

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: P195243

Luminaire Tested: **NAV-AF-03-D-UNV-SLL-7060-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195243
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-7060-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5700K, 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: 10541 lumens
Efficiency: N/A
Efficacy: 109.8 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

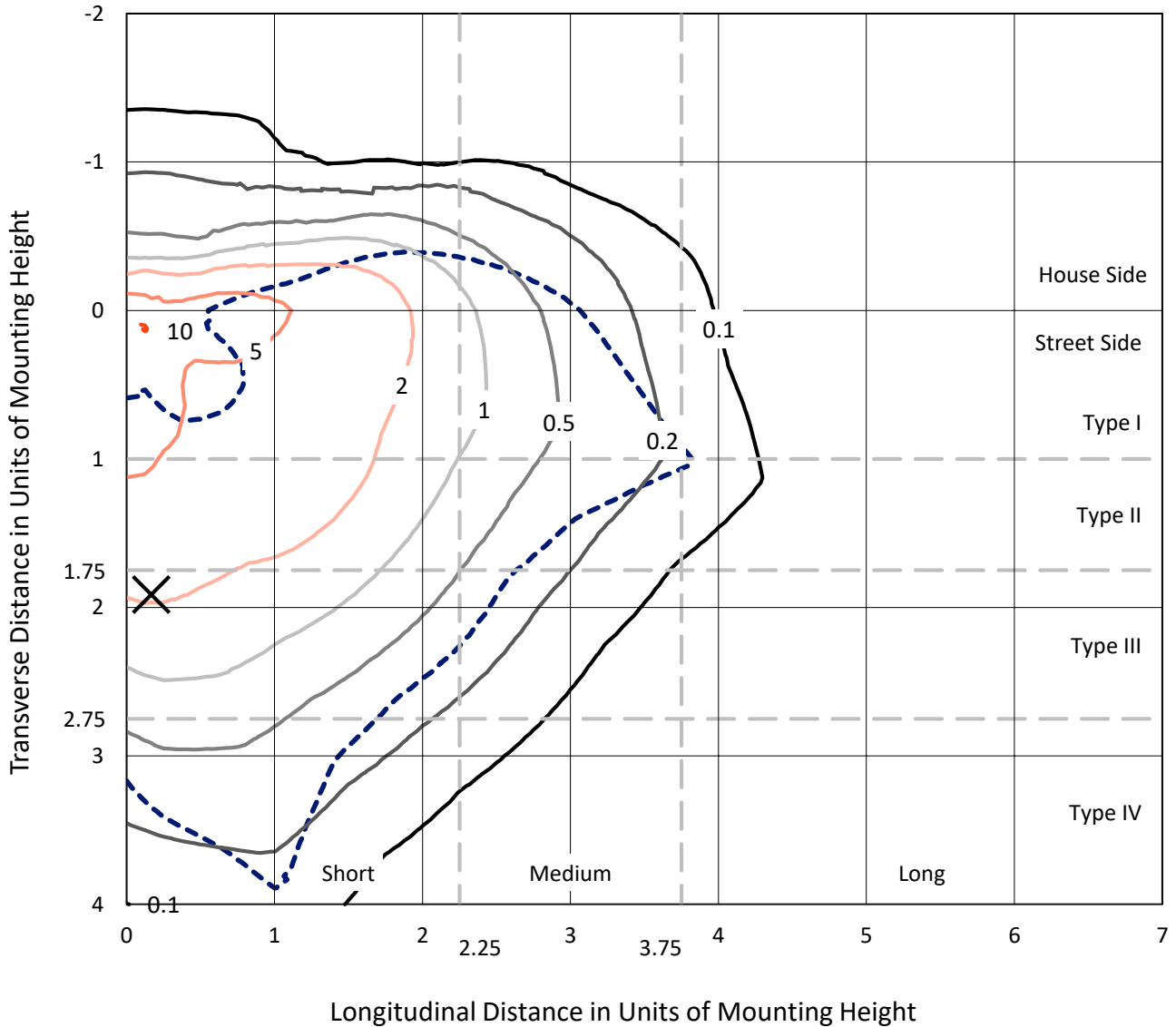
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

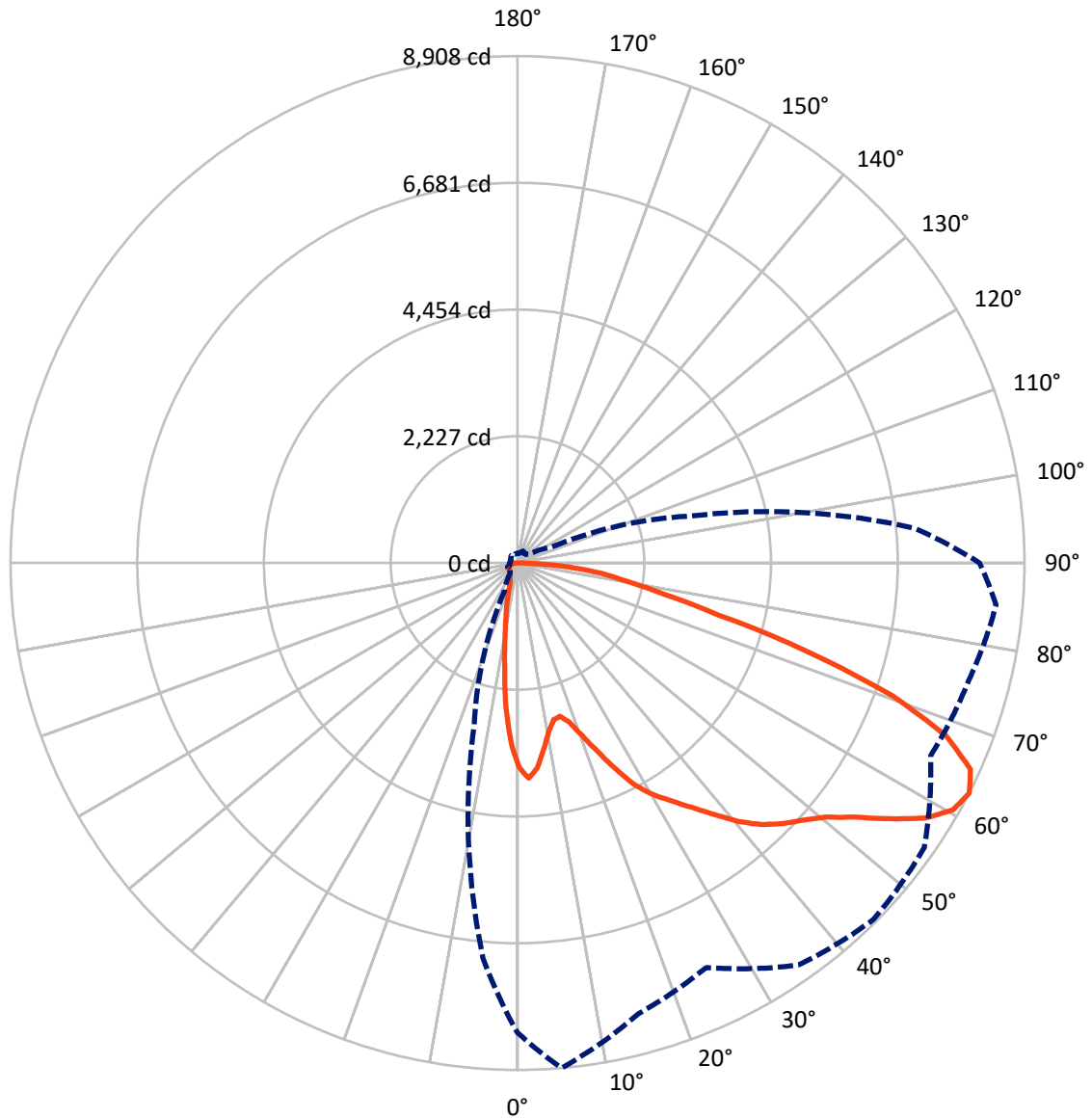
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 10.3 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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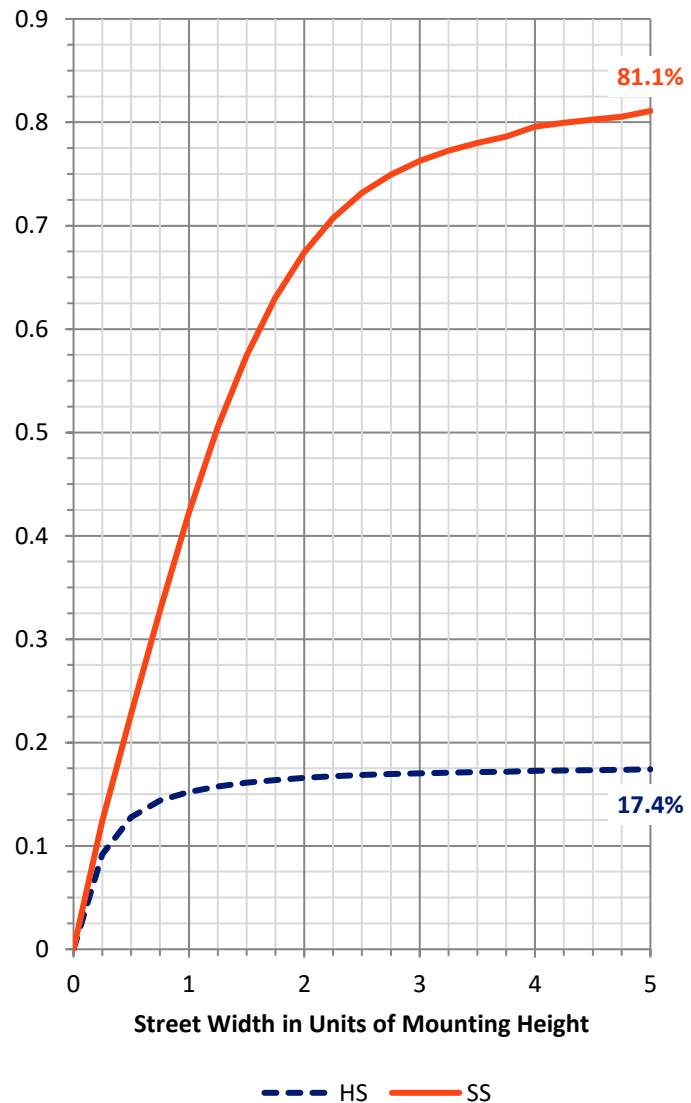
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1867.4	0.0	1867.4
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	8673.7	0.0	8673.7
	% Fixture	82.3	0.0	82.3
Total	Lumens	10541.0	0.0	10541.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	261.3	2.5
10°-20°	477.3	4.5
20°-30°	686.6	6.5
30°-40°	1051.5	10.0
40°-50°	1537.4	14.6
50°-60°	2236.9	21.2
60°-70°	2591.7	24.6
70°-80°	1351.0	12.8
80°-90°	347.3	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°	10541.0	100.0
0°-180°	10541.0	100.0



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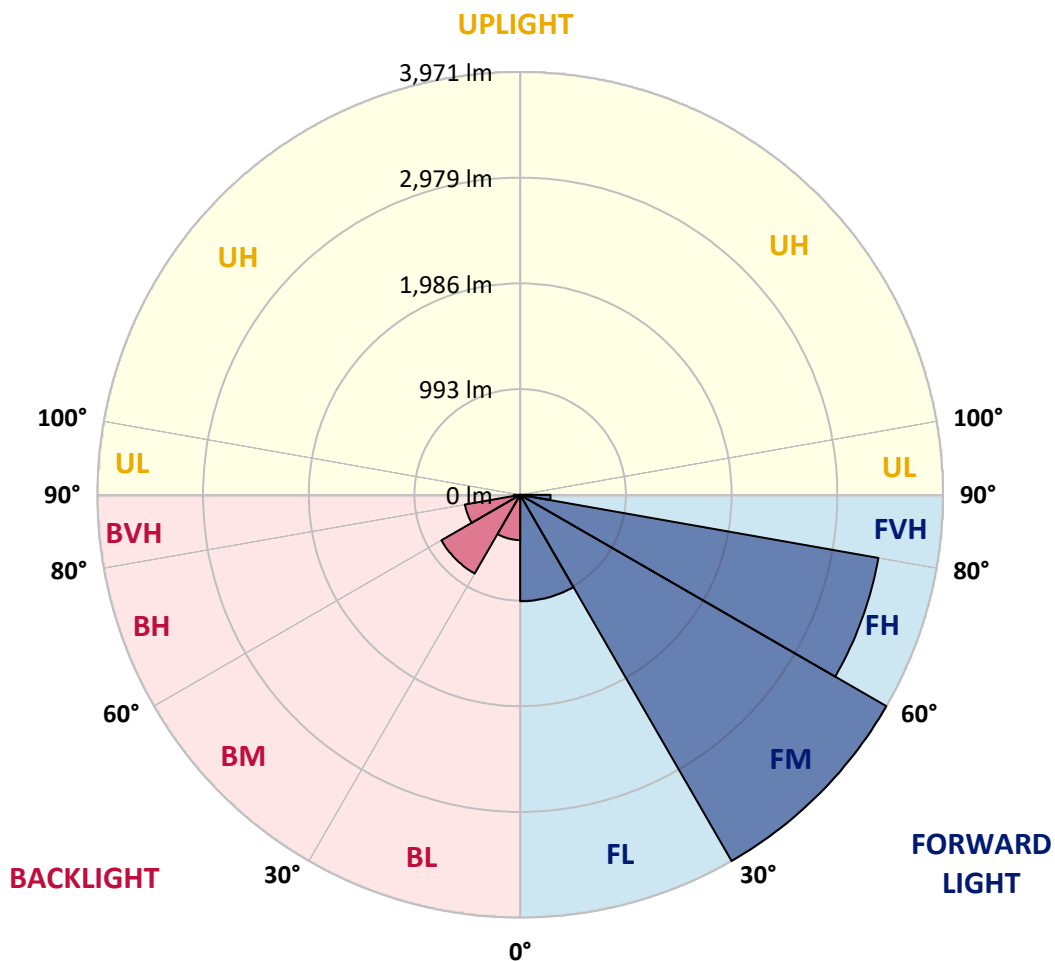
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1000.4	9.5			
FM	(30°-60°)	3971.4	37.7			
FH	(60°-80°)	3416.2	32.4			G2/5000
