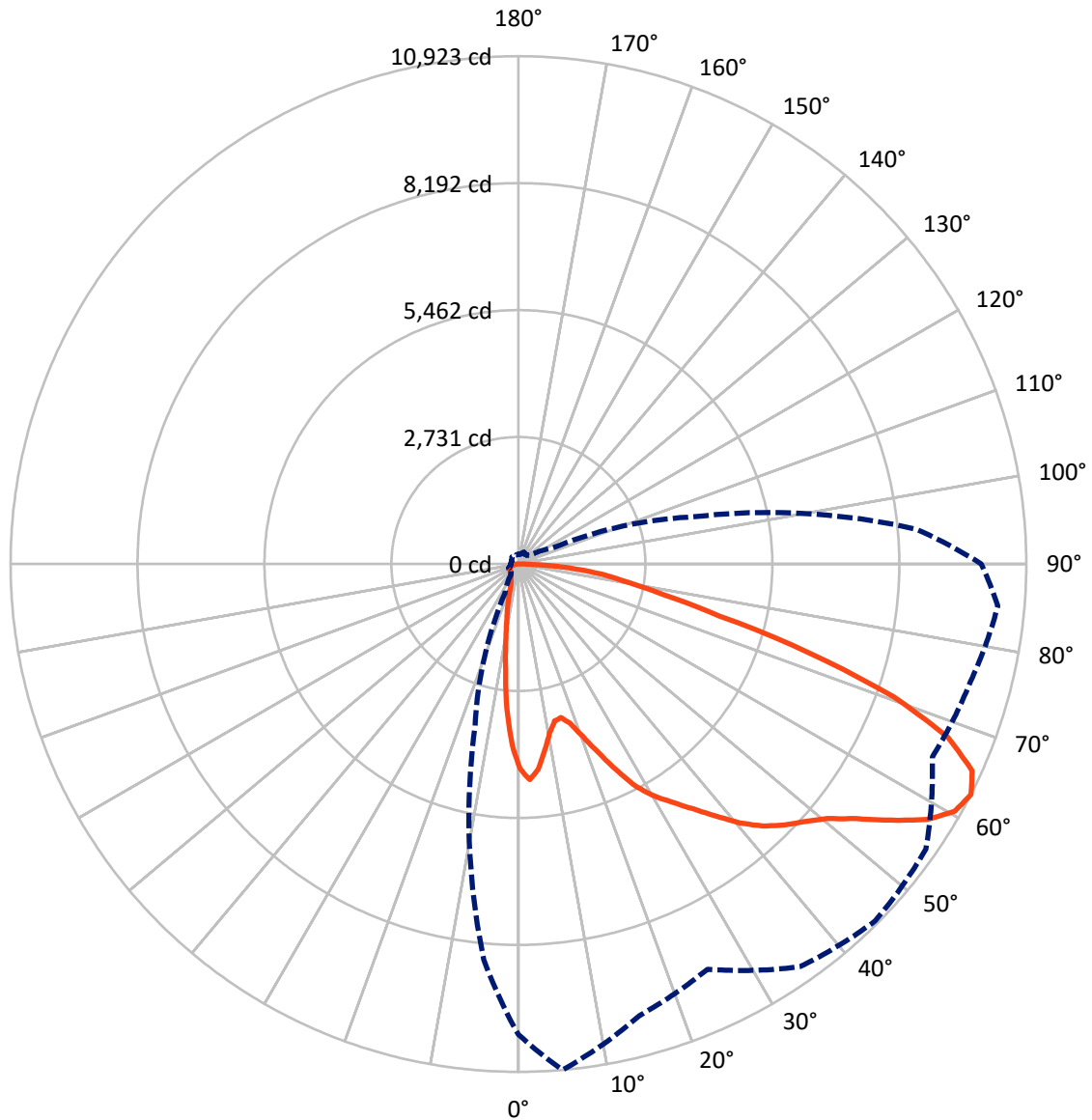
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 12.6 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	2289.9	0.0	2289.9
	% Fixture	17.7	0.0	17.7
<b>Street Side</b>	Lumens	10636.1	0.0	10636.1
	% Fixture	82.3	0.0	82.3
<b>Total</b>	Lumens	12926.0	0.0	12926.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	320.5	2.5
10°-20°	585.4	4.5
20°-30°	841.9	6.5
30°-40°	1289.4	10.0
40°-50°	1885.2	14.6
50°-60°	2743.0	21.2
60°-70°	3178.1	24.6
70°-80°	1656.7	12.8
80°-90°	425.9	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°	12926.0	100.0
0°-180°	12926.0	100.0



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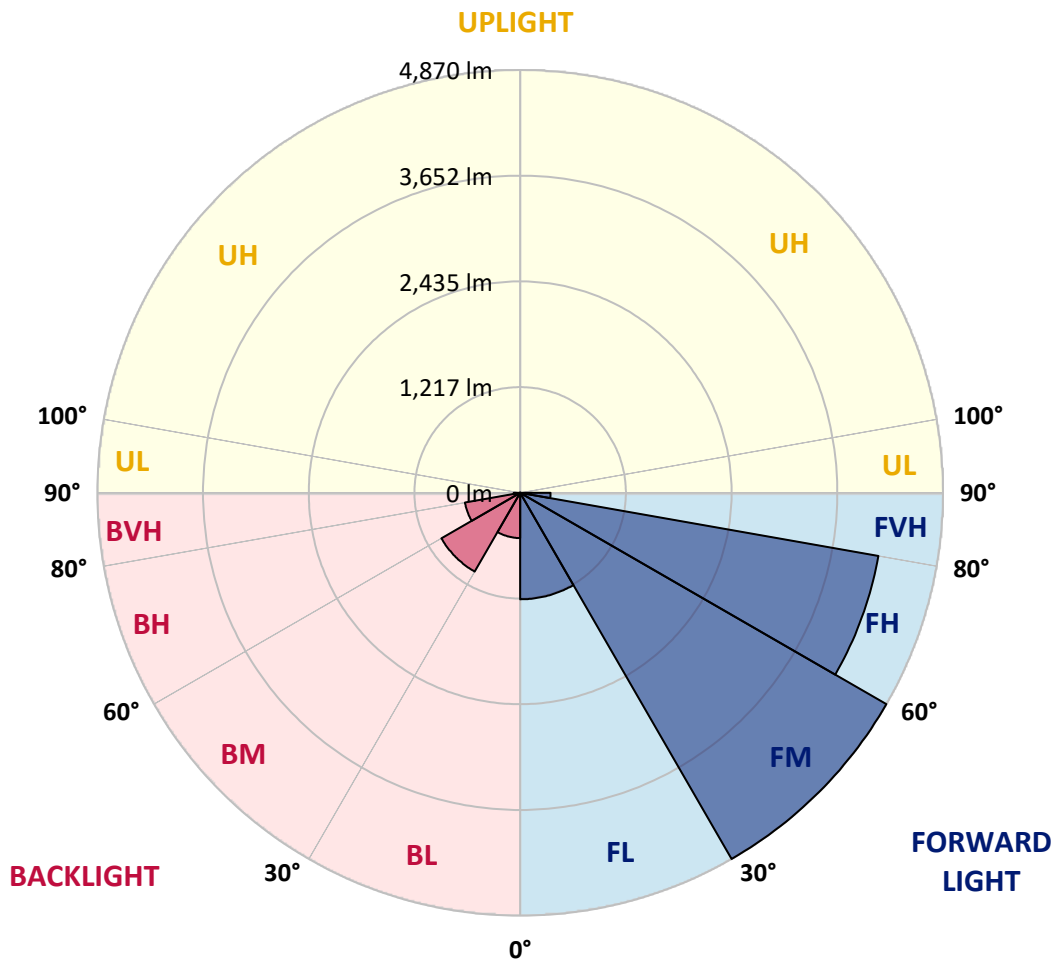
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1226.7	9.5			
FM	(30°-60°)	4869.9	37.7			
FH	(60°-80°)	4189.1	32.4			G2/5000
FVH	(80°-90°)	350.3	2.7			G3/500
BL	(0°-30°)	521.0	4.0	B2/1000		
BM	(30°-60°)	1047.7	8.1	B2/2500		
BH	(60°-80°)	645.7	5.0	B2/1000		G2/1000
BVH	(80°-90°)	75.5	0.6			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°	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7
2.5°	4549.2	4645.7	4756.3	4900.6	4999.0	5038.4	5071.2	5015.9	4962.5	4862.2	4826.6
5°	4249.3	4434.8	4739.4	5029.0	5284.0	5430.2	5475.1	5373.0	5191.2	4928.8	4790.0
7.5°	3804.1	4048.7	4477.0	4903.4	5269.0	5512.6	5530.4	5328.0	4970.0	4539.8	4314.9
10°	3415.2	3691.6	4187.4	4664.5	5051.5	5300.8	5252.1	4968.1	4536.1	4046.8	3792.9
12.5°	3189.3	3465.8	3970.9	4455.5	4820.0	4914.7	4815.4	4576.4	4166.8	3676.6	3420.8
15°	3141.5	3426.4	3894.1	4302.7	4528.6	4467.6	4369.2	4248.3	3956.9	3555.8	3308.3
17.5°	3285.8	3604.5	3996.2	4220.2	4210.9	4064.7	3982.2	4005.6	3955.9	3687.0	3428.3
20°	3582.9	3959.7	4255.8	4197.7	3957.8	3752.6	3704.8	3888.5	4118.1	4015.9	3731.9
22.5°	3973.7	4403.0	4610.1	4262.4	3825.7	3604.5	3595.1	3881.9	4413.3	4513.6	4167.7
25°	4415.2	4915.6	4967.2	4376.7	3811.6	3591.4	3582.9	3983.1	4768.5	5006.5	4656.0
