

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: P196719

Luminaire Tested: **NAV-AF-03-D-UNV-SLR-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196719
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-SLR-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 3000K, 1050mA 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: 15473.3 lumens
Efficiency: N/A
Efficacy: 93.2 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

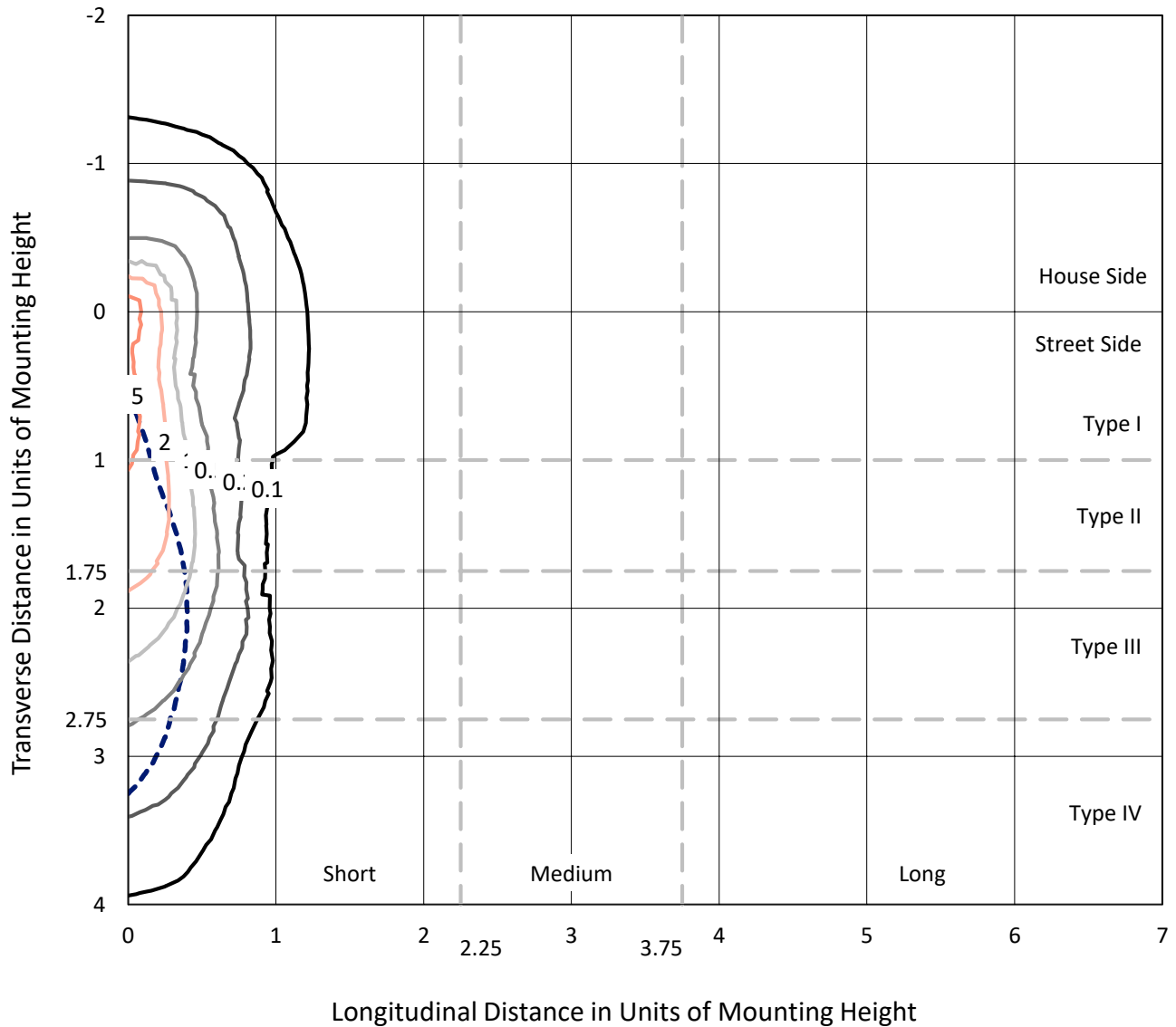
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196719
 CATALOG NUMBER: NAV-AF-03-D-UNV-SLR-7030

