

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: P270497

Luminaire Tested: **NAV-AF-04-D-UNV-AFL-7027-800-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270497  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24283)  
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-AFL-7027-800-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 2700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14374.8 lumens  
Efficiency: N/A  
Efficacy: 84.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B1 - U0 - G2

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

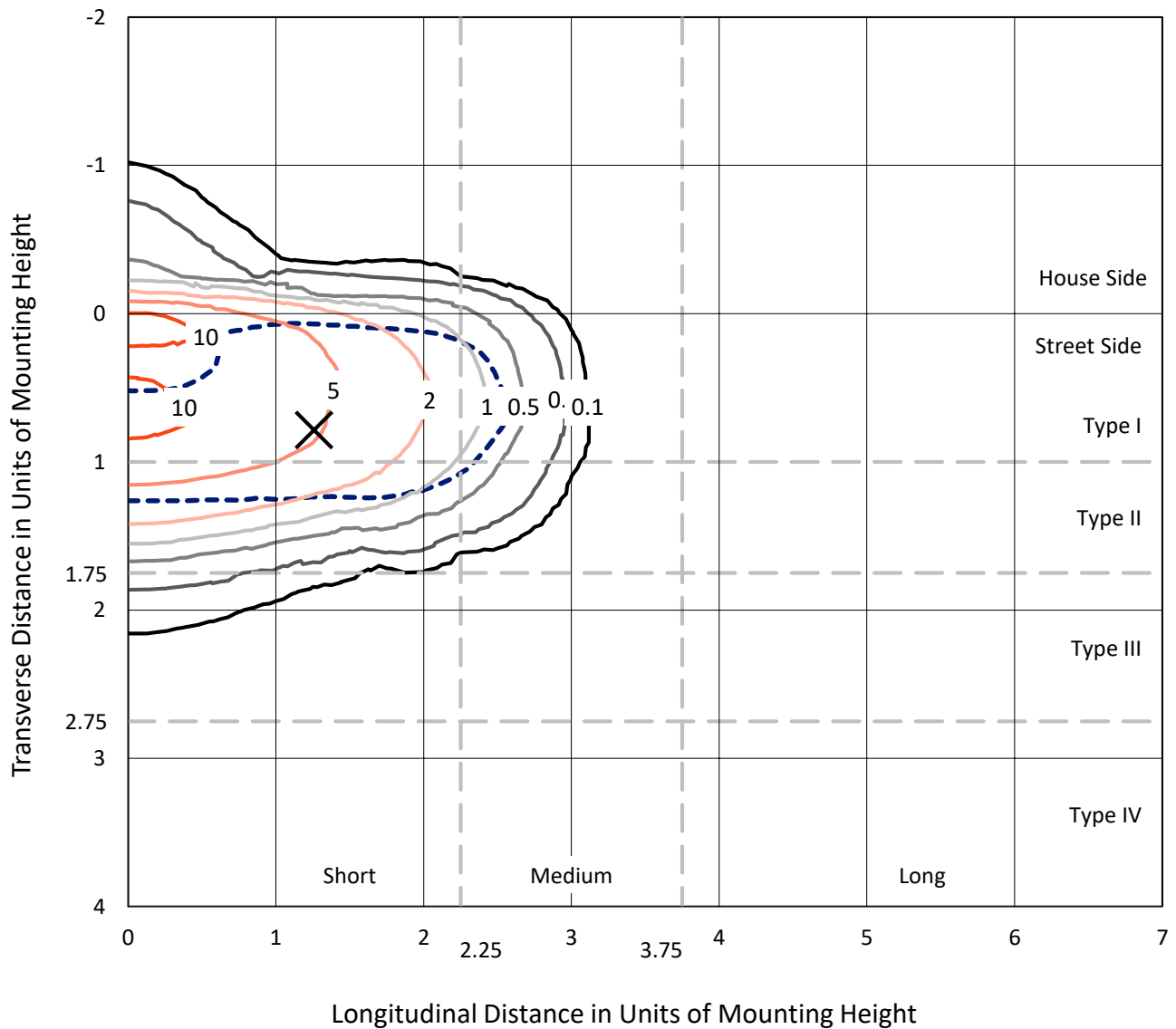


REPORT NUMBER: P270497

CATALOG NUMBER: NAV-AF-04-D-UNV-AFL-7027-800-HSS

### Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd  
 - - - 1/2 Max cd

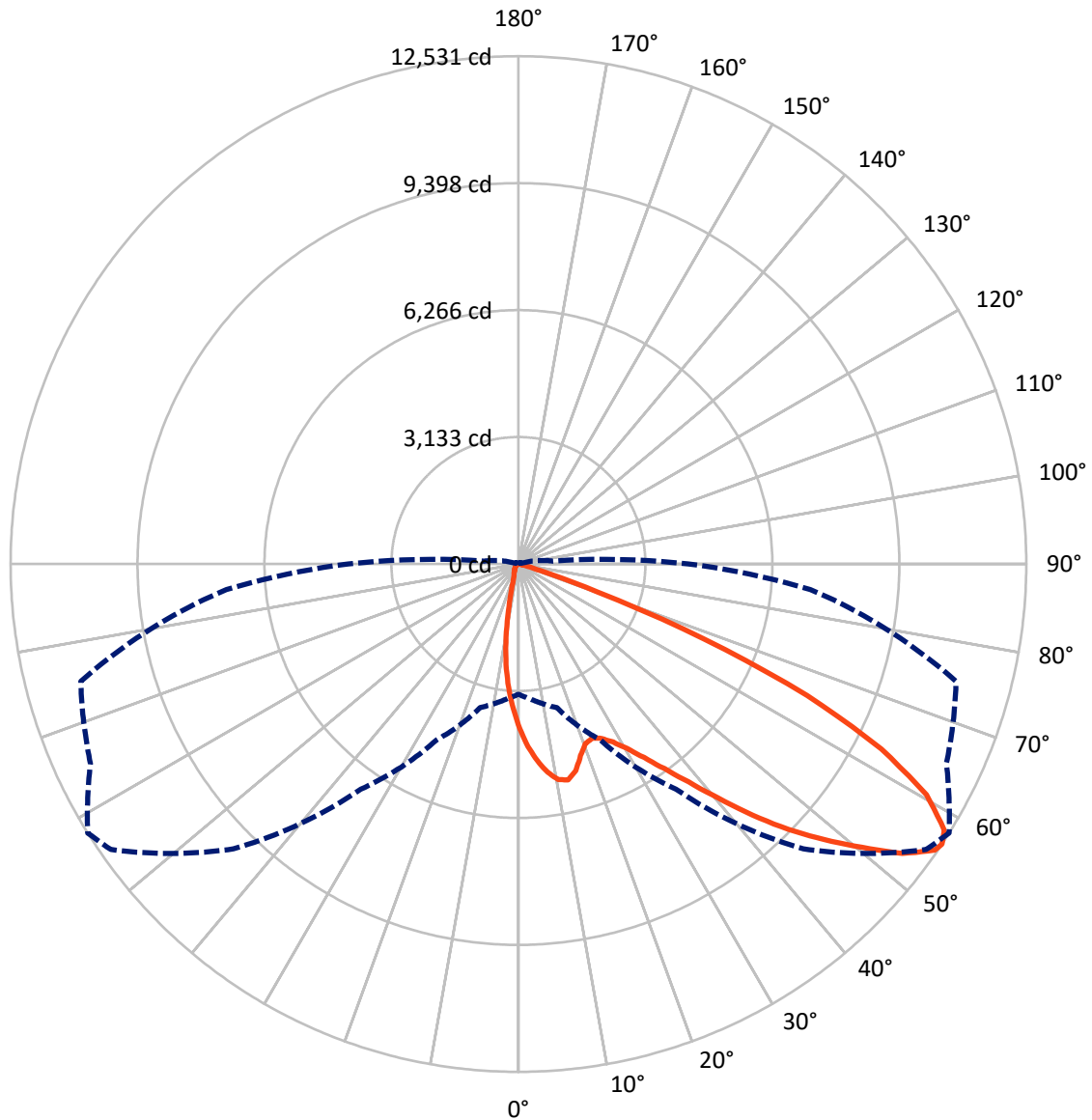


Based on 20 foot mounting height. Maximum calculated value = 12.6 fc  
 Type II - Short - Full Cutoff

REPORT NUMBER: P270497

CATALOG NUMBER: NAV-AF-04-D-UNV-AFL-7027-800-HSS

### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral    - - - Horizontal Cone Through 56-Deg Vertical