27.5°	4955.0	5433.0	5265.2	4529.5	3873.5	3629.8	3635.4	4155.6	5138.7	5493.9	5206.2
30°	5361.7	5800.4	5448.9	4679.5	3972.8	3697.3	3711.3	4342.1	5338.3	5832.2	5645.7
32.5°	5742.2	6114.3	5625.1	4827.5	4118.1	3797.5	3846.3	4574.5	5578.2	6122.8	6060.9
35°	6163.1	6465.8	5821.0	4985.9	4326.1	3973.7	4044.0	4795.7	5816.3	6413.3	6472.3
37.5°	6640.1	6867.8	6033.7	5209.9	4626.0	4299.9	4339.3	5021.5	5982.2	6734.7	6913.8
40°	7136.8	7318.6	6266.1	5508.9	5061.8	4740.4	4759.1	5311.1	6112.4	7067.5	7342.1
42.5°	7563.2	7704.7	6499.5	5880.0	5562.3	5189.3	5205.2	5623.2	6237.1	7354.2	7685.1
45°	7904.4	8008.4	6719.7	6270.8	6096.5	5749.7	5746.0	5940.9	6403.9	7596.0	7948.4
47.5°	8222.1	8277.4	6965.3	6651.3	6650.4	6471.4	6337.4	6315.8	6626.0	7799.4	8178.0
50°	8585.7	8606.3	7289.6	7035.6	7327.1	7298.9	7051.5	6791.9	6913.8	8028.1	8418.9
52.5°	9091.8	9092.7	7691.6	7410.5	8074.0	8163.0	7875.3	7330.8	7339.2	8473.3	8835.0
55°	9686.9	9728.2	8215.5	7859.4	8855.6	9007.5	8736.6	7970.9	7950.3	9191.2	9509.8
57.5°	10147.1	10365.5	8825.6	8420.8	9585.7	9783.5	9565.1	8634.5	8701.0	9931.5	10066.5
60°	10276.4	10787.2	9433.9	9050.6	10203.3	10500.4	10278.3	9351.4	9435.8	10412.3	10226.8
62.5°	10121.8	10923.1	10053.4	9614.8	10569.8	10854.7	10695.4	9821.0	10034.6	10350.5	9955.9
65°	9663.5	10726.3	10591.3	9854.7	10358.9	10460.1	10418.0	9845.3	10359.8	9765.7	9207.1
67.5°	8593.2	9967.2	10351.4	9342.0	9373.9	9265.2	9209.9	9176.2	9994.3	8821.9	8026.2
70°	6988.7	8564.2	9207.1	7818.2	7582.0	7477.0	7295.2	7745.0	8983.1	7516.4	6605.4
72.5°	5383.3	6552.0	7552.0	5926.9	5435.8	5471.4	5265.2	5922.2	7441.4	5810.7	5043.1
75°	3822.9	4467.6	6028.1	4258.7	3608.2	3606.4	3590.4	4262.4	5871.6	4170.6	3689.8
77.5°	2755.4	3216.5	4722.6	2850.0	2560.4	2593.2	2540.8	2896.9	4577.3	3000.0	2733.8
80°	2197.7	2381.4	3052.5	1900.6	1906.3	1983.1	1971.9	1981.2	3011.2	2172.4	2044.0
82.5°	1579.2	1807.9	2333.6	1456.4	1260.5	1342.1	1358.0	1469.5	2124.6	1536.1	1347.7