FVH	(80°-90°)	285.7	2.7			G3/500
BL	(0°-30°)	424.9	4.0	B1/500		
BM	(30°-60°)	854.4	8.1	B1/1000		
BH	(60°-80°)	526.5	5.0	B2/1000		G2/1000
BVH	(80°-90°)	61.6	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°	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6
2.5°	3709.8	3788.5	3878.7	3996.4	4076.7	4108.8	4135.5	4090.4	4046.9	3965.1	3936.0
5°	3465.2	3616.6	3865.0	4101.1	4309.0	4428.2	4464.9	4381.6	4233.3	4019.3	3906.2
7.5°	3102.2	3301.7	3651.0	3998.7	4296.8	4495.5	4510.0	4344.9	4053.0	3702.2	3518.7
10°	2785.0	3010.5	3414.8	3803.8	4119.5	4322.8	4283.0	4051.4	3699.1	3300.2	3093.0
12.5°	2600.8	2826.3	3238.2	3633.4	3930.7	4007.9	3926.9	3732.0	3398.0	2998.3	2789.6
15°	2561.9	2794.2	3175.6	3508.8	3693.0	3643.3	3563.1	3464.5	3226.8	2899.7	2697.9
17.5°	2679.6	2939.4	3258.9	3441.5	3433.9	3314.7	3247.4	3266.5	3226.0	3006.7	2795.7
20°	2921.8	3229.1	3470.6	3423.2	3227.5	3060.2	3021.2	3171.0	3358.2	3274.9	3043.4
22.5°	3240.5	3590.6	3759.5	3475.9	3119.8	2939.4	2931.8	3165.6	3599.0	3680.8	3398.7
25°	3600.5	4008.6	4050.7	3569.2	3108.3	2928.7	2921.8	3248.2	3888.6	4082.8	3796.9
27.5°	4040.7	4430.5	4293.7	3693.8	3158.8	2960.1	2964.6	3388.8	4190.5	4480.2	4245.6
30°	4372.4	4730.1	4443.5	3816.0	3239.8	3015.1	3026.5	3540.9	4353.3	4756.1	4604.0
32.5°	4682.7	4986.2	4587.2	3936.8	3358.2	3096.9	3136.6	3730.4	4549.0	4993.0	4942.6
35°	5025.9	5272.8	4746.9	4066.0	3527.9	3240.5	3297.9	3910.8	4743.1	5230.0	5278.1
37.5°	5414.9	5600.6	4920.4	4248.6	3772.5	3506.5	3538.6	4095.0	4878.4	5492.1	5638.1
