

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: P195764

Luminaire Tested: **NAV-AF-02-D-UNV-SLR-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195764
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-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 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: 11801 lumens
Efficiency: N/A
Efficacy: 91.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

Input Watts (W): 129
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

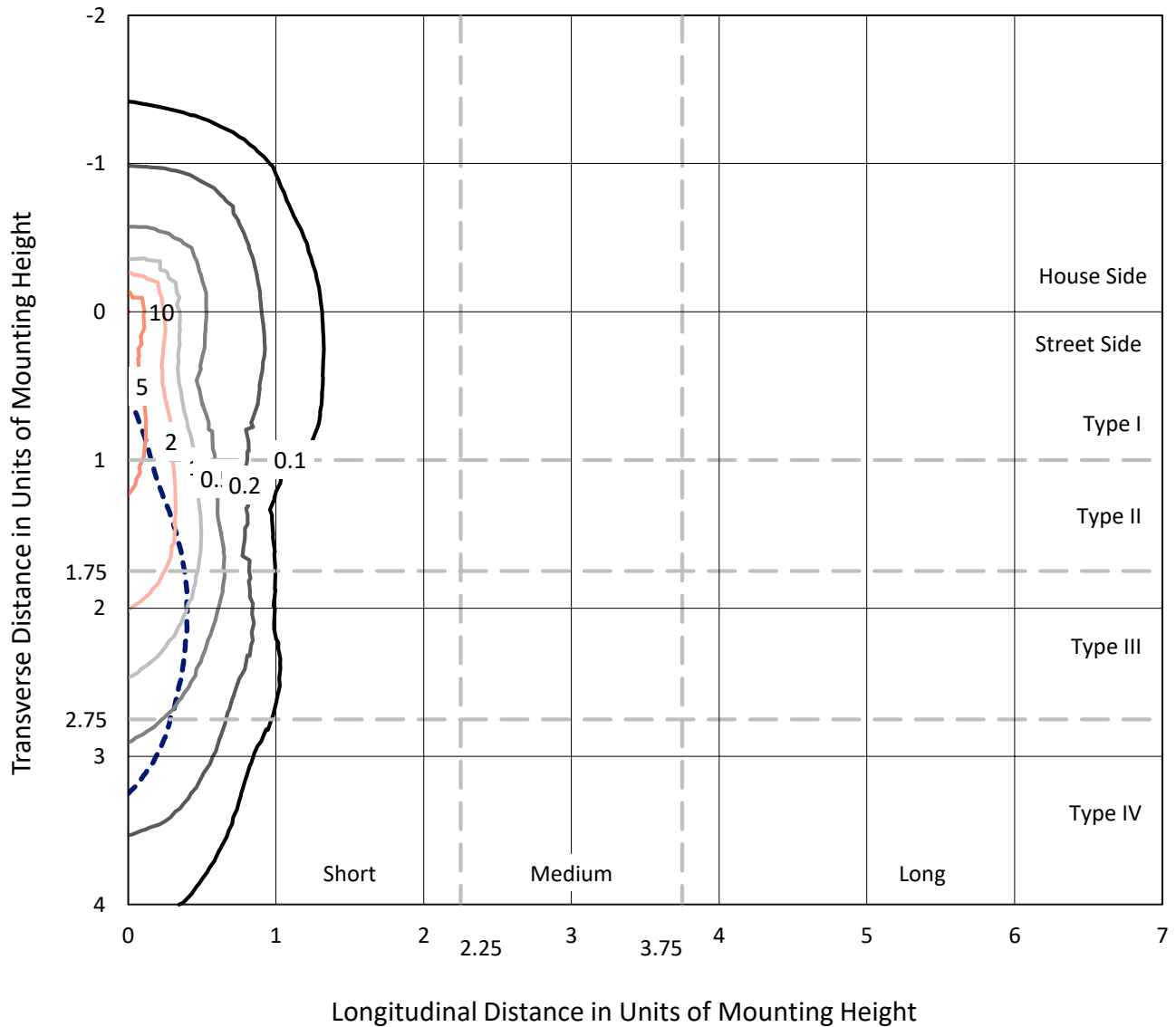


REPORT NUMBER: P195764

CATALOG NUMBER: NAV-AF-02-D-UNV-SLR-7050-1200

Iso-Footcandle Lines of Horizontal Illumination

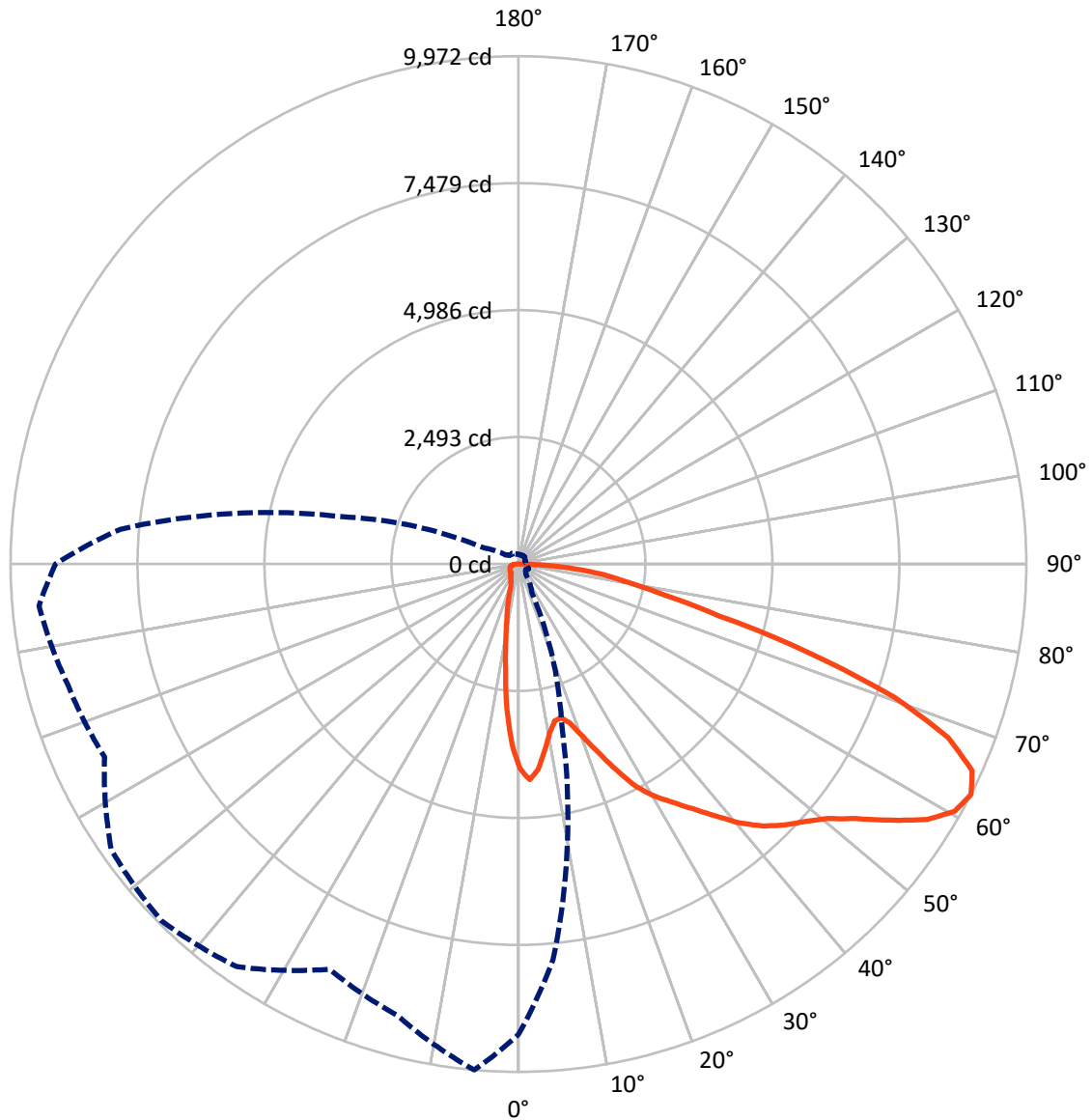
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 10.1 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P195764
CATALOG NUMBER: NAV-AF-02-D-UNV-SLR-7050-1200

