

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: P196712

Luminaire Tested: **NAV-AF-02-D-UNV-SLR-7030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196712
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-02-D-UNV-SLR-7030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 800mA 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: 8406.4 lumens
Efficiency: N/A
Efficacy: 98.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

Input Watts (W): 85
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

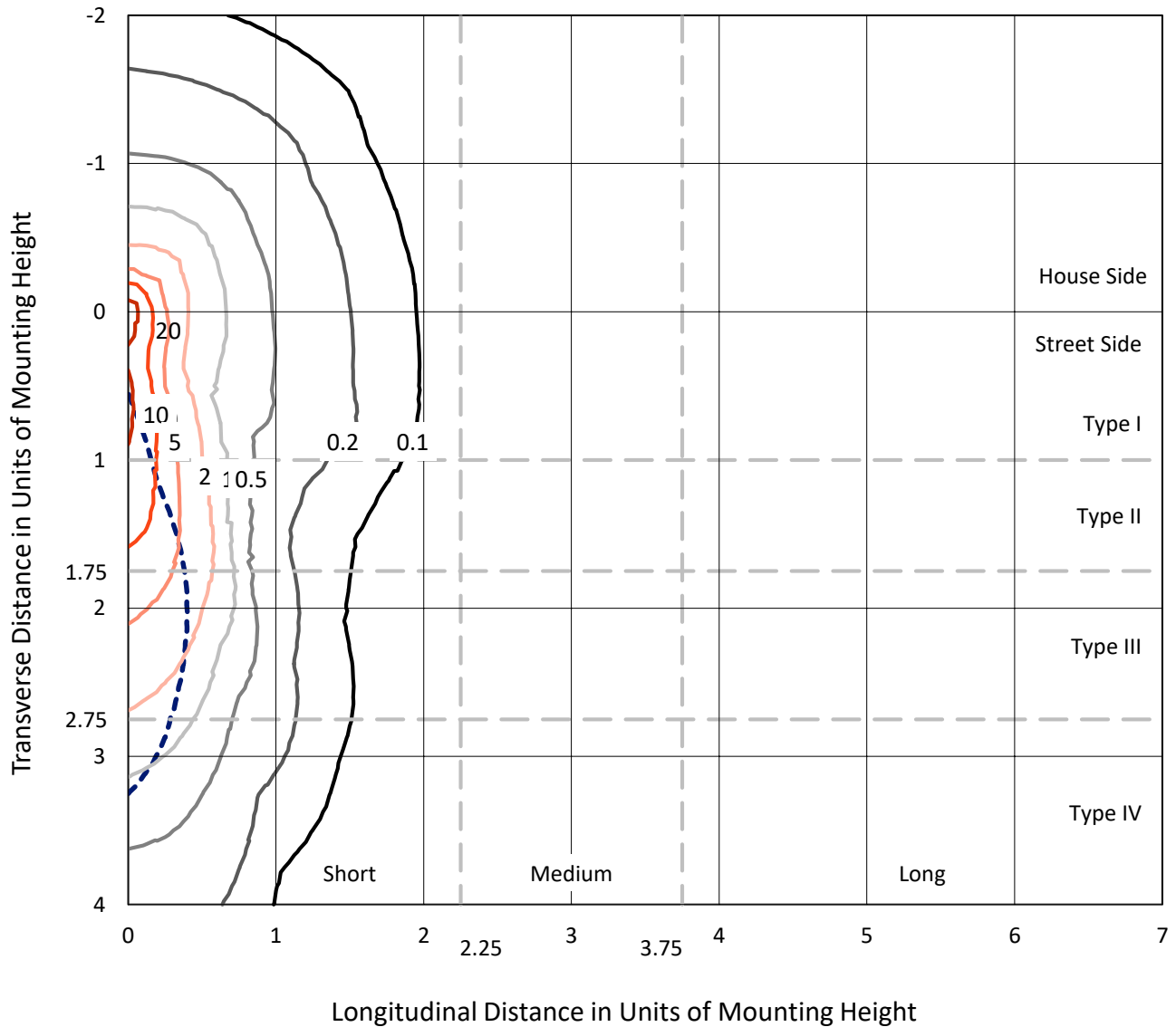


REPORT NUMBER: P196712

CATALOG NUMBER: NAV-AF-02-D-UNV-SLR-7030-800

Iso-Footcandle Lines of Horizontal Illumination

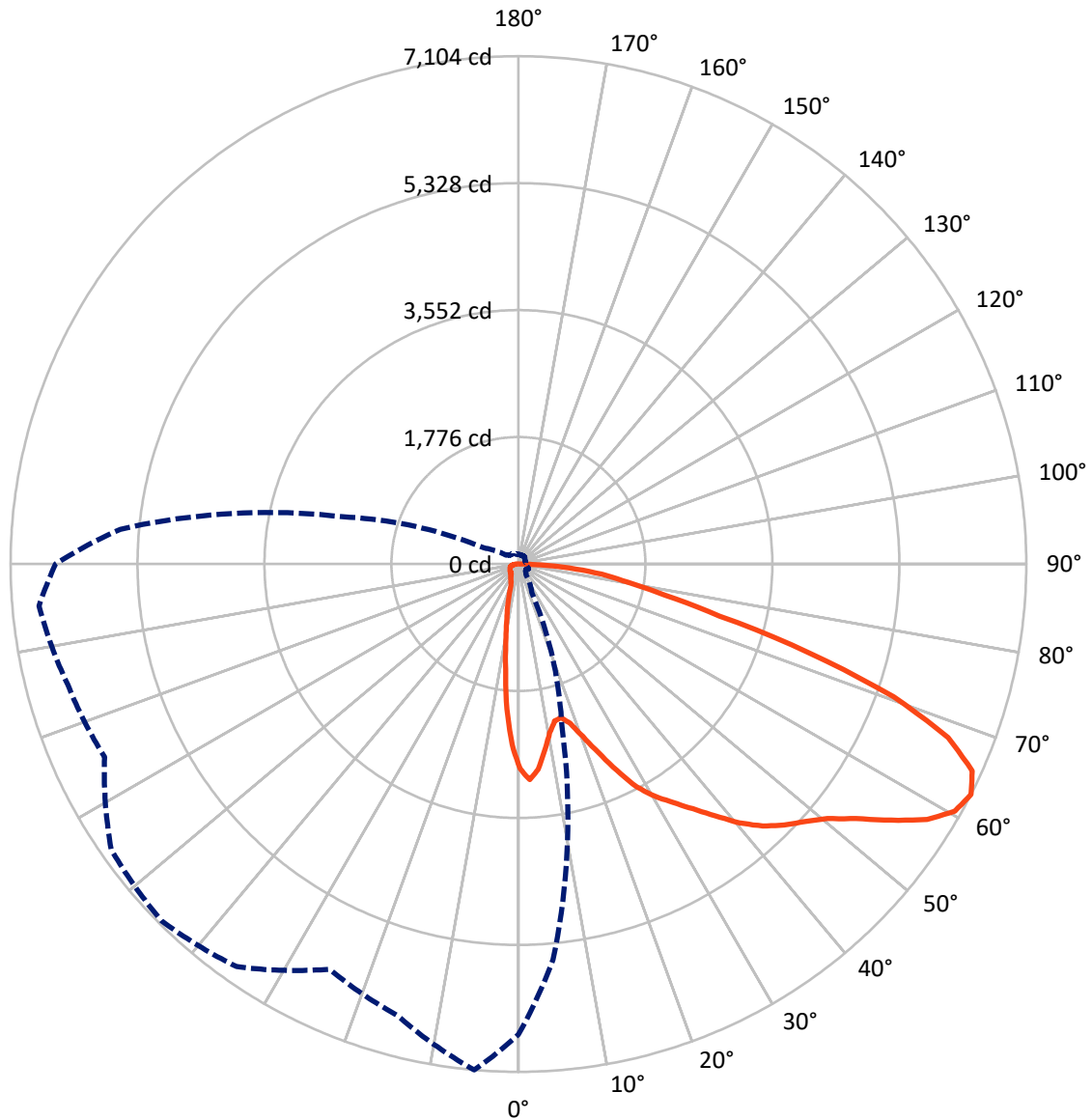
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 28.7 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196712
CATALOG NUMBER: NAV-AF-02-D-UNV-SLR-7030-800

