

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: P196162

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196162
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24285)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-SL4-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16426.5 lumens
Efficiency: N/A
Efficacy: 96.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

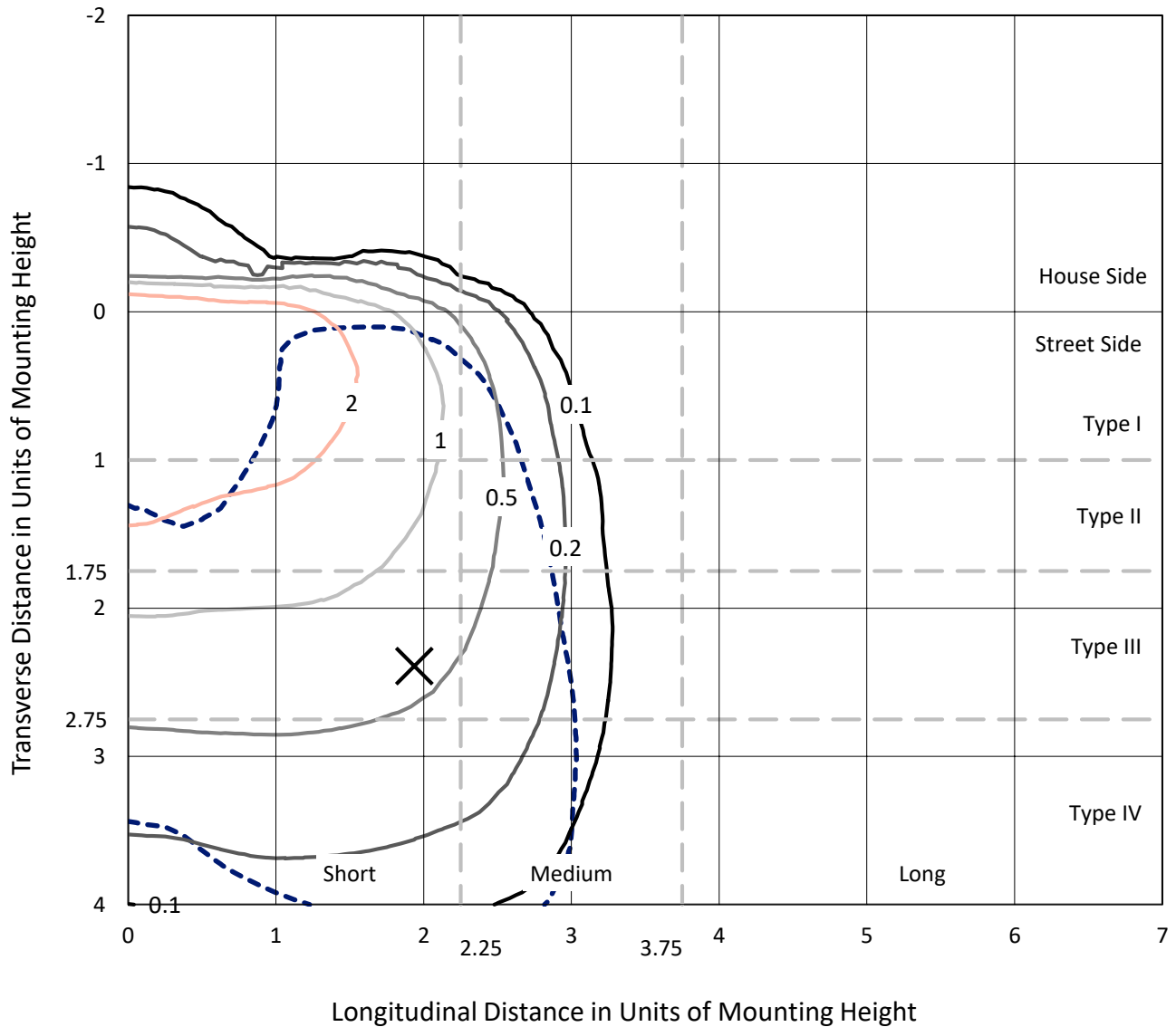
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196162
 CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-800-HSS