Luminous Intensity Polar Plot



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

REPORT NUMBER: P195764

CATALOG NUMBER: NAV-AF-02-D-UNV-SLR-7050-1200

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2090.6	0.0	2090.6
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	9710.4	0.0	9710.4
	% Fixture	82.3	0.0	82.3
Total	Lumens	11801.0	0.0	11801.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	292.6	2.5
10°-20°	534.4	4.5
20°-30°	768.6	6.5
30°-40°	1177.2	10.0
40°-50°	1721.1	14.6
50°-60°	2504.3	21.2
60°-70°	2901.5	24.6
70°-80°	1512.5	12.8
80°-90°	388.8	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°	11801.0	100.0
0°-180°	11801.0	100.0



REPORT NUMBER: P195764

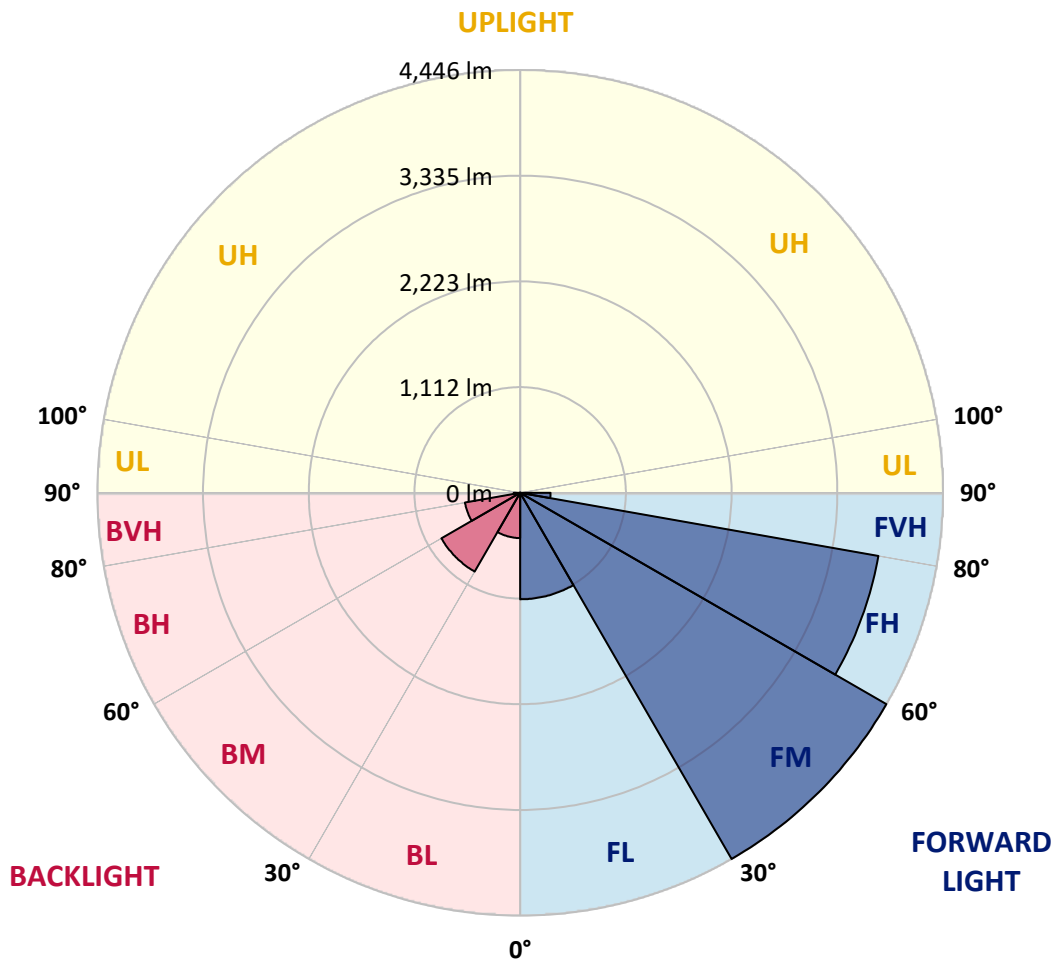
CATALOG NUMBER: NAV-AF-02-D-UNV-SLR-7050-1200