Luminous Intensity Polar Plot



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

REPORT NUMBER: P196712

CATALOG NUMBER: NAV-AF-02-D-UNV-SLR-7030-800

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1489.2	0.0	1489.2
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	6917.2	0.0	6917.2
	% Fixture	82.3	0.0	82.3
Total	Lumens	8406.4	0.0	8406.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	208.4	2.5
10°-20°	380.7	4.5
20°-30°	547.5	6.5
30°-40°	838.6	10.0
40°-50°	1226.0	14.6
50°-60°	1783.9	21.2
60°-70°	2066.9	24.6
70°-80°	1077.4	12.8
80°-90°	277.0	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°	8406.4	100.0
0°-180°	8406.4	100.0



REPORT NUMBER: P196712

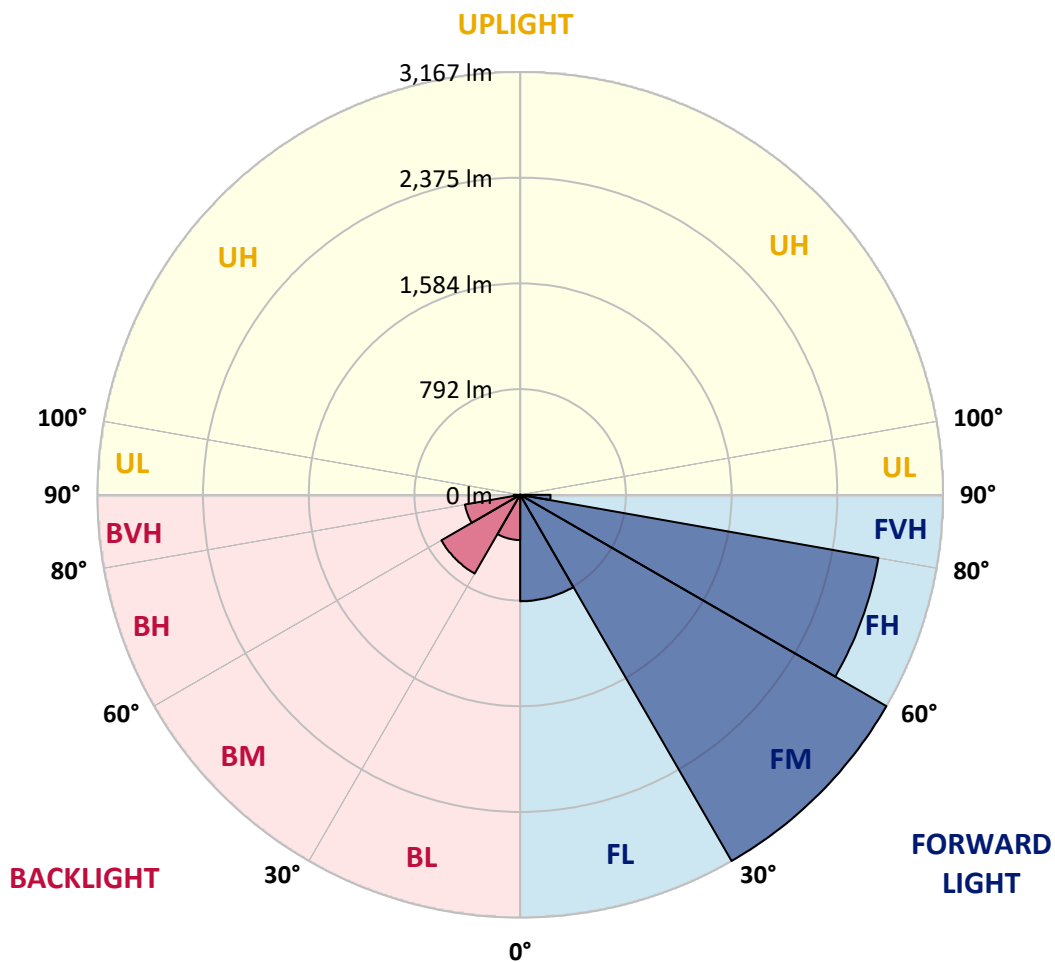
CATALOG NUMBER: NAV-AF-02-D-UNV-SLR-7030-800