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CATALOG NUMBER: NAV-AF-04-D-UNV-AFL-7027-800-HSS

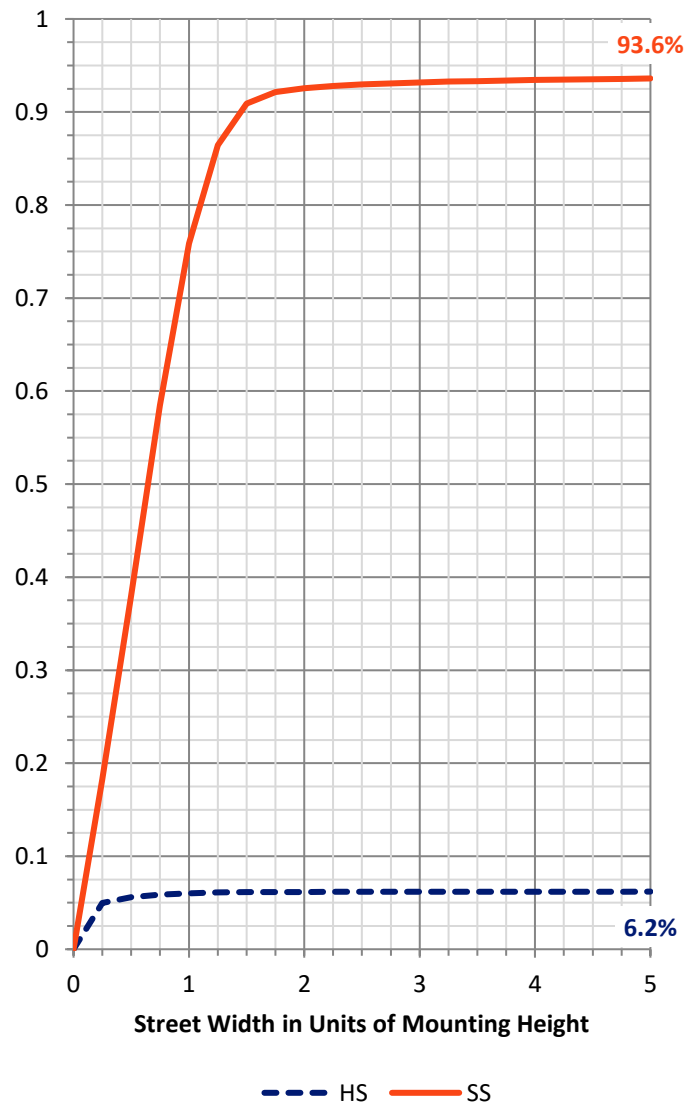
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	897.3	0.0	897.3
	% Fixture	6.2	0.0	6.2
<b>Street Side</b>	Lumens	13477.5	0.0	13477.5
	% Fixture	93.8	0.0	93.8
<b>Total</b>	Lumens	14374.8	0.0	14374.8
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	347.2	2.4
10°-20°	807.9	5.6
20°-30°	1359.4	9.5
30°-40°	2327.7	16.2
40°-50°	3512.6	24.4
50°-60°	3651.3	25.4
60°-70°	2049.8	14.3
70°-80°	280.9	2.0
80°-90°	38.1	0.3
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°	14374.8	100.0
0°-180°	14374.8	100.0