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1120.0	9.5			
FM	(30°-60°)	4446.1	37.7			
FH	(60°-80°)	3824.5	32.4			G2/5000
FVH	(80°-90°)	319.9	2.7			G3/500
BL	(0°-30°)	475.6	4.0	B1/500		
BM	(30°-60°)	956.5	8.1	B1/1000		
BH	(60°-80°)	589.5	5.0	B2/1000		G2/1000
BVH	(80°-90°)	68.9	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





REPORT NUMBER: P195764

CATALOG NUMBER: NAV-AF-02-D-UNV-SLR-7050-1200

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2
2.5°	4153.3	4095.1	3960.7	3842.7	3695.5	3585.1	3450.8	3379.8	3327.6	3292.5	3264.2
5°	3879.4	3739.1	3482.4	3257.4	3014.4	2839.0	2633.6	2521.6	2452.3	2414.6	2397.5
7.5°	3473.0	3287.3	2955.4	2653.3	2349.6	2130.5	1974.8	1808.8	1720.7	1663.4	1644.5
10°	3117.9	2908.3	2512.1	2172.5	1938.0	1782.3	1648.8	1496.5	1383.6	1285.2	1248.4
12.5°	2911.7	2667.9	2216.1	1908.9	1712.1	1545.3	1404.1	1239.8	1120.9	1018.2	978.8
15°	2868.1	2596.0	2092.0	1741.2	1499.9	1298.9	1129.4	950.6	834.2	749.5	722.2
17.5°	2999.9	2664.4	2039.8	1588.1	1297.1	1051.6	842.8	651.1	554.5	508.2	497.1
20°	3271.1	2815.0	2015.0	1450.3	1100.3	809.4	582.7	442.4	394.4	380.8	379.9
22.5°	3627.9	3059.8	2042.4	1337.4	915.5	597.2	427.0	363.6	344.0	336.3	336.3
25°	4030.9	3390.9	2115.1	1250.9	753.0	464.6	367.9	333.7	317.4	309.7	310.6
27.5°	4523.7	3793.9	2214.4	1171.4	636.6	407.3	344.0	314.9	298.6	290.9	291.8
30°	4895.1	4140.4	2299.9	1098.6	576.7	384.2	331.1	303.8	285.8	274.7	273.8
32.5°	5242.5	4445.9	2369.3	1046.4	542.5	343.1	299.5	278.9	263.5	250.7	248.1
35°	5626.7	4733.4	2401.8	1044.7	520.2	309.7	273.8	249.0	233.6	219.0	216.5