40°	5820.0	5968.2	5110.0	4492.4	4127.9	3865.7	3881.0	4331.2	4984.6	5763.4	5987.4
42.5°	6167.7	6283.1	5300.3	4795.1	4536.0	4231.8	4244.8	4585.7	5086.3	5997.3	6267.1
45°	6445.9	6530.8	5479.9	5113.8	4971.6	4688.8	4685.8	4844.8	5222.3	6194.5	6481.8
47.5°	6705.0	6750.1	5680.1	5424.1	5423.3	5277.3	5168.1	5150.5	5403.4	6360.3	6669.1
50°	7001.6	7018.4	5944.6	5737.4	5975.1	5952.2	5750.4	5538.7	5638.1	6546.8	6865.5
52.5°	7414.3	7415.0	6272.4	6043.1	6584.3	6656.9	6422.2	5978.2	5985.1	6909.8	7204.9
55°	7899.6	7933.2	6699.7	6409.2	7221.7	7345.5	7124.6	6500.2	6483.4	7495.3	7755.1
57.5°	8274.8	8452.9	7197.2	6867.0	7817.0	7978.3	7800.2	7041.3	7095.6	8099.1	8209.1
60°	8380.3	8796.8	7693.2	7380.6	8320.7	8563.0	8381.8	7626.0	7694.8	8491.1	8339.8
62.5°	8254.2	8907.7	8198.4	7840.7	8619.5	8851.9	8721.9	8008.9	8183.1	8440.7	8118.9
65°	7880.5	8747.2	8637.1	8036.4	8447.6	8530.1	8495.7	8028.7	8448.3	7963.8	7508.3
67.5°	7007.7	8128.1	8441.5	7618.3	7644.3	7555.7	7510.6	7483.0	8150.3	7194.2	6545.3
70°	5699.2	6984.0	7508.3	6375.6	6183.0	6097.4	5949.1	6316.0	7325.6	6129.5	5386.6
72.5°	4390.0	5343.1	6158.6	4833.3	4432.8	4461.9	4293.7	4829.5	6068.4	4738.5	4112.6
75°	3117.5	3643.3	4915.8	3472.9	2942.5	2940.9	2928.0	3475.9	4788.2	3401.0	3009.0
77.5°	2247.0	2623.0	3851.2	2324.2	2088.0	2114.8	2072.0	2362.4	3732.7	2446.5	2229.4
80°	1792.2	1942.0	2489.3	1550.0	1554.5	1617.2	1608.0	1615.7	2455.6	1771.6	1666.9
82.5°	1287.8	1474.3	1903.1	1187.7	1028.0	1094.4	1107.4	1198.4	1732.6	1252.7	1099.0
85°	660.3	898.8	1751.0	1028.7	642.8	532.7	613.0	945.4	1504.9	750.5	535.8