85°	809.7	1102.2	2147.1	1261.5	788.2	653.2	751.6	1159.3	1845.4	920.3	657.0
87.5°	157.5	305.5	1573.6	701.0	354.3	179.0	295.2	491.1	1073.1	166.8	81.5
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°	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7
2.5°	4765.7	4645.7	4533.3	4417.0	4327.1	4217.4	4109.6	4015.9	3925.0	3865.0	3883.8
5°	4649.5	4357.1	4094.6	3851.0	3708.5	3537.0	3384.2	3255.8	3156.5	3092.8	3131.2
7.5°	4119.9	3724.4	3378.6	3057.2	2854.7	2632.6	2454.5	2329.0	2252.1	2209.0	2271.8
10°	3578.2	3134.0	2746.0	2411.4	2211.8	2023.4	1862.2	1729.1	1626.0	1577.3	1602.6
12.5°	3190.2	2696.3	2289.6	2064.7	1893.2	1724.5	1557.6	1402.1	1270.8	1210.9	1198.7
15°	3045.0	2461.1	2045.9	1794.7	1624.2	1440.5	1260.5	1093.7	969.1	917.5	906.3
17.5°	3108.7	2410.5	1901.6	1604.5	1357.1	1134.0	931.6	774.1	682.3	653.2	656.0
20°	3332.7	2429.2	1785.4	1408.6	1103.1	838.8	636.4	527.6	488.3	481.7	489.2
22.5°	3640.1	2506.1	1701.0	1239.9	879.1	610.1	473.3	421.7	411.4	410.5	418.0
25°	4045.9	2656.0	1644.8	1090.0	694.5	483.6	412.4	383.3	374.9	376.8	384.3
27.5°	4523.9	2846.3	1608.2	960.6	570.8	431.1	385.2	359.9	351.5	353.3	358.9
30°	4960.6	3013.1	1553.9	863.2	512.7	412.4	370.2	344.9	333.6	333.6	337.4
32.5°	5351.4	3157.4	1490.2	790.1	459.2	370.2	335.5	315.8	307.4	310.2	312.1
35°	5698.2	3233.4	1440.5	747.0	416.1	341.1	306.5	285.8	274.6	276.5	279.3
37.5°	6039.3	3262.4	1407.7	723.5	385.2	323.3	291.5	274.6	262.4	260.5	259.6
40°	6363.6	3255.8	1376.8	717.0	364.6	310.2	282.1	267.1	254.9	252.1	251.2
42.5°	6643.8	3234.3	1347.7	699.2	350.5	300.8	274.6	261.5	249.3	245.5	243.7
45°	6899.7	3221.2	1315.8	666.4	358.0	297.1	270.9	256.8	245.5	240.9	239.0
47.5°	7183.7	3268.0	1280.2	630.7	356.1	298.0	270.9	254.9	243.7	239.0	237.1
50°	7522.0	3426.4	1236.2	582.0	339.3	318.6	269.9	252.1	241.8	239.0	235.2
52.5°	8000.0	3683.2	1175.3	519.2	326.1	340.2	269.0	247.4	239.0	234.3	229.6
55°	8655.1	3940.0	1096.5	452.7	305.5	325.2	270.9	241.8	232.4	227.7	222.1
