

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: P196158

Luminaire Tested: **NAV-AF-06-D-UNV-SL4-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196158
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-06-D-UNV-SL4-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 615mA 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: 19777.7 lumens
Efficiency: N/A
Efficacy: 102.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G4

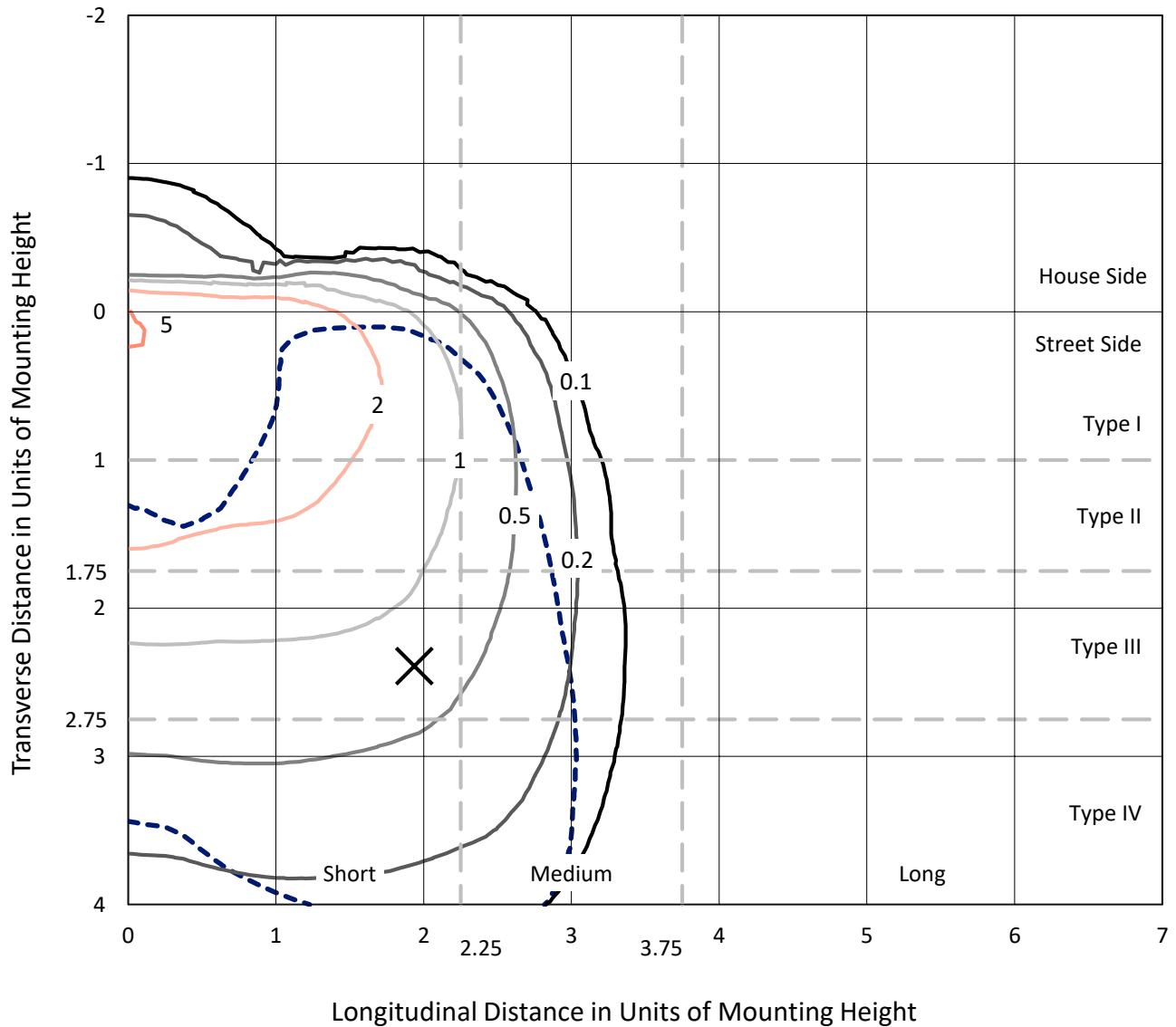
Input Watts (W): 193
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196158
 CATALOG NUMBER: NAV-AF-06-D-UNV-SL4-600-HSS