87.5°	128.4	249.2	1283.2	571.7	288.9	146.0	240.7	400.5	875.1	136.0	66.5
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°	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6
2.5°	3886.4	3788.5	3696.8	3602.0	3528.7	3439.3	3351.4	3274.9	3200.8	3151.9	3167.2
5°	3791.6	3553.1	3339.1	3140.4	3024.2	2884.4	2759.8	2655.1	2574.1	2522.1	2553.5
7.5°	3359.8	3037.2	2755.2	2493.1	2328.0	2146.9	2001.6	1899.2	1836.6	1801.4	1852.6
10°	2918.0	2555.7	2239.3	1966.5	1803.7	1650.1	1518.6	1410.1	1326.0	1286.3	1306.9
12.5°	2601.6	2198.8	1867.1	1683.7	1543.8	1406.3	1270.2	1143.4	1036.4	987.4	977.5
15°	2483.1	2007.0	1668.4	1463.6	1324.5	1174.7	1028.0	891.9	790.3	748.2	739.1
17.5°	2535.1	1965.7	1550.7	1308.4	1106.7	924.8	759.7	631.3	556.4	532.7	535.0
20°	2717.8	1981.0	1456.0	1148.7	899.6	684.0	518.9	430.3	398.2	392.8	399.0
22.5°	2968.5	2043.7	1387.2	1011.1	716.9	497.5	386.0	343.9	335.5	334.8	340.9
25°	3299.4	2166.0	1341.3	888.9	566.3	394.4	336.3	312.6	305.7	307.2	313.4
27.5°	3689.2	2321.1	1311.5	783.4	465.4	351.6	314.1	293.5	286.6	288.1	292.7
30°	4045.3	2457.2	1267.2	703.9	418.1	336.3	301.9	281.3	272.1	272.1	275.1
32.5°	4364.0	2574.9	1215.2	644.3	374.5	301.9	273.6	257.6	250.7	253.0	254.5
35°	4646.8	2636.8	1174.7	609.1	339.3	278.2	249.9	233.1	223.9	225.5	227.8
37.5°	4925.0	2660.5	1147.9	590.0	314.1	263.7	237.7	223.9	214.0	212.5	211.7
40°	5189.5	2655.1	1122.7	584.7	297.3	253.0	230.0	217.8	207.9	205.6	204.8
42.5°	5418.0	2637.5	1099.0	570.2	285.8	245.3	223.9	213.2	203.3	200.2	198.7