57.5°	9192.1	4134.9	997.2	397.4	286.8	307.4	268.0	235.2	224.9	220.2	215.6
60°	9157.4	4153.7	902.5	361.8	275.5	276.5	274.6	230.6	218.4	214.6	210.9
62.5°	8590.4	3922.2	814.4	344.0	267.1	252.1	280.2	224.9	211.8	208.1	205.2
65°	7646.6	3383.3	767.6	344.0	259.6	239.0	244.6	217.4	205.2	201.5	199.6
67.5°	6449.8	2718.8	723.5	351.5	249.3	229.6	222.1	209.9	198.7	194.9	193.1
70°	5169.6	2139.6	692.6	347.7	239.9	219.3	209.9	199.6	188.4	187.4	185.6
72.5°	4055.3	1718.8	678.5	347.7	225.9	207.1	197.7	190.3	179.0	178.1	175.3
75°	3249.3	1290.5	620.4	341.1	211.8	191.2	182.8	176.2	164.9	165.9	164.0
77.5°	2516.4	912.8	518.3	307.4	194.0	173.4	166.8	162.1	149.0	150.0	150.0
80°	1968.1	594.2	402.1	254.9	173.4	152.8	148.1	144.3	130.3	132.1	132.1
82.5°	1348.6	353.3	291.5	205.2	149.0	130.3	129.3	123.7	108.7	109.7	111.5
85°	736.6	232.4	194.0	151.8	117.2	105.9	104.0	101.2	87.2	87.2	88.1
87.5°	135.9	124.6	114.3	100.3	78.7	75.9	73.1	75.9	65.6	63.7	63.7
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°	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7
2.5°	3839.7	3775.1	3730.1	3690.7	3596.0	3602.6	3615.7	3634.5	3575.4	3606.4	3644.8
5°	3092.8	3039.4	2999.1	2936.3	2804.1	2757.3	2727.3	2714.1	2626.0	2644.8	2686.0
7.5°	2280.2	2279.3	2265.2	2194.9	2035.6	1939.1	1875.3	1855.7	1801.3	1821.9	1884.7
10°	1605.4	1622.3	1615.7	1552.9	1410.5	1341.1	1327.1	1366.4	1367.4	1407.7	1515.5
12.5°	1160.3	1150.9	1142.5	1090.9	984.1	972.8	1004.7	1059.0	1072.2	1115.3	1227.7
15°	866.0	843.5	838.8	798.5	728.2	738.5	761.9	790.1	791.0	821.0	913.8
17.5°	649.5	649.5	657.0	630.7	580.1	575.4	563.3	555.8	544.5	556.7	607.3
20°	504.2	527.6	546.4	531.4	485.5	463.0	439.5	424.6	416.1	417.1	432.1
22.5°	432.1	450.8	475.2	467.7	429.2	400.2	385.2	374.9	368.3	368.3	376.8
25°	395.5	407.7	430.2	426.4	393.6	370.2	358.0	347.7	340.2	339.3	347.7
27.5°	366.4	373.9	388.9	387.1	353.3	338.3	330.8	324.3	319.6	318.6	327.1
30°	340.2	344.0	351.5	348.6	323.3	308.3	305.5	302.7	299.9	300.8	313.0
