

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: P197134

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-8030-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197134
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-SL4-8030-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 1200mA 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: 17791 lumens
Efficiency: N/A
Efficacy: 69.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G4

Input Watts (W): 258
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

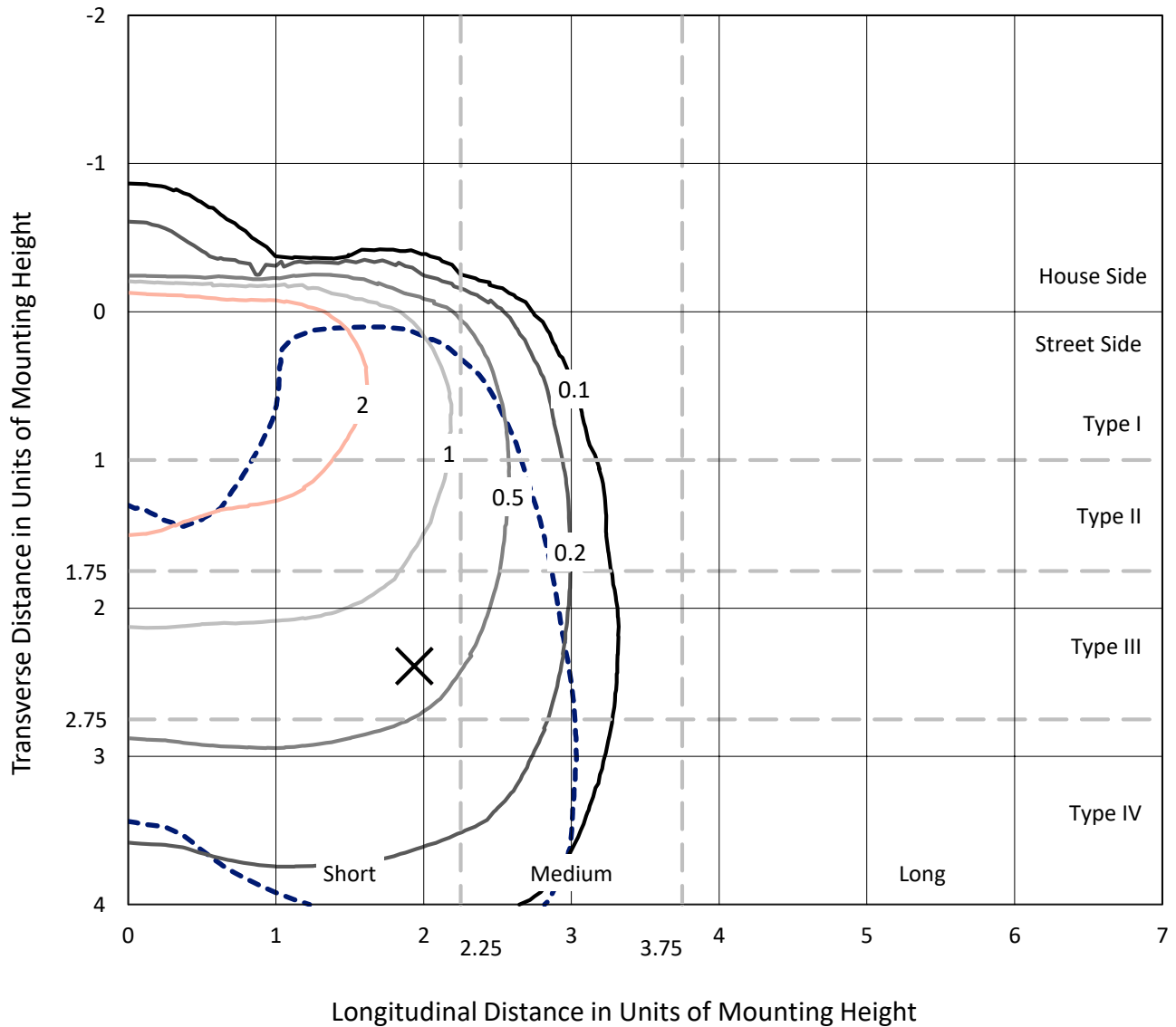


REPORT NUMBER: P197134

CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-8030-1200-HSS

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

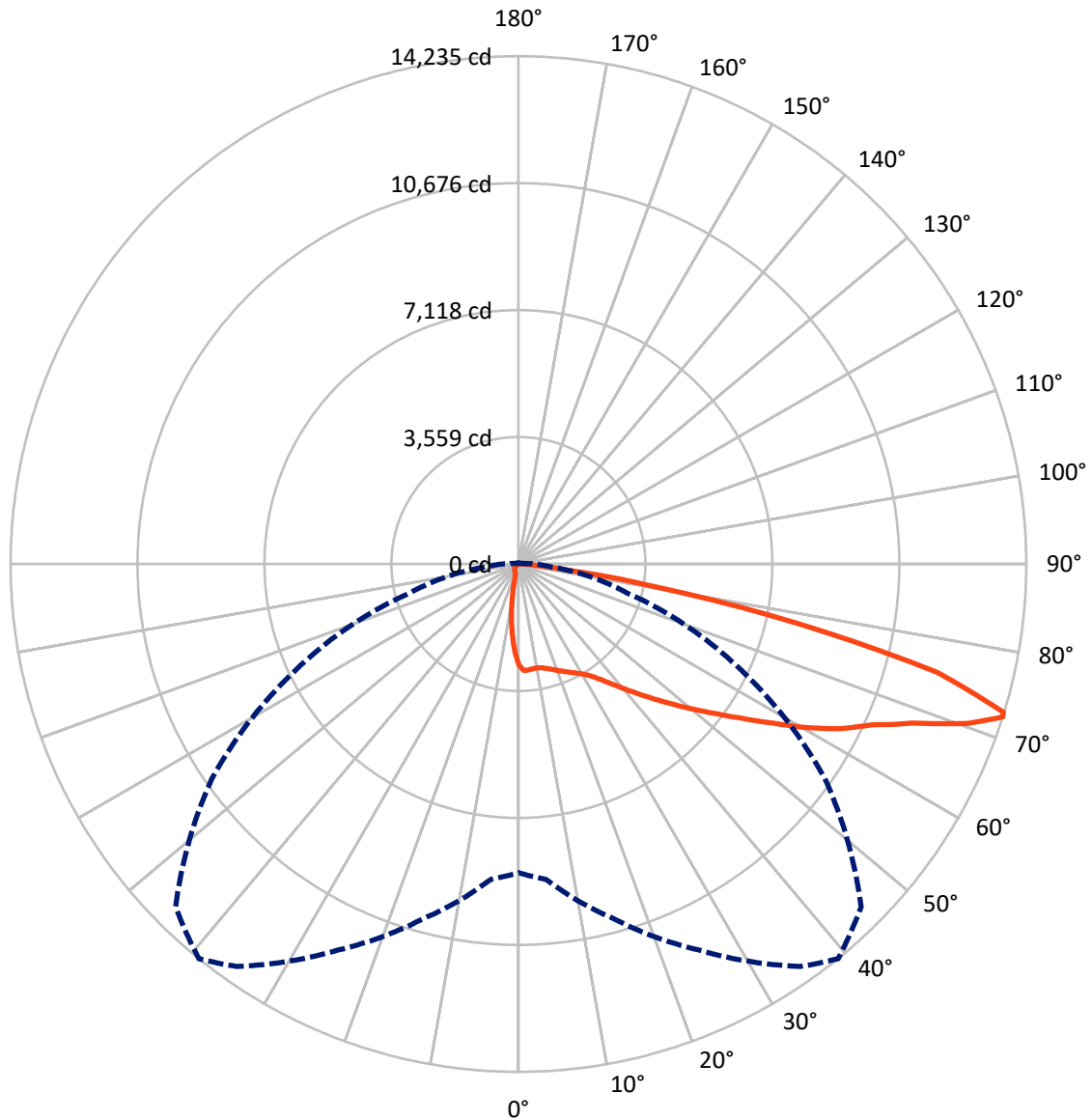


Based on 25 foot mounting height. Maximum calculated value = 4.8 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P197134

CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-8030-1200-HSS

Luminous Intensity Polar Plot



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

REPORT NUMBER: P197134

CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-8030-1200-HSS

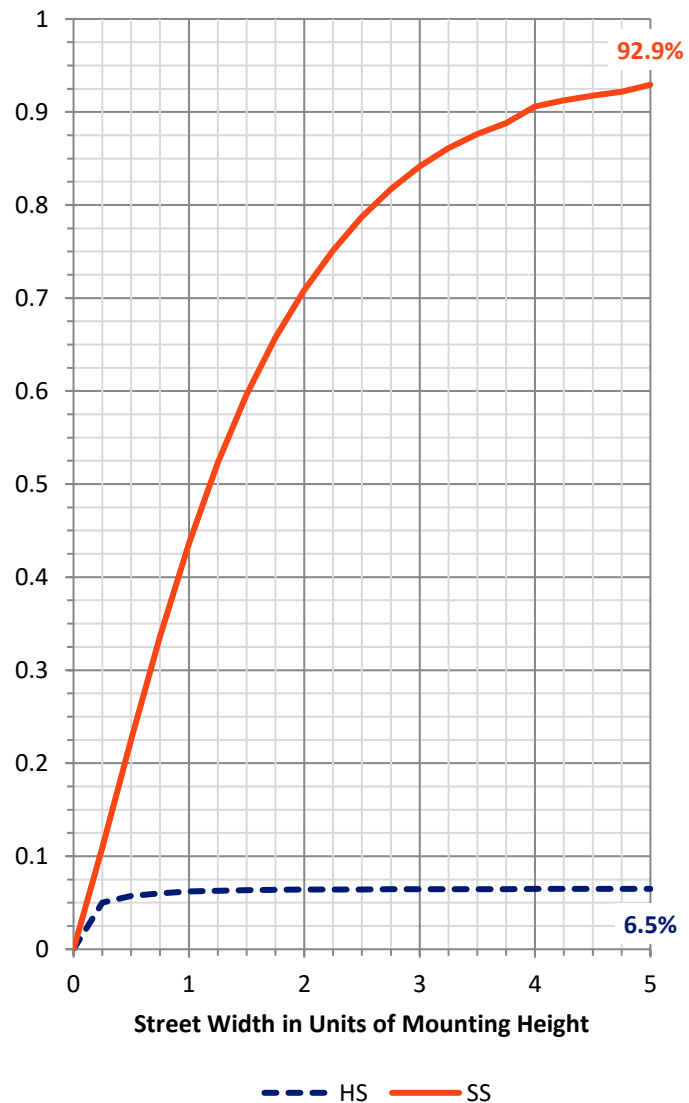
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1166.0	0.0	1166.0
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	16625.0	0.0	16625.0
	% Fixture	93.4	0.0	93.4
Total	Lumens	17791.0	0.0	17791.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	231.6	1.3
10°-20°	560.7	3.2
20°-30°	931.3	5.2
30°-40°	1484.3	8.3
40°-50°	2450.0	13.8
50°-60°	3699.9	20.8
60°-70°	4819.8	27.1
70°-80°	3256.8	18.3
80°-90°	356.7	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°	17791.0	100.0
0°-180°	17791.0	100.0