45°	5626.6	2626.8	1073.0	543.4	292.0	242.3	220.9	209.4	200.2	196.4	194.9
47.5°	5858.2	2665.0	1044.0	514.4	290.4	243.0	220.9	207.9	198.7	194.9	193.4
50°	6134.1	2794.2	1008.1	474.6	276.7	259.9	220.1	205.6	197.2	194.9	191.8
52.5°	6523.9	3003.6	958.4	423.4	266.0	277.4	219.3	201.8	194.9	191.1	187.2
55°	7058.1	3213.0	894.2	369.1	249.2	265.2	220.9	197.2	189.5	185.7	181.1
57.5°	7496.0	3372.0	813.2	324.1	233.9	250.7	218.6	191.8	183.4	179.6	175.8
60°	7467.8	3387.3	736.0	295.0	224.7	225.5	223.9	188.0	178.1	175.0	172.0
62.5°	7005.4	3198.5	664.2	280.5	217.8	205.6	228.5	183.4	172.7	169.7	167.4
65°	6235.7	2759.0	625.9	280.5	211.7	194.9	199.5	177.3	167.4	164.3	162.8
67.5°	5259.8	2217.2	590.0	286.6	203.3	187.2	181.1	171.2	162.0	159.0	157.4
70°	4215.8	1744.8	564.8	283.5	195.7	178.8	171.2	162.8	153.6	152.9	151.3
72.5°	3307.0	1401.7	553.3	283.5	184.2	168.9	161.3	155.1	146.0	145.2	142.9
75°	2649.8	1052.4	506.0	278.2	172.7	155.9	149.0	143.7	134.5	135.3	133.7
77.5°	2052.1	744.4	422.6	250.7	158.2	141.4	136.0	132.2	121.5	122.3	122.3
80°	1605.0	484.6	327.9	207.9	141.4	124.6	120.8	117.7	106.2	107.8	107.8
82.5°	1099.8	288.1	237.7	167.4	121.5	106.2	105.5	100.9	88.7	89.4	90.9
85°	600.7	189.5	158.2	123.8	95.5	86.4	84.8	82.5	71.1	71.1	71.8
87.5°	110.8	101.6	93.2	81.8	64.2	61.9	59.6	61.9	53.5	52.0	52.0
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6
2.5°	3131.2	3078.5	3041.8	3009.7	2932.5	2937.9	2948.6	2963.9	2915.7	2940.9	2972.3
5°	2522.1	2478.6	2445.7	2394.5	2286.7	2248.5	2224.1	2213.4	2141.5	2156.8	2190.4