Iso-Footcandle Lines of Horizontal Illumination

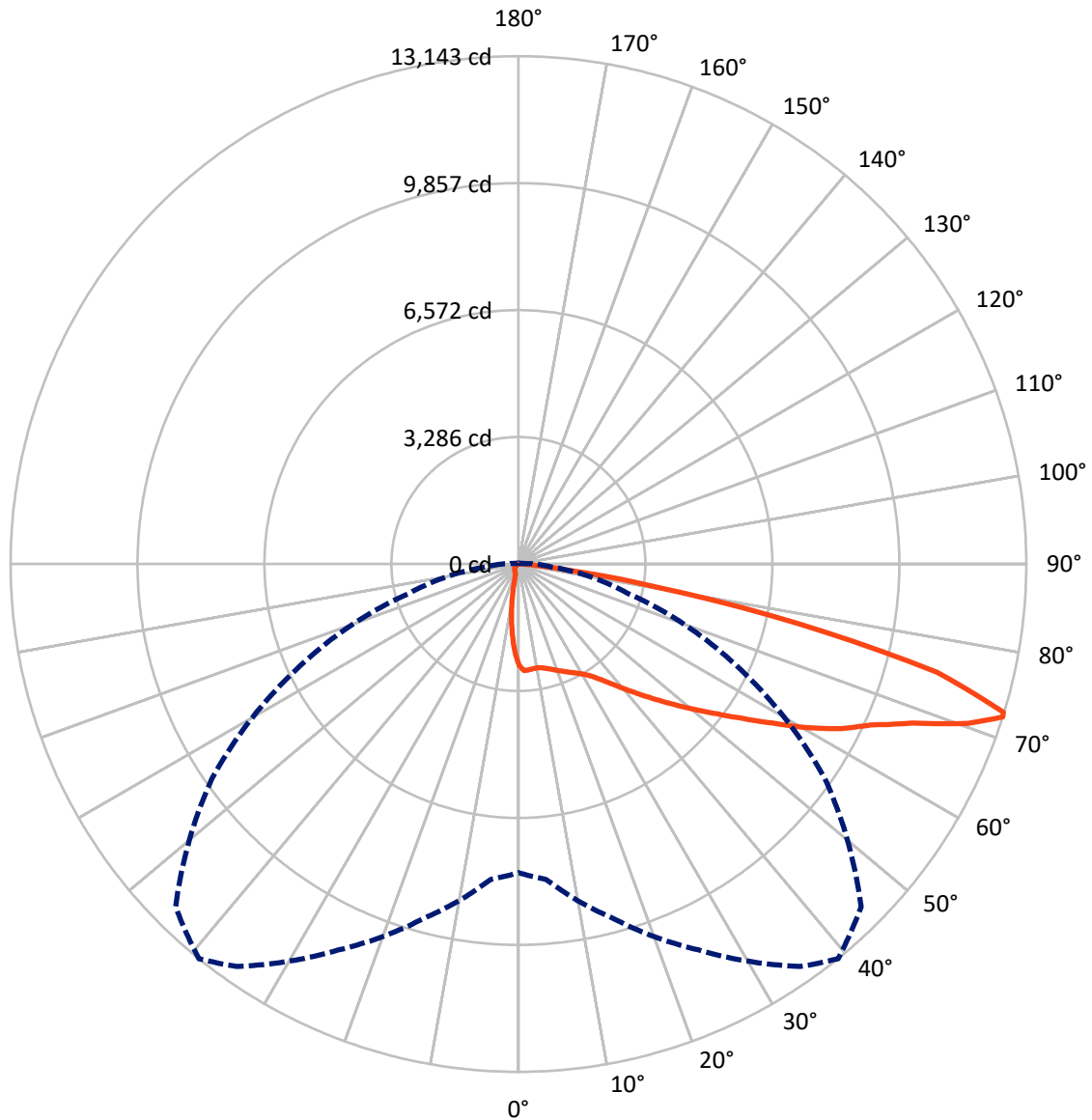
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.4 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196162
CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-800-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