REPORT NUMBER: P270497

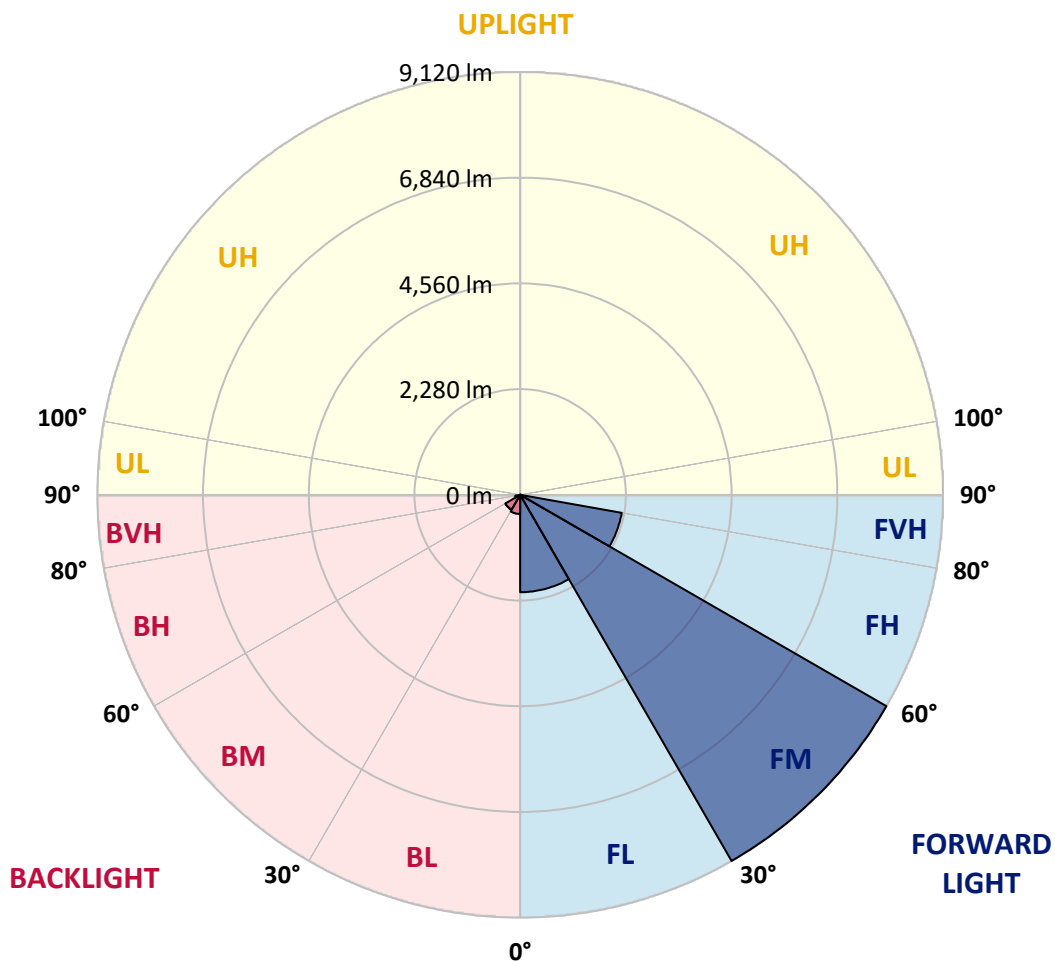
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2100.5	14.6			
FM	(30°-60°)	9119.9	63.4			
FH	(60°-80°)	2224.3	15.5			G2/5000
FVH	(80°-90°)	32.8	0.2			G1/100
BL	(0°-30°)	413.9	2.9	B1/500		
BM	(30°-60°)	371.7	2.6	B1/1000		
BH	(60°-80°)	106.4	0.7	B0/110		G0/110
BVH	(80°-90°)	5.3	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type II Short