Iso-Footcandle Lines of Horizontal Illumination

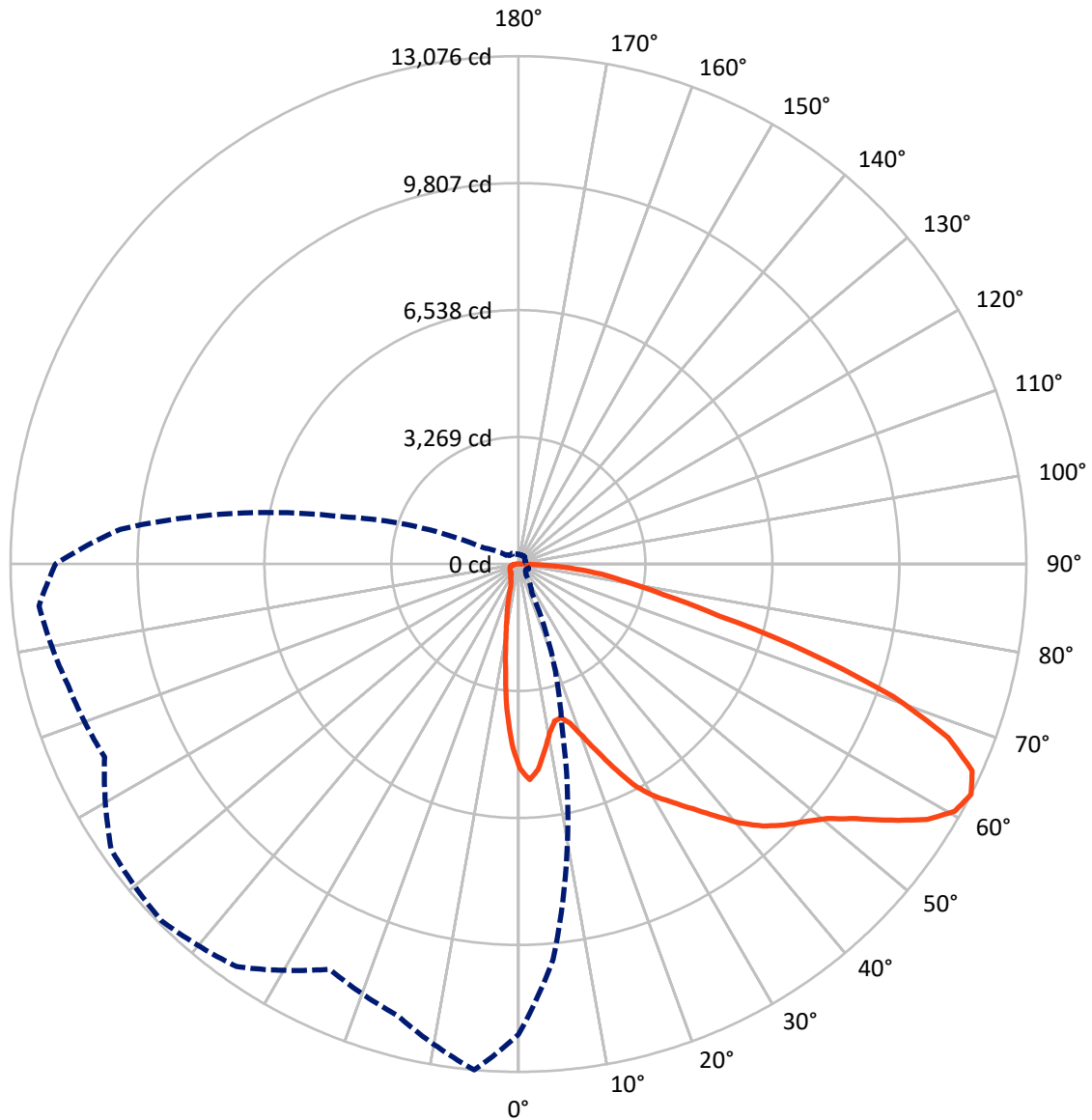
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.4 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196719
CATALOG NUMBER: NAV-AF-03-D-UNV-SLR-7030