REPORT NUMBER: P196162

CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-800-HSS

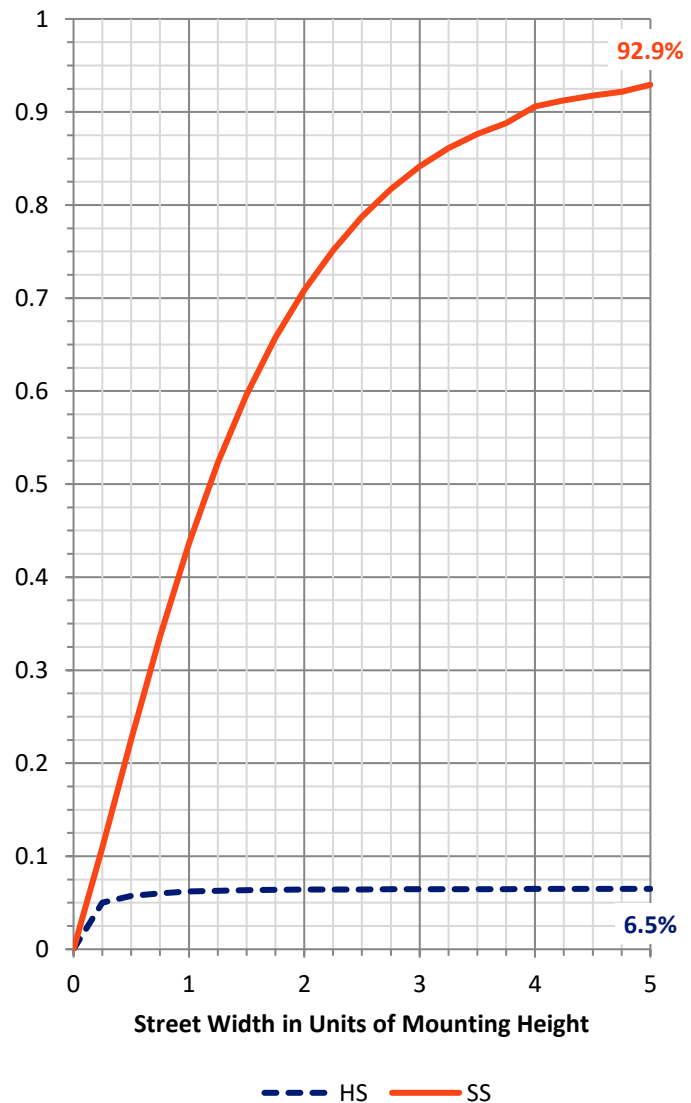
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1076.6	0.0	1076.6
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	15350.0	0.0	15350.0
	% Fixture	93.4	0.0	93.4
Total	Lumens	16426.5	0.0	16426.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	213.8	1.3
10°-20°	517.7	3.2
20°-30°	859.9	5.2
30°-40°	1370.4	8.3
40°-50°	2262.1	13.8
50°-60°	3416.2	20.8
60°-70°	4450.1	27.1
70°-80°	3007.0	18.3
80°-90°	329.3	2.0
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°	16426.5	100.0
0°-180°	16426.5	100.0