REPORT NUMBER: P270497

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	4070.0	4070.0	4070.0	4070.0	4070.0	4070.0	4070.0	4070.0	4070.0	4070.0	4070.0
2.5°	4896.9	4867.2	4836.6	4779.5	4726.9	4645.8	4533.8	4506.4	4418.8	4274.0	4139.0
5°	5319.1	5313.7	5292.8	5246.7	5189.7	5091.0	4964.8	4880.4	4744.4	4516.3	4256.3
7.5°	5069.0	5115.0	5190.8	5298.3	5370.6	5360.7	5264.2	5190.8	5055.9	4744.4	4371.5
10°	4272.8	4281.6	4385.7	4611.7	4969.2	5302.6	5428.7	5409.1	5285.1	4944.0	4472.4
12.5°	3992.1	3997.5	4021.7	4094.0	4326.5	4791.6	5363.1	5466.0	5456.1	5134.8	4579.9
15°	4013.9	4017.3	4023.9	4047.0	4112.7	4346.3	5029.6	5291.6	5565.9	5315.8	4685.2
17.5°	4187.3	4185.2	4164.3	4142.4	4163.1	4239.9	4689.6	4966.0	5542.8	5468.3	4771.8
20°	4525.1	4536.0	4465.8	4368.3	4317.9	4321.0	4521.8	4729.0	5413.5	5586.6	4836.6
22.5°	5000.0	5007.6	4892.4	4723.6	4575.5	4501.0	4556.9	4666.5	5264.2	5696.4	4889.1
25°	5566.9	5566.9	5405.7	5165.6	4936.4	4773.0	4724.6	4766.3	5207.3	5820.3	4941.8
27.5°	6178.9	6200.9	5990.3	5675.5	5372.9	5133.8	4982.4	4974.8	5251.1	5976.1	5001.0
30°	6844.6	6864.4	6614.3	6229.3	5870.8	5564.8	5332.2	5281.9	5418.8	6185.5	5087.7
32.5°	7507.0	7523.6	7247.2	6854.4	6436.6	6076.9	5770.9	5690.9	5720.4	6491.5	5214.9
35°	8349.3	8352.6	8002.8	7535.6	7089.2	6667.0	6279.8	6200.9	6167.9	6877.6	5398.1
37.5°	9019.4	8993.1	8771.6	8329.7	7817.4	7376.5	6921.4	6818.3	6739.4	7420.4	5682.0
40°	9177.4	9177.4	9144.4	9011.7	8604.9	8180.4	7739.5	7586.0	7411.6	8059.9	6063.7
42.5°	8766.1	8792.4	9009.6	9297.9	9301.3	9029.4	8598.2	8469.0	8161.8	8787.9	6480.6
45°	7845.9	7853.6	8374.5	9153.2	9681.8	9837.6	9519.6	9340.8	8915.3	9544.9	6862.2
47.5°	7514.7	7538.8	7760.4	8712.3	9710.4	10492.4	10403.5	10157.9	9612.8	10235.6	7218.6
50°	7005.8	7035.4	7306.4	8063.0	9453.8	10912.4	11249.0	10985.8	10247.8	10811.6	7395.1
52.5°	5788.5	5834.5	6217.3	7204.3	8812.2	10929.9	12023.4	11865.4	10898.1	11119.7	7374.4
55°	3983.3	4017.3	4463.7	5624.0	7518.0	10393.6	12356.7	12465.3	11478.4	11188.7	7273.4
56°	3213.3	3340.5	3667.4	4791.6	6781.0	9937.4	12280.0	12531.1	11650.5	11177.8	7229.6
57.5°	2124.3	2148.4	2505.0	3472.2	5445.3	8947.1	11933.4	12390.9	11872.0	11121.8	7197.8
60°	999.2	1010.1	1138.4	1602.2	2946.9	6520.0	10807.1	11566.0	11953.1	11004.4	7196.7
62.5°	651.5	653.6	669.0	764.4	1205.3	3551.2	8959.2	10051.5	11280.8	10991.3	7175.8
65°	536.3	541.8	523.2	535.2	630.6	1339.2	6319.2	7836.0	9702.8	10682.0	6941.2
67.5°	472.7	473.8	448.6	434.3	461.6	587.9	3183.9	4943.0	7257.0	9076.5	5717.3
70°	430.9	429.8	401.5	368.6	369.7	390.5	1037.5	2053.0	4015.2	5389.3	3282.4
72.5°	382.8	385.0	368.6	322.4	307.1	276.4	390.5	553.9	1366.5	1730.7	865.2
75°	335.5	331.3	314.8	285.1	256.6	185.3	196.3	235.7	356.4	353.2	186.5
77.5°	254.4	250.1	257.8	243.5	200.7	129.4	107.4	122.9	161.2	150.2	75.6
80°	194.2	191.9	175.4	208.3	183.2	97.6	73.5	75.6	87.8	80.0	37.3
82.5°	140.3	139.2	132.7	128.3	116.2	71.2	56.0	59.2	65.8	56.0	27.4
85°	53.8	53.8	104.3	87.8	80.0	48.2	39.4	42.8	50.5	40.6	18.7
87.5°	8.8	8.8	70.2	58.1	36.2	24.2	25.2	27.4	29.6	24.2	14.3
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: P270497