32.5°	316.8	319.6	324.3	320.5	296.2	283.0	278.3	274.6	271.8	274.6	288.7
35°	290.5	299.0	304.6	302.7	276.5	260.5	250.2	240.9	237.1	239.9	255.9
37.5°	268.0	282.1	289.6	287.7	260.5	241.8	228.7	226.8	226.8	230.6	246.5
40°	259.6	269.9	276.5	273.7	246.5	227.7	220.2	217.4	218.4	222.1	239.0
42.5°	252.1	261.5	263.4	257.7	230.6	218.4	213.7	209.9	211.8	216.5	233.4
45°	245.5	253.0	252.1	243.7	217.4	209.0	209.0	206.2	207.1	210.9	228.7
47.5°	240.9	244.6	242.7	234.3	208.1	201.5	204.3	204.3	206.2	209.0	226.8
50°	233.4	236.2	234.3	226.8	200.6	194.9	197.7	201.5	203.4	206.2	222.1
52.5°	225.9	227.7	226.8	219.3	193.1	189.3	189.3	193.1	196.8	200.6	214.6
55°	218.4	220.2	221.2	215.6	187.4	183.7	182.8	182.8	186.5	192.1	207.1
57.5°	212.7	212.7	214.6	210.9	181.8	177.1	172.4	173.4	178.1	182.8	197.7
60°	206.2	207.1	209.9	206.2	174.3	166.8	163.1	167.8	169.6	174.3	190.3
62.5°	200.6	200.6	202.4	199.6	167.8	160.3	157.5	162.1	162.1	166.8	182.8
65°	195.9	194.9	194.9	194.0	161.2	153.7	151.8	153.7	154.6	159.3	175.3
67.5°	192.1	187.4	187.4	189.3	154.6	147.1	146.2	146.2	147.1	152.8	166.8
70°	183.7	179.9	179.0	185.6	148.1	138.7	138.7	136.8	138.7	141.5	156.5
72.5°	174.3	171.5	170.6	179.9	141.5	129.3	127.5	126.5	127.5	130.3	144.3
75°	162.1	160.3	162.1	176.2	135.0	119.0	116.2	115.3	115.3	116.2	131.2
77.5°	148.1	146.2	160.3	164.0	131.2	106.8	104.0	102.2	100.3	100.3	117.2
80°	131.2	130.3	154.6	138.7	125.6	93.7	89.0	86.2	84.3	83.4	100.3
82.5°	114.3	112.5	132.1	108.7	104.0	76.9	70.3	64.7	61.9	61.9	76.9
85°	93.7	92.8	104.0	79.7	72.2	56.2	46.9	42.2	38.4	38.4	49.7
87.5°	68.4	66.5	64.7	47.8	36.6	25.3	17.8	16.9	15.0	14.1	20.6
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: P195249

CATALOG NUMBER: NAV-AF-03-D-UNV-SLL-7060-800

**CANDELA DISTRIBUTION (continued):**

	295°	305°	315°	325°	335°	345°	355°	360°
0°	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7
2.5°	3702.0	3779.7	3926.9	4047.8	4209.0	4338.3	4485.5	4549.2
5°	2761.9	2884.7	3109.6	3301.8	3567.9	3814.4	4095.6	4249.3