Coefficient of Utilization



REPORT NUMBER: P196162

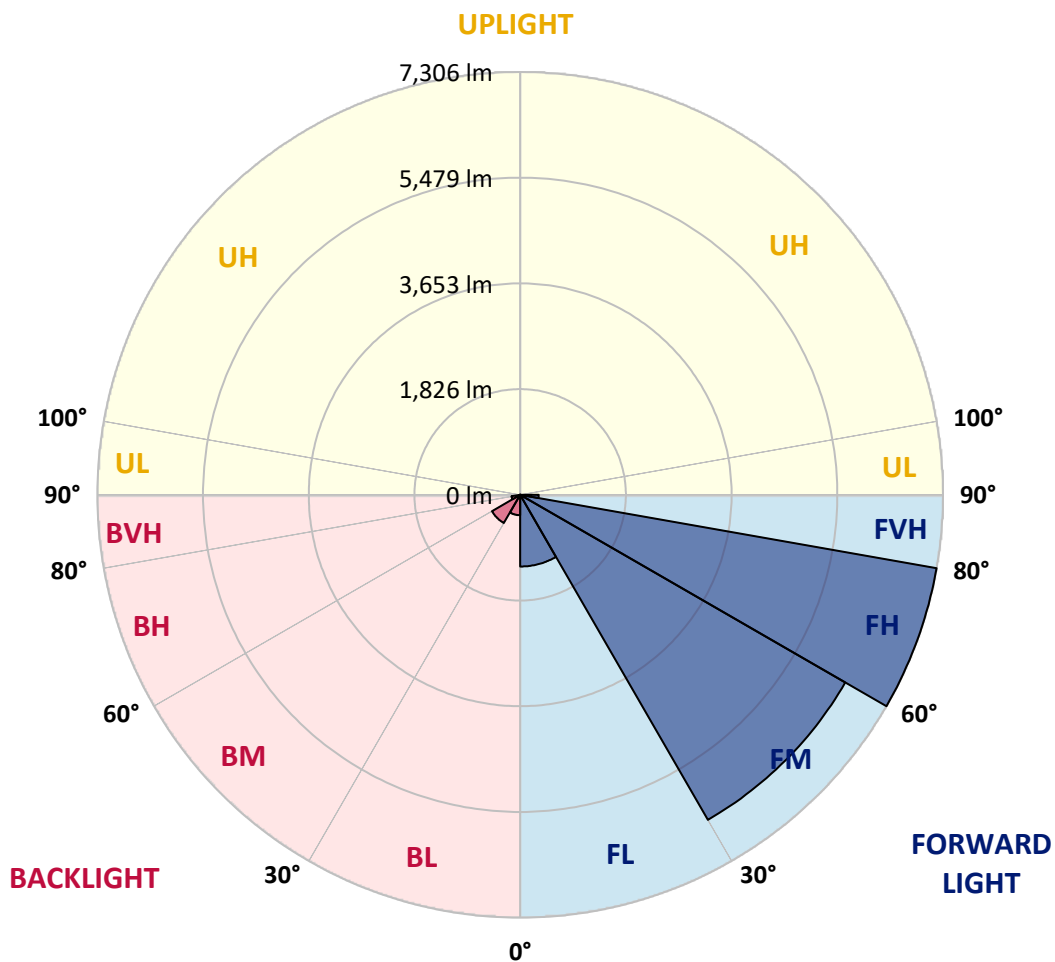
CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-800-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1238.9	7.5			
FM	(30°-60°)	6485.4	39.5			
FH	(60°-80°)	7305.8	44.5			G3/7500
FVH	(80°-90°)	319.9	1.9			G3/500
BL	(0°-30°)	352.5	2.1	B1/500		
BM	(30°-60°)	563.3	3.4	B1/1000		
BH	(60°-80°)	151.3	0.9	B1/500		G1/500
BVH	(80°-90°)	9.5	0.1			G0/10
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: P196162
 CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-800-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2629.2	2629.2	2629.2	2629.2	2629.2	2629.2	2629.2	2629.2	2629.2	2629.2	2629.2
2.5°	2799.6	2804.8	2798.4	2786.7	2769.9	2759.6	2745.4	2714.4	2675.6	2642.1	2603.3
5°	2821.6	2824.2	2816.4	2794.5	2768.6	2754.4	2736.4	2702.7	2662.7	2616.3	2546.5
7.5°	2828.0	2826.7	2817.7	2790.6	2750.5	2732.5	2701.5	2660.2	2618.9	2576.2	2497.4
10°	2825.5	2825.5	2819.0	2793.2	2748.0	2731.2	2696.3	2652.4	2600.8	2558.2	2474.2
12.5°	2816.4	2821.6	2817.7	2803.5	2769.9	2757.1	2726.1	2682.1	2633.1	2589.2	2500.0
15°	2828.0	2835.8	2843.5	2838.4	2819.0	2807.4	2778.9	2733.7	2693.7	2647.3	2551.6
17.5°	2874.5	2891.3	2909.4	2910.7	2890.0	2869.4	2837.1	2790.6	2751.8	2709.3	2606.0
20°	2962.4	2975.3	3008.8	3015.2	2973.9	2944.3	2899.0	2844.8	2806.1	2769.9	2656.3
22.5°	3092.8	3107.0	3134.1	3125.0	3055.3	3020.5	2963.6	2901.6	2861.6	2840.9	2714.4
25°	3290.3	3294.2	3300.7	3260.7	3145.7	3107.0	3037.2	2967.5	2935.3	2932.6	2797.1
27.5°	3522.7	3528.0	3499.5	3410.4	3246.4	3196.1	3117.3	3054.0	3038.6	3057.9	2901.6
30°	3788.8	3790.1	3711.4	3566.7	3362.6	3307.1	3225.8	3156.0	3170.2	3218.0	3035.9
32.5°	4061.3	4048.3	3939.9	3751.4	3521.5	3454.3	3384.6	3314.9	3356.2	3453.1	3232.2
35°	4310.5	4305.3	4177.5	3958.0	3728.1	3668.7	3618.4	3544.7	3611.9	3769.5	3499.5
37.5°	4559.7	4555.8	4409.9	4181.4	3982.6	3939.9	3902.5	3845.6	3955.3	4186.5	3857.2
40°	4834.8	4828.3	4648.8	4429.3	4278.2	4255.0	4233.1	4208.5	4395.7	4717.2	4302.7
42.5°	5174.4	5146.0	4902.0	4699.2	4603.7	4610.1	4611.4	4635.9	4929.1	5348.7	4828.3
45°	5564.4	5501.1	5156.3	4988.4	4961.3	5000.1	5038.9	5140.8	5550.2	6075.8	5409.5