Luminous Intensity Polar Plot



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

REPORT NUMBER: P196719

CATALOG NUMBER: NAV-AF-03-D-UNV-SLR-7030

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2741.1	0.0	2741.1
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	12732.2	0.0	12732.2
	% Fixture	82.3	0.0	82.3
Total	Lumens	15473.3	0.0	15473.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	383.6	2.5
10°-20°	700.7	4.5
20°-30°	1007.8	6.5
30°-40°	1543.5	10.0
40°-50°	2256.7	14.6
50°-60°	3283.5	21.2
60°-70°	3804.4	24.6
70°-80°	1983.2	12.8
80°-90°	509.8	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°	15473.3	100.0
0°-180°	15473.3	100.0



REPORT NUMBER: P196719

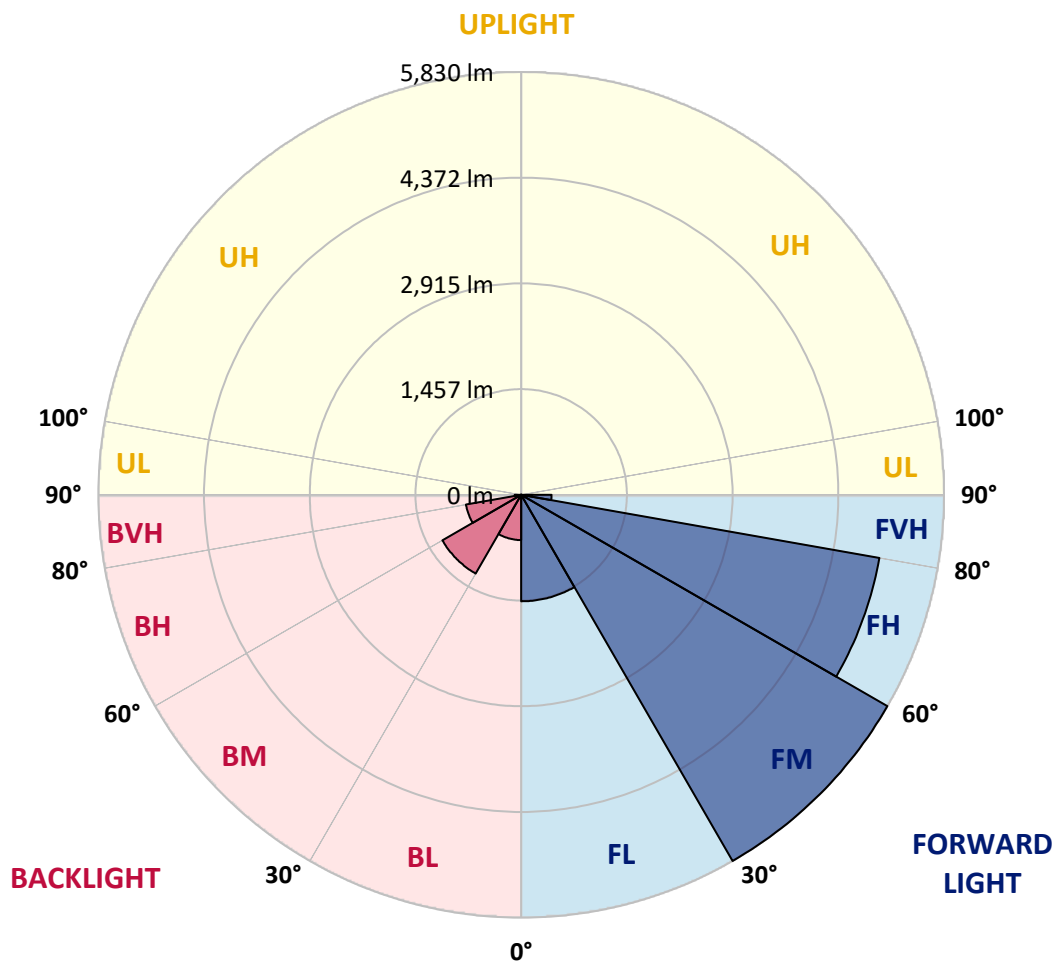
CATALOG NUMBER: NAV-AF-03-D-UNV-SLR-7030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1468.5	9.5			
FM (30°-60°)	5829.6	37.7			
FH (60°-80°)	5014.7	32.4			G3/7500
FVH (80°-90°)	419.4	2.7			G3/500
BL (0°-30°)	623.6	4.0	B2/1000		
BM (30°-60°)	1254.2	8.1	B2/2500		
BH (60°-80°)	772.9	5.0	B2/1000		G2/1000
BVH (80°-90°)	90.4	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: P196719