Iso-Footcandle Lines of Horizontal Illumination

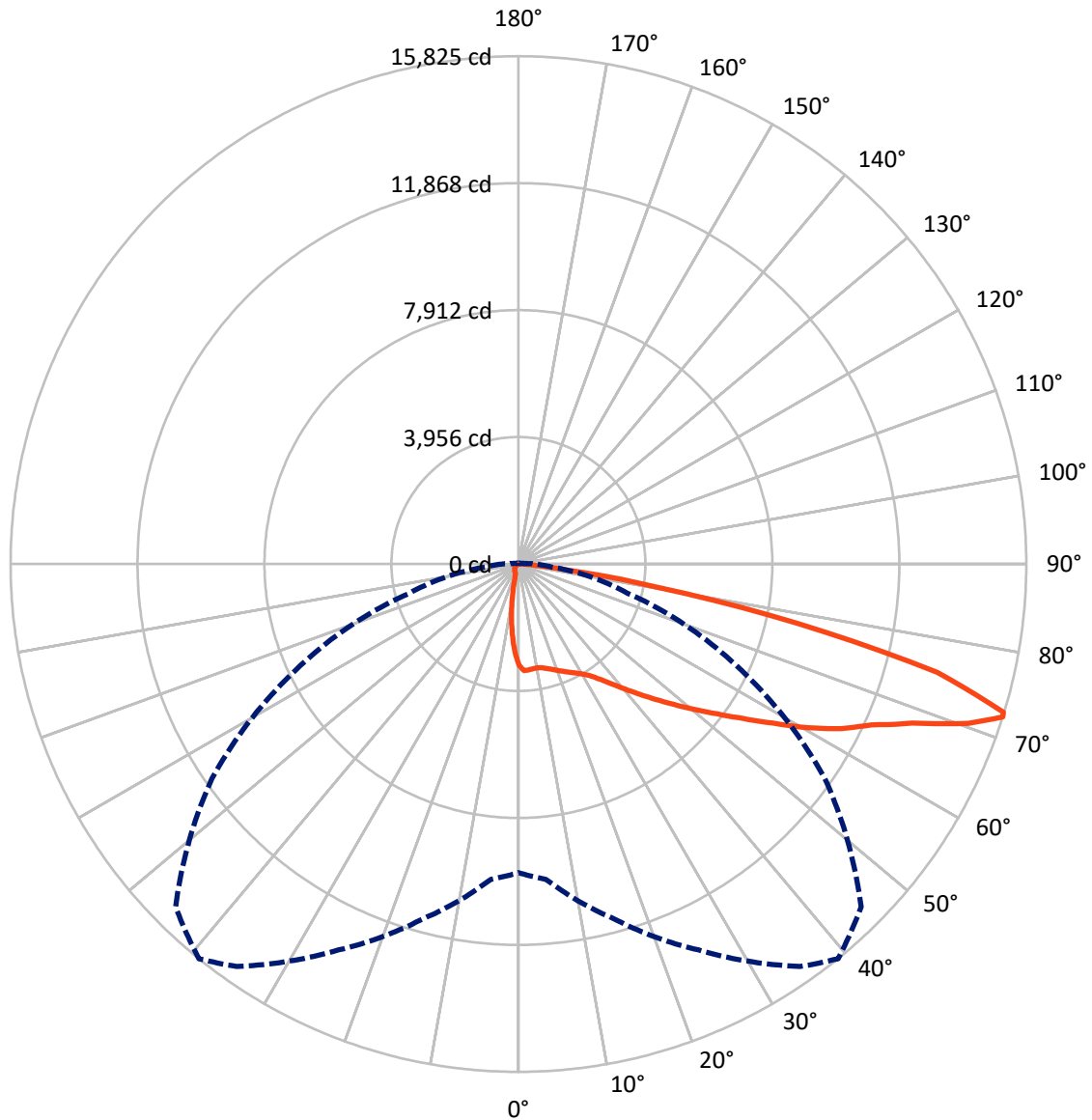
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.3 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196158
CATALOG NUMBER: NAV-AF-06-D-UNV-SL4-600-HSS