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	797.8	9.5			
FM	(30°-60°)	3167.1	37.7			
FH	(60°-80°)	2724.4	32.4			G2/5000
FVH	(80°-90°)	227.8	2.7			G3/500
BL	(0°-30°)	338.8	4.0	B1/500		
BM	(30°-60°)	681.4	8.1	B1/1000		
BH	(60°-80°)	419.9	5.0	B1/500		G1/500
BVH	(80°-90°)	49.1	0.6			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





REPORT NUMBER: P196712

CATALOG NUMBER: NAV-AF-02-D-UNV-SLR-7030-800

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9
2.5°	2958.5	2917.1	2821.4	2737.3	2632.5	2553.8	2458.2	2407.5	2370.4	2345.4	2325.2
5°	2763.5	2663.5	2480.7	2320.4	2147.3	2022.4	1876.1	1796.2	1746.8	1720.1	1707.8
7.5°	2473.9	2341.8	2105.2	1890.0	1673.8	1517.7	1406.7	1288.5	1225.7	1184.9	1171.5
10°	2221.0	2071.8	1789.5	1547.5	1380.5	1269.6	1174.5	1066.1	985.6	915.5	889.3
12.5°	2074.2	1900.4	1578.6	1359.8	1219.7	1100.8	1000.2	883.2	798.4	725.3	697.3
15°	2043.0	1849.2	1490.3	1240.3	1068.4	925.2	804.5	677.2	594.3	533.9	514.4
17.5°	2136.9	1898.1	1453.0	1131.3	924.0	749.1	600.4	463.8	395.0	362.0	354.1
20°	2330.2	2005.2	1435.4	1033.1	783.8	576.6	415.0	315.1	281.1	271.2	270.6
22.5°	2584.3	2179.6	1454.9	952.6	652.2	425.4	304.2	259.1	245.1	239.5	239.5
25°	2871.5	2415.5	1506.6	891.1	536.4	330.9	262.1	237.7	226.1	220.6	221.2
27.5°	3222.5	2702.5	1577.3	834.4	453.4	290.1	245.1	224.3	212.7	207.3	207.8
30°	3487.0	2949.5	1638.4	782.7	410.9	273.7	235.9	216.4	203.5	195.7	195.0
32.5°	3734.5	3167.0	1687.7	745.4	386.4	244.4	213.3	198.8	187.7	178.6	176.8
35°	4008.1	3371.8	1710.9	744.2	370.6	220.6	195.0	177.3	166.4	156.0	154.2