7.5°	1859.5	1858.7	1847.3	1789.9	1660.0	1581.3	1529.3	1513.3	1468.9	1485.8	1537.0
10°	1309.2	1323.0	1317.6	1266.4	1150.2	1093.7	1082.2	1114.3	1115.1	1147.9	1235.8
12.5°	946.2	938.5	931.7	889.6	802.5	793.3	819.3	863.6	874.3	909.5	1001.2
15°	706.2	687.9	684.0	651.2	593.8	602.3	621.4	644.3	645.1	669.5	745.2
17.5°	529.6	529.6	535.8	514.4	473.1	469.3	459.3	453.2	444.0	454.0	495.3
20°	411.2	430.3	445.6	433.3	395.9	377.6	358.4	346.2	339.3	340.1	352.3
22.5°	352.3	367.6	387.5	381.4	350.0	326.3	314.1	305.7	300.4	300.4	307.2
25°	322.5	332.5	350.8	347.7	321.0	301.9	292.0	283.5	277.4	276.7	283.5
27.5°	298.8	304.9	317.2	315.6	288.1	275.9	269.8	264.4	260.6	259.9	266.7
30°	277.4	280.5	286.6	284.3	263.7	251.4	249.2	246.9	244.6	245.3	255.3
32.5°	258.3	260.6	264.4	261.4	241.5	230.8	227.0	223.9	221.6	223.9	235.4
35°	236.9	243.8	248.4	246.9	225.5	212.5	204.1	196.4	193.4	195.7	208.6
37.5°	218.6	230.0	236.2	234.6	212.5	197.2	186.5	185.0	185.0	188.0	201.0
40°	211.7	220.1	225.5	223.2	201.0	185.7	179.6	177.3	178.1	181.1	194.9
42.5°	205.6	213.2	214.8	210.2	188.0	178.1	174.3	171.2	172.7	176.5	190.3
45°	200.2	206.4	205.6	198.7	177.3	170.4	170.4	168.1	168.9	172.0	186.5
47.5°	196.4	199.5	197.9	191.1	169.7	164.3	166.6	166.6	168.1	170.4	185.0
50°	190.3	192.6	191.1	185.0	163.6	159.0	161.3	164.3	165.8	168.1	181.1
52.5°	184.2	185.7	185.0	178.8	157.4	154.4	154.4	157.4	160.5	163.6	175.0
55°	178.1	179.6	180.4	175.8	152.9	149.8	149.0	149.0	152.1	156.7	168.9
57.5°	173.5	173.5	175.0	172.0	148.3	144.4	140.6	141.4	145.2	149.0	161.3