Luminous Intensity Polar Plot



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

REPORT NUMBER: P196158
 CATALOG NUMBER: NAV-AF-06-D-UNV-SL4-600-HSS

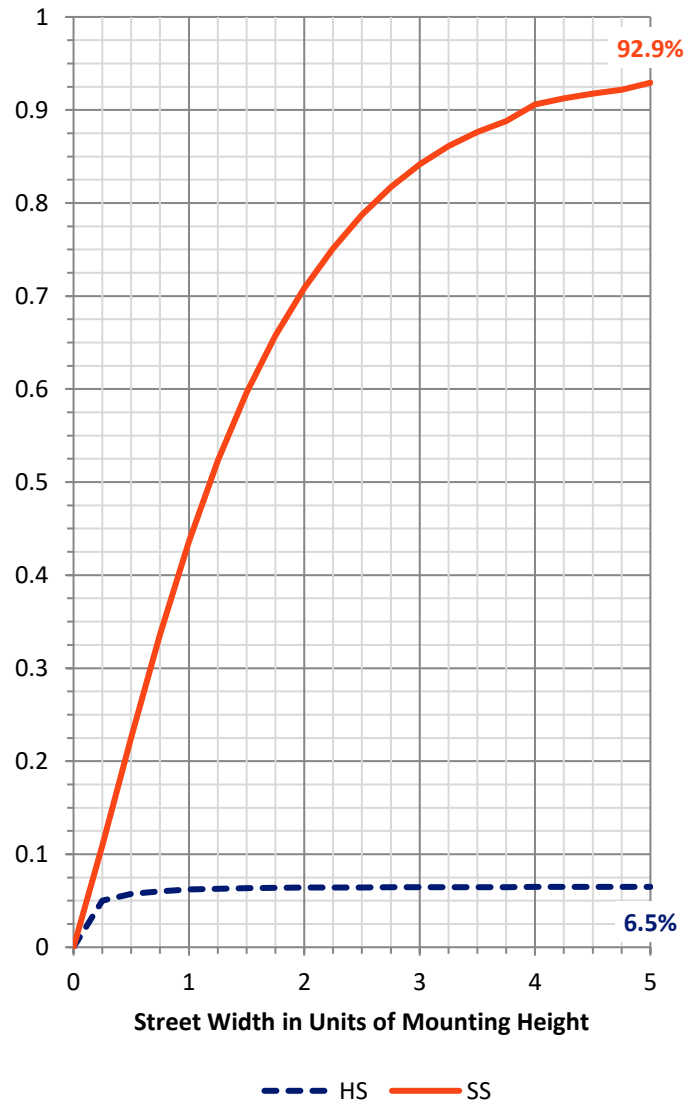
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1296.2	0.0	1296.2
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	18481.5	0.0	18481.5
	% Fixture	93.4	0.0	93.4
Total	Lumens	19777.7	0.0	19777.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	257.5	1.3
10°-20°	623.4	3.2
20°-30°	1035.3	5.2
30°-40°	1650.0	8.3
40°-50°	2723.6	13.8
50°-60°	4113.1	20.8
60°-70°	5358.0	27.1
70°-80°	3620.4	18.3
80°-90°	396.5	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°	19777.7	100.0
0°-180°	19777.7	100.0