REPORT NUMBER: P197134

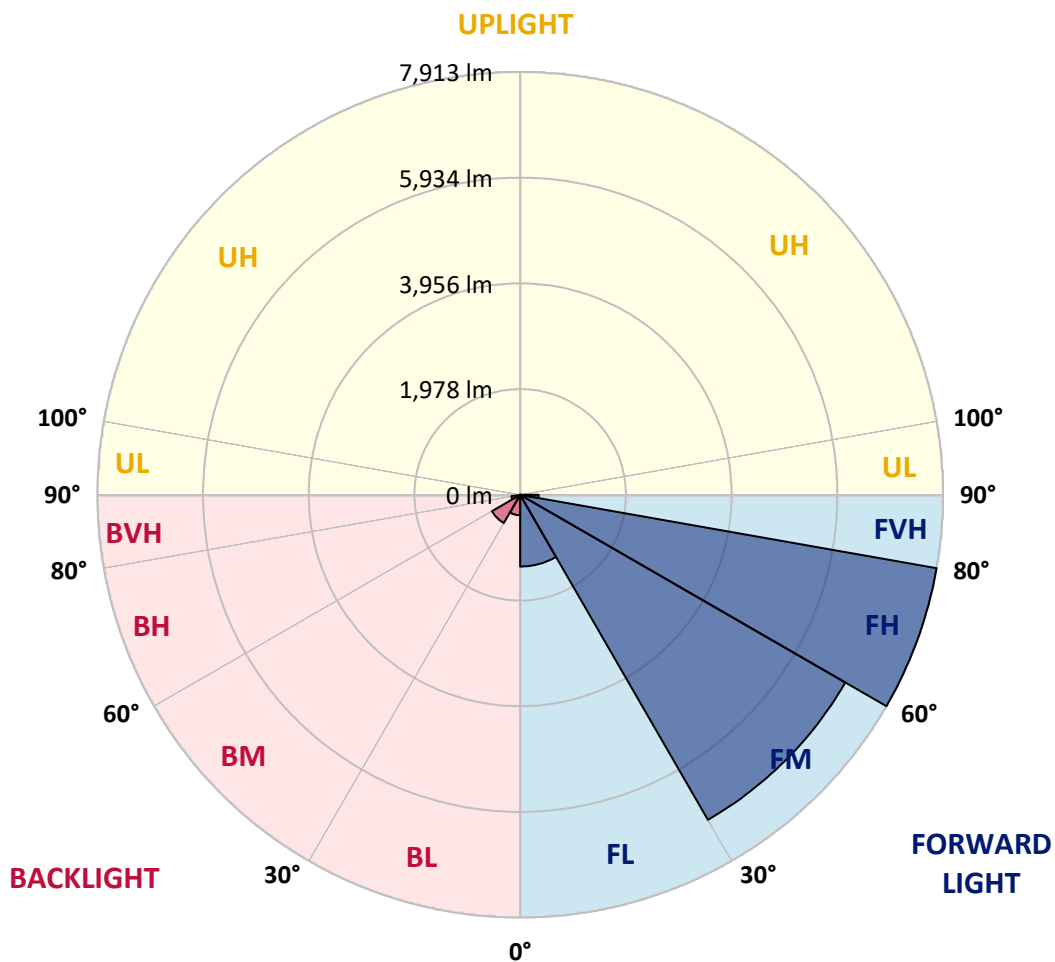
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1341.9	7.5			
FM	(30°-60°)	7024.1	39.5			
FH	(60°-80°)	7912.6	44.5			G4/12000
FVH	(80°-90°)	346.4	1.9			G3/500
BL	(0°-30°)	381.8	2.1	B1/500		
BM	(30°-60°)	610.1	3.4	B1/1000		
BH	(60°-80°)	163.9	0.9	B1/500		G1/500
BVH	(80°-90°)	10.3	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: P197134

CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-8030-1200-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2847.6	2847.6	2847.6	2847.6	2847.6	2847.6	2847.6	2847.6	2847.6	2847.6	2847.6
2.5°	3032.2	3037.8	3030.8	3018.2	3000.0	2988.8	2973.4	2939.9	2897.9	2861.6	2819.6
5°	3056.0	3058.8	3050.4	3026.6	2998.6	2983.2	2963.6	2927.3	2883.9	2833.6	2758.1
7.5°	3063.0	3061.6	3051.8	3022.4	2979.0	2959.5	2925.9	2881.1	2836.4	2790.2	2704.9
10°	3060.2	3060.2	3053.2	3025.2	2976.2	2958.1	2920.3	2872.7	2816.8	2770.6	2679.7
12.5°	3050.4	3056.0	3051.8	3036.4	3000.0	2986.0	2952.5	2904.9	2851.8	2804.2	2707.7
15°	3063.0	3071.3	3079.7	3074.1	3053.2	3040.6	3009.8	2960.9	2917.5	2867.1	2763.6
17.5°	3113.3	3131.5	3151.1	3152.5	3130.1	3107.7	3072.7	3022.4	2980.4	2934.3	2822.4
20°	3208.4	3222.4	3258.8	3265.7	3221.0	3188.8	3139.9	3081.1	3039.2	3000.0	2876.9
22.5°	3349.7	3365.0	3394.4	3384.6	3309.1	3271.3	3209.8	3142.7	3099.3	3076.9	2939.9
25°	3563.7	3567.8	3574.8	3531.5	3407.0	3365.0	3289.5	3214.0	3179.0	3176.2	3029.4
27.5°	3815.4	3821.0	3790.2	3693.7	3516.1	3461.6	3376.2	3307.7	3290.9	3311.9	3142.7
30°	4103.5	4104.9	4019.6	3863.0	3642.0	3581.8	3493.7	3418.2	3433.6	3485.3	3288.1
32.5°	4398.6	4384.6	4267.2	4063.0	3814.0	3741.3	3665.7	3590.2	3635.0	3739.9	3500.7
35°	4668.6	4663.0	4524.5	4286.7	4037.8	3973.4	3918.9	3839.2	3911.9	4082.5	3790.2
37.5°	4938.5	4934.3	4776.2	4528.7	4313.3	4267.2	4226.6	4165.1	4283.9	4534.3	4177.6
40°	5236.4	5229.4	5035.0	4797.2	4633.6	4608.4	4584.6	4558.1	4760.9	5109.1	4660.2
42.5°	5604.2	5573.5	5309.1	5089.5	4986.0	4993.0	4994.4	5021.0	5338.5	5793.0	5229.4
45°	6026.6	5958.1	5584.6	5402.8	5373.4	5415.4	5457.4	5567.9	6011.2	6580.4	5858.8
47.5°	6436.4	6325.9	5902.1	5739.9	5800.0	5886.7	5987.4	6202.8	6766.5	7404.2	6429.4
50°	6788.8	6675.6	6216.8	6082.5	6274.2	6402.8	6581.8	6907.7	7563.7	8100.7	6788.8
52.5°	7065.8	6976.3	6549.7	6460.2	6800.0	6976.3	7257.4	7685.3	8316.1	8559.5	7040.6
55°	7270.0	7225.2	6868.6	6881.1	7384.6	7639.2	7988.8	8472.8	8951.1	8916.1	7229.4
57.5°	7500.7	7465.8	7202.8	7377.7	8088.1	8416.8	8821.0	9209.8	9412.6	9202.8	7414.0
60°	7737.1	7748.3	7608.4	7979.1	8958.1	9321.7	9674.2	9770.7	9808.4	9493.7	7608.4
62.5°	7916.1	7963.7	7976.3	8628.0	9850.4	10160.9	10313.3	10244.8	10236.4	9884.0	7593.0
65°	8121.7	8246.2	8453.2	9339.9	10661.6	10865.8	10974.9	11074.2	10864.4	10000.0	6846.2
67.5°	8477.0	8672.8	9138.5	10212.6	11598.7	11900.8	12209.8	12104.9	10958.1	8821.0	5215.4
70°	8955.3	9194.4	10016.8	11352.5	12870.0	13376.3	13635.0	12022.4	9303.5	6095.1	2751.1
72°	8653.2	8870.0	10288.2	11934.3	13770.7	14235.0	13587.5	10486.8	6744.1	3159.5	921.7
72.5°	8359.5	8583.3	10201.4	11927.3	13860.2	14215.4	13278.4	9881.2	5967.9	2458.8	635.0
75°	5800.0	6082.5	8745.5	10721.7	12516.1	12125.9	10159.5	5983.2	2162.2	422.4	209.8
77.5°	2998.6	3216.8	5304.9	7576.3	8723.1	7988.8	6004.2	2595.8	598.6	223.8	138.5
80°	1858.7	1966.4	2481.1	3732.9	4531.5	3963.7	2649.0	1049.0	383.2	132.9	110.5
82.5°	962.2	1044.8	1562.2	1506.3	1674.1	1391.6	977.6	878.3	236.4	82.5	113.3
85°	316.1	335.7	959.4	1001.4	716.1	481.1	433.6	837.8	68.5	53.1	96.5
87.5°	42.0	49.0	337.1	573.4	352.4	218.2	260.1	295.1	23.8	29.4	26.6
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: P197134

CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-8030-1200-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2847.6	2847.6	2847.6	2847.6	2847.6	2847.6	2847.6	2847.6	2847.6	2847.6	2847.6
2.5°	2791.6	2773.4	2716.1	2658.8	2593.0	2532.9	2485.3	2454.6	2468.5	2422.4	2429.4
5°	2711.9	2665.7	2539.9	2404.2	2257.4	2120.3	2011.2	1930.1	1914.7	1844.8	1847.6
7.5°	2635.0	2559.5	2355.3	2131.5	1888.1	1690.9	1511.9	1355.3	1299.3	1242.0	1208.4
10°	2593.0	2489.5	2200.0	1874.1	1531.5	1242.0	990.2	793.0	710.5	650.4	621.0
12.5°	2605.6	2468.5	2083.9	1640.6	1190.2	822.4	559.4	415.4	365.0	337.1	327.3
15°	2647.6	2472.7	1979.0	1412.6	865.7	497.9	328.7	281.1	276.9	275.5	274.1
17.5°	2686.7	2476.9	1868.5	1174.8	579.0	317.5	264.3	260.1	260.1	260.1	260.1
20°	2727.3	2478.3	1746.9	925.9	380.4	260.1	249.0	246.2	249.0	249.0	249.0
22.5°	2774.8	2488.1	1629.4	683.9	281.1	244.8	237.8	236.4	237.8	237.8	236.4
25°	2833.6	2509.1	1502.1	489.5	254.5	235.0	228.0	226.6	228.0	226.6	226.6
27.5°	2911.9	2537.1	1353.9	351.1	243.4	225.2	218.2	218.2	218.2	216.8	216.8
30°	3012.6	2570.6	1155.2	276.9	232.2	215.4	209.8	209.8	208.4	207.0	207.0
32.5°	3156.7	2625.2	938.5	250.4	219.6	202.8	197.2	198.6	197.2	195.8	194.4
35°	3360.9	2710.5	724.5	236.4	207.0	190.2	184.6	184.6	184.6	181.8	181.8
37.5°	3650.4	2840.6	542.7	222.4	194.4	177.6	170.6	170.6	169.2	166.4	167.8
40°	4008.4	3004.2	393.0	209.8	181.8	163.6	158.0	155.2	152.4	149.7	149.7
42.5°	4439.2	3163.6	295.1	197.2	169.2	152.4	145.5	142.7	137.1	134.3	132.9
45°	4921.7	3332.9	244.8	181.8	155.2	139.9	134.3	128.7	121.7	117.5	116.1
47.5°	5328.7	3436.4	218.2	166.4	141.3	127.3	121.7	113.3	104.9	102.1	102.1
50°	5573.5	3393.0	195.8	151.0	127.3	114.7	107.7	96.5	90.9	88.1	86.7
52.5°	5710.5	3264.3	177.6	138.5	114.7	100.7	90.9	81.1	78.3	75.5	75.5
55°	5804.2	3078.3	158.0	125.9	103.5	88.1	76.9	69.9	67.1	65.7	64.3
57.5°	5893.7	2851.8	139.9	114.7	92.3	78.3	65.7	62.9	57.3	55.9	55.9
60°	5920.3	2539.9	123.1	102.1	82.5	68.5	57.3	53.1	47.6	46.2	46.2
62.5°	5581.8	2021.0	109.1	86.7	72.7	58.7	50.3	44.8	39.2	39.2	39.2
65°	4664.4	1372.0	93.7	75.5	64.3	50.3	43.4	36.4	33.6	33.6	33.6
67.5°	3249.0	765.0	79.7	64.3	54.5	42.0	36.4	30.8	29.4	30.8	30.8
70°	1464.3	303.5	67.1	53.1	44.8	35.0	30.8	26.6	29.4	29.4	29.4
72°	439.2	162.2	55.9	43.4	36.4	30.8	26.6	25.2	28.0	29.4	29.4
72.5°	325.9	145.5	53.1	42.0	36.4	29.4	25.2	25.2	28.0	29.4	29.4
75°	167.8	99.3	40.6	30.8	26.6	23.8	21.0	23.8	28.0	28.0	28.0
77.5°	131.5	81.1	33.6	23.8	22.4	21.0	19.6	22.4	25.2	25.2	25.2
80°	123.1	53.1	26.6	22.4	19.6	18.2	18.2	19.6	22.4	23.8	23.8
82.5°	124.5	43.4	23.8	21.0	18.2	16.8	16.8	18.2	21.0	22.4	22.4
85°	79.7	29.4	21.0	18.2	16.8	15.4	15.4	16.8	19.6	21.0	21.0
87.5°	26.6	22.4	18.2	16.8	14.0	14.0	14.0	14.0	16.8	18.2	19.6
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)