37.5°	4318.4	3622.3	1730.4	751.4	362.0	205.4	186.5	169.5	160.3	149.9	147.5
40°	4641.5	3867.3	1745.6	757.6	360.9	195.0	179.8	164.6	155.4	144.4	142.0
42.5°	4918.8	4084.3	1766.4	755.2	352.3	193.2	175.6	160.3	151.8	140.8	137.7
45°	5140.6	4256.8	1798.6	754.6	339.5	197.4	174.3	159.1	148.7	137.1	134.7
47.5°	5347.2	4451.2	1866.9	752.1	325.5	196.2	181.1	157.9	147.5	135.9	134.1
50°	5583.7	4712.7	1983.4	733.9	305.9	187.7	193.2	156.7	144.4	134.1	132.3
52.5°	5912.9	5095.6	2155.8	700.9	279.1	178.6	195.0	156.0	139.6	130.4	128.0
55°	6299.9	5505.7	2341.8	653.4	243.7	162.7	185.3	153.6	134.7	125.0	121.3
57.5°	6599.2	5808.7	2471.6	585.1	209.0	153.6	165.2	148.1	128.6	118.9	115.9
60°	6683.3	5822.0	2494.7	503.4	191.4	147.5	142.0	161.4	123.7	113.4	110.4
62.5°	6582.7	5555.8	2343.6	446.3	185.3	141.4	129.3	154.2	118.9	108.5	105.4
65°	6284.7	5105.9	2005.2	437.6	191.4	135.9	122.5	123.1	113.9	103.6	100.5
67.5°	5588.6	4443.9	1579.9	443.1	198.8	130.4	117.7	112.1	108.5	99.3	95.7
70°	4545.0	3577.8	1244.6	452.9	205.4	123.1	111.6	104.9	101.8	92.0	90.2
72.5°	3501.0	2863.4	981.9	446.3	212.1	115.9	103.0	97.6	93.9	84.6	82.9
75°	2486.2	2275.4	721.6	382.7	194.5	105.4	93.3	88.4	85.3	75.6	75.0
77.5°	1792.0	1704.2	502.3	287.7	153.6	92.7	82.3	78.0	76.2	65.2	65.2
80°	1429.3	1297.0	300.5	187.7	112.1	76.8	68.9	67.0	65.2	54.2	54.8
82.5°	1027.0	899.6	192.0	117.0	82.3	58.6	53.6	53.0	49.9	40.2	40.2
85°	526.6	459.6	123.1	78.6	57.9	37.8	35.4	34.1	32.3	25.0	25.0
87.5°	102.3	140.8	68.3	38.4	28.1	13.4	13.4	11.6	13.4	9.2	9.8
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: P196712