CATALOG NUMBER: NAV-AF-03-D-UNV-SLR-7030

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1
2.5°	5445.7	5369.4	5193.3	5038.4	4845.4	4700.8	4524.7	4431.4	4363.0	4317.1	4280.0
5°	5086.7	4902.7	4566.2	4271.1	3952.5	3722.5	3453.2	3306.1	3215.4	3166.0	3143.5
7.5°	4553.8	4310.3	3875.0	3479.1	3080.7	2793.5	2589.3	2371.7	2256.1	2181.0	2156.2
10°	4088.2	3813.3	3293.8	2848.5	2541.1	2336.9	2161.9	1962.2	1814.1	1685.1	1636.8
12.5°	3817.8	3498.1	2905.8	2502.9	2245.0	2026.1	1841.0	1625.7	1469.6	1335.0	1283.5
15°	3760.6	3403.9	2743.1	2283.1	1966.6	1703.1	1480.9	1246.4	1093.8	982.8	946.8
17.5°	3933.4	3493.6	2674.5	2082.3	1700.8	1378.9	1105.0	853.8	727.0	666.4	651.8
20°	4289.0	3691.0	2642.1	1901.6	1442.8	1061.4	764.0	580.0	517.3	499.2	498.1
22.5°	4756.8	4011.9	2678.0	1753.5	1200.4	783.1	559.9	476.8	451.0	440.9	440.9
25°	5285.2	4446.1	2773.3	1640.2	987.2	609.2	482.4	437.6	416.3	406.1	407.2
27.5°	5931.4	4974.5	2903.4	1535.8	834.7	534.1	451.0	412.9	391.5	381.5	382.5
30°	6418.3	5428.9	3015.7	1440.5	756.2	503.6	434.2	398.2	374.8	360.1	359.0
32.5°	6873.8	5829.4	3106.6	1372.1	711.3	449.9	392.7	365.7	345.6	328.8	325.4
35°	7377.6	6206.4	3149.2	1369.8	682.1	406.1	359.0	326.4	306.3	287.3	283.8
37.5°	7948.6	6667.4	3185.0	1383.3	666.4	378.0	343.3	311.9	295.1	276.0	271.5
40°	8543.2	7118.5	3213.1	1394.4	664.2	359.0	330.9	302.8	286.0	265.9	261.3
42.5°	9053.7	7517.8	3251.2	1390.0	648.5	355.6	323.1	295.1	279.3	259.2	253.6
45°	9462.1	7835.3	3310.7	1388.9	624.9	363.5	320.9	292.9	273.7	252.4	247.9
47.5°	9842.4	8193.3	3436.3	1384.5	599.1	361.2	333.2	290.5	271.5	250.2	246.8
50°	10277.7	8674.5	3650.7	1350.8	563.2	345.6	355.6	288.3	265.9	246.8	243.4
52.5°	10883.6	9379.1	3968.2	1290.2	513.8	328.8	359.0	287.3	256.9	240.1	235.6
55°	11595.9	10134.2	4310.3	1202.7	448.7	299.6	341.1	282.8	247.9	230.0	223.2
57.5°	12146.8	10691.7	4549.3	1077.0	384.8	282.8	304.1	272.6	236.8	218.7	213.2
60°	12301.6	10716.3	4591.9	926.7	352.3	271.5	261.3	297.3	227.7	208.6	203.1
62.5°	12116.6	10226.1	4313.7	821.2	341.1	260.2	237.8	283.8	218.7	199.7	194.1
65°	11567.9	9398.2	3691.0	805.6	352.3	250.2	225.5	226.6	209.8	190.7	185.0
67.5°	10286.6	8179.7	2907.9	815.6	365.7	240.1	216.6	206.4	199.7	182.9	176.1
70°	8366.0	6585.5	2290.9	833.5	378.0	226.6	205.3	193.0	187.4	169.4	166.1
72.5°	6444.2	5270.6	1807.3	821.2	390.4	213.2	189.6	179.5	172.7	155.9	152.5
75°	4576.3	4188.0	1328.4	704.5	358.0	194.1	171.6	162.7	157.2	139.1	138.0
77.5°	3298.4	3136.9	924.5	529.6	282.8	170.6	151.5	143.5	140.3	120.0	120.0
80°	2630.9	2387.5	553.1	345.6	206.4	141.4	126.7	123.5	120.0	99.9	100.9
82.5°	1890.4	1656.0	353.4	215.3	151.5	107.7	98.8	97.6	92.0	74.1	74.1
85°	969.3	845.8	226.6	144.8	106.5	69.6	65.1	62.9	59.4	46.0	46.0
87.5°	188.5	259.2	125.6	70.7	51.6	24.7	24.7	21.3	24.7	16.8	17.9
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: P196719