37.5°	6062.2	5085.0	2429.1	1055.0	508.2	288.3	261.8	237.9	225.0	210.5	207.1
40°	6515.7	5429.0	2450.5	1063.6	506.5	273.8	252.4	231.0	218.2	202.8	199.4
42.5°	6905.0	5733.6	2479.6	1060.1	494.6	271.2	246.4	225.0	213.1	197.7	193.4
45°	7216.4	5975.8	2525.0	1059.3	476.6	277.2	244.7	223.3	208.8	192.5	189.1
47.5°	7506.5	6248.7	2620.8	1055.9	456.9	275.5	254.1	221.6	207.1	190.8	188.2
50°	7838.5	6615.8	2784.2	1030.2	429.5	263.5	271.2	219.9	202.8	188.2	185.7
52.5°	8300.5	7153.1	3026.4	984.0	391.9	250.7	273.8	219.0	195.9	183.1	179.7
55°	8843.8	7729.0	3287.3	917.2	342.3	228.5	260.1	215.6	189.1	175.4	170.3
57.5°	9264.0	8154.2	3469.6	821.4	293.5	215.6	231.9	207.9	180.5	166.8	162.6
60°	9382.0	8173.0	3502.1	706.8	268.7	207.1	199.4	226.7	173.7	159.1	154.9
62.5°	9240.9	7799.1	3289.9	626.3	260.1	198.5	181.4	216.5	166.8	152.3	148.0
65°	8822.5	7167.7	2815.0	614.3	268.7	190.8	172.0	172.8	160.0	145.5	141.2
67.5°	7845.3	6238.4	2217.8	622.0	278.9	183.1	165.1	157.4	152.3	139.5	134.3
70°	6380.5	5022.6	1747.2	635.7	288.3	172.8	156.6	147.2	142.9	129.2	126.6
72.5°	4914.8	4019.8	1378.4	626.3	297.8	162.6	144.6	136.9	131.8	118.9	116.4
75°	3490.1	3194.1	1013.1	537.3	272.9	148.0	130.9	124.1	119.8	106.1	105.2
77.5°	2515.6	2392.4	705.0	403.9	215.6	130.1	115.5	109.5	107.0	91.6	91.6
80°	2006.5	1820.8	421.8	263.5	157.4	107.8	96.7	94.1	91.6	76.2	77.0
82.5°	1441.7	1262.9	269.5	164.3	115.5	82.1	75.3	74.4	70.2	56.5	56.5
85°	739.3	645.1	172.8	110.4	81.3	53.0	49.6	47.9	45.3	35.1	35.1
87.5°	143.7	197.7	95.8	53.9	39.4	18.8	18.8	16.3	18.8	12.8	13.7
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: P195764