REPORT NUMBER: P196158

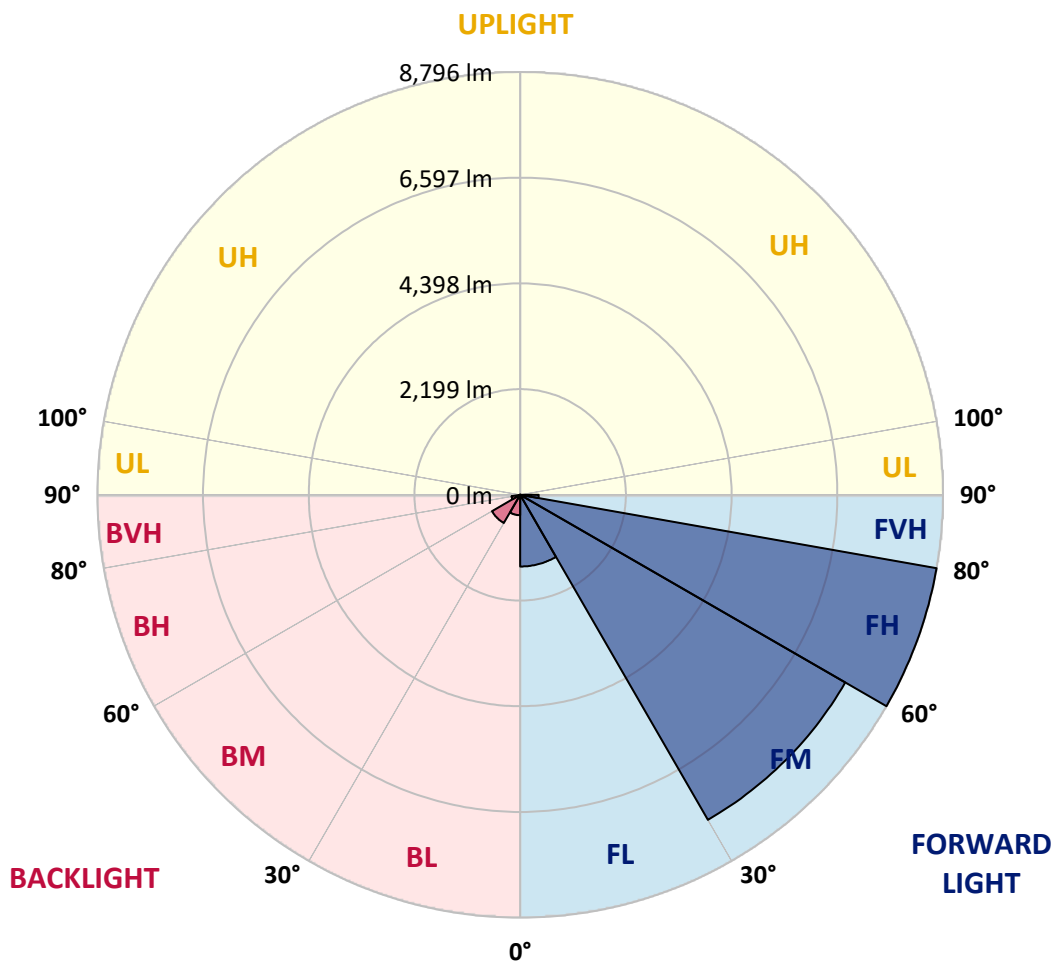
CATALOG NUMBER: NAV-AF-06-D-UNV-SL4-600-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1491.7	7.5			
FM	(30°-60°)	7808.5	39.5			
FH	(60°-80°)	8796.2	44.5			G4/12000
FVH	(80°-90°)	385.1	1.9			G3/500
BL	(0°-30°)	424.4	2.1	B1/500		
BM	(30°-60°)	678.2	3.4	B1/1000		
BH	(60°-80°)	182.2	0.9	B1/500		G1/500
BVH	(80°-90°)	11.4	0.1			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G4