CATALOG NUMBER: NAV-AF-03-D-UNV-SLR-7030

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1
2.5°	4350.7	4328.3	4312.6	4304.7	4418.0	4465.1	4519.0	4596.4	4649.1	4626.7	4698.4
5°	3249.1	3264.6	3300.6	3356.7	3514.9	3590.0	3638.4	3702.2	3748.2	3702.2	3778.5
7.5°	2221.3	2245.0	2321.2	2436.8	2627.4	2711.6	2728.4	2729.7	2719.5	2644.3	2695.9
10°	1635.7	1588.6	1605.4	1688.5	1858.9	1934.1	1942.0	1921.8	1918.5	1888.1	1946.5
12.5°	1267.7	1202.7	1164.4	1178.1	1305.8	1367.6	1377.6	1388.9	1434.9	1449.6	1521.3
15°	945.7	912.1	884.0	871.7	955.9	1004.1	1009.7	1036.7	1084.8	1098.4	1160.0
17.5°	665.3	674.2	688.9	694.5	755.0	786.4	777.5	777.5	785.3	782.0	816.7
20°	508.2	526.2	554.2	581.1	636.1	654.0	631.6	603.5	585.6	576.7	584.5
22.5°	448.7	461.1	479.1	513.8	559.9	568.8	539.6	517.3	500.4	491.3	492.5
25°	416.3	428.6	443.1	471.2	510.5	514.9	488.1	473.4	460.0	451.0	448.7
27.5°	388.2	396.1	405.1	423.0	463.4	465.6	447.6	438.6	429.7	423.0	420.7
30°	362.4	365.7	369.1	387.1	417.4	420.7	411.7	407.2	403.9	399.4	399.4
32.5°	328.8	333.2	338.8	354.5	383.7	388.2	382.5	379.2	373.5	371.4	367.9
35°	288.3	299.6	311.9	330.9	362.4	364.6	358.0	347.8	334.4	330.9	328.8
37.5°	271.5	273.7	289.4	311.9	344.3	346.7	337.7	320.9	310.8	311.9	314.1
40°	260.2	263.7	272.6	295.1	327.6	330.9	323.1	310.8	300.7	301.8	305.2
42.5°	251.3	255.7	261.3	276.0	308.5	315.2	313.0	301.8	291.7	293.9	298.4
45°	246.8	250.2	250.2	260.2	291.7	301.8	302.8	293.9	286.0	288.3	293.9
47.5°	244.5	244.5	241.3	249.1	280.5	290.5	292.9	288.3	283.8	286.0	291.7
50°	241.3	236.8	233.4	240.1	271.5	280.5	282.8	279.3	281.6	286.0	289.4
52.5°	231.1	226.6	226.6	231.1	262.6	271.5	272.6	270.4	274.9	280.5	286.0
55°	218.7	218.7	219.9	224.4	258.1	264.7	263.7	261.3	265.9	272.6	278.3
57.5°	207.6	206.4	212.1	217.7	252.4	256.9	254.7	254.7	258.1	263.7	269.3
60°	200.8	195.2	199.7	208.6	246.8	251.3	247.9	246.8	252.4	256.9	261.3
62.5°	194.1	188.5	191.9	200.8	239.0	242.3	240.1	240.1	245.8	249.1	253.6
65°	184.0	181.7	184.0	193.0	232.2	233.4	233.4	234.5	239.0	241.3	245.8
67.5°	175.1	175.1	176.1	185.0	226.6	224.4	224.4	230.0	231.1	233.4	237.8
70°	163.8	166.1	166.1	177.2	222.2	214.2	215.3	219.9	222.2	224.4	225.5
72.5°	151.5	152.5	154.8	169.4	215.3	204.2	205.3	208.6	209.8	213.2	214.2
75°	138.0	139.1	142.5	161.6	210.9	194.1	191.9	194.1	196.3	198.6	197.4
77.5°	122.3	124.5	128.0	157.2	196.3	191.9	175.1	177.2	179.5	179.5	178.4
80°	103.2	106.5	112.2	150.3	166.1	185.0	155.9	157.2	158.2	158.2	155.9
82.5°	77.5	84.1	92.0	124.5	130.1	158.2	134.6	136.9	133.6	131.2	130.1
85°	50.5	56.0	67.3	86.5	95.4	124.5	111.1	112.2	105.4	104.4	104.4
87.5°	20.2	21.3	30.3	43.7	57.3	77.5	79.6	82.0	76.3	76.3	78.5
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: P196719