CATALOG NUMBER: NAV-AF-02-D-UNV-SLR-7050-1200

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2
2.5°	3318.2	3301.0	3289.1	3283.1	3369.5	3405.4	3446.5	3505.5	3545.8	3528.6	3583.4
5°	2477.9	2489.9	2517.3	2560.1	2680.7	2738.0	2774.8	2823.6	2858.7	2823.6	2881.8
7.5°	1694.2	1712.1	1770.3	1858.4	2003.9	2068.1	2080.9	2081.8	2074.1	2016.7	2056.1
10°	1247.5	1211.6	1224.4	1287.7	1417.8	1475.1	1481.1	1465.7	1463.1	1440.0	1484.5
12.5°	966.9	917.2	888.1	898.4	996.0	1043.0	1050.7	1059.3	1094.4	1105.5	1160.2
15°	721.3	695.6	674.2	664.8	729.0	765.8	770.1	790.6	827.4	837.7	884.7
17.5°	507.4	514.2	525.4	529.6	575.8	599.8	593.0	593.0	598.9	596.4	622.9
20°	387.6	401.3	422.7	443.2	485.1	498.8	481.7	460.3	446.6	439.8	445.8
22.5°	342.3	351.7	365.4	391.9	427.0	433.8	411.6	394.4	381.6	374.8	375.6
25°	317.4	326.9	338.0	359.4	389.3	392.7	372.2	361.1	350.8	344.0	342.3
27.5°	296.0	302.0	308.9	322.6	353.4	355.1	341.4	334.6	327.7	322.6	320.9
30°	276.4	278.9	281.5	295.2	318.3	320.9	314.0	310.6	308.0	304.6	304.6
32.5°	250.7	254.1	258.4	270.4	292.6	296.0	291.8	289.2	284.9	283.2	280.6
35°	219.9	228.5	237.9	252.4	276.4	278.1	272.9	265.2	255.0	252.4	250.7
37.5°	207.1	208.8	220.8	237.9	262.7	264.4	257.5	244.7	237.0	237.9	239.6
40°	198.5	201.1	207.9	225.0	249.8	252.4	246.4	237.0	229.3	230.2	232.7
42.5°	191.7	195.1	199.4	210.5	235.3	240.4	238.7	230.2	222.5	224.2	227.6
45°	188.2	190.8	190.8	198.5	222.5	230.2	231.0	224.2	218.2	219.9	224.2
47.5°	186.5	186.5	184.0	190.0	213.9	221.6	223.3	219.9	216.5	218.2	222.5
50°	184.0	180.5	178.0	183.1	207.1	213.9	215.6	213.1	214.8	218.2	220.8
52.5°	176.3	172.8	172.8	176.3	200.2	207.1	207.9	206.2	209.6	213.9	218.2
55°	166.8	166.8	167.7	171.1	196.8	201.9	201.1	199.4	202.8	207.9	212.2
57.5°	158.3	157.4	161.7	166.0	192.5	195.9	194.2	194.2	196.8	201.1	205.4
60°	153.2	148.9	152.3	159.1	188.2	191.7	189.1	188.2	192.5	195.9	199.4
62.5°	148.0	143.7	146.3	153.2	182.3	184.8	183.1	183.1	187.4	190.0	193.4
65°	140.3	138.6	140.3	147.2	177.1	178.0	178.0	178.8	182.3	184.0	187.4
67.5°	133.5	133.5	134.3	141.2	172.8	171.1	171.1	175.4	176.3	178.0	181.4
70°	124.9	126.6	126.6	135.2	169.4	163.4	164.3	167.7	169.4	171.1	172.0
72.5°	115.5	116.4	118.1	129.2	164.3	155.7	156.6	159.1	160.0	162.6	163.4
75°	105.2	106.1	108.7	123.2	160.9	148.0	146.3	148.0	149.7	151.4	150.6
77.5°	93.3	95.0	97.5	119.8	149.7	146.3	133.5	135.2	136.9	136.9	136.0
80°	78.7	81.3	85.6	114.7	126.6	141.2	118.9	119.8	120.6	120.6	118.9
82.5°	59.0	64.2	70.2	95.0	99.3	120.6	102.7	104.4	101.8	100.1	99.3
85°	38.5	42.8	51.3	65.9	72.7	95.0	84.7	85.6	80.4	79.6	79.6
87.5°	15.4	16.3	23.1	33.4	43.6	59.0	60.8	62.5	58.2	58.2	59.9
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: P195764