47.5°	5942.7	5840.7	5449.5	5299.7	5355.2	5435.2	5528.2	5727.1	6247.5	6836.4	5936.3
50°	6268.1	6163.6	5740.0	5616.1	5793.0	5911.7	6077.0	6377.9	6983.6	7479.5	6268.1
52.5°	6523.9	6441.2	6047.4	5964.7	6278.5	6441.2	6700.7	7095.9	7678.4	7903.0	6500.6
55°	6712.4	6671.1	6341.8	6353.4	6818.3	7053.3	7376.2	7822.9	8264.6	8232.3	6675.0
57.5°	6925.5	6893.2	6650.4	6811.8	7467.8	7771.3	8144.5	8503.5	8690.8	8497.0	6845.4
60°	7143.7	7154.0	7024.9	7367.1	8271.1	8606.8	8932.2	9021.3	9056.2	8765.7	7024.9
62.5°	7309.0	7352.9	7364.5	7966.3	9095.0	9381.6	9522.3	9459.1	9451.3	9125.9	7010.7
65°	7498.8	7613.7	7804.9	8623.6	9844.0	10032.5	10133.1	10224.9	10031.2	9233.2	6321.1
67.5°	7826.8	8007.7	8437.6	9429.4	10709.1	10988.0	11273.4	11176.6	10117.7	8144.5	4815.4
70°	8268.5	8489.3	9248.6	10481.9	11882.9	12350.4	12589.4	11100.3	8590.0	5627.7	2540.1
72°	7989.6	8189.7	9499.1	11019.0	12714.6	13143.3	12545.4	9682.5	6226.9	2917.1	851.0
72.5°	7718.4	7925.0	9419.0	11012.6	12797.2	13125.2	12260.0	9123.3	5510.1	2270.1	586.3
75°	5355.2	5616.1	8074.8	9899.4	11556.3	11196.0	9380.4	5524.3	1996.4	389.9	193.7
77.5°	2768.6	2970.1	4898.1	6995.2	8054.1	7376.2	5543.8	2396.8	552.7	206.6	127.9
80°	1716.2	1815.6	2290.8	3446.6	4184.0	3659.7	2445.8	968.5	353.8	122.7	102.0
82.5°	888.4	964.6	1442.5	1390.8	1545.8	1284.9	902.7	811.0	218.2	76.2	104.6
85°	291.8	310.0	885.9	924.6	661.1	444.3	400.3	773.6	63.3	49.1	89.1
87.5°	38.8	45.2	311.2	529.5	325.4	201.4	240.2	272.5	22.0	27.1	24.6
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: P196162
 CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-800-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2629.2	2629.2	2629.2	2629.2	2629.2	2629.2	2629.2	2629.2	2629.2	2629.2	2629.2
2.5°	2577.5	2560.8	2507.8	2454.9	2394.1	2338.7	2294.7	2266.3	2279.2	2236.6	2243.0
5°	2503.9	2461.3	2345.1	2219.8	2084.3	1957.7	1857.0	1782.1	1767.9	1703.3	1705.9
7.5°	2432.9	2363.1	2174.6	1968.1	1743.3	1561.2	1395.9	1251.3	1199.6	1146.7	1115.7
10°	2394.1	2298.6	2031.3	1730.4	1414.0	1146.7	914.3	732.2	656.0	600.5	573.4
12.5°	2405.8	2279.2	1924.1	1514.8	1099.0	759.3	516.5	383.5	337.1	311.2	302.2