CATALOG NUMBER: NAV-AF-03-D-UNV-SLR-7030

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1
2.5°	4807.3	4919.5	5048.6	5179.8	5287.5	5426.6	5561.2	5704.9	5777.7	5820.3	5940.4
5°	3897.5	4051.2	4234.1	4439.3	4609.8	4901.6	5215.7	5565.7	5734.0	5900.0	6214.2
7.5°	2787.9	2938.2	3151.4	3417.3	3659.6	4044.4	4458.5	4931.9	5165.2	5434.4	5949.3
10°	2069.9	2229.2	2422.2	2647.7	2886.6	3287.2	3751.6	4283.4	4540.3	4844.3	5429.9
12.5°	1678.3	1864.6	2064.2	2266.2	2471.6	2740.8	3227.7	3818.9	4094.9	4401.2	4987.9
15°	1309.3	1509.0	1724.3	1944.3	2148.5	2449.0	2946.0	3645.0	3960.3	4256.5	4736.6
17.5°	926.7	1115.2	1357.5	1624.4	1920.7	2276.3	2885.5	3721.4	4103.9	4413.5	4735.6
20°	631.6	761.7	1004.1	1320.5	1686.2	2137.2	2907.9	3989.5	4467.4	4807.3	4929.6
22.5°	504.9	566.5	730.4	1052.3	1484.3	2036.3	2999.9	4357.5	4989.1	5403.1	5283.0
25°	458.9	493.7	578.8	831.4	1304.8	1969.0	3179.5	4843.3	5573.6	5993.2	5708.2
27.5°	430.8	461.1	516.0	683.2	1150.0	1925.1	3407.2	5415.4	6232.1	6576.6	6151.4
30°	412.9	443.1	493.7	613.7	1033.3	1860.1	3606.8	5938.2	6758.3	6981.5	6390.3
32.5°	378.0	401.6	443.1	549.7	945.7	1783.7	3779.8	6406.0	7255.3	7329.3	6677.5
35°	342.2	366.9	408.4	498.1	894.2	1724.3	3870.5	6821.2	7747.8	7677.1	6962.4
37.5°	328.8	348.9	387.1	461.1	866.1	1685.1	3905.4	7229.4	8276.3	8061.9	7161.1
40°	319.7	337.7	371.4	436.4	858.2	1648.0	3897.5	7617.7	8789.0	8460.3	7317.0
42.5°	313.0	328.8	360.1	419.5	836.9	1613.3	3871.7	7953.1	9199.5	8803.6	7466.2