CATALOG NUMBER: NAV-AF-02-D-UNV-SLR-7050-1200

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2
2.5°	3666.4	3752.0	3850.4	3950.5	4032.6	4138.7	4241.4	4350.9	4406.5	4439.0	4530.6
5°	2972.5	3089.7	3229.2	3385.7	3515.8	3738.3	3977.8	4244.8	4373.2	4499.8	4739.4
7.5°	2126.3	2240.9	2403.5	2606.3	2791.1	3084.6	3400.3	3761.4	3939.3	4144.7	4537.4
10°	1578.6	1700.1	1847.3	2019.3	2201.5	2507.0	2861.2	3266.8	3462.8	3694.6	4141.3
12.5°	1280.0	1422.1	1574.4	1728.4	1885.0	2090.3	2461.7	2912.6	3123.1	3356.7	3804.2
15°	998.5	1150.8	1315.1	1482.8	1638.5	1867.9	2246.9	2780.0	3020.4	3246.3	3612.5
17.5°	706.8	850.5	1035.3	1239.0	1464.8	1736.1	2200.7	2838.1	3129.9	3366.1	3611.6
20°	481.7	581.0	765.8	1007.1	1286.0	1630.0	2217.8	3042.6	3407.1	3666.4	3759.7
22.5°	385.0	432.1	557.0	802.6	1132.0	1553.0	2288.0	3323.3	3805.0	4120.7	4029.2
25°	350.0	376.5	441.5	634.0	995.1	1501.6	2424.9	3693.8	4250.8	4570.8	4353.5
27.5°	328.6	351.7	393.6	521.1	877.0	1468.3	2598.6	4130.2	4753.1	5015.7	4691.4
30°	314.9	338.0	376.5	468.0	788.0	1418.6	2750.9	4528.9	5154.3	5324.6	4873.7
32.5°	288.3	306.3	338.0	419.3	721.3	1360.5	2882.6	4885.7	5533.4	5589.9	5092.7
35°	261.0	279.8	311.5	379.9	681.9	1315.1	2951.9	5202.3	5909.0	5855.1	5310.1
37.5°	250.7	266.1	295.2	351.7	660.6	1285.2	2978.5	5513.7	6312.0	6148.6	5461.5
40°	243.9	257.5	283.2	332.8	654.6	1256.9	2972.5	5809.8	6703.0	6452.3	5580.5
42.5°	238.7	250.7	274.7	320.0	638.3	1230.4	2952.8	6065.6	7016.2	6714.2	5694.3
45°	234.4	247.3	271.2	326.9	608.4	1201.3	2940.8	6299.2	7256.6	6934.9	5846.6
47.5°	232.7	247.3	272.1	325.1	575.8	1168.8	2983.6	6558.4	7466.3	7120.6	6049.3
50°	230.2	246.4	290.9	309.7	531.3	1128.6	3128.2	6867.3	7686.2	7329.4	6312.0
52.5°	225.9	245.6	310.6	297.8	474.0	1073.0	3362.6	7303.7	8066.1	7735.8	6700.5
55°	220.8	247.3	296.9	278.9	413.3	1001.1	3597.1	7901.8	8682.1	8391.2	7258.4
57.5°	214.8	244.7	280.6	261.8	362.8	910.4	3775.1	8392.1	9190.4	9067.2	7943.7
60°	210.5	250.7	252.4	251.6	330.3	824.0	3792.2	8360.4	9336.7	9506.1	8614.5
62.5°	205.4	255.8	230.2	243.9	314.0	743.5	3580.8	7842.8	9089.4	9449.6	9161.3
65°	198.5	223.3	218.2	237.0	314.0	700.8	3088.8	6981.1	8405.8	8915.7	9458.2
67.5°	191.7	202.8	209.6	227.6	320.9	660.6	2482.2	5888.5	7327.7	8054.1	9124.5
70°	182.3	191.7	200.2	219.0	317.4	632.3	1953.4	4719.7	6030.5	6862.2	8201.3
72.5°	173.7	180.5	189.1	206.2	317.4	619.5	1569.2	3702.3	4604.2	5304.9	6793.7
75°	160.9	166.8	174.5	193.4	311.5	566.4	1178.2	2966.5	3368.6	3807.6	5360.6
77.5°	148.0	152.3	158.3	177.1	280.6	473.2	833.4	2297.4	2495.9	2738.9	4178.9
80°	131.8	135.2	139.5	158.3	232.7	367.1	542.5	1796.8	1866.1	1983.4	2749.2
82.5°	112.9	118.1	118.9	136.0	187.4	266.1	322.6	1231.3	1230.4	1402.4	1939.7
85°	92.4	95.0	96.7	107.0	138.6	177.1	212.2	672.5	599.8	840.2	1684.7
87.5°	69.3	66.7	69.3	71.9	91.6	104.4	113.8	124.1	74.4	152.3	979.7
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: P195764