CATALOG NUMBER: NAV-AF-02-D-UNV-SLR-7030-800

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9
2.5°	2363.8	2351.5	2342.9	2338.7	2400.2	2425.9	2455.0	2497.1	2525.8	2513.6	2552.7
5°	1765.2	1773.8	1793.2	1823.6	1909.7	1950.4	1976.6	2011.4	2036.4	2011.4	2052.9
7.5°	1206.9	1219.7	1261.1	1323.9	1427.5	1473.2	1482.3	1482.9	1477.4	1436.6	1464.6
10°	888.8	863.0	872.2	917.3	1010.0	1050.7	1055.0	1044.1	1042.3	1025.8	1057.5
12.5°	688.8	653.4	632.7	639.9	709.4	743.0	748.4	754.6	779.6	787.4	826.5
15°	513.8	495.5	480.3	473.6	519.3	545.5	548.6	563.2	589.4	596.7	630.2
17.5°	361.4	366.3	374.2	377.3	410.2	427.3	422.4	422.4	426.6	424.8	443.7
20°	276.1	285.8	301.1	315.8	345.6	355.3	343.2	327.9	318.2	313.2	317.5
22.5°	243.7	250.5	260.2	279.1	304.2	308.9	293.2	281.1	271.8	266.9	267.5
25°	226.1	232.8	240.8	256.0	277.3	279.8	265.2	257.2	249.8	245.1	243.7
27.5°	210.9	215.1	220.0	229.8	251.8	252.9	243.2	238.3	233.5	229.8	228.6
30°	196.8	198.8	200.5	210.4	226.7	228.6	223.7	221.2	219.4	217.0	217.0
32.5°	178.6	181.1	184.1	192.7	208.4	210.9	207.8	206.1	203.0	201.8	200.0
35°	156.7	162.7	169.5	179.8	196.8	198.1	194.5	188.9	181.6	179.8	178.6
37.5°	147.5	148.7	157.3	169.5	187.2	188.4	183.4	174.3	168.8	169.5	170.7
40°	141.4	143.2	148.1	160.3	178.0	179.8	175.6	168.8	163.4	164.0	165.7
42.5°	136.6	139.0	142.0	149.9	167.6	171.3	170.0	164.0	158.4	159.7	162.1
45°	134.1	135.9	135.9	141.4	158.4	164.0	164.6	159.7	155.4	156.7	159.7
47.5°	132.9	132.9	131.0	135.3	152.4	157.9	159.1	156.7	154.2	155.4	158.4
50°	131.0	128.6	126.7	130.4	147.5	152.4	153.6	151.8	153.0	155.4	157.3
52.5°	125.5	123.1	123.1	125.5	142.6	147.5	148.1	146.9	149.3	152.4	155.4
55°	118.9	118.9	119.4	122.0	140.2	143.9	143.2	142.0	144.4	148.1	151.1
57.5°	112.7	112.1	115.2	118.2	137.1	139.6	138.3	138.3	140.2	143.2	146.3
60°	109.2	106.1	108.5	113.4	134.1	136.6	134.7	134.1	137.1	139.6	142.0
62.5°	105.4	102.3	104.3	109.2	129.8	131.6	130.4	130.4	133.6	135.3	137.7
65°	100.0	98.8	100.0	104.9	126.2	126.7	126.7	127.4	129.8	131.0	133.6
67.5°	95.0	95.0	95.7	100.5	123.1	122.0	122.0	125.0	125.5	126.7	129.3
70°	88.9	90.2	90.2	96.2	120.7	116.5	117.0	119.4	120.7	122.0	122.5
72.5°	82.3	82.9	84.1	92.0	117.0	110.9	111.6	113.4	113.9	115.9	116.5
75°	75.0	75.6	77.3	87.7	114.6	105.4	104.3	105.4	106.6	107.8	107.3
77.5°	66.4	67.6	69.5	85.3	106.6	104.3	95.0	96.2	97.6	97.6	96.9
80°	56.0	57.9	60.9	81.7	90.2	100.5	84.6	85.3	86.0	86.0	84.6
82.5°	42.1	45.7	49.9	67.6	70.7	86.0	73.1	74.4	72.5	71.3	70.7
85°	27.5	30.5	36.6	47.0	51.8	67.6	60.3	60.9	57.3	56.7	56.7
87.5°	10.9	11.6	16.5	23.8	31.1	42.1	43.2	44.5	41.4	41.4	42.6
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: P196712