45°	307.3	324.3	355.6	428.6	797.7	1575.2	3856.0	8259.4	9514.9	9093.0	7665.9
47.5°	305.2	324.3	356.7	426.3	755.0	1532.5	3912.0	8599.4	9789.6	9336.4	7931.7
50°	301.8	323.1	381.5	406.1	696.7	1479.8	4101.7	9004.4	10078.0	9610.1	8276.3
52.5°	296.2	322.0	407.2	390.4	621.5	1406.8	4409.0	9576.5	10576.1	10143.1	8785.5
55°	289.4	324.3	389.3	365.7	541.9	1312.6	4716.5	10360.7	11383.8	11002.4	9517.0
57.5°	281.6	320.9	367.9	343.3	475.8	1193.6	4949.8	11003.6	12050.3	11888.7	10415.6
60°	276.0	328.8	330.9	329.9	433.1	1080.3	4972.3	10962.1	12242.2	12464.3	11295.2
62.5°	269.3	335.4	301.8	319.7	411.7	974.9	4695.1	10283.3	11917.9	12390.2	12012.2
65°	260.2	292.9	286.0	310.8	411.7	918.9	4050.0	9153.5	11021.5	11690.2	12401.5
67.5°	251.3	265.9	274.9	298.4	420.7	866.1	3254.7	7721.0	9607.9	10560.5	11963.9
70°	239.0	251.3	262.6	287.3	416.3	829.1	2561.2	6188.3	7907.1	8997.6	10753.4
72.5°	227.7	236.8	247.9	270.4	416.3	812.3	2057.6	4854.5	6036.9	6955.8	8907.9
75°	210.9	218.7	228.9	253.6	408.4	742.8	1544.8	3889.6	4417.0	4992.4	7028.6
77.5°	194.1	199.7	207.6	232.2	367.9	620.4	1092.7	3012.3	3272.6	3591.3	5479.4
80°	172.7	177.2	182.9	207.6	305.2	481.3	711.3	2355.9	2446.9	2600.6	3604.7
82.5°	148.0	154.8	155.9	178.4	245.8	348.9	423.0	1614.5	1613.3	1838.9	2543.3
85°	121.2	124.5	126.7	140.3	181.7	232.2	278.3	881.8	786.4	1101.7	2209.0
87.5°	90.9	87.5	90.9	94.3	120.0	136.9	149.2	162.7	97.6	199.7	1284.6
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: P196719
 CATALOG NUMBER: NAV-AF-03-D-UNV-SLR-7030