CATALOG NUMBER: NAV-AF-02-D-UNV-SLR-7050-1200

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2	4023.2
2.5°	4579.4	4629.8	4599.9	4564.0	4474.1	4342.3	4241.4	4153.3
5°	4905.4	4998.6	4957.5	4824.1	4591.3	4326.9	4048.9	3879.4
7.5°	4864.3	5049.1	5032.8	4810.4	4476.7	4087.4	3696.3	3473.0
10°	4535.7	4795.0	4839.5	4611.9	4258.5	3823.0	3370.3	3117.9
12.5°	4178.1	4396.3	4487.0	4400.5	4067.7	3625.3	3164.1	2911.7
15°	3878.6	3989.0	4078.8	4134.4	3928.2	3555.2	3128.2	2868.1
17.5°	3657.0	3635.6	3710.9	3844.4	3852.9	3648.4	3290.8	2999.9
20°	3550.0	3382.3	3426.0	3613.3	3832.4	3885.4	3615.1	3271.1
22.5°	3544.0	3282.2	3290.8	3492.7	3891.4	4208.9	4019.8	3627.9
25°	3636.4	3271.1	3278.8	3479.9	3995.8	4534.9	4487.8	4030.9
27.5°	3793.9	3319.0	3313.9	3536.3	4135.3	4807.0	4960.1	4523.7
30°	3964.2	3388.3	3375.5	3627.0	4272.2	4974.7	5295.5	4895.1
32.5°	4176.4	3511.5	3467.0	3759.7	4407.4	5135.5	5582.2	5242.5
35°	4378.3	3692.1	3627.9	3949.6	4552.0	5314.3	5903.0	5626.7
37.5°	4584.5	3961.6	3925.7	4223.4	4756.5	5508.6	6270.1	6062.2
40°	4848.9	4344.9	4327.8	4621.3	5029.4	5720.8	6681.7	6515.7
42.5°	5133.8	4752.2	4737.7	5078.2	5368.3	5933.8	7034.2	6905.0
45°	5423.9	5245.9	5249.3	5565.9	5725.1	6134.9	7311.4	7216.4
47.5°	5766.1	5785.8	5908.2	6071.6	6072.4	6359.1	7557.0	7506.5
50°	6200.8	6437.8	6663.7	6689.4	6423.3	6655.1	7857.3	7838.5
52.5°	6692.8	7189.9	7452.6	7371.3	6765.5	7022.2	8301.4	8300.5
55°	7277.2	7976.2	8223.5	8084.9	7175.4	7500.5	8881.5	8843.8
57.5°	7883.0	8732.6	8932.0	8751.4	7687.9	8057.5	9463.3	9264.0
60°	8537.5	9383.7	9586.5	9315.3	8262.9	8612.8	9848.4	9382.0
62.5°	8966.2	9764.5	9910.0	9649.9	8778.0	9178.4	9972.4	9240.9
65°	8988.4	9511.2	9549.7	9457.3	8997.0	9669.5	9792.7	8822.5
67.5°	8377.5	8408.3	8458.8	8558.1	8529.0	9450.5	9099.7	7845.3
70°	7071.0	6660.3	6826.3	6922.1	7137.7	8405.8	7818.8	6380.5
72.5°	5406.8	4807.0	4995.2	4962.7	5411.0	6894.7	5981.7	4914.8
75°	3891.4	3277.9	3292.5	3294.2	3888.0	5503.4	4078.8	3490.1
77.5°	2644.8	2319.6	2367.5	2337.6	2602.0	4311.5	2936.5	2515.6
80°	1808.8	1800.3	1810.5	1740.4	1735.2	2786.8	2174.2	2006.5
82.5°	1341.6	1239.8	1225.3	1150.8	1329.7	2130.5	1650.5	1441.7
85°	1058.4	686.2	596.4	719.6	1151.7	1960.3	1006.2	739.3
87.5°	448.4	269.5	163.4	323.4	640.0	1436.6	278.9	143.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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