CATALOG NUMBER: NAV-AF-02-D-UNV-SLR-7030-800

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9
2.5°	2611.8	2672.7	2742.9	2814.1	2872.7	2948.2	3021.3	3099.3	3139.0	3162.2	3227.3
5°	2117.5	2200.9	2300.2	2411.8	2504.4	2662.9	2833.6	3023.7	3115.2	3205.4	3376.1
7.5°	1514.7	1596.3	1712.1	1856.6	1988.2	2197.3	2422.2	2679.4	2806.3	2952.5	3232.2
10°	1124.5	1211.1	1315.9	1438.4	1568.3	1785.9	2038.2	2327.1	2466.6	2631.8	2950.0
12.5°	911.9	1013.1	1121.5	1231.3	1342.8	1488.9	1753.6	2074.8	2224.7	2391.1	2709.8
15°	711.3	819.8	936.8	1056.3	1167.2	1330.6	1600.5	1980.4	2151.6	2312.5	2573.4
17.5°	503.4	605.9	737.5	882.6	1043.4	1236.7	1567.7	2021.8	2229.6	2397.8	2572.7
20°	343.2	413.9	545.5	717.4	916.1	1161.1	1579.9	2167.3	2427.0	2611.8	2678.2
22.5°	274.2	307.8	396.8	571.8	806.4	1106.2	1629.8	2367.3	2710.5	2935.4	2870.1
25°	249.3	268.2	314.5	451.7	708.9	1069.6	1727.4	2631.3	3028.0	3256.0	3101.3
27.5°	234.1	250.5	280.4	371.2	624.8	1045.9	1851.1	2942.2	3385.8	3573.0	3341.9
30°	224.3	240.8	268.2	333.3	561.4	1010.5	1959.6	3226.1	3671.6	3792.9	3471.7
32.5°	205.4	218.2	240.8	298.6	513.8	969.1	2053.4	3480.4	3941.7	3982.0	3627.9
35°	185.8	199.3	221.9	270.6	485.7	936.8	2102.8	3705.8	4209.3	4170.9	3782.7
37.5°	178.6	189.6	210.4	250.5	470.6	915.5	2121.7	3927.7	4496.3	4379.9	3890.5
40°	173.7	183.4	201.8	237.1	466.3	895.4	2117.5	4138.5	4774.8	4596.3	3975.2
42.5°	170.0	178.6	195.7	228.0	454.7	876.5	2103.5	4320.7	4997.9	4782.9	4056.2
45°	167.0	176.1	193.2	232.8	433.3	855.7	2094.9	4487.2	5169.3	4940.0	4164.8
47.5°	165.7	176.1	193.8	231.6	410.2	832.5	2125.3	4671.9	5318.5	5072.4	4309.1
50°	164.0	175.6	207.3	220.6	378.5	803.9	2228.4	4892.0	5475.2	5221.1	4496.3
52.5°	160.9	175.0	221.2	212.1	337.7	764.4	2395.4	5202.8	5745.8	5510.6	4773.1
55°	157.3	176.1	211.5	198.8	294.4	713.1	2562.3	5628.8	6184.7	5977.5	5170.4
57.5°	153.0	174.3	200.0	186.5	258.4	648.6	2689.2	5978.0	6546.7	6459.0	5658.6
60°	149.9	178.6	179.8	179.1	235.2	586.9	2701.3	5955.5	6650.9	6771.7	6136.5
62.5°	146.3	182.3	164.0	173.7	223.7	529.7	2550.7	5586.8	6474.8	6731.5	6526.0
65°	141.4	159.1	155.4	168.8	223.7	499.2	2200.4	4972.9	5987.9	6351.1	6737.5
67.5°	136.6	144.4	149.3	162.1	228.6	470.6	1768.2	4194.7	5219.9	5737.3	6499.9
70°	129.8	136.6	142.6	156.0	226.1	450.4	1391.5	3362.0	4295.8	4888.3	5842.1
72.5°	123.7	128.6	134.7	146.9	226.1	441.3	1117.8	2637.3	3279.8	3779.0	4839.5
75°	114.6	118.9	124.3	137.7	221.9	403.5	839.3	2113.2	2399.7	2712.4	3818.6
77.5°	105.4	108.5	112.7	126.2	200.0	337.1	593.8	1636.4	1777.9	1951.1	2976.9
80°	93.9	96.2	99.3	112.7	165.7	261.4	386.4	1280.0	1329.3	1412.8	1958.4
82.5°	80.5	84.1	84.6	96.9	133.6	189.6	229.8	877.2	876.5	998.9	1381.8
85°	65.8	67.6	68.9	76.2	98.8	126.2	151.1	479.1	427.3	598.5	1200.1
87.5°	49.3	47.5	49.3	51.3	65.2	74.4	81.1	88.4	53.0	108.5	697.8
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: P196712