Type IV Short





REPORT NUMBER: P196158
 CATALOG NUMBER: NAV-AF-06-D-UNV-SL4-600-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	3165.5	3165.5	3165.5	3165.5	3165.5	3165.5	3165.5	3165.5	3165.5	3165.5	3165.5
2.5°	3370.8	3377.0	3369.2	3355.3	3335.0	3322.5	3305.5	3268.1	3221.5	3181.1	3134.4
5°	3397.2	3400.3	3391.0	3364.6	3333.5	3316.4	3294.6	3254.2	3205.9	3150.0	3066.1
7.5°	3405.0	3403.5	3392.5	3359.9	3311.7	3289.9	3252.6	3202.9	3153.1	3101.8	3007.0
10°	3401.9	3401.9	3394.2	3363.1	3308.6	3288.4	3246.4	3193.6	3131.4	3080.0	2978.9
12.5°	3391.0	3397.2	3392.5	3375.4	3335.0	3319.5	3282.1	3229.3	3170.2	3117.3	3010.0
15°	3405.0	3414.3	3423.6	3417.5	3394.2	3380.1	3345.9	3291.4	3243.3	3187.3	3072.2
17.5°	3460.9	3481.2	3503.0	3504.5	3479.7	3454.7	3415.8	3359.9	3313.2	3262.0	3137.6
20°	3566.7	3582.3	3622.7	3630.5	3580.6	3544.9	3490.5	3425.2	3378.6	3335.0	3198.2
22.5°	3723.7	3740.8	3773.5	3762.6	3678.6	3636.7	3568.3	3493.6	3445.4	3420.5	3268.1
25°	3961.6	3966.3	3974.1	3925.9	3787.5	3740.8	3656.8	3572.9	3534.0	3530.9	3367.7
27.5°	4241.5	4247.7	4213.4	4106.2	3908.7	3848.1	3753.3	3677.1	3658.4	3681.7	3493.6
30°	4561.7	4563.3	4468.5	4294.3	4048.6	3981.8	3883.8	3800.0	3817.0	3874.5	3655.3
32.5°	4889.8	4874.3	4743.6	4516.6	4239.9	4159.1	4075.1	3991.1	4040.9	4157.5	3891.6
35°	5189.9	5183.7	5029.7	4765.4	4488.7	4417.2	4356.5	4267.9	4348.8	4538.4	4213.4
37.5°	5490.0	5485.3	5309.6	5034.5	4795.0	4743.6	4698.6	4630.2	4762.3	5040.6	4644.2
40°	5821.1	5813.3	5597.3	5332.9	5151.1	5123.0	5096.6	5067.1	5292.5	5679.6	5180.5
42.5°	6230.1	6195.8	5902.0	5657.8	5542.9	5550.6	5552.2	5581.7	5934.6	6440.0	5813.3
45°	6699.6	6623.4	6208.3	6006.2	5973.5	6020.2	6066.8	6189.7	6682.5	7315.3	6513.0
47.5°	7155.1	7032.3	6561.2	6380.9	6447.8	6544.1	6656.0	6895.5	7522.1	8231.1	7147.4
50°	7546.9	7421.0	6911.1	6761.8	6974.8	7117.8	7316.9	7679.1	8408.3	9005.3	7546.9
52.5°	7854.8	7755.3	7281.1	7181.6	7559.4	7755.3	8067.8	8543.6	9244.8	9515.3	7826.8
55°	8081.8	8032.0	7635.6	7649.5	8209.3	8492.2	8881.0	9418.9	9950.7	9911.8	8036.7
57.5°	8338.4	8299.5	8007.1	8201.5	8991.3	9356.7	9806.1	10238.3	10463.8	10230.5	8241.9
60°	8601.1	8613.6	8458.1	8870.1	9958.4	10362.7	10754.5	10861.8	10903.7	10553.9	8458.1
62.5°	8800.1	8853.0	8866.9	9591.5	10950.4	11295.5	11465.0	11388.8	11379.5	10987.7	8441.0
65°	9028.7	9167.1	9397.1	10382.8	11852.2	12079.2	12200.4	12310.8	12077.6	11116.7	7610.7
67.5°	9423.6	9641.2	10159.0	11353.1	12893.9	13229.7	13573.3	13456.7	12181.8	9806.1	5797.8
70°	9955.4	10221.2	11135.4	12620.2	14307.2	14870.0	15157.7	13365.0	10342.4	6775.8	3058.3
72°	9619.5	9860.5	11437.0	13267.1	15308.5	15824.6	15104.8	11657.9	7497.2	3512.3	1024.6
72.5°	9293.0	9541.8	11340.6	13259.3	15408.0	15802.9	14761.2	10984.5	6634.2	2733.3	705.8
75°	6447.8	6761.8	9722.1	11919.0	13913.9	13480.0	11294.0	6651.4	2403.7	469.5	233.2
77.5°	3333.5	3576.0	5897.3	8422.3	9697.3	8881.0	6674.8	2885.6	665.4	248.8	154.0
80°	2066.4	2186.0	2758.2	4149.7	5037.5	4406.3	2944.8	1166.1	426.1	147.7	122.9