60°	168.1	168.9	171.2	168.1	142.2	136.0	133.0	136.8	138.3	142.2	155.1
62.5°	163.6	163.6	165.1	162.8	136.8	130.7	128.4	132.2	132.2	136.0	149.0
65°	159.7	159.0	159.0	158.2	131.5	125.3	123.8	125.3	126.1	129.9	142.9
67.5°	156.7	152.9	152.9	154.4	126.1	120.0	119.2	119.2	120.0	124.6	136.0
70°	149.8	146.7	146.0	151.3	120.8	113.1	113.1	111.6	113.1	115.4	127.6
72.5°	142.2	139.9	139.1	146.7	115.4	105.5	103.9	103.2	103.9	106.2	117.7
75°	132.2	130.7	132.2	143.7	110.1	97.1	94.8	94.0	94.0	94.8	107.0
77.5°	120.8	119.2	130.7	133.7	107.0	87.1	84.8	83.3	81.8	81.8	95.5
80°	107.0	106.2	126.1	113.1	102.4	76.4	72.6	70.3	68.8	68.0	81.8
82.5°	93.2	91.7	107.8	88.7	84.8	62.7	57.3	52.7	50.4	50.4	62.7
85°	76.4	75.7	84.8	65.0	58.8	45.9	38.2	34.4	31.3	31.3	40.5
87.5°	55.8	54.3	52.7	39.0	29.8	20.6	14.5	13.8	12.2	11.5	16.8
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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CATALOG NUMBER: NAV-AF-03-D-UNV-SLL-7060-600

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6	3593.6
2.5°	3018.9	3082.3	3202.3	3300.9	3432.4	3537.8	3657.8	3709.8
5°	2252.3	2352.4	2535.9	2692.6	2909.6	3110.6	3339.9	3465.2
7.5°	1615.7	1764.0	1903.1	2098.7	2370.0	2639.8	2936.4	3102.2
10°	1336.7	1472.8	1592.0	1731.1	1940.5	2243.9	2597.8	2785.0
12.5°	1107.4	1254.2	1380.3	1529.3	1705.1	1979.5	2383.0	2600.8
15°	849.1	1008.8	1160.2	1339.8	1555.3	1868.7	2318.8	2561.9
17.5°	581.6	752.8	939.3	1158.6	1418.5	1822.0	2380.0	2679.6
20°	395.1	520.5	723.0	982.9	1295.5	1799.9	2514.5	2921.8