CATALOG NUMBER: NAV-AF-04-D-UNV-AFL-7027-800-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4070.0	4070.0	4070.0	4070.0	4070.0	4070.0	4070.0	4070.0	4070.0	4070.0	4070.0
2.5°	4059.0	3985.5	3824.3	3668.6	3532.6	3383.3	3307.6	3220.0	3187.0	3121.3	3127.9
5°	4100.7	3947.2	3623.6	3282.4	2969.9	2651.8	2426.0	2213.2	2094.8	1977.3	1977.3
7.5°	4143.4	3908.7	3408.6	2863.5	2337.1	1792.1	1405.9	1096.7	924.5	809.5	806.0
10°	4173.0	3859.4	3164.0	2377.8	1601.1	923.5	557.0	438.7	396.0	377.3	376.2
12.5°	4211.4	3810.0	2885.4	1805.2	889.4	438.7	347.6	329.0	321.4	316.9	316.9
15°	4244.3	3739.9	2547.8	1214.1	467.2	329.0	299.4	292.8	291.7	290.6	291.7
17.5°	4251.9	3640.0	2142.9	710.6	338.9	287.4	274.3	268.8	268.8	267.5	267.5
20°	4234.4	3508.4	1695.6	438.7	292.8	264.3	250.1	243.5	242.4	242.4	242.4
22.5°	4198.3	3340.5	1253.6	332.4	266.4	243.5	224.8	218.3	218.3	219.4	220.4
25°	4153.3	3142.1	860.9	286.2	246.8	221.5	202.8	196.3	198.5	200.7	201.8
27.5°	4096.2	2905.2	563.7	247.8	220.4	199.7	183.2	178.8	183.2	187.6	189.7
30°	4039.1	2645.2	381.7	215.0	190.8	175.4	165.6	164.5	171.0	181.0	182.0
32.5°	4001.9	2378.8	288.4	193.0	167.9	154.7	150.2	152.4	162.4	173.4	175.4
35°	3998.6	2118.8	245.6	175.4	152.4	140.3	138.2	144.7	155.8	164.5	166.6
37.5°	4050.2	1875.4	222.6	162.4	140.3	128.3	125.0	137.1	147.0	155.8	157.9
40°	4154.4	1657.2	207.2	150.2	130.6	116.2	114.1	124.0	133.8	143.6	147.0
42.5°	4284.8	1453.2	189.7	138.2	119.6	103.0	100.9	108.5	118.4	132.7	134.8
45°	4397.8	1263.5	171.0	125.0	107.4	88.8	87.8	96.5	104.3	117.4	119.6
47.5°	4493.2	1105.5	153.5	110.9	92.2	79.1	77.9	82.3	86.6	98.8	100.9
50°	4442.7	971.6	136.1	91.0	74.6	68.0	67.0	67.0	72.4	84.4	86.6
52.5°	4319.0	888.3	119.6	75.6	61.4	58.1	54.8	56.0	61.4	67.0	68.0
55°	4219.1	848.9	105.3	67.0	51.6	48.2	44.9	43.8	44.9	42.8	40.6
56°	4194.9	844.4	102.0	64.7	49.3	44.9	40.6	38.4	37.3	32.9	31.8
57.5°	4183.9	844.4	96.5	60.4	46.1	40.6	35.2	30.7	26.3	23.0	23.0
60°	4175.2	849.9	89.9	52.6	39.4	32.9	25.2	18.7	15.4	15.4	15.4
62.5°	4156.5	847.8	82.3	43.8	34.0	25.2	15.4	12.0	11.0	12.0	13.1
65°	3947.2	787.5	72.4	35.2	26.3	17.5	8.8	8.8	9.9	12.0	13.1
67.5°	3180.4	596.7	59.2	27.4	18.7	13.1	7.6	7.6	9.9	12.0	13.1
70°	1747.1	314.8	50.5	19.8	14.3	11.0	7.6	6.6	9.9	12.0	13.1
72.5°	426.6	131.6	46.1	15.4	13.1	9.9	6.6	6.6	9.9	12.0	13.1
75°	105.3	98.8	37.3	12.0	11.0	8.8	6.6	6.6	9.9	12.0	13.1
77.5°	49.3	130.6	25.2	11.0	9.9	7.6	6.6	6.6	9.9	12.0	12.0
80°	29.6	98.8	15.4	9.9	8.8	7.6	6.6	6.6	9.9	12.0	13.1
82.5°	17.5	28.6	11.0	9.9	8.8	6.6	6.6	6.6	9.9	12.0	13.1
85°	15.4	14.3	11.0	9.9	8.8	7.6	6.6	6.6	11.0	13.1	13.1
87.5°	12.0	11.0	9.9	8.8	8.8	7.6	6.6	6.6	9.9	12.0	13.1
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)