82.5°	1069.7	1161.5	1736.7	1674.5	1861.1	1547.0	1086.8	976.4	262.8	91.8	125.9
85°	351.4	373.2	1066.6	1113.3	796.1	534.8	482.0	931.3	76.2	59.1	107.3
87.5°	46.6	54.4	374.7	637.5	391.8	242.5	289.2	328.1	26.4	32.6	29.6
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: P196158
 CATALOG NUMBER: NAV-AF-06-D-UNV-SL4-600-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3165.5	3165.5	3165.5	3165.5	3165.5	3165.5	3165.5	3165.5	3165.5	3165.5	3165.5
2.5°	3103.3	3083.2	3019.4	2955.6	2882.6	2815.8	2762.9	2728.6	2744.2	2692.9	2700.7
5°	3014.7	2963.4	2823.5	2672.7	2509.4	2357.1	2235.8	2145.6	2128.6	2050.8	2053.9
7.5°	2929.2	2845.2	2618.2	2369.5	2099.0	1879.8	1680.7	1506.6	1444.4	1380.7	1343.3
10°	2882.6	2767.5	2445.7	2083.4	1702.5	1380.7	1100.8	881.6	789.8	723.0	690.3
12.5°	2896.6	2744.2	2316.7	1823.8	1323.1	914.2	622.0	461.8	405.8	374.7	363.9
15°	2943.2	2748.9	2200.1	1570.3	962.4	553.5	365.4	312.5	307.8	306.3	304.7
17.5°	2986.7	2753.6	2077.2	1306.0	643.6	352.9	293.9	289.2	289.2	289.2	289.2
20°	3031.8	2755.1	1942.0	1029.3	422.9	289.2	276.7	273.6	276.7	276.7	276.7
22.5°	3084.7	2766.0	1811.3	760.3	312.5	272.1	264.3	262.8	264.3	264.3	262.8
25°	3150.0	2789.3	1669.9	544.2	282.9	261.2	253.4	251.9	253.4	251.9	251.9
27.5°	3237.0	2820.4	1505.1	390.3	270.6	250.3	242.5	242.5	242.5	241.0	241.0
30°	3349.0	2857.7	1284.2	307.8	258.1	239.5	233.2	233.2	231.7	230.1	230.1
32.5°	3509.1	2918.4	1043.3	278.3	244.1	225.5	219.2	220.8	219.2	217.7	216.1
35°	3736.1	3013.2	805.4	262.8	230.1	211.4	205.2	205.2	205.2	202.1	202.1
37.5°	4058.0	3157.7	603.2	247.2	216.1	197.4	189.7	189.7	188.1	185.1	186.6
40°	4456.1	3339.7	436.9	233.2	202.1	181.9	175.6	172.6	169.5	166.3	166.3
42.5°	4934.9	3516.9	328.1	219.2	188.1	169.5	161.7	158.6	152.4	149.2	147.7
45°	5471.4	3705.0	272.1	202.1	172.6	155.5	149.2	143.0	135.2	130.6	129.1
47.5°	5923.7	3820.1	242.5	185.1	157.0	141.5	135.2	125.9	116.6	113.5	113.5
50°	6195.8	3771.9	217.7	168.0	141.5	127.5	119.7	107.3	101.1	98.0	96.4
52.5°	6348.2	3628.9	197.4	154.0	127.5	111.9	101.1	90.2	87.1	84.0	84.0
55°	6452.4	3422.1	175.6	139.9	115.1	98.0	85.5	77.7	74.7	73.0	71.5
57.5°	6551.9	3170.2	155.5	127.5	102.6	87.1	73.0	70.0	63.7	62.2	62.2
60°	6581.5	2823.5	136.9	113.5	91.8	76.2	63.7	59.1	52.9	51.4	51.4
62.5°	6205.2	2246.7	121.3	96.4	80.8	65.3	56.0	49.7	43.6	43.6	43.6
65°	5185.2	1525.2	104.1	84.0	71.5	56.0	48.2	40.4	37.3	37.3	37.3
67.5°	3611.7	850.5	88.6	71.5	60.7	46.6	40.4	34.2	32.6	34.2	34.2
70°	1627.8	337.4	74.7	59.1	49.7	38.9	34.2	29.6	32.6	32.6	32.6
72°	488.3	180.3	62.2	48.2	40.4	34.2	29.6	28.0	31.1	32.6	32.6
72.5°	362.2	161.7	59.1	46.6	40.4	32.6	28.0	28.0	31.1	32.6	32.6
75°	186.6	110.4	45.1	34.2	29.6	26.4	23.3	26.4	31.1	31.1	31.1
77.5°	146.2	90.2	37.3	26.4	24.9	23.3	21.8	24.9	28.0	28.0	28.0
80°	136.9	59.1	29.6	24.9	21.8	20.3	20.3	21.8	24.9	26.4	26.4
82.5°	138.4	48.2	26.4	23.3	20.3	18.6	18.6	20.3	23.3	24.9	24.9
85°	88.6	32.6	23.3	20.3	18.6	17.1	17.1	18.6	21.8	23.3	23.3
87.5°	29.6	24.9	20.3	18.6	15.5	15.5	15.5	15.5	18.6	20.3	21.8
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)