22.5°	324.8	381.4	533.5	817.8	1194.6	1824.3	2733.1	3240.5
25°	298.1	328.6	415.0	672.6	1117.4	1889.3	3028.8	3600.5
27.5°	281.3	307.2	363.8	568.6	1046.3	1978.0	3388.8	4040.7
30°	271.3	295.8	343.2	515.1	981.3	2054.4	3698.3	4372.4
32.5°	249.2	267.5	306.5	484.6	934.7	2116.3	3971.2	4682.7
35°	222.4	244.6	276.7	464.7	933.2	2145.3	4228.0	5025.9
37.5°	212.5	233.9	257.6	454.0	942.4	2169.8	4542.1	5414.9
40°	206.4	225.5	244.6	452.5	950.0	2188.9	4849.3	5820.0
42.5°	201.0	220.1	242.3	441.8	946.9	2214.9	5121.4	6167.7
45°	199.5	218.6	247.6	425.7	946.2	2255.4	5337.7	6445.9
47.5°	197.9	227.0	246.1	408.1	943.1	2341.0	5581.5	6705.0
50°	196.4	242.3	235.4	383.7	920.2	2487.0	5909.4	7001.6
52.5°	195.7	244.6	223.9	350.0	878.9	2703.3	6389.4	7414.3
55°	192.6	232.3	204.1	305.7	819.3	2936.4	6903.7	7899.6
57.5°	185.7	207.1	192.6	262.1	733.7	3099.1	7283.6	8274.8
60°	202.5	178.1	185.0	240.0	631.3	3128.2	7300.4	8380.3
62.5°	193.4	162.0	177.3	232.3	559.5	2938.7	6966.4	8254.2
65°	154.4	153.6	170.4	240.0	548.8	2514.5	6402.4	7880.5
67.5°	140.6	147.5	163.6	249.2	555.6	1981.0	5572.4	7007.7
70°	131.5	139.9	154.4	257.6	567.9	1560.7	4486.3	5699.2
72.5°	122.3	129.2	145.2	266.0	559.5	1231.3	3590.6	4390.0
75°	110.8	116.9	132.2	243.8	480.0	904.9	2853.1	3117.5
77.5°	97.8	103.2	116.2	192.6	360.7	629.8	2136.9	2247.0
80°	84.1	86.4	96.3	140.6	235.4	376.8	1626.4	1792.2
82.5°	66.5	67.3	73.4	103.2	146.7	240.7	1128.1	1287.8
85°	42.8	44.3	47.4	72.6	98.6	154.4	576.3	660.3
87.5°	14.5	16.8	16.8	35.2	48.1	85.6	176.5	128.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)