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1
2.5°	6004.4	6070.6	6031.3	5984.2	5866.3	5693.6	5561.2	5445.7
5°	6431.9	6554.1	6500.3	6325.2	6020.0	5673.4	5308.8	5086.7
7.5°	6378.0	6620.3	6599.0	6307.3	5869.7	5359.2	4846.6	4553.8
10°	5947.2	6287.1	6345.4	6047.1	5583.7	5012.6	4419.1	4088.2
12.5°	5478.3	5764.3	5883.2	5769.9	5333.5	4753.5	4148.8	3817.8
15°	5085.6	5230.2	5348.1	5421.0	5150.6	4661.4	4101.7	3760.6
17.5°	4795.0	4767.0	4865.7	5040.6	5051.9	4783.8	4314.7	3933.4
20°	4654.8	4434.9	4492.0	4737.8	5025.0	5094.5	4740.0	4289.0
22.5°	4646.9	4303.6	4314.7	4579.6	5102.4	5518.5	5270.6	4756.8
25°	4768.1	4289.0	4299.2	4562.7	5239.2	5946.0	5884.3	5285.2
27.5°	4974.5	4351.8	4345.1	4636.8	5422.1	6302.8	6503.6	5931.4
30°	5197.8	4442.7	4425.9	4755.7	5601.6	6522.7	6943.4	6418.3
32.5°	5476.0	4604.3	4545.9	4929.6	5778.9	6733.6	7319.3	6873.8
35°	5740.7	4840.9	4756.8	5178.7	5968.5	6968.1	7739.9	7377.6
37.5°	6011.1	5194.4	5147.3	5537.7	6236.6	7222.8	8221.2	7948.6
40°	6357.8	5697.0	5674.6	6059.4	6594.5	7500.9	8760.9	8543.2
42.5°	6731.4	6231.0	6211.9	6658.5	7038.8	7780.4	9223.1	9053.7
45°	7111.6	6878.3	6882.8	7298.0	7506.6	8044.0	9586.6	9462.1
47.5°	7560.4	7586.3	7746.7	7960.9	7962.0	8337.9	9908.6	9842.4
50°	8130.4	8441.2	8737.4	8771.0	8422.0	8726.1	10302.4	10277.7
52.5°	8775.4	9427.3	9771.7	9665.2	8870.9	9207.4	10884.6	10883.6
55°	9541.7	10458.3	10782.6	10600.8	9408.2	9834.5	11645.3	11595.9
57.5°	10336.0	11450.1	11711.5	11474.7	10080.3	10565.0	12408.1	12146.8
60°	11194.2	12303.8	12569.7	12214.1	10834.1	11293.0	12913.1	12301.6
62.5°	11756.3	12803.1	12993.7	12652.8	11509.5	12034.6	13075.7	12116.6
65°	11785.5	12471.0	12521.4	12400.3	11796.7	12678.6	12840.1	11567.9
67.5°	10984.5	11025.0	11091.0	11221.3	11183.0	12391.3	11931.3	10286.6
70°	9271.3	8732.9	8950.5	9076.1	9358.8	11021.5	10251.9	8366.0
72.5°	7089.3	6302.8	6549.6	6507.1	7094.9	9040.2	7843.1	6444.2
75°	5102.4	4297.9	4317.1	4319.3	5097.9	7216.0	5348.1	4576.3
77.5°	3467.8	3041.4	3104.3	3065.0	3411.7	5653.2	3850.3	3298.4
80°	2371.7	2360.4	2373.9	2282.0	2275.3	3654.0	2850.7	2630.9
82.5°	1759.2	1625.7	1606.5	1509.0	1743.4	2793.5	2164.1	1890.4
85°	1387.8	899.7	782.0	943.6	1510.1	2570.3	1319.3	969.3
87.5°	588.0	353.4	214.2	424.0	839.2	1883.6	365.7	188.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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