7.5°	1981.2	2163.1	2333.6	2573.6	2906.3	3237.1	3600.7	3804.1
10°	1639.2	1806.0	1952.2	2122.8	2379.6	2751.6	3185.6	3415.2
12.5°	1358.0	1538.0	1692.6	1875.3	2090.9	2427.4	2922.2	3189.3
15°	1041.2	1237.1	1422.7	1642.9	1907.2	2291.5	2843.5	3141.5
17.5°	713.2	923.1	1151.8	1420.8	1739.4	2234.3	2918.5	3285.8
20°	484.5	638.2	886.6	1205.2	1588.6	2207.1	3083.4	3582.9
22.5°	398.3	467.7	654.2	1002.8	1464.8	2237.1	3351.4	3973.7
25°	365.5	403.0	508.9	824.7	1370.2	2316.8	3714.1	4415.2
27.5°	344.9	376.8	446.1	697.3	1283.0	2425.5	4155.6	4955.0
30°	332.7	362.7	420.8	631.7	1203.4	2519.2	4535.1	5361.7
32.5°	305.5	328.0	375.8	594.2	1146.2	2595.1	4869.7	5742.2
35°	272.7	299.9	339.3	569.8	1144.3	2630.7	5184.6	6163.1
37.5°	260.5	286.8	315.8	556.7	1155.6	2660.7	5569.8	6640.1
40°	253.0	276.5	299.9	554.8	1164.9	2684.2	5946.6	7136.8
42.5°	246.5	269.9	297.1	541.7	1161.2	2716.0	6280.2	7563.2
45°	244.6	268.0	303.7	522.0	1160.3	2765.7	6545.4	7904.4
47.5°	242.7	278.3	301.8	500.5	1156.5	2870.7	6844.4	8222.1
50°	240.9	297.1	288.7	470.5	1128.4	3049.7	7246.5	8585.7
52.5°	239.9	299.9	274.6	429.2	1077.8	3314.9	7835.0	9091.8
55°	236.2	284.9	250.2	374.9	1004.7	3600.7	8465.8	9686.9
57.5°	227.7	254.0	236.2	321.5	899.7	3800.4	8931.5	10147.1
60°	248.4	218.4	226.8	294.3	774.1	3836.0	8952.2	10276.4
62.5°	237.1	198.7	217.4	284.9	686.0	3603.5	8542.6	10121.8
65°	189.3	188.4	209.0	294.3	672.9	3083.4	7851.0	9663.5
67.5°	172.4	180.9	200.6	305.5	681.3	2429.2	6833.2	8593.2
70°	161.2	171.5	189.3	315.8	696.3	1913.8	5501.4	6988.7
72.5°	150.0	158.4	178.1	326.1	686.0	1509.8	4403.0	5383.3
75°	135.9	143.4	162.1	299.0	588.6	1109.6	3498.6	3822.9
77.5°	120.0	126.5	142.5	236.2	442.4	772.3	2620.4	2755.4
80°	103.1	105.9	118.1	172.4	288.7	462.0	1994.4	2197.7
82.5°	81.5	82.5	90.0	126.5	179.9	295.2	1383.3	1579.2
85°	52.5	54.4	58.1	89.0	120.9	189.3	706.7	809.7
87.5°	17.8	20.6	20.6	43.1	59.0	105.0	216.5	157.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)