CATALOG NUMBER: NAV-AF-02-D-UNV-SLR-7030-800

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9
2.5°	3262.1	3298.1	3276.6	3251.1	3187.1	3093.2	3021.3	2958.5
5°	3494.3	3560.8	3531.5	3436.4	3270.6	3082.3	2884.2	2763.5
7.5°	3465.0	3596.7	3585.2	3426.7	3189.0	2911.6	2633.0	2473.9
10°	3231.1	3415.7	3447.3	3285.2	3033.5	2723.3	2400.9	2221.0
12.5°	2976.2	3131.7	3196.3	3134.7	2897.5	2582.5	2254.0	2074.2
15°	2762.9	2841.5	2905.5	2945.2	2798.2	2532.5	2228.4	2043.0
17.5°	2605.1	2589.8	2643.4	2738.5	2744.6	2599.0	2344.1	2136.9
20°	2528.8	2409.3	2440.6	2573.9	2730.0	2767.7	2575.1	2330.2
22.5°	2524.6	2338.0	2344.1	2488.1	2772.0	2998.2	2863.4	2584.3
25°	2590.4	2330.2	2335.6	2478.9	2846.4	3230.4	3196.9	2871.5
27.5°	2702.5	2364.3	2360.6	2519.1	2945.7	3424.1	3533.3	3222.5
30°	2823.8	2413.6	2404.5	2583.8	3043.3	3543.8	3772.2	3487.0
32.5°	2975.0	2501.4	2469.7	2678.2	3139.6	3658.3	3976.5	3734.5
35°	3118.8	2630.0	2584.3	2813.5	3242.6	3785.7	4205.0	4008.1
37.5°	3265.8	2822.0	2796.4	3008.6	3388.2	3924.0	4466.5	4318.4
40°	3454.1	3095.1	3082.9	3292.0	3582.7	4075.2	4759.7	4641.5
42.5°	3657.0	3385.2	3374.8	3617.5	3824.1	4226.9	5010.7	4918.8
45°	3863.6	3736.8	3739.3	3964.9	4078.2	4370.2	5208.3	5140.6
47.5°	4107.5	4121.5	4208.6	4325.0	4325.7	4529.9	5383.2	5347.2
50°	4417.2	4585.9	4746.9	4765.2	4575.6	4740.8	5597.2	5583.7
52.5°	4767.5	5121.7	5308.8	5250.9	4819.4	5002.2	5913.4	5912.9
55°	5184.0	5681.8	5858.1	5759.3	5111.3	5343.0	6326.6	6299.9
57.5°	5615.4	6220.6	6362.7	6234.0	5476.4	5739.7	6741.2	6599.2
60°	6081.7	6684.5	6828.9	6635.8	5886.1	6135.4	7015.4	6683.3
62.5°	6387.1	6955.8	7059.4	6874.0	6252.9	6538.2	7103.8	6582.7
65°	6402.9	6775.2	6802.7	6736.9	6409.0	6888.0	6975.8	6284.7
67.5°	5967.7	5989.6	6025.6	6096.3	6075.6	6732.0	6482.2	5588.6
70°	5037.0	4744.4	4862.7	4931.0	5084.5	5987.9	5569.7	4545.0
72.5°	3851.5	3424.1	3558.3	3535.2	3854.5	4911.4	4261.1	3501.0
75°	2772.0	2335.0	2345.4	2346.6	2769.6	3920.3	2905.5	2486.2
77.5°	1883.9	1652.3	1686.5	1665.2	1853.5	3071.3	2091.9	1792.0
80°	1288.5	1282.3	1289.7	1239.8	1236.0	1985.1	1548.7	1429.3
82.5°	955.7	883.2	872.8	819.8	947.2	1517.7	1175.7	1027.0
85°	754.0	488.8	424.8	512.7	820.4	1396.4	716.7	526.6
87.5°	319.4	192.0	116.5	230.4	455.9	1023.3	198.8	102.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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