15°	2444.5	2283.1	1827.3	1304.3	799.3	459.7	303.5	259.5	255.6	254.4	253.1
17.5°	2480.7	2287.0	1725.2	1084.7	534.6	293.2	244.1	240.2	240.2	240.2	240.2
20°	2518.1	2288.2	1612.9	854.9	351.3	240.2	229.9	227.3	229.9	229.9	229.9
22.5°	2562.0	2297.3	1504.5	631.5	259.5	226.0	219.5	218.2	219.5	219.5	218.2
25°	2616.3	2316.7	1386.9	451.9	235.1	217.0	210.5	209.2	210.5	209.2	209.2
27.5°	2688.6	2342.5	1250.0	324.2	224.7	207.9	201.4	201.4	201.4	200.2	200.2
30°	2781.5	2373.5	1066.6	255.6	214.4	198.9	193.7	193.7	192.4	191.1	191.1
32.5°	2914.6	2423.9	866.5	231.2	202.7	187.2	182.1	183.4	182.1	180.8	179.5
35°	3103.1	2502.6	668.9	218.2	191.1	175.6	170.4	170.4	170.4	167.9	167.9
37.5°	3370.4	2622.7	501.0	205.3	179.5	164.0	157.5	157.5	156.2	153.6	155.0
40°	3701.0	2773.8	362.8	193.7	167.9	151.1	145.9	143.3	140.8	138.2	138.2
42.5°	4098.8	2921.0	272.5	182.1	156.2	140.8	134.3	131.8	126.5	124.0	122.7
45°	4544.3	3077.2	226.0	167.9	143.3	129.1	124.0	118.8	112.3	108.4	107.2
47.5°	4920.0	3172.8	201.4	153.6	130.4	117.5	112.3	104.6	96.9	94.3	94.3
50°	5146.0	3132.8	180.8	139.4	117.5	105.9	99.4	89.1	84.0	81.3	80.1
52.5°	5272.6	3014.0	164.0	127.9	105.9	93.0	84.0	74.9	72.3	69.8	69.8
55°	5359.0	2842.3	145.9	116.2	95.5	81.3	71.0	64.5	62.0	60.7	59.4
57.5°	5441.7	2633.1	129.1	105.9	85.2	72.3	60.7	58.1	53.0	51.7	51.7
60°	5466.2	2345.1	113.6	94.3	76.2	63.3	53.0	49.1	43.9	42.7	42.7
62.5°	5153.7	1866.0	100.8	80.1	67.1	54.2	46.4	41.3	36.1	36.1	36.1
65°	4306.6	1266.8	86.5	69.8	59.4	46.4	40.0	33.6	31.0	31.0	31.0
67.5°	2999.8	706.3	73.7	59.4	50.3	38.8	33.6	28.4	27.1	28.4	28.4
70°	1352.0	280.2	62.0	49.1	41.3	32.3	28.4	24.6	27.1	27.1	27.1
72°	405.5	149.8	51.7	40.0	33.6	28.4	24.6	23.2	25.8	27.1	27.1
72.5°	300.8	134.3	49.1	38.8	33.6	27.1	23.2	23.2	25.8	27.1	27.1
75°	155.0	91.7	37.4	28.4	24.6	22.0	19.3	22.0	25.8	25.8	25.8
77.5°	121.4	74.9	31.0	22.0	20.7	19.3	18.1	20.7	23.2	23.2	23.2
80°	113.6	49.1	24.6	20.7	18.1	16.8	16.8	18.1	20.7	22.0	22.0
82.5°	115.0	40.0	22.0	19.3	16.8	15.4	15.4	16.8	19.3	20.7	20.7
85°	73.7	27.1	19.3	16.8	15.4	14.2	14.2	15.4	18.1	19.3	19.3
87.5°	24.6	20.7	16.8	15.4	12.9	12.9	12.9	12.9	15.4	